



KILLARK®

Electrical Construction Products For Standard, Harsh and Hazardous Locations



KILLARK® Established in 1913, Killark has become a global provider of harsh and hazardous location products. The Killark range encompasses industrial and explosion proof fittings engineered to withstand the toughest extremes in climate from the dry and arid Middle East, tropical Asia to frozen Northern Canada.

Safety and reliability has been the cornerstone of our business for almost a century. Killark is dedicated to meeting customer needs, with engineering solutions, new product development and on-time delivery in every phase of the project.

This commitment underpins our proven ability to supply lower cost total system solutions and savings over the entire lifetime of a project.

Enclosures / OEM Solutions / Controls

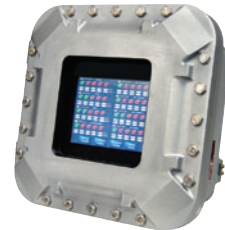


At Killark we understand that each of our customers have different needs. Our committed employees work in combination with our clients engineering staff to ensure our enclosures meet and surpass their expectations.

Our extensive range of bolted and threaded enclosures are utilized daily for use with control, monitoring, detection, and automation products.



The Killark product portfolio of control products come in both metallic and non-metallic designs. The size and depth of the control product range enable us to provide the best solutions to your control problems.



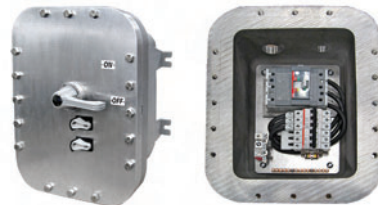
Distribution and Control Equipment



Killark offers solutions to your distribution and control applications to both North American and IEC Standards. From lighting, trace heating and power distribution applications to complex PLC control systems, our applications engineers have a competence to take a project from conceptual to finished goods.

The versatility of our product range allows us to use multiple enclosure coupling techniques to cater to all demands of our clients.

From single point protection to rack applications, Killark provides cost effective solutions with high quality, reliability and ease-of-maintenance built in.



Lighting



Killark luminaires are suitable for the extreme environments. Available in copper-free aluminum, fiberglass reinforced polyester, or stainless steel. Killark lighting fixtures meet and exceed the requirements for corrosive, vibration, or explosive atmospheres.

Housing styles include floods, wallpacks, linear fluorescent, and enclosed/gasketed area lighting with a range of mounting styles and Killark's exclusive patented swing-barrel nut attachment system.

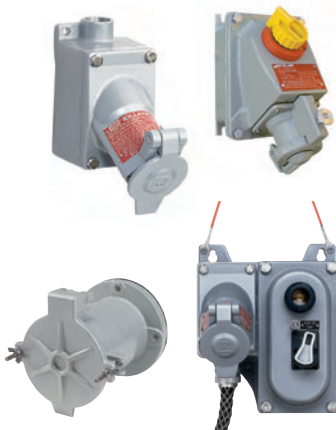


Killark's lighting products encompass the latest in long life energy and labor saving LED, Induction, and fluorescent technologies in a variety of housing types for virtually any application - the range of Killark lamp sources include:

- LED - High output solder-less connected field replaceable boards
- QL - 55W to 165W
- HID - 35W HPS to 1000W Metal Halide
- Fluorescent - Linear and Compact
- Signaling - LED and Xenon



Plugs and Receptacles



Ranging from 20 Amp bladed style to 200 Amp pin & sleeve configurations, Killark provides numerous solutions for safely supplying power to fixed and portable equipment in hostile environments.

Interchangeability with the other manufacturers configurations provides user flexibility for real world applications. The range also has exclusive features such as breech-lock caps with a "3rd Hand" notch.

Devices include plugs, receptacles, panel receptacles, and connectors to extend the reach of portable equipment. For personnel safety, ground fault protected receptacles, both portable and fixed, are available.



Connectors and Fittings



A major factor in all harsh and hazardous environments is the ability to provide reliable cable terminations and conduit connections.

Copper-Free Aluminum Connectors are designed to terminate jacketed interlocked cables (MC), corrugated continuously welded metal clad cables (MC-HL) and non-armored cables (SO, TC).

Iron and Aluminum Fittings for rigid and IMC conduit raceway systems. Third party certified to NEC, CEC, ATEX and IEC standards which enables equipment and installations to be suitable for global applications.



About this catalog

This Killark catalog is organized to help you quickly locate product and application information. Each product section begins with a contents page that lists all the items in the section. Tabs are located on the edge of each right hand page. The Table of Contents is listed below.

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Innovative thinking has made Killark an industry leader.

Killark is known for providing individual client solutions to complex environmental requirements. Reliable and proven technology, coupled with value added engineering enables lower total installation costs with a lifetime of savings.

NEW Products in this Catalog

**CO Series
Combination
Bodies
F20**



**KB Series
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F64**



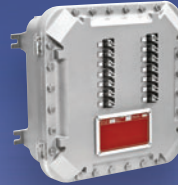
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**B7MS Series
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**NVPI/F Series
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Non-Glass
Luminaires
L15**



**MBL Series
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Luminaires
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**VM1L Series
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**VQ1F/2F
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**VM1/2 Series
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**EML Series
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**KF Series
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**VEXA400
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6058	.E24	GR SERIES	2FSD-2	.F37	2FS SERIES	4GCBB-30Q1	.DE24	GCBP SERIES	980F	.F14	DURALOY 8 SERIES
6064	.E24	GR SERIES	2FSD-2M	.F37	2FS SERIES	4GCBB-40Q1	.DE24	GCBP SERIES	980S	.F14	DURALOY 8 SERIES
6074	.E24	GR SERIES	2FSQ	.F39	FSQ SERIES	4GOU	.F56	GE SERIES ACC	AAK	.L172	DBF SERIES
15515	.E10,17	EXB MOUNTING PANS	2FSRG	.F40	FS/FD SER DEV CVRS	4GRB	.E24	GR SERIES	ABK	.L172	DBF SERIES
15516	.E10,17	EXB MOUNTING PANS	2FST	.F41	FS/FD SER DEV CVRS	4GRBD	.E24	GR SERIES	ADUP-01	.F65	ADUP SERIES
15517	.E10,17	EXB MOUNTING PANS	2FT	.F40	FS/FD SER DEV CVRS	4GRH	.E24	GR SERIES	ADUP-12	.F65	ADUP SERIES
17596	.E10,17	EXB MOUNTING PANS	2FTA	.F40	FS/FD SER DEV CVRS	4GRHA	.E24	GR SERIES	AFK	.L172	DBF SERIES
17617	.E10,17	EXB MOUNTING PANS	2FTAC	.F40	FS/FD SER DEV CVRS	4GRHC	.E24	GR SERIES	AJAC-4	.PR21	KR SERIES
17618	.E10,17	EXB MOUNTING PANS	2FTC	.F40	FS/FD SER DEV CVRS	4GRHD	.E24	GR SERIES	AJAC-5	.PR21	KR SERIES
17619	.E10,17	EXB MOUNTING PANS	2GCBB-13Q	.DE24	GCBP SERIES	4GRK	.E24	GR SERIES	AJAC-6	.PR21	KR SERIES
17620	.E10,17	EXB MOUNTING PANS	2GCBB-15Q1	.DE24	GCBP SERIES	4GRKD	.E24	GR SERIES	AJAT-4	.PR21	KR SERIES
17621	.E10,17	EXB MOUNTING PANS	2GCBB-15Q13	.DE24	GCBP SERIES	570C	.F8	DURALOY 7 SERIES	AJAT-5	.PR21	KR SERIES
17622	.E10,17	EXB MOUNTING PANS	2GCBB-15Q2	.DE24	GCBP SERIES	570CSA	.F8	DURALOY 7 SERIES	AJC-2	.PR19	KR SERIES
17623	.E10,17	EXB MOUNTING PANS	2GCBB-1Q	.DE24	GCBP SERIES	570SA	.F8	DURALOY 7 SERIES	AJC-3	.PR19	KR SERIES
17624	.E10,17	EXB MOUNTING PANS	2GCBB-1Q1	.DE24	GCBP SERIES	580F	.F14	DURALOY 8 SERIES	AN-1	.F63	AN SERIES
20567	.E10,17	EXB MOUNTING PANS	2GCBB-20Q1	.DE24	GCBP SERIES	580S	.F14	DURALOY 8 SERIES	AN-10	.F63	AN SERIES
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0460414B	.C27	X/XCS SERIES	2GCBB-2Q	.DE24	GCBP SERIES	6086PAN	.E24	GR SERIES	AN-2	.F63	AN SERIES
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15722LABB	.E29	HK/2HK SERIES	2GCBB-30Q2	.DE24	GCBP SERIES	6247-14	.E3,17	DB MOUNTING PANS	AN-4	.F63	AN SERIES
15871AABB	.L12	V SERIES	2GCBB-40Q1	.DE24	GCBP SERIES	6247-18	.E3,17	DB MOUNTING PANS	AN-5	.F63	AN SERIES
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170SA	.F8	DURALOY 7 SERIES	2GRB	.E24	GR SERIES	6248-14	.E3,17	DB MOUNTING PANS	AN-8	.F63	AN SERIES
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180S	.F14	DURALOY 8 SERIES	2HKB	.E29	HK/2HK SERIES	6249-18	.E3,17	DB MOUNTING PANS	B7012	.C43	B7 SERIES
1FA	.F40	FS/FD SER DEV CVRS	2HKB-B-2D	.E29	HK/2HK SERIES	6249-24	.E3,17	DB MOUNTING PANS	B7013	.C43	B7 SERIES
1FAC	.F40	FS/FD SER DEV CVRS	2HKB-B-2GLD	.E29	HK/2HK SERIES	6250-18	.E3,17	DB MOUNTING PANS	B7014	.C43	B7 SERIES
1FB	.F40	FS/FD SER DEV CVRS	2HKB-B-4D	.E29	HK/2HK SERIES	6250-24	.E3,17	DB MOUNTING PANS	B7021	.C45	B7 SERIES
1FBC	.F40	FS/FD SER DEV CVRS	2HKB-B-B	.E29	HK/2HK SERIES	6250-36	.E3,17	DB MOUNTING PANS	B7022	.C45	B7 SERIES
1FG	.F40	FS/FD SER DEV CVRS	2HKB-BC-2DC	.E29	HK/2HK SERIES	6251-24	.E3,17	DB MOUNTING PANS	B7023	.C45	B7 SERIES
1FGC	.F40	FS/FD SER DEV CVRS	2HKB-BC-2GLDC	.E29	HK/2HK SERIES	6251-30	.E3,17	DB MOUNTING PANS	B7024	.C45	B7 SERIES
1FR	.F40	FS/FD SER DEV CVRS	2HKB-BC-4DC	.E29	HK/2HK SERIES	6252-30	.E3,17	DB MOUNTING PANS	B7025A2	.C45	B7 SERIES
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1FTC	.F40	FS/FD SER DEV CVRS	2HKB-B-GL	.E29	HK/2HK SERIES	6307-6	.E3,17	DB MOUNTING PANS	B7025C4	.C45	B7 SERIES
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280S	.F14	DURALOY 8 SERIES	2KRS-218-220	.PR19	KR SERIES	680S	.F14	DURALOY 8 SERIES	B7025W2	.C45	B7 SERIES
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2FBC	.F40	FS/FD SER DEV CVRS	370SA	.F8	DURALOY 7 SERIES	7995-1	.E10,17	EXB MOUNTING PANS	B75SAC	.C48	B7 SERIES
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B7BPK3100	DE15	B7L/B7P SERIES	BKF263230	L3	BKF263230	COLB-1CG	F20	K-PAK SERIES	DB-12148	E3	DB SERIES
B7CA	DE4	B7C SERIES	BL-90-1	F66	BL SERIES	COLB-2CG	F20	K-PAK SERIES	DB-12168	E3	DB SERIES
B7CB	DE4	B7C SERIES	BL-90-1M	F66	BL SERIES	COLB-3CG	F20	K-PAK SERIES	DB-12188	E3	DB SERIES
B7CC	DE4	B7C SERIES	BL-90-2	F66	BL SERIES	COLB-4CG	F20	K-PAK SERIES	DB-12248	E3	DB SERIES
B7CD	DE4	B7C SERIES	BL-90-2M	F66	BL SERIES	COLB-5CG	F20	K-PAK SERIES	DB-16188	E3	DB SERIES
B7CE	DE4	B7C SERIES	BL-90-3	F66	BL SERIES	COLB-6CG	F20	K-PAK SERIES	DB-16248	E3	DB SERIES
B7CF	DE4	B7C SERIES	BL-90-3M	F66	BL SERIES	COLL-1CG	F21	K-PAK SERIES	DB-16368	E3	DB SERIES
B7CT100	C48	B7 SERIES	C107	F6	DURALOY 7 SERIES	COLL-2CG	F21	K-PAK SERIES	DB-20248	E3	DB SERIES
B7CT150	C48	B7 SERIES	C107SA	F6	DURALOY 7 SERIES	COLL-3CG	F21	K-PAK SERIES	DB-203010	E3	DB SERIES
B7CT200	C48	B7 SERIES	C17	F6	DURALOY 7 SERIES	COLL-4CG	F21	K-PAK SERIES	DB-243010	E3	DB SERIES
B7CT250	C48	B7 SERIES	C17SA	F6	DURALOY 7 SERIES	COLL-5CG	F21	K-PAK SERIES	DB-243610	E3	DB SERIES
B7CT300	C48	B7 SERIES	C18	F10	DURALOY 8 SERIES	COLL-6CG	F21	K-PAK SERIES	DB-6126	E3	DB SERIES
B7CT50	C48	B7 SERIES	C27	F6	DURALOY 7 SERIES	COLR-1CG	F21	K-PAK SERIES	DB-664	E3	DB SERIES
B7CT500	C48	B7 SERIES	C27SA	F6	DURALOY 7 SERIES	COLR-2CG	F21	K-PAK SERIES	DB-8106	E3	DB SERIES
B7CT75	C47	B7 SERIES	C28	F10	DURALOY 8 SERIES	COLR-3CG	F21	K-PAK SERIES	DB-8146	E3	DB SERIES
B7DBP	C48	B7 SERIES	C37	F6	DURALOY 7 SERIES	COLR-4CG	F21	K-PAK SERIES	DB-8188	E3	DB SERIES
B7EA	E13	B7E SERIES	C37SA	F6	DURALOY 7 SERIES	COLR-5CG	F21	K-PAK SERIES	DB-884	E3	DB SERIES
B7EAPL	C48	B7 SERIES	C38	F10	DURALOY 8 SERIES	COLR-6CG	F21	K-PAK SERIES	DB-886	E3	DB SERIES
B7EB	E13	B7E SERIES	C448	F10	DURALOY 8 SERIES	COT-1CG	F22	K-PAK SERIES	DBF32302	L172	DBF SERIES
B7EC	E13	B7E SERIES	C47	F6	DURALOY 7 SERIES	COT-2CG	F22	K-PAK SERIES	DBF32303	L172	DBF SERIES
B7ED	E13	B7E SERIES	C47SA	F6	DURALOY 7 SERIES	COT-3CG	F22	K-PAK SERIES	DBF4012	L172	DBF SERIES
B7EDBP	C48	B7 SERIES	C57	F6	DURALOY 7 SERIES	COT-4CG	F22	K-PAK SERIES	DBF4013	L172	DBF SERIES
B7EE	E13	B7E SERIES	C57SA	F6	DURALOY 7 SERIES	COT-5CG	F22	K-PAK SERIES	DBF4042	L172	DBF SERIES
B7EF	E13	B7E SERIES	C58	F10	DURALOY 8 SERIES	COT-6CG	F22	K-PAK SERIES	DBF4043	L172	DBF SERIES
B7EG	E13	B7E SERIES	C67	F6	DURALOY 7 SERIES	CS SERIES	C9-11		DBF6012	L172	DBF SERIES
B7EGPL	C48	B7 SERIES	C67SA	F6	DURALOY 7 SERIES	CTCAA050L	F82	CTCA SERIES	DBF6013	L172	DBF SERIES
B7EH	E13	B7E SERIES	C68	F10	DURALOY 8 SERIES	CTCAB075	F82	CTCA SERIES	DBF6042	L172	DBF SERIES
B7EJ	E13	B7E SERIES	C77	F6	DURALOY 7 SERIES	CTCAC100	F82	CTCA SERIES	DBF6043	L172	DBF SERIES
B7EK	E13	B7E SERIES	C77SA	F6	DURALOY 7 SERIES	CTCAC2125	F82	CTCA SERIES	DBF-DL	L172	DBF SERIES
B7EL	E13	B7E SERIES	C78	F10	DURALOY 8 SERIES	CTCAD150	F82	CTCA SERIES	DBFE SERIES	L208	
B7ELPBA	C48	B7 SERIES	C87	F6	DURALOY 7 SERIES	CTCAD200	F82	CTCA SERIES	DBF-HUB	L172	DBF SERIES
B7ELPBG	C48	B7 SERIES	C87SA	F6	DURALOY 7 SERIES	CTCAE250	F82	CTCA SERIES	DCGE-10	L14	DV SERIES
B7ELPBR	C48	B7 SERIES	C88	F10	DURALOY 8 SERIES	CTCAF300	F82	CTCA SERIES	DCGE-20	L14	DV SERIES
B7EM	E13	B7E SERIES	C97	F6	DURALOY 7 SERIES	CTCA0050	F82	CTCA SERIES	DE3B SERIES	L199-204	
B7EN	E13	B7E SERIES	C97SA	F6	DURALOY 7 SERIES	CTCAS050S	F82	CTCA SERIES	DE3B0013E10	L202	DE3B SERIES
B7EP	E15	B7EP/B7EQ SERIES	CBH-114	E21	CBH SERIES	CUP-0	F63	CUP SERIES	DE3B0026E10	L202	DE3B SERIES
B7EQ	E15	B7EP/B7EQ SERIES	CBH-118	E21	CBH SERIES	CUP-1	F63	CUP SERIES	DE3B1313E01	L202	DE3B SERIES
B7ERPL	C48	B7 SERIES	CBH-120	E21	CBH SERIES	CUP-2	F63	CUP SERIES	DE3B2613E01	L202	DE3B SERIES
B7ESS	C48	B7 SERIES	CBH-12S	E21	CBH SERIES	CUP-3	F63	CUP SERIES	DE3B2626E01	L202	DE3B SERIES
B7ESSHOA	C48	B7 SERIES	CBH-1P	E21	CBH SERIES	CUP-375	F63	CUP SERIES	DE4B SERIES	L199-204	
B7GPL	C48	B7 SERIES	CBH-20S	E21	CBH SERIES	CUP-4	F63	CUP SERIES	DEDS-100	DE7	DEDS SERIES
B7HAC	C48	B7 SERIES	CBH-213	E21	CBH SERIES	CUP-5	F63	CUP SERIES	DEDS-100A	DE7	DEDS SERIES
B7IPR	C48	B7 SERIES	CBH-216	E21	CBH SERIES	CUP-6	F63	CUP SERIES	DEDS-30	DE7	DEDS SERIES
B7L SERIES	DE12-16	B7L/B7P SERIES	CBH-3P	E21	CBH SERIES	CUP-7	F63	CUP SERIES	DEDS-30A	DE7	DEDS SERIES
B7LPBA	C48	B7 SERIES	CBH-6S	E21	CBH SERIES	CUP-8	F63	CUP SERIES	DEDS-30AA	DE7	DEDS SERIES
B7LPBG	C48	B7 SERIES	CBH-8S	E21	CBH SERIES	CUP-9	F63	CUP SERIES	DEDS-60	DE7	DEDS SERIES
B7LPBR	C48	B7 SERIES	CL-1	F29	CL SERIES	CUPX-0	F63	CUPX SERIES	DEDS-60A	DE7	DEDS SERIES
B7MS1P	C56	B7MS SERIES	CL-2	F29	CL SERIES	CUPX-1	F63	CUPX SERIES	DEDS-60AA	DE7	DEDS SERIES
B7MS1PRW	C56	B7MS SERIES	CL-3	F29	CL SERIES	CUPX-2	F63	CUPX SERIES	DEDS-A	DE7	DEDS SERIES
B7MS1R	C56	B7MS SERIES	CLM-1	F29	CL SERIES	CUPX-250	F63	CUPX SERIES	DEDS-B	DE7	DEDS SERIES
B7MS1R	C56	B7MS SERIES	CLM-2	F29	CL SERIES	CUPX-3	F63	CUPX SERIES	DMSP101	L188	DM FLOODLIGHT SER
B7MS2P	C56	B7MS SERIES	CLM-3	F29	CL SERIES	CUPX-4	F63	CUPX SERIES	DS-1	F29	DS SERIES
B7MS2R	C56	B7MS SERIES	CMCAA050	F83	CMCA SERIES	CUPX-5	F63	CUPX SERIES	DS-5	F29	DS SERIES
B7MS2RA	C56	B7MS SERIES	CMCAB075	F83	CMCA SERIES	CUPX-6	F63	CUPX SERIES	DVA-110	L14	DV SERIES
B7MS2P	C57	B7MS SERIES	CMCAC100	F83	CMCA SERIES	CUPX-7	F63	CUPX SERIES	DVA-120	L14	DV SERIES
B7MS2P	C57	B7MS SERIES	CMCAC2125	F83	CMCA SERIES	CUPX-8	F63	CUPX SERIES	DVA-210	L14	DV SERIES
B7NFD1	DE9	B7NFD SERIES	CMCAD150	F83	CMCA SERIES	CUPX-9	F63	CUPX SERIES			



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DVA-220	L14	DV SERIES	ECFUF-16	F68	ECFUF SERIES	EKJS-1036	F69	EKJS SERIES	ENY-3-T	F45	ENY SERIES
DXV-110	L14	DV SERIES	ECFUF-18	F68	ECFUF SERIES	EKJS-712	F69	EKJS SERIES	ENY-3TM	F45	ENY SERIES
DXV-120	L14	DV SERIES	ECFUF-210	F68	ECFUF SERIES	EKJS-715	F69	EKJS SERIES	ENY-4	F45	ENY SERIES
DXV-210	L14	DV SERIES	ECFUF-212	F68	ECFUF SERIES	EKJS-718	F69	EKJS SERIES	ENY40-0	F47	ENY40 SERIES
DXV-220	L14	DV SERIES	ECFUF-215	F68	ECFUF SERIES	EKJS-721	F69	EKJS SERIES	ENY40-0M	F47	ENY40 SERIES
E17	F5	DRUALOY 7 SERIES	ECFUF-218	F68	ECFUF SERIES	EKJS-724	F69	EKJS SERIES	ENY40-1	F47	ENY40 SERIES
E17SA	F5	DRUALOY 7 SERIES	ECFUF-221	F68	ECFUF SERIES	EKJS-727	F69	EKJS SERIES	ENY40-1M	F47	ENY40 SERIES
E27	F5	DRUALOY 7 SERIES	ECFUF-224	F68	ECFUF SERIES	EKJS-730	F69	EKJS SERIES	ENY40-2	F47	ENY40 SERIES
E27SA	F5	DRUALOY 7 SERIES	ECFUF-230	F68	ECFUF SERIES	EKJS-736	F69	EKJS SERIES	ENY40-2M	F47	ENY40 SERIES
E37	F5	DRUALOY 7 SERIES	ECFUF-236	F68	ECFUF SERIES	EKJS-812	F69	EKJS SERIES	ENY40-3	F47	ENY40 SERIES
E37SA	F5	DRUALOY 7 SERIES	ECFUF-24	F68	ECFUF SERIES	EKJS-815	F69	EKJS SERIES	ENY40-3M	F47	ENY40 SERIES
EAC	L224	EAC SERIES	ECFUF-26	F68	ECFUF SERIES	EKJS-818	F69	EKJS SERIES	ENY40-4	F47	ENY40 SERIES
EACH12	L224	EAC SERIES	ECFUF-28	F68	ECFUF SERIES	EKJS-821	F69	EKJS SERIES	ENY40-4M	F47	ENY40 SERIES
EACH16	L224	EAC SERIES	ECFUF-310	F68	ECFUF SERIES	EKJS-824	F69	EKJS SERIES	ENY40-5	F47	ENY40 SERIES
EB SERIES	L137-141		ECFUF-312	F68	ECFUF SERIES	EKJS-827	F69	EKJS SERIES	ENY40-5M	F47	ENY40 SERIES
EBB SERIES	L212-213		ECFUF-315	F68	ECFUF SERIES	EKJS-830	F69	EKJS SERIES	ENY40-6	F47	ENY40 SERIES
EBB-BC	L212	EBB SERIES	ECFUF-318	F68	ECFUF SERIES	EKJS-833	F69	EKJS SERIES	ENY40-6M	F47	ENY40 SERIES
EBB-L12	L212	EBB SERIES	ECFUF-321	F68	ECFUF SERIES	EKJS-836	F69	EKJS SERIES	ENY40-7	F47	ENY40 SERIES
EBB-PL	L212	EBB SERIES	ECFUF-324	F68	ECFUF SERIES	EKJUF-412	F68	EKJUF SERIES	ENY40-7M	F47	ENY40 SERIES
EBB-RB	L212	EBB SERIES	ECFUF-330	F68	ECFUF SERIES	EKJUF-415	F68	EKJUF SERIES	ENY40-8	F47	ENY40 SERIES
EBB-TRANS	L212	EBB SERIES	ECFUF-336	F68	ECFUF SERIES	EKJUF-418	F68	EKJUF SERIES	ENY40-8M	F47	ENY40 SERIES
EBF131	L140	EB SERIES	ECFUF-36	F68	ECFUF SERIES	EKJUF-421	F68	EKJUF SERIES	ENY40-9	F47	ENY40 SERIES
EBF134	L140	EB SERIES	ECFUF-38	F68	ECFUF SERIES	EKJUF-424	F68	EKJUF SERIES	ENY40-9M	F47	ENY40 SERIES
EBF261	L140	EB SERIES	EEQ SERIES	L211		EKJUF-430	F68	EKJUF SERIES	ENY-4M	F45	ENY SERIES
EBF264	L140	EB SERIES	EGSA-200	L16	E SERIES	EKJUF-436	F68	EKJUF SERIES	ENY-4-T	F45	ENY SERIES
EBG-2-200	L16	E SERIES	EKJ-110	F67,221	EKJ SERIES	EKJUF-512	F68	EKJUF SERIES	ENY-4TM	F45	ENY SERIES
EBRS	L26,141	MB SERIES	EKJ-112	F67,221	EKJ SERIES	EKJUF-515	F68	EKJUF SERIES	ENY-5	F45	ENY SERIES
ECC050	F86	ECC SERIES	EKJ-115	F67,221	EKJ SERIES	EKJUF-518	F68	EKJUF SERIES	ENY-5M	F45	ENY SERIES
ECC075	F86	ECC SERIES	EKJ-118	F67,221	EKJ SERIES	EKJUF-521	F68	EKJUF SERIES	ENY-5-T	F45	ENY SERIES
ECC100	F86	ECC SERIES	EKJ-14	F67,221	EKJ SERIES	EKJUF-524	F68	EKJUF SERIES	ENY-5TM	F45	ENY SERIES
ECC125	F86	ECC SERIES	EKJ-16	F67,221	EKJ SERIES	EKJUF-530	F68	EKJUF SERIES	ENY-6	F45	ENY SERIES
ECC150	F86	ECC SERIES	EKJ-18	F67,221	EKJ SERIES	EKJUF-536	F68	EKJUF SERIES	ENY-6M	F45	ENY SERIES
ECC200	F86	ECC SERIES	EKJ-210	F67,221	EKJ SERIES	EKJUF-612	F68	EKJUF SERIES	ENY-6-T	F45	ENY SERIES
ECC250	F86	ECC SERIES	EKJ-212	F67,221	EKJ SERIES	EKJUF-615	F68	EKJUF SERIES	ENY-6TM	F45	ENY SERIES
ECC300	F86	ECC SERIES	EKJ-215	F67,221	EKJ SERIES	EKJUF-618	F68	EKJUF SERIES	EPG-2-200	L16	E SERIES
ECC-110	F67	ECF SERIES	EKJ-218	F67,221	EKJ SERIES	EKJUF-624	F68	EKJUF SERIES	EQ SERIES	L137-141	
ECF-112	F67	ECF SERIES	EKJ-24	F67,221	EKJ SERIES	EKJUF-630	F68	EKJUF SERIES	EQF2630	L140	EQ SERIES
ECF-115	F67	ECF SERIES	EKJ-26	F67,221	EKJ SERIES	EKJUF-636	F68	EKJUF SERIES	EQF3230	L140	EQ SERIES
ECF-118	F67	ECF SERIES	EKJ-28	F67,221	EKJ SERIES	EM SERIES	L137-141		EQF4230	L140	EQ SERIES
ECF-121	F67	ECF SERIES	EKJ-310	F67	EKJ SERIES	EMG1	L140	EM/EB/EQ SERIES	EQF5230	L140	EQ SERIES
ECF-124	F67	ECF SERIES	EKJ-312	F67	EKJ SERIES	EMG2	L134,140	EM/EB/EQ SERIES	EQF6430	L140	EQ SERIES
ECF-130	F67	ECF SERIES	EKJ-315	F67	EKJ SERIES	EMGS1	L141	EM/EB/EQ SERIES	EQF8430	L140	EQ SERIES
ECF-136	F67	ECF SERIES	EKJ-318	F67	EKJ SERIES	EMGS2	L134,141	EM/EB/EQ SERIES	ERA15	L140	EM/EB/EQ SERIES
ECF-14	F67	ECF SERIES	EKJ-321	F67	EKJ SERIES	EMGS3	L134,141	EM/EB/EQ SERIES	ERA30	L134,140	EM/EB/EQ SERIES
ECF-16	F67	ECF SERIES	EKJ-324	F67	EKJ SERIES	EMH050	L140	EM SERIES	ERSD15	L140	EM/EB/EQ SERIES
ECF-18	F67	ECF SERIES	EKJ-330	F67	EKJ SERIES	EMH070	L140	EM SERIES	ERSD30	L134,140	EM/EB/EQ SERIES
ECF-210	F67	ECF SERIES	EKJ-336	F67	EKJ SERIES	EMH100	L140	EM SERIES	ESX SERIES	L214-215	
ECF-212	F67	ECF SERIES	EKJ-36	F67	EKJ SERIES	EMHP071	L188	EM FLOODLIGHT SERIES	ESX120PS	L214	ESX SERIES
ECF-215	F67	ECF SERIES	EKJ-38	F67	EKJ SERIES	EMI15	L140	EM SERIES	ESX1274PS	L214	ESX SERIES
ECF-218	F67	ECF SERIES	EKJ-412	F67	EKJ SERIES	EMI20	L140	EM SERIES	ESX240PS	L214	ESX SERIES
ECF-221	F67	ECF SERIES	EKJ-415	F67	EKJ SERIES	EMI30	L140	EM SERIES	ESXAL	L214	ESX SERIES
ECF-224	F67	ECF SERIES	EKJ-418	F67	EKJ SERIES	EMIP111	L188	EM FLOODLIGHT SERIES	ESXBL	L214	ESX SERIES
ECF-230	F67	ECF SERIES	EKJ-421	F67	EKJ SERIES	EML SERIES	L132-134		ESXCL	L214	ESX SERIES
ECF-236	F67	ECF SERIES	EKJ-424	F67	EKJ SERIES	EML4530	L134	EML SERIES	ESXGL	L214	ESX SERIES
ECF-24	F67	ECF SERIES	EKJ-430	F67	EKJ SERIES	EMLC4530	L134	EML SERIES	ESXRL	L214	ESX SERIES
ECF-26	F67	ECF SERIES	EKJ-436	F67	EKJ SERIES	EMRS	L26,141	MB SERIES	EXB-10106 N34	E10	EXB SERIES
ECF-28	F67	ECF SERIES	EKJ-512	F67	EKJ SERIES	EMS050	L140	EM SERIES	EXB-10108 N34	E10	EXB SERIES
ECF-310	F67	ECF SERIES	EKJ-515	F67	EKJ SERIES	EMS070	L140	EM SERIES	EXB-10146 N34	E10	EXB SERIES
ECF-312	F67	ECF SERIES	EKJ-518	F67	EKJ SERIES	EMS075	L140	EM SERIES	EXB-10148 N34	E10	EXB SERIES
ECF-315	F67	ECF SERIES	EKJ-521	F67	EKJ SERIES	EMS100	L140	EM SERIES	EXB-12126 N34	E10	EXB SERIES
ECF-318	F67	ECF SERIES	EKJ-524	F67	EKJ SERIES	EMS105	L140	EM SERIES	EXB-12128 N34	E10	EXB SERIES
ECF-321	F67	ECF SERIES	EKJ-530	F67	EKJ SERIES	EMS151	L140	EM SERIES	EXB-12128 N34	E10	EXB SERIES
ECF-324	F67	ECF SERIES	EKJ-536	F67	EKJ SERIES	EMS351	L140	EM SERIES	EXB-122412 N34	E10	EXB SERIES
ECF-330	F67	ECF SERIES	EKJ-612	F67	EKJ SERIES	EMSP151	L188	EM FLOODLIGHT SERIES	EXB-12246 N34	E10	EXB SERIES
ECF-336	F67	ECF SERIES	EKJ-615	F67	EKJ SERIES	ENY-1	F45	ENY SERIES	EXB-12248 N34	E10	EXB SERIES
ECF-36	F67	ECF SERIES	EKJ-618	F67	EKJ SERIES	ENY-1M	F45	ENY SERIES	EXB-123610 N34	E10	EXB SERIES
ECF-38	F67	ECF SERIES	EKJ-624	F67	EKJ SERIES	ENY-1-T	F45	ENY SERIES	EXB-12368 N34	E10	EXB SERIES
ECFUF-110	F68	ECFUF SERIES	EKJ-630	F67	EKJ SERIES	ENY-1TM	F45	ENY SERIES	EXB-14146 N34	E10	EXB SERIES
ECFUF-112	F68	ECFUF SERIES	EKJ-636	F67	EKJ SERIES	ENY-2	F45	ENY SERIES	EXB-14148 N34	E10	EXB SERIES
ECFUF-115	F68	ECFUF SERIES	EKJS-1012	F69	EKJS SERIES	ENY-2M	F45	ENY SERIES	EXB-16166 N34	E10	EXB SERIES
ECFUF-118	F68	ECFUF SERIES	EKJS-1015	F69	EKJS SERIES	ENY-2SET	L26,222	ENY SERIES	EXB-16168 N34	E10	EXB SERIES
ECFUF-121	F68	ECFUF SERIES	EKJS-1018	F69	EKJS SERIES	ENY-2-T	F45	ENY SERIES	EXB-162410 N34	E10	EXB SERIES
ECFUF-124	F68	ECFUF SERIES	EKJS-1021	F69	EKJS SERIES	ENY-2TM	F45	ENY SERIES	EXB-16248 N34	E10	EXB SERIES
ECFUF-130	F68	ECFUF SERIES	EKJS-1024	F69	EKJS SERIES	ENY-3	F45	ENY SERIES	EXB-16248 N34	E10	EXB SERIES
ECFUF-136	F68	ECFUF SERIES	EKJS-1027	F69	EKJS SERIES	ENY-3M	F45	ENY SERIES	EXB-18186 N34	E10	EXB SERIES
ECFUF-14	F68	ECFUF SERIES	EKJS-1030	F69	EKJS SERIES	ENY-3SET	L26,222	ENY SERIES	EXB-18188 N34	E10	EXB SERIES



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EXB-182410 N34	E10	EXB SERIES	EY-7	F46	EY SERIES	EYS-0-T	F45	EYS SERIES	EZP350	L162	EZ SERIES
EXB-18248 N34	E10	EXB SERIES	EY-7M	F46	EY SERIES	EYS-0TM	F45	EYS SERIES	EZP355	L162	EZ SERIES
EXB-18308 N34	E10	EXB SERIES	EY-7-T	F46	EY SERIES	EYS-1	F45	EYS SERIES	EZP356	L162	EZ SERIES
EXB-183610 N34	E10	EXB SERIES	EY-7TM	F46	EY SERIES	EYS-1-T	F45	EYS SERIES	EZP358	L162	EZ SERIES
EXB-18368 N34	E10	EXB SERIES	EY-8	F46	EY SERIES	EYS-2	F45	EYS SERIES	EZP400	L162	EZ SERIES
EXB-203611 N34	E10	EXB SERIES	EY-8M	F46	EY SERIES	EYS-2-T	F45	EYS SERIES	EZP405	L162	EZ SERIES
EXB-242410 N34	E10	EXB SERIES	EY-8-T	F46	EY SERIES	EYS-3	F45	EYS SERIES	EZP406	L162	EZ SERIES
EXB-24248 N34	E10	EXB SERIES	EY-8TM	F46	EY SERIES	EYS-3-T	F45	EYS SERIES	EZP408	L162	EZ SERIES
EXB-24308 N34	E10	EXB SERIES	EY-9	F46	EY SERIES	EYS-4	F45	EYS SERIES	EZS050	L162	EZ SERIES
EXB-243610 N34	E10	EXB SERIES	EY-9M	F46	EY SERIES	EYS-4-T	F45	EYS SERIES	EZS058	L162	EZ SERIES
EXB-24368 N34	E10	EXB SERIES	EY-9-T	F46	EY SERIES	EYS-5	F45	EYS SERIES	EZS070	L162	EZ SERIES
EXB-6124 N34	E10	EXB SERIES	EY-9TM	F46	EY SERIES	EYS-5-T	F45	EYS SERIES	EZS075	L162	EZ SERIES
EXB-664 N34	E10	EXB SERIES	EYD-0	F46	EYD SERIES	EYS-6	F45	EYS SERIES	EZS076	L162	EZ SERIES
EXB-684 N34	E10	EXB SERIES	EYD-0M	F46	EYD SERIES	EYS-6-T	F45	EYS SERIES	EZS078	L162	EZ SERIES
EXB-8104 N34	E10	EXB SERIES	EYD-0-T	F46	EYD SERIES	EYS-7	F45	EYS SERIES	EZS100	L162	EZ SERIES
EXB-8106 N34	E10	EXB SERIES	EYD-0TM	F46	EYD SERIES	EYS-7M	F45	EYS SERIES	EZS105	L162	EZ SERIES
EXB-8126 N34	E10	EXB SERIES	EYD-1	F46	EYD SERIES	EYS-7-T	F45	EYS SERIES	EZS106	L162	EZ SERIES
EXB-8128 N34	E10	EXB SERIES	EYD-1M	F46	EYD SERIES	EYS-7TM	F45	EYS SERIES	EZS108	L162	EZ SERIES
EXB-886 N34	E10	EXB SERIES	EYD-1-T	F46	EYD SERIES	EYS-8	F45	EYS SERIES	EZS150	L162	EZ SERIES
EXB-FDS-0303P	DE10	EXB-NFD/EXB-FDS SER	EYD-1TM	F46	EYD SERIES	EYS-8M	F45	EYS SERIES	EZS155	L162	EZ SERIES
EXB-FDS-0603P	DE10	EXB-NFD/EXB-FDS SER	EYD-2	F46	EYD SERIES	EYS-8-T	F45	EYS SERIES	EZS156	L162	EZ SERIES
EXB-FDS-1003P	DE10	EXB-NFD/EXB-FDS SER	EYD-2M	F46	EYD SERIES	EYS-8TM	F45	EYS SERIES	EZS158	L162	EZ SERIES
EXB-FDS-2003P	DE10	EXB-NFD/EXB-FDS SER	EYD-2-T	F46	EYD SERIES	EYS-9	F45	EYS SERIES	EZS250	L162	EZ SERIES
EXB-FDS-4003P	DE10	EXB-NFD/EXB-FDS SER	EYD-2TM	F46	EYD SERIES	EYS-9M	F45	EYS SERIES	EZS255	L162	EZ SERIES
EXBLI SERIES	DE22-23	EXBLI/EXBPI SER	EYD-3	F46	EYD SERIES	EYS-9-T	F45	EYS SERIES	EZS256	L162	EZ SERIES
EXB-NFD-0303P	DE10	EXB-NFD/EXB-FDS SER	EYD-3M	F46	EYD SERIES	EYS-9TM	F45	EYS SERIES	EZS258	L162	EZ SERIES
EXB-NFD-0303PDT	DE10	EXB-NFD/EXB-FDS SER	EYD-3-T	F46	EYD SERIES	EZ SERIES	L156-161		EZS400	L162	EZ SERIES
EXB-NFD-0306P	DE10	EXB-NFD/EXB-FDS SER	EYD-3TM	F46	EYD SERIES	EZA2	L134,140,160	EZ SERIES	EZS405	L162	EZ SERIES
EXB-NFD-0603P	DE10	EXB-NFD/EXB-FDS SER	EYD-4	F46	EYD SERIES	EZA3	L134,140,160	EZ SERIES	EZS406	L162	EZ SERIES
EXB-NFD-0603PDT	DE10	EXB-NFD/EXB-FDS SER	EYD4-0	F47	EYD40 SERIES	EZB2	L134,140,160	EZ SERIES	EZS408	L162	EZ SERIES
EXB-NFD-0606P	DE10	EXB-NFD/EXB-FDS SER	EYD40-0M	F47	EYD40 SERIES	EZB3	L134,140,160	EZ SERIES	EZ-T SERIES	L196-197	
EXB-NFD-1003P	DE10	EXB-NFD/EXB-FDS SER	EYD40-1	F47	EYD40 SERIES	EZBA12	L224	EZBA SERIES	EZTB	L141,161	EZ SERIES
EXB-NFD-1003PDT	DE10	EXB-NFD/EXB-FDS SER	EYD40-1M	F47	EYD40 SERIES	EZCB	L141,161	EZ SERIES	EZ258	L134,140,160	EZ SERIES
EXB-NFD-1006P	DE10	EXB-NFD/EXB-FDS SER	EYD40-2	F47	EYD40 SERIES	EZCUP	L140,160	EZ SERIES	EZ3	L134,140,160	EZ SERIES
EXB-NFD-2003P	DE10	EXB-NFD/EXB-FDS SER	EYD40-2M	F47	EYD40 SERIES	EZD4	L134,140,160	EZ SERIES	FB-707	F30	FB SERIES
EXB-NFD-4003P	DE10	EXB-NFD/EXB-FDS SER	EYD40-3	F47	EYD40 SERIES	EZD4A	L134,140,160	EZ SERIES	FB-714	F30	FB SERIES
EXBPI SERIES	DE22-23		EYD40-3M	F47	EYD40 SERIES	EZG1	L161	EZ SERIES	FB-724	F30	FB SERIES
EXG-2-200	L16	E SERIES	EYD40-4	F47	EYD40 SERIES	EZGS1	L160	EZ SERIES	FB-734	F30	FB SERIES
EXH1A10	E21	EXH SERIES	EYD40-4M	F47	EYD40 SERIES	EZGS2	L160	EZ SERIES	FB-745	F30	FB SERIES
EXH1A6	E21	EXH SERIES	EYD40-5	F47	EYD40 SERIES	EZH070	L162	EZ SERIES	FB-765	F30	FB SERIES
EXH1A8	E21	EXH SERIES	EYD40-5M	F47	EYD40 SERIES	EZH075	L162	EZ SERIES	FB-787	F30	FB SERIES
EXH1B10	E21	EXH SERIES	EYD40-6	F47	EYD40 SERIES	EZH076	L162	EZ SERIES	FCLA	F41	FS/FD SER DEV CVRS
EXH1B8	E21	EXH SERIES	EYD40-6M	F47	EYD40 SERIES	EZH078	L162	EZ SERIES	FCLA2	F41	FS/FD SER DEV CVRS
EXH2C10	E21	EXH SERIES	EYD40-7	F47	EYD40 SERIES	EZH100	L162	EZ SERIES	FCLG	F41	FS/FD SER DEV CVRS
EXH2C8	E21	EXH SERIES	EYD40-7M	F47	EYD40 SERIES	EZH105	L162	EZ SERIES	FCLM	F41,42	FS/FD SER DEV CVRS
EXH3D10	E21	EXH SERIES	EYD40-8	F47	EYD40 SERIES	EZH106	L162	EZ SERIES	FCL-GF	F41	FS/FD SER DEV CVRS
EXH3D8	E21	EXH SERIES	EYD40-8M	F47	EYD40 SERIES	EZH108	L162	EZ SERIES	FCLN	F41	FS/FD SER DEV CVRS
EXH3E10	E21	EXH SERIES	EYD40-9	F47	EYD40 SERIES	EZH170	L162	EZ SERIES	FCLR	F41	FS/FD SER DEV CVRS
EY-0	F46	EY SERIES	EYD40-9M	F47	EYD40 SERIES	EZH175	L162	EZ SERIES	FCLT	F41	FS/FD SER DEV CVRS
EY-0M	F46	EY SERIES	EYD-4M	F46	EYD SERIES	EZH176	L162	EZ SERIES	FCL-VG	F41,42	FS/FD SER DEV CVRS
EY-0-T	F46	EY SERIES	EYD-4-T	F46	EYD SERIES	EZH178	L162	EZ SERIES	FD-1	F31	FD SERIES
EY-0TM	F46	EY SERIES	EYD-4TM	F46	EYD SERIES	EZH250	L162	EZ SERIES	FD-1M	F31	FD SERIES
EY-1	F46	EY SERIES	EYD-5	F46	EYD SERIES	EZH255	L162	EZ SERIES	FD-2	F31	FD SERIES
EY-1M	F46	EY SERIES	EYD-5M	F46	EYD SERIES	EZH256	L162	EZ SERIES	FD-2M	F31	FD SERIES
EY-1-T	F46	EY SERIES	EYD-5-T	F46	EYD SERIES	EZH258	L162	EZ SERIES	FD-3	F31	FD SERIES
EY-1TM	F46	EY SERIES	EYD-5TM	F46	EYD SERIES	EZH400	L162	EZ SERIES	FD-3M	F31	FD SERIES
EY-2	F46	EY SERIES	EYD-6	F46	EYD SERIES	EZH405	L162	EZ SERIES	FDA-2	F34	FDA SERIES
EY-2M	F46	EY SERIES	EYD-6M	F46	EYD SERIES	EZH406	L162	EZ SERIES	FDC-1	F32	FDC SERIES
EY-2-T	F46	EY SERIES	EYD-6-T	F46	EYD SERIES	EZH408	L162	EZ SERIES	FDC-1M	F32	FDC SERIES
EY-2TM	F46	EY SERIES	EYD-6TM	F46	EYD SERIES	EZMO	L161	EZ SERIES	FDC-2	F32	FDC SERIES
EY-3	F46	EY SERIES	EYD-7	F46	EYD SERIES	EZP150	L162	EZ SERIES	FDC-2M	F32	FDC SERIES
EY-3M	F46	EY SERIES	EYD-7M	F46	EYD SERIES	EZP155	L162	EZ SERIES	FDC-3	F32	FDC SERIES
EY-3-T	F46	EY SERIES	EYD-7-T	F46	EYD SERIES	EZP156	L162	EZ SERIES	FDC-3M	F32	FDC SERIES
EY-3TM	F46	EY SERIES	EYD-7TM	F46	EYD SERIES	EZP158	L162	EZ SERIES	FDC-2	F35	FDC SERIES
EY-4	F46	EY SERIES	EYD-8	F46	EYD SERIES	EZP170	L162	EZ SERIES	FDC-2M	F35	FDC SERIES
EY-4M	F46	EY SERIES	EYD-8M	F46	EYD SERIES	EZP175	L162	EZ SERIES	FDQ	F38,39	FDQ SERIES
EY-4-T	F46	EY SERIES	EYD-8-T	F46	EYD SERIES	EZP176	L162	EZ SERIES	FDS-2	F35	FDS SERIES
EY-4TM	F46	EY SERIES	EYD-8TM	F46	EYD SERIES	EZP178	L162	EZ SERIES	FDS-2M	F35	FDS SERIES
EY-5	F46	EY SERIES	EYD-9	F46	EYD SERIES	EZP250	L162	EZ SERIES	FF-45-1	F66	FF SERIES
EY-5M	F46	EY SERIES	EYD-9M	F46	EYD SERIES	EZP255	L162	EZ SERIES	FF-45-1M	F66	FF SERIES
EY-5-T	F46	EY SERIES	EYD-9-T	F46	EYD SERIES	EZP256	L162	EZ SERIES	FF-45-2	F66	FF SERIES
EY-5TM	F46	EY SERIES	EYD-9TM	F46	EYD SERIES	EZP258	L162	EZ SERIES	FF-45-2M	F66	FF SERIES
EY-6	F46	EY SERIES	EYMF-1	F66	EYMF SERIES	EZP320	L162	EZ SERIES	FF-45-3	F66	FF SERIES
EY-6M	F46	EY SERIES	EYMF-2	F66	EYMF SERIES	EZP325	L162	EZ SERIES	FF-45-3M	F66	FF SERIES
EY-6-T	F46	EY SERIES	EYS-0	F45	EYS SERIES	EZP326	L162	EZ SERIES	FF-45-6	F66	FF SERIES
EY-6TM	F46	EY SERIES	EYS-0M	F45	EYS SERIES	EZP328	L162	EZ SERIES	FF-45-6	F66	FF SERIES



PART #	SEC./PG	PROD. GRP.	PART #	SEC./PG	PROD. GRP.	PART #	SEC./PG	PROD. GRP.	PART #	SEC./PG	PROD. GRP.
FF-45-8	F66	FF SERIES	FXB-4	C13	FXB SERIES	FXCS-2B1	C14	FXCS SERIES	FXCS-5B30-CL	C15	FXCS SERIES
FF-45-8M	F66	FF SERIES	FXB-5	C13	FXB SERIES	FXCS-2B13-C	C15	FXCS SERIES	FXCS-5B30-GL	C15	FXCS SERIES
FF-90-1	F66	FF SERIES	FXB-6	C13	FXB SERIES	FXCS-2B13-0	C15	FXCS SERIES	FXCS-5B30-RL	C15	FXCS SERIES
FF-90-1M	F66	FF SERIES	FXB-7	C13	FXB SERIES	FXCS-2B13-U	C15	FXCS SERIES	FXCS-5B30RL-GL	C15	FXCS SERIES
FF-90-2	F66	FF SERIES	FXB-8	C13	FXB SERIES	FXCS-2B2	C14	FXCS SERIES	FXCS-5B4	C14	FXCS SERIES
FF-90-2M	F66	FF SERIES	FXB-9	C13	FXB SERIES	FXCS-2B24-CL	C14	FXCS SERIES	FXCS-5B4-U	C14	FXCS SERIES
FF-90-3	F66	FF SERIES	FXCS-2S3L6G	C16	FXCS SERIES	FXCS-2B24-GL	C14	FXCS SERIES	FXCS-5B5	C14	FXCS SERIES
FF-90-3M	F66	FF SERIES	FXCS-0A15	C15	FXCS SERIES	FXCS-2B24-RL	C14	FXCS SERIES	FXCS-5B7	C14	FXCS SERIES
FH-2	L220	FH SERIES	FXCS-0B1	C14	FXCS SERIES	FXCS-2B3	C14	FXCS SERIES	FXCS-5K2A1	C16	FXCS SERIES
FHC-21	L219	FHC SERIES	FXCS-0B13-C	C15	FXCS SERIES	FXCS-2B30-CL	C15	FXCS SERIES	FXCS-5K2A5	C16	FXCS SERIES
FHC-22	L219	FHC SERIES	FXCS-0B13-0	C15	FXCS SERIES	FXCS-2B30-GL	C15	FXCS SERIES	FXCS-5K2L3F22D	C16	FXCS SERIES
FHT-21	L219	FHT SERIES	FXCS-0B13-U	C15	FXCS SERIES	FXCS-2B30-RL	C15	FXCS SERIES	FXCS-5K3C4	C16	FXCS SERIES
FHT-22	L219	FHT SERIES	FXCS-0B2	C14	FXCS SERIES	FXCS-2B30RL-GL	C15	FXCS SERIES	FXCS-5K3C5	C16	FXCS SERIES
FKA-22	L219	FKA SERIES	FXCS-0B24CL	C14	FXCS SERIES	FXCS-2B4	C14	FXCS SERIES	FXCS-5K3L6G32D	C16	FXCS SERIES
FS-1	F31	FS SERIES	FXCS-0B24GL	C14	FXCS SERIES	FXCS-2B4-U	C14	FXCS SERIES	FXCS-5K3M6G32D	C16	FXCS SERIES
FS-1M	F31	FS SERIES	FXCS-0B24RL	C14	FXCS SERIES	FXCS-2B5	C14	FXCS SERIES	FXCS-5K3R6G32D	C16	FXCS SERIES
FS-2	F31	FS SERIES	FXCS-0B3	C14	FXCS SERIES	FXCS-2B7	C14	FXCS SERIES	FXCS-5S2A1	C16	FXCS SERIES
FS-2M	F31	FS SERIES	FXCS-0B30CL	C15	FXCS SERIES	FXCS-2K2A1	C16	FXCS SERIES	FXCS-5S2A5	C16	FXCS SERIES
FS-3	F31	FS SERIES	FXCS-0B30GL	C15	FXCS SERIES	FXCS-2K2A5	C16	FXCS SERIES	FXCS-5S2L3F	C16	FXCS SERIES
FS-3M	F31	FS SERIES	FXCS-0B30RL	C15	FXCS SERIES	FXCS-2K2L3F22D	C16	FXCS SERIES	FXCS-5S3C4	C16	FXCS SERIES
FSA-1	F34	FDA SERIES	FXCS-0B30RL-GL	C15	FXCS SERIES	FXCS-2K3C4	C16	FXCS SERIES	FXCS-5S3C5	C16	FXCS SERIES
FSA-2	F34	FDA SERIES	FXCS-0B4	C14	FXCS SERIES	FXCS-2K3C5	C16	FXCS SERIES	FXCS-5S3L6G	C16	FXCS SERIES
FSBC	F41	FS/FD SER DEV CVRS	FXCS-0B4U	C14	FXCS SERIES	FXCS-2K3L6G32D	C16	FXCS SERIES	FXCS-5S3M6G	C16	FXCS SERIES
FSBCM	F41	FS/FD SER DEV CVRS	FXCS-0B5	C14	FXCS SERIES	FXCS-2K3M6G32D	C16	FXCS SERIES	FXCS-5S3R6G	C16	FXCS SERIES
FSC-1	F31	FSC SERIES	FXCS-0B7	C14	FXCS SERIES	FXCS-2K3R6G32D	C16	FXCS SERIES	FXCS-0MMG3	C15	FXCS SERIES
FSC-1M	F31	FSC SERIES	FXCS-0K2A1	C16	FXCS SERIES	FXCS-2S2A1	C16	FXCS SERIES	FXCS-0MMK3	C15	FXCS SERIES
FSC-2	F31	FSC SERIES	FXCS-0K2A5	C16	FXCS SERIES	FXCS-2S2A5	C16	FXCS SERIES	FXCS-0MMR3	C15,27	FXCS SERIES
FSC-2M	F31	FSC SERIES	FXCS-0K2L3F22D	C16	FXCS SERIES	FXCS-2S2L3F	C16	FXCS SERIES	FXCS-0MMR3-LOM	C15	FXCS SERIES
FSC-3	F31	FSC SERIES	FXCS-0K3C4	C16	FXCS SERIES	FXCS-2S3C4	C16	FXCS SERIES	FXS-11C	C17	FXS SERIES
FSC-3M	F31	FSC SERIES	FXCS-0K3C5	C16	FXCS SERIES	FXCS-2S3C5	C16	FXCS SERIES	FXS-11D	C17	FXS SERIES
FSCA-1	F36	FSCA SERIES	FXCS-0K3L6G32D	C16	FXCS SERIES	FXCS-2S3M6G	C16	FXCS SERIES	FXS-12C	C17	FXS SERIES
FSCA-1M	F36	FSCA SERIES	FXCS-0K3M6G32D	C16	FXCS SERIES	FXCS-2S3R6G	C16	FXCS SERIES	FXS-12D	C17	FXS SERIES
FSCA-2	F36	FSCA SERIES	FXCS-0K3R6G32D	C16	FXCS SERIES	FXCS-4A15	C15	FXCS SERIES	FXS-13C	C17	FXS SERIES
FSCA-2M	F36	FSCA SERIES	FXCS-0S2A1	C16	FXCS SERIES	FXCS-4B1	C14	FXCS SERIES	FXS-15C	C17	FXS SERIES
FSCC-1	F35	FSCC SERIES	FXCS-0S2A5	C16	FXCS SERIES	FXCS-4B13-C	C15	FXCS SERIES	FXS-16C	C17	FXS SERIES
FSCC-1M	F35	FSCC SERIES	FXCS-0S2L3F	C16	FXCS SERIES	FXCS-4B13-0	C15	FXCS SERIES	FXS-18C	C17	FXS SERIES
FSCC-2	F35	FSCC SERIES	FXCS-0S3C4	C16	FXCS SERIES	FXCS-4B13-U	C15	FXCS SERIES	FXS-1C	C17	FXS SERIES
FSCC-2M	F35	FSCC SERIES	FXCS-0S3C5	C16	FXCS SERIES	FXCS-4B2	C14	FXCS SERIES	FXS-1D	C17	FXS SERIES
FSCT-1	F36	FSCT SERIES	FXCS-0S3L6G	C16	FXCS SERIES	FXCS-4B24-CL	C14	FXCS SERIES	FXS-21C	C17	FXS SERIES
FSCT-1M	F36	FSCT SERIES	FXCS-0S3M6G	C16	FXCS SERIES	FXCS-4B24-GL	C14	FXCS SERIES	FXS-21D	C17	FXS SERIES
FSCT-2	F36	FSCT SERIES	FXCS-0S3R6G	C16	FXCS SERIES	FXCS-4B24-RL	C14	FXCS SERIES	FXS-22C	C17	FXS SERIES
FSCT-2M	F36	FSCT SERIES	FXCS-1A15	C15	FXCS SERIES	FXCS-4B3	C14	FXCS SERIES	FXS-22D	C17	FXS SERIES
FSL-1	F32	FSL SERIES	FXCS-1B1	C14	FXCS SERIES	FXCS-4B30-CL	C15	FXCS SERIES	FXS-23C	C17	FXS SERIES
FSL-1M	F32	FSL SERIES	FXCS-1B13-0	C15	FXCS SERIES	FXCS-4B30-GL	C15	FXCS SERIES	FXS-25C	C17	FXS SERIES
FSL-2	F32	FSL SERIES	FXCS-1B13-C	C15	FXCS SERIES	FXCS-4B30-RL	C15	FXCS SERIES	FXS-26C	C17	FXS SERIES
FSL-2M	F32	FSL SERIES	FXCS-1B13-U	C15	FXCS SERIES	FXCS-4B30RL-GL	C15	FXCS SERIES	FXS-28C	C17	FXS SERIES
FSLB-1	F34	FSLB SERIES	FXCS-1B2	C14	FXCS SERIES	FXCS-4B4	C14	FXCS SERIES	FXS-2C	C17	FXS SERIES
FSLB-2	F34	FSLB SERIES	FXCS-1B24-CL	C14	FXCS SERIES	FXCS-4B4-U	C14	FXCS SERIES	FXS-2D	C17	FXS SERIES
FSOC-1	F32	FSOC SERIES	FXCS-1B24-GL	C14	FXCS SERIES	FXCS-4B5	C15	FXCS SERIES	FXS-3C	C17	FXS SERIES
FSPT	F41	FS/FD SER DEV CVRS	FXCS-1B24-RL	C14	FXCS SERIES	FXCS-4B7	C14	FXCS SERIES	FXS-41C	C17	FXS SERIES
FSQ	F38,39	FSQ SERIES	FXCS-1B3	C14	FXCS SERIES	FXCS-4K2A1	C16	FXCS SERIES	FXS-41D	C17	FXS SERIES
FSR-1	F33	FSR SERIES	FXCS-1B30-CL	C15	FXCS SERIES	FXCS-4K2A5	C16	FXCS SERIES	FXS-42C	C17	FXS SERIES
FSR-1M	F33	FSR SERIES	FXCS-1B30-GL	C15	FXCS SERIES	FXCS-4K2L3F22D	C16	FXCS SERIES	FXS-42D	C17	FXS SERIES
FSR-2	F33	FSR SERIES	FXCS-1B30-RL	C15	FXCS SERIES	FXCS-4K3C4	C16	FXCS SERIES	FXS-43C	C17	FXS SERIES
FSR-2M	F33	FSR SERIES	FXCS-1B30RL-GL	C15	FXCS SERIES	FXCS-4K3C5	C16	FXCS SERIES	FXS-45C	C17	FXS SERIES
FSRG	F40	FS/FD SER DEV CVRS	FXCS-1B4	C14	FXCS SERIES	FXCS-4K3L6G32D	C16	FXCS SERIES	FXS-46C	C17	FXS SERIES
FSS-1	F35	FSS SERIES	FXCS-1B4-U	C14	FXCS SERIES	FXCS-4K3M6G32D	C16	FXCS SERIES	FXS-48C	C17	FXS SERIES
FSS-1M	F35	FSS SERIES	FXCS-1B5	C14	FXCS SERIES	FXCS-4K3R6G32D	C16	FXCS SERIES	FXS-4C	C17	FXS SERIES
FSS-2	F35	FSS SERIES	FXCS-1B7	C14	FXCS SERIES	FXCS-4S2A1	C16	FXCS SERIES	FXS-51C	C17	FXS SERIES
FSS-2M	F35	FSS SERIES	FXCS-1K2A1	C16	FXCS SERIES	FXCS-4S2A5	C16	FXCS SERIES	FXS-51D	C17	FXS SERIES
FST	F41	FS/FD SER DEV CVRS	FXCS-1K2A5	C16	FXCS SERIES	FXCS-4S2L3F	C16	FXCS SERIES	FXS-52C	C17	FXS SERIES
FST-1	F33	FST SERIES	FXCS-1K2L3F22D	C16	FXCS SERIES	FXCS-4S3C4	C16	FXCS SERIES	FXS-52D	C17	FXS SERIES
FST-1M	F33	FST SERIES	FXCS-1K3C4	C16	FXCS SERIES	FXCS-4S3C5	C16	FXCS SERIES	FXS-53C	C17	FXS SERIES
FST-2	F33	FST SERIES	FXCS-1K3C5	C16	FXCS SERIES	FXCS-4S3L6G	C16	FXCS SERIES	FXS-55C	C17	FXS SERIES
FST-2M	F33	FST SERIES	FXCS-1K3L6G32D	C16	FXCS SERIES	FXCS-4S3M6G	C16	FXCS SERIES	FXS-56C	C17	FXS SERIES
FSTG	F41	FS/FD SER DEV CVRS	FXCS-1K3M6G32D	C16	FXCS SERIES	FXCS-4S3R6G	C16	FXCS SERIES	FXS-58C	C17	FXS SERIES
FSX-1	F34	FSX SERIES	FXCS-1K3R6G32D	C16	FXCS SERIES	FXCS-5A15	C15	FXCS SERIES	FXS-5C	C17	FXS SERIES
FSX-1M	F34	FSX SERIES	FXCS-1S2A1	C16	FXCS SERIES	FXCS-5B1	C14	FXCS SERIES	FXS-6C	C17	FXS SERIES
FSX-2	F34	FSX SERIES	FXCS-1S2A5	C16	FXCS SERIES	FXCS-5B13-C	C15	FXCS SERIES	FXS-8C	C17	FXS SERIES
FSX-2M	F34	FSX SERIES	FXCS-1S2L3F	C16	FXCS SERIES	FXCS-5B13-0	C15	FXCS SERIES	FXSD01	C53	FXS SERIES
FXB-1	C13	FXB SERIES	FXCS-1S3C4	C16	FXCS SERIES	FXCS-5B13-U	C15	FXCS SERIES	FXSD02	C53	FXS SERIES
FXB-10	C13	FXB SERIES	FXCS-1S3C5	C16	FXCS SERIES	FXCS-5B2	C14	FXCS SERIES	FXSD11	C53	FXS SERIES
FXB-11	C13	FXB SERIES	FXCS-1S3L6G	C16	FXCS SERIES	FXCS-5B24-CL	C14	FXCS SERIES	FXSD12	C53	FXS SERIES
FXB-12	C13	FXB SERIES	FXCS-1S3M6G	C16	FXCS SERIES	FXCS-5B24-GL	C14	FXCS SERIES	FXSD21	C53	FXS SERIES
FXB-2	C13	FXB SERIES	FXCS-1S3R6G	C16	FXCS SERIES	FXCS-5B24-RL	C14	FXCS SERIES	FXSD22	C53	FXS SERIES
FXB-3	C13	FXB SERIES	FXCS-2A15	C15	FXCS SERIES	FXCS-5B3	C14	FXCS SERIES	FXSD41	C53	FXS SERIES



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FXSD42	C53	FXS SERIES	GEBL-5	F49	GEB SERIES	GEJCT-5	F52	GE SERIES	GFC505302	DE25	GFCS SEREIS
FXSD51	C53	FXS SERIES	GEBT-2	F50	GEB SERIES	GEJCT-5M	F52	GE SERIES	GFC530151	DE25	GFCS SEREIS
FXSD52	C53	FXS SERIES	GEBT-24	F50	GEB SERIES	GEJCT-6	F52	GE SERIES	GFC530152	DE25	GFCS SEREIS
FXS-GFI-1020	C17	FXS SERIES	GEBT-25	F50	GEB SERIES	GEJCT-6M	F52	GE SERIES	GFC530201	DE25	GFCS SEREIS
FXS-GFI-1120	C17	FXS SERIES	GEBT-3	F50	GEB SERIES	GEJET-5	F51	GE SERIES	GFC530202	DE25	GFCS SEREIS
FXS-GFI-2020	C17	FXS SERIES	GEBT-4	F50	GEB SERIES	GEJET-5M	F51	GE SERIES	GFC530301	DE25	GFCS SEREIS
FXS-GFI-2120	C17	FXS SERIES	GEBT-5	F50	GEB SERIES	GEJEY	F56	GE SERIES ACC	GFC530302	DE25	GFCS SEREIS
FXS-GFI-3020	C17	FXS SERIES	GEBX-2	F50	GEB SERIES	GEJLBT-5	F53	GE SERIES	GL-275	E18.25	GR SERIES
FXS-GFI-3120	C17	FXS SERIES	GEBX-3	F50	GEB SERIES	GEJLBT-5M	F53	GE SERIES	GL-300	E18.25	GR SERIES
FXS-GFI03	C17	FXS SERIES	GEBX-4	F50	GEB SERIES	GEJLBT-6	F53	GE SERIES	GL-375	F56	GR SERIES
FXS-GFI03PL	C17	FXS SERIES	GEBX-5	F50	GEB SERIES	GEJLBT-6M	F53	GE SERIES	GL-537	E18.25	GR SERIES
FXSX02	C53	FXS SERIES	GECBC	F56	GE SERIES ACC	GEJLT-5	F52	GE SERIES	GL-600	E18.25	GR SERIES
FXSX03	C53	FXS SERIES	GECAT-1	F54	GE SERIES	GEJLT-5M	F52	GE SERIES	GL-775	E18.25	GR SERIES
FXSX12	C53	FXS SERIES	GECAT-1M	F54	GE SERIES	GEJLT-6	F52	GE SERIES	GLX-275	E18	ENCLOSURE ACC
FXSX13	C53	FXS SERIES	GECCT-1	F52	GE SERIES	GEJLT-6M	F52	GE SERIES	GLX-300	E18	ENCLOSURE ACC
FXSX22	C53	FXS SERIES	GECCT-1M	F52	GE SERIES	GEJTT-5	F53	GE SERIES	GLX-375	E18	ENCLOSURE ACC
FXSX23	C53	FXS SERIES	GECCT-2	F52	GE SERIES	GEJTT-5M	F53	GE SERIES	GLX-537	E18	ENCLOSURE ACC
FXSX42	C53	FXS SERIES	GECCT-2-6TB	E7	GE SERIES	GEJTT-6	F53	GE SERIES	GLX-600	E18	ENCLOSURE ACC
FXSX43	C53	FXS SERIES	GECCT-2M	F52	GE SERIES	GEJTT-6M	F53	GE SERIES	GLX-775	E18	ENCLOSURE ACC
FXSX52	C53	FXS SERIES	GECCT-3	F52	GE SERIES	GEJXT-5	F53	GE SERIES	GLXR13	E18	ENCLOSURE ACC
FXSX53	C53	FXS SERIES	GECCT-3M	F52	GE SERIES	GEJXT-5M	F53	GE SERIES	GLXR24	E18	ENCLOSURE ACC
FZ	F42	FS/FD SER DEV CVRS	GECEAT-2	F54	GE SERIES	GEJXT-6	F53	GE SERIES	GLXR27	E18	ENCLOSURE ACC
FZ8647	F41.42	FS/FD SER DEV CVRS	GECEAT-2M	F54	GE SERIES	GEJXT-6M	F53	GE SERIES	GLXR34	E18	ENCLOSURE ACC
FZ8648	F41.42	FS/FD SER DEV CVRS	GECET-1	F51	GE SERIES	GEMBC	F56	GE SERIES ACC	GLXR36	E18	ENCLOSURE ACC
GO-567-LOK	C26	GO SERIES	GECET-1M	F51	GE SERIES	GEMC-1	F52	GE SERIES	GLXR47	E18	ENCLOSURE ACC
GASK571	F9	DURALOY 7 SERIES	GECET-2	F51	GE SERIES	GEMC-2	F52	GE SERIES	GLXR59	E18	ENCLOSURE ACC
GASK572	F9	DURALOY 7 SERIES	GECET-2M	F51	GE SERIES	GEMCA-1	F54	GE SERIES	GLXR99	E18	ENCLOSURE ACC
GASK573	F9	DURALOY 7 SERIES	GECET-3	F51	GE SERIES	GEMCA-2	F54	GE SERIES	GO10-31F N34	C36	GO SERIES
GASK574	F9	DURALOY 7 SERIES	GECET-3M	F51	GE SERIES	GEMEY	F56	GE SERIES ACC	GO10-33F N34	C36	GO SERIES
GASK575	F9	DURALOY 7 SERIES	GECEY	F56	GE SERIES ACC	GEML-1	F52	GE SERIES	GO-10502	C38	GO SERIES
GASK576	F9	DURALOY 7 SERIES	GECLBT-1	F53	GE SERIES	GEML-2	F52	GE SERIES	GO113 N34	C36	GO SERIES
GASK579	F9	DURALOY 7 SERIES	GECLBT-1M	F53	GE SERIES	GEMLA-1	F54	GE SERIES	GO-11372-093	C36	GO SERIES
GASK805N	F14	DURALOY 8 SERIES	GECLBT-2	F53	GE SERIES	GEMLA-2	F54	GE SERIES	GO-11388-078	C36	GO SERIES
GASK806N	F14	DURALOY 8 SERIES	GECLBT-2M	F53	GE SERIES	GEMLB-1	F53	GE SERIES	GO114 N34	C36	GO SERIES
GASK808N	F14	DURALOY 8 SERIES	GECLBT-3	F53	GE SERIES	GEMLB-2	F53	GE SERIES	GO133	C36	GO SERIES
GASK809N	F14	DURALOY 8 SERIES	GECLBT-3M	F53	GE SERIES	GEM-RG	F56	GE SERIES ACC	GO134	C36	GO SERIES
GASK851N	F14	DURALOY 8 SERIES	GECLT-1	F52	GE SERIES	GEMT-1	F53	GE SERIES	GO14-0G N34	C34	GO SERIES
GASK852N	F14	DURALOY 8 SERIES	GECLT-1M	F52	GE SERIES	GEMT-2	F53	GE SERIES	GO14-6G N34	C34	GO SERIES
GASK853N	F14	DURALOY 8 SERIES	GECLT-2	F52	GE SERIES	GEMTA-1	F54	GE SERIES	GO15-0G N34	C34	GO SERIES
GASK854N	F14	DURALOY 8 SERIES	GECLT-2M	F52	GE SERIES	GEMTA-2	F54	GE SERIES	GO15-6G N34	C34	GO SERIES
GABB-15Q1	DE24	GABB SERIES	GECLT-3	F52	GE SERIES	GEMX-1	F53	GE SERIES	GO15726-A	C38	GO SERIES
GABB-15Q2	DE24	GABB SERIES	GECLT-3M	F52	GE SERIES	GEMX-2	F53	GE SERIES	GO15726-B	C38	GO SERIES
GABB-15Q3	DE24	GABB SERIES	GEC-RG	F56.57.58	GE SERIES	GESBC	F56	GE SERIES ACC	GO15726-C	C38	GO SERIES
GABB-1Q	DE24	GABB SERIES	GECTAT-2	F54	GE SERIES	GESCAT-4	F54	GE SERIES	GO15726-F	C38	GO SERIES
GABB-1Q1	DE24	GABB SERIES	GECTAT-2M	F54	GE SERIES	GESCAT-4M	F54	GE SERIES	GO15726-G	C38	GO SERIES
GABB-20Q1	DE24	GABB SERIES	GECTT-1	F53	GE SERIES	GESCT-3	F52	GE SERIES	GO15726-R	C38	GO SERIES
GABB-20Q2	DE24	GABB SERIES	GECTT-1M	F53	GE SERIES	GESCT-3M	F52	GE SERIES	GO16	C36	GO SERIES
GABB-20Q3	DE24	GABB SERIES	GECTT-2	F53	GE SERIES	GESCT-4	F52	GE SERIES	GO17	C36	GO SERIES
GABB-2Q	DE24	GABB SERIES	GECTT-2-6TB	E7	GE SERIES	GESCT-4M	F52	GE SERIES	GO18	C36	GO SERIES
GABB-2Q1	DE24	GABB SERIES	GECTT-2M	F53	GE SERIES	GESEY	F56	GE SERIES ACC	GO19	C36	GO SERIES
GABB-30Q1	DE24	GABB SERIES	GECTT-3	F53	GE SERIES	GESLBT-3	F53	GE SERIES	GO1-GX0C N34	C31	GO SERIES
GABB-30Q2	DE24	GABB SERIES	GECTT-3M	F53	GE SERIES	GESLBT-3M	F53	GE SERIES	GO1-GX1B N34	C31	GO SERIES
GABB-30Q3	DE24	GABB SERIES	GEUET-2	F55	GE SERIES	GESLBT-4	F53	GE SERIES	GO1-GX3C N34	C31	GO SERIES
GABB-40Q1	DE24	GABB SERIES	GEUET-2M	F55	GE SERIES	GESLBT-4M	F53	GE SERIES	GO1-KX0C N34	C31	GO SERIES
GABB-40Q2	DE24	GABB SERIES	GEUWT-2	F55	GE SERIES	GESLT-3	F52	GE SERIES	GO1-KX1C N34	C31	GO SERIES
GABB-40Q3	DE24	GABB SERIES	GEUWT-2M	F55	GE SERIES	GESLT-3M	F52	GE SERIES	GO1-KX2C N34	C31	GO SERIES
GCS-13	C37	GCS SERIES	GECXAT-1	F54	GE SERIES	GESLT-4	F52	GE SERIES	GO1-KX3C N34	C31	GO SERIES
GCS-131	C37	GCS SERIES	GECXAT-1M	F54	GE SERIES	GESLT-4M	F52	GE SERIES	GO1-RX0C N34	C31	GO SERIES
GCS-14	C37	GCS SERIES	GECXAT-2	F54	GE SERIES	GES-RG	F56	GE SERIES ACC	GO1-RX2B N34	C31	GO SERIES
GCS-141	C37	GCS SERIES	GECXAT-2M	F54	GE SERIES	GESTT-3	F53	GE SERIES	GO1-RX3C N34	C31	GO SERIES
GCS-15	C37	GCS SERIES	GECXAT-3	F54	GE SERIES	GESTT-3M	F53	GE SERIES	GO21-GZ0C	C31	GO SERIES
GCS-152	C37	GCS SERIES	GECXAT-3M	F54	GE SERIES	GESTT-4	F53	GE SERIES	GO21-GZ1B	C31	GO SERIES
GCS-16	C37	GCS SERIES	GECXT-1	F53	GE SERIES	GESTT-4M	F53	GE SERIES	GO21-GZ3C	C31	GO SERIES
GCS-163	C37	GCS SERIES	GECXT-1M	F53	GE SERIES	GESXAT-4	F54	GE SERIES	GO21-KZ0C	C31	GO SERIES
GCS-83	C37	GCS SERIES	GECXT-2	F53	GE SERIES	GESXAT-4M	F54	GE SERIES	GO21-KZ1C	C31	GO SERIES
GCS-834	C37	GCS SERIES	GECXT-2-6TB	E7	GE SERIES	GESXT-3	F53	GE SERIES	GO21-KZ2C	C31	GO SERIES
GCS-835	C37	GCS SERIES	GECXT-2M	F53	GE SERIES	GESXT-3M	F53	GE SERIES	GO21-KZ3C	C31	GO SERIES
GCS-85	C37	GCS SERIES	GECXT-3	F53	GE SERIES	GESXT-4	F53	GE SERIES	GO21-RZ0C	C31	GO SERIES
GEBC-2	F49	GEB SERIES	GECXT-3M	F53	GE SERIES	GESXT-4M	F53	GE SERIES	GO21-RZ2B	C31	GO SERIES
GEBC-3	F49	GEB SERIES	GECXTF-1	F55	GE SERIES	GEUFAT-2	F55	GE SERIES	GO21-RZ3C	C31	GO SERIES
GEBC-4	F49	GEB SERIES	GECXTF-1M	F55	GE SERIES	GEUFAT-2M	F55	GE SERIES	GO22-GR00D	C31	GO SERIES
GEBC-5	F49	GEB SERIES	GECXTF-2	F55	GE SERIES	GFC505151	DE25	GFCS SEREIS	GO22-GR12D	C31	GO SERIES
GEBL-2	F49	GEB SERIES	GECXTF-2-6TB	E7	GE SERIES	GFC505152	DE25	GFCS SEREIS	GO22-GR33D	C31	GO SERIES
GEBL-3	F49	GEB SERIES	GECXTF-2M	F55	GE SERIES	GFC505201	DE25	GFCS SEREIS	GO22-KK00D	C31	GO SERIES
GEBL-4	F49	GEB SERIES	GECXTF-3	F55	GE SERIES	GFC505202	DE25	GFCS SEREIS	GO22-KK12D	C31	GO SERIES
			GECXTF-3M	F55	GE SERIES	GFC505301	DE25	GFCS SEREIS	GO22-KK33D	C31	GO SERIES



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G023-A23C	C32	GO SERIES	GO-8671-42	C38	GO SERIES	GOL1R	C31	GO SERIES	GOL54H8	C34	GO SERIES
G023-B23C	C32	GO SERIES	GO-8671-44	C38	GO SERIES	GOL1R2	C31	GO SERIES	GOL6	C34	GO SERIES
G023-C23C	C32	GO SERIES	GO-8672-BJE	C27.39	X/XCS SERIES	GOL1R3	C31	GO SERIES	GOL63	C34	GO SERIES
G023-F23C	C32	GO SERIES	GO-8672-BJH	C27.39	X/XCS SERIES	GOL2GR	C31	GO SERIES	GOL7	C34	GO SERIES
G023-G23C	C32	GO SERIES	GO-8672-BJJ	C27.39	X/XCS SERIES	GOL2GR12	C31	GO SERIES	GOL76	C34	GO SERIES
G023-R23C	C32	GO SERIES	GO-8672-BJK	C27.39	X/XCS SERIES	GOL2GR33	C31	GO SERIES	GOL82A022D	C35	GO SERIES
G025-2A0F	C34	GO SERIES	GO-8672-PTCC	C27	X/XCS SERIES	GOL2KK	C31	GO SERIES	GOL82A322D	C35	GO SERIES
G025-2A3F	C34	GO SERIES	GO-8672-PTCH	C27	X/XCS SERIES	GOL2KK12	C31	GO SERIES	GOL83C032D	C35	GO SERIES
G025-3C0G	C34	GO SERIES	GO-9824	C38	GO SERIES	GOL2KK33	C31	GO SERIES	GOL83C332D	C35	GO SERIES
G025-3C3G	C34	GO SERIES	G0B3-A23C N34	C32	GO SERIES	GOL36L022D	C35	GO SERIES	GOLED-A110	C27.39	X/XCS SERIES
G025-4H0H	C34	GO SERIES	G0B3-A23C N34 LED	C32	GO SERIES	GOL36L322D	C35	GO SERIES	GOLED-A24	C27.39	X/XCS SERIES
G025-4H8H	C34	GO SERIES	G0B3-A23C N34CN	C33	GO SERIES	GOL37C032D	C35	GO SERIES	GOLED-B110	C39	GO SERIES
G026-0F	C34	GO SERIES	G0B3-A23C N34LEDNC33	C32	GO SERIES	GOL37C632D	C35	GO SERIES	GOLED-B24	C39	GO SERIES
G026-3F	C34	GO SERIES	G0B3-B23C N34	C32	GO SERIES	GOL38L032D	C35	GO SERIES	GOLED-G110	C27.38.39	X/XCS SERIES
G027-0G	C34	GO SERIES	G0B3-B23C N34CN	C33	GO SERIES	GOL38L632D	C35	GO SERIES	GOLED-G24	C27.39	X/XCS SERIES
G027-6G	C34	GO SERIES	G0B3-C23C N34	C32	GO SERIES	GOL39R032D	C35	GO SERIES	GOLED-R110	C27.38.39	X/XCS SERIES
G028-2A0F22D	C35	GO SERIES	G0B3-C23C N34CN	C33	GO SERIES	GOL39R632D	C35	GO SERIES	GOLED-R110	C38	GO SERIES
G028-2A3F22D	C35	GO SERIES	G0B3-F23C N34	C32	GO SERIES	GOL3A	C32	GO SERIES	GOLED-R24	C27.39	X/XCS SERIES
G028-3C0G32D	C35	GO SERIES	G0B3-F23C N34CN	C33	GO SERIES	GOL3A LED	C32	GO SERIES	GOLED-W110	C39	GO SERIES
G028-3C3G32D	C35	GO SERIES	G0B3-G23C N34	C32	GO SERIES	GOL3ACN	C33	GO SERIES	GOLED-W24	C39	GO SERIES
G02-GR00D N34	C31	GO SERIES	G0B3-G23C N34 LED	C32	GO SERIES	GOL3ALEDCN	C33	GO SERIES	GOLRST	C36	GO SERIES
G02-GR12D N34	C31	GO SERIES	G0B3-G23C N34CN	C33	GO SERIES	GOL3B	C32	GO SERIES	GOM1-GMOC N34	C31	GO SERIES
G02-GR33D N34	C31	GO SERIES	G0B3-G23C N34LEDNC33	C33	GO SERIES	GOL3BCN	C33	GO SERIES	GOM1-GM3C N34	C31	GO SERIES
G02-KK00D N34	C31	GO SERIES	G0B3-R23C N34	C32	GO SERIES	GOL3C	C32	GO SERIES	GOM1-KMOC N34	C31	GO SERIES
G02-KK12D N34	C31	GO SERIES	G0B3-R23C N34 LED	C32	GO SERIES	GOL3CCN	C33	GO SERIES	GOM1-KM3C N34	C31	GO SERIES
G02-KK33D N34	C31	GO SERIES	G0B3-R23C N34CN	C33	GO SERIES	GOL3F	C32	GO SERIES	GOM1-RMOC N34	C31	GO SERIES
G030-31F	C36	GO SERIES	G0B3-R23C N34LEDNC33	C33	GO SERIES	GOL3FCN	C33	GO SERIES	GOM1-RM3C N34	C31	GO SERIES
G030-33F	C36	GO SERIES	G0B4-A230C N34	C32	GO SERIES	GOL3G	C32	GO SERIES	GOM21-GMOC	C31	GO SERIES
G034-0G	C34	GO SERIES	G0B4-A230C N34 LED	C32	GO SERIES	GOL3G LED	C32	GO SERIES	GOM21-GM3C	C31	GO SERIES
G034-6G	C34	GO SERIES	G0B4-A230CN34CN	C33	GO SERIES	GOL3GCN	C33	GO SERIES	GOM21-KMOC	C31	GO SERIES
G035-0G	C34	GO SERIES	G0B4-A230CN34LEDNC33	C33	GO SERIES	GOL3GLEDCN	C33	GO SERIES	GOM21-KM3C	C31	GO SERIES
G035-6G	C34	GO SERIES	G0B4-A233C N34	C32	GO SERIES	GOL3R	C32	GO SERIES	GOM21-RMOC	C31	GO SERIES
G036-2L0F22D N34	C35	GO SERIES	G0B4-A233C N34 LED	C32	GO SERIES	GOL3R LED	C32	GO SERIES	GOM21-RM3C	C31	GO SERIES
G036-2L3F22D N34	C35	GO SERIES	G0B4-A233CN34CN	C33	GO SERIES	GOL3RCN	C33	GO SERIES	GOM1JR	C39	GO SERIES
G037-3C0G32D N34	C35	GO SERIES	G0B4-A233CN34LEDNC33	C33	GO SERIES	GOL3RLEDCN	C33	GO SERIES	GOML1G	C31	GO SERIES
G037-3C6G32D N34	C35	GO SERIES	G0B4-B230C N34	C32	GO SERIES	GOL4	C32	GO SERIES	GOML1G3	C31	GO SERIES
G038-3L0G32D N34	C35	GO SERIES	G0B4-B230CN34CN	C33	GO SERIES	GOL4A LED	C32	GO SERIES	GOML1K	C31	GO SERIES
G038-3L6G32D N34	C35	GO SERIES	G0B4-B233C N34	C32	GO SERIES	GOL4A0CN	C33	GO SERIES	GOML1K3	C31	GO SERIES
G039-3R0G32D N34	C35	GO SERIES	G0B4-B233CN34CN	C33	GO SERIES	GOL4A0LEDCN	C33	GO SERIES	GOML1R	C31	GO SERIES
G039-3R6G32D N34	C35	GO SERIES	G0B4-C230C N34	C32	GO SERIES	GOL4A3	C32	GO SERIES	GOML1R3	C31	GO SERIES
G040-KX2C	C36	GO SERIES	G0B4-C230CN34CN	C33	GO SERIES	GOL4A3 LED	C32	GO SERIES	GOMLOCK	C39	GO SERIES
G050	C36	GO SERIES	G0B4-C233C N34	C32	GO SERIES	GOL4A3CN	C33	GO SERIES	GOMSTG	C39	GO SERIES
GO-51	C36	GO SERIES	G0B4-C233CN34CN	C33	GO SERIES	GOL4A3LEDCN	C33	GO SERIES	GOMSTK	C39	GO SERIES
G05-2A0F N34	C34	GO SERIES	G0B4-F230C N34	C32	GO SERIES	GOL4B	C32	GO SERIES	GOMSTR	C39	GO SERIES
G05-2A3F N34	C34	GO SERIES	G0B4-F230CN34CN	C33	GO SERIES	GOL4B0CN	C33	GO SERIES	GOR11-GR0D N34	C31	GO SERIES
G05-3C0G N34	C34	GO SERIES	G0B4-F233C N34	C32	GO SERIES	GOL4B3	C32	GO SERIES	GOR11-GR6D N34	C31	GO SERIES
G05-3C3G N34	C34	GO SERIES	G0B4-F233CN34CN	C33	GO SERIES	GOL4B3CN	C33	GO SERIES	GOR11-GR7D N34	C31	GO SERIES
G05-4H0H N34	C34	GO SERIES	G0B4-G230C N34	C32	GO SERIES	GOL4C	C32	GO SERIES	GOR11-GR8D N34	C31	GO SERIES
G05-4H8H N34	C34	GO SERIES	G0B4-G230C N34 LED	C32	GO SERIES	GOL4C0CN	C33	GO SERIES	GO-RL	C38	GO SERIES
G056-2L0F22D	C35	GO SERIES	G0B4-G230CN34CN	C33	GO SERIES	GOL4C3	C32	GO SERIES	GO-RST	C36	GO SERIES
G056-2L3F22D	C35	GO SERIES	G0B4-G230CN34LEDNC33	C33	GO SERIES	GOL4C3CN	C33	GO SERIES	GRB	E24	GR SERIES
G0567-LOK	C38	GO SERIES	G0B4-G233C N34	C32	GO SERIES	GOL4F	C32	GO SERIES	GRB-275L	E24	GR SERIES
G057-3C0G32D	C35	GO SERIES	G0B4-G233C N34 LED	C32	GO SERIES	GOL4F0CN	C33	GO SERIES	GRBB	E24	GR SERIES
G057-3C6G32D	C35	GO SERIES	G0B4-G233CN34CN	C33	GO SERIES	GOL4F3	C32	GO SERIES	GRB-BC	E24	GR SERIES
G058-3L0G32D	C35	GO SERIES	G0B4-G233CN34LEDNC33	C33	GO SERIES	GOL4F3CN	C33	GO SERIES	GRB-RG	E24	GR SERIES
G058-3L6G32D	C35	GO SERIES	G0B4-R230C N34	C32	GO SERIES	GOL4G	C32	GO SERIES	GRB-0	F57.58	GR SERIES
G059-3R0G32D	C35	GO SERIES	G0B4-R230C N34 LED	C32	GO SERIES	GOL4G LED	C32	GO SERIES	GRE	E24	GR SERIES
G059-3R6G32D	C35	GO SERIES	G0B4-R230CN34CN	C33	GO SERIES	GOL4G0CN	C33	GO SERIES	GRE-300L	E24	GR SERIES
G06-0F N34	C34	GO SERIES	G0B4-R230CN34LEDNC33	C33	GO SERIES	GOL4G0LEDCN	C33	GO SERIES	GREB	E24	GR SERIES
G06-3F N34	C34	GO SERIES	G0B4-R233C N34	C32	GO SERIES	GOL4G3	C32	GO SERIES	GRE-BC	E24	GR SERIES
G07-0G N34	C34	GO SERIES	G0B4-R233C N34 LED	C32	GO SERIES	GOL4G3 LED	C32	GO SERIES	GRE-RG	E24	GR SERIES
G07-6G N34	C34	GO SERIES	G0B4-R233CN34CN	C33	GO SERIES	GOL4G3CN	C33	GO SERIES	GRH	E24	GR SERIES
GO-8176-1	C38	GO SERIES	G0B4-R233CN34LEDNC33	C33	GO SERIES	GOL4G3LEDCN	C33	GO SERIES	GRH-775L	E24	GR SERIES
GO-8176-2	C38	GO SERIES	GOL113	C36	GO SERIES	GOL4R	C32	GO SERIES	GRH-775L52B	E26	GR SERIES
GO-8176-3	C38	GO SERIES	GOL114	C36	GO SERIES	GOL4R LED	C32	GO SERIES	GRHA	E24	GR SERIES
GO-8177	C38	GO SERIES	GOL14	C34	GO SERIES	GOL4ROCN	C33	GO SERIES	GRHA-775L	E24	GR SERIES
GO-8222	C38	GO SERIES	GOL146	C34	GO SERIES	GOL4ROLEDCN	C33	GO SERIES	GRHAB	E24	GR SERIES
G08-2A0F22D N34	C35	GO SERIES	GOL15	C34	GO SERIES	GOL4R3	C32	GO SERIES	GRHB	E24	GR SERIES
G08-2A3F22D N34	C35	GO SERIES	GOL156	C34	GO SERIES	GOL4R3 LED	C32	GO SERIES	GRH-BC	E24	GR SERIES
G08-3C0G32D N34	C35	GO SERIES	GOL1G	C31	GO SERIES	GOL4R3CN	C33	GO SERIES	GRHC	E24	GR SERIES
G08-3C3G32D N34	C35	GO SERIES	GOL1G1	C31	GO SERIES	GOL4R3LEDCN	C33	GO SERIES	GRHC-775L	E24	GR SERIES
GO-8665	C38	GO SERIES	GOL1G3	C31	GO SERIES	GOL52A	C34	GO SERIES	GRHCB	E24	GR SERIES
GO-8668-120	C39	GO SERIES	GOL1K	C31	GO SERIES	GOL52A3	C34	GO SERIES	GRH-RG	E24	GR SERIES
GO-8668-24	C39	GO SERIES	GOL1K1	C31	GO SERIES	GOL53C	C34	GO SERIES	GRK	E24	GR SERIES
GO-8670-32	C38	GO SERIES	GOL1K2	C31	GO SERIES	GOL53C3	C34	GO SERIES	GRK-537L	E24	GR SERIES
GO-8670-34	C38	GO SERIES	GOL1K3	C31	GO SERIES	GOL54H	C34	GO SERIES	GRK-537L52A	E26	GR SERIES



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GRK-537L52B	E26	GR SERIES	HK1GLD	E29	HK/2HK SERIES	K050	F70	K SERIES	KB1B	F64,E20	ENCLOSURE ACC
GRKB	E24	GR SERIES	HK2D	E29	HK/2HK SERIES	K0501	F70	K SERIES	KB1BCEN	F64,E20	ENCLOSURE ACC
GRK-BC	E24	GR SERIES	HK2GLD	E29	HK/2HK SERIES	K0501-G	F72	K SERIES	KB1D	F64,E20	ENCLOSURE ACC
GRK-RG	E24	GR SERIES	HK4D	E29	HK/2HK SERIES	K0504	F71	K SERIES	KB1DCEN	F64,E20	ENCLOSURE ACC
GRL	E24	GR SERIES	HKB	E29	HK/2HK SERIES	K05041	F71	K SERIES	KB1FA25	F64,E20	ENCLOSURE ACC
GRL-600L	E24	GR SERIES	HKB-2D	E29	HK/2HK SERIES	K05041-G	F72	K SERIES	KB1FAM16	F64,E20	ENCLOSURE ACC
GRL-600L52B	E26	GR SERIES	HKB-2DC	E29	HK/2HK SERIES	K0509	F71	K SERIES	KBM20BCEN	F64,E20	ENCLOSURE ACC
GRL-600L52C	E26	GR SERIES	HKB-2GLD	E29	HK/2HK SERIES	K05091	F71	K SERIES	KBM20DCEN	F64,E20	ENCLOSURE ACC
GRLB	E24	GR SERIES	HKB-2GLDC	E29	HK/2HK SERIES	K05091-G	F72	K SERIES	KBM20FA25	F64,E20	ENCLOSURE ACC
GRL-BC	E24	GR SERIES	HKB-4D	E29	HK/2HK SERIES	K075	F70	K SERIES	KBM20FAM16	F64,E20	ENCLOSURE ACC
GRL-RG	E24	GR SERIES	HKB-4DC	E29	HK/2HK SERIES	K0751	F70	K SERIES	KDB-1	F64,E20	ENCLOSURE ACC
GRM	E24	GR SERIES	HKB-B	E29	HK/2HK SERIES	K0751-G	F72	K SERIES	KDB-250	F64,E20	ENCLOSURE ACC
GRM-375L	E24	GR SERIES	HKB-BC	E29	HK/2HK SERIES	K0754	F71	K SERIES	KDB-250CEN	F64,E20	ENCLOSURE ACC
GRM-375L52	E26	GR SERIES	HKBD	E29	HK/2HK SERIES	K07541	F71	K SERIES	KDB-375	F64,E20	ENCLOSURE ACC
GRMB	E24	GR SERIES	HKBD-2D	E29	HK/2HK SERIES	K07541-G	F72	K SERIES	KDB-375	F64,E20	ENCLOSURE ACC
GRM-BC	F56,E24	GR SERIES	HKBD-2GLD	E29	HK/2HK SERIES	K0759	F71	K SERIES	KDB-M16CEN	F64,E20	ENCLOSURE ACC
GRM-RG	F56,E24	GR SERIES	HKBD-4D	E29	HK/2HK SERIES	K07591	F71	K SERIES	KEFHM-75	L183	KEFHM SERIES
GRR-1	F57	GR SERIES	HKBD-B	E29	HK/2HK SERIES	K07591-G	F72	K SERIES	KESD-75	L183	KESD SERIES
GRR-2	F57	GR SERIES	HKBD-GL	E29	HK/2HK SERIES	K100	F70	K SERIES	KF SERIES	L189-190	L189-190
GRR-3	F57	GR SERIES	HKB-GL	E29	HK/2HK SERIES	K1001	F70	K SERIES	KFCB	L190	KF SERIES
GRSA	F57	GR SERIES	HKB-GLC	E29	HK/2HK SERIES	K1001-G	F72	K SERIES	KFCBG	L192	KFSS SERIES
GRSS-1	F58	GR SERIES	HKGL	E29	HK/2HK SERIES	K1004	F71	K SERIES	KF-DOOR	L190	KF SERIES
GRSS-1M	F58	GR SERIES	HKSB-BC	E29	HK/2HK SERIES	K10041	F71	K SERIES	KFH5075	L183	KFHS SERIES
GRSS-2	F58	GR SERIES	HKSB-GLC	E29	HK/2HK SERIES	K10041-G	F72	K SERIES	KFS-6	L190	KF SERIES
GRSS-2M	F58	GR SERIES	HOOKLOOP	L219		K1009	F71	K SERIES	KFS-6G	L192	KFSS SERIES
GRSS-3	F58	GR SERIES	HRD400	L95	VM SERIES	K10091	F71	K SERIES	KFSS SERIES	L192	L192
GRSS-3M	F58	GR SERIES	HRD400ALZ	L95	VM SERIES	K10091-G	F72	K SERIES	KFWB	L190	KF SERIES
GRSSA-1	F58	GR SERIES	HRME	L16	E SERIES	K125	F70	K SERIES	KILLN1	F74,75,78,79	Z SERIES
GRSSA-2	F58	GR SERIES	HXB-11	L221	HXB SERIES	K1251	F70	K SERIES	KILLN2	F74,75,78,79	Z SERIES
GUF-0	F61	GU SERIES	HXB-12	L221	HXB SERIES	K1251-G	F72	K SERIES	KILLN3	F74,75,78,79	Z SERIES
GUF-1	F61	GU SERIES	HXB-21	L221	HXB SERIES	K1254	F71	K SERIES	KILLN375	F74,75,78,79	Z SERIES
GUF-2	F61	GU SERIES	HXB-22	L221	HXB SERIES	K12541	F71	K SERIES	KILLN4	F74,75,78,79	Z SERIES
GUF-3	F61	GU SERIES	HXBC	L221	HXB SERIES	K12541-G	F72	K SERIES	KILLN5	F74,75,78,79	Z SERIES
GUF-4	F61	GU SERIES	JABC	F60	JL/JAL SERIES	K1259	F71	K SERIES	KILLN6	F74,75,78,79	Z SERIES
GUF-5	F61	GU SERIES	JAH-1	F60	JL/JAL SERIES	K12591	F71	K SERIES	KILLN7	F74,75,78,79	Z SERIES
GUF-6	F61	GU SERIES	JAH-2	F60	JL/JAL SERIES	K12591-G	F72	K SERIES	KILLN8	F74,75,78,79	Z SERIES
GUF-7	F61	GU SERIES	JALX-10	F60	JAL SERIES	K150	F70	K SERIES	KIT-232	C29	XAL/XAS SERIES
GUF-8	F61	GU SERIES	JALX-11	F60,L222	JAL SERIES	K1501	F70	K SERIES	KIT-251	E2	ENCLOSURE ACC
GUF-9	F61	GU SERIES	JALX-12	F60,L222	JAL SERIES	K1501-G	F72	K SERIES	KIT-252	E2	EXB SERIES
GUFS-1	F66	GU SERIES	JALX-20	F60	JAL SERIES	K1504	F71	K SERIES	KIT-354	C38	GO SERIES
GUFS-1M	F66	GUFS SERIES	JALX-21	F60,L222	JAL SERIES	K15041	F71	K SERIES	KIT-355	C38	GO SERIES
GUFS-2	F66	GUFS SERIES	JALX-22	F60,L222	JAL SERIES	K15041-G	F72	K SERIES	KIT-356	C38	GO SERIES
GUFS-2M	F66	GUFS SERIES	JALX-3	PR21	JAL SERIES	K1509	F71	K SERIES	KIT-357	C38	GO SERIES
GUM-0	F61	GU SERIES	JALX-30	F60	JAL SERIES	K15091	F71	K SERIES	KIT-358	C38	GO SERIES
GUM-1	F61	GU SERIES	JALX-31	F60,L222	JAL SERIES	K15091-G	F72	K SERIES	KIT-359	C38	GO SERIES
GUM-2	F61	GU SERIES	JALX-32	F60,L222	JAL SERIES	K200	F70	K SERIES	KOR-1	F74,75,78,79	Z SERIES
GUM-3	F61	GU SERIES	JALX-4	PR21	JAL SERIES	K2001	F70	K SERIES	KOR-2	F74,75,78,79	Z SERIES
GUM-4	F61	GU SERIES	JALX-40	F60	JAL SERIES	K2001-G	F72	K SERIES	KOR-3	F74,75,78,79	Z SERIES
GUM-5	F61	GU SERIES	JCB	F60	JL/JAL SERIES	K2004	F71	K SERIES	KOR-4	F74,75,78,79	Z SERIES
GUM-6	F61	GU SERIES	JH-1	F60	JL/JAL SERIES	K20041	F71	K SERIES	KOR-5	F74,75,78,79	Z SERIES
GUM-7	F61	GU SERIES	JH-2	F60	JL/JAL SERIES	K20041-G	F72	K SERIES	KOR-6	F74,75,78,79	Z SERIES
GUM-8	F61	GU SERIES	JLC-1	PR19	KR SERIES	K2009	F71	K SERIES	KP-20ABC	PR19	KR SERIES
GUM-9	F61	GU SERIES	JLC-10	F60	JL SERIES	K20091	F71	K SERIES	KP-303D23	PR20	KR SERIES
GUMFS-1	F66	GU SERIES	JLC-11	F60,L222	JL SERIES	K20091-G	F72	K SERIES	KP-303D45	PR20	KR SERIES
GUMFS-1M	F66	GUMF SERIES	JLC-12	F60,L222	JL SERIES	K250	F70	K SERIES	KP-303E45	PR20	KR SERIES
GUMFS-2	F66	GU SERIES	JLC-2	PR19	KR SERIES	K2501	F70	K SERIES	KP-303E67	PR20	KR SERIES
GUMFS-2M	F66	GUMF SERIES	JLC-20	F60	JL SERIES	K2501-G	F72	K SERIES	KP-304D23	PR20	KR SERIES
GUML-1	F61	GU SERIES	JLC-21	F60,L222	JL SERIES	K25091	F71	K SERIES	KP-304D45	PR20	KR SERIES
GUML-1M	F61	GU SERIES	JLC-22	F60,L222	JL SERIES	K25091-G	F72	K SERIES	KP-304E45	PR20	KR SERIES
GUML-2	F61	GU SERIES	JLX-1	PR19	KR SERIES	K300	F70	K SERIES	KP-304E67	PR20	KR SERIES
GUML-2M	F61	GU SERIES	JLX-10	F60	JL SERIES	K3001	F70	K SERIES	KP-603D345	PR21	KR SERIES
H SERIES ACC	L16		JLX-11	F60,L222	JL SERIES	K3001-G	F72	K SERIES	KP-603E45	PR21	KR SERIES
HEXA-100	L141,211	EM/EB/EQ SERIES	JLX-12	F60,L222	JL SERIES	K3009	F71	K SERIES	KP-603E67	PR21	KR SERIES
HFC	E29	HK/2HK SERIES	JLX-2	PR19	KR SERIES	K30091	F71	K SERIES	KP-604D345	PR21	KR SERIES
HFX SERIES	L178-183		JLX-20	F60	JL SERIES	K30091-G	F72	K SERIES	KP-604E45	PR21	KR SERIES
HFXE SERIES	L210		JLX-21	F60	JL SERIES	K350	F70	K SERIES	KP-604E67	PR21	KR SERIES
HFX-SC	L183	HFX SERIES	JLX-22	F60,L222	JL SERIES	K3501	F70	K SERIES	KP-604F34	PR21	KR SERIES
HG-200	L16	E SERIES	K038	F70	K SERIES	K3501-G	F72	K SERIES	KP-604F56	PR21	KR SERIES
HIC-SILVER	L221	HIC SERIES	K0381	F70	K SERIES	K400	F70	K SERIES	KRAJAC-4603	PR21	KR SERIES
HINGE-10L	E16,18	ENCLOSURE ACC	K0381-G	F72	K SERIES	K4001	F70	K SERIES	KRAJAC-4604	PR21	KR SERIES
HINGE-10R	E18	ENCLOSURE ACC	K0384	F71	K SERIES	K4001-G	F72	K SERIES	KRAJAC-5603	PR21	KR SERIES
HINGE-11L	E3,16,18	ENCLOSURE ACC	K03841	F71	K SERIES	K4009	F71	K SERIES	KRAJAC-5604	PR21	KR SERIES
HINGE-11R	E18	ENCLOSURE ACC	K03841-G	F72	K SERIES	K40091	F71	K SERIES	KRAJAC-6603	PR21	KR SERIES
HINGE-4	E3	ENCLOSURE ACC	K0389	F71	K SERIES	K40091-G	F72	K SERIES	KRAJAC-6604	PR21	KR SERIES
HINGE-9	E16,18	ENCLOSURE ACC	K03891	F71	K SERIES	K4040	L190	KF SERIES	KRAJAT-4603	PR21	KR SERIES
HINGE-9R	E18	ENCLOSURE ACC	K03891-G	F72	K SERIES	K4040G	L192	KFSS SERIES	KRAJAT-4604	PR21	KR SERIES



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KRAJAT-5603	PR21	KR SERIES	LB27	F7	DURALOY 7 SERIES	LR47	F3	DURALOY 7 SERIES	MM-90-1M	F66	MM SERIES
KRAJAT-5604	PR21	KR SERIES	LB27SA	F7	DURALOY 7 SERIES	LR47SA	F3	DURALOY 7 SERIES	MM-90-2	F66	MM SERIES
KRAJC-220	PR19	KR SERIES	LB28	F11	DURALOY 8 SERIES	LR57	F3	DURALOY 7 SERIES	MM-90-2M	F66	MM SERIES
KRAJC-2303	PR20	KR SERIES	LB37	F7	DURALOY 7 SERIES	LR57SA	F3	DURALOY 7 SERIES	MOC-0	F23	MO SERIES
KRAJC-2304	PR20	KR SERIES	LB37SA	F7	DURALOY 7 SERIES	LR58	F12	DURALOY 8 SERIES	MOC-0M	F23	MO SERIES
KRAJC-320	PR19	KR SERIES	LB38	F11	DURALOY 8 SERIES	LR67	F3	DURALOY 7 SERIES	MOC-3	F23	MO SERIES
KRAJC-3303	PR20	KR SERIES	LB448	F11	DURALOY 8 SERIES	LR67SA	F3	DURALOY 7 SERIES	MOC-3M	F23	MO SERIES
KRAJC-3304	PR20	KR SERIES	LB47	F7	DURALOY 7 SERIES	LR68	F12	DURALOY 8 SERIES	MOC-4	F23	MO SERIES
KRJ-20	PR19	KR SERIES	LB47SA	F7	DURALOY 7 SERIES	LR77	F3	DURALOY 7 SERIES	MOC-4M	F23	MO SERIES
KRJ-303	PR20	KR SERIES	LB57	F7	DURALOY 7 SERIES	LR77SA	F3	DURALOY 7 SERIES	MOC-5	F23	MO SERIES
KRJ-304	PR20	KR SERIES	LB57SA	F7	DURALOY 7 SERIES	LR78	F12	DURALOY 8 SERIES	MOC-5M	F23	MO SERIES
KRJ-603	PR21	KR SERIES	LB58	F11	DURALOY 8 SERIES	LR87	F3	DURALOY 7 SERIES	MOC-6	F23	MO SERIES
KRJ-604	PR21	KR SERIES	LB67	F7	DURALOY 7 SERIES	LR87SA	F3	DURALOY 7 SERIES	MOC-6M	F23	MO SERIES
KRJC-120	PR19	KR SERIES	LB67SA	F7	DURALOY 7 SERIES	LR888	F12	DURALOY 8 SERIES	MOC-7	F23	MO SERIES
KRJC-1303	PR20	KR SERIES	LB68	F11	DURALOY 8 SERIES	LR97	F3	DURALOY 7 SERIES	MOC-7M	F23	MO SERIES
KRJC-1304	PR20	KR SERIES	LB77	F7	DURALOY 7 SERIES	LR97SA	F3	DURALOY 7 SERIES	MOC-8	F23	MO SERIES
KRJC-220	PR19	KR SERIES	LB77SA	F7	DURALOY 7 SERIES	LUBG-6	F48	ENV/EYS/EY/EYD SERIES	MOC-8M	F23	MO SERIES
KRJC-2303	PR20	KR SERIES	LB78	F11	DURALOY 7 SERIES	LUBT-2	F48	ENV/EYS/EY/EYD SERIES	MOC-9	F23	MO SERIES
KRJC-2304	PR20	KR SERIES	LB87	F7	DURALOY 7 SERIES	LZ2N SERIES		L174-176	MOC-9M	F23	MO SERIES
KRJX-120	PR19	KR SERIES	LB87SA	F7	DURALOY 7 SERIES	LZ2N2BAR	L160	LZ2N SERIES	MOL-450	F25	MOL SERIES
KRJX-1303	PR20	KR SERIES	LB888	F11	DURALOY 8 SERIES	LZ2N2LENS	L160	LZ2N SERIES	MOL-560	F25	MOL SERIES
KRJX-1304	PR20	KR SERIES	LB97	F7	DURALOY 7 SERIES	LZ2N4BAR	L160	LZ2N SERIES	MOL-60G	F25	MOL SERIES
KRJC-220	PR19	KR SERIES	LB97SA	F7	DURALOY 7 SERIES	LZ2N4LENS	L160	LZ2N SERIES	MOL-780	F25	MOL SERIES
KRJC-2303	PR20	KR SERIES	LB98	F11	DURALOY 8 SERIES	LZ2NE SERIES		L209	MOL-900	F25	MOL SERIES
KRJC-2304	PR20	KR SERIES	LL107	F7	DURALOY 7 SERIES	LZ2S SERIES		L173	MOLB-0	F25	MOL SERIES
KRJX-120	PR19	KR SERIES	LL107SA	F7	DURALOY 7 SERIES	LZ2SE SERIES		L209	MOLB-4	F25	MOL SERIES
KRJX-1303	PR20	KR SERIES	LL17	F7	DURALOY 7 SERIES	LZ2S-LATCH	L160	LZ2S SERIES	MOLB-5	F25	MOL SERIES
KRJX-1304	PR20	KR SERIES	LL17SA	F7	DURALOY 7 SERIES	LZAB	L160	LZ2N/LZ2S SERIES	MOLB-6	F25	MOL SERIES
KRJC-3603	PR21	KR SERIES	LL18	F11	DURALOY 8 SERIES	LZCB	L160	LZ2N/LZ2S SERIES	MOLB-6CG	F25	MOL SERIES
KRJC-3604	PR21	KR SERIES	LL27	F7	DURALOY 7 SERIES	LZEB	L160	LZ2N/LZ2S SERIES	MOLB-7	F25	MOL SERIES
KRJC-4603	PR21	KR SERIES	LL27SA	F7	DURALOY 7 SERIES	LZWB	L160	LZ2N/LZ2S SERIES	MOLB-8	F25	MOL SERIES
KRJC-4604	PR21	KR SERIES	LL28	F11	DURALOY 8 SERIES	MB SERIES		L22-28	MOLB-9	F25	MOL SERIES
KRS-20	PR19	KR SERIES	LL37	F7	DURALOY 7 SERIES	MBA-2	L19,26	MB SERIES	MOLBD-0	F23	MO SERIES
KRS-215-120	PR19	KR SERIES	LL37SA	F7	DURALOY 7 SERIES	MBA-3	L19,26	MB SERIES	MOLBD-0M	F23	MO SERIES
KRS-215-1303	PR20	KR SERIES	LL38	F11	DURALOY 8 SERIES	MBAG	L19,27	MB SERIES	MOLBD-1	F23	MO SERIES
KRS-215-1304	PR20	KR SERIES	LL448	F11	DURALOY 8 SERIES	MBB-2	L19,26	MB SERIES	MOLBD-1M	F23	MO SERIES
KRS-215-220	PR19	KR SERIES	LL47	F7	DURALOY 7 SERIES	MBB-3	L19,26	MB SERIES	MOLBD-2	F23	MO SERIES
KRS-215-2303	PR20	KR SERIES	LL47SA	F7	DURALOY 7 SERIES	MBD-4	L19,26	MB SERIES	MOLBD-2M	F23	MO SERIES
KRS-215-2304	PR20	KR SERIES	LL57	F7	DURALOY 7 SERIES	MBD-5	L19,26	MB SERIES	MOLBD-3	F23	MO SERIES
KRS-215-320	PR19	KR SERIES	LL57SA	F7	DURALOY 7 SERIES	MBF131	L24	MB SERIES	MOLBD-3M	F23	MO SERIES
KRS-215-3303	PR20	KR SERIES	LL58	F11	DURALOY 8 SERIES	MBF131	L26	MB SERIES	MOLBD-4	F23	MO SERIES
KRS-215-3304	PR20	KR SERIES	LL67	F7	DURALOY 7 SERIES	MBF261	L24	MB SERIES	MOLBD-4M	F23	MO SERIES
KRS-218-120	PR19	KR SERIES	LL67SA	F7	DURALOY 7 SERIES	MBF261	L26	MB SERIES	MOLBD-5	F23	MO SERIES
KRS-218-1303	PR20	KR SERIES	LL68	F11	DURALOY 8 SERIES	MBF391	L24	MB SERIES	MOLBD-5M	F23	MO SERIES
KRS-218-1304	PR20	KR SERIES	LL77	F7	DURALOY 7 SERIES	MBF391	L26	MB SERIES	MOLBD-6	F23	MO SERIES
KRS-218-220	PR19	KR SERIES	LL77SA	F7	DURALOY 7 SERIES	MBG	L19,27	MB SERIES	MOLBD-6M	F23	MO SERIES
KRS-218-2303	PR20	KR SERIES	LL78	F11	DURALOY 8 SERIES	MBH100	L24	MB SERIES	MOLBD-7	F23	MO SERIES
KRS-218-2304	PR20	KR SERIES	LL87	F7	DURALOY 7 SERIES	MBH100	L26	MB SERIES	MOLBD-7M	F23	MO SERIES
KRS-218-303	PR20	KR SERIES	LL87SA	F7	DURALOY 7 SERIES	MBH500	L24	MB SERIES	MOLBD-8	F23	MO SERIES
KRS-218-3304	PR20	KR SERIES	LL888	F11	DURALOY 8 SERIES	MBH500	L26	MB SERIES	MOLBD-8M	F23	MO SERIES
KRS-303	PR20	KR SERIES	LL97	F7	DURALOY 7 SERIES	MBH700	L24	MB SERIES	MOLBD-9	F23	MO SERIES
KRS-304	PR20	KR SERIES	LL97SA	F7	DURALOY 7 SERIES	MBH700	L26	MB SERIES	MOLBD-9M	F23	MO SERIES
KT-100SU41G	L141	EM/EB/EQ SERIES	LN1CR	F76,80,81	Z SERIES	MBL SERIES		L17-21	MOT-0	F24	MO SERIES
KT-100SU41R	L141	EM/EB/EQ SERIES	LN2CR	F76,80,81	Z SERIES	MBL101	L24	MB SERIES	MOT-0M	F24	MO SERIES
KWP SERIES		L194-195	LN375CR	F76,80,81	Z SERIES	MBL101	L26	MB SERIES	MOT-3	F24	MO SERIES
KWPLENS	L195	KWP SERIES	LN3CR	F76,80,81	Z SERIES	MBL151	L24	MB SERIES	MOT-3M	F24	MO SERIES
L17	F4	DURALOY 7 SERIES	LNZ10-050NPT	F85	LNZ SERIES	MBL151	L26	MB SERIES	MOT-4	F24	MO SERIES
L17SA	F4	DURALOY 7 SERIES	LNZ10-075NPT	F85	LNZ SERIES	MBL2230	L19	MB SERIES	MOT-4M	F24	MO SERIES
L27	F4	DURALOY 7 SERIES	LNZ10-100NPT	F85	LNZ SERIES	MBL4530	L19	MB SERIES	MOT-5	F24	MO SERIES
L27SA	F4	DURALOY 7 SERIES	LNZ10-125NPT	F85	LNZ SERIES	MBL501	L24	MB SERIES	MOT-5M	F24	MO SERIES
L37	F4	DURALOY 7 SERIES	LNZ10-150NPT	F85	LNZ SERIES	MBL501	L26	MB SERIES	MOT-6	F24	MO SERIES
L37SA	F4	DURALOY 7 SERIES	LNZ10-200NPT	F85	LNZ SERIES	MBL701	L24	MB SERIES	MOT-6M	F24	MO SERIES
L47	F4	DURALOY 7 SERIES	LNZ10-250NPT	F85	LNZ SERIES	MBL701	L26	MB SERIES	MOT-7	F24	MO SERIES
L47SA	F4	DURALOY 7 SERIES	LNZ10-300NPT	F85	LNZ SERIES	MBX-2	L19,26	MB SERIES	MOT-7M	F24	MO SERIES
L57	F4	DURALOY 7 SERIES	LR107	F3	DURALOY 7 SERIES	MBX-3	L19,26	MB SERIES	MOT-8	F24	MO SERIES
L57SA	F4	DURALOY 7 SERIES	LR107SA	F3	DURALOY 7 SERIES	MBX-8	L19,26	MB SERIES	MOT-8M	F24	MO SERIES
L67	F4	DURALOY 7 SERIES	LR17	F3	DURALOY 7 SERIES	MF-45-1	F66	MF SERIES	MOT-9	F24	MO SERIES
L67SA	F4	DURALOY 7 SERIES	LR17SA	F3	DURALOY 7 SERIES	MF-45-1M	F66	MF SERIES	MOT-9M	F24	MO SERIES
L77	F4	DURALOY 7 SERIES	LR18	F12	DURALOY 8 SERIES	MF-45-2	F66	MF SERIES	MOT-9M	F24	MO SERIES
L77SA	F4	DURALOY 7 SERIES	LR27	F3	DURALOY 7 SERIES	MF-45-2M	F66	MF SERIES	MOT-9M	F24	MO SERIES
L87	F4	DURALOY 7 SERIES	LR27SA	F3	DURALOY 7 SERIES	MF-90-1	F66	MF SERIES	MOT-9M	F24	MO SERIES
L87SA	F4	DURALOY 7 SERIES	LR28	F12	DURALOY 8 SERIES	MF-90-1M	F66	MF SERIES	MOT-9M	F24	MO SERIES
LB107	F7	DURALOY 7 SERIES	LR37	F3	DURALOY 7 SERIES	MF-90-2	F66	MF SERIES	MOT-9M	F24	MO SERIES
LB107SA	F7	DURALOY 7 SERIES	LR37SA	F3	DURALOY 7 SERIES	MF-90-2M	F66	MF SERIES	MOT-9M	F24	MO SERIES
LB108	F11	DURALOY 8 SERIES	LR38	F12	DURALOY 8 SERIES	MLB-12	F25,27	MLB SERIES	MOT-9M	F24	MO SERIES
LB17	F7	DURALOY 7 SERIES	LR448	F12	DURALOY 8 SERIES	MM-90-1	F66	MM SERIES	MOT-9M	F24	MO SERIES
LB17SA	F7	DURALOY 7 SERIES							MOT-9M	F24	MO SERIES
LB18	F11	DURALOY 8 SERIES							MOT-9M	F24	MO SERIES



PART #	SEC./PG	PROD.GRP.	PART #	SEC./PG	PROD.GRP.	PART #	SEC./PG	PROD.GRP.	PART #	SEC./PG	PROD.GRP.
MOUB-6	F24	MO SERIES	NWP-DECAL01	L207	NWP SERIES	OLB-3	F16	O/DURALOY 5 SERIES	OT-8	F17	O/DURALOY 5 SERIES
MOUB-6M	F24	MO SERIES	NWP-DECAL02	L207	NWP SERIES	OLB-3M	F16	O/DURALOY 5 SERIES	OT-8M	F17	O/DURALOY 5 SERIES
MOUB-7	F24	MO SERIES	NWP-DECAL03	L207	NWP SERIES	OLB-4	F16	O/DURALOY 5 SERIES	OT-9	F17	O/DURALOY 5 SERIES
MOUB-7M	F24	MO SERIES	NWP-DECAL04	L207	NWP SERIES	OLB-4M	F16	O/DURALOY 5 SERIES	OT-9M	F17	O/DURALOY 5 SERIES
MOUB-8	F24	MO SERIES	NWP-DECAL05	L207	NWP SERIES	OLB-5	F16	O/DURALOY 5 SERIES	OTA-1	F18	O/DURALOY 5 SERIES
MOUB-8M	F24	MO SERIES	NWP-DECAL06	L207	NWP SERIES	OLB-5M	F16	O/DURALOY 5 SERIES	OTA-1M	F18	O/DURALOY 5 SERIES
MOUB-9	F24	MO SERIES	NWP-DECAL07	L207	NWP SERIES	OLB-6	F16	O/DURALOY 5 SERIES	OTA-2	F18	O/DURALOY 5 SERIES
MOUB-9M	F24	MO SERIES	NWP-DECAL08	L207	NWP SERIES	OLB-6M	F16	O/DURALOY 5 SERIES	OTA-2M	F18	O/DURALOY 5 SERIES
MPL13			NWP-DECAL09	L207	NWP SERIES	OLB-7	F16	O/DURALOY 5 SERIES	OTA-3M	F18	O/DURALOY 5 SERIES
ML13			NWP-DECAL10	L207	NWP SERIES	OLB-7M	F16	O/DURALOY 5 SERIES	OTB-1	F18	O/DURALOY 5 SERIES
ML18			NWP-DECAL11	L207	NWP SERIES	OLB-8	F16	O/DURALOY 5 SERIES	OTB-1M	F18	O/DURALOY 5 SERIES
ML26			NWP-DECAL12	L207	NWP SERIES	OLB-8M	F16	O/DURALOY 5 SERIES	OTB-2	F18	O/DURALOY 5 SERIES
ML32			NWP-EXIT-SIGN	L207	NWP SERIES	OLB-9	F16	O/DURALOY 5 SERIES	OTB-2M	F18	O/DURALOY 5 SERIES
ML42			NWP-KFBP7	L207	NWP SERIES	OLB-9M	F16	O/DURALOY 5 SERIES	OTB-3	F18	O/DURALOY 5 SERIES
NECLB-3	F26	NECLB SERIES	NWP-LENSONLY	L207	NWP SERIES	OLK-1RG	F19,22	O/DURALOY 5 SERIES	OTB-3M	F18	O/DURALOY 5 SERIES
NECLB-30	F26	NECLB SERIES	OC-0	F15	O/DURALOY 5 SERIES	OLK-1VG	F19	O/DURALOY 5 SERIES	OTB-4	F18	O/DURALOY 5 SERIES
NECLB-4	F26	NECLB SERIES	OC-0M	F15	O/DURALOY 5 SERIES	OLK-2RG	F19,22	O/DURALOY 5 SERIES	OTB-4M	F18	O/DURALOY 5 SERIES
NECLB-40	F26	NECLB SERIES	OC-1	F15	O/DURALOY 5 SERIES	OLK-2VG	F19	O/DURALOY 5 SERIES	OTB-5	F18	O/DURALOY 5 SERIES
NECLB-5	F26	NECLB SERIES	OC-1M	F15	O/DURALOY 5 SERIES	OLK-3RG	F19,22	O/DURALOY 5 SERIES	OTB-5M	F18	O/DURALOY 5 SERIES
NECLB-50	F26	NECLB SERIES	OC-2	F15	O/DURALOY 5 SERIES	OLK-3VG	F19	O/DURALOY 5 SERIES	OTB-6	F18	O/DURALOY 5 SERIES
NECLB-6	F26	NECLB SERIES	OC-2M	F15	O/DURALOY 5 SERIES	OLL-0	F16	O/DURALOY 5 SERIES	OTB-6M	F18	O/DURALOY 5 SERIES
NECLB-60	F26	NECLB SERIES	OC-3	F15	O/DURALOY 5 SERIES	OLL-0M	F16	O/DURALOY 5 SERIES	OX-1	F18	O/DURALOY 5 SERIES
NV2AG	L3	NV2 SERIES	OC-3M	F15	O/DURALOY 5 SERIES	OLL-1	F16	O/DURALOY 5 SERIES	OX-1M	F18	O/DURALOY 5 SERIES
NV2BG	L3	NV2 SERIES	OC-4	F15	O/DURALOY 5 SERIES	OLL-1M	F16	O/DURALOY 5 SERIES	OX-2	F18	O/DURALOY 5 SERIES
NV2CC	L3	NV2 SERIES	OC-4M	F15	O/DURALOY 5 SERIES	OLL-2	F16	O/DURALOY 5 SERIES	OX-2M	F18	O/DURALOY 5 SERIES
NV2CG	L3	NV2 SERIES	OC-5	F15	O/DURALOY 5 SERIES	OLL-2M	F16	O/DURALOY 5 SERIES	OX-3	F18	O/DURALOY 5 SERIES
NV2FG13	L3	NV2 SERIES	OC-5M	F15	O/DURALOY 5 SERIES	OLL-3	F16	O/DURALOY 5 SERIES	OX-3M	F18	O/DURALOY 5 SERIES
NV2FG13AHG	L2	NV2 SERIES	OC-6	F15	O/DURALOY 5 SERIES	OLL-3M	F16	O/DURALOY 5 SERIES	OX-4	F18	O/DURALOY 5 SERIES
NV2FG13ASG	L2	NV2 SERIES	OC-6M	F15	O/DURALOY 5 SERIES	OLL-4	F16	O/DURALOY 5 SERIES	OX-4M	F18	O/DURALOY 5 SERIES
NV2FG13BHG	L2	NV2 SERIES	OC-7	F15	O/DURALOY 5 SERIES	OLL-4M	F16	O/DURALOY 5 SERIES	OX-5	F18	O/DURALOY 5 SERIES
NV2FG13BSG	L2	NV2 SERIES	OC-7M	F15	O/DURALOY 5 SERIES	OLL-5	F16	O/DURALOY 5 SERIES	OX-5M	F18	O/DURALOY 5 SERIES
NV2FG13XHG	L2	NV2 SERIES	OC-8	F15	O/DURALOY 5 SERIES	OLL-5M	F16	O/DURALOY 5 SERIES	OX-6	F18	O/DURALOY 5 SERIES
NV2FG13XSG	L2	NV2 SERIES	OC-8M	F15	O/DURALOY 5 SERIES	OLL-6	F16	O/DURALOY 5 SERIES	OX-6M	F18	O/DURALOY 5 SERIES
NV2FG18	L3	NV2 SERIES	OC-9	F15	O/DURALOY 5 SERIES	OLL-6M	F16	O/DURALOY 5 SERIES	PCC050	F86	PCC SERIES
NV2FG18AHG	L2	NV2 SERIES	OC-9M	F15	O/DURALOY 5 SERIES	OLL-7	F16	O/DURALOY 5 SERIES	PCC075	F86	PCC SERIES
NV2FG18ASG	L2	NV2 SERIES	OE-1	F15	O/DURALOY 5 SERIES	OLL-7M	F16	O/DURALOY 5 SERIES	PCC100	F86	PCC SERIES
NV2FG18BHG	L2	NV2 SERIES	OE-1M	F15	O/DURALOY 5 SERIES	OLL-8	F16	O/DURALOY 5 SERIES	PCC125	F86	PCC SERIES
NV2FG18BSG	L2	NV2 SERIES	OE-2	F15	O/DURALOY 5 SERIES	OLL-8M	F16	O/DURALOY 5 SERIES	PCC150	F86	PCC SERIES
NV2FG18XHG	L2	NV2 SERIES	OE-2M	F15	O/DURALOY 5 SERIES	OLL-9	F16	O/DURALOY 5 SERIES	PCC200	F86	PCC SERIES
NV2FG18XSG	L2	NV2 SERIES	OE-3	F15	O/DURALOY 5 SERIES	OLL-9M	F16	O/DURALOY 5 SERIES	PCC250	F86	PCC SERIES
NV2FG26	L3	NV2 SERIES	OE-3M	F15	O/DURALOY 5 SERIES	OLR-0	F17	O/DURALOY 5 SERIES	PCC300	F86	PCC SERIES
NV2FG26AHG	L2	NV2 SERIES	OL-10	F19,22	O/DURALOY 5 SERIES	OLR-0M	F17	O/DURALOY 5 SERIES	PCC350	F86	PCC SERIES
NV2FG26ASG	L2	NV2 SERIES	OL-10CM	F19	O/DURALOY 5 SERIES	OLR-1	F17	O/DURALOY 5 SERIES	PCC400	F86	PCC SERIES
NV2FG26BHG	L2	NV2 SERIES	OL-10M	F19	O/DURALOY 5 SERIES	OLR-1M	F17	O/DURALOY 5 SERIES	PF-16	F48	ENY/EYS/EY/EYD SERIES
NV2FG26BSG	L2	NV2 SERIES	OL-20	F19,22	O/DURALOY 5 SERIES	OLR-2	F17	O/DURALOY 5 SERIES	PF-2	F48	ENY/EYS/EY/EYD SERIES
NV2FG26XHG	L2	NV2 SERIES	OL-20CM	F19	O/DURALOY 5 SERIES	OLR-2M	F17	O/DURALOY 5 SERIES	PF-4	F48	ENY/EYS/EY/EYD SERIES
NV2FG26XSG	L2	NV2 SERIES	OL-20M	F19	O/DURALOY 5 SERIES	OLR-3	F17	O/DURALOY 5 SERIES	PGPS	L195	KWP SERIES
NV2FG32	L3	NV2 SERIES	OL-30	F19,22	O/DURALOY 5 SERIES	OLR-3M	F17	O/DURALOY 5 SERIES	PGWG	L195	KWP SERIES
NV2FG32AHG	L2	NV2 SERIES	OL-30CM	F19	O/DURALOY 5 SERIES	OLR-4	F17	O/DURALOY 5 SERIES	PL-7	F42	PL SERIES
NV2FG32ASG	L2	NV2 SERIES	OL-30M	F19	O/DURALOY 5 SERIES	OLR-4M	F17	O/DURALOY 5 SERIES	PLUG1	F63	PLUG SERIES
NV2FG32BHG	L2	NV2 SERIES	OL-450	F19,22	O/DURALOY 5 SERIES	OLR-5	F17	O/DURALOY 5 SERIES	PLUG10	F63	PLUG SERIES
NV2FG32BSG	L2	NV2 SERIES	OL-45CM	F19	O/DURALOY 5 SERIES	OLR-5M	F17	O/DURALOY 5 SERIES	PLUG10-SQ	F63	PLUG SERIES
NV2FG32XHG	L2	NV2 SERIES	OL-45M	F19	O/DURALOY 5 SERIES	OLR-6	F17	O/DURALOY 5 SERIES	PLUG1-SQ	F63	PLUG SERIES
NV2FG32XSG	L2	NV2 SERIES	OL-45-RG	F19,22	O/DURALOY 5 SERIES	OLR-6M	F17	O/DURALOY 5 SERIES	PLUG2	F63	PLUG SERIES
NV2FG42	L3	NV2 SERIES	OL-45-VG	F19	O/DURALOY 5 SERIES	OLR-7	F17	O/DURALOY 5 SERIES	PLUG2-SQ	F63	PLUG SERIES
NV2FG42AHG	L2	NV2 SERIES	OL-60	F19,22	O/DURALOY 5 SERIES	OLR-7M	F17	O/DURALOY 5 SERIES	PLUG3	F63	PLUG SERIES
NV2FG42ASG	L2	NV2 SERIES	OL-60CM	F19	O/DURALOY 5 SERIES	OLR-8	F17	O/DURALOY 5 SERIES	PLUG375	F63	PLUG SERIES
NV2FG42BHG	L2	NV2 SERIES	OL-60M	F19	O/DURALOY 5 SERIES	OLR-8M	F17	O/DURALOY 5 SERIES	PLUG3-SQ	F63	PLUG SERIES
NV2FG42BSG	L2	NV2 SERIES	OL-6-RG	F19,22	O/DURALOY 5 SERIES	OLR-9	F17	O/DURALOY 5 SERIES	PLUG4	F63	PLUG SERIES
NV2FG42XHG	L2	NV2 SERIES	OL-6-VG	F19	O/DURALOY 5 SERIES	OLR-9M	F17	O/DURALOY 5 SERIES	PLUG4-SQ	F63	PLUG SERIES
NV2FG42XSG	L2	NV2 SERIES	OL-780	F19,22	O/DURALOY 5 SERIES	OT-0	F17	O/DURALOY 5 SERIES	PLUG5	F63	PLUG SERIES
NV2GG	L3	NV2 SERIES	OL-78CM	F19	O/DURALOY 5 SERIES	OT-0M	F17	O/DURALOY 5 SERIES	PLUG5-SQ	F63	PLUG SERIES
NV2IG15	L3	NV2 SERIES	OL-78M	F19	O/DURALOY 5 SERIES	OT-1	F17	O/DURALOY 5 SERIES	PLUG6	F63	PLUG SERIES
NV2IG15AHG	L2	NV2 SERIES	OL-78-RG	F19,22	O/DURALOY 5 SERIES	OT-1M	F17	O/DURALOY 5 SERIES	PLUG6-SQ	F63	PLUG SERIES
NV2IG15ASG	L2	NV2 SERIES	OL-78-VG	F19	O/DURALOY 5 SERIES	OT-2	F17	O/DURALOY 5 SERIES	PLUG7	F63	PLUG SERIES
NV2IG15BHG	L2	NV2 SERIES	OL-900	F19,22	O/DURALOY 5 SERIES	OT-2M	F17	O/DURALOY 5 SERIES	PLUG7-SQ	F63	PLUG SERIES
NV2IG15BSG	L2	NV2 SERIES	OL-90CM	F19	O/DURALOY 5 SERIES	OT-3	F17	O/DURALOY 5 SERIES	PLUG8	F63	PLUG SERIES
NV2IG15XHG	L2	NV2 SERIES	OL-90M	F19	O/DURALOY 5 SERIES	OT-3M	F17	O/DURALOY 5 SERIES	PLUG8-SQ	F63	PLUG SERIES
NV2IG15XSG	L2	NV2 SERIES	OL-90-RG	F19,22	O/DURALOY 5 SERIES	OT-4	F17	O/DURALOY 5 SERIES	PLUG9	F63	PLUG SERIES
NV2MG	L3	NV2 SERIES	OL-90-VG	F19	O/DURALOY 5 SERIES	OT-4M	F17	O/DURALOY 5 SERIES	PLUG9-SQ	F63	PLUG SERIES
NV2XG	L3	NV2 SERIES	OLB-0	F16	O/DURALOY 5 SERIES	OT-5	F17	O/DURALOY 5 SERIES	PVLV	L195	KWP SERIES
NVEXTG	L3	NV2 SERIES	OLB-0M	F16	O/DURALOY 5 SERIES	OT-5M	F17	O/DURALOY 5 SERIES	QL-1505K	L186	QL SERIES
NVPF SERIES	L15		OLB-1	F16	O/DURALOY 5 SERIES	OT-6	F17	O/DURALOY 5 SERIES	QL-1505K-WQ	L186	QL SERIES
NVPI SERIES	L15		OLB-1M	F16	O/DURALOY 5 SERIES	OT-6M	F17	O/DURALOY 5 SERIES	QL-15G	L186	QL SERIES
NVPSD12	L3	NV2 SERIES	OLB-2	F16	O/DURALOY 5 SERIES	OT-7	F17	O/DURALOY 5 SERIES	QL-500K	L186	QL SERIES
NWP SERIES	L206-207		OLB-2M	F16	O/DURALOY 5 SERIES	OT-7M	F17	O/DURALOY 5 SERIES	QL-500K-WQ	L186	QL SERIES



PART #	SEC./PG	PROD.GRP.	PART #	SEC./PG	PROD.GRP.	PART #	SEC./PG	PROD.GRP.	PART #	SEC./PG	PROD.GRP.
QL-5G	L186	QL SERIES	STFB-0	F30	STFB SERIES	T87	F4	DURALOY 7 SERIES	TWOT-7CG	F22	K-PAK SERIES
QL-TB	L186	QL SERIES	STFB-2	F30	STFB SERIES	T87SA	F4	DURALOY 7 SERIES	TWOT-8CG	F22	K-PAK SERIES
R-10	F65	R SERIES	STFB-3	F30	STFB SERIES	T88	F12	DURALOY 8 SERIES	TWOT-9CG	F22	K-PAK SERIES
R-106	F65	R SERIES	STFB-4	F30	STFB SERIES	T97	F4	DURALOY 7 SERIES	UGFI152C1	PR27	UGFI SERIES
R-107	F65	R SERIES	STFB-5	F30	STFB SERIES	T97SA	F4	DURALOY 7 SERIES	UGFI152C2	PR27	UGFI SERIES
R-108	F65	R SERIES	STFB-6	F30	STFB SERIES	TA17	F5	DURALOY 7 SERIES	UGFI152C3	PR27	UGFI SERIES
R-109	F65	R SERIES	STFB-7	F30	STFB SERIES	TA17SA	F5	DURALOY 7 SERIES	UGFI152AD	PR27	UGFI SERIES
R-20	F65	R SERIES	STFB-8	F30	STFB SERIES	TA27	F5	DURALOY 7 SERIES	UGFI15AD	PR27	UGFI SERIES
R-21	F65	R SERIES	SWB-1	C19	SWB SERIES	TA27SA	F5	DURALOY 7 SERIES	UGFI15C1	PR27	UGFI SERIES
R-30	F65	R SERIES	SWB-10	C19	SWB SERIES	TA37	F5	DURALOY 7 SERIES	UGFI15C2	PR27	UGFI SERIES
R-31	F65	R SERIES	SWB-11	C19	SWB SERIES	TA37SA	F5	DURALOY 7 SERIES	UGFI15C3	PR27	UGFI SERIES
R-32	F65	R SERIES	SWB-12	C19	SWB SERIES	TA47	F5	DURALOY 7 SERIES	UGFI202AD	PR27	UGFI SERIES
R-41	F65	R SERIES	SWB-13	C19,37	SWB SERIES	TA47SA	F5	DURALOY 7 SERIES	UGFI202C1	PR27	UGFI SERIES
R-42	F65	R SERIES	SWB-14	C19,37	SWB SERIES	TA57	F5	DURALOY 7 SERIES	UGFI202C2	PR27	UGFI SERIES
R-43	F65	R SERIES	SWB-15	C37	SWB SERIES	TA57SA	F5	DURALOY 7 SERIES	UGFI202C3	PR27	UGFI SERIES
R-51	F65	R SERIES	SWB-16	C37	SWB SERIES	TA67	F5	DURALOY 7 SERIES	UGFI20AD	PR27	UGFI SERIES
R-52	F65	R SERIES	SWB-17	C19	SWB SERIES	TA67SA	F5	DURALOY 7 SERIES	UGFI20C1	PR27	UGFI SERIES
R-53	F65	R SERIES	SWB-18	C19	SWB SERIES	TB17	F5	DURALOY 7 SERIES	UGFI20C2	PR27	UGFI SERIES
R-54	F65	R SERIES	SWB-19	C19	SWB SERIES	TB17SA	F5	DURALOY 7 SERIES	UGFI20C3	PR27	UGFI SERIES
R-61	F65	R SERIES	SWB-2	C19	SWB SERIES	TB18	F13	DURALOY 8 SERIES	UGMG	PR26	UG SERIES
R-62	F65	R SERIES	SWB-20	C19	SWB SERIES	TB27	F5	DURALOY 7 SERIES	UGP-15231	PR22,24,25	UG SERIES
R-63	F65	R SERIES	SWB-21	C19	SWB SERIES	TB27SA	F5	DURALOY 7 SERIES	UGP-15231QW	PR22	UG SERIES
R-64	F65	R SERIES	SWB-3	C19	SWB SERIES	TB28	F13	DURALOY 8 SERIES	UGP-15232	PR22,24,25	UG SERIES
R-65	F65	R SERIES	SWB-32	C19	SWB SERIES	TB37	F5	DURALOY 7 SERIES	UGP-15232QW	PR22	UG SERIES
R-73	F65	R SERIES	SWB-33	C19	SWB SERIES	TB37SA	F5	DURALOY 7 SERIES	UGP-20231	PR22,24,25	UG SERIES
R-74	F65	R SERIES	SWB-34	C19	SWB SERIES	TB38	F13	DURALOY 8 SERIES	UGP-20231QW	PR22	UG SERIES
R-75	F65	R SERIES	SWB-38	C19	SWB SERIES	TB448	F13	DURALOY 8 SERIES	UGP-20232	PR22,24,25	UG SERIES
R-76	F65	R SERIES	SWB-4	C19	SWB SERIES	TB47	F5	DURALOY 7 SERIES	UGP-20232QW	PR22	UG SERIES
R-85	F65	R SERIES	SWB-42	C19	SWB SERIES	TB47SA	F5	DURALOY 7 SERIES	UGR10-20231	PR23	UG SERIES
R-86	F65	R SERIES	SWB-45	C19	SWB SERIES	TB57	F5	DURALOY 7 SERIES	UGR10-20232	PR23	UG SERIES
R-87	F65	R SERIES	SWB-48	C19	SWB SERIES	TB57SA	F5	DURALOY 7 SERIES	UGR10C-15231	PR23	UG SERIES
R-87	F65	R SERIES	SWB-49	C19	SWB SERIES	TB58	F13	DURALOY 8 SERIES	UGR10C-15232	PR23	UG SERIES
R-98	F65	R SERIES	SWB-5	C19	SWB SERIES	TB67	F5	DURALOY 7 SERIES	UGR11-20231	PR23	UG SERIES
R-98	F65	R SERIES	SWB-6	C19	SWB SERIES	TB67SA	F5	DURALOY 7 SERIES	UGR11-20232	PR23	UG SERIES
RACC050	F86	RACC SERIES	SWB-7	C19	SWB SERIES	TB68	F13	DURALOY 8 SERIES	UGR11C-15231	PR23	UG SERIES
RACC075	F86	RACC SERIES	SWB-8	C19	SWB SERIES	TBWE-12	E22	TBWE SERIES	UGR11C-15232	PR23	UG SERIES
RACC100	F86	RACC SERIES	SWB-83	C37	SWB SERIES	TBWE-15	E22	TBWE SERIES	UGR1-20231	PR23	UG SERIES
RACC125	F86	RACC SERIES	SWB-9	C19	SWB SERIES	TBWE-18	E22	TBWE SERIES	UGR1-20232	PR23	UG SERIES
RACC150	F86	RACC SERIES	SWB-9	C19	SWB SERIES	TBWE-21	E22	TBWE SERIES	UGR1-20232	PR23	UG SERIES
RACC200	F86	RACC SERIES	SWBC-13	C37	SWBC SERIES	TBWE-24	E22	TBWE SERIES	UGR12-20231	PR23	UG SERIES
RACC250	F86	RACC SERIES	SWBC-14	C37	SWBC SERIES	TBWE-27	E22	TBWE SERIES	UGR12-20232	PR23	UG SERIES
RACC300	F86	RACC SERIES	SWBC-15	C37	SWBC SERIES	TBWE-3	E22	TBWE SERIES	UGR12C-15231	PR23	UG SERIES
RACC350	F86	RACC SERIES	SWBC-16	C37	SWBC SERIES	TBWE-30	E22	TBWE SERIES	UGR12C-15232	PR23	UG SERIES
RACC400	F86	RACC SERIES	SWBC-83	C37	SWBC SERIES	TBWE-36	E22	TBWE SERIES	UGR1C-15231	PR23	UG SERIES
RE20S	F65	RE SERIES	SWBC-83	C37	SWBC SERIES	TBWE-39	E22	TBWE SERIES	UGR1C-15232	PR23	UG SERIES
RE21S	F65	RE SERIES	SWITCHRACK ASSEMBLIES	DE26		TBWE-42	E22	TBWE SERIES	UGR2-20231	PR23	UG SERIES
RE21S	F65	RE SERIES	SWZ60-050NPT	F85	SWZ SERIES	TBWE-45	E22	TBWE SERIES	UGR2-20232	PR23	UG SERIES
RE30S	F65	RE SERIES	SWZ60-075NPT	F85	SWZ SERIES	TBWE-48	E22	TBWE SERIES	UGR2C-15231	PR23	UG SERIES
RE31S	F65	RE SERIES	SWZ60-100NPT	F85	SWZ SERIES	TBWE-51	E22	TBWE SERIES	UGR2C-15232	PR23	UG SERIES
RE32S	F65	RE SERIES	SWZ60-125NPT	F85	SWZ SERIES	TBWE-54	E22	TBWE SERIES	UGR3-20231	PR23	UG SERIES
RE41S	F65	RE SERIES	SWZ60-150NPT	F85	SWZ SERIES	TBWE-57	E22	TBWE SERIES	UGR3-20232	PR23	UG SERIES
RE42S	F65	RE SERIES	SWZ60-200NPT	F85	SWZ SERIES	TBWE-6	E22	TBWE SERIES	UGR3C-15231	PR23	UG SERIES
RE43S	F65	RE SERIES	SWZ60-250NPT	F85	SWZ SERIES	TBWE-60	E22	TBWE SERIES	UGR3C-15232	PR23	UG SERIES
RE51S	F65	RE SERIES	SWZ60-300NPT	F85	SWZ SERIES	TBWE-9	E22	TBWE SERIES	UGR3C-15232	PR23	UG SERIES
RE52S	F65	RE SERIES	SWZ60-350NPT	F85	SWZ SERIES	TBWE-9	E22	TBWE SERIES	UGR4-20231	PR23	UG SERIES
RE53S	F65	RE SERIES	T107	F4	DURALOY 7 SERIES	TBWE-60	E22	TBWE SERIES	UGR4-20232	PR23	UG SERIES
RE54S	F65	RE SERIES	T107SA	F4	DURALOY 7 SERIES	TBWE-9	E22	TBWE SERIES	UGR4C-15231	PR23	UG SERIES
RE61S	F65	RE SERIES	T17	F4	DURALOY 7 SERIES	TBWE-9	E22	TBWE SERIES	UGR4C-15232	PR23	UG SERIES
RE62S	F65	RE SERIES	T17SA	F4	DURALOY 7 SERIES	TEB SERIES	E4	TEF/TEB SERIES	UGR5-20231	PR23	UG SERIES
RE63S	F65	RE SERIES	T18	F12	DURALOY 8 SERIES	TEF SERIES	E4	TEF/TEB SERIES	UGR5-20232	PR23	UG SERIES
RE64S	F65	RE SERIES	T27	F4	DURALOY 7 SERIES	TWCL-1	F29	TWCL SERIES	UGR5-20232	PR23	UG SERIES
RE65S	F65	RE SERIES	T27SA	F4	DURALOY 7 SERIES	TWCL-2	F29	TWCL SERIES	UGR5C-15231	PR23	UG SERIES
SC-1 LB	F48	ENY/EYS/EY/EYD SERIES	T28	F12	DURALOY 8 SERIES	TWOC-0CG	F20	K-PAK SERIES	UGR5C-15232	PR23	UG SERIES
SC-4 OZ	F48	ENY/EYS/EY/EYD SERIES	T37	F4	DURALOY 7 SERIES	TWOC-7CG	F20	K-PAK SERIES	UGR6-20231	PR23	UG SERIES
SC-5 LB	F48	ENY/EYS/EY/EYD SERIES	T37SA	F4	DURALOY 7 SERIES	TWOC-8CG	F20	K-PAK SERIES	UGR6-20232	PR23	UG SERIES
SC-8 OZ	F48	ENY/EYS/EY/EYD SERIES	T37SA	F4	DURALOY 7 SERIES	TWOC-9CG	F20	K-PAK SERIES	UGR6C-15231	PR23	UG SERIES
SLB-1	F27	SLB SERIES	T38	F12	DURALOY 8 SERIES	TWOLB-0CG	F20	K-PAK SERIES	UGR6C-15232	PR23	UG SERIES
SLB-2	F27	SLB SERIES	T448	F12	DURALOY 8 SERIES	TWOLB-7CG	F20	K-PAK SERIES	UGR7-20231	PR23	UG SERIES
SLB-3	F27	SLB SERIES	T47	F4	DURALOY 7 SERIES	TWOLB-8CG	F20	K-PAK SERIES	UGR7-20232	PR23	UG SERIES
SLB-4	F27	SLB SERIES	T47SA	F4	DURALOY 7 SERIES	TWOLB-9CG	F20	K-PAK SERIES	UGR7C-15231	PR23	UG SERIES
SLB-5	F27	SLB SERIES	T57	F4	DURALOY 7 SERIES	TWOLL-0CG	F21	K-PAK SERIES	UGR7C-15232	PR23	UG SERIES
SLB-6	F27	SLB SERIES	T57SA	F4	DURALOY 7 SERIES	TWOLL-7CG	F21	K-PAK SERIES	UGR8-20231	PR23	UG SERIES
SLB-7	F27	SLB SERIES	T58	F12	DURALOY 8 SERIES	TWOLL-8CG	F21	K-PAK SERIES	UGR8-20232	PR23	UG SERIES
SLBM-4	F27	SLBM SERIES	T67	F4	DURALOY 7 SERIES	TWOLL-9CG	F21	K-PAK SERIES	UGR8C-15231	PR23	UG SERIES
SLBM-6	F27	SLBM SERIES	T67SA	F4	DURALOY 7 SERIES	TWOLR-0CG	F21	K-PAK SERIES	UGR8C-15232	PR23	UG SERIES
SOLB-0	F27	SOLB SERIES	T68	F12	DURALOY 8 SERIES	TWOLR-7CG	F21	K-PAK SERIES	UGR9-20231	PR23	UG SERIES
SOLB-8	F27	SOLB SERIES	T77	F4	DURALOY 7 SERIES	TWOLR-8CG	F21	K-PAK SERIES	UGR9-20232	PR23	UG SERIES
SOLB-9	F27	SOLB SERIES	T77SA	F4	DURALOY 7 SERIES	TWOLR-9CG	F21	K-PAK SERIES	UGR9C-15231	PR23	UG SERIES
SOLB-9	F27	SOLB SERIES	T78	F12	DURALOY 8 SERIES	TWOT-0CG	F22	K-PAK SERIES	UGR9C-15232	PR23	UG SERIES



PART #	SEC./PG	PROD.GRP.	PART #	SEC./PG	PROD.GRP.	PART #	SEC./PG	PROD.GRP.	PART #	SEC./PG	PROD.GRP.
UGRA-20231	PR26	UG SERIES	UNYL2	F62	UNY SERIES	VBQ6034CH60	PR13	VBQ SERIES	VEXA100B	L204	
UGRA-20232	PR26	UG SERIES	UNYL3	F62	UNY SERIES	VBQ6034CH70	PR13	VBQ SERIES	VEXA400	L204	
UGRB1-20231	PR23	UG SERIES	UNYS1	F62	UNY SERIES	VBQ6034CH90	PR13	VBQ SERIES	VFBG-110	L8	V SERIES
UGRB1-20232	PR23	UG SERIES	UNYS2	F62	UNY SERIES	VBQ6034CN100	PR13	VBQ SERIES	VFBG-1-100	L8	V SERIES
UGRB1C-15231	PR23	UG SERIES	UNYS3	F62	UNY SERIES	VBQ6034CN50	PR13	VBQ SERIES	VFBG-120	L8	V SERIES
UGRB1C-15232	PR23	UG SERIES	VAG-100	L12	V SERIES	VBQ6034CN60	PR13	VBQ SERIES	VFBG-1-200	L8	V SERIES
UGRB2-20231	PR23	UG SERIES	VAG-200	L12	V SERIES	VBQ6034CN70	PR13	VBQ SERIES	VFBG-210	L8	V SERIES
UGRB2-20232	PR23	UG SERIES	VAMG-100	L12	V SERIES	VBQ6034CN90	PR13	VBQ SERIES	VFBG-2-100	L8	V SERIES
UGRB2C-15231	PR23	UG SERIES	VAMG-200	L12	V SERIES	VBQ6034SH100	PR13	VBQ SERIES	VFBG-220	L8	V SERIES
UGRB2C-15232	PR23	UG SERIES	VAMGP-100	L12	V SERIES	VBQ6034SH50	PR13	VBQ SERIES	VFBG-2-200	L8	V SERIES
UGRB3-20231	PR23	UG SERIES	VB-1	L11	V SERIES	VBQ6034SH60	PR13	VBQ SERIES	VFBGG-110	L8	V SERIES
UGRB3-20232	PR23	UG SERIES	VB-2	L11	V SERIES	VBQ6034SH70	PR13	VBQ SERIES	VFBGG-1-100	L8	V SERIES
UGRB3C-15231	PR23	UG SERIES	VBA	L11	V SERIES	VBQ6034SH90	PR13	VBQ SERIES	VFBGG-1-100PX	L10	V SERIES
UGRB3C-15232	PR23	UG SERIES	VBC-1	L11	V SERIES	VBQ6034SN100	PR13	VBQ SERIES	VFBGG-120	L8	V SERIES
UGRB4-20231	PR23	UG SERIES	VBC-2	L11	V SERIES	VBQ6034SN50	PR13	VBQ SERIES	VFBGG-1-200	L8	V SERIES
UGRB4-20232	PR23	UG SERIES	VBG-100	L12	V SERIES	VBQ6034SN60	PR13	VBQ SERIES	VFBGG-1-200PX	L10	V SERIES
UGRB4C-15231	PR23	UG SERIES	VBGP-100	L12	V SERIES	VBQ6034SN70	PR13	VBQ SERIES	VFBGG-210	L8	V SERIES
UGRB4C-15232	PR23	UG SERIES	VBNB	F43	VJ SERIES	VBQ6034SN90	PR13	VBQ SERIES	VFBGG-2-100	L8	V SERIES
UGRB5-20231	PR23	UG SERIES	VBNB	L12	V SERIES	VCG-100	L3,12	NV2 SERIES	VFBGG-2-100PX	L10	V SERIES
UGRB5-20232	PR23	UG SERIES	VBQ1023CH100	PR13	VBQ SERIES	VCG-200	L12	V SERIES	VFBGG-220	L8	V SERIES
UGRB5C-15231	PR23	UG SERIES	VBQ1023CH50	PR13	VBQ SERIES	VCG-500	L12	V SERIES	VFBGG-2-200	L8	V SERIES
UGRB5C-15232	PR23	UG SERIES	VBQ1023CH70	PR13	VBQ SERIES	VCGP-100	L3,12	NV2 SERIES	VFBGG-2-200PX	L10	V SERIES
UGRB6-20231	PR23	UG SERIES	VBQ1023CH90	PR13	VBQ SERIES	VCGP-200	L12	V SERIES	VFC-100	L11	V SERIES
UGRB6-20232	PR23	UG SERIES	VBQ1023CN100	PR13	VBQ SERIES	VCGP-500	L12	V SERIES	VFC-200	L11	V SERIES
UGRB6C-15231	PR23	UG SERIES	VBQ1023CN50	PR13	VBQ SERIES	VCGPT-100	L12	V SERIES	VFC-100	L11	V SERIES
UGRB6C-15232	PR23	UG SERIES	VBQ1023CN70	PR13	VBQ SERIES	VCR16R304	PR17	VCR SERIES	VFCA-100	L7	V SERIES
UGRC-20231B	F24	UG SERIES	VBQ1023CN90	PR13	VBQ SERIES	VCR16R306	PR17	VCR SERIES	VFCA-200	L7	V SERIES
UGRC-20231F	F24	UG SERIES	VBQ1023SH100	PR13	VBQ SERIES	VCR16R307	PR17	VCR SERIES	VFCAG-100	L7	V SERIES
UGRC-20232B	F24	UG SERIES	VBQ1023SH50	PR13	VBQ SERIES	VCR16R405	PR17	VCR SERIES	VFCAG-200	L7	V SERIES
UGRC-20232F	F24	UG SERIES	VBQ1023SH70	PR13	VBQ SERIES	VCR16R407	PR17	VCR SERIES	VFL	L11	V SERIES
UGRGF107	PR26	UGRGF SERIES	VBQ1023SH90	PR13	VBQ SERIES	VCR16R409	PR17	VCR SERIES	VFPS	L11	V SERIES
UGRGF108	PR26	UGRGF SERIES	VBQ1023SN100	PR13	VBQ SERIES	VCR16R505	PR17	VCR SERIES	VG-2	L220	FIXTURE HANGERS
UGRGF108-PL	PR26	UGRGF SERIES	VBQ1023SN50	PR13	VBQ SERIES	VCR16R507	PR17	VCR SERIES	VGA-1	L11,220	V SERIES
UGRGF109	PR26	UGRGF SERIES	VBQ1023SN70	PR13	VBQ SERIES	VCR16R509	PR17	VCR SERIES	VGA-2	L11,220	V SERIES
UGRGF109-PL	PR26	UGRGF SERIES	VBQ1023SN90	PR13	VBQ SERIES	VCR32R405	PR17	VCR SERIES	VGC-1	L11,220	V SERIES
UGRGF110	PR26	UGRGF SERIES	VBQ1034CH100	PR13	VBQ SERIES	VCR32R407	PR17	VCR SERIES	VGC-2	L11,220	V SERIES
UGRGF110-PL	PR26	UGRGF SERIES	VBQ1034CH50	PR13	VBQ SERIES	VCR32R409	PR17	VCR SERIES	VGG-100	L12	V SERIES
UGRGF111	PR26	UGRGF SERIES	VBQ1034CH70	PR13	VBQ SERIES	VCR32R505	PR17	VCR SERIES	VGG-200	L12	V SERIES
UGRGF111-PL	PR26	UGRGF SERIES	VBQ1034CH90	PR13	VBQ SERIES	VCR32R507	PR17	VCR SERIES	VGGP-100	L12	V SERIES
UGRGF112	PR26	UGRGF SERIES	VBQ1034CN100	PR13	VBQ SERIES	VCR32R509	PR17	VCR SERIES	VGGP-200	L12	V SERIES
UGRGF112-PL	PR26	UGRGF SERIES	VBQ1034CN50	PR13	VBQ SERIES	VD-4	L11	V SERIES	VGH-1	L11,220	V SERIES
UGRO-20231	PR23	UG SERIES	VBQ1034CN70	PR13	VBQ SERIES	VD-410G	L8	V SERIES	VGH-2	L11,220	V SERIES
UGRO-20232	PR23	UG SERIES	VBQ1034CN90	PR13	VBQ SERIES	VD-410GG	L8	V SERIES	VGX-1	L11,220	V SERIES
UGROC-15231	PR23	UG SERIES	VBQ1034SH100	PR13	VBQ SERIES	VD-410GGPX	L10	V SERIES	VGX-2	L11,220	V SERIES
UGROC-15232	PR23	UG SERIES	VBQ1034SH50	PR13	VBQ SERIES	VD-420G	L8	V SERIES	VJ37	PR8	VERSAMATE SERIES
UGRP-20231B	PR25	UG SERIES	VBQ1034SH70	PR13	VBQ SERIES	VD-420GG	L8	V SERIES	VJ47	PR8	VERSAMATE SERIES
UGRP-20231F	PR25	UG SERIES	VBQ1034SH90	PR13	VBQ SERIES	VD-420GGPX	L10	V SERIES	VJ57	PR8	VERSAMATE SERIES
UGRP-20232B	PR25	UG SERIES	VBQ1034SN100	PR13	VBQ SERIES	VE3B SERIES	L199-204		VJ58	PR9	VERSAMATE SERIES
UGRP-20232F	PR25	UG SERIES	VBQ1034SN50	PR13	VBQ SERIES	VE3B0013E10	L202	VE3B SERIES	VJ67	PR8	VERSAMATE SERIES
UNFO	F61	UN SERIES	VBQ1034SN70	PR13	VBQ SERIES	VE3B0026E10	L202	VE3B SERIES	VJ68	PR9	VERSAMATE SERIES
UNF1	F61	UN SERIES	VBQ1034SN90	PR13	VBQ SERIES	VE3B1313E01	L202	VE3B SERIES	VJ78	PR9	VERSAMATE SERIES
UNF2	F61	UN SERIES	VBQ3023SN30	PR13	VBQ SERIES	VE3B2613E01	L202	VE3B SERIES	VJA100	PR8	VERSAMATE SERIES
UNF3	F61	UN SERIES	VBQ3034SH30	PR13	VBQ SERIES	VE3B2626E01	L202	VE3B SERIES	VJA200	PR9	VERSAMATE SERIES
UNF4	F61	UN SERIES	VBQ3034SN30	PR13	VBQ SERIES	VE3Q SERIES	L199-204		VJBC	F43	VJ SERIES
UNF5	F61	UN SERIES	VBQ6023CH100	PR13	VBQ SERIES	VE3Q0018E30	L202	VE3Q SERIES	VJC37	PR8	VERSAMATE SERIES
UNF6	F61	UN SERIES	VBQ6023CH50	PR13	VBQ SERIES	VE3Q0026E30	L202	VE3Q SERIES	VJC47	PR8	VERSAMATE SERIES
UNF7	F61	UN SERIES	VBQ6023CH60	PR13	VBQ SERIES	VE3Q0032E30	L202	VE3Q SERIES	VJC57	PR8	VERSAMATE SERIES
UNF8	F61	UN SERIES	VBQ6023CH70	PR13	VBQ SERIES	VE3Q0036E30	L202	VE3Q SERIES	VJC67	PR8	VERSAMATE SERIES
UNF9	F61	UN SERIES	VBQ6023CH90	PR13	VBQ SERIES	VE3Q0042E30	L202	VE3Q SERIES	VJC78	PR9	VERSAMATE SERIES
UNFL1	F62	UNF SERIES	VBQ6023CN100	PR13	VBQ SERIES	VE3Q0052E30	L202	VE3Q SERIES	VJH-1	F43	VJ SERIES
UNFL2	F62	UNF SERIES	VBQ6023CN50	PR13	VBQ SERIES	VE3Q0064E30	L202	VE3Q SERIES	VJH-2	F43	VJ SERIES
UNFL3	F62	UNF SERIES	VBQ6023CN60	PR13	VBQ SERIES	VE3Q0084E30	L202	VE3Q SERIES	VLJDX-2	F43	VJ SERIES
UNFS1	F62	UNF SERIES	VBQ6023CN70	PR13	VBQ SERIES	VE3Q1818E30	L202	VE3Q SERIES	VLJDX-3	F43	VJ SERIES
UNFS2	F62	UNF SERIES	VBQ6023CN90	PR13	VBQ SERIES	VE3Q1818E30	L202	VE3Q SERIES	VLJSX-1	F43	VJ SERIES
UNFS3	F62	UNF SERIES	VBQ6023SH100	PR13	VBQ SERIES	VE3Q2626E30	L202	VE3Q SERIES	VLJSX-2	F43	VJ SERIES
UNY0	F61	UN SERIES	VBQ6023SH50	PR13	VBQ SERIES	VE3Q3232E30	L202	VE3Q SERIES	VLJX-1	F43	VJ SERIES
UNY1	F61	UN SERIES	VBQ6023SH60	PR13	VBQ SERIES	VE3Q3618E30	L202	VE3Q SERIES	VLJX-1M	F43	VJ SERIES
UNY2	F61	UN SERIES	VBQ6023SH70	PR13	VBQ SERIES	VE3Q3636E30	L202	VE3Q SERIES	VLJX-2	F43	VJ SERIES
UNY3	F61	UN SERIES	VBQ6023SH90	PR13	VBQ SERIES	VE3Q4242E30	L202	VE3Q SERIES	VLJX-2M	F43	VJ SERIES
UNY4	F61	UN SERIES	VBQ6023SN100	PR13	VBQ SERIES	VE3Q5226E30	L202	VE3Q SERIES	VLJX-3	F43	VJ SERIES
UNY5	F61	UN SERIES	VBQ6023SN50	PR13	VBQ SERIES	VE3Q5252E30	L202	VE3Q SERIES	VLJX-3M	F43	VJ SERIES
UNY6	F61	UN SERIES	VBQ6023SN60	PR13	VBQ SERIES	VE3Q6432E30	L202	VE3Q SERIES	VM & EZ FUES KITS	L97-L98	
UNY7	F61	UN SERIES	VBQ6023SN70	PR13	VBQ SERIES	VE3Q6464E30	L202	VE3Q SERIES	VM1 SERIES	L58-65	
UNY8	F61	UN SERIES	VBQ6023SN90	PR13	VBQ SERIES	VE3Q8442E30	L202	VE3Q SERIES	VM1H050	L94	VM SERIES
UNY9	F61	UN SERIES	VBQ6034CH100	PR13	VBQ SERIES	VE3Q8484E30	L202	VE3Q SERIES	VM1H056	L94	VM SERIES
UNYL1	F62	UNY SERIES	VBQ6034CH50	PR13	VBQ SERIES	VE4B SERIES	L199-204		VM1H070	L94	VM SERIES
						VE4Q SERIES	L199-204		VM1H075	L94	VM SERIES



PART #	SEC./PG	PROD.GRP.	PART #	SEC./PG	PROD.GRP.	PART #	SEC./PG	PROD.GRP.	PART #	SEC./PG	PROD.GRP.
VR1031C5	PR8	VERSAMATE SERIES	VR332C3	PR6	VERSAMATE SERIES	VR642E5	PR7	VERSAMATE SERIES	VSI63R407	PR15	VSI SERIES
VR1031C6	PR8	VERSAMATE SERIES	VR332D1	PR6	VERSAMATE SERIES	VRC13	PR6	VERSAMATE SERIES	VSI63R409	PR15	VSI SERIES
VR1031E3	PR8	VERSAMATE SERIES	VR332D2	PR6	VERSAMATE SERIES	VRC23	PR6	VERSAMATE SERIES	VSI63R505	PR15	VSI SERIES
VR1031E4	PR8	VERSAMATE SERIES	VR332D3	PR6	VERSAMATE SERIES	VRC33	PR6	VERSAMATE SERIES	VSI63R507	PR15	VSI SERIES
VR1031E5	PR8	VERSAMATE SERIES	VR332E1	PR6	VERSAMATE SERIES	VRC36	PR7	VERSAMATE SERIES	VSI63R509	PR15	VSI SERIES
VR1031E6	PR8	VERSAMATE SERIES	VR332E2	PR6	VERSAMATE SERIES	VRC46	PR7	VERSAMATE SERIES	VSIAXUNC	PR14	VSI SERIES
VR1032	PR8	VERSAMATE SERIES	VR332E3	PR6	VERSAMATE SERIES	VRC56	PR7	VERSAMATE SERIES	VSIAXUNO	PR14	VSI SERIES
VR1032C3	PR8	VERSAMATE SERIES	VR341	PR6	VERSAMATE SERIES	VRD13	PR6	VERSAMATE SERIES	VSQ3023	PR10	VSQ/WWSQ SERIES
VR1032C4	PR8	VERSAMATE SERIES	VR341C1	PR6	VERSAMATE SERIES	VRD23	PR6	VERSAMATE SERIES	VSQ3023FS	PR11	VSQFS SERIES
VR1032C5	PR8	VERSAMATE SERIES	VR341C2	PR6	VERSAMATE SERIES	VRD33	PR6	VERSAMATE SERIES	VSQ3034	PR10	VSQ/WWSQ SERIES
VR1032C6	PR8	VERSAMATE SERIES	VR341C3	PR6	VERSAMATE SERIES	VRD36	PR7	VERSAMATE SERIES	VSQ3034FS	PR11	VSQFS SERIES
VR1032E3	PR8	VERSAMATE SERIES	VR341D1	PR6	VERSAMATE SERIES	VRD46	PR7	VERSAMATE SERIES	VSQ6023	PR10	VSQ/WWSQ SERIES
VR1032E4	PR8	VERSAMATE SERIES	VR341D2	PR6	VERSAMATE SERIES	VRD56	PR7	VERSAMATE SERIES	VSQ6023FS	PR11	VSQFS SERIES
VR1032E5	PR8	VERSAMATE SERIES	VR341D3	PR6	VERSAMATE SERIES	VRE13	PR6	VERSAMATE SERIES	VSQ6034	PR10	VSQ/WWSQ SERIES
VR1032E6	PR8	VERSAMATE SERIES	VR341E1	PR6	VERSAMATE SERIES	VRE23	PR6	VERSAMATE SERIES	VSQ6034FS	PR11	VSQFS SERIES
VR1041	PR8	VERSAMATE SERIES	VR341E2	PR6	VERSAMATE SERIES	VRE33	PR6	VERSAMATE SERIES	VTG	L12	V SERIES
VR1041C3	PR8	VERSAMATE SERIES	VR341E3	PR6	VERSAMATE SERIES	VRE36	PR7	VERSAMATE SERIES	VTGG	L12	V SERIES
VR1041C4	PR8	VERSAMATE SERIES	VR342	PR6	VERSAMATE SERIES	VRE46	PR7	VERSAMATE SERIES	VTGG1-S	L12	V SERIES
VR1041C5	PR8	VERSAMATE SERIES	VR342C1	PR6	VERSAMATE SERIES	VRE56	PR7	VERSAMATE SERIES	VTGG2-S	L12	V SERIES
VR1041C6	PR8	VERSAMATE SERIES	VR342C2	PR6	VERSAMATE SERIES	VRG-100	L12	V SERIES	VTG-S	L12	V SERIES
VR1041E3	PR8	VERSAMATE SERIES	VR342C3	PR6	VERSAMATE SERIES	VRG-200	L12	V SERIES	VUAG-1-100	L6	V SERIES
VR1041E4	PR8	VERSAMATE SERIES	VR342D1	PR6	VERSAMATE SERIES	VRGP-100	L12	V SERIES	VUAG-1-200	L6	V SERIES
VR1041E5	PR8	VERSAMATE SERIES	VR342D2	PR6	VERSAMATE SERIES	VRGP-200	L12	V SERIES	VUAG-2-100	L6	V SERIES
VR1041E6	PR8	VERSAMATE SERIES	VR342D3	PR6	VERSAMATE SERIES	VRME	L12,14	V SERIES	VUAG-2-200	L6	V SERIES
VR1042	PR8	VERSAMATE SERIES	VR342E1	PR6	VERSAMATE SERIES	VRSG-100	L12	V SERIES	VUAGG-1-100	L6	V SERIES
VR1042C3	PR8	VERSAMATE SERIES	VR342E2	PR6	VERSAMATE SERIES	VSI125801140	PR15	VSI SERIES	VUAGG-1-100PX	L10	V SERIES
VR1042C4	PR8	VERSAMATE SERIES	VR342E3	PR6	VERSAMATE SERIES	VSI125P405	PR15	VSI SERIES	VUAGG-1-200	L6	V SERIES
VR1042C5	PR8	VERSAMATE SERIES	VR621	PR7	VERSAMATE SERIES	VSI125P407	PR15	VSI SERIES	VUAGG-1-200PX	L10	V SERIES
VR1042C6	PR8	VERSAMATE SERIES	VR621C3	PR7	VERSAMATE SERIES	VSI125P409	PR15	VSI SERIES	VUAGG-2-100	L6	V SERIES
VR1042E3	PR8	VERSAMATE SERIES	VR621C4	PR7	VERSAMATE SERIES	VSI125P505	PR15	VSI SERIES	VUAGG-2-100PX	L10	V SERIES
VR1042E4	PR8	VERSAMATE SERIES	VR621C5	PR7	VERSAMATE SERIES	VSI125P507	PR15	VSI SERIES	VUAGG-2-200	L6	V SERIES
VR1042E5	PR8	VERSAMATE SERIES	VR621D3	PR7	VERSAMATE SERIES	VSI125P509	PR15	VSI SERIES	VUAGG-2-200PX	L10	V SERIES
VR1042E6	PR8	VERSAMATE SERIES	VR621D4	PR7	VERSAMATE SERIES	VSI125R405	PR15	VSI SERIES	VUCG-1-100	L6	V SERIES
VR20312	PR9	VERSAMATE SERIES	VR621D5	PR7	VERSAMATE SERIES	VSI125R407	PR15	VSI SERIES	VUCG-1-200	L6	V SERIES
VR20312C7	PR9	VERSAMATE SERIES	VR621E3	PR7	VERSAMATE SERIES	VSI125R409	PR15	VSI SERIES	VUCG-2-100	L6	V SERIES
VR20312E5	PR9	VERSAMATE SERIES	VR621E4	PR7	VERSAMATE SERIES	VSI125R505	PR15	VSI SERIES	VUCG-2-200	L6	V SERIES
VR20312E6	PR9	VERSAMATE SERIES	VR621E5	PR7	VERSAMATE SERIES	VSI125R507	PR15	VSI SERIES	VUCGG-1-100	L6	V SERIES
VR20312E7	PR9	VERSAMATE SERIES	VR631	PR7	VERSAMATE SERIES	VSI125R509	PR15	VSI SERIES	VUCGG-1-200	L6	V SERIES
VR20322	PR9	VERSAMATE SERIES	VR631C3	PR7	VERSAMATE SERIES	VSI20P304	PR14,17	VSI SERIES	VUCGG-2-100	L6	V SERIES
VR20322C7	PR9	VERSAMATE SERIES	VR631C4	PR7	VERSAMATE SERIES	VSI20P306	PR14,17	VSI SERIES	VUCGG-2-200	L6	V SERIES
VR20322E5	PR9	VERSAMATE SERIES	VR631C5	PR7	VERSAMATE SERIES	VSI20P307	PR14,17	VSI SERIES	VUHG-1-100	L7	V SERIES
VR20322E6	PR9	VERSAMATE SERIES	VR631D3	PR7	VERSAMATE SERIES	VSI20P405	PR14,17	VSI SERIES	VUHG-1-200	L7	V SERIES
VR20322E7	PR9	VERSAMATE SERIES	VR631D4	PR7	VERSAMATE SERIES	VSI20P407	PR14,17	VSI SERIES	VUHG-2-100	L7	V SERIES
VR20412	PR9	VERSAMATE SERIES	VR631D5	PR7	VERSAMATE SERIES	VSI20P409	PR14,17	VSI SERIES	VUHG-2-200	L7	V SERIES
VR20412C7	PR9	VERSAMATE SERIES	VR631E3	PR7	VERSAMATE SERIES	VSI20P505	PR14,17	VSI SERIES	VUHGG-1-100	L7	V SERIES
VR20412E5	PR9	VERSAMATE SERIES	VR631E4	PR7	VERSAMATE SERIES	VSI20P507	PR14,17	VSI SERIES	VUHGG-1-200	L7	V SERIES
VR20412E6	PR9	VERSAMATE SERIES	VR631E5	PR7	VERSAMATE SERIES	VSI20P509	PR14,17	VSI SERIES	VUHGG-2-100	L7	V SERIES
VR20412E7	PR9	VERSAMATE SERIES	VR632	PR7	VERSAMATE SERIES	VSI20R304	PR14	VSI SERIES	VUHGG-2-200	L7	V SERIES
VR20422	PR9	VERSAMATE SERIES	VR632C3	PR7	VERSAMATE SERIES	VSI20R306	PR14	VSI SERIES	VUXBG-1-100	L6	V SERIES
VR20422C7	PR9	VERSAMATE SERIES	VR632C4	PR7	VERSAMATE SERIES	VSI20R307	PR14	VSI SERIES	VUXBG-1-200	L6	V SERIES
VR20422E5	PR9	VERSAMATE SERIES	VR632C5	PR7	VERSAMATE SERIES	VSI20R405	PR14	VSI SERIES	VUXBG-2-100	L6	V SERIES
VR20422E6	PR9	VERSAMATE SERIES	VR632D3	PR7	VERSAMATE SERIES	VSI20R407	PR14	VSI SERIES	VUXBG-2-200	L6	V SERIES
VR20422E7	PR9	VERSAMATE SERIES	VR632D4	PR7	VERSAMATE SERIES	VSI20R409	PR14	VSI SERIES	VUXBGG-1-100	L6	V SERIES
VR321	PR6	VERSAMATE SERIES	VR632D5	PR7	VERSAMATE SERIES	VSI20R505	PR14	VSI SERIES	VUXBGG-1-100PX	L10	V SERIES
VR321C1	PR6	VERSAMATE SERIES	VR632E3	PR7	VERSAMATE SERIES	VSI20R507	PR14	VSI SERIES	VUXBGG-1-200	L6	V SERIES
VR321C2	PR6	VERSAMATE SERIES	VR632E4	PR7	VERSAMATE SERIES	VSI20R509	PR14	VSI SERIES	VUXBGG-1-200PX	L10	V SERIES
VR321C3	PR6	VERSAMATE SERIES	VR632E5	PR7	VERSAMATE SERIES	VSI30P405	PR14,17	VSI SERIES	VUXBGG-2-100	L6	V SERIES
VR321D1	PR6	VERSAMATE SERIES	VR641	PR7	VERSAMATE SERIES	VSI30P407	PR14,17	VSI SERIES	VUXBGG-2-100PX	L10	V SERIES
VR321D2	PR6	VERSAMATE SERIES	VR641C3	PR7	VERSAMATE SERIES	VSI30P409	PR14,17	VSI SERIES	VUXBGG-2-200	L6	V SERIES
VR321D3	PR6	VERSAMATE SERIES	VR641C4	PR7	VERSAMATE SERIES	VSI30P505	PR14,17	VSI SERIES	VUXBGG-2-200PX	L10	V SERIES
VR321E1	PR6	VERSAMATE SERIES	VR641C5	PR7	VERSAMATE SERIES	VSI30P507	PR14,17	VSI SERIES	VUXG-1-100	L6	V SERIES
VR321E2	PR6	VERSAMATE SERIES	VR641D3	PR7	VERSAMATE SERIES	VSI30P509	PR14,17	VSI SERIES	VUXG-1-200	L6	V SERIES
VR321E3	PR6	VERSAMATE SERIES	VR641D4	PR7	VERSAMATE SERIES	VSI30R405	PR14	VSI SERIES	VUXG-2-100	L6	V SERIES
VR331	PR6	VERSAMATE SERIES	VR641D5	PR7	VERSAMATE SERIES	VSI30R407	PR14	VSI SERIES	VUXG-2-200	L6	V SERIES
VR331C1	PR6	VERSAMATE SERIES	VR641E3	PR7	VERSAMATE SERIES	VSI30R409	PR14	VSI SERIES	VUXGG-1-100	L6	V SERIES
VR331C2	PR6	VERSAMATE SERIES	VR641E4	PR7	VERSAMATE SERIES	VSI30R505	PR14	VSI SERIES	VUXGG-1-100PX	L10	V SERIES
VR331C3	PR6	VERSAMATE SERIES	VR641E5	PR7	VERSAMATE SERIES	VSI30R507	PR14	VSI SERIES	VUXGG-1-200	L6	V SERIES
VR331D1	PR6	VERSAMATE SERIES	VR642	PR7	VERSAMATE SERIES	VSI30R509	PR14	VSI SERIES	VUXGG-1-200PX	L10	V SERIES
VR331D2	PR6	VERSAMATE SERIES	VR642C3	PR7	VERSAMATE SERIES	VSI63801140	PR15	VSI SERIES	VUXGG-2-100	L6	V SERIES
VR331D3	PR6	VERSAMATE SERIES	VR642C4	PR7	VERSAMATE SERIES	VSI63P405	PR15	VSI SERIES	VUXGG-2-100PX	L10	V SERIES
VR331E1	PR6	VERSAMATE SERIES	VR642C5	PR7	VERSAMATE SERIES	VSI63P407	PR15	VSI SERIES	VUXGG-2-200	L6	V SERIES
VR331E2	PR6	VERSAMATE SERIES	VR642D3	PR7	VERSAMATE SERIES	VSI63P409	PR15	VSI SERIES	VUXGG-2-200PX	L10	V SERIES
VR331E3	PR6	VERSAMATE SERIES	VR642D4	PR7	VERSAMATE SERIES	VSI63P505	PR15	VSI SERIES	VWSQ3023	PR10	VSQ/WWSQ SERIES
VR332	PR6	VERSAMATE SERIES	VR642D5	PR7	VERSAMATE SERIES	VSI63P507	PR15	VSI SERIES	VWSQ3034	PR10	VSQ/WWSQ SERIES
VR332C1	PR6	VERSAMATE SERIES	VR642E3	PR7	VERSAMATE SERIES	VSI63P509	PR15	VSI SERIES	VWSQ6023	PR10	VSQ/WWSQ SERIES
VR332C2	PR6	VERSAMATE SERIES	VR642E4	PR7	VERSAMATE SERIES	VSI63R405	PR15	VSI SERIES	VWSQ6034	PR10	VSQ/WWSQ SERIES



PART #	SEC./PG	PROD. GRP.	PART #	SEC./PG	PROD. GRP.	PART #	SEC./PG	PROD. GRP.	PART #	SEC./PG	PROD. GRP.
VXA-1	L11	V SERIES	XCS-0A9	C21	XCS SERIES	XCS-2B30-RL	C22	XCS SERIES	XCS-5B5	C21	XCS SERIES
VXA-2	L11	V SERIES	XCS-0B1	C21	XCS SERIES	XCS-2B30RL-GL	C22	XCS SERIES	XCS-5B7	C21	XCS SERIES
VXAB	L11	V SERIES	XCS-0B13-C	C22	XCS SERIES	XCS-2B4	C21	XCS SERIES	XCS-5K2A1D	C23	XCS SERIES
VXAG-110	L7	V SERIES	XCS-0B13-0	C22	XCS SERIES	XCS-2B4-U	C21	XCS SERIES	XCS-5K3C4D	C23	XCS SERIES
VXAG-120	L7	V SERIES	XCS-0B13-U	C22	XCS SERIES	XCS-2B5	C21	XCS SERIES	XCS-5S2A1	C23	XCS SERIES
VXAG-210	L7	V SERIES	XCS-0B2	C21	XCS SERIES	XCS-2B7	C21	XCS SERIES	XCS-5S3C4	C23	XCS SERIES
VXAG-220	L7	V SERIES	XCS-0B24-CL	C22	XCS SERIES	XCS-2K2A1D	C23	XCS SERIES	XCSLED-A110	C27	X/XCS SERIES
VXAGG-110	L7	V SERIES	XCS-0B24-GL	C22	XCS SERIES	XCS-2K3C4D	C23	XCS SERIES	XCSLED-G110	C27	X/XCS SERIES
VXAGG-120	L7	V SERIES	XCS-0B24-RL	C22	XCS SERIES	XCS-2S2A1	C23	XCS SERIES	XCSLED-R110	C27	X/XCS SERIES
VXAGG-210	L7	V SERIES	XCS-0B3	C21	XCS SERIES	XCS-2S3C4	C23	XCS SERIES	XCSNPPB	C26	XCS SERIES
VXAGG-220	L7	V SERIES	XCS-0B30-CL	C22	XCS SERIES	XCS-42K2A5D	C23	XCS SERIES	XCSNPPBM	C26	XCS SERIES
VXFC-100 N34	L11	V SERIES	XCS-0B30-GL	C22	XCS SERIES	XCS-42K2L3F22D	C25	XCS SERIES	XCSNPPL	C26	XCS SERIES
VXFC-200 N34	L11	V SERIES	XCS-0B30-RL	C22	XCS SERIES	XCS-42K3C5D	C23	XCS SERIES	XCSNPSS2	C26	XCS SERIES
VZRG1550	L40,48,95	VM SERIES	XCS-0B30RL-GL	C22	XCS SERIES	XCS-42K3L6G32D	C25	XCS SERIES	XCSNPSS3	C26	XCS SERIES
VZRG-1550	L19,27	MB SERIES	XCS-0B3-PIT	L212	XCS SERIES	XCS-42K3M6G32D	C25	XCS SERIES	XCS-0MMR3	C26	XCS SERIES
VZRG1550T	L40,48,95	VM SERIES	XCS-0B4	C21	XCS SERIES	XCS-42K3R6G32D	C25	XCS SERIES	XDBB	C26	XCS SERIES
VZRG2520	L48,95	VM SERIES	XCS-0B4-U	C21	XCS SERIES	XCS-42S2A5	C23	XCS SERIES	XDBG	C26	XCS SERIES
VZRG2520T	L95	VM SERIES	XCS-0B5	C21	XCS SERIES	XCS-42S2L3F	C24	XCS SERIES	XDBR	C26	XCS SERIES
VZRG2550	L40,48,95	VM SERIES	XCS-0B7	C21	XCS SERIES	XCS-42S3C5	C23	XCS SERIES	XDS000C	DE8	XEDS/XDS SERIES
VZRG2550T	L40,48,95	VM SERIES	XCS-0K2A1D	C23	XCS SERIES	XCS-42S3L6G	C24	XCS SERIES	XDS-2003AA	DE8	XEDS/XDS SERIES
VZRG4020	L48,95	VM SERIES	XCS-0K2A5D	C23	XCS SERIES	XCS-42S3M6G	C24	XCS SERIES	XECD-154A1	DE2	XEC SERIES
VZRG4020T	L95	VM SERIES	XCS-0K2L3F22D	C25	XCS SERIES	XCS-42S3R6G	C24	XCS SERIES	XECD-154A2	DE2	XEC SERIES
VZRG4050	L48,95	VM SERIES	XCS-0K3C4D	C23	XCS SERIES	XCS-45K2A5D	C23	XCS SERIES	XECD-204A1	DE2	XEC SERIES
VZRG4050T	L95	VM SERIES	XCS-0K3C5D	C23	XCS SERIES	XCS-45K2L3F22D	C25	XCS SERIES	XECD-204A2	DE2	XEC SERIES
VZRP175	L48,95	VM SERIES	XCS-0K3L6G32D	C25	XCS SERIES	XCS-45K3C5D	C23	XCS SERIES	XECD-304A1	DE2	XEC SERIES
WH-0	F28	WH SERIES	XCS-0K3M6G32D	C25	XCS SERIES	XCS-45K3L6G32D	C25	XCS SERIES	XECD-304A2	DE2	XEC SERIES
WH-1	F28	WH SERIES	XCS-0K3R6G32D	C25	XCS SERIES	XCS-45K3M6G32D	C25	XCS SERIES	XECD-404A1	DE2	XEC SERIES
WH-2	F28	WH SERIES	XCS-0MMG3	C21	XCS SERIES	XCS-45K3R6G32D	C25	XCS SERIES	XECD-404A2	DE2	XEC SERIES
WH-3	F28	WH SERIES	XCS-0MMK3	C21	XCS SERIES	XCS-45S2A5	C23	XCS SERIES	XECD-4A	DE2	XEC SERIES
WH-4	F28	WH SERIES	XCS-0MMR3	C21	XCS SERIES	XCS-45S2L3F	C24	XCS SERIES	XECE-154A3	DE2	XEC SERIES
WH-5	F28	WH SERIES	XCS-0S2A1	C23	XCS SERIES	XCS-45S3C5	C23	XCS SERIES	XECE-156A2	DE2	XEC SERIES
WH-6	F28	WH SERIES	XCS-0S2A5	C23	XCS SERIES	XCS-45S3L6G	C24	XCS SERIES	XECE-156A3	DE2	XEC SERIES
WH-7	F28	WH SERIES	XCS-0S2L3F	C24	XCS SERIES	XCS-45S3M6G	C24	XCS SERIES	XECE-204A3	DE2	XEC SERIES
WH-8	F28	WH SERIES	XCS-0S3C4	C23	XCS SERIES	XCS-45S3R6G	C24	XCS SERIES	XECE-206A2	DE2	XEC SERIES
WH-9	F28	WH SERIES	XCS-0S3C5	C23	XCS SERIES	XCS-4A15	C22	XCS SERIES	XECE-206A3	DE2	XEC SERIES
X-10	C26,37	XCS SERIES	XCS-0S3L6G	C24	XCS SERIES	XCS-4A8	C21	XCS SERIES	XECE-304A3	DE2	XEC SERIES
X-11	C37	GCS/SWBC SERIES	XCS-0S3M6G	C24	XCS SERIES	XCS-4A9	C21	XCS SERIES	XECE-306A2	DE2	XEC SERIES
X-12	C37	GCS/SWBC SERIES	XCS-0S3R6G	C24	XCS SERIES	XCS-4B1	C21	XCS SERIES	XECE-306A3	DE2	XEC SERIES
X17	F6	DURALOY 7 SERIES	XCS-1A15	C22	XCS SERIES	XCS-4B13-C	C22	XCS SERIES	XECE-404A3	DE2	XEC SERIES
X17SA	F6	DURALOY 7 SERIES	XCS-1A8	C21	XCS SERIES	XCS-4B13-0	C22	XCS SERIES	XECE-406A2	DE2	XEC SERIES
X18	F13	DURALOY 8 SERIES	XCS-1A9	C21	XCS SERIES	XCS-4B13-U	C22	XCS SERIES	XECE-406A3	DE2	XEC SERIES
X27	F6	DURALOY 7 SERIES	XCS-1B1	C21	XCS SERIES	XCS-4B2	C21	XCS SERIES	XECE-6A	DE2	XEC SERIES
X27SA	F6	DURALOY 7 SERIES	XCS-1B13-C	C22	XCS SERIES	XCS-4B24-CL	C22	XCS SERIES	XECF-1004A1	DE2	XEC SERIES
X28	F13	DURALOY 8 SERIES	XCS-1B13-0	C22	XCS SERIES	XCS-4B24-GL	C22	XCS SERIES	XECF-1004A2	DE2	XEC SERIES
X37	F6	DURALOY 7 SERIES	XCS-1B13-U	C22	XCS SERIES	XCS-4B24-RL	C22	XCS SERIES	XECF-1004A3	DE2	XEC SERIES
X37SA	F6	DURALOY 7 SERIES	XCS-1B2	C21	XCS SERIES	XCS-4B3	C21	XCS SERIES	XECF-1006A2	DE2	XEC SERIES
X38	F13	DURALOY 8 SERIES	XCS-1B24-CL	C22	XCS SERIES	XCS-4B30-CL	C22	XCS SERIES	XECF-1006A3	DE2	XEC SERIES
X448	F13	DURALOY 8 SERIES	XCS-1B24-GL	C22	XCS SERIES	XCS-4B30-GL	C22	XCS SERIES	XECF-504A1	DE2	XEC SERIES
X47	F6	DURALOY 7 SERIES	XCS-1B24-RL	C22	XCS SERIES	XCS-4B30-RL	C22	XCS SERIES	XECF-504A2	DE2	XEC SERIES
X47SA	F6	DURALOY 7 SERIES	XCS-1B3	C21	XCS SERIES	XCS-4B30RL-GL	C22	XCS SERIES	XECF-504A3	DE2	XEC SERIES
X57	F6	DURALOY 7 SERIES	XCS-1B30-CL	C22	XCS SERIES	XCS-4B4	C21	XCS SERIES	XECF-506A2	DE2	XEC SERIES
X57SA	F6	DURALOY 7 SERIES	XCS-1B30-GL	C22	XCS SERIES	XCS-4B4-U	C21	XCS SERIES	XECF-506A3	DE2	XEC SERIES
X58	F13	DURALOY 8 SERIES	XCS-1B30-RL	C22	XCS SERIES	XCS-4B5	C21	XCS SERIES	XECF-604A1	DE2	XEC SERIES
X-60	C26,37	XCS SERIES	XCS-1B30RL-GL	C22	XCS SERIES	XCS-4B7	C21	XCS SERIES	XECF-604A2	DE2	XEC SERIES
X-61	C37	GCS/SWBC SERIES	XCS-1B4	C21	XCS SERIES	XCS-4K2A1D	C23	XCS SERIES	XECF-604A3	DE2	XEC SERIES
X-62	C37	GCS/SWBC SERIES	XCS-1B4-U	C21	XCS SERIES	XCS-4K3C4D	C23	XCS SERIES	XECF-606A2	DE2	XEC SERIES
X-64	C26	XCS SERIES	XCS-1B5	C21	XCS SERIES	XCS-4S2A1	C23	XCS SERIES	XECF-606A3	DE2	XEC SERIES
X67	F6	DURALOY 7 SERIES	XCS-1B7	C21	XCS SERIES	XCS-4S3C4	C23	XCS SERIES	XECF-6A	DE2	XEC SERIES
X67SA	F6	DURALOY 7 SERIES	XCS-1K2A1D	C23	XCS SERIES	XCS-5A15	C22	XCS SERIES	XECF-704A1	DE2	XEC SERIES
X68	F13	DURALOY 8 SERIES	XCS-1K3C4D	C23	XCS SERIES	XCS-5A8	C21	XCS SERIES	XECF-704A2	DE2	XEC SERIES
X-83	C37	GCS/SWBC SERIES	XCS-1S2A1	C23	XCS SERIES	XCS-5A9	C21	XCS SERIES	XECF-704A3	DE2	XEC SERIES
X-84	C37	GCS/SWBC SERIES	XCS-1S3C4	C23	XCS SERIES	XCS-5B1	C21	XCS SERIES	XECF-706A2	DE2	XEC SERIES
X-85	C37	GCS/SWBC SERIES	XCS-2A15	C22	XCS SERIES	XCS-5B13-C	C22	XCS SERIES	XECF-706A3	DE2	XEC SERIES
XAL-458	C29	XAL/XAS SERIES	XCS-2A8	C21	XCS SERIES	XCS-5B13-0	C22	XCS SERIES	XECF-804A1	DE2	XEC SERIES
XAL-53	C29	XAL/XAS SERIES	XCS-2A9	C21	XCS SERIES	XCS-5B13-U	C22	XCS SERIES	XECF-804A2	DE2	XEC SERIES
XALB-4	F59	XALB SERIES	XCS-2B1	C21	XCS SERIES	XCS-5B2	C21	XCS SERIES	XECF-804A3	DE2	XEC SERIES
XALB-5	F59	XALB SERIES	XCS-2B13-C	C22	XCS SERIES	XCS-5B24-CL	C22	XCS SERIES	XECF-806A2	DE2	XEC SERIES
XALB-6	F59	XALB SERIES	XCS-2B13-0	C22	XCS SERIES	XCS-5B24-GL	C22	XCS SERIES	XECF-806A3	DE2	XEC SERIES
XALB-7	F59	XALB SERIES	XCS-2B13-U	C22	XCS SERIES	XCS-5B24-RL	C22	XCS SERIES	XECF-904A1	DE2	XEC SERIES
XALB-8	F59	XALB SERIES	XCS-2B2	C21	XCS SERIES	XCS-5B3	C21	XCS SERIES	XECF-904A2	DE2	XEC SERIES
XAS-53	C29	XAL/XAS SERIES	XCS-2B24-CL	C22	XCS SERIES	XCS-5B30-CL	C22	XCS SERIES	XECF-904A3	DE2	XEC SERIES
XC-1	F59	X SERIES	XCS-2B24-GL	C22	XCS SERIES	XCS-5B30-GL	C22	XCS SERIES	XECF-906A2	DE2	XEC SERIES
XC-2	F59	X SERIES	XCS-2B24-RL	C22	XCS SERIES	XCS-5B30-RL	C22	XCS SERIES	XECF-906A3	DE2	XEC SERIES
XC-3	F59	X SERIES	XCS-2B3	C21	XCS SERIES	XCS-5B30RL-GL	C22	XCS SERIES	XEDS-100	DE8	XEDS/XDS SERIES
XCS-0A15	C22	XCS SERIES	XCS-2B30-CL	C22	XCS SERIES	XCS-5B4	C21	XCS SERIES	XEDS-100A	DE8	XEDS/XDS SERIES
XCS-0A8	C21	XCS SERIES	XCS-2B30-GL	C22	XCS SERIES	XCS-5B4-U	C21	XCS SERIES	XEDS-100AA	DE8	XEDS/XDS SERIES



PART #	SEC./PG	PROD.GRP.	PART #	SEC./PG	PROD.GRP.	PART #	SEC./PG	PROD.GRP.	PART #	SEC./PG	PROD.GRP.
XEDS-30	DE8	XEDS/XDS SERIES	XS-12C	C28	XS SERIES	Y-5M	F66	Y SERIES	YOWEA200-FH19	C59	XMSW SERIES
XEDS-30A	DE8	XEDS/XDS SERIES	XS-12D	C28	XS SERIES	Y7000ZH	C50	Y7 SERIES	YOWEA200-FH20	C59	XMSW SERIES
XEDS-30AA	DE8	XEDS/XDS SERIES	XS-13C	C28	XS SERIES	Y7000ZS	C50	Y7 SERIES	YOWEA200-FH21	C59	XMSW SERIES
XEDS-60	DE8	XEDS/XDS SERIES	XS-15C	C28	XS SERIES	Y7001ZH	C50	Y7 SERIES	YOWEA200-FH22	C59	XMSW SERIES
XEDS-60A	DE8	XEDS/XDS SERIES	XS-16C	C28	XS SERIES	Y7001ZS	C50	Y7 SERIES	YOWEA200-FH23	C59	XMSW SERIES
XEDS-60AA	DE8	XEDS/XDS SERIES	XS-17C	C28	XS SERIES	Y7002ZH	C50	Y7 SERIES	YOWEA200-FH24	C59	XMSW SERIES
XEDS-A	DE8	XEDS/XDS SERIES	XS-18C	C28	XS SERIES	Y7002ZS	C50	Y7 SERIES	YOWEA200-FH25	C59	XMSW SERIES
XEDS-B	DE8	XEDS/XDS SERIES	XS-1C	C28	XS SERIES	Y7010ZH	C50	Y7 SERIES	YOWEA200-FH26	C59	XMSW SERIES
XFH-21	L221	XFH SERIES	XS-1D	C28	XS SERIES	Y7010ZS	C50	Y7 SERIES	YOWEA200-FH27	C59	XMSW SERIES
XFH-22	L221	XFH SERIES	XS-21C	C28	XS SERIES	Y7011ZH	C50	Y7 SERIES	YOWEA200-FH28	C59	XMSW SERIES
XHL-100	L14,PR26	XHL SERIES	XS-21D	C28	XS SERIES	Y7011ZS	C50	Y7 SERIES	YOWEA200-FH29	C59	XMSW SERIES
XHLF26	L14,PR26	XHLF SERIES	XS-22C	C28	XS SERIES	Y7012ZH	C50	Y7 SERIES	YOWEA200-FH30	C59	XMSW SERIES
XHLF26-50KP	L14,PR26	XHLF SERIES	XS-22D	C28	XS SERIES	Y7012ZS	C50	Y7 SERIES	YOWEA200-FH31	C59	XMSW SERIES
XHLG	L14,PR26	XHL SERIES	XS-23C	C28	XS SERIES	YOKK-10285	C38	GO SERIES	YOWEA200-FH32	C59	XMSW SERIES
XHL-GL	L14,PR26	XHL SERIES	XS-25C	C28	XS SERIES	YOKK-10286	C38	GO SERIES	YOWEA200-FH33	C59	XMSW SERIES
XHLS	L14,PR26	XHL SERIES	XS-26C	C28	XS SERIES	YOKK-10287	C38	GO SERIES	YOWEA200-FH34	C59	XMSW SERIES
XJB-164812	E16	XJB SERIES	XS-27C	C28	XS SERIES	YOKK-10291	C38	GO SERIES	YOWEA200-FH35	C59	XMSW SERIES
XJB-20328	E16	XJB SERIES	XS-28C	C28	XS SERIES	YOKK15214	C29	XAL/XAS SERIES	YOWEA200-FH36	C59	XMSW SERIES
XJB-204010	E16	XJB SERIES	XS-2C	C28	XS SERIES	YOKK-9484-2	C38	GO SERIES	YOWEA200-FH37	C59	XMSW SERIES
XJB-242416	E16	XJB SERIES	XS-2D	C28	XS SERIES	YOSD-A.49	C54	XSD/XSX/FXSD/FXSX SER	YOWEA200-FH38	C59	XMSW SERIES
XJB-5106	E16	XJB SERIES	XS-3C	C28	XS SERIES	YOSD-A.71	C54	XSD/XSX/FXSD/FXSX SER	YOWEA200-FH39	C59	XMSW SERIES
XJB-5136	E16	XJB SERIES	XS-41C	C28	XS SERIES	YOSD-A.78	C54	XSD/XSX/FXSD/FXSX SER	YOWEA200-FH40	C59	XMSW SERIES
XJB-8136	E16	XJB SERIES	XS-41D	C28	XS SERIES	YOSD-A.86	C54	XSD/XSX/FXSD/FXSX SER	YOWEA200-FH41	C59	XMSW SERIES
XJB-8156	E16	XJB SERIES	XS-42C	C28	XS SERIES	YOSD-A.95	C54	XSD/XSX/FXSD/FXSX SER	YOWEA200-FH42	C59	XMSW SERIES
XJB-8158	E16	XJB SERIES	XS-42D	C28	XS SERIES	YOSD-A1.02	C54	XSD/XSX/FXSD/FXSX SER	YOWEA200-FH43	C59	XMSW SERIES
XJB-8186	E16	XJB SERIES	XS-43C	C28	XS SERIES	YOSD-A1.16	C54	XSD/XSX/FXSD/FXSX SER	YOWEA200-FH44	C59	XMSW SERIES
XJB-8188	E16	XJB SERIES	XS-45C	C28	XS SERIES	YOSD-A1.25	C54	XSD/XSX/FXSD/FXSX SER	YOWEA200-FH45	C59	XMSW SERIES
XLB-1	F59	X SERIES	XS-46C	C28	XS SERIES	YOSD-A1.39	C54	XSD/XSX/FXSD/FXSX SER	YOWEA200-FH46	C59	XMSW SERIES
XLB-2	F59	X SERIES	XS-47C	C28	XS SERIES	YOSD-A1.54	C54	XSD/XSX/FXSD/FXSX SER	YOWEA200-FH47	C59	XMSW SERIES
XLB-3	F59	X SERIES	XS-48C	C28	XS SERIES	YOSD-A1.63	C54	XSD/XSX/FXSD/FXSX SER	YOWEA200-FH48	C59	XMSW SERIES
XLL-1	F59	X SERIES	XS-4C	C28	XS SERIES	YOSD-A1.75	C54	XSD/XSX/FXSD/FXSX SER	YOWEA200-FH49	C59	XMSW SERIES
XLL-2	F59	X SERIES	XS-51C	C28	XS SERIES	YOSD-A1.86	C54	XSD/XSX/FXSD/FXSX SER	YOWEA200-FH50	C59	XMSW SERIES
XLL-3	F59	X SERIES	XS-51D	C28	XS SERIES	YOSD-A1.99	C54	XSD/XSX/FXSD/FXSX SER	YOWEA200-FH51	C59	XMSW SERIES
XLOA	C26	XCS SERIES	XS-52C	C28	XS SERIES	YOSD-A11.0	C54	XSD/XSX/FXSD/FXSX SER	YOWEA200-FH52	C59	XMSW SERIES
XLOB	C26	XCS SERIES	XS-52D	C28	XS SERIES	YOSD-A11.9	C54	XSD/XSX/FXSD/FXSX SER	YOWEA200-FH53	C59	XMSW SERIES
XLR-1	F59	X SERIES	XS-53C	C28	XS SERIES	YOSD-A13.2	C54	XSD/XSX/FXSD/FXSX SER	YOWEA200-FH54	C59	XMSW SERIES
XLR-2	F59	X SERIES	XS-55C	C28	XS SERIES	YOSD-A14.1	C54	XSD/XSX/FXSD/FXSX SER	YOWEA200-FH55	C59	XMSW SERIES
XLR-3	F59	X SERIES	XS-56C	C28	XS SERIES	YOSD-A14.8	C54	XSD/XSX/FXSD/FXSX SER	YOWEA200-FH56	C59	XMSW SERIES
XLRT-21	F59	X SERIES	XS-57C	C28	XS SERIES	YOSD-A16.2	C54	XSD/XSX/FXSD/FXSX SER	YOWEA200-FH57	C59	XMSW SERIES
XLRT-22	F59	X SERIES	XS-58C	C28	XS SERIES	YOSD-A17.9	C54	XSD/XSX/FXSD/FXSX SER	YOWEOT2B	C27	X/XCS SERIES
XMSW-00T	C59	XMSW SERIES	XS-5C	C28	XS SERIES	YOSD-A19.8	C54	XSD/XSX/FXSD/FXSX SER	YOWEOT2D	C27	X/XCS SERIES
XMSW-0BT	C59	XMSW SERIES	XS-6C	C28	XS SERIES	YOSD-A2.31	C54	XSD/XSX/FXSD/FXSX SER	ZHLN-170	F85	ZHLN SERIES
XMSW-0CT	C59	XMSW SERIES	XS-7C	C28	XS SERIES	YOSD-A2.57	C54	XSD/XSX/FXSD/FXSX SER	ZHLN-270	F85	ZHLN SERIES
XMSW-1BT	C59	XMSW SERIES	XS-8C	C28	XS SERIES	YOSD-A2.81	C54	XSD/XSX/FXSD/FXSX SER	ZHLN-370	F85	ZHLN SERIES
XMSW-1CT	C59	XMSW SERIES	XSD-01	C53	XS SERIES	YOSD-A21.3	C54	XSD/XSX/FXSD/FXSX SER	ZHLN-470	F85	ZHLN SERIES
XMSW-DBT	C59	XMSW SERIES	XSD-02	C53	XS SERIES	YOSD-A25.2	C54	XSD/XSX/FXSD/FXSX SER	ZHLN-570	F85	ZHLN SERIES
XNS-1C	C28	XS SERIES	XSD-11	C53	XS SERIES	YOSD-A3.61	C54	XSD/XSX/FXSD/FXSX SER	ZHLN-670	F85	ZHLN SERIES
XNS-1D	C28	XS SERIES	XSD-12	C53	XS SERIES	YOSD-A3.95	C54	XSD/XSX/FXSD/FXSX SER	ZHLN-770	F85	ZHLN SERIES
XNS-2C	C28	XS SERIES	XSD-21	C53	XS SERIES	YOSD-A4.32	C54	XSD/XSX/FXSD/FXSX SER	ZHLN-870	F85	ZHLN SERIES
XNS-2D	C28	XS SERIES	XSD-22	C53	XS SERIES	YOSD-A4.79	C54	XSD/XSX/FXSD/FXSX SER	ZHLN-970	F85	ZHLN SERIES
XNS-3C	C28	XS SERIES	XSD-41	C53	XS SERIES	YOSD-A5.30	C54	XSD/XSX/FXSD/FXSX SER	ZN102	F74	Z SERIES
XNS-5C	C28	XS SERIES	XSD-42	C53	XS SERIES	YOSD-A5.78	C54	XSD/XSX/FXSD/FXSX SER	ZN102CR	F76	Z SERIES
XNS-6C	C28	XS SERIES	XSD-51	C53	XS SERIES	YOSD-A6.20	C54	XSD/XSX/FXSD/FXSX SER	ZN102CR-EX	F80	Z SERIES
XNS-7C	C28	XS SERIES	XSD-52	C53	XS SERIES	YOSD-A6.99	C54	XSD/XSX/FXSD/FXSX SER	ZN102-EX	F78	Z SERIES
XNS-8C	C28	XS SERIES	XSX-12	C53	XS SERIES	YOSD-A7.65	C54	XSD/XSX/FXSD/FXSX SER	ZN103	F74	Z SERIES
XO1AG	C26	XCS SERIES	XSX-13	C53	XS SERIES	YOSD-A8.38	C54	XSD/XSX/FXSD/FXSX SER	ZN103CR	F76	Z SERIES
XO1AK	C26	XCS SERIES	XSX-2	C53	XS SERIES	YOSD-A9.25	C54	XSD/XSX/FXSD/FXSX SER	ZN103CR-EX	F80	Z SERIES
XO1AR	C26	XCS SERIES	XSX-22	C53	XS SERIES	YOSD-A9.85	C54	XSD/XSX/FXSD/FXSX SER	ZN103-EX	F78	Z SERIES
XO1BG	C26	XCS SERIES	XSX-23	C53	XS SERIES	YOSY120MB	C27,39	X/XCS SERIES	ZN103-EX-MG	F79	Z SERIES
XO1BK	C26	XCS SERIES	XSX-3	C53	XS SERIES	YOSY24MB	C27,39	X/XCS SERIES	ZN103-MG	F75	Z SERIES
XO1BR	C26	XCS SERIES	XSX-42	C53	XS SERIES	YOWEA200-FH03	C59	XMSW SERIES	ZN105	F74	Z SERIES
XQ21BA	C26	XCS SERIES	XSX-43	C53	XS SERIES	YOWEA200-FH04	C59	XMSW SERIES	ZN105CR	F76	Z SERIES
XQ21BC	C26	XCS SERIES	XSX-52	C53	XS SERIES	YOWEA200-FH05	C59	XMSW SERIES	ZN105CR-EX	F80	Z SERIES
XQ21BG	C26	XCS SERIES	XSX-53	C53	XS SERIES	YOWEA200-FH06	C59	XMSW SERIES	ZN105CR-EX-MG	F81	Z SERIES
XQ21BR	C26	XCS SERIES	XT-1	F59	X SERIES	YOWEA200-FH07	C59	XMSW SERIES	ZN105-EX	F78	Z SERIES
XO3AG	C26	XCS SERIES	XT-2	F59	X SERIES	YOWEA200-FH08	C59	XMSW SERIES	ZN105-EX-MG	F79	Z SERIES
XO3AK	C26	XCS SERIES	XT-3	F59	X SERIES	YOWEA200-FH09	C59	XMSW SERIES	ZN105-MG	F75	Z SERIES
XO3AR	C26	XCS SERIES	Y-1	F66	Y SERIES	YOWEA200-FH10	C59	XMSW SERIES	ZN108	F74	Z SERIES
XO3BG	C26	XCS SERIES	Y-1M	F66	Y SERIES	YOWEA200-FH11	C59	XMSW SERIES	ZN108CR	F76	Z SERIES
XO3BK	C26	XCS SERIES	Y-2	F66	Y SERIES	YOWEA200-FH12	C59	XMSW SERIES	ZN108CR-EX	F80	Z SERIES
XO3BR	C26	XCS SERIES	Y-2M	F66	Y SERIES	YOWEA200-FH13	C59	XMSW SERIES	ZN108CR-EX-MG	F81	Z SERIES
XO5BR	C26	XCS SERIES	Y-3	F66	Y SERIES	YOWEA200-FH14	C59	XMSW SERIES	ZN108-EX	F78	Z SERIES
XOAP	C26	XCS SERIES	Y-3M	F66	Y SERIES	YOWEA200-FH15	C59	XMSW SERIES	ZN108-EX-MG	F79	Z SERIES
XOBP	C26	XCS SERIES	Y-4	F66	Y SERIES	YOWEA200-FH16	C59	XMSW SERIES	ZN108-MG	F75	Z SERIES
XS-11C	C28	XS SERIES	Y-4M	F66	Y SERIES	YOWEA200-FH17	C59	XMSW SERIES	ZN109	F74	Z SERIES
XS-11D	C28	XS SERIES	Y-5	F66	Y SERIES	YOWEA200-FH18	C59	XMSW SERIES	ZN109CR	F76	Z SERIES



PART #	SEC./PG	PROD. GRP.	PART #	SEC./PG	PROD. GRP.	PART #	SEC./PG	PROD. GRP.	PART #	SEC./PG	PROD. GRP.
ZN109CR-EX	F80	Z SERIES	ZS004CR-EX	F80	Z SERIES	ZS208CR-EX-MG	F81	Z SERIES	ZS415	F73	Z SERIES
ZN109-EX	F78	Z SERIES	ZS004CR-EX-MG	F81	Z SERIES	ZS208-EX	F77	Z SERIES	ZS415-EX	F77	Z SERIES
ZN109-EX-MG	F79	Z SERIES	ZS004-EX	F77	Z SERIES	ZS208-EX-MG	F79	Z SERIES	ZS511	F73	Z SERIES
ZN109-MG	F75	Z SERIES	ZS004-EX-MG	F79	Z SERIES	ZS208-MG	F75	Z SERIES	ZS511-EX	F77	Z SERIES
ZN208	F74	Z SERIES	ZS004-MG	F75	Z SERIES	ZS209	F73	Z SERIES	ZS512	F73	Z SERIES
ZN208CR	F76	Z SERIES	ZS006	F73	Z SERIES	ZS209CR	F76	Z SERIES	ZS512-EX	F77	Z SERIES
ZN208CR-EX	F80	Z SERIES	ZS006CR	F76	Z SERIES	ZS209CR-EX	F80	Z SERIES	ZS513	F73	Z SERIES
ZN208CR-EX-MG	F81	Z SERIES	ZS006CR-EX	F80	Z SERIES	ZS209CR-EX-MG	F81	Z SERIES	ZS513-EX	F77	Z SERIES
ZN208-EX	F78	Z SERIES	ZS006CR-EX-MG	F81	Z SERIES	ZS209-EX	F77	Z SERIES	ZS514	F73	Z SERIES
ZN208-EX-MG	F79	Z SERIES	ZS006-EX	F77	Z SERIES	ZS209-EX-MG	F79	Z SERIES	ZS514-EX	F77	Z SERIES
ZN208-MG	F75	Z SERIES	ZS006-EX-MG	F79	Z SERIES	ZS209-MG	F75	Z SERIES	ZS515	F73	Z SERIES
ZN209	F74	Z SERIES	ZS006-MG	F75	Z SERIES	ZS210	F73	Z SERIES	ZS515-EX	F77	Z SERIES
ZN209CR	F76	Z SERIES	ZS007	F73	Z SERIES	ZS210CR	F76	Z SERIES	ZS516	F73	Z SERIES
ZN209CR-EX	F80	Z SERIES	ZS007CR	F76	Z SERIES	ZS210CR-EX	F80	Z SERIES	ZS516-EX	F77	Z SERIES
ZN209CR-EX-MG	F81	Z SERIES	ZS007CR-EX	F80	Z SERIES	ZS210CR-EX-MG	F81	Z SERIES	ZS517	F73	Z SERIES
ZN209-EX	F78	Z SERIES	ZS007-EX	F77	Z SERIES	ZS210-EX	F77	Z SERIES	ZS517-EX	F77	Z SERIES
ZN209-EX-MG	F79	Z SERIES	ZS007-EX-MG	F79	Z SERIES	ZS210-EX-MG	F79	Z SERIES	ZS518	F73	Z SERIES
ZN209-MG	F75	Z SERIES	ZS007-MG	F75	Z SERIES	ZS210-MG	F75	Z SERIES	ZS518-EX	F77	Z SERIES
ZN210	F74	Z SERIES	ZS101	F73	Z SERIES	ZS211	F73	Z SERIES	ZS520	F73	Z SERIES
ZN210CR	F76	Z SERIES	ZS101CR	F76	Z SERIES	ZS211CR	F76	Z SERIES	ZS520-EX	F77	Z SERIES
ZN210CR-EX	F80	Z SERIES	ZS101CR-EX	F80	Z SERIES	ZS211CR-EX	F80	Z SERIES	ZS615	F73	Z SERIES
ZN210CR-EX-MG	F81	Z SERIES	ZS101-EX	F77	Z SERIES	ZS211-EX	F77	Z SERIES	ZS615-EX	F77	Z SERIES
ZN210-EX	F78	Z SERIES	ZS102	F73	Z SERIES	ZS211-EX-MG	F79	Z SERIES	ZS616	F73	Z SERIES
ZN210-EX-MG	F79	Z SERIES	ZS102CR	F76	Z SERIES	ZS211-MG	F75	Z SERIES	ZS616-EX	F77	Z SERIES
ZN210-MG	F75	Z SERIES	ZS102CR-EX	F80	Z SERIES	ZS308	F73	Z SERIES	ZS617	F73	Z SERIES
ZN211	F74	Z SERIES	ZS102-EX	F77	Z SERIES	ZS308CR	F76	Z SERIES	ZS617-EX	F77	Z SERIES
ZN211CR	F76	Z SERIES	ZS103	F73	Z SERIES	ZS308CR-EX	F80	Z SERIES	ZS618	F73	Z SERIES
ZN211CR-EX	F80	Z SERIES	ZS103CR	F76	Z SERIES	ZS308-EX	F77	Z SERIES	ZS618-EX	F77	Z SERIES
ZN211-EX	F78	Z SERIES	ZS103CR-EX	F80	Z SERIES	ZS308-EX-MG	F79	Z SERIES	ZS619	F73	Z SERIES
ZN211-EX-MG	F79	Z SERIES	ZS103CR-EX-MG	F81	Z SERIES	ZS308-MG	F75	Z SERIES	ZS619-EX	F77	Z SERIES
ZN211-MG	F75	Z SERIES	ZS103-EX	F77	Z SERIES	ZS309	F73	Z SERIES	ZS620	F73	Z SERIES
ZN309	F74	Z SERIES	ZS103-EX-MG	F79	Z SERIES	ZS309CR	F76	Z SERIES	ZS620-EX	F77	Z SERIES
ZN309-EX	F78	Z SERIES	ZS103-MG	F75	Z SERIES	ZS309CR-EX	F80	Z SERIES	ZS621	F73	Z SERIES
ZN310	F74	Z SERIES	ZS105	F73	Z SERIES	ZS309CR-EX-MG	F81	Z SERIES	ZS621-EX	F77	Z SERIES
ZN310CR	F76	Z SERIES	ZS105CR	F76	Z SERIES	ZS309-EX	F77	Z SERIES	ZS622	F73	Z SERIES
ZN310CR-EX	F80	Z SERIES	ZS105CR-EX	F80	Z SERIES	ZS309-EX-MG	F79	Z SERIES	ZS622-EX	F77	Z SERIES
ZN310CR-EX-MG	F81	Z SERIES	ZS105CR-EX-MG	F81	Z SERIES	ZS309-MG	F75	Z SERIES	ZS623	F73	Z SERIES
ZN310-EX	F78	Z SERIES	ZS105-EX	F77	Z SERIES	ZS310	F73	Z SERIES	ZS623-EX	F77	Z SERIES
ZN311	F74	Z SERIES	ZS105-EX-MG	F79	Z SERIES	ZS310CR	F76	Z SERIES	ZS624	F73	Z SERIES
ZN311CR	F76	Z SERIES	ZS105-MG	F75	Z SERIES	ZS310CR-EX	F80	Z SERIES	ZS624-EX	F77	Z SERIES
ZN311CR-EX	F80	Z SERIES	ZS108	F73	Z SERIES	ZS310CR-EX-MG	F81	Z SERIES	ZS719	F73	Z SERIES
ZN311-EX	F78	Z SERIES	ZS108CR	F76	Z SERIES	ZS310-EX	F77	Z SERIES	ZS719-EX	F77	Z SERIES
ZN311-EX-MG	F79	Z SERIES	ZS108CR-EX	F80	Z SERIES	ZS310-EX-MG	F79	Z SERIES	ZS721	F73	Z SERIES
ZN312	F74	Z SERIES	ZS108CR-EX-MG	F81	Z SERIES	ZS310-MG	F75	Z SERIES	ZS721-EX	F77	Z SERIES
ZN312CR	F76	Z SERIES	ZS108-EX	F77	Z SERIES	ZS311	F73	Z SERIES	ZS722	F73	Z SERIES
ZN312CR-EX	F80	Z SERIES	ZS108-EX-MG	F79	Z SERIES	ZS311CR	F76	Z SERIES	ZS722-EX	F77	Z SERIES
ZN312-EX	F78	Z SERIES	ZS108-MG	F75	Z SERIES	ZS311CR-EX	F80	Z SERIES	ZS723	F73	Z SERIES
ZN313	F74	Z SERIES	ZS109	F73	Z SERIES	ZS311CR-EX-MG	F81	Z SERIES	ZS723-EX	F77	Z SERIES
ZN313-EX	F78	Z SERIES	ZS109CR	F76	Z SERIES	ZS311-EX	F77	Z SERIES	ZS724	F73	Z SERIES
ZN412	F74	Z SERIES	ZS109CR-EX	F80	Z SERIES	ZS311-EX-MG	F79	Z SERIES	ZS724-EX	F77	Z SERIES
ZN412-EX	F78	Z SERIES	ZS109-EX	F77	Z SERIES	ZS311-MG	F75	Z SERIES	ZS725	F73	Z SERIES
ZN413	F74	Z SERIES	ZS109-EX-MG	F79	Z SERIES	ZS312	F73	Z SERIES	ZS725-EX	F77	Z SERIES
ZN413-EX	F78	Z SERIES	ZS109-MG	F75	Z SERIES	ZS312CR	F76	Z SERIES	ZS819	F73	Z SERIES
ZN414	F74	Z SERIES	ZS110	F73	Z SERIES	ZS312CR-EX	F80	Z SERIES	ZS819-EX	F77	Z SERIES
ZN414-EX	F78	Z SERIES	ZS110-EX	F77	Z SERIES	ZS312CR-EX-MG	F81	Z SERIES	ZS822	F73	Z SERIES
ZN415	F74	Z SERIES	ZS110-EX-MG	F79	Z SERIES	ZS312-EX	F77	Z SERIES	ZS822-EX	F77	Z SERIES
ZN415-EX	F78	Z SERIES	ZS110-MG	F75	Z SERIES	ZS312-EX-MG	F79	Z SERIES	ZS823	F73	Z SERIES
ZN513	F74	Z SERIES	ZS111	F73	Z SERIES	ZS312-MG	F75	Z SERIES	ZS823-EX	F77	Z SERIES
ZN513-EX	F78	Z SERIES	ZS111-EX	F77	Z SERIES	ZS313	F73	Z SERIES	ZS824	F73	Z SERIES
ZN515	F74	Z SERIES	ZS111-EX-MG	F79	Z SERIES	ZS313CR	F76	Z SERIES	ZS824-EX	F77	Z SERIES
ZN515-EX	F78	Z SERIES	ZS111-MG	F75	Z SERIES	ZS313CR-EX	F80	Z SERIES	ZS825	F73	Z SERIES
ZN616	F74	Z SERIES	ZS201	F73	Z SERIES	ZS313-EX	F77	Z SERIES	ZS825-EX	F77	Z SERIES
ZN616-EX	F78	Z SERIES	ZS201-EX	F77	Z SERIES	ZS313-EX-MG	F79	Z SERIES	ZS826	F73	Z SERIES
ZS001	F73	Z SERIES	ZS202	F73	Z SERIES	ZS313-MG	F75	Z SERIES	ZS826-EX	F77	Z SERIES
ZS001-EX	F77	Z SERIES	ZS202-EX	F77	Z SERIES	ZS314	F73	Z SERIES	ZS827	F73	Z SERIES
ZS002	F73	Z SERIES	ZS203	F73	Z SERIES	ZS314-EX	F77	Z SERIES	ZS827-EX	F77	Z SERIES
ZS002CR	F76	Z SERIES	ZS203-EX	F77	Z SERIES	ZS315	F73	Z SERIES	ZS828	F73	Z SERIES
ZS002CR-EX	F80	Z SERIES	ZS203-EX-MG	F79	Z SERIES	ZS315-EX	F77	Z SERIES	ZS828-EX	F77	Z SERIES
ZS002-EX	F77	Z SERIES	ZS203-MG	F75	Z SERIES	ZS411	F73	Z SERIES	ZS829	F73	Z SERIES
ZS003	F73	Z SERIES	ZS205	F73	Z SERIES	ZS411-EX	F77	Z SERIES	ZS829-EX	F77	Z SERIES
ZS003CR	F76	Z SERIES	ZS205-EX	F77	Z SERIES	ZS412	F73	Z SERIES			
ZS003CR-EX	F80	Z SERIES	ZS205-EX-MG	F79	Z SERIES	ZS412-EX	F77	Z SERIES			
ZS003CR-EX-MG	F81	Z SERIES	ZS205-MG	F75	Z SERIES	ZS413	F73	Z SERIES			
ZS003-EX	F77	Z SERIES	ZS208	F73	Z SERIES	ZS413-EX	F77	Z SERIES			
ZS004	F73	Z SERIES	ZS208CR	F76	Z SERIES	ZS414	F73	Z SERIES			
ZS004CR	F76	Z SERIES	ZS208CR-EX	F80	Z SERIES	ZS414-EX	F77	Z SERIES			



HAZARDOUS (CLASSIFIED) LOCATIONS

Hazardous locations are those locations where fire or explosion hazards may exist due to flammable gases or vapors, flammable liquids, combustible dust, or ignitable fibers or flyings.

Although flammable gases and vapors, and combustible dusts, exist almost everywhere, they are usually present only in minute quantities, much less than necessary for a fire or explosion hazard to exist. Thus, the presence of a flammable gas or vapor, or combustible dust, does not in itself define a hazardous location. These materials must be present in sufficient quantities (concentrations) to present a potential explosion hazard.

Locations where there is an explosion hazard because of the presence of high explosives, such as blasting agents and munitions, are not classified as hazardous locations. There are standards covering the handling and use of such materials, and some of these require electrical equipment suitable for use in hazardous locations. This is because such equipment provides a greater degree of safety than ordinary location or general purpose equipment, not because such equipment has been tested for use in the presence of high explosives.

In a like manner, locations made hazardous because of the presence of pyrophoric materials, such as some phosphorous compounds and finely divided metal powders are not classified as hazardous locations. Pyrophoric is defined in the dictionary as “igniting spontaneously” or “emitting sparks when scratched or struck, especially with steel”. Where pyrophoric material or high explosives are present, precautions beyond those in the electrical codes are necessary.

UNDERSTANDING
“GLOBAL” HAZARDOUS LOCATIONS

The evolution of hazardous location electrical codes and standards throughout the world has taken two distinct paths. In North America, a “Class, Division” System has been used for decades as the basis for area classification of hazardous (classified) locations. Because the hazards and methods of protecting electrical equipment against these hazards differ for different materials, hazardous locations are divided into three Classes, and two Divisions. The Classes are based on the type of hazard and the explosive characteristics of the material with the Divisions being based on the occurrence or risk of fire or explosion that the material presents. While Canada and the United States have some differences in acceptable wiring methods and product standards, their systems are very similar.

In other parts of the world, areas containing potentially explosive atmospheres are dealt with using a “Zone System”. Zones are based predominately on the International Electrotechnical Commission (IEC) and the European Committee for Electrotechnical Standardization (CENELEC) standards.

Whereas North America deals with multiple types of hazardous atmospheres, the Zone system presently addresses only flammable gases and vapors which is the equivalent to North America’s Class I locations. The most significant difference between the Zone system is that the level of hazard probability is divided into three Zones as opposed to two Divisions.

While specific requirements differ, the United States and Canada have incorporated the Zone System for Class I, hazardous locations into their recent electrical code updates. Both systems provide effective solutions for electrical equipment used in hazardous locations and both have excellent safety records.

In North America Hazardous (Classified) Locations are divided into three Classes based on the explosive characteristics of the material. The Classes of material are further divided into “Divisions” or “Zones” based on the risk of fire or explosion that the material presents. The Zone system has three levels of hazard whereas the Division system has two levels.

The table below provides a comparison between the “Class, Division” System and the “Zone” System.

HAZARDOUS MATERIAL	CLASS, DIVISION SYSTEM	ZONE SYSTEM
Gases or Vapors [Ⓢ]	Class I, Div. 1	Zone 0 & Zone 1
	Class I, Div. 2	Zone 2

[Ⓢ]The United States and Canada have adopted Zones for Gases and Vapors.

HAZARDOUS (CLASSIFIED) LOCATIONS

CLASS I LOCATIONS

Class I locations are those in which flammable gases or vapors are or may be present in the air in quantities sufficient to produce explosive or ignitable mixtures.

The term “gases or vapors” is used because of common usage in the English language. The term “gases” is commonly used to refer to materials that are in a gaseous state under normal atmospheric conditions, such as hydrogen and methane. The term “vapors” refers to the gases over a material that is a liquid under normal atmospheric conditions (such as gasoline) but which emits gases within the flammable range under these same atmospheric conditions.

CLASS I, DIVISIONS 1 AND 2
GROUPS A, B, C, AND D LOCATIONS

General

The subdivision of Class I into two divisions identifies the likelihood or risk that an ignitable concentration of gases or vapors will be in the location. Division 1 identifies locations where the risk is high or medium. Division 2 identifies locations where there is a small but still finite risk. If the risk is extremely low,



the location is not considered a hazardous location. Such a location is typified by a single family home with natural gas or propane as the energy source for heating. The gas could, and on extremely rare occasions does leak into the home, and an explosion occurs. However the risk is so low (because of the safety systems built into the gas supply and heating equipment) that such locations are not classified as a hazardous location.

Division 1

Class I, Division 1 locations are those where the explosion hazard exists under normal operating conditions. The area may be hazardous all or most of the time, or it may only be hazardous some of the time. Division 1 also includes locations where breakdown or faulty operation of electrical equipment or processes might release ignitable concentrations of flammable gases or vapors, and might also cause simultaneous failure of electrical equipment in such a way as to directly cause the electrical equipment to become a source of ignition. An example of such a location might be an area where a flammable liquid is stored under cryogenic conditions, and a leak of the extremely low temperature liquid directly onto electrical equipment could cause failure of the electrical equipment at the same time the vapors of the evaporating liquid are within the flammable range.

Division 2

Class I, Division 2 locations are those where ignitable concentrations of flammable gases or vapors are not normally present, but could be present in the event of a fault, such as a leak at a valve in a pipeline carrying flammable liquids. Division 2 locations also often exist around Division 1 locations where there is no barrier or partition to separate the Division 1 space from a nonhazardous location, or where ventilation failure (an abnormal condition) might extend the area where flammables exist under normal conditions. Electrical equipment approved for Class I, Division 1 locations is also suitable for use in Division 2 locations.

The frequency of occurrence determines the level of hazard for a location, the longer the material is present, the greater the risk.

FREQUENCY OF OCCURRENCE	CLASS, DIVISION SYSTEM	ZONE SYSTEM
Continuous	Class I, Div. 1	Zone 0
Intermittent Periodically		Zone 1
Abnormal Conditions	Class I, Div. 2	Zone 2

The abnormal conditions of occurrence, or lower risk areas, Division 2 and Zone 2 are basically identical in the Zone and Division system. However, in areas where a hazard is expected to occur during normal operation, Division 1 and Zone 1 and 0, the Zone system deals with highest risk areas Zone 0 separately, and risk associated with the remaining location Zone 1, is considered lower. The Division system tends to be less specific in its consideration of Division 1. The Division system treats all areas where a hazard is expected to occur in normal operation the same.

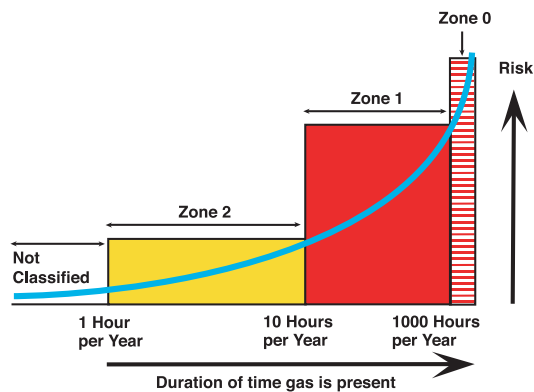
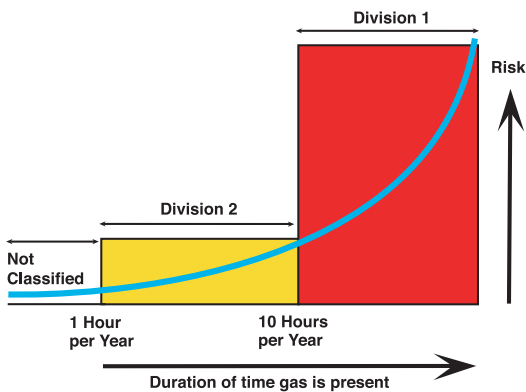
The following chart illustrates the differences between the various Zones.

GRADE OF RELEASE	ZONE	FLAMMABLE MIXTURE PRESENT
Continuous	0	1000 hours per year or more (10%)
Primary	1	Between 10 and 1000 hours per year or more (0.1% to 10%)
Secondary	2	Less than 10 hours per year (0.01% to 0.1%)
Unclassified	-	Less than 1 hour per year (Less than 0.01%) (1)

This is a combination of Tables 2 and 3 from API RP505

(1) The 1-hour per year in API RP505 is considered to be high by some industry experts.

The illustration below compares the Division and Zone systems in terms of risk assessment.



CLASS I, GROUPS A, B, C, AND D

Class I locations are divided into groups because different materials have different explosion and ignition characteristics. The grouping permits equipment to be tested based on the type of flammable material in which it is intended to be used. It also permits area classification to be based on the type of material anticipated in that location.

The grouping is based on two major factors: the explosion pressure generated during an explosion; and the maximum gap between ground flat mating metal surfaces that will prevent propagation of an explosion through the gap to a flammable atmosphere of the same flammable material and concentration.

Group A

The highest explosion pressures of the materials grouped are generated by acetylene, the only material in Group A. Thus, explosionproof equipment designed for Group A must be very strong to withstand the explosion anticipated, and must have a very small gap between joint surfaces. Explosionproof equipment for Group A is the most difficult to design and there is less explosionproof equipment listed for this group than for any other group.

Group B

Group B materials produce explosion pressures somewhat less than acetylene, and the design of explosionproof enclosures for this group is somewhat less rigorous than for Group A enclosures. However, because of the very high explosion pressures in both Groups A and B, and, in particular, the very small gap between mating surfaces needed to prevent propagation of an explosion, there are no explosionproof motors listed for use in either Group A or B locations.

Group C

The chemical materials in Group C fall within the range between Groups B and D in both the explosion pressures generated and the gap between mating surfaces of explosion proof equipment that will prevent an explosion.

Group D

Group D is the most common group encountered in the field, and there is more equipment available for this group than for any other group.

There is no consistent relationship between such properties as ignition temperature, flash point, and flammable limits, and the Class I hazardous location group into which the various materials fall.

TYPICAL GAS	CLASS, DIVISION GAS GROUPS	ZONE GAS GROUPS
Acetylene	A	IIC
Hydrogen	B	IIC
Ethylene	C	IIB
Propane	D	IIA
Methane	D	IIA

CLASS I, ZONES 0, 1 AND 2, GROUPS IIC, IIB, AND IIA, LOCATIONS

General

This method of area classification follows the international method of area classification as developed by the International Electrotechnical Commission (IEC) and European Committee for Electrotechnical Standardization (CENELEC) standards.

Like the subdivisions under Class I locations of Divisions 1 and 2 and for the same reasons, (area classification and equipment testing) hazardous locations are classified by zones instead of divisions.

Zone 0

These are locations in which ignitable concentrations of flammable gases or vapors are present continuously or for long periods of time. Zone 0 represents the most dangerous part of the Division 1 classification.

There are situations where flammable liquids are stored in tanks and the vapor space above the liquid is above the upper flammable limit. If the vapor space is above the upper flammable limit most of the time, the space is not a Zone 0 location because the requirements are for "ignitable concentrations" of flammable gases or vapors (concentrations within the flammable range).

Zone 1

These locations are almost the same as Class I, Division 1 locations in the class, division system except they do not include those locations defined as Class I, Zone 0, where ignitable concentrations are present all or most of the time.

Zone 2

These locations are the same as Class I, Division 2 locations in the class, division system.

CLASS I, GROUPS IIC, IIB, AND IIA

General

In the international system of classification, Group I gas grouping is reserved for classification and equipment intended for use in underground mines. For information on electrical equipment in underground mines, see the Federal Register, regulations of the Mine Safety and Health Administration (MSHA).

Group IIC

This group is the equivalent of a combination of Class I, Groups A and B gases and vapors in the Division system. In the international system of classification, only the gap between machined flat mating surfaces, plus the igniting current (directly related to ignition energy), is considered in grouping materials. Explosion pressure is not one of the considerations. Thus, Groups A and B in the “class, division” system of classification can be grouped together in the international system. Internationally, rigid metal conduit and similar “pipe” wiring systems are not normally used in hazardous locations and thus consideration of pressure piling through a length of conduit (a major problem with acetylene) is unnecessary in the zone system. The maximum safe gap between machined flat mating surfaces is the same for Group A, and B materials.

Group IIB

This group is the equivalent to the Class I, Group C gases and vapors in the Division system.

Group IIA

This group is equivalent to the Class I, Group D gases and vapors in the Division system.

Ambient Temperature

The ambient temperature is the surrounding temperature of the environment in which a piece of equipment is installed, whether it is indoors or outdoors. Certain heat producing equipment such as lighting fixtures list a Temperature Code or T-Code at a given ambient temperature.

A heat producing product is considered acceptable for the location, provided the minimum ignition temperature of the hazardous material present and the ambient temperature of the location do not exceed the limits set by the manufacturer. If the ambient temperature is higher than the maximum stated on the name plate, it might still be acceptable to use the product under certain conditions, provided the minimum ignition temperature of the hazardous material has not been exceeded. In all cases, consult the factory for assistance.

Operating Temperature

The rated operating temperature for hazardous (classified) products is determined by conducting laboratory test in an ambient temperature of 40° C. Products certified by the various agencies consider products certified to their standards to be suitable for different temperature ranges. The range for CSA is -50° C to +40° C, the range for UL is -25° C to +40° C, and the range for IEC and CENELEC is -20° C to +40° C.

TEMPERATURE CODES (T-CODES)**Class I**

The ignition temperature or auto-ignition temperature (AIT) is the minimum temperature required to initiate or cause self-sustained combustion in a substance without any apparent source of ignition. The lowest published ignition temperature should be the one used to determine the acceptability of equipment. This is of particular concern when selecting heat producing equipment such as lighting fixtures or motors which may generate sufficient heat to ignite the surrounding atmosphere.

Class I and Class II, areas use T-Codes or are subject to maximum temperature limitations as shown in the following chart. North America and the IEC are consistent in their temperature or T-Codes. However unlike the IEC, North America includes incremental values as shown below.

NORTH AMERICAN TEMP. CODES US (NEC-500) & CSA	IEC/CENELEC/US (NEC 505) TEMP. CODES	MAXIMUM TEMPERATURE	
		°C	°F
T1	T1	450	842
T2	T2	300	572
T2A		280	536
T2B		260	500
T2C		230	446
T2D		215	419
T3	T3	200	392
T3A		180	356
T3B		165	329
T3C		160	320
T4	T4	135	275
T4A		120	248
T5	T5	100	212
T6	T6	85	185

CLASS II LOCATIONS

Class II locations are those that are hazardous because of the presence of combustible dust. Note that the dust must be present in sufficient quantities for a fire or explosion hazard to exist. The fact that there is some combustible dust present does not mean a Class II hazardous location exists. To be considered a “dust” the combustible material must exist as a finely divided solid of 420 microns (0.420 mm) or less. Such a dust will pass through a No. 40 U.S. sieve.

**CLASS II, DIVISIONS 1 AND 2
GROUPS E, F, AND G LOCATIONS****General**

Just as in Class I, Divisions 1 and 2, the subdivision of Class II into Divisions 1 and 2 identifies the likelihood that there will be an explosion hazard.

Division 1

A Class II, Division 1 location is one where combustible dust is normally in suspension in the air in sufficient quantities to produce ignitable mixtures, or where mechanical failure or abnormal operation of equipment or machinery might cause an explosive or ignitable dust-air mixture to be produced, and might also provide a source of ignition through simultaneous failure of electrical equipment. A Class II, Division 1 location also exists where combustible dusts of an electrically conductive nature may be present in hazardous quantities (Group E locations). The term “hazardous quantity” is intended to mean those locations where the dust may not be in suspension in the air in sufficient quantity to cause an explosion, but might have settled on electrical equipment so that the electrically conductive particles can penetrate the openings in the electrical equipment enclosure and cause an electrical failure, or where the dust can get into motor bearings and cause excessive temperatures because of bearing failure.

Division 2

A Class II, Division 2 location is one where combustible dust is not normally in the air in quantities sufficient to produce explosive or ignitable mixtures, and dust accumulations are not normally sufficient to interfere with the normal operation of electrical equipment, such as clogging ventilating openings or causing bearing failure. It includes locations where combustible dust may be in suspension in the air only as a result of infrequent malfunctioning of handling or processing equipment, and those locations where dust accumulation may be on or in the vicinity of the electrical equipment and may be sufficient to interfere with the safe dissipation of heat from the equipment, or may be ignitable by abnormal operation or failure of the electrical equipment.

Class II, Groups E, F, and G

The division into three groups in Class II locations is for the same reasons Class I locations are divided into Groups A, B, C, and D: equipment design and area classification. However, the three Class II groups are based on different characteristics than the four Class I groups because the design of dust-ignition proof equipment for Class II locations is based on different principles than the design of explosion proof equipment for Class I locations. In Class II locations the ignition temperature of the dust, the electrical conductivity of the dust, and the thermal blanketing effect the dust can have on heat-producing equipment, such as lighting fixtures and motors are the deciding factors in determining the Class II group.

Group E

Group E dusts include the metal dusts, such as aluminum and magnesium. In addition to being highly abrasive, and thus likely to cause overheating of motor bearings if the dust gets into the

bearing, Group E dusts are electrically conductive. If they are allowed to enter an enclosure, they can cause electrical failure of the equipment.

Group F

The Group F dusts are carbonaceous, the primary dust in this group being coal dust. These dusts have somewhat lower ignition temperatures than the Group E dusts and a layer of a Group F dust has a higher thermal insulating value than a layer of a Group E dust, thus requiring more careful control of the temperature on the surface of the equipment. Such dusts are semi-conductive but this is not usually a factor for equipment rated 600 volts and less.

Group G

The Group G dusts include plastic dusts, most chemical dusts, and food and grain dusts. They are not electrically conductive. These dusts, in general, have the highest thermal insulating characteristics and the lowest ignition temperatures. Thus, dust-ignitionproof equipment for use in Group G atmospheres must have the lowest surface temperatures to prevent ignition of a dust layer by the heat generated within the equipment.

Because of the different design characteristics, equipment suitable for Class I locations is not necessarily suitable for Class II locations, and equipment suitable for Class II locations is not necessarily suitable for Class I locations. The equipment must be approved for each class and group of location involved.

Much equipment suitable for Class I locations is also suitable for Class II locations, and is so marked, although when used in Class II locations there may be restrictions, such as lower maximum lamp wattage to maintain the lower surface temperature needed for equipment in dust atmospheres.

TYPE OF MATERIAL	GROUPS	TYPICAL MATERIALS
Electrically Conductive Dusts	E	Powdered metals such as aluminum or magnesium
Carbonaceous Dusts	F	Carbon Black, Coal Dust, Coke Dust
Agricultural Dusts	G	Grain, Flour, Sugars, Spices, Rice, Certain Polymers

In Class II areas all products must operate at temperatures as shown below based on whether they are heat producing or subject to overloading or not, and based on the Group which they fall under. Class III products in all cases must operate below 165° C.

CLASS II GROUPS	EQUIPMENT THAT IS NOT SUBJECT TO OVERLOADING		EQUIPMENT (SUCH AS MOTORS OR POWER TRANSFORMERS) THAT MAY BE OVERLOADED			
			NORMAL OPERATION		ABNORMAL OPERATION	
	°C	°F	°C	°F	°C	°F
E	200	392	200	392	200	392
F	200	392	150	302	200	392
G	165	329	120	248	165	329



CLASS III LOCATIONS

Class III locations are those that are hazardous because of the presence of easily ignitable fibers or flyings, but in which the fibers or flyings are not likely to be in suspension in the air in quantities sufficient to produce ignitable mixtures. Easily ignitable fibers and flyings present a fire but not an explosion hazard. A typical example of this type of material is the cotton lint that accumulates in the lint trap of clothes dryers. Listed clothes dryers are designed so that even if the lint ignites, the fire will be contained within the dryer enclosure.

CLASS III, DIVISIONS 1 AND 2**Division 1**

This is a location where the equipment producing the ignitable fibers or flyings is located (near textile mill machinery, for example) or where the material is handled (for example, where the material is stuffed into bags).

Division 2

This is a location where the easily ignitable fibers are stored or handled, except in manufacturing processes (which is Division 1).

Class III Groups

There are no groups in Class III locations.

ZONES 20, 21, AND 22 LOCATIONS

The 2005 NEC introduced a new Article 506 that provides an alternate zone system to Class II and Class III. This system, based on the IEC, is for locations that include combustible concentrations of combustible dust or ignitable fibers and flyings.

Zone 20. These are Hazardous (Classified) Locations where areas of combustible dust or ignitable fibers and flyings are present continuously or for long periods of time in quantities sufficient to be hazardous, as classified by 506.5(B) (1) of the 2005 NEC.

Zone 21. These are Hazardous (Classified) Locations where areas of combustible dust or ignitable fibers and flyings are likely to exist occasionally under normal operation in quantities sufficient to be hazardous, as classified by 506.(B)(2) of the 2005 NEC.

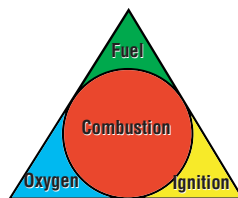
Zone 22. These are Hazardous (Classified) Locations where areas of combustible dust or ignitable fibers and flyings are not likely to occur under normal operation in quantities sufficient to be hazardous, as classified by 506.5(B)(3) of the 2005 NEC.

NOTE: Zones 20, 21, and 22 do not apply to combustible metallic dusts.

EQUIPMENT DESIGN AND CONSTRUCTION

There are a number of ways of protecting electrical equipment so that it cannot cause an explosion when used in a surrounding flammable atmosphere, or ignite a layer of dust or fibers on the equipment. The two most common ways are explosion-proof equipment in Class I, Division 1 and some Division 2 locations and dust-ignitionproof equipment in Class II, Division 1 locations. Flameproof and increased safety equipment is most common in Class I, Zone 1 locations. Intrinsically safe equipment is becoming increasingly more

popular in Division 1 and Zone 1 locations. Most Killark equipment for use in hazardous locations is designed to meet the requirements for explosion proof and/or dust-ignitionproof apparatus.

The Fire Triangle

In order for a fire or explosion to occur three conditions must exist. There must be a fuel (the flammable gas or vapor, or combustible dust) in ignitable quantities; there must also be an ignition source (energy in the form of heat or a spark) of sufficient energy to cause ignition; and there must be

oxygen, usually the oxygen in the air.

These three conditions are called the fire triangle as shown. Remove any one or more of these three and a fire or explosion cannot occur. This is the basis of the various protection systems for electrical equipment permitted in the electrical codes for use in hazardous locations. These protection methods either contain the internal explosion or eliminate one or more of the fire triangle components necessary for an explosion to occur.

The most common methods of protection used in North America are explosion proof equipment for Class I locations, and dust-ignition proof equipment for Class II locations.

The fuel and oxygen must be in the correct mixture, too little fuel, or a lean mixture, or too much fuel, a rich mixture cannot ignite. These explosive limits are defined as "Lower Explosive Limit" (LEL) and "Upper Explosive Limit" (UEL).

TYPES OF PROTECTION**EXPLOSION PROOF OR FLAMEPROOF TYPE "D" PROTECTION**

These protection types are based on containment. The requirements for flameproof are somewhat less severe than the North American requirements for explosionproof equipment. Flameproof equipment is not permitted in Class I, Division 1 locations, and explosion proof equipment is not permitted in Class I, Zone 0 locations.

Since flammable gases and vapors are expected to be inside the enclosure the equipment design must be capable of withstanding an explosion caused by a spark at the contacts of switching devices, high temperature, or an electrical fault. The enclosure is designed so that hot gases generated during an internal explosion are cooled below the ignition temperature of the surrounding flammable atmosphere as they are transmitted through the joints of the enclosure.

In addition, the external surfaces of the enclosure must not be hot enough to ignite the surrounding atmosphere as a result of heat energy within the enclosure. This heat energy may be the result of normal operation of heat-producing equipment, or it may be the result of an electrical arc to the enclosure from an arcing ground fault.

**KILLARK®**

MOULDED/ENCAPSULATED TYPE “m” PROTECTION

This type of protection is one in which the parts that can ignite an explosive atmosphere are enclosed in a resin (plastic) sufficiently resistant to environmental influences in such a way that this explosive atmosphere cannot be ignited by either sparking or heating, which may occur within the encapsulation.

INCREASED SAFETY TYPE “e” PROTECTION

This protection system is for equipment that, under normal operating conditions, does not produce ignition-capable arcs or sparks or high temperatures. It provides special increased spacing between live parts and live parts of opposite polarity or grounded metal parts, special insulating materials to reduce the likelihood of arc tracking, special terminals to reduce the likelihood of high temperatures or loose connections, and temperature control on heat producing equipment. It is widely used for protection of squirrel cage motors, terminal boxes, and the terminals of flame proof components.

INTRINSIC SAFETY OR INTRINSICALLY SAFE TYPE “ia”, AND “ib” PROTECTION

There are two versions of this protection method in the “Zone” System, “ia” (2 fault) for Zone 0 and less dangerous locations, and “ib” (1 fault) for Zone 1 and 2 locations only. Additionally in the “Class, Division” System intrinsically safe equipment listed for use in Class I, Division 1 locations for the same gas group, and with a suitable temperature rating is permitted in Class I, Zone 0, 1 and 2 locations. There is no “i” marking for intrinsically safe equipment listed in the “Class, Division” System (2 fault type only).

INTRINSICALLY SAFE SYSTEMS

These are low-energy systems designed to assure safety by eliminating the ignition source leg of the fire triangle. The energy in the system is maintained below that needed to ignite the flammable atmosphere, even under fault conditions. Opening, grounding, or short-circuiting of field-installed wiring is considered a condition of normal operation in this protection technique, rather than a fault condition. The common protective device used in intrinsically safe circuits is a Zener Diode Barrier. While this type of device controls the energy going to a circuit, it does not prevent incorrectly installed products such as capacitors, which may store energy, from increasing the maximum current permitted in the system. It is important to understand that intrinsic safety is a “system approach” and that no single device provides total protection.

NON-SPARKING TYPE “nA” PROTECTION

This is protection suitable for use in Class I, Zone 2 or Division 2 locations only. It is subdivided into three categories, “nA”, “nC” and “nR”.

A - Non-sparking equipment.

C - Sparking equipment in which the contacts are suitably protected other than by restricted breathing.

R - Restricted breathing enclosure. This is similar to hermetically sealed however it also includes other enclosures where the rate of leaking of a flammable into the enclosure is restricted. Special leak tests are conducted on the enclosure.

HERMETICALLY SEALED TYPE “nC” PROTECTION

This protection technique is limited to Zone 2 or Division 2 locations only and works by eliminating the ignition source leg of the fire triangle. It defines “hermetically sealed” as a fusion process such as soldering, brazing, welding, or the fusion of glass to metal. So-called “hermetically sealed” relays that are sealed by use of gaskets are not included in this definition. Typical hermetically sealed devices are mercury-tube switches and reed switches.

NON-INCENDIVE EQUIPMENT TYPE “nC” PROTECTION

This is a method of protection of sparking contacts in Class I, Zone 2 or Division 2 locations. A non-incendive component is one having contacts for making or breaking an incendive circuit where the contact mechanism is constructed so that the component is incapable of igniting the specified flammable gas or vapor-air mixture. The housing of a non-incendive component is not intended to exclude the flammable atmosphere or contain an explosion.

OIL IMMERSION TYPE “o” PROTECTION

This protection technique is also limited to equipment in Division 2 and Zone 1 and 2 locations. It eliminates the ignition source leg of the fire triangle. It works because the ignition source is maintained under oil. There are provisions for assuring that there is always enough oil above the contacts to prevent ignition of a flammable atmosphere. This technique is usually used for high-energy contacts, often rated over 600 volts, such as those in circuit breakers, motor controllers and other industrial control equipment. It can, however, be used for any switching device.



PURGED AND PRESSURIZED TYPE “p” PROTECTION

This is a type of protection which prevents the entry of the surrounding atmosphere into the enclosure of the electrical apparatus by maintaining a positive pressure within the enclosure of a protective gas (air, inert, or other suitable gas) at a higher pressure than the surrounding atmosphere.

Purging is the process of supplying an enclosure with a protective gas at a sufficient flow and positive pressure to reduce the concentration of any flammable gas or vapor initially present to an acceptable level. This technique can be used to change a Class I or Class II, Division 1 location into a nonhazardous location or into a Division 2 location, or to change a Class I or II, Division 2 location into a nonhazardous location. It requires a noncombustible enclosure (which may be a control room or a machine room) that is first purged of any combustibles or flammables that may be present, and is then maintained at a positive pressure sufficient to assure that combustibles or flammables cannot enter the enclosure and be ignited by electrical equipment within the enclosure. The purging may be a continuous purge or a single purge with a positive pressure maintained to make up for leaks. The pressurizing medium may be either air, commonly used in a control room where people will be working, or a nonflammable gas. In tanker ships at sea, flue gas is a common purging and pressurizing medium. In instrument enclosures in locations with corrosive atmospheres, specially processed and dried air or gas is used to protect the enclosed equipment against corrosion as well as to provide protection against ignition of exterior flammable gases and vapors, or combustible dusts.

TYPE	EXPLANATION
X	Changes the area within the unit from Division 1 to nonhazardous
Y	Changes the area within the unit from Division 1 to Division 2
Z	Changes the area within the unit from Division 2 to nonhazardous

POWDER FILLING TYPE “q” PROTECTION

This protection system is permitted in Zone 1 and 2 locations. There is no equivalent system recognized in the US NEC 500 electrical code. In this type of protection system the enclosure or the electrical apparatus is filled with a material in a finely divided granulated state so that, in the intended conditions of service, the arc occurring within the enclosure of an electrical apparatus will not ignite the surrounding atmosphere. Further, no ignition can be caused either by flame or excessive temperature of the surfaces of the enclosure. This protection system is used for protection of the components in junction boxes. It is sometimes called “sand filling”.

Dust Ignitionproof. This protection technique is permitted for equipment in Zones 20, 21, and 22 locations.

Pressurized. This protection technique is permitted for equipment in Zones 21, and 22 locations.

Intrinsic Safety. This protection technique is permitted for equipment in Zones 20, 21, and 22 locations.

Dusttight. This protection technique is permitted for equipment in Zone 22 locations.

Nonincendive Circuit. This protection technique is permitted for equipment in Zone 22 locations.

Nonincendive Equipment. This protection technique is permitted for equipment in Zone 22 locations.

Special Protection

Some countries permit special protection systems consisting of combinations of other systems or other special systems. UL listed flashlights and lanterns for use in hazardous locations would be an example of such a special protection system.

**ENVIRONMENTAL PROTECTION
NEMA ENCLOSURE TYPES AND CSA****DEFINITIONS PERTAINING TO
NONHAZARDOUS LOCATIONS**

The term NEMA enclosure is common in the US, although products are normally tested to a UL standard. The following are environmental protection designations, which are specified in addition to electrical or hazardous location requirements.

Type 1 Enclosures

Type 1 Enclosures are intended for indoor use primarily to provide a degree of protection against limited amounts of falling dirt. This type is not specifically identified in the CSA Standard.

Type 2 Enclosures

Type 2 Enclosures are intended for indoor use primarily to provide a degree of protection against limited amounts of falling water and dirt.

Type 3 Enclosures

Type 3 Enclosures are intended for outdoor use primarily to provide a degree of protection against rain, sleet, windblown dust; and damage from external ice formation.

Type 3R Enclosures

Type 3R Enclosures are intended for outdoor use primarily to provide a degree of protection against rain, sleet; and damage from external ice formation.

Type 3S Enclosures

Type 3S Enclosures are intended for outdoor use primarily to provide a degree of protection against rain, sleet, windblown dust; and to provide for operation of external mechanisms when ice laden.

Type 4 Enclosures

Type 4 Enclosures are intended for indoor or outdoor use primarily to provide a degree of protection against windblown dust and rain, splashing water, hose directed water; and damage from external ice formation.



KILLARK®

Type 4X Enclosures

Type 4X Enclosures are intended for indoor or outdoor use primarily to provide a degree of protection against corrosion, windblown dust and rain, splashing water, hose directed water; and damage from external ice formation.

Type 5 Enclosures

Type 5 Enclosures are intended for indoor use primary to provide a degree of protection against settling airborne dust, falling dirt, and dripping noncorrosive liquids.

Type 6 Enclosures

Type 6 Enclosures are intended for indoor or outdoor use primarily to provide a degree of protection against hose directed water, the entry of water during occasional temporary submersion at a limited depth; and damage from external ice formation.

Type 6P Enclosures

Type 6P Enclosures are intended for indoor or outdoor use primarily to provide a degree of protection against hose-directed water, the entry of water during prolonged submersion at a limited depth; and damage from external ice formation.

Type 12 Enclosures

Type 12 Enclosures are intended for indoor use primarily to provide a degree of protection against circulating dust, falling dirt, and dripping noncorrosive liquids.

Type 12K Enclosures

Type 12K Enclosures with knockouts are intended for indoor use primarily to provide a degree of protection against circulating dust, falling dirt, and dripping noncorrosive liquids.

Type 13 Enclosures

Type 13 Enclosures are intended for indoor use primarily to provide a degree of protection against dust, spraying of water, oil, and noncorrosive coolant.

DEFINITIONS PERTAINING TO HAZARDOUS (CLASSIFIED) LOCATIONS

The following NEMA type enclosures occasionally appear on specifications and product literature however, they are not used by CSA. These NEMA types are specific to the US only.

Type 7 Enclosures

Type 7 Enclosures are intended for indoor use in locations classified as Class I, Groups A, B, C, or D, as defined in the NEC®.

Type 8 Enclosures

Type 8 Enclosures are for indoor or outdoor use in locations classified as Class I, Groups A, B, C, or D, as defined in the NEC®.

Type 9 Enclosures

Type 9 Enclosures are intended for indoor use in locations classified as Class II, Groups E, F, and G, as defined in the NEC®.

Type 10 Enclosures

Type 10 Enclosures are constructed to meet the applicable requirements of the Mine Safety and Health Administration (MSHA).

- Refer to NEMA Standards Publication No. 250 *Enclosures for Electrical Equipment (1000 Volts Maximum)* or other third party certification standards for specific requirements for product construction, testing and performance such as Underwriters Laboratories Inc.®, Standard UL 50 "Standard for Enclosures for Electrical Equipment", and UL 886 "Outlet Boxes and Fittings for use in Hazardous (Classified) Locations".



COMPARISON OF SPECIFIC APPLICATIONS OF ENCLOSURES FOR INDOOR NONHAZARDOUS LOCATIONS

PROVIDES A DEGREE OF PROTECTION AGAINST THE FOLLOWING ENVIRONMENTAL CONDITIONS	TYPE OF ENCLOSURE									
	1*	2*	4	4X	5	6	6P	12	12K	13
Incidental contact with the enclosed equipment	X	X	X	X	X	X	X	X	X	X
Falling dirt	X	X	X	X	X	X	X	X	X	X
Falling liquids and light splashing	—	X	X	X	X	X	X	X	X	X
Circulating dust, lint, fibers, and flyings**	—	—	X	X	—	X	X	X	X	X
Settling airborne dust, lint, fibers, and flyings**	—	—	X	X	X	X	X	X	X	X
Hosedown and splashing water	—	—	X	X	—	X	X	—	—	—
Oil and coolant seepage	—	—	—	—	—	—	—	X	X	X
Oil and coolant spraying and splashing	—	—	—	—	—	—	—	—	—	X
Corrosive agents	—	—	—	X	—	—	—	—	—	—
Occasional temporary submersion	—	—	—	—	—	X	X	—	—	—
Occasional prolonged submersion	—	—	—	—	—	—	—	—	—	—

* These enclosures may be ventilated. However, Type 1 may not provide protection against small particles of falling dirt when ventilation is provided in the enclosure top.

** These fibers and flyings are nonhazardous materials and are not considered as Class III type ignitable fibers or combustible flyings. For Class III type ignitable fibers or combustible flyings see the National Electrical Code®, Article 500.

COMPARISON OF SPECIFIC APPLICATIONS OF ENCLOSURES FOR OUTDOOR NONHAZARDOUS LOCATIONS

PROVIDES A DEGREE OF PROTECTION AGAINST THE FOLLOWING ENVIRONMENTAL CONDITIONS	TYPE OF ENCLOSURE						
	3	3R***	3S	4	4X	6	6P
Incidental contact with the enclosed equipment	X	X	X	X	X	X	X
Rain, snow, sleet*	X	X	X	X	X	X	X
Sleet**	—	—	X	—	—	—	—
Windblown dust	X	—	X	X	X	X	X
Hosedown	—	—	—	X	X	X	X
Corrosive agents	—	—	—	—	X	—	X
Occasional temporary submersion	—	—	—	—	—	X	X
Occasional prolonged submersion	—	—	—	—	—	—	X

* External operating mechanisms are not required to operate when the enclosure is ice covered.

** External operating mechanisms are operable when the enclosure is ice covered.

*** These enclosures may be ventilated.

COMPARISON OF SPECIFIC APPLICATIONS OF ENCLOSURES FOR INDOOR HAZARDOUS (CLASSIFIED) LOCATIONS

PROVIDES A DEGREE OF PROTECTION AGAINST ATMOSPHERES TYPICALLY CONTAINING HAZARDOUS GASES, VAPORS, AND DUSTS***	TYPE OF ENCLOSURE NEMA 7 & 8, CLASS I GROUPS**					TYPE OF ENCLOSURE NEMA 9 & 10, CLASS II GROUPS**			
	Class	A	B	C	D	E	F	G	10
Acetylene	I	X	—	—	—	—	—	—	—
Hydrogen, manufactured gases	I	—	X	—	—	—	—	—	—
Diethyl ether, ethylene, cyclopropane	I	—	—	X	—	—	—	—	—
Gasoline, hexane, butane, naphtha, propane, acetone	I	—	—	—	—	—	—	—	—
Toluene, isoprene	I	—	—	—	X	—	—	—	—
Metal dusts	II	—	—	—	—	X	—	—	—
Carbon black, coal dust, coke dust	II	—	—	—	—	—	X	—	—
Flour, starch, grain dust	II	—	—	—	—	—	—	X	—
Fibers, flyings *	III	—	—	—	—	—	—	X	—
Methane with or without coal dust	MSHA	—	—	—	—	—	—	—	X

* Due to the characteristics of the gas, vapor, or dust, a product suitable for one Class or Group may not be suitable for another Class or Group unless so marked on the product.

** For Class III type ignitable fibers or combustible flyings refer to the National Electrical Code® Article 500.

*** For a complete listing of flammable liquids, gases, or vapors refer to NFPA 497 - 1997 (Recommended Practice for the Classification of Flammable Liquids, Gases, or Vapors and of Hazardous (Classified) Locations for Electrical Installations in Chemical Process Areas and NFPA 325 - 1994 (Fire Hazard Properties of Flammable Liquids, Gases, and Volatile Solids). Reference also NFPA 499 - 1997 Classifications of Combustible Dusts and of Hazardous (Classified) Locations for Electrical Installations in Chemical Process Areas.



**NEMA ENCLOSURE TYPES VS.
IEC CLASSIFICATION DESIGNATION**

NEMA ENCLOSURE TYPE NUMBER	IEC ENCLOSURE CLASSIFICATION
1	IP 23
2	IP 30
3	IP 64
3R	IP 32
3S	IP 54
4 and 4X	IP 66
5	IP 52
6 and 6P	IP 67
12 and 12K	IP 55
13	IP 65

MARKING**Typical North American marking**

Class I, Divisions 1 & 2 Groups A, B, C, and D, T6

Class I, Zones 1 & 2 Groups IIC, IIB, IIA, T6

Class II, Divisions 1 & 2 Groups E, F, and G

Class III

NEMA 3, 4, 4X

United States "AEx" marking requires Class and Zone suitability
(Class I, Zone 1, AEx e IIC T5)

EQUIPMENT CERTIFICATION**United States and Canada**

In most cases, equipment for use in hazardous locations must be certified to an appropriate National Standard and marked as such by an accredited third party testing organization. Follow-up inspection to ensure conformance is usually part of the program. Products may carry multiple markings for multiple countries.

The specific requirements for product certification vary from country to country. While CSA, UL and FM are similar in their approach, subtle differences still exist. CSA, UL and FM accept component listing of products. This means that selected products may be offered in modular form, which the customer may assemble without effecting the listing.

European Countries

The countries belonging to the European Union EU, who develop products based upon the standards of the European Committee for Electrotechnical Standardization (CENELEC), have requirements differing in many, but not all respects, from U.S. requirements established by the NEC® and American National Standards Institute. These CENELEC standards were developed based on IEC 60079, and are called Euronorms. The CENELEC standards for electrical equipment for hazardous locations are numbered EN60079-1 through EN60079-31.

IEC Ex Scheme. The Scheme is a global conformity assessment program administered by the International Electrotechnical Commission (IEC). This certification scheme is based upon IEC Standards as the basis for participating countries' certification of electrical equipment for hazardous locations. The goal of the IEC Ex Scheme is a series of IEC Standards Acceptable to all participating countries that will be used by any member Certification Body to issue a certification that will be acceptable to any member country.



ATEX DIRECTIVE

This directive applies to electrical and non-electrical components and protective systems intended for use in potentially explosive atmospheres. Compliance with the requirements of this new directive will become mandatory on July 1, 2003 when the old approach directives will be repealed. Certificates of Conformity issued under the old approach directives will remain valid until June 30, 2003, after this date all products will need to comply with the requirements outlined under the “New Approach” or ATEX Directive (94/9/EC).

The ATEX Directive relates to electrical and mechanical equipment and includes items such as:

- All equipment and protective systems intended for use in potentially explosive atmospheres within the European Union are covered and must have the CE marking along with specific type of explosion protection markings.
- Explosive atmospheres caused by the presence of gas, vapors and mists.
- Existing, previously certified products must be re-examined to determine compliance with the new directives.
- Mining (Group I) and surface (Group II) non-mining is addressed. (Group I) applies to equipment intended for use in underground parts of mines, and to those parts of surface installations of such mines, likely to be endangered by firedamp and/or combustible dusts. (Group II) non-mining applies to equipment intended for use in other surface industrial and offshore locations likely to be endangered by explosive atmospheres.

- Equipment categories defining the required levels of protection are introduced. Category 1 covers equipment having a very high level of protection. Category 2 covers equipment having a high level of protection, and Category 3 covers equipment having a normal level of protection.
- Harmonized European standards are no longer listed in the directive. Instead, a set of electrical health and safety requirements is specified. CEN and CENELEC, the European standards making bodies have been charged with the responsibility of preparing standards in support of these essential health and safety requirements (EHSR's).
- Technical requirements for equipment and protective systems where the risk arises from combustible dusts, gases, vapors and mist are covered by the Essential Health and Safety Requirements.
- There is more emphasis placed upon the continued compliance of certified products. Conformity assessment addresses both the design and production phases. There is an option to adopt a quality systems approach to cover the production phase for some equipment. The quality system will be based on the ISO 9000 series of standards but augmented for this purpose.
- The requirements for surveillance are addressed in more detail and are not therefore open to differing interpretations of the requirements.

All manufacturers of products covered by these new directives must prepare a declaration of conformity containing details about the product, its intended use and how it complies with the requirements. In most cases, this will entail the involvement of a Notified Body in the Conformity Assessment Procedure.

DIVISION, ZONE, CATEGORY RISK ASSESSMENT

	FLAMMABLE GAS ALWAYS PRESENT >1000 HRS./YEAR	FLAMMABLE GAS NORMALLY PRESENT 10-1000 HRS./YEAR	FLAMMABLE GAS NOT NORMALLY PRESENT <10 HRS./YEAR
U.S. — NEC 500	Division 1	Division 1	Division 2
U.S. — NEC 505	Zone 0	Zone 1	Zone 2
CENELEC/IEC	Zone 0	Zone 1	Zone 2
ATEX	Category 1G (Gas)	Category 2G (Gas)	Category 3G (Gas)

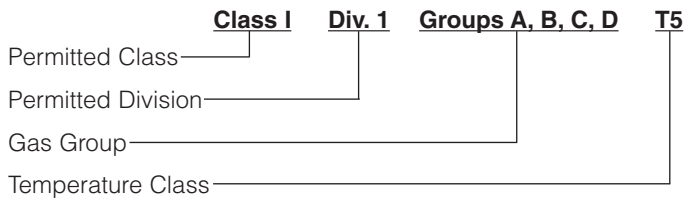
PROTECTION METHODS

METHOD OF PROTECTION	SYMBOL	PERMITTED ZONE IEC	PERMITTED ZONE US (NEC 505)	ATEX CATEGORY
Flameproof	d	1 & 2	1 & 2	2
Enclosed Break	nC	2	2	3
Powder Filled	q	1 & 2	1 & 2	2
Increased Safety	e	1 & 2	1 & 2	2
Non-Sparking	nA	2	2	3
Intrinsic Safety	ia	0, 1 & 2	0, 1 & 2	1
	ib	1 & 2	1 & 2	2
	ic	2	—	3
Energy Limitation	nL	2	2	3
Pressurized	px	1 & 2	1 & 2	2
	py	1 & 2	1 & 2	2
	pz	2	2	3
Encapsulation	ma	0, 1 & 2	0, 1 & 2	1
	mb	1 & 2	1 & 2	2
Oil Immersion	o	1 & 2	1 & 2	2
Restricted Breathing	nR	2	2	3
Special	s (1)	—	—	1

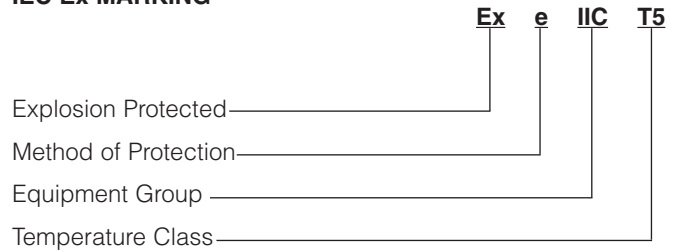
(1) Must be marked suitable for Zone 0

EXPANDED MARKINGS

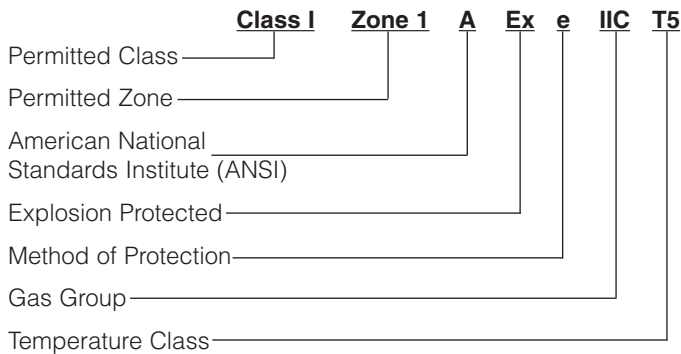
U.S. (NEC 500)



IEC Ex MARKING

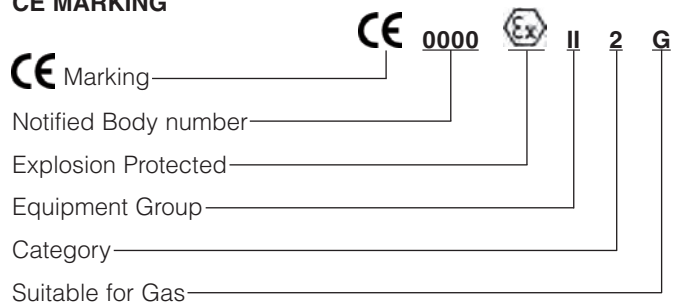


U. S. (NEC 505)

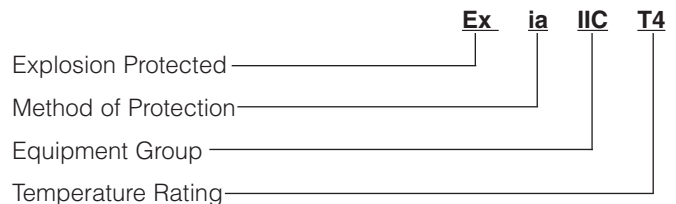


ATEX MARKING

CE MARKING



ADDITIONAL MARKING



Equipment certified by the various test authorities may require additional marking information such as the symbol or name of the test authority, certificate number, year of issue, etc. European countries issue certificates of conformity, and these certificates will include special instructions on the installation, including installation limitations.

With the advent of free trade, the Standards Council of Canada and OSHA have accredited a number of nationally recognized testing laboratories (NRTL) to certify equipment to each others' National Standards.

- USA** Multiple agencies issue product standards
 - OSHA accredits testing agencies (Listing to ANSI Standards)
 - Specific, multiple or no marking may be acceptable to, or required by regulatory agencies.
 - Self-certification by a manufacturer is permitted.
- Canada** CSA is responsible for issuing all product standards.
 - Standards Council of Canada accredits testing agencies (Listing to CSA Standards)
 - Specific marking required for approval by regulatory agencies.
- CENELEC** Issues Product Standards and Installation Practices for EU Member Nations
 - Testing permitted by multiple member country agencies.
 - Specific marking required for approval by regulatory agencies.
- IEC EX** The IEC Ex Scheme has been working on a certification mark that will be recognized and accepted by all member countries.

UNITED STATES - THE FOLLOWING CERTIFICATION MARKS APPLY TO THE U.S.



If the CSA Mark appears with the "NRTL" qualifier only, this indicates that the product is CSA certified for the U. S. market to the applicable ANSI/UL standards.



This logo was introduced in 1999 to be consistent in North America.



Listed means the same as certified or approved. This means a product has been fully investigated to a specific set of construction standards. In hazardous locations, Zone type products must be specifically "Listed" for the location.



Classified products are different than listed products. Products carrying this mark have been evaluated for specific properties. Although UL has a Canadian mark, CSA has no equivalent certification process.



UL's Component Recognition Service covers the testing and evaluation of component products that are incomplete or restricted in performance capabilities. These components will later be used in complete products or systems approved by UL. UL's Component Recognition Service covers components, such as plastics, wire and printed wiring boards, that may be used in very specific, or a broad spectrum of end-products, or components such as motors or power supplies. These components are not intended for separate installation in the field, they are intended for use as components of complete equipment submitted for investigation to UL.



Factory Mutual Approval is essentially the same as certified or listed. This means a product has been fully investigated to a specific set of construction standards. In hazardous locations, Factory Mutual specifically approves Zone type products for the location.

"Complies With"

Certain manufacturers use the term "complies with" for selected products. In the U. S., companies are permitted to "self certify" products to a standard or set of standards, which may or may not include ANSI standards. This means no third party testing agency has actually investigated the product for safety or performance. The installer and the authorities having jurisdiction over the electrical installations are simply accepting the word or reputation of the manufacturer. This practice is not acceptable in Canada or EU countries.

**CANADA
CANADIAN STANDARDS ASSOCIATION -
The CSA Mark may appear alone or with qualifiers.**



If the CSA Mark appears alone, it means that the product is CSA certified for the Canadian Market, to the applicable Canadian standards.



If the CSA Mark appears with qualifiers "NRTL/C", It means that the product is CSA certified for the U. S. and Canadian markets.





A new logo was introduced in 1999 for consistency in North America.



Underwriters Laboratories of Canada – While it is affiliated with UL in the U.S., ULC is a separate agency. The ULC listing is often confused with the C-UL mark. Underwriters Laboratories of Canada is limited in its testing of electrical equipment therefore the mark is normally used in conjunction with marking from one or more agencies. ULC deals with all equipment related to fire alarms in Canada.

Underwriters Laboratories – There are three marks used by UL to accommodate the Canadian market.



Products with the C-UL Listing mark have been evaluated to Canadian safety requirements, which may be somewhat different from U. S. safety requirements.



The use of the C-UL Classification mark, indicates that UL has used some or portions of the Canadian standards to evaluate the product for specific hazards or properties. CSA does not have standards or certification procedures that allow this type of certification. Users should check with appropriate regulatory agency for further information.



The use of the Recognized Component mark, which indicates that UL has used some or portions of the Canadian standards to evaluate specific components, is rarely seen. This mark is used specifically on component parts that are part of a larger product or system. These components may have restrictions on their performance or may be incomplete in construction. CSA does not have standards or certification procedures that allow this type of certification. Users should check with appropriate regulatory agency for further information.



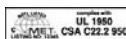
These marks indicate products meet the requirements of both CSA and ANSI (UL) and are suitable for both Canada and the United States.



While these marks indicate compliance with both U.S. and Canadian standards, construction or certification of this type is not necessarily recognized in Canada.



Others



Products approved by MET can be marked for acceptance throughout Canada. The MET CSA Label may indicate the applicable CSA standard to which the product has been certified.



Intertek Testing Services – products approved by ETL and Warnock Hersey can be marked for acceptance throughout Canada.



EUROPE - THE FOLLOWING IS INTENDED FOR PRODUCTS USED IN THE EUROPEAN UNION COUNTRIES



The “Hex EX” mark identifies products which are tested by an accredited EU member test facility to a harmonized (GENELEC) Standard. The Ex symbol is accompanied by the name of the testing agency and a report number. All hazardous location products used in the EU must have the Ex mark and may also require CE or ATEX markings.



Marking to show compliance with the European Union’s (EU) approval directive. Use of the CE mark indicates conformity to the applicable directives for a particular type of product such as electromagnetic compatibility (EMC) or electromagnetic interference (EMI). This is often self declared by the manufacturer.



The designs of Killark products are original and proprietary and in many instances are covered by patents.

Killark products are designed to be installed as governed by the National Electric Code. The products are designed to conform with suitable Third Party Certifier standards where such standards exist. Most Killark standard cataloged products are covered by third party certification reports and inspection procedures. These certifications are a matter of record and are indicated by the product identification marking and the certifiers logo. Generally, the marking is required on the product itself, however, under certain circumstances, the marking may be applied to the carton only.

In general, products are Third Party Certified as complete assemblies, however, exceptions do exist. One such exception would be separate shipment of control station cover assemblies and the splice boxes. In some instances, components may be covered (i.e., UL Recognized) for use in other equipment which will be submitted for certification of the complete assembly. The nature of the agreements with Third Party Certifiers requires that product deviations from the originally submitted design be resubmitted for evaluation prior to application of the logo. It is not uncommon for re-submittals to take a substantial length of time.

Generally, Killark's standard cataloged products are covered by one or more of the following Third Party certifiers: Underwriters Laboratories Inc., Factory Mutual Research Corporation, Canadian Standards Association, CENELEC, BASEEFA and PTB. Products covered are indicated by the Third Party Certifiers logo and file number on the individual catalog pages. There may be instances where not all products on a particular page containing a logo are listed. When certification information is required, consult the factory or refer to the appropriate certifier for listings.



KILLARK®

Registered Logotype and Trademark of: Killark
A Division of Hubbell Incorporated (Delaware)
St. Louis, MO USA
Manufacturer of Electrical Products for Hazardous and Non-Hazardous Locations: Fittings, Enclosures, Distribution Equipment, Plugs and Receptacles, Controls and Lighting Fixtures.



KILLARK®

K-PAK®

Is a registered trademark identifying Killark Shelf packaging.

CorroSAFE® Electrical Conduit Fittings
CorroSAFE is a trademark identifying a protective coating used on Killark Aluminum Electrical Conduit Fittings.

DURALOY® Electrical Conduit Fittings
DURALOY is a trademark identifying a Tri-Coat protective finish used on Iron Electrical Conduit Fittings for standard and hazardous locations.



Control Stations
DURATECH is a registered trademark identifying Killark Non-metallic control stations for harsh and hazardous locations.

CLENCHER® Cable Connectors
CLENCHER is a registered trademark identifying Killark Cable Connectors for standard and hazardous locations.



Cord and Cable Connectors
Z-SERIES is a trademark identifying Killark Cord and Cable Connectors for Standard and certain hazardous locations.

SEAL-X® Control Stations
SEAL-X is a registered trademark identifying Killark Factory Sealed Control Stations for hazardous locations.

QUANTUM®
Enclosures for Hazardous & Hostile Locations
QUANTUM is a registered trademark identifying Killark Electrical Junction Boxes and Enclosures for hazardous & hostile locations.

PRISM® Enclosures
PRISM is a registered trademark identifying Killark Enclosures, Motor Controls, Disconnect Switches and Panelboards.

ACCEPTOR® Plugs and Receptacles
ACCEPTOR is a registered trademark identifying Killark interchangeable Plug and Receptacle System for hazardous locations.

VersaMATE® Plugs & Receptacles
VersaMATE is a registered trademark identifying Killark Pin & Sleeve Plugs and Receptacles for standard and hazardous locations.

CERTILITE® Lighting
CERTILITE is a registered trademark identifying Killark Luminaires for standard and certain hazardous locations.

ENVIORITE® Lighting
ENVIORITE is a registered trademark identifying Killark Luminaires for standard and hostile locations.

HOSTILELITE® Lighting
HOSTILELITE is a registered trademark identifying Killark Luminaires for hazardous and hostile locations.

MARIGARD® Lighting
MARIGARD is a trademark identifying Killark Stainless Steel Floodlights for Marine and Hazardous Locations.

LINEARLITE®* Lighting
LINEARLITE is a trademark identifying Killark Fluorescent Luminaires for hostile and hazardous locations.

LINEARLITE®* E EMERGENCY
LINEARLITE E is a trademark identifying Killark Emergency Fluorescent Luminaires for hostile and hazardous locations.

ConSpec® CONTROL STATIONS & PANELS Control Stations & Panels
ConSpec is a registered trademark identifying Killark Control Stations and Panels for hazardous locations.

TECHNeTERM® Terminal Enclosures
TECHNeTERM is a registered trademark identifying Killark Increased Safety Terminal Enclosures for hazardous locations.

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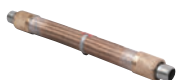
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FEATURES-SPECIFICATIONS

K-PAK®

K-PAK® packaging enables Killark distributors to feature fast-moving products in counter display areas.

Killark's best selling standard location products have been repackaged into smaller shelf packs for effective product family presentation.

The uniformly sized (width and height are consistent) cartons allow items to be merchandised on a typical 48" w x 54" H x 18" gondola unit (not supplied by Killark).

Features/Benefits

- Cartons are suitable for counter merchandising display and/or warehouse storage.
- Open-top bin box displays products for easy customer self-service.
- All cartons are bar coded for easy electronic identification.
- Conduit bodies are packaged with appropriate covers and gaskets.

K-PAK Carton Dimensions

Full depth cartons:

6"W x 81/2"H x 15"D

Half depth cartons:

6"W x 81/2"H x 71/2"D

Display face (width & height) same for all cartons.

O FITTINGS		
CATALOG NUMBER	DESCRIPTION	PKG QTY.
OC-1CG	1/2" C w/cover & gasket	40
OC-2CG	3/4" C w/cover & gasket	25
OC-3CG	1" C w/cover & gasket	20
OC-4CG	1-1/4" C w/cover & gasket	8
OC-5CG	1-1/2" C w/cover & gasket	8
OC-6CG	2" C w/cover & gasket	3
OLB-1CG	1/2" LB w/cover & gasket	40
OLB-2CG	3/4" LB w/cover & gasket	25
OLB-3CG	1" LB w/cover & gasket	15
OLB-4CG	1-1/4" LB w/cover & gasket	8
OLB-5CG	1-1/2" LB w/cover & gasket	5
OLB-6CG	2" LB w/cover & gasket	3
OLB-7CG	2-1/2" LB w/cover & gasket	1
OLB-8CG	3" LB w/cover & gasket	1
OLB-9CG	3-1/2" LB w/cover & gasket	1
OLB-0CG	4" LB w/cover & gasket	1
OLL-1CG	1/2" LL w/cover & gasket	40
OLL-2CG	3/4" LL w/cover & gasket	25
OLL-3CG	1" LL w/cover & gasket	15
OLL-4CG	1-1/4" LL w/cover & gasket	8
OLL-5CG	1-1/2" LL w/cover & gasket	8
OLL-6CG	2" LL w/cover & gasket	3
OLR-1CG	1/2" LR w/cover & gasket	40
OLR-2CG	3/4" LR w/cover & gasket	25
OLR-3CG	1" LR w/cover & gasket	15
OLR-4CG	1-1/4" LR w/cover & gasket	8
OLR-5CG	1-1/2" LR w/cover & gasket	8
OLR-6CG	2" LR w/cover & gasket	3
OT-1CG	1/2" T w/cover & gasket	30
OT-2CG	3/4" T w/cover & gasket	25
OT-3CG	1" T w/cover & gasket	15
OT-4CG	1-1/4" T w/cover & gasket	8
OT-5CG	1-1/2" T w/cover & gasket	8
OT-6CG	2" T w/cover & gasket	2

SLB FITTINGS		
CATALOG NUMBER	DESCRIPTION	PKG QTY.
SLB-1-CP	1/2" Service entrance LB	50
SLB-2-CP	3/4" Service entrance LB	25
SLB-3-CP	1" Service entrance LB	25

CO FITTINGS*		
CATALOG NUMBER	DESCRIPTION	PKG QTY.
COC-1CG	1/2" C w/cover & gasket	10
COC-2CG	3/4" C w/cover & gasket	10
COC-3CG	1" C w/cover & gasket	5
COLB-1CG	1/2" LB w/cover & gasket	10
COLB-2CG	3/4" LB w/cover & gasket	10
COLB-3CG	1" LB w/cover & gasket	5
COLL-1CG	1" L w/cover & gasket	10
COLL-2CG	2" L w/cover & gasket	10
COLL-3CG	3" L w/cover & gasket	5
COLR-1CG	1/2" LR w/cover & gasket	10
COLR-2CG	3/4" LR w/cover & gasket	10
COLR-3CG	1" LR w/cover & gasket	5
COT-1CG	1/2" LR w/cover & gasket	10
COT-2CG	3/4" LR w/cover & gasket	10
COT-3CG	1" LR w/cover & gasket	5

*For additional sizes see pages F20 - F22

FS/FD BACK BOXES/COVERS		
CATALOG NUMBER	DESCRIPTION	PKG QTY.
1FA-CP	Duplex cover	50
1FT-CP	Toggle cover	50
FCLA-CP	Duplex cover	25
FDC-1-CP	1/2" FDC box	10
FDC-2-CP	3/4" FDC box	10
FD-1-CP	1/2" FD box	10
FD-2-CP	3/4" FD box	10
FSBC-CP	Blank cover	50
FSC-1-CP	1/2" FSC box	15
FSC-2-CP	3/4" FSC box	15
FST-CP	Cover	25
FS-1-CP	1/2" FS box	20
FS-2-CP	3/4" FS box	20

WH WEATHERPROOF HUBS		
CATALOG NUMBER	DESCRIPTION	PKG QTY.
WH-1	1/2" Conduit hub	25
WH-2	3/4" Conduit hub	25
WH-3	1" Conduit hub	25



KILLARK®



LR Type

- Suitable for wet locations when used with gasketed covers.
- Federal Specification W-C-586D/A-A 50563.
- Suitable for use in hazardous location applications when installed according to NEC Articles 501.10(b), Class I, Div. 2, (Suitable for use in Class I Zone 2 applications) 502.10 and 503.10.

 Listed File No. E3397

 Certified File No. LR11852

FEATURES-SPECIFICATIONS

DURALOY® 7

Applications

To provide access to conductors for pulling, splicing, and maintenance. Threaded for rigid conduit and IMC.

Features

- Interchangeability UL Listed and CSA Certified interchangeability with competitive products
- Enhanced sealing capabilities neoprene sealing gaskets provide a NEMA 3 Seal
- High-quality sealing hardware 316 stainless steel cover screws and washers with neoprene gaskets
- Suitable for wet locations when used with gaskets
- Innovative spring clip design for installation ease and repeat usage
- Smooth integral wire bushings protects cable from damage when wires are pulled through opening
- For use with threaded rigid conduit steel or aluminum
- Ten standard hub configurations
- Flat-back design for greater wiring capacity and mounting stability

Material/Finish

Aluminum

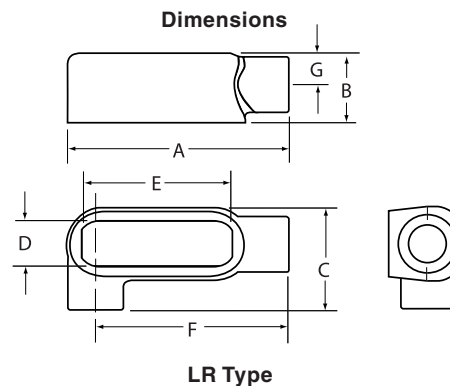
- Copper-free aluminum (less than 4/10 of 1%)
- Electrostatically applied powder coating

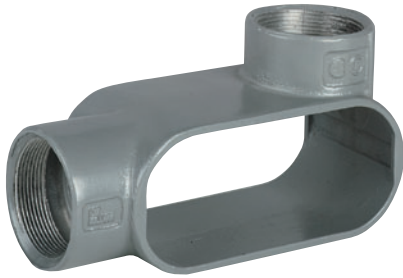
Duraloy Iron

- Class 30 gray iron alloy
- Superior corrosion protection tri-coat finish of electrozinc, chromate sealant and electrostatically applied powder coating.

LR TYPE CONDUIT BODY*										
CATALOG NUMBER	KILLARK ALUM.	DURALOY IRON	HUB SIZE	DIMENSIONS						VOLUME CU. IN.
				A	B	C	D	E	F	
LR17SA	LR17	1/2"	4-11/16" (119)	1-7/16" (37)	2-5/16" (59)	1" (25)	3-3/16" (81)	4-1/16" (103)	5/8" (16)	4.0
LR27SA	LR27	3/4"	5-3/8" (137)	1-11/16" (43)	2-5/8" (67)	1-1/8" (29)	3-13/16" (97)	4-5/8" (117)	3/4" (19)	7.0
LR37SA	LR37	1"	6-5/16" (160)	1-7/8" (48)	3-1/16" (78)	1-3/8" (35)	4-1/2" (114)	5-3/8" (137)	7/8" (22)	11.0
LR47SA	LR47	1-1/4"	6-13/16" (173)	2-5/16" (59)	3-1/2" (89)	1-13/16" (46)	5" (127)	5-3/4" (146)	1-1/8" (29)	19.5
LR57SA	LR57	1-1/2"	7-1/4" (184)	2-9/16" (65)	3-11/16" (94)	2-1/16" (52)	5-7/16" (138)	6-1/16" (154)	1-1/4" (32)	26.0
LR67SA	LR67	2"	8-1/4" (210)	3-1/8" (79)	4-1/4" (108)	2-5/8" (67)	6-3/8" (162)	6-3/4" (171)	1-1/2" (38)	48.0
LR77SA	LR77	2-1/2"	10-15/16" (278)	4-3/8" (111)	6-3/16" (157)	3-7/8" (98)	8-3/8" (213)	8-3/4" (222)	2-1/8" (54)	131.5
LR87SA	LR87	3"	10-15/16" (278)	4-3/8" (111)	6-3/16" (157)	3-7/8" (98)	8-3/8" (213)	8-3/4" (222)	2-1/8" (54)	131.5
LR97SA	LR97	3-1/2"	13" (330)	5-3/8" (137)	7-1/4" (184)	4-3/4" (121)	10-1/4" (260)	10-5/16" (262)	2-5/8" (67)	238.0
LR107SA	LR107	4"	13" (330)	5-3/8" (137)	7-1/4" (184)	4-3/4" (121)	10-1/4" (260)	10-5/16" (262)	2-5/8" (67)	238.0

* For conduit body packaged with cover and gasket, add **CG** to the catalog number.





L Type ①



T Type

- Suitable for wet locations when used with gasketed covers.
- Federal Specification W-C-586D/A-A 50563.
- Suitable for use in hazardous location applications when installed according to NEC Articles 501.10(b), Class I, Div. 2, (Suitable for use in Class I Zone 2 applications) 502.10 and 503.10.

UL Listed File No. E3397

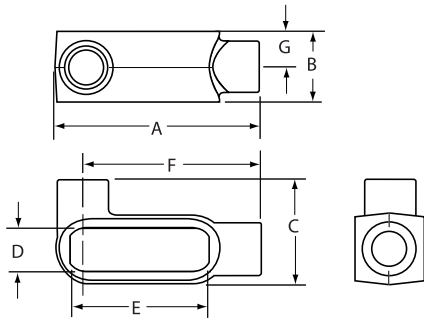
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FEATURES-SPECIFICATIONS

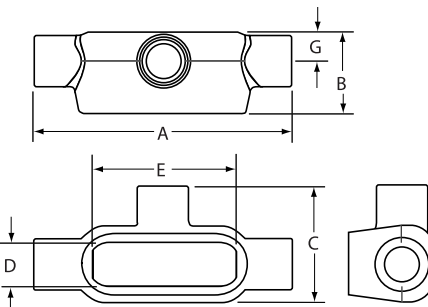
DURALOY® 7

See page F3 for Standard Materials & Finish

Dimensions



L Type



T Type

L TYPE ① CONDUIT BODY*										
CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
L17SA	L17	1/2"	4-11/16" (119)	1-7/16" (37)	2-5/16" (59)	1" (25)	3-3/16" (81)	4-1/16" (103)	5/8" (16)	4.0
L27SA	L27	3/4"	5-3/8" (137)	1-11/16" (43)	2-5/8" (67)	1-1/8" (29)	3-13/16" (97)	4-5/8" (117)	3/4" (19)	7.0
L37SA	L37	1"	6-5/16" (160)	1-7/8" (48)	3-1/16" (78)	1-3/8" (35)	4-1/2" (114)	5-3/8" (137)	7/8" (22)	11.0
L47SA	L47	1-1/4"	6-13/16" (173)	2-5/16" (59)	3-1/2" (89)	1-13/16" (46)	5" (127)	5-3/4" (146)	1-1/8" (29)	19.5
L57SA	L57	1-1/2"	7-1/4" (184)	2-9/16" (65)	3-1/16" (94)	2-1/16" (52)	5-7/16" (138)	6-1/16" (154)	1-1/4" (32)	26.0
L67SA	L67	2"	8-1/4" (210)	3-1/8" (79)	4-1/4" (108)	2-5/8" (67)	6-3/8" (162)	6-3/4" (171)	1-1/2" (38)	48.0
L77SA	L77	2-1/2"	10-15/16" (278)	4-3/8" (111)	6-3/16" (157)	3-7/8" (98)	8-3/8" (213)	8-3/4" (222)	2-1/8" (54)	131.5
L87SA	L87	3"	10-15/16" (278)	4-3/8" (111)	6-3/16" (157)	3-7/8" (98)	8-3/8" (213)	8-3/4" (222)	2-1/8" (54)	131.5

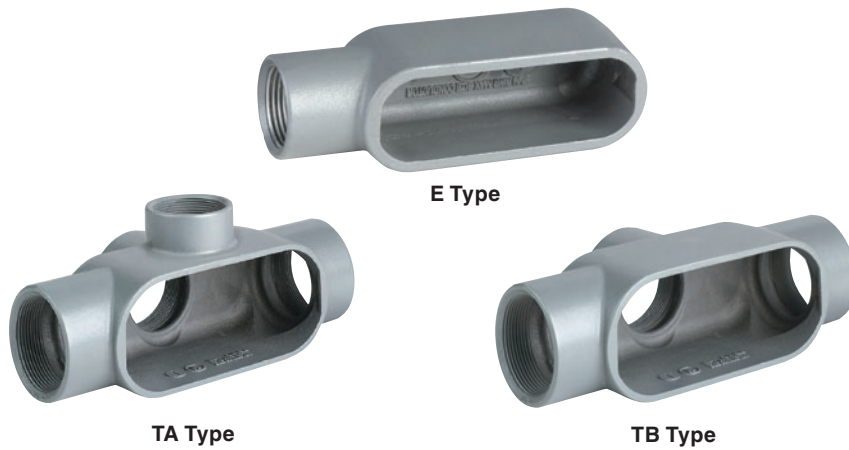
①L type is double faced and may be used as LL or LR. Has 2 openings, one of which is furnished with a blank sheet cover.

T TYPE CONDUIT BODY*										
CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
T17SA	T17	1/2"	5-11/16" (000)	1-13/16" (46)	2-1/2" (64)	1" (25)	3-3/16" (81)	—	5/8" (16)	6.2
T27SA	T27	3/4"	6-5/16" (000)	2-1/16" (52)	2-3/4" (67)	1-1/8" (29)	3-13/16" (97)	—	3/4" (19)	9.5
T37SA	T37	1"	7-5/8" (194)	2-1/4" (57)	3-1/4" (83)	1-3/8" (35)	4-1/2" (114)	—	7/8" (22)	11.5
T47SA	T47	1-1/4"	8" (203)	2-5/16" (59)	3-1/2" (89)	1-13/16" (46)	5" (127)	—	1-1/8" (29)	20.0
T57SA	T57	1-1/2"	8-7/16" (214)	2-9/16" (65)	3-1/16" (94)	2-1/16" (52)	5-7/16" (138)	—	1-1/4" (32)	27.0
T67SA	T67	2"	9-7/16" (240)	3-1/8" (79)	4-1/4" (108)	2-5/8" (67)	6-3/8" (162)	—	1-1/2" (38)	50.0
T77SA	T77	2-1/2"	12-3/4" (324)	4-3/8" (111)	6-3/16" (157)	3-7/8" (98)	8-3/8" (213)	—	2-1/8" (54)	134.0
T87SA	T87	3"	12-3/4" (324)	4-3/8" (111)	6-3/16" (157)	3-7/8" (98)	8-3/8" (213)	—	2-1/8" (54)	134.0
T97SA	T97	3-1/2"	14-7/8" (378)	5-3/8" (137)	7-1/4" (184)	4-3/4" (121)	10-1/4" (260)	—	2-5/8" (67)	238.0
T107SA	T107	4"	14-7/8" (378)	5-3/8" (137)	7-1/4" (184)	4-3/4" (121)	10-1/4" (260)	—	2-5/8" (67)	238.0

* For conduit body packaged with cover and gasket, add CG to the catalog number.



KILLARK®



- Suitable for wet locations when used with gasketed covers.
- Federal Specification W-C-586D/A-A 50563.
- Suitable for use in hazardous location applications when installed according to NEC Articles 501.10(b), Class I, Div. 2, (Suitable for use in Class I Zone 2 applications) 502.10 and 503.10.

Listed File No. E3397

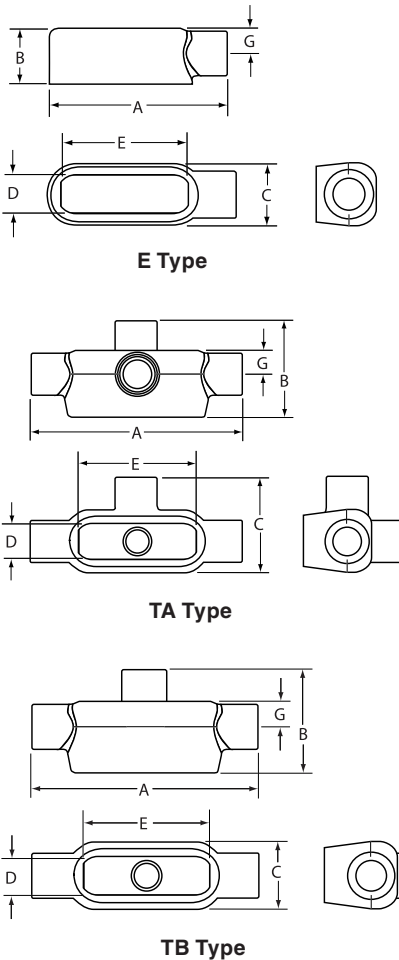
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FEATURES-SPECIFICATIONS

DURALOY® 7

See page F3 for Standard Materials & Finish

Dimensions



E TYPE CONDUIT BODY*										
CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
E17SA	E17	1/2"	4-11/16" (119)	1-7/16" (37)	1-1/2" (38)	1" (25)	3-3/16" (81)	—	5/8" (16)	4.0
E27SA	E27	3/4"	5-3/8" (137)	1-11/16" (43)	1-3/4" (67)	1-1/8" (29)	3-13/16" (97)	—	3/4" (19)	7.0
E37SA	E37	1"	6-5/16" (160)	1-7/8" (48)	1-15/16" (49)	1-3/8" (35)	4-1/2" (114)	—	7/8" (22)	11.0

TA TYPE CONDUIT BODY*										
CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
TA17SA	TA17	1/2"	5-11/16" (144)	2-5/8" (67)	2-1/2" (64)	1" (25)	3-3/16" (81)	—	5/8" (16)	6.2
TA27SA	TA27	3/4"	6-5/16" (160)	2-7/8" (73)	2-3/4" (67)	1-1/8" (29)	3-13/16" (97)	—	3/4" (19)	9.5
TA37SA	TA37	1"	7-5/8" (194)	3-3/8" (86)	3-1/4" (100)	1-3/8" (35)	4-1/2" (114)	—	7/8" (22)	15.5
TA47SA	TA47	1-1/4"	8" (203)	3-1/2" (89)	3-1/2" (89)	1-13/16" (46)	5" (127)	—	1-1/8" (32)	20.0
TA57SA	TA57	1-1/2"	8-7/16" (214)	3-3/4" (95)	3-11/16" (94)	2-1/16" (52)	5-7/16" (138)	—	1-1/4" (32)	27.0
TA67SA	TA67	2"	9-7/16" (240)	4-5/16" (110)	4-1/4" (108)	2-5/8" (67)	6-3/8" (162)	—	1-1/2" (38)	50.0

TB TYPE CONDUIT BODY*										
CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
TB17SA	TB17	1/2"	5-11/16" (144)	2-5/8" (67)	1-11/16" (43)	1" (25)	3-3/16" (81)	—	5/8" (16)	6.2
TB27SA	TB27	3/4"	6-5/16" (160)	2-7/8" (73)	1-7/8" (67)	1-1/8" (29)	3-13/16" (97)	—	3/4" (19)	9.5
TB37SA	TB37	1"	7-5/8" (194)	3-3/8" (86)	3-3/8" (86)	1-3/8" (35)	4-1/2" (114)	—	7/8" (22)	15.5
TB47SA	TB47	1-1/4"	8" (203)	3-1/2" (89)	3-1/2" (89)	1-13/16" (46)	5" (127)	—	1-1/8" (29)	20.0
TB57SA	TB57	1-1/2"	8-7/16" (214)	3-3/4" (95)	3-3/4" (95)	2-1/16" (52)	5-7/16" (138)	—	1-1/4" (32)	27.0
TB67SA	TB67	2"	9-7/16" (240)	4-5/16" (110)	4-5/16" (110)	2-5/8" (67)	6-3/8" (162)	—	1-1/2" (38)	50.0

* For conduit body packaged with cover and gasket, add **CG** to the catalog number.



X Type



C Type

- Suitable for wet locations when used with gasketed covers.
- Federal Specification W-C-586D/A-A 50563.
- Suitable for use in hazardous location applications when installed according to NEC Articles 501.10(b), Class I, Div. 2, (Suitable for use in Class I Zone 2 applications) 502.10 and 503.10.

Listed File No. E3397

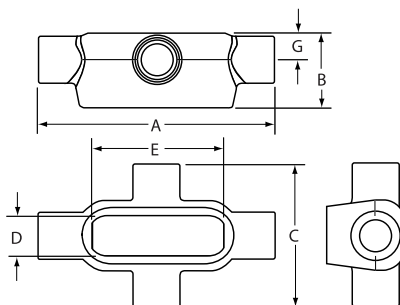
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FEATURES-SPECIFICATIONS

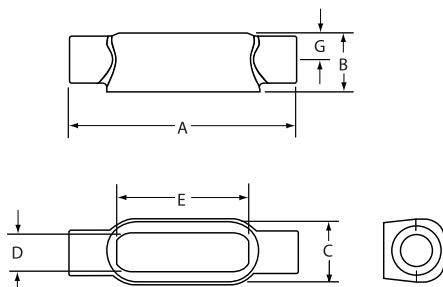
DURALOY® 7

See page F3 for Standard Materials & Finish

Dimensions



X Type



C Type

X TYPE CONDUIT BODY*										
CATALOG NUMBER KILLARK ALUM.	DURALOY IRON	HUB SIZE	DIMENSIONS							VOLUME CU. IN.
			A	B	C	D	E	F	G	
X17SA	X17	1/2"	5-11/16" (144)	1-3/8" (35)	3-3/8" (86)	1" (25)	3-3/16" (81)	—	5/8" (16)	6.2
X27SA	X27	3/4"	6-5/16" (160)	2-1/16" (52)	3-9/16" (67)	1-1/8" (29)	3-13/16" (97)	—	3/4" (19)	9.5
X37SA	X37	1"	7-5/8" (194)	2-1/4" (57)	4-3/8" (111)	1-3/8" (35)	4-1/2" (114)	—	7/8" (22)	15.5
X47SA	X47	1-1/4"	8" (203)	2-5/16" (59)	4-11/16" (100)	1-13/16" (46)	5" (127)	—	1-1/8" (29)	20.0
X57SA	X57	1-1/2"	8-7/16" (214)	2-9/16" (65)	4-7/8" (124)	2-1/16" (52)	5-7/16" (138)	—	1-1/4" (32)	27.0
X67SA	X67	2"	9-7/16" (240)	3-1/8" (79)	5-7/16" (138)	2-5/8" (67)	6-3/8" (162)	—	1-1/2" (38)	50.0

C TYPE CONDUIT BODY*										
CATALOG NUMBER KILLARK ALUM.	DURALOY IRON	HUB SIZE	DIMENSIONS							VOLUME CU. IN.
			A	B	C	D	E	F	G	
C17SA	C17	1/2"	5-1/2" (140)	1-7/16" (37)	1-1/2" (38)	1" (25)	3-3/16" (81)	—	5/8" (16)	4.0
C27SA	C27	3/4"	6-3/16" (157)	1-11/16" (43)	1-3/4" (67)	1-1/8" (29)	3-13/16" (97)	—	3/4" (19)	7.0
C37SA	C37	1"	7-7/16" (189)	1-7/8" (48)	1-15/16" (49)	1-3/8" (35)	4-1/2" (114)	—	7/8" (22)	11.0
C47SA	C47	1-1/4"	8" (203)	2-5/16" (59)	2-5/16" (59)	1-13/16" (46)	5" (127)	—	1-1/8" (29)	19.5
C57SA	C57	1-1/2"	8-7/16" (214)	2-9/16" (65)	2-1/2" (64)	2-1/16" (52)	5-7/16" (138)	—	1-1/4" (32)	26.0
C67SA	C67	2"	9-7/16" (240)	3-1/8" (79)	3-1/16" (78)	2-5/8" (67)	6-3/8" (162)	—	1-1/2" (38)	48.0
C77SA	C77	2-1/2"	12-3/4" (324)	4-3/8" (111)	4-3/8" (111)	3-7/8" (98)	8-3/8" (213)	—	2-1/8" (54)	131.5
C87SA	C87	3"	12-3/4" (324)	4-3/8" (111)	4-3/8" (111)	3-7/8" (98)	8-3/8" (213)	—	2-1/8" (54)	131.5
C97SA	C97	3-1/2"	14-7/8" (378)	5-3/8" (137)	5-3/8" (137)	4-3/4" (121)	10-1/4" (260)	—	2-5/8" (67)	238.0
C107SA	C107	4"	14-7/8" (378)	5-3/8" (137)	5-3/8" (137)	4-3/4" (121)	10-1/4" (260)	—	2-5/8" (67)	238.0

* For conduit body packaged with cover and gasket, add **CG** to the catalog number.



KILLARK®



LB Type



LL Type

- Suitable for wet locations when used with gasketed covers.
- Federal Specification W-C-586D/A-A 50563.
- Suitable for use in hazardous location applications when installed according to NEC Articles 501.10(b), Class I, Div. 2, (Suitable for use in Class I Zone 2 applications) 502.10 and 503.10.

Listed File No. E3397

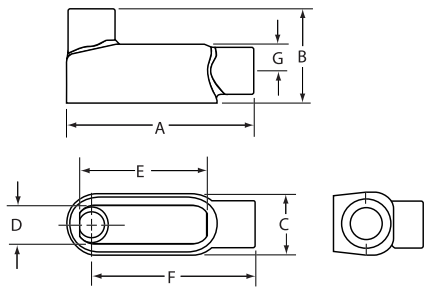
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FEATURES-SPECIFICATIONS

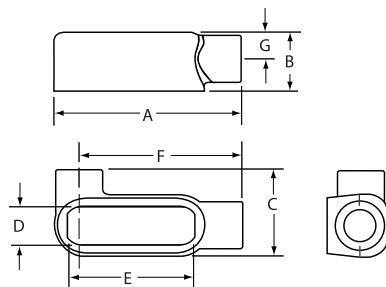
DURALOY® 7

See page F3 for Standard Materials & Finish

Dimensions



LB Type



LL Type

LB TYPE CONDUIT BODY*										
CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
LB17SA	LB17	1/2"	4-11/16" (119)	2-1/4" (57)	1-1/2" (38)	1" (25)	3-3/16" (81)	4-1/16" (103)	5/8" (16)	4.0
LB27SA	LB27	3/4"	5-3/8" (137)	2-1/2" (64)	1-3/4" (67)	1-1/8" (29)	3-13/16" (97)	4-5/8" (117)	3/4" (19)	7.0
LB37SA	LB37	1"	6-5/16" (160)	3" (76)	1-15/16" (49)	1-3/8" (35)	4-1/2" (114)	5-3/8" (137)	7/8" (22)	11.0
LB47SA	LB47	1-1/4"	6-13/16" (173)	3-1/2" (89)	2-5/16" (59)	1-13/16" (46)	5" (127)	5-3/4" (146)	1-1/8" (29)	19.5
LB57SA	LB57	1-1/2"	7-1/4" (184)	3-3/4" (95)	2-1/2" (64)	2-1/16" (52)	5-7/16" (138)	6-1/16" (154)	1-1/4" (32)	26.0
LB67SA	LB67	2"	8-1/4" (210)	4-5/16" (109)	3-1/16" (78)	2-5/8" (67)	6-3/8" (162)	6-3/4" (171)	1-1/2" (38)	48.0
LB77SA	LB77	2-1/2"	10-15/16" (278)	6-3/16" (157)	4-3/8" (111)	3-7/8" (98)	8-3/8" (213)	8-3/4" (222)	2-1/8" (54)	131.5
LB87SA	LB87	3"	10-15/16" (278)	6-3/16" (157)	4-3/8" (111)	3-7/8" (98)	8-3/8" (213)	8-3/4" (222)	2-1/8" (54)	131.5
LB97SA	LB97	3-1/2"	13" (330)	7-1/4" (184)	5-3/8" (137)	4-3/4" (121)	10-1/4" (260)	10-5/16" (262)	2-5/8" (67)	238.0
LB107SA	LB107	4"	13" (330)	7-1/4" (184)	5-3/8" (137)	4-3/4" (121)	10-1/4" (260)	10-5/16" (262)	2-5/8" (67)	238.0

LL TYPE CONDUIT BODY*										
CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
LL17SA	LL17	1/2"	4-11/16" (119)	1-7/16" (37)	2-5/16" (59)	1" (25)	3-3/16" (81)	4-1/16" (103)	5/8" (16)	4.0
LL27SA	LL27	3/4"	5-3/8" (137)	1-11/16" (43)	2-5/8" (67)	1-1/8" (29)	3-13/16" (97)	4-5/8" (117)	3/4" (19)	7.0
LL37SA	LL37	1"	6-5/16" (160)	1-7/8" (48)	3-1/16" (78)	1-3/8" (35)	4-1/2" (114)	5-3/8" (137)	7/8" (22)	11.0
LL47SA	LL47	1-1/4"	6-13/16" (173)	2-5/16" (59)	3-1/2" (89)	1-13/16" (46)	5" (127)	5-3/4" (146)	1-1/8" (29)	19.5
LL57SA	LL57	1-1/2"	7-1/4" (184)	2-9/16" (65)	3-11/16" (94)	2-1/16" (52)	5-7/16" (138)	6-1/16" (154)	1-1/4" (32)	26.0
LL67SA	LL67	2"	8-1/4" (210)	3-1/8" (79)	4-1/4" (108)	2-5/8" (67)	6-3/8" (162)	6-3/4" (171)	1-1/2" (38)	48.0
LL77SA	LL77	2-1/2"	10-15/16" (278)	4-3/8" (111)	6-3/16" (157)	3-7/8" (98)	8-3/8" (213)	8-3/4" (222)	2-1/8" (54)	131.5
LL87SA	LL87	3"	10-15/16" (278)	4-3/8" (111)	6-3/16" (157)	3-7/8" (98)	8-3/8" (213)	8-3/4" (222)	2-1/8" (54)	131.5
LL97SA	LL97	3-1/2"	13" (330)	5-3/8" (137)	7-1/4" (184)	4-3/4" (121)	10-1/4" (260)	10-5/16" (262)	2-5/8" (67)	238.0
LL107SA	LL107	4"	13" (330)	5-3/8" (137)	7-1/4" (184)	4-3/4" (121)	10-1/4" (260)	10-5/16" (262)	2-5/8" (67)	238.0

* For conduit body packaged with cover and gasket, add **CG** to the catalog number.





Stamped Covers

Cast Covers

FEATURES-SPECIFICATIONS

DURALOY® 7

Stamped Material/Finish
Aluminum

- 316 Stainless steel screws
- Natural finish

Galvanized Steel

- 316 Stainless steel screws
- Natural finish

Cast Material/Finish
Copper-free Aluminum
 (less than 4/10 of 1%)

- Electrostatically applied powder coating

Duraloy Class 30 Gray Iron Alloy

- Tri-coat finish of electrozinc, chromate sealant, and electrostatically applied powder coating
- 316 Stainless steel screws

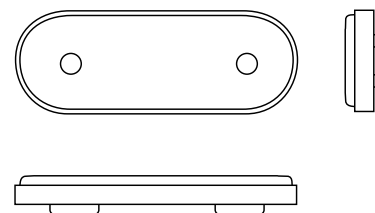
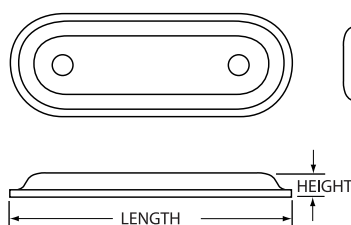
STAMPED ALUMINUM AND STAMPED STEEL COVERS					
CATALOG NUMBER		HUB SIZE	DIMENSIONS		
KILLARK ALUMINUM	STAMPED STEEL		LENGTH	WIDTH	HEIGHT
170SA	170	1/2"	3-11/16" (94)	1-3/8" (35)	5/16" (8)
270SA	270	3/4"	4-1/4" (108)	1-1/2" (32)	5/16" (8)
370SA	370	1"	5" (127)	1-3/4" (44)	5/16" (8)
470SA	470	1-1/4"	5-1/2" (140)	2-3/16" (56)	5/16" (8)
570SA	570	1-1/2"	6" (152)	2-7/16" (62)	5/16" (8)
670SA	670	2"	7" (178)	3" (76)	5/16" (8)
870SA	870	2-1/2"	9" (229)	4-1/4" (108)	9/16" (14)
870SA	870	3"	9" (229)	4-1/4" (108)	9/16" (14)
970SA	970	3-1/2"	11" (279)	5-1/4" (133)	9/16" (14)
970SA	970	4"	11" (279)	5-1/4" (133)	9/16" (14)

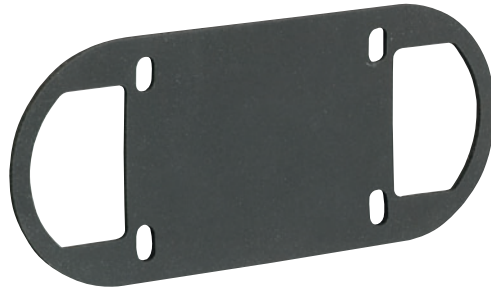
CAST ALUMINUM AND CAST IRON COVERS					
CATALOG NUMBER		HUB SIZE	DIMENSIONS		
KILLARK ALUMINUM	DURALOY IRON		LENGTH	WIDTH	HEIGHT
170CSA	170C	1/2"	3-11/16" (94)	1-3/8" (35)	3/8" (10)
270CSA	270C	3/4"	4-1/4" (108)	1-1/2" (32)	3/8" (10)
370CSA	370C	1"	5" (127)	1-3/4" (44)	3/8" (10)
470CSA	470C	1-1/4"	5-1/2" (140)	2-3/16" (56)	3/8" (10)
570CSA	570C	1-1/2"	6" (152)	2-7/16" (62)	3/8" (10)
670CSA	670C	2"	7" (178)	3" (76)	3/8" (10)
870CSA	870C	2-1/2"	9" (229)	4-1/4" (108)	3/8" (10)
870CSA	870C	3"	9" (229)	4-1/4" (108)	3/8" (10)
970CSA	970C	3-1/2"	11" (279)	5-1/4" (133)	3/8" (10)
970CSA	970C	4"	11" (279)	5-1/4" (133)	3/8" (10)

Dimensions

Stamped Covers

Cast Covers





Cover Gaskets

FEATURES-SPECIFICATIONS

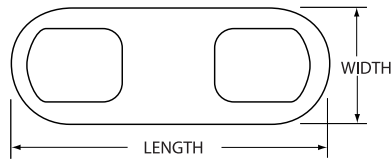
DURALOY® 7

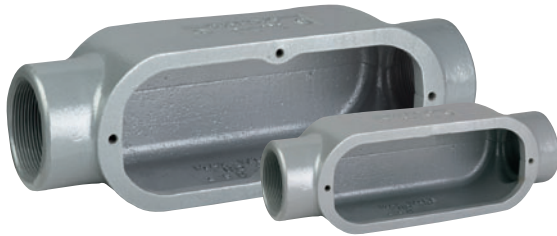
Material

- Open cell neoprene

COVER GASKETS (OPEN CELL NEOPRENE)				
CATALOG NUMBER	HUB SIZE	DIMENSIONS		
		LENGTH	WIDTH	HEIGHT
GASK571	1/2"	3-11/16" (94)	1-3/8" (35)	1/8" (3)
GASK572	3/4"	4-1/4" (108)	1-1/2" (38)	1/8" (3)
GASK573	1"	5" (127)	1-3/4" (44)	1/8" (3)
GASK574	1-1/4"	5-1/2" (140)	2-3/16" (56)	1/8" (3)
GASK575	1-1/2"	6" (152)	2-7/16" (62)	1/8" (3)
GASK576	2"	7" (178)	3" (76)	1/8" (3)
GASK578	2-1/2"	9" (229)	4-1/4" (108)	1/8" (3)
GASK578	3"	9" (229)	4-1/4" (108)	1/8" (3)
GASK579	3-1/2"	11" (279)	5-1/4" (133)	1/8" (3)
GASK579	4"	11" (279)	5-1/4" (133)	1/8" (3)

Dimensions





C Type

- Suitable for wet locations when used with gasketed covers.
- Federal Specification W-C-586D/A-A 50563.
- Suitable for use in hazardous location applications when installed according to NEC Articles 501.10(b), Class I, Div. 2, (Suitable for use in Class I Zone 2 applications) 502.10 and 503.10.

Listed File No. E3397

Certified File No. LR11852

FEATURES-SPECIFICATIONS

DURALOY® 8

Applications

To provide access to conductors for pulling, splicing, and maintenance. Threaded for rigid conduit and IMC.

Features

- Completely interchangeable with competitive bodies, gaskets, and covers
- Flat back design provides greater cubic capacity for easier wire pulling and more room for splicing
- Raintight when used with gasketed covers
- Stainless steel screws on stamped and cast covers
- Smooth integral wire bushings

Material/Finish

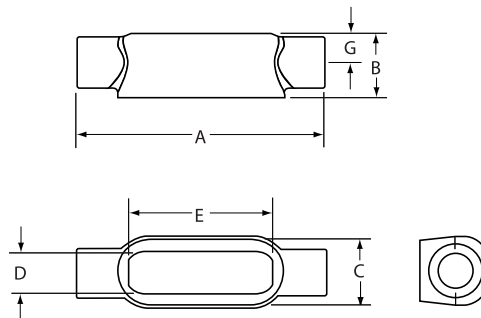
Duraloy Class 30 Gray Iron Alloy

- Tri-coat finish of electrozinc, chromate sealant, and electrostatically applied powder coating.

C TYPE CONDUIT BODY*									
CATALOG NUMBER	HUB SIZE	DIMENSIONS							VOLUME CU. IN.
		A	B	C	D	E	F	G	
C18	1/2"	5-5/16" (135)	1-15/32" (37)	1-15/32" (37)	1" (25)	3-9/32" (83)	—	5/8" (16)	5.0
C28	3/4"	6-9/16" (167)	1-11/16" (43)	1-21/32" (42)	1-3/16" (30)	3-15/16" (100)	—	3/4" (19)	8.0
C38	1"	7-9/16" (192)	1-31/32" (50)	1-27/32" (47)	1-3/8" (35)	4-17/32" (115)	—	7/8" (22)	12.25
C448	1-1/4"	8-7/16" (214)	2-3/8" (60)	2-5/32" (55)	1-3/4" (44)	5-15/16" (151)	—	1-3/32" (28)	23.25
C58	1-1/2"	10-3/8" (264)	2-25/32" (71)	2-25/32" (71)	2-3/32" (53)	6-1/2" (165)	—	1-3/8" (35)	42.50
C68	2"	12-3/8" (314)	3-9/16" (90)	3-27/32" (98)	3" (76)	8-5/8" (219)	—	1-7/8" (48)	105.00
C78	2-1/2"	15-5/8" (397)	4-7/16" (113)	5" (127)	4-1/4" (108)	10-7/8" (276)	—	2-1/2" (64)	200.00
C88	3"	15-5/8" (397)	4-13/16" (122)	5" (127)	4-1/4" (108)	10-7/8" (276)	—	2-1/2" (64)	217.00

* For conduit body packaged with cover and gasket, add **CG** to the catalog number.

Dimensions



C Type





LB Type



LL Type

- Suitable for wet locations when used with gasketed covers.
- Federal Specification W-C-586D/A-A 50563.
- Suitable for use in hazardous location applications when installed according to NEC Articles 501.10(b), Class I, Div. 2, (Suitable for use in Class I Zone 2 applications) 502.10 and 503.10.

Listed File No. E3397

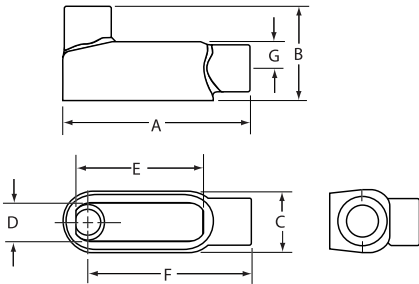
Certified File No. LR11852

FEATURES-SPECIFICATIONS

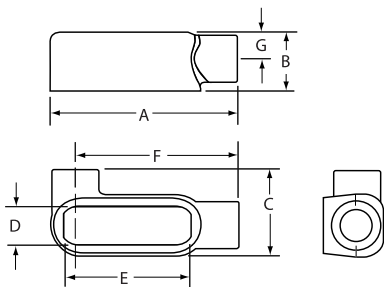


See page F10 for Standard Materials & Finish

Dimensions



LB Type



LL Type

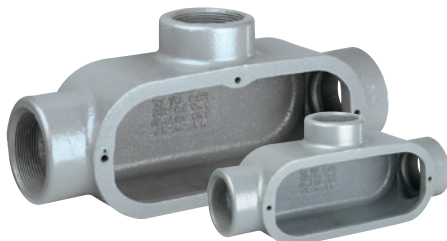
LB TYPE CONDUIT BODY*									
CATALOG NUMBER	HUB SIZE	DIMENSIONS							VOLUME CU. IN.
		A	B	C	D	E	F	G	
LB18	1/2"	5-3/32" (129)	2-9/32" (58)	1-15/32" (37)	1" (25)	3-9/32" (83)	4-3/8" (111)	5/8" (16)	5.0
LB28	3/4"	5-3/4" (146)	2-1/2" (64)	1-21/32" (42)	1-3/16" (30)	3-15/16" (100)	4-29/32" (125)	3/4" (19)	8.0
LB38	1"	6-5/8" (168)	2-29/32" (74)	1-27/32" (47)	1-3/8" (35)	4-17/32" (115)	5-23/32" (145)	7/8" (22)	13.0
LB448	1-1/4"	7-1/2" (191)	3-5/16" (84)	2-5/32" (55)	1-3/4" (44)	5-15/16" (151)	6-13/32" (163)	1-3/32" (28)	24.0
LB58	1-1/2"	9-1/8" (232)	4-1/32" (102)	4-25/32" (121)	2-3/32" (53)	6-1/2" (165)	7-3/4" (197)	1-3/8" (35)	42.0
LB68	2"	11-1/8" (283)	4-13/16" (122)	4-13/16" (122)	3" (76)	8-5/8" (219)	9-3/16" (233)	1-7/8" (48)	105.0
LB78	2-1/2"	13-15/16" (354)	6-1/8" (156)	6-1/8" (156)	4-1/4" (108)	10-7/8" (276)	11-7/16" (291)	2-1/2" (64)	200.0
LB888	3"	13-15/16" (354)	6-1/2" (165)	6-1/2" (165)	4-1/4" (108)	10-7/8" (276)	11-7/16" (291)	2-1/2" (64)	217.0
LB98	3-1/2"	9-1/8" (429)	7-9/16" (192)	7-9/16" (192)	5-7/16" (138)	13-7/8" (352)	13-3/4" (349)	3-1/8" (79)	380.0
LB108	4"	16-7/8" (429)	7-13/16" (198)	7-13/16" (198)	5-7/16" (138)	13-7/8" (352)	13-3/4" (349)	3-1/8" (79)	400.0

LL TYPE CONDUIT BODY*									
CATALOG NUMBER	HUB SIZE	DIMENSIONS							VOLUME CU. IN.
		A	B	C	D	E	F	G	
LL18	1/2"	5-3/32" (129)	2-9/32" (56)	1-15/32" (37)	1" (25)	3-9/32" (83)	4-3/8" (111)	5/8" (16)	5.0
LL28	3/4"	5-3/4" (146)	2-1/2" (64)	1-21/32" (42)	1-3/16" (30)	3-15/16" (100)	4-29/32" (125)	3/4" (19)	8.0
LL38	1"	6-5/8" (168)	2-29/32" (74)	1-27/32" (47)	1-3/8" (35)	4-17/32" (115)	5-23/32" (145)	7/8" (22)	13.0
LL448	1-1/4"	7-1/2" (191)	3-5/16" (84)	2-5/32" (55)	1-3/4" (44)	5-15/16" (151)	6-13/32" (163)	1-3/32" (28)	24.0
LL58	1-1/2"	9-1/8" (232)	4-1/32" (102)	4-25/32" (121)	2-3/32" (53)	6-1/2" (165)	7-3/4" (197)	1-3/8" (35)	42.0
LL68	2"	11-1/8" (283)	4-13/16" (122)	4-13/16" (122)	3" (76)	8-5/8" (219)	9-3/16" (233)	1-7/8" (48)	105.0
LL78	2-1/2"	13-15/16" (354)	6-1/8" (156)	6-1/8" (156)	4-1/4" (108)	10-7/8" (276)	11-7/16" (291)	2-1/2" (64)	200.0
LL888	3"	13-15/16" (354)	6-1/2" (165)	6-1/2" (165)	4-1/4" (108)	10-7/8" (276)	11-7/16" (291)	2-1/2" (64)	217.0

* For conduit body packaged with cover and gasket, add **CG** to the catalog number.



LR Type



T Type

- Suitable for wet locations when used with gasketed covers.
- Federal Specification W-C-586D/A-A 50563.
- Suitable for use in hazardous location applications when installed according to NEC Articles 501.10(b), Class I, Div. 2, (Suitable for use in Class I Zone 2 applications) 502.10 and 503.10.

Listed File No. E3397

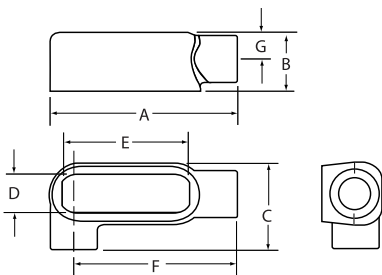
Certified File No. LR11852

FEATURES-SPECIFICATIONS

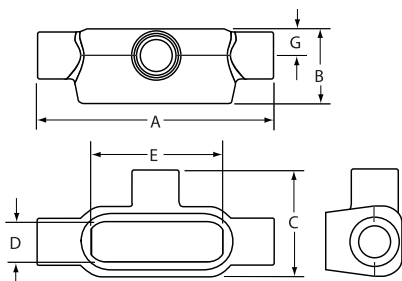


See page F10 for Standard Materials & Finish

Dimensions



LR Type



T Type

LR TYPE CONDUIT BODY*									
CATALOG NUMBER	HUB SIZE	DIMENSIONS							VOLUME CU. IN.
		A	B	C	D	E	F	G	
LR18	1/2"	5-3/32" (129)	1-15/16" (49)	2-9/32" (58)	1" (52)	3-9/32" (83)	4-3/8" (111)	5/8" (16)	5.0
LR28	3/4"	5-3/4" (146)	1-11/16" (43)	2-1/2" (64)	1-3/16" (30)	3-15/16" (84)	4-29/32" (125)	3/4" (19)	8.0
LR38	1"	6-5/8" (168)	1-31/32" (50)	2-29/32" (74)	1-3/8" (35)	4-17/32" (115)	5-23/32" (145)	7/8" (22)	13.0
LR448	1-1/4"	7-1/2" (191)	2-3/8" (60)	3-5/16" (84)	1-3/4" (44)	5-15/16" (151)	6-13/32" (163)	1-3/32" (28)	24.0
LR58	1-1/2"	9-1/8" (232)	2-25/32" (71)	4-1/32" (102)	2-3/32" (53)	6-1/2" (165)	7-3/4" (199)	1-3/8" (35)	42.0
LR68	2"	11-1/8" (283)	3-9/16" (90)	4-13/16" (122)	3" (76)	8-5/8" (219)	9-3/16" (233)	1-7/8" (48)	105.0
LR78	2-1/2"	13-15/16" (354)	4-7/16" (113)	6-1/8" (156)	4-1/4" (108)	10-7/8" (276)	11-7/16" (291)	2-1/2" (64)	200.0
LR888	3"	13-15/16" (354)	4-13/16" (122)	6-1/2" (165)	4-1/4" (108)	10-7/8" (276)	11-7/16" (291)	2-1/2" (64)	217.0

T TYPE CONDUIT BODY*									
CATALOG NUMBER	HUB SIZE	DIMENSIONS							VOLUME CU. IN.
		A	B	C	D	E	F	G	
T18	1/2"	5-15/16" (151)	1-25/32" (45)	2-5/16" (59)	1" (25)	3-9/32" (83)	—	5/8" (16)	6.0
T28	3/4"	6-9/16" (167)	2" (51)	2-1/2" (64)	1-3/16" (30)	3-15/16" (100)	—	3/4" (19)	10.0
T38	1"	7-9/16" (192)	2-9/32" (58)	2-25/32" (71)	1-3/8" (35)	4-17/32" (115)	—	7/8" (22)	15.0
T448	1-1/4"	8-7/16" (214)	2-5/8" (67)	3-1/8" (79)	1-3/4" (44)	5-5/16" (135)	—	1-3/32" (28)	25.0
T58	1-1/2"	10-3/8" (264)	2-25/32" (71)	4-1/32" (102)	2-3/32" (53)	6-1/2" (165)	—	1-3/8" (35)	44.0
T68	2"	12-3/8" (314)	3-9/16" (90)	5-1/8" (130)	3" (76)	8-5/8" (219)	—	1-7/8" (48)	105.0
T78	2-1/2"	15-5/8" (397)	4-7/16" (113)	6-11/16" (170)	4-1/4" (108)	10-11/16" (271)	—	2-1/2" (64)	200.0
T88	3"	15-5/8" (397)	4-13/16" (122)	6-11/16" (170)	4-1/4" (108)	10-11/16" (271)	—	2-1/2" (64)	217.0

* For conduit body packaged with cover and gasket, add **CG** to the catalog number.





TB Type



X Type

- Suitable for wet locations when used with gasketed covers.
- Federal Specification W-C-586D/A-A 50563.
- Suitable for use in hazardous location applications when installed according to NEC Articles 501.10(b), Class I, Div. 2, (Suitable for use in Class I Zone 2 applications) 502.10 and 503.10.

 Listed File No. E3397

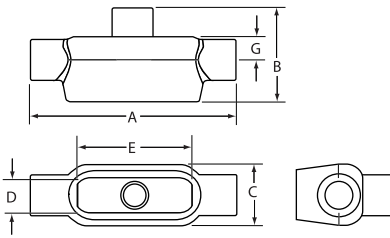
 Certified File No. LR11852

FEATURES-SPECIFICATIONS

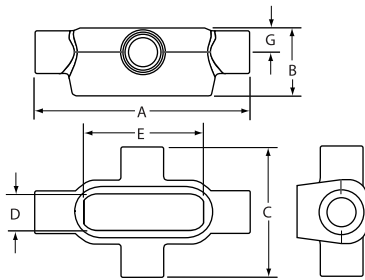


See page F10 for Standard Materials & Finish

Dimensions



TB Type



X Type

TB TYPE CONDUIT BODY*									
CATALOG NUMBER	HUB SIZE	DIMENSIONS							VOLUME CU. IN.
		A	B	C	D	E	F	G	
TB18	1/2"	5-15/16" (151)	2-15/16" (75)	1-15/16" (49)	1" (25)	3-9/32" (83)	—	5/8" (16)	6.0
TB28	3/4"	6-9/16" (167)	2-1/2" (64)	1-21/32" (42)	1-3/16" (30)	3-15/16" (100)	—	3/4" (19)	10.0
TB38	1"	7-9/16" (192)	2-25/32" (71)	1-27/32" (47)	1-3/8" (35)	4-17/32" (115)	—	7/8" (22)	15.0
TB448	1-1/4"	8-7/16" (214)	3-1/8" (79)	2-3/16" (55)	1-3/4" (44)	5-5/16" (135)	—	1-3/32" (26)	25.0
TB58	1-1/2"	10-3/8" (264)	4-1/32" (102)	2-25/32" (71)	2-3/32" (53)	6-1/2" (165)	—	1-3/8" (35)	44.0
TB68	2"	12-3/8" (314)	5-1/8" (130)	3-7/8" (98)	3" (76)	8-5/8" (219)	—	1-7/8" (48)	105.0

X TYPE CONDUIT BODY*									
CATALOG NUMBER	HUB SIZE	DIMENSIONS							VOLUME CU. IN.
		A	B	C	D	E	F	G	
X18	1/2"	5-15/16" (151)	1-25/32" (45)	3-1/8" (79)	1" (25)	3-9/32" (83)	—	5/8" (16)	6.0
X28	3/4"	6-9/16" (167)	2" (51)	3-15/16" (100)	1-3/16" (30)	3-15/16" (100)	—	3/4" (19)	10.0
X38	1"	7-9/16" (192)	2-9/32" (58)	3-23/32" (94)	1-3/8" (35)	4-17/32" (115)	—	7/8" (22)	15.0
X448	1-1/4"	8-7/16" (214)	2-5/8" (67)	4-1/16" (103)	1-3/4" (44)	5-5/16" (135)	—	1-3/32" (26)	25.0
X58	1-1/2"	10-3/8" (264)	2-25/32" (71)	5-9/32" (134)	2-3/32" (53)	6-1/2" (165)	—	1-3/8" (35)	44.0
X68	2"	12-3/8" (314)	3-9/16" (90)	6-3/8" (162)	3" (76)	8-5/8" (219)	—	1-7/8" (48)	105.0

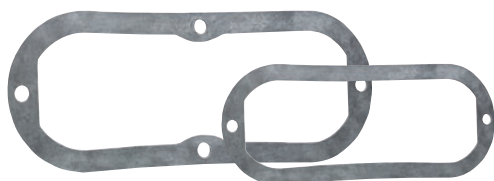
* For conduit body packaged with cover and gasket, add **CG** to the catalog number.



Cast Covers



Stamped Steel Covers



Cover Gaskets (Neoprene)

- Suitable for wet locations when used with gasketed covers.
- Federal Specification W-C-586D/A-A 50563.
- Suitable for use in hazardous location applications when installed according to NEC Articles 501.10(b), Class I, Div. 2, (Suitable for use in Class I Zone 2 applications) 502.10 and 503.10.

Listed File No. E3397

Certified File No. LR11852

FEATURES-SPECIFICATIONS



See page F10 for Standard Materials & Finish

Cast Material/Finish

Duraloy Class 30 Gray Iron Alloy

- Tri-coat finish of electrozinc, chromate sealant, and electrostatically applied powder coating
- 300 Series stainless steel screws

Galvanized Steel

- Natural finish
- 300 Series stainless steel screws

Material/Finish

- Neoprene. Compression molded.

CAST IRON COVERS				
CATALOG NUMBER	HUB SIZE	OVERALL DIMENSIONS		
		LENGTH	WIDTH	HEIGHT
180F	1/2"	4-7/32"(107)	1-15/32"(37)	3/8"(10)
280F	3/4"	4-13/16"(122)	1-21/32"(42)	3/8"(10)
380F	1"	5-19/32"(142)	1-27/32"(47)	5/8"(16)
480F	1-1/4"	6-9/16"(167)	2-3/16"(56)	5/8"(16)
580F	1-1/2"	7-7/8"(200)	2-25/32"(71)	5/8"(16)
680F	2"	9-3/4"(248)	3-7/8"(98)	5/8"(16)
880F	2-1/2"	12-1/4"(311)	5"(127)	5/8"(16)
880F	3"	12-1/4"(311)	5"(127)	5/8"(16)
980F	3-1/2"	15"(381)	6-1/4"(159)	5/8"(16)
980F	4"	15"(381)	6-1/4"(159)	5/8"(16)

STAMPED STEEL COVERS				
CATALOG NUMBER	HUB SIZE	OVERALL DIMENSIONS		
		LENGTH	WIDTH	HEIGHT
180S	1/2"	4-7/32"(107)	1-15/32"(37)	5/16"(8)
280S	3/4"	4-13/16"(122)	1-21/32"(42)	5/16"(8)
380S	1"	5-19/32"(142)	1-27/32"(47)	5/16"(8)
480S	1-1/4"	6-9/16"(167)	2-3/16"(56)	5/16"(8)
580S	1-1/2"	7-7/8"(200)	2-25/32"(71)	5/16"(8)
680S	2"	9-3/4"(248)	3-7/8"(98)	5/16"(8)
880S	2-1/2"	12-1/4"(311)	5"(127)	9/16"(14)
880S	3"	12-1/4"(311)	5"(127)	9/16"(14)
980S	3-1/2"	15"(381)	6-1/4"(159)	9/16"(14)
980S	4"	15"(381)	6-1/4"(159)	9/16"(14)

COVER GASKETS				
CATALOG NUMBER	HUB SIZE	OVERALL DIMENSIONS		
		LENGTH	WIDTH	HEIGHT
GASK851N	1/2"	4-7/32"(107)	1-15/32"(37)	1/8"(3)
GASK852N	3/4"	4-13/16"(122)	1-21/32"(42)	1/8"(3)
GASK853N	1"	5-19/32"(142)	1-27/32"(47)	1/8"(3)
GASK854N	1-1/4"	6-9/16"(167)	2-3/16"(56)	1/8"(3)
GASK805N	1-1/2"	7-7/8"(200)	2-25/32"(71)	1/8"(3)
GASK806N	2"	9-3/4"(248)	3-7/8"(98)	1/8"(3)
GASK808N	2-1/2"	12-1/4"(311)	5"(127)	1/8"(3)
GASK808N	3"	12-1/4"(311)	5"(127)	1/8"(3)
GASK809N	3-1/2"	15"(381)	6-1/4"(159)	1/8"(3)
GASK809N	4"	15"(381)	6-1/4"(159)	1/8"(3)



KILLARK®



C Type



E Type

- Suitable for wet locations when used with gasketed covers.
- Federal Specification W-C-586D/A-A 50563.
- Suitable for use in hazardous location applications when installed according to NEC Articles 501.10(b), Class I, Div. 2, (Suitable for use in Class I Zone 2 applications) 502.10 and 503.10.

Listed File No. E3397

Certified File No. LR11852

FEATURES-SPECIFICATIONS

DURALOY® 5

Applications

To provide access to conductors for pulling, splicing, and maintenance. Threaded for rigid conduit and IMC.

Features

- Tapered threaded hubs (NPT)
- Raintight when used with gasketed covers
- Malleable iron suitable for use in concrete
- Interchangeable with competitive products
- Stainless steel screws on stamped and cast covers

Material/Finish

Copper-free Aluminum

(less than 4/10 of 1%)

- Electrostatically applied powder coating

Duraloy Malleable Iron

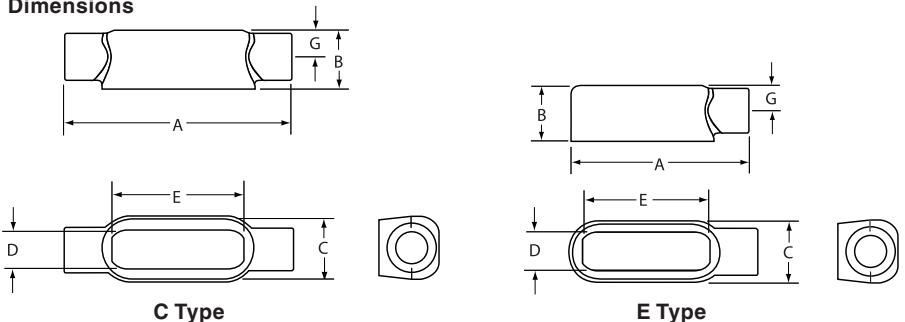
- Tri-coat finish of electrozinc, chromate sealant, and electrostatically applied powder coating.

C TYPE CONDUIT BODY*										
CATALOG NUMBER KILLARK ALUM.	DURALOY IRON	HUB SIZE	DIMENSIONS							VOLUME CU. IN.
			A	B	C	D	E	F	G	
OC-1	OC-1M	1/2"	5-3/16" (132)	1-3/8" (35)	1-3/8" (35)	1" (25)	3-5/32" (80)	—	5/8" (16)	4.0
OC-2	OC-2M	3/4"	6-1/8" (156)	1-5/8" (41)	1-5/8" (41)	1-7/32" (31)	3-25/32" (96)	—	3/4" (19)	7.0
OC-3	OC-3M	1"	7-1/8" (181)	2" (51)	1-7/8" (48)	1-15/32" (37)	4-17/32" (115)	—	15/16" (24)	12.0
OC-4	OC-4M	1-1/4"	9-1/8" (232)	2-5/8" (67)	2-5/8" (67)	2" (51)	6" (152)	—	1-3/16" (30)	32.0
OC-5	OC-5M	1-1/2"	9-1/4" (235)	2-3/4" (70)	2-5/8" (67)	2" (51)	6" (152)	—	1-3/8" (32)	36.0
OC-6	OC-6M	2"	11-7/8" (302)	3-1/2" (89)	3-1/8" (79)	2-9/16" (65)	8-1/16" (205)	—	1-5/8" (38)	70.0
OC-7	OC-7M	2-1/2"	15-1/8" (384)	4" (102)	4-3/8" (111)	3-11/16" (94)	10-5/8" (270)	—	1-13/16" (54)	153.0
OC-8	OC-8M	3"	15-1/8" (384)	4-3/4" (121)	4-3/8" (111)	3-11/16" (94)	10-5/8" (270)	—	2-3/16" (54)	181.0
OC-9	OC-9M	3-1/2"	18-3/8" (467)	5-1/2" (140)	5-1/2" (140)	4-7/8" (124)	13-1/8" (333)	—	2-1/2" (67)	290.0
OC-0	OC-0M	4"	18-3/8" (467)	5-5/8" (143)	5-1/2" (140)	4-7/8" (124)	13-1/8" (333)	—	2-3/4" (67)	320.0

E TYPE CONDUIT BODY*										
CATALOG NUMBER KILLARK ALUM.	DURALOY IRON	HUB SIZE	DIMENSIONS							VOLUME CU. IN.
			A	B	C	D	E	F	G	
OE-1	OE-1M	1/2"	4-5/8" (117)	1-3/8" (35)	1-3/8" (35)	1" (25)	3-9/32" (83)	—	5/8" (16)	4.0
OE-2	OE-2M	3/4"	5-3/8" (41)	1-5/8" (137)	1-5/8" (41)	1-7/32" (29)	3-15/16" (100)	—	3/4" (19)	7.0
OE-3	OE-3M	1"	6-1/4" (159)	2" (51)	1-7/8" (48)	1-15/32" (35)	4-17/32" (115)	—	7/8" (22)	12.0

* For conduit body packaged with cover and gasket, add **CG** to the catalog number.

Dimensions



- Suitable for wet locations when used with gasketed covers.
- Federal Specification W-C-586D/A-A 50563.
- Suitable for use in hazardous location applications when installed according to NEC Articles 501.10(b), Class I, Div. 2, (Suitable for use in Class I Zone 2 applications) 502.10 and 503.10.

 Listed File No. E3397

 Certified File No. LR11852



LB Type



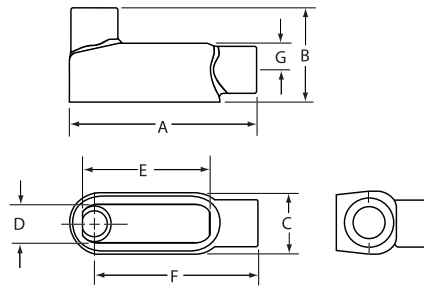
LL Type

FEATURES-SPECIFICATIONS

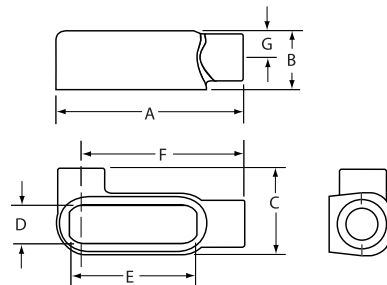
DURALOY® 5

See page F15 for Standard Materials & Finish

Dimensions



LB Type



LL Type

LB TYPE CONDUIT BODY*										
CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
OLB-1	OLB-1M	1/2"	4-17/32" (115)	2-9/32" (83)	1-3/8" (35)	1" (25)	3-5/32" (80)	4-3/8" (111)	5/8" (16)	4.0
OLB-2	OLB-2M	3/4"	5-3/4" (146)	2-1/2" (64)	1-5/8" (41)	1-7/32" (31)	3-25/32" (96)	4-29/32" (125)	3/4" (19)	7.0
OLB-3	OLB-3M	1"	6-5/8" (168)	2-29/32" (74)	1-7/8" (48)	1-15/32" (37)	4-17/32" (115)	5-23/32" (145)	15/16" (24)	12.0
OLB-4	OLB-4M	1-1/4"	7-1/2" (191)	3-3/16" (81)	2-5/8" (67)	2" (51)	6" (152)	6-13/32" (162)	1-3/16" (30)	28.8
OLB-5	OLB-5M	1-1/2"	9-1/8" (232)	4" (102)	2-5/8" (67)	2" (51)	6" (152)	17-3/4" (451)	1-3/8" (32)	36.0
OLB-6	OLB-6M	2"	10" (254)	4-13/16" (122)	3-1/8" (79)	2-9/16" (65)	8-1/16" (205)	8-5/32" (207)	1-5/8" (38)	70.0
OLB-7	OLB-7M	2-1/2"	13-15/16" (354)	6-1/8" (156)	4-3/8" (111)	3-11/16" (94)	10-5/8" (270)	11-7/16" (291)	2-1/2" (64)	142.0
OLB-8	OLB-8M	3"	13-15/16" (354)	6-1/2" (165)	4-3/8" (111)	3-11/16" (94)	10-5/8" (270)	11-7/16" (291)	2-3/16" (54)	173.0
OLB-9	OLB-9M	3-1/2"	16-7/8" (429)	7-9/16" (192)	5-1/2" (140)	4-7/8" (124)	13-1/8" (333)	13-3/4" (349)	2-1/2" (67)	292.0
OLB-0	OLB-0M	4"	16-7/8" (429)	7-13/16" (198)	5-1/2" (140)	4-7/8" (124)	13-1/8" (333)	13-3/4" (349)	2-3/4" (70)	324.0

LL TYPE CONDUIT BODY*										
CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
OLL-1	OLL-1M	1/2"	4-5/8" (117)	1-3/8" (35)	2" (51)	1" (25)	3-5/32" (80)	—	5/8" (16)	4.0
OLL-2	OLL-2M	3/4"	5-3/8" (137)	1-5/8" (41)	2-3/16" (56)	1-7/32" (31)	3-25/32" (96)	—	3/4" (19)	7.0
OLL-3	OLL-3M	1"	6-1/4" (159)	2" (51)	2-9/16" (65)	1-15/32" (37)	4-17/32" (115)	—	15/16" (24)	12.0
OLL-4	OLL-4M	1-1/4"	8-1/8" (206)	2-5/8" (67)	3-1/2" (89)	2" (51)	6" (152)	—	1-3/16" (30)	32.0
OLL-5	OLL-5M	1-1/2"	8-1/8" (206)	2-3/4" (70)	3-1/2" (89)	2" (51)	6" (152)	—	1-3/8" (32)	36.0
OLL-6	OLL-6M	2"	10-9/16" (268)	3-1/2" (89)	4-3/16" (106)	2-9/16" (65)	8-1/16" (205)	—	1-5/8" (38)	70.0
OLL-7	OLL-7M	2-1/2"	13-11/16" (348)	4" (102)	5-3/4" (146)	3-11/16" (94)	10-5/8" (270)	—	1-13/16" (46)	142.0
OLL-8	OLL-8M	3"	13-11/16" (348)	4-3/4" (121)	5-3/4" (146)	3-11/16" (94)	10-5/8" (270)	—	2-3/16" (54)	173.0
OLL-9	OLL-9M	3-1/2"	16-1/2" (419)	5-1/2" (140)	7-1/8" (181)	4-7/8" (124)	13-1/8" (333)	—	2-1/2" (67)	292.0
OLL-0	OLL-0M	4"	16-1/2" (419)	5-5/8" (143)	7-1/8" (181)	4-7/8" (124)	13-1/8" (333)	—	2-3/4" (70)	324.0

* For conduit body packaged with cover and gasket, add **CG** to the catalog number.



KILLARK®



LR Type



T Type

- Suitable for wet locations when used with gasketed covers.
- Federal Specification W-C-586D/A-A 50563.
- Suitable for use in hazardous location applications when installed according to NEC Articles 501.10(b), Class I, Div. 2, (Suitable for use in Class I Zone 2 applications) 502.10 and 503.10.

Listed File No. E3397

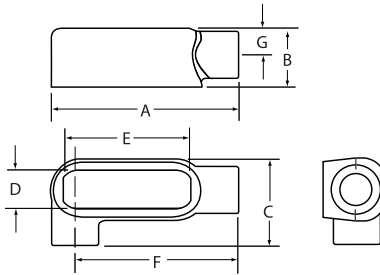
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FEATURES-SPECIFICATIONS

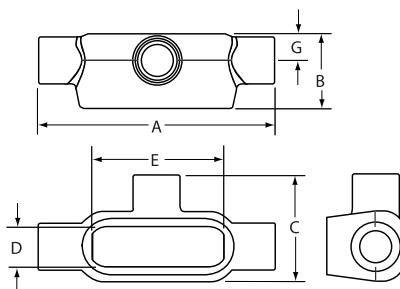
DURALOY®5

See page F15 for Standard Materials & Finish

Dimensions



LR Type



T Type

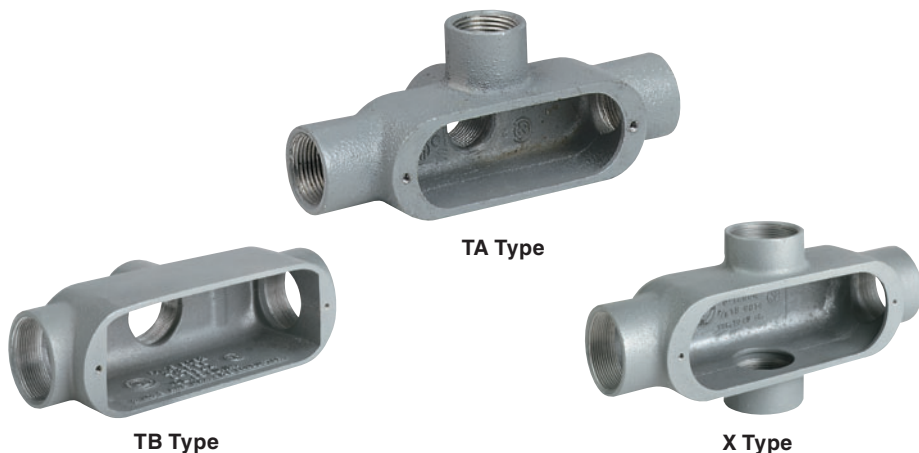
LR TYPE CONDUIT BODY*										
CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
OLR-1	OLR-1M	1/2"	4-5/8" (117)	1-3/8" (35)	2" (35)	1" (25)	3-5/32" (80)	4-3/8" (111)	5/8" (16)	4.0
OLR-2	OLR-2M	3/4"	5-3/8" (137)	1-5/8" (41)	2-3/16" (67)	1-7/32" (31)	3-25/32" (96)	4-29/32" (125)	3/4" (19)	7.0
OLR-3	OLR-3M	1"	6-1/4" (159)	2" (51)	2-9/16" (65)	1-15/32" (37)	4-17/32" (115)	5-23/32" (145)	15/16" (24)	12.0
OLR-4	OLR-4M	1-1/4"	8-1/8" (206)	2-5/8" (67)	3-1/2" (89)	2" (51)	6" (152)	6-13/32" (162)	1-3/16" (30)	32.0
OLR-5	OLR-5M	1-1/2"	8-1/8" (206)	2-3/4" (70)	3-1/2" (89)	2" (51)	6" (152)	17-3/4" (32)	1-3/8" (32)	31.0
OLR-6	OLR-6M	2"	10-9/16" (268)	3-1/2" (89)	4-3/16" (106)	2-9/16" (65)	8-1/16" (205)	9-5/32" (233)	1-5/8" (38)	70.0
OLR-7	OLR-7M	2-1/2"	13-11/16" (348)	4" (102)	5-3/4" (146)	3-11/16" (93)	10-5/8" (270)	11-7/16" (291)	1-13/16" (54)	142.0
OLR-8	OLR-8M	3"	13-11/16" (348)	4-3/4" (121)	5-3/4" (146)	3-11/16" (93)	10-5/8" (270)	11-7/16" (291)	2-3/16" (54)	173.0
OLR-9	OLR-9M	3-1/2"	16-1/2" (419)	5-1/2" (140)	7-1/8" (181)	4-7/8" (124)	13-1/8" (333)	13-3/4" (349)	2-1/2" (67)	292.0
OLR-0	OLR-0M	4"	16-1/2" (419)	5-5/8" (143)	7-1/8" (181)	4-7/8" (124)	13-1/8" (333)	13-3/4" (349)	2-3/4" (67)	324.0

T TYPE CONDUIT BODY*										
CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
OT-1	OT-1M	1/2"	5-3/8" (137)	1-3/8" (35)	2" (35)	1" (25)	3-5/32" (80)	—	5/8" (16)	4.0
OT-2	OT-2M	3/4"	6-1/16" (154)	1-5/8" (41)	2-3/16" (67)	1-7/32" (31)	3-25/32" (96)	—	3/4" (19)	7.0
OT-3	OT-3M	1"	7-1/8" (181)	2" (51)	2-9/16" (65)	1-15/32" (37)	4-17/32" (115)	—	15/16" (24)	12.0
OT-4	OT-4M	1-1/4"	9-3/16" (233)	2-5/8" (67)	3-1/2" (89)	2" (51)	6" (152)	—	1-3/16" (30)	32.0
OT-5	OT-5M	1-1/2"	9-3/16" (233)	2-3/4" (70)	3-1/2" (89)	2" (51)	6" (152)	—	1-3/8" (32)	33.0
OT-6	OT-6M	2"	11-5/8" (295)	3-1/2" (89)	4-3/16" (106)	2-9/16" (65)	8-1/16" (205)	—	1-5/8" (38)	70.0
OT-7	OT-7M	2-1/2"	15-1/8" (384)	4" (102)	5-3/4" (146)	3-11/16" (94)	10-5/8" (270)	—	1-13/16" (54)	142.0
OT-8	OT-8M	3"	15-1/8" (384)	4-3/4" (121)	5-3/4" (146)	3-11/16" (94)	10-5/8" (270)	—	2-3/16" (54)	173.0
OT-9	OT-9M	3-1/2"	18-1/8" (460)	5-1/2" (140)	7-1/8" (181)	4-7/8" (124)	13-1/8" (333)	—	2-1/2" (67)	292.0
OT-0	OT-0M	4"	18-1/8" (460)	5-5/8" (143)	7-1/8" (181)	4-7/8" (124)	13-1/8" (333)	—	2-3/4" (67)	324.0

* For conduit body packaged with cover and gasket, add **CG** to the catalog number.



KILLARK®



- Suitable for wet locations when used with gasketed covers.
- Federal Specification W-C-586D/A-A 50563.
- Suitable for use in hazardous location applications when installed according to NEC Articles 501.10(b), Class I, Div. 2, (Suitable for use in Class I Zone 2 applications) 502.10 and 503.10.

Listed File No. E3397

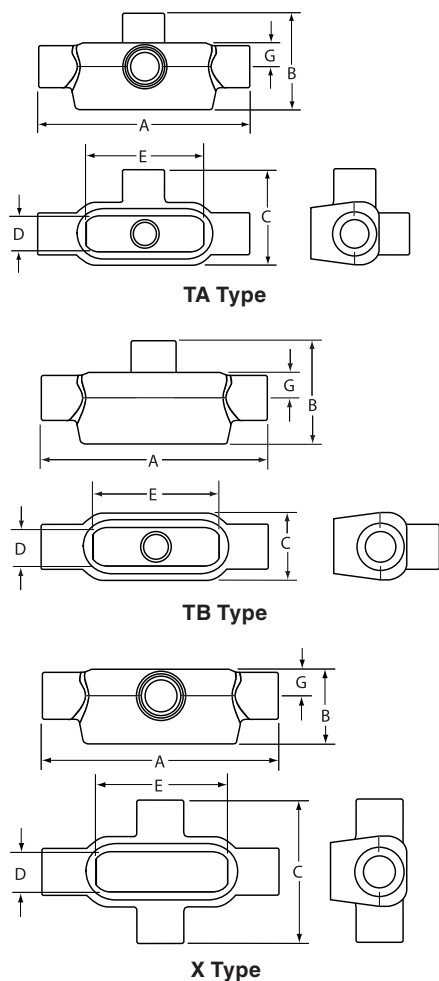
Certified File No. LR11852

FEATURES-SPECIFICATIONS

DURALOY⁵

See page F15 for Standard Materials & Finish

Dimensions



TA TYPE CONDUIT BODY*										
CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
OTA-1	OTA-1M	1/2"	5-3/8" (137)	2-1/8" (54)	2" (51)	1" (25)	3-5/32" (80)	—	5/8" (16)	4.0
OTA-2	OTA-2M	3/4"	6-1/16" (154)	2-15/16" (75)	2-3/16" (56)	1-7/32" (29)	3-25/32" (96)	—	3/4" (19)	7.0
—	OTA-3M	1"	7-1/8" (181)	2-11/16" (68)	2-9/16" (65)	1-15/32" (35)	4-17/32" (115)	—	15/16" (24)	12.0

TB TYPE CONDUIT BODY*										
CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
OTB-1	OTB-1M	1/2"	5-3/8" (137)	2-1/8" (54)	1-5/16" (33)	1" (25)	3-5/32" (80)	—	5/8" (16)	4.0
OTB-2	OTB-2M	3/4"	6-1/16" (160)	2-5/16" (59)	1-9/16" (40)	1-7/32" (31)	3-25/32" (96)	—	3/4" (19)	7.0
OTB-3	OTB-3M	1"	7-1/8" (181)	2-11/16" (68)	1-13/16" (46)	1-15/32" (37)	4-17/32" (115)	—	15/16" (24)	12.0
OTB-4	OTB-4M	1-1/4"	9-3/16" (233)	3-9/16" (90)	2-1/2" (64)	2" (51)	6" (152)	—	1-3/16" (30)	32.0
OTB-5	OTB-5M	1-1/2"	9-3/16" (233)	3-3/4" (92)	2-1/2" (64)	2" (51)	6" (152)	—	1-3/8" (35)	36.0
OTB-6	OTB-6M	2"	11-5/8" (295)	4-5/8" (117)	3-1/8" (79)	2-9/16" (65)	8-1/16" (205)	—	1-5/8" (41)	70.0

X TYPE CONDUIT BODY*										
CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
OX-1	OX-1M	1/2"	5-3/8" (137)	1-3/4" (44)	1-11/16" (43)	1" (25)	3-5/32" (80)	—	5/8" (16)	4.0
OX-2	OX-2M	3/4"	6-1/16" (160)	2" (51)	2-7/8" (73)	1-7/32" (31)	3-25/32" (96)	—	3/4" (19)	7.0
OX-3	OX-3M	1"	7-1/8" (181)	2-1/4" (57)	3-3/8" (86)	1-15/32" (37)	4-17/32" (115)	—	15/16" (24)	12.0
OX-4	OX-4M	1-1/4"	9-3/16" (233)	2-9/16" (65)	4-1/2" (114)	2" (51)	6" (152)	—	1-3/16" (30)	32.0
OX-5	OX-5M	1-1/2"	9-3/16" (233)	2-3/4" (70)	4-1/2" (114)	2" (51)	6" (152)	—	1-3/8" (35)	36.0
OX-6	OX-6M	2"	11-5/8" (295)	3-3/8" (85)	5-1/4" (133)	2-9/16" (65)	8-1/16" (205)	—	1-5/8" (41)	70.0

* For conduit body packaged with cover and gasket, add **CG** to the catalog number.



KILLARK®



Aluminum and Steel Stamped Covers



Neoprene Gasket



Cast Iron Covers



Fiber Gasket

- Suitable for wet locations when used with gasketed covers.
- Federal Specification W-C-586D / A-A 50563.
- Suitable for use in hazardous location applications when installed according to NEC Articles 501.10(b), Class I, Div. 2, (Suitable for use in Class I Zone 2 applications) 502.10 and 503.10.

Listed File No. E3397

Certified File No. LR11852

FEATURES-SPECIFICATIONS

DURALOY®5

Stamped Material/Finish

Copper-free Aluminum
(less than 4/10 of 1%)

- Natural finish
- 300 Series stainless steel screws

Galvanized Steel

- Natural finish
- 300 Series stainless steel screws

Cast Material/Finish

Duraloy Malleable Iron

- Tri-coat finish of electrozinc, chromate sealant, and electrostatically applied powder coating
- 300 Series stainless steel screws

Material/Finish

- Neoprene or fiber

ALUMINUM AND STEEL STAMPED COVERS					
CATALOG NUMBER		HUB SIZE	DIMENSIONS		
KILLARK ALUMINUM	STEEL		LENGTH	WIDTH	HEIGHT
OL-10	OL-10M	1/2"	3-15/16"(100)	1-3/8"(35)	3/8"(10)
OL-20	OL-20M	3/4"	4-5/8"(117)	1-5/8"(41)	3/8"(10)
OL-30	OL-30M	1"	5-3/8"(137)	1-7/8"(48)	5/8"(16)
OL-450	OL-45M	1-1/4"	7-3/16"(183)	2-5/8"(67)	5/8"(16)
OL-450	OL-45M	1-1/2"	7-3/16"(183)	2-5/8"(67)	5/8"(16)
OL-60	OL-60M	2"	9-1/2"(241)	3-1/8"(79)	5/8"(16)
OL-780	OL-78M	2-1/2"	12-1/4"(311)	4-3/8"(111)	5/8"(16)
OL-780	OL-78M	3"	12-1/4"(311)	4-3/8"(111)	5/8"(16)
OL-900	OL-90M	3-1/2"	14-7/8"(378)	5-1/2"(140)	5/8"(16)
OL-900	OL-90M	4"	14-7/8"(378)	5-1/2"(140)	5/8"(16)

CAST IRON COVERS				
CATALOG NUMBER	HUB SIZE	DIMENSIONS		
		LENGTH	WIDTH	HEIGHT
OL-10CM	1/2"	3-15/16"(100)	1-3/8"(35)	3/8"(10)
OL-20CM	3/4"	4-5/8"(117)	1-5/8"(41)	3/8"(10)
OL-30CM	1"	5-3/8"(137)	1-7/8"(48)	5/8"(16)
OL-45CM	1-1/4"	7-3/16"(183)	2-5/8"(67)	5/8"(16)
OL-45CM	1-1/2"	7-3/16"(183)	2-5/8"(67)	5/8"(16)
OL-60CM	2"	9-1/2"(241)	3-1/8"(79)	5/8"(16)
OL-78CM	2-1/2"	12-1/4"(311)	4-3/8"(111)	5/8"(16)
OL-78CM	3"	12-1/4"(311)	4-3/8"(111)	5/8"(16)
OL-90CM	3-1/2"	14-7/8"(378)	5-1/2"(140)	5/8"(16)
OL-90CM	4"	14-7/8"(378)	5-1/2"(140)	5/8"(16)

GASKETS		
HUB SIZE	CATALOG NUMBER	
	NEOPRENE	FIBER
1/2"	OLK-1RG	OLK-1VG
3/4"	OLK-2RG	OLK-2VG
1"	OLK-3RG	OLK-3VG
1-1/4"	OL-45-RG	OL-45-VG
1-1/2"	OL-45-RG	OL-45-VG
2"	OL-6-RG	OL-6-VG
2-1/2"	OL-78-RG	OL-78-VG
3"	OL-78-RG	OL-78-VG
3-1/2"	OL-90-RG	OL-90-VG
4"	OL-90-RG	OL-90-VG



KILLARK®



C Type - COC-1,2,3



LB Type - COLB-1,2,3



C Type - COC-4,5,6



LB Type - COLB-4,5,6



Unit Packaging
Body/Cover/Gasket

UL Listed File No. E3397

SF Certified File No. LR11852

FEATURES-SPECIFICATIONS

Applications

To provide access to conductors for pulling, splicing, maintenance, and for future changes or upgrades. Combination bodies (1/2" - 2") for use with EMT or Rigid/IMC conduit. Sizes 2-1/2 and larger for use with EMT only (not threaded).

Features

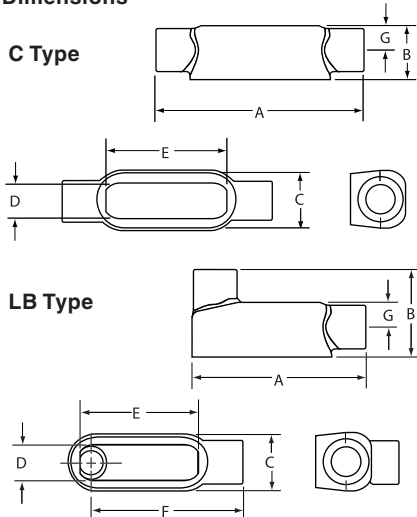
- Combination bodies have threaded and set screw hubs
- Pre-packaged with body, cover and gasket.
- Covers furnished with stainless steel screws

Material/Finish

Conduit Bodies - Die cast, copper-free aluminum (less than 4/10 of 1%) with electrostatically applied powder coating.
Covers - Stamped Aluminum/Natural Finish
Gaskets - Neoprene

C TYPE CONDUIT BODY									
CATALOG NUMBER	HUB SIZE	DIMENSIONS							VOLUME CU. IN.
		A	B	C	D	E	F	G	
C COC-1CG	1/2"	5-3/8" (137)	1-3/8" (35)	1-3/8" (35)	1" (25)	3-5/32" (80)	—	5/8" (16)	4.0
O COC-2CG	3/4"	6-1/8" (156)	1-5/8" (41)	1-5/8" (41)	1-7/32" (31)	3-25/32" (96)	—	3/4" (19)	7.0
M COC-3CG	1"	7-1/8" (181)	2" (51)	1-7/8" (48)	1-15/32" (37)	4-17/32" (115)	—	15/16" (24)	12.0
B COC-4CG	1-1/4"	9-1/8" (232)	2-5/8" (67)	2-5/8" (67)	2" (51)	6" (152)	—	1-3/16" (30)	32.0
O COC-5CG	1-1/2"	9-1/4" (235)	2-3/4" (70)	2-5/8" (67)	2" (51)	6" (152)	—	1-3/8" (32)	36.0
E COC-6CG	2"	11-7/8" (302)	3-1/2" (89)	3-1/8" (79)	2-9/16" (65)	8-1/16" (205)	—	1-5/8" (38)	70.0
M TWOC-7CG	2-1/2"	15-1/8" (384)	4" (102)	4-3/8" (111)	3-11/16" (94)	10-5/8" (270)	—	1-13/16" (54)	153.0
T TWOC-8CG	3"	15-1/8" (384)	4-3/4" (121)	4-3/8" (111)	3-11/16" (94)	10-5/8" (270)	—	2-3/16" (54)	181.0
O TWOC-9CG	3-1/2"	18-3/8" (467)	5-1/2" (140)	5-1/2" (140)	4-7/8" (124)	13-1/8" (333)	—	2-1/2" (67)	290.0
E TWOC-0CG	4"	18-3/8" (467)	5-5/8" (143)	5-1/2" (140)	4-7/8" (124)	13-1/8" (333)	—	2-3/4" (67)	320.0

Dimensions



LB TYPE CONDUIT BODY									
CATALOG NUMBER	HUB SIZE	DIMENSIONS							VOLUME CU. IN.
		A	B	C	D	E	F	G	
C COLB-1CG	1/2"	4-17/32" (115)	2-9/32" (83)	1-3/8" (35)	1" (25)	3-5/32" (80)	4-3/8" (111)	5/8" (16)	4.0
O COLB-2CG	3/4"	5-3/4" (146)	2-1/2" (64)	1-5/8" (41)	1-7/32" (31)	3-25/32" (96)	4-29/32" (125)	3/4" (19)	7.0
M COLB-3CG	1"	6-5/8" (168)	2-29/32" (74)	1-7/8" (48)	1-15/32" (37)	4-17/32" (115)	5-23/32" (145)	15/16" (24)	12.0
B COLB-4CG	1-1/4"	7-1/2" (191)	3-3/16" (81)	2-5/8" (67)	2" (51)	6" (152)	6-13/32" (162)	1-3/16" (30)	28.8
O COLB-5CG	1-1/2"	9-1/8" (232)	4" (102)	2-5/8" (67)	2" (51)	6" (152)	17-3/4" (451)	1-3/8" (32)	36.0
E COLB-6CG	2"	10" (254)	4-13/16" (122)	3-1/8" (79)	2-9/16" (65)	8-1/16" (205)	8-5/32" (207)	1-5/8" (38)	70.0
M TWOLB-7CG	2-1/2"	13-15/16" (354)	6-1/8" (156)	4-3/8" (111)	3-11/16" (94)	10-5/8" (270)	11-7/16" (291)	2-1/2" (64)	142.0
T TWOLB-8CG	3"	13-15/16" (354)	6-1/2" (165)	4-3/8" (111)	3-11/16" (94)	10-5/8" (270)	11-7/16" (291)	2-3/16" (54)	173.0
O TWOLB-9CG	3-1/2"	16-7/8" (429)	7-9/16" (192)	5-1/2" (140)	4-7/8" (124)	13-1/8" (333)	13-3/4" (349)	2-1/2" (67)	292.0
E TWOLB-0CG	4"	16-7/8" (429)	7-13/16" (198)	5-1/2" (140)	4-7/8" (124)	13-1/8" (333)	13-3/4" (349)	2-3/4" (70)	324.0





LL Type - COL-1,2,3



LR Type - COLR-1,2,3



LL Type - COL-4,5,6



LR Type - COLR-4,5,6

K-PAK®

Unit Packaging
Body/Cover/Gasket

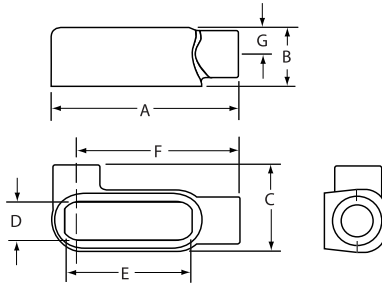
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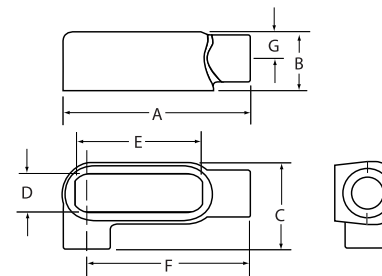
FEATURES-SPECIFICATIONS

See page F20 for Applications, Features and Standard Materials & Finish

Dimensions



LL Type



LR Type

LL TYPE CONDUIT BODY

CATALOG NUMBER	HUB SIZE	DIMENSIONS							VOLUME CU. IN.
		A	B	C	D	E	F	G	
C COLL-1CG	1/2"	4-5/8" (117)	1-3/8" (35)	2" (51)	1" (25)	3-5/32" (80)	—	5/8" (16)	4.0
O COLL-2CG	3/4"	5-3/8" (137)	1-5/8" (41)	2-3/16" (56)	1-7/32" (31)	3-25/32" (96)	—	3/4" (19)	7.0
M COLL-3CG	1"	6-1/4" (159)	2" (51)	2-9/16" (65)	1-15/32" (37)	4-17/32" (115)	—	15/16" (24)	12.0
B COLL-4CG	1-1/4"	8-1/8" (206)	2-5/8" (67)	3-1/2" (89)	2" (51)	6" (152)	—	1-3/16" (30)	32.0
O COLL-5CG	1-1/2"	8-1/8" (206)	2-3/4" (70)	3-1/2" (89)	2" (51)	6" (152)	—	1-3/8" (32)	31.0
E TWOLL-7CG	2-1/2"	13-11/16" (348)	4" (102)	5-3/4" (146)	3-11/16" (94)	10-5/8" (270)	—	1-13/16" (46)	142.0
M TWOLL-8CG	3"	13-11/16" (348)	4-3/4" (121)	5-3/4" (146)	3-11/16" (94)	10-5/8" (270)	—	2-3/16" (54)	173.0
T TWOLL-9CG	3-1/2"	16-1/2" (419)	5-1/2" (140)	7-1/8" (181)	4-7/8" (124)	13-1/8" (333)	—	2-1/2" (67)	292.0
T TWOLL-0CG	4"	16-1/2" (419)	5-5/8" (143)	7-1/8" (181)	4-7/8" (124)	13-1/8" (333)	—	2-3/4" (67)	324.0

LR TYPE CONDUIT BODY

CATALOG NUMBER	HUB SIZE	DIMENSIONS							VOLUME CU. IN.
		A	B	C	D	E	F	G	
C COLR-1CG	1/2"	4-5/8" (117)	1-3/8" (35)	2" (51)	1" (25)	3-5/32" (80)	4-3/8" (111)	5/8" (16)	4.0
O COLR-2CG	3/4"	5-3/8" (137)	1-5/8" (41)	2-3/16" (56)	1-7/32" (31)	3-25/32" (96)	4-29/32" (125)	3/4" (19)	7.0
M COLR-3CG	1"	6-1/4" (159)	2" (51)	2-9/16" (65)	1-15/32" (37)	4-17/32" (115)	5-23/32" (145)	15/16" (24)	12.0
B COLR-4CG	1-1/4"	8-1/8" (206)	2-5/8" (67)	3-1/2" (89)	2" (51)	6" (152)	6-13/32" (162)	1-3/16" (30)	32.0
O COLR-5CG	1-1/2"	8-1/8" (206)	2-3/4" (70)	3-1/2" (89)	2" (51)	6" (152)	17-3/4" (451)	1-3/8" (32)	31.0
E TWOLR-7CG	2-1/2"	13-11/16" (348)	4" (102)	5-3/4" (146)	3-11/16" (93)	10-5/8" (270)	11-7/16" (291)	1-13/16" (54)	142.0
M TWOLR-8CG	3"	13-11/16" (348)	4-3/4" (121)	5-3/4" (146)	3-11/16" (93)	10-5/8" (270)	11-7/16" (291)	2-3/16" (54)	173.0
T TWOLR-9CG	3-1/2"	16-1/2" (419)	5-1/2" (140)	7-1/8" (181)	4-7/8" (124)	13-1/8" (333)	13-3/4" (349)	2-1/2" (67)	292.0
T TWOLR-0CG	4"	16-1/2" (419)	5-5/8" (143)	7-1/8" (181)	4-7/8" (124)	13-1/8" (333)	13-3/4" (349)	2-3/4" (67)	324.0



T Type - COT-1,2,3



NEOPRENE GASKET



Unit Packaging
Body/Cover/Gasket

UL LISTED - FILE E3397

SF CERTIFIED - FILE LR11852



T Type - COT-4,5,6

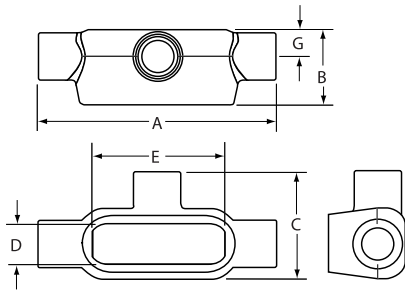


ALUMINUM STAMPED COVER

FEATURES-SPECIFICATIONS

See page F20 for Applications, Features and Standard Materials & Finish

Dimensions



T Type

T TYPE CONDUIT BODY									
CATALOG NUMBER	HUB SIZE	DIMENSIONS							VOLUME CU. IN.
		A	B	C	D	E	F	G	
COT-1CG	1/2"	5-3/8" (137)	1-3/8" (35)	2" (35)	1" (25)	3-5/32" (80)	—	5/8" (16)	4.0
COT-2CG	3/4"	6-1/16" (154)	1-5/8" (41)	2-3/16" (67)	1-7/32" (31)	3-25/32" (96)	—	3/4" (19)	7.0
COT-3CG	1"	7-1/8" (181)	2" (51)	2-9/16" (65)	1-15/32" (37)	4-17/32" (115)	—	15/16" (24)	12.0
COT-4CG	1-1/4"	9-3/16" (233)	2-5/8" (67)	3-1/2" (89)	2" (51)	6" (152)	—	1-3/16" (30)	32.0
COT-5CG	1-1/2"	9-3/16" (233)	2-3/4" (70)	3-1/2" (89)	2" (51)	6" (152)	—	1-3/8" (32)	33.0
COT-6CG	2"	11-5/8" (295)	3-1/2" (89)	4-3/16" (106)	2-9/16" (65)	8-1/16" (205)	—	1-5/8" (38)	70.0
TWOT-7CG	2-1/2"	15-1/8" (384)	4" (102)	5-3/4" (146)	3-11/16" (94)	10-5/8" (270)	—	1-13/16" (54)	142.0
TWOT-8CG	3"	15-1/8" (384)	4-3/4" (121)	5-3/4" (146)	3-11/16" (94)	10-5/8" (270)	—	2-3/16" (54)	173.0
TWOT-9CG	3-1/2"	18-1/8" (460)	5-1/2" (140)	7-1/8" (181)	4-7/8" (124)	13-1/8" (333)	—	2-1/2" (67)	292.0
TWOT-0CG	4"	18-1/8" (460)	5-5/8" (143)	7-1/8" (181)	4-7/8" (124)	13-1/8" (333)	—	2-3/4" (67)	324.0

NEOPRENE REPLACEMENT GASKETS	
CATALOG NUMBER	HUB SIZE
OLK-1RG	1/2"
OLK-2RG	3/4"
OLK-3RG	1"
OL-45-RG	1-1/4"
OL-45-RG	1-1/2"
OL-6-RG	2"
OL-78-RG	2-1/2"
OL-78-RG	3"
OL-90-RG	3-1/2"
OL-90-RG	4"

ALUMINUM REPLACEMENT COVERS				
CATALOG NUMBER	HUB SIZE	DIMENSIONS		
		LENGTH	WIDTH	HEIGHT
OL-10	1/2"	3-15/16"(100)	1-3/8"(35)	3/8"(10)
OL-20	3/4"	4-5/8"(117)	1-5/8"(41)	3/8"(10)
OL-30	1"	5-3/8"(137)	1-7/8"(48)	5/8"(16)
OL-450	1-1/4"	7-3/16"(183)	2-5/8"(67)	5/8"(16)
OL-450	1-1/2"	7-3/16"(183)	2-5/8"(67)	5/8"(16)
OL-60	2"	9-1/2"(241)	3-1/8"(79)	5/8"(16)
OL-780	2-1/2"	12-1/4"(311)	4-3/8"(111)	5/8"(16)
OL-780	3"	12-1/4"(311)	4-3/8"(111)	5/8"(16)
OL-900	3-1/2"	14-7/8"(378)	5-1/2"(140)	5/8"(16)
OL-900	4"	14-7/8"(378)	5-1/2"(140)	5/8"(16)



LB TYPE



C TYPE

- Suitable for wet locations when used with gasketed covers.
- Federal Specification W-C-586D / A-A 50563.
- Suitable for use in hazardous location applications when installed according to NEC Articles 501.10(b), Class I, Div. 2, (Suitable for use in Class I Zone 2 applications) 502.10, and 503.10.

Listed

Certified

FEATURES-SPECIFICATIONS

Applications

- Mogul fittings are for use with rigid and IMC raceways
- Use where standard conduit bodies do not provide adequate access and wiring area for the pulling of large and heavy conductors
- For right angle bends where splices, pulls and taps are needed in a weather-proof chamber

Features

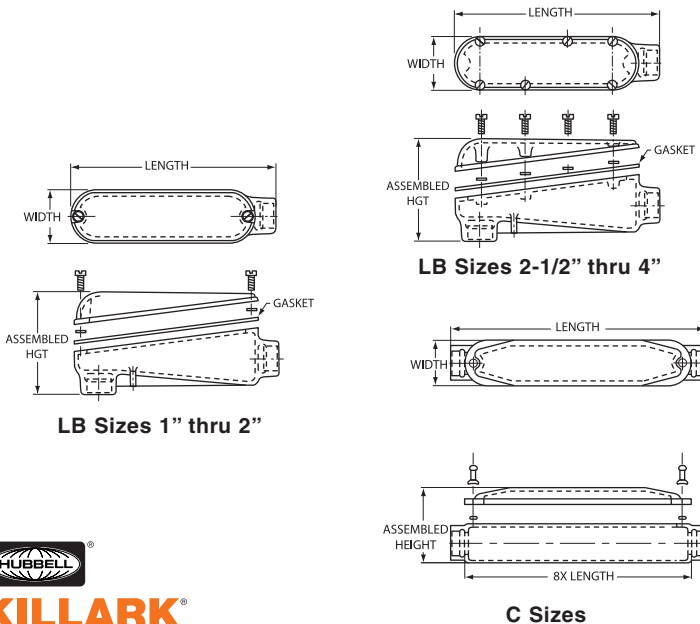
- A raised dome cover permits additional wiring room
- Furnished with captive ss screws and gasket
- LBD, C and UB Series available with built-in cable-pulling rollers on sizes 1-1/2" and larger. Add -WR to catalog number. Example MOLBD-5-WR.

Material/Finish

- Cast iron moguls are hot dipped galvanized
- Aluminum moguls are of copper-free aluminum (less than 4/10 of 1%) with electrostatically applied powder coating

LB TYPE MOGUL CONDUIT BODY							
CATALOG NUMBER	KILLARK ALUM.	KILLARK IRON	HUB SIZE	LENGTH	ASSEMBLED HEIGHT	WIDTH	6X LENGTH
MOLBD-1	MOLBD-1M		1/2"	5" (127)	2-5/16" (59)	1-5/16" (33)	3" (76)
MOLBD-2	MOLBD-2M		3/4"	6-1/4" (159)	2-5/8" (67)	1-9/16" (40)	4-1/2" (114)
MOLBD-3	MOLBD-3M		1"	9-5/8" (244)	3-5/8" (92)	2-1/2" (64)	7-1/2" (191)
MOLBD-4	MOLBD-4M		1-1/4"	9-5/8" (244)	3-5/8" (92)	2-1/2" (64)	7-1/2" (191)
MOLBD-5	MOLBD-5M		1-1/2"	14-7/16" (367)	5-5/8" (143)	3" (76)	12" (305)
MOLBD-6	MOLBD-6M		2"	14-7/16" (367)	5-5/8" (143)	3" (76)	12" (305)
MOLBD-7	MOLBD-7M		2-1/2"	22" (559)	7-1/2" (191)	4-1/2" (114)	18" (457)
MOLBD-8	MOLBD-8M		3"	22" (559)	7-1/2" (191)	4-1/2" (414)	18" (457)
MOLBD-9	MOLBD-9M		3-1/2"	28-1/2" (724)	9-1/4" (235)	5-1/2" (140)	24" (610)
MOLBD-0	MOLBD-0M		4"	28-1/2" (724)	9-1/4" (235)	5-1/2" (140)	24" (610)

NOTE - For built-in cable rollers (on sizes 1-1/2" and larger), add -WR to catalog number. Example: MOLBD-5WR.



C TYPE MOGUL CONDUIT BODY							
CATALOG NUMBER	KILLARK ALUM.	KILLARK IRON	HUB SIZE	LENGTH	ASSEMBLED HEIGHT	WIDTH	8X LENGTH
MOC-3	MOC-3M		1"	12" (305)	3" (76)	2-5/8" (67)	10" (254)
MOC-4	MOC-4M		1-1/4"	12-1/16" (306)	3-5/16" (84)	2-5/8" (67)	10" (254)
MOC-5	MOC-5M		1-1/2"	18-1/8" (460)	3-7/8" (98)	3-3/16" (81)	16" (406)
MOC-6	MOC-6M		2"	18-1/16" (459)	4-7/16" (113)	3-3/16" (81)	16" (406)
MOC-7	MOC-7M		2-1/2"	27-1/8" (689)	5-3/16" (132)	4-11/16" (119)	24" (610)
MOC-8	MOC-8M		3"	27-1/4" (692)	5-15/16" (151)	4-11/16" (119)	24" (610)
MOC-9	MOC-9M		3-1/2"	35-3/8" (899)	7-3/16" (183)	5-11/16" (144)	32" (813)
MOC-0	MOC-0M		4"	35-7/16" (900)	7-9/16" (192)	5-11/16" (144)	32" (813)

NOTE - For built-in cable rollers (on sizes 1-1/2" and larger), add -WR to catalog number. Example: MOLBD-5WR.



T TYPE



UB TYPE

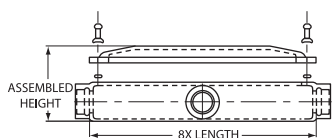
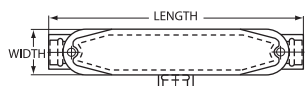
- Suitable for wet locations when used with gasketed covers.
- Federal Specification W-C-586D / A-A 50563.
- Suitable for use in hazardous location applications when installed according to NEC Articles 501.10(b), Class I, Div. 2, (Suitable for use in Class I Zone 2 applications) 502.10 and 503.10.



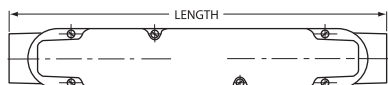
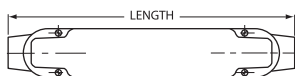
FEATURES-SPECIFICATIONS

See page F23 for Standard Materials & Finish

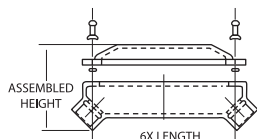
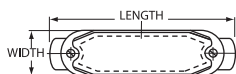
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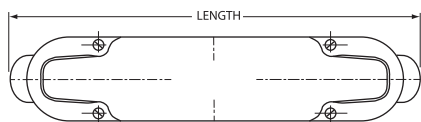
T Sizes 1" thru 2"



T Sizes 2-1/2" thru 4"



UB Sizes 1" thru 2"



UB Sizes 2-1/2" thru 4"

T TYPE						
CATALOG	NUMBER	HUB	LENGTH	ASSEMBLED	WIDTH	8X LENGTH
KILLARK	KILLARK	SIZE		HEIGHT		
ALUM.	IRON					
MOT-3	MOT-3M	1"	12" (305)	3" (76)	2-5/8" (67)	10" (254)
MOT-4	MOT-4M	1-1/4"	12-1/16" (306)	3-5/16" (84)	2-5/8" (67)	10" (254)
MOT-5	MOT-5M	1-1/2"	18-1/8" (460)	3-7/8" (98)	3-3/16" (81)	16" (406)
MOT-6	MOT-6M	2"	18-1/16" (459)	4-7/16" (113)	3-3/16" (81)	16" (406)
MOT-7	MOT-7M	2-1/2"	27-1/8" (689)	5-3/16" (132)	4-11/16" (119)	24" (610)
MOT-8	MOT-8M	3"	27-1/4" (692)	5-15/16" (151)	4-11/16" (119)	24" (610)
MOT-9	MOT-9M	3-1/2"	35-3/8" (899)	7-3/16" (183)	5-11/16" (144)	32" (813)
MOT-0	MOT-0M	4"	35-7/16" (900)	7-9/16" (192)	5-11/16" (144)	32" (813)

UB TYPE						
CATALOG	NUMBER	HUB	LENGTH	ASSEMBLED	WIDTH	8X LENGTH
KILLARK	KILLARK	SIZE		HEIGHT		
ALUM.	IRON					
MOUB-3	MOUB-3M	1"	10-7/16" (265)	3-7/8" (98)	2-5/8" (67)	7-1/2" (191)
MOUB-4	MOUB-4M	1-1/4"	10-7/16" (265)	4-3/16" (106)	2-5/8" (67)	7-1/2" (191)
MOUB-5	MOUB-5M	1-1/2"	15-9/16" (395)	5-1/8" (130)	3-3/16" (81)	12" (305)
MOUB-6	MOUB-6M	2"	15-9/16" (395)	5-3/4" (146)	3-3/16" (81)	12" (305)
MOUB-7	MOUB-7M	2-1/2"	23-1/16" (586)	8-1/2" (216)	4-11/16" (119)	18" (457)
MOUB-8	MOUB-8M	3"	23-5/16" (668)	8-1/2" (216)	4-11/16" (119)	18" (457)
MOUB-9	MOUB-9M	3-1/2"	30" (762)	10-3/8" (264)	5-11/16" (144)	24" (610)
MOUB-0	MOUB-0M	4"	30" (762)	10-3/8" (264)	5-11/16" (144)	24" (610)

NOTE - For built-in cable rollers (on sizes 1-1/2" and larger), add -WR to catalog number. Example: MOLBD-5WR.



KILLARK®



MOLB-4



MOLB-5 thru 0



MOLB-6CG



MLB-12

- Suitable for wet locations when used with gasketed covers.
- Federal Specification W-C-586D / A-A 50563.
- Suitable for use in hazardous location applications when installed according to NEC Articles 501.10(b), Class I, Div. 2, (Suitable for use in Class I Zone 2 applications) 502.10 and 503.10.



FEATURES-SPECIFICATIONS

Applications

- Mogul fittings are normally used where the standard “O” Series conduit bodies do not offer a sufficient amount of wiring room
- For right angle bends where splices, pulls and taps are needed in a weather-proof chamber

Features

- A raised dome cover provides additional wiring room
- Furnished with cover and gasket

Material/Finish

Copper-free Aluminum

(less than 4/10 of 1%)

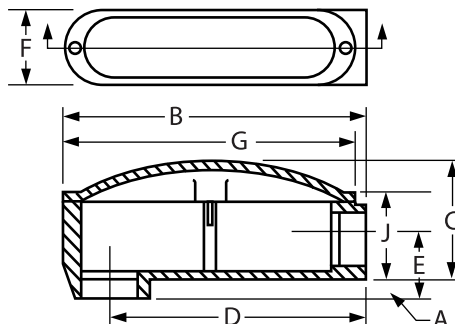
- Electrostatically applied powder coating

MOL CONDUIT BODIES									
CATALOG NUMBER	CONDUIT SIZE	DIMENSIONS							
		A	B	C	D	E	F	G	J
MOLB-4*	1-1/4"	5/16" (8)	9-3/4" (248)	2-3/4" (70)	8-1/2" (445)	1" (25)	2-3/8" (60)	9-1/8" (232)	2-3/4" (70)
MOLB-5	1-1/2"	1-5/16" (33)	13-3/16" (335)	4-3/4" (121)	11-1/2" (292)	2-3/8" (60)	3-1/8" (79)	12-7/8" (327)	3-3/8" (86)
MOLB-6	2"	1-1/16" (27)	13-3/16" (335)	4-1/4" (108)	11-1/2" (292)	2-1/2" (64)	3-1/8" (79)	12-7/8" (327)	3-3/8" (86)
MOLB-6CG*	2"	1/16" (2)	14-1/2" (368)	5-3/4" (146)	13" (330)	1-3/8" (35)	3" (76)	14-1/8" (359)	3-5/16" (84)
MOLB-7	2-1/2"	1-13/16" (46)	22-5/8" (575)	6-1/4" (159)	20" (508)	3-15/16" (100)	4-7/16" (113)	21-13/16" (554)	4-7/16" (113)
MOLB-8	3"	1-13/16" (46)	22-5/8" (575)	6-1/4" (169)	20" (508)	3-15/16" (100)	4-7/16" (113)	21-13/16" (554)	4-7/16" (113)
MOLB-9	3-1/2"	1-9/16" (40)	28-11/16" (729)	7-7/8" (200)	25-9/16" (649)	4-3/16" (106)	5-1/2" (140)	28-5/16" (719)	5-1/2" (140)
MOLB-0	4"	1-9/16" (40)	28-11/16" (729)	7-7/8" (200)	25-7/16" (646)	4-3/16" (106)	5-1/2" (140)	28-5/16" (719)	5-1/2" (140)
MLB-12*	5"	2-3/8" (68)	43-1/4" (1099)	12-1/4" (311)	38-5/8" (981)	6-1/4" (159)	9" (229)	42-1/2" (1080)	8-11/16" (221)

*Split cover design

MOL BLANK REPLACEMENT COVERS AND GASKETS	
CATALOG NUMBER	BODY STYLE
MOL-450	1-1/4"
MOL-560	1-1/2" & 2"
MOL-6CG	2"
MOL-780	2-1/2" & 3"
MOL-900	3-1/2" & 4"

Dimensions





NECLB-6

- Suitable for wet locations when used with gasketed covers.
- Federal Specification W-C-586D / A-A 50563.
- Suitable for use in hazardous location applications when installed according to NEC Articles 501.10(b), Class I, Div. 2, (Suitable for use in Class I Zone 2 applications) 502-.10 and 503.10.



Listed - File E3397

See files for details or call Killark.

FEATURES-SPECIFICATIONS

Applications

- Specially designed to meet National Electrical Code Article 370-28(a) (2) for angle pulls where the distance between the raceway entry and the opposite wall of the fitting must be at least six times the trade diameter of the raceway.

- A pull box with easy access to conductors
- A chamber with a large opening for easy access to perform changes in the conduit system
- For 90° bends in a conduit system
- Includes cover and gasket

Features

Large cover opening (length of opening exceeds six times the trade diameter of the hub size) for easy access to conductors. Cover and gasket included

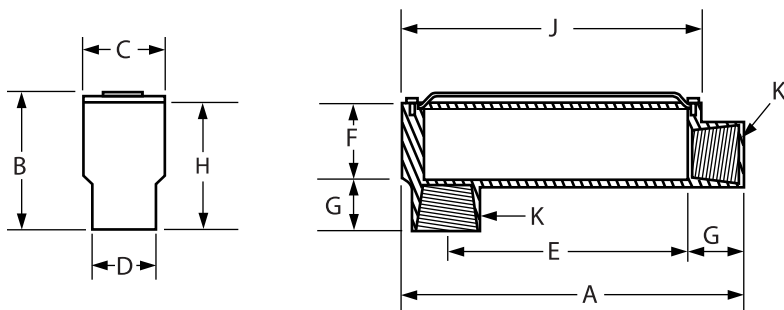
Material/Finish

Copper-free Aluminum
(less than 4/10 of 1%)

- Electrostatically applied powder coating

NECLB CONDUIT BODIES												
CATALOG NUMBER	REPLACEMENT COVER AND GASKET	HUB SIZE	A	B	C	D	E	F	G	H	J	K
NECLB-3	NECLB-30	1"	8-1/8"	3-7/16"	2"	11-9/32"	6"	2"	1-1/8"	3-1/8"	7"	1 NPT
NECLB-4	NECLB-40	1-1/4"	9-7/8"	4-1/16"	2-3/8"	11-5/16"	7-1/2"	2-1/2"	1-3/16"	3-11/16"	8-5/8"	1-1/4 NPT
NECLB-5	NECLB-50	1-1/2"	11-17/32"	5-1/16"	2-3/4"	2-3/16"	9"	3-1/2"	1-3/16"	4-11/16"	10-5/8"	1-1/2 NPT
NECLB-6	NECLB-60	2"	14-25/32"	6-3/16"	3"	2-11/16"	12"	4"	1-3/16"	5-3/16"	13-11/16"	2 NPT

Dimensions





SLB-1 thru 7



SOLB-8, 9, 0



SLBM-4



MLB-12

- Suitable for wet locations when used with gasketed covers.
- Federal Specification W-C-586D / A-A 50563.
- Suitable for use in hazardous location applications when installed according to NEC Articles 501.10(b), Class I, Div. 2, (Suitable for use in Class I Zone 2 applications) 502.10 and 503.10.



Listed - File E22698



Certified - File LR11852

See files for details or call Killark

FEATURES-SPECIFICATIONS

Features

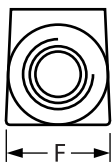
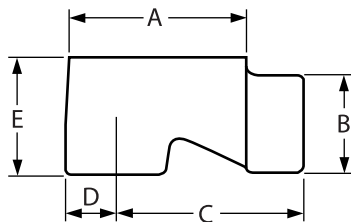
- Designed for easier wire pulling
- Includes Cover and Gasket

Material/Finish

Copper-free Aluminum

(less than 4/10 of 1%)

- Electrostatically applied powder coating



SERVICE ENTRANCE BODIES							
CATALOG NUMBER	CONDUIT SIZE	A	B	C	D	E	F
SLB-1	1/2"	2-3/4" (70)	1-1/16" (27)	2-3/8" (60)	3/4" (19)	1-3/8" (35)	1-3/16" (30)
SLB-2	3/4"	3-1/8" (79)	1-3/8" (35)	2-11/16" (68)	7/8" (22)	1-11/16" (43)	1-3/8" (35)
SLB-3	1"	3-3/4" (95)	1-5/8" (41)	3-1/4" (83)	15/16" (24)	1-15/16" (49)	1-3/4" (44)
SLB-4	1-1/4"	5" (127)	2" (51)	4-5/16" (110)	1-1/4" (32)	2-1/2" (64)	2-3/16" (56)
SLBM-4	1-1/4"	7-1/4" (184)	1-15/16" (49)	6-3/8" (162)	15/16" (24)	2-5/8" (67)	2-1/2" (64)
SLB-5	1-1/2"	5-3/4" (147)	2-7/16" (62)	4-3/4" (121)	1-1/2" (38)	2-9/16" (65)	2-7/16" (62)
SLB-6	2"	6-1/4" (159)	2-15/16" (75)	5" (127)	1-5/8" (41)	3-1/8" (79)	2-13/16" (71)
SLBM-6	2"	9-1/2" (241)	2-11/16" (68)	8-9/16" (217)	11-3/16" (284)	3-7/16" (87)	3-1/8" (79)
SLB-7	2-1/2"	8" (203)	3-9/16" (90)	6-7/8" (175)	11-5/16" (287)	4" (102)	3-1/2" (89)
SOLB-8	3"	12-1/4" (311)	4-7/16" (113)	10-7/16" (265)	11-3/16" (284)	6-1/4" (159)	4-7/16" (113)
SOLB-9	3-1/2"	15" (381)	5" (127)	11-7/8" (302)	3-1/8" (79)	7-1/2" (191)	5-1/2" (140)
SOLB-0	4"	15" (381)	5" (127)	11-7/8" (302)	3-1/8" (79)	7-1/2" (191)	5-1/2" (140)
MLB-12	5"	42-1/2" (1080)	8-11/16" (221)	38-5/8" (981)	4-5/8" (118)	12-1/4" (311)	9" (229)





WH

- Suitable for use in hazardous location applications when installed according to NEC Articles 501.10(b), Class I, Div. 2, (Suitable for use in Class I Zone 2 applications) 502.10, 503.10 and 505-15.
- Suitable for use with NEMA type enclosures 2, 3, 3R, 4, 12 and 13.



FEATURES-SPECIFICATIONS

Applications

Conduit hubs provide a liquid tight, oil tight and dust tight termination of electrical conduit through the walls of sheet metal enclosures. The hubs fit into standard knock-out dimensions.

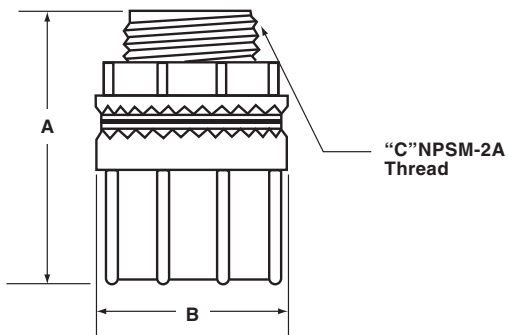
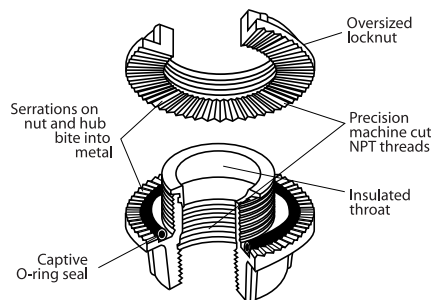
Features

- Oversized locknut provides for a strong vibration-proof termination
- Captive sealing ring
- Serrations on hub body and locknut provide effective positive ground path
- Rugged cast zinc construction
- Insulated throat protects conductors
- Suitable for use with NEMA type enclosures 2, 3, 3R, 4, 12 and 13

Material/Finish

- Die cast zinc
- Natural finish
- Sealing ring - Buna-N

WH WEATHERPROOF CONDUIT HUBS	
CATALOG NUMBER	NPT HUB SIZE
WH-1	1/2"
WH-2	3/4"
WH-3	1"
WH-4	1-1/4"
WH-5	1-1/2"
WH-6	2"
WH-7	2-1/2"
WH-8	3"
WH-9	3-1/2"
WH-0	4"



DIMENSIONS			
CATALOG NUMBER	A	B	C
WH-1	1.500"	1.437"	1/2"-14
WH-2	1.510"	1.685"	3/4"-14
WH-3	1.812"	1.921"	1"-11-1/2
WH-4	1.877"	2.370"	1-1/4"-11-1/2
WH-5	1.920"	2.745"	1-1/2"-11-1/2
WH-6	1.895"	3.236"	2"-11-1/2
WH-7	2.605"	3.708"	2-1/2"-8
WH-8	2.615"	4.370"	3"-8
WH-9	2.570"	4.941"	3-1/2"-8
WH-0	2.590"	5.450"	4"-8



Duct Seal

- Listed - File E E22699
- Certified - File LR11852
See files for details or call Killark.

FEATURES-SPECIFICATIONS

Applications

- 90° pulling elbows are used to accommodate pulling conductors through a sharp bend in the conduit system

Features

- Designed for easier wire pulling
- Includes Cover and Gasket

Material/Finish

Copper-free Aluminum

(less than 4/10 of 1%)

- Electrostatically applied powder coating

PULLING ELBOWS FOR THREADED CONDUIT		
CATALOG NUMBER	HUB SIZE	TYPE
CL-1	1/2"	CL
CL-2	3/4"	
CL-3	1"	
CLM-1	1/2"	CLM
CLM-2	3/4"	
CLM-3	1"	

© Raintight/concrete tight

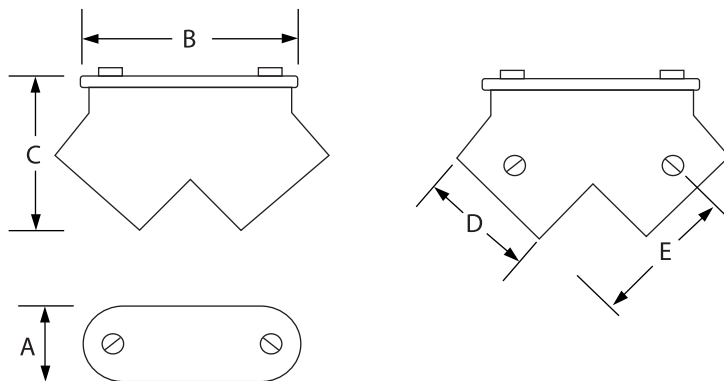
PULLING ELBOWS FOR THINWALL CONDUIT [®]	
CATALOG NUMBER	HUB SIZE
TWCL-1	1/2"
TWCL-2	3/4"

© Set screw in each hub

Duct Seal is a soft, non-hardening weather-proof compound, easily applied in all working temperatures. It is non-staining, can be painted, is an excellent moisture barrier for weather-sealing service entries, electrical cables, conduit ducts, etc.

DUCT SEAL	
CATALOG NUMBER	SIZE
DS-1	1-lb.
DS-5	5-lb.

DIMENSIONS					
SIZE	A	B	C	D	E
1/2"	1-1/4" (32)	2-9/16" (65)	1-3/8" (35)	1-1/4" (32)	1-7/16" (37)
3/4"	1-3/8" (35)	2-3/4" (70)	1-9/16" (40)	1-3/8" (35)	1-17/32" (39)
1"	1-3/4" (44)	3-1/8" (79)	1-3/4" (44)	1-3/4" (44)	1-23/32" (44)





FB



STFB

Listed - File E22698

See files for details or call Killark.

FEATURES-SPECIFICATIONS

Weather-proof for threaded conduit.

Applications

- For overhead service entrance
- For use with threaded rigid conduit

Features

- For use with aluminum or steel conduit
- Insulators included
- Easy installation and assembly
- Variety of knockout arrangements
- Vertical mounting
- Sizes 1/2" thru 4" available

Material/Finish

Copper-free Aluminum

(less than 4/10 of 1%)

- Natural finish

FB SERVICE ENTRANCE					
CATALOG NUMBER	HUB SIZE	KNOCKOUTS		DIMENSIONS	
		QUANTITY	DIAMETER	WIDTH	HEIGHT
FB-714	1/2"	4	3/8"	3.00" (76)	2.60" (66)
FB-724	3/4"	5	3/8"	2.39" (61)	2.32" (58)
FB-734	1"	5	1/2"	2.62" (67)	3.03" (80)
FB-745	1-1/4"	5	1/2"	2.62" (67)	3.03" (80)
FB-765	2"	6	One 1/2"	4.43" (113)	4.45" (113)
			Two 3/4"		
			Three 1"		
FB-787	3"	7	Four 1"	6.40" (163)	8.00" (203)
			Three 1-1/4"		
FB-707	4"	7	Four 1-3/4"	8.00" (163)	9.00" (229)
			Two 1-1/8"		

For rigid or thinwall conduit (EMT)

Applications

- For overhead service entrance
- For use with EMT or rigid conduit

Features

- For use with aluminum or steel conduit
- Mounting clamp provides easy installation
- Insulators included
- Three point balance for proper alignment
- Variety of knockout arrangements
- Vertical mounting
- Sizes 3/4" thru 4" available

Material/Finish

Copper-free Aluminum

(less than 4/10 of 1%)

- Natural finish

STFB SERVICE ENTRANCE					
CATALOG NUMBER	HUB SIZE	KNOCKOUTS		DIMENSIONS	
		QUANTITY	DIAMETER	WIDTH	HEIGHT
STFB-2	3/4"	5	3/8"	2.39" (61)	2.32" (59)
STFB-3	1"	5	1/2"	2.62" (67)	3.03" (77)
STFB-4	1-1/4"	5	1/2"	2.62" (67)	3.03" (77)
STFB-5	1-1/2"	6	One 1/2"	3.43" (87)	3.75" (95)
			Two 5/8"		
			Three 3/4"		
STFB-6	2"	6	One 1/2"	4.43" (113)	4.45" (113)
			Two 3/4"		
			Three 1"		
STFB-7	2-1/2"	7	Four 1"	6.40" (163)	8.00" (203)
			Three 1-1/4"		
STFB-8	3"	7	Four 1"	6.40" (163)	8.00" (203)
			Three 1-1/4"		
STFB-0	4"	7	Four 1-1/4"	8.00" (203)	9.00" (229)





FS 1 & 2 with Lugs

FD 1 & 2 with lugs

FSC 1 & 2 with lugs

UL Standard: 514A
 CSA Standard: C22.2 No. 18
 Fed Spec: W-C-586D
 NEMA: FB-1

Listed File No. E 3397

Certified File No. LR11852

FEATURES-SPECIFICATIONS

Applications

- Accommodates wiring devices and provides opening to splice, tap, or pull conductors
- Provide access to conductors for maintenance and future system changes

Features

- Tapered threads (NPT with integral bushings)
- Internal grounding screw
- Optional mounting feet available on FS, FD, FSC, and FDC
- Available single and two gang styles
- Suitable for use in wet locations when used with gasket covers
- Cast iron is suitable for concrete use
- For use with FS-style covers see pages F40-F42

Material/Finish

Copper-free Aluminum

(less than 4/10 of 1%)

- Electrostatically applied powder coating

Duraloy Iron

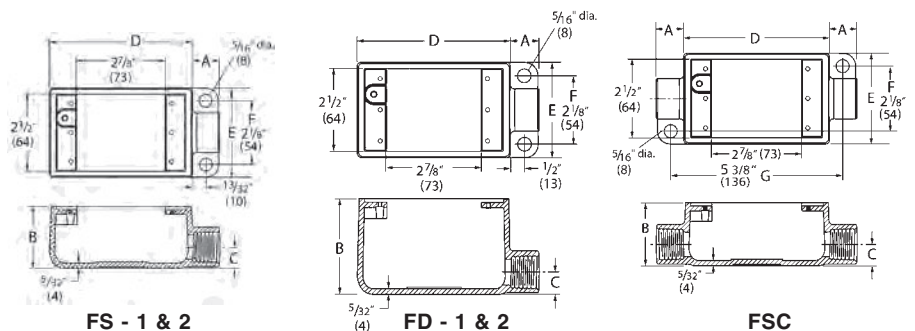
- Tri-coat finish of electrozinc, chromate sealant, and electrostatically applied powder coating

FS TYPE CAST DEVICE BOX - SHALLOW - DEAD END										
KILLARK ALUM.	DURALOY IRON	HUB SIZE	DIMENSIONS							VOLUME CU. IN.
			A	B	C	D	E	F	G	
FS-1	FS-1M	1/2"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	2-1/8" (54)	5-3/8" (136)	18.0
FS-2	FS-2M	3/4"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	2-1/8" (54)	—	18.0
FS-3	FS-3M	1"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	2-1/8" (54)	—	18.0

FD TYPE CAST DEVICE BOX - DEEP - DEAD END										
KILLARK ALUM.	DURALOY IRON	HUB SIZE	DIMENSIONS							VOLUME CU. IN.
			A	B	C	D	E	F	G	
FD-1	FD-1M	1/2"	7/8" (22)	2-7/8" (73)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	2-1/8" (54)	—	28.0
FD-2	FD-2M	3/4"	7/8" (22)	2-7/8" (73)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	2-1/8" (54)	—	28.0
FD-3	FD-3M	1"	7/8" (22)	2-7/8" (73)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	2-1/8" (54)	—	28.0

FSC TYPE CAST DEVICE BOX - SHALLOW - FEED THRU										
KILLARK ALUM.	DURALOY IRON	HUB SIZE	DIMENSIONS							VOLUME CU. IN.
			A	B	C	D	E	F	G	
FSC-1	FSC-1M	1/2"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	2-1/8" (54)	5-3/8" (136)	18.0
FSC-2	FSC-2M	3/4"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	2-1/8" (54)	5-3/8" (136)	18.0
FSC-3	FSC-3M	1"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	2-1/8" (54)	5-3/8" (136)	18.0

Dimensions





FDC 1 & 2 with lugs



FSOC Type



FSL Type

UL Standard: 514A
CSA Standard: C22.2 No. 18
Fed Spec: W-C-586D
NEMA: FB-1

Listed File No. E 3397

Certified File No. LR11852

FEATURES-SPECIFICATIONS

Applications

- Accommodates wiring devices and provides opening to splice, tap, or pull conductors
- Provide access to conductors for maintenance and future system changes

Features

- Tapered threads (NPT with integral bushings)
- Internal grounding screw
- Optional mounting feet available on FS, FD, FSC, and FDC
- Available single and two gang styles
- Suitable for use in wet locations when used with gasket covers
- Cast iron is suitable for concrete use
- For use with FS-style covers see pages F40-F42

Material/Finish

Copper-free Aluminum
(less than 4/10 of 1%)

- Electrostatically applied powder coating

Duraloy Iron

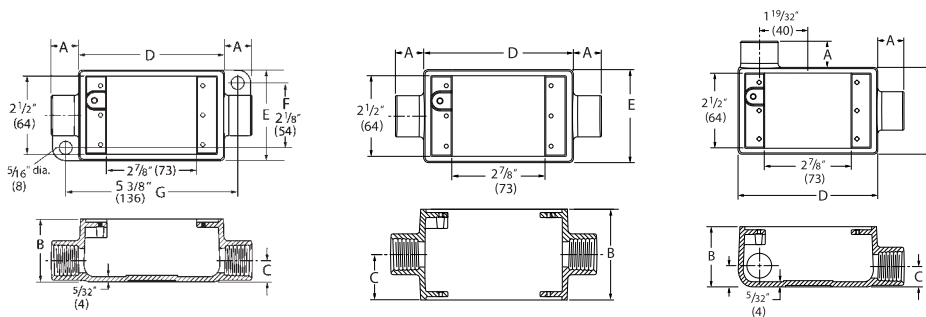
- Tri-coat finish of electrozinc, chromate sealant, and electrostatically applied powder coating

FDC TYPE CAST DEVICE BOX - DEEP - FEED THRU										
CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
FDC-1	FDC-1M	1/2"	7/8" (22)	2-7/8" (73)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	2-1/8" (54)	5-3/8" (136)	28.5
FDC-2	FDC-2M	3/4"	7/8" (22)	2-7/8" (73)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	2-1/8" (54)	5-3/8" (136)	28.5
FDC-3	FDC-3M	1"	7/8" (22)	2-7/8" (73)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	2-1/8" (54)	5-3/8" (136)	28.5

FSOC TYPE CAST DEVICE OPEN BOX - SHALLOW - FEED THRU										
CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUMINUM			A	B	C	D	E	F	G	
FSOC-1		1/2"	7/8" (22)	3" (76)	1-1/2" (138)	4-5/8" (117)	2-7/8" (73)	—	—	29.0

FSL TYPE CAST DEVICE BOX - SHALLOW										
CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
FSL-1	FSL-1M	1/2"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	—	—	18.0
FSL-2	FSL-2M	3/4"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	—	—	18.0

Dimensions



FDC - 1 & 2

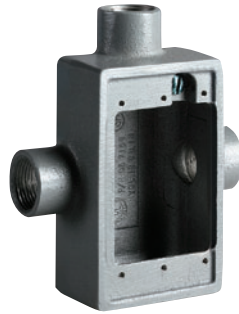
FSOC

FSL





FRS Type



FST Type

UL Standard: 514A
 CSA Standard: C22.2 No. 18
 Fed Spec: W-C-586D
 NEMA: FB-1

Listed File No. E 3397

Certified File No. LR11852

FEATURES-SPECIFICATIONS

Applications

- Accommodates wiring devices and provides opening to splice, tap, or pull conductors
- Provide access to conductors for maintenance and future system changes

Features

- Tapered threads (NPT with integral bushings)
- Internal grounding screw
- Optional mounting feet available on FS, FD, FSC, and FDC
- Available single and two gang styles
- Suitable for use in wet locations when used with gasket covers
- Cast iron is suitable for concrete use
- For use with FS-style covers see pages F40-F42

Material/Finish

Copper-free Aluminum
 (less than 4/10 of 1%)

- Electrostatically applied powder coating

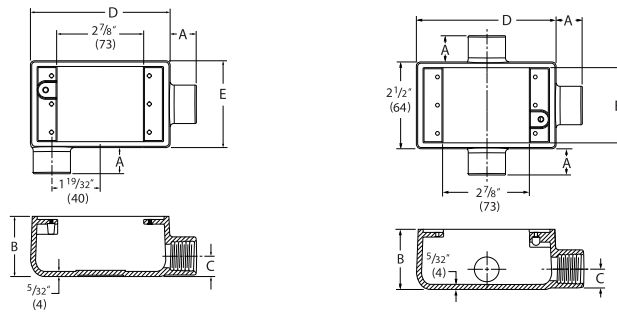
Duraloy Iron

- Tri-coat finish of electrozinc, chromate sealant, and electrostatically applied powder coating

FRS TYPE CAST DEVICE BOX – SHALLOW										
CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
FRS-1	FRS-1M	1/2"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	—	—	18.0
FRS-2	FRS-2M	3/4"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	—	—	18.0

FST TYPE CAST DEVICE BOX – SHALLOW										
CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
FST-1	FST-1M	1/2"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	—	—	18.0
FST-2	FST-2M	3/4"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	—	—	18.0

Dimensions



FRS

FST



FSX Type



FSA/FDA Types



FSLB Type

UL Standard: 514A
 CSA Standard: C22.2 No. 18
 Fed Spec: W-C-586D
 NEMA: FB-1

Listed File No. E 3397

Certified File No. LR11852

FEATURES-SPECIFICATIONS

Applications

- Accommodates wiring devices and provides opening to splice, tap, or pull conductors
- Provide access to conductors for maintenance and future system changes

Features

- Tapered threads (NPT with integral bushings)
- Internal grounding screw
- Optional mounting feet available on FS, FD, FSC, and FDC
- Available single and two gang styles
- Suitable for use in wet locations when used with gasket covers
- Cast iron is suitable for concrete use
- For use with FS-style covers see pages F40-F42

Material/Finish

Copper-free Aluminum

(less than 4/10 of 1%)

- Electrostatically applied powder coating

Duraloy Iron

- Tri-coat finish of electrozinc, chromate sealant, and electrostatically applied powder coating

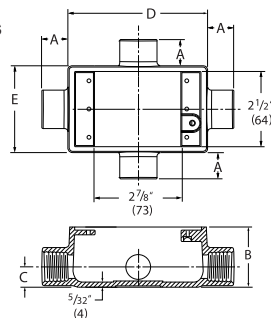
FSX TYPE CAST DEVICE BOX – SHALLOW										
CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
FSX-1	FSX-1M	1/2"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	—	—	18.0
FSX-2	FSX-2M	3/4"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	—	—	18.0

FSA TYPE CAST DEVICE BOX – SHALLOW – DEAD END										
CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUMINUM			A	B	C	D	E	F	G	
FSA-1		1/2"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	—	—	18.0
FSA-2		3/4"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	—	—	18.0

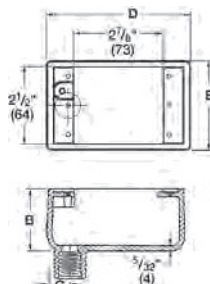
FDA TYPE CAST DEVICE BOX – DEEP – DEAD END										
CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUMINUM			A	B	C	D	E	F	G	
FDA-2		3/4"	7/8" (22)	2-7/8" (73)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	—	—	28.5

FSLB TYPE CAST DEVICE BOX – SHALLOW – FEED THRU										
CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUMINUM			A	B	C	D	E	F	G	
FSLB-1		1/2"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	—	—	18.0
FSLB-2		3/4"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	—	—	18.0

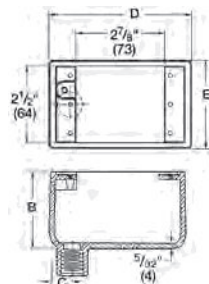
Dimensions



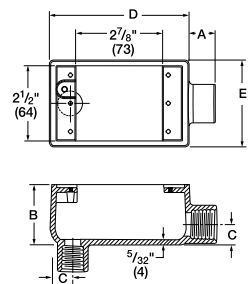
FSX



FSA



FDA



FSLB





FSS/FDS Types



FSCC/FDCC Types

UL Standard: 514A
 CSA Standard: C22.2 No. 18
 Fed Spec: W-C-586D
 NEMA: FB-1

Listed File No. E 3397

Certified File No. LR11852

FEATURES-SPECIFICATIONS

Applications

- Accommodates wiring devices and provides opening to splice, tap, or pull conductors
- Provide access to conductors for maintenance and future system changes

Features

- Tapered threads (NPT with integral bushings)
- Internal grounding screw
- Available single and two gang styles
- Suitable for use in wet locations when used with gasket covers
- Cast iron is suitable for concrete use
- For use with FS-style covers see pages F40-F42

Material/Finish

Copper-free Aluminum

(less than 4/10 of 1%)

- Electrostatically applied powder coating

Duraloy Iron

- Tri-coat finish of electrozinc, chromate sealant, and electrostatically applied powder coating

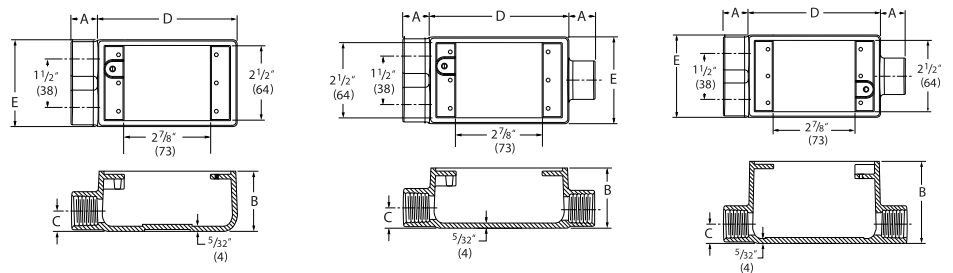
FSS TYPE CAST DEVICE BOX - SHALLOW										
KILLARK ALUM.	DURALOY IRON	HUB SIZE	DIMENSIONS							VOLUME CU. IN.
			A	B	C	D	E	F	G	
FSS-1	FSS-1M	1/2"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	—	—	18.0
FSS-2	FSS-2M	3/4"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	—	—	18.0

FDS TYPE CAST DEVICE BOX										
KILLARK ALUM.	DURALOY IRON	HUB SIZE	DIMENSIONS							VOLUME CU. IN.
			A	B	C	D	E	F	G	
FDS-2	FDS-2M	3/4"	7/8" (22)	2-7/8" (73)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	—	—	8.5

FSCC TYPE CAST DEVICE BOX - SHALLOW										
KILLARK ALUM.	DURALOY IRON	HUB SIZE	DIMENSIONS							VOLUME CU. IN.
			A	B	C	D	E	F	G	
FSCC-1	FSCC-1M	1/2"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	—	—	18.0
FSCC-2	FSCC-2M	3/4"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	—	—	18.0

FDCC TYPE CAST DEVICE BOX - DEEP										
KILLARK ALUM.	DURALOY IRON	HUB SIZE	DIMENSIONS							VOLUME CU. IN.
			A	B	C	D	E	F	G	
FDCC-2	FDCC-2M	3/4"	7/8" (22)	2-7/8" (73)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	—	—	28.5

Dimensions



FSS

FSCC

FDCC





FSCA Type



FSCT Type

UL Standard: 514A
CSA Standard: C22.2 No. 18
Fed Spec: W-C-586D
NEMA: FB-1

Listed File No. E 3397

Certified File No. LR11852

FEATURES-SPECIFICATIONS

Applications

- Accommodates wiring devices and provides opening to splice, tap, or pull conductors
- Provide access to conductors for maintenance and future system changes

Features

- Tapered threads (NPT with integral bushings)
- Internal grounding screw
- Available single and two gang styles
- Suitable for use in wet locations when used with gasket covers
- Cast iron is suitable for concrete use
- For use with FS-style covers see pages F40-F42

Material/Finish

Copper-free Aluminum
(less than 4/10 of 1%)

- Electrostatically applied powder coating

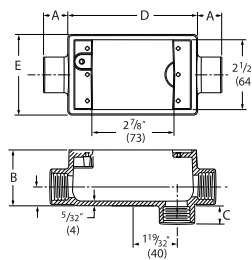
Duraloy Iron

- Tri-coat finish of electrozinc, chromate sealant, and electrostatically applied powder coating

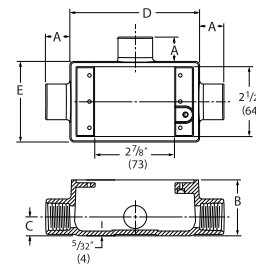
FSCA TYPE CAST DEVICE BOX – SHALLOW										
CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
FSCA-1	FSCA-1M	1/2"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	—	—	18.0
FSCA-2	FSCA-2M	3/4"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	—	—	18.0

FSCT TYPE CAST DEVICE BOX – SHALLOW										
CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
FSCT-1	FSCT-1M	1/2"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	—	—	18.0
FSCT-2	FSCT-2M	3/4"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	2-7/8" (73)	—	—	18.0

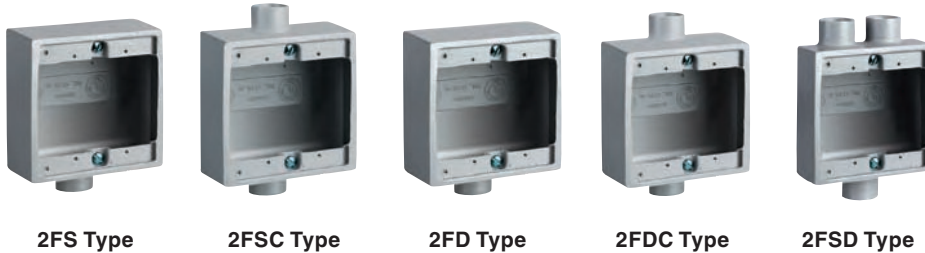
Dimensions



FSCA



FSCT



UL Standard: 514A
 CSA Standard: C22.2 No. 18
 Fed Spec: W-C-586D
 NEMA: FB-1

Listed File No. E 3397
 Certified File No. LR11852

FEATURES-SPECIFICATIONS

Applications

- Accommodates wiring devices and provides opening to splice, tap, or pull conductors
- Provide access to conductors for maintenance and future system changes

Features

- Tapered threads (NPT with integral bushings)
- Internal grounding screw
- Available single and two gang styles
- Suitable for use in wet locations when used with gasket covers
- Cast iron is suitable for concrete use
- For use with FS-style covers see pages F40-F42

Material/Finish

Copper-free Aluminum
 (less than 4/10 of 1%)

- Electrostatically applied powder coating

Duraloy Iron

- Tri-coat finish of electrozinc, chromate sealant, and electrostatically applied powder coating

2FS TYPE CAST DEVICE BOX TWO GANG - SHALLOW										
CATALOG NUMBER		HUB SIZE	DIMENSIONS							VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F	G	
2FS-1	2FS-1M	1/2"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	4-11/16" (119)	—	—	32.0
2FS-2	2FS-2M	3/4"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	4-11/16" (119)	—	—	32.0
2FS-3	2FS-3M	1"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	4-11/16" (119)	—	—	32.0

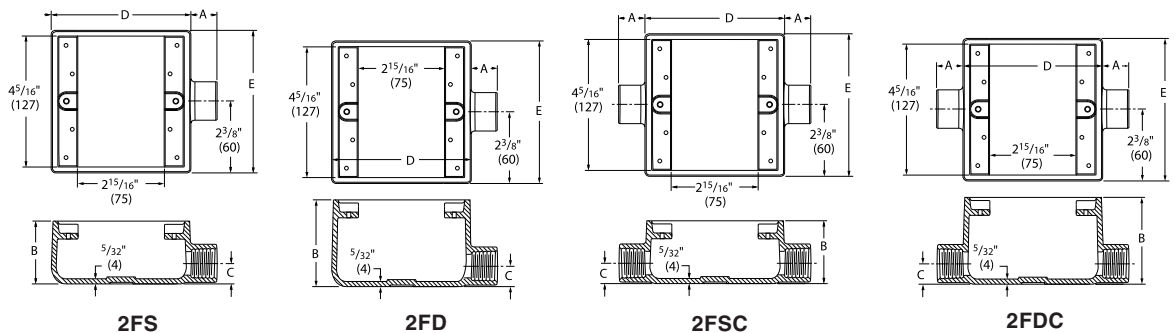
2FD TYPE CAST DEVICE BOX TWO GANG - DEEP										
CATALOG NUMBER	DURALOY IRON	HUB SIZE	A	B	C	D	E	F	G	VOLUME CU. IN.
2FD-1	2FD-1M	1/2"	7/8" (22)	2-15/16" (75)	11/16" (17)	4-5/8" (117)	4-11/16" (119)	—	—	47.0
2FD-2	2FD-2M	3/4"	7/8" (22)	2-15/16" (75)	11/16" (17)	4-5/8" (117)	4-11/16" (119)	—	—	47.0

2FSC TYPE CAST DEVICE BOX TWO GANG - SHALLOW										
CATALOG NUMBER	DURALOY IRON	HUB SIZE	A	B	C	D	E	F	G	VOLUME CU. IN.
2FSC-1	2FSC-1M	1/2"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	4-11/16" (119)	—	—	32.0
2FSC-2	2FSC-2M	3/4"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	4-11/16" (119)	—	—	32.0

2FDC TYPE CAST DEVICE BOX TWO GANG - DEEP										
CATALOG NUMBER	DURALOY IRON	HUB SIZE	A	B	C	D	E	F	G	VOLUME CU. IN.
2FDC-1	2FDC-1M	1/2"	7/8" (22)	2-15/16" (75)	11/16" (17)	4-5/8" (117)	4-11/16" (119)	—	—	50.0
2FDC-2	2FDC-2M	3/4"	7/8" (22)	2-15/16" (75)	11/16" (17)	4-5/8" (117)	4-11/16" (119)	—	—	50.0

2FSD TYPE CAST DEVICE BOX TWO GANG - SHALLOW										
CATALOG NUMBER	DURALOY IRON	HUB SIZE	A	B	C	D	E	F	G	VOLUME CU. IN.
2FSD-1	2FSD-1M	1/2"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	4-11/16" (119)	—	—	32.0
2FSD-2	2FSD-2M	3/4"	7/8" (22)	2" (51)	11/16" (17)	4-5/8" (117)	4-11/16" (119)	—	—	32.0

Dimensions



Two Gang



2FS

2FD

Three Gang



3FS

3FD

FEATURES-SPECIFICATIONS

Applications

- Accommodates wiring devices and provides opening to splice, tap, or pull conductors
- Provide access to conductors for maintenance and future system changes

Features

- Internal grounding screw
- Available single and two gang styles
- Suitable for use in wet locations when used with gasket covers
- For use with FS-style covers see pages F40-F42

Conduit Opening Data

- To specify conduit openings select the letter on these sketches which indicates the position desired. Follow this letter with the symbol indicating the type and size.

Example: 2FS-A2-E2

Material/Finish

Copper-free Aluminum

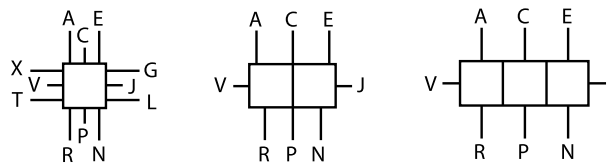
(less than 4/10 of 1%)

- Electrostatically applied powder coating

FS/FD MULTI GANG BOXES [Ⓢ]						
SERIES	A	B	C	D	E	H
FSQ	3-3/4"(95)	3-9/16"(90)	1/4"(6)	4-9/16"(116)	2-13/16"(71)	2"(51)
2FS	6-3/16"(157)	3-3/4"(95)	9/32"(7)	4-7/8"(124)	4-15/16"(125)	2"(51)
3FS	6-3/16"(157)	5-3/4"(146)	9/32"(7)	4-7/8"(124)	6-3/4"(125)	2"(51)
FDQ	3-3/4"(95)	3-9/16"(90)	1/4"(6)	4-9/16"(116)	2-13/16"(71)	2-7/8"(73)
2FD	6-3/16"(157)	3-3/4"(95)	9/32"(7)	4-7/8"(124)	4-15/16"(125)	2-7/8"(73)
3FD	6-3/16"(157)	5-3/4"(146)	9/32"(7)	4-7/8"(124)	6-3/4"(125)	2-7/8"(73)

FS/FD/FSQ/FDQ CONDUIT OPENING AND SYMBOL IDENTIFICATION		
FOR CONDUIT SIZE	THREADED SYMBOL NUMBER	UNION [Ⓢ] SYMBOL NUMBER
1/2"	1	11
3/4"	2	12
1"	3	13
1-1/4"	4	14
1-1/2"	5	15

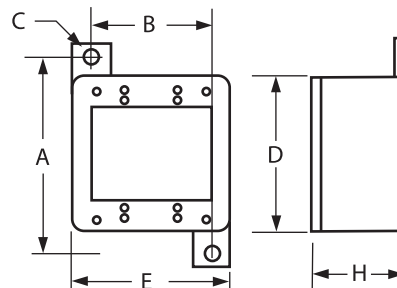
[Ⓢ]Union hubs are supplied by using a drilled and tapped opening with GUM Series union on 1/2", 3/4", 1", 1-1/4" and 1-1/2" sizes.



Single Gang

Two Gang

Three Gang





Listed - File E3397
 Certified - File LR11852
 See files for details or call Killark.

FEATURES-SPECIFICATIONS

Applications

- Accommodates wiring devices and provides opening to splice, tap, or pull conductors
- Provide access to conductors for maintenance and future system changes

Features

- The fittings on this page takes single gang covers listed on pages F40-F42
- FSQ and FDQ series boxes are made with individual cover openings so any combination of devices may be assembled
- Any assembly is suitable for wet and damp locations when it consists of these boxes and a cover suitable for wet and damp locations

- To specify conduit opening combination select the letter on the sketch which indicates the position of the opening desired. Follow this letter with the symbol indicating the type of opening-threaded, threadless or union

Maximum Conduit Opening Size

FS-1/2" thru 1"
 FD-1/2" thru 1-1/2"

Material/Finish

Copper-free Aluminum

(less than 4/10 of 1%)

- Electrostatically applied powder coating

FSQ/FDQ DRILLED AND TAPPED DEVICE BOXES						
SERIES	A	B	C	D	E	H
FSQ	3-3/4"(95)	3-9/16"(90)	1/4"(6)	4-9/16"(116)	2-13/16"(71)	2"(51)
2FSQ	5-7/8"(149)	4-1/4"(108)	5/16"(8)	4-7/8"(124)	6-7/16"(164)	2"(51)
3FSQ	6-1/8"(156)	7-1/2"(191)	5/16"(8)	4-15/16"(125)	9-13/16"(249)	2"(51)
FDQ	3-3/4"(95)	3-9/16"(90)	1/4"(6)	4-9/16"(116)	2-13/16"(71)	2-7/8"(73)
2FDQ	6-3/16"(157)	4-7/16"(113)	5/16"(8)	4-7/8"(124)	6-7/16"(164)	2-7/8"(73)
3FDQ	5-7/8"(149)	7-9/16"(192)	5/16"(8)	4-15/16"(125)	9-13/16"(249)	2-7/8"(73)
4FDQ	5-7/8"(149)	10-13/16"(275)	5/16"(8)	4-15/16"(125)	13-1/8"(333)	2-7/8"(73)

Conduit Opening Data

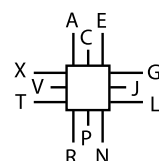
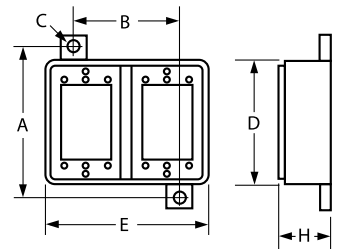
- To specify conduit openings select the letter on these sketches which indicates the position desired. Follow this letter with the symbol indicating the type and size.

Example: 2FS-A2-E2-J13

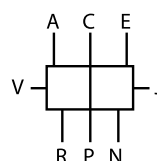
- All conduit openings will be evenly spaced. When they are to be more accurately located, submit a sketch with spacing dimensions.
- Dimensions should be oriented from centerlines of body and outside back of body.
- FS and FSQ box will take drilled and tapped openings thru 1".
- FD and FDQ box will take drilled and tapped openings thru 1-1/2".

FS/FD/FSQ/FDQ CONDUIT OPENING AND SYMBOL IDENTIFICATION		
FOR CONDUIT SIZE	THREADED SYMBOL NUMBER	UNION [Ⓢ] SYMBOL NUMBER
1/2"	1	11
3/4"	2	12
1"	3	13
1-1/4"	4	14
1-1/2"	5	15

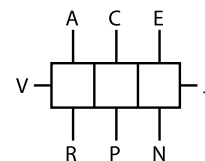
[Ⓢ] Union hubs are supplied by using a drilled and tapped opening with GUM Series union on 1/2", 3/4", 1", 1-1/4" and 1-1/2" sizes.



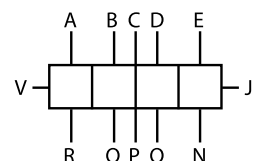
Single Gang



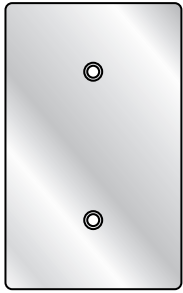
Two Gang



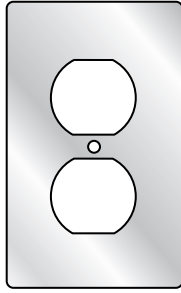
Three Gang



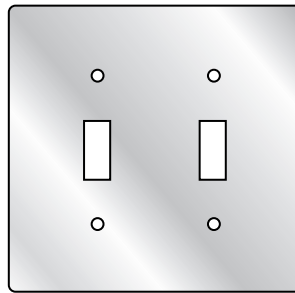
Four Gang



1FB Type



1FA Type

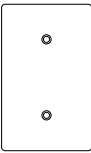
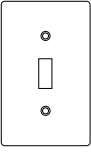
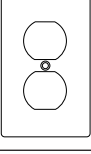
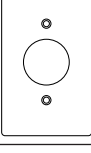
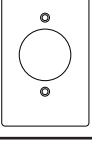


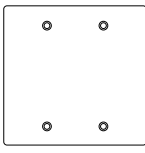
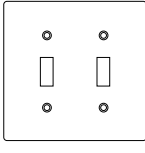
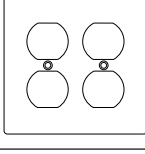
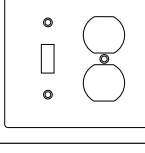
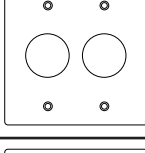
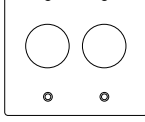
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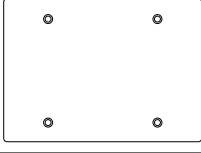
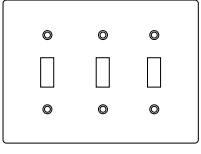
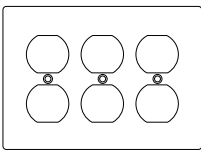
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 Certified File No. LR11852

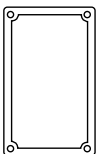
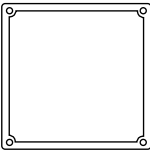

FEATURES-SPECIFICATIONS

- Stamped metallic covers with or without electrostatically applied powder coating
- Gaskets to be ordered separately

SINGLE GANG		
CATALOG NUMBER		
WITH COATING	WITHOUT COATING	
Blank for Single Gang Boxes		
1FBC	1FB	
1 Toggle Switch		
1FTC	1FT	
1 Duplex Receptacle		
1FAC	1FA	
1-13/32" Opening Round Receptacle		
1FRC	1FR	
1-5/8" Opening Round Receptacle		
1FGC	1FG	

TWO GANG		
CATALOG NUMBER		
WITH COATING	WITHOUT COATING	
Blank for Two Gang Boxes		
2FBC	2FB	
2 Toggle Switches		
2FTC	2FT	
2 Duplex Receptacles		
2FAC	2FA	
Toggle Switch & Duplex Receptacle		
2FTAC	2FTA	
1-13/32" Openings 2 Round Receptacles		
2FRC	2FR	
1-5/8" Opening Round 2 Round Receptacles		
2FGC	2FG	

THREE GANG		
CATALOG NUMBER	DESCRIPTION	
3FB	Blank for 3 Gang Boxes	
3FT	3 Toggle Switches	
3FA	3 Duplex Receptacles	

REPLACEMENT GASKETS FOR COVERS (NEOPRENE RUBBER)		
CATALOG NUMBER	DESCRIPTION	
FSRG	Neoprene Gaskets for Single Gang Boxes	
2FSRG	Neoprene Gaskets for 2 Gang Boxes	
3FSRG	Neoprene Gaskets for 3 Gang Boxes	



FZ8647



FCL-GF Type


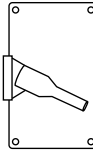
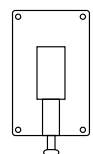
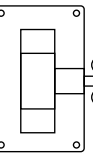
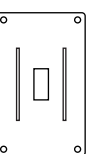


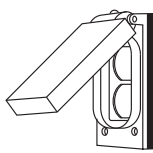
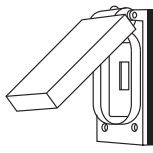
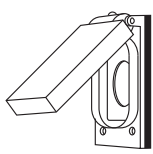
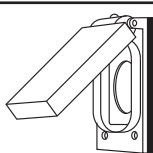
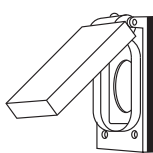
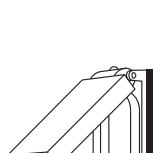
FST Type

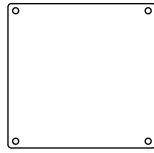
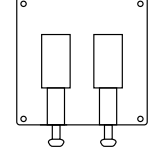
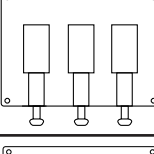
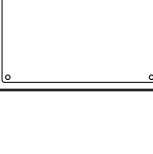
 Listed File No. E 3397
 Certified File No. LR11852

FEATURES-SPECIFICATIONS

- Cast metallic covers with electrostatically applied powder coating

CAST DEVICE COVERS— SINGLE GANG (GASKETS INCLUDED)		
CATALOG NUMBER	DESCRIPTION	
FSBC	Blank for Single Gang Boxes	
FSBCM	Iron Blank for Single Gang Boxes	
FZ8648	Square Toggle Lock in ON or OFF Position	
FZ8647	Square Toggle (Long Throw — Such as Manual Starters)	
FST	1 Toggle Switch	
FSPT	For Toggle Switch	
FSTG	Toggle Switch Guarded	

CAST DEVICE COVERS— SINGLE GANG (GASKETS INCLUDED)		
CATALOG NUMBER	DESCRIPTION	
FCLA	Duplex Receptacle	
FCLT	Toggle Switch	
FCLR	Round Receptacle 1.406" Dia.	
FCLG	Round Receptacle 1.625" Dia.	
FCLM	Round Receptacle 1.750" Dia.	
FCLN	Round Receptacle 2.156" Dia.	
FCL-GF	Device Cover for Most Manufacturers' GFI Devices Includes Gaskets and Screws	
FCL-VG	Replacement Vellumoid Gasket	

CAST DEVICE COVERS— TWO AND THREE GANG (GASKETS INCLUDED)		
CATALOG NUMBER	DESCRIPTION	
2FSBC	Blank for 2 Gang Boxes	
2FSBCM	Iron Blank for 2 Gang Boxes	
2FST	2 Toggle Switches	
3FST	3 Toggle Switches	
3FSBC	Blank for 3 Gang Boxes	



FCLA2

Duplex Wall Plate for horizontal mounting on FS/FD Boxes. Cast aluminum, gasketed and self-closing. Listed for wet locations with cover open in continuous use.



FCL-GF



FZ-8647



PL

FEATURES-SPECIFICATIONS

FCL Device Covers (For GFI Receptacles)

Applications

- Use in dirty, dusty or corrosive areas
- Indoor/outdoor applications
- Where devices need physical protection

Features

- May be used with several different manufacturers' GFI devices
- Mounts on all FS, FD, FSQ and FDQ Series boxes (single opening)
- Snap type lid. UL/CSA suitable for wet locations.
- Gaskets included

CATALOG NUMBER	ITEM
FCL-GF	Device cover includes gaskets and screws
FCL-VG	Replacement Vellumoid gasket

Listed - File E3397
 Certified - File LR11852

FZ Applications

- Suitable for NEMA 3 locations
- Areas where dust or dirt are a problem
- With standard toggle switches or manual motor starters

Features

- Copper-free aluminum
- Gaskets included
- Three toggle operator choices
- Lock "ON" or "OFF" provision standard
- Stainless steel screws
- Mounts on all FS, FD, FSQ and FDQ Series boxes (single opening)

CATALOG NUMBER	TYPE OF TOGGLE SWITCH HANDLE
FZ8648	Square toggle
FZ8647	Square toggle (Long throw-such as manual starters)
FZ	Round toggle

Listed - File E3397
 Certified - File LR11852

PL Applications

- Wet and damp locations
- Areas where dirt, dust or corrosion is a problem
- Washdown areas such as food processing plants or dairies

Features

- Non corrosive yellow polyethylene ring
- Molded neoprene boot on plug

CATALOG NUMBER	NEMA CONFIGURATION AND RATING
PL-7	Cord diameter .375(9)/.625(16)

Not CSA approved.



VLJSX Shallow



VLJX Medium



VLJDX Deep



VJBC Blank Cover



VJH-1 or VJH-2 Hub Cover



VBNB Gasket

Listed - File E30107 and E3397
 Certified - File LR11852
 See files for details or call Killark.

FEATURES-SPECIFICATIONS

Applications

- VJ Series round boxes are available in three depths for use as splice boxes, for hanging pendant fixtures by using hub covers; or by using a VBA plate (see page L11), will take VFC fixture caps
- Cover mounting centers are 3-1/2" and will accommodate 4" round or octagonal box covers and devices. Screw holes are 8-32 size
- VJ Series are furnished with four "X" conduit openings and three close-up plugs
- Gaskets are required for wet and damp locations

Features

- Complies with NEMA 3, 4 and IPx6 (when gasketed)
- Supports up to 125 pounds

Material/Finish

Aluminum

- **BODY** Copper-free aluminum (less than 4/10 of 1%)
- **FINISH** Electrostatically applied powder coating
- **COVER** (Aluminum) Copper-free aluminum (less than 4/10 of 1%). Electrostatically applied powder coating

Iron

- **BODY** Duraloy iron alloy
- **FINISH** Tri-Coat Finish of Electro-zinc, Chromate Sealant, and electrostatically applied powder coating
- **COVER** (Aluminum) Copper-free aluminum (less than 4/10 of 1%). Electrostatically applied powder coating

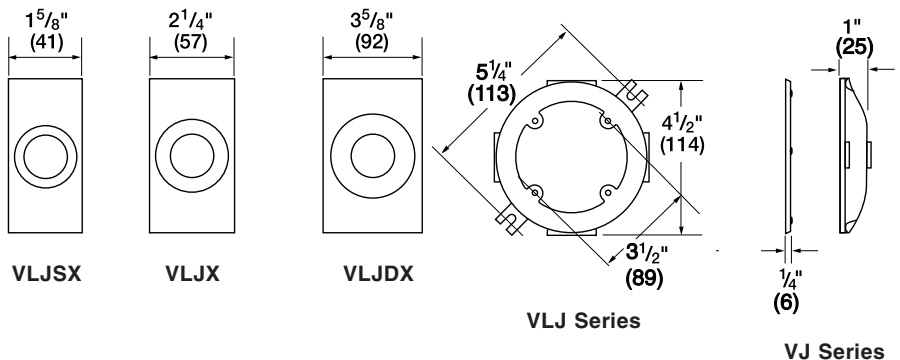
BOXES WITH LUGS					CONDUIT SIZE	HUB ARRANGEMENT
CATALOG NUMBER						
SHALLOW 1-5/8"(00)		MEDIUM 2-1/4"(57)		DEEP 3-5/8"(92)		
KILLARK ALUM.	DURALOY IRON	KILLARK ALUM.	DURALOY IRON	KILLARK ALUM.		
VLJSX-1	VLJSX-1M	VLJX-1	VLJX-1M	-	1/2"	x
VLJSX-2	VLJSX-2M	VLJX-2	VLJX-2M	VLJDX-2	3/4"	x
-	-	VLJX-3	VLJX-3M	VLJDX-3	1"	x

Note: Cover and gasket not included.

BACK CONDUIT OPENINGS		
SERIES	MAXIMUM CONDUIT SIZE	VOLUME CUBIC INCHES
Shallow	3/4"	17
Medium	1"	25
Deep	1-1/4"	45

Note: Must be drilled and tapped.

COVERS AND GASKETS			
CATALOG NUMBER	HUB SIZE	DEPTH	DESCRIPTION
VJBC	-	1/4"	Blank cover furnished with mounting screws. Gasket not included
VJH-1	1/2"	1"	Hub cover furnished with mounting screws. Gasket not included
VJH-2	3/4"	1"	Hub cover furnished with mounting screws. Gasket not included
VBNB	-	-	Gasket Nitrile Butadiene





ENY
(For Vertical or Horizontal Conduit)



EY
(For Vertical Conduit)



ENY-2
(Fixture Hanger)
(See Page L146)



EYS
(For Vertical or Horizontal Conduit)



EYD
(Drain/Seal for Vertical Conduit)

Class I, Div. 1 & 2, Groups A,B,C,D
Class I, Zone 1, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III

FEATURES-SPECIFICATIONS

Application & Installation

Class I, Divisions 1 and 2

The purpose of seals in a Class I hazardous location is to minimize the passage of gases and vapors and prevent the passage of flames from one electrical installation to another through the conduit system. Seals are required to be installed within 18 inches on any conduit run entering an enclosure which contains devices that may produce arcs, sparks, or high temperature. Where two enclosures are connected by a run of conduit not over 3 ft. long, a single seal located at the center of the run is considered satisfactory. Only explosionproof unions, couplings, elbows, and conduit bodies similar to "L", "T", and "X" type shall be permitted between the sealing fitting and the enclosure.

Seals shall be located within 18 inches of the enclosure or fitting on each conduit run of 2 inch size or larger entering an enclosure or fitting that contains terminals, splices, or taps.

Each run of conduit from a hazardous location to a nonhazardous location should be sealed to minimize the amount of gases and vapors communicated beyond the seal.

Class II, Divisions 1 and 2

Where a raceway provides communication between an enclosure which is required to be dust-ignitionproof and one which is not, suitable means shall be provided to prevent the entrance of dust into the dust-ignitionproof enclosure through the raceway.

Considerations for selection seals:

Select the proper sealing fitting for the hazardous gas/vapor involved; i.e., Class I Groups A, B, C, or D. Zone 1, Groups IIC, IIB, IIC

Select a sealing fitting for the proper use in respect to mounting position. This is particularly critical when the conduit runs between hazardous and nonhazardous areas. Some seals are designed to be mounted in any position; others are restricted to vertical mounting.

Drains

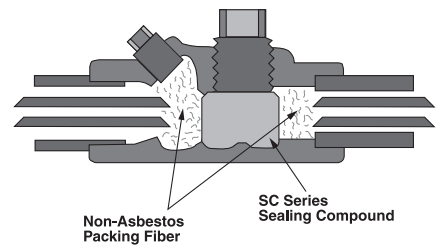
Where there is a probability that liquid or other condensed vapor may be trapped within enclosures for control equipment or at any point in the raceway system, approved means — such as installation of drain seals — shall be provided to prevent moisture accumulation.

For more complete data or special applications, consult the code or your local inspector.

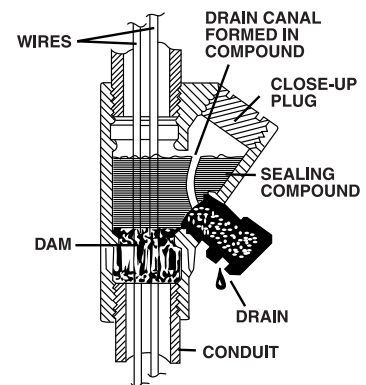
Sealing compounds shall be approved for the purpose and shall not be affected by the surrounding atmosphere or liquids, and shall not have a melting point of less than 93°C. (200°F.).

In the complete seal, the minimum thickness of the sealing compound shall not be less than the trade size of the conduit, and in no case less than 5/8 inch.

Note: The amount of Killark sealing compound and packing fiber required for any seal is determined by volume hub size and mounting position of the seal. Refer to installation data table on page F49 for specific amounts required.



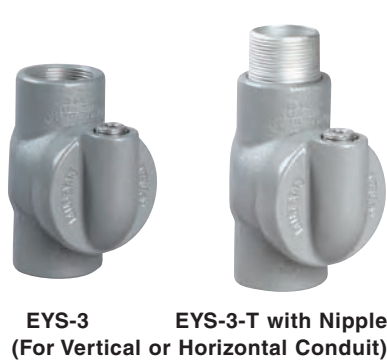
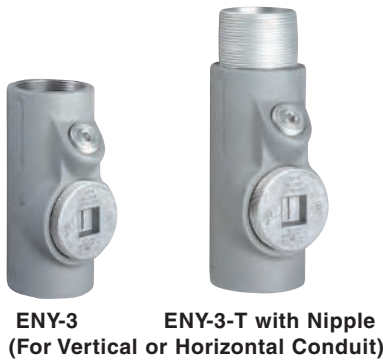
Schematic drawings illustrate the application of sealing compound, fiber dams, and installed seal with drain.



Splices and taps shall not be made in fittings intended only for sealing with compound, nor shall other fittings in which splices or taps are made be filled with compound.

Killark sealing fittings are produced with utmost care to insure a substantial margin of safety. Threads are clean, deep, and snug. When properly installed with Killark sealing compound (SC Type) and Killark non-asbestos fiber (PF Type) for the dams, you can be sure your installation will provide more than adequate safety.





ENY-1, 2, 3, 4, 5, 6
Class I, Div. 1 & 2, Groups A,B,C,D
Class I, Zone 1, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III

EYS Series
Class I, Div. 1 & 2, Groups C,D
Class I, Zone 1, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III

Listed File No. E10514
 Certified File No. LR11716
See files for details or call Killark.

FEATURES-SPECIFICATIONS

Material/Finish

Copper-free Aluminum
(less than 4/10 of 1%)

- Electrostatically applied powder coating

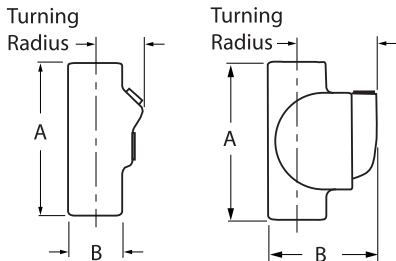
Duraloy Iron

- Tri-Coat Finish of electrozinc, chromate sealant, and electrostatically applied powder coating

ENY SEALING FITTINGS						ENY WITH NIPPLE	
HUB SIZE	CATALOG NUMBER		DIMENSIONS		TURNING RADIUS	CATALOG NUMBER	
	KILLARK ALUMINUM	DURALOY IRON	A	B		KILLARK ALUMINUM	DURALOY IRON
1/2"	ENY-1	ENY-1M	3-15/16"(100)	1-13/16"(46)	1-3/16"(30)	ENY-1-T	ENY-1TM
3/4"	ENY-2	ENY-2M	4-1/16"(103)	2-1/16"(52)	1-9/32"(33)	ENY-2-T	ENY-2TM
1"	ENY-3	ENY-3M	4-25/32"(121)	2-11/32"(60)	1-13/32"(36)	ENY-3-T	ENY-3TM
1-1/4"	ENY-4	ENY-4M	5-3/8"(137)	3"(76)	1-25/32"(45)	ENY-4-T	ENY-4TM
1-1/2"	ENY-5	ENY-5M	5-11/16"(144)	3-1/4"(83)	1-29/32"(48)	ENY-5-T	ENY-5TM
2"	ENY-6	ENY-6M	6-3/8"(162)	3-15/16"(100)	2-5/16"(59)	ENY-6-T	ENY-6TM

EYS SEALING FITTINGS						EYS WITH NIPPLE	
HUB SIZE	CATALOG NUMBER		DIMENSIONS		TURNING RADIUS	CATALOG NUMBER	
	KILLARK ALUMINUM	DURALOY IRON	A	B		KILLARK ALUMINUM	DURALOY IRON
1/2"	EYS-1	—	3-15/16"(100)	1-13/16"(46)	1-3/16"(30)	EYS-1-T	—
3/4"	EYS-2	—	4-1/16"(103)	2-1/16"(52)	1-9/32"(33)	EYS-2-T	—
1"	EYS-3	—	4-25/32"(121)	2-11/32"(60)	1-13/32"(36)	EYS-3-T	—
1-1/4"	EYS-4	—	5-3/8"(137)	3"(76)	1-25/32"(45)	EYS-4-T	—
1-1/2"	EYS-5	—	5-11/16"(144)	3-1/4"(83)	1-29/32"(48)	EYS-5-T	—
2"	EYS-6	—	6-3/8"(162)	3-15/16"(100)	2-5/16"(59)	EYS-6-T	—
2-1/2"	EYS-7	EYS-7M	7-5/8"(194)	4-1/2"(114)	4-1/8"(105)	EYS-7-T	EYS-7TM
3"	EYS-8	EYS-8M	7-5/8"(194)	4-1/2"(114)	4-3/8"(111)	EYS-8-T	EYS-8TM
3-1/2"	EYS-9	EYS-9M	7-1/8"(181)	5-3/16"(132)	4-3/4"(121)	EYS-9-T	EYS-9TM
4"	EYS-0	EYS-0M	7-1/8"(181)	5-3/16"(132)	4-3/4"(121)	EYS-0-T	EYS-0TM

Dimensions



ENY Series

EYS Series



EY-3 **EY-3-T with Nipple**
(For Vertical Conduit)



EYD-3 **EYD-3-T with Nipple**
(Drain/Seal for vertical conduit)

EY & EYD Series
Class I, Div. 1 & 2, Groups C,D
Class I, Zone 1, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III

Listed File No. E10514
 Certified File No. LR11716
See files for details or call Killark.

FEATURES-SPECIFICATIONS

Material/Finish

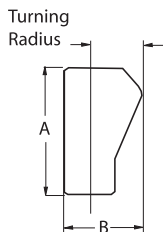
Copper-free Aluminum
(less than 4/10 of 1%)

- Electrostatically applied powder coating

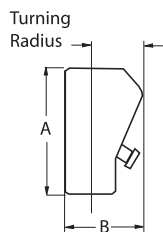
Duraloy Iron

- Tri-Coat Finish of electrozinc, chromate sealant, and electrostatically applied powder coating

Dimensions



EY Series



EYD Series

EY SEALING FITTINGS						EY WITH NIPPLE	
HUB SIZE	CATALOG NUMBER		DIMENSIONS		TURNING RADIUS	CATALOG NUMBER	
	KILLARK ALUMINUM	DURALOY IRON	A	B		KILLARK ALUMINUM	DURALOY IRON
1/2"	EY-1	EY-1M	3-1/16"(78)	2-3/4"(70)	2-1/4"(57)	EY-1-T	EY-1TM
3/4"	EY-2	EY-2M	3-1/16"(78)	2-3/4"(70)	2-1/4"(57)	EY-2-T	EY-2TM
1"	EY-3	EY-3M	4-9/32"(109)	3-1/8"(79)	2-3/8"(60)	EY-3-T	EY-3TM
1-1/4"	EY-4	EY-4M	5-1/8"(130)	3-7/8"(98)	2-7/8"(73)	EY-4-T	EY-4TM
1-1/2"	EY-5	EY-5M	5-1/8"(130)	4-5/8"(117)	3-7/16"(87)	EY-5-T	EY-5TM
2"	EY-6	EY-6M	5-1/8"(230)	5-11/16"(144)	4-1/4"(108)	EY-6-T	EY-6TM
2-1/2"	EY-7	EY-7M	7"(178)	6-5/16"(160)	4-5/8"(117)	EY-7-T	EY-7TM
3"	EY-8	EY-8M	7"(178)	6-5/16"(160)	4-5/8"(117)	EY-8-T	EY-8TM
3-1/2"	EY-9	EY-9M	8-3/4"(222)	7-1/8"(181)	5-3/8"(138)	EY-9-T	EY-9TM
4"	EY-0	EY-0M	8-3/4"(222)	7-1/8"(181)	5-3/8"(138)	EY-0-T	EY-0TM

EYD SEALING FITTINGS						EYD WITH NIPPLE	
HUB SIZE	CATALOG NUMBER		DIMENSIONS		TURNING RADIUS	CATALOG NUMBER	
	KILLARK ALUMINUM	DURALOY IRON	A	B		KILLARK ALUMINUM	DURALOY IRON
1/2"	EYD-1	EYD-1M	4-9/32"(109)	3-1/8"(79)	2-1/4"(57)	EYD-1-T	EYD-1TM
3/4"	EYD-2	EYD-2M	4-9/32"(109)	3-1/8"(79)	2-1/4"(57)	EYD-2-T	EYD-2TM
1"	EYD-3	EYD-3M	4-9/32"(109)	3-1/8"(79)	2-1/4"(57)	EYD-3-T	EYD-3TM
1-1/4"	EYD-4	EYD-4M	5-1/8"(130)	3-7/8"(98)	2-7/8"(73)	EYD-4-T	EYD-4TM
1-1/2"	EYD-5	EYD-5M	5-1/8"(130)	4-5/8"(117)	3-7/16"(87)	EYD-5-T	EYD-5TM
2"	EYD-6	EYD-6M	5-1/8"(130)	5-11/16"(144)	4-1/4"(108)	EYD-6-T	EYD-6TM
2-1/2"	EYD-7	EYD-7M	7"(178)	6-5/16"(160)	4-5/8"(117)	EYD-7-T	EYD-7TM
3"	EYD-8	EYD-8M	7"(178)	6-5/16"(160)	4-5/8"(117)	EYD-8-T	EYD-8TM
3-1/2"	EYD-9	EYD-9M	8-3/4"(122)	7-1/8"(181)	5-3/8"(137)	EYD-9-T	EYD-9TM
4"	EYD-0	EYD-0M	8-3/4"(122)	7-1/8"(181)	5-3/8"(137)	EYD-0-T	EYD-0TM



ENY



EYD

ENY40-1, 2, 3, 4, 5
 Class I, Div. 1 & 2, Groups B, C, D
 Class I, Zone 1, Groups IIB+H₂, IIA
 Class II, Div. 1 & 2, Groups E, F, G
 Class III

ENY40-6, 7, 8, 9, 0
EYD40(1 through 0) -6, 7, 8, 9, 0
 Class I, Div. 1 & 2, Groups C, D
 Class I, Zone 1, Groups IIB, IIA
 Class II, Div. 1 & 2, Groups E, F, G
 Class III

FEATURES-SPECIFICATIONS

Application

To seal Rigid Conduit or IMC Raceways with up to 40% wire fill.

Features

- A 40% wire fill capacity
- Large openings with threaded closures to provide easy access to conduit hubs for making dams
- Integral bushing in conduit hubs to protect conductor insulation from damage
- NPT threaded hubs to ensure ground continuity
- Minimum turning radius

Material/Finish

Copper-free Aluminum (less than 4/10 of 1%)

- Electrostatically applied powder coating

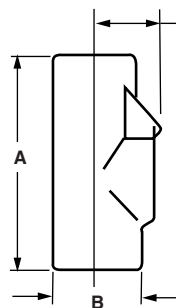
Duraloy Iron

- Tri-Coat Finish of electrozinc, chromate sealant, and electrostatically applied powder coating

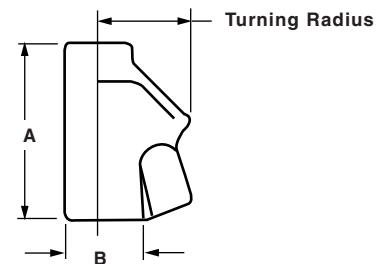
ENY40 40% VERTICAL AND/OR HORIZONTAL CONDUIT SEALING FITTINGS							
HUB SIZE	CATALOG NUMBER		DIMENSIONS		TURNING RADIUS*	REQUIRED SEALING COMPOUND & PACKING FIBER OZ.	PER HUB (PF)
	KILLARK ALUMINUM	DURALOY IRON	A	B			
1/2"	ENY40-1	ENY40-1M	4-1/16"(103)	2-1/16"(52)	1-9/32"(33)	2	0.06
3/4"	ENY40-2	ENY40-2M	4-25/32"(121)	2-11/32"(60)	1-13/32"(36)	4	0.12
1"	ENY40-3	ENY40-3M	5-3/8"(137)	3"(76)	1-25/32"(45)	7	0.26
1-1/4"	ENY40-4	ENY40-4M	5-11/16"(144)	3-1/4"(83)	1-29/32"(48)	13	1.00
1-1/2"	ENY40-5	ENY40-5M	6-3/8"(162)	3-15/16"(100)	2-5/16"(59)	22	2.00
2"	ENY40-6	ENY40-6M	7-5/8"(194)	4-1/2"(114)	4-1/8"(105)	36	3.00
2-1/2"	ENY40-7	ENY40-7M	7-5/8"(194)	4-1/2"(114)	4-3/8"(111)	61	3.56
3"	ENY40-8	ENY40-8M	7-1/8"(181)	5-3/16"(132)	4-3/4"(121)	89	6.00
3-1/2"	ENY40-9	ENY40-9M	7-1/8"(181)	5-3/16"(132)	4-3/4"(121)	114	7.00
4"	ENY40-0	ENY40-0M	11-1/16"(281)	6-1/2"(165)	4-1/4"(108)	202	9.60

EYD40 40% VERTICAL CONDUIT DRAIN SEALING FITTINGS							
HUB SIZE	CATALOG NUMBER		DIMENSIONS		TURNING RADIUS*	REQUIRED SEALING COMPOUND & PACKING FIBER OZ.	PER HUB (PF)
	KILLARK ALUMINUM	DURALOY IRON	A	B			
1/2"	EYD40-1	EYD40-1M	4-9/32"(109)	3-1/8"(79)	2-1/4"(57)	4	0.03
3/4"	EYD40-2	EYD40-2M	4-9/32"(109)	3-1/8"(79)	2-1/4"(57)	6	0.06
1"	EYD40-3	EYD40-3M	5-1/8"(130)	3-7/8"(98)	2-7/8"(73)	7	0.13
1-1/4"	EYD40-4	EYD40-4M	5-1/8"(130)	4-5/8"(117)	3-7/16"(87)	13	0.50
1-1/2"	EYD40-5	EYD40-5M	5-1/8"(130)	5-11/16"(144)	4-1/4"(108)	22	1.00
2"	EYD40-6	EYD40-6M	7"(178)	6-5/16"(160)	4-5/8"(117)	36	1.50
2-1/2"	EYD40-7	EYD40-7M	7"(178)	6-5/16"(160)	4-5/8"(117)	61	1.75
3"	EYD40-8	EYD40-8M	8-3/4"(122)	7-1/8"(181)	5-3/8"(137)	89	3.00
3-1/2"	EYD40-9	EYD40-9M	8-3/4"(122)	7-1/8"(181)	5-3/8"(137)	114	3.50
4"	EYD40-0	EYD40-0M	11-1/16"(281)	6-1/2"(165)	4-1/4"(108)	202	4.50

* Turning radius with cover plug removed.



ENY40



EYD40





Sealing Compound



Packing Fiber



Thread Lubricants

FEATURES-SPECIFICATIONS

Series SC/PF/LUBG
Sealing Materials

Sealing Compound

SC Series Sealing compound is a cement used extensively for sealing conduit to prevent the spread of explosive gases. It is non-shrinking and a secure seal is formed. SC Series resists acids, water, oil, etc. It is UL Listed for use with Killark ENY, EY, and EYS Series. Also CSA certified for use with any CSA certified sealing fitting.

Packing Fiber

Killark's Packing Fiber is made from an environmentally safe, non-asbestos material. It is easy to use and forms a positive dam to hold compound (Killark SC Type) in ENY, EY, and EYS Series fittings.

Thread Lubricants

Two special blends of lubricants have been developed by Killark for use with threaded joints. These lubricants are to be used to prevent galling of pipe threads when threaded into a coupling, junction box, etc. They insure a quick release of undamaged male and female threads when parts are disassembled.

LUBG is a general purpose lubricant to be used in temperatures ranging from 0° to 125°F.

LUBT is a high-quality lubricant to be used in temperatures ranging from -40° to +500°F. It is recommended to be used on hazardous location lighting fixtures.

OUNCES REQUIRED PER FITTING				
HUB SIZE	SEALING COMPOUND			PACKING FIBER
	ENY [Ⓛ]	EYS [Ⓛ]	EY/EYD	
1/2"	1.5 oz.	3.0 oz.	1.0 oz.	1/16 oz.
3/4"	2.0 oz.	3.0 oz.	2.0 oz.	1/8 oz.
1"	3.0 oz.	8.0 oz.	4.5 oz.	1/4 oz.
1-1/4"	6.5 oz.	8.5 oz.	7.5 oz.	1/2 oz.
1 1/2"	8.5 oz.	17.5 oz.	12.0 oz.	1 oz.
2"	15.0 oz.	27.0 oz.	24.0 oz.	2 oz.
2-1/2"	—	42.0 oz.	44.0 oz.	3 oz.
3"	—	47.0 oz.	44.0 oz.	4 oz.
3-1/2"	—	56.0 oz.	75.0 oz.	6 oz.
4"	—	56.0 oz.	75.0 oz.	9 oz.

[Ⓛ] ENY/EYS suitable for both horizontal or vertical applications.

SEALING COMPOUND	
CATALOG NUMBER	SIZE PACKAGE
SC-4 OZ	4 oz.
SC-8 OZ	8 oz.
SC-1 LB	1 lb.
SC-5 LB	5 lbs.

PACKING FIBER	
CATALOG NUMBER	SIZE PACKAGE
PF-2	2 oz.
PF-4	4 oz.
PF-16	1 lb.

THREAD LUBRICANTS	
CATALOG NUMBER	CONTAINER PACKAGE
LUBT-2	2 oz.
LUBG-6	6 oz.







C Type



L Type

Class I, Div. 1 & 2, Groups B, C, D*
Class I, Zone I, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E, F, G
Class III
NEMA 4X

 Listed File No. E 10514
 Certified File No. LR11716
ATEX Consult Factory

FEATURES-SPECIFICATIONS

Applications

GEB series conduit boxes are installed in conduit systems within hazardous areas to:

- Protect conductors in threaded rigid conduit
- Act as pull and splice boxes
- Interconnect lengths of conduit
- Change conduit direction
- Provide access to conductors for maintenance and future system changes

Features

- Suitable for NEMA 4X applications
- Integral mounting lugs
- Green ground screw standard
- External cover thread on body plus smooth integral hub bushing protects conductor insulation when pulling
- 4 different hub arrangements
- Taper threaded hubs provide ground continuity
- External threaded body for additional wiring room
- Covers and gaskets furnished with boxes as standard

Material/Finish

Aluminum

- **BODY & COVER** Copper-free aluminum (less than 4/10 of 1%)
- **FINISH** Electrostatically applied powder coating

Size Ranges

- Hub — 3/4" to 1-1/2"
- Cover opening — 3-1/2"

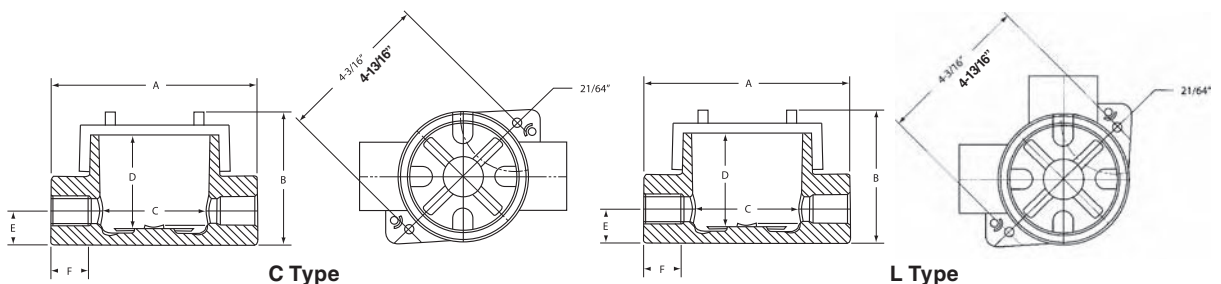
Applicable Third Party Standards

UL Standard: 886
CSA Standard: C22.2 No. 30

* 1-1/2" hub sizes require seal within 24" for Group B applicators.

C TYPE OUTLET BODY									
CATALOG NUMBER	HUB SIZE	DIMENSIONS						COVER OPENING	VOLUME CU. IN.
		A	B	C	D	E	F		
GEBC-2	3/4"	6-1/2" (165)	4-5/16" (110)	3-1/4" (83)	2-15/16" (75)	1-3/32" (28)	1-3/16" (30)	3-1/2" (89)	29
GEBC-3	1"	6-1/2" (165)	4-5/16" (110)	3-1/4" (83)	2-15/16" (75)	1-3/32" (28)	1-3/16" (30)	3-1/2" (89)	29
GEBC-4	1-1/4"	6-1/2" (165)	4-5/16" (110)	3-1/4" (83)	2-15/16" (75)	1-3/32" (28)	1-3/16" (30)	3-1/2" (89)	29
GEBC-5	1-1/2"	6-1/2" (165)	4-5/16" (110)	3-1/4" (83)	2-15/16" (75)	1-3/32" (28)	1-3/16" (30)	3-1/2" (89)	29

L TYPE OUTLET BODY									
CATALOG NUMBER	HUB SIZE	DIMENSIONS						COVER OPENING	VOLUME CU. IN.
		A	B	C	D	E	F		
GEBL-2	3/4"	5-1/2" (140)	4-5/16" (110)	3-1/4" (83)	2-15/16" (75)	1-3/32" (28)	1-3/16" (30)	3-1/2" (89)	29
GEBL-3	1"	5-1/2" (140)	4-5/16" (110)	3-1/4" (83)	2-15/16" (75)	1-3/32" (28)	1-3/16" (30)	3-1/2" (89)	29
GEBL-4	1-1/4"	5-1/2" (140)	4-5/16" (110)	3-1/4" (83)	2-15/16" (75)	1-3/32" (28)	1-3/16" (30)	3-1/2" (89)	29
GEBL-5	1-1/2"	5-1/2" (140)	4-5/16" (110)	3-1/4" (83)	2-15/16" (75)	1-3/32" (28)	1-3/16" (30)	3-1/2" (89)	29





T Type



X Type

Class I, Div. 1 & 2, Groups B, C, D*
Class I, Zone I, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E, F, G
Class III
NEMA 4X

Listed File No. E 10514

Certified File No. LR11716

ATEX Consult Factory

FEATURES-SPECIFICATIONS

See page F49 for Standard Materials & Finish

Outlet Box for in-line
(multiple) stanchion mount fixtures

Typical Applications:

Coal Conveyors, Cat Walks, Platform Hand Rails



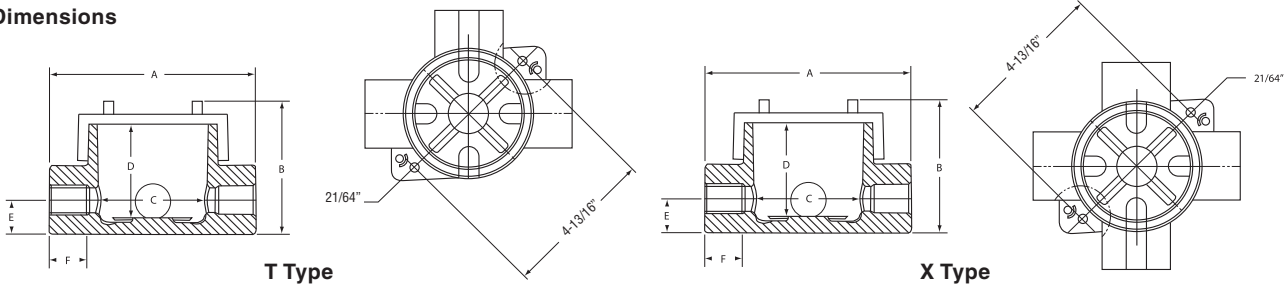
GEBT-25 with two 3/4" feed-thru hubs
and one 1-1/2" vertical hub

T TYPE OUTLET BODY									
CATALOG NUMBER	HUB SIZE	DIMENSIONS						COVER OPENING	VOLUME CU. IN.
		A	B	C	D	E	F		
GEBT-2	3/4"	6-1/2" (165)	4-5/16" (110)	3-1/4" (83)	2-15/16" (75)	1-3/32" (28)	1-3/16" (30)	3-1/2" (89)	29
GEBT-3	1"	6-1/2" (165)	4-5/16" (110)	3-1/4" (83)	2-15/16" (75)	1-3/32" (28)	1-3/16" (30)	3-1/2" (89)	29
GEBT-4	1-1/4"	6-1/2" (165)	4-5/16" (110)	3-1/4" (83)	2-15/16" (75)	1-3/32" (28)	1-3/16" (30)	3-1/2" (89)	29
GEBT-5	1-1/2"	6-1/2" (165)	4-5/16" (110)	3-1/4" (83)	2-15/16" (75)	1-3/32" (28)	1-3/16" (30)	3-1/2" (89)	29
GEBT-24	(2) 3/4" (1) 1-1/4"	6-1/2" (165)	4-5/16" (110)	3-1/4" (83)	2-15/16" (75)	1-3/32" (28)	1-3/16" (30)	3-1/2" (89)	29
GEBT-25	(2) 3/4" (1) 1-1/2"	6-1/2" (165)	4-5/16" (110)	3-1/4" (83)	2-15/16" (75)	1-3/32" (28)	1-3/16" (30)	3-1/2" (89)	29

* 1-1/2" hub size requires seal within 24" for group B applications.

X TYPE OUTLET BODY									
CATALOG NUMBER	HUB SIZE	DIMENSIONS						COVER OPENING	VOLUME CU. IN.
		A	B	C	D	E	F		
GEBX-2	3/4"	6-1/2" (165)	4-5/16" (110)	3-1/4" (83)	2-15/16" (75)	1-3/32" (28)	1-3/16" (30)	3-1/2" (89)	29
GEBX-3	1"	6-1/2" (165)	4-5/16" (110)	3-1/4" (83)	2-15/16" (75)	1-3/32" (28)	1-3/16" (30)	3-1/2" (89)	29
GEBX-4	1-1/4"	6-1/2" (165)	4-5/16" (110)	3-1/4" (83)	2-15/16" (75)	1-3/32" (28)	1-3/16" (30)	3-1/2" (89)	29
GEBX-5	1-1/2"	6-1/2" (165)	4-5/16" (110)	3-1/4" (83)	2-15/16" (75)	1-3/32" (28)	1-3/16" (30)	3-1/2" (89)	29

Dimensions





GEC
E Type



GEJ
E Type

- 1/2", 3/4" and 1" Bodies
Class I, Div. 1 & 2, Groups C & D
Class I, Zone 1, Groups IIB, IIA
- 1-1/4", 1-1/2", and 2" Bodies
Class I, Div. 1 & 2, Group D
Class I, Zone 1, Group IIA
- All Bodies
Class II and Class III
- For GEJ Series CSA applications
for Class I Group C, seal conduit
within 18 inches

Listed File No. E 10514

Certified File No. LR11716

FEATURES-SPECIFICATIONS

Applications

GE series conduit boxes are installed in conduit systems within hazardous areas to:

- Protect conductors in threaded rigid conduit
- Act as pull and splice boxes
- Interconnect lengths of conduit
- Change conduit direction
- Provide access to conductors for maintenance and future system changes

Features

GE conduit outlet boxes have:

- GEM, GEC and GES have water shedding cover — suitable for wet locations when mounted in upright position
- External cover threads on body protecting conductors from damage during pulling
- No pinching of conductors during cover installation
- Ten different hub arrangements
- Taper threaded hubs to provide ground continuity
- Smooth integral hub bushing to protect conductor insulation when pulling
- Internally threaded cover openings for additional wiring room
- Covers furnished with boxes
- Weather-resistant finish
- Green ground screw standard in all boxes

Material/Finish

Aluminum

- **BODY** Copper-free aluminum (less than 4/10 of 1%)
- **FINISH** Electrostatically applied powder coating
- **COVER** (Aluminum) Copper-free aluminum (less than 4/10 of 1%). Electrostatically applied powder coating

Iron

- **BODY** Duraloy iron alloy
- **FINISH** Tri-coat finish of electrozinc, chromate sealant, and electrostatically applied powder coating

• **COVER** (Aluminum)

Copper-free aluminum (less than 4/10 of 1%). Electrostatically applied powder coating

Size Ranges

- Hub — 1/2" to 2"
- Cover opening — 2-1/16" to 4-7/8" diameter

Applicable Third Party Standards

UL Standard: 886

CSA Standard: C22.2 No. 30

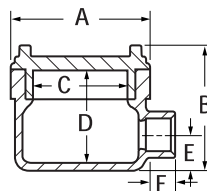
Fed Spec: W-C-586D

Mil Spec: F-28675

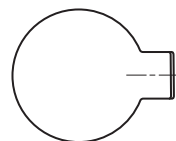
E TYPE OUTLET BODY*										
CATALOG NUMBER		HUB SIZE	DIMENSIONS						COVER OPENINGS	VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F		
GECET-1	GECET-1M	1/2"	3-11/16" (94)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	18
GECET-2	GECET-2M	3/4"	3-11/16" (94)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	18
GECET-3	GECET-3M	1"	3-11/16" (94)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	1-1/8" (21)	2-11/16" (68)	19
—	—	1-1/4"	—	—	—	—	—	—	—	—
GEJET-5	GEJET-5M	1-1/2"	6-1/4" (159)	4-3/8" (111)	4-7/8" (124)	3-9/16" (90)	1-3/16" (46)	1-3/16" (46)	4-7/8" (124)	75

* For **GROUP B** applications, contact factory.

Dimensions



GEC Type



E Type



**GES
C Type**



**GEM
L Type**

- 1/2", 3/4" and 1" Bodies
Class I, Div. 1 & 2, Groups C,D
Class I, Zone 1, Groups IIB, IIA
- 1-1/4", 1-1/2", and 2" Bodies
Class I, Div. 1 & 2, Group D
Class I, Zone 1, Group IIA
- All Bodies
Class II and Class III
- For GEJ Series CSA applications
for Class I Group C, seal conduit
within 18 inches



Listed File No. E 10514



Certified File No. LR11716

FEATURES-SPECIFICATIONS

See page F51 for Standard Materials & Finish

Applicable Third Party Standards

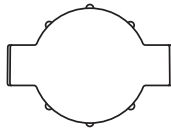
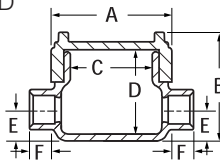
UL Standard: 886

CSA Standard: C22.2 No. 30

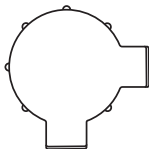
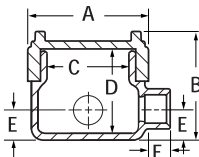
Fed Spec: W-C-586D

Mil Spec: F-28675

Dimensions



C Type



L Type

C TYPE OUTLET BODY*										
KILLARK ALUM.	DURALOY IRON	HUB SIZE	DIMENSIONS						COVER OPENINGS	VOLUME CU. IN.
			A	B	C	D	E	F		
GEMC-1	—	1/2"	2-13/16" (71)	3" (76)	2-1/16" (52)	2-5/16" (79)	11/16" (17)	13/16" (21)	2-1/16" (52)	8
GEMC-2	—	3/4"	2-13/16" (71)	3" (76)	2-1/16" (52)	2-5/16" (79)	11/16" (17)	13/16" (21)	2-1/16" (52)	8
GECCT-1	GECCT-1M	1/2"	3-11/16" (94)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	18
GECCT-2	GECCT-2M	3/4"	3-11/16" (94)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	18
GECCT-3	GECCT-3M	1"	3-11/16" (94)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	1-1/8" (28)	2-11/16" (68)	19
GESCT-3	GESCT-3M	1"	5-1/16" (128)	4-1/8" (105)	3-9/16" (90)	3-7/16" (87)	1-1/16" (27)	1-1/8" (28)	3-9/16" (90)	42
GESCT-4	GESCT-4M	1-1/4"	5-1/16" (128)	4-1/8" (105)	3-9/16" (90)	3-7/16" (87)	1-1/16" (27)	1-3/16" (30)	3-9/16" (90)	42
GEJCT-5	GEJCT-5M	1-1/2"	6-1/4" (159)	4-3/8" (111)	4-7/8" (124)	3-9/16" (90)	1-3/16" (30)	1-3/16" (30)	4-7/8" (124)	75
GEJCT-6	GEJCT-6M	2"	6-1/4" (159)	4-3/8" (111)	4-7/8" (124)	3-9/16" (90)	1-1/2" (38)	1-3/16" (30)	4-7/8" (124)	75

L TYPE OUTLET BODY*										
KILLARK ALUM.	DURALOY IRON	HUB SIZE	DIMENSIONS						COVER OPENINGS	VOLUME CU. IN.
			A	B	C	D	E	F		
GEML-1	—	1/2"	2-13/16" (71)	3" (76)	2-1/16" (52)	2-5/16" (79)	11/16" (17)	13/16" (21)	2-1/16" (52)	8
GEML-2	—	3/4"	2-13/16" (71)	3" (76)	2-1/16" (52)	2-5/16" (79)	11/16" (17)	13/16" (21)	2-1/16" (52)	8
GECLT-1	GECLT-1M	1/2"	3-11/16" (94)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	18
GECLT-2	GECLT-2M	3/4"	3-11/16" (94)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	18
GECLT-3	GECLT-3M	1"	3-11/16" (94)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (28)	2-11/16" (68)	18
GESLT-3	GESLT-3M	1"	5-1/16" (128)	4-1/8" (105)	3-9/16" (90)	3-7/16" (87)	1-1/16" (27)	1-1/8" (28)	3-9/16" (90)	42
GESLT-4	GESLT-4M	1-1/4"	5-1/16" (128)	4-1/8" (105)	3-9/16" (90)	3-7/16" (87)	1-1/16" (27)	1-3/16" (30)	3-9/16" (90)	42
GEJLT-5	GEJLT-5M	1-1/2"	6-1/4" (159)	4-3/8" (111)	4-7/8" (124)	3-9/16" (87)	1-3/16" (30)	1-3/16" (30)	4-7/8" (124)	75
GEJLT-6	GEJLT-6M	2"	6-1/4" (159)	4-3/8" (111)	4-7/8" (124)	3-9/16" (87)	1-1/2" (38)	1-3/16" (30)	4-7/8" (124)	75

* For **GROUP B** applications, contact factory.





GEC
T Type



GES
X Type



GEJ
LB Type

- 1/2", 3/4" and 1" Bodies
Class I, Div. 1 & 2, Groups C,D
Class I, Zone 1, Groups IIB, IIA
- 1-1/4", 1-1/2", and 2" Bodies
Class I, Div. 1 & 2, Group D
Class I, Zone 1, Group IIA
- All Bodies
Class II and Class III
- For GEJ Series CSA applications
for Class I Group C, seal conduit
within 18 inches

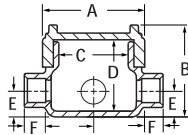
Listed File No. E 10514
 Certified File No. LR11716

FEATURES-SPECIFICATIONS

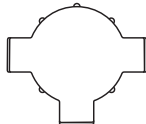
See page F51 for Standard Materials & Finish

Applicable Third Party Standards

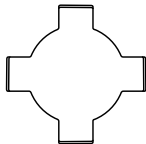
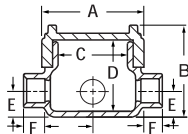
- UL Standard: 886
- CSA Standard: C22.2 No. 30
- Fed Spec: W-C-586D
- Mil Spec: F-28675



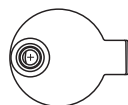
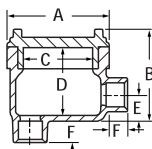
Dimensions



T Type



X Type



LB Type



T TYPE OUTLET BODY*

CATALOG NUMBER	KILLARK ALUM.	DURALLOY IRON	HUB SIZE	DIMENSIONS						COVER OPENINGS	VOLUME CU. IN.
				A	B	C	D	E	F		
GEMT-1	—	—	1/2"	2-13/16" (56)	3" (76)	2-1/16" (52)	2-5/16" (59)	11/16" (17)	13/16" (21)	2-1/16" (52)	8
GEMT-2	—	—	3/4"	2-13/16" (56)	3" (76)	2-1/16" (52)	2-5/16" (59)	11/16" (17)	13/16" (21)	2-1/16" (52)	8
GECTT-1	GECTT-1M	—	1/2"	3-11/16" (93)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	19
GECTT-2	GECTT-2M	—	3/4"	3-11/16" (93)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	19
GECTT-3	GECTT-3M	—	1"	3-11/16" (93)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	19
GESTT-3	GESTT-3M	—	1"	5-1/16" (129)	4-1/8" (105)	3-9/16" (90)	3-7/16" (87)	1-1/16" (27)	1-1/8" (29)	3-9/16" (90)	42
GESTT-4	GESTT-4M	—	1-1/4"	5-1/16" (129)	4-1/8" (105)	3-9/16" (90)	3-7/16" (87)	1-1/16" (27)	1-1/8" (29)	3-9/16" (90)	42
GEJTT-5	GEJTT-5M	—	1-1/2"	6-1/4" (159)	4-3/8" (111)	4-7/8" (124)	3-9/16" (90)	1-3/16" (30)	1-3/16" (30)	4-7/8" (124)	75
GEJTT-6	GEJTT-6M	—	2"	6-1/4" (159)	4-3/8" (111)	4-7/8" (124)	3-9/16" (90)	1-1/2" (38)	1-3/16" (30)	4-7/8" (124)	75

X TYPE OUTLET BODY*

GEMX-1	—	—	1/2"	2-13/16" (56)	3" (76)	2-1/16" (52)	2-5/16" (59)	11/16" (17)	13/16" (21)	2-1/16" (52)	8
GEMX-2	—	—	3/4"	2-13/16" (56)	3" (76)	2-1/16" (52)	2-5/16" (59)	11/16" (17)	13/16" (21)	2-1/16" (52)	8
GECXT-1	GECXT-1M	—	1/2"	3-11/16" (93)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	19
GECXT-2	GECXT-2M	—	3/4"	3-11/16" (93)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	19
GECXT-3	GECXT-3M	—	1"	3-11/16" (93)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	19
GESXT-3	GESXT-3M	—	1"	5-1/16" (129)	4-1/8" (105)	3-9/16" (90)	3-7/16" (87)	1-1/16" (27)	1-1/8" (29)	3-9/16" (90)	42
GESXT-4	GESXT-4M	—	1-1/4"	5-1/16" (129)	4-1/8" (105)	3-9/16" (90)	3-7/16" (87)	1-1/16" (27)	1-1/8" (29)	3-9/16" (90)	42
GEJXT-5	GEJXT-5M	—	1-1/2"	6-1/4" (159)	4-3/8" (111)	4-7/8" (124)	3-9/16" (90)	1-1/2" (38)	1-3/16" (30)	4-7/8" (124)	75
GEJXT-6	GEJXT-6M	—	2"	6-1/4" (159)	4-3/8" (111)	4-7/8" (124)	3-9/16" (90)	1-1/2" (38)	1-3/16" (30)	4-7/8" (124)	75

LB TYPE OUTLET BODY*

GEMLB-1	—	—	1/2"	2-13/16" (56)	3" (76)	2-1/16" (52)	2-5/16" (59)	11/16" (17)	13/16" (21)	2-1/16" (52)	8
GEMLB-2	—	—	3/4"	2-13/16" (56)	3" (76)	2-1/16" (52)	2-5/16" (59)	11/16" (17)	13/16" (21)	2-1/16" (52)	8
GECLBT-1	GECLBT-1M	—	1/2"	3-11/16" (93)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	19
GECLBT-2	GECLBT-2M	—	3/4"	3-11/16" (93)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	19
GECLBT-3	GECLBT-3M	—	1"	3-11/16" (93)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	19
GESLBT-3	GESLBT-3M	—	1"	5-1/16" (129)	4-1/8" (105)	3-9/16" (90)	3-7/16" (87)	1-1/16" (27)	1-1/8" (29)	3-9/16" (90)	42
GESLBT-4	GESLBT-4M	—	1-1/4"	5-1/16" (129)	4-1/8" (105)	3-9/16" (90)	3-7/16" (87)	1-1/16" (27)	1-1/8" (29)	3-9/16" (90)	42
GEJLBT-5	GEJLBT-5M	—	1-1/2"	6-1/4" (159)	4-3/8" (111)	4-7/8" (124)	3-9/16" (90)	1-1/2" (38)	1-3/16" (30)	4-7/8" (124)	75
GEJLBT-6	GEJLBT-6M	—	2"	6-1/4" (159)	4-3/8" (111)	4-7/8" (124)	3-9/16" (90)	1-1/2" (38)	1-3/16" (30)	4-7/8" (124)	75

* For GROUP B applications, contact factory.



**GEM
LA Type**



**GESXAT
XA Type**



**GEM
TA Type**



**GEM
CA Type**



**GEC
EAT Type**

- 1/2", 3/4" and 1" Bodies
Class I, Div. 1 & 2, Groups C,D
Class I, Zone 1, Groups IIB, IIA
- 1-1/4", 1-1/2", and 2" Bodies —
Class I, Div. 1 & 2, Group D
Class I, Zone 1, Group IIA
- All Bodies —
Class II and Class III
- For GEJ Series CSA applications
for Class I Group C, seal conduit
within 18 inches



Listed File No. E 10514



Certified File No. LR11716

FEATURES-SPECIFICATIONS

See page F51 for Standard Materials & Finish

Applicable Third Party Standards

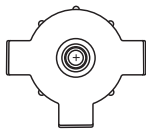
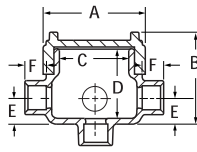
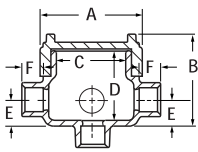
UL Standard: 886

CSA Standard: C22.2 No. 30

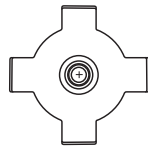
Fed Spec: W-C-586D

Mil Spec: F-28675

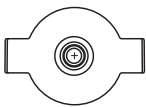
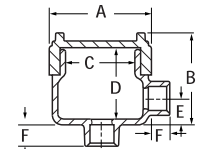
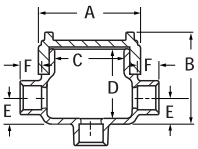
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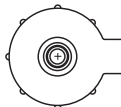
TAT Type



XAT Type



CAT Type



EAT Type

LA TYPE OUTLET BODY*										
CATALOG NUMBER		HUB SIZE	DIMENSIONS						COVER OPENINGS	VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F		
GEMLA-1	—	1/2"	2-13/16" (56)	3" (76)	2-1/16" (52)	2-5/16" (59)	11/16" (17)	13/16" (21)	2-1/16" (52)	8
GEMLA-2	—	3/4"	2-13/16" (56)	3" (76)	2-1/16" (52)	2-5/16" (59)	11/16" (17)	13/16" (21)	2-1/16" (52)	8

TAT TYPE OUTLET BODY*										
CATALOG NUMBER		HUB SIZE	DIMENSIONS						COVER OPENINGS	VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F		
GEMTA-1	—	1/2"	2-13/16" (56)	3" (76)	2-1/16" (52)	2-5/16" (59)	11/16" (17)	13/16" (21)	2-1/16" (52)	8
GEMTA-2	—	3/4"	2-13/16" (56)	3" (76)	2-1/16" (52)	2-5/16" (59)	11/16" (17)	13/16" (21)	2-1/16" (52)	8
GECTAT-2	GECTAT-2M	3/4"	3-11/16" (94)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	19

XAT TYPE OUTLET BODY*										
CATALOG NUMBER		HUB SIZE	DIMENSIONS						COVER OPENINGS	VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F		
GECXAT-1	GECXAT-1M	1/2"	3-11/16" (94)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	19
GECXAT-2	GECXAT-2M	3/4"	3-11/16" (94)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	19
GECXAT-3	GECXAT-3M	1"	3-11/16" (94)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	19
GESXAT-4	GESXAT-4M	1-1/4"	5-1/16" (128)	4-1/8" (105)	3-9/16" (90)	3-7/16" (87)	1-1/16" (27)	1-3/16" (30)	3-9/16" (90)	42

CAT TYPE OUTLET BODY*										
CATALOG NUMBER		HUB SIZE	DIMENSIONS						COVER OPENINGS	VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F		
GEMCA-1	—	1/2"	2-13/16" (56)	3" (76)	2-1/16" (52)	2-5/16" (59)	11/16" (17)	13/16" (21)	2-1/16" (52)	8
GEMCA-2	—	3/4"	2-13/16" (56)	3" (76)	2-1/16" (52)	2-5/16" (59)	11/16" (17)	1-3/16" (30)	2-1/16" (52)	8
GECCAT-1	GECCAT-1M	1/2"	3-11/16" (94)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	19
GESCAT-4	GESCAT-4M	1-1/4"	5-11/16" (144)	4-1/8" (105)	3-9/16" (90)	3-7/16" (87)	1-1/16" (27)	1-3/16" (30)	3-9/16" (90)	42

EAT TYPE OUTLET BODY*										
CATALOG NUMBER		HUB SIZE	DIMENSIONS						COVER OPENINGS	VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F		
GECEAT-2	GECEAT-2M	3/4"	3-11/16" (94)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	19

* For GROUP B applications, contact factory.



KILLARK®



GECXTF
XTF Type Outlet Body
With Mounting Flange



GECUET-2
Outlet Body



GEUEAT-2
Outlet Body



GECUWT-2
Outlet Body

• 1/2", 3/4" and 1" Bodies
Class I, Div. 1 & 2, Groups C,D
Class I, Zone 1, Groups IIB, IIA

Listed File No. E 10514
 Certified File No. LR11716

FEATURES-SPECIFICATIONS

See page F51 for Standard Materials & Features

Applicable Third Party Standards

- UL Standard: 886
- CSA Standard: C22.2 No. 30
- Fed Spec: W-C-586D
- Mil Spec: F-28675

Material/Finish

Aluminum

- BODY** Copper-free aluminum (less than 4/10 of 1%)
- FINISH** Electrostatically applied powder coating
- COVER** (Aluminum) Copper-free aluminum (less than 4/10 of 1%). Electrostatically applied powder coating

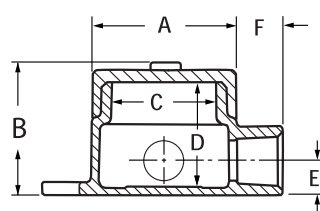
Iron

- BODY** Duraloy iron alloy
- FINISH** Tri-Coat Finish of Electro-zinc, Chromate Sealant, and electrostatically applied powder coating
- COVER** (Aluminum) Copper-free aluminum (less than 4/10 of 1%). Electrostatically applied powder coating

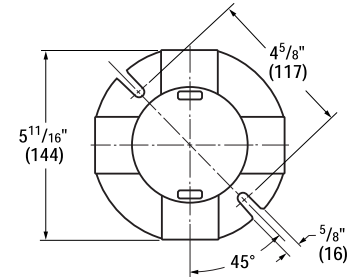
Size Ranges:

- Hub — 3/4" standard
optional 1/2" to 1"
contact factory
- Cover opening — 2-11/16" or 2-1/16"

XTF TYPE OUTLET BODY*										
CATALOG NUMBER		HUB SIZE	DIMENSIONS						COVER OPENINGS	VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F		
GECXTF-1	GECXTF-1M	1/2"	3-11/16" (94)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	19
GECXTF-2	GECXTF-2M	3/4"	3-11/16" (94)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	19
GECXTF-3	GECXTF-3M	1"	3-11/16" (94)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	19

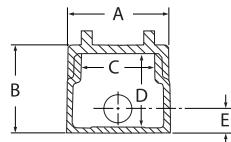
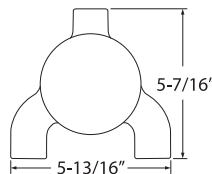


XTF Type
With Mounting Flange

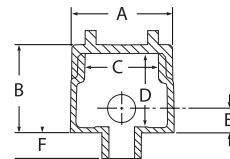
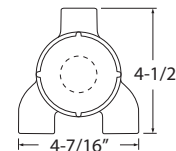


GE TYPE OUTLET BODY*										
CATALOG NUMBER		HUB SIZE	DIMENSIONS						COVER OPENINGS	VOLUME CU. IN.
KILLARK ALUM.	DURALOY IRON		A	B	C	D	E	F		
GECUET-2	GECUET-2M	3/4"	3-11/16" (94)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	19
GEUEAT-2	GEUEAT-2M	3/4"	2-13/16" (56)	3" (76)	2-1/16" (52)	2-1/8" (54)	1" (25)	13/16" (21)	2-1/16" (52)	11
GECUWT-2	GECUWT-2M	3/4"	3-11/16" (94)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	19

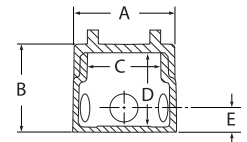
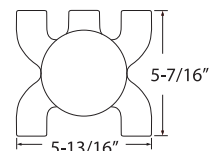
* For **GROUP B** applications, contact factory.



GECUET-2
Outlet Body



GEUEAT-2
Outlet Body



GECUWT-2
Outlet Body



GRM-BC
Blank Cover



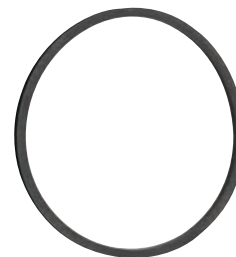
4GOU
Dome Cover



GL-375
Lens Cover



GECEY
Sealing Cover



GEC-RG
Gasket

FEATURES-SPECIFICATIONS

Material/Finish

- Copper-free aluminum (less than 4/10 of 1%)
- Electrostatically applied powder coating
- Blank covers are supplied standard on all GE Series bodies

- Dome covers provide additional wiring room for splicing or accommodating components

- Clear cover lens for viewing

- Sealing cover used to convert body into sealing fitting

- Rubber gasket fits between cover and body to make assembly watertight


- Complies with NEMA 4

BLANK COVER	
CATALOG NUMBER	SERIES
GEMBC	GEM
GECBC*	GEC
GESBC	GES
GRM-BC	GEJ

* Available also in iron GECBCM

DOME COVER		
CATALOG NUMBER	SERIES	VOLUME CUBIC INCH
2GOU	GEC	13.3
4GOU	GEC	47.0
3GRMD	GEJ	55.0
5GRMD	GEJ	80.0

LENS COVER	
CATALOG NUMBER	SERIES
GL-375	GEJ

SEALING COVER 	
CATALOG NUMBER	SERIES
GEMEY [Ⓢ]	GEM
GECEY [Ⓢ]	GEC
GESEY [Ⓢ]	GES
GEJEY [Ⓢ]	GEJ

[Ⓢ] Sealing Covers CSA only.

Since all Series GE boxes are listed with a blank cover, deduct the price of blank cover and add the price of the desired cover. Outlet bodies listed on preceding page.

GASKET	
CATALOG NUMBER	SERIES
GEM-RG	GEM
GEC-RG	GEC
GES-RG	GES
GRM-RG	GEJ





GRSA



GRR

Class I, Div. 1 & 2, Groups C,D
Class II, Div. 1 & 2, Groups E,F,G
Class III

Listed - File E10514
 Certified - File LR11716
See files for details or call Killark.

FEATURES-SPECIFICATIONS

GRSA

Features

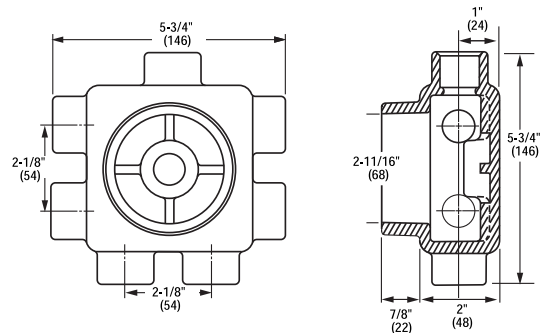
- Cast conduit hubs with integral bushings
- Cover included
- Replacement cover catalog number **GECBC**
- Five close-up plugs included
- Sealing, hub, dome covers and gaskets available (page F56)

Material/Finish

- Copper-free aluminum (less than 4/10 of 1%)
- Electrostatically applied powder coating

GRSA W/BLANK COVER		
CATALOG NUMBER	HUBS	VOLUME CU. IN.
GRSA	Furnished with eight 3/4" hubs including one 3/4" flush hub in back center	26.5

Dimensions



GRR

Features

- Cast conduit hubs with integral bushings
- Blank cover included
- Replacement cover catalog number **GRRBC**
- Compact size
- Supplied with five hubs and three close-up plugs

Material/Finish

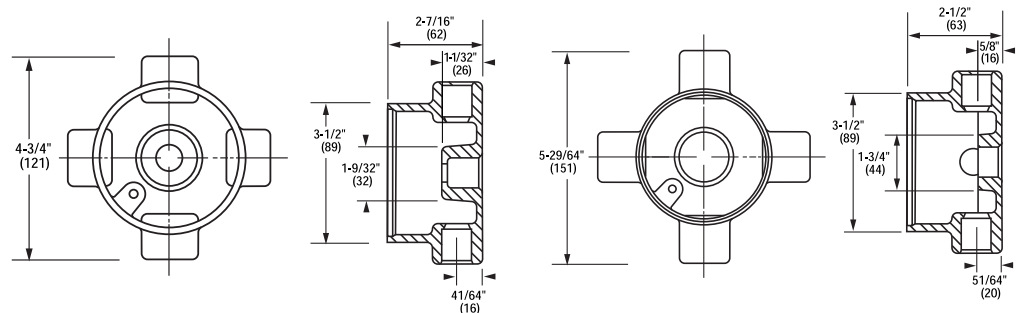
- Copper-free aluminum (less than 4/10 of 1%)
- Electrostatically applied powder coating

GRR W/BLANK COVER		
CATALOG NUMBER	HUB SIZE	VOLUME CU. IN.
GRR-1	1/2"	13.0
GRR-2	3/4"	13.0
GRR-3	1"	14.0

Blank Cover-only-GRRBC

GASKET (RUBBER)	EXTENSION*
CATALOG NUMBER	CATALOG NUMBER
GEC-RG	GRCEX-0

* Adds 2-7/8" to body depth and 16.48 cu. in.



GRR 1 & 2

GRR-3





GRSS



GRSSA

Class I, Div. 1 & 2, Groups C,D
Class II, Div. 1 & 2, Groups E,F,G
Class III

UL Listed - File E10514
SP Certified - File LR11716
See files for details or call Killark.

FEATURES-SPECIFICATIONS

GRSS/GRSSA

Features

- Internal hubs
- Blank cover included (Cat. No. GRRBC)
- Compact design and multiple hub configurations
- Furnished with internal ground screw
- Cast-in brackets on cover for use with breaker-bar tools

GRSS Type

Furnished with seven internal hubs, two hubs are on the top and bottom, one each on the two sides and one hub in the back. Four close-up plugs supplied. Series GUM unions can be used.

Note: for mounting lugs on GRSS series, contact factory.

GRSSA Type

Furnished with 13 hubs, two on each side and five in back. Five close-up plugs are supplied.

Material/Finish - Aluminum Body

- Copper-free aluminum (less than 4/10 of 1%)
- Electrostatically applied powder coating

Material/Finish - Duraloy Iron Body

- Duraloy iron alloy
- Tri-Coat finish of Electrozing, Chromate Sealant and electrostatically applied powder coating

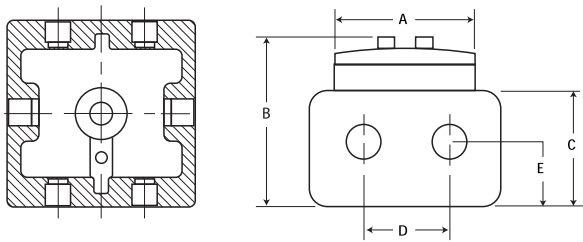
Material/Finish - GR Series Cover

- Copper-free aluminum (less than 4/10 of 1%)
- Electrostatically applied powder coating

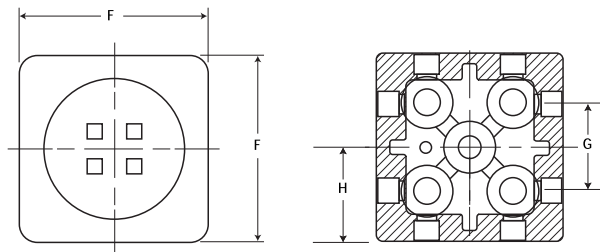
GRSS/GRSSA				
CATALOG NUMBER		HUB SIZE	NUMBER OF OPENINGS	NUMBER OF CLOSE-UP PLUGS FURNISHED
KILLARK ALUM.	DURALOY IRON			
GRSS-1	GRSS-1M	1/2"	7	4
GRSS-2	GRSS-2M	3/4"	7	4
GRSS-3	GRSS-3M	1"	7	4
GRSSA-1	-	1/2"	13	5
GRSSA-2	-	3/4"	13	5

GASKET (RUBBER)	EXTENSION*
CATALOG NUMBER	CATALOG NUMBER
GEC-RG	GRCEX-0

* Adds 2-7/8" to body depth and 16.48 cu. in.



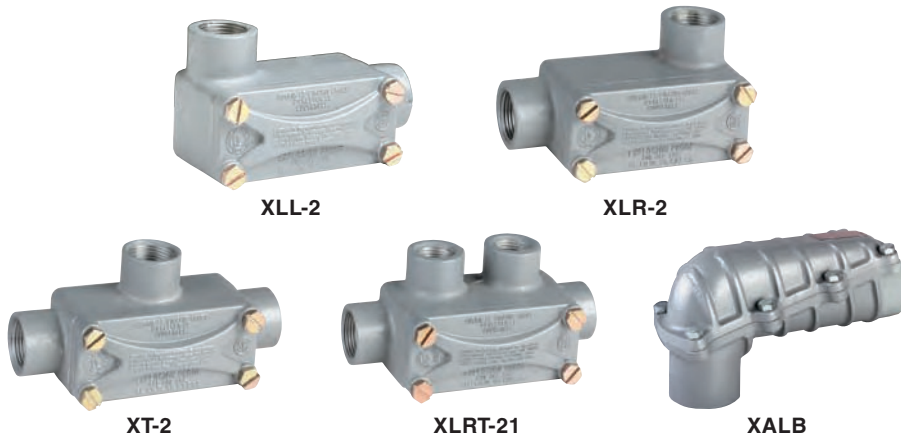
GRSS Dimensions



GRSSA Dimensions

GRSS/GRSSA DIMENSIONS													
CATALOG NUMBER	HUB SIZE	NO. OF OPENINGS	CLOSE-UP PLUGS FURNISHED	DIMENSIONS IN INCHES								COVER OPENINGS	VOLUME CU. IN.
				A	B	C	D	E	F	G	H		
GRSS-1	1/2"	7	4	3-1/2"	3-1/2"	2-3/8"	2-1/8"	1-3/16"	4-5/8"	N/A	1-1/4"	3-1/8"	29
GRSS-2	3/4"	7	4	3-1/2"	3-1/2"	2-3/8"	2-1/8"	1-3/16"	4-5/8"	N/A	1-1/4"	3-1/8"	29
GRSS-3	1"	7	4	3-1/2"	3-1/2"	2-3/8"	2-1/8"	1-3/16"	4-5/8"	N/A	1-1/4"	3-1/8"	29
GRSSA-1	1/2"	13	5	3-1/2"	3-1/2"	2-3/8"	2-1/8"	1-3/16"	4-5/8"	2-1/8"	1-1/4"	3-1/8"	20
GRSSA-2	3/4"	13	5	3-1/2"	3-1/2"	2-3/8"	2-1/8"	1-3/16"	4-5/8"	2-1/8"	1-1/4"	3-1/8"	20





X Series
Class I, Div. 1 & 2, Groups C,D
Class II, Div. 1 & 2, Groups E,F,G
Class III

XALB Series
Class I, Div. 1 & 2, Group D
Class II, Div. 1 & 2, Groups E,F,G
Class III

Listed - File E10514
 Certified - File LR11716
See files for details or call Killark.

FEATURES-SPECIFICATIONS

**X
Features**

- Integral bushings
- Easy access covers
- Six hub styles
- Sizes 1/2", 3/4", 1"

Material/Finish

- Copper-free aluminum (less than 4/10 of 1%)
- Electrostatically applied powder coating

Ⓢ X Series 1" hub size suitable for Class I, Group D

X DIMENSIONS								
	CATALOG NUMBER	HUB SIZE	A LENGTH	B WIDTH	C HEIGHT	D	E	VOLUME CU. IN.
	XC-1	1/2"	5-9/16"	1-17/32"	2-1/8"	5/8"	—	4.3
	XC-2	3/4"	5-13/16"	1-3/4"	2-1/4"	11/16"	—	6.5
	XC-3	1"Ⓢ	6-1/16"	2-3/8"	2-1/2"	7/8"	—	11.5
	XLL-1	1/2"	4-5/8"	2-7/16"	2-1/8"	5/8"	3/4"	4.3
	XLL-2	3/4"	4-29/32"	2-5/8"	2-1/4"	11/16"	7/8"	6.5
	XLL-3	1"Ⓢ	5-9/16"	3-1/2"	2-1/2"	7/8"	7/8"	11.5
	XLB-1	1/2"	4-5/8"	1-17/32"	2-15/16"	5/8"	3/4"	4.3
	XLB-2	3/4"	4-29/32"	1-3/4"	3-1/8"	11/16"	11/16"	6.5
	XLB-3	1"Ⓢ	5-17/32"	2-3/8"	3-5/8"	7/8"	7/8"	11.5
	XLR-1	1/2"	4-5/8"	2-7/16"	2-1/8"	5/8"	3/4"	4.3
	XLR-2	3/4"	4-29/32"	2-5/8"	2-1/4"	11/16"	7/8"	6.5
	XLR-3	1"Ⓢ	5-9/16"	3-1/2"	2-1/2"	7/8"	7/8"	11.5
	XT-1	1/2"	5-9/16"	2-7/16"	2-1/8"	5/8"	—	4.3
	XT-2	3/4"	5-13/16"	2-5/8"	2-1/4"	11/16"	—	6.5
	XT-3	1"Ⓢ	6-11/16"	3-1/2"	2-1/2"	7/8"	—	11.5
	XLRT-21	3/4" Ends 1/2" Side	5-3/4"	2-21/32"	2-1/2"	11/16"	—	7
	XLRT-22	3/4" End 3/4" Side	5-3/4"	2-21/32"	2-1/2"	11/16"	—	7

**XALB
Applications**

Designed to permit straight pulls of heavy cable.

Features

- Integral bushings
- Easy access covers
- Sizes 1-1/4" thru 3"

Material/Finish

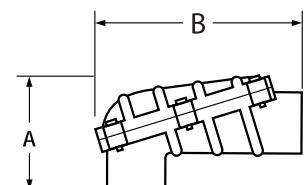
- Copper-free aluminum (less than 4/10 of 1%)
- Electrostatically applied powder coating

Ⓢ X Series 1"hub size suitable for Class 1, Group D

XALB CONDUIT BODIES		
CATALOG NUMBER	HUB SIZE	VOLUME CU.IN.
XALB-4	1-1/4"	27
XALB-5	1-1/2"	27
XALB-6	2"	70
XALB-7	2-1/2"	>100
XALB-8	3"	>100

XALB Series suitable for Class 1, Group D only.

XALB DIMENSIONS			
CONDUIT SIZE	A OVERALL DEPTH	B LENGTH OF BODY	WIDTH OF BODY
1-1/4"	4-1/16"(103)	7-3/4"(197)	3-15/16"(100)
1-1/2"	4-1/16"(103)	7-3/4"(197)	3-15/16"(100)
2"	5-7/8"(149)	11-1/8"(282)	4-3/4"(121)
2-1/2"	8-1/4"(209)	17-1/2"(444)	6-7/16"(163)
3"	8-1/4"(209)	17-1/2"(444)	6-7/16"(163)





JLC-20



JLX-21



JCB



JALX-20



JALX-22



JAH-2

Class I, Div. 1 & 2, Groups C,D
Class II, Div. 1 & 2, Groups E,F,G
Class III



Listed - File E10514



Certified - File LR11716

See files for details or call Killark.

FEATURES-SPECIFICATIONS

Applications

To provide access to conductors for pulling, splicing, and maintenance. May be used as a fixture hanger.

Features

- Option of blank or hub covers
- Cast mounting lugs
- Large wiring area
- Furnished with internal ground screw
- Hub covers include set screws for locking to lighting fixture stems
- JL - Cast external hubs with integral bushings
- JAL - Four drilled and tapped conduit openings in an "x" configuration (three, close-up plugs included to allow five variations from one body)
- Option of blank or hub covers

Material/Finish

- Copper-free aluminum (less than 4/10 of 1%)
- Natural Finish

REPLACEMENT HUB COVER

CATALOG NUMBER	SERIES	HUB SIZE	DEPTH	VOLUME CU. IN.
JH-1	JL	1/2"	1-3/32"	1.5
JH-2	JL	3/4"	1-3/32"	1.5
JAH-1	JAL	1/2"	1-1/8"	6.5
JAH-2	JAL	3/4"	1-1/8"	6.5

JL OUTLET BODIES WITH COVER					
CATALOG NUMBER		BOX TYPE	CONDUIT SIZE		BOX ONLY VOL. CU. IN.
WITH BLANK COVER	WITH HUB COVER		BOX ①	COVER	
JLC-10	JLC-11	C	1/2"	1/2"	12.5
—	JLC-12	C	1/2"	3/4"	12.5
JLC-20	JLC-21	C	3/4"	1/2"	12.5
—	JLC-22	C	3/4"	3/4"	12.5
JLX-10	JLX-11	X	1/2"	1/2"	12.5
—	JLX-12	X	1/2"	3/4"	12.5
JLX-20	JLX-21	X	3/4"	1/2"	12.5
—	JLX-22	X	3/4"	3/4"	12.5

① To order box only omit last digit of catalog number.

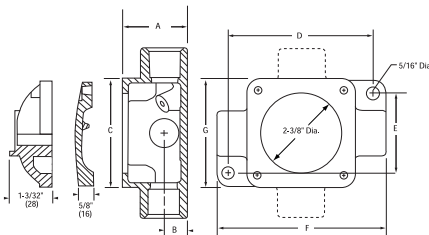
JAL OUTLET BODIES WITH COVER					
CATALOG NUMBER		TYPE	CONDUIT SIZE		BOX ONLY VOL. CU. IN.
WITH BLANK COVER	WITH HUB COVER		BOX ①	COVER	
JALX-10	JALX-11	X	1/2"	1/2"	26.5
—	JALX-12	X	1/2"	3/4"	26.5
JALX-20	JALX-21	X	3/4"	1/2"	26.5
—	JALX-22	X	3/4"	3/4"	26.5
JALX-30	JALX-31	X	1"	1/2"	26.5
—	JALX-32	X	1"	3/4"	26.5
JALX-40	—	X	1-1/4" ②	1/2"	39

① To order box only omit last digit of catalog number.

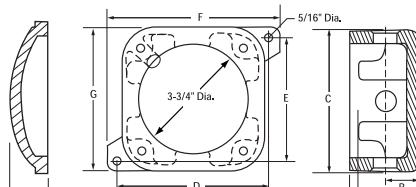
② 1-1/4" for Class I, Group D.

REPLACEMENT BLANK COVER			
CATALOG NUMBER	SERIES	DEPTH	VOLUME CU. IN.
JCB	JL	5/8"	1.0
JABC	JAL	1-1/8"	7.5

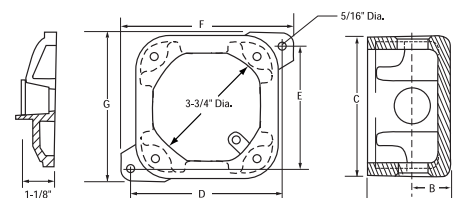
DIMENSIONS							
SERIES	A	B	C	D	E	F	G
JL 1/2", 3/4"	1-15/16"	11/16"	3-1/4"	4-7/32"	2-3/8"	5-1/8"	3-1/4"
JAL 1/2", 3/4", 1"	2-3/8"	1-5/32"	4-3/4"	5-1/4"	4-1/8"	5-7/8"	4-3/4"
JAL 1-1/4"	3-3/16"	1-17/32"	4-5/8"	5-1/4"	4-1/8"	5-7/8"	4-13/16"



JL 1-2



JAL 1-3



JAL 4





GUF-2

GUF-8

GUM-2

GUML-2

UNF2

UNY4

UNY2

GUML-2M

Female to Female

Male to Female

90° Elbow Union

- GUF/GUM/UNF/UNY 1/2", 3/4", & 1" Class I, Div. 1 & 2, Groups A,B,C,D Class I, Zone I, IIC, IIB, IIA Class I, Zone 1, Groups IIC, IIB, IIA Class II, Div. 1 & 2, Groups E,F,G Class III
- GUF/GUM/UNF/UNY 1-1/4" through 4" Class I, Div. 1 & 2, Groups C,D Class I, Zone I, IIB, IIA Class I, Zone 1, Groups IIB, IIA Class II, Div. 1 & 2, Groups E,F,G Class III

Listed File No. E 10514

Certified File No. LR11716

FEATURES-SPECIFICATIONS

Applications

- UNY and UNF unions are used to connect two pieces of conduit or attach conduit to junction boxes, fittings, or devices
- Permits removal of equipment without turning or removal of conduit

Features

- Threaded for rigid conduit or IMC
- Tapered threads (NPT)
- Strong and durable construction

Material/Finish

Copper-free Aluminum — 1/2"- 4" (less than 4/10 of 1%)

- Natural Finish

Iron — 1-1/4"- 4"

Steel — 1/2", 3/4", 1"

- Zinc electro-plate

Third-Party Standards

- UL Standard 886
- CSA Standard C22.2 No. 30

For ATEX and IECEx certified unions, add suffix - EX to the catalog number.

Example: GUF-1-EX

File nos. ITS09ATEX16417U

IECExITS09.0024U



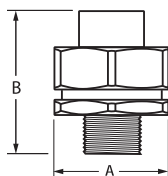
FEMALE TO FEMALE				
CATALOG NUMBER		HUB SIZE	DIMENSIONS	
KILLARK ALUM.	DURALOY IRON		A DIAMETER	B LENGTH
GUF-1	UNF1	1/2"	1-1/2"(38)	1-7/8"(48)
GUF-2	UNF2	3/4"	1-3/4"(44)	1-15/16"(49)
GUF-3	UNF3	1"	2"(51)	2-7/16"(62)
GUF-4	UNF4	1-1/4"	2-3/8"(60)	2-1/2"(63)
GUF-5	UNF5	1-1/2"	2-5/8"(67)	2-1/2"(63)
GUF-6	UNF6	2"	3-1/4"(82)	2-5/8"(67)
GUF-7	UNF7	2-1/2"	4-1/2"(114)	3-3/32"(78)
GUF-8	UNF8	3"	5-3/8"(136)	3-1/16"(78)
GUF-9	UNF9	3-1/2"	6-1/4"(159)	3-9/16"(90)
GUF-0	UNF0	4"	6-1/4"(159)	3-9/16"(90)

MALE TO FEMALE				
CATALOG NUMBER		HUB SIZE	A DIAMETER	B LENGTH
GUM-1	UNY1	1/2"	1-1/2"(38)	2-3/16"(55)
GUM-2	UNY2	3/4"	1-3/4"(44)	2-3/8"(60)
GUM-3	UNY3	1"	2"(51)	2-3/4"(70)
GUM-4	UNY4	1-1/4"	2-3/8"(60)	2-15/16"(75)
GUM-5	UNY5	1/2"	2-5/8"(67)	2-15/16"(75)
GUM-6	UNY6	2"	3-1/4"(82)	3-1/4"(82)
GUM-7	UNY7	2-1/2"	4-1/2"(114)	4-9/32"(109)
GUM-8	UNY8	3"	5-3/8"(136)	4-1/4"(108)
GUM-9	UNY9	3-1/2"	6-1/4"(159)	4-1/2"(114)
GUM-0	UNY0	4"	6-1/4"(159)	4-1/2"(114)

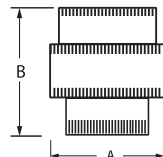
90° ANGLE UNION					
CATALOG NUMBER		HUB SIZE	DIMENSIONS		
KILLARK ALUM.	DURALOY IRON		A	B	C
GUML-1	GUML-1M	1/2"	2-1/2"(64)	1-1/2"(38)	1-3/4"(44)
GUML-2	GUML-2M	3/4"	2"(51)	1-1/2"(38)	1-5/8"(42)

© UL & CSA suitable for Class I, Groups A, B, C, D.

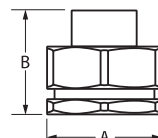
Dimensions



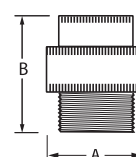
UNY



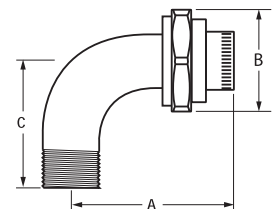
GUF



UNF



GUM



GUML



KILLARK®



UNFS Type Female/Female



UNFL Type Female/Female



UNYS Type Male/Female



UNYL Type Male/Female

Class I, Div. 1 & 2, Groups C,D
Class I, Zone 1, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III

UL Standard 886

CSA Standard C22.2 No. 30

Mil Spec: MIL-F28675

Listed File No. E 10514

Certified File No. LR11716

FEATURES-SPECIFICATIONS

UNFS & UNYS — Standard Length UNFL & UNYL — Long Length

Application

- To provide for slight expansion and contraction of conduit runs
- To retrofit sections of conduit runs

Features

- Tapered threaded hubs (NPT) for rigid conduit and IMC
- Telescoping components allows conduit to be inserted between fixed threaded hubs
- Internal copper alloy grounding spring assures positive grounding
- Close tolerance of mating parts eliminates passage of flame
- Compact diameter allows use where conduit is closely spaced
- Available in standard and long style, male and female version

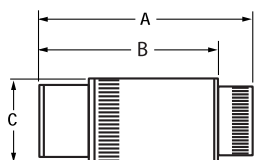
Material/Finish

Body/Sleeve — Steel/Zinc Electroplate

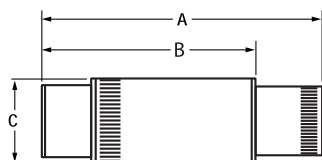
Grounding Spring — Beryllium Copper/Natural Finish

FEMALE - SHORT				
CATALOG NUMBER	HUB SIZE	DIMENSIONS		
		MAXIMUM LENGTH A	MINIMUM LENGTH B	DIAMETER C
UNFS1	1/2"	3.34 (85)	2.84 (72)	1.19 (30)
UNFS2	3/4"	3.53 (90)	2.97 (75)	1.44 (37)
UNFS3	1"	3.69 (94)	3.08 (78)	1.69 (43)
FEMALE - LONG				
CATALOG NUMBER	HUB SIZE	DIMENSIONS		
		MAXIMUM LENGTH A	MINIMUM LENGTH B	DIAMETER C
UNFL1	1/2"	4.34 (110)	3.34 (85)	1.19 (30)
UNFL2	3/4"	4.53 (115)	3.47 (88)	1.44 (37)
UNFL3	1"	4.69 (119)	4.58 (116)	1.69 (43)
MALE - SHORT				
CATALOG NUMBER	HUB SIZE	DIMENSIONS		
		MAXIMUM LENGTH A	MINIMUM LENGTH B	DIAMETER C
UNYS1	1/2"	3.30 (84)	2.80 (71)	1.19 (30)
UNYS2	3/4"	3.41 (87)	2.85 (72)	1.44 (37)
UNYS3	1"	3.57 (91)	2.97 (75)	1.69 (43)
MALE - LONG				
CATALOG NUMBER	HUB SIZE	DIMENSIONS		
		MAXIMUM LENGTH A	MINIMUM LENGTH B	DIAMETER C
UNYL1	1/2"	4.30 (109)	3.30 (84)	1.19 (30)
UNYL2	3/4"	4.41 (112)	3.35 (85)	1.44 (37)
UNYL3	1"	4.57 (117)	3.47 (88)	1.69 (43)

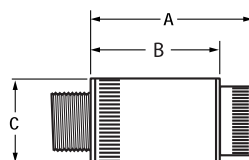
Dimensions



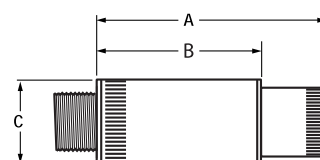
UNFS



UNFL



UNYS



UNYL





- CUP/CUPX/PLUG 1, 2, & 3, PLUG 1, 2, & 3-SQ
 Class I Groups A,B,C,D
 Class I, Zone 1, Groups IIC, IIB, IA
 Class II Groups E,F,G
- CUP/CUPX/PLUG 1 1/4" through 4"
 Class I, Groups C,D
 Class I, Zone 1, Groups IIB, IIA
 Class II Groups E,F,G

UL Standard: 886
 CSA Standard: C22.2 No. 30

Listed File No. E 10514
 Certified File No. LR11716

FEATURES-SPECIFICATIONS

Application

- To close up a taped hole or hub

Features

- Threaded hubs (NPT)

Material/Finish

Copper-free Aluminum — 1/4" - 4"
 (less than 4/10 of 1%)

- Natural Finish

Steel — 1/2" - 1"

- Zinc Plated

Iron — 1-1/4" - 4"

- Zinc Plated

RECESSED PLUG		
CATALOG NUMBER		HUB SIZE
KILLARK ALUMINUM	STEEL/IRON	
CUP-375	PLUG375	3/8"
CUP-1	PLUG1	1/2"
CUP-2	PLUG2	3/4"
CUP-3	PLUG3	1"
CUP-4	PLUG4	1-1/4"
CUP-5	PLUG5	1-1/2"
CUP-6	PLUG6	2"
CUP-7	PLUG7	2-1/2"
CUP-8	PLUG8	3"
CUP-9	PLUG9	3-1/2"
CUP-0	PLUG10	4"

SQUARE HEAD PLUG		
CATALOG NUMBER		HUB SIZE
KILLARK ALUMINUM	STEEL/IRON	
CUPX-250	—	1/4"
CUPX-1	PLUG1-SQ	1/2"
CUPX-2	PLUG2-SQ	3/4"
CUPX-3	PLUG3-SQ	1"
CUPX-4	PLUG4-SQ	1-1/4"
CUPX-5	PLUG5-SQ	1-1/2"
CUPX-6	PLUG6-SQ	2"
CUPX-7	PLUG7-SQ	2-1/2"
CUPX-8	PLUG8-SQ	3"
CUPX-9	PLUG9-SQ	3-1/2"
CUPX-0	PLUG10-SQ	4"

Listed File No. E 311892



AN

Applications

- To connect threaded on IMC conduit to cast hubs on drilled and tapped conduit openings

Features

- Tapered threads (NPT)

Material/Finish

Copper-free Aluminum
 (less than 4/10 of 1%)

RIGID CONDUIT NIPPLES				
CLOSE	BODY LENGTH	CATALOG NUMBER		CONDUIT SIZE
		2" LONG	BODY LENGTH	
AN-1	1-1/2"	AN-1B	2"	1/2"
AN-2	1-37/64"	AN-2B	2"	3/4"
AN-3	2"	AN-3B	2"	1"
AN-4	2-1/64"	—	—	1-1/4"
AN-5	2-1/16"	—	—	1-1/2"
AN-6	2-1/8"	—	—	2"
AN-7	3-9/64"	—	—	2-1/2"
AN-8	3-17/64"	—	—	3"
AN-9	3-23/64"	—	—	3-1/2"
AN-10	3-15/32"	—	—	4"
AN-11	3-1/2"	—	—	5"
AN-12	3-1/2"	—	—	6"





KDB-1

KB1B

KB1D

**NEW OPTIONS
NEW LISTINGS**

**ATEX PENDING
4/2011**

① See chart below for suitability

② Warning - not for use in acetylene atmosphere

Class I, Div. 1 & 2, Groups B[Ⓛ], C, D
Class I, Zones 1 & 2, Groups IIB + H2[Ⓛ]
Class II, Div. 1 & 2, Groups E, F, G
Class III, NEMA Type 3
II 2 G Ex d IIB IIC[Ⓛ] T226C Gb IP44

Listed - File E10514

Certified - File LR11716

Certified File 25215

APPROVED
IEC Ex CSA 10.0007u

KB/KD SERIES DRAIN & BREATHERS

Applications

When installed in the top of an enclosure, these fittings act as breathers which allows air flow through the

enclosure. Bottom installations permit water from condensation to drain from the enclosure continuously. The drains and breathers are offered in a variety of hub sizes, 1/4, 3/8 & 1/2 inch NPT and metric M16 & M20.

Body Material

Aluminum with optional stainless steel or brass available for special orders.

Volume

For use in enclosures with a maximum internal volume to 9526 cubic inches or 160 liters.

CATALOG NUMBER	THREAD SIZE	BODY MATERIAL	THIRD PARTY	SUITABILITY USA	THIRD PARTY	SUITABILITY CANADA	THIRD PARTY	SUITABILITY IEC Ex		
KB1B BREATHER	1/2 NPT	ALUMINUM	UL, FM & CSAus	CLASS I GROUPS B, C & D CLASS I, ZONES 1 & 2 GR IIB+H2 CLASS II GROUPS E, F & G CLASS III ENCL TYPE 3	c CSA	CLASS I GROUPS C & D CLASS I, ZONES 1 & 2 GR IIB CLASS II GROUPS E, F & G CLASS III ENCL TYPE 3				
KB1D DRAIN	1/2 NPT	ALUMINUM	UL, FM & CSAus		c CSA					
KB1BCEN BREATHER	1/2 NPT	ALUMINUM	CSAus		c CSA			CSA	II 2 G Ex d IIC [Ⓛ]	
KB1DCEN DRAIN	1/2 NPT	ALUMINUM	CSAus		c CSA			CSA	T226C Gb IP44 [Ⓛ]	
KBM20BCEN BREATHER	M20	ALUMINUM	CSAus		c CSA			CSA		
KBM20DCEN DRAIN	M20	ALUMINUM	CSAus	c CSA		CSA				
KDB-1 DRAIN / BREATHER	1/2 NPT	STAINLESS STEEL	UL, FM & CSAus	CLASS I GROUPS C & D CLASS I, ZONES 1 & 2 GR IIB CLASS II GROUPS E, F & G CLASS III ENCL TYPE 3	c CSA	CLASS I GROUPS C & D CLASS I, ZONES 1 & 2 GR IIB CLASS II GROUPS E, F & G CLASS III ENCL TYPE 3				
KDB-250 DRAIN / BREATHER	1/4 NPT	ALUMINUM	CSAus		c CSA					
KDB-375 DRAIN / BREATHER	3/8 NPT	ALUMINUM	CSAus		c CSA					
KDB-250CEN DRAIN / BREATHER	1/4 NPT	ALUMINUM	CSAus		c CSA					
KDB-375CEN DRAIN / BREATHER	3/8 NPT	ALUMINUM	CSAus		c CSA				CSA	II 2 G Ex d IIB
KDB-M16CEN DRAIN / BREATHER	M16	ALUMINUM	CSAus		c CSA				CSA	T3 Gb IP44

KB SERIES FLAME ARRESTOR

Applications

The flame arrestor provides a means to connect gas analysis equipment and electro pneumatic devices' pipe or tubing system through the wall of an explosion-proof enclosure.

BODY MATERIAL: 6061--T6 series aluminum provided as standard. Optional stainless steel or brass for special orders.

NEW!



Class I, Div. 1 & 2, Groups B[Ⓛ], C, D
Class I, Zones 1 & 2, Groups IIB + H2[Ⓛ]
Class II, Div. 1 & 2, Groups E, F, G
Class III, NEMA Type 3, 4[Ⓛ]
II 2 G Ex d IIB IIC[Ⓛ] T3 Gb IP66[Ⓛ]

Certified - File LR11716

IEC Ex CSA 10.0007u

ATEX PENDING 4/2011

① See chart below for suitability

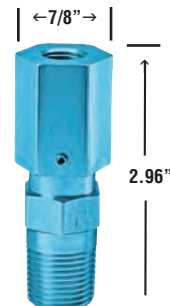
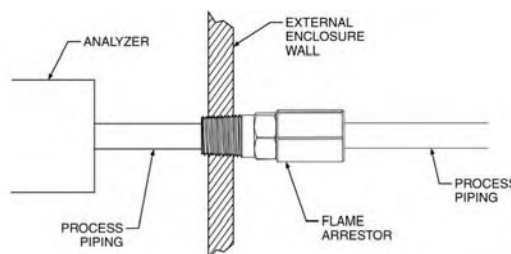
② Warning - not for use in acetylene atmospheres

CATALOG NUMBER	EXTERNAL THREAD SIZE	INTERNAL THREAD SIZE	THIRD PARTY	SUITABILITY USA	THIRD PARTY	SUITABILITY CANADA	THIRD PARTY	SUITABILITY IEC Ex	
KB1FA25	1/2 NPT	1/4 NPT	CSAus	CLASS I GROUPS B, C & D CLASS I, ZONES 1 & 2 GR IIB+H2 CLASS II GROUPS E, F & G CLASS III TYPE 3 & 4	c CSA	CLASS I GROUPS C & D CLASS I, ZONES 1 & 2 GR IIB CLASS II GROUPS E, F & G CLASS III TYPE 3 & 4	CSA	II 2 G Ex d IIC [Ⓛ] [Ⓛ] T3 Gb IP66	
KB1FAM16	1/2 NPT	M16	CSAus		c CSA			CSA	II 2 G Ex d IIC [Ⓛ]
KBM20FA25	M20	1/4 NPT	CSAus		c CSA			CSA	T3 Gb IP65
KBM20FA16	M20	M16	CSAus	CLASS II GROUPS E, F & G CLASS III TYPE 3.	c CSA	CLASS II GROUPS E, F & G CLASS III TYPE 3.	CSA		

Specifications

Air flow = 83 + 15 / -25 SCFH at 5PSI
 Pressure drop = 1.3 PSI at 100 PSI
 Maximum flow pressure = 800 PSI
 Volume = For use in enclosures with a maximum internal volume of 9526 cubic inches or 160 liters.

TYPICAL INSTALATION





1" – 3/4"



2" – 1-1/2"



ADUP

- R-10 through R-65
- RE21S through RE65S
 Class I, Div. 1 & 2, Groups A,B,C,D
 Class I, Zone 1, Groups IIC, IIB, IIA
 Class II, Div. 1 & 2, Groups E,F,G
- R-73 through R-109
 Class I, Div. 1 & 2, Groups A,B,C,D
 Class I, Zone 1, Groups IIC, IIB, IIA
 Class II, Div. 1 & 2, Groups E,F,G

UL Standard: 886

CSA Standard: C22.2 No. 30

Listed File No. E 10514

Certified File No. LR11716

FEATURES-SPECIFICATIONS

Application

- To reduce the trade size of a taped hole or hub.

Features

- Tapered threads (NPT)
- Smooth internal bushing protects conductors
- Threaded for Rigid Conduit or IMC

Material/Finish

Copper-free Aluminum

(less than 4/10 of 1%)
 (R-10 through R-109)

Natural Finish

Steel/Zinc Plated

(RE21S through RE65S)

REDUCING BUSHINGS			
CATALOG NUMBER		HUB SIZE	DIMENSIONS
KILLARK ALUM.	STEEL		BODY LENGTH
R-10	—	1/2" — 3/8"	5/8"(16)
R-20	—	3/4" — 3/8"	7/8"(22)
R-21	RE21S	3/4" — 1/2"	23/32"(18)
R-30	—	1" — 3/8"	7/8"(22)
R-31	RE31S	1" — 1/2"	23/32"(18)
R-32	RE32S	1" — 3/4"	23/32"(18)
R-41	RE41S	1-1/4" — 1/2"	13/16"(21)
R-42	RE42S	1-1/4" — 3/4"	13/16"(21)
R-43	RE43S	1-1/4" — 1"	13/16"(21)
R-51	RE51S	1-1/2" — 1/2"	13/16"(21)
R-52	RE52S	1-1/2" — 3/4"	13/16"(21)
R-53	RE53S	1-1/2" — 1"	13/16"(21)
R-54	RE54S	1-1/2" — 1-1/4"	13/16"(21)
R-61	RE61S	2" — 1/2"	7/8"(22)
R-62	RE62S	2" — 3/4"	7/8"(22)
R-63	RE63S	2" — 1"	7/8"(22)
R-64	RE64S	2" — 1-1/4"	7/8"(22)
R-65	RE65S	2" — 1-1/2"	7/8"(22)
R-73	—	2-1/2" — 1"	1"(25)
R-75	—	2-1/2" — 1-1/2"	1"(25)
R-76	—	2-1/2" — 2"	1"(25)
R-85	—	3" — 1-1/2"	1-1/4"(32)
R-86	—	3" — 2"	1-1/4"(32)
R-87	—	3" — 2-1/2"	1-1/4"(32)
R-96	—	3-1/2" — 2-1/2"	1-3/8"(35)
R-97	—	3-1/2" — 2-1/2"	1-3/8"(35)
R-98	—	3-1/2" — 3"	1-3/8"(35)
R-106	—	4" — 2"	1-1/2"(38)
R-107	—	4" — 2-1/2"	1-1/2"(38)
R-108	—	4" — 3"	1-1/2"(38)
R-109	—	4" — 3-1/2"	1-1/2"(38)

ADUP ADAPTERS	
CATALOG NUMBER [Ⓢ]	DESCRIPTION
ADUP-01	MALE 3/8" FEMALE 1/2"
ADUP-12	MALE 1/2" FEMALE 3/4"

[Ⓢ]Series ADUP suitable for Class I, Groups A,B,C,D



KILLARK®

For ATEX and IECEx certified elbows, add suffix - EX to the catalog number.

Example: FF-90-1-EX

File nos. ITS09ATEX16417U

IECExITS09.0024U

Ex II2G

Ex d IIC IP56



FF
Female/Female



MF
Male/Female



GUFS



Y



MM
Male/Male



BL
Male/Female



EYMF

Class I, Div. 1 & 2, Groups C,D
Class II, Div. 1 & 2, Groups E,F,G
Class III

UL Listed - File E10514

SF Certified - File LR11716

FM File 25215

APPROVED See files for details or call Killark.

FEATURES-SPECIFICATIONS

Applications

- Elbows: To change direction in rigid or IMC conduit systems
- Capped Elbows: To change direction 90° in rigid or IMC conduit systems where space is limited and access is needed for pulling conductors or maintenance
- Swivel Elbows: Allows conduit to be joined at angles ranging between 90° to 180°. A screwdriver is the only tool needed
- 90° Plugged Elbows: To change direction 90° in rigid or IMC conduit systems where space is limited and access is needed for pulling conductors or maintenance

Features

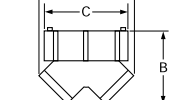
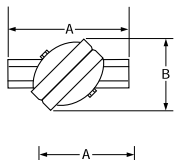
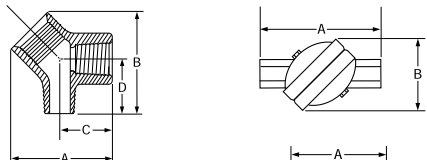
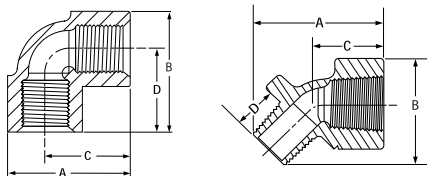
- Threaded for rigid conduit or IMC
- Smooth integral bushings to prevent damage to wires

Material/Finish

Copper-free Aluminum
(less than 4/10 of 1%)

- Electrostatically applied powder coating

Iron Zinc electro-plate



ELBOWS							
CATALOG NUMBER		HUB SIZE	TYPE	A	B	C	D
ALUMINUM	IRON						
FF-90-1①	FF-90-1M③	1/2"	FF 90°	2"	2"	1-3/8"	1-3/8"
FF-90-2①	FF-90-2M③	3/4"	FF 90°	2-1/4"	2-1/4"	1-1/2"	1-1/2"
FF-90-3①	FF-90-3M③	1"	FF 90°	2-15/16"	2-15/16"	2"	2"
FF-45-1①	FF-45-1M③	1/2"	FF 45°	2-3/8"	2"	1-1/8"	—
FF-45-2①	FF-45-2M③	3/4"	FF 45°	2-11/16"	2-3/16"	1-1/4"	—
FF-45-3①	FF-45-3M③	1"	FF 45°	3-3/8"	2-11/16"	1-5/8"	—
FF-45-6①	FF-45-6M③	2"	FF 45°	4-3/4"	3-7/8"	2-1/4"	—
FF-45-8①	FF-45-8M③	3"	FF 45°	5-1/4"	5-17/64"	2-17/64"	—
MF-90-1①	MF-90-1M③	1/2"	MF 90°	11/16"	2"	1-3/8"	1-3/8"
MF-90-2①	MF-90-2M③	3/4"	MF 90°	7/8"	2-7/16"	1-1/2"	1-11/16"
MF-45-1①	MF-45-1M③	1/2"	MF 90°	2-1/8"	1-3/4"	1-1/8"	3/4"
MF-45-2①	MF-45-2M③	3/4"	MF 90°	2-3/8"	1-7/8"	1-9/32"	3/4"
MM-90-1①	MM-90-1M③	1/2"	MM 90°	2-1/16"	2-1/16"	1-3/8"	1-3/8"
MM-90-2①	MM-90-2M③	3/4"	MM 90°	2-1/4"	2-1/4"	1-1/2"	1-1/2"
BL-90-1①	BL-90-1M③	1/2"	BL 90°	2-1/4"	2-3/8"	1-7/8"	1-3/4"
BL-90-2①	BL-90-2M③	3/4"	BL 90°	2-5/8"	3"	2-1/8"	2-1/4"
BL-90-3①	BL-90-3M③	1"	BL 90°	2-1/4"	3-7/16"	2-5/8"	2-1/2"

CAPPED ELBOWS							
CATALOG NUMBER		HUB SIZE	TYPE	A	B	C	D
ALUMINUM	IRON						
Y-1①	Y-1M④	1/2"	90°	2-7/8"	2-3/4"	1-7/8"	—
Y-2①	Y-2M④	3/4"	90°	3-1/16"	3-3/4"	2-1/8"	—
Y-3①	Y-3M④	1"	90°	4"	3-1/4"	2-5/8"	—
Y-4①	Y-4M④	1-1/4"	90°	5-1/16"	4-1/8"	3-7/8"	—
Y-5①	Y-5M④	1-1/2"	90°	5-1/16"	4-1/4"	3-7/8"	—

SWIVEL ELBOWS							
CATALOG NUMBER		HUB SIZE	TYPE	A	B	C	D
ALUMINUM	IRON						
GUFS-1②	GUFS-1M③	1/2"	180°	4-1/2"	2-1/4"	—	—
GUFS-2②	GUFS-2M③	3/4"	180°	4-1/2"	2-1/4"	—	—
GUMFS-1②	GUMFS-1M③	1/2"	180°	5-1/8"	2-1/4"	—	—
GUMFS-2②	GUMFS-2M③	3/4"	180°	5-1/4"	2-1/4"	—	—

90° PLUGGED ELBOWS							
CATALOG NUMBER⑤		HUB SIZE	TYPE	A	B	C	D
ALUMINUM	IRON						
EYMF-1②	—	1/2"	90°	2-5/8"	2-5/8"	1-3/8"	1-3/8"
EYMF-2②	—	3/4"	90°	2-3/4"	2-3/4"	1-1/2"	1-1/2"

① Copper-free aluminum - Electrostatically applied powder coating

② Aluminum - Natural finish

③ Iron - Zinc electroplate

④ Iron - Duraloy finish

⑤ Furnished with 1" close-up plug in top.



KILLARK®



Class I, Div. 1 & 2, Groups A,B,C,D[Ⓛ]
Class I, Zone 1, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
Raintight

Listed - File E10514
 Certified - File LR11716
See files for details or call Killark.

FEATURES-SPECIFICATIONS

Applications

For use in hazardous areas where movement or vibration requires a flexible connection or a difficult bend is required in a conduit system.

Features

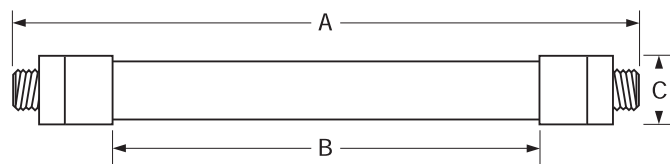
- Bronze flexible metal construction
- An inner liner of asphaltum impreg-nated jute fibre tubing to protect conductors
- Female ends with zinc plated steel nipples standard on all couplings
- Union type couplings may be assembled by adding a GUF Series union to the nipple
- Special lengths available-consult factory
- All 1/2", 3/4" & 1" EKJ couplings are furnished with a setscrew (for use as a fixture hanging coupling)

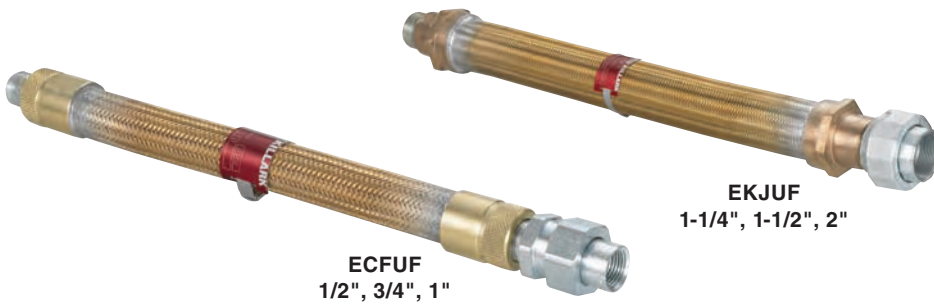
Ⓛ ECF & EKJ 1/2" and 3/4" couplings suitable for Class I, Groups A,B,C,D
Class I, Zone 1, Groups IIC, IIB, IIA
EKJ 1" thru 2" and ECF 1" couplings suitable for Class I, Groups C,D.
Class I, Zone 1, Groups IIB, IIA
All ECF and EKJ are suitable for Class II and III.

ECF/EKJ FLEXIBLE COUPLINGS					
CATALOG NUMBER		DESCRIPTION			
ECF SERIES	EKJ SERIES	CONDUIT SIZE	A OVERALL LENGTH	B FLEX. LENGTH	C DIA.
ECF-14	EKJ-14	1/2"	8-13/16"	4"	1-5/16"
ECF-16	EKJ-16	1/2"	10-13/16"	6"	1-5/16"
ECF-18	EKJ-18	1/2"	12-13/16"	8"	1-5/16"
ECF-110	EKJ-110	1/2"	14-13/16"	10"	1-5/16"
ECF-112	EKJ-112	1/2"	16-13/16"	12"	1-5/16"
ECF-115	EKJ-115	1/2"	19-13/16"	15"	1-5/16"
ECF-118	EKJ-118	1/2"	22-13/16"	18"	1-5/16"
ECF-121	—	1/2"	25-13/16"	21"	1-5/16"
ECF-124	—	1/2"	28-13/16"	24"	1-5/16"
ECF-130	—	1/2"	34-13/16"	30"	1-5/16"
ECF-136	—	1/2"	40-13/16"	36"	1-5/16"
ECF-24	EKJ-24	3/4"	8-3/4"	4"	1-5/8"
ECF-26	EKJ-26	3/4"	10-3/4"	6"	1-5/8"
ECF-28	EKJ-28	3/4"	12-3/4"	8"	1-5/8"
ECF-210	EKJ-210	3/4"	14-3/4"	10"	1-5/8"
ECF-212	EKJ-212	3/4"	16-3/4"	12"	1-5/8"
ECF-215	EKJ-215	3/4"	19-3/4"	15"	1-5/8"
ECF-218	EKJ-218	3/4"	22-3/4"	18"	1-5/8"
ECF-221	—	3/4"	25-3/4"	21"	1-5/8"
ECF-224	—	3/4"	28-3/4"	24"	1-5/8"
ECF-230	—	3/4"	34-3/4"	30"	1-5/8"
ECF-236	—	3/4"	40-3/4"	36"	1-5/8"
ECF-36	EKJ-36	1"	11-3/4"	6"	1-15/16"
ECF-38	EKJ-38	1"	13-3/4"	8"	1-15/16"
ECF-310	EKJ-310	1"	15-3/4"	10"	1-15/16"
ECF-312	EKJ-312	1"	17-3/4"	12"	1-15/16"
ECF-315	EKJ-315	1"	20-3/4"	15"	1-15/16"
ECF-318	EKJ-318	1"	23-3/4"	18"	1-15/16"
ECF-321	EKJ-321	1"	26-3/4"	21"	1-15/16"
ECF-324	EKJ-324	1"	29-3/4"	24"	1-15/16"
ECF-330	EKJ-330	1"	35-3/4"	30"	1-15/16"
ECF-336	EKJ-336	1"	41-3/4"	36"	1-15/16"

ECF/EKJ FLEXIBLE COUPLINGS				
CAT. NO.	DESCRIPTION			
EKJ SERIES	CONDUIT SIZE	A OVERALL LENGTH	B FLEX. LENGTH	C DIA.
EKJ-412	1-1/4"	18-5/8"	12"	2-15/16"
EKJ-415	1-1/4"	21-5/8"	15"	2-15/16"
EKJ-418	1-1/4"	24-5/8"	18"	2-15/16"
EKJ-421	1-1/4"	27-5/8"	21"	2-15/16"
EKJ-424	1-1/4"	30-5/8"	24"	2-15/16"
EKJ-430	1-1/4"	36-5/8"	30"	2-15/16"
EKJ-436	1-1/4"	42-5/8"	36"	2-15/16"
EKJ-512	1-1/2"	18-15/16"	12"	3-21/32"
EKJ-515	1-1/2"	21-15/16"	15"	3-21/32"
EKJ-518	1-1/2"	24-15/16"	18"	3-21/32"
EKJ-521	1-1/2"	27-15/16"	21"	3-21/32"
EKJ-524	1-1/2"	30-15/16"	24"	3-21/32"
EKJ-530	1-1/2"	36-15/16"	30"	3-21/32"
EKJ-536	1-1/2"	42-15/16"	36"	3-21/32"
EKJ-612	2"	19-5/16"	12"	4-9/64"
EKJ-615	2"	22-5/16"	15"	4-9/64"
EKJ-618	2"	25-5/16"	18"	4-9/64"
EKJ-624	2"	31-5/16"	24"	4-9/64"
EKJ-630	2"	37-5/16"	30"	4-9/64"
EKJ-636	2"	43-5/16"	36"	4-9/64"

MINIMUM BEND RADIUS						
SERIES	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
ECF	10"	12"	14"	—	—	—
EKJ	10"	12"	14"	14"	16"	18"





ECFUF
1/2", 3/4", 1"

EKJUF
1-1/4", 1-1/2", 2"

Class I, Div. 1 & 2, Groups A,B,C,D[Ⓢ]
Class I, Zone 1, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
Raintight

Listed - File E10514

Certified - File LR11716
See files for details or call Killark.

FEATURES-SPECIFICATIONS

Applications

For use in hazardous areas where movement or vibration requires a flexible connection or a difficult bend is required in a conduit system.

Features

- Bronze flexible metal construction
- An inner liner of asphaltum impreg-nated jute fibre tubing to protect conductors
- Provided with one zinc plated steel nipple and one zinc plated steel female union
- Special lengths available -consult factory

1/2" and 3/4" couplings suitable for:

- **Class I, Groups A,B,C,D**
- **Class I, Zone 1, Groups IIC, IIB, IIA.**

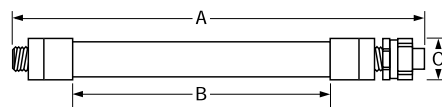
- **1" couplings suitable for:**
- **Class I, Groups C,D.**
- **Class I, Zone 1, Groups IIB, IIA**

Ⓢ All ECLK couplings are suitable for:
Class II and III.

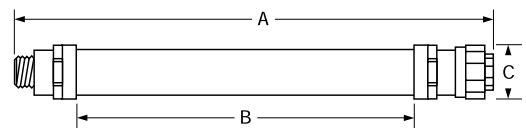
ECLK FLEXIBLE COUPLINGS				
CAT. NO.	DESCRIPTION			
ECLK SERIES	CONDUIT SIZE	A OVERALL LENGTH	B FLEX. LENGTH	C DIA.
ECFUF-14	1/2"	10-1/8" (257)	4" (102)	1-1/2" (38)
ECFUF-16	1/2"	12-1/8" (310)	6" (152)	1-1/2" (38)
ECFUF-18	1/2"	14-1/8" (359)	8" (203)	1-1/2" (38)
ECFUF-110	1/2"	16-1/8" (410)	10" (254)	1-1/2" (38)
ECFUF-112	1/2"	18-1/8" (460)	12" (305)	1-1/2" (38)
ECFUF-115	1/2"	21-1/8" (537)	15" (381)	1-1/2" (38)
ECFUF-118	1/2"	24-1/8" (613)	18" (457)	1-1/2" (38)
ECFUF-121	1/2"	27-1/8" (689)	21" (533)	1-1/2" (38)
ECFUF-124	1/2"	30-1/8" (765)	24" (610)	1-1/2" (38)
ECFUF-130	1/2"	36-1/8" (918)	30" (762)	1-1/2" (38)
ECFUF-136	1/2"	42-1/8" (1070)	36" (914)	1-1/2" (38)
ECFUF-24	3/4"	10-1/4" (260)	4" (102)	1-3/4" (44)
ECFUF-26	3/4"	12-1/4" (311)	6" (152)	1-3/4" (44)
ECFUF-28	3/4"	14-1/4" (362)	8" (203)	1-3/4" (44)
ECFUF-210	3/4"	16-1/4" (413)	10" (254)	1-3/4" (44)
ECFUF-212	3/4"	18-1/4" (464)	12" (305)	1-3/4" (44)
ECFUF-215	3/4"	21-1/4" (540)	15" (381)	1-3/4" (44)
ECFUF-218	3/4"	24-1/4" (616)	18" (457)	1-3/4" (44)
ECFUF-221	3/4"	27-1/4" (692)	21" (533)	1-3/4" (44)
ECFUF-224	3/4"	30-1/4" (768)	24" (610)	1-3/4" (44)
ECFUF-230	3/4"	36-1/4" (921)	30" (762)	1-3/4" (44)
ECFUF-236	3/4"	42-1/4" (1073)	36" (914)	1-3/4" (44)
ECFUF-36	1"	13-3/16" (335)	6" (102)	2" (51)
ECFUF-38	1"	15-3/16" (386)	8" (152)	2" (51)
ECFUF-310	1"	17-3/16" (437)	10" (254)	2" (51)
ECFUF-312	1"	19-3/16" (487)	12" (305)	2" (51)
ECFUF-315	1"	22-3/16" (564)	15" (381)	2" (51)
ECFUF-318	1"	25-3/16" (640)	18" (457)	2" (51)
ECFUF-321	1"	28-3/16" (716)	21" (533)	2" (51)
ECFUF-324	1"	31-3/16" (792)	24" (610)	2" (51)
ECFUF-330	1"	37-3/16" (945)	30" (762)	2" (51)
ECFUF-336	1"	43-3/16" (1097)	36" (914)	2" (51)

ECLK FLEXIBLE COUPLINGS				
CAT. NO.	DESCRIPTION			
ECLK SERIES	CONDUIT SIZE	A OVERALL LENGTH	B FLEX. LENGTH	C DIA.
EKJUF-412	1-1/4"	20-1/4" (514)	12" (305)	2-7/8" (73)
EKJUF-415	1-1/4"	21-1/4" (591)	15" (381)	2-7/8" (73)
EKJUF-418	1-1/4"	24-1/4" (667)	18" (457)	2-7/8" (73)
EKJUF-421	1-1/4"	27-1/4" (743)	21" (533)	2-7/8" (73)
EKJUF-424	1-1/4"	30-1/4" (819)	24" (610)	2-7/8" (73)
EKJUF-430	1-1/4"	36-1/4" (972)	30" (762)	2-7/8" (73)
EKJUF-436	1-1/4"	42-1/4" (1124)	36" (914)	2-7/8" (73)
EKJUF-512	1-1/2"	21-15/16" (557)	12" (305)	3-21/32" (93)
EKJUF-515	1-1/2"	24-15/16" (633)	15" (381)	3-21/32" (93)
EKJUF-518	1-1/2"	27-15/16" (710)	18" (457)	3-21/32" (93)
EKJUF-521	1-1/2"	30-15/16" (786)	21" (533)	3-21/32" (93)
EKJUF-524	1-1/2"	33-15/16" (862)	24" (610)	3-21/32" (93)
EKJUF-530	1-1/2"	39-15/16" (1014)	30" (762)	3-21/32" (93)
EKJUF-536	1-1/2"	45-15/16" (1167)	36" (914)	3-21/32" (93)
EKJUF-612	2"	21-9/16" (548)	12" (305)	4-9/64" (105)
EKJUF-615	2"	24-9/16" (624)	15" (381)	4-9/64" (105)
EKJUF-618	2"	27-9/16" (700)	18" (457)	4-9/64" (105)
EKJUF-624	2"	33-9/16" (852)	24" (610)	4-9/64" (105)
EKJUF-630	2"	39-9/16" (1005)	30" (762)	4-9/64" (105)
EKJUF-636	2"	45-9/16" (1157)	36" (914)	4-9/64" (105)

MINIMUM BEND RADIUS						
SERIES	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
ECF	10"	12"	14"	-	-	-
EKJ	10"	12"	14"	14"	16"	18"



ECFUF 1/2", 3/4", 1"



EKJUF 1-1/4", 1-1/2", 2"





Class I, Div. 1 & 2, Groups C, D
Class I, Zone 1, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E, F, G
Class III



File J10E3H1.AE



Certified - File LR11716

See files for details or call Killark.

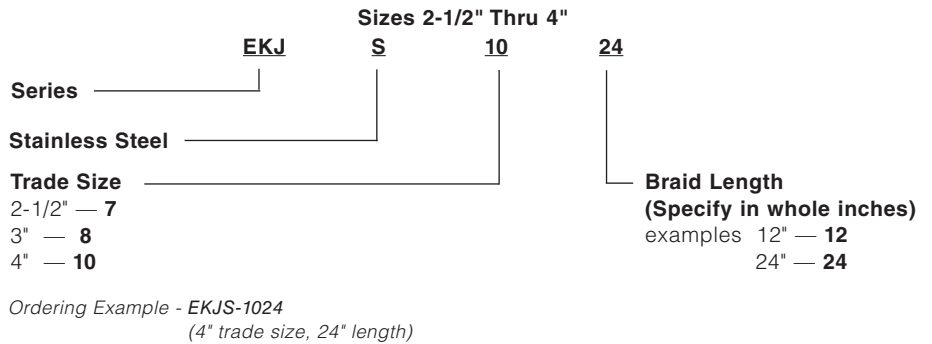
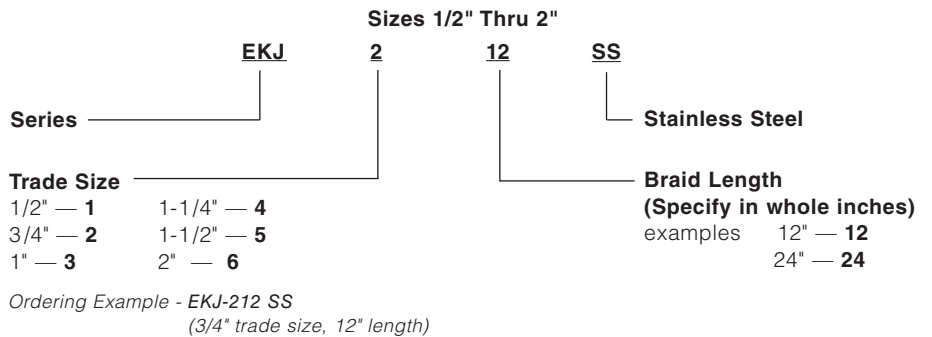
FEATURES-SPECIFICATIONS

Features

- Available in custom lengths. See catalog logic to order
- Stainless steel wirebraid construction
- Annular corrugated seamless hose
- Cast in ribs for easy installation
- 1/2" – 2" sizes furnished with two zinc plated steel nipples
- 2-1/2" – 4" sizes furnished with two aluminum nipples

For ATEX and IEC Ex certified flexible couplings, contact factory.

Catalog Number Logic





K2001



K0751-MG



Listed - File E22699



Certified - File LR70873
See files for details or call Killark.

FEATURES-SPECIFICATIONS

LIQUIDTIGHT®

Applications

Use with metallic and non-metallic conduit to seal out water, oil and dust in applications for food processors, beverage & chemical plants, plastics fabricators, machine shops, etc.

Liquidtight connectors are also suitable for use in hazardous locations per National Electrical Code (Articles 501-4(b), 502-4(a&b), 503-3(a&b)). Consult these articles for sealing requirements that may apply.

Liquidtight mesh grips provide a liquidtight seal and enhanced strain relief in flexible liquidtight conduit applications.

Features

- Split nylon gland ring – split for easy installation and greater compression
- Digging locknut
- Sealing 'O'-rings included
- Reusable

Materials/Finish

- Steel/malleable iron
- Zinc electro-plated

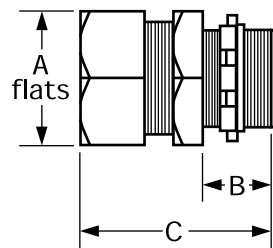
Mesh Grips

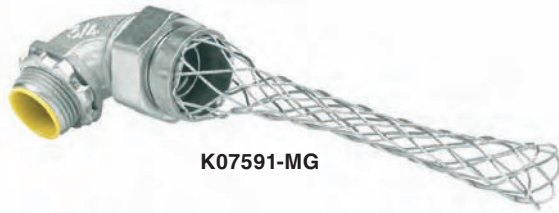
- Stainless steel mesh grips are corrosion resistant and prevent conduit pull-out in high stress installations

K LIQUIDTIGHT CONNECTORS — STRAIGHT					
CATALOG NUMBER	NPT SIZE	CONNECTOR STYLE	DIMENSIONS		
			A	B	C
K038	3/8"	Straight non-insulated	1-7/16"	19/32"	1-1/16"
K050	1/2"	Straight non-insulated	1-7/16"	19/32"	1-13/16"
K075	3/4"	Straight non-insulated	1-9/16"	19/32"	1-3/8"
K100	1"	Straight non-insulated	1-11/16"	21/32"	1-11/16"
K125	1-1/4"	Straight non-insulated	2-1/32"	11/16"	2-1/16"
K150	1-1/2"	Straight non-insulated	2-7/32"	11/16"	2-3/8"
K200	2"	Straight non-insulated	2-9/32"	23/32"	2-7/8"
K250	2-1/2"	Straight non-insulated	3-1/2"	1"	3-5/8"
K300	3"	Straight non-insulated	3-3/4"	1"	4-5/16"
K350	3-1/2"	Straight non-insulated	3-3/4"	1"	4-3/4"
K400	4"	Straight non-insulated	3-3/4"	1"	5-5/16"
K0381*	3/8"	Straight insulated	1-7/16"	21/32"	1-1/16"
K0501*	1/2"	Straight insulated	1-7/16"	21/32"	1-3/16"
K0751*	3/4"	Straight insulated	1-5/8"	21/32"	1-3/8"
K1001*	1"	Straight insulated	1-3/4"	23/32"	1-11/16"
K1251*	1-1/4"	Straight insulated	2-3/32"	3/4"	2-1/16"
K1501*	1-1/2"	Straight insulated	2-9/32"	3/4"	2-3/8"
K2001*	2"	Straight insulated	2-11/32"	25/32"	2-7/8"
K2501*	2-1/2"	Straight insulated	3-1/2"	1"	3-5/8"
K3001*	3"	Straight insulated	3-3/4"	1"	4-5/16"
K3501	3-1/2"	Straight insulated	3-3/4"	1"	4-3/4"
K4001*	4"	Straight insulated	3-3/4"	1"	5-5/16"

*For mesh grip, add - MG to Catalog Number. Example K0381-MG.

Dimensions





K07591-MG



K20041-MG



K0759
90° Non-Insulated



K07591
90° Insulated



K2004
45° Non-Insulated



K20041
45° Insulated



Listed - File E22699



Certified - File LR70873

See files for details or call Killark.

FEATURES-SPECIFICATIONS

LIQUIDTIGHT®

Applications

Use with metallic and non-metallic conduit to seal out water, oil and dust in applications for food processors, beverage & chemical plants, plastics fabricators, machine shops, etc.

Liquidtight connectors are also suitable for use in hazardous locations per National Electrical Code (Articles 501-4(b), 502-4(a&b), 503-3(a&b)). Consult these articles for sealing requirements that may apply.

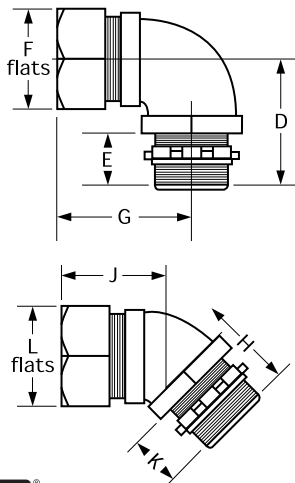
Features

- Split nylon gland ring – split for easy installation and greater compression
- Digging locknut
- Sealing 'O'-rings included
- Reusable

Materials/Finish

- Steel/malleable iron
- Zinc electro-plated

Dimensions



K LIQUIDTIGHT CONNECTORS — 90° BEND						
CATALOG NUMBER	NPT SIZE	CONNECTOR STYLE	DIMENSIONS			
			D	E	F	G
K0389	3/8"	90° non-insulated	1-1/2"	5/8"	1"	1-3/4"
K0509	1/2"	90° non-insulated	1-1/2"	5/8"	1-1/8"	1-3/4"
K0759	3/4"	90° non-insulated	1-19/32"	5/8"	1-3/8"	1-15/16"
K1009	1"	90° non-insulated	1-3/16"	5/8"	1-5/8"	2-3/16"
K1259	1-1/4"	90° non-insulated	2"	11/16"	2-1/16"	2-9/16"
K1509	1-1/2"	90° non-insulated	2-3/16"	11/16"	2-3/8"	3"
K2009	2"	90° non-insulated	2-17/32"	23/32"	2-7/8"	3-5/8"
K2509**	2-1/2"	90° non-insulated	3-3/8"	1"	3-5/8"	4-1/4"
K3009	3"	90° non-insulated	3-11/16"	1"	4-5/16"	4-7/8"
K4009	4"	90° non-insulated	4-3/16"	1"	5-5/16"	5-5/8"
K03891*	3/8"	90° Insulated	1-9/16"	11/16"	1"	1-3/4"
K05091*	1/2"	90° Insulated	1-9/16"	11/16"	1-1/8"	1-3/4"
K07591*	3/4"	90° Insulated	1-21/32"	11/16"	1-3/8"	1-15/16"
K10091*	1"	90° Insulated	1-7/8"	11/16"	1-5/8"	2-3/16"
K12591*	1-1/4"	90° Insulated	2-1/16"	3/4"	2-1/16"	2-9/16"
K15091*	1-1/2"	90° Insulated	2-1/4"	3/4"	2-3/8"	3"
K20091*	2"	90° Insulated	2-19/32"	25/32"	2-7/8"	3-5/8"
K25091*	2-1/2"	90° Insulated	3-3/8"	1"	3-5/8"	4-1/4"
K30091*	3"	90° Insulated	3-11/16"	1"	4-5/16"	4-7/8"
K40091*	4"	90° Insulated	4-3/16"	1"	5-5/16"	5-5/8"

K LIQUIDTIGHT CONNECTORS — 45° BEND						
CATALOG NUMBER	NPT SIZE	CONNECTOR STYLE	DIMENSIONS			
			H	J	K	L
K0384	3/8"	45° non-insulated	1-5/32"	1-9/32"	19/32"	1"
K0504	1/2"	45° non-insulated	1-5/32"	1-9/32"	19/32"	1-1/8"
K0754	3/4"	45° non-insulated	1-11/64"	1-7/16"	19/32"	1-3/8"
K1004	1"	45° non-insulated	1-13/32"	1-23/32"	21/32"	1-5/8"
K1254	1-1/4"	45° non-insulated	1-27/64"	2-1/32"	5/8"	2-1/16"
K1504	1-1/2"	45° non-insulated	1-21/32"	1-15/16"	21/32"	2-3/8"
K2004	2"	45° non-insulated	1-11/16"	2-7/16"	21/32"	2-7/8"
K03841*	3/8"	45° Insulated	1-7/32"	1-9/32"	21/32"	1"
K05041*	1/2"	45° Insulated	1-7/32"	1-9/32"	21/32"	1-1/8"
K07541*	3/4"	45° Insulated	1-15/64"	1-7/16"	21/32"	1-3/8"
K10041*	1"	45° Insulated	1-15/32"	1-23/32"	23/32"	1-5/8"
K12541*	1-1/4"	45° Insulated	1-31/64"	2-1/32"	11/16"	2-1/16"
K15041*	1-1/2"	45° Insulated	1-23/32"	1-15/16"	23/32"	2-3/8"
K20041*	2"	45° Insulated	1-3/4"	2-7/16"	23/32"	2-7/8"

*For mesh grip, add -MG to Catalog Number. Example K03891-MG.

** Use K25091 insulated.





Straight

90°

45°

UL Listed - File E152165, E22699
 SF Certified - File LR70873
 See files for details or call Killark.

FEATURES-SPECIFICATIONS

LIQUIDTIGHT®

K Grounding style
Application & Installation

Liquidtight Connectors with grounding lug are for use where an external, visible equipment bonding jumper is desired and where permitted by the National Electrical Code. The Code specifies length limitations and that the bonding jumper must be parallel to the conduit itself.

Features

- Lay-in grounding lug
- Fittings are plated steel for excellent durability
- Insulated throat fittings protect conductors from insulation damage

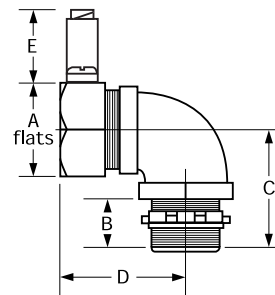
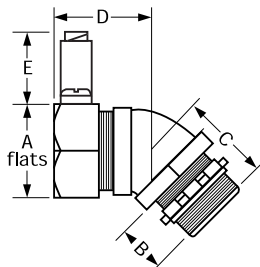
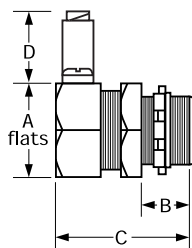
Materials/Finish

- Steel/malleable iron
- Zinc electro-plated

K LIQUIDTIGHT GROUNING STYLE & MESH GRIPS							
CATALOG NUMBER CONNECTOR ONLY	NPT SIZE	DESC.	DIMENSIONS				
			A	B	C	D	E
K0381-G	3/8"	Straight Insulated	1-1/16"	19/32"	1-7/16"	25/32"	-
K0501-G	1/2"		1-3/16"	19/32"	1-7/16"	25/32"	-
K0751-G	3/4"		1-3/8"	19/32"	1-9/16"	25/32"	-
K1001-G	1"		1-11/16"	21/32"	1-11/16"	25/32"	-
K1251-G	1-1/4"		2-1/16"	5/8"	2-1/32"	25/32"	-
K1501-G	1-1/2"		2-3/8"	5/8"	2-7/32"	25/32"	-
K2001-G	2"		2-7/8"	21/32"	2-9/32"	25/32"	-
K2501-G	2-1/2"		3-5/8"	1"	3-1/2"	1-11/64"	-
K3001-G	3"		4-15/16"	1"	3-3/4"	1-11/64"	-
K3501-G	3-1/2"		4-3/4"	1"	3-3/4"	1-57/64"	-
K4001-G	4"	5-5/16"	1"	3-3/4"	1-57/64"	-	
K03891-G	3/8"	90° Insulated	1-1/16"	19/32"	1-5/16"	1-7/16"	25/32"
K05091-G	1/2"		1-3/16"	19/32"	1-5/16"	1-7/16"	25/32"
K07591-G	3/4"		1-3/8"	19/32"	1-7/16"	1-5/8"	25/32"
K10091-G	1"		1-11/16"	21/32"	1-25/32"	2-3/16"	25/32"
K12591-G	1-1/4"		2-1/16"	5/8"	1-31/32"	2-1/2"	25/32"
K15091-G	1-1/2"		2-3/8"	5/8"	2-3/16"	2-11/16"	25/32"
K20091-G	2"		2-7/8"	21/32"	2-17/32"	3-1/4"	25/32"
K25091-G	2-1/2"		3-5/8"	1"	3-3/8"	4-1/4"	1-11/64"
K30091-G	3"		4-15/16"	1"	3-11/16"	4-7/8"	1-11/64"
K40091-G	4"		5-5/16"	1"	4-3/16"	5-5/8"	1-57/64"
K03841-G	3/8"	45° Insulated	1-1/16"	19/32"	1-3/16"	1-9/32"	25/32"
K05041-G	1/2"		1-3/16"	19/32"	1-3/16"	1-9/32"	25/32"
K07541-G	3/4"		1-3/8"	19/32"	1-3/16"	1-7/16"	25/32"
K10041-G	1"		1-11/16"	21/32"	1-3/8"	1-17/32"	25/32"
K12541-G	1-1/4"		2-1/16"	5/8"	1-27/64"	1-11/16"	25/32"
K15041-G	1-1/2"		2-3/8"	5/8"	1-21/32"	2"	25/32"
K20041-G	2"		2-7/8"	21/32"	1-11/16"	2-1/4"	25/32"

GROUNING STYLE WIRE CAPACITY

3/8" to 2" #14 solid to #4 Stranded
 2-1/2" to 3" #14 solid to #1/0 Stranded
 3-1/2" to 4" #6 stranded to #250 MCM





ZS108



Locknut
 (See page F71)

Listed - File E22698

Certified - File LR73478
 See files for details or call Killark.

FEATURES-SPECIFICATIONS

Applications

Use to secure and seal cords or cables entering enclosures or raceways.

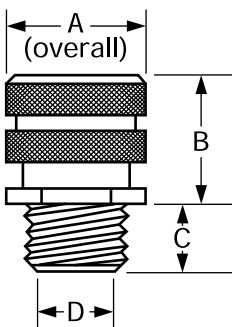
Z Series connectors are also suitable for use in hazardous locations per National Electrical Code (Articles 501-4(b), 502-4(a&b), 503-3(a&b)). Consult these articles for sealing requirements that may apply.

Features

- Aluminum construction resists corrosion
- Neoprene grommet seals out oil and moisture
- Nylon retention ring ensures superior holding power
- Wide range of sizes and configurations

Material/Finish

- Copper-free aluminum (less than 4/10 of 1%)
- Natural finish



Z CORD CONNECTORS — STRAIGHT							
CATALOG NUMBER	NPT SIZE	CORD RANGES	COLOR CODE	DIMENSIONS			
				A	B	C	D
ZS001	3/8"	.062-.125	Green	.99	.425	.90	.453
ZS002	3/8"	.125-.187	Orange	.99	.425	.90	.453
ZS003	3/8"	.187-.250	Red	.99	.425	.90	.453
ZS004	3/8"	.250-.312	Black	.99	.425	.90	.453
ZS006	3/8"	.312-.375	White	.99	.425	.90	.453
ZS007	3/8"	.375-.437	Blue	.99	.425	.90	.453
ZS101	1/2"	.062-.125	Green	1.13	1.10	.55	.635
ZS102	1/2"	.125-.187	Orange	1.13	1.10	.55	.635
ZS103	1/2"	.187-.250	Red	1.13	1.10	.55	.635
ZS105	1/2"	.250-.375	White	1.13	1.10	.55	.635
ZS108	1/2"	.375-.500	Blue	1.13	1.10	.55	.635
ZS109	1/2"	.500-.625	Brown	1.13	1.10	.55	.635
ZS110*	1/2"	.625-.750	Yellow	1.40	1.50	.55	.635
ZS111*	1/2"	.750-.875	Purple	1.40	1.50	.55	.635
ZS201	3/4"	.062-.125	Green	1.29	1.10	.55	.635
ZS202	3/4"	.125-.187	Orange	1.29	1.10	.55	.635
ZS203	3/4"	.187-.250	Red	1.29	1.10	.55	.635
ZS205	3/4"	.250-.375	White	1.29	1.10	.55	.635
ZS208	3/4"	.375-.500	Blue	1.29	1.10	.55	.635
ZS209	3/4"	.500-.625	Brown	1.29	1.10	.55	.635
ZS210	3/4"	.625-.750	Yellow	1.40	1.50	.55	.815
ZS211*	3/4"	.750-.875	Purple	1.40	1.50	.55	.815
ZS308	1"	.375-.500	Blue	1.81	1.60	.71	1.015
ZS309	1"	.500-.625	Brown	1.81	1.60	.71	1.015
ZS310	1"	.625-.750	Yellow	1.81	1.60	.71	1.015
ZS311	1"	.750-.875	Purple	1.81	1.60	.71	1.015
ZS312	1"	.875-1.000	Gray	1.81	1.60	.71	1.015
ZS313*	1"	1.000-1.125	Pink	2.31	1.70	.66	1.015
ZS314*	1"	1.125-1.250	—	2.31	1.70	.66	1.015
ZS315*	1"	1.250-1.375	—	2.31	1.70	.66	1.015
ZS411	1-1/4"	.750-.875	—	2.31	1.70	.74	1.255
ZS412	1-1/4"	.875-1.000	—	2.31	1.70	.74	1.255
ZS413	1-1/4"	1.000-1.125	—	2.31	1.70	.74	1.255
ZS414	1-1/4"	1.125-1.250	—	2.31	1.70	.74	1.255
ZS415*	1-1/4"	1.250-1.375	—	2.31	1.70	.74	1.255

Z CORD CONNECTORS — STRAIGHT							
CATALOG NUMBER	NPT SIZE	CORD RANGES	DIMENSIONS				
			A	B	C	D	
ZS511	1-1/2"	.750-.875	2.31	1.70	.75	1.38	
ZS512	1-1/2"	.875-1.000	2.31	1.70	.75	1.38	
ZS513	1-1/2"	1.000-1.125	2.31	1.70	.75	1.38	
ZS514	1-1/2"	1.125-1.250	2.31	1.70	.75	1.38	
ZS515	1-1/2"	1.250-1.375	2.31	1.70	.75	1.38	
ZS516	1-1/2"	1.375-1.500	3.00	2.20	.75	1.50	
ZS517*	1-1/2"	1.500-1.625	3.00	2.20	.75	1.50	
ZS518*	1-1/2"	1.625-1.750	3.00	2.20	.75	1.50	
ZS520*	1-1/2"	1.750-1.875	3.00	2.20	.75	1.50	
ZS615	2"	1.250-1.375	3.25	2.20	.80	1.92	
ZS616	2"	1.375-1.500	3.25	2.20	.80	1.92	
ZS617	2"	1.500-1.625	3.25	2.20	.80	1.92	
ZS618	2"	1.625-1.750	3.25	2.20	.80	1.92	
ZS620	2"	1.750-1.875	3.25	2.20	.80	1.92	
ZS619	2"	1.688-1.812	4.06	2.70	1.27	1.94	
ZS621	2"	1.812-1.937	4.06	2.70	1.27	1.94	
ZS622*	2"	1.937-2.062	4.06	2.70	1.27	1.94	
ZS623*	2"	2.062-2.188	4.06	2.70	1.27	1.94	
ZS624*	2"	2.188-2.312	4.06	2.70	1.27	1.94	
ZS719	2-1/2"	1.688-1.812	4.33	2.70	1.27	2.34	
ZS721	2-1/2"	1.812-1.937	4.33	2.70	1.27	2.34	
ZS722	2-1/2"	1.937-2.062	4.33	2.70	1.27	2.34	
ZS723	2-1/2"	2.062-2.188	4.33	2.70	1.27	2.34	
ZS724	2-1/2"	2.188-2.312	4.33	2.70	1.27	2.34	
ZS725*	2-1/2"	2.312-2.437	4.33	2.70	1.27	2.34	
ZS819	3"	1.688-1.812	4.33	2.70	1.30	2.54	
ZS822	3"	1.937-2.062	4.33	2.70	1.30	2.54	
ZS823	3"	2.062-2.188	4.33	2.70	1.30	2.54	
ZS824	3"	2.188-2.312	4.33	2.70	1.30	2.54	
ZS825	3"	2.312-2.437	4.33	2.70	1.30	2.54	
ZS826	3"	2.437-2.625	4.87	2.70	1.38	3.00	
ZS827	3"	2.625-2.812	4.87	2.70	1.38	3.00	
ZS828	3"	2.812-3.000	4.87	2.70	1.38	3.00	
ZS829*	3"	3.000-3.250	4.87	2.70	1.38	3.00	

* Cable jacket may have to be stripped to pass through connector body on all sizes.



ZN310



Locknut

FEATURES-SPECIFICATIONS

Applications

Use to secure and seal cords or cables entering enclosures or raceways.

Z Series connectors are also suitable for use in hazardous locations per National Electrical Code (Articles 501-4(b), 502-4(a&b), 503-3(a&b)). Consult these articles for sealing requirements that may apply.

Features

- Aluminum construction resists corrosion
- Neoprene grommet seals out oil and moisture
- Nylon retention ring ensures superior holding power
- Wide range of sizes and configurations

Material/Finish

- Copper-free aluminum (less than 4/10 of 1%)
- Natural finish

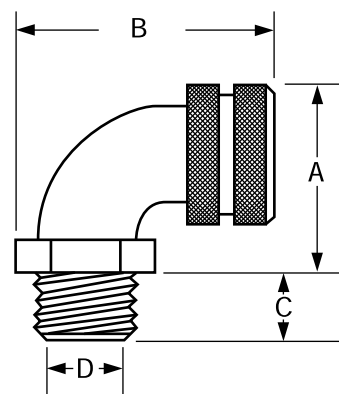
Z CORD CONNECTORS — 90°							
CATALOG NUMBER	NPT SIZE	CORD RANGES	COLOR CODE	DIMENSIONS			
				A	B	C	D
ZN102	1/2"	.125-.187	Orange	1.56	2.30	.50	.546
ZN103	1/2"	.187-.250	Red	1.56	2.30	.50	.546
ZN105	1/2"	.250-.375	White	1.56	2.30	.50	.546
ZN108	1/2"	.375-.500	Blue	1.56	2.30	.50	.546
ZN109*	1/2"	.500-.625	Brown	1.56	2.30	.50	.546
ZN208	3/4"	.375-.500	Blue	1.79	2.80	.562	.765
ZN209	3/4"	.500-.625	Brown	1.79	2.80	.562	.765
ZN210*	3/4"	.625-.750	Yellow	1.79	2.80	.562	.765
ZN211*	3/4"	.750-.875	Purple	1.79	2.80	.562	.765
ZN309	1"	.500-.625	Brown	2.08	3.20	.703	1.00
ZN310	1"	.625-.750	Yellow	2.08	3.20	.703	1.00
ZN311	1"	.750-.875	Purple	2.08	3.20	.703	1.00
ZN312*	1"	.875-1.000	Gray	2.08	3.20	.703	1.00
ZN313*	1"	1.000-1.125	Pink	2.08	3.20	.703	1.00
ZN412	1-1/4"	.875-1.000	—	3.18	4.30	.73	1.26
ZN413	1-1/4"	1.000-1.125	—	3.18	4.30	.73	1.26
ZN414*	1-1/4"	1.125-1.250	—	3.18	4.30	.73	1.26
ZN415*	1-1/4"	1.250-1.375	—	3.18	4.30	.73	1.26
ZN513	1-1/2"	1.000-1.125	—	3.18	4.30	.75	1.50
ZN515	1-1/2"	1.250-1.375	—	3.18	4.30	.75	1.50
ZN616	2"	1.375-1.500	—	3.50	5.50	.80	1.92

* Cable jacket may have to be stripped to pass through connector body.

OPTIONAL LOCKNUTS AND SEALING WASHERS		
CATALOG NUMBER		NPT SIZES
STEEL LOCKNUTS ^①	SEALING WASHERS ^②	
KILLN375	—	3/8"
KILLN1	KOR-1	1/2"
KILLN2	KOR-2	3/4"
KILLN3	KOR-3	1"
KILLN4	KOR-4	1-1/4"
KILLN5	KOR-5	1-1/2"
KILLN6	KOR-6	2"
KILLN7	—	2-1/2"
KILLN8	—	3"

① 2-1/2" through 3" are malleable, with hexhead flats.

② Neoprene washers are mounted on steel reinforcing bands.





Listed - File E22698
 Certified - File LR73478
 See files for details or call Killark.

FEATURES-SPECIFICATIONS

Applications

Z Series cord connector grips combine aluminum cord connectors with stainless steel mesh grips to provide superior cord pull-out prevention in indoor and outdoor applications. These grips provide enclosure terminations where cords are subjected to moisture or splashing water.

They are also suitable for use in hazardous locations per National Electrical Code (Articles 501-4(b), 502-4(a&b), 503-3(a&b). Consult these article for sealing requirements that may apply.

Features

- Aluminum fittings are strong, durable and corrosion resistant
- Internal grommet provides liquidtight seal
- Stainless steel mesh grips resist corrosion, prevent cord pull-out and control arc-of-bend

Material/Finish

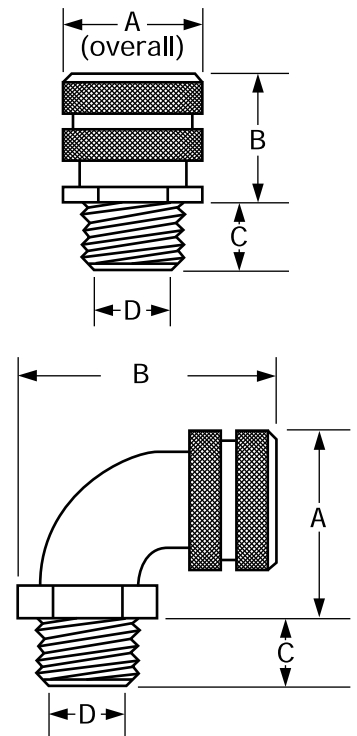
- Copper-free aluminum (less than 4/10 of 1%)
- Natural finish
- Stainless steel mesh grip

Z CORD CONNECTORS — STRAIGHT							
CATALOG NUMBER	NPT SIZE	CORD RANGES	COLOR CODE	DIMENSIONS			
				A	B	C	D
ZS004-MG	3/8"	.250-.312	Black	.99	.90	.425	.453
ZS006-MG	3/8"	.312-.375	White	.99	.90	.425	.453
ZS007-MG	3/8"	.375-.437	Blue	.99	.90	.425	.453
ZS103-MG	1/2"	.187-.250	Red	1.13	1.10	.55	.635
ZS105-MG	1/2"	.250-.375	White	1.13	1.10	.55	.635
ZS108-MG	1/2"	.375-.500	Blue	1.13	1.10	.55	.635
ZS109-MG	1/2"	.500-.625	Brown	1.13	1.10	.55	.635
ZS110-MG	1/2"	.625-.750	Yellow	1.40	1.50	.55	.635
ZS111-MG	1/2"	.750-.875	Purple	1.40	1.50	.55	.635
ZS203-MG	3/4"	.187-.250	Red	1.29	1.10	.55	.635
ZS205-MG	3/4"	.250-.375	White	1.29	1.10	.55	.635
ZS208-MG	3/4"	.375-.500	Blue	1.29	1.10	.55	.635
ZS209-MG	3/4"	.500-.625	Brown	1.29	1.10	.55	.635
ZS210-MG	3/4"	.625-.750	Yellow	1.40	1.50	.55	.815
ZS211-MG	3/4"	.750-.875	Purple	1.40	1.50	.55	.815
ZS308-MG	1"	.375-.500	Blue	1.81	1.60	.71	1.015
ZS309-MG	1"	.500-.625	Brown	1.81	1.60	.71	1.015
ZS310-MG	1"	.625-.750	Yellow	1.81	1.60	.71	1.015
ZS311-MG	1"	.750-.875	Purple	1.81	1.60	.71	1.015
ZS312-MG	1"	.875-1.00	Gray	1.81	1.60	.71	1.015
ZS313-MG	1"	1.00-1.125	Pink	2.31	1.70	.66	1.015

Z CORD CONNECTORS — 90°							
CATALOG NUMBER	NPT SIZE	CORD RANGES	COLOR CODE	DIMENSIONS			
				A	B	C	D
ZN103-MG	1/2"	.187-.250	Red	1.56	2.30	.50	.546
ZN105-MG	1/2"	.250-.375	White	1.56	2.30	.50	.546
ZN108-MG	1/2"	.375-.500	Blue	1.56	2.30	.50	.546
ZN109-MG	1/2"	.500-.625	Brown	1.56	2.30	.50	.546
ZN208-MG	3/4"	.375-.500	Blue	1.79	2.80	.562	.765
ZN209-MG	3/4"	.500-.625	Brown	1.79	2.80	.562	.765
ZN210-MG	3/4"	.625-.750	Yellow	1.79	2.80	.562	.765
ZN211-MG	3/4"	.750-.875	Purple	1.79	2.80	.562	.765

OPTIONAL LOCKNUTS AND SEALING WASHERS		
CATALOG NUMBER		NPT SIZES
STEEL LOCKNUTS ^①	SEALING WASHERS ^②	
KILLN375	—	3/8"
KILLN1	KOR-1	1/2"
KILLN2	KOR-2	3/4"
KILLN3	KOR-3	1"
KILLN4	KOR-4	1-1/4"
KILLN5	KOR-5	1-1/2"
KILLN6	KOR-6	2"
KILLN7	—	2-1/2"
KILLN8	—	3"

① 2-1/2" through 3" are malleable, with hexhead flats.
 ② Neoprene washers are mounted on steel reinforcing bands.





ZS210CR



ZN210CR

Listed - File E22698

Certified - File LR73478
See files for details or call Killark.

FEATURES-SPECIFICATIONS

Applications

Durable nylon construction makes these connectors perfectly suited to corrosive environments.

Typical applications for nylon cord connectors include food processing facilities, chemical and sewage treatment plants and off-shore and dock-side installations.

Features

- Nylon retention ring for increased holding power
- Neoprene bushing seals against moisture
- Nylon connectors obtain approximately the same cord retention values with hand tightening that can be produced only by wrench tightening of metal cord connectors

Material

- Nylon

Z NYLON CORD CONNECTORS — STRAIGHT			
CATALOG NUMBER*	NPT SIZE	CORD RANGES	COLOR CODE
ZS002CR	3/8"	.125-.187	Orange
ZS003CR	3/8"	.187-.250	Red
ZS004CR	3/8"	.250-.312	Black
ZS006CR	3/8"	.312-.375	White
ZS007CR	3/8"	.375-.437	Blue
ZS101CR	1/2"	.062-.125	Green
ZS102CR	1/2"	.125-.187	Orange
ZS103CR	1/2"	.187-.250	Red
ZS105CR	1/2"	.250-.375	White
ZS108CR	1/2"	.375-.500	Blue
ZS109CR	1/2"	.500-.625	Brown
ZS208CR	3/4"	.375-.500	Blue
ZS209CR	3/4"	.500-.625	Brown
ZS210CR	3/4"	.625-.750	Yellow
ZS211CR*	3/4"	.750-.875	Purple
ZS308CR	1"	.375-.500	Blue
ZS309CR	1"	.500-.625	Brown
ZS310CR	1"	.625-.750	Yellow
ZS311CR	1"	.750-.875	Purple
ZS312CR	1"	.875-1.000	Gray
ZS313CR*	1"	1.000-1.125	Pink

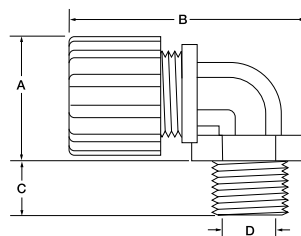
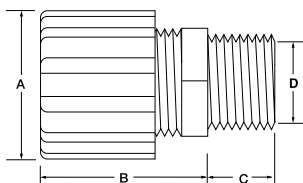
* Cable Jacket may have to be stripped to pass through connector body.

Z NYLON CORD CONNECTORS — 90°			
CATALOG NUMBER*	NPT SIZE	CORD RANGES	COLOR CODE
ZN102CR	1/2"	.125-.187	Orange
ZN103CR	1/2"	.187-.250	Red
ZN105CR	1/2"	.250-.375	White
ZN108CR	1/2"	.375-.500	Blue
ZN109CR	1/2"	.500-.625	Brown
ZN208CR	3/4"	.375-.500	Blue
ZN209CR	3/4"	.500-.625	Brown
ZN210CR*	3/4"	.625-.750	Yellow
ZN211CR*	3/4"	.750-.875	Purple
ZN310CR	1"	.625-.750	Yellow
ZN311CR	1"	.750-.875	Purple
ZN312CR*	1"	.875-1.000	Gray

OPTIONAL LOCKNUTS	
CATALOG NUMBER	NPT SIZE
LN-375CR	3/8"
LN-1CR	1/2"
LN-2CR	3/4"
LN-3CR	1"

Z STRAIGHT DIMENSIONS				
NPT SIZE	DIMENSIONS			
	A	B	C	D
3/8"	63/64"	1-3/32"	7/16"	7/16"
1/2"	1-1/4"	1-1/2"	17/32"	37/64"
3/4"	1-31/64"	1-5/8"	35/64"	49/64"
1"	1-27/32"	1-3/4"	11/16"	1-1/16"

Z 90° DIMENSIONS				
NPT SIZE	DIMENSIONS			
	A	B	C	D
1/2"	1-13/32"	2-1/2"	17/32"	1-1/2"
3/4"	1-21/32"	2-51/64"	35/64"	49/64"
1"	1-63/64"	3-19/64"	11/16"	1-1/64"





ZS108-EX



Locknut
(See page F79)

SP AEx (Class I, Zone 1) Ex e II†
 Type 4**

UL Listed - File E22698

SP Certified - File LR73478
 See files for details or call Killark.

FEATURES-SPECIFICATIONS

Applications

Use to secure and seal cords or cables entering enclosures or raceways.

Z Series connectors are also suitable for use in hazardous locations per National Electrical Code Articles 501-4(b), 502-4(a&b), 503-3(a&b), 505-15 (c); Canadian Electrical Code 18-106, 18-122, 18-156, 18-218, 18-252, 18-302 and 18-352; International Electrotechnical Commission (IEC) 60079-7 Increased Safety (Ex e II). Consult these articles for appropriate installation requirements.

Features

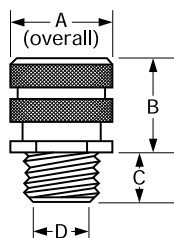
- Aluminum construction resists corrosion
- Neoprene grommet seals out oil and moisture
- Nylon retention ring ensures superior holding power
- Wide range of sizes and configurations

Material/Finish

- Copper-free aluminum (less than 4/10 of 1%)
- Natural finish

† Listed by CSA for Class I, Zone 1 in Canada.
 Listed by CSA as a Nationally Recognized Test Lab (NRTL) for Class I, Div. 2, Class I, Zone 2 in the United States.

** Type 4 when installed with a proper gasket.



Z CORD CONNECTORS — STRAIGHT							
CATALOG NUMBER	NPT SIZE	CORD RANGES	COLOR CODE	DIMENSIONS			
				A	B	C	D
ZS001-EX	3/8"	.062-.125	Green	.99	.425	.90	.453
ZS002-EX	3/8"	.125-.187	Orange	.99	.425	.90	.453
ZS003-EX	3/8"	.187-.250	Red	.99	.425	.90	.453
ZS004-EX	3/8"	.250-.312	Black	.99	.425	.90	.453
ZS006-EX	3/8"	.312-.375	White	.99	.425	.90	.453
ZS007-EX	3/8"	.375-.437	Blue	.99	.425	.90	.453
ZS101-EX	1/2"	.062-.125	Green	1.13	1.10	.55	.635
ZS102-EX	1/2"	.125-.187	Orange	1.13	1.10	.55	.635
ZS103-EX	1/2"	.187-.250	Red	1.13	1.10	.55	.635
ZS105-EX	1/2"	.250-.375	White	1.13	1.10	.55	.635
ZS108-EX	1/2"	.375-.500	Blue	1.13	1.10	.55	.635
ZS109-EX	1/2"	.500-.625	Brown	1.13	1.10	.55	.635
ZS110-EX*	1/2"	.625-.750	Yellow	1.40	1.50	.55	.635
ZS111-EX*	1/2"	.750-.875	Purple	1.40	1.50	.55	.635
ZS201-EX	3/4"	.062-.125	Green	1.29	1.10	.55	.635
ZS202-EX	3/4"	.125-.187	Orange	1.29	1.10	.55	.635
ZS203-EX	3/4"	.187-.250	Red	1.29	1.10	.55	.635
ZS205-EX	3/4"	.250-.375	White	1.29	1.10	.55	.635
ZS208-EX	3/4"	.375-.500	Blue	1.29	1.10	.55	.635
ZS209-EX	3/4"	.500-.625	Brown	1.29	1.10	.55	.635
ZS210-EX	3/4"	.625-.750	Yellow	1.40	1.50	.55	.815
ZS211-EX*	3/4"	.750-.875	Purple	1.40	1.50	.55	.815
ZS308-EX	1"	.375-.500	Blue	1.81	1.60	.71	1.015
ZS309-EX	1"	.500-.625	Brown	1.81	1.60	.71	1.015
ZS310-EX	1"	.625-.750	Yellow	1.81	1.60	.71	1.015
ZS311-EX	1"	.750-.875	Purple	1.81	1.60	.71	1.015
ZS312-EX	1"	.875-1.000	Gray	1.81	1.60	.71	1.015
ZS313-EX*	1"	1.000-1.125	Pink	2.31	1.70	.66	1.015
ZS314-EX*	1"	1.125-1.250	—	2.31	1.70	.66	1.015
ZS315-EX*	1"	1.250-1.375	—	2.31	1.70	.66	1.015
ZS411-EX	1-1/4"	.750-.875	—	2.31	1.70	.74	1.255
ZS412-EX	1-1/4"	.875-1.000	—	2.31	1.70	.74	1.255
ZS413-EX	1-1/4"	1.000-1.125	—	2.31	1.70	.74	1.255
ZS414-EX	1-1/4"	1.125-1.250	—	2.31	1.70	.74	1.255
ZS415-EX*	1-1/4"	1.250-1.375	—	2.31	1.70	.74	1.255

Z CORD CONNECTORS — STRAIGHT							
CATALOG NUMBER	NPT SIZE	CORD RANGES	DIMENSIONS				
			A	B	C	D	
ZS511-EX	1-1/2"	.750-.875	2.31	1.70	.75	1.38	
ZS512-EX	1-1/2"	.875-1.000	2.31	1.70	.75	1.38	
ZS513-EX	1-1/2"	1.000-1.125	2.31	1.70	.75	1.38	
ZS514-EX	1-1/2"	1.125-1.250	2.31	1.70	.75	1.38	
ZS515-EX	1-1/2"	1.250-1.375	2.31	1.70	.75	1.38	
ZS516-EX	1-1/2"	1.375-1.500	3.00	2.20	.75	1.50	
ZS517-EX*	1-1/2"	1.500-1.625	3.00	2.20	.75	1.50	
ZS518-EX*	1-1/2"	1.625-1.750	3.00	2.20	.75	1.50	
ZS520-EX*	1-1/2"	1.750-1.875	3.00	2.20	.75	1.50	
ZS615-EX	2"	1.250-1.375	3.25	2.20	.80	1.92	
ZS616-EX	2"	1.375-1.500	3.25	2.20	.80	1.92	
ZS617-EX	2"	1.500-1.625	3.25	2.20	.80	1.92	
ZS618-EX	2"	1.625-1.750	3.25	2.20	.80	1.92	
ZS620-EX	2"	1.750-1.875	3.25	2.20	.80	1.92	
ZS619-EX	2"	1.688-1.812	4.06	2.70	1.27	1.94	
ZS621-EX	2"	1.812-1.937	4.06	2.70	1.27	1.94	
ZS622-EX*	2"	1.937-2.062	4.06	2.70	1.27	1.94	
ZS623-EX*	2"	2.062-2.188	4.06	2.70	1.27	1.94	
ZS624-EX*	2"	2.188-2.312	4.06	2.70	1.27	1.94	
ZS719-EX	2-1/2"	1.688-1.812	4.33	2.70	1.27	2.34	
ZS721-EX	2-1/2"	1.812-1.937	4.33	2.70	1.27	2.34	
ZS722-EX	2-1/2"	1.937-2.062	4.33	2.70	1.27	2.34	
ZS723-EX	2-1/2"	2.062-2.188	4.33	2.70	1.27	2.34	
ZS724-EX	2-1/2"	2.188-2.312	4.33	2.70	1.27	2.34	
ZS725-EX*	2-1/2"	2.312-2.437	4.33	2.70	1.27	2.34	
ZS819-EX	3"	1.688-1.812	4.33	2.70	1.30	2.54	
ZS822-EX	3"	1.937-2.062	4.33	2.70	1.30	2.54	
ZS823-EX	3"	2.062-2.188	4.33	2.70	1.30	2.54	
ZS824-EX	3"	2.188-2.312	4.33	2.70	1.30	2.54	
ZS825-EX	3"	2.312-2.437	4.33	2.70	1.30	2.54	
ZS826-EX	3"	2.437-2.625	4.87	2.70	1.38	3.00	
ZS827-EX	3"	2.625-2.812	4.87	2.70	1.38	3.00	
ZS828-EX	3"	2.812-3.000	4.87	2.70	1.38	3.00	
ZS829-EX*	3"	3.000-3.250	4.87	2.70	1.38	3.00	

* Cable jacket may have to be stripped to pass through connector body on all sizes.





ZN310-EX



Locknut

CSA AEx (Class I, Zone 1) Ex e II† Type 4**

UL Listed - File E22698

CSA Certified - File LR73478
See files for details or call Killark.

FEATURES-SPECIFICATIONS

Applications

Use to secure and seal cords or cables entering enclosures or raceways.

Z Series connectors are also suitable for use in hazardous locations per National Electrical Code Articles 501-4(b), 502-4(a&b), 503-3(a&b), 505-15 (c); Canadian Electrical Code 18-106, 18-122, 18-156, 18-218, 18-252, 18-302 and 18-352; International Electrotechnical Commission (IEC) 60079-7 Increased Safety (Ex e II). Consult these articles for appropriate installation requirements.

Features

- Aluminum construction resists corrosion
- Neoprene grommet seals out oil and moisture
- Nylon retention ring ensures superior holding power
- Wide range of sizes and configurations

Material/Finish

- Copper-free aluminum (less than 4/10 of 1%)
- Natural finish

† Listed by CSA for Class I, Zone 1 in Canada.
Listed by CSA as a Nationally Recognized Test Lab (NRTL) for Class I, Div. 2, Class I, Zone 2 in the United States.

** Type 4 when installed with a proper gasket.

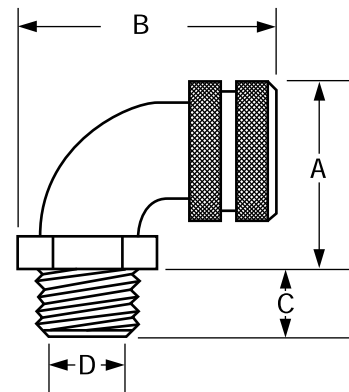
Z CORD CONNECTORS — 90°							
CATALOG NUMBER	NPT SIZE	CORD RANGES	COLOR CODE	DIMENSIONS			
				A	B	C	D
ZN102-EX	1/2"	.125-.187	Orange	1.56	2.30	.50	.546
ZN103-EX	1/2"	.187-.250	Red	1.56	2.30	.50	.546
ZN105-EX	1/2"	.250-.375	White	1.56	2.30	.50	.546
ZN108-EX	1/2"	.375-.500	Blue	1.56	2.30	.50	.546
ZN109-EX*	1/2"	.500-.625	Brown	1.56	2.30	.50	.546
ZN208-EX	3/4"	.375-.500	Blue	1.79	2.80	.562	.765
ZN209-EX	3/4"	.500-.625	Brown	1.79	2.80	.562	.765
ZN210-EX*	3/4"	.625-.750	Yellow	1.79	2.80	.562	.765
ZN211-EX*	3/4"	.750-.875	Purple	1.79	2.80	.562	.765
ZN309-EX	1"	.500-.625	Brown	2.08	3.20	.703	1.00
ZN310-EX	1"	.625-.750	Yellow	2.08	3.20	.703	1.00
ZN311-EX	1"	.750-.875	Purple	2.08	3.20	.703	1.00
ZN312-EX*	1-1/4"	.875-1.000	Gray	2.08	3.20	.703	1.00
ZN313-EX*	1-1/4"	1.000-1.125	Pink	2.08	3.20	.703	1.00
ZN412-EX	1-1/4"	.875-1.000	—	3.18	4.30	.73	1.26
ZN413-EX	1-1/4"	1.000-1.125	—	3.18	4.30	.73	1.26
ZN414-EX*	1-1/4"	1.125-1.250	—	3.18	4.30	.73	1.26
ZN415-EX*	1-1/4"	1.250-1.375	—	3.18	4.30	.73	1.26
ZN513-EX	1-1/2"	1.000-1.125	—	3.18	4.30	.75	1.50
ZN515-EX	1-1/2"	1.250-1.375	—	3.18	4.30	.75	1.50
ZN616-EX	2"	1.375-1.500	—	3.50	5.50	.80	1.92

*Cable jacket may have to be stripped to pass through connector body.

OPTIONAL LOCKNUTS AND SEALING WASHERS		
CATALOG NUMBER		NPT SIZES
STEEL LOCKNUTS ①	SEALING WASHERS ②	
KILLN375	—	3/8"
KILLN1	KOR-1	1/2"
KILLN2	KOR-2	3/4"
KILLN3	KOR-3	1"
KILLN4	KOR-4	1-1/4"
KILLN5	KOR-5	1-1/2"
KILLN6	KOR-6	2"
KILLN7	—	2-1/2"
KILLN8	—	3"

① 2-1/2" through 3" are malleable, with hexhead flats.

② Neoprene washers are mounted on steel reinforcing bands.





SP AEx (Class I, Zone 1) Ex e II†
Type 4**

UL Listed - File E22698

SP Certified - File LR73478
See files for details or call Killark.

FEATURES-SPECIFICATIONS

Applications

Z Series cord connector grips combine aluminum cord connectors with stainless steel mesh grips to provide superior cord pull-out prevention in indoor and outdoor applications. These grips provide enclosure terminations where cords are subjected to moisture or splashing water.

They are also suitable for use in hazardous locations per National Electrical Code (Articles 501-4(b), 502-4(a&b), 503-3(a&b), 505-15 (c); Canadian Electrical Code 18-106, 18-122, 18-156, 18-218, 18-252, 18-302 and 18-352; International Electrotechnical Commission (IEC) 60079-7 Increased Safety (Ex e II). Consult these articles for appropriate installation requirements.

Features

- Aluminum fittings are strong, durable and corrosion resistant
- Internal grommet provides liquid-tight seal
- Stainless steel mesh grips resist corrosion, prevent cord pull-out and control arc-of-bend

Material/Finish

- Copper-free aluminum (less than 4/10 of 1%)
- Natural finish
- Stainless steel mesh grip

† Listed by CSA for Class I, Zone 1 in Canada. Listed by CSA as a Nationally Recognized Test Lab (NRTL) for Class I, Div. 2, Class I, Zone 2 in the United States.

** Type 4 when installed with a proper gasket.

Z CORD CONNECTORS — STRAIGHT

CATALOG NUMBER	NPT SIZE	CORD RANGES	COLOR CODE	DIMENSIONS			
				A	B	C	D
ZS004-EX-MG	3/8"	.250-.312	Black	.99	.425	.90	.453
ZS006-EX-MG	3/8"	.312-.375	White	.99	.425	.90	.453
ZS007-EX-MG	3/8"	.375-.437	Blue	.99	.425	.90	.453
ZS103-EX-MG	1/2"	.187-.250	Red	1.13	1.10	.55	.635
ZS105-EX-MG	1/2"	.250-.375	White	1.13	1.10	.55	.635
ZS108-EX-MG	1/2"	.375-.500	Blue	1.13	1.10	.55	.635
ZS109-EX-MG	1/2"	.500-.625	Brown	1.13	1.10	.55	.635
ZS110-EX-MG*	1/2"	.625-.750	Yellow	1.40	1.50	.55	.635
ZS111-EX-MG*	1/2"	.750-.875	Purple	1.40	1.50	.55	.635
ZS203-EX-MG	3/4"	.187-.250	Red	1.29	1.10	.55	.635
ZS205-EX-MG	3/4"	.250-.375	White	1.29	1.10	.55	.635
ZS208-EX-MG	3/4"	.375-.500	Blue	1.29	1.10	.55	.635
ZS209-EX-MG	3/4"	.500-.625	Brown	1.29	1.10	.55	.635
ZS210-EX-MG	3/4"	.625-.750	Yellow	1.40	1.50	.55	.815
ZS211-EX-MG*	3/4"	.750-.875	Purple	1.40	1.50	.55	.815
ZS308-EX-MG	1"	.375-.500	Blue	1.81	1.60	.71	1.015
ZS309-EX-MG	1"	.500-.625	Brown	1.81	1.60	.71	1.015
ZS310-EX-MG	1"	.625-.750	Yellow	1.81	1.60	.71	1.015
ZS311-EX-MG	1"	.750-.875	Purple	1.81	1.60	.71	1.015
ZS312-EX-MG*	1"	.875-1.00	Gray	1.81	1.60	.71	1.015
ZS313-EX-MG*	1"	1.00-1.125	Pink	2.31	1.70	.66	1.015

Z CORD CONNECTORS — 90°

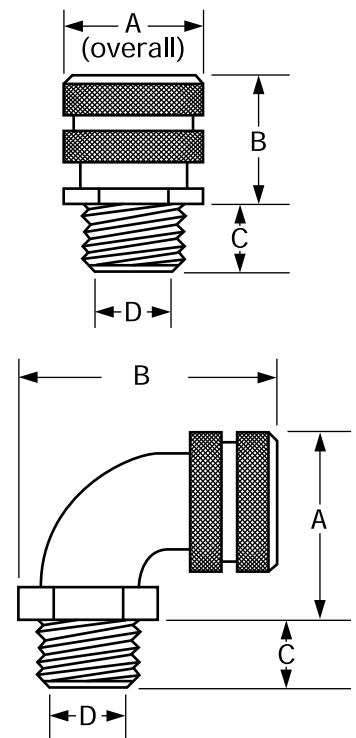
CATALOG NUMBER	NPT SIZE	CORD RANGES	COLOR CODE	DIMENSIONS			
				A	B	C	D
ZN103-EX-MG	1/2"	.187-.250	Red	1.56	2.30	.50	.546
ZN105-EX-MG	1/2"	.250-.375	White	1.56	2.30	.50	.546
ZN108-EX-MG	1/2"	.375-.500	Blue	1.56	2.30	.50	.546
ZN109-EX-MG*	1/2"	.500-.625	Brown	1.56	2.30	.50	.546
ZN208-EX-MG	3/4"	.375-.500	Blue	1.79	2.80	.562	.765
ZN209-EX-MG	3/4"	.500-.625	Brown	1.79	2.80	.562	.765
ZN210-EX-MG*	3/4"	.625-.750	Yellow	1.79	2.80	.562	.765
ZN211-EX-MG*	3/4"	.750-.875	Purple	1.79	2.80	.562	.765

* Cable jacket may have to be stripped to pass through connector body on all sizes.

OPTIONAL LOCKNUTS AND SEALING WASHERS

CATALOG NUMBER		NPT SIZES
STEEL LOCKNUTS①	SEALING WASHERS②	
KILLN375	—	3/8"
KILLN1	KOR-1	1/2"
KILLN2	KOR-2	3/4"
KILLN3	KOR-3	1"
KILLN4	KOR-4	1-1/4"
KILLN5	KOR-5	1-1/2"
KILLN6	KOR-6	2"
KILLN7	—	2-1/2"
KILLN8	—	3"

① 2-1/2" through 3" are malleable, with hexhead flats.
② Neoprene washers are mounted on steel reinforcing bands.





ZS210CR-EX



ZN210CR-EX

Ex (Class I, Zone 1) Ex e II†
Type 4**

UL Listed - File E22698

CSA Certified - File LR73478
See files for details or call Killark.

FEATURES-SPECIFICATIONS

Applications

Durable nylon construction makes these connectors perfectly suited to corrosive environments.

Typical applications for nylon cord connectors include food processing facilities, chemical and sewage treatment plants and off-shore and dock-side installations.

Features

- Nylon retention ring for increased holding power
- Neoprene bushing seals against moisture
- Nylon connectors obtain approximately the same cord retention values with hand tightening that can be produced only by wrench tightening of metal cord connectors

Material

- Nylon

† Listed by CSA for Class I, Zone 1 in Canada.
Listed by CSA as a Nationally Recognized Test Lab (NRTL) for Class I, Div. 2, Class I, Zone 2 in the United States.

** Type 4 when installed with a proper gasket.

Z NYLON CORD CONNECTORS — STRAIGHT

CATALOG NUMBER	NPT SIZE	CORD RANGES	COLOR CODE
ZS002CR-EX	3/8"	.125-.187	Orange
ZS003CR-EX	3/8"	.187-.250	Red
ZS004CR-EX	3/8"	.250-.312	Black
ZS006CR-EX	3/8"	.312-.375	White
ZS007CR-EX	3/8"	.375-.437	Blue
ZS101CR-EX	1/2"	.062-.125	Green
ZS102CR-EX	1/2"	.125-.187	Orange
ZS103CR-EX	1/2"	.187-.250	Red
ZS105CR-EX	1/2"	.250-.375	White
ZS108CR-EX	1/2"	.375-.500	Blue
ZS109CR-EX	1/2"	.500-.625	Brown
ZS208CR-EX	3/4"	.375-.500	Blue
ZS209CR-EX	3/4"	.500-.625	Brown
ZS210CR-EX	3/4"	.625-.750	Yellow
ZS211CR-EX*	3/4"	.750-.875	Purple
ZS308CR-EX	1"	.375-.500	Blue
ZS309CR-EX	1"	.500-.625	Brown
ZS310CR-EX	1"	.625-.750	Yellow
ZS311CR-EX	1"	.750-.875	Purple
ZS312CR-EX	1"	.875-1.000	Gray
ZS313CR-EX*	1"	1.000-1.125	Pink

* Cable Jacket may have to be stripped to pass through connector body.

Z NYLON CORD CONNECTORS — 90°

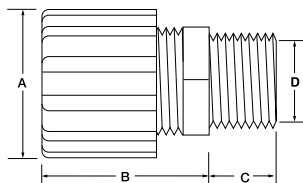
CATALOG NUMBER	NPT SIZE	CORD RANGES	COLOR CODE
ZN102CR-EX	1/2"	.125-.187	Orange
ZN103CR-EX	1/2"	.187-.250	Red
ZN105CR-EX	1/2"	.250-.375	White
ZN108CR-EX	1/2"	.375-.500	Blue
ZN109CR-EX	1/2"	.500-.625	Brown
ZN208CR-EX	3/4"	.375-.500	Blue
ZN209CR-EX	3/4"	.500-.625	Brown
ZN210CR-EX*	3/4"	.625-.750	Yellow
ZN211CR-EX*	3/4"	.750-.875	Purple
ZN310CR-EX	1"	.625-.750	Yellow
ZN311CR-EX	1"	.750-.875	Purple
ZN312CR-EX*	1"	.875-1.000	Gray

OPTIONAL LOCKNUTS

CATALOG NUMBER	NPT SIZE
LN-375CR	3/8"
LN-1CR	1/2"
LN-2CR	3/4"
LN-3CR	1"

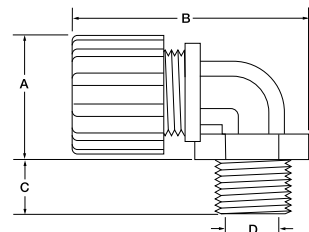
Z STRAIGHT DIMENSIONS

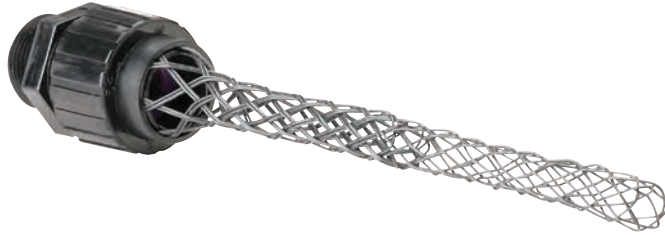
NPT SIZE	DIMENSIONS			
	A	B	C	D
3/8"	63/64"	1-3/32"	7/16"	7/16"
1/2"	1-1/4"	1-1/2"	17/32"	37/64"
3/4"	1-31/64"	1-5/8"	35/64"	49/64"
1"	1-27/32"	1-3/4"	11/16"	1-1/16"



Z 90° DIMENSIONS

NPT SIZE	DIMENSIONS			
	A	B	C	D
1/2"	1-13/32"	2-1/2"	17/32"	1-1/2"
3/4"	1-21/32"	2-51/64"	35/64"	49/64"
1"	1-63/64"	3-19/64"	11/16"	1-1/64"





ZS308CR-EX-MG

 AEx (Class I, Zone 1) Ex e II†
Type 4**

 Listed - File E22698

 Certified - File LR73478
See files for details or call Killark.

FEATURES-SPECIFICATIONS

Applications

Durable nylon construction makes these connectors perfectly suited to corrosive environments.

Typical applications for nylon cord connectors include food processing facilities, chemical and sewage treatment plants and off-shore and dock-side installations.

Features

- Nylon retention ring for increased holding power
- Neoprene bushing seals against moisture
- Nylon connectors obtain approximately the same cord retention values with hand tightening that can be produced only by wrench tightening of metal cord connectors

Material

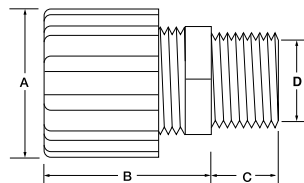
- Nylon
- Kevlar mesh grip

† Listed by CSA for Class I, Zone 1 in Canada.
Listed by CSA as a Nationally Recognized Test Lab (NRTL) for Class I, Div. 2, Class I, Zone 2 in the United States.

** Type 4 when installed with a proper gasket.

Z NYLON CORD CONNECTORS — STRAIGHT			
CATALOG NUMBER	NPT SIZE	CORD RANGES	COLOR CODE
ZS003CR-EX-MG	3/8"	.187-.250	Red
ZS004CR-EX-MG	3/8"	.250-.312	Black
ZS006CR-EX-MG	3/8"	.312-.375	White
ZS103CR-EX-MG	1/2"	.187-.250	Red
ZS105CR-EX-MG	1/2"	.250-.375	White
ZS108CR-EX-MG	1/2"	.375-.500	Blue
ZS208CR-EX-MG	3/4"	.375-.500	Blue
ZS209CR-EX-MG	3/4"	.500-.625	Brown
ZS210CR-EX-MG	3/4"	.625-.750	Yellow
ZS309CR-EX-MG	1"	.500-.625	Brown
ZS310CR-EX-MG	1"	.625-.750	Yellow
ZS311CR-EX-MG	1"	.750-.875	Purple
ZS312CR-EX-MG	1"	.875-1.000	Gray

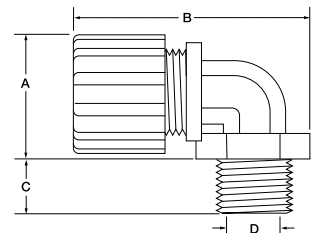
Z STRAIGHT DIMENSIONS				
NPT SIZE	DIMENSIONS			
	A	B	C	D
3/8"	63/64"	1-3/32"	7/16"	7/16"
1/2"	1-1/4"	1-1/2"	17/32"	37/64"
3/4"	1-31/64"	1-5/8"	35/64"	49/64"
1"	1-27/32"	1-3/4"	11/16"	1-1/16"

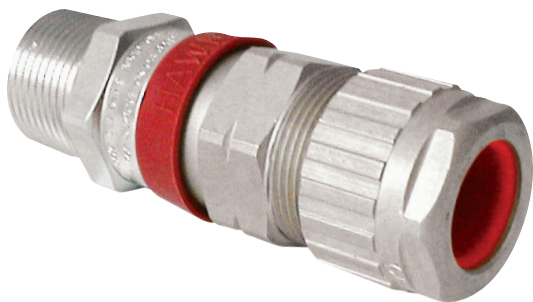


Z NYLON CORD CONNECTORS — 90°			
CATALOG NUMBER	NPT SIZE	CORD RANGES	COLOR CODE
ZN105CR-EX-MG	1/2"	.250-.375	White
ZN108CR-EX-MG	1/2"	.375-.500	Blue
ZN208CR-EX-MG	3/4"	.375-.500	Blue
ZN209CR-EX-MG	3/4"	.500-.625	Brown
ZN210CR-EX-MG	3/4"	.625-.750	Yellow
ZN310CR-EX-MG	1"	.625-.750	Yellow
ZN311CR-EX-MG	1"	.750-.875	Purple

OPTIONAL LOCKNUTS	
CATALOG NUMBER	NPT SIZE
LN-375CR	3/8"
LN-1CR	1/2"
LN-2CR	3/4"
LN-3CR	1"

Z 90° DIMENSIONS				
NPT SIZE	DIMENSIONS			
	A	B	C	D
1/2"	1-13/32"	2-1/2"	17/32"	1-1/2"
3/4"	1-21/32"	2-51/64"	35/64"	49/64"
1"	1-63/64"	3-19/64"	11/16"	1-1/64"





CTCA

Class I, Div. 2, Groups A,B,C,D
 Class I, Zone 2, AEx d IIC
 Class I, Zone 2, AEx e II
 Class II, Div. 2, Groups F,G
 Class III
 IP66
 NEMA 4X



FEATURES-SPECIFICATIONS

Applications

- Outdoor or Indoor use.
- For use with non armored cable, as permitted by the NEC.

Features

- Provides a barrier seal between the individual insulated conductors within the cable and prevents entry of the products of an explosion into the cable.
- Assembly of the cable gland compresses and distributes the compound evenly to effect a barrier seal at the point of entry into the enclosure.

- Provides an outer deluge seal to prevent moisture ingress to the cable armor and enclosure. Deluge seal is colored red to indicate Hazardous Area product.
- Provides a cable retention and low smoke and fume, zero halogen seal onto the cables outer sheath.

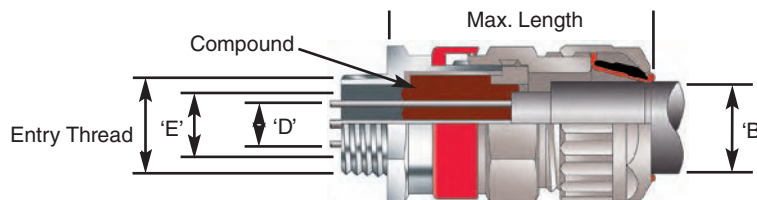
Materials

- Copper free aluminum (less than 4/10 of 1%)

Operating Temperature Range

- -50°C to +60°C

CATALOG NUMBER	SIZE REF.	ENTRY THREAD SIZE		CABLE ACCEPTANCE DETAILS					'G'	HEXAGON DIMENSIONS	
				INNER SHEATH/ CORES			OUTER JACKET 'B'			ACROSS FLATS	ACROSS CORNERS
		NPT SIZE	METRIC	'D' MAX. OVER CORES	'E' MAX. INNER SHEATH	MAX. NO. OF CORES	MIN.	MAX.			
CTCAS050S	Os	1/2"	M20	0.35"	0.39"	6	0.22"	0.47"	2.81"	0.94"	1.09"
CTCAO050	O	1/2"	M20	0.35"	0.39"	6	0.37"	0.63"	2.81"	0.94"	1.09"
CTCAA050L	A	1/2"	M20	0.43"	0.64"	10	0.49"	0.81"	2.84"	1.18"	1.36"
CTCAB075	B	3/4"	M25	0.64"	0.93"	21	0.66"	1.02"	2.95"	1.42"	1.64"
CTCAC100	C	1"	M32	0.86"	1.23"	42	0.87"	1.30"	3.11"	1.81"	2.09"
CTCAC2125	C2	1 1/4"	M40	1.04"	1.59"	60	1.10"	1.61"	3.26"	2.17"	2.50"
CTCAD200	D	2"	M50	1.46"	1.96"	80	1.42"	2.07"	3.36"	2.56"	2.96"
CTCAE250	E	2 1/2"	M63	1.88"	2.55"	100	1.81"	2.57"	3.56"	3.15"	3.64"
CTCAF300	F	3"	M75	2.32"	2.98"	120	2.24"	3.07"	3.76"	3.74"	4.31"
CTCAH350	H	3 1/2"	M90	2.79"	3.12"	-	3.07"	3.52"	3.54"	4.18"	4.84"





CLENCHER®

CMCA

Class I, Div. 2†, Groups A, B, C, D
Class I, Zone 1, AEx e II
Class II, Div. 1 & 2, Groups E, F, G
Class III
Class I, Zones 1 & 2†
Suitable for wet locations
Types 3, 4, 4X
IP66



FEATURES-SPECIFICATIONS

Applications

Designed for use with jacketed interlocked and continuously welded/corrugated armor cable where it is essential to provide positive grounding of cable armor and a NEMA 3, 4, 4X connection. e.g. TEC® or MC type cable. Use outdoors or indoors.

Features

- Provides 360° armor grounding which is fully inspectable.
- Grounding Device remains in contact with cable when disassembled for inspection.
- Provides cable retention and a low smoke and fume, zero halogen seal onto the cables outer sheath.

- Provides an outer deluge seal to prevent moisture ingress to the cable armor and enclosure.

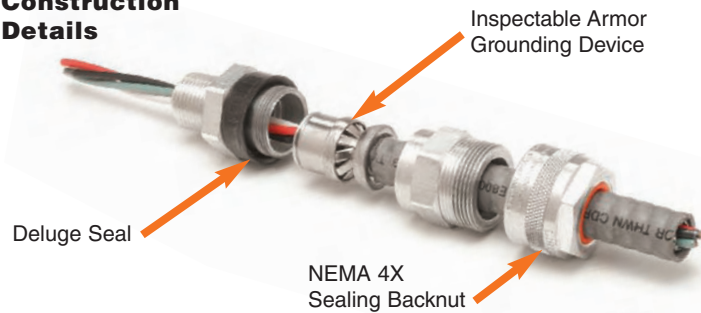
Materials

- Copper free aluminum (less than 4/10 of 1%)

Operating Temperature Range

- -50°C to +60°C

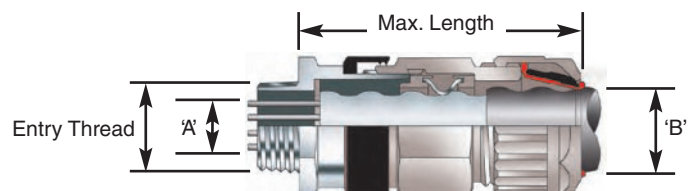
Construction Details



CATALOG NUMBER	SIZE REF.	ENTRY THREAD SIZE		CABLE ACCEPTANCE DETAILS				MAX. LENGTH	HEXAGON DIMENSIONS	
				INNER SHEATH/ CORES		OUTER JACKET 'B'			ACROSS FLATS	ACROSS CORNERS
		NPT SIZE	METRIC	ARMOR SHEATH 'A'		MIN.	MAX.			
				MIN.	MAX.					
CMCAA050	A	1/2"	M20	0.41"	0.64"	0.49"	0.80"	3.35"	1.18"	1.36"
CMCAB075	B	3/4"	M25	0.49"	0.93"	0.66"	1.02"	3.61"	1.42"	1.64"
CMCAC100	C	1"	M32	0.85"	1.23"	0.87"	1.29"	3.90"	1.81"	2.09"
CMCAC2125	C2	1 1/4"	M40	1.17"	1.59"	1.10"	1.61"	4.01"	2.17"	2.50"
CMCAD150	D	1 1/2"	M50	1.37"	1.96"	1.42"	2.07"	4.94"	2.56"	2.96"
CMCAD200	D	2"	M50	1.37"	1.96"	1.42"	2.07"	4.94"	2.56"	2.96"
CMCAE250	E	2 1/2"	M63	1.76"	2.55"	1.81"	2.57"	5.15"	3.15"	3.64"
CMCAF300	F	3"	M75	2.29"	2.98"	2.24"	3.07"	5.17"	3.74"	4.31"
CMCAH350	H	3 1/2"	M90	2.92"	3.47"	3.18"	3.52"	5.17"	4.18"	4.84"

Cable armor diameter and cable jacket diameter refer to the dimensions across the crest - all dimensions in inches.

† Where explosion proof/flameproof enclosures are being used the CMCA must be installed in conjunction with an approved sealing fitting. In Division 2 areas the CMCA can be fitted directly to an enclosure which has no source of ignition.





CLENCHER®

CMCXA

Class I, Div. 1 & 2, Groups A, B, C, D
Class I, Zone 1 AEx d IIC
Class I, Zone 1 AEx e II
Class II, Div. 1 & 2, Groups E, F, G
Class III
Suitable for wet locations
Types 3, 4, 4X
IP66



FEATURES-SPECIFICATIONS

Applications

Designed for use with jacketed inter-locked and continuously welded/ corrugated armor cable where it is necessary to provide a complete gas block/explosion proof seal to the cable, plus a NEMA 3, 4, 4x connection. Example: TEC or MC-HL type cable. Use outdoors or indoors.

Features

- Provides 360° armor grounding which is fully inspectable.
- Grounding Device remains in contact with cable when disassembled for inspection.
- Provides a barrier seal between the individual insulated cores within the cable and prevents entry of the products of an explosion into the cable.

- Assembly of the cable gland compresses and distributes the compound evenly to create a barrier seal at the point of entry into the enclosure.
- Provides cable retention and a low smoke and fume, zero halogen seal onto the cables outer sheath.
- Provides an outer deluge seal to prevent moisture ingress to the

cable armor and enclosure. Deluge seal is colored red to indicate Hazardous Area product.

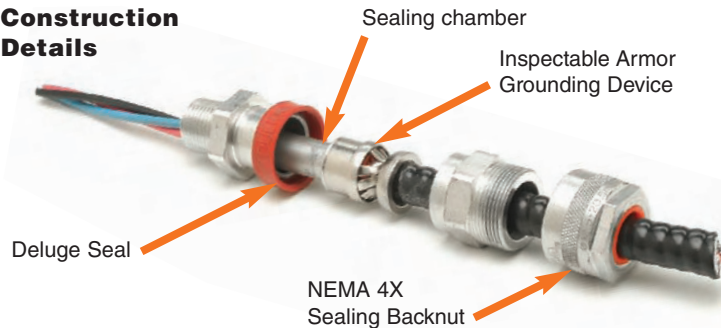
Materials

- Copper free aluminum (less than 4/10 of 1%)

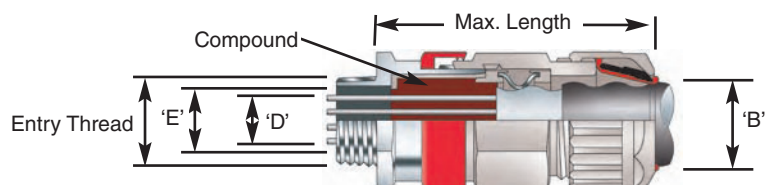
Operating Temperature Range

- -50°C to +60°C

Construction Details



CATALOG NUMBER	SIZE REF.	ENTRY THREAD SIZE		CABLE ACCEPTANCE DETAILS						MAX. LENGTH	HEXAGON DIMENSIONS	
				INNER SHEATH/ CORES			OUTER JACKET 'B'				ACROSS FLATS	ACROSS CORNERS
		NPT SIZE	METRIC	'D' MAX. OVER CORES	ARMOR SHEATH 'E'		MAX. NO. OF CORES	MIN.	MAX.			
CMCXAA050	A	1/2"	M20	0.43"	0.41"	0.64"				10	0.49"	0.80"
CMCXAB075	B	3/4"	M25	0.64"	0.49"	0.93"	21	0.66"	1.02"	3.20"	1.42"	1.64"
CMCXAC100	C	1"	M32	0.86"	0.85"	1.23"	42	0.87"	1.29"	3.54"	1.81"	2.09"
CMCXAC2125	C2	1 1/4"	M40	1.04"	1.17"	1.59"	60	1.10"	1.61"	3.73"	2.17"	2.50"
CMCXAD150	D	1 1/2"	M50	1.46"	1.37"	1.96"	80	1.42"	2.07"	5.08"	2.56"	2.96"
CMCXAD200	D	2"	M50	1.46"	1.37"	1.96"	80	1.42"	2.07"	5.08"	2.56"	2.96"
CMCXAE250	E	2 1/2"	M63	1.88"	1.76"	2.55"	100	1.81"	2.57"	5.11"	3.15"	3.64"
CMCXAF300	F	3"	M75	2.32"	2.29"	2.98"	120	2.24"	3.07"	4.88"	3.74"	4.31"
CMCXAH350	H	3 1/2"	M90	2.79"	2.92"	3.47"	120	3.18"	3.52"	5.02"	4.18"	4.84"





SWZ60-050NPT



LNZ10-050NPT



ZHLN-170

FEATURES-SPECIFICATIONS

Sealing (IP) Washers

Sealing washers are commonly used with cable glands or similar fittings entering an enclosure. While these products are not threaded, they are available with clearance holes to accommodate a wide range of threadforms including ISO (metric), NPT, PG, BSP, and ET. Sealing washers are available in nylon. The most common combinations are listed. For optional combinations, contact Killark.

SWZ NYLON WASHERS	
NPT	
SIZE	CATALOG NUMBER
1/2"	SWZ60-050NPT
3/4"	SWZ60-075NPT
1"	SWZ60-100NPT
1-1/4"	SWZ60-125NPT
1-1/2"	SWZ60-150NPT
2"	SWZ60-200NPT
2-1/2"	SWZ60-250NPT
3"	SWZ60-300NPT
3-1/2"	SWZ60-350NPT

Locknuts

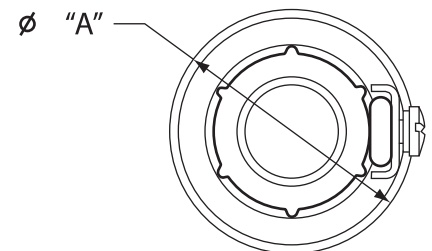
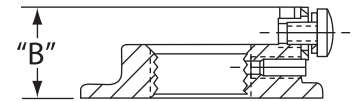
These fittings are commonly used to secure cable glands or similar products entering an enclosure. These products are available in a wide range of threadforms including ISO (metric), NPT, PG, Imperial, BSPP, BSPT, NPS, ET, other UK and European, Japanese and CIS. These products are available in brass (standard) or Nylon 6, or can be specially ordered in 316 stainless steel, steel and aluminum which can be plated in nickel, zinc, cadmium and chromium (Plating not possible with nylon). The most common combinations are listed. For optional combinations, contact Killark.

LNZ BRASS LOCKNUTS	
NPT	
SIZE	CATALOG NUMBER
1/2"	LNZ10-050NPT
3/4"	LNZ10-075NPT
1"	LNZ10-100NPT
1-1/4"	LNZ10-125NPT
1-1/2"	LNZ10-150NPT
2"	LNZ10-200NPT
2-1/2"	LNZ10-250NPT
3"	LNZ10-300NPT

Increased Safety Locknuts

Used to secure conduit hubs or similar products entering an enclosure, these zinc locknuts have an increased safety terminal for grounding purposes.

ZHLN ZINC LOCKNUTS			
NPT		DIMENSIONS	
SIZE	CATALOG NUMBER	DIAMETER A	HEIGHT B
1/2"	ZHLN-170	1.5"	11/16"
3/4"	ZHLN-270	1.7"	3/4"
1"	ZHLN-370	2.0"	3/4"
1-1/4"	ZHLN-470	2.4"	53/64"
1-1/2"	ZHLN-570	2.8"	31/32"
2"	ZHLN-670	3.3"	31/32"
2-1/2"	ZHLN-770	3.7"	1-1/4"
3"	ZHLN-870	4.4"	1-1/4"
3-1/2"	ZHLN-970	5.0"	1-5/16"





PARALLEL TYPE



EDGE TYPE



RIGHT ANGLE TYPE



FEATURES-SPECIFICATIONS

Applications

- Designed to secure rigid metal conduit, IMC or EMT across, parallel or perpendicular to channel, beam and angle supports.

Features

- Three styles meet every installation need
- Heavy duty U-bolts, hex bolts and hex nuts
- Capable of supporting heavy loads

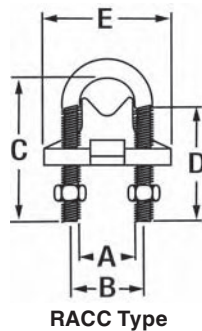
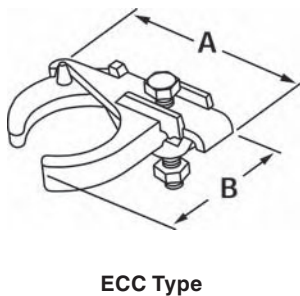
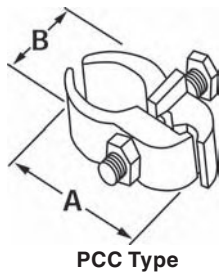
Material/Finish

- Malleable iron (hot dipped galvanized) with steel U-bolts and nuts (mechanically galvanized).

PCC PARALLEL TYPE CLAMPS			
CATALOG NUMBER	CONDUIT SIZE	A	B
PCC050	1/2"	2-7/8" (73)	1-7/16" (36)
PCC075	3/4"	3-1/16" (78)	1-11/16" (43)
PCC100	1"	3-1/4" (83)	2" (51)
PCC125	1-1/4"	3-5/8" (92)	2-1/8" (53)
PCC150	1-1/2"	3-7/8" (98)	2-3/16" (56)
PCC200	2"	4-5/8" (117)	2-7/8" (73)
PCC250	2-1/2"	5-1/4" (133)	3-1/4" (83)
PCC300	3"	5-1/8" (149)	3-1/8" (98)
PCC350	3-1/2"	6-5/16" (160)	4-5/16" (110)
PCC400	4"	6-13/16" (173)	4-13/16" (122)

ECC EDGE TYPE CLAMPS			
CATALOG NUMBER	CONDUIT SIZE	A	B
ECC050	1/2"	2-13/16" (71)	2-1/8" (54)
ECC075	3/4"	2-15/16" (75)	2-3/8" (60)
ECC100	1"	3-1/16" (78)	2-5/8" (67)
ECC125	1-1/4"	3-1/16" (78)	3-1/16" (78)
ECC150	1-1/2"	3-15/16" (100)	3-1/4" (83)
ECC200	2"	4-1/2" (114)	4-1/16" (103)
ECC250	2-1/2"	5-1/8" (130)	4-5/8" (117)
ECC300	3"	5-3/4" (146)	5-1/4" (133)

Dimensions



RACC RIGHT ANGLE TYPE CLAMPS						
CATALOG NUMBER	CONDUIT SIZE	A	B	C	D	E
RACC050	1/2"	1" (25)	1-1/4" (32)	2-1/2" (64)	1-13/16" (46)	2-1/16" (52)
RACC075	3/4"	1-1/8" (29)	1-3/8" (35)	2-13/16" (72)	1-13/16" (46)	2-1/4" (57)
RACC100	1"	1-3/8" (35)	1-5/8" (41)	3-1/16" (78)	1-13/16" (46)	2-9/16" (65)
RACC125	1-1/4"	1-3/4" (44)	2" (51)	3-3/16" (81)	1-13/16" (46)	2-7/8" (73)
RACC150	1-1/2"	2" (51)	2-3/8" (60)	3-1/2" (89)	1-13/16" (46)	3-1/4" (83)
RACC200	2"	2-1/2" (64)	2-1/2" (64)	4-1/2" (114)	2-5/8" (67)	4-1/16" (103)
RACC250	2-1/2"	2-1/2" (64)	3" (76)	3-1/4" (83)	4-7/8" (124)	2-5/8" (67)
RACC300	3"	3-5/8" (92)	3-7/8" (98)	5-3/8" (137)	2-5/8" (67)	5-1/8" (130)
RACC350	3-1/2"	4-1/16" (103)	4-9/16" (116)	5-7/8" (149)	2-5/8" (67)	5-5/8" (143)
RACC400	4"	4-11/16" (119)	5-1/16" (129)	6-11/16" (170)	2-5/8" (67)	6-1/8" (156)

Section E

ENCLOSURES INDEX



DB Series
Junction Boxes2-3



TE Series
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**Class II, Div. 1 & 2, Groups E,F,G
Class III
NEMA 3R, 4, 4X, 9(E,F,G)**

-  Listed - File E10514
-  Certified - File LR11716
-  File 25132
-  See files for details or call Killark.

FEATURES-SPECIFICATIONS

Applications

- Hazardous locations due to the presence of combustible dusts or easily ignitable fibers or flyings
- Damp or wet locations (raintight)

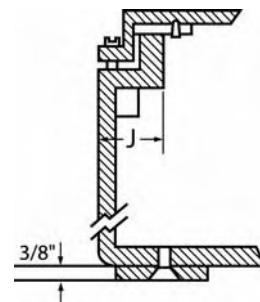
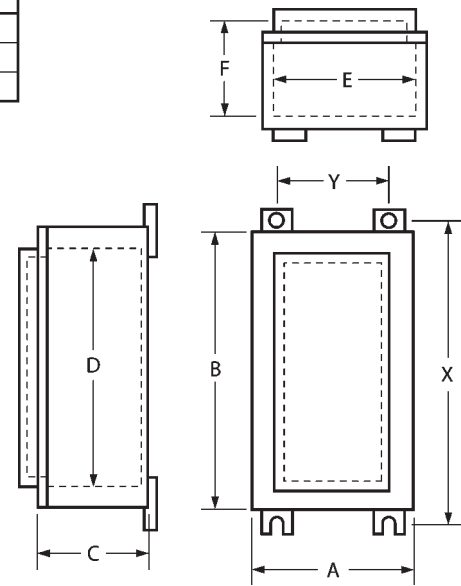
Features

- Copper-free aluminum (less than 4/10 of 1%)
- Surface mounting type box with raised cover
- Mounting lugs included as standard
- Cover screws are stainless steel
- Gaskets mechanically fastened to cover
- All DB boxes cast with wall thicknesses suitable to drill and tap conduit openings. Conduit openings may be factory or field installed.
See chart for conduit size limitations. See page E32 for conduit opening data
- Enclosures are available blank or with factory modifications, options and accessories. See catalog pages E17-22 for additional details

MODIFICATIONS	
CATALOG NUMBER	DESCRIPTION
KIT-251	100 Amp ground lug
KIT-252	225 Amp ground lug

BOX WIDTH	"J" DIMENSION
6	1
8 THRU 20	1-3/8
24 AND LARGER	2

SUFFIX NUMBER	DESCRIPTION
SU2	Hinge installed
SU3	Drain and breather installed
SU8	Pan mounting studs





**Class II, Div. 1 & 2, Groups E,F,G
Class III
NEMA 3R, 4, 4X, 9(E,F,G)**



Listed - File E10514



Certified - File LR11716



File 25132

See files for details or call Killark.

FEATURES-SPECIFICATIONS

DB ENCLOSURES WITH MOUNTING LUGS															
CATALOG NUMBER	NOMINAL DIMENSIONS								MOUNTING DIMENSIONS		CATALOG NUMBER		MAX SIZE [Ⓞ] CONDUIT OPENING		MAXIMUM NUMBER OF OPERATORS [†]
	OUTSIDE			INSIDE			COVER OPENING				OPTIONAL HINGE TYPE	OPTIONAL MOUNTING PAN [Ⓢ]	ENDS	BACK & SIDE	
	A	B	C	D	E	F	G	H	X	Y					
DB-664	6"	6"	4"	5-3/8"	5-3/8"	4-7/32"	4-1/4"	4-1/4"	7-1/4"	4-1/4"	HINGE-4	6307-6	2	2	1 row of 1 = 1
DB-884	8"	8"	4"	7-3/8"	7-3/8"	4-5/8"	5-7/16"	5-7/16"	9-1/4"	5-7/16"	HINGE-4	6247-8	2	2	2 rows of 2 = 4
DB-886	8"	8"	6"	7-3/8"	7-3/8"	6-5/8"	5-7/16"	5-7/16"	9-1/4"	5-7/16"	HINGE-4	6247-8	2	2	2 rows of 2 = 4
DB-8106	8"	10"	6"	9-3/8"	7-3/8"	6-5/8"	7-9/32"	5-5/16"	11-1/4"	5-5/16"	HINGE-4	6247-10	2	2	2 rows of 2 = 4
DB-6126	6"	12"	6"	11-3/8"	5-3/8"	6-7/32"	10-3/16"	4-5/16"	13-1/4"	4-5/16"	HINGE-4	6307-12	2	2	4 rows of 1 = 4
DB-8146	8"	14"	6"	13-3/8"	7-3/8"	6-5/8"	11-1/4"	5-5/16"	15-1/4"	5-5/16"	HINGE-4	6247-14	2	2	4 rows of 2 = 8
DB-8188	8"	18"	8"	17-3/8"	7-3/8"	8-5/8"	15-1/4"	5-5/16"	19-1/4"	5-5/16"	HINGE-4	6247-18	2	2	5 rows of 2 = 10
DB-10106	10"	10"	6"	9-3/8"	9-3/8"	6-1/2"	7-5/16"	7-5/16"	11-1/4"	7-5/16"	HINGE-4	6248-10	2	2	2 rows of 2 = 4
DB-10148	10"	14"	8"	13-3/8"	9-3/8"	8-1/2"	11-5/16"	7-5/16"	11-1/4"	7-5/16"	HINGE-4	6248-14	2	2	4 rows of 2 = 8
DB-12148	12"	14"	8"	13-3/8"	11-3/8"	8-7/16"	11-5/16"	9-5/16"	15-1/4"	9-5/16"	HINGE-4	6249-14	4	2	4 rows of 3 = 12
DB-12168	12"	16"	8"	15-3/8"	11-3/8"	8-9/16"	13-1/4"	9-1/4"	14-1/4"	9-1/4"	HINGE-4	6249-16	4	2	4 rows of 3 = 12
DB-12188	12"	18"	8"	17-3/8"	11-3/8"	8-5/8"	15-5/32"	9-5/32"	19-1/4"	9-5/32"	HINGE-4	6249-18	4	2	5 rows of 3 = 15
DB-12248	12"	24"	8"	23-3/8"	11-3/8"	8-1/6"	21-5/16"	9-5/16"	25-1/4"	9-5/16"	HINGE-4	6249-24	4	2	8 rows of 3 = 24
DB-16188	16"	18"	8"	17-3/8"	15-3/8"	8-9/16"	15-5/16"	13-5/16"	19-1/4"	13-5/16"	HINGE-4	6250-18	4	2	5 rows of 4 = 20
DB-16248	16"	24"	8"	23-3/8"	15-3/8"	8-9/16"	21-5/16"	13-5/16"	25-1/4"	13-5/16"	HINGE-4	6250-24	4	2	8 rows of 4 = 32
DB-16368	16"	36"	8"	35-3/8"	15-3/8"	8-9/16"	33-5/16"	13-5/16"	37-1/4"	13-5/16"	HINGE-4	6250-36	4	2	12 rows of 4 = 48
DB-20248	20"	24"	8"	23-3/8"	19-3/8"	8-9/16"	21-1/2"	17-1/2"	25-1/4"	17-1/2"	HINGE-4	6251-24	4	2	8 rows of 6 = 48
DB-203010	20"	30"	10"	29-3/8"	19-3/8"	10-5/8"	27-1/4"	17-1/4"	31-1/4"	17-1/4"	HINGE-4	6251-30	4	2	10 rows of 6 = 60
DB-243010	24"	30"	10"	29-1/8"	23-1/8"	10-7/16"	26"	20"	32"	20"	*HINGE-11L	6252-30	4	4	10 rows of 7 = 70
DB-243610	24"	36"	10"	35-3/8"	23-3/8"	10-7/16"	32"	20"	38"	20"	*HINGE-11L	6252-36	4	4	12 rows of 7 = 84

Ⓞ These limits are necessary to assure 3-1/2 full threads to meet Class II requirements.

Ⓢ Boxes are not factory machined for a mounting pan. Add suffix SU8 if box is to be supplied with pan mounting studs.

Ⓢ When pan is ordered without box, it is supplied with studs and hardware for field mounting. Machining of box for pan studs is required.

* 24" wide enclosures are furnished with hinged covers on left side as a standard feature.

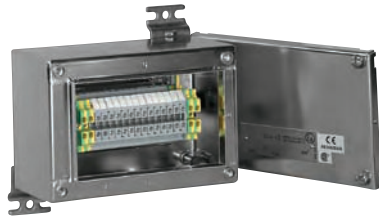
† Maximum number of "G" series control operators permitted in cover, down + across = total.

Use short style "G" series operators.





FRP Enclosure
Size 08



Stainless Steel Enclosure
Size 06



Stainless Steel Enclosure
Size 09

Class I, Div. 2, Groups A,B,C,D
Class I, Zones 1 & 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G^①
Class III
NEMA 3, 4, 4X
(A) Ex e II T6 IP66*



Requires factory assembly

* Dependent on cable entry connector types

TECHNE-TERM

FEATURES-SPECIFICATIONS

Applications

- Hazardous and corrosive environments such as refineries, chemical plants, water treatment and bio gas plants, and wherever a combustible gas-air mixture or combustible dust may occur
- Used to link electrical wires. Primary circuit brought into the enclosure is distributed to field control devices or sensors

Features

- Pre-configured enclosures with DIN rail mounted terminals installed eliminates time consuming engineering and sourcing
- Enclosures are available in Fiber-glass Reinforced Polyester or 316 electro-polished Stainless Steel
- Weidmuller or Phoenix increased safety 600 volt rated DIN rail line-up terminals
- Factory installed conduit openings, cable glands, flange (bonding) plates and hinges are available upon request.

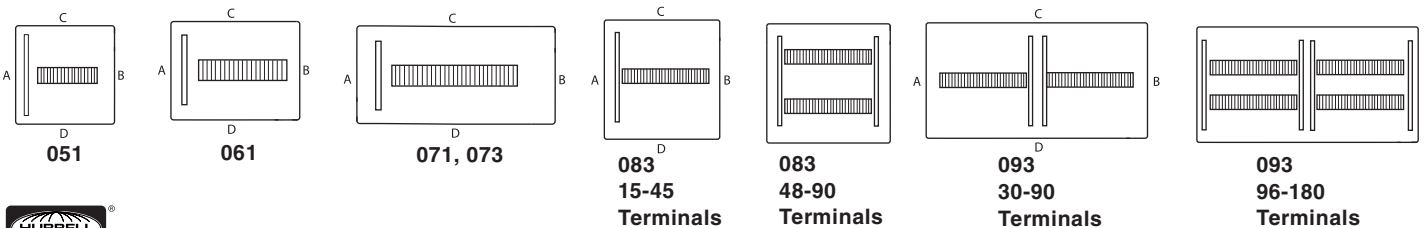
Dimensions

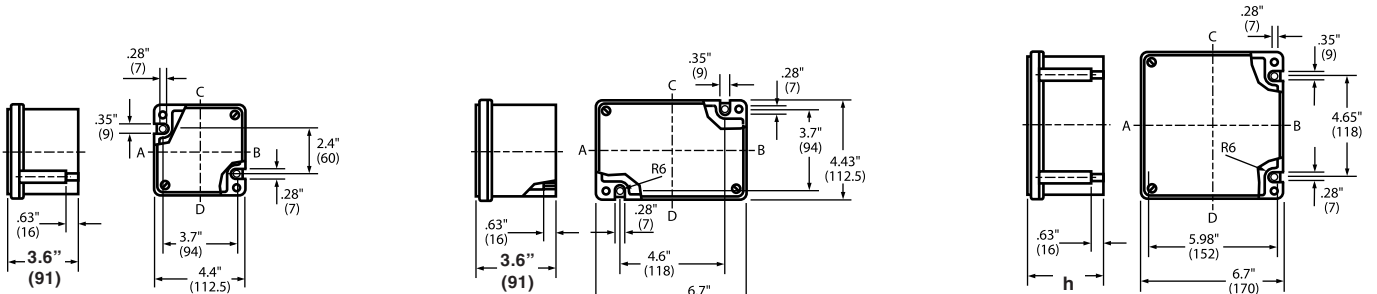
See page E5 for FRP and page E6 for steel enclosures.

TEF/TEB ENCLOSURES WITH WEIDMÜLLER TERMINALS					
TERMINAL QTY.	WIRE RANGE AWG	TERMINAL SIZE MM2	GROUND WIRE CONNECTIONS	CATALOG NUMBER POWER AND CONTROL CIRCUITS	
				FRP	STAINLESS STEEL
18	22-12	2.5	14	TEF051DW12018	TEB051DW12018
15	22-10	4	14	TEF051DW10015	TEB051DW10015
9	20-8	10	12	TEF051DW08009	TEB051DW08009
24	22-12	2.5	14	TEF061DW12024	TEB061DW12024
21	22-10	4	14	TEF061DW10021	TEB061DW10021
12	20-8	10	12	TEF061DW08012	TEB061DW08012
45	22-12	2.5	14	TEF071DW12045	TEB071DW12045
36	22-10	4	14	TEF071DW10036	TEB071DW10036
24	20-8	10	12	TEF071DW08024	TEB071DW08024
45	22-12	2.5	14	TEF073DW12045	TEB073DW12045
36	22-10	4	14	TEF073DW10036	TEB073DW10036
24	20-8	10	12	TEF073DW08024	TEB073DW08024
18	14-6	16	12	TEF073DW06018	TEB073DW06018
45	22-12	2.5	36	TEF083DW12045	TEB083DW12045
36	22-10	4	36	TEF083DW10036	TEB083DW10036
24	20-8	10	24	TEF083DW08024	TEB083DW08024
18	14-6	16	24	TEF083DW06018	TEB083DW06018
12	12-2	35	24	TEF083DW02012	TEB083DW02012
90	22-12	2.5	72	TEF083DW12090	TEB083DW12090
72	22-10	4	72	TEF083DW10072	TEB083DW10072
48	20-8	10	48	TEF083DW08048	TEB083DW08048
90	22-12	2.5	72	TEF093DW12090	TEB093DW12090
72	22-10	4	72	TEF093DW10072	TEB093DW10072
48	20-8	10	48	TEF093DW08048	TEB093DW08048
36	14-6	16	48	TEF093DW06036	TEB093DW06036
24	12-2	35	48	TEF093DW02024	TEB093DW02024
180	22-12	2.5	144	TEF093DW12180	TEB093DW12180
144	22-10	4	144	TEF093DW10144	TEB093DW10144
96	20-8	10	96	TEF093DW08096	TEB093DW08096

For Phoenix Type UK Terminals—Change Bold 'W' to 'P'.
 © CSA Certified for Class II, Div. 1&2, EFG. UL Listed for Class II, Div. 2, FG.

Terminal Layout

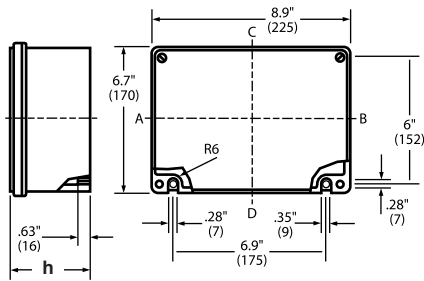




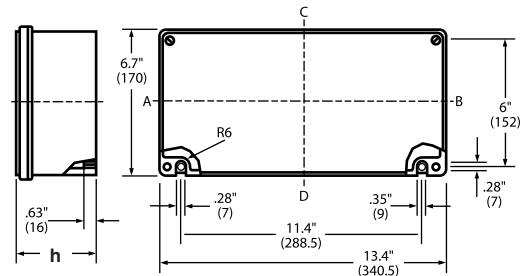
Size 03

Size 04

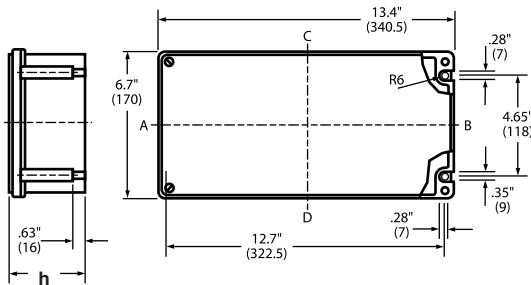
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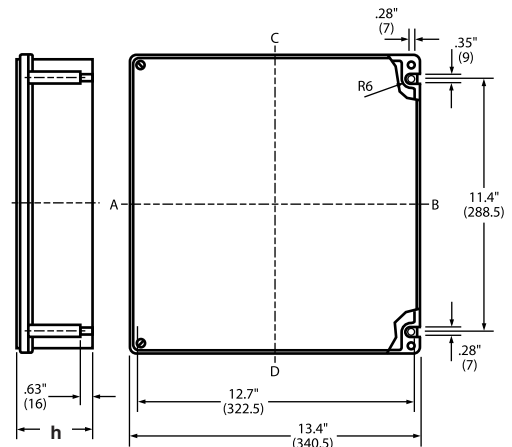
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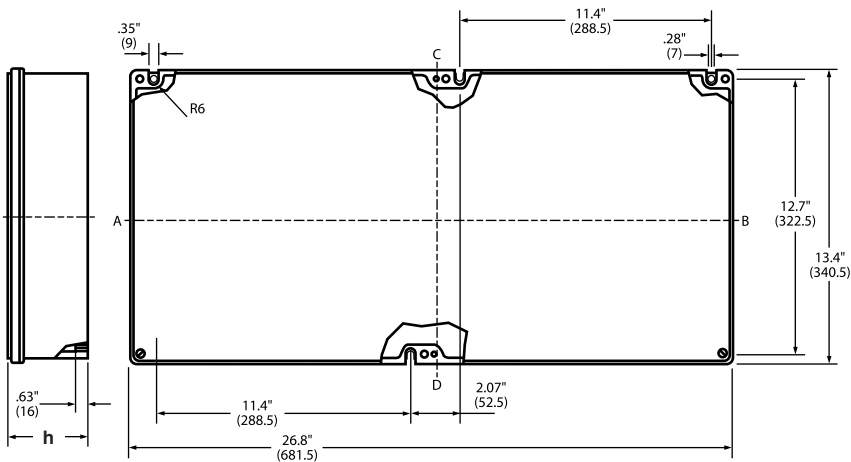
Size 07



Size S7



Size 08

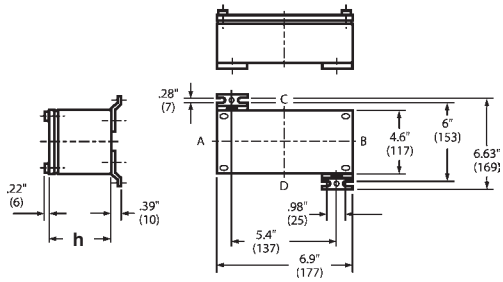


Size 09

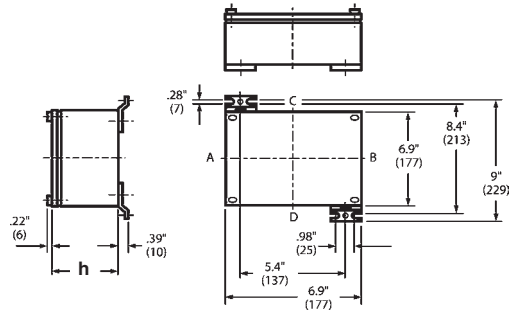
AVAILABLE ENCLOSURE DEPTHS						
DEPTH CODE (h)	1	2*	3	4*	5*	6*
ENCLOSURE SIZE	3.6" (91)	5.2" (131)	5.9" (150)	6.7" (171)	7.5" (190)	9" (230)
03	x	—	—	—	—	—
04	x	—	—	—	—	—
05	x	x	—	—	—	—
06	x	x	—	—	—	—
07	x	x	x	—	x	—
S7	x	—	x	—	—	—
08	x	x	x	x	x	x
09	x	x	x	—	x	—

*Depth increase due to use of deep style cover

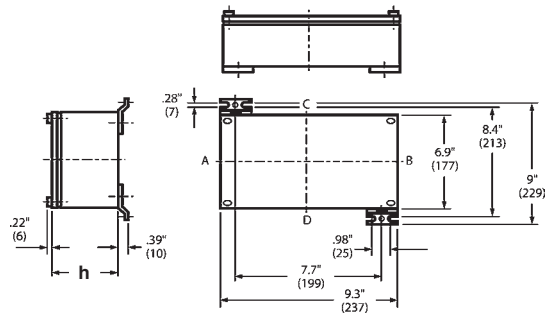




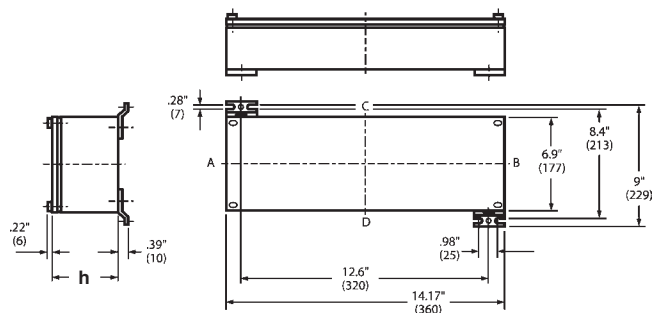
Size 04



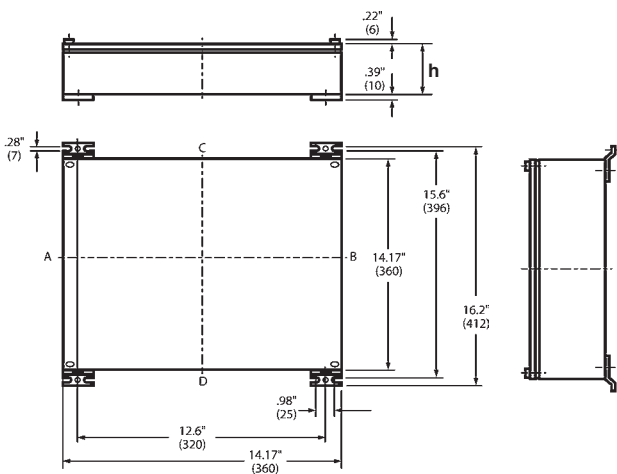
Size 05



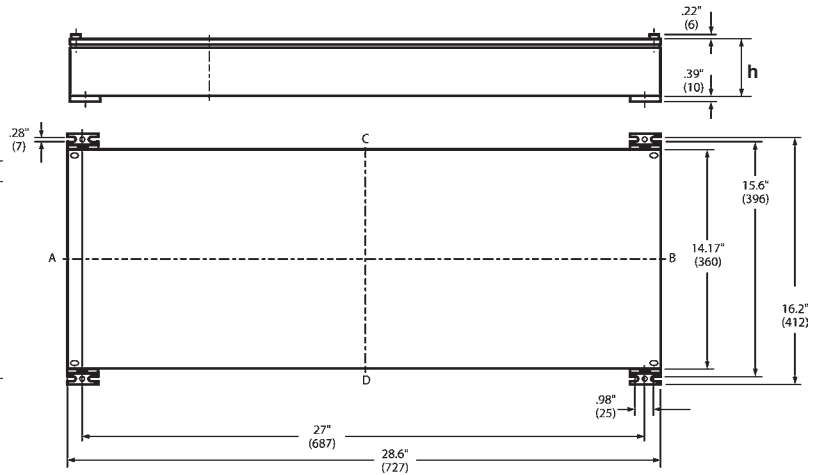
Size 06



Size 07

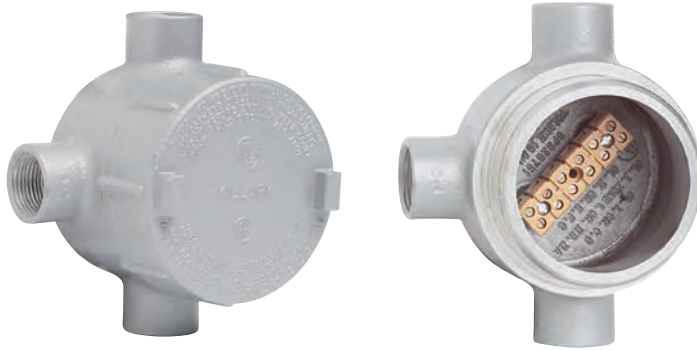


Size 08



Size 09

AVAILABLE ENCLOSURE DEPTHS				
DEPTH CODE (h)	1	3	5	6
ENCLOSURE SIZE	3.6" (91)	5.9" (150)	7.5" (190)	9" (230)
04	x	—	—	—
05	x	—	—	—
06	x	x	—	—
07	x	x	—	—
08	x	x	x	x
09	x	x	x	—



GECTT-2-6TB

Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
NEMA 7(C,D), 9(E,F,G)

Listed - File E10514

Certified - File LR11716

FEATURES-SPECIFICATIONS

Applications

GE series conduit boxes with terminals are installed in conduit systems within hazardous areas to:

- Protect conductors in threaded rigid conduit
- Act as pull and splice boxes
- Interconnect lengths of conduit
- Change conduit direction
- Provide access to conductors for maintenance and future system changes
- Used to link electrical wires. Primary circuit brought into the enclosure is distributed to field control devices or sensors

Features

- Water shedding cover-suitable for wet locations when mounted in upright position
- External cover threads on body protecting conductors from damage during pulling
- No pinching of conductors during cover installation

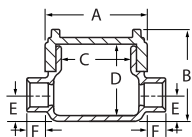
- Three different hub arrangements
- Taper threaded hubs to provide ground continuity
- Smooth integral hub bushing to protect conductor insulation when pulling
- Weather-resistant finish
- Green ground screw standard in all boxes
- Weidmuller 6 point MK3 terminal block is mounted inside box on raised pads

- Terminal rated 300V max/20 AMP/for wire size #22--12AWG
- Hub type XTF furnished with mounting flange

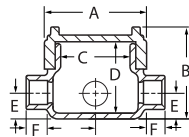
Material/Finish

- Body and cover are copper-free aluminum (less than 4/10 of 1%)
- Finish-Electrostatically applied powder coating

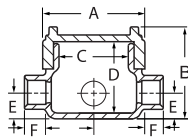
GE SERIES OUTLET BOX WITH 6 POINT TERMINAL BLOCK										
HUB TYPE	CATALOG NUMBER	HUB SIZE	A	B	C	D	E	F	COVER OPENING	VOLUME CU. IN.
C	GECTT-2-6TB	3/4"	3-11/16" (94)	3-5/8" (92)	2-11/16" (68)	2-3/4" (70)	1" (25)	13/16" (21)	2-11/16" (68)	19
T	GECTT-2-6TB	3/4"								
X	GECTT-2-6TB	3/4"								
XTF	GECTT-2-6TB	3/4"								



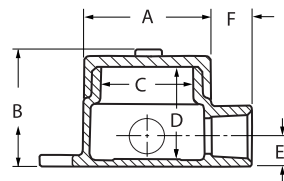
C Type



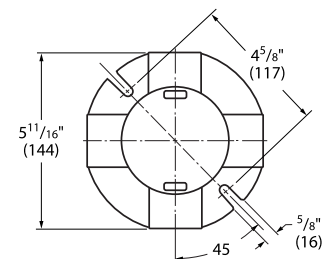
T Type



X Type



**XTF Type
With Mounting Flange**



ATEX Certified

Class I, Div. 1 & 2, Groups A*,B, C,D**
 Class I, Zones 1 & 2, Groups IIB+H₂, IIA
 Class II, Div. 1 & 2, Groups E,F,G
 Class III
NEMA 3, 4, 4X



Classified - File E83969
 & file E150827



Certified - File LR11716



Certified - File 1W1R4-RE



UL DEMKO 06 ATEX 0521635/141023 **CE** 0539

II 2 G EEx e II T3 - T4

II 2 G EEx d IIC T3 - T4

II 2 D IP66 T110° C - T140° C


FEATURES-SPECIFICATIONS
UL DEMKO
Increased Safety/Flame Proof
Terminal Enclosure
Applications

- Used within hazardous areas to splice or terminate conductors by means of a terminal block
- Act as pull and splice boxes
- Provide access to conductors for maintenance and future system changes
- Used to link electrical wires. Primary circuit brought into the enclosure is distributed to field control devices or sensors

Features

- Select from 4 body types and 6 different covers
- Single port box provided with two 3/4" NPT standard openings. One additional 1/2" or 3/4" NPT can be added.
- Double port has three 3/4" NPTS as standard.
- Maximum (10) 2.5mm² blocks. Quantity doubles for 2HKB's.
- 630 Volts max. and 60 Amps max.

Notes:

- * Group A FM only on HK single cover box. Order with - GA suffix.
- ** Seal within 18" of enclosure for Group BCD and within 6" for Group A in accordance with sections 501-5 and 502-5 of the National Electric Code.

Catalog Number Logic
HK Series ATEX Terminal Box
HKB B * T O W 10 2

Blank Box Type

HKB - Aluminum
 HKBD - Aluminum Deep
 HKSB - 316 Stainless Steel
 2HKB - Double Port

Cover Assembly

B - Blank Cover
 GL - Glass Lens Cover
 1GLD - 1 in. Glass Lens Lrg. Cover
 2GLD - 2 in. Glass Lens Lrg. Cover
 2D - 2 in. high Dome Cover
 4D - 4 in. high Dome Cover

Second Cover Assembly for

2HKB only
 B - Blank Cover
 GL - Glass Lens Cover
 1GLD - 1 in. Glass Lens Lrg. Cover
 2GLD - 2 in. Glass Lens Lrg. Cover
 2D - 2 in. high Dome Cover
 4D - 4 in. high Dome Cover

Type of Protection

T - ATEX Type d or e

 Indicates Terminal Block
 Wire Size

2 - 2.5 mm² (No. 12 AWG max.)
 4 - 4 mm² (No. 10 AWG max.)
 6 - 6 mm² (No. 8 AWG max.)
 10 - 10 mm² (No. 6 AWG max.)

 Indicates Total Number of
 Terminal Blocks

2.5 mm² - 10 max.
 4 mm² - 8 max.
 6 mm² - 6 max.
 10 mm² - 4 max.

 Type of Manufacturer
 W - Weidmuller

Side Alternate Machining

0 - None
 1 - 1/2 in. NPT
 2 - 3/4 in. NPT
 2S - 3/4 in. NPSM

Ordering Example: HKB-B-T1W102

 Description: HKB box with blank cover, with 1/2" NPT (in the side) pad, with qty. ten 2.5mm² Weidmuller terminal blocks.

Dimensions: See pages E30 and E31.


KILLARK®



QUANTUM

Applications

- Locations made hazardous due to the presence of flammable gases or vapors, combustible dust, or easily ignitable fibers and flyings, and areas which are subject to corrosion, weather and dampness
- Petroleum Refineries, Chemical and Petrochemical plants with indoor and outdoor processes
- Applications requiring junction, pull and/or splices boxes
- Enclosure to house control stations, meters, relays, starters, circuit breakers, terminal blocks and other equipment or devices

• **Global applications (ATEX)**
Enclosures are available for global applications with “CEN” suffix. Assemblies that are modified to CENELEC/ATEX standards maintain their North American certifications.

- Enclosures are available blank or with factory modifications, options and accessories. See catalog pages E17-E22 for additional details

**Class I, Div. 1 & 2,
Groups B^①, C, D
Class I, Zones 1 & 2,
Groups IIB+H₂, IIA
Class II, Div. 1 & 2,
Groups E, F, G
Class III, Div. 1 & 2
NEMA 3, 4, 4X^②,
7(B, C, D), 9(E, F, G)
CENELEC/ATEX/IEC Ex
Ex d IIB + H₂ T5 or T6
Ex td A21 IP66
Ta < + 60°C**

ATEX / IEC Ex Certified

- UL #UL886 - Outlet Boxes and Fittings for use in Hazardous (Classified) Locations. File #E10514
- UL #UL698 & #UL1203 - Explosion Proof and Dust Ignition Proof Electrical Equipment. Files #E83969 & E12379
- CSA #C22.2 No. 30-M1986 -Explosion Proof Enclosure for use in Class I Hazardous Locations. FILE #LR11716
- CENELEC **Ex** II 2 GD
PTB 07 ATEX 1025U (Empty Housing)
PTB 07 ATEX 1024x (Enclosure with Controls)
IEC Ex 07.0022U
IEC Ex 07.0023

FEATURES-SPECIFICATIONS

Features

- Copper-Free Cast Aluminum Construction. High strength, lighter in weight, corrosion resistant
- Fewer Cover Bolts. Computer-aided design lessens the number of cover bolts by eliminating corner bolts. Reduces installation and maintenance time
- Gasketed Flange. Nitrile (BUNA-N) “O” ring gasket is located inside bolt circle to prevent water seeping into enclosure
- Ductile Mounting Lugs. Lugs are made of ductile aluminum alloy to adjust to irregular mounting surfaces without damaging enclosure. Enclosure size 8x12x6 and larger furnished with bi-directional mounting lugs which may be positioned either vertically or horizontally to facilitate mounting
- Hinges. All enclosure sizes 8x12x6 and larger are supplied as standard with hinges mounted on the left side. Smaller enclosures are drilled for field installation of two Killark HINGE-9 assemblies or can be installed at factory by adding SU2 to catalog number. For hinges to be located in other positions, specify when ordering

- Recessed Flange Notches. Flanges are notched to allow for easier cover opening with prying instrument without flange damage
- Conduit Openings. Enclosures are cast with wall thickness suitable for drilling and tapping of conduit openings in all sides and back of boxes. Conduit size and location information is found on dimensional chart (see page E32). Conduits can be factory or field installed
- Mounting Pan Bosses. Mounting pan bosses are pre-drilled at factory for field mounting of optional mounting pan

Material/Finish

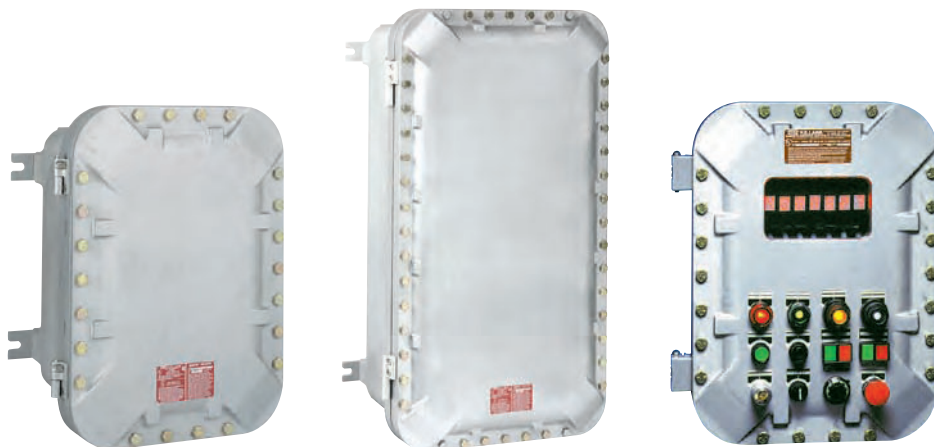
- Enclosure: Copper-free aluminum (less than 4/10 of 1%)
- Hinges: Aluminum with stainless steel hardware
- Steel Cover Bolts
- Optional Mounting Pans: Sheet aluminum
- Optional Windows: Tempered soda lime glass
- Aluminum Lacquer Paint Finish Standard

① Conduits must be sealed within 18” for Group B applications.

② NEMA 4X with optional SU-1 modification.



KILLARK



See page E9
for area classification
and certification information

FEATURES-SPECIFICATIONS

MODIFICATIONS	
SUFFIX NUMBER	DESCRIPTION
KIT-251	100 amp ground lug
KIT-252	225 amp ground lug
SU3 ^①	Drain & breather installed (NEMA 7CD)
SU3B ^{①②}	Drain & breather installed (NEMA 7BCD)
SU94	Drill tap & plug for future drain and breather
SU2	Hinges installed (6x6, 8x8, 8x10 enclosure)
SU9	Special paint finish
SU14	Fungus proofing of enclosure
SU93	Do not paint enclosure
SU1	Stainless steel external hardware (NEMA 4X)

^①The installation of a Drain & Breather will void the NEMA 4-4X ratings of enclosure.

^②Not CSA

Hinges

Hinges are provided standard on 6x12x4 EXB boxes and on sizes 8x12x6 and larger. Smaller size EXB boxes are factory drilled for field installation of (2) HINGE-9 on left side.

For replacement hinges use HINGE-11L for enclosures size 8x12x6 through 16x24x10. HINGE-10L is for use with box size 18x24x8 and larger. (See page E18 for hinge information.)

Order Mounting pan as separate item and specify if factory or field installed.

† Maximum number of "G" series control operators permitted in cover, down + across = total. See page E12 when selecting "G" Series control operators.

Note: For Group B applications all conduit openings must be sealed within 18" of enclosures.

^③Not ATEX approved

^④cCSAus only

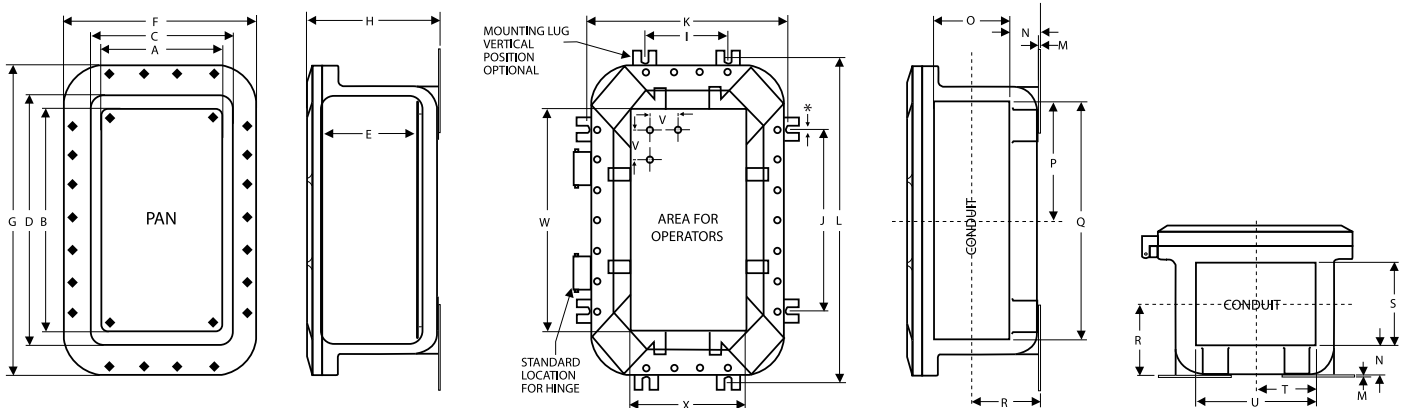
EXB JUNCTION BOXES AND ENCLOSURES				
CATALOG NUMBER	NOMINAL ENCLOSURE INSIDE DIMENSIONS W" L" D"	MAXIMUM CONDUIT SIZE	OPTIONAL MOUNTING PAN NUMBER	MAXIMUM NUMBER OF OPERATOR†
EXB-664 N34	6x6x4	2"	7997-5	2 rows of 2 = 4
EXB-684 N34 ^③	6x8x4	2"	7997-1	2 rows of 3 = 6
EXB-6124 N34 ^③	6x12x4	2"	7997-6	4 rows of 2 = 8
EXB-886 N34	8x8x6	2"	7996-1	3 rows of 3 = 9
EXB-8104 N34	8x10x4	2"	7996-2	4 rows of 3 = 12
EXB-8106 N34	8x10x6	2"	7996-2	4 rows of 3 = 12
EXB-8126 N34	8x12x6	3"	17619	4 rows of 3 = 12
EXB-8128 N34	8x12x8	4"	17619	4 rows of 3 = 12
EXB-10106 N34	10x10x6	3"	17618	3 rows of 3 = 9
EXB-10108 N34	10x10x8	5"	17618	3 rows of 3 = 9
EXB-10146 N34	10x14x6	3"	17617	5 rows of 3 = 15
EXB-10148 N34	10x14x8	5"	17617	5 rows of 3 = 15
EXB-12126 N34	12x12x6	3"	7988-1	4 rows of 4 = 16
EXB-12128 N34	12x12x8	5"	7988-1	4 rows of 4 = 16
EXB-12186 N34	12x18x6	3"	15515	7 rows of 4 = 28
EXB-12188 N34	12x18x8	5"	15515	7 rows of 4 = 28
EXB-12246 N34	12x24x6	3"	7988-4	9 rows of 4 = 36
EXB-12248 N34	12x24x8	5"	7988-4	9 rows of 4 = 36
EXB-122412 N34	12x24x12	5"	7988-4	9 rows of 4 = 36
EXB-12368 N34	12x36x8	5"	17620	14 rows of 4 = 56
EXB-123610 N34	12x36x10	6"	17620	14 rows of 4 = 56
EXB-14146 N34	14x14x6	3"	17621	5 rows of 5 = 25
EXB-14148 N34	14x14x8	5"	17621	5 rows of 5 = 25
EXB-16166 N34	16x16x6	3"	7995-1	6 rows of 6 = 36
EXB-16168 N34	16x16x8	5"	7995-1	6 rows of 6 = 36
EXB-16248 N34	16x24x8	5"	17622	8 rows of 5 = 40
EXB-162410 N34	16x24x10	6"	17622	8 rows of 5 = 40
EXB-18186 N34	18x18x6	3"	17623	6 rows of 6 = 36
EXB-18188 N34	18x18x8	5"	17623	6 rows of 6 = 36
EXB-18248 N34	18x24x8	5"	15516	9 rows of 7 = 63
EXB-182410 N34	18x24x10	6"	15516	9 rows of 7 = 63
EXB-18308 N34 ^{③④}	18x30x8	5"	22061	11 rows of 7 = 77
EXB-18368 N34	18x36x8	5"	15517	13 rows of 7 = 91
EXB-183610 N34	18x36x10	6"	15517	13 rows of 7 = 91
EXB-203611 N34	20x36x11	6"	17596	13 rows of 7 = 91
EXB-24248 N34	24x24x8	5"	8000-1	9 rows of 9 = 81
EXB-242410 N34	24x24x10	6"	8000-1	9 rows of 9 = 81
EXB-24308 N34	24x30x8	5"	20567	9 rows of 7 = 63
EXB-24368 N34	24x36x8	5"	17624	11 rows of 7 = 77
EXB-243610 N34	24x36x10	6"	17624	11 rows of 7 = 77



KILLARK®

EXB DIMENSIONS													
CATALOG NUMBER	INTERNAL DIMENSIONS (INCHES)					EXTERNAL DIMENSIONS (INCHES)			MOUNTING DIMENSIONS (INCHES)				
	PAN		AVAILABLE FOR DEVICES			F	G	H	I	J	K	L	M
	A	B	C	D	E								
EXB-664 N34	5	5	5.73	5.73	4.31	10.32	10.32	6.09	N/A	4.00	7.88	N/A	0.19
EXB-684 N34	5	7	5.75	7.75	4.18	10.25	12.25	6.12	N/A	6.00	7.88	N/A	0.19
EXB-6124 N34	5	11	5.75	11.75	4.25	10.69	16.69	7.00	N/A	7.82	7.88	N/A	0.19
EXB-886 N34	7	7	7.59	7.59	6.06	12.32	12.32	8.09	N/A	6.00	9.88	N/A	0.19
EXB-8104 N34	7	9	7.73	9.73	4.06	12.32	14.32	6.32	N/A	8.00	9.88	N/A	0.19
EXB-8106 N34	7	9	7.59	9.59	6.06	12.32	14.32	8.32	N/A	8.00	9.88	N/A	0.19
EXB-8126 N34	7	11	8	12	6.38	13.25	17.25	8.70	3.82	7.82	10.38	14.38	0.19
EXB-8128 N34	7	11	8	12	8.38	13.25	17.25	10.70	3.82	7.82	10.38	14.38	0.19
EXB-10106 N34	9	9	10	10	6.20	15.25	15.25	8.90	4.94	4.94	12.94	12.94	0.25
EXB-10108 N34	9	9	10	10	8.20	15.25	15.25	10.90	4.94	4.94	12.94	12.94	0.25
EXB-10146 N34	9	13	10	14	6.20	15.25	19.25	8.90	4.94	8.94	12.94	16.94	0.25
EXB-10148 N34	9	13	10	14	8.20	15.25	19.25	10.90	4.94	8.94	12.94	16.94	0.25
EXB-12126 N34	10.5	10.5	11.5	11.5	6.00	16.38	16.38	8.69	6.94	6.94	14.94	14.94	0.25
EXB-12128 N34	10.5	10.5	11.37	11.37	8.00	16.38	16.38	10.69	6.94	6.94	14.94	14.94	0.25
EXB-12186 N34	10	16	11.5	17.5	6.00	16.38	22.38	9.06	6.94	12.88	14.94	20.88	0.25
EXB-12188 N34	10	16	11.37	17.37	8.00	16.38	22.38	11.06	6.94	12.88	14.94	20.88	0.25
EXB-12246 N34	10.25	22.25	11.5	23.5	6.00	16.38	28.38	9.32	6.94	18.88	14.94	26.88	0.25
EXB-12248 N34	10.25	22.25	11.37	23.37	8.00	16.38	28.38	11.32	6.94	18.88	14.94	26.88	0.25
EXB-122412 N34	10.25	22.25	11.37	23.37	12.00	16.38	28.38	15.32	6.94	18.88	14.94	26.88	0.25
EXB-12368 N34	11	35	12	36	8.12	17.25	41.25	11.40	7.00	31.00	15.00	39.00	0.25
EXB-123610 N34	11	35	12	36	10.12	17.25	41.25	13.40	7.00	31.00	15.00	39.00	0.25
EXB-14146 N34	13	13	14	14	6.20	19.25	19.25	9.40	9.00	9.00	17.00	17.00	0.25
EXB-14148 N34	13	13	14	14	8.20	19.25	19.25	11.40	9.00	9.00	17.00	17.00	0.25
EXB-16166 N34	14	14	15.5	15.5	6.00	20.38	20.38	9.19	10.94	10.94	18.94	18.94	0.25
EXB-16168 N34	14	14	15.37	15.37	8.00	20.38	20.38	11.19	10.94	10.94	18.94	18.94	0.25
EXB-16248 N34	15	23	16	24	8.12	21.25	29.25	12.00	11.38	19.38	19.38	27.38	0.25
EXB-162410 N34	15	23	16	24	10.12	21.25	29.25	14.00	11.38	19.38	19.38	27.38	0.25
EXB-18186 N34	17	17	18	18	6.12	23.25	23.25	10.00	13.38	13.38	21.38	21.38	0.25
EXB-18188 N34	17	17	18	18	8.12	23.25	23.25	12.00	13.38	13.38	21.38	21.38	0.25
EXB-18248 N34	16.38	22.13	17.37	23.37	8.00	22.38	28.38	11.75	13.00	19.00	21.00	21.25	0.25
EXB-182410 N34	16.38	22.13	17.23	23.23	10.00	22.38	28.38	13.75	13.00	19.00	21.25	21.25	0.25
EXB-18308 N34	16	29	17.87	30.8	8.00	22.37	35.37	12.37	13.25	26.5	21.00	34.50	0.25
EXB-18368 N34	16	34	17.37	35.37	8.00	22.38	40.38	12.38	13.25	31.50	21.00	39.50	0.25
EXB-183610 N34	16	34	17.23	35.23	10.00	22.38	40.38	14.38	13.25	31.50	21.25	39.50	0.25
EXB-203611 N34	18.75	34.75	20.14	36.14	11.13	26.44	42.44	15.56	15.75	31.75	23.75	39.75	0.25
EXB-24248 N34	22.25	22.25	23.37	23.37	8.06	28.38	28.38	12.19	19.50	19.50	27.50	27.50	0.25
EXB-242410 N34	22.25	22.25	23.23	23.23	10.06	28.38	28.38	14.19	19.50	19.50	27.50	27.50	0.25
EXB-24308 N34	23	29	24	30	8.12	29.25	35.25	12.40	19.56	25.56	27.56	33.56	0.25
EXB-24368 N34	23	35	24	36	8.12	29.25	41.25	12.40	19.56	31.56	27.56	39.56	0.25
EXB-243610 N34	23	35	24	36	10.12	29.25	41.25	14.40	19.56	31.56	27.56	39.56	0.25

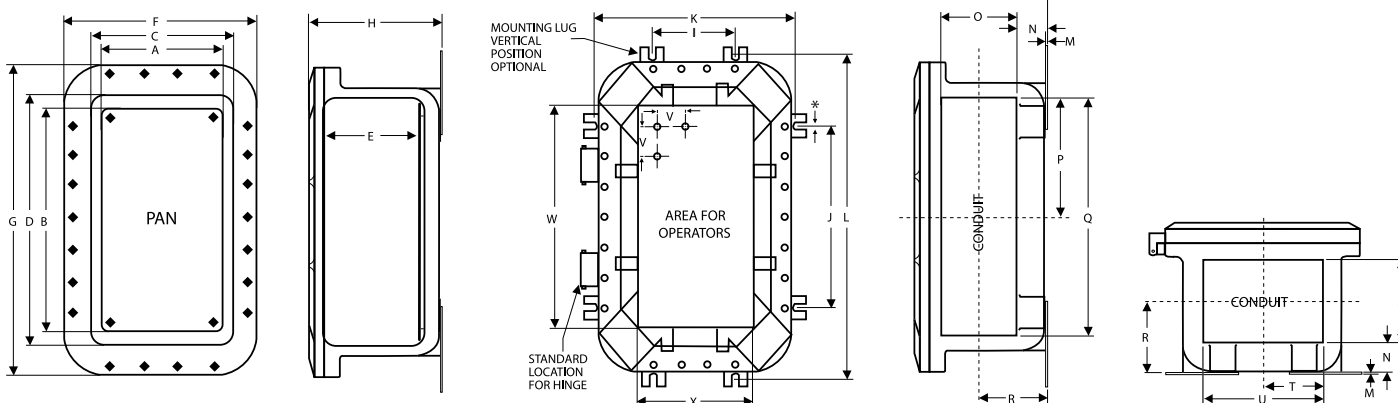
Full dimensional details are available on .DFX or .DWG format. See Killark web site.



* Mounting lug opening 7/16" for boxes up to and including 8128 and 9/16" for boxes 10 x 10 and larger

EXB CONDUIT & OPERATOR LAYOUT INFORMATION												
CATALOG NUMBER	CONDUIT AREA								OPERATOR AREA AND SPECS			
	N	O	P	Q	R	S	T	U	V	W	X	
EXB-664 N34	1.18	2.81	2.44	4.88	2.75	2.81	2.44	4.88	2.5	5	5	USE "LONG" STYLE G SERIES OPERATORS
EXB-684 N34	1.18	2.81	3.44	6.88	2.75	2.81	2.44	4.88	2.5	5	7	
EXB-6124 N34	1.18	2.81	5.00	10.00	2.75	2.81	2.44	4.88	2.5	5	11	
EXB-886 N34	1.18	4.81	3.44	6.88	3.75	4.81	3.44	6.88	2.5	7	7	
EXB-8104 N34	1.18	2.81	4.44	8.88	2.75	2.81	3.44	6.88	2.5	9	7	
EXB-8106 N34	1.18	4.18	4.44	8.88	3.45	4.81	3.44	6.88	2.5	9	7	
EXB-8126 N34	1.78	3.75	5	10	3.66	3.75	3	6	2.5	11	7	
EXB-8128 N34	1.78	5.75	5	10	4.66	5.75	3	6	2.5	11	7	
EXB-10106 N34	1.91	3.75	4	8	3.79	3.75	4	8	2.5	9	9	
EXB-10108 N34	1.91	5.75	4	8	4.79	5.75	4	8	2.5	9	9	
EXB-10146 N34	1.91	3.75	6	12	3.79	3.75	4	8	2.5	13	9	
EXB-10148 N34	1.91	5.75	6	12	4.79	5.75	4	8	2.5	13	9	
EXB-12126 N34	1.88	3.81	4.94	9.88	4.00	3.81	4.94	9.88	2.5	10	10	
EXB-12128 N34	1.88	5.81	4.94	9.88	5.00	5.81	4.94	9.88	2.5	10	10	
EXB-12186 N34	2.06	3.13	7.94	15.88	3.88	3.75	4.94	9.88	2.5	16	10	
EXB-12188 N34	2.06	5.13	7.94	15.88	4.88	5.75	4.94	9.88	2.5	16	10	
EXB-12246 N34	2.13	3.13	10.94	21.88	3.94	3.81	4.94	9.88	2.5	22.25	10.25	
EXB-12248 N34	2.13	5.13	10.94	21.88	4.94	5.81	4.94	9.88	2.5	22.25	10.25	
EXB-122412 N34	2.13	9.13	10.94	21.88	6.94	9.81	4.94	9.88	2.5	22.25	10.25	
EXB-12368 N34	2.09	5.75	17	34	4.97	5.75	5	10	2.5	35	11	
EXB-123610 N34	2.09	7.75	17	34	5.97	7.75	5	10	2.5	35	11	
EXB-14146 N34	2.09	3.75	6	12	3.97	3.75	6	12	2.5	13	13	
EXB-14148 N34	2.09	5.75	6	12	4.97	5.75	6	12	2.5	13	13	
EXB-16166 N34	2.06	3.75	6.94	13.88	4.18	3.75	6.94	13.88	2.5	14	14	
EXB-16168 N34	2.06	5.75	6.94	13.88	5.18	5.75	6.94	13.88	2.5	14	14	
EXB-16248 N34	2.34	5.75	11	22	5.22	5.75	7	14	2.5	22	14	
EXB-162410 N34	2.34	7.75	11	22	6.22	7.75	7	14	2.5	22	14	
EXB-18186 N34	2.34	3.75	8	16	4.22	3.75	8	16	2.5	16	16	
EXB-18188 N34	2.34	5.75	8	16	5.22	5.75	8	16	2.5	16	16	
EXB-18248 N34	2.32	4.88	10.94	21.88	5.00	5.56	7.94	15.88	2.5	22	16	
EXB-182410 N34	2.32	6.88	10.94	21.88	6.00	8.56	7.94	15.88	2.5	22	16	
EXB-18308 N34	2.50	4.88	14.44	28.88	5.18	6.06	7.94	15.88	2.5	29	16	
EXB-18368 N34	2.50	4.88	16.94	33.88	5.18	6.06	7.94	15.88	2.5	34	16	
EXB-183610 N34	2.50	6.88	16.94	33.88	6.18	8.06	7.94	15.88	2.5	34	16	
EXB-203611 N34	2.47	8.44	16.72	33.97	6.88	8.47	8.72	17.47	2.5	34.88	18.88	
EXB-24248 N34	2.88	5.50	10.88	21.88	5.88	5.50	10.94	21.88	2.5	22	22	
EXB-242410 N34	2.88	7.50	10.88	21.88	6.88	7.50	10.94	21.88	2.5	22	22	
EXB-24308 N34	2.47	5.75	14	28	5.35	5.75	11	22	3.0	28	22	
EXB-24368 N34	2.47	5.75	17	34	5.35	5.75	11	22	3.0	34	22	
EXB-243610 N34	2.47	7.75	17	34	6.35	7.75	11	22	3.0	34	22	

Full dimensional details are available on .DFX or .DWG format. See KILLARK web-site.



* Mounting lug opening 7/16" for boxes up to and including 8128 and 9/16" for boxes 10 x 10 and larger



Applications

- Locations made hazardous due to the presence of flammable gases or vapors, combustible dust, or easily ignitable fibers and flyings, and areas which are subject to corrosion, weather and dampness
 - Petroleum Refineries, Chemical and Petrochemical plants with indoor and outdoor process
 - Applications requiring junction, pull and/or splice boxes
 - Enclosures to house control stations, relays, starters, circuit breakers, terminal blocks and other equipment or devices
- (Lens viewing windows cannot be added to the Prism Series Enclosures. Use Killark Quantum Enclosures where viewing windows are required.)*

Features

- Copper-Free Cast Aluminum construction. High strength, lighter in weight, corrosion resistant
- Quick Release, Captivated Cover Bolts of 316 Grade Stainless Steel. Triple-lead bolts require only 3-1/2 turns to disengage. Stainless steel (316 grade) for maximum protection from corrosion



**Class I, Div. 1 & 2,
Groups B,C,D[Ⓛ]
Class I, Zone 1 & 2
Groups IIB+H₂, IIA
Class II, Div. 1 & 2,
Groups E,F,G
Class III, Div. 1 & 2
NEMA 3, 4, 4X, 7(B,C,D), 9(E,F,G)**

- Ⓛ #UL1203 - Explosion proof and dust-ignition-proof electrical equipment for use in hazardous (classified) locations. File #E83969
- Ⓢ #C22.2 No. 30-M1986-Explosion-proof Enclosure for use in Class I Hazardous Locations. FILE #LR11716

FEATURES-SPECIFICATIONS

- Gasketed Flange. Nitrile (BUNA-N) "O" ring gasket is located inside bolt circle to prevent water seeping into enclosure
- Ductile Mounting Lugs. Lugs are made of ductile aluminum alloy to adjust to irregular mounting surfaces without damage to enclosure
- Hinged Cover is Standard
- Recessed Flange Notches. Flanges are notched to allow for easier cover opening with prying instrument without flange damage
- Conduit Openings. Conduit openings can be supplied at factory, or can be field installed. See page E32

Material/Finish

- Enclosure: Cast Copper-free Aluminum (less than 4/10 of 1%)
- Hinges: Aluminum with stainless steel hardware
- Cover Bolts: 316 Grade Stainless Steel
- Aluminum Lacquer Paint Finish Standard on all B7E except B7EP and B7EQ which are powder epoxy as standard

B7E JUNCTION BOXES AND ENCLOSURES												
CATALOG NUMBER	DIMENSIONS (SEE PAGE E14)								DRAWING FIGURE	MAXIMUM CONDUIT SIZE		MAXIMUM NUMBER OF OPERATORS [Ⓢ]
	NOMINAL INSIDE			OUTSIDE			MOUNTING			TOP & BOTTOM	SIDES	
	WIDTH (A)	LENGTH (B)	DEPTH (C)	WIDTH (D)	LENGTH (E)	DEPTH (F)	WIDTH (G)	LENGTH (H)				
B7EA	6-1/2"	13-1/2"	6-11/16"	11"	18"	9-1/8"	3-5/8"	16-3/8"	1	1-1/2"	1"	4 rows of 2 = 8
B7EB	10"	18-1/2"	6-5/8"	14-1/2"	23"	9-1/8"	7"	21-3/8"	1	1-1/2"	1"	7 rows of 3 = 21
B7EC	8"	15 1/2"	6-11/16"	12-1/2"	20"	9-1/8"	5"	18-3/8"	1	1-1/2"	1"	5 rows of 2 = 10
B7ED	10"	21"	6-11/16"	14-1/2"	25-1/2"	9-1/8"	7"	23-7/8"	1	1-1/2"	1"	8 rows of 3 = 24
B7EE	8"	21-3/4"	8-5/16"	12-1/2"	26-1/4"	10-3/4"	5"	24-5/8"	1	2"	2"	8 rows of 2 = 16
B7EF	13"	22-3/4"	8-3/8"	17-7/8"	27-1/4"	11"	10-3/8"	25-5/8"	1	4"	4"	8 rows of 4 = 32
B7EG	12"	29-3/4"	8-7/8"	16-1/2"	34-1/4"	11-1/2"	9"	32-5/8"	1	5"	4"	8 rows of 3 = 24
B7EH	17"	29-3/4"	8-11/16"	21-1/2"	34-1/4"	11-7/8"	14"	32-5/8"	1	5"	4"	9 rows of 5 = 45
B7EJ	15-1/2"	57-1/2"	9-5/16"	20-1/4"	62-1/4"	15"	18-1/2"	43-1/2"	2	5"	5"	18 rows of 4 = 72
B7EK	13"	20"	6-5/8"	17-1/2"	24-3/4"	9-1/2"	15-1/4"	13"	2	3"	1-1/2"	6 rows of 4 = 24
B7EL	13"	29"	6-5/8"	17-1/2"	33-3/8"	9-1/2"	15-1/4"	21"	2	3"	1-1/2"	9 rows of 4 = 36
B7EM	13"	41"	6-5/8"	17-1/2"	45-3/8"	9-1/2"	15-1/4"	33"	2	3"	1-1/2"	14 rows of 4 = 56
B7EN	13"	50"	6-5/8"	17-1/2"	54-3/8"	9-1/2"	15-1/4"	42"	2	3"	1-1/2"	17 rows of 4 = 68
B7EP [Ⓢ]	3-5/8"	5-13/16"	5-1/16"	5-3/4"	8-1/16"	6-5/16"	3-1/8"	8-1/8"	1	1"	1"	1 row of 2 = 2
B7EQ [Ⓢ]	4-1/4"	9-3/16"	6-5/16"	8-1/8"	13-1/16"	7-13/16"	6-3/8"	7-1/2"	2	1-1/2"	1-1/2"	1 row of 4 = 4

Ⓛ All Conduits must be sealed within 18" when used in Group B Locations.
 Ⓢ Operator spacing is 2-1/2" to 4" except on B7EG & B7EH spacing is 3" to 4".
 Internal Mounting Pan Thickness is 1/8" except on B7EJ it is 3/16" thick.
 B7EJ Enclosure Cover has an Internal Rib Structure. Consult Killark for drawing details before layout of cover devices.
 Maximum number of "G" series control operators permitted in cover, down + across = total.
 Ⓢ B7 COMPACT Series - Details on page E15.





FEATURES-SPECIFICATIONS

B7E JUNCTION BOXES AND ENCLOSURES			
CATALOG NUMBER	PAN ^③		
	CATALOG NUMBER	WIDTH (J)	LENGTH (K)
B7EA	19919	5"	11-3/4"
B7EB	19920	8-1/4"	16-3/4"
B7EC	18245	6-1/4"	13-3/4"
B7ED	19921	8-3/8"	19-3/8"
B7EE	19923	6-3/8"	20-3/8"
B7EF	18472	11-5/8"	21-1/4"
B7EG	19924	10"	28"
B7EH	19925	15-3/8"	28-3/8"
B7EJ	18279	13-1/2"	54"
B7EK	19926	11"	18"
B7EL	19927	11"	27"
B7EM	19928	11"	39"
B7EN	19929	11"	47"
B7EP ^④	—	N/A	N/A
B7EQ ^④	—	N/A	N/A

MODIFICATIONS	
SUFFIX NUMBER	DESCRIPTION
KIT-251	100 amp ground lug
KIT-252	225 amp ground lug
SU3 ^①	Drain & breather installed (NEMA 7CD)
SU3B ^{① ②}	Drain & breather installed (NEMA 7BCD)
SU94	"Drill, tap & plug for future" drain & breather
SU9	Special paint finish
SU14	Fungus proofing of enclosure
SU93	Do not paint enclosure

^{① ②} The installation of a Drain & Breather will void the NEMA 4-4X rating of enclosure. Not CSA.

^③ Internal Mounting Pan Thickness is 1/8" except on B7EJ it is 3/16" thick.

^④ **B7 COMPACT Series** - Details on page E15.

Dimensions
(See page E13)

Figure 1

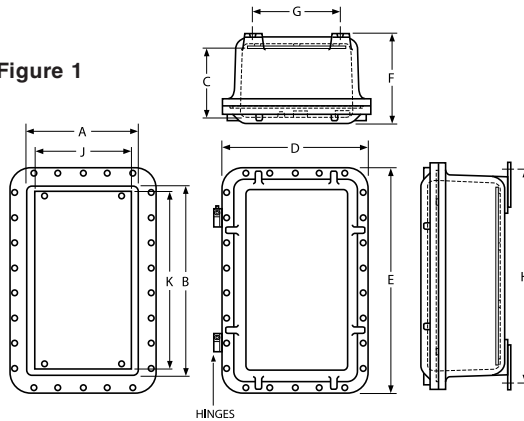
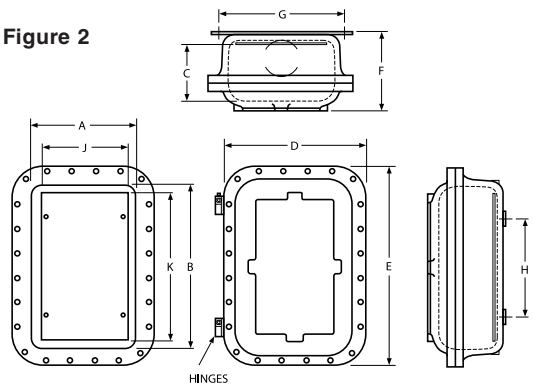


Figure 2





B7EP



B7EQ

**Class I, Div. 1 & 2, Groups B,C,D
Class I, Zones 1 & 2, Groups IIB+ H2, IIA
Class II, Div. 1 & 2, Groups E,F,G[®]
Class III
NEMA 3, 4, 4X, 7(B,C,D) 9(E,F,G)**



FEATURES-SPECIFICATIONS



Applications

The PRISM[®] B7 Series of enclosures are used in:

- Locations made hazardous due to the presence of flammable gasses or vapors combustible dust, fibers and flyings, and areas which are subject to corrosion, weather and dampness
- Petroleum Refineries, Chemical and Petrochemical plants with indoor and outdoor processes

Provided as blank enclosures or with factory modifications such as openings for “G Series” operators, conduit entries (NPT and metric), drains and breathers and terminal blocks.

Features

- Compact size enclosures for application flexibility
- NEMA 4, 4X rated - providing protection from hose directed water & corrosion
- Fewer cover bolts reduce installation and maintenance time
- Removable ductile mounting lugs adjust to irregular mounting surfaces
- See pages C40 - C49 for “G Series” control operators and accessories
- Use ‘long style’ operators

Standard Materials /Finish

- Enclosures: Copper-free aluminum (less than 4/10 of 1% copper content)
- Cover Bolts: 316 Stainless Steel
- O-ring Gasket: Silicone
- Finish: Grey Powder Polyester painted exterior, electrostatically applied.

MODIFICATIONS	
SUFFIX NUMBER	DESCRIPTION
KIT-251	100 amp ground lug
SU-2	Hinge-9 Installed
SU3*	Drain & Breather installed (NEMA 7CD)
SU3B*	Drain & Breather installed (NEMA 7BCD)
SU9	Special paint finish
SU14	Fungus proofing of enclosure

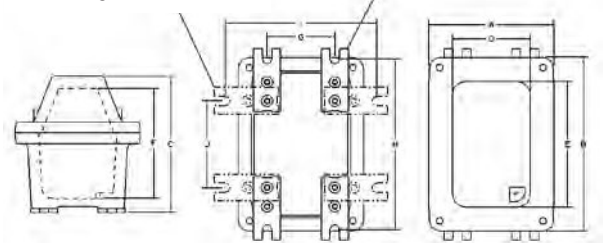
**NOTE: The installation of a Drain & Breather will void the NEMA 4-4X ratings of enclosure.*

CATALOG NUMBER ENCLOSURE ONLY	MAX. # OPERATORS	CENTER TO CENTER SPACING	MAX. CONDUIT SIZE
B7EP	2	2-1/2	1"
B7EQ	4	2	1-1/2"

DIMENSIONS

CATALOG NUMBER	OUTSIDE BOX DIMENSIONS			NOMINAL INSIDE BOX			MOUNTING DIMENSIONS			
	A	B	C	D	E	F	G	H	I	J
B7EP	5-3/4	8-1/16	6-5/16	3-5/8	5-13/16	5-1/16	3-1/8	8-1/8	-	-
B7EQ	8-1/8	13-1/16	7-13/16	4-1/4	9-3/16	6-5/16	2-1/2	11-3/8	6-3/8	7-1/2

Standard Lug Position For B7EQ
Fixed Lug Position For B7EP
Optional Position For B7EQ



Applications

- Hazardous locations due to the presence of flammable gases or vapors, combustible dusts or easily ignitable fibers or flyings
- Installations at petroleum refineries, chemical and petrochemical plants, storage areas and other processing facilities where hazardous substances are handled or stored
- Use as a junction or pull box or to enclose control stations, meters, relays, starters, terminals or other equipment or devices

Features

- Extended cover designed to allow ease of installation and maintenance of enclosed equipment
- Mounting lugs cast as standard
- Copper-free cast aluminum alloy (less than 4/10 of 1%)
- Cover bolts or plated steel
- Hinges are available and can be mounted on either right or left side of box (hinges are mounted on left side unless specified otherwise)
- Mounting pans are 1/8" thick sheet aluminum
- Enclosures are available blank or with factory modifications, options and accessories. See catalog pages E17-E22 for additional details



Class I, Div. 1 & 2, Groups C,D*
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
NEMA 7(C,D*) 9(E,F,G)

Listed - File E10514

Certified - File LR11716

Contact Killark for current approvals.
 See files for details or call Killark.

FEATURES-SPECIFICATIONS

Conduit Openings

All boxes are cast with wall thickness suitable for drilling and tapping of conduit openings which may be factory or field installed. Drilled and tapped openings can be provided on any four sides or back (size limitation of conduit opening shown with dimensional information). For custom drilled openings, refer to page E32.

MODIFICATIONS	
SUFFIX NUMBER	DESCRIPTION
SU1	Stainless steel cover bolts
SU2	Hinge installed
SU3	Drain and breather installed
KIT-251	100 AMP ground lug
KIT-252	225 AMP ground lug

XJB JUNCTION BOX ORDERING INFORMATION AND DIMENSIONS														
CATALOG NUMBER	NOMINAL INSIDE BOX SIZE			MAXIMUM CONDUIT SIZE	MOUNTING DIMENSIONS			OUTSIDE BOX DIMENSIONS				CATALOG NUMBER		NUMBER OF OPERATORS†
	W	L	D		A	B	C	D	E	G	H	OPTIONAL HINGE TYPE②	OPTIONAL MOUNTING PAN②	
XJB-5106①	5"	10"	6"	1-1/2"	5-3/4"	7-3/32"	3/8"	13-1/4"	8-1/4"	4"	8"	HINGE-9	7998-4	4 rows of 2 = 8
XJB-5136	5"	13"	6"	2"	8-1/4"	7-1/4"	3/8"	15-3/4"	8-1/4"	4"	8"	HINGE-9	7998-5	5 rows of 2 = 10
XJB-8136①	8"	13"	6"	2"	8-1/2"	10-9/16"	3/8"	16"	11"	4"	8"	HINGE-11L	7996-4	4 rows of 3 = 12
XJB-8156①	8"	15"	6"	2"	11-1/2"	10-9/16"	3/8"	18-1/2"	11"	4"	8"	HINGE-11L	7996-5	5 rows of 3 = 15
XJB-8158①	8"	15"	8"	4"	11-1/2"	10-9/16"	3/8"	18-1/2"	11"	6-1/8"	10-1/4"	HINGE-11L	7996-5	5 rows of 3 = 15
XJB-8186	8"	18"	6"	2"	13-1/2"	10-9/16"	3/8"	21"	11"	4"	8"	HINGE-11L	7996-6	6 rows of 3 = 18
XJB-8188	8"	18"	8"	4"	13-1/2"	10-9/16"	3/8"	21"	11"	6-1/8"	10-1/8"	HINGE-11L	7996-6	6 rows of 3 = 18
XJB-164812①	16"	48"	12"	4"	43-9/16"	18-1/8"	5/8"	51-1/2"	19-1/2"	7-1/4"	14-1/2"	HINGE-10L	7995-5	18 rows of 6 = 108
XJB-20328①	20"	32"	8"	3-1/2"	27-1/2"	21-7/8"	5/8"	35"	23"	6-1/8"	16-1/4"	HINGE-10L	7999-2	12 rows of 7 = 84
XJB-203210①	20"	32"	10"	3-1/2"	27-1/2"	21-7/8"	5/8"	35"	23"	6-1/8"	12-1/4"	HINGE-10L	7999-2	12 rows of 7 = 84
XJB-204010①	20"	40"	10"	3-1/2"	36"	22-3/4"	5/8"	43-1/2"	23-1/2"	6-1/4"	12-1/2"	HINGE-10L	7999-3	15 rows of 7 = 105
XJB-242416①	24"	24"	16"	4"	19-1/2"	26-7/16"	5/8"	27-1/2"	27-1/2"	9-1/4"	18-1/2"	HINGE-10L	8000-1	9 rows of 9 = 81

① Conduits must be sealed within 18" in Group C locations.

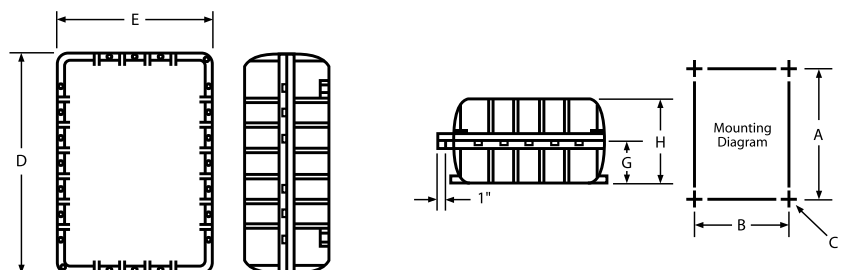
② Hinges or mounting pans not included as standard.

For ordering information see pages E17 and E18.

* NOTE: Some XJB series enclosures suitable for Group D only - contact factory.

† Maximum number of "G" series operators permitted in cover, down + across = total. Use long style "G" series operators.

Dimensions



EXB and XJB Series Mounting Pans Ordering Instructions

Select proper mounting pan based on inside (length & width) of box. Order and price as separate item from junction box catalog number.

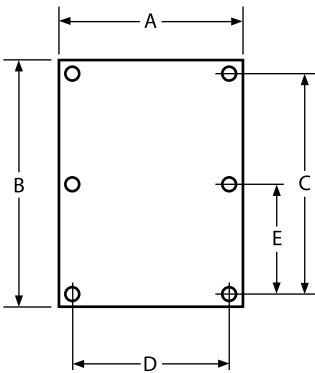
EXAMPLE: XJB-164812 } assemble
7995-5 }

EXB and XJB Series boxes have cast bosses which are drilled and tapped for direct mounting when pans are ordered.

Mounting pans are 1/8" or 3-16" thick sheet aluminum and are sized to provide the maximum usable surface area when installed.

All EXB-XJB series boxes have internal bosses that are factory machined to accept mounting pans.

Dimensions



EXB, XJB MOUNTING PAN								
CATALOG NUMBER	NOMINAL INSIDE BOX SIZE		MOUNTING PAN DIMENSION		MOUNTING HOLE SPACINGS			PAN THICKNESS
	WIDTH	LENGTH	A WIDTH	B LENGTH	C	D	E	
7998-4	5"	10"	4-1/2"	9"	6-29/32"	3"	—	.125
7998-5	5"	13"	4-1/2"	12"	10"	2"	—	.125
7997-5	6"	6"	5"	5"	3"	3"	—	.125
7997-1	6"	8"	5"	7"	5"	3"	—	.125
7997-6	6"	12"	5"	11"	9"	3"	—	.125
7996-1	8"	8"	7"	7"	5"	5"	—	.125
7996-2	8"	10"	7"	9"	7"	5"	—	.125
17619	8"	12"	7"	11"	9"	5"	—	.125
7996-4	8"	13"	7"	12"	10"	5"	—	.125
7996-5	8"	15"	7"	14-1/2"	12-1/2"	5"	—	.125
7996-6	8"	18"	7"	17"	15-1/8"	5"	—	.125
17617	10"	14"	9"	13"	11"	7"	—	.125
17618	10"	10"	9"	9"	7"	7"	—	.125
7988-1	12"	12"	10-1/2"	10-1/2"	9"	9"	—	.125
15515	12"	18"	10"	16"	15"	9"	7-1/2"	.125
7988-4	12"	24"	10-1/4"	22-1/4"	21"	9"	—	.125
17620	12"	36"	11"	35"	33"	9"	17-1/2"	.125
17621	14"	14"	13"	13"	11"	11"	—	.125
7995-1	16"	16"	14"	14"	13"	13"	—	.125
7995-2	16"	24"	14-1/2"	23"	21"	13"	—	.125
17622	16"	24"	15"	23"	21"	13"	—	.125
7995-5	16"	48"	14-1/2"	46-1/2"	45"	13"	22-1/2"	.190
17623	18"	18"	17"	17"	15"	15"	—	.190
15516	18"	24"	16-3/8"	22-1/8"	21"	15"	10-1/2"	.125
15517	18"	36"	34"	16"	33"	15"	16-1/2"	.125
7999-1	20"	24"	18-1/2"	22-1/2"	21"	17"	—	.125
7999-2	20"	32"	18-1/2"	30-1/2"	29"	17"	14-1/2"	.190
17596	20"	36"	18-3/4"	34-3/4"	32-3/4"	16-3/4"	16-3/8"	.190
7999-3	20"	40"	18-1/2"	39"	37"	17"	18-1/2"	.190
8000-1	24"	24"	22-1/4"	22-1/4"	21"	21"	—	.125
17624	24"	36"	23"	35"	33"	21"	16-1/2"	.190
205767	24"	30"	23"	29"	27"	21"	13-1/2"	.190
22061	18"	30"	16"	29"	28"	15"	14"	.125

DB Series Mounting Pans Ordering Instructions

Select proper mounting pan based on outside (length & width) of box. Order and price as separate item from the junction box catalog number.

EXAMPLE: DB-10106 } assemble
6248-10 }

DB Series boxes are provided with 1/2" raised mounting studs threaded into the back when pans are ordered. If a mounting pan is not ordered, mounting studs can still be provided by adding SU8 to box catalog number. See price list for SU8 pricing information.

DB MOUNTING PAN								
CATALOG NUMBER	WIDTH	LENGTH	A WIDTH	B LENGTH	C	D	E	PAN THICKNESS
6307-6	6"	6"	4"	4"	3"	3"	—	.125
6307-12	6"	12"	4"	10"	8-1/2"	3"	—	.125
6247-8	8"	8"	5"	5"	3-1/4"	3-1/4"	—	.125
6247-10	8"	10"	5"	7"	5-1/4"	3-1/4"	—	.125
6247-14	8"	14"	5"	11"	9-1/4"	3-1/4"	—	.125
6247-18	8"	18"	5"	15"	13-1/4"	3-1/4"	—	.125
6248-10	10"	10"	7"	7"	5-1/4"	5-1/4"	—	.125
6248-14	10"	14"	7"	11"	9-1/4"	5-1/4"	—	.125
6249-14	12"	14"	9"	11"	9-1/4"	7-1/4"	—	.125
6249-16	12"	16"	9"	13"	11-1/4"	7-1/4"	—	.125
6249-18	12"	18"	9"	15"	13-1/4"	7-1/4"	—	.125
6249-24	12"	24"	9"	21"	19-1/4"	7-1/4"	—	.125
6250-18	16"	18"	13"	15"	13-1/4"	11-1/4"	—	.125
6250-24	16"	24"	13"	21"	19-1/4"	11-1/4"	—	.125
6250-36	16"	36"	13"	33"	31-1/4"	11-1/4"	15-5/8"	.125
6251-24	20"	24"	17"	21"	19-1/4"	15-1/4"	—	.125
6251-30	20"	30"	17"	27"	25-1/4"	15-1/4"	—	.125
6252-30	24"	30"	18-3/4"	24-3/4"	23"	17"	—	.125
6252-36	24"	36"	18-3/4"	30-3/4"	29"	17"	14-1/2"	.190





HINGE 4 & 9 Stainless Steel



HINGE-10L and HINGE-10R
HINGE-11L and HINGE-11R
Extruded Aluminum

Round and Rectangular
Lens Covers Must Be
Factory Installed



GL/GLX Series
Lens Cover



FEATURES-SPECIFICATIONS

HINGES

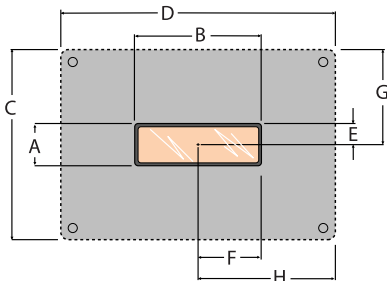
Applications

Hinges are installed on flanged enclosures to allow for easier and safer installation and when performing maintenance on internal components.

HINGES		
CATALOG NUMBER	SERIES USED	MATERIAL
HINGE-4	DB	Stainless steel
HINGE-9	EXB, XJB	Stainless steel
HINGE-10L	EXB, XJB;	Extruded aluminum
HINGE-10R	Larger sizes	Extruded aluminum
HINGE-11L	EXB,	Extruded aluminum
HINGE-11R	XJB, DB	Extruded aluminum

NOTE: Hinge 4 & 9 are single hinge and two required per enclosure.

- Hinge 10L-10R-11L-11R include two hinges
- Hinge 10L & 11L are for mounting on left side of enclosure
- Hinge 10R & 11R are for mounting on right side of enclosure
- All hinges supplied with stainless steel mounting screws and pins



GL/GLX ROUND GLASS LENS COVERS

Applications

Use GL Series lens on:

- All EXB Boxes
- XJB 16" x 48" and XJB 24" x 24"

Use GLX Series lens on:

- All DB Boxes
- All XJB Boxes except 16" x 48" and 24" x 24"

Refer to recommended minimum spacing table. Series GL and GLX have identical viewing lens diameter and outside diameter. The difference is in the thread pitch.

GLXR RECTANGULAR GLASS LENS COVERS

Applications

Rectangular glass lens windows can be factory installed to enable viewing of digital read out meters and devices such as:

- Volt meters
- Flow meters
- Gas analyzers
- Process receivers, transmitters and controllers

Ordering Information

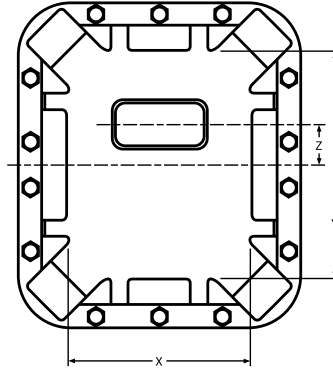
Rectangular lens option must be factory installed and ordered in conjunction with appropriate EXB Series enclosure. See page E19. Submit drawing or sketch to specify lens location. Consult factory for multi-lens arrangements.

GLXR RECTANGULAR LENS COVER ASSEMBLIES								
CATALOG NUMBER	VIEWING AREA		MINIMUM SPACE		OTHER DIMENSIONS			
	A	B	C	D	E	F	G	H
GLXR13	1"	3"	4.5"	6.5"	.5"	1.5"	2.25"	3.25"
GLXR24	2"	4"	5.5"	7.5"	1"	2"	2.75"	3.75"
GLXR27	2"	7"	5.5"	10.5"	1"	3.5"	2.75"	5.25"
GLXR34	3.5"	4"	7"	7.5"	1.75"	2"	3.5"	3.75"
GLXR36	3"	6"	6.5"	9.5"	1.5"	3"	3.25"	4.75"
GLXR47	4"	7"	7.5"	10.5"	2"	3.5"	3.75"	5.25"
GLXR59	5"	9"	8.5"	12.5"	2.5"	4.5"	4.25"	6.25"
GLXR99	9"	9"	12.5"	12.5"	4.5"	4.5"	6.25"	6.25"

GL/GLX RECOMMENDED MINIMUM SPACING — CENTERLINE TO CENTERLINE							VIEWING DIAMETER	OUTSIDE DIAMETER
GLASS LENS TYPE	GL/GLX-275	GL/GLX-300	GL/GLX-375	GL/GLX-537	GL/GLX-600	GL/GLX-775		
GL/GLX-275	7.0	7.5	7.75	8.75	9.0	10.0	2-3/4"	4-5/8"
GL/GLX-300	7.5	8.0	8.25	9.25	9.5	10.5	2-61/64"	5-1/4"
GL/GLX-375	7.75	8.25	8.5	9.5	9.75	10.75	3-45/64"	6-1/4"
GL/GLX-537	8.75	9.25	9.5	10.5	10.75	11.75	5-3/8"	7-7/8"
GL/GLX-600	9.0	9.5	9.75	10.75	11.0	12.0	6"	8-7/8"
GL/GLX-775	10.0	10.5	10.75	11.75	12.0	13.0	7-3/4"	10-1/4"

Note: For spacing less than minimum in table, (shown in inches) consult factory.





FEATURES-SPECIFICATIONS

GLXR LAYOUT GUIDE

CATALOG NUMBER	USEABLE COVER AREA		Z = MAXIMUM CENTER LINE OF COVER TO CENTERLINE OF GLASS LENS							
	X	Y	GLXR13	GLXR24	GLXR27	GLXR34	GLXR36	GLXR47	GLXR59	GLXR99
EXB-664 N34	5"	5"	N	N	N	N	N	N	N	N
EXB-886 N34	7"	7"	1-1/4"	3/4"	N	N	N	N	N	N
EXB-8104 N34	7"	9"	2-1/4"	1-3/4"	N	1"	N	N	N	N
EXB-8106 N34	7"	9"	2-1/4"	1-3/4"	N	1"	N	N	N	N
EXB-8126 N34	7"	11"	3-1/4"	2-3/4"	R •	2"	R •	N	N	N
EXB-8128 N34	7"	11"	3-1/4"	2-3/4"	R •	2"	R •	N	N	N
EXB-10106 N34	9"	9"	2-1/4"	1-3/4"	N	1"	N	N	N	N
EXB-10108 N34	9"	9"	2-1/4"	1-3/4"	N	1"	N	N	N	N
EXB-10146 N34	9"	13"	4-1/4"	3-3/4"	R	3"	R	R	R	N
EXB-10148 N34	9"	13"	4-1/4"	3-3/4"	R	3"	R	R	R	N
EXB-12126 N34	10"	10"	2-3/4"	2-1/4"	2-1/4"	1-1/2"	1-3/4"	1-1/4"	N	N
EXB-12128 N34	10"	10"	2-3/4"	2-1/4"	2-1/4"	1-1/2"	1-3/4"	1-1/4"	N	N
EXB-12186 N34	10"	16"	5-3/4"	5-1/4"	5-1/4"	4-1/2"	4-3/4"	4-1/4"	R •	N
EXB-12188 N34	10"	16"	5-3/4"	5-1/4"	5-1/4"	4-1/2"	4-3/4"	4-1/4"	R •	N
EXB-12246 N34	10-1/4"	22-1/4"	8-7/8"	8-3/8"	8-3/8"	7-5/8"	7-7/8"	7-3/8"	R	N
EXB-12248 N34	10-1/4"	22-1/4"	8-7/8"	8-3/8"	8-3/8"	7-5/8"	7-7/8"	7-3/8"	R	N
EXB-122412 N34	10-1/4"	22-1/4"	8-7/8"	8-3/8"	8-3/8"	7-5/8"	7-7/8"	7-3/8"	R	N
EXB-12368 N34	11"	35"	15-1/4"	14-3/4"	14-3/4"	14"	14-1/4"	13-3/4"	R •	N
EXB-123610 N34	11"	35"	15-1/4"	14-3/4"	14-3/4"	14"	14-1/4"	13-3/4"	R •	N
EXB-14146 N34	13"	13"	4-1/4"	3-3/4"	3-3/4"	3"	3-1/4"	2-3/4"	2-1/4"	*
EXB-14148 N34	13"	13"	4-1/4"	3-3/4"	3-3/4"	3"	3-1/4"	2-3/4"	2-1/4"	*
EXB-16166 N34	14"	14"	4-3/4"	4-1/4"	4-1/4"	3-1/2"	3-3/4"	3-1/4"	2-3/4"	3/4"
EXB-16168 N34	14"	14"	4-3/4"	4-1/4"	4-1/4"	3-1/2"	3-3/4"	3-1/4"	2-3/4"	3/4"
EXB-16248 N34	14"	22"	8-3/4"	8-1/4"	8-1/4"	7-1/2"	7-3/4"	7-1/4"	6-3/4"	4-3/4"
EXB-162410 N34	14"	22"	8-3/4"	8-1/4"	8-1/4"	7-1/2"	7-3/4"	7-1/4"	6-3/4"	4-3/4"
EXB-18186 N34	16"	16"	5-3/4"	5-1/4"	5-1/4"	4-1/2"	4-3/4"	4-1/4"	3-3/4"	1-3/4"
EXB-18188 N34	16"	16"	5-3/4"	5-1/4"	5-1/4"	4-1/2"	4-3/4"	4-1/4"	3-3/4"	1-3/4"
EXB-18248 N34	16"	22"	8-3/4"	8-1/4"	8-1/4"	7-1/2"	7-3/4"	7-1/4"	6-3/4"	4-3/4"
EXB-182410 N34	16"	22"	8-3/4"	8-1/4"	8-1/4"	7-1/2"	7-3/4"	7-1/4"	6-3/4"	4-3/4"
EXB-18308 N34	16"	29"	12-1/4"	11-3/4"	11-3/4"	10"	11-1/4"	9-3/4"	9-1/4"	8-1/4"
EXB-18368 N34	16"	34"	14-3/4"	14-1/4"	14-1/4"	12-1/2"	13-3/4"	12-1/4"	11-3/4"	10-3/4"
EXB-183610 N34	16"	34"	14-3/4"	14-1/4"	14-1/4"	12-1/2"	13-3/4"	12-1/4"	11-3/4"	10-3/4"
EXB-203611 N34	18-7/8"	34-7/8"	15-3/16"	14-11/16"	14-11/16"	13-15/16"	14-3/16"	13-11/16"	13-3/16"	11-3/16"
EXB-24248 N34	22"	22"	8-3/4"	8-1/4"	8-1/4"	7-1/2"	7-3/4"	7-1/4"	6-3/4"	4-3/4"
EXB-242410 N34	22"	22"	8-3/4"	8-1/4"	8-1/4"	7-1/2"	7-3/4"	7-1/4"	6-3/4"	4-3/4"
EXB-24308 N34	22"	28"	11-3/4"	11-1/4"	11-1/4"	9-1/2"	10-3/4"	9-1/4"	9-3/4"	7-3/4"
EXB-24368 N34	22"	34"	14-3/4"	14-1/4"	14-1/4"	12-1/2"	13-3/4"	12-1/4"	12-3/4"	10-3/4"
EXB-243610 N34	22"	34"	14-3/4"	14-1/4"	14-1/4"	12-1/2"	13-3/4"	12-1/4"	12-3/4"	10-3/4"



Symbols: N = Enclosure will not accommodate this lens size
 R = Rotate lens 90°, consult factory for layout assistance
 • = Voids UL/CSA/CENELEC certifications
 * = Indicates center line



**NEW OPTIONS
NEW LISTINGS**

**ATEX PENDING
4/2011**

- ① See chart below for suitability
- ② Warning - not for use in acetylene atmosphere

Class I, Div. 1 & 2, Groups B[Ⓛ], C, D
Class I, Zones 1 & 2, Groups IIB + H2[Ⓛ]
Class II, Div. 1 & 2, Groups E, F, G
Class III, NEMA Type 3
II 2 G Ex d IIB IIC[Ⓛ] T226C Gb IP44

Listed - File E10514
 Certified - File LR11716
 Certified File 25215
 APPROVED
 IEC Ex CSA 10.0007u

KB/KD SERIES DRAIN & BREATHERS

Applications

When installed in the top of an enclosure, these fittings act as breathers which allows air flow through the

enclosure. Bottom installations permit water from condensation to drain from the enclosure continuously. The drains and breathers are offered in a variety of hub sizes, 1/4, 3/8 & 1/2 inch NPT and metric M16 & M20.

Body Material

Aluminum with optional stainless steel or brass available for special orders.

Volume

For use in enclosures with a maximum internal volume to 9526 cubic inches or 160 liters.

CATALOG NUMBER	THREAD SIZE	BODY MATERIAL	THIRD PARTY	SUITABILITY USA	THIRD PARTY	SUITABILITY CANADA	THIRD PARTY	SUITABILITY IEC Ex
KB1B BREATHER	1/2 NPT	ALUMINUM	UL, FM & CSAus	CLASS I GROUPS B, C & D CLASS I, ZONES 1 & 2 GR IIB+H2 CLASS II GROUPS E, F & G CLASS III ENCL TYPE 3	c CSA	CLASS I GROUPS C & D CLASS I, ZONES 1 & 2 GR IIB CLASS II GROUPS E, F & G CLASS III ENCL TYPE 3	CSA	II 2 G Ex d IIC [Ⓛ] T226C Gb IP44 [Ⓛ]
KB1D DRAIN	1/2 NPT	ALUMINUM	UL, FM & CSAus		c CSA			
KB1BCEN BREATHER	1/2 NPT	ALUMINUM	CSAus		c CSA			
KB1DCEN DRAIN	1/2 NPT	ALUMINUM	CSAus		c CSA			
KBM20BCEN BREATHER	M20	ALUMINUM	CSAus	CLASS I GROUPS C & D CLASS I, ZONES 1 & 2 GR IIB CLASS II GROUPS E, F & G CLASS III ENCL TYPE 3	c CSA	CLASS I GROUPS C & D CLASS I, ZONES 1 & 2 GR IIB CLASS II GROUPS E, F & G CLASS III ENCL TYPE 3	CSA	II 2 G Ex d IIB T3 Gb IP44
KBM20DCEN DRAIN	M20	ALUMINUM	CSAus		c CSA			
KDB-1 DRAIN / BREATHER	1/2 NPT	STAINLESS STEEL	UL, FM & CSAus		c CSA			
KDB-250 DRAIN / BREATHER	1/4 NPT	ALUMINUM	CSAus		c CSA			
KDB-375 DRAIN / BREATHER	3/8 NPT	ALUMINUM	CSAus	CLASS I GROUPS C & D CLASS I, ZONES 1 & 2 GR IIB CLASS II GROUPS E, F & G CLASS III ENCL TYPE 3	c CSA	CLASS I GROUPS C & D CLASS I, ZONES 1 & 2 GR IIB CLASS II GROUPS E, F & G CLASS III ENCL TYPE 3	CSA	II 2 G Ex d IIB T3 Gb IP44
KDB-250CEN DRAIN / BREATHER	1/4 NPT	ALUMINUM	CSAus		c CSA			
KDB-375CEN DRAIN / BREATHER	3/8 NPT	ALUMINUM	CSAus		c CSA			
KDB-M16CEN DRAIN / BREATHER	M16	ALUMINUM	CSAus		c CSA			

KB SERIES FLAME ARRESTOR

Applications

The flame arrestor provides a means to connect gas analysis equipment and electro pneumatic devices' pipe or tubing system through the wall of an explosion-proof enclosure. BODY MATERIAL: 6061--T6 series aluminum provided as standard. Optional stainless steel or brass for special orders.

NEW!



Class I, Div. 1 & 2, Groups B[Ⓛ], C, D
Class I, Zones 1 & 2, Groups IIB + H2[Ⓛ]
Class II, Div. 1 & 2, Groups E, F, G
Class III, NEMA Type 3, 4[Ⓛ]
II 2 G Ex d IIB IIC[Ⓛ] T3 Gb IP66[Ⓛ]

Certified - File LR11716
 IEC Ex CSA 10.0007u

ATEX PENDING 4/2011

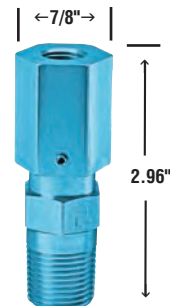
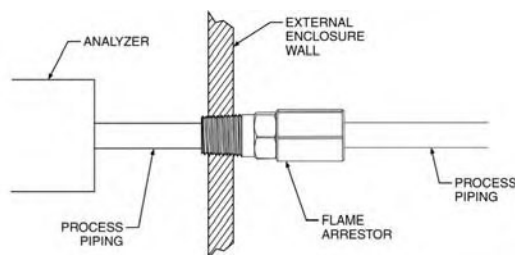
- ① See chart below for suitability
- ② Warning - not for use in acetylene atmospheres

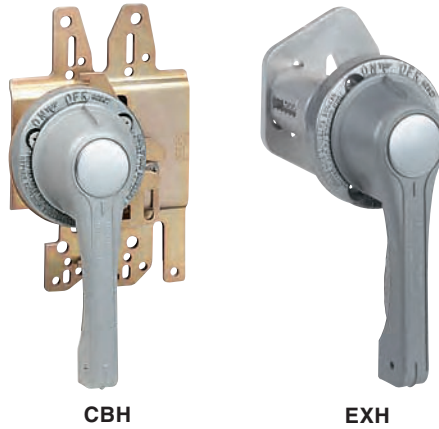
CATALOG NUMBER	EXTERNAL THREAD SIZE	INTERNAL THREAD SIZE	THIRD PARTY	SUITABILITY USA	THIRD PARTY	SUITABILITY CANADA	THIRD PARTY	SUITABILITY IEC Ex
KB1FA25	1/2 NPT	1/4 NPT	CSAus	CLASS I GROUPS B, C & D CLASS I ZONES 1 & 2 GR IIB+H2 CLASS II GROUPS E, F & G CLASS III TYPE 3 & 4	c CSA	CLASS I GROUPS C & D CLASS I, ZONES 1 & 2 GR IIB CLASS II GROUPS E, F & G CLASS III TYPE 3 & 4	CSA	II 2 G Ex d IIC [Ⓛ] T3 Gb IP66 [Ⓛ]
KB1FAM16	1/2 NPT	M16	CSAus		c CSA			
KBM20FA25	M20	1/4 NPT	CSAus		c CSA			
KBM20FA16	M20	M16	CSAus	CLASS I GROUPS B, C & D CLASS I ZONES 1 & 2 GR IIB+H2 CLASS II GROUPS E, F & G CLASS III TYPE 3.	c CSA	CLASS I GROUPS C & D CLASS I, ZONES 1 & 2 GR IIB CLASS II GROUPS E, F & G CLASS III TYPE 3.	CSA	II 2 G Ex d IIC [Ⓛ] T3 Gb IP65 [Ⓛ]

Specifications

Air flow = 83 + 15 / -25 SCFH at 5PSI
 Pressure drop = 1.3 PSI at 100 PSI
 Maximum flow pressure = 800 PSI
 Volume = For use in enclosures with a maximum internal volume of 9526 cubic inches or 160 liters.

TYPICAL INSTALATION





CBH

EXH

FEATURES-SPECIFICATIONS

Applications

CBH Series circuit breaker handles are for use with the following Series of Killark enclosures: XJB, DB.

- These devices may be used to activate circuit breakers, motor circuit protectors, and nonfusible disconnects
- Complete handle mechanisms include external handle and lockout, internal switching mechanism, and adjustable shaft
- Consult factory for installation data, and hazardous location suitability

CBH CIRCUIT BREAKER HANDLES							
COMPLETE ASSEMBLY ^①	MOUNTING PAN ^②	CATALOG NUMBER				CIRCUIT BREAKER FRAME TYPE	
		SHAFT				CUTLER HAMMER	SQUARE D
		FOR 6" DEEP BOX	FOR 8" DEEP BOX	FOR 12" DEEP BOX	FOR 20" DEEP BOX		
CBH-114	CBH-1P	CBH-6S	CBH-8S	CBH-12S	CBH-20S	EHD, FDB, FD, HFD, FDC, HMCP-150	—
CBH-118	CBH-1P	CBH-6S	CBH-8S	CBH-12S	CBH-20S	—	FAL, FHL
CBH-120	CBH-1P	CBH-6S	CBH-8S	CBH-12S	CBH-20S	30, 60 Amp N.F. Switch	—
CBH-213	CBH-3P	CBH-6S	CBH-8S	CBH-12S	CBH-20S	DK, KDB, KD, HKD, KDC, HMCP-400	—
CBH-216	CBH-3P	CBH-6S	CBH-8S	CBH-12S	CBH-20S	JDB, JD, HJD, JDC, HMCP-250	—

①CBH-114 thru CBH-120 provided with CBH-6S shaft. CBH-213 thru CBH-216 provided with CBH-8S shaft.
②Breaker mounting pan is not included in complete assembly.

Circuit Breaker Handles

For use with enclosure type B7E-DB-EXB-XJB

- Used to activate circuit breakers and motor circuit protectors from front cover
- Factory or field installed in a 3/4" NPSM opening for EXH1 & EXH2 and a 1-1/4" NPSM for EXH3
- Has provision for Lock-On and Lock-Off with up to three padlocks
- Consists of an external handle mechanism with through-the-enclosure shaft and internal toggle mechanism and breaker pan

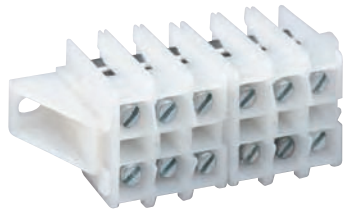
Submit sketch showing the desired location of internal breaker for factory location of handle mechanism.

Order as separate option with enclosure for factory installation or by Catalog Number for field installation.

Consult factory for handle mechanism for fused and non-fused disconnect switches.

EXH CIRCUIT BREAKER HANDLE WITH SHAFT AND PAN					
CATALOG NUMBER			BREAKER MANUFACTURER	BREAKER FRAMES TO OPERATE	MAX. AMPS
6" DEEP BOX	8" DEEP BOX	10" DEEP BOX			
EXH1A6	EXH1A8	EXH1A10	GE	TEB-TED-THED-TEL	150
			ITE/Siemens	ED2-ED4-ED6-HED4-HED6	125
			Square D	FAL-FHL-FCL	100
			Cutler Hammer	EHD-FDB-FD-HFD-FDC-HMCP	150
N/A	EXH1B8	EXH1B10	GE	TFJ-TFK-THFK-TFL	225
			Square D	KAL-KHL-KCL	250
			Cutler Hammer	JDB-JD-HJD-JDC	250
N/A	EXH2C8	EXH2C10	Cutler Hammer	DK-KDB-KD-HKD-KDC	400
N/A	EXH3D8	EXH3D10	GE	TJJ-TJK4-TJK6-THJK4-THJK6	600
			ITE/Siemens	FXD6-FD6-HFD6-CFD6	250
			ITE/Siemens	JXD2-JXD6-JD6-HJD6-HHJD6-CJD6	400
			ITE/Siemens	LXD6-LD6-HKD6-HHLD6-CLD6	600
			Square D	LAL-LHL	400
			Cutler Hammer	LDB-LD-HLD-LDC	600
N/A	N/A	EXH3E10	GE	TKM8-THKM8-TKM12-THKM12	1200
			ITE/Siemens	MXD6-MD6-HMXD6-HMD6-CMD6	800
			ITE/Siemens	NXD6-ND6-HNXD6-HND6-CND6	1200
			Square D	LCL	600
			Square D	MAL-MHL	1000
			Cutler Hammer	ND-HND-NDC	1200





Terminal Block



External Control Operators
(See Pages C31-C36)

FEATURES-SPECIFICATIONS

600 Volt -#8-#22 CU; #8-#12 AL.
50 Amp Maximum

Applications

Mounting in EXB, XJB, GR, DB Series junction boxes.

- Use in connecting and in arrangement of control wiring for control panel and switchboard applications

Features

- Terminal blocks have clamping screw-type terminals which accommodate either aluminum or copper wire. TMS marking strips are included.
- When more than one terminal strip is required, a mounting pan should be used for ease of mounting and wiring

$C = .625 + (1.3125 \times N)$

$L = 1.250 + (1.3125 \times N)$

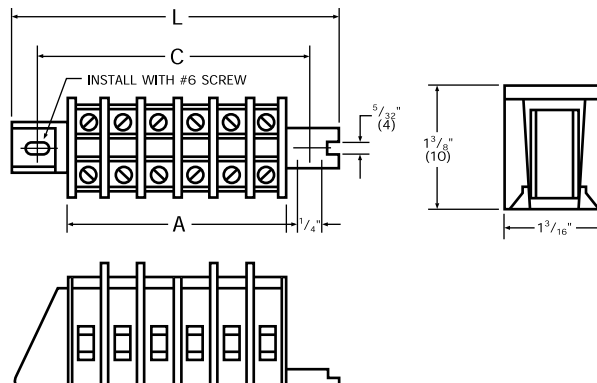
N = NUMBER OF BLOCKS

External Control Operators

- Custom control panels possible by factory or field installation of Killark "G" series control operators
- Select from a wide variety of push buttons, pilot-lights, selector switches, potentiometer operators and motor shaft rotary operators
- Refer to catalog pages C31 - C36 for operator selection

TBWE TERMINAL BLOCKS				
CATALOG NUMBER	NO. OF CIRCUITS	DIMENSIONS		
		A	C	L
TBWE-3	3	1.25	1-7/8"	2-1/2"
TBWE-6	6	2.50	3-1/8"	3-3/4"
TBWE-9	9	3.75	4-3/8"	5"
TBWE-12	12	5.0	5-5/8"	6-1/4"
TBWE-15	15	6.25	6-7/8"	7-1/2"
TBWE-18	18	7.50	8-1/8"	8-3/4"
TBWE-21	21	8.75	9-3/8"	10"
TBWE-24	24	10.0	10-5/8"	11-1/4"
TBWE-27	27	11.25	11-7/8"	12-1/2"
TBWE-30	30	12.50	13-1/8"	13-3/4"
TBWE-33	33	13.75	14-3/8"	15"
TBWE-36	36	15.0	15-5/8"	16-1/4"
TBWE-39	39	16.25	16-7/8"	17-1/2"
TBWE-42	42	17.5	18-1/8"	18-3/4"
TBWE-45	45	18.75	19-3/8"	20"
TBWE-48	48	20.0	20-5/8"	21-1/4"
TBWE-51	51	21.25	21-7/8"	22-1/2"
TBWE-54	54	22.50	23-1/8"	23-3/4"
TBWE-57	57	23.75	24-3/8"	25"
TBWE-60	60	25.0	25-5/8"	26-1/4"






Cutler Hammer TypeTBA Modular Terminal Blocks
600 Volt-#8-#22 CU.; #8-#12 AL.
Clamping Screw Type Terminals, Type TMS Marking Strip Included



ATEX / IEC Ex Certified



Class I, Div. 1 & 2, Groups B,C,D
Class I, Zones 1 & 2, Groups IIB+H₂, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III, Div. 1 & 2
NEMA 3, 4, 4X, 7(B,C,D), 9(E,F,G)
CENELEC/ATEX/IEC Ex
Exd IIC T6 or T5
IP66 T80°C or T90°C
Ex d IIC T6 or T5
Ex tD A21 IP66 T80°C or T90°C

-  #UL886 - Outlet Boxes and Fittings for use in Hazardous (Classified) Locations. File #E10514
-  #UL1203 - Explosion Proof and Dust Ignition Proof Electrical Equipment. File #E83969
-  #C22.2 No. 30-M1986 - Explosion Proof Enclosure for use in Class I Hazardous Locations. File #LR11716
-  #3600 & 3615 File #2Y4A5.AE
- CENELEC  II 2 G/D
 PTB 02 ATEX 1071U (Empty Housing)
 PTB 02 ATEX 1072 (Enclosure with Controls)
 IEC Ex PTB 05 0029
 IEC Ex 50 0028U

FEATURES-SPECIFICATIONS

Applications

- Hazardous locations due to the presence of flammable gases or vapors, combustible dusts or easily ignitable fibers or flyings, and areas which are subject to corrosion, weather and dampness
- Installations at petroleum refineries, chemical and petrochemical plants, storage areas, and other processing facilities where hazardous substances are handled or stored
- Applications requiring junction, pull and/or splice boxes
- Enclosures to house meters, relays, terminal strips, control transformers, etc.

• **Global applications* (ATEX)**
Enclosures are available for global applications with "CEN" suffix. Assemblies that are modified to CENELEC/ATEX standards maintain their North American certifications.

Features

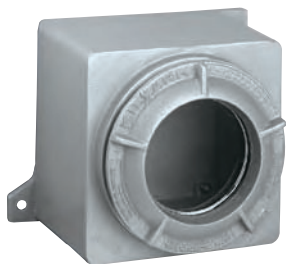
- Compact square or rectangular enclosures with threaded screw type covers provide easy access to interior
- Can be shipped in component parts and still maintain third party UL-CSA-FM approvals
- Available in three different cover types, flat blank, lens and dome covers
- Cast mounting lugs are standard on all assemblies
- Available as blank box or can be custom drilled and tapped for conduit openings which may be factory or field installed on the four sides or back wall
- Gaskets are standard on all assemblies and with covers when component part ordering
- Internal ground screw supplied on all boxes
- CEN suffix modification for CENELEC Certification includes an external ground screw, cover locking screw, and nameplate displaying certification and area classifications. Feature is only available on complete assemblies and not available when component part ordering.

Material/Finish

- Enclosures:
Copper-free Aluminum (less than 4/10 of 1%)
- Optional Mounting Pans:
Sheet Aluminum
- Lens Cover Glass:
Tempered soda lime glass
- Cover Gaskets:
GRB, GRE, GRM, GRK, GRL
70 Durometer NITRILE
GRH, GRHA, GRHC
57 63 Durometer BUNA-N
- Electrostatically applied gray powder epoxy/polyester finish on exterior of box and cover



Box with blank cover



Box with lens cover



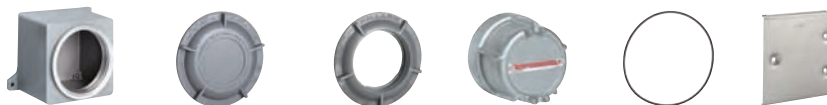
Box with dome cover

NOTE: See Page E23 for Third Party Certifications

FEATURES-SPECIFICATIONS

GR COMPLETE ASSEMBLIES									
COVER OPENING DIAMETER	NOMINAL EXTERNAL BOX DIMENSIONS WITHOUT COVER			CATALOG NUMBER		VIEWING AREA	CATALOG NUMBER	DEPTH OF DOME	MAXIMUM CONDUIT SIZE
				BOX WITH BLANK COVER	BOX WITH LENS COVER		BOX WITH DOME COVER		
	L	W	D						
3-29/32"	4-5/8"	4-5/8"	4-5/32"	GRB	GRB-275L	2-3/4"	2GRB 4GRB	2" 4"	1-1/2"
4-11/32"	6-5/8"	5-1/2"	5-1/4"	GRE	GRE-300L	3"	—	—	2"
5-9/32"	6-7/8"	6-7/8"	5-15/16"	GRM	GRM-375L	3-3/4"	3GRM 5GRM	3" 5"	2"
7-1/4"	9-7/8"	8-3/8"	6-17/32"	GRK	GRK-537L	5-3/8"	4GRK	4"	2-1/2"
7-7/8"	10-1/2"	8-7/8"	7-3/16"	GRL	GRL-600L	6"	—	—	2"
9-5/8"	12"	11"	7-5/8"	GRH	GRH-775L	7-3/4"	4GRH 8GRH	4" 8"	4"
9-5/8"	12-3/16"	11"	11"	GRHC	GRHC-775L	7-3/4"	4GRHC 8GRHC	4" 8"	4"
9-5/8"	12"	11"	16-3/16"	GRHA	GRHA-775L	7-3/4"	4GRHA 8GRHA	4" 8"	4"

NOTE: To order above items with CENELEC Modifications and Certifications add suffix CEN to end of catalog number. (Example: GRBCEN)
To order above items with a flat back pan installed add suffix P to catalog number.



GR COMPONENT PARTS							
ENCLOSURE SERIES	CATALOG NUMBER OF COMPONENTS						
	BOX WITHOUT COVER	BLANK COVER	LENS COVER	DOME COVER	GASKET REPLACEMENT	FLAT PAN	DIMENSIONS FOR MTG. PANS
GRB	GRBB	GRB-BC	GL-275	2"- 2GRBD 4"- 4GRBD	GRB-RG	6086PAN	3.5" x 3.5"
GRE	GREB	GRE-BC	GL-300	—	GRE-RG	6074	4" x 4.5"
GRM	GRMB	GRM-BC	GL-375	3"- 3GRMD 5"- 5GRMD	GRM-RG	6064	5" x 5"
GRK	GRKB	GRK-BC	GL-537	4"- 4GRKD	GRK-RG	6038	5.5" x 7.5"
GRL	GRLB	GRL-BC	GL-600	—	GRL-RG	6053	6" x 8.5"
GRH	GRHB	GRH-BC	GL-775	4"- 4GRHD 8"- 8GRHD	GRH-RG	6058	8" x 9"
GRHC	GRHCB	GRH-BC	GL-775	4"- 4GRHD 8"- 8GRHD	GRH-RG	6058	
GRHA	GRHAB	GRH-BC	GL-775	4"- 4GRHD 8"- 8GRHD	GRH-RG	6058	

NOTES: Covers are supplied with gasket.
For Group B locations all conduits must be sealed within 18" of enclosures.

CAT. NO.	INTERNAL											+M	
	A	B	C	D	E	F	G*	H	I	J	K		L
GRB	4"	6"	5/16"	4-5/8"	4-5/8"	4-5/32"	3-29/32"	4-9/16"	4-17/32"	3-3/4"	3-3/4"	2-11/16"	2-3/4"
GRE	5-3/4"	6-1/2"	5/16"	6-5/8"	5-1/2"	5-1/4"	4-11/32"	5-3/4"	5-23/32"	4-5/8"	5-3/4"	3-9/32"	3"
GRM	5-7/8"	8-1/8"	5/16"	6-7/8"	6-7/8"	5-15/16"	5-9/32"	6-9/16"	6-9/16"	6"	6"	4-3/16"	3-3/4"
GRK	9-1/8"	9-5/8"	5/16"	9-7/8"	8-3/8"	6-17/32"	7-1/4"	7-9/32"	7-3/16"	7-1/16"	8-5/16"	4-1/8"	5-3/8"
GRL	9-1/2"	10-1/2"	7/16"	10-1/2"	8-7/8"	7-3/16"	7-7/8"	7-31/32"	7-15/16"	7-5/8"	9-1/8"	4-15/16"	6"
GRH	10-3/4"	12-1/8"	7/16"	12"	11-5/8"	7-5/8"	9-5/8"	8-3/8"	8-5/8"	9-1/2"	10-1/2"	5"	7-3/4"
GRHA	8-1/4"	12-1/8"	7/16"	12"	11-5/8"	16-3/16"	9-5/8"	16-15/16"	16-3/16"	9-1/2"	10-1/2"	13-9/16"	7-3/4"
GRHC	8-1/4"	12-1/8"	9/16"	12-3/16"	11-5/8"	11"	9-5/8"	11-3/4"	12"	9-9/16"	10-5/8"	8-7/16"	7-3/4"

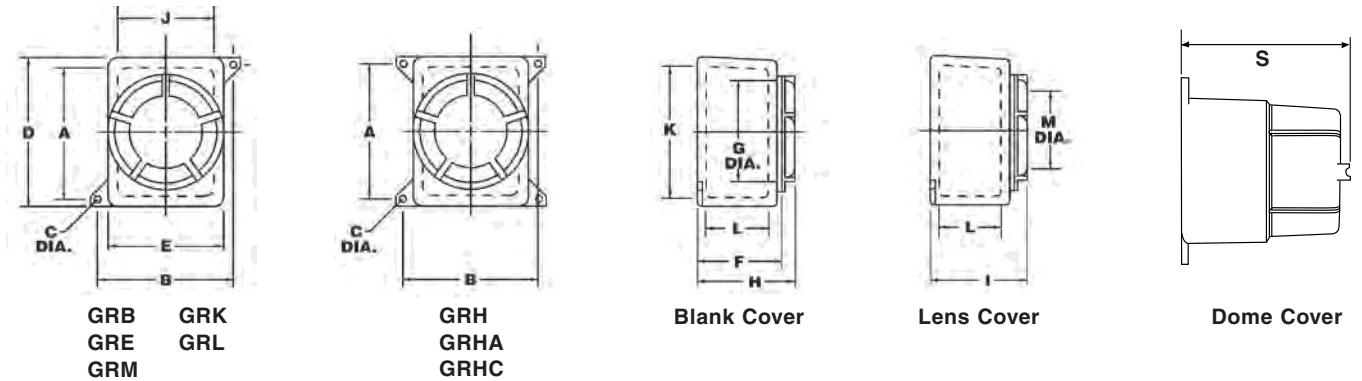
CATALOG NUMBER BASIC BOX W/DOME COVER	S
2GRB	7"
4GRB	9"
3GRM	10-1/4"
5GRM	12-1/4"
4GRK	11-15/16"
4GRH	13"
8GRH	17"
4GRHA	21-1/2"
8GRHA	25-1/2"
4GRHC	16-5/16"
8GRHC	20-5/16"

NOTE: GRH has four lugs with holes. GRHA & GRHC has four lugs with slots.

* Box Opening

+ Lens Viewing

Dimensions

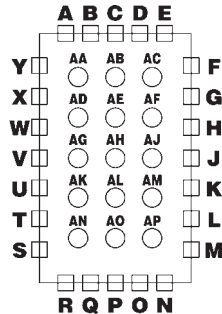


GR MODIFICATIONS	
SUFFIX NUMBER	DESCRIPTION
SU3	Drain and breather NEMA 3,7CD,9EFG
SU3B	Drain and breather NEMA 3,7BCD,9EFG
P	Internal flat mounting pan installed
CEN	CENELEC modification and certification (complete box & cover assembly only)
SU8	Drill for pan mounting studs without pan
SU6	Removal of external mounting lugs

- Installation of drain and breather will void NEMA 4-4x ratings
- SU3/SU3B are not CENELEC approved
- SU3B not CSA
- Contact Killark for CENELEC drain and breather requirements

Drilled & Tapped Conduit Openings

Boxes are furnished blank for field drilling and tapping of conduit openings. If factory openings are requested submit drawing or select from charts below.

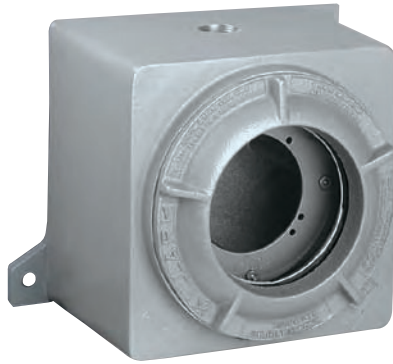


SYMBOL NUMBER	
SIZE	SYMBOL
1/2"	1
3/4"	2
1"	3
1-1/4"	4
1-1/2"	5
2"	6
2-1/2"	7
3"	8
3-1/2"	9
4"	10

GR ENCLOSURE VOLUMES	
CATALOG NUMBER	VOL. (CU. IN.)
GRB	45
GRE	105
GRM	180
GRK	305
GRL	405
GRH	615
GRHA	1450
GRHC	985
GRB-275L	40
GRE-300L	95
GRM-375L	170
GRK-537L	280
GRL-600L	380
GRH-775L	570
GRHA-775L	1400
GRHC-775L	940
2GRB	60
4GRB	80
3GRM	225
5GRM	250
4GRK	410
4GRH	820
8GRH	1050
4GRHA	1660
8GRHA	1890
4GRHC	1195
8GRHC	1425


EXAMPLE: **GRB-C3-J2-P1=**


GRB enclosure with 1" NPT top center,
3/4" NPT right side center,
1/2" NPT bottom center



Class I, Div. 1 & 2, Groups B,C,D
Class I, Zones 1 & 2, Groups IIB+H₂, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III, Div. 1 & 2
NEMA 3, 4, 4X, 7(B,C,D), 9(E,F,G)

 #UL1203 - Explosion Proof and Dust Ignition Proof Electrical Equipment. File #E83969

 #C22.2 No. 30-M1986 -Explosion Proof Enclosure for use in Class I Hazardous Locations. File #LR11716

 #3600 & 3615 File #2Y4A5.AE

FEATURES-SPECIFICATIONS

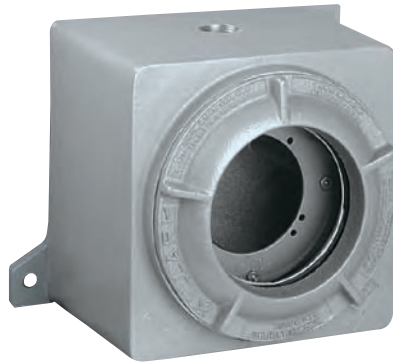
Applications

Use GR Series Instrument Enclosures for mounting of 3", 3-1/2", 4" or 4-1/2" round or rectangular instruments such as ammeters and voltmeters

- Two 3/4"-14 NPT drilled and tapped conduit openings, one top and one bottom, are standard
- Internal mounting pan is attached to inside back of box with spacers for mounting meter

GR INSTRUMENT ENCLOSURES (INSTRUMENTS NOT SUPPLIED)				
CATALOG NUMBER	MANUFACTURER	INSTRUMENT		
		MODEL	SIZE	TYPE
GRM-375L52	Weston	1930 Series	3-1/2"	Rectangular
		301 Series	3"	Rectangular
		301 Series	3-1/2"	Round
GRM-375L52	General Electric	KT w/o reset	3"	Rectangular
		KT w/o reset	3-1/2"	Round
GRM-375L52	Cutler Hammer	R-351	3"	Rectangular
		B-351 w/o reset	3"	Rectangular
		N-351	3-1/2"	Round
GRM-375L52	Simpson	27,27T,37,47, 57,77 Series	3"	Rectangular
		2100 Series	3-1/2"	Rectangular
		25,25T,35,45,55 Series	3-1/2"	Round
		55ET	3-1/2"	Round
		75	3-1/2"	Round
		1300 Series	3-1/2"	Rectangular
		3223	3-1/2"	Round
3323	3-1/2"	Rectangular		
GRM-375L52	Cutler Hammer	N-371 Series	4-1/2"	Round
GRK-537L52A	Cutler Hammer	R-371 Series	4"	Rectangular
GRK-537L52A	Simpson	3224	4-1/2"	Round
GRK-537L52A	General Electric	250,162, 167,251 Series	3-1/2"	Rectangular
		178 Series	4-1/2"	Rectangular
		171 Series frequency meter	4-1/2"	Rectangular
		236 w/o Reset	3-1/2"	Rectangular
GRK-537L52B	Weston	1940 Series	4-1/2"	Rectangular
GRK-537L52B	General Electric	AB/DB-30 AC ammeter	4-1/2"	Rectangular
		AB/DB-30 AC/DC ammeter	4-1/2"	Rectangular
GRL-600L52B	General Electric	AB/DB-40 AC ammeter	4-1/2"	Rectangular
GRK-537L52B	General Electric	DB-40 DC ammeter	4-1/2"	Rectangular
		DB-40 DC voltmeter	4-1/2"	Rectangular
		171,250, 251 Series	4-1/2"	Rectangular
GRL-600L52C	Simpson	29,29T,39,49,59, 79,1300,2100 Series	4-1/2"	Rectangular
GRH-775L52B	General Electric	AB/DB-40 AC voltmeter	4-1/2"	Rectangular





FEATURES-SPECIFICATIONS

GR DIMENSIONS									
CATALOG NUMBER	FIG. NO.	A	B	C	D	E	G	H	I
GRM-375L52	1	5-7/8"	8-1/8"	5/16"	6-7/8"	6-7/8"	3-9/16"	6-13/32"	2-5/8"
GRK-537L52A	1	9-1/8"	9-1/8"	5/16"	9-7/8"	7-7/8"	4-7/8"	6-11/16"	2-1/2"
GRK-537L52B	1	9-1/8"	9-1/8"	5/16"	9-7/8"	7-7/8"	4-7/8"	6-11/16"	2-1/2"
GRL-600L52B	1	9-1/2"	10-1/2"	7/16"	10-1/2"	8-7/8"	5-13/16"	7-17/32"	2-3/4"
GRL-600L52C	1	9-1/2"	10-1/2"	7/16"	10-1/2"	8-7/8"	5-13/16"	7-17/32"	2-3/4"
GRH-775L52B	2	10-3/4"	12-1/8"	7/16"	12"	11"	7-7/16"	8-3/4"	3"

Dimensions

Figure 1

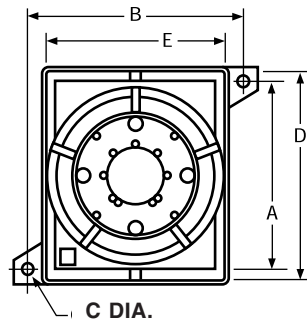
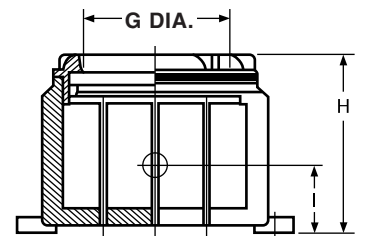
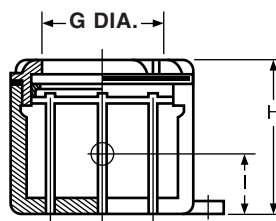
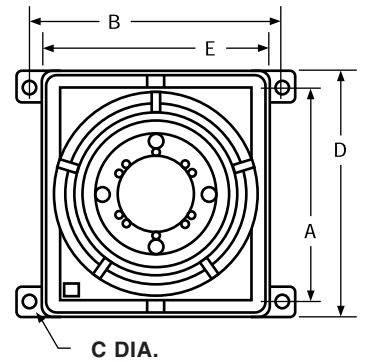


Figure 2



ATEX Certified

Class I, Div. 1 & 2, Groups A*,B,C,D†
 Class I, Zones 1 & 2, Groups IIB + H₂, IIA
 Class II, Div. 1 & 2, Groups E,F,G
 Class III
 NEMA 3, 4, 4X, 7(B,C,D) 9(E,F,G)
 CENELEC/ATEX - Ex d IIC IP66**
 Ta ≤ +60° C



Classified - File E83969
 & File E150827



Certified - File LR11716



File 1W1R4-RE

ATEX Certificate:
 DEMCO 01 ATEX 015742U (Enclosure Only)


HK

2HK
FEATURES-SPECIFICATIONS
Applications

Instrumentation housed in HK Series enclosures typically used to measure, detect, monitor, transmit and control industrial processes and systems.

HK Series enclosures are suitable for a broad range of applications, meeting both domestic and international code requirements.

Some specific examples of the type of instruments that can be housed in these enclosures include:

- Flow measurement devices
- Temperature monitors
- Two-wire transmitters
- Gas detectors
- Ph analyzers
- Pressure gauges
- Temperature transmitters
- Oxygen/combustible gas sensors
- Methane gas monitors
- Level detectors
- H₂S monitors
- Transducers
- Pressure switches

See pages E30 and E31 for dimensions.

Features

- Enclosures are explosion proof, dust/ignition proof, weather proof and tamper resistant
- HK Series boxes covers are cast from a copper-free aluminum alloy
- Cast stainless steel box, flat & lens cover available (HKSB-BC + HKSB-GLC)
- Neoprene O-rings are provided with HK boxes to assure water resistance in NEMA 4/IP66 conditions
- Two box styles available: HKB single cover design and the 2HKB double cover design. 2HKB enclosure has two separate chambers for isolation between power and instrument.
- HKB box has offset feed-thru conduit openings (3/4" NPT) for maximum use of interior volume
- 2HKB box has offset feed-thru conduit openings (3/4" NPT) on power side and one (3/4" NPT) on bottom instrument side
- Interior mounting pad for instrument/device cast into the bottom of the HKB box is provided in an "X"-configuration for flexibility
- Location of the internal ground screw boss does not interfere with the mounting of the instrument or device

- Six different cover styles are available: standard flat cover, standard glass lens cover, 1" dome lens cover, 2" dome cover, 2" glass lens dome cover and 4" dome cover
- All covers have shrouded tamper resistant set screws as standard which can help to combat excessive vibration in rugged settings
- Lugs on cover permit easy removal and tightening

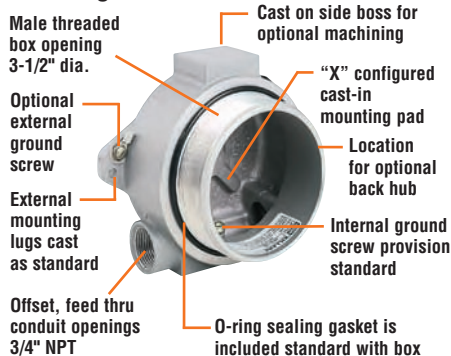
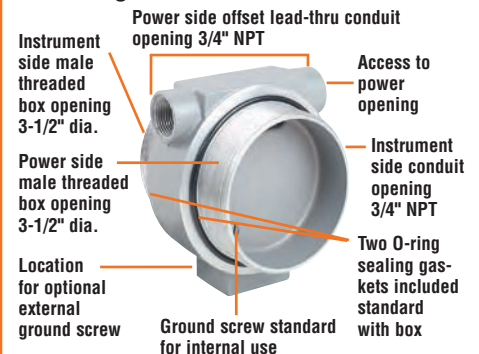
Material/Finish

- Boxes and covers — Copper-free aluminum (less than 4/10 of 1%)
- HKSB series is 316 cast stainless steel
- O-ring sealing gasket — Neoprene rubber
- Ground screws — zinc plated steel with green dye (Stainless steel on HKSB)
- Allen head cover screw — cadmium plated steel (Stainless steel on HKSB)
- Glass lens — 3/8" thick tempered glass
- Finish — silver powder epoxy paint, electrostatically applied
- Special colors available in quantity

* Group A FM only on HK single cover box.
 Order with -GA suffix.

**CENELEC on assembled HK parts only with suffix "C".

† Seal within 18" of enclosure for Groups BCD and within 6" for Group A in accordance with sections 501-5 and 502-5 of the National Electrical Code.

HK Design Features

2HK Design Features

KILLARK®



NOTE: See page E28 for Third Party Certification

FEATURES-SPECIFICATIONS

HK COMPONENT PARTS	
CATALOG NUMBER	DESCRIPTION
HKB	Single cover box only
HKBD	Single deep box only
2HKB	Double cover Box only
HFC	Flat cover
HKGL	Lens cover
HK1GLD*	1" Dome lens cover
HK2D	2" Dome cover
HK4D	4" Dome Cover
HK2GLD	2" Dome lens cover
15722LABB	Rep. "O" Ring Gasket

2HKB Series Boxes

The wall that separates the instrument side from the power side can be machined for slots or holes up to a maximum of two slots 5/16" by 1-1/2".
 Submit drawings for machining requirements to Killark.

Factory Modifications

Approvals allow for factory or field modifications on HKB box for drilling and tapping conduit openings on side or back of enclosure without voiding UL-CSA-FM approvals. Internal mounting pad holes on "X" configured boss can be factory added by drilling from inside of box without piercing the bottom of enclosures. Assemblies with CENELEC approvals must be factory modified in order to comply with certifications.

HK ASSEMBLED PARTS ②③					
CATALOG NUMBER (CAST ALUMINUM)					COVER TYPE
HKB BOX & COVERS		HKBD BOX & COVERS	2HKB BOX w / BLANK COVER on POWER SIDE & OPTIONAL COVER on INSTRUMENT SIDE④		
UL-CSA-FM APPROVED	CENELEC UL-CSA-FM APPROVED	UL-CSA-FM APPROVED	(UL-CSA-FM)	CENELEC UL-CSA-FM APPROVED⑤	
HKB-B	HKB-BC	HKBD-B	2HKB-B-B	2HKB-BC-BC	Standard flat
HKB-2D	HKB-2DC	HKBD-2D	2HKB-B-2D	2HKB-BC-2DC	2" Dome
HKB-4D	HKB-4DC	HKBD-4D	2HKB-B-4D	2HKB-BC-4DC	4" Dome
HKB-GL	HKB-GLC	HKBD-GL	2HKB-B-GL	2HKB-BC-GLC	Lens
HKB-2GLD	HKB-2GLDC	HKBD-2GLD	2HKB-B-2GLD	2HKB-BC-2GLDC	2" Dome lens

HKB FACTORY MODIFICATIONS	
CATALOG SUFFIX	DESCRIPTION
-01 -	1/2 NPT hub in back
-02 -	3/4 NPT hub in back
-10 -	1/2 NPT hub in side
-20 -	3/4 NPT hub in side
-21 -	3/4 NPT hub in side 1/2 NPT hub in back
-22 -	3/4 NPT hub in side 3/4 NPT hub in back
-02S -	3/4 NPSM hub in back
-22S -	3/4 NPT hub in side 3/4 NPSM hub in back
-2S2S -	3/4 NPSM hub in side 3/4 NPSM hub in back
-2S0 -	3/4 NPSM hub in side
-2S1 -	3/4 NPSM hub in side 1/2 NPT hub in back
-2S2 -	3/4 NPSM hub in side 3/4 NPT hub in back
-GS	External ground screw (Standard on HKB assembly with CENELEC approvals)
-GA -	Group A - FM approval (Available only on HKB box furnished with covers installed)
-SU93 -	Unpainted - Natural finish
-SU9 -	Special colors of powder paint available in quantity. Consult factory for details

HKSB STAINLESS STEEL ASSEMBLED PARTS ②③	
HKSB BOX & COVERS CENELEC UL-CSA-FM APPROVED	COVER TYPE
HKSB-BC	Standard flat
HKSB-GLC	Lens

- ① Assemblies that are CENELEC approved include as standard:
 - External ground screw with terminal
 - Pre-drilled nameplate holes and screw on pad for customer installed nameplate.
- ② See information at right for optional factory machining.
- ③ Product is stocked at component level. Recommend ordering as such for reduced lead time.
- ④ 2HKB Assemblies include a flat cover on power side, dome and lens covers can be substituted in place of flat cover, consult factory for ordering details.
- ⑤ Not ATEX certified



Ordering examples:
 Modified box component HKB-20
 Modified assembly HKB - B - 20 OR HKB - BC - 20



HK

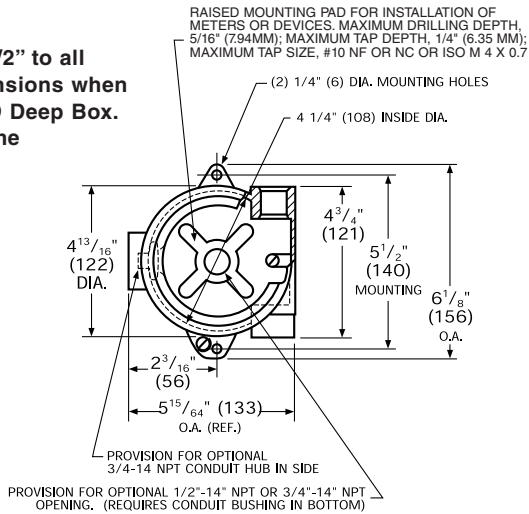


2HK

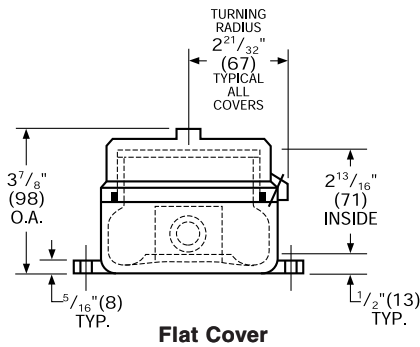
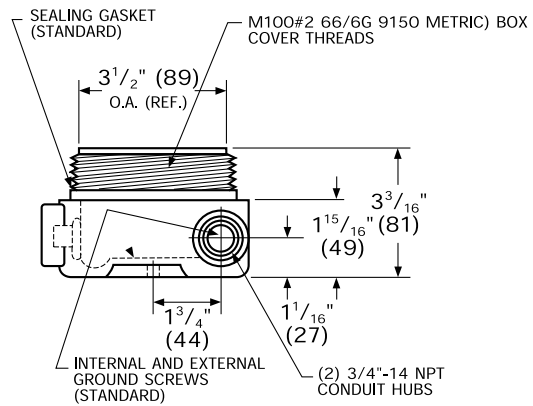
FEATURES-SPECIFICATIONS

Dimensions

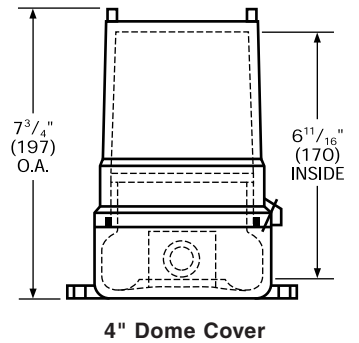
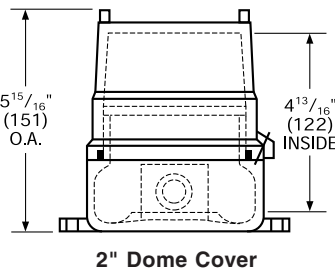
Note: Add 1/2" to all depth dimensions when using HKBD Deep Box. HKBD volume = 33 cu.in.



HKBD Volume: 31 cu. in.

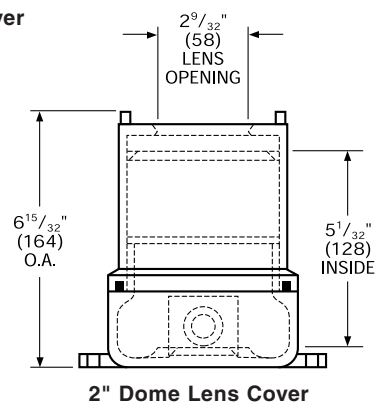
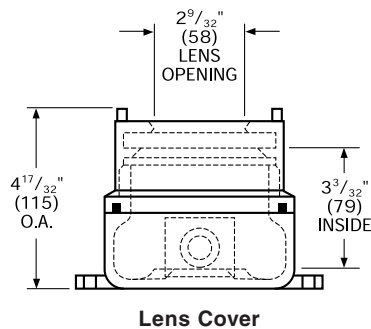


HKBD box and blank cover



For HK1GLD (1" Dome Lens Cover), add 1" to lens cover verticle height dimensions

HKBD box and glass lens cover

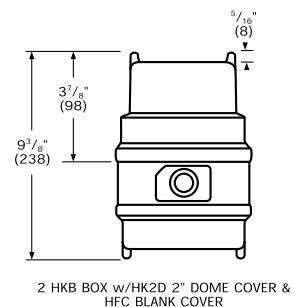
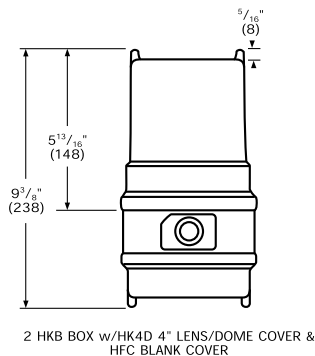
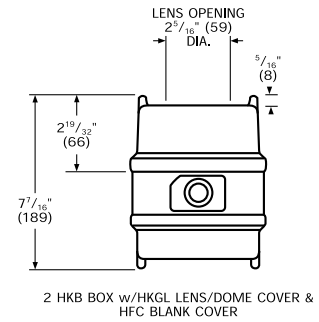
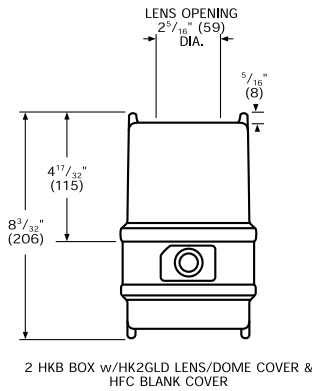
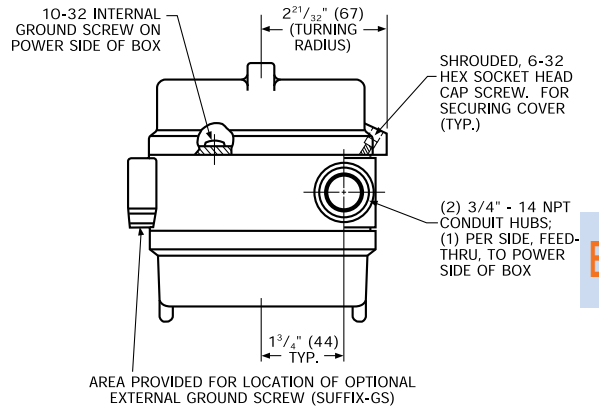
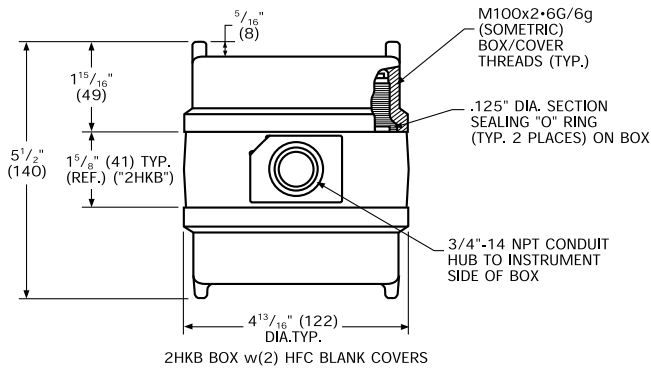




HKSB - Stainless Steel

FEATURES-SPECIFICATIONS

Dimensions



Instructions

Drilled and tapped conduit openings will be evenly spaced and located in the area indicated on the location chart. Critical conduit opening locations may be indicated by supplying a diagram similar to the one shown at right indicating critical dimensions and locations. Specific conduit openings must be located dimensionally from box centerlines to conduit centerlines and from outside back surface of box to conduit centerline.

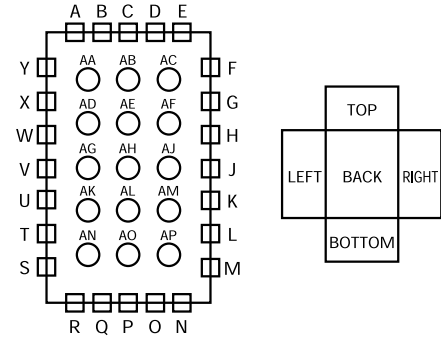
Ordering Information:

- (1) Select the letter on location chart which indicates conduit opening position desired.
- (2) Select symbol number from chart which indicates conduit opening type and size.

- (3) Combine the conduit location letter, size and type number, and add as a suffix to junction box catalog number.

Example: EXB-12248 N34-C3-J5-PI3-AH4

EXB/XJB/DB/GR SYMBOL NUMBERS		
CONDUIT SIZE	CONDUIT OPENINGS DRILLED AND TAPPED	UNION ^④
1/2"	1	11
3/4"	2	12
1"	3	13
1-1/4"	4	14
1-1/2"	5	15
2"	6	16
2-1/2"	7	17
3"	8	18
3-1/2"	9	19
4"	0	10
5"	02	-
6"	04	-



Drawing indicates position as looking into open face of box with short side (top) up.

EXB/XJB/DB/GR MINIMUM CENTERS FOR DRILLED AND TAPPED OPENINGS AND UNION HUBS													
SIZE	FORM	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	3-1/2"	4"	5"	6"
1/2"	①MIN	1-3/16"	-	-	-	-	-	-	-	-	-	-	-
1/2"	②PRE	1-3/8"	-	-	-	-	-	-	-	-	-	-	-
1/2"	③GU	1-5/8"	-	-	-	-	-	-	-	-	-	-	-
3/4"	①MIN	1-3/8"	1-1/2"	-	-	-	-	-	-	-	-	-	-
3/4"	②PRE	1-1/2"	1-5/8"	-	-	-	-	-	-	-	-	-	-
3/4"	③GU	1-3/4"	1-13/16"	-	-	-	-	-	-	-	-	-	-
1"	①MIN	1-1/2"	1-3/4"	1-13/16"	-	-	-	-	-	-	-	-	-
1"	②PRE	1-3/4"	1-7/8"	2"	-	-	-	-	-	-	-	-	-
1"	③GU	1-7/8"	2"	2-1/8"	-	-	-	-	-	-	-	-	-
1-1/4"	①MIN	1-11/16"	1-15/16"	2-1/16"	2-5/16"	-	-	-	-	-	-	-	-
1-1/4"	②PRE	1-15/16"	2-1/16"	2-1/4"	2-1/2"	-	-	-	-	-	-	-	-
1-1/4"	③GU	2-1/16"	2-1/4"	2-5/16"	2-1/2"	-	-	-	-	-	-	-	-
1-1/2"	①MIN	1-15/16"	2-1/16"	2-3/16"	2-1/2"	2-5/8"	-	-	-	-	-	-	-
1-1/2"	②PRE	2-1/8"	2-1/4"	2-3/8"	2-5/8"	2-3/4"	-	-	-	-	-	-	-
1-1/2"	③GU	2-3/16"	2-9/32"	2-7/16"	2-5/8"	2-3/4"	-	-	-	-	-	-	-
2"	①MIN	2-1/4"	2-3/8"	2-9/16"	2-13/16"	2-15/16"	3-3/16"	-	-	-	-	-	-
2"	②PRE	2-3/8"	2-1/2"	2-3/4"	3"	3-1/8"	3-3/8"	-	-	-	-	-	-
2"	③GU	2-1/2"	2-19/32"	2-3/4"	3"	3-1/8"	3-3/8"	-	-	-	-	-	-
2-1/2"	①MIN	2-7/16"	2-9/16"	2-3/4"	3"	3-1/8"	3-3/8"	3-5/8"	-	-	-	-	-
2-1/2"	②PRE	2-5/8"	2-3/4"	3"	3-1/4"	3-3/8"	3-5/8"	4"	-	-	-	-	-
2-1/2"	③GU	3-1/8"	3-7/32"	3-3/8"	3-9/16"	3-11/16"	4"	4-5/8"	-	-	-	-	-
3"	①MIN	2-13/16"	2-15/16"	3-1/16"	3-5/16"	3-7/16"	3-3/4"	4"	4-5/16"	-	-	-	-
3"	②PRE	3"	3-1/8"	3-3/8"	3-5/8"	3-3/4"	4"	4-3/8"	4-3/4"	-	-	-	-
3"	③GU	3-9/16"	3-21/32"	3-13/16"	4"	4-1/8"	4-7/16"	5-1/16"	5-1/2"	-	-	-	-
3-1/2"	①MIN	3-1/8"	3-1/4"	3-3/8"	3-5/8"	3-3/4"	4-1/16"	4-5/16"	4-5/8"	4-15/16"	-	-	-
3-1/2"	②PRE	3-3/8"	3-1/2"	3-5/8"	3-7/8"	4"	4-3/8"	4-5/8"	5"	5-3/8"	-	-	-
3-1/2"	③GU	4"	4-3/32"	4-1/4"	4-7/16"	4-9/16"	4-7/8"	5-1/2"	5-15/16"	6-3/8"	-	-	-
4"	①MIN	3-7/16"	3-9/16"	3-11/16"	3-15/16"	4-1/16"	4-3/8"	4-5/8"	4-15/16"	5-1/4"	5-9/16"	-	-
4"	②PRE	3-3/4"	3-7/8"	4"	4-1/4"	4-3/8"	4-3/4"	5"	5-3/4"	5-5/8"	6"	-	-
4"	③GU	4"	4-3/32"	4-1/4"	4-7/16"	4-9/16"	4-7/8"	5-1/2"	5-15/16"	6-3/8"	6-3/8"	-	-
5"	①MIN	4-1/8"	4-1/4"	4-3/8"	4-5/8"	4-3/4"	5"	5-1/4"	5-9/16"	5-7/8"	6-3/16"	6-3/16"	-
5"	②PRE	4-3/8"	4-1/2"	4-5/8"	4-7/8"	5"	5-3/8"	5-5/8"	6"	6-1/4"	6-5/8"	7-1/4"	-
6"	①MIN	4-3/4"	4-7/8"	5"	5-1/4"	5-3/8"	5-5/8"	5-7/8"	6-3/16"	6-1/2"	6-13/16"	7-7/16"	8-1/8"
6"	②PRE	5"	5-1/8"	5-1/4"	5-1/2"	5-5/8"	6"	6-1/4"	6-5/8"	7"	7-1/4"	8"	8-5/8"
LOCKNUT		1-1/4"	1-1/8"	1-11/16"	2-3/16"	2-7/16"	3"	3-7/16"	4-3/16"	4-13/16"	5-3/8"	6-11/16"	7-15/16"
BUSHING		1"	1-1/4"	1-1/2"	1-7/8"	2-1/8"	2-5/8"	3-3/16"	3-7/8"	4-7/16"	5"	6-1/4"	7-3/8"
CONDUIT		7/8"	1-1/16"	1-3/8"	1-11/16"	1-15/16"	2-3/8"	2-7/8"	3-1/2"	4"	4-1/2"	5-9/16"	6-5/8"

① Minimum spacing required to provide clearance over locknuts and bushings.
 ② Preferred more liberal spacings between centers of conduits to be used whenever possible.
 ③ GU- spacing required for "GU" Series unions.
 ④ Supplied by using a drilled and tapped conduit opening with "GUM" Series union.
 ⑤ Note: For metric conduit openings round up to the nearest NPT and use "GU" spacing.

Section DE

DISTRIBUTION EQUIPMENT INDEX



XEC Series
Circuit Breakers2



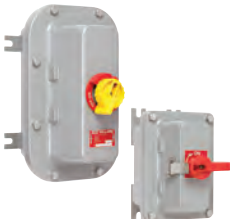
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Applications

- Hazardous areas due to the presence of flammable gases or vapors, combustible dusts, or easily ignitable fibers or flyings
- Installations at petroleum refineries, chemical and petrochemical plants, storage areas, and other processing facilities where hazardous substances are handled or stored
- Provides overcurrent and short circuit protection of service entrance, feeder or branch circuits, lighting, heating, appliance and motor circuits

Features

- Rectangular bolted cover design provides for attractive, compact, uniform installations
- Two cast conduit hubs; one top and one bottom
- Internal circuit breaker handle mechanism is a sliding plate type mounted to the cover
- External handle is vault type with standard provisions for locking in "OFF" position with up to three padlocks
- Provisions for locking in "ON" position available as factory modification (add suffix SU40 to catalog number)
- Circuit breaker is trip free of handle mechanism
- Locking in the "ON" position does not prevent the circuit breaker from opening under short circuit or overload conditions

Material Specifications

- Enclosure and external circuit breaker handle is cast copper-free aluminum alloy (less than 4/10 of 1%)
- Cover bolts are stainless steel



**Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
NEMA 7(C,D) 9(E,F,G)**

Listed - File E30962

Certified - File LR18179

See files for details or call Killark.

FEATURES-SPECIFICATIONS

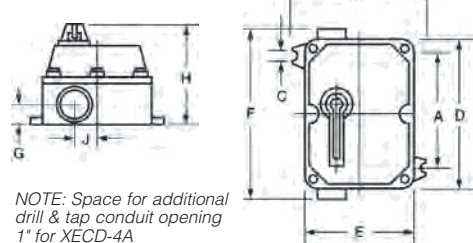
XEC CIRCUIT BREAKERS					
CATALOG NUMBER					TRIP AMPS
EHD FRAME			FDB FRAME		
1-POLE 277 VAC 125 VDC	2-POLE 240/480 VAC 250 VDC	3-POLE 240/480 VAC —	2-POLE 600 VAC 250 VDC	3-POLE 600 VAC	
XECD-154A1	XECD-154A2	XECE-154A3	XECE-156A2	XECE-156A3	15
XECD-204A1	XECD-204A2	XECE-204A3	XECE-206A2	XECE-206A3	20
XECD-304A1	XECD-304A2	XECE-304A3	XECE-306A2	XECE-306A3	30
XECD-404A1	XECD-404A2	XECE-404A3	XECE-406A2	XECE-406A3	40
XECF-504A1	XECF-504A2	XECF-504A3	XECF-506A2	XECF-506A3	50
XECF-604A1	XECF-604A2	XECF-604A3	XECF-606A2	XECF-606A3	60
XECF-704A1	XECF-704A2	XECF-704A3	XECF-706A2	XECF-706A3	70
XECF-804A1	XECF-804A2	XECF-804A3	XECF-806A2	XECF-806A3	80
XECF-904A1	XECF-904A2	XECF-904A3	XECF-906A2	XECF-906A3	90
XECF-1004A1	XECF-1004A2	XECF-1004A3	XECF-1006A2	XECF-1006A3	100
ENCLOSURE ONLY					
XECD-4A	XECD-4A	XECE-6A	XECE-6A	XECE-6A	For 40 Amp or less
XECF-6A	XECF-6A	XECF-6A	XECF-6A	XECF-6A	For 50-100 Amp

MODIFICATIONS	
SUFFIX NUMBER	DESCRIPTION
SU3	Drain and breather
SU40	Lock "ON"

NOTE: Only Cutler-Hammer Series "C" breakers fit this series. See B7C series on page DE3-6 for other brands.

ELECTRICAL RATINGS INTERRUPTING CAPACITY			
FRAME	VOLTS	AMPS SYMMETRICAL	AMPS D.C.
EHD 15-100 AMPS	240 VAC	18,000	—
	277 VAC	14,000	—
	480 VAC	14,000	—
	250 VDC	—	10,000
FDB 15-150 AMPS	240 VAC	18,000	—
	480 VAC	14,000	—
	600 VAC	14,000	—
	250 VDC	—	10,000

Dimensions



NOTE: Space for additional drill & tap conduit opening
1" for XECD-4A
1-1/4" for XECE-6A
2" for XECF-6A
Also is location for SU3 drain and breather when requested.


XEC DIMENSIONS										
CATALOG NUMBER	HUB SIZE	A	B	C	D	E	F	G	H	J
XECD-4A	1"	8-3/8" (213)	7-7/16" (189)	13/16" (21)	10-1/4" (260)	6" (152)	11-7/8" (302)	1-3/8" (35)	6-7/8" (175)	1-1/2" (38)
XECE-6A	1-1/4"	8-3/8" (213)	8-3/4" (222)	13/16" (21)	10-1/4" (260)	7-3/8" (187)	11-7/8" (302)	1-3/8" (35)	6-7/8" (175)	2" (51)
XECF-6A	2"	10-7/8" (276)	9-1/8" (232)	13/16" (21)	13-7/8" (352)	7-3/4" (197)	16" (406)	1-3/4" (44)	7" (178)	2" (51)


NOTE: A & B dimensions are for mounting.





Class I, Div. 1 & 2, Groups B,C,D
Class I, Zones 1 & 2, Groups IIB+H₂, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III, Div. 1 & 2
NEMA 3, 4, 4x, 7(B,C,D), 9(E,F,G)

 #UL1203-Explosion Proof and Dust-Ignition-Proof Electrical Equipment For Use In Hazardous (Classified) Locations. File #E83969

 #C22.2 NO. 30-M1986-Explosion Proof Enclosures For Use In Class I Hazardous Locations. File #LR11714

FEATURES-SPECIFICATIONS



Applications

- Locations such as petroleum refineries, chemical and petroleum plants with indoor and outdoor processes
- Motor control and circuit protection in locations made hazardous due to the presence of flammable gases or vapors, combustible dust, or easily ignitable fibers and flyings, and areas which are subject to corrosion, weather and dampness
- To provide overcurrent and short circuit protection of service entrance, feeder or branch circuits, lighting, heating, appliance and motor circuits
- To provide line disconnect means

Features

- Copper-free, cast aluminum construction (less than 4/10 of 1%)
- High strength, lighter in weight, corrosion resistant
- Hinged Cover is standard
- More Wiring Room. Meets the latest NEC/CEC wire bending requirements for circuit breaker enclosures

- Ductile Mounting Lugs. Lugs are made of ductile aluminum alloy to adjust to irregular mounting surfaces without damage to enclosure
- Universal Mounting Pan. Sheet aluminum pan is pre-drilled to facilitate easy field installation of major circuit breaker brands. Provisions for grounding supplied as standard
- Conduit Openings Supplied. Standard conduit openings include power conduit top and bottom and a plugged opening suitable for field installation of drain and breather. Special conduit openings can be supplied at factory, or can be field installed
- Breaker Handle. Provisions for lock "ON" or "OFF" positions with up to three padlocks. Spring loaded to prevent damage of breaker toggle and provides positive handle alignment. "O" ring on shaft to prevent water seeping into enclosure
- Recessed Flange Notches. Flanges are notched to allow for easier cover opening with prying instrument without flange damage

- Gasketed Flange. Nitrile (BUNA-N) "O" ring gasket is located inside cover bolt circle to prevent water seeping into enclosure
- Quick Release, Captivated Cover. Bolts of 316 Grade Stainless Steel Triple lead bolts require only 3-1/2 turns to disengage

Material/Finish

- Enclosure: Copper-free, cast aluminum (less than 4/10 of 1%)
- Cover Bolts: 316 grade stainless steel
- Mounting Pan: Sheet aluminum
- Handle Mechanism: Cast aluminum with stainless steel shaft and hardware
- Hinges: Aluminum with stainless steel hardware
- Aluminum lacquer paint finish is standard, with special epoxy finish available. See page DE6




FEATURES-SPECIFICATIONS

B7C CIRCUIT BREAKER ENCLOSURES				
ENCLOSURE ONLY CATALOG NUMBER	WILL ACCEPT THE FOLLOWING CIRCUIT BREAKERS:			
	MANUFACTURER	FRAME SIZE	CIRCUIT BREAKER TYPE	MAX. AMP
B7CA	CUTLER-HAMMER/WESTINGHOUSE	F	EHD, FDB, FD, HFD, FDC	100
	GENERAL ELECTRIC	E150	TEB, TED, THED, TEL	100
	ITE - SIEMENS	ED	ED2, ED4, ED6, HED4, HED6	90
	SQUARE D	F	FAL, FHL, FCL	100
B7CB	CUTLER-HAMMER/WESTINGHOUSE	F	EHD, FDB, FD, HFD, FDC	150
	GENERAL ELECTRIC	E150	TEB, TED, THED, TEL	150
	ITE - SIEMENS	ED	ED2, ED4, ED6, HED4, HED6	125
B7CC	CUTLER-HAMMER/WESTINGHOUSE	J	JD, JDB, JDC, HJD	250
	GENERAL ELECTRIC	F225	TFJ, TFK, THFK, TFL	225
	SQUARE D	K	KAL, KHL, KCL	250
B7CD	CUTLER-HAMMER/WESTINGHOUSE	K	DK, KDB, KD, HKD, KDC	400
	GENERAL ELECTRIC	J600	TJJ, TJK4, THJK4	400
	ITE - SIEMENS	FD	FXD6 FD6, HFD6, CFD6	250
	ITE - SIEMENS	JD	JXD2, JXD6, JD6, HJD6, HHJD6, CJD6	400
	SQUARE D	L	LAL, LHL	400
B7CE	CUTLER-HAMMER/WESTINGHOUSE	L	LDB, LD, HLD, LDC	600
	GENERAL ELECTRIC	J600	TJK6, THJK6	600
	TE - SIEMENS	LD	LXD6, LD6, HLD6, HHLD6, CLD6	600
	SQUARE D	LC	LCL	600
B7CF	CUTLER-HAMMER/WESTINGHOUSE	N	ND, HND, NDC	1200
	GENERAL ELECTRIC	K1200	TKM8, THKM8, TKM12, THKM12	1200
	ITE - SIEMENS	MD	MD6, MXD6, HMXD6, HMD6, CMD6	800
	ITE - SIEMENS	ND	ND6, NXD6, HNXD6, CND6	1200
	SQUARE D	M	MAL, MHL	1000

NOTE: Enclosure includes mounting pan which is pre-drilled to accept circuit breakers illustrated above.

Mounting screw hardware for circuit breaker is not supplied with enclosure and must be furnished by supplier of circuit breaker.



B7C ENCLOSURE WITH CIRCUIT BREAKER INSTALLED							
BREAKER AMPERAGE	MAXIMUM VOLTAGE	CATALOG NUMBER			CATALOG NUMBER		
		CUTLER-HAMMER/WESTINGHOUSE BREAKERS			SQUARE D BREAKERS		
		FRAME SIZE	2 POLE	3 POLE	FRAME SIZE	2 POLE	3 POLE
15	480	EHD	B7CA-WEHD-42015	B7CA-WEHD-43015	FAL4	B7CA-SFAL-42015	B7CA-SFAL-43015
15	600	FDB	B7CA-WFDB-62015	B7CA-WFDB-63015	FAL6	B7CA-SFAL-62015	B7CA-SFAL-63015
20	480	EHD	B7CA-WEHD-42020	B7CA-WEHD-43020	FAL4	B7CA-SFAL-42020	B7CA-SFAL-43020
20	600	FDB	B7CA-WFDB-62020	B7CA-WFDB-63020	FAL6	B7CA-SFAL-62020	B7CA-SFAL-63020
30	480	EHD	B7CA-WEHD-42030	B7CA-WEHD-43030	FAL4	B7CA-SFAL-42030	B7CA-SFAL-43030
30	600	FDB	B7CA-WFDB-62030	B7CA-WFDB-63030	FAL6	B7CA-SFAL-62030	B7CA-SFAL-63030
40	480	EHD	B7CA-WEHD-42040	B7CA-WEHD-43040	FAL4	B7CA-SFAL-42040	B7CA-SFAL-43040
40	600	FDB	B7CA-WFDB-62040	B7CA-WFDB-63040	FAL6	B7CA-SFAL-62040	B7CA-SFAL-63040
50	480	EHD	B7CA-WEHD-42050	B7CA-WEHD-43050	FAL4	B7CA-SFAL-42050	B7CA-SFAL-43050
50	600	FDB	B7CA-WFDB-62050	B7CA-WFDB-63050	FAL6	B7CA-SFAL-62050	B7CA-SFAL-63050
60	480	EHD	B7CA-WEHD-42060	B7CA-WEHD-43060	FAL4	B7CA-SFAL-42060	B7CA-SFAL-43060
60	600	FDB	B7CA-WFDB-62060	B7CA-WFDB-63060	FAL6	B7CA-SFAL-62060	B7CA-SFAL-63060
70	480	EHD	B7CA-WEHD-42070	B7CA-WEHD-43070	FAL4	B7CA-SFAL-42070	B7CA-SFAL-43070
70	600	FDB	B7CA-WFDB-62070	B7CA-WFDB-63070	FAL6	B7CA-SFAL-62070	B7CA-SFAL-63070
80	480	EHD	B7CA-WEHD-42080	B7CA-WEHD-43080	FAL4	B7CA-SFAL-42080	B7CA-SFAL-43080
80	600	FDB	B7CA-WFDB-62080	B7CA-WFDB-63080	FAL6	B7CA-SFAL-62080	B7CA-SFAL-63080
90	480	EHD	B7CA-WEHD-42090	B7CA-WEHD-43090	FAL4	B7CA-SFAL-42090	B7CA-SFAL-43090
90	600	FDB	B7CA-WFDB-62090	B7CA-WFDB-63090	FAL6	B7CA-SFAL-62090	B7CA-SFAL-63090
100	480	EHD	B7CA-WEHD-42100	B7CA-WEHD-43100	FAL4	B7CA-SFAL-42100	B7CA-SFAL-43100
100	600	FDB	B7CA-WFDB-62100	B7CA-WFDB-63100	FAL6	B7CA-SFAL-62100	B7CA-SFAL-63100
125	600	FDB	B7CB-WFDB-62125	B7CB-WFDB-63125	—	—	—
125	600	JDB	B7CC-WJDB-62125	B7CC-WJDB-63125	KAL	B7CC-SKAL-62125	B7CC-SKAL-63125
150	600	FDB	B7CB-WFDB-62150	B7CB-WFDB-63150	—	—	—
150	600	JDB	B7CC-WJDB-62150	B7CC-WJDB-63150	KAL	B7CC-SKAL-62150	B7CC-SKAL-63150
175	600	JDB	B7CC-WJDB-62175	B7CC-WJDB-63175	KAL	B7CC-SKAL-62175	B7CC-SKAL-63175
200	600	JDB	B7CC-WJDB-62200	B7CC-WJDB-63200	KAL	B7CC-SKAL-62200	B7CC-SKAL-63200
225	600	JDB	B7CC-WJDB-62225	B7CC-WJDB-63225	KAL	B7CC-SKAL-62225	B7CC-SKAL-63225
250	600	JDB	B7CC-WJDB-62250	B7CC-WJDB-63250	KAL	B7CC-SKAL-62250	B7CC-SKAL-63250
250	600	KD	B7CD-WKD-62250	B7CD-WKD-63250	LAL	B7CD-SLAL-62250	B7CD-SLAL-63250
300	600	KD	B7CD-WKD-62300	B7CD-WKD-63300	LAL	B7CD-SLAL-62300	B7CD-SLAL-63300
350	600	KD	B7CD-WKD-62350	B7CD-WKD-63350	LAL	B7CD-SLAL-62350	B7CD-SLAL-63350
400	600	KD	B7CD-WKD-62400	B7CD-WKD-63400	LAL	B7CD-SLAL-62400	B7CD-SLAL-63400
400	600	LD	B7CE-WLD-62400	B7CE-WLD-63400	—	—	—
500	600	LD	B7CE-WLD-62500	B7CE-WLD-63500	LCL	B7CE-SLCL-62500	B7CE-SLCL-63500
600	600	LD	B7CE-WLD-62600	B7CE-WLD-63600	LCL	B7CE-SLCL-62600	B7CE-SLCL-63600
600	600	ND	B7CF-WND-62600	B7CF-WND-63600	MAL	B7CF-SMAL-62600	B7CF-SMAL-63600
700	600	ND	B7CF-WND-62700	B7CF-WND-63700	MAL	B7CF-SMAL-62700	B7CF-SMAL-63700
800	600	ND	B7CF-WND-62800	B7CF-WND-63800	MAL	B7CF-SMAL-62800	B7CF-SMAL-63800
1000	600	ND	B7CF-WND-621000	B7CF-WND-631000	MAL	B7CF-SMAL-621000	B7CF-SMAL-631000
1200	600	ND	B7CF-WND-621200	B7CF-WND-631200	MAL	—	—

NOTE: See page DE6 for dimensional information and circuit breaker interrupting information.

TECHNICAL DATA INTERRUPTING CAPACITY RATINGS (SYMMETRICAL AMPERES)				
BREAKER FRAME CUTLER-HAMMER/ WESTINGHOUSE	VOLTS AC			VOLTS DC
	240	480	600	250
EHD	18,000	14,000	—	10,000
FDB	18,000	14,000	14,000	10,000
JDB	65,000	25,000	18,000	10,000
KD	65,000	35,000	25,000	10,000
LD	65,000	35,000	25,000	22,000
ND	65,000	50,000	25,000	—
SQUARE D				
FAL4	25,000	18,000	—	10,000
FAL6	25,000	18,000	14,000	10,000
KAL	42,000	25,000	22,000	10,000
LAL	42,000	30,000	22,000	10,000
LCL	100,000	65,000	35,000	—
MAL	42,000	30,000	22,000	14,000

Consult factory for requirements on higher interrupting rated breakers.

Dimensions

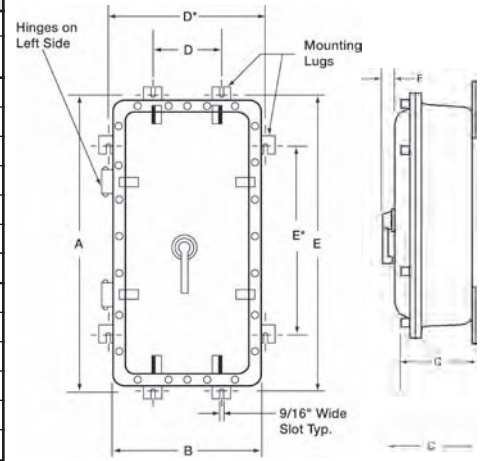


Figure 1

ACCESSORIES / OPTIONS*	
CATALOG NUMBER	DESCRIPTION
SU3 [Ⓛ]	Drain & breather NEMA 3, 7CD, 9EFG
SU3B [Ⓛ] Ⓜ	Drain & breather NEMA 3, 7BCD, 9EFG
B7CGRND	Grounding lug kit
B7C-SN1	Solid neutral 150 AMP
B7C-SN2	Solid neutral 250 AMP
B7C-SN3	Solid neutral 600 AMP
B7C-SN4	Solid neutral 1200 AMP
B7SF	Special epoxy finish
B7SPNPT	Change standard conduit openings

*To be ordered as separate item with notation on order for assembly into enclosure.

NOTE: Modifications to Internal Circuit Breaker such as Shunt Trip, Auxiliary Switches, Alarm Switch and Undervoltage Release Mechanism are available and should be ordered by description.

Ⓛ Installation of Drain & Breather will void the NEMA 4-4x rating.

Ⓜ Not CSA

Dimensions

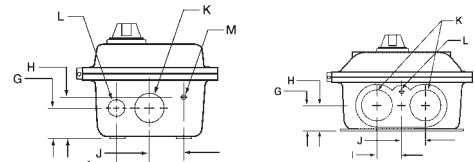


Figure 2

Figure 3

B7C DIMENSIONS													
CATALOG NUMBER	USE FIGURES	DIMENSIONS											
		A	B	C	D	D*	E	E*	F	G	H	I	J
B7CA	1, 2	18"	11"	9-1/8"	3-5/8"	N/A	16-3/8"	N/A	1-3/4"	2-15/16"	3-11/16"	2-3/8"	2-1/8"
B7CB	1, 2	26-1/4"	12-1/2"	10-3/4"	5"	N/A	24-5/8"	N/A	1-3/4"	4-5/16"	5-3/4"	2-3/4"	2-1/2"
B7CC	1, 2	34-1/4"	16-1/2"	11-1/2"	9"	N/A	32-5/8"	N/A	1-3/4"	4-11/16"	6-1/4"	4"	3-3/4"
B7CD	1, 2	34-1/4"	16-1/2"	11-1/2"	9"	N/A	32-5/8"	N/A	2-5/8"	4-11/16"	6-1/4"	4"	3-3/4"
B7CE	1, 3	45-3/8"	17-1/2"	9-5/8"	N/A	15-1/4"	N/A	33"	2-5/8"	3-3/16"	4-1/2"	2-3/4"	2-3/4"
B7CF	1, 3	62-1/4"	20-1/4"	15"	N/A	18-1/2"	N/A	43-1/2"	2-5/8"	5-3/8"	7-3/8"	3-1/2"	3-1/2"

DIMENSIONS (CONTINUED)					
CATALOG NUMBER	USE FIGURES	CONDUIT OPENINGS TOP & BTM. (NPT)			EST. ENCL. WT. (LBS.)
		K	L	M	
B7CA	1, 2	1-1/2"	3/4"	1/2"	46
B7CB	1, 2	2"	1"	1/2"	80
B7CC	1, 2	3"	1"	1/2"	155
B7CD	1, 2	3"	1"	1/2"	155
B7CE	1, 3	3"	1/2"	N/A	215
B7CF	1, 3	4"	1/2"	N/A	540





**Class II, Div. 1 & 2, Groups E,F,G
Class III
NEMA 3R, 4, 9(E,F,G)**

Listed - File E53290

Certified - File LR11714

See files for details or call Killark.

FEATURES-SPECIFICATIONS

Applications

- Hazardous areas due to the presence of combustible dusts or easily ignitable fibers or flyings
- Use in damp or wet locations. Either indoor or outdoor installations
- Installations such as feedmills, grain elevators, coal handling facilities, certain chemical, fertilizer and food processing industries where either hazardous or non-hazardous dusts are handled or stored
- Use in accordance with the NEC/CEC where a horsepower rated quick make-quick break disconnect means for a motor and its controller is permitted

Features

(30-60-100 Amp Housing Styles)

- Bolted and gasketed cabinet type construction insures the exclusion of conductive or combustible dusts from entering the assembly. Enclosure and external handle is copper-free aluminum alloy (less than 4/10 of 1%)
- Cover bolts are stainless steel
- External handle is vault type with standard provisions for locking in the "OFF" position with up to three padlocks
- Provisions for locking in "ON" position available as factory modification. (Add suffix SU40 to catalog number)
- Cutler-Hammer Type-DS Switches
- Two cast conduit hubs; one top and one bottom

- Internal disconnect handle mechanism is a sliding plate mounted to the cover

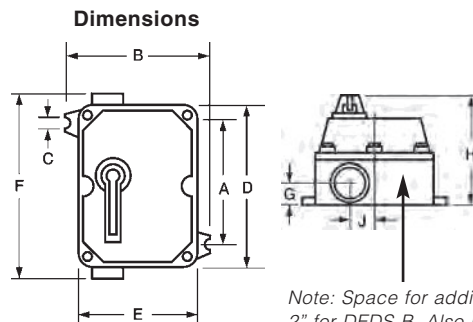
DEDS DISCONNECT SWITCHES				
ENCLOSURE WITH SWITCH	CATALOG NUMBER			SWITCH RATING
	ENCLOSURE WITH SWITCH AND AUXILIARY CONTACTS	ENCLOSURE WITH SWITCH AND TWO AUXILIARY CONTACTS	ENCLOSURE ONLY (WITHOUT SWITCH OR AUXILIARY CONTACTS)	
DEDS-30	DEDS-30A	DEDS-30AA	DEDS-A	30 AMP
DEDS-60	DEDS-60A	DEDS-60AA	DEDS-A	60 AMP
DEDS-100	DEDS-100A	DEDS-100AA	DEDS-B	100 AMP

Auxiliary Switch Kits are available for separate control circuit applications. Each auxiliary switch has one normally open and one normally closed contact. Each switch includes three soldered, identified leads.

Rated 15 amps at 250 volts maximum.

DEDS ELECTRICAL RATINGS					
SWITCH AMPERES	MAXIMUM HORSEPOWER-THREE PHASE-3-POLE				
	120 VAC	240 VAC	480 VAC	600 VAC	250 VDC
30	5	10	20	25	7-1/42
60	10	20	40	60	15
100	15	30	75	75	25

DEDS DIMENSIONS										
ENCLOSURE CATALOG NUMBER	CONDUIT SIZE	A	B	C	D	E	F	G	H	J
DEDS-A	1-1/4"	8-3/8" (213)	8-13/16" (224)	7/16" (11)	10-1/4" (260)	7-3/8" (187)	12-1/8" (308)	1-3/8" (35)	6-7/8" (175)	2" (51)
DEDS-B	2"	10-7/8" (276)	9-1/8" (232)	7/16" (11)	13-7/8" (252)	7-3/4" (197)	15-3/8" (391)	1-3/4" (44)	6-7/8" (175)	2" (51)



MODIFICATIONS	
SUFFIX NUMBER	DESCRIPTION
SU3 [Ⓞ]	Drain and breather
SU17	100 Amp solid neutral
SU40	Lock "on" for handle
KIT-251	100 Amp ground lug

[Ⓞ] SU3 voids NEMA 4 ratings

Note: Space for additional drill & top conduit opening. 1-1/4" for DEDS-A. 2" for DEDS-B. Also is location for SU3 drain and breather when required.



DE



XEDS-30

Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
NEMA 7(C,D) 9(E,F,G)

Listed - File E53290

Certified - File LR1171

See files for details or call Killark.

FEATURES-SPECIFICATIONS

Applications

- Hazardous areas due to the presence of flammable gases or vapors, combustible dusts or easily ignitable fibers or flyings
- Use in accordance with the NEC/CEC where a horsepower rated quick make-quick break disconnect means for a motor and its controller is permitted

30-60-100 Amp Housing

- External handle is vault type with standard provisions for locking in "OFF" position with up to three padlocks
- Provisions for locking in "ON" position available as factory modification (add suffix SU40 to catalog number)
- Enclosure and external handle is cast copper-free aluminum alloy (less than 4/10 of 1%)
- Cover bolts are stainless steel
- Cutler-Hammer Type-DS Switches

30-60-100 Amp Housing

- Two cast conduit hubs; one top and one bottom
- Internal disconnect handle mechanism is a sliding plate mounted to the cover

XEDS DISCONNECT SWITCHES				
CATALOG NUMBER				SWITCH RATING
ENCLOSURE WITH SWITCH	ENCLOSURE WITH SWITCH AND AUXILIARY CONTACTS	ENCLOSURE WITH SWITCH AND TWO AUXILIARY CONTACTS	ENCLOSURE ONLY (WITHOUT SWITCH OR AUXILIARY CONTACTS)	
XEDS-30	XEDS-30A	XEDS-30AA	XEDS-A	30
XEDS-60	XEDS-60A	XEDS-60AA	XEDS-B	60
XEDS-100 ^①	XEDS-100A ^①	XEDS-100AA ^①	XEDS-B ^①	100

MODIFICATIONS	
SUFFIX NUMBER	DESCRIPTION
SU3	Drain and breather
SU17	100 Amp solid neutral
SU18	225 Amp solid neutral
SU40	Lock "on" for handle
KIT-251	100 Amp ground lug

Auxiliary switch kits are available for separate control circuit applications. Each auxiliary switch has one normally open and one normally closed contact. Each switch includes three soldered, identified leads. Rated 15 amps at 250 volts maximum.

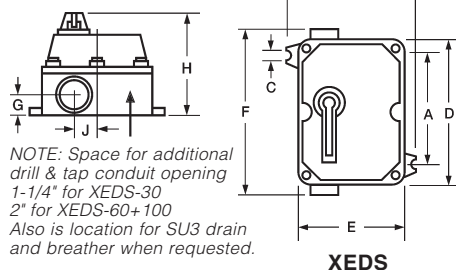
^① Due to wire gutter space, this unit must be wired with incoming (line) connection through the top hub and outgoing (load) connection to the bottom hub.

XEDS ELECTRICAL RATINGS					
SWITCH AMPERES	MAXIMUM HORSEPOWER—THREE PHASE—3-POLE				
	120 VAC	240 VAC	480 VAC	600 VAC	250 VDC
30	5	10	20	25	7-1/42
60	10	20	40	60	15
100	15	30	75	75	25

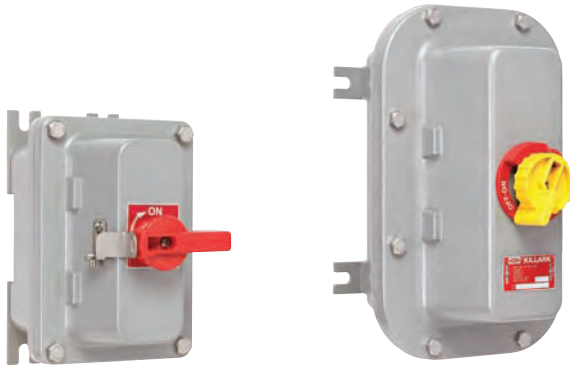
XEDS DIMENSIONS										
CATALOG NUMBER	HUB SIZE	A	B	C	D	E	F	G	H	J
XEDS-A	1-1/4"	8-3/8" (213)	8-3/4" (222)	7/16" (11)	10-1/4" (260)	7-3/8" (187)	11-7/8" (302)	1-3/8" (35)	6-7/8" (175)	2" (51)
XEDS-B	2"	10-7/8" (276)	9-1/8" (232)	7/16" (11)	13-7/8" (352)	7-3/4" (197)	16" (406)	1-3/4" (44)	7" (178)	2" (51)

NOTE: A & B dimensions are for mounting.

Dimensions



KILLARK®



B7NFD1

B7NFD2

Class I, Div. 1 & 2, Groups B,C,D
Class I, Zones 1 & 2, Groups IIB+ H2, IIA
Class II, Div. 1 & 2, Groups E,F,G[®]
Class III
NEMA 3, 4, 4X, 7(B,C,D) 9(E,F,G)

Certified - File LR11714

FEATURES-SPECIFICATIONS

Applications

The PRISM[®] B7 Series of non-fused disconnect switches are used:

- In locations made hazardous due to the presence of flammable gasses or vapors or ignitable dusts, fibers and flyings.
- Outdoors or indoors in damp, wet and dirty locations, or in areas where frequent washdowns, heavy rain or water spray routinely occurs.
- Use as motor circuit disconnect.

PRISM[®] enclosures universal design accommodates the following manufacturers switches as standard:

- Advance Controls 14046 Series
- Allen-Bradley 194E Series (B7NFD1 only)
- ABB OT Series
- Cutler-Hammer C362N Series
- Sprecher + Schuh LA7 Series
- Ferraz Shawmut LBS Series

Advance Controls © Advance Controls Inc.
 Allen-Bradley © Rockwell Automation
 ABB © The ABB Group
 Cutler-Hammer © Eaton Corporation
 Sprecher + Schuh © Sprecher + Schuh

Features

- Compact size enclosures provide application flexibility with cost savings over industry standard sizes
- Fewer cover bolts reduces installation and maintenance time
- Gasketed flange with O-ring located in side bolt circle to seal out moisture
- Rotary handle style operating mechanism with lockout provision as standard
- Removable ductile mounting lugs adjust to irregular mounting surfaces
- Bodies have top and bottom drilled and tapped conduit entrances for power connection, with custom openings available
- ABB UL98 certified switch supplied for 30-100 Amp units

ADAPTER KIT

- Required for Allen-Bradley and Sprecher + Schuh disconnects
- Order separately
B7KIT - NRW

Standard Materials /Finish

- Enclosures: Copper-free aluminum (less than 4/10 of 1% copper content)
- Cover Bolts: 316 Stainless Steel
- O-ring Gasket: Silicone
- Finish: Grey Powder Polyester painted exterior, electrostatically applied.
- Electrical rating: 600VAC, 30 - 100 Amp

MODIFICATIONS	
SUFFIX NUMBER	DESCRIPTION
KIT-251	100 amp ground lug
SU-2	Hinge-9 Installed
SU3*	Drain & Breather installed (NEMA 7CD)
SU3B*	Drain & Breather installed (NEMA 7BCD)
SU9	Special paint finish
A	1 NC+1NO Auxiliary
B7SPNPT	Change std. conduit size and location
SU14	Fungus proofing of enclosures

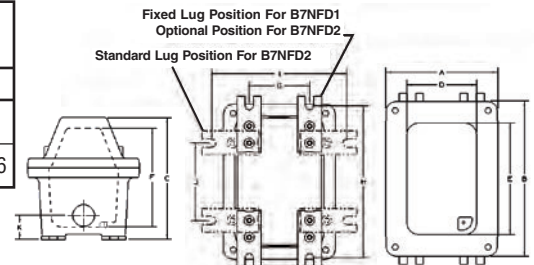
**NOTE: The installation of a Drain & Breather will void the NEMA 4-4X ratings of enclosure.*

CATALOG NUMBER		SWITCH AMPS / PHASE	SINGLE PHASE HP		THREE PHASE HP				DC HP 230VDC	WIRE SIZE**	CONDUIT SIZES
ENCLOSURE ONLY	W/ABB		120VAC	230VAC	208VAC	230VAC	480VAC	600VAC			
B7NFD1	B7NFD13A	30 / 3P	2	5	10	10	20	30	1	#14-10	1 NPT
B7NFD2	B7NFD26A	60 / 3P	3	7.5	20	20	40	40	10	#14-4	1-1/2 NPT
B7NFD2	B7NFD21A	100 / 3P	5	15	25	30	50	50	20	#8-1	1-1/2 NPT

** Use MN. 75°C wire

DIMENSIONS

Enclosure	OUTSIDE BOX DIMENSIONS			NOMINAL INSIDE BOX			MOUNTING DIMENSIONS				
	A	B	C	D	E	F	G	H	I	J	K
B7NFD1	5-3/4	8-1/16	6-5/16	3-5/8	5-13/16	5-1/16	3-1/8	8-1/8	-	-	1-1/4
B7NFD2	8-1/8	13-1/16	7-13/16	4-1/4	9-3/16	6-5/16	2-1/2	11-3/8	6-3/8	7-1/2	1-13/16



KILLARK[®]



Class I, Div. 1 & 2, Groups B,C,D
Class I, Zones 1 & 2, Groups IIB+ H2, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
NEMA 3, 4, 4X, 7(B,C,D) 9(E,F,G)

UL #UL698& #UL1203 - Explosion Proof and Dust Ignition Proof Electrical Equipment. Files #E83969 & E12379

CS #C22.2 No. 30-M1986 - Explosion Proof Enclosure for use in Class I Hazardous Locations. File #LR11716

FEATURES-SPECIFICATIONS

Applications

EXP-NFD and EXB-FDS Series hinged cover disconnect switches are used:

- In locations made hazardous due to the presence of flammable gasses or vapors or ignitable dusts, fibers and flyings.
- Outdoors or indoors in damp, wet and dirty locations, or in areas where frequent washdowns, heavy rain or water spray routinely occurs.
- Use as motor circuit disconnect and to provide short circuit protection (fused version) of lighting and power circuits.

Features

- Copper-free aluminum construction, high strength, lighter in weight and corrosion resistant.
- Fewer cover bolts (no corner bolts required) reduces installation and maintenance time. Cover bolts are stainless steel.
- Gasketed flange with O-ring located in side bolt circle to seal out moisture.
- Stainless steel hinges are standard.
- Switch operating handle of copper-free aluminum can be padlocked, with up to 3 locks, in either the "ON" or "OFF" position.
- Ductile mounting lugs adjust to irregular mounting surfaces.
- Bodies have top and bottom drilled and tapped conduit entrances for power and drain/breather.

EXB-NFD NON FUSED DISCONNECT SWITCHES				
CATALOG NUMBER	SWITCH RATING	TYPE	CONDUITS top/bot.	WIRE SIZE
EXB-NFD-0303P	30	3 Pole	(1) 2" (1) 1/2"	#14-4
EXB-NFD-0306P	30	6 Pole	(2) 2" (1) 1/2"	#14-4
EXB-NFD-0303PDT	30	3P Double Throw	(2) 2" (1) 1/2"	#14-4
EXB-NFD-0603P	60	3 Pole	(1) 2" (1) 1/2"	#14-4
EXB-NFD-0606P	60	6 Pole	(2) 2" (1) 1/2"	#14-4
EXB-NFD-0603PDT	60	3P Double Throw	(2) 2" (1) 1/2"	#14-4
EXB-NFD-1003P	100	3 Pole	(1) 2" (1) 1/2"	#8- 1/0
EXB-NFD-1006P	100	6 Pole	(2) 2" (1) 1/2"	#8-1/0
EXB-NFD-1003PDT	100	3P Double Throw	(2) 2" (1) 1/2"	#8-1/0
EXB-NFD-2003P	200	3 Pole	(1) 3" (1) 1/2"	#4-300MCM
EXB-NFD-4003P	400	3 Pole	(2) 3" (1) 1/2"	#2-600MCM

EXB-FDS FUSED DISCONNECT SWITCHES (Type J Fuses)				
CATALOG NUMBER	SWITCH RATING	TYPE	CONDUITS top/bot.	WIRE SIZE
EXB-FDS-0303P	30	3 Pole	(1) 2" (1) 1/2"	#14-4
EXB-FDS-0603P	60	3 Pole	(1) 2" (1) 1/2"	#14-4
EXB-FDS-1003P	100	3 Pole	(1) 2" (1) 1/2"	#14-2/0
EXB-FDS-2003P	200	3 Pole	(1) 3" (1) 1/2"	#4-300MCM
EXB-FDS-4003P	400	3 Pole	(2) 3" (1) 1/2"	#2-600MCM

- **ABB** Switches are used on all 30 to 400 Ampere assemblies.
- For Horsepower Ratings and Dimensions, see page DE11.
- Disconnect Switches suitable for type 'J' fuses only.

Standard Materials/Finish

- Enclosures: Copper-free aluminum (less than 4/10 of 1% copper content)
- Hinges and Cover Bolts: Stainless steel
- Aluminum lacquer paint finish

Electrical Rating Ranges

- 600 VAC
- 30, 60, 100, 200 and 400 Amp

Consult Factory for special conduit layouts and ATEX requirements

MODIFICATIONS	
SUFFIX NUMBER	DESCRIPTION
KIT-251	100 amp ground lug
KIT-252	225 amp ground lug
SU3*	Drain/Breather install NEMA 7CD
SU3B*	Drain/Breather install NEMA 7BCD
SU9	Special Paint Finish
4P	4th pole 30, 60, 100A - 3 pole only*
A	1 NC+1NO Auxiliary
AA	2 NC+2NO Auxiliary

NOTE: The installation of a Drain & Breather will void the NEMA 4-4X ratings of enclosure.
*non-fused



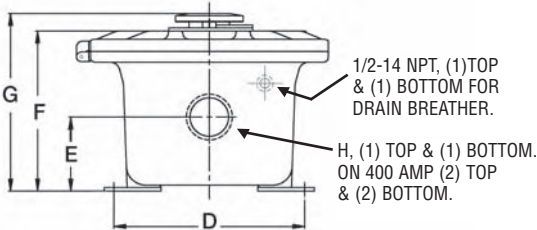
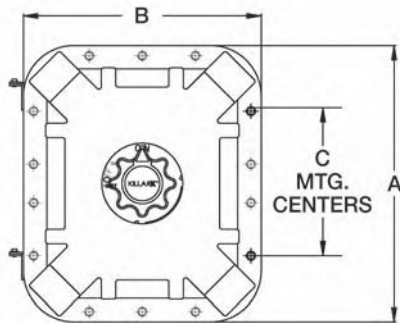


**Class I, Div. 1 & 2, Groups B,C,D
Class I, Zones 1 & 2, Groups IIB+ H2, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
NEMA 3, 4, 4X, 7(B,C,D) 9(E,F,G)**

UL #UL698& #UL1203 - Explosion Proof and Dust Ignition Proof Electrical Equipment.
Files #E83969 & E12379

CS #C22.2 No. 30-M1986 - Explosion Proof Enclosure for use in Class I Hazardous Locations. File #LR11716

FEATURES-SPECIFICATIONS



EXB-NFD ELECTRICAL RATINGS					
SWITCH AMPERES	MAXIMUM HORSEPOWER - THREE PHASE-3 POLE				
	200-208 VAC	240 VAC	480 VAC	600 VAC	230 VAC
30	10	10	20	30	1
60	20	20	40	40	10
100	25	30	50	50	20
200	60	75	150	200	75
400	100	125	250	350	150

EXB-FDS ELECTRICAL RATINGS					
SWITCH AMPERES	MAXIMUM HORSEPOWER - THREE PHASE-3 POLE				
	200-208 VAC	240 VAC	480 VAC	600 VAC	230 VDC
30	5.75	7.5	15	20	7.5
60	15	15	30	50	20
100	25	30	50	60	50
200	50	60	125	150	60
400	100/125	125	250	350	150

EXB-NFD DIMENSIONS									
AMP RATING	BASIC ENCLOSURE	A	B	C	D	E	F	G	CONDUIT SIZE H
30/60	EXB-886 N34 SU1	12-5/16	12-5/16	6	9-7/8	3-13/16	8-1/8	9-7/16	2"
100	EXB-8106 N34 SU1	14-5/16	12-5/16	8	9-7/8	3-7/8	8-5/16	9-5/8	2"
200	EXB-12248 N34 SU1	28-3/8	16-3/8	18-7/8	14-15/16	5-3/8	11-5/16	12-5/8	3"
400	EXB-12368 N34 SU1	41-1/4	17-1/4	31	15	5-3/16	11-3/8	12-11/16	(2) 3"

EXB-FDS DIMENSIONS									
AMP RATING	BASIC ENCLOSURE	A	B	C	D	E	F	G	CONDUIT SIZE H
30	EXB-8106 N34 SU1	14-5/16	12-5/16	8	9-7/8	3-7/8	8-15/16	9-5/8	2"
60	EXB-10108 N34 SU1	15-1/4	15-1/4	14-15/16	12-15/16	5-1/16	10-15/16	12-1/4	2"
100	EXB-12188 N34 SU1	22-3/8	16-3/8	12-7/8	14-15/16	5-3/8	11-1/16	12-3/8	2"
200	EXB-12248 N34 SU1	28-3/8	16-3/8	18-7/8	14-15/16	5-3/8	11-15/16	13-3/8	3"
400	EXB-183610 N34 SU1	40-3/8	22-3/8	31-1/2	21-1/4	14-3/8	14-3/8	16-1/2	(2) 3"



KILLARK®



Class I, Div. 1 & 2, Groups B,C,D
Class I, Zones 1 & 2, Groups IIB+H₂, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III, Div. 1 & 2
NEMA 3, 4, 4x, 7(B,C,D) 9(E,F,G)



Classified — File E83969

See files for details or call Killark.



Certified-File LR 11713 for B7L

FEATURES-SPECIFICATIONS



Applications

- Hazardous locations due to the presence of flammable gases or vapors, combustible dust or easily ignitable fibers and flyings, and areas subject to corrosion, weather and dampness
- Petroleum refineries, chemical and petrochemical plants with indoor and outdoor processes
- Applications requiring overcurrent and short circuit protection of lighting, appliances, heating and motor circuits

Features

- NEMA 4, 4x rated for protection from hose directed water and corrosion
- Standard electrical components: B7L-Cutler-Hammer Quicklag Breakers B7P-Cutler-Hammer Series C Breakers
- B7L and B7P furnished with copper buss
- Main lugs. Mechanical solderless type, approved for CU or AL conductors
- Solid Neutral standard. Single phase 3 wire. Three phase 4 wire
- Copper ground bar standard
- Main and branch breaker handles can be padlocked in "ON" or "OFF" position
- Top feed panel standard with bottom feed optional
- Hinged cover, installed as standard
- Quick release, captivated coverbolts of 316 stainless steel

Standard Materials

- Enclosure: Copper-free aluminum (less than 4/10 of 1%)
- Main Breaker Handle: Copper-free aluminum
- Cover bolts: 316 grade stainless steel
- Flange Gasket "O" Ring: Buna-N Nitrile
- Branch Breaker Operators: Valox Thermoplastic Polyester handle molded onto 316 stainless steel shaft with neoprene "O" ring
- Hinges: Copper-free aluminum with stainless steel pin and hardware
- Mounting Lugs: 1/4" thick aluminum

Panel Selection Factors

Basic information required when specifying panelboards is as follows:

- Environment
- Service (Voltage/Frequency/Phase)
- Interrupting capacity
- AMP Rating of Main (Lugs only or Breaker)
- Branch Breaker (Type/Number of Poles/Amperage)

Ordering Information

Specifying and ordering a complete panelboard assembly requires the selection of three components.

(1) **Basic Panel** (2) **Branch Breaker and (3) Options** (if required). This method of cataloging permits a wide variety and maximizes circuit flexibility in our panelboard offering. Components supplied in each of these selections include:

- 1) **Basic Panelboard Enclosures** (page DE12)
 - Explosion-proof enclosure consisting of box and cover
 - Cover predrilled and plugged for maximum number of branch breaker handles (handles not supplied)

- Box supplied with conduit openings
 - Main circuit breaker and external handle (when specified)
 - Panelboard internal chassis with buss bars but less branch circuit breakers
- 2) **Branch Circuit Breakers** (page DE15)
- Internal circuit breaker
 - External handle mechanism with internal tripping mechanism
 - Test pushbutton for GFI (when ordered)
 - Lockout shield with on-off-trip-reset identification

3) Options - Accessories (page DE15)

Ordering Example

Specification is for a 3 phase 120/208 volt panel with 100 Amp main lugs complete with (4) single pole 20 Amp (2) double pole 20 Amp and (1) three pole 30 Amp branch breakers.

Branch Breaker Total =

(4) 1 Pole = 4 Poles Total

(2) 2 Pole = 4 Poles Total

(1) 3 Pole = 3 Poles Total

 Total 11 Branch Poles

Specification/Ordering Example

B7L20 - 312 - ML100 (Basic panelboard enclosure) with:

(4) B7BLA1020 (1 Pole 20 Amp Branch)

(2) B7BLA2020 (2 Pole 20 Amp Branch)

(1) B7BLB3030 (3 Pole 30 Amp Branch)

Catalog Logic

See page DE16 for panelboard catalog number logic for basic enclosures.



Cutler-Hammer type BA circuit breaker 1 - 2 or 3 pole.

Catalog numbers on this page are for the basic panelboard enclosure only with a panel interior chassis containing main lugs or main breaker as illustrated.

Internal branch breakers and external handles are NOT included in the basic enclosure catalog number and must be ordered as separate items.

Branch circuit loads

The interior panel chassis supplied in B7L panel is limited to a maximum of 140 amperes at any one connection point. Breakers of 50 thru 100 amps must be installed opposite breakers of smaller amperage so as not to exceed the 140 ampere limitation.

CIRCUIT BREAKER RATINGS			
TYPE	NO. OF POLES	VOLT	AMPERES SYMMETRICAL
BABⓄ	1	120	10,000 AIC
BABⓄ	2	120/240	10,000 AIC
BABⓄ	3	240	10,000 AIC
BABSWNⓄ	1	120/240	10,000 AIC
BABSWNⓄ	2	120/240	10,000 AIC
QBGF	1	120	10,000 AIC
QBGF	2	120/240	10,000 AIC
QBGFEP	1	120	10,000 AIC
QBGFEP	2	120/240	10,000 AIC
BAB*DⓄ	1	120	10,000 AIC
BAB*DⓄ	2	120/240	10,000 AIC

Ⓞ Type BAB also rated for 80V DC at 5,000 AIC.

Ⓞ Type BAB* D designed for HID lighting applications.

**Class I, Div. 1 & 2, Groups B,C,D
Class I, Zones 1 & 2, Groups IIB+H₂, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III, Div. 1 & 2
NEMA 3, 4, 4x, 7(B,C,D) 9(E,F,G)**



Classified — File E83969

See files for details or call Killark.



Certified-File LR 11713

B7L PANEL WITHOUT MAIN BREAKER (MAIN LUGS ONLY) LESS BRANCH BREAKERS					
ELECTRICAL RATING	MAIN LUG RATING	NUMBER OF BRANCH POLES	CATALOG NUMBER BASIC ENCLOSURE AND CHASSIS	ENCLOSURE BOX SIZE	MAIN WIRE RANGE
Single phase 3 wire with solid neutral 120/240 VAC	100	12	B7L20 - 112 - ML100	A	E
	100	18	B7L29 - 118 - ML100	B	G
	225	18	B7L29 - 118 - ML225	B	F
	100	24	B7L29 - 124 - ML100	B	G
	225	24	B7L41 - 124 - ML225	C	F
	100	30	B7L41 - 130 - ML100	C	G
	225	30	B7L41 - 130 - ML225	C	F
	225	36	B7L41 - 136 - ML225	C	F
Three phase 4 wire with solid neutral 120/208 VAC	100	12	B7L20 - 312 - ML100	A	E
	100	18	B7L29 - 318 - ML100	B	G
	225	18	B7L29 - 318 - ML225	B	F
	100	24	B7L29 - 324 - ML100	B	G
	225	24	B7L41 - 324 - ML225	C	F
	100	30	B7L41 - 330 - ML100	C	G
	225	30	B7L41 - 330 - ML225	C	F
	225	36	B7L41 - 336 - ML225	C	F
	225	42	B7L41 - 342 - ML225	C	F

B7L PANEL WITH MAIN BREAKER LESS BRANCH BREAKERS						
ELECTRICAL RATING	MAIN BREAKER FRAME	MAIN BREAKER AND RATING	NUMBER OF BRANCH POLES	CATALOG NUMBER BASIC ENCLOSURE AND CHASSIS	ENCLOSURE BOX SIZE	MAIN WIRE RANGE
Single phase 3 wire with solid neutral 120/240 VAC	EHD	100	12	B7L29 - 112 - MBE100	B	H
	EHD	100	18	B7L41 - 118 - MBE100	C	H
	EHD	100	24	B7L41 - 124 - MBE100	C	H
	ED	225	24	B7L41 - 124 - MBC225	C	I
	EHD	100	30	B7L41 - 130 - MBE100	C	H
	ED	225	30	B7L41 - 130 - MBC225	C	I
	ED	225	36	B7L50 - 136 - MBC225	D	I
Three phase 4 wire with solid neutral 120/208 VAC	ED	225	42	B7L50 - 142 - MBC225	D	I
	EHD	100	12	B7L29 - 312 - MBE100	B	H
	EHD	100	18	B7L41 - 318 - MBE100	C	H
	EHD	100	24	B7L41 - 324 - MBE100	C	H
	ED	225	24	B7L41 - 324 - MBC225	C	I
	EHD	100	30	B7L41 - 330 - MBE100	C	H
	ED	225	30	B7L41 - 330 - MBC225	C	I
	ED	225	36	B7L50 - 336 - MBC225	D	I
	ED	225	42	B7L50 - 342 - MBC225	D	I

B7L PANEL WITH BACK FEED MAIN BREAKER LESS BRANCH BREAKERS						
ELECTRICAL RATING	MAIN BREAKER FRAME	MAIN BREAKER AND RATING	NUMBER OF BRANCH POLES	CATALOG NUMBER BASIC ENCLOSURE AND CHASSIS	ENCLOSURE BOX SIZE	MAIN WIRE RANGE
Single phase 3 wire with solid neutral 120/240 VAC	BAB	100	12	B7L29 - 112 - MBB100	B	J
	BAB	100	18	B7L29 - 118 - MBB100	B	J
	BAB	100	24	B7L41 - 124 - MBB100	C	J
	BAB	100	30	B7L41 - 130 - MBB100	C	J
Three phase 4 wire with solid neutral 120/208 VAC	BAB	100	12	B7L29 - 312 - MBB100	B	J
	BAB	100	18	B7L29 - 318 - MBB100	B	J
	BAB	100	24	B7L41 - 324 - MBB100	C	J
	BAB	100	30	B7L41 - 330 - MBB100	C	J

NOTE: Main breaker panel includes main breaker and its price in basic enclosure part number. Refer to page DE15 for branch breaker ordering information.



Cutler-Hammer Series “C” Circuit Breakers 1-2 or 3 pole.

Catalog numbers on this page are for the basic panelboard enclosure only with a panel interior chassis containing main lugs or main breaker as illustrated.

Internal branch breakers and external handles are NOT included in the basic enclosure catalog number and must be ordered as separate items.

Class I, Div. 1 & 2, Groups B,C,D
Class I, Zones 1 & 2, Groups IIB+H₂, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III, Div. 1 & 2
NEMA 3, 4, 4x, 7(B,C,D) 9(E,F,G)



Classified — File E83969

See files for details or call Killark.

FEATURES-SPECIFICATIONS

B7P CIRCUIT BREAKER RATINGS									
TYPE	NUMBER OF POLES	MAXIMUM VOLTS		AMPERES SYMMETRICAL					
		AC	DC	240AC	277AC	480AC	600AC	125DC	250DC
EHD	1	277	125	—	14000	—	—	10000	—
EHD	2&3	480	250	18000	—	14000	—	—	10000
FDB	2&3	600	250	18000	—	14000	14000	—	10000

B7P PANEL WITHOUT MAIN BREAKER (MAIN LUGS ONLY) LESS BRANCH BREAKERS					
ELECTRICAL RATING	MAIN LUG RATING	NUMBER OF BRANCH POLES	CATALOG NUMBER ENCLOSURE AND CHASSIS	ENCLOSURE BOX SIZE	MAIN WIRE RANGE
3 Phase 4 Wire with solid neutral up to 600 VAC	100	6	B7P20 - 306 - ML100	A	K
	100	12	B7P29 - 312 - ML100	B	K
	225	12	B7P29 - 312 - ML225	B	L
	225	18	B7P41 - 318 - ML225	C	L
	100	21	B7P41 - 321 - ML100	C	K
	225	27	B7P50 - 327 - ML225	D	M

B7P PANEL WITH MAIN BREAKER LESS BRANCH BREAKERS							
ELECTRICAL RATING	MAIN BREAKER			NUMBER OF BRANCH POLES	CATALOG NUMBER ENCLOSURE AND CHASSIS	ENCLOSURE BOX SIZE	MAIN WIRE RANGE
	MAX. VOLTS	AMPS	FRAME				
3 Phase 4 Wire with Solid Neutral Up to 600 VAC	480	100	EHD	6	B7P29 - 306 - MBE100	B	K
	600	100	FDB	6	B7P29 - 306 - MBF100	B	K
	600	225	JDB	12	B7P41 - 312 - MBJ225	C	L
	480	100	EHD	15	B7P41 - 315 - MBE100	C	K
	600	100	FDB	15	B7P41 - 315 - MBF100	C	K
	600	225	JDB	18	B7P50 - 318 - MBJ225	D	L
	480	100	EHD	21	B7P50 - 321 - MBE100	D	N
	600	100	FDB	21	B7P50 - 321 - MBF100	D	N

PANEL WITH BACK FEED MAIN BREAKER LESS BRANCH BREAKERS							
ELECTRICAL RATING	MAIN BREAKER			NUMBER OF BRANCH POLES	CATALOG NUMBER ENCLOSURE AND CHASSIS	ENCLOSURE BOX SIZE	MAIN WIRE RANGE
	MAX. VOLTS	AMPS	FRAME				
3 Phase 4 Wire with solid neutral up to 600 VAC	480	100	EHD	9	B7P29 - 309 - MBE100	B	K
	600	100	FDB	9	B7P29 - 309 - MBF100	B	K
	480	100	EHD	18	B7P41 - 318 - MBE100	C	K
	600	100	FDB	18	B7P41 - 318 - MBF100	C	K
	480	100	EHD	24	B7P50 - 324 - MBE100	D	K
	600	100	FDB	24	B7P50 - 324 - MBF100	D	K

NOTE: Main breaker panel includes main breaker and its price in basic enclosure part number. Refer to page DE15 for branch breaker ordering information. See page DE16 for enclosure dimensions.



KILLARK

BRANCH CIRCUIT BREAKERS								
NUMBER OF POLES PER BREAKER	TRIP AMP RATING	B7L SERIES LIGHTING PANEL					B7P SERIES POWER PANEL	
		BAB FRAME STANDARD	BAB FRAME MID HIGH INTENSITY DISCHARGE	BAB FRAME SWITCH NEUTRAL	QBGF GROUND FAULT 5MA	QBGEQ EQUIPMENT PROTECTION 30MA	EHD FRAME 480 VAC MAX.	FDB FRAME 600 VAC MAX.
(1) Single Pole 120 Volt	SPACE	B7BLA1000	B7BLD1000	—	B7BLC1000	B7BLE1000	B7BPK1000	—
	15	B7BLA1015	B7BLD1015	—	B7BLC1015	B7BLE1015	B7BPK1015	—
	20	B7BLA1020	B7BLD1020	—	B7BLC1020	B7BLE1020	B7BPK1020	—
	30	B7BLA1030	B7BLD1030	—	B7BLC1030	B7BLE1030	B7BPK1030	—
	40	B7BLA1040	B7BLD1040	—	B7BLC1040	B7BLE1040	B7BPK1040	—
	50	B7BLA1050	B7BLD1050	—	—	—	B7BPK1050	—
	60	B7BLA1060	B7BLD1060	—	—	—	B7BPK1060	—
	70	B7BLA1070	—	—	—	—	B7BPK1070	—
	90	—	—	—	—	—	B7BPK1090	—
(2) Double Pole 120/240 Volt	SPACE	B7BLA2000	B7BLD2000	B7BLF2000	B7BLC2000	B7BLE2000	B7BPK2000	B7BPL2000
	15	B7BLA2015	B7BLD2015	B7BLF2015	B7BLC2015	B7BLE2015	B7BPK2015	B7BPL2015
	20	B7BLA2020	B7BLD2020	B7BLF2020	B7BLC2020	B7BLE2020	B7BPK2020	B7BPL2020
	30	B7BLA2030	B7BLD2030	B7BLF2030	B7BLC2030	B7BLE2030	B7BPK2030	B7BPL2030
	40	B7BLA2040	B7BLD2040	—	B7BLC2040	B7BLE2040	B7BPK2040	B7BPL2040
	50	B7BLA2050	B7BLD2050	—	B7BLC2050	B7BLE2050	B7BPK2050	B7BPL2050
	60	B7BLA2060	B7BLD2060	—	—	—	B7BPK2060	B7BPL2060
	70	B7BLA2070	—	—	—	—	B7BPK2070	B7BPL2070
	90	B7BLA2090	—	—	—	—	B7BPK2090	B7BPL2090
(3) Three Pole 120/240 Volt	SPACE	B7BLB3000	—	B7BLF3000	—	—	B7BPK3000	B7BPL3000
	15	B7BLB3015	—	B7BLF3015	—	—	B7BPK3015	B7BPL3015
	20	B7BLB3020	—	B7BLF3020	—	—	B7BPK3020	B7BPL3020
	30	B7BLB3030	—	B7BLF3030	—	—	B7BPK3030	B7BPL3030
	40	B7BLB3040	—	—	—	—	B7BPK3040	B7BPL3040
	50	B7BLB3050	—	—	—	—	B7BPK3050	B7BPL3050
	60	B7BLB3060	—	—	—	—	B7BPK3060	B7BPL3060
	70	B7BLB3070	—	—	—	—	B7BPK3070	B7BPL3070
	90	B7BLB3090	—	—	—	—	B7BPK3090	B7BPL3090
	100	B7BLB3100	—	—	—	—	B7BPK3100	B7BPL3100
	110	—	—	—	—	—	—	B7BPL3110
	125	—	—	—	—	—	—	B7BPL3125
150	—	—	—	—	—	—	B7BPL3150	

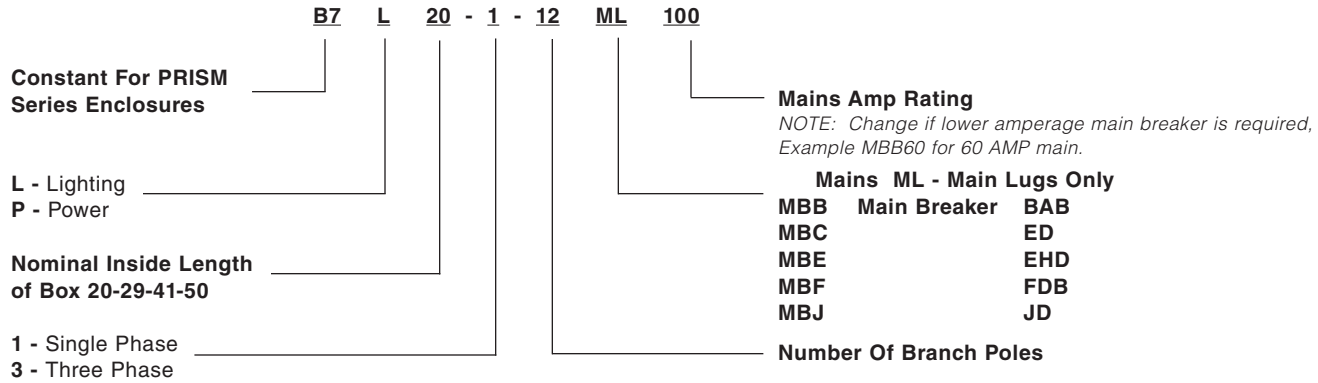
MODIFICATIONS	
CATALOG NUMBER	DESCRIPTION
SU3	Drain and breatherⓄNEMA 3, 7CD, 9 EFG
SU3B	Drain and breatherⓄNEMA 3, 7BCD, 9EFG
KIT-251	Grounding kit, 100 AMP
KIT-252	Grounding kit, 225 AMP
B7SF	Special baked epoxy finish
B7EYEBOLT	Eye bolts for ease of installationⓄ
B7ML225	Change 100 amp buss to 225 amp B7P series
B7MLBTM	Main lugs at bottom
B7SPNPT	Change standard conduit size and location
B7GSN	Kit to ground neutral bar

- * To be ordered as separate item with notation on order for assembly into enclosure.
 Ⓞ Installation of drain and breather will void the NEMA 4-4X Rating of panelboard.
 Drain and breather will be installed into a standard conduit opening provided in box.
 Ⓞ Lifting eyebolts are installed in two conduit openings located in top of box and are to be removed after installation.

Branch Breaker Notes:

- 1) B7L panels are factory drilled for maximum number of single pole branch breaker handles and B7P for maximum number of 3 pole branch breaker handles as standard.
- 2) Part numbers illustrated above include external handle, trip mechanism, locking tab and internal breaker. Refer to page DE12 for complete ordering information and examples.
- 3) Space = External handle, shaft and trip mechanism installed to allow for future installation of breaker.
- 4) Ground Fault & Equipment protection breakers include external pushbutton for each breaker to test ground fault sensing circuit and the mechanical operation of breaker.
- 5) Switch Neutral Breaker note. A two pole breaker has one pole for breaking from main buss and one pole that breaks neutral. Three pole breaker consists of two poles for breaking from main buss and one pole that breaks neutral.

Catalog Logic- for basic Panelboard Enclosures

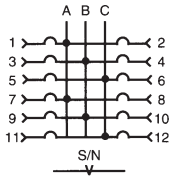


WIRE SIZES									
E	F	G	H	I	J	K	L	M	N
#12-#1	#6-250MCM	#12-1/0	#14-1/0	2/0-250MCM	#14-#1	#6-2/0	#6-4/0	#2-4/0	#2-2/0

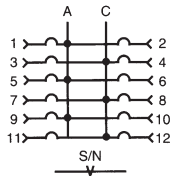
Wiring Diagrams B7L Series

(Note: B7P Series are single column)

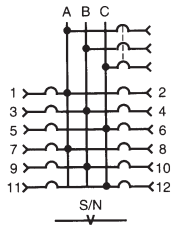
**Main Lug Only
Three Phase 4-Wire
Solid Neutral
120/208 VAC**



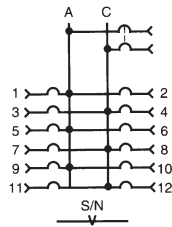
**Main Lug Only
Single Phase 3-Wire
Solid Neutral
120/240 VAC**



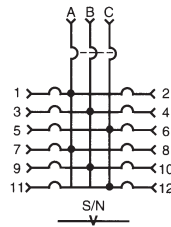
**Back Feed
Main Breaker
Three Phase 4-Wire
Solid Neutral
120/208 VAC**



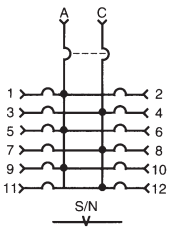
**Back Feed
Main Breaker
Single Phase 3-Wire
Solid Neutral
120/240 VAC**



**Vertical
Main Breaker
Three Phase 4-Wire
Solid Neutral
120/208 VAC**



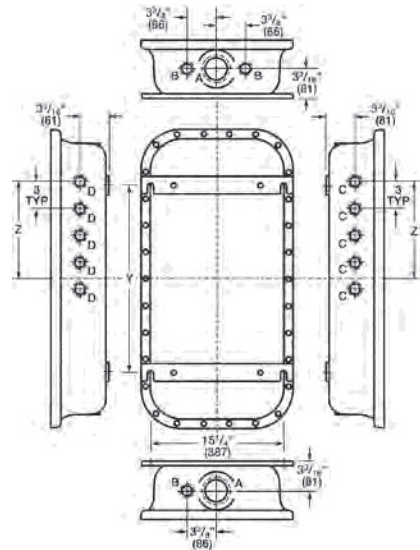
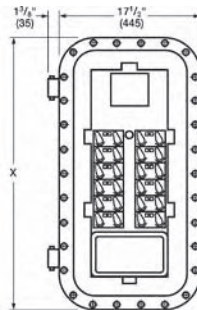
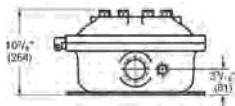
**Vertical
Main Breaker
Single Phase 3-Wire
Solid Neutral
120/240 VAC**

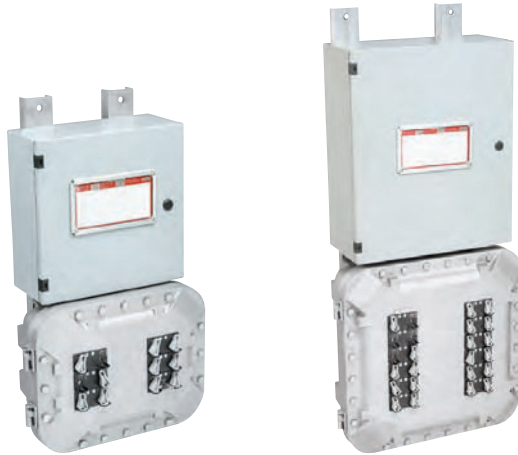


DIMENSIONS										
ENCLOSURE BOX SIZE		X	Y	CONDUIT SIZE		Z	CONDUIT QUANTITY			
LETTER	BASE BOX NUMBER ①			A	B, C, D		A	B	C	D
A	MXB-13207	24-3/4" (629)	13" (330)	2"	1"	6-7/8" (175)	2	3	3	4
B	MXB-13297	33-3/8" (848)	21" (533)	2-1/2"	1"	10-7/8" (276)	2	3	4	5
C	MXB-13417	45-3/8" (1153)	33" (838)	3"	1"	16-7/8" (429)	2	3	5	6
D	MXB-13507	54-3/8" (1381)	42" (1067)	3"	1"	21-3/8" (543)	2	3	6	7

① See pages DE13 and DE14 for complete enclosure ordering information.

Dimensions





**Class I, Div. 2, Groups B,C,D
Class I, Zone 2, Groups IIB+H₂, IIA
Class II, Div. 2, Groups F,G
Class III, Div. 1 & 2
NEMA, CSA Type 3, 4 (4X Optional)**

 Classified — File E83969

 Certified — File LR11713

FEATURES-SPECIFICATIONS

Applications

- Hazardous areas due to the potential of explosive gas atmospheres, combustible dusts or easily ignited fibers or flyings and areas subjected to corrosive or harsh chemicals, weather or dampness
- Petroleum refineries, chemical or petrochemical facilities with indoor or outdoor processes
- Applications requiring overcurrent and short circuit protection of lighting, appliances heating or motor circuits

Features

- Factory Seal between breaker enclosure and termination box eliminates the need for external sealing
- Gasketed covers assure NEMA/CSA Type 4, 4X rated protection for hose-down and corrosion
- Standard Electrical Components: D2L–Cutler-Hammer QC Breakers D2CP–Cutler-Hammer GHC & GCH Breakers
- Main distribution block, branch terminal block, neutral and ground bar are located in termination enclosure
- Main Lugs. Mechanical solderless type, approved for CU or AL conductors
- Solid neutral standard. Single phase, 3 wire or three phase 4 wire
- Main and branch circuit breaker handles can be padlocked in “on” or “off” position

- Top or bottom feed panels available
- Breaker chamber hinged cover with quick release – captivated bolts
- Termination enclosure has hinged cover with quick release latch for easy opening
- Termination enclosure supplied without conduit openings for easy field punching of incoming and outgoing entries
- Line and load side of breakers in breaker chamber are factory wired to terminal blocks in termination enclosure and sealed at the factory
- Breaker enclosure is drilled and plugged for maximum number of circuits to permit field addition of unused branch spaces

Panel Selection Factors

- Basic information required when specifying panelboards is as follows:
 - Service Requirements – Voltage, phases and frequency
 - Interrupting capacity
 - Amperage Rating of Main (Lugs only or Breaker)
 - Branch Breaker Requirements
 - Type
 - Number
 - Poles
 - Amperage
 - GFCI Requirements

Ordering Information

Specifying and ordering a complete panelboard assembly requires the selection of three components

1. Basic Panel
2. Branch Breakers
3. Modifications if Required

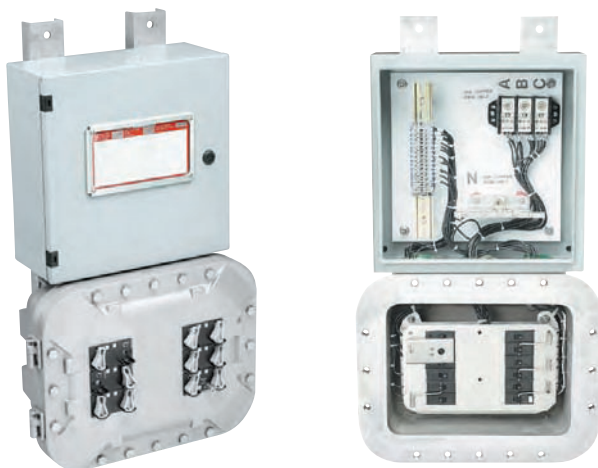
This method of cataloguing permits a wide variety and maximizes circuit flexibility in the Killark panelboard series.

Standard Materials

- Breaker Enclosure: Copper-free cast aluminum (less than 4/10 of 1%)
- Terminal enclosure: Steel powder coated. (Optional stainless steel or fiberglass for 4X ratings)
- Cover bolts: Type 316 stainless steel

MODIFICATIONS	
SUFFIX NUMBER	DESCRIPTION
SU3	Drain and breather C&D®
SU3B	Drain and breather B,C,D®®
D2SF	Powder paint on breaker box
D2MLBTM	Invert with terminal box located on bottom
D2STST	Substitute with stainless steel termination box
D2FG	Substitute with fiberglass termination box
B7GSN	Kit to ground neutral bar
D2CA	Substitute with cast aluminum termination box

® Installation of drain breather will void the NEMA 4-4x rating of panelboard.
© Not CSA



Class I, Div. 2, Groups B,C,D
Class I, Zone 2, Groups IIB+H₂, IIA
Class II, Div. 2, Groups F,G
Class III, Div. 1 & 2
NEMA, CSA Type 3, 4 (4X Optional)

 Classified — File E83969

 Certified — File LR11713

FEATURES-SPECIFICATIONS

Catalog Numbers on this page are for the basic Termination Enclosure with distribution, neutral, ground bar and terminal blocks plus a Breaker Enclosure with internal pan. Enclosures are connected together with factory poured sealing chambers and mounted on aluminum frame for wall mounting. External breaker handles and internal branch breakers are not included and must be ordered as separate items for factory installation. (See page DE20)

D2L PANELBOARDS WITHOUT MAIN BREAKER (MAIN LUGS ONLY) LESS BRANCH BREAKERS					
ELECTRICAL RATING	NUMBER OF BRANCH POLES	MAIN LUG RATING AMPS	CATALOG NUMBER BASIC ENCLOSURES	MAIN WIRE RANGE	PANEL SIZE
Single Phase	12	100	D2L-112-ML100	M	A
3 Wire with Solid Neutral	24	225	D2L-124-ML225	N	B
	36	225	D2L-136-ML225	N	C
120/240 VAC	42	225	D2L-142-ML225	P	D
	12	100	D2L-312-ML100	M	A
Three Phase	24	225	D2L-324-ML225	N	B
	36	225	D2L-336-ML225	N	C
120/208 VAC	42	225	D2L-342-ML225	P	D

D2L CIRCUIT BREAKER RATINGS CUTLER-HAMMER TYPE QC CIRCUIT BREAKERS			
TYPE	POLES	VOLTS	AMPERES SYMMETRICAL
QC	1	120	10,000 AIC
	2	120/240	
	3	240	
QCSWN	1	120/240	10,000 AIC
	2	120/240	
QCGF	1	120	10,000 AIC
	2	120/240	
QCGFEP	1	120	10,000 AIC
	2	120/240	
QC*D	1	120	10,000 AIC
QC*D	2	120/240	

D2L PANELBOARDS WITH MAIN BREAKER LESS BRANCH BREAKERS						
ELECTRICAL RATING	NUMBER OF BRANCH POLES	MAIN BREAKER		CATALOG NUMBER BASIC ENCLOSURES	MAIN WIRE RANGE	PANEL SIZE
		AMPS	FRAME			
Single Phase	10	100	QC	D2L-110-MBQ100	M	A
	22	100	QC	D2L-122-MBQ100	N	B
3 Wire with Solid Neutral	34	100	QC	D2L-134-MBQ100	N	C
	42	225	ED	D2L-142-MBED225	N	D
Three Phase	9	100	QC	D2L-309-MBQ100	M	A
	21	100	QC	D2L-321-MBQ100	N	B
4 Wire with Solid Neutral	33	100	QC	D2L-333-MBQ100	N	C
	42	225	ED	D2L-342-MBED225	N	D

NOTE: To substitute a lower amperage main breaker change last three digits of catalog number to desired amperage.

Example: For a 50 amp main breaker part number = D2L-309-MBQ050

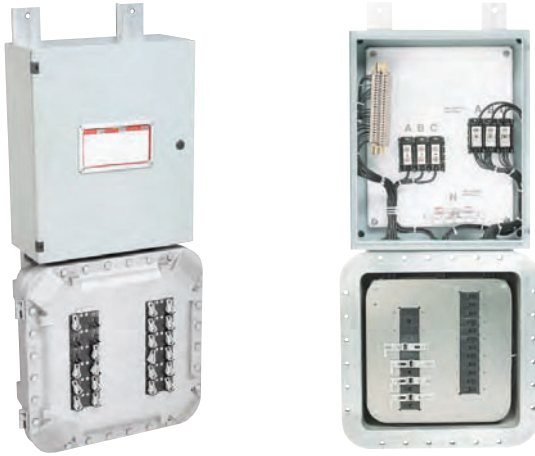
See page DE20 for Branch Breaker Selection

See page DE21 for Dimensions, Wire Range Chart and Wiring Diagrams.

Panels are constructed with Terminal Box on Top for Top Feed.

If Bottom Feed is required order modification D2MLBTM for inverted panel with Terminal Box on Bottom.





Class I, Div. 2, Groups B,C,D
Class I, Zone 2, Groups IIB+H₂, IIA
Class II, Div. 2, Groups F,G
Class III, Div. 1 & 2
NEMA, CSA Type 3, 4 (4X Optional)

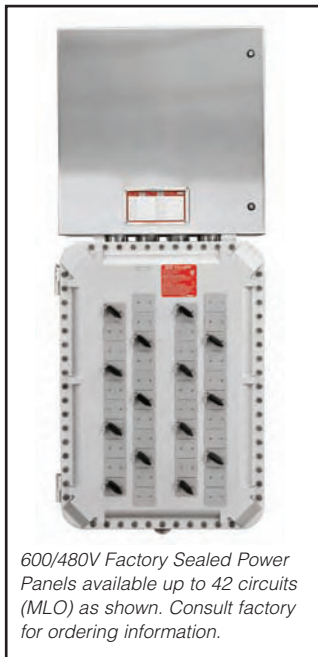
 Classified — File E83969

 Certified — File LR11713

FEATURES-SPECIFICATIONS

Catalog Numbers on this page are for the basic Termination Enclosure with distribution, neutral, ground bar and terminal blocks plus a Breaker Enclosure with internal pan. Enclosures are connected together with factory poured sealing chambers and mounted on aluminum frame for wall mounting.

External breaker handles and internal branch breakers are not included and must be ordered as separate items for factory installation. (See page DE20)



600/480V Factory Sealed Power Panels available up to 42 circuits (MLO) as shown. Consult factory for ordering information.

CUTLER-HAMMER CIRCUIT BREAKER RATINGS FOR D2PC PANEL									
TYPE	NUMBER OF POLES	MAXIMUM VOLTS		AMPERES SYMMETRICAL					
		AC	DC	277 VAC	347 VAC	277/480 VAC	347/600 VAC	125 VDC	250 VDC
GHC	1	277	125	14,000		—	—	14,000	—
	2 & 3	277/480Y	250	14,000		14,000	—	—	14,000
GCH	1	347	125	—	10,000	—	—	14,000	—
	2 & 3	347/600Y	250	—	—	—	10,000	—	14,000

NOTE: GCH Breakers are CSA only.

PANELBOARDS WITHOUT MAIN BREAKER (MAIN LUGS ONLY) LESS BRANCH BREAKERS					
ELECTRICAL RATING	NUMBER OF BRANCH POLES	MAIN LUG RATING AMPS	CATALOG NUMBER BASIC ENCLOSURES	MAIN WIRE RANGE	PANEL SIZE
Three Phase	12	100	D2PC-312-ML100	M	E
4 Wire with Solid Neutral up to 480Y/277 VAC 600Y/347 VAC	24	225	D2PC-324-ML225	N	F
	36	225	D2PC-336-ML225	N	G
	42	225	D2PC-342-ML225	P	H

PANELBOARDS WITH MAIN BREAKER LESS BRANCH BREAKERS							
ELECTRICAL RATING	NUMBER OF BRANCH POLES	MAIN BREAKER			CATALOG NUMBER BASIC ENCLOSURES	MAIN WIRE RANGE	PANEL SIZE
		MAX VOLTS	AMPS	FRAME			
Three Phase 4 Wire with Solid Neutral 480Y/277 VAC 600Y/347 VAC	9	480Y/277	100	GHC	D2PC-309-MBGH100	M	E
	9	600Y/347	100	GCH	D2PC-309-MBGC100	M	E
	21	480Y/277	100	GHC	D2PC-321-MBGH100	N	F
	21	600Y/347	100	GCH	D2PC-321-MBGC100	N	F
	33	480Y/277	100	GHC	D2PC-333-MBGH100	N	G
	33	600Y/347	100	GCH	D2PC-333-MBGC100	N	G
	42	600Y/347	225	JDB	D2PC-342-MBJ225	N	H

Note special wiring conditions: GHC 480Y/277 circuit breakers are not suitable for 3 phase Delta (480)
 GCH 600Y/347 circuit breakers are not suitable for 3 phase Delta (600)
 GCH Rating is for CSA only not UL.

NOTE: To substitute a lower amperage main breaker change last three digits of catalog number to desired amperage.

Example: For a 50 amp main breaker part number = D2PC-309-MBGH050

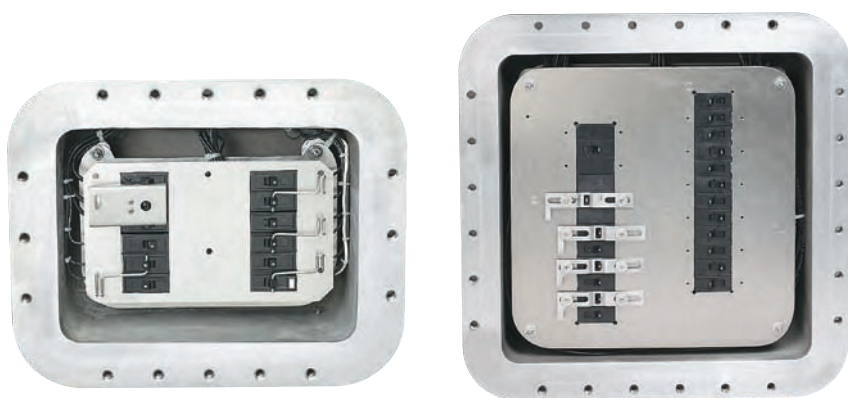
See page DE20 for Branch Breaker Selection

See page DE21 for Dimensions, Wire Range Chart and Wiring Diagrams.

Panels are constructed with Terminal Box on Top for Top Feed.

If Bottom Feed is required order modification D2MLBTM for inverted panel with Terminal Box on Bottom.





Class I, Div. 2, Groups B,C,D
Class I, Zone 2, Groups IIB+H₂, IIA
Class II, Div. 2, Groups F,G
Class III, Div. 1 & 2
NEMA, CSA Type 3, 4 (4X Optional)

Classified — File E83969

Certified — File LR11713

FEATURES-SPECIFICATIONS

BRANCH CIRCUIT BREAKER SELECTION FOR D2L & D2PC FACTORY SEALED PANELBOARDS									
NUMBER OF POLES PER BREAKER	TRIP AMP RATING	CATALOG NUMBER							
		D2L SERIES LIGHTING PANEL					D2PC SERIES POWER PANEL		
		QC FRAME STANDARD	QC FRAME HID HIGH INTENSITY DISCHARGE	QC FRAME SWITCHED NEUTRAL	QCFG GROUND FAULT 5 MA	QCGFEP EQUIPMENT PROTECTION 30 MA	GHC FRAME 277/480Y VAC MAX	GHCHID FRAME 277/480Y HIGH INTENSITY DISCHARGE	GCH FRAME 347/600Y VAC MAX
(1) Single Pole	Space	D2BLA1000	D2BLD1000	—	D2BLC1000	D2BLE1000	D2BGHC1000	D2BGHCD1000	D2BGCH1000
	15	D2BLA1015	D2BLD1015	—	D2BLC1015	D2BLE1015	D2BGHC1015	D2BGHCD1015	D2BGCH1015
	20	D2BLA1020	D2BLD1020	—	D2BLC1020	D2BLE1020	D2BGHC1020	D2BGHCD1020	D2BGCH1020
	30	D2BLA1030	D2BLD1030	—	D2BLC1030	D2BLE1030	D2BGHC1030	—	D2BGCH1030
	40	D2BLA1040	D2BLD1040	—	D2BLC1040	D2BLE1040	D2BGHC1040	—	D2BGCH1040
	50	D2BLA1050	D2BLD1050	—	—	D2BLE1050	D2BGHC1050	—	D2BGCH1050
	60	D2BLA1060	D2BLD1060	—	—	—	D2BGHC1060	—	D2BGCH1060
	70	D2BLA1070	—	—	—	—	D2BGHC1070	—	D2BGCH1070
	90	D2BLA1090	—	—	—	—	D2BGHC1090	—	D2BGCH1090
	100	D2BLA1100	—	—	—	—	D2BGHC1100	—	D2BGCH1100
(2) Double Pole	Space	D2BLA2000	D2BLD2000	D2BLF2000	D2BLC2000	D2BLE2000	D2BGHC2000	—	D2BGCH2000
	15	D2BLA2015	D2BLD2015	D2BLF2015	D2BLC2015	D2BLE2015	D2BGHC2015	—	D2BGCH2015
	20	D2BLA2020	D2BLD2020	D2BLF2020	D2BLC2020	D2BLE2020	D2BGHC2020	—	D2BGCH2020
	30	D2BLA2030	D2BLD2030	D2BLF2030	D2BLC2030	D2BLE2030	D2BGHC2030	—	D2BGCH2030
	40	D2BLA2040	D2BLD2040	—	D2BLC2040	D2BLE2040	D2BGHC2040	—	D2BGCH2040
	50	D2BLA2050	D2BLD2050	—	D2BLC2050	D2BLE2050	D2BGHC2050	—	D2BGCH2050
	60	D2BLA2060	D2BLD2060	—	—	—	D2BGHC2060	—	D2BGCH2060
	70	D2BLA2070	—	—	—	—	D2BGHC2070	—	D2BGCH2070
	90	D2BLA2090	—	—	—	—	D2BGHC2090	—	D2BGCH2080
	100	D2BLA2100	—	—	—	—	D2BGHC2100	—	D2BGCH2100
(3) Three Pole	Space	D2BLA3000	—	D2BLF3000	—	—	D2BGHC3000	—	D2BGCH3000
	15	D2BLA3015	—	D2BLF3015	—	—	D2BGHC3015	—	D2BGCH3015
	20	D2BLA3020	—	D2BLF3020	—	—	D2BGHC3020	—	D2BGCH3020
	30	D2BLA3030	—	D2BLF3030	—	—	D2BGHC3030	—	D2BGCH3030
	40	D2BLA3040	—	—	—	—	D2BGHC3040	—	D2BGCH3040
	50	D2BLA3050	—	—	—	—	D2BGHC3050	—	D2BGCH3050
	60	D2BLA3060	—	—	—	—	D2BGHC3060	—	D2BGCH3060
	70	D2BLA3070	—	—	—	—	D2BGHC3070	—	D2BGCH3070
	90	D2BLA3090	—	—	—	—	D2BGHC3090	—	D2BGCH3090
	100	D2BLA3100	—	—	—	—	D2BGHC3100	—	D2BGCH3100

NOTES: 1) Above part numbers include external handle, trip mechanism, locking tab and internal branch circuit breaker.

2) Refer to page DE17 for complete ordering information and examples.

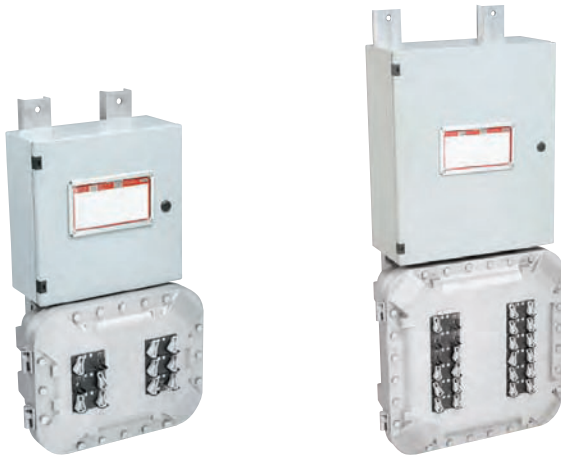
3) Refer to pages DE18 and DE19 for maximum voltage and ratings of circuit breakers.

4) Space = External handle, trip mechanism installed to allow for future installations of breakers.

5) Ground Fault and Equipment protection breakers include external button for test purpose.

6) 15 and 20 ampere, 1 pole GHCHID are SWD rated.





**Class I, Div. 2, Groups B,C,D
Class I, Zone 2, Groups IIB+H₂, IIA
Class II, Div. 2, Groups F,G
Class III, Div. 1 & 2
NEMA, CSA Type 3, 4 (4X Optional)**

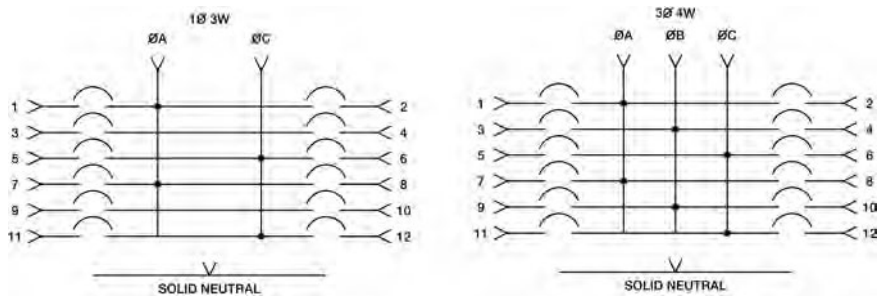
US Classified — File E83969

Certified — File LR11713

FEATURES-SPECIFICATIONS

WIRE RANGE CHART	
REFERENCE LETTER	MAIN WIRE RANGE
M	2/0-#14AWG
N	350MCM-#6AWG
P	400MCM-#6AWG

Standard Panelboard Wiring Diagram

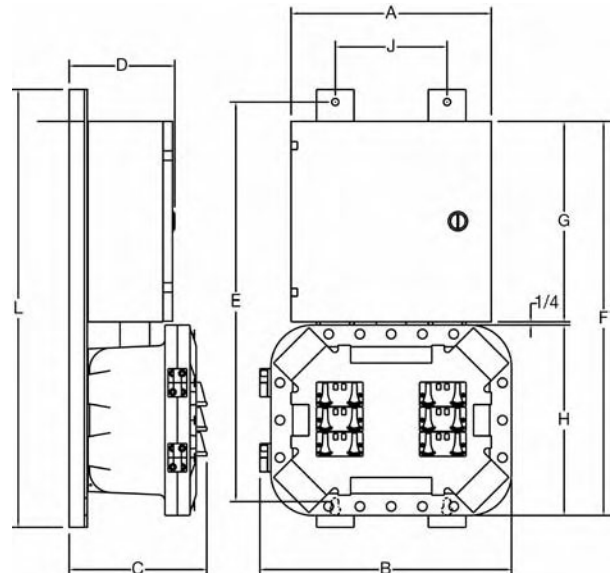


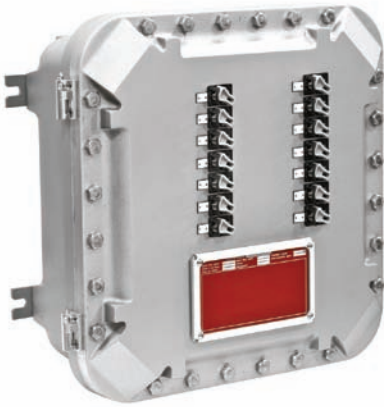
DIMENSIONS FOR PANELS WITH STANDARD STEEL PAINTED TERMINAL ENCLOSURES

PANEL SIZE	MAXIMUM CIRCUITS	A	B	C	D	E	F	G	H	J	L
A	12	16"	20-1/8"	11"	8-7/16"	33-27/32"	31-1/2"	16"	15-1/4"	8-15/16"	35-3/8"
B	24	20"	21-1/4"	11-7/32"	10-7/16"	46-31/32"	44-5/8"	24"	20-3/8"	10-15/16"	48-1/2"
C	36	20"	22-1/8"	14-1/16"	10-7/16"	55-27/32"	53-1/2"	24"	29-1/4"	11-3/8"	57-3/8"
D	42	24"	23-3/16"	14-3/8"	10-7/16"	67"	64-5/8"	24"	40-3/8"	13-1/4"	68-17/32"
E	12	16"	23-1/4"	11-21/32"	8-7/16"	35"	32-5/8"	16"	16-3/8"	12-7/8"	36-1/2"
F	24	20"	24-1/8"	12-1/16"	10-7/16"	49-27/32"	47-1/2"	24"	23-1/4"	13-3/8"	51-3/8"
G	36	20"	23-3/16"	13-25/32"	10-7/16"	54-31/32"	52-5/8"	24"	28-3/8"	13"	56-1/2"
H	42	24"	23-3/16"	14-3/8"	10-7/16"	67"	64-5/8"	24"	40-3/8"	13-1/4"	68-17/32"

DIMENSION CHANGE FOR PANELS WITH ALTERNATE TERMINAL ENCLOSURES

PANEL SIZE	D2 STAINLESS STEEL OPTION		D2 FIBERGLASS OPTION	
	A	G	A	G
A	20	16	24	14
B	20	24	24	24
C	20	24	24	24
D	24	24	24	24
E	20	16	24	14
F	20	24	24	24
G	20	24	24	24
H	24	24	24	24





Class I, Div. 1 & 2, Groups B[Ⓢ], C, D
 Class I, Zones 1 & 2, Groups IIB+H₂, IIA
 Class II, Div. 1 & 2, Groups E, F, G
 Class III, Div. 1 & 2
 NEMA 3, 4, 4X[Ⓢ], 7(B, C, D), 9(E, F, G)
 CENELEC/ATEX/IEC - Ex
 Ex d IIB + H₂ T5 or T6
 Ex tD A21 IP66
 Ta < +60°C

ATEX Certified

UL #UL886 - Outlet Boxes and Fittings for use in Hazardous (Classified) Locations. File E10514

UL #UL698 & #UL1203 - Explosion Proof and Dust Ignition Proof Electrical Equipment. Files #E83969 & E12379

SP #C22.2 No. 30-M1986 - Explosion Proof Enclosure for use in Class I Hazardous Locations. File #LR11716

CENELEC Ex II 2 GD

PTB 07 ATEX 1025U (Empty Housing)

PTB 07 ATEX 1024x (Enclosures w/Controls)

IEC Ex 07.0022U

IEC Ex 07.0023

FEATURES-SPECIFICATIONS

Introduction

New from Killark are IEC rated panelboards with type UL 489 series miniature circuit breakers (MCB) and busbar system.

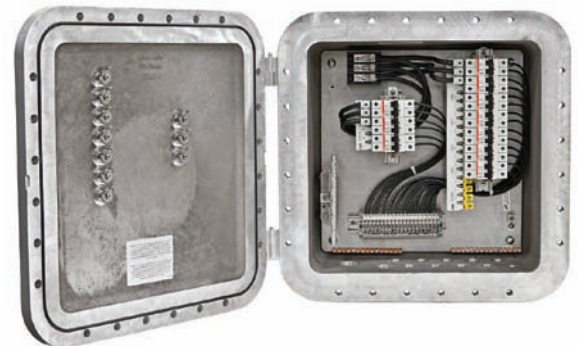
For the world wide market, the breakers carry UL, CSA, IEC, CE and many other agency approvals and certifications.

Available as 6, 12, 18, 24, 36, 54 or 72 circuits with main lug and/or main breaker.

Consult factory for specific needs.



w/main breaker



w/o main breaker

Applications

- Locations made hazardous due to the presence of flammable gases or vapors, combustible dust, or easily ignitable fibers and flyings, and areas which are subject to corrosion, weather and dampness
- Petroleum Refineries, Chemical and Petrochemical plants with indoor and outdoor processes
- **Global applications (ATEX) Enclosures are available for global applications with "CEN" suffix. Assemblies that are modified to CENELEC/ATEX standards maintain their North American certifications**

Features

- Copper-Free Cast Aluminum Construction. High strength, lighter in weight, corrosion resistant
- Fewer Cover Bolts. Computer-aided design lessens the number of cover bolts by eliminating corner bolts. Reduces installation and maintenance time
- Gasketed covers assure NEMA/CSA Type 4, 4X rated protection for hose-down and corrosion
- Main distribution block, branch terminal block, neutral and ground bar are located in termination enclosure
- Main Lugs. Mechanical solderless type, approved for CU or AL conductors
- Solid neutral standard. Single phase, 3 wire or three phase 4 wire
- Main and branch circuit breaker handles can be padlocked in "on" or "off" position

Panel Selection Factors

- Basic information required when specifying panelboards is as follows:
- Service Requirements - Voltage, phases and frequency
- Interrupting capacity
- Amperage Rating of Main (Lugs only or Breaker)
- Branch Breaker Requirements
 - Type
 - Number
 - Poles
 - Amperage
 - RDC Requirements

Catalog Logic

See page DE23 for panelboard catalog number logic for basic enclosures.

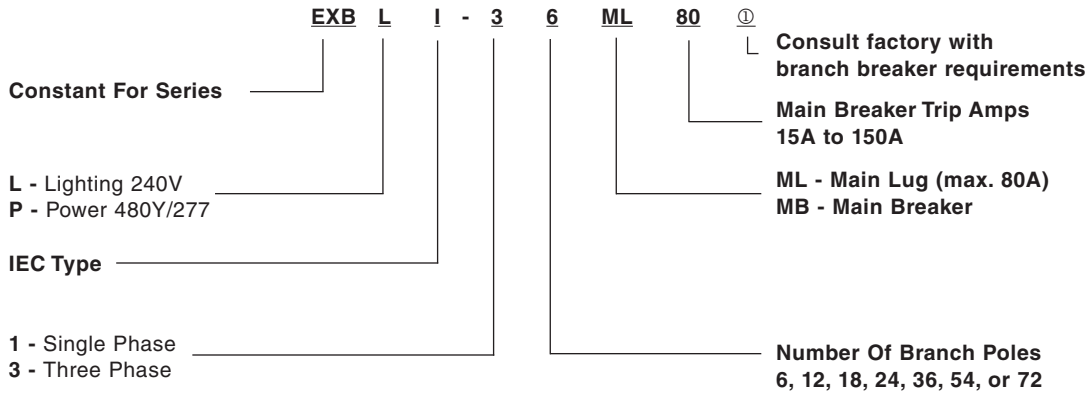
Ⓢ Conduits must be sealed within 18" for Group B applications.

Ⓢ NEMA 4X with optional SU-1 modification

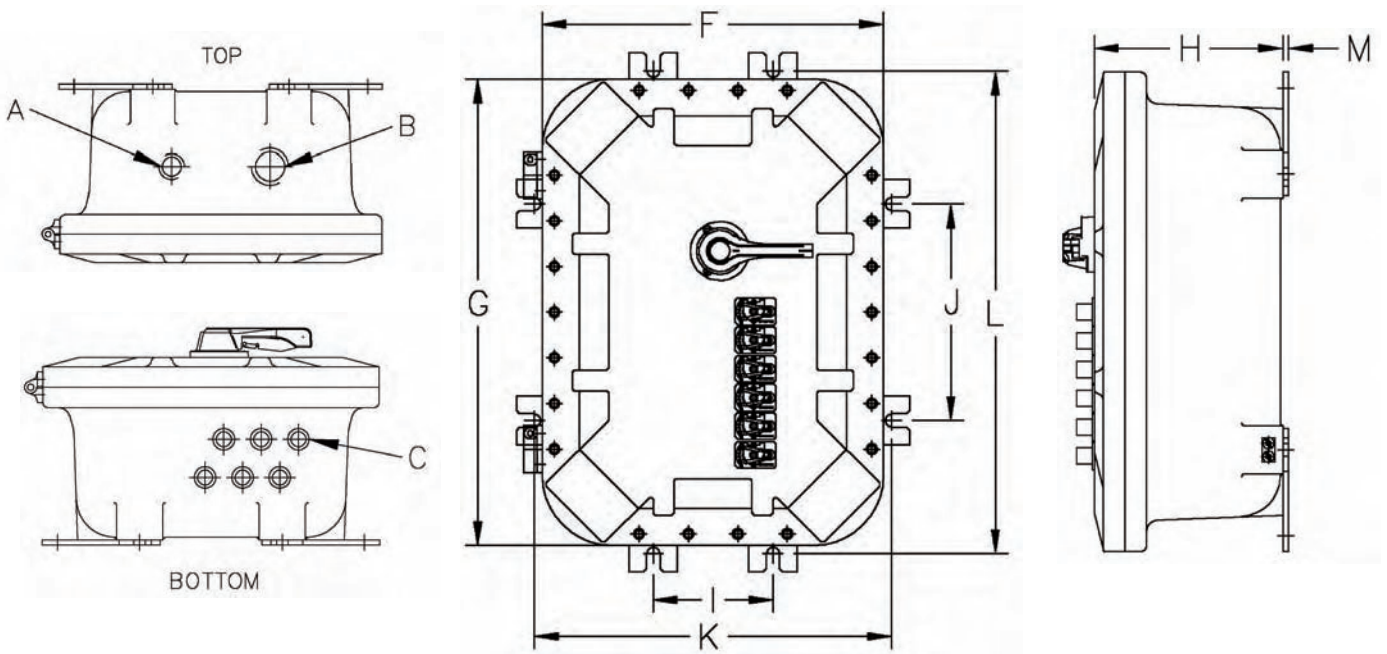


KILLARK

Catalog Logic- for basic IEC Panelboard Enclosures



EXB DIMENSIONS													
CATALOG NUMBER	# of CIRCUITS W/MAIN BREAKER	CONDUIT TOP & BOTTOM (NPT)				EXTERNAL DIMENSION (IN)			MOUNTING DIMENSIONS (INCHES)				
		A	B	C	QTY C	F	G	H	I	J	K	L	M
EXB-10146 N34	6	1-1/2"	1"	3/4"	3	15.25	19.25	8.9	4.94	8.94	12.94	16.94	0.25
EXB-12186 N34	12	1"	1-1/2"	3/4"	6	16.38	22.38	9.06	6.94	12.88	14.94	20.88	0.25
EXB-12246 N34	18	1"	1-1/2"	3/4"	9	16.38	28.38	9.32	6.94	12.88	14.94	26.88	0.25
EXB-18186 N34	24	1-1/2"	1"	3/4"	12	23.25	23.25	10	13.38	13.38	21.38	21.38	0.25
EXB-18148 N34	36	1-1/2"	1"	3/4"	18	22.38	28.38	11.75	13	19	21	27	0.25
EXB-18368 N34	54	1"	2-1/2"	3/4"	27	22.38	40.38	12.38	13.25	31.5	21	39.5	0.25
EXB-24368 N34	72	1"	2-1/2"	3/4"	36	29.25	41.25	12.4	19.56	31.56	27.56	39.56	0.25



DE



Class I, Div. 1 & 2, Groups B,C,D
Class I, Zones 1 & 2, Groups IIB+H₂, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
NEMA 3R, 7(B,C,D) 9(E,F,G)



Listed - File E83969

See files for details or call Killark.

Applications

- Indoor or outdoor hazardous areas where flammable gases or vapors, combustible dusts, or easily ignitable fibers or flyings may be present
- Provides overcurrent and short circuit protection of branch lighting, heating and appliance circuits

Features

- Compact rectangular enclosure with threaded cover allows easy access
- GCBB/2GCBB provided with two 3/4"-14 NPT drilled and tapped conduit openings, one top and one bottom
- 3GCBB provided with three 3/4" - 14 NPT drilled and tapped conduit openings, one top and two bottom
- 4GCBB provided with four 3/4"-14 NPT drilled and tapped conduit openings, two top and two bottom
- Cutler-Hammer Type QC Quicklag Circuit Breakers (These Assemblies include the Breakers as indicated)
- Push pull handle mechanism operates circuit breakers
- Handle mechanism supplied as standard with "Lockout" in off position
- Enclosures are made from copper-free cast aluminum alloy (less than 4/10 of 1%)
- Special combinations of breaker amperage are available, consult factory for details

FEATURES-SPECIFICATIONS

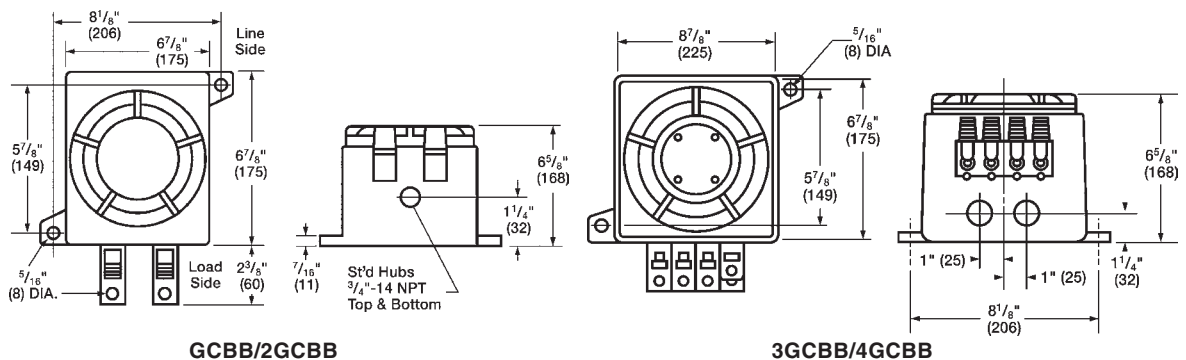
GCBB 15/40A TRIP QUICKLAG				
CATALOG NUMBER				TRIP AMPS
ONE 1-POLE 120 VOLTS AC	ONE 2-POLE 120/240 VOLTS AC	ONE 3-POLE 240 VOLTS AC	TWO 1-POLE 120/240 VOLTS AC	
GCBB-15Q1	GCBB-15Q2	GCBB-15Q3	2GCBB-15Q1	15
GCBB-20Q1	GCBB-20Q2	GCBB-20Q3	2GCBB-20Q1	20
GCBB-30Q1	GCBB-30Q2	GCBB-30Q3	2GCBB-30Q1	30
GCBB-40Q1	GCBB-40Q2	GCBB-40Q3	2GCBB-40Q1	40
GCBB-1Q	GCBB-2Q	GCBB-2Q	2GCBB-1Q	Enclosure only

GCBB 15/40A TRIP QUICKLAG				
CATALOG NUMBER				TRIP AMPS
THREE 1-POLE 120 VOLTS AC	FOUR 1-POLE 120 VOLTS AC	TWO 2-POLE 120/240 VOLTS AC	ONE 1-POLE ONE 3-POLE 120/240 VOLTS AC	
3GCBB-15Q1	4GCBB-15Q1	2GCBB-15Q2	2GCBB-15Q13	15
3GCBB-20Q1	4GCBB-20Q1	2GCBB-20Q2	2GCBB-20Q13	20
3GCBB-30Q1	4GCBB-30Q1	2GCBB-30Q2	2GCBB-30Q13	30
3GCBB-40Q1	4GCBB-40Q1	2GCBB-40Q2	2GCBB-40Q13	40
3GCBB-1Q	4GCBB-1Q	2GCBB-2Q	2GCBB-13Q	Enclosure only

MODIFICATIONS	
SUFFIX NUMBER	DESCRIPTION
SU3	Drain and breather
KIT-251	150 amp ground lug
KIT-252	250 amp ground lug
SU17	Solid neutral

INTERRUPTING RATINGS			
FRAME SIZE	VOLTAGE	AMPS ASYMMETRICAL	AMPS SYMMETRICAL
QC	120/240 VAC	10,000	10,000
QC	240 VAC	10,000	10,000
QC	24/48 DC	5,000	5,000
QC	62/80 DC	3,800	3,800

Dimensions



KILLARK



Class I, Div. 1 & 2, Groups B,C,D
Class I, Zones 1 & 2, Groups IIB+H₂, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III, Div. 1 & 2
NEMA 3, 7(B,C,D) 9(E,F,G)

Listed - File E83969

Certified - File LR061895-2

FEATURES-SPECIFICATIONS

Applications

GFCS Series of Ground Fault Control Stations are used for the additional safety of personnel, and for equipment protection in remote areas.

Features

- Factory Sealed Ground Fault Chamber. (Assemblies in Group B areas must be sealed within 6" of enclosure. Other area classifications do not require the use of seals)
- 1" NPT top and bottom conduit openings
- External Push-to-Test Button and Pilot Light for monitoring
- On-Off-Trip-Reset External Handle can be locked in On-Off positions
- 5ma Ground Fault Circuit Breaker for People Protection. 30ma Ground Fault circuit Breaker for Equipment Protection and heat tracing circuits
- Electrical Rating-120 VAC (single pole) 120/240 VAC (two pole) (10,000 AIC)

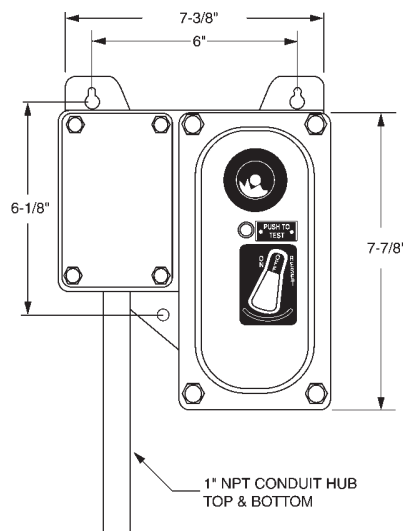
Material/Finish

- Enclosure: Copper-free cast aluminum (less than 4/10 of 1%)
- External Hardware: Stainless Steel
- Standard Finish: Electrostatically applied gray powder epoxy polyester finish

① **2P Units are for 120/240V or 120/208Y Grounded Power Supply Systems ONLY. Do NOT use with Delta supply systems.**

GFCS GROUND FAULT CONTROL STATION			
CATALOG NUMBER	NUMBER OF POLES	MILLIAMPER TRIP	BREAKER AMPERAGE
GFCS05151	1	5	15
GFCS05201	1	5	20
GFCS05301	1	5	30
GFCS30151	1	30	15
GFCS30201	1	30	20
GFCS30301	1	30	30
GFCS05152	2⓪	5	15
GFCS05202	2⓪	5	20
GFCS05302	2⓪	5	30
GFCS30152	2⓪	30	15
GFCS30202	2⓪	30	20
GFCS30302	2⓪	30	30

Dimensions



DE



Class I, Div. 1 & 2, Groups B,C,D
 Class I, Zones 1 & 2, Groups IIB+H₂, IIA
 Class II, Div. 1 & 2, Groups E,F,G
 Class III, Div. 1 & 2
 NEMA 3, 4X, 7(B,C,D) 9(E,F,G)

FEATURES-SPECIFICATIONS

Applications

- Totally wired motor control center
- Hazardous locations due to the presence of flammable gases or vapors, combustible dust or easily ignitable fibers and flyings, and areas subject to corrosion, weather and dampness
- Petroleum refineries, chemical and petrochemical plants with indoor and outdoor processes
- Applications requiring overcurrent and short circuit protection of lighting, appliances, heating and motor circuits

Features

- NEMA 3, 4X (optional) rated for protection from hose directed water and corrosion
- Completely assembled and wired for customer connections to load side of starters and breakers
- Single sided or double sided assemblies per customer specification
- Killark components supplied include series EXB, B7C, B70, D2L, B7L, GR, HKB, D2P, B7P, EZ, VM, EM, ENY, EYS and others

Standard Materials

- Enclosures: Copper-free aluminum (less than 4/10 of 1%)
- Bus Enclosure (when supplied) is painted steel or stainless steel
- Frame: Steel (Hot Dipped Galvanized) or Aluminum. All welded construction
- Bus Bars: Copper, bare or insulated

Ordering Information

- Supply one line diagram or bill of material and Killark will do the rest. Assembly drawing and wiring diagram will be supplied for customer approval.

Basic Data Required

Class _____ Div. _____ GRPS. _____

NEMA Ratings for BUS _____

Incoming Voltage _____

Incoming Amperage _____

Wire: 3w/GND _____ 4w/GND _____

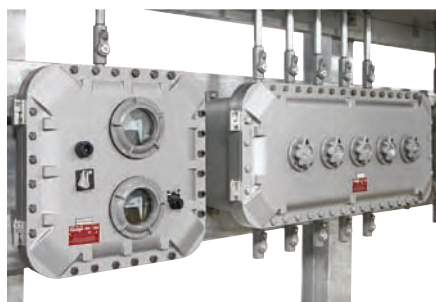
Framing: Single Side _____

Double Side _____

Material: Steel HD/galv. _____

Aluminum _____

Canopy: Yes _____ No _____

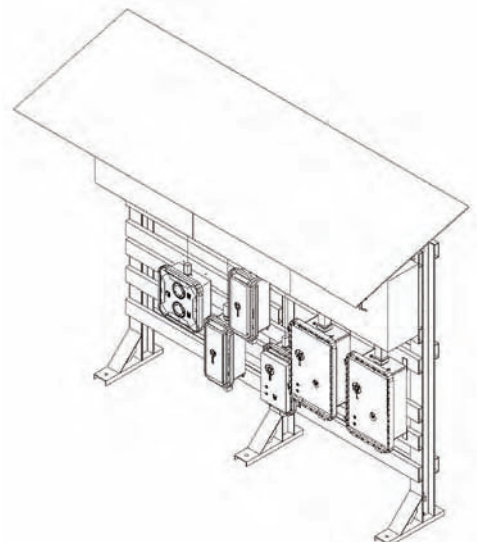


Optional Components

- Circuit breakers
- Automatic Transfer Switch
- Motor Starters
- Contractors
- Junction Boxes
- Control Stations
- Meter/Instrument Enclosures
- Ground Detection
- Panelboards
- Welding and Convenience Receptacles
- Photo Cells
- Light Fixtures
- Transformers
- Space Heaters

Compliances

- All wiring is in accordance with current NEC requirements
- Each enclosure carries at minimum one of the following



KILLARK

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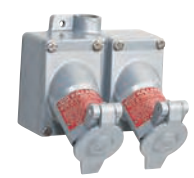
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VR/VP



VSQ



VBQ

600 VAC/250VDC; 50-400 Hertz
NEMA 3, 4, 4X
Class I, Div. 1 & 2, Groups B,C,D;
NEMA 7 B,C,D[®]
Class I, Zones 1 & 2, IIB+H₂, IIA[®]
Class II, Div. 1 & 2, Groups F & G;
NEMA 9 F,G[®]
Class III[®]



FEATURES-SPECIFICATIONS

NEMA 4X VersaMATE[®]

THE FIRST AND ONLY NEMA 4X RATED LINE OF METALLIC PLUGS & RECEPTACLES.

VersaMate[®] metallic pin & sleeve plugs & receptacles are designed for heavy duty industrial use. These devices supply power to both fixed and portable electrical equipment including pumps, generators, welders, vacuums, blowers and similar apparatus.

Suitable for indoor or outdoor use. Applications include the wet, cold, hosedown, hazardous or corrosive areas in such industrial applications as:

- Pulp & Paper Mills
- Electrical Power Plants
- Petrochemical Plants
- Wastewater Treatment
- Marine, Docks, Ports
- Construction Sites
- Breweries
- Refineries
- Chemical Plants
- Grain Facilities
- Textile Manufacturing
- Food Processing Facilities

Standard Materials:

Copper-free aluminum construction with electrostatically applied epoxy/polyester finish. Contacts are brass with a patented beryllium copper spring tensioner. External screws are 316 stainless steel.

Features:

The VersaMate product line includes 30, 60, 100 and 200 Amp plugs, receptacles and connectors with a full range of back boxes. Popular options include reverse service and polarization. The VersaMate line is **FULLY INTERCHANGEABLE[®]** with UL1686 configured and listed devices such as Crouse-Hinds[®] Arktite[®] or Appleton[®] Powertite[®]. Standard location receptacle bolt hole patterns match competitive back boxes so users can upgrade to VersaMate without changing back boxes in instances where changing the conduit system is difficult.

[®] VersaMate[®] components are UL classified and intermateable with other UL 1686-C1 configured devices (when installed in accordance with instructions furnished with device). Assemblies containing components from other manufacturers would have the NEMA type rating of the lowest rated device.

[®] See product pages for specific ratings.

Arktite[®] is a registered trademark of Crouse-Hinds[®].

Powertite[®] is a registered trademark of Appleton[®].



KILLARK[®]

Plugs:

Octagonal style (Patented) for a firm and sure grip when connecting or disconnecting is featured on both plug and cable connector bodies. Insulators have high mechanical and dielectric strength and “Low Arc Tracking.” “Increased Safety” type box terminals with gripper ribs securely clamp around conductors. Funneled conductor entry chambers lead all properly stripped conductors into terminals **simultaneously**. NEMA 4X rating when inserted into VersaMate receptacle and locking ring is tightened.



Receptacles:

Exclusive Patented “Breech-Lock” cap serves as either flip lid or screw cover. Receptacle is NEMA 3R with lid snapped shut or NEMA 4X with lid turned shut or when VersaMate plug is inserted and locking ring tightened. Patented notch in cap arm holds cap open for easy plug insertion or maintenance. Patented pin design uses slotted spring clip which avoids excessive wear while providing continuous electrical pin to sleeve contact. VersaMate[®] receptacles use the same “Increased Safety” terminals and funnel design as VersaMate[®] plugs.



Cable Clamping Assembly:

Plugs and cable connectors are supplied with an exclusive neoprene “Onion Skin” peel-away type grommet. The VersaRange[®] cable clamp system captures cable with **four grip points** using **only two** tightening screws. Clamp guide assembly provides a firm fit over a wide range of cable diameters. Non-removable set screws prevent clamp guide assembly from backing out. Clamps have smooth contoured shoulder design to prevent snags or damage when moving equipment.



Back Boxes:

VersaMate back boxes come in a variety of mounting styles. Exclusive “blind” receptacle mounting holes prevent moisture from entering box via thread cavities. Boxes come with a green grounding screw.





Wet



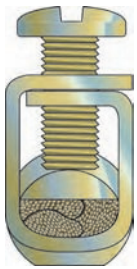
Panel Power



Harsh

FEATURES-SPECIFICATIONS

TERMINALS

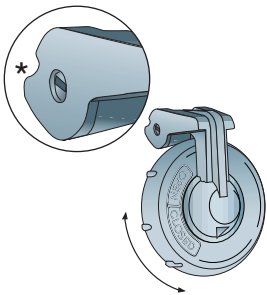


"Increased Safety" type terminals reduce connection fatigue. Screws do not contact or machine conductor and are under spring tension to reduce loosening and pullout.



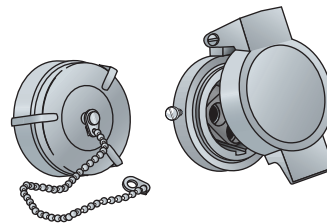
Conventional screw type terminals. Screws "machine" (grind or fray) conductor. Screws are not under tension and more easily loosen from heating and cooling cycles or from vibration. Screws can fall out (and be lost) during initial shipment-requires reassembly.

CAP



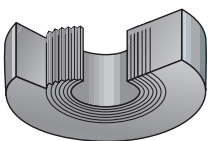
"Breach-Lock" design serves as both flip lid or screw cover style. Special notch in lid arm holds cover open to ease plug insertion or maintenance.

**Slip pencil or screwdriver into notch.*

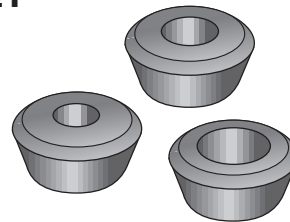


Conventional caps: user must choose between flip lid's convenience or screw cover's better sealing capabilities. Broken chains can mean lost covers.

GASKET

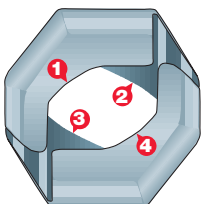


Exclusive "Onion Skin" style gasket assures a tight seal around cable. Skin layers are removed from a single gasket to adjust for various cable diameters.

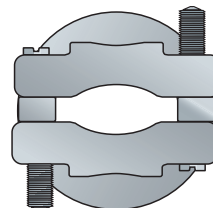


Multiple gaskets require trial & error sizing to be sure of best fit and seal.

CABLE CLAMP



Versatile range Cable Clamp system captures cable at four grip points using only two screws. Smooth contoured design avoids snags when moving equipment.



Standard clamps squeeze and pinch cable. Protruding screws snag or scratch when moving equipment. Other clamp systems with multiple screws are difficult to tighten evenly.



EXCLUSIVE VersaMATE® FEATURES:

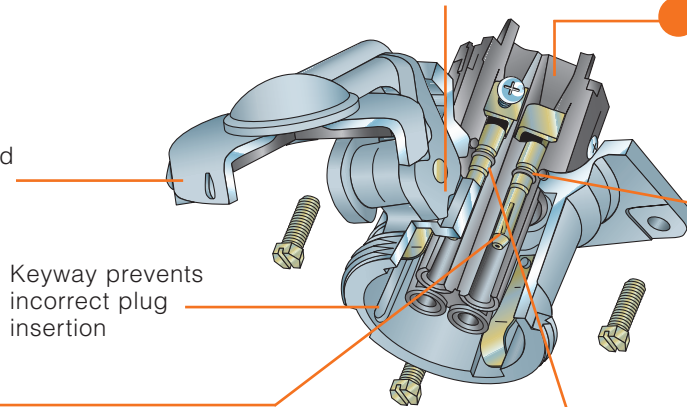
Key user needs were identified from “Focus Groups” comprised of Design Engineers, Contractors, and Maintenance Personnel. Input from these forums resulted in VersaMate’s unique features.

P **Patented** Exclusive “Breach-Lock” cap serves as either flip lid or screw cover

- NEMA 3R Rating: When receptacle cap is snapped shut
- NEMA 4X Rating: When receptacle cap is turned shut or with VersaMate® plug inserted and ring tightened

P **Patented** Special notch is designed to hold cap open for easy field service or plug insertion with two free hands

Funneled wiring chamber design for fast and accurate conductor insertion to speed assembly. All wires can be inserted **simultaneously**



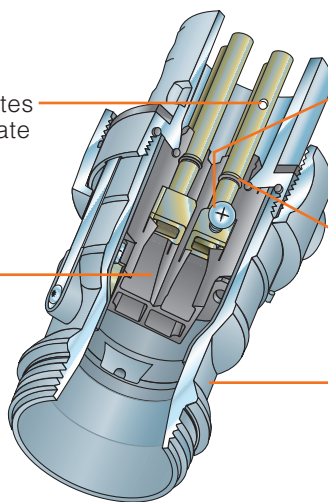
O-ring seals

Keyway prevents incorrect plug insertion

Custom pin design using slotted spring clip to provide superior contact and reliability

“Increased safety” type box terminals provide secure clamping of conductors (200A Version is Patented)

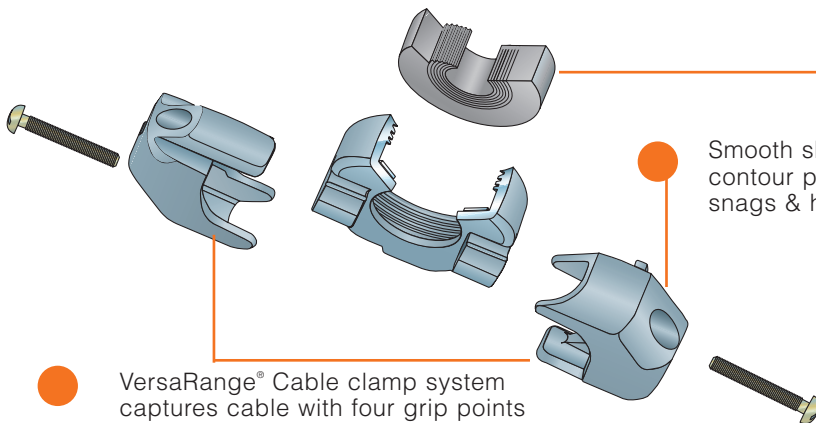
Sleeve incorporates contaminate relief port



O-ring seals

Funneled wiring chamber design for fast and accurate conductor insertion to speed assembly. All wires can be inserted at **one time**

P **Patented** Body style with octagonal shape for easy grip



Exclusive neoprene “Onion Skin” peel-away type gasket for the ultimate in sealing a variety of cable sizes

Smooth shoulder contour prevents snags & hang ups

VersaRange® Cable clamp system captures cable with four grip points using only two tightening screws. Provides secure grip without damaging the cable insulation

Unique VersaMate® Feature
The VersaMate® Line is designed for the industrial customer based on engineering and user surveys



REVERSE SERVICE: S39

Add suffix **S39** for factory Reverse Service of receptacles, plugs or connectors. Receptacles or connectors are assembled with plug interiors while plugs are assembled with receptacle interiors. For applications where the plug is energized (i.e. from a generator) to feed a non-energized receptacle. Prevents easy contact with energized exposed pins. This conversion can be performed in the field with a complementary plug & receptacle (30A to 100A devices shown on pages PR6-8). 200A Amp devices shown on page PR9 are a factory-only option. Reverse Service is not for hazardous locations.



Typical Application

POLARIZED OPTION: S37

Add suffix **S37** for special polarity. Can prevent connection between mismatched voltages or frequencies in areas where devices of the same amperage, poles and grounding style are used. Receptacle or connector interiors are rotated 22-1/2° to the right; plug is rotated opposite to match. This is a factory only option.



Standard



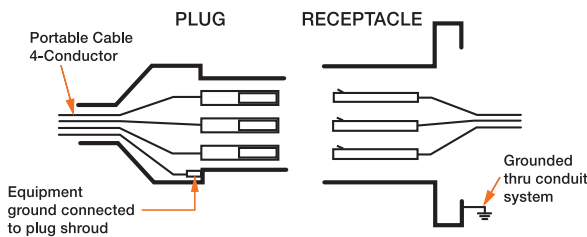
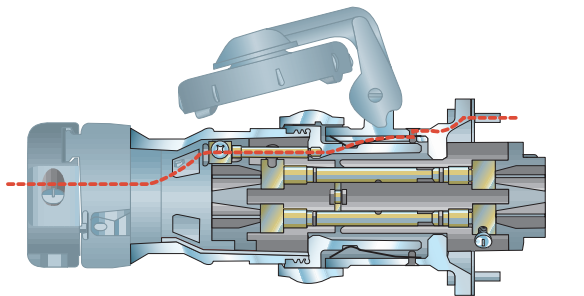
S37 Option

GROUNDING:

To minimize the danger of electrical shock when utilizing portable equipment, the National Electrical Code requires exposed metal parts be grounded if operated at more than 150 volts to ground. The VersaMate® plug & receptacle system is available in two grounding styles. Please note Style I and II devices cannot be intermated.

Style I

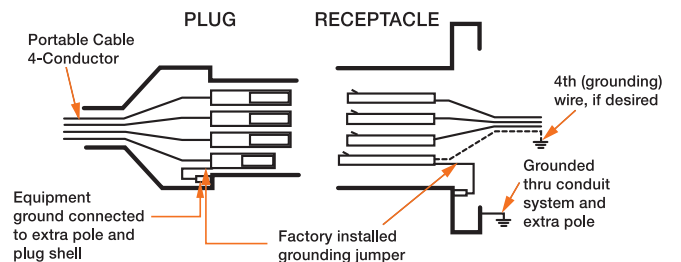
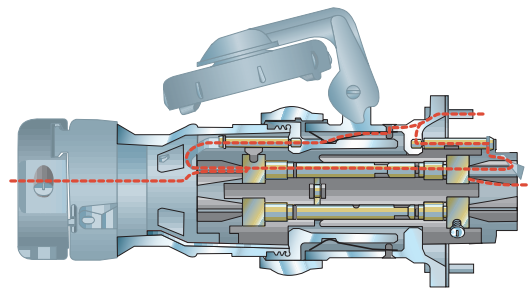
In a Style I plug, the cable's ground conductor is bonded to the plug housing by means of solderless connector. The receptacle is grounded by being part of a grounded conduit system. Upon insertion, detent springs in the receptacle housing contact and ground the plug housing before current carrying poles. All poles are current carrying.



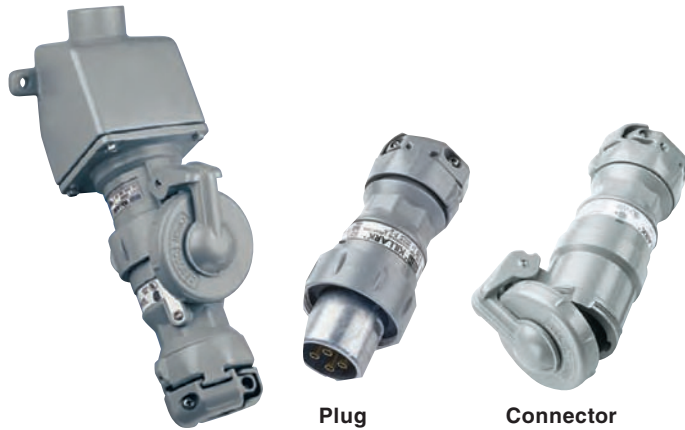
3W3P Illustrated

Style II

In a Style II plug, the cable's ground conductor is bonded to the extra grounding pole and to the plug housing via a bonding jumper. The receptacle has a matching grounding pole connected to the system ground conductor which is further tied to the grounded conduit system via a bonding jumper. Upon insertion, detent springs in the receptacle housing contact and ground the plug housing; then the extra long ground pole connects before the current carrying poles engage. The Style II ground pole makes first and breaks last.



3W4P Illustrated



Plug

Connector

- 30 Amp 600VAC/250VDC; 50-400 Hertz NEMA 3, 4, 4X[ⓐ]
- **PLUGS ONLY[ⓐ]:**
Class I, Div. 1 & 2, Groups B,C,D; NEMA 7 B,C,D
Class I, Zones 1 & 2, IIB+H₂, IIA
Class II, Div. 1 & 2, Groups F & G; NEMA 9 F,G; Class III

Wire Range

Regular Stranding: #10 - #6

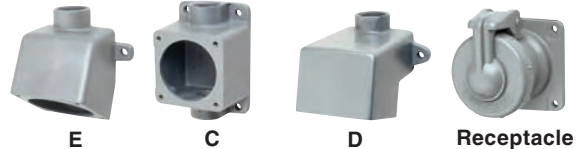
Extra flex: #10 - #8



File No. E10757



Certified File No. LR111846



E

C

D

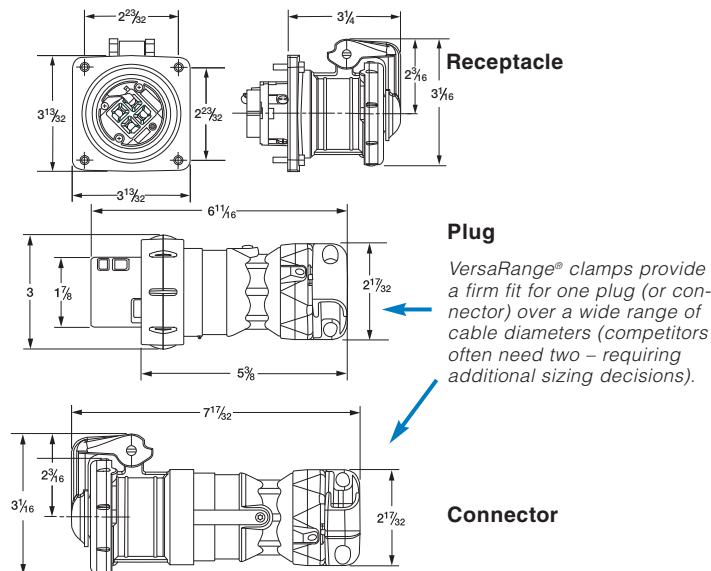
Receptacle

FEATURES-SPECIFICATIONS

30 AMP PLUGS & CONNECTORS				
GROUND STYLE	CIRCUIT	GROMMET RANGE	CATALOG NUMBER	
			PLUG	CONNECTOR
Style I	2W2P	.55 - 1.20 IN	VP3275	VPR3255
	3W3P	.55 - 1.20 IN	VP3375	VPR3355
	4W4P	.55 - 1.20 IN	VP3475	VPR3455
Style II	2W3P	.55 - 1.20 IN	VP3385	VPR3365
	3W4P	.55 - 1.20 IN	VP3485	VPR3465

MODIFICATIONS*	
CATALOG NUMBER	DESCRIPTION
S39	Reverse service for receptacles, plugs & connectors
S37	Polarization for receptacles, plugs & connectors

*See page PR5 for more information on these options.



ⓐ Components are interchangeable & UL classified with other UL1686 configured devices (when installed in accordance with instructions furnished with device). Assemblies containing components from other manufacturers would have the NEMA type rating of the lowest rated device.

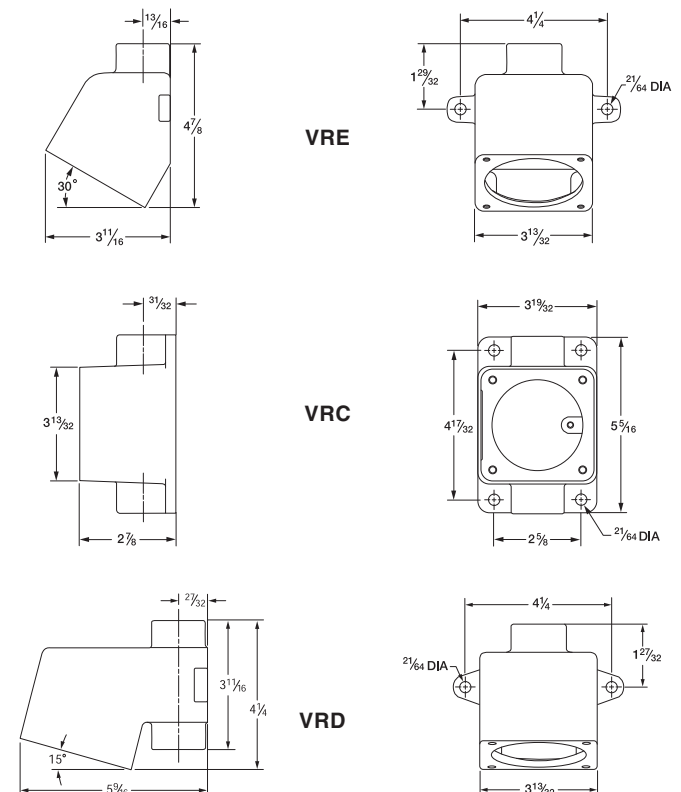
ⓑ Plugs are hazardous suitable when mated with properly rated receptacles configured to use UL1686 type plugs, such as VersaMate VSQ/VBQ.
- Note, 2, 3 & 4 pole device dimensions are the same.

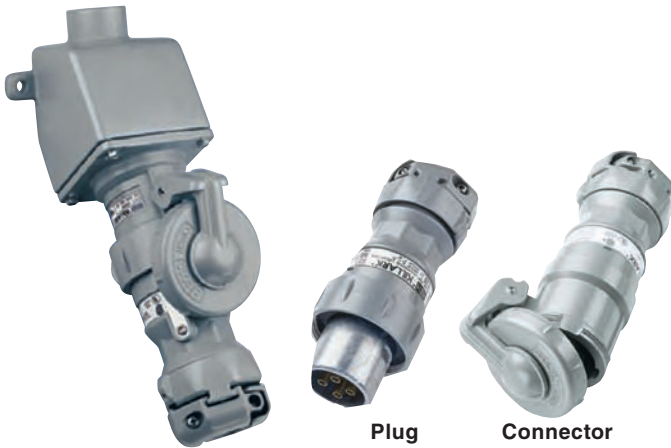


30 AMP RECEPTACLES & BACK BOXES					
GROUND STYLE	CIRCUIT	CATALOG NUMBER			
		E [ⓐ] TYPE	C [ⓐ] TYPE	D [ⓐ] TYPE	RECEPTACLE ONLY
Style I	2W2P	VR321E2	VR321C2	VR321D2	VR321
	3W3P	VR331E2	VR331C2	VR331D2	VR331
	4W4P	VR341E2	VR341C2	VR341D2	VR341
Style II	2W3P	VR332E2	VR332C2	VR332D2	VR332
	3W4P	VR342E2	VR342C2	VR342D2	VR342
Splice box only [ⓑ]		VRE23	VRC23	VRD23	-

ⓐ 30 Amp Back Boxes are available in 1/2", 3/4" and 1" conduit sizes. Size listed for 3/4". For other available sizes, change the BOLD "2" in either the assembly or box only number to: **1**=1/2", **2**=3/4", **3**=1". Assembly catalog numbers are listed for ease of ordering or specification and devices are shipped as components.

Back Box Dimensions





Plug

Connector

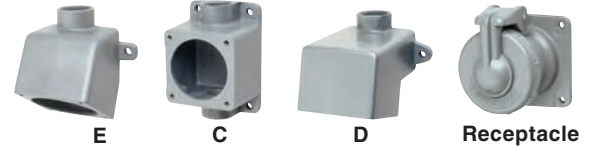
- 60 Amp 600VAC/250VDC; 50-400 Hertz NEMA 3, 4, 4X^①
- **PLUGS ONLY**^②:
 Class I, Div. 1 & 2, Groups B,C,D; NEMA 7 B,C,D
 Class I, Zones 1 & 2, IIB+H₂, IIA
 Class II, Div. 1 & 2, Groups F & G; NEMA 9 F,G; Class III

Wire Range

Regular Stranding: #6 - #4

Extra flex: #6 - #4

File No. E10757 Certified File No. LR111846



E

C

D

Receptacle

FEATURES-SPECIFICATIONS

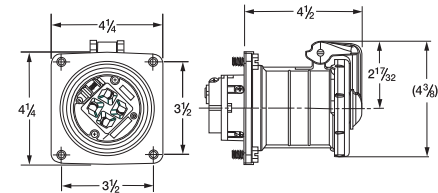
60 AMP PLUGS & CONNECTORS				
GROUND STYLE	CIRCUIT	GROMMET RANGE	CATALOG NUMBER	
			PLUG	CONNECTOR
Style I	2W2P	.65 - 1.50 IN	VP6275	VPR6255
	3W3P	.65 - 1.50 IN	VP6375	VPR6355
	4W4P	.65 - 1.50 IN	VP6475	VPR6455
Style II	2W3P	.65 - 1.50 IN	VP6385	VPR6365
	3W4P	.65 - 1.50 IN	VP6485	VPR6465

MODIFICATIONS*	
CATALOG NUMBER	DESCRIPTION
S39	Reverse service for receptacles, plugs & connectors
S37	Polarization for receptacles, plugs & connectors

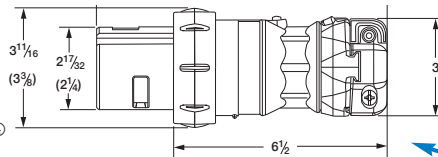
*See page PR5 for more information on these options.

60 AMP RECEPTACLES & BACK BOXES					
GROUND STYLE	CIRCUIT	CATALOG NUMBER			
		E ^③ TYPE	C ^③ TYPE	D ^③ TYPE	RECEPTACLE ONLY
Style I	2W2P	VR621E4	VR621C4	VR621D4	VR621
	3W3P	VR631E4	VR631C4	VR631D4	VR631
	4W4P	VR641E4	VR641C4	VR641D4	VR641
Style II	2W3P	VR632E4	VR632C4	VR632D4	VR632
	3W4P	VR642E4	VR642C4	VR642D4	VR642
Splice box only ^③		VRE46	VRC46	VRD46	-

^③ 60 Amp Back Boxes are available in 1", 1-1/4" and 1-1/2" conduit sizes. Size listed above is 1-1/4". For other available sizes, change the BOLD "4" in either the assembly or box only number as follows: **3**=1", **4**=1-1/4", **5**=1-1/2". Assembly catalog numbers are listed for ease of ordering or specification and devices are shipped as components. Note: 60 Amp receptacles also fit 100 Amp mounting boxes – see Note^④ on 100 Amp page PR8.

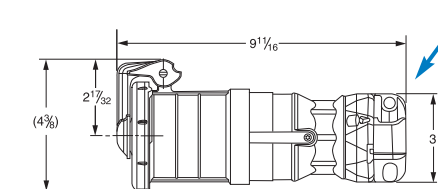


Receptacle



Plug

VersaRange[®] clamps provide a firm fit for one plug (or connector) over a wide range of cable diameters (competitors often need two – requiring additional sizing decisions).



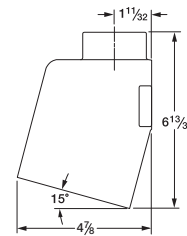
Connector

^① Components are interchangeable & UL classified with other UL1686 configured devices (when installed in accordance with instructions furnished with device). Assemblies containing components from other manufacturers would have the NEMA type rating of the lowest rated device.

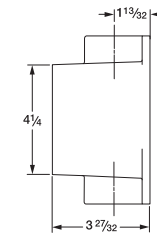
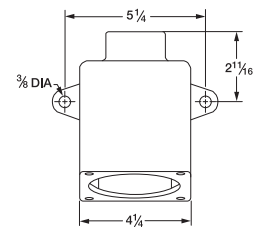
^② Plugs are hazardous suitable when mated with properly rated receptacles configured to use UL1686 type plugs, such as VersaMate VSQ/VBQ.

^④ Dimensions in () are 3 pole devices; balance are 4 pole.

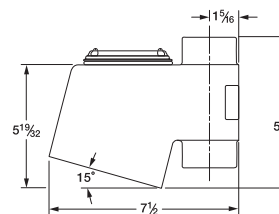
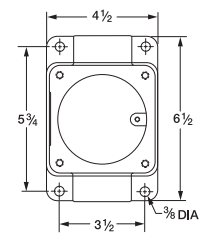
Back Box Dimensions



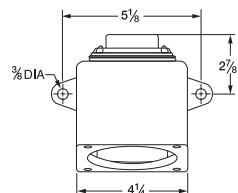
VRE

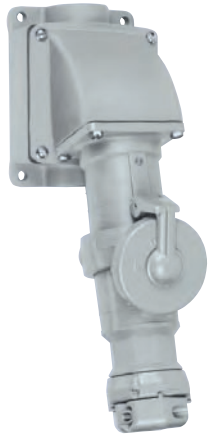


VRC



VRD





Plug



Connector

- 100 Amp 600VAC/250VDC; 50-400 Hertz NEMA 3, 4, 4X^①
- **PLUGS ONLY**^②:
Class I, Div. 1 & 2, Groups B,C,D; NEMA 7 B,C,D
Class I, Zones 1 & 2, IIB+H₂, IIA
Class II, Div. 1 & 2, Groups F & G; NEMA 9 F,G; Class III

Wire Range

Regular Stranding: #4 - #2

Extra flex: #4 - #2



File No. E10757



Certified File No. LR111846



E



C



Receptacle

FEATURES-SPECIFICATIONS

100 AMP PLUGS & CONNECTORS				
GROUND STYLE	CIRCUIT	GROMMET RANGE	CATALOG NUMBER	
			PLUG	CONNECTOR
Style I	2W2P	.88 - 1.68 IN	VP10277	VPR10257
	3W3P	.88 - 1.68 IN	VP10377	VPR10357
	4W4P	.88 - 1.68 IN	VP10477	VPR10457
Style II	2W3P	.88 - 1.68 IN	VP10387	VPR10367
	3W4P	.88 - 1.68 IN	VP10487	VPR10467

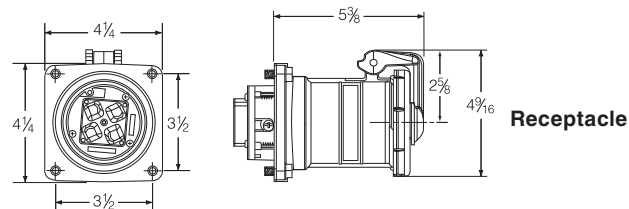
MODIFICATIONS*	
CATALOG NUMBER	DESCRIPTION
S39	Reverse service for receptacles, plugs & connectors
S37	Polarization for receptacles, plugs & connectors

*See page PR5 for more information on these options.

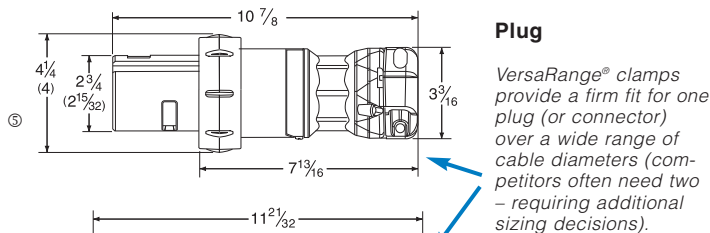
100 AMP RECEPTACLES & BACK BOXES				
GROUND STYLE	CIRCUIT	CATALOG NUMBER		
		E ^③ TYPE	C ^③ TYPE	RECEPTACLE ONLY
Style I	2W2P	VR1021E5	VR1021C5	VR1021
	3W3P	VR1031E5	VR1031C5	VR1031
	4W4P	VR1041E5	VR1041C5	VR1041
Style II	2W3P	VR1032E5	VR1032C5	VR1032
	3W4P	VR1042E5	VR1042C5	VR1042
Splice box only w/adaptor ^④		VJ57	VJC57	Angle adapter only VJA100

③ 100 Amp Back Boxes are available in 1", 1-1/4", 1-1/2" & 2" conduit sizes. Size listed above is 1-1/2". For other available sizes, change the BOLD "5" in either the assembly or box only number as follows: **3**=1", **4**=1-1/4", **5**=1-1/2", **6**=2". Assembly catalog numbers are listed for ease of ordering or specification and devices are shipped as components.

④ 100 Amp Boxes & Adapters also fit 60 Amp receptacles. Adapter only can be used to attach receptacle at an angle to a standard sheet metal box.

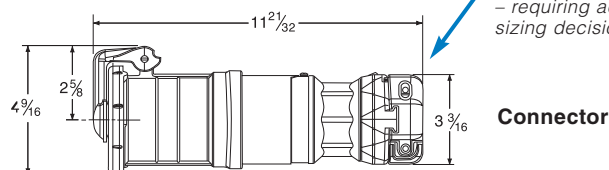


Receptacle



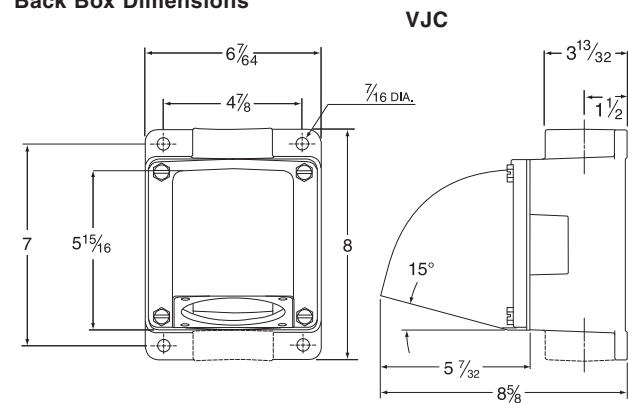
Plug

VersaRange® clamps provide a firm fit for one plug (or connector) over a wide range of cable diameters (competitors often need two - requiring additional sizing decisions).



Connector

Back Box Dimensions



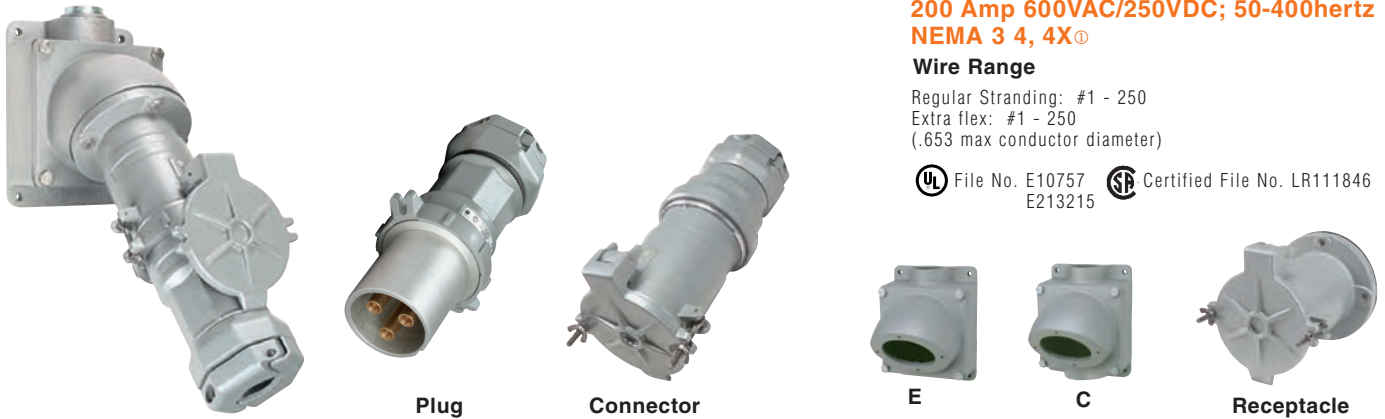
Feed through style shown

① Components are intermateable & UL classified with other UL1686 configured devices (when installed in accordance with instructions furnished with device). Assemblies containing components from other manufacturers would have the NEMA type rating of the lowest rated device.

② Plugs hazardous suitable when mated with properly rated receptacles configured to use UL1686 type plugs, such as VersaMate VBQ.

③ Dimensions in () are 3 pole devices; balance are 4 pole.





200 Amp 600VAC/250VDC; 50-400hertz
NEMA 3 4, 4XⓄ

Wire Range

Regular Stranding: #1 - 250
 Extra flex: #1 - 250
 (.653 max conductor diameter)

UL File No. E10757 E213215 SF Certified File No. LR111846

FEATURES-SPECIFICATIONS

200 AMP PLUGS & CONNECTORS				
GROUND STYLE	CIRCUIT	GROMMET RANGE	CATALOG NUMBER	
			PLUG	CONNECTOR
Style I	3W3P	1.0 - 2.5 IN	VP203512	VPR203112
	4W4P	1.0 - 2.5 IN	VP204513	VPR204113
Style II	2W3P	1.0 - 2.5 IN	VP203612	VPR203212
	3W4P	1.0 - 2.5 IN	VP204612	VPR204212

MODIFICATIONS*	
CATALOG NUMBER	DESCRIPTION
S39Ⓞ	Reverse service for receptacles, plugs & connectors
S37	Polarization for receptacles, plugs & connectors

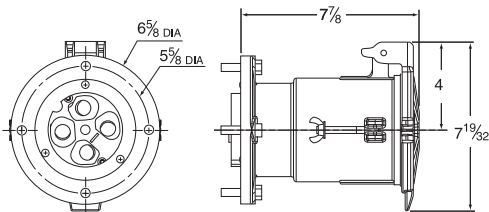
*See page PR5 for more information on these options.

200 AMP RECEPTACLES & BACK BOXES				
GROUND STYLE	CIRCUIT	CATALOG NUMBER		
		EⓄ TYPE	CⓄ TYPE	RECEPTACLE ONLY
Style I	3W3P	VR20312E6	VR20312C7	VR20312
	4W4P	VR20412E6	VR20412C7	VR20412
Style II	2W3P	VR20322E6	VR20322C7	VR20322
	3W4P	VR20422E6	VR20422C7	VR20422
Splice box only w/adaptorⓄ		VJ68	VJC78	Angle adapter only VJA200

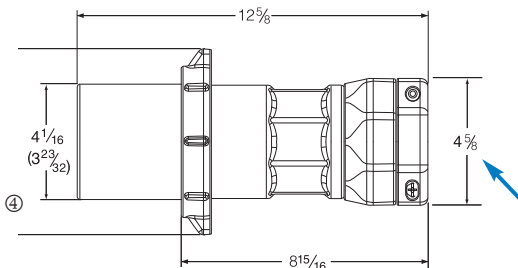
- Ⓞ 200 Amp Back Boxes are available in dead-end sizes 1-1/2", 2" & 2-1/2" conduit sizes. Dead-end box shown is 2". For other available dead-end box sizes, change the BOLD "6" in either the dead-end assembly or box only number as follows: **5**=1-1/2", **6**=2", **7**=2-1/2". Feed through boxes are available in 2-1/2"; use "R" series adapters as required for smaller sizes (sold separately). Assembly catalog numbers are listed for ease of ordering or specification and devices are shipped as components.

- Ⓞ Adapter only can be used to attach receptacle at an angle to a standard sheet metal box.

NOTE: 200A VersaMate receptacle lids secure with wingnuts for N4X environments when not in use. VersaMate plugs secure with wingnuts and/or lock-ring collar. This exclusive dual method allows retention of competitive plugs that use either wingnuts or a lock-ring collar.

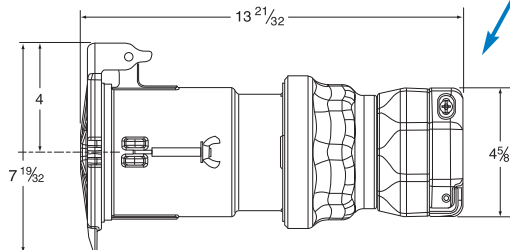


Receptacle



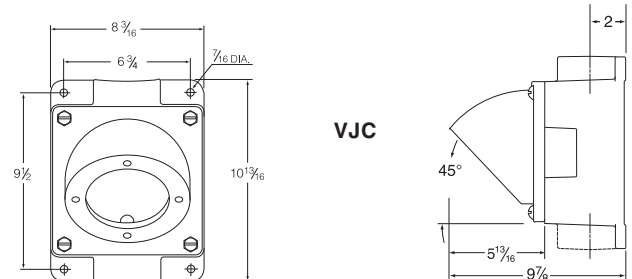
Plug

VersaRange® clamps provide a firm fit for one plug (or connector) over a wide range of cable diameters (competitors often need two – requiring additional sizing decisions).



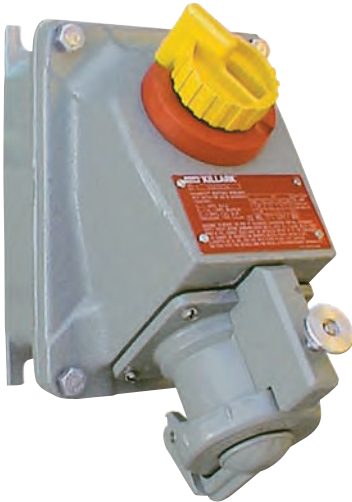
Connector

Back Box Dimensions



VJC

- Ⓞ Components are intermateable & UL classified with Appleton® Powertite® or Crouse-Hinds® Arkrite® devices (when installed in accordance with instructions furnished with device. Assemblies containing components from other manufacturers would have the NEMA type rating of the lowest rated device.
- Ⓞ Dimensions in () are 3 pole devices; balance are 4 pole.
- Ⓞ 200A 3W4P Reverse Service configured "W" Series and VersaMate® are not intermateable. However, the VersaMate VR20422-S39 receptacle ships with instructions to permanently convert for use with existing PW-6402X-SU39 plugs. Factory only configured plugs to fit old RW64C-SU39 receptacles may be ordered as VP-PW64026 SU39.



- **VSQ Hazardous Location Ratings**
 Class I, Div. 1 & 2, Groups B,C,D
 Class I, Zones I & 2, Groups IIB+H₂, IIA
 Class II, Div. 1 & 2, Groups F & G
 Class III
 NEMA 3, 4, 4X, 7 (B,C,D), 9 (F,G)

- **VWSQ for Wet & Corrosive Locations**
 NEMA 3, 4, 4X

Wire Range

30 Amp Regular Stranding Max #10
 60 Amp Regular Stranding Max #4

File No. E91049

Certified File No. LR14667

FEATURES-SPECIFICATIONS

Features

- N4X with receptacle lid turned shut or with plug locking ring tightened
- Copper-free aluminum construction with electrostatically applied polyester/epoxy finish. Handle mechanism is chemical resistant Valox® (TM General Electric).
- Compact size and footprint
- Plug Interlock Mechanism for Dead-front construction. Switch cannot be turned "ON" without fully inserted plug. Plug cannot be removed with switch in "ON" position
- Plug held in place when switch is "Off" for convenience. Pull operated release mechanism. Plug and wiring do not have to be twisted or held to operate switch
- Factory Wired Receptacle; easy to wire line side of switch
- Easily visible "On-Off" indicator handle
- "Off" position is padlockable for maintenance safety

- Auxiliary Contact (late-make early-break) contact rated 10 Amp, 1/3 HP at 125/250 VAC. Can be used for operating pilot lights or starter coils (standard model only)
- Feed-through construction
- Horsepower Rated
- Internal switch horsepower rated as "motor disconnect"

HORSEPOWER RATINGS (VAC)Ⓢ		120	240	480	600
30A	1Ø	2	5	10	15
	3Ø	3	7.5	15	20
60A	1Ø	–	10	15	20
	3Ø	–	10	25	30

VSQ & VWSQ RECEPTACLES				
AMPS	CIRCUIT	CATALOG NUMBER		
		VSQ HAZARDOUS	VWSQ N4X ONLY	VERSAMATE PLUG
30	2W3P	VSQ3023	VWSQ3023	VP3385
	3W4P	VSQ3034	VWSQ3034	VP3485
60	2W3P	VSQ6023	VWSQ6023	VP6385
	3W4P	VSQ6034	VWSQ6034	VP6485

NOTES: VSQ/VWSQ 30 Amp models come standard with 1" drilled and tapped conduit openings top and bottom plus two 1" x 3/4" reducers and one 3/4" close-up plug for maximum flexibility. 60 amp models come with 1-1/2" openings top and bottom and one 1-1/2" close-up plug. VSQ & VWSQ Receptacle covers are NOT interchangeable. ⓈRefers to internal switch only.

MODIFICATIONS*	
CATALOG NUMBER	DESCRIPTION
S37	Polarization for receptacles, plugs

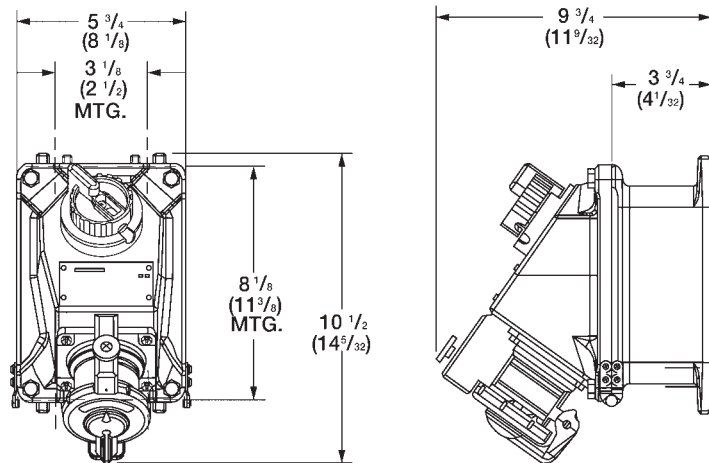
*See page PR5 for more information on this option

VersaMate VSQ & VWSQ Receptacles use VersaMate Style II plugs found on pages PR6 & PR7 and are compatible with appropriately configured Crouse-Hinds® Arktite® or Appleton® Powertite® plugs (when installed in accordance with instructions furnished with device)

Arktite® is a registered trademark of Crouse-Hinds®.

Powertite® is a registered trademark of Appleton®.

Dimensions



Dimensions shown are in inches for 30 AMP: 60 Amp dimensions in ().

NOTES: Devices have adjustable ductile lugs (vertical or side) for attachment to uneven surfaces.

Ordinary twist type wire connectors are used for final connections on 30A,

60A devices have terminal blocks.





Class I, Div. 1 & 2, Groups B,C,D
Class I, Zones I & 2, Groups IIB+H₂, IIA
Class II, Div. 1 & 2, Groups F & G
Class III
NEMA 3, 4, 4X, 7 (B,C,D), 9 (F,G)

File No. E91049

Certified File No. LR14667

Wire Range

30 Amp Regular Stranding Max #10
 60 Amp Regular Stranding Max #4

FEATURES-SPECIFICATIONS

Features – same as VSQ® plus:

- Factory Sealed Construction eliminates need for conduit sealing at the device
- Saves Installation Time & Labor – facilitates rework
- Switch has factory wired line and load terminals. Load terminals feed sealed receptacle as in a standard VSQ. Line wiring is passed from the sealed compartment into the **wiring chamber**
- Receptacles may be loosened from black box and turned 180 degrees to adjust for top or bottom feed.
- Ordinary twist type wire connectors are used for final connections on 30A. 60A devices have terminal blocks

VSQ - FS RECEPTACLES			
AMPS	CIRCUIT	CATALOG NUMBER	
		VSQ-FS HAZARDOUS	VERSAMATE PLUG
30	2W3P	VSQ3023FS	VP3385
30	3W4P	VSQ3034FS	VP3485
60	2W3P	VSQ6023FS	VP6385
60	3W4P	VSQ6034FS	VP6485

MODIFICATIONS*	
CATALOG NUMBER	DESCRIPTION
S37	Polarization for receptacles & plugs

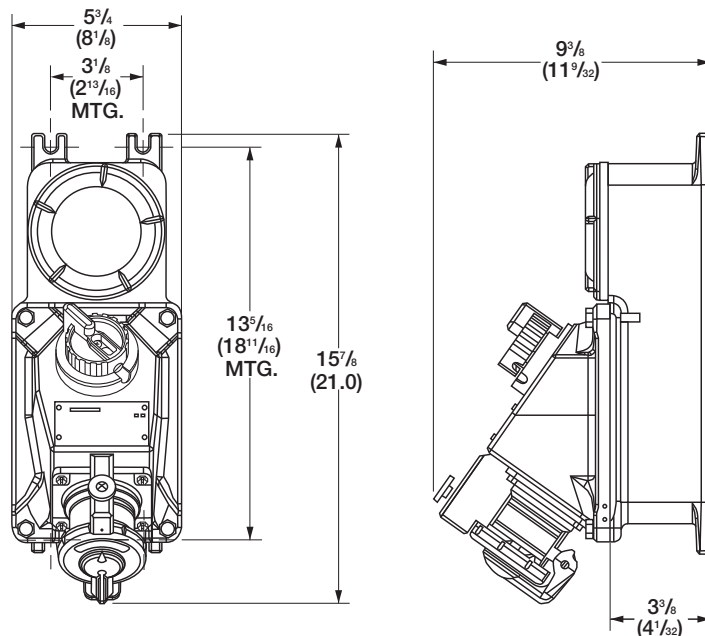
*See page PR5 for more information on this option.

NOTES: VSQ-FS 30 Amp models come standard with one 1" drilled and tapped conduit openings into the wiring chamber plus one 1" x 3/4" reducer.

60 amp models come with one 1" opening.

Ⓢ VSQ-FS models do not have auxiliary contacts.

Dimensions



Dimensions shown are in inches for 30 AMP. 60 AMP Dimensions in ().





Class I, Div. 1 & 2, Groups B,C,D
Class I, Zones 1 & 2, Groups IIB+H₂, IIA
Class II, Div. 1 & 2, Groups F & G
Class III
NEMA 3, 4, 4X, 7 (B,C,D), 9 (F,G)

File No. E184637

FEATURES-SPECIFICATIONS

Features

Receptacle:

- N4X with receptacle lid turned shut or with plug locking ring tightened
- Plug held in place when switch is “Off” for convenience. Pull button operated release mechanism. Plug does not have to be twisted to operate switch
- Dead-front construction when receptacle is off. Switch cannot be turned “ON” without fully inserted plug. Plug cannot be removed with switch in “ON” position
- Wire Connections do not bend when opening and closing door – minimizes loosening during installation or maintenance procedures

VersaMate VBQ Receptacles use VersaMate Style II plugs found on 30, 60 and 100 amp pages and are compatible with appropriately configured Crouse-Hinds® Arktite® or Appleton® Powertite® plugs (when installed in accordance with instructions furnished with device).

Arktite® is a registered trademark of Crouse-Hinds®.

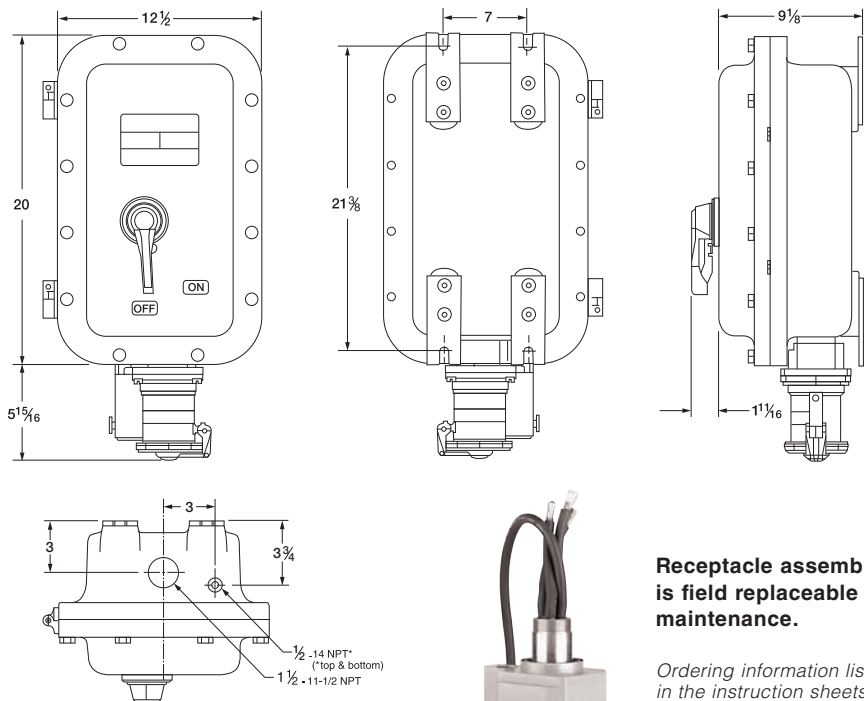
Powertite® is a registered trademark of Appleton®.

Enclosure:

- Spacious wiring room. Meets the latest NEC wire bending requirements for circuit breaker enclosures
- Ductile Mounting Lugs to adjust to uneven surfaces
- Copper-free construction with 316 grade Stainless Steel External Hardware
- Quick Release Cover Bolts with Triple Leads – only 3-1/2 turns to disengage

- Recessed Flange Notches – Allows easier cover opening with prying instrument without flange damage
- Aluminum lacquer paint finish for corrosion resistance
- Visible “ON” external Breaker Handle has provisions for locking “ON” or “OFF” with up to three Padlocks
- Internal Lock-Off provision for maintenance when no hazardous materials are present

Dimensions



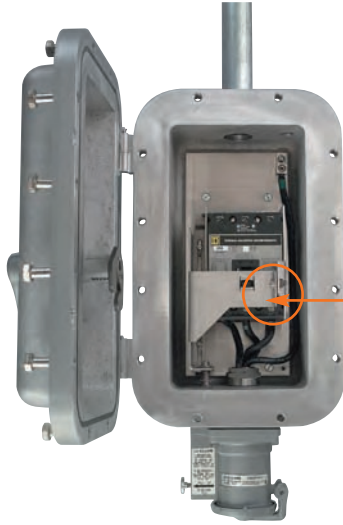
Receptacle assembly is field replaceable for maintenance.

Ordering information listed in the instruction sheets provided with the product.

Note: The VBQ series is B7EC enclosure based. See page E-13 for additional dimensional information.

VERSAMATE® SERIES • PLUGS AND RECEPTACLES
VBQ BREAKER PROTECTED INTERLOCKED RECEPTACLES
600VAC/250VDC

PR13



Internal Lock-Off provision for maintenance when no hazardous materials are present

Class I, Div. 1 & 2, Groups B,C,D
Class I, Zones 1 & 2, IIB+H₂, IIA
Class II, Div. 1 & 2, Groups F & G
Class III
NEMA 3, 4, 4X, 7 (B,C,D), 9 (F,G)

  File No. E184637

FEATURES-SPECIFICATIONS

VBQ RECEPTACLES							
RECEPTACLE	CIRCUIT	BREAKER	CATALOG NUMBER				
			SQUARE D FAL (480 VAC MAX.)	SQUARE D FHL (600 VAC MAX.)	CUTLER-HAMMER EHD (480 VAC MAX.)	CUTLER-HAMMER FD (600 VAC MAX.)	VERSAMATE PLUG
30	2W3P	20	VBQ3023SN20	VBQ3023SH20	VBQ3023CN20	VBQ3023CH20	VP3385
		30	VBQ3023SN30	VBQ3023SH30	VBQ3023CN30	VBQ3023CH30	VP3385
		40	VBQ3023SN40	VBQ3023SH40	VBQ3023CN40	VBQ3023CH40	VP3385
		50	VBQ3023SN50	VBQ3023SH50	VBQ3023CN50	VBQ3023CH50	VP3385
	3W4P	20	VBQ3034SN20	VBQ3034SH20	VBQ3034CN20	VBQ3034CH20	VP3485
		30	VBQ3034SN30	VBQ3034SH30	VBQ3034CN30	VBQ3034CH30	VP3485
		40	VBQ3034SN40	VBQ3034SH40	VBQ3034CN40	VBQ3034CH40	VP3485
		50	VBQ3034SN50	VBQ3034SH50	VBQ3034CN50	VBQ3034CH50	VP3485
60	2W3P	50	VBQ6023SN50	VBQ6023SH50	VBQ6023CN50	VBQ6023CH50	VP6385
		60	VBQ6023SN60	VBQ6023SH60	VBQ6023CN60	VBQ6023CH60	VP6385
		70	VBQ6023SN70	VBQ6023SH70	VBQ6023CN70	VBQ6023CH70	VP6385
		90	VBQ6023SN90	VBQ6023SH90	VBQ6023CN90	VBQ6023CH90	VP6385
		100	VBQ6023SN100	VBQ6023SH100	VBQ6023CN100	VBQ6023CH100	VP6385
	3W4P	50	VBQ6034SN50	VBQ6034SH50	VBQ6034CN50	VBQ6034CH50	VP6485
		60	VBQ6034SN60	VBQ6034SH60	VBQ6034CN60	VBQ6034CH60	VP6485
		70	VBQ6034SN70	VBQ6034SH70	VBQ6034CN70	VBQ6034CH70	VP6485
		90	VBQ6034SN90	VBQ6034SH90	VBQ6034CN90	VBQ6034CH90	VP6485
		100	VBQ6034SN100	VBQ6034SH100	VBQ6034CN100	VBQ6034CH100	VP6485
100	2W3P	50	VBQ1023SN50	VBQ1023SH50	VBQ1023CN50	VBQ1023CH50	VP10387
		70	VBQ1023SN70	VBQ1023SH70	VBQ1023CN70	VBQ1023CH70	VP10387
		90	VBQ1023SN90	VBQ1023SH90	VBQ1023CN90	VBQ1023CH90	VP10387
		100	VBQ1023SN100	VBQ1023SH100	VBQ1023CN100	VBQ1023CH100	VP10387
	3W4P	50	VBQ1034SN50	VBQ1034SH50	VBQ1034CN50	VBQ1034CH50	VP10487
		70	VBQ1034SN70	VBQ1034SH70	VBQ1034CN70	VBQ1034CH70	VP10487
		90	VBQ1034SN90	VBQ1034SH90	VBQ1034CN90	VBQ1034CH90	VP10487
		100	VBQ1034SN100	VBQ1034SH100	VBQ1034CN100	VBQ1034CH100	VP10487

Circuit Breaker Interrupting Ratings	208/240 VAC	480 VAC	600 VAC	250 VDC†
Square D FAL(HDL*)	25,000	18,000	---	10,000
Square D FHL(HGL*)	65,000	25,000	18,000	10,000
Cutler-Hammer EHD	18,000	14,000	---	10,000
Cutler-Hammer FD	65,000	25,000	18,000	10,000

Consult Breaker Manufacturer literature for Horsepower Ratings.

†DC ratings apply to substantially non-inductive circuits.

*Pending breaker style change.

Circuit Breaker	Wire Range
Square D	To 30 Amp #14-4 cu.; 35-100 Amp #14-1/0 cu.
Cutler-Hammer	To 20 Amp #14-10 cu.; 30-100 Amp #14-1/0 cu.

MODIFICATIONS ①	
CATALOG NUMBER	DESCRIPTION
S37	Polarization for receptacles & plugs
SU10	Drain
SU11	Breather
SU3	Drain and Breather (CSA Groups C & D)

① See page PR5 and price sheet for more information on these options.



KILLARK®



Class I, Div. 2, Groups A,B,C,D
Class I, Zones 1 & 2, Groups IIC, IIB, IIA
AEx de IIC T6
Class II, Div. 1 & 2, Groups E,F,G
Class III
NEMA 3, 4, 4X, IP66

File 3014299

Certified - File LR240743
 See files for details or call Killark

FEATURES-SPECIFICATIONS



Applications

- For use in hazardous and corrosive environments such as refineries, chemical plants, water treatment and bio gas plants, and wherever a combustible gas-air mixture or combustible dust may occur

Features

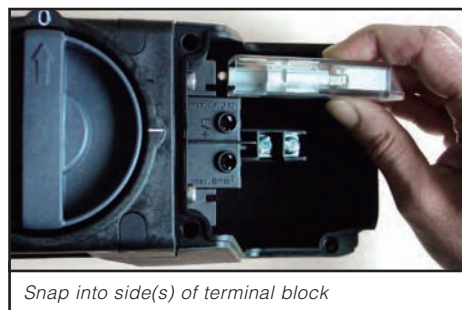
- Color coding and pin configuration makes it physically impossible to mate plugs and receptacles of different voltages and current ratings
- Interlocked switch mechanism prevents accidental removal of plug from receptacle under load
- Horsepower rated disconnect switch
- Dust caps* included with 20A and 30A plugs as standard

- No seal required within Class I, Division 2 applications.
- Provision for up to two optional auxiliary contact blocks, useful for signaling circuits or starter coils.③
- Dimensional information - page PR16.

PARTS AND ACCESSORIES③	PART NUMBER
Auxiliary Contact Block NC, A600④	VSIAUXNC
Auxiliary Contact Block NO, A600④	VSIAUXNO

④ 10A rating for one auxiliary block; 5A if two are used. Position noted (NC or NO) is when main switch is off.

VSI SERIES PLUGS & SWITCHED RECEPTACLES					
DESCRIPTION		CATALOG NUMBER			
	AC VOLTAGE AND COLOR CODE	20 AMP①		30 AMP②	
		RECEPTACLE	PLUG	RECEPTACLE	PLUG
2 Pole 3 Wire	125 Yellow	VS120R304	VS120P304	—	—
	250 Blue	VS120R306	VS120P306	—	—
	480 Red	VS120R307	VS120P307	—	—
3 Pole 4 Wire	3 Ø 250 Blue	VS120R409	VS120P409	VS130R409	VS130P409
	3 Ø 480 Red	VS120R407	VS120P407	VS130R407	VS130P407
	3 Ø 600 Black	VS120R405	VS120P405	VS130R405	VS130P405
4 Pole 5 Wire	3 ØY 120/208 Blue	VS120R509	VS120P509	VS130R509	VS130P509
	3 ØY 277/480 Red	VS120R507	VS120P507	VS130R507	VS130P507
	3 ØY 347/600 Black	VS120R505	VS120P505	VS130R505	VS130P505



① VSI 20A devices are compatible with prior 16A models. However, the rating of the lower amperage will apply.

② VSI 30A devices are compatible with prior 32A models. Ratings of the lower amperage will apply.

* Dust caps shall be installed on plugs with receptacle cover closed when the plug is not engaged in the receptacle.

TECHNICAL DATA			
RECEPTACLE	20 AMP	30 AMP	
ENCLOSURE MATERIAL	POLYAMIDE		
AMBIENT TEMPERATURE, T _a	-30°C (-22°F) TO +55°C (131°F)		
TERMINAL CAPACITY	2 wires, rated 75°C (Ta<45°C) or 90°C (Ta>45°C)		
	16-10 AWG	14-8 AWG	
SWITCH RATING (HORSEPOWER)	1-phase	3-phase	3-phase
	120 VAC	1.5 HP	—
	240 VAC	3 HP	5 HP
	480 VAC	5 HP	10 HP
	600 VAC	5 HP	15 HP
LINE SUPPLY FUSE	CLASS J - size per NEC/CEC requirement		
BOTTOM ENTRY	3/4" NPT	1" NPT	

TECHNICAL DATA		
PLUG	20 AMP	30 AMP
ENCLOSURE MATERIAL	POLYAMIDE	
TERMINAL CAPACITY	1 wire, rated 75°C (Ta<45°C) or 90°C (Ta>45°C)	
	16-10 AWG	14-8 AWG
CORD OUTER DIA.	0.3" - 0.8"	0.6" - 1.1"





Class I, Div. 2, Groups A,B,C,D
Class I, Zones 1 & 2, Groups IIC, IIB, IIA
AEx de IIC T6
Class II, Div. 1 & 2, Groups E,F,G
Class III
NEMA 3, 4, 4X, IP66

File 3014299

Certified - File LR240743
 See files for details or call Killark

FEATURES-SPECIFICATIONS



Applications

- For use in hazardous and corrosive environments such as refineries, chemical plants, water treatment and bio gas plants, and wherever a combustible gas-air mixture or combustible dust may occur

- When VSI Series is installed in Class II Div. 1 & 2 locations, dust caps for plugs are required. See ordering information below

Features

- Color coding and pin configuration makes it physically impossible to mate plugs and receptacles of different voltages and current ratings
- No seals required within Class I, Div. 2 applications

- Interlocked switch mechanism prevents accidental removal of plug from receptacle under load
- Horsepower rated disconnect switch includes 1 auxiliary contact (late make, early break) for signaling circuits.
- 63A, 125A models

Dimensional Information

- See page PR16

VSI SERIES PLUGS & SWITCHED RECEPTACLES					
DESCRIPTION		CATALOG NUMBER			
AC VOLTAGE AND COLOR CODE		63 AMP		125 AMP	
		RECEPTACLE	PLUG	RECEPTACLE	PLUG
3 Pole 4 Wire	3 Ø 250 Blue	VSI63R409	VSI63P409	VSI125R409	VSI125P409
	3 Ø 480 Red	VSI63R407	VSI63P407	VSI125R407	VSI125P407
	3 Ø 600 Black	VSI63R405	VSI63P405	VSI125R405	VSI125P405
4 Pole 5 Wire	3 ØY 120/208 Blue	VSI63R509	VSI63P509	VSI125R509	VSI125P509
	3 ØY 277/480 Red	VSI63R507	VSI63P507	VSI125R507	VSI125P507
	3 ØY 347/600 Black	VSI63R505	VSI63P505	VSI125R505	VSI125P505

VSI non-metallic devices *NOT* intermateable with Versamate® NEC metallic series.

PLUG DUST CAP	
FOR PLUG TYPE	CATALOG NUMBER
VSI63P4__	VSI63801140
VSI63P5__	VSI63801140
VSI125P4__	VSI125801140
VSI125P5__	VSI125801140

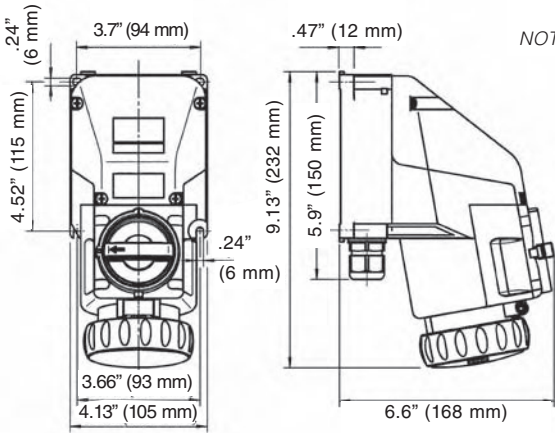
Dust cap shall be installed on the plug when the plug is not engaged in the receptacle.

TECHNICAL DATA		
RECEPTACLE	63 AMP	125 AMP
ENCLOSURE MATERIAL	FIBER REINFORCED POLYESTER	
AMBIENT TEMPERATURE, T _a	-20°C (-4°F) TO +40°C (104°F)	
TERMINAL CAPACITY	2 wires, 90°C rated	
	6-1/0 AWG	1/0-3/0 AWG
SWITCH RATING (HORSEPOWER)	3-phase	3-phase
	120 VAC	10 HP
	240 VAC	20 HP
	480 VAC	40 HP
	600 VAC	100 HP
LINE SUPPLY FUSE	CLASS J - size per NEC/CEC requirement	
BOTTOM ENTRY	1-1/2" NPT	2" NPT

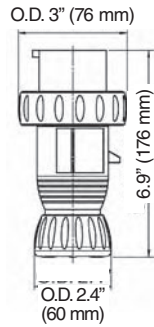
TECHNICAL DATA		
PLUG	63 AMP	125 AMP
ENCLOSURE MATERIAL	POLYAMIDE	
TERMINAL CAPACITY	1 wire, 90°C rated	
	10-4 AWG	6-1/0 AWG
CORD OUTER DIA.	0.94" - 1.4"	1.2" - 2"

Dimensions

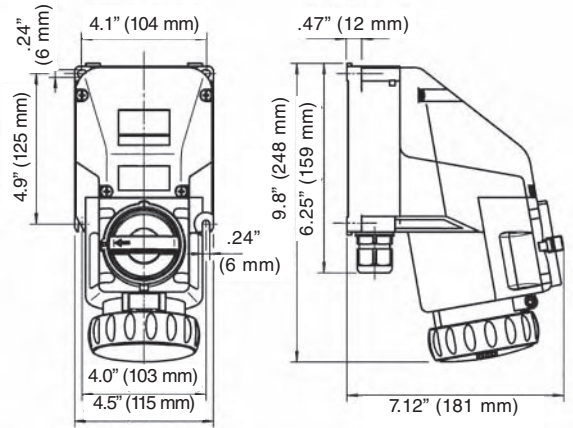
NOTE: Drawings are not to scale



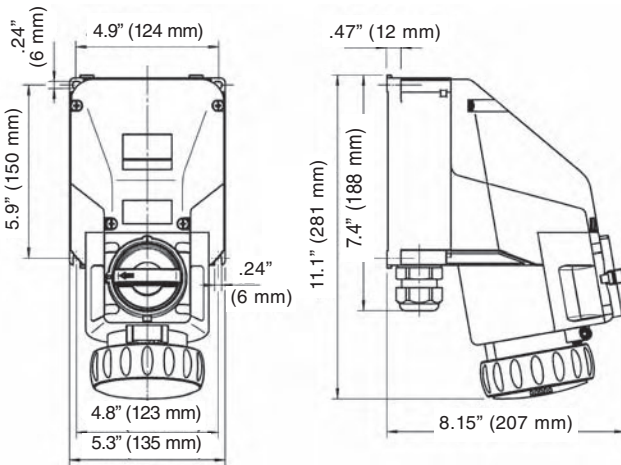
RECEPTACLE 20A
2 POLE - 3 WIRE



PLUG 20A

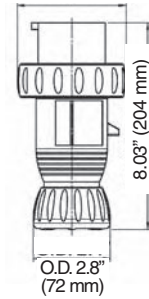


RECEPTACLE 20A
3 POLE - 4 WIRE AND 4 - POLE 5 WIRE

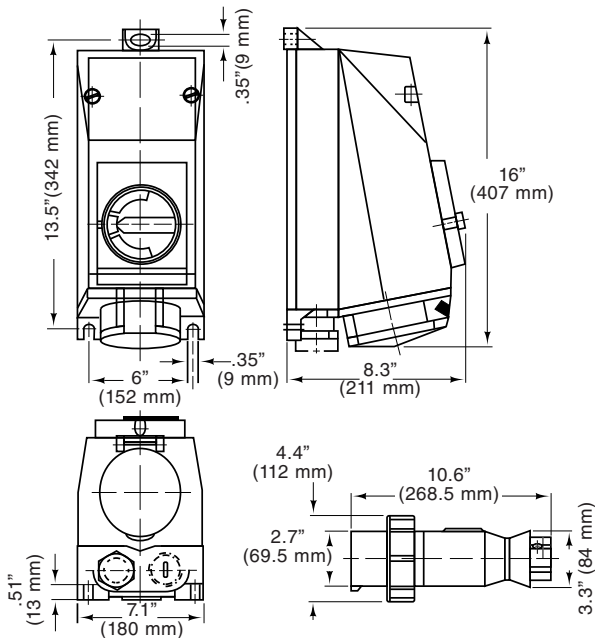


RECEPTACLE 30A
3 POLE - 4 WIRE AND 4 POLE - 5 WIRE

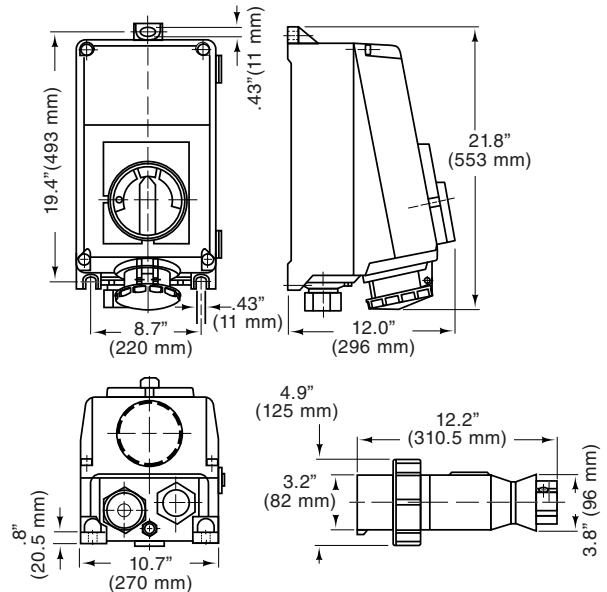
O.D. 3.9" (99 mm) - 4 Wire
O.D. 4" (102 mm) - 5 Wire



PLUG 30A



RECEPTACLE & PLUG 63A
3 POLE - 4 WIRE AND 4 POLE - 5 WIRE



RECEPTACLE & PLUG 125A
3 POLE - 4 WIRE AND 4 POLE - 5 WIRE

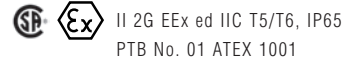




Duplex Receptacle

Suitable for:

- Class I, Div. 2, Groups A,B,C,D
- Class I, Zones 1 & 2, Groups IIC, IIB, IIA
- Class II, Div. 1 & 2, Groups E,F,G
- Class III
- NEMA 3
- CENELEC-EEEx de IIC T6 IP54



FEATURES-SPECIFICATIONS



Applications

- Designed specifically for hazardous location clean rooms, such as found in the pharmaceutical industry, where equipment must be easy to clean and free of contaminant holding cavities. Electrical devices should also be flush wall mounted, with concealed wiring, to minimize contamination.
- VSI20P and VSI30P series plugs include debris caps, which are required in Class II Div.1 and 2 locations.

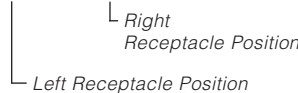
Features

- Available with single or duplex receptacles, in 16 or 32 amps with a variety of voltage and pin configurations ②
- Flush mounting, smooth contours for easy cleaning
- Hazardous locations suitability
- Enclosure made of stainless steel with concealed EPDM gasketing
- Cover is hinged on left side. Provides access with loosening of 2 screws
- Color coding and pin configuration is compliant to IEC 60309-2.
- Interlocked switch mechanism prevents accidental removal of plug from receptacle under load.
- Explosion protected disconnect switch requires protection by Class "J" fuse (upstream), 20A max. for 16A receptacle, 40A max. for 32A receptacle.

VCR SERIES CLEANROOM RECEPTACLES					
DESCRIPTION		CATALOG NUMBER			
	AC VOLTAGE AND COLOR CODE	16 AMP ①		32 AMP ①	
		RECEPTACLE	PLUG ②	RECEPTACLE	PLUG ②
2 Pole 3 Wire	125 Yellow	VCR16R304	VSI20P304	—	—
	250 Blue	VCR16R306	VSI20P306	—	—
	480 Red	VCR16R307	VSI20P307	—	—
3 Pole 4 Wire	3 Ø 250 Blue	VCR16R409	VSI20P409	VCR32R409	VSI30P409
	3 Ø 480 Red	VCR16R407	VSI20P407	VCR32R407	VSI30P407
	3 Ø 600 Black	VCR16R405	VSI20P405	VCR32R405	VSI30P405
4 Pole 5 Wire	3 ØY 120/208 Blue	VCR16R509	VSI20P509	VCR32R509	VSI30P509
	3 ØY 277/480 Red	VCR16R507	VSI20P507	VCR32R507	VSI30P507
	3 ØY 347/600 Black	VCR16R505	VSI20P505	VCR32R505	VSI30P505

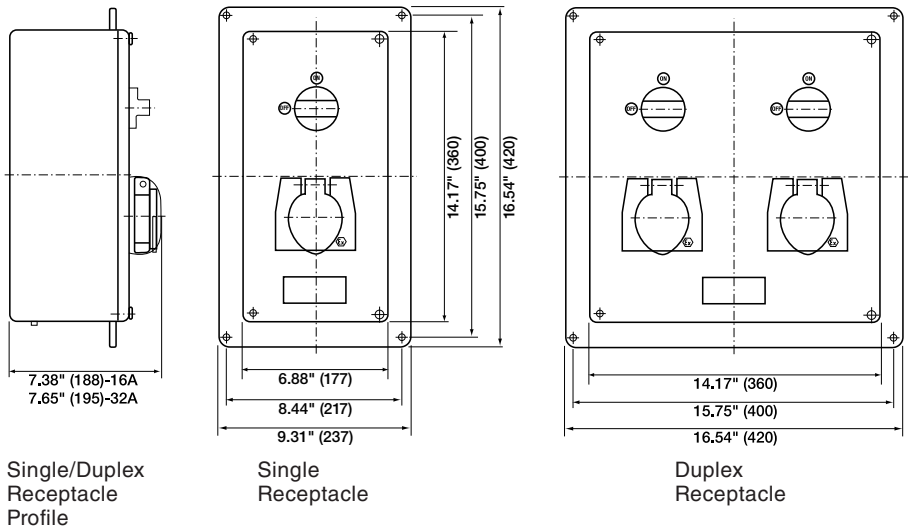
① VCR catalog numbers shown in table are for SINGLE receptacles. For duplex units, add second receptacle configuration to catalog number.

Example: VCR32R409-16R304



② 20A plugs fit 16A receptacles; 30A plugs fit 32A receptacles.

VCR non-metallic plugs NOT intermateable with VersaMate® NEC metallic series.



Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, IIB,IIA
NEMA 7 (C,D)

UL Listed E23572

SP Certified LR14667

FEATURES-SPECIFICATIONS

Applications

KR Series plugs and receptacles are suitable:

- In hazardous locations due to the presence of flammable vapors or gases
- Where a heavy duty plug and receptacle is necessary
- Where a connection is required for portable or movable equipment such as tools, motors, hand lights, etc.
- KP series plugs use solder terminations for sure connection
- KR series receptacles use wire leads for termination

Features

- Factory sealed receptacles
- Copper free aluminum
- Straight or angle type receptacles
- Delayed action contacts (See Time Delay Inset)
- Plugs with a wide range of grommet openings
- Extra long grounding pole makes contact first and breaks contact last
- Heavy duty construction to withstand rough and constant usage

Selection

Refer to page headings for suitability of specific items. When selecting a Killark device consider the following:

- (A) Installation area (Hazardous or Weather-Resistant)
- (B) Amperage
- (C) Voltage
- (D) Electrical Rating (see below)
- (E) Grounding
- (G) Modifications (see right)
- (H) Mounting arrangement
- (I) Box and hub type
- (J) Cord diameter

Details of Safety Time Delay Feature

The key slot provided in the receptacle engages the key of the plug permitting entrance of the plug in the receptacle in only one position. See steps 1-4.

The contacts are enclosed in long accurate insulating cavities. It is in these cavities that the arcs are extinguished. All contacts are made through round tellurium copper tubing which is extra heavy to withstand arcing as required on the various ampere ratings.

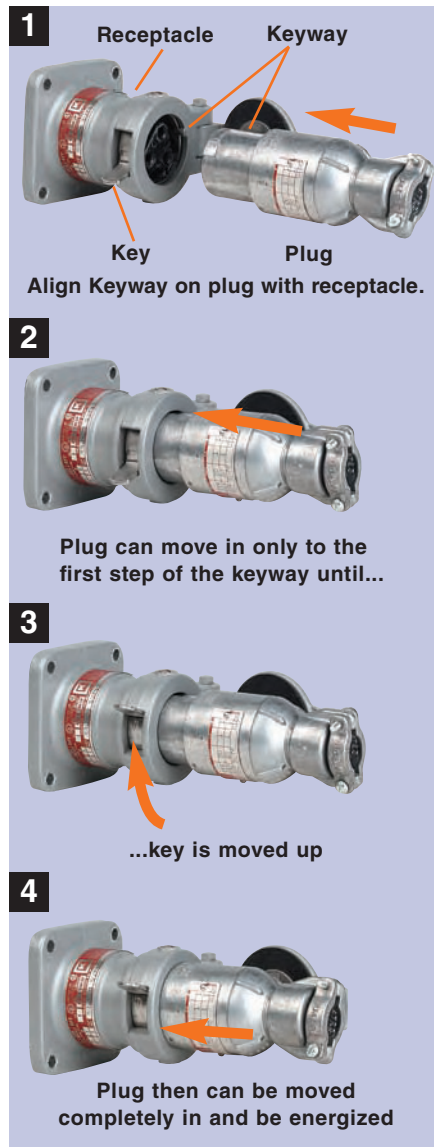
Both plugs and receptacles are equipped with an extra long grounding pole which establishes grounding before the power contacts are engaged. These grounding poles are also the last to break contact. This assures bonding of the portable device to the electrical conduit system.

Selection

Modifications are available by adding the following suffix to the catalog number. (Note: It must be added to both the plug and the receptacle so they will mate.)

MODIFICATIONS	
CATALOG NUMBER	DESCRIPTION
SU37	Interior contact assemblies are to be rotated 22-1/2° to the right.
SU38	Interior contact assemblies are to be rotated 22-1/2° to the left.

Safety Time Delay Feature



ELECTRICAL RATINGS					
TYPE	AMPERAGE	VOLTAGE VAC	CIRCUIT	H. P.	HERTZ
Ø20 AMP	20	115/230	2W3P	1	60
30 AMP	7	460	2W3P	1/2	60
	7	460	3W4P	1	60
	30	115/230	2W3P	1-1/2	60
	30	115/230	3W4P	3	60
60 AMP	30	460	2W3P	3	60
	30	460	3W4P	5	60
	60	115/230	2W3P	5	60
	60	115/230	3W4P	5	60

©CSA approval on 20 Amp only.



KILLARK



KRS Series



KRA



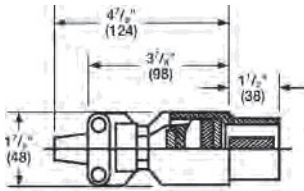
Plug

Class I, Div. 1 & 2, Groups C,D[Ⓛ]
Class I, Zones 1 & 2, IIB,IIA
NEMA 7 (C,D)

Listed File No. E23572

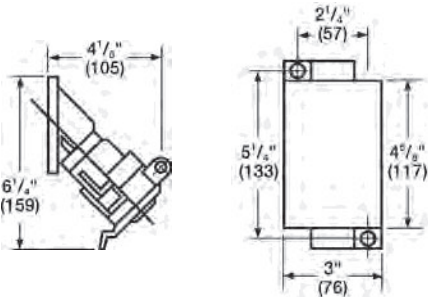
Certified File No. LR14667

FEATURES-SPECIFICATIONS



KP 20 AMP PLUG	
CATALOG NO.	DESCRIPTION
KP-20ABC	Plug furnished with 3 grommets range .250 - .625

See page PR18 for available polarization options.



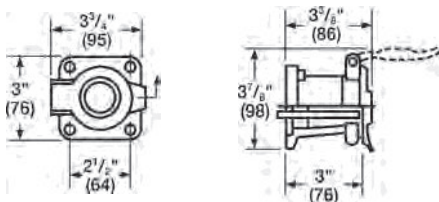
KRS-Series

KRS 20A 1Ø 2W RECEPTACLE WITH SWB BOX [Ⓛ]								
HUB SIZE	CATALOG NUMBER							
	SINGLE RECEPTACLE & DEAD END BOX	BOX ONLY	SINGLE RECEPTACLE & FEED-THRU BOX	BOX ONLY	DOUBLE RECEPTACLE & DEAD END BOX	BOX ONLY	DOUBLE RECEPTACLE & FEED-THRU BOX	BOX ONLY
1/2"	KRS-215-120	SWB-1	KRS-218-120	SWB-4	2KRS-215-120	SWB-7	2KRS-218-120	SWB-10
3/4"	KRS-215-220	SWB-2	KRS-218-220	SWB-5	2KRS-215-220	SWB-8	2KRS-218-220	SWB-11
1"	KRS-215-320	SWB-3	KRS-218-320	SWB-6	2KRS-215-320	SWB-9	2KRS-218-320	SWB-12
RECEPTACLE ONLY - CATALOG NUMBER KRS-20								

[Ⓛ] KRS Series receptacles - Class I, Group D.

[Ⓛ] SWB Series mounting splice boxes only for receptacles shown above listed on page C19.

See page PR18 for available polarization options.



KRJ-Series



AJC

JLC

JLX

ELECTRICAL RATING	
CIRCUIT	RATING (60 HERTZ)
1Ø 2W3P	20 AMPS 115/230 V.A.C. 1 H.P.

KRJ RECEPTACLE WITH AJ OR JL BOX			
HUB SIZE	CATALOG NUMBER		
	AJC	JLC	JLX
1/2"	—	KRJJC-120	KRJX-120
3/4"	KRAJC-220	KRJJC-220	KRJX-220
1"	KRAJC-320	—	—
BACK BOX ONLY			
1/2"	—	JLC-1	JLX-1
3/4"	AJC-2	JLC-2	JLX-2
1"	AJC-3	—	—
RECEPTACLE ONLY - CATALOG NUMBER KRJ-20			

JL Series boxes shown on page F60. Refer to page headings for suitability of specific items.

See page PR18 for available polarization options.



KILLARK®

KRS/KRJ SERIES PLUG



KRS Series



KRA Series

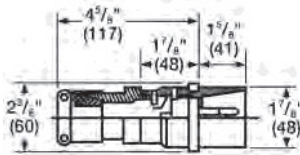


Plug

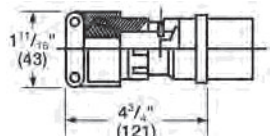
Class I, Div. 1 & 2, Groups C,D[Ⓞ]
Class I, Zones 1 & 2, IIB, IIA
NEMA 7 (C,D)

Listed - File E23572
 See files for details or call Killark.

FEATURES-SPECIFICATIONS



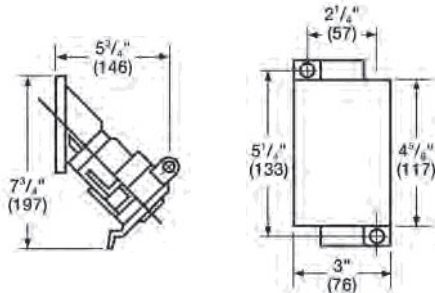
D Type



E Type

KP 30 AMP PLUG			
CATALOG NUMBER		PLUG TYPE	GROMMET RANGE
1Ø, 2-WIRE, 3-POLE	3Ø, 3-WIRE 4-POLE		
KP-303D23	KP-304D23	D	.375-.625
KP-303D45	KP-304D45	D	.625-.875
KP-303E45	KP-304E45	E	.875-1.125
KP-303E67	KP-304E67	E	1.125-1.375

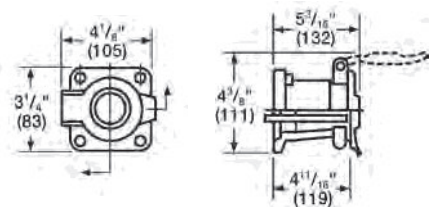
See page PR18 for available polarization options.



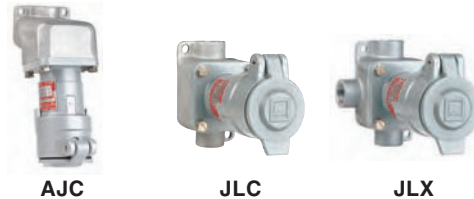
KRS-Series

KRS RECEPTACLE WITH SWB BOX [Ⓞ]								
HUB SIZE	CATALOG NUMBER - SINGLE GANG ONLY							
	1Ø, 2-WIRE, 3-POLE DEAD END BOX	BOX ONLY	1Ø, 2-WIRE, 3-POLE FEED THRU BOX	BOX ONLY	3Ø, 3-WIRE, 4-POLE DEAD END BOX	BOX ONLY	3Ø, 3-WIRE, 4-POLE FEED THRU BOX	BOX ONLY
1/2"	KRS-215-1303	SWB-1	KRS-218-1303	SWB-4	KRS-215-1304	SWB-1	KRS-218-1304	SWB-4
3/4"	KRS-215-2303	SWB-2	KRS-218-2303	SWB-5	KRS-215-2304	SWB-2	KRS-218-2304	SWB-5
1"	KRS-215-3303	SWB-3	KRS-218-3303	SWB-6	KRS-215-3304	SWB-3	KRS-218-3304	SWB-6
RECEPTACLE ONLY	KRS-303				KRS-304			

[Ⓞ]KRS Series receptacles - Class I, Group D.
[Ⓞ]SWB Series mounting splice boxes for receptacles shown above listed on page C19.
 Two gang models not available.
 See page PR18 for available polarization options.



KRJ-Series



AJC

JLC

JLX

ELECTRICAL RATING	
CIRCUIT	RATING (60 HERTZ)
1 Ø	7 Amps 460 V.A.C. 1½ H.P.
2-Wire	- OR -
3-Pole	30 Amps 115/230 V.A.C. 1-1½ H.P.
3 Ø	7 Amps 460 V.A.C. 1 H.P.
3-Wire	- OR -
4-Pole	30 Amps 115/230 V.A.C. 3 H.P.

KRJ RECEPTACLE WITH AJ OR JL BOX				
CIRCUIT	HUB SIZE	CATALOG NUMBER		
		AJC	JLC	JLX
1Ø 2-Wire 3-Pole	1/2"	—	KRJC-1303	KRJX-1303
	3/4"	KRAJC-2303	KRJC-2303	KRJX-2303
	1"	KRAJC-3303	—	—
RECEPTACLE ONLY- CATALOG NUMBER KRJ-303				
3Ø 3-Wire 4-Pole	1/2"	—	KRJC-1304	KRJX-1304
	3/4"	KRAJC-2304	KRJC-2304	KRJX-2304
	1"	KRAJC-3304	—	—
RECEPTACLE ONLY- CATALOG NUMBER KRJ-304				
Back Box Only	1/2"	—	JLC-1	JLX-1
	3/4"	AJC-2	JLC-2	JLX-2
	1"	AJC-3	—	—

JL Series boxes shown on page F60. Refer to page headings for suitability of specific items.
 See page PR18 for available polarization options.





KRJ Series



KRA Series

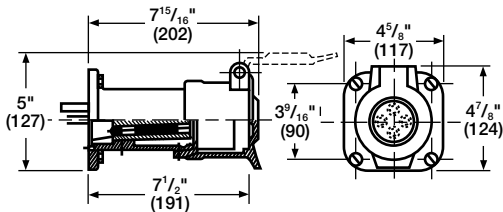


Plug

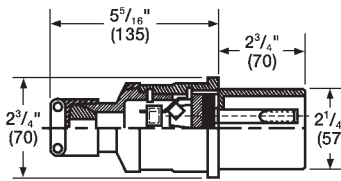
Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, IIB,IIA
NEMA 7 (C,D)

Listed File No. E23572

FEATURES-SPECIFICATIONS



KRJ-60 Type Receptacles

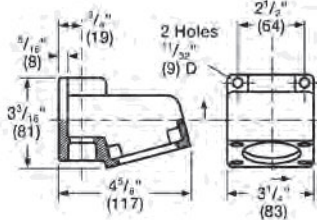


KP Type Plugs

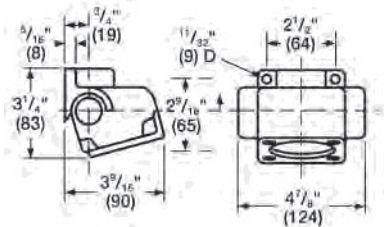
KR 60 AMP PLUGS		
CATALOG NUMBER		GROMMET RANGE
1Ø, 2-WIRE, 3-POLE	3Ø, 3-WIRE 4-POLE	
KP-603D345	KP-604D345	.500-.875
KP-603E45	KP-604E45	.875-1.125
KP-603E67	KP-604E67	1.125-1.375
—	KP-604F34	1.250-1.500
—	KP-604F56	1.500-1.750

See page PR18 for available polarization options.

Dimensions-Back Boxes



AJAC Types



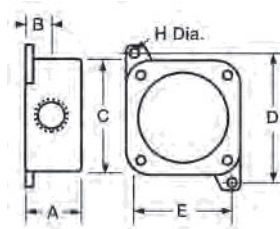
AJAT Type

KR RECEPTACLE ASSEMBLIES					
HUB SIZE	BOX STYLE	HUB STYLE	CATALOG NUMBER		
			1Ø, 2-WIRE 3-POLE	3Ø, 3-WIRE 4-POLE	SPLICE BOX ONLY
1"	JAL Series Boxes	"X"-3 Close-up Plugs Supplied	KRJX-3603	KRJX-3604	JALX-3
1-1/4"			KRJX-4603	KRJX-4604	JALX-4
1-1/4"	AJA Series Boxes	Feed Thru Top and Bottom	KRAJAC-4603	KRAJAC-4604	AJAC-4
1-1/2"			KRAJAC-5603	KRAJAC-5604	AJAC-5
2"			KRAJAC-6603	KRAJAC-6604	AJAC-6
1-1/4"		T Sides and Top	KRAJAT-4603	KRAJAT-4604	AJAT-4
1-1/2"			KRAJAT-5603	KRAJAT-5604	AJAT-5
1-1/2"			KRAJAT-6603	KRAJAT-6604	AJAT-6
RECEPTACLE ONLY			KRJ-603	KRJ-604	—

NOTE: For dead end box, use AJAC Series and CUP Series close-up plug.

See page PR18 for available polarization options.

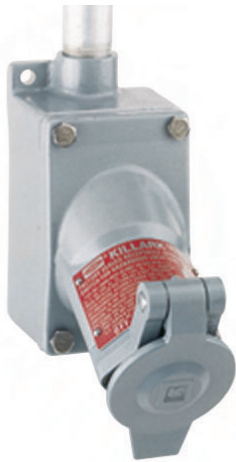
ELECTRICAL RATING	
CIRCUIT	RATING (60 HERTZ)
1 Ø	30 Amps 460 V.A.C. 3 H.P.
2-Wire 3-Pole	— OR —
	60 Amps 115/230 V.A.C. 3 H.P.
3 Ø	30 Amps 460 V.A.C. 5 H.P.
3-Wire 4-Pole	— OR —
	60 Amps 115/230 V.A.C. 5 H.P.



JAL Type

JAL TYPE MOUNTING BOXES						
HUB	A	B	C	D	E	H
1"	2-3/8"	1-5/32"	4-5/8"	5-1/4"	4-1/8"	5/16"
1-1/4"	3-1/8"	1-17/32"	4-5/8"	5-1/4"	4-1/8"	5/16"





UGMG



Plug



Class I, Div. 1 & 2, Groups B[Ⓟ], C, D
Class I, Zones 1 & 2, Groups IIB+H₂, IIA
Class II, Div. 1 & 2, Groups F, G
Class III
NEMA 3, 7 (B, C, D), 9 (F, G)

UL Listed File No. E91049 and/or E53660

SP Certified File No. LR14667

FEATURES-SPECIFICATIONS

ACCEPTOR®

The ACCEPTOR® UGP/UGR Plug and Receptacle system, with its unique, patented design, is interchangeable[Ⓟ] with other NEMA bladed type explosion-proof and dust ignition proof devices. The series has been tested and classified for use with Crouse-Hinds® Ark-Gard®2 and Appleton® U-Line® plugs and receptacles in hazardous locations. **Now available in GFCI version. See page PR26.**

How The Acceptor System Works

ACCEPTOR receptacles contain an integral switch which must be closed to energize the circuit. The design permits only an approved plug to be energized. To actuate the switch, the plug must be inserted and rotated clockwise approximately 45°. The plug will lock into this position preventing accidental disengagement. To remove, simply push in then turn the plug counterclockwise and pull straight out.

Plugs and receptacles may be used where interchangeable bladed devices are needed in locations made hazardous by the presence of flammable gases or vapors, combustible dusts or easily ignitable fibers and flyings.

Plug can serve to provide power for portable equipment used in both hazardous and non-hazardous areas.

Applications

- Petroleum Refineries
- Chemical Plants
- Wet/Damp Areas
- Corrosive Environments
- Petroleum Plants
- Grain Elevators/Feed Mills

- Flour and Feed Mills
- Indoor or Outdoor Locations

Features

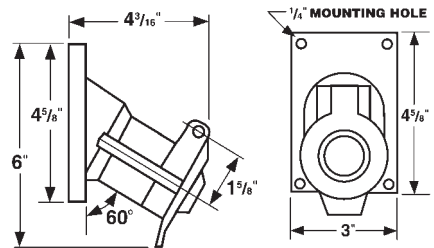
- All external hardware is 316 stainless steel to provide low maintenance and long life
- Factory sealed chamber in UGR receptacle contains switch's arcing components
- No additional external seals are required, except in Group B applications

Quick Wiring Plug

- Single piece shell for fewer parts
- Transparent wiring entrance holes for easy conductor insertion
- Screws tighten from side with "full sized" screwdriver

Ⓟ Exact models classified for interchangeability are listed in the information sheet provided with the products. Ark-Gard® is a registered trademark of Crouse-Hinds®, U-Line® is a registered trademark of Appleton Electric Company®.

- Receptacles are U.L. Listed as raintight. Proper sealing against moisture is assured
- Spring loaded receptacle cover closes when plug is removed to provide protection when not in use
- Copper-free aluminum (less than 4/10 of 1%) alloy resists corrosion
- Electrostatically applied and baked powder epoxy/polyester finish



PLUG

ACCEPTOR® plugs conform to NEMA configurations and can be used with standard receptacles in non-hazardous areas to maximize equipment utilization. The system's "turn to engage" feature

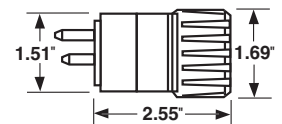
locks in plug and can be used to prevent accidental disengagement of critical equipment.

Plugs for use with type S, SO, ST or STO heavy duty cord.

VOLTAGE	NEMA CONFIGURATION	CATALOG NUMBER		NEMA CONFIGURATION	CATALOG NUMBER	
		15 AMP PLUG	15 AMP PLUG W/QUICK WIRING		20 AMP PLUG	20 AMP PLUG W/QUICK WIRING
125VAC	5-15P	UGP-15231	UGP-15231QW	5-20P	UGP-20231	UGP-20231QW
250VAC	6-15P	UGP-15232	UGP-15232QW	6-20P	UGP-20232	UGP-20232QW

Ⓟ Plugs Rated Group B when used with properly rated & installed receptacles. See next page.

Plugs with mesh grips (page PR26) are shipped as component plug and grip.



KILLARK®



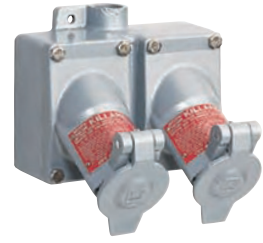
SWB-1, 2, 3



SWB-4, 5, 6



Single Gang



Double Gang

RECEPTACLES AND ASSEMBLIES ^④					
NEMA RATING & CONFIGURATION	ENCLOSURE STYLE	HUB SIZE	SINGLE GANG ^{③④} GROUPS C, D, F, & G	DOUBLE GANG ^{③④} GROUPS C, D, F, & G	SINGLE GANG ^{①②} GROUPS B, C, D, F & G
 20 Amp 125 Volt 2 POLE 3 WIRE 5-20R	RECEPTACLE ONLY	—	UGR0-20231	UGR0-20231	—
	DEAD END	1/2"	UGR1-20231	UGR7-20231	UGRB1-20231
		3/4"	UGR2-20231	UGR8-20231	UGRB2-20231
		1"	UGR3-20231	UGR9-20231	UGRB3-20231
	FEED-THRU	1/2"	UGR4-20231	UGR10-20231	UGRB4-20231
		3/4"	UGR5-20231	UGR11-20231	UGRB5-20231
		1"	UGR6-20231	UGR12-20231	UGRB6-20231
 15 Amp 125 Volt 2 POLE 3 WIRE 5-15R	RECEPTACLE ONLY	—	UGR0C-15231	UGR0C-15231	—
	DEAD END	1/2"	UGR1C-15231	UGR7C-15231	UGRB1C-15231
		3/4"	UGR2C-15231	UGR8C-15231	UGRB2C-15231
		1"	UGR3C-15231	UGR9C-15231	UGRB3C-15231
	FEED-THRU	1/2"	UGR4C-15231	UGR10C-15231	UGRB4C-15231
		3/4"	UGR5C-15231	UGR11C-15231	UGRB5C-15231
		1"	UGR6C-15231	UGR12C-15231	UGRB6C-15231
 20 Amp 250 Volt 2 POLE 3 WIRE 6-20R	RECEPTACLE ONLY	—	UGR0-20232	UGR0-20232	—
	DEAD END	1/2"	UGR1-20232	UGR7-20232	UGRB1-20232
		3/4"	UGR2-20232	UGR8-20232	UGRB2-20232
		1"	UGR3-20232	UGR9-20232	UGRB3-20232
	FEED-THRU	1/2"	UGR4-20232	UGR10-20232	UGRB4-20232
		3/4"	UGR5-20232	UGR11-20232	UGRB5-20232
		1"	UGR6-20232	UGR12-20232	UGRB6-20232
 15 Amp 250 Volt 2 POLE 3 WIRE 6-15R	RECEPTACLE ONLY	—	UGR0C-15232	UGR0C-15232	—
	DEAD END	1/2"	UGR1C-15232	UGR7C-15232	UGRB1C-15232
		3/4"	UGR2C-15232	UGR8C-15232	UGRB2C-15232
		1"	UGR3C-15232	UGR9C-15232	UGRB3C-15232
	FEED-THRU	1/2"	UGR4C-15232	UGR10C-15232	UGRB4C-15232
		3/4"	UGR5C-15232	UGR11C-15232	UGRB5C-15232
		1"	UGR6C-15232	UGR12C-15232	UGRB6C-15232

① Items in this column are suitable for Class I, Group B in addition to Class I, Groups C, D.

Also suitable for Class I, Zone 1, Groups IIB+H2, IIA.

② Seals must be installed within 6 inches of conduit opening.

③ Items in this column may also be used in Class I, Zone 1, Groups IIB, IIA.

Assembly numbers not rated for Group B are shipped as receptacle & back box components.

④ Refer to page C19 for additional SWB Series Back Box configurations.

⑤ Canada only configuration

⑥ Canadian Codes now allow "T" combination slots for 15A or 20A plugs. Check breaker and wire feed size for proper application ratings.

NOTE: For replacement receptacle cover and hinge, order KIT-173.



Connector with Breech-Lock Cap



"3rd Hand" Plug Operation

Class I, Div. 1 & 2, Groups B,C,D
Class I, Zones 1 & 2, Groups IIB+H₂, IIA
Class II, Div. 1 & 2, Groups F,G
Class III
NEMA 3, 4X*

SP Certified File No. LR14667



FEATURES-SPECIFICATIONS

ACCEPTOR®

CONNECTORS

The ACCEPTOR® UGRC Connector complements UGP/UGR Plugs and Receptacles, as well as Ground Fault Protected UGFI and UGRGF Models.

Used with Acceptor plugs, connectors can extend the reach for hazardous location rated portable equipment such as hand lamps. Connectors eliminate the need for user created corded box mounted receptacles.

UGRC Connectors are interchangeable and classified for use with other NEMA bladed type explosion-proof and dust ignition proof plugs, including Crouse-Hinds® Ark-Gard®2 and Appleton® ULine®.

Features

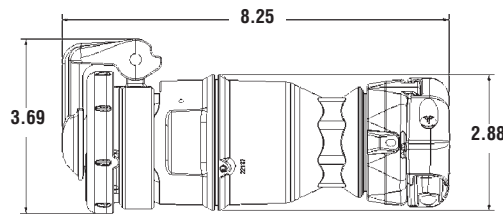
- Available with the exclusive Breech-Lock Cap (see PR3 for more info) - patented notch provides "3rd hand" plug operation (holds lid open while one hand operates plug, and other holds connector).
- Factory Sealed Construction
- Suitable for 14 or 12 gauge SOOW or similar cable
- Copper-free aluminum (less than 4/10 of 1%) alloy resists corrosion
- Electrostatically applied and baked powder epoxy/polyester finish
- Dead Front Construction with integral switch - requires Hazardous Rated NEMA Bladed plug for operation

Ark-Gard® is a registered trademark of Crouse-Hinds®
U-Line® is a registered trademark of Appleton Electric Company®

Industrial Applications

- Petroleum Refineries
- Chemical/Petrochemical Plants
- Oil Rigs & Platforms
- Wet/Corrosive Environments
- Grain Elevators

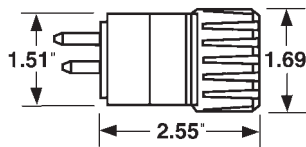
Dimensions



UGRC Connector
Breech cap model shown, Flip cap model dimensions are similar







Connector shown with Acceptor UGRP receptacle mounted in explosion proof Quantum® enclosure



UGP Plug



Flip Cap

NEMA CONFIGURATION	125V CONNECTOR CAP STYLE	CATALOG NUMBER	WEATHER RATING
 20 Amp 125 Volt  2 POLE 5-20R with T-slots	Breech-Lock with Notch Flip Type	UGRC-20231B UGRC-20231F	N4X* N3**
	Killark 125V Plugs 20 Amp 15 Amp	UGP-20231 UGP-15231	②
 20 Amp 250 Volt  2 POLE 3 WIRE 6-20R with T-slots	250V CONNECTOR CAP STYLE		
	Breech-Lock with Notch Flip Type	UGRC-20232B UGRC-20232F	N4X* N3**
	Killark 250V Plugs 20 Amp 15 Amp	UGP-20232 UGP-15232	②

*Breech cap models N4X with lid closed and turned, N3 When Plug inserted Hinge Up

**Flip Lid models N3 with hinge in UP position with or without plug

Replacement Cap and Hinge Kits: Breech KIT-173B, Flip KIT-173

①CSA certified for Canada and/or other jurisdictions accepting CSA.

②Add QW to catalog number for Quick Wiring type plug.



KILLARK®



Breech Cap Model



Typical Installation

Class I, Div. 1 & 2, Groups B,C,D[Ⓛ]
Class I, Zones 1 & 2, Groups IIB+H₂, IIA
Class II, Div. 1 & 2, Groups F,G
Class III
NEMA 3, 4X*

CS Certified File No. LR14667[Ⓢ]

FEATURES-SPECIFICATIONS

ACCEPTOR®

PANEL RECEPTACLES

The ACCEPTOR® UGRP Panel Receptacle complements UGP/UGR Plugs and Receptacles, as well as Ground Fault Protected UGFI and UGRGF Models.

Used with Acceptor plugs, panel receptacles provide local power for hazardous location rated portable equipment such as hand lamps. Units are suitable for Class I Div. 1 or Class I Div.2 depending on the enclosure type used[Ⓛ].

UGRP Panel Receptacles are interchangeable and classified for use with other NEMA bladed type explosion-proof and dust ignition proof plugs, including Crouse-Hinds® Ark-Gard®2 and Appleton® ULine®.

Features

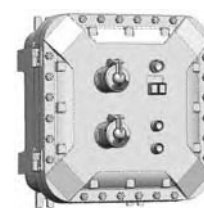
- Available with the exclusive **Breech-Lock Cap** (see PR3 for more info) - patented notch provides “3rd hand” plug operation (holds lid open while one hand operates plug, and other holds connector).
- Factory Sealed Construction
- Copper-free aluminum (less than 4/10 of 1%) alloy resists corrosion
- Electrostatically applied and baked powder epoxy/polyester finish
- Dead Front Construction with integral switch - requires Hazardous Rated NEMA Bladed plug for operation

Ark-Gard® is a registered trademark of Crouse-Hinds®
 U-Line® is a registered trademark of Appleton Electric Company®

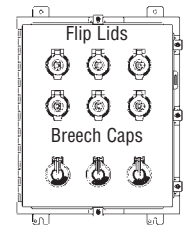
Industrial Applications

- Petroleum Refineries
- Chemical/Petrochemical Plants
- Oil Rigs & Platforms
- Wet/Corrosive Environments
- Grain Elevators

* UGRP Receptacles are available “Factory Installed” in the following series:
Enclosures
 - Series EXB, B7E
Distribution Equipment
 -Series D2L, B7L Lighting Panelboards
 * Contact factory for ordering information

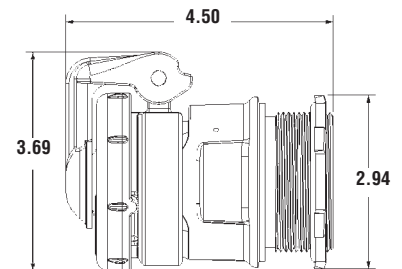


Typical CLI Div. 1 application



Typical CLI Div. 2 application

Dimensions



Breech Cap model shown.
 Flip Cap model dimensions are similar



Breech Lid



Flip Cap

NEMA CONFIGURATION	125V PANEL RECEPTACLE CAP STYLE	CATALOG NUMBER	WEATHER RATING
 20 Amp 125 Volt 2 POLE 3 WIRE 5-20R with T-slots	Breech-Lock with Notch Flip Type	UGRP-20231B UGRP-20231F	N4X* N3**
	Killark 125V Plugs*** 20 Amp 15 Amp	UGP-20231 UGP-15231	
 20 Amp 250 Volt 2 POLE 3 WIRE 6-20R with T-slots	250V PANEL RECEPTACLE CAP STYLE		
	Breech-Lock with Notch Flip Type	UGRP-20232B UGRP-20232F	N4X* N3**
	Killark 250V Plugs*** 20 Amp 15 Amp	UGP-20232 UGP-15232	

*Breech cap models N4X with lid closed and turned, N3 When Plug inserted Hinge Up

**Flip Lid models N3 with hinge in UP position with or without plug

***See PR24 for Plug NEMA Diagram and Dimensions

Replacement Cap and Hinge Kits: Breech KIT-173B, Flip KIT-173

ⓁClass I Div. 1 B,C,D in enclosures certified to 325 explosive PSI. Class I Div. 2 in standard location enclosures using only non-arcing components.

ⓈCSA Certified for United States, Canada, and other jurisdictions accepting the mark.

ⓈAdd QW to catalog number for Quick Wiring type plug.



KILLARK®



UGRA



UGMG



XHL



XHLF



UGRGF

FEATURES-SPECIFICATIONS

UNIVERSAL ADAPTER KIT

ACCEPTOR® receptacles are available with an adapter kit for mounting to Crouse-Hinds® EDS Series or Appleton® EFD Series back boxes.

ACCEPTOR receptacles properly installed with these adapter kits are U.L. Listed for use in Class I, Div. 2, Groups B,C,D hazardous locations and Zone II, Groups IIB + H2, IIA.

Kit contains one ACCEPTOR® receptacle plus adapter plate and mounting bolts.

UGRA ADAPTER KIT	
NEMA RATING & CONFIGURATION	ADAPTER KIT CATALOG NUMBER
20 Amp 125 Volt 2 POLE 3 WIRE 5-20R	UGRA-20231
20 Amp 250 Volt 2 POLE 3 WIRE 6-20R	UGRA-20232

UL Listed File No. E91049

SF Certified LR14667

OPTIONAL STRAIN RELIEF GRIP FOR UGP PLUGS

Stainless steel grips for cable strain relief or bend control.

CATALOG NUMBER	DESCRIPTION
UGMG	Mesh grip

XHL SERIES HAND LAMPS

A handy accessory to the ACCEPTOR® Series, these hand lamps can be used as an illumination source where flammable materials are present, such as processed finish goods, storage vats, or handling areas.

See page L14 for detailed information and features.

XHL INCANDESCENT	
CATALOG NUMBER	DESCRIPTION
XHL-100	Handlamp
XHL-GL	Replacement globe
XHLG	Replacement guard
XHLS	Replacement socket

XHL Incandescent
Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB,IIA

UL Listed File No. E97760

SF Certified File No. LR10019

XHLF FLUORESCENT (120VAC)

CATALOG NUMBER	DESCRIPTION
XHLF26	Fluorescent hand lamp
XHLF26-50KP	Fluorescent hand lamp with 50' of 16/3 SOW cord and 15A Acceptor plug

XHLF Fluorescent
Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB,IIA
Class II, Div. 1 & 2, Groups E,F,G

UL Listed File No. E97760

GFI PROTECTED RECEPTACLE

Utilizes FXS GFI and ACCEPTOR® receptacle to interrupt a circuit, when a ground fault is detected on equipment which may be handled by personnel in hazardous locations.

Features

- Test and Reset push buttons are provided on cover assembly, with optional pilot light available. Unit should be tested monthly
- Includes new GFCI to meet latest UL943 GFCI standards revisions
- Exterior gasket provides NEMA 3 weatherproof protection
- Ground boss for grounding in the splice box
- Color coded wiring and stainless steel cover bolts
- Receptacle used is UGRO-20231. See page PR23

NEMA RATING & CONFIGURATION	ENCLOSURE STYLE	HUB SIZE	CATALOG NUMBER
20A, 125V, 2P, 3W	Dead End	1/2"	UGRGF107
	Dead End	3/4"	UGRGF108
	Dead End	1"	UGRGF109
	Feed Thru	1/2"	UGRGF110
	Feed Thru	3/4"	UGRGF111
	Feed Thru	1"	UGRGF112

Electrical Rating

GFI units are rated at 20A, 120 VAC, 60Hz. Class A.

4-6 milliamp trip setting
Trip Time-UL Curve

Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB,IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
NEMA 3, 7(C,D) 9(E,F,G)

SF Certified LR11714

See files for details or call Killark.

For Red LED pilot light indicator of live circuit, add "-PL" to catalog number.

Example - UGRGF107-PL.

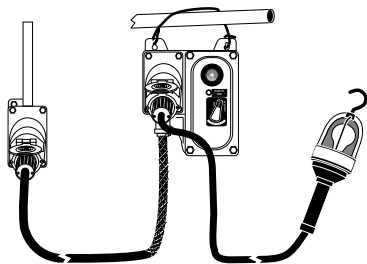




Adapter Unit

The GFCI protected ACCEPTOR® is the solution to OSHA's requirements for GFCI protection when using portable equipment in hazardous and wet locations. For use with 120 volt 15 or 20 amp receptacles without GFCI protection, the **Adapter Unit** provides GFCI and circuit protection to connected apparatus by simply being plugged into an existing receptacle.

The **Hard-Wired Unit** provides the same protection and is used directly as a GFCI protected device. Units are feed-through with one close-up plug.



Typical Application with XHL Series Hand Lamp



**ACCEPTOR®
UGFI
GROUND FAULT
PROTECTOR**

NEW!
2P 250V GFI

FEATURES-SPECIFICATIONS

Adapter Unit

- No need to permanently alter existing installations; **Portable Unit** can be temporarily hung using included strap near an existing receptacle wherever protection is required
- Factory Sealed Unit
- Acceptor® plug and cord set included with **Adapter Unit**. Cord is 36"

Hard-Wired Unit

- provides GFCI and circuit protection in new installations, or as an upgrade or replacement for non-GFCI receptacles
- Factory Sealed, except Group B

Adapter and Hard-Wired Unit

- GFCI device also provides circuit protection, for connected apparatus, against current overload and short circuits
- Acceptor® receptacles and plugs are interchangeable with both Crouse-Hinds® Ark-Gard®2 and Appleton® U-Line® products®
- Amber pilot light provides indication that the receptacle is energized.
- Units can be Padlocked OFF for maintained safety
- Fully gasketed GFCI compartment prevents moisture from damaging electronic components
- Same high quality materials as the standard ACCEPTOR®

①Hard-Wired assemblies in Group B areas require sealing within 6" of enclosure.

②Exact models classified for interchangeability are listed in the information sheet provided with the products.

③2P 250V units are cCSA-US for 2 "hot line" applications and include 2P 5mA GFI breakers. 2P Units are for 120/240V or 120/208Y Grounded Power Supply Systems ONLY. Do NOT use with Delta supply systems.

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U-Line® is a registered trademark of Appleton Electric Company®.

- **Adapter Unit**
Class I, Div. 2, Groups B,C,D
Class I, Zone 2, Groups IIB+H₂, IIA
Class II, Div. 1 & 2, Groups F,G
Class III, Div. 1 & 2
- **Hard-Wired Unit**
Class I, Div. 1 & 2, Groups B,C,D
Class I, Zones 1 & 2, Groups IIB+ H₂, IIA
Class II, Div. 1 & 2, Groups F,G
Class III, Div. 1 & 2

**NEMA 3 ENCLOSURE TYPE
(Adapter or Hard-Wired units)**

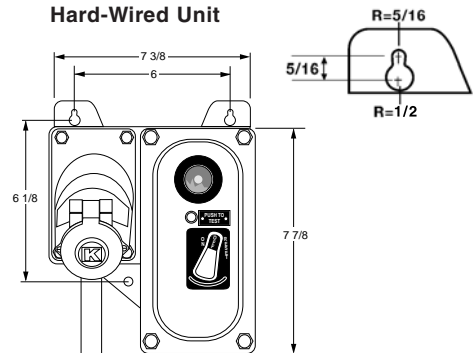
Listed File No. E91049

Certified File No. LR14667

GFCI RECEPTACLE ADAPTER (W/CORD SET)		
20A 125V	UGFI20AD	 5-20R
15A 125V	UGFI15AD	 5-15R
20A 250V	UGFI202AD ③	 6-20R
15A 250V	UGFI152AD ③	 6-15R

HARD WIRED (PERMANENTLY MOUNTED) GFCI RECEPTACLE			
20A 125V	 5-20R	1/2" HUB	UGFI20C1
		3/4" HUB	UGFI20C2
		1" HUB	UGFI20C3
15A 125V	 5-15R	1/2" HUB	UGFI15C1
		3/4" HUB	UGFI15C2
		1" HUB	UGFI15C3
20A 250V ③	 6-20R	1/2" HUB	UGFI202C1
		3/4" HUB	UGFI202C2
		1" HUB	UGFI202C3
15A 250V ③	 6-15R	1/2" HUB	UGFI152C1
		3/4" HUB	UGFI152C2
		1" HUB	UGFI152C3

Hard-Wired Unit



PR

Section C

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Factory Sealed Contact Block
1N.O./1N.C.

Class I, Div. 2, Groups A,B,C,D
Class I, Zone 2, Groups IIC, IIB, IIA
NEMA 3, 4, 4X, 7 (Div.2)



FEATURES-SPECIFICATIONS



Applications

Hazardous and corrosive environments such as refineries, chemical plants, water treatment and bio gas plants, and wherever a combustible gas-air mixture may occur.

Features

- Enclosures of rugged polyester resin and gasketed for NEMA 4X hose down protection
- Factory sealed contacts rated for heavy duty NEMA A600/Q300 explosion-protected operation
- No external seals required for most applications
- Comprehensive selection of control operators including:
 - Push buttons (standard or mushroom caps) with momentary & maintained action for multiple functions or emergency stop
 - Rotary selector switches for maintained or momentary operation
 - Pilot lights (LED as standard) in multiple voltages and colors
- Options for various enclosures entry types and legend plates

PRODUCT LINE OVERVIEW

ASSEMBLIES



One device



Two devices



Three devices

CONTROL DEVICES

Push Button

Shrouded or mushroom style

Maintained push-pull or twist-release button



Control Switch

Multiple position rotary maintained or momentary action



Pilot Light

Full voltage, resistor or transformer and multi-voltage LED types



ENCLOSURES



ENTRIES AND ACCESSORIES



Hub with Grounding locknut



Legend Plates



Hole Plug



Lockouts



KILLARK®



D2CG2B2



D2CG2MMR3



D2CG2S3C3



D2CG2B7



D2CG8B15

The control stations on this page are the most commonly used configurations, including combinations of push buttons, pilot lights and selector switches. See the following pages for components to configure custom stations.

FEATURES-SPECIFICATIONS

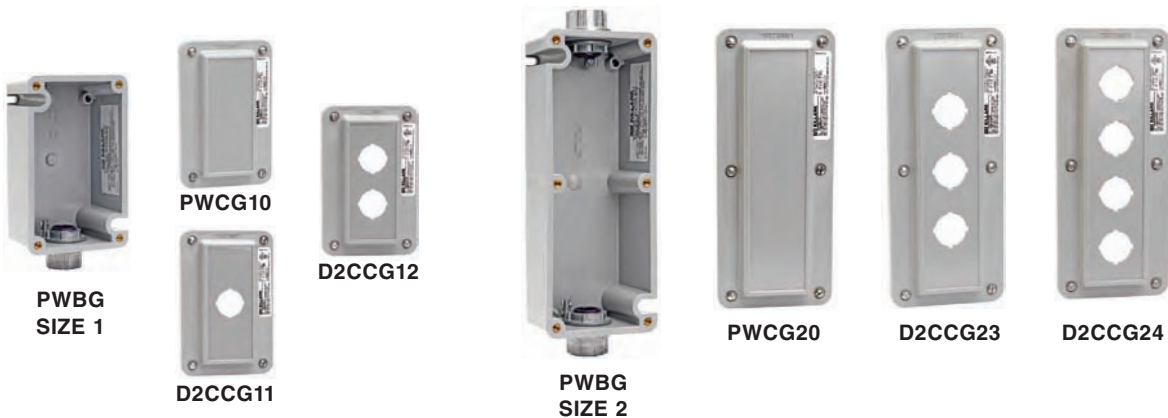
ONE DEVICE, DEAD END^①										
Single Push Button (Momentary Contact)										
Complete Units (Box & Cover)	NPT SIZE	DIAGRAM	COLOR	LEGEND ^②						
D2CG2B1	3/4"		GREEN	START						
D2CG2B2			RED	STOP						
D2CG2B3			BLACK	BLANK						
Push-Pull Mushroom Button (Maintained Contact)										
D2CG2MMR3	3/4"		RED	EMERGENCY STOP						
Pilot Light (120V AC Light Emitting Diode Type)										
D2CG2B24CL	3/4"		CLEAR	BLANK						
D2CG2B24GL			GREEN	BLANK						
D2CG2B24RL			RED	BLANK						
D2CG2B24BL			BLUE	BLANK						
D2CG2B24AL			AMBER	BLANK						
D2CG2B24WL	WHITE	BLANK								
2 Position Rotary Selector Switch (Maintained Contact)										
D2CG2S2A3	3/4"	<table border="0"> <tr> <td>LEFT</td> <td>DIAGRAM</td> <td>RIGHT</td> </tr> <tr> <td></td> <td>—</td> <td></td> </tr> </table>	LEFT	DIAGRAM	RIGHT		—		OFF - ON	
LEFT	DIAGRAM	RIGHT								
	—									
3 Position Rotary Selector Switch (Maintained Contact)										
D2CG2S3C3	3/4"	<table border="0"> <tr> <td></td> <td></td> <td></td> </tr> </table>				HAND-OFF-AUTO				

TWO DEVICES, DEAD END^①				
Two Push Buttons (Both Momentary Contact)				
Complete Units (Box & Cover)	NPT SIZE	DIAGRAM	COLOR	LEGEND ^②
D2CG2B4	3/4"		GREEN - RED	START - STOP
D2CG2B7			BLACK - BLACK	BLANK
Pilot Light (120V AC Light Emitting Diode Type) and Push Button (Momentary Contact)				
D2CG2B13	3/4"		RED LENS, BLACK BUTTON	BLANK

THREE DEVICES, DEAD END^①				
Pilot Light (120V AC Light Emitting Diode Type) and two push buttons (Both Momentary Contact)				
Complete Units (Box & Cover)	NPT SIZE	DIAGRAM	COLOR	LEGEND ^②
D2CG8B15	3/4"		RED LENS, GREEN & RED BUTTONS	BLANK, START, STOP
Three Push Buttons (Each Momentary Contact)				
D2CG8B9	3/4"		GREEN, RED & BLACK BUTTONS	START, STOP, BLANK

^①For 3/4" FEED-THRU, change G2 or G8 in catalog number to G5. Example D2CG2B1 becomes D2CG5B1. For other hub sizes, see page C4.

^②Specify pilot light lens marking or blank button marking if required.



FEATURES-SPECIFICATIONS

SIZE 1 BOXES	
Catalog Number	Description
PWBG0	Blank - No Entries
PWBG1	w/1/2" NPT hub, dead end
PWBG2	w/3/4" NPT hub, dead end
PWBG3	w/1" NPT hub, dead end
PWBG4	w/1/2" NPT hubs, feed thru
PWBG5	w/3/4" NPT hubs, feed thru
PWBG6	w/1" NPT hubs, feed thru
PWBG25	w/clearance hole, 1/2" NPS
PWBG26	w/clearance hole, 3/4" NPS
PWBG27	w/clearance hole, 1" NPS
PWBG37	w/clearance hole, M20
PWBG38	w/clearance hole, M25
PWBG39	w/clearance hole, M32

SIZE 1 COVERS	
Catalog Number	Description
PWCG10	Blank-no device openings
D2CCG11	w/1 device opening 30mm
D2CCG12	w/2 device openings 30mm

SIZE 2 BOXES	
Catalog Number	Description
PWBG00	Blank - No Entries
PWBG7	w/1/2" NPT hub, dead end
PWBG8	w/3/4" NPT hub, dead end
PWBG9	w/1" NPT hub, dead end
PWBG10	w/1/2" NPT hubs, feed thru
PWBG11	w/3/4" NPT hubs, feed thru
PWBG12	w/1" NPT hubs, feed thru
PWBG31	w/clearance hole, 1/2" NPS
PWBG32	w/clearance hole, 3/4" NPS
PWBG33	w/clearance hole, 1" NPS
PWBG43	w/clearance hole, M20
PWBG44	w/clearance hole, M25
PWBG45	w/clearance hole, M32

SIZE 2 COVERS	
Catalog Number	Description
PWCG20	Blank-no device openings
D2CG23	w/3 device openings 30mm
D2CG24*	w/4 device openings 30mm

* Space restrictions may apply for feed thru conduit entries.

ENTRY FITTINGS** & ACCESSORIES	
Catalog Number	Description
WH-1G	Hub w/grounding locknut 1/2" NPT
WH-2G	Hub w/grounding locknut 3/4" NPT
WH-3G	Hub w/grounding locknut 1" NPT
YOCCHP	Hole plug for 30mm operator
YOCCLOAX	Lockout for half shroud momentary buttons
YOCCLOAM	Lockout for momentary mushroom buttons
YOCCLOAP	Lockout for maintained mushroom buttons
YOCCLOAF	Lockout cover (clear) for buttons or switches

** For other entry openings, contact factory.

LEGEND PLATES***	
Blue plate with white lettering - add to end of base catalog number YOCCLPBE. Example YOCCLPBE02.	
02 = CLOSE	19 = REVERSE
03 = DOWN	20 = RUN
04 = EMERGENCY STOP	22 = START
07 = FORWARD	23 = STOP
14 = OPEN	24 = TEST
15 = POWER OFF	25 = UP
16 = POWER ON	30 = PUSH TO RESET
17 = PUSH TO TEST	56 = OFF - ON
18 = RESET	83 = HAND - OFF - AUTO

Blank plates for engraving - add to end of base catalog number YOCCLP. Example YOCCLPBE00.	
BE00 = Blue Plate	WE00 = White Plate
GN00 = Green Plate	YW00 = Yellow Plate
RD00 = Red Plate	00 = Black Plate

*** contact factory for additional selections.



Push Button - Momentary



Rotary Switch



Mushroom - Maintained



Pilot Light - LED



Factory Sealed
 Contact Block
 1 N.O./1 N.C.

FEATURES-SPECIFICATIONS

Momentary Push Button Operators*

Catalog Number	Description
D2CO1KX3	Black Push Button Full Shroud
D2CO1GX3	Green Push Button Full Shroud
D2CO1RX3	Red Push Button Full Shroud
D2CO1KH3	Black Push Button Half Shroud
D2CO1GH3	Green Push Button Half Shroud
D2CO1RH3	Red Push Button Half Shroud
D2CO1KM3	Black Push Button Mushroom
D2CO1GM3	Green Push Button Mushroom
D2CO1RM3	Red Push Button Mushroom

Maintained Mushroom Push Button Operators*

D2COM1K3	Black Push-Pull Mushroom
D2COM1G3	Green Push-Pull Mushroom
D2COM1R3	Red Push-Pull Mushroom
D2COT1R3	Red Twist to Release Mushroom

Rotary Selector Switch Operators*

D2CO52A3	Maintained 2-Position
D2CO53C3	Maintained 3-Position
D2CO63	Momentary Right, 2-Position
D2CO73	Maintained Center 3-Position
D2CO143	Maintained Left & Center 3-Position
D2CO153	Maintained Right & Center 3-Position

* Operators supplied with one universal factory sealed 1 N.O. + 1 N.C. contact block. For operator provided with two contact blocks, change last digit (3) of catalog number to 8. For actuator only, change (3) to 0.

LED Pilot Light Devices

Add to end of base catalog number D2CO3. Example D2CO3A23.

- A23 = Amber 120V AC/DC
- A4 = Amber 24V AC/DC
- AMV = Amber Multi-voltage 20V-254V AC/DC
- B23 = Blue 120V AC/DC
- B4 = Blue 24V AC/DC
- BMV = Blue Multi-voltage 20V-254V AC/DC
- C23 = Clear 120V AC/DC
- C4 = Clear 24V AC/DC
- CMV = Clear Multi-voltage 20V-254V AC/DC
- G23 = Green 120V AC/DC
- G4 = Green 24V AC/DC
- GMV = Green Multi-voltage 20V-254V AC/DC
- R23 = Red 120V AC/DC
- R25R = Red 480VAC/DC resistor
- R25T = Red 480VAC transformer
- R4 = Red 24V AC/DC
- RMV = Red multi-voltage 20V-254V AC/DC
- W23 = White frosted 120V AC/DC
- W4 = White frosted 24V AC/DC
- WMV = White frosted Multi-voltage 20V-254V AC/DC

Factory Sealed Contact Block

Catalog Number	Description	Diagram
D2CU (add suffix R for rotary selector switches)	Factory Sealed Contact Block 1 Normally Open and 1 Normally closed	

Hazardous Rating:

Class I, Division 2, Groups A,B,C,D; Class I, Zone 2, Groups IIB+H₂, IIA, T6

Terminal Capacity:

22 thru 12 AWG [0.5-2.5mm²] copper, solid or stranded conductors.
 Tightening torque 7 in-lbs. (tolerance +3.0/0.0) [~ 0.8Nm]

Contact Electrical Ratings:

NEMA A600- 7200 VA (Make), 720 VA (Break), 10 Amps Cont. @600V AC (Thermal)
 NEMA Q300- 69 VA (Make & Break), 2.5 Amps Cont. @250V DC (Thermal)



Design your own DuraTech® configuration from components by completing the following:

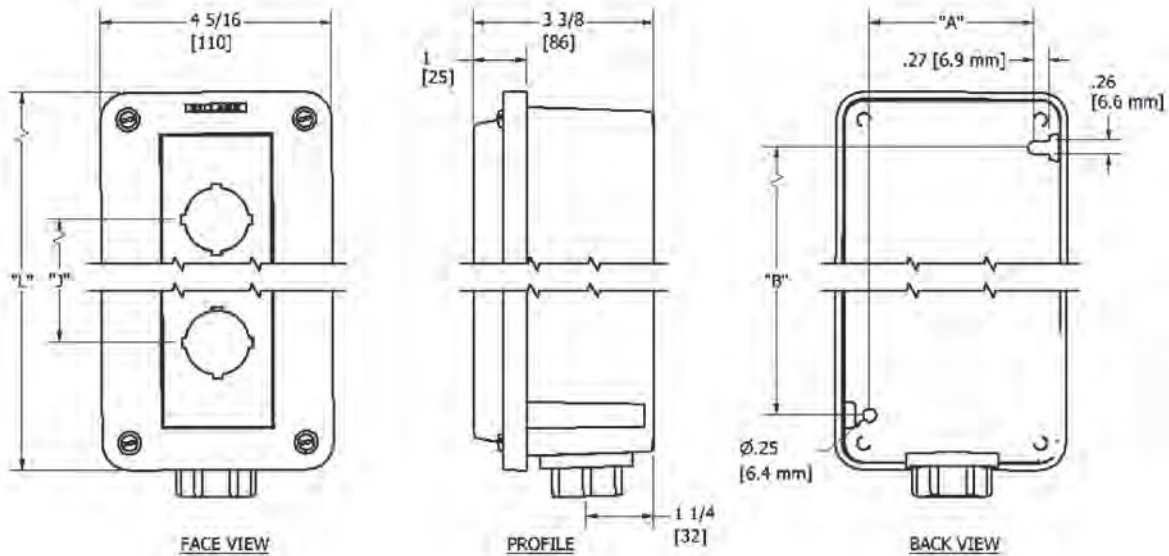
Box Size 1 2 Hub Size 1/2 3/4 1 Dead End Feed Thru

Clearance Hole NPS 1/2 3/4 1 Metric M20 M25 M32

Cover Size 1 2 Number of Devices 1 2 3 4

Select Devices From Top (Position 1) to Bottom

Device	Nameplate	Options
Position 1 _____	_____	_____
Position 2 _____	_____	_____
Position 3 _____	_____	_____
Position 4 _____	_____	_____

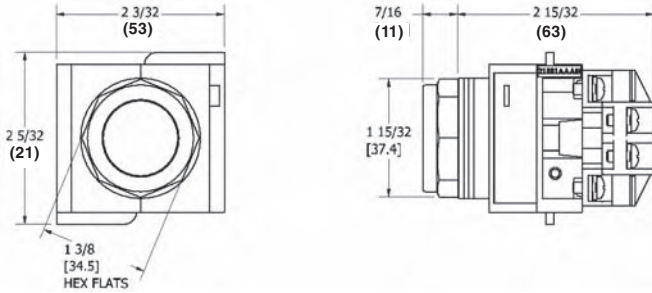


ENCL. SIZE	LENGTH "L"	DEVICE HOLES "J"	MOUNTING HOLES "A"	"B"
10	6.75 [172]	blank cover	3.06 [78]	4.70 [120]
11		one centered hole		
12		2.0 [50.8]		
20	10.36 [264]	blank cover	3.06 [78]	8.34 [212]
23		2.19 [55.5]		
24		2.06 [52.4]		

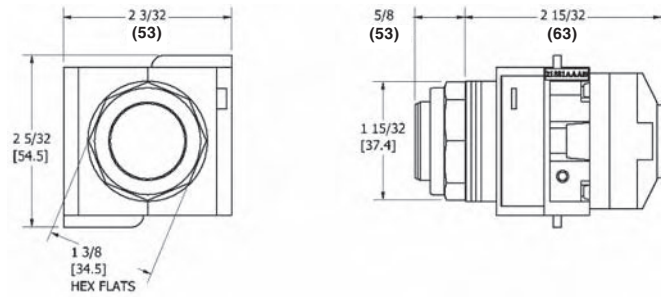


Operators bought separately are provided with gaskets to accommodate panel thickness for D2C series enclosures.

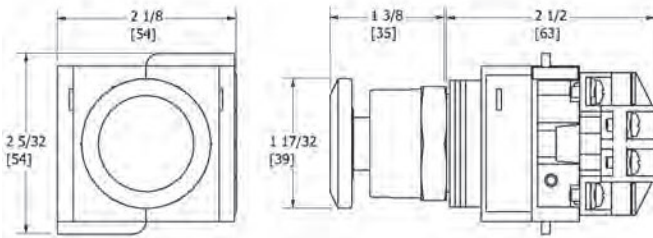
Full-Shrouded Momentary Push Button Operator



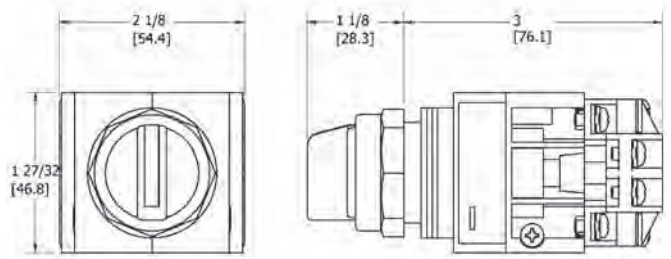
Half-Shrouded Button



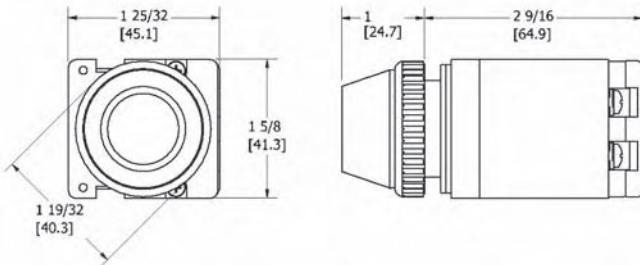
Mushroom Push Button



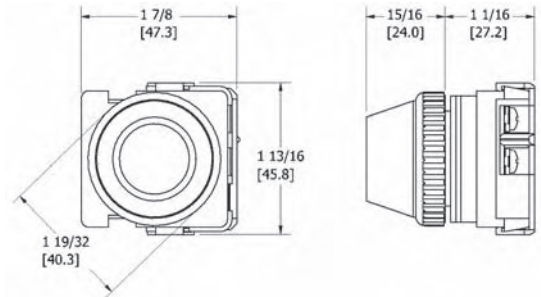
Selector Switch Device



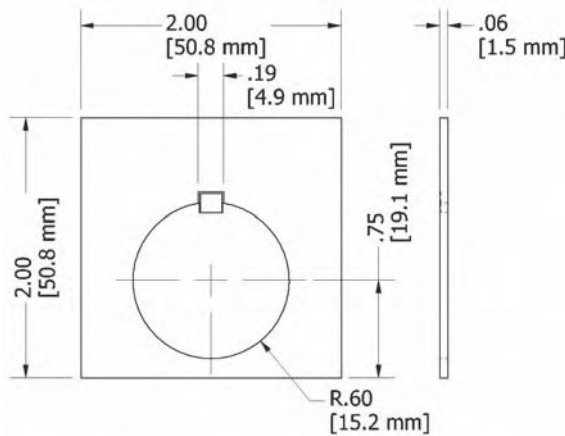
Pilot Light Multi-Voltage 20V-240V AC/DC



Pilot Light 120V AC (Full Voltage)



Legend Plate





FRP Enclosure



Stainless Steel Enclosure

Class I, Div. 2, Groups A,B,C,D
Class I, Zones 1 & 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
NEMA 3, 4, 4x
(A)Ex de IIC T6 IP66



FEATURES-SPECIFICATIONS

Applications

Hazardous and corrosive environments such as refineries, chemical plants, water treatment and bio gas plants, and wherever a combustible gas-air mixture or combustible dust may occur.

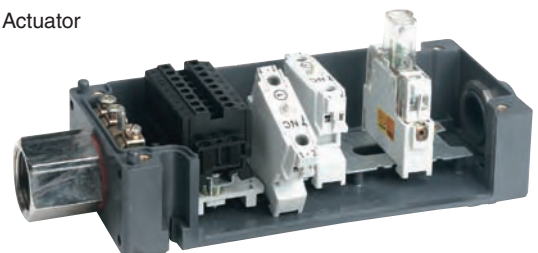
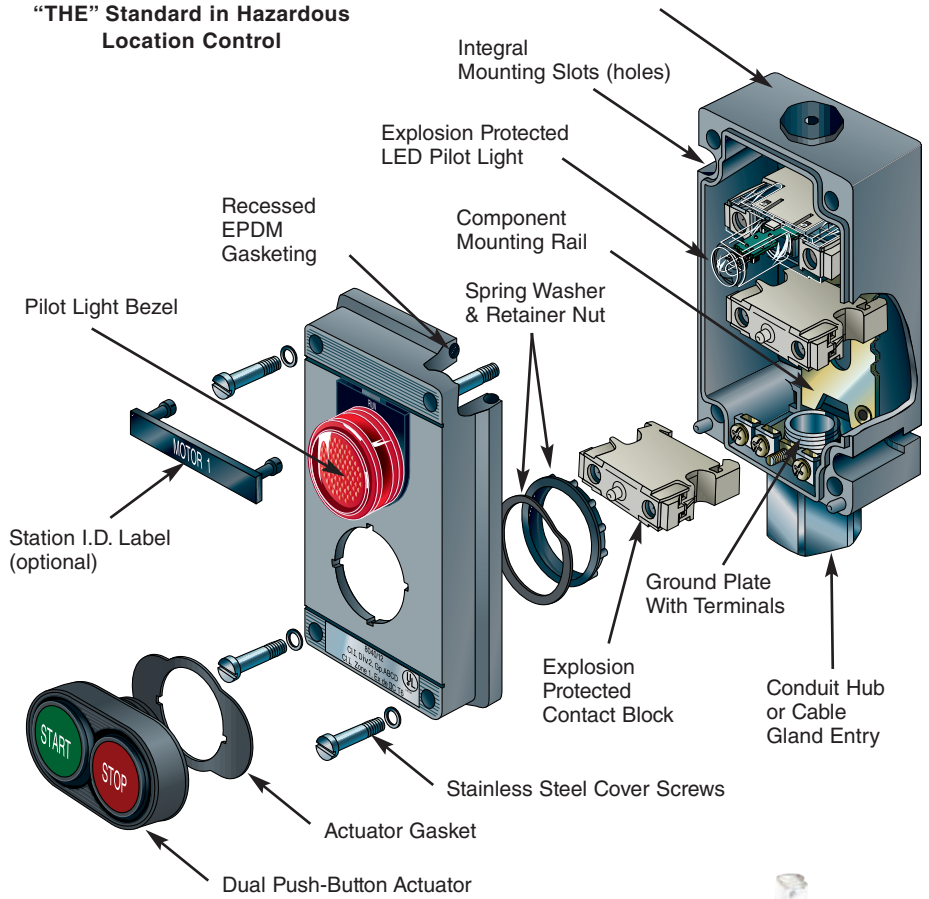
Features

- Enclosures of Fiberglass Reinforced Polyester or Stainless Steel.
- Durable EPDM gasket on enclosure is concealed to protect it from damage or premature aging by UV light and chemical elements
- Snap-on mounting of individual explosion-protected control components to notched DIN-like rail
- Contact element utilizes a parallel bridge contact with a four point (H- contact) to ensure the utmost reliability even with very low control voltages and currents
- Fluorosilicate gasket in standard pushbutton actuators is suitable for a wide range of atmospheric conditions (-50°C to 40°C)
- LED Pilot lights (incorporating advanced voltage-sensing electronics) operate on any voltage from 20V- 254V, AC or DC
- Control switches in many configurations
- Illuminated (Push-To-Test) push buttons, ammeters, potentiometers and other control components available
- No external seals required for most applications



“THE” Standard in Hazardous Location Control

Two Types of Enclosure Materials
 • Fiberglass Reinforced Polyester (FRP)
 • 316L Stainless Steel



Easy Change-out Components Snap in Place



**Start
Push Button
Station**



**Start/Stop
Push Button
Station**



**E-Stop
Push Button
Station**



**Pilot Light
Station**

Class I, Div. 2, Groups A,B,C,D
Class I, Zones 1 & 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G[Ⓢ]
Class III
NEMA 3, 4, 4X
(A)Ex de IIC T6 IP66



FEATURES-SPECIFICATIONS

ConSpec[®]
 CONTROL STATIONS & PANELS

The control stations on this page are the most commonly used configurations, including combinations of pilot lights and push buttons.

Wiring Entry Logic

Insert one of the digits below to complete the control station catalog number.

BOXES WITH INTERNAL GROUND PLATE	
(for MC/TC/TEC Cable Connectors)	
1/2" NPT Top Feed	A
1/2" NPT Bottom Feed	B
1/2" NPT Feed Through	C
3/4" NPT Top Feed	D
3/4" NPT Bottom Feed	E
3/4" NPT Feed Through	F
BOXES WITH CONDUIT HUB	
1/2" NPT Top Feed	0
1/2" NPT Bottom Feed	1
1/2" NPT Feed Through	2
3/4" NPT Top Feed	3
3/4" NPT Bottom Feed	4
3/4" NPT Feed Through	5
BOXES WITH NON-METALLIC CABLE GLAND	
(Standard for IEC/CENELEC)	
M25 Compression Gland Top Feed	6
M25 Compression Gland Bottom Feed	7
M25 Compression Gland Feed Through	8
Special	9

CS MOMENTARY SINGLE PUSH BUTTON					
CATALOG NUMBER	CONTACT ARRANGEMENT		CONTACT BLOCKS	BUTTON COLOR	NAMEPLATE MARKING
	IEC	NEMA			
CSF124U011 CSS124U011			1 N.O. / 1 N.C.	Green	Start

CS MOMENTARY START-STOP PUSH BUTTONS					
CATALOG NUMBER	CONTACT ARRANGEMENT		CONTACT BLOCKS	BUTTON COLOR	NAMEPLATE MARKING
	IEC	NEMA			
CSF224U011U012 CSS224U011U012			1 N.O. / 1 N.C.	Green	Start
			1 N.O. / 1 N.C.	Red	Stop

CS MAINTAINED EMERGENCY STOP PUSH BUTTON					
CATALOG NUMBER	CONTACT ARRANGEMENT		CONTACT BLOCKS	BUTTON COLOR	NAMEPLATE MARKING
	IEC	NEMA			
CSF124C150 CSS124C150			2 N.C.	Red Large	E-Stop

CS SINGLE PILOT LIGHT					
CATALOG NUMBER	CONTACT ARRANGEMENT		VOLT	COLOR	NAMEPLATE MARKING
	IEC	NEMA			
CSF124PLRO CSS124PLRO			20V-254V AC / DC	Red LED	—

Ⓢ CSA Certified for Class II, Div. 1&2, EFG.
 UL Listed for Class II, Div. 2, FG.

----- Wiring entry: 4=3/4" NPT Bottom Feed. For other entries, see Wiring Entry Logic table at left.
 ----- Housing material: (F) FRP, (S) Stainless Steel.



Pilot Light & 2 Push Button Station



Pilot Light & Start/Stop Push Button Station



Selector Switch Station



Pilot Light and Selector Switch Station

Class I, Div. 2, Groups A,B,C,D
Class I, Zones 1 & 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,GⓈ
Class III
NEMA 3, 4, 4X
(A)Ex de IIC T6 IP66



FEATURES-SPECIFICATIONS



The control stations on this page are the most commonly used configurations, including combinations of pilot lights, push buttons and selector switches.

Wiring Entry Logic

Insert one of the digits below to complete the control station catalog number.

BOXES WITH INTERNAL GROUND PLATE	
(for MC/TC/TEC Cable Connectors)	
1/2" NPT Top Feed	A
1/2" NPT Bottom Feed	B
1/2" NPT Feed Through	C
3/4" NPT Top Feed	D
3/4" NPT Bottom Feed	E
3/4" NPT Feed Through	F
BOXES WITH CONDUIT HUB	
1/2" NPT Top Feed	0
1/2" NPT Bottom Feed	1
1/2" NPT Feed Through	2
3/4" NPT Top Feed	3
3/4" NPT Bottom Feed	4
3/4" NPT Feed Through	5
BOXES WITH NON-METALLIC CABLE GLAND	
(Standard for IEC/CENELEC)	
M25 Compression Gland Top Feed	6
M25 Compression Gland Bottom Feed	7
M25 Compression Gland Feed Through	8
Special	9

Ⓢ CSA Certified for Class II, Div. 1&2, EFG.
UL Listed for Class II, Div. 2, FG.

CS PILOT LIGHT (RED LED)/MOMENTARY DOUBLE PUSH BUTTONS						
CATALOG NUMBER	CONTACT ARRANGEMENT		VOLT	CONTACT BLOCKS	BUTTON COLOR	NAMEPLATE MARKING
	IEC	NEMA				
CSF224PLROU231 CSS224PLROU231			20V-254V, AC/DC	1 N.O./1 N.C.	Green Red	Start Stop

CS PILOT LIGHT (RED LED)/MOMENTARY START-STOP PUSH BUTTONS						
CATALOG NUMBER	CONTACT ARRANGEMENT		VOLT	CONTACT BLOCKS	BUTTON COLOR	NAMEPLATE MARKING
	IEC	NEMA				
CSF334PLROU011U012 CSS334PLROU011U012			20V-254V, AC/DC	1 N.O. / 1 N.C. 1 N.O. / 1 N.C.	Green Red	Start Stop

CS MAINTAINED 2-POSITION SELECTOR SWITCH					
CATALOG NUMBER	CONTACT ARRANGEMENT		CONTACT BLOCKS	BUTTON COLOR	NAMEPLATE MARKING
	IEC	NEMA			
CSF124N021 CSS124N021			2-Pos./2-Pole	—	Off-On

CS MAINTAINED 3-POSITION SELECTOR SWITCH					
CATALOG NUMBER	CONTACT ARRANGEMENT		CONTACT BLOCKS	BUTTON COLOR	NAMEPLATE MARKING
	IEC	NEMA			
CSF124N273 CSS124N273			3-Pos./2-Pole	—	H-O-A

CS PILOT LIGHT/MAINTAINED 2-POSITION SELECTOR SWITCH						
CATALOG NUMBER	CONTACT ARRANGEMENT		VOLT	CONTACT BLOCKS	COLOR	NAMEPLATE MARKING
	IEC	NEMA				
CSF224PLRON021 CSS224PLRON021			20V-254V, AC/DC	2-Pos./2-Pole	Red LED	Off-On



KILLARK®

Wiring entry: 4=3/4" NPT Bottom Feed. For other entries, see Wiring Entry Logic table at left.
Housing material: (F) FRP, (S) Stainless Steel.



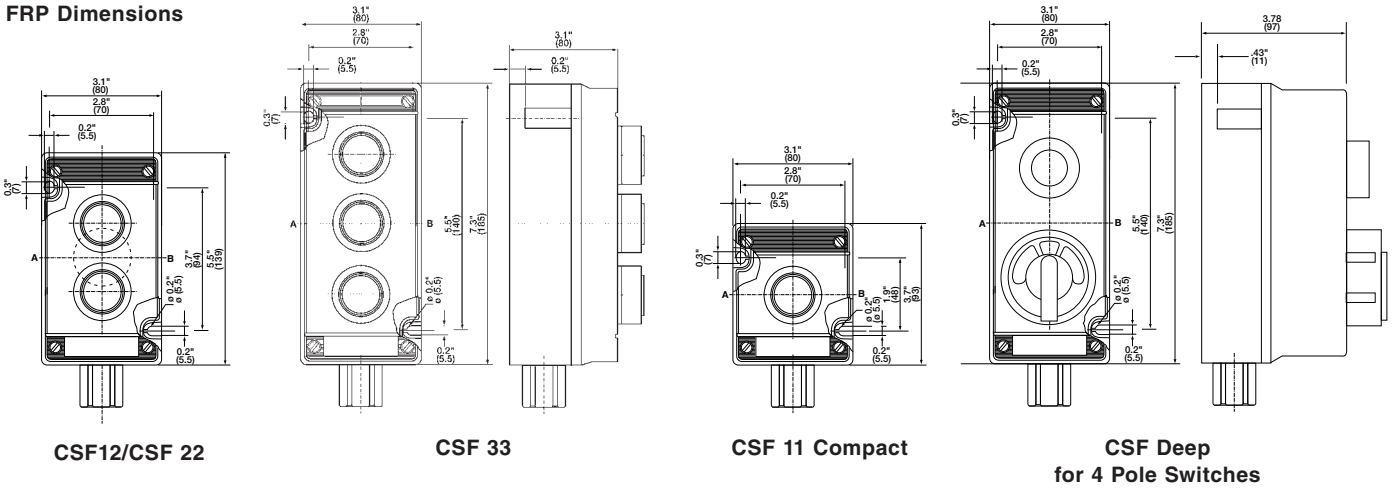
FRP Enclosure



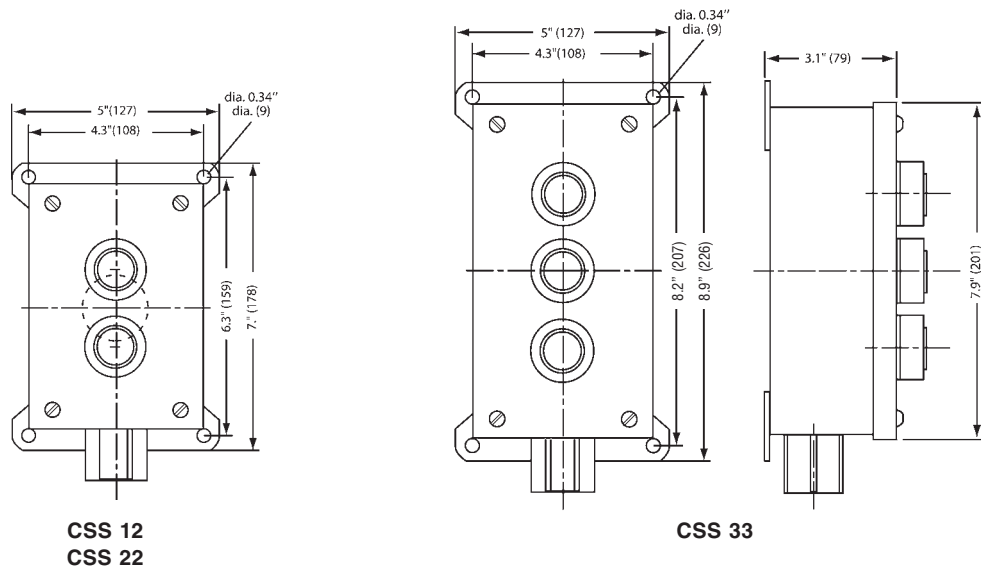
Stainless Steel Enclosure

FEATURES-SPECIFICATIONS

FRP Dimensions



Steel Dimensions





Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
NEMA 3, 7(C,D) 9(E,F,G)

 Listed - File E53360

 Certified - File LR11714
 See files for details or call Killark.

FEATURES-SPECIFICATIONS

SEAL-X®

Applications

SEAL-X® Series Factory Sealed push button stations, selector switches, pilot lights and tumbler switches are used to prevent the igniting of external hazardous atmospheres by the enclosed arcing devices in such areas as:

- Hazardous locations due to the presence of flammable gases or vapors, combustible dusts or easily ignitable fibers or flyings
- Installations at petroleum refineries, chemical and petrochemical plants and other processing or storage facilities where similar hazards exist
- Use in conjunction with magnetic starters or contactors for remote control of motors

Features

- Elimination of external sealing requirements
- Lower installation cost
- NEMA 3 weatherproof
- Color coded wiring-more wiring space-easier field installation
- Stainless steel captive screws for cover assembly
- Ground boss for grounding in the splice box
- Device bodies and covers are cast copper-free aluminum alloy

- Cast conduit hubs 1/2", 3/4" and 1" either dead end or feed through standard in both single and two gang assemblies
- Push button, selector switches and pilot light bodies are copper-free aluminum
- Operating shaft in both push buttons and selector switches are stainless steel
- Miniature and standard size push buttons. (Miniature 3/4" overall diameter, standard 1 3/8" overall diameter)

Factory Sealed devices eliminate the need for external sealing. The difference is the use of a sealing plate between the arcing device and the junction box. The sealing plate confines ignited gases, vapors, flames, or dust to the arcing device chamber, preventing them from traveling through the conduit system. Accurately ground flanges on both sides of the sealing plate provide flame-tight joints. Factory poured seals around the wiring pigtailed insure safe sealing. (FXCS Series)

Electrical Rating

Push button stations, selector switches 600 VAC max. heavy duty.

CONTACT BLOCK RATINGS				
CURRENT	120 VAC	240 VAC	480 VAC	600 VAC
INRUSH	60	30	15	12
BREAKING	6	3	1.5	1.2
CARRYING	10	10	10	10

DC RATINGS (MAX. AMPS)		
CURRENT	125 VDC	250 VDC
INRUSH	.55	.275
BREAKING	.55	.275
CARRYING	2.50	2.50

MODIFICATIONS	
SUFFIX NUMBER	DESCRIPTION
AL	Pilot light lens-amber
CL	Pilot light lens-clear
GL	Pilot light lens-green
RL	Pilot light lens-red
MR	Mushroom head- Push button (red)
LO	Push button LOCKOUT®
LOP	Selector switch-padlock LOCKOUT

®LOCKOUT must be installed at the factory.
 LED lamps available. See page C39.





FXB-2
Dead End

FXB-5
Feed Thru



FXB-8
Double Gang Dead End



FXB-11
Double Gang Feed Thru

Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. I & 2, Groups E,F,G
Class III
NEMA 3, 7(C,D) 9(E,F,G)

Listed - File E53360

Certified- File LR11714
 See files for details or call Killark.

FEATURES-SPECIFICATIONS

Splice Boxes

The FXB Series of splice boxes are designed for use with the FXCS and FXS Series of cover sub-assemblies.

FXB BACK BOX SELECTION AND DIMENSIONS							
CATALOG NUMBER	DESCRIPTION	HUB SIZE	EXTERNAL			MOUNTING	
			LENGTH	WIDTH	DEPTH	VERTICAL	HORIZONTAL
FXB-1	Single gang/Dead-end	1/2"	6-13/16"	3-11/16"	1-3/4"	6-3/16"	2-1/4"
FXB-2	Single gang/Dead-end	3/4"	6-13/16"	3-11/16"	1-3/4"	6-3/16"	2-1/4"
FXB-3	Single gang/Dead-end	1"	6-13/16"	3-11/16"	1-3/4"	6-3/16"	2-1/4"
FXB-4	Single gang/Feed-thru	1/2"	6-13/16"	3-11/16"	1-3/4"	6-3/16"	2-1/4"
FXB-5	Single gang/Feed-thru	3/4"	6-13/16"	3-11/16"	1-3/4"	6-3/16"	2-1/4"
FXB-6	Single gang/Feed-thru	1"	6-13/16"	3-11/16"	1-3/4"	6-3/16"	2-1/4"
FXB-7	Double gang/Dead-end	1/2"	6-13/16"	7-17/32"	2	6-3/16"	2-1/4"
FXB-8	Double gang/Dead-end	3/4"	6-13/16"	7-17/32"	2	6-3/16"	2-1/4"
FXB-9	Double gang/Dead-end	1"	7	7-17/32"	2	6-3/16"	2-1/4"
FXB-10	Double gang/Feed-thru	1/2"	6-13/16"	7-17/32"	2	6-3/16"	2-1/4"
FXB-11	Double gang/Feed-thru	3/4"	6-13/16"	7-17/32"	2	6-3/16"	2-1/4"
FXB-12	Double gang/Feed-thru	1"	7	7-17/32"	2	6-3/16"	2-1/4"



Single Push Button



Double Push Button



Pilot Light

Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. I & 2, Groups E,F,G
Class III
NEMA 3, 7(C,D) 9(E,F,G)

Listed - File E53360 and/or E12379

Certified - File LR11714
See files for details or call Killark.

FEATURES-SPECIFICATIONS

FXCS MOMENTARY CONTACT SINGLE PUSH BUTTON						
COVER WITH DEVICE	CATALOG NUMBER		HUB SIZE	DIAGRAM	BUTTON COLOR	NAMEPLATE MARKING [Ⓞ]
	COMPLETE UNITS (BOX & COVER)					
	DEAD-END	FEED-THRU				
FXCS-0B1	FXCS-1B1	FXCS-4B1	1/2"		Green	Start
	FXCS-2B1	FXCS-5B1	3/4"			
FXCS-0B2	FXCS-1B2	FXCS-4B2	1/2"		Red	Stop
	FXCS-2B2	FXCS-5B2	3/4"			
FXCS-0B3	FXCS-1B3	FXCS-4B3	1/2"		Black	Specify
	FXCS-2B3	FXCS-5B3	3/4"			

FXCS MOMENTARY CONTACT DOUBLE PUSH BUTTON						
COVER WITH DEVICE	CATALOG NUMBER		HUB SIZE	DIAGRAM	BUTTON COLOR	NAMEPLATE MARKING [Ⓞ]
	COMPLETE UNITS (BOX & COVER)					
	DEAD-END	FEED-THRU				
FXCS-0B4	FXCS-1B4	FXCS-4B4	1/2"		Green/Red	Start/Stop
	FXCS-2B4	FXCS-5B4	3/4"			
FXCS-0B4-U	FXCS-1B4U	FXCS-4B4-U	1/2"		Green/Red	Start/Stop
	FXCS-2B4U	FXCS-5B4-U	3/4"			
FXCS-0B5	FXCS-1B5	FXCS-4B5	1/2"		Green/Green	Start/Stop
	FXCS-2B5	FXCS-5B5	3/4"			
FXCS-0B7	FXCS-1B7	FXCS-4B7	1/2"		Black/Black	Specify
	FXCS-2B7	FXCS-5B7	3/4"			

FXCS PILOT LIGHT							
COVER WITH DEVICE	CATALOG NUMBER		HUB SIZE	DIAGRAM	VOLT	LENS COLOR [Ⓞ]	NAMEPLATE MARKING [Ⓞ]
	COMPLETE UNITS (BOX & COVER)						
	DEAD-END	FEED-THRU					
FXCS-0B24CL	FXCS-1B24CL	FXCS-4B24CL	1/2"		120V	Clear	Specify
	FXCS-2B24CL	FXCS-5B24CL	3/4"				
FXCS-0B24GL	FXCS-1B24GL	FXCS-4B24GL	1/2"		120V	Green	Specify
	FXCS-2B24GL	FXCS-5B24GL	3/4"				
FXCS-0B24RL	FXCS-1B24RL	FXCS-4B24RL	1/2"		120V	Red	Specify
	FXCS-2B24RL	FXCS-5B24RL	3/4"				

[Ⓞ]For other than standard marking, refer to the special feature section of price list.

[Ⓞ]Lens colors other than listed may be specified by changing lens color suffix. See modifications page C12.

NOTE: Boxes and covers shipped separately.

*For control stations with 1" conduit openings or for double gang assemblies, order cover with device and box as separate components.





Double Pilot Lights



Pilot Light Push Button



Pilot Light Two Mini Push Buttons



Maintained Push Button

Class I, Div. 1 & 2, Groups C,D
 Class I, Zones 1 & 2, Groups IIB, IIA
 Class II, Div. I & 2, Groups E,F,G Class III
 NEMA 3, 7(C,D) 9(E,F,G)

Listed - File E53360 and /or E12379

Certified - File LR11714

See files for details or call Killark.

FEATURES-SPECIFICATIONS

FXCS DOUBLE PILOT LIGHTS							
COVER WITH DEVICE	CATALOG NUMBER		HUB SIZE	DIAGRAM	LAMP VOLTS	LENS COLOR ^②	NAMEPLATE MARKING ^①
	COMPLETE UNITS (BOX & COVER)						
	DEAD-END	FEED-THRU					
FXCS-0B30CL	FXCS-1B30CL	FXCS-4B30CL	1/2"		120V	Clear	Specify
	FXCS-2B30CL	FXCS-5B30CL	3/4"				
FXCS-0B30GL	FXCS-1B30GL	FXCS-4B30GL	1/2"		120V	Green	Specify
	FXCS-2B30GL	FXCS-5B30GL	3/4"				
FXCS-0B30RL	FXCS-1B30RL	FXCS-4B30RL	1/2"		120V	Red	Specify
	FXCS-2B30RL	FXCS-5B30RL	3/4"				
FXCS-0B30RL-GL	FXCS-1B30RL-GL	FXCS-4B30RL-GL	1/2"		120V	Red/Green	Specify
	FXCS-2B30RL-GL	FXCS-5B30RL-GL	3/4"				

FXCS MOMENTARY CONTACT PUSH BUTTON AND PILOT LIGHT									
COVER WITH DEVICE	CATALOG NUMBER		HUB SIZE	DIAGRAM	LAMP VOLTS	BUTTON COLOR	LENS COLOR ^②	NAMEPLATE MARKING ^①	
	COMPLETE UNITS (BOX & COVER)							BUTTON	LENS
	DEAD-END	FEED-THRU							
FXCS-0B13-C	FXCS-1B13-C	FXCS-4B13-C	1/2"		120V	Red	Clear	Stop	Specify
	FXCS-2B13-C	FXCS-5B13-C	3/4"						
FXCS-0B13-O	FXCS-1B13-O	FXCS-4B13-O	1/2"		120V	Green	Green	Start	Specify
	FXCS-2B13-O	FXCS-5B13-O	3/4"						
FXCS-0B13-U	FXCS-1B13-U	FXCS-4B13-U	1/2"		120V	Black	Red	Specify	Specify
	FXCS-2B13-U	FXCS-5B13-U	3/4"						

FXCS MOMENTARY CONTACT 2 MINI PUSH BUTTON AND 1 PILOT LIGHT								
COVER WITH DEVICE	CATALOG NUMBER		HUB SIZE	DIAGRAM	BUTTON COLOR	LENS COLOR ^②	NAMEPLATE MARKING ^①	
	COMPLETE UNITS (BOX & COVER)						BUTTON	LENS
	DEAD-END	FEED-THRU						
FXCS-0A15	FXCS-1A15	FXCS-4A15	1/2"		Red/Green	Red	Stop	Start
	FXCS-2A15	FXCS-5A15	3/4"					

FXCS MAINTAINED CONTACT - PUSH/PULL MUSHROOM ^④				
BUTTON COLOR	CONTACT TYPE	COVER ASSEMBLY CAT. #	CATALOG # WITH LOCKOUT #	NAMEPLATE MARKING
GREEN	1NO/1NC	FXCS-OMMG3	FXCS-OMMR3-LOM	③
RED	1NO/1NC	FXCS-OMMR3		
BLACK	1NO/1NC	FXCS-OMMK3		

^①For other than standard marking, refer to the special feature section of price list.

^②Lens colors other than listed may be specified by changing lens color suffix. See modifications page C12.

^③Three nameplates supplied (Start/Stop, Blank, Emergency Stop) with FXCS maintained push button.

^④Operation-when push button is depressed and contacts activated, operator will remain in depressed position until pulled out to normal position.

NOTE: Boxes and covers shipped separately.

*For control stations with 1" conduit opening or for double gang assemblies, order cover with device and box as separate components.





Selector Switch



Key Selector Switch

Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G Class III
NEMA 3, 7(C,D) 9(E,F,G)

Listed - File E53360 and/or E12379

Certified - File LR11714

See files for details or call Killark.

FEATURES-SPECIFICATIONS

FXCS TWO POSITION SELECTOR SWITCH - MAINTAINED CONTACT ①										
CATALOG NUMBER						LEFT POSITION		RIGHT POSITION		
STANDARD COVER WITH DEVICE	HUB SIZE	STANDARD COMPLETE UNITS (BOX & COVER)		KEYED COVER WITH DEVICE	KEYED COMPLETE UNITS ② (BOX & COVER)		LEFT CONTACT	RIGHT CONTACT	LEFT CONTACT	RIGHT CONTACT
		DEAD-END	FEED-THRU		DEAD-END	FEED-THRU				
FXCS-0S2A1	1/2"	FXCS-1S2A1	FXCS-4S2A1	FXCS-0K2A1	FXCS-1K2A1	FXCS-4K2A1				
FXCS-0S2A1	3/4"	FXCS-2S2A1	FXCS-5S2A1		FXCS-2K2A1	FXCS-5K2A1				
FXCS-0S2A5	1/2"	FXCS-1S2A5	FXCS-4S2A5	FXCS-0K2A5	FXCS-1K2A5	FXCS-4K2A5				
FXCS-0S2A5	3/4"	FXCS-2S2A5	FXCS-5S2A5		FXCS-2K2A5	FXCS-5K2A5				

FXCS THREE POSITION SELECTOR SWITCH - MAINTAINED CONTACT ①												
CATALOG NUMBER						LEFT POSITION		CENTER POSITION		RIGHT POSITION		
STANDARD COVER WITH DEVICE	HUB SIZE	STANDARD COMPLETE UNITS (BOX & COVER)		KEYED COVER WITH DEVICE	KEYED COMPLETE UNITS ② (BOX & COVER)		LEFT CONTACT	RIGHT CONTACT	LEFT CONTACT	RIGHT CONTACT	LEFT CONTACT	RIGHT CONTACT
		DEAD-END	FEED-THRU		DEAD-END	FEED-THRU						
FXCS-0S3C4	1/2"	FXCS-1S3C4	FXCS-4S3C4	FXCS-0K3C4	FXCS-1K3C4	FXCS-4K3C4						
FXCS-0S3C4	3/4"	FXCS-2S3C4	FXCS-5S3C4		FXCS-2K3C4	FXCS-5K3C4						
FXCS-0S3C5	1/2"	FXCS-1S3C5	FXCS-4S3C5	FXCS-0K3C5	FXCS-1K3C5	FXCS-4K3C5						
FXCS-0S3C5	3/4"	FXCS-2S3C5	FXCS-5S3C5		FXCS-2K3C5	FXCS-5K3C5						

FXCS TWO POSITION SELECTOR SWITCH - SPRING RETURNED ①										
CATALOG NUMBER						LEFT POSITION		RIGHT POSITION		
STANDARD COVER WITH DEVICE	HUB SIZE	STANDARD COMPLETE UNITS (BOX & COVER)		KEYED COVER WITH DEVICE	KEYED COMPLETE UNITS ② (BOX & COVER)		LEFT CONTACT	RIGHT CONTACT	LEFT CONTACT	RIGHT CONTACT
		DEAD-END	FEED-THRU		DEAD-END	FEED-THRU				
FXCS-0S2L3F	1/2"	FXCS-1S2L3F	FXCS-4S2L3F	FXCS-0K2L3F22D	FXCS-1K2L3F22D	FXCS-4K2L3F22D				
FXCS-0S2L3F	3/4"	FXCS-2S2L3F	FXCS-5S2L3F		FXCS-2K2L3F22D	FXCS-5K2L3F22D				

TYPE OPERATION — Spring return to left from right — Maintained in left — 1 N.O. Contact — 1 N.C. Contact

FXCS THREE POSITION SELECTOR SWITCH - SPRING RETURNED ①												
CATALOG NUMBER						LEFT POSITION		CENTER POSITION		RIGHT POSITION		
STANDARD COVER WITH DEVICE	HUB SIZE	STANDARD COMPLETE UNITS (BOX & COVER)		KEYED COVER WITH DEVICE	KEYED COMPLETE UNITS ② (BOX & COVER)		LEFT CONTACT	RIGHT CONTACT	LEFT CONTACT	RIGHT CONTACT	LEFT CONTACT	RIGHT CONTACT
		DEAD-END	FEED-THRU		DEAD-END	FEED-THRU						
FXCS-0S3M6G	1/2"	FXCS-1S3M6G	FXCS-4S3M6G	FXCS-0K3M6G32D	FXCS-1K3M6G32D	FXCS-4K3M6G32D						
FXCS-0S3M6G	3/4"	FXCS-2S3M6G	FXCS-5S3M6G		FXCS-2K3M6G32D	FXCS-5K3M6G32D						
FXCS-0S3L6G	1/2"	FXCS-1S3L6G	FXCS-4S3L6G	FXCS-0K3L6G32D	FXCS-1K3L6G32D	FXCS-4K3L6G32D						
FXCS-0S3L6G	3/4"	FXCS-2S3L6G	FXCS-5S3L6G		FXCS-2K3L6G32D	FXCS-5K3L6G32D						
FXCS-0S3R6G	1/2"	FXCS-1S3R6G	FXCS-4S3R6G	FXCS-0K3R6G32D	FXCS-1K3R6G32D	FXCS-4K3R6G32D						
FXCS-0S3R6G	3/4"	FXCS-2S3R6G	FXCS-5S3R6G		FXCS-2K3R6G32D	FXCS-5K3R6G32D						

TYPE OPERATION — Spring return to center from left — Maintained center and right 2 N.O. Contacts

① Nameplates are double sided.

For other than standard marking, refer to the special feature section of the price list.

STANDARD NAMEPLATE MARKINGS — 2 POSITION — Blank or Off-On — 3 POSITION — Blank or Hand-Off-Auto.

② Key operated selector switches are randomly keyed with keys removable in all positions.

For keyed alike or key removable in other than all positions contact factory.

For control stations with 1" conduit opening or for double gang assemblies, order cover with device and box as separate components.



FXS SERIES • CONTROLS
FACTORY SEALED TUMBLER SWITCHES AND
GROUND FAULT INTERRUPTER



Tumbler Switches

Ground Fault Interrupter



For GFI Protection with receptacle, See page PR26
Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB,IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
NEMA 3, 7(C,D) 9(E,F,G)

FEATURES-SPECIFICATIONS

Applications

FXS Tumbler Switches are suitable for applications where making, breaking or changing connections in an electrical circuit is required and where conditions of load do not exceed the switch ratings.

Listed - File E53360 and/or Ffile E10501

Certified - File LR11714
 See files for details or call Killark.

Applications

FXS Ground Fault Interrupters are designed to interrupt a circuit when a ground fault is detected on equipment which may be handled by personnel in hazardous locations.

Features

- Test and Reset push buttons are provided on cover assembly. Unit should be tested monthly
- Includes new GFI to meet latest UL943 GFCI standards revisions
- Exterior gasket provides NEMA 3 weatherproof protection
- Ground boss for grounding in the splice box
- Color coded wiring
- Captive cover bolts are made from stainless steel

Electrical Rating

GFI units are rated at 20A, 120 VAC, 60HZ. Class A.
 4-6 milliamp trip setting
 Trip Time-UL Curve

Listed - File E80595

Certified - File LR61895
 See files for details or call Killark.

FXS TUMBLER SWITCHES					
CATALOG NUMBER			HUB SIZE	SWITCH STYLE	SWITCH RATING 120/277 VAC, 1Ø
COMPLETE UNIT					
COVER WITH SWITCH	(BOX, COVER AND SWITCH)				
	DEAD-END	FEED-THRU			
FXS-1C	FXS-11C	FXS-41C	1/2"	1-POLE	20 A [Ⓢ]
	FXS-21C	FXS-51C	3/4"		
FXS-2C	FXS-12C	FXS-42C	1/2"	2-POLE	20 A [Ⓢ]
	FXS-22C	FXS-52C	3/4"		
FXS-8C	FXS-18C	FXS-48C	1/2"	3-POLE	Ⓢ
	FXS-28C	FXS-58C	3/4"		
FXS-3C	FXS-13C	FXS-43C	1/2"	3-WAY/ SPDT (No off)	20 A [Ⓢ]
	FXS-23C	FXS-53C	3/4"		
FXS-5C	FXS-15C	FXS-45C	1/2"	SPDT (Center off)	20 A [Ⓢ]
	FXS-25C	FXS-55C	3/4"		
FXS-6C	FXS-16C	FXS-46C	1/2"	DPDT (No off)	20 A [Ⓢ]
	FXS-26C	FXS-56C	3/4"		
FXS-1D	FXS-11D	FXS-41D	1/2"	1-POLE	30 A [Ⓢ]
	FXS-21D	FXS-51D	3/4"		
FXS-2D	FXS-12D	FXS-42D	1/2"	2-POLE	30 A [Ⓢ]
	FXS-22D	FXS-52D	3/4"		
FXS-4C	—	—	—	4-WAY	20 A [Ⓢ]

[Ⓢ]Rated 15 amperes, 240/480 VAC., 3Ø; 3HP-240 VAC., 5 HP-480 VAC.

[Ⓢ]Horsepower rated 1 HP at 120 VAC, 2 HP at 240 VAC.

FXS GROUND FAULT INTERRUPTER†				
CATALOG NUMBER			HUB SIZE	
COMPLETE UNIT	COVER ASSEMBLY	BACK BOX*	DEAD END	
FXS-GFI-1020	FXS-GFI03	FXB-1		
FXS-GFI-2020	FXS-GFI03	FXB-2		3/4"
FXS-GFI-3020	FXS-GFI03	FXB-3		1"
FXS-GFI-1120	FXS-GFI03	FXB-4	FEED THRU	1/2"
FXS-GFI-2120	FXS-GFI03	FXB-5		3/4"
FXS-GFI-3120	FXS-GFI03	FXB-6		1"

For control stations with 1" conduit opening or for double gang assemblies, order cover with device and box as separate components.

*Boxes and covers shipped separately.

†See page DE25 for additional ground fault control stations.

FXS GROUND FAULT INTERRUPTER WITH LED LAMP	
CATALOG NUMBER FOR COVER ASSEMBLY	FXS-GFI03PL

* Order FXB back box as separate item.



KILLARK®



Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
NEMA 7(C,D) 9(E,F,G)

Listed - File E53360

Certified - File LR11714, LR11712
 See files for details or call Killark.

FEATURES-SPECIFICATIONS

Applications

- Hazardous locations due to the presence of flammable gases or vapors, combustible dusts or easily ignitable fiber or flyings
- Installations at petroleum refineries, chemical and petrochemical plants and other processing or storage facilities where similar hazards exist
- Use in conjunction with magnetic starters or contactors for remote control of motors

Features

- Device bodies and covers are cast copper-free Aluminum alloy and provide a wide assortment for custom assemblies
- Cast conduit hubs 1/2", 3/4" and 1" either dead end or feed thru standard in both single and two gang, SWB-1 thru SWB-12 device bodies
- SWB-13 thru SWB-38 are designed for custom drilled and tapped conduit openings on all four sides and the back
- Ground flange joint between bolted cover and box provide required flame path
- Push button, selector switches and pilot light operator bodies are copper-free aluminum
- Operating shaft in both push buttons and selector switches are stainless steel
- Open space between gangs for easy wiring from one cover to another

- Miniature and standard size push buttons. (Miniature 3/4" overall diameter, standard 1-3/8" overall diameter.)
- Contact blocks are rated heavy duty, 600 VAC max
- Internal ground screw

Electrical Rating

Push button stations, selector switches heavy duty 600 VAC max.

Pilot lights 120 VAC.

XCS Special Assemblies

To order XCS cover assemblies for use with multi-gang or 1" hub type SWB Series splice boxes, simply order as follows:

Example: **XCS-0B1** — Cover Assembly
SWB-6 — Splice box with 1" feed thru hubs

Example: **XCS-0B1** — Cover Assembly
XCS-0B24RL — Cover Assembly
SWB-12 — Double gang splice box

NOTE: Splice boxes and cover assemblies are packaged in separate cartons.

MODIFICATIONS	
CATALOG SUFFIX	DESCRIPTION
AL	Pilot light lens-amber
CL	Pilot light lens-clear
GL	Pilot light lens-green
RL	Pilot light lens-red
T2	ⓉPilot light transformer — 220/110VAC
T4	ⓉPilot light transformer — 440/110VAC
MR	Mushroom head push button (red)
LO	Push button lockout [Ⓢ]
LOP	Selector switch padlock-lockout
SU1	Stainless steel cover screws

Ⓣ One transformer required for each pilot light. Deep device bodies required for all except single pilot light units when transformers are used.

Ⓢ Push button lockout must be factory installed. LED lamps available. See page C39.

CONTACT BLOCK RATINGS				
CURRENT	120 VAC	240 VAC	480 VAC	600 VAC
INRUSH	60	30	15	12
BREAKING	6	3	1.5	1.2
CARRYING	10	10	10	10

DC RATINGS (MAX. AMPS)		
CURRENT	125 VAC	250 VAC
INRUSH	.55	.275
BREAKING	.55	.275
CARRYING	2.50	2.50





Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
NEMA 7(C,D) 9(E,F,G)

Listed - File E53360

Certified - LR11712

See files for details or call Killark.

FEATURES-SPECIFICATIONS



SWB DEVICE BODIES AND DIMENSIONS						
CATALOG NUMBER	HUB SIZE	EXTERNAL			MOUNTING	
		LENGTH	WIDTH	DEPTH	VERTICAL	HORIZONTAL
SWB-1	1/2"	5-7/8"(149)	3"(76)	2-1/4"(57)	5-3/8"(137)	2-3/8"(60)
SWB-2	3/4"	5-7/8"(149)	3"(76)	2-1/4"(57)	5-3/8"(137)	2-3/8"(60)
SWB-3	1"	5-7/8"(149)	3"(76)	2-1/4"(57)	5-3/8"(137)	2-3/8"(60)
SWB-4	1/2"	5-7/8"(149)	3"(76)	2-1/4"(57)	5-3/8"(137)	2-3/8"(60)
SWB-5	3/4"	5-7/8"(149)	3"(76)	2-1/4"(57)	5-3/8"(137)	2-3/8"(60)
SWB-6	1"	5-7/8"(149)	3"(76)	2-1/4"(57)	5-3/8"(137)	2-3/8"(60)
SWB-7	1/2"	5-7/8"(149)	6-1/2"(165)	2-1/4"(57)	5-3/8"(137)	2-1/2"(64)
SWB-8	3/4"	5-7/8"(149)	6-1/2"(165)	2-1/4"(57)	5-3/8"(137)	2-1/2"(64)
SWB-9	1"	5-7/8"(149)	6-1/2"(165)	2-1/4"(57)	5-3/8"(137)	2-1/2"(64)
SWB-10	1/2"	5-7/8"(149)	6-1/2"(165)	2-1/4"(57)	5-3/8"(137)	2-1/2"(64)
SWB-11	3/4"	5-7/8"(149)	6-1/2"(165)	2-1/4"(57)	5-3/8"(137)	2-1/2"(64)
SWB-12	1"	5-7/8"(149)	6-1/2"(165)	2-1/4"(57)	5-3/8"(137)	2-1/2"(64)
SWB-13	①	5-1/4"(133)	3-5/8"(92)	2-1/2"(64)	6-1/8"(156)	2-3/8"(60)
SWB-14	②	5-1/4"(133)	3-5/8"(92)	3-5/16"(84)	6-1/8"(156)	2-3/8"(60)
SWB-17	①	10-3/8"(264)	3-5/8"(92)	2-1/2"(64)	11-3/8"(289)	2-1/8"(54)
SWB-18	②	5-1/4"(133)	7-1/8"(181)	3-5/16"(84)	6"(152)	5-3/4"(146)
SWB-19	②	5-1/4"(133)	10-5/8"(270)	3-5/16"(84)	6"(152)	9-3/16"(233)
SWB-20	②	5-1/4"(133)	14-1/8"(359)	3-5/16"(84)	6"(152)	12-11/16"(322)
SWB-21	②	5-1/4"(133)	17-5/8"(448)	3-5/16"(84)	6"(152)	16-3/16"(411)
SWB-32	②	12"(305)	10-5/8"(270)	3-5/16"(84)	11-1/8"(283)	9-3/16"(233)
SWB-33	②	10-3/8"(264)	14-1/8"(359)	3-5/16"(84)	11-3/16"(284)	12-3/4"(324)
SWB-34	②	12"(305)	17-3/4"(451)	3-5/16"(84)	11-5/16"(287)	16-1/4"(413)
SWB-38	②	17-1/8"(435)	17-3/4"(451)	3-5/16"(84)	11-5/16"(287)	16-1/4"(413)
SWB-42	3/4"	5-1/4"(133)	3-5/8"(92)	3-5/16"(84)	6-1/8"(156)	2-3/8"(60)
SWB-45	3/4"	5-1/4"(133)	3-5/8"(92)	3-5/16"(84)	6-1/8"(156)	2-3/8"(60)
SWB-49	3/4"	5-1/4"(133)	3-5/8"(92)	3-5/16"(84)	6-1/8"(156)	2-3/8"(60)

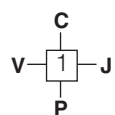
① Maximum size drilled and tapped opening 1" — Shallow device bodies.

② Maximum size drilled and tapped opening 1-1/2" — Deep device bodies.

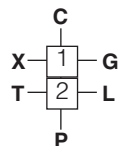
③ SWB-1 thru SWB-12 Boxes have cast in conduit hubs. Additional conduit openings can not be included. Use SWB-13-14 or 18 for custom conduit requirements. See following page for custom conduit information. SWB-13 through SWB-38 boxes are blank without conduit openings and can be factory or field installed. See following page for custom conduit information.



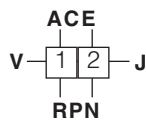
Conduit Opening Location Charts



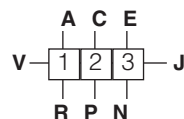
SWB-13-14



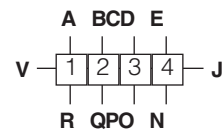
SWB-17



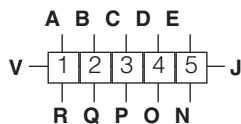
SWB-18



SWB-19



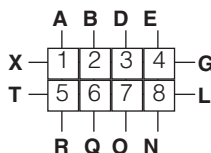
SWB-20



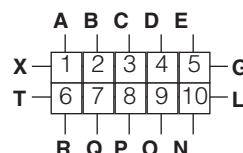
SWB-21



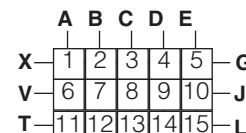
SWB-32



SWB-33



SWB-34



SWB-38

FEATURES-SPECIFICATIONS

To specify conduit openings select the letter on these sketches which indicates the position desired. All conduit openings will be evenly spaced and located in the area indicated on the location chart. When they are to be more accurately located, submit a sketch with spacing dimensions. Specific conduit openings must be located dimensionally from box centerlines to conduit centerlines and from outside back surface of box to conduit centerline.

Ordering Instructions:

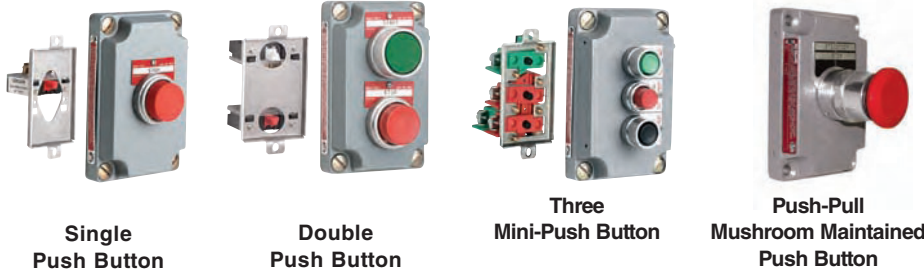
- (1) Select the letter on location chart which indicates conduit opening position desired.
- (2) Select symbol number from chart which indicates conduit opening type and size.
- (3) Combine the conduit location letter, size and type number, and add as a suffix to SWB box catalog number.

Example: SWB-18-C1-J1-P1-V1

MINIMUM HUB CENTERS FOR DRILLED AND TAPPED AND UNION HUBS						
SIZE	FORM	1/2"	3/4"	1"	1-1/4"	1-1/2"
1/2"	⊕MIN	1-3/16"(46)	—	—	—	—
1/2"	⊕PRE	1-3/8"(35)	—	—	—	—
1/2"	⊕GU	1-5/8"(41)	—	—	—	—
3/4"	⊕MIN	1-3/8"(35)	1-1/2"(38)	—	—	—
3/4"	⊕PRE	1-1/2"(38)	1-5/8"(41)	—	—	—
3/4"	⊕GU	1-3/4"(44)	1-13/16"(46)	—	—	—
1"	⊕MIN	1-1/2"(38)	1-3/4"(44)	1-13/16"(46)	—	—
1"	⊕PRE	1-3/4"(44)	1-7/8"(48)	2"(51)	—	—
1"	⊕GU	1-7/8"(48)	2"(51)	2-1/8"(54)	—	—
1-1/4"	⊕MIN	1-11/16"(43)	1-15/16"(49)	2-1/16"(52)	2-5/16"(59)	—
1-1/4"	⊕PRE	1-15/16"(49)	2-1/16"(52)	2-1/4"(57)	2-1/2"(64)	—
1-1/4"	⊕GU	2-1/16"(52)	2-1/4"(57)	2-5/16"(59)	2-1/2"(64)	—
1-1/2"	⊕MIN	1-15/16"(49)	2-1/16"(52)	2-3/16"(56)	2-1/2"(64)	2-5/8"(67)
1-1/2"	⊕PRE	2-1/8"(54)	2-1/4"(57)	2-3/8"(60)	2-5/8"(67)	2-3/4"(70)
1-1/2"	⊕GU	2-3/16"(56)	2-9/32"(58)	7/16"(11)	2-5/8"(67)	2-3/4"(70)
Locknut Bushing Conduit		1-1/8"(29)	1-3/8"(35)	1-11/16"(43)	2-3/16"(56)	2-7/16"(62)
Locknut Bushing Conduit		1"(25)	1-1/4"(32)	1-1/2"(38)	1-7/8"(48)	2-1/8"(54)
Locknut Bushing Conduit		7/8"(22)	1-1/16"(27)	1-3/8"(35)	1-11/16"(43)	1-15/16"(49)

- ⊕ Minimum spacing required to provide clearance over locknuts and bushings.
- ⊕ Preferred—more liberal spacings between centers of conduits to be used whenever possible.
- ⊕ GU—spacing required for GU Series unions.
- ⊕ Union hubs are supplied by using a drilled and tapped opening with GUM Series Union.
- † Consult factory for special or additional conduit sizes, locations, and combinations required but not illustrated.

SYMBOL NUMBERS		
CONDUIT SIZE	CONDUIT OPENINGS	
	DRILLED AND TAPPED	UNION [⊕]
1/2"	1	11
3/4"	2	12
1"	3	13
1-1/4"	4	14
1-1/2"	5	15



**Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
NEMA 7(C,D) 9(E,F,G)**

Listed - File E53360

Certified - File LR11714
See files for details or call Killark.

FEATURES-SPECIFICATIONS

XCS MOMENTARY CONTACT SINGLE PUSH BUTTON						
COVER WITH DEVICE	CATALOG NUMBER		HUB SIZE	DIAGRAM	BUTTON COLOR ^②	NAMEPLATE MARKING ^③
	COMPLETE UNITS (BOX & COVER)					
	DEAD-END	FEED-THRU				
XCS-0B1	XCS-1B1	XCS-4B1	1/2"		Green	Start
	XCS-2B1	XCS-5B1	3/4"			
XCS-0B2	XCS-1B2	XCS-4B2	1/2"		Red	Stop
	XCS-2B2	XCS-5B2	3/4"			
XCS-0B3	XCS-1B3	XCS-4B3	1/2"		Black	Specify
	XCS-2B3	XCS-5B3	3/4"			

XCS MOMENTARY CONTACT DOUBLE PUSH BUTTON						
COVER WITH DEVICE	CATALOG NUMBER		HUB SIZE	DIAGRAM	BUTTON COLOR ^②	NAMEPLATE MARKING ^③
	COMPLETE UNITS (BOX & COVER)					
	DEAD-END	FEED-THRU				
XCS-0B4	XCS-1B4	XCS-4B4	1/2"		Green-Red	Start/Stop
	XCS-2B4	XCS-5B4	3/4"			
XCS-0B4-U	XCS-1B4-U	XCS-4B4-U	1/2"		Green-Red	Start/Stop
	XCS-2B4-U	XCS-5B4-U	3/4"			
XCS-0B5	XCS-1B5	XCS-4B5	1/2"		Green-Green	Start/Start
	XCS-2B5	XCS-5B5	3/4"			
XCS-0B7	XCS-1B7	XCS-4B7	1/2"		Black-Black	Specify
	XCS-2B7	XCS-5B7	3/4"			

XCS MOMENTARY CONTACT THREE MINI PUSH BUTTONS						
COVER WITH DEVICE	CATALOG NUMBER		HUB SIZE	DIAGRAM	BUTTON COLOR ^②	NAMEPLATE MARKING ^③
	COMPLETE UNITS (BOX & COVER)					
	DEAD-END	FEED-THRU				
XCS-0A8	XCS-1A8	XCS-4A8	1/2"		Green-Red	Start/Stop
	XCS-2A8	XCS-5A8	3/4"		Black	Specify
XCS-0A9	XCS-1A9	XCS-4A9	1/2"		Black	Specify
	XCS-2A9	XCS-5A9	3/4"			

① For other than standard marking, refer to the special feature section of price list.

② Lens colors other than listed may be specified by changing lens color suffix. See modifications page C18.

For control stations with 1" conduit openings or for multi-gang assemblies, order cover with devices and box as separate components.

XCS MAINTAINED CONTACT PUSH PULL MUSHROOM PUSH BUTTON^④			
CATALOG NUMBER (COVER WITH DEVICE)	DIAGRAM	BUTTON COLOR	NAMEPLATE MARKING
XCS-OMMG3		GREEN	③
XCS-OMMR3		RED	
XCS-OMMK3		BLACK	

③ Three nameplates supplied (Start/Stop, Blank, Emergency Stop) with XCS maintained push button.

④ Operation - when push button is depressed and contact activated, operator will remain in depressed position until pulled out in normal position.



Pilot Light



Double Pilot Light



Pilot Light Push Button



Pilot Light Two Mini Push Buttons

Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
NEMA 7(C,D) 9(E,F,G)

Listed - File E53360

Certified - File LR11714

See files for details or call Killark.

FEATURES-SPECIFICATIONS

XCS PILOT LIGHT ^③							
COVER WITH DEVICE	CATALOG NUMBER		HUB SIZE	DIAGRAM	LAMP VOLTS	LENS COLOR ^②	NAMEPLATE MARKING ^①
	COMPLETE UNITS (BOX & COVER)						
	DEAD-END	FEED-THRU					
XCS-0B24CL	XCS-1B24CL	XCS-4B24CL	1/2"		120V	Clear	Specify
	XCS-2B24CL	XCS-5B24CL	3/4"				
XCS-0B24GL	XCS-1B24GL	XCS-4B24GL	1/2"		120V	Green	Specify
	XCS-2B24GL	XCS-5B24GL	3/4"				
XCS-0B24RL	XCS-1B24RL	XCS-4B24RL	1/2"		120V	Red	Specify
	XCS-2B24RL	XCS-5B24RL	3/4"				

XCS DOUBLE PILOT LIGHT ^④							
COVER WITH DEVICE	CATALOG NUMBER		HUB SIZE	DIAGRAM	LAMP VOLTS	LENS COLOR ^②	NAMEPLATE MARKING ^①
	COMPLETE UNITS (BOX & COVER)						
	DEAD-END	FEED-THRU					
XCS-0B30CL	XCS-1B30CL	XCS-4B30CL	1/2"		120V	Clear	Specify
	XCS-2B30CL	XCS-5B30CL	3/4"				
XCS-0B30GL	XCS-1B30GL	XCS-4B30GL	1/2"		120V	Green	Specify
	XCS-2B30GL	XCS-5B30GL	3/4"				
XCS-0B30RL	XCS-1B30RL	XCS-4B30RL	1/2"		120V	Red	Specify
	XCS-2B30RL	XCS-5B30RL	3/4"				
XCS-0B30RL-GL	XCS-1B30RL-GL	XCS-4B30RL-GL	1/2"		120V	Red/Green	Specify
	XCS-2B30RL-GL	XCS-5B30RL-GL	3/4"				

XCS MOMENTARY CONTACT PUSH BUTTON AND PILOT LIGHT ^④								
COVER WITH DEVICE	CATALOG NUMBER		HUB SIZE	DIAGRAM	BUTTON COLOR	LENS COLOR ^②	NAMEPLATE MARKING ^①	
	COMPLETE UNITS (BOX & COVER)						BUTTON	LENS
	DEAD-END	FEED-THRU						
XCS-0B13-C	XCS-1B13-C	XCS-4B13-C	1/2"		Red	Red	Stop	Specify
	XCS-2B13-C	XCS-5B13-C	3/4"					
XCS-0B13-O	XCS-1B13-O	XCS-4B13-O	1/2"		Green	Red	Start	Specify
	XCS-2B13-O	XCS-5B13-O	3/4"					
XCS-0B13-U	XCS-1B13-U	XCS-4B13-U	1/2"		Black	Red	Specify	Specify
	XCS-2B13-U	XCS-5B13-U	3/4"					

XCS MOMENTARY CONTACT TWO MINI PUSH BUTTONS AND PILOT LIGHT ^④								
COVER WITH DEVICE	CATALOG NUMBER		HUB SIZE	DIAGRAM	BUTTON COLOR	LENS COLOR ^②	NAMEPLATE MARKING ^①	
	COMPLETE UNITS (BOX & COVER)						BUTTON	LENS
	DEAD-END	FEED-THRU						
XCS-0A15	XCS-1A15	XCS-4A15	1/2"		Red	Red	Stop	Specify
	XCS-2A15	XCS-5A15	3/4"					

① For other than standard marking, refer to the special feature section of price list.

② Lens color suffix listed in modifications page C18. Unless different lens colors are specified by proper suffix catalog number, red lens will be provided.

③ Pilot light transformers also listed in modifications. Add suffix to cover assembly catalog number.

④ Pilot light transformers will not fit in these assemblies. When transformer is desired, use SWB-14, indicating conduit openings required from chart on page C20 of this section. See page C18 for required transformer suffix. One transformer required for each lamp.

For control stations with 1" conduit openings or for multi-gang assemblies, order cover and box as separate components.





Selector Switch



Key Operated

Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
NEMA 7 (C,D) 9(E,F,G)

Listed - File E53360

Certified - File LR11714

See files for details or call Killark.

FEATURES-SPECIFICATIONS

XCS TWO POSITION SELECTOR SWITCH (MAINTAINED)*									
CATALOG NUMBER			HUB SIZE	TWO POSITION DIAGRAM				NAMEPLATE MARKING ①	
COVER WITH DEVICE	COMPLETE UNITS (BOX & COVER)			LEFT POSITION		RIGHT POSITION			
	DEAD-END	FEED-THRU		LEFT BLOCKS	RIGHT BLOCKS	LEFT BLOCKS	RIGHT BLOCKS		
XCS-0S2A1	XCS-1S2A1	XCS-4S2A1	1/2"					OFF/ON	
	XCS-2S2A1	XCS-5S2A1	3/4"						
XCS-0S2A5 ②	XCS-42S2A5	XCS-45S2A5	3/4"					OFF/ON	

XCS THREE POSITION SELECTOR SWITCH (MAINTAINED)*										
CATALOG NUMBER			HUB SIZE	THREE POSITION DIAGRAM						NAMEPLATE MARKING
COVER WITH DEVICE	COMPLETE UNITS (BOX & COVER)			LEFT POSITION		CENTER POSITION		RIGHT POSITION		
	DEAD-END	FEED-THRU		LEFT BLOCKS	RIGHT BLOCKS	LEFT BLOCKS	RIGHT BLOCKS	LEFT BLOCKS	RIGHT BLOCKS	
XCS-0S3C4	XCS-1S3C4	XCS-4S3C4	1/2"							HOA
	XCS-2S3C4	XCS-5S3C4	3/4"							
XCS-0S3C5 ②	XCS-42S3C5	XCS-45S3C5	3/4"							HOA

① For other than standard marking, refer to the special feature section of the price list.

② These sub-assemblies require deep style box SWB-14 or SWB-18 through SWB-49.

For control stations with 1" conduit openings or for multi-gang assemblies, order cover with devices and box as separate components.

XCS TWO POSITION KEY OPERATED SELECTOR SWITCH (MAINTAINED)*									
CATALOG NUMBER			HUB SIZE	TWO POSITION DIAGRAM				NAMEPLATE MARKING ①	
COVER WITH DEVICE	COMPLETE UNITS (BOX & COVER)			LEFT POSITION		RIGHT POSITION			
	DEAD-END	FEED-THRU		LEFT BLOCKS	RIGHT BLOCKS	LEFT BLOCKS	RIGHT BLOCKS		
XCS-0K2A1D	XCS-1K2A1D	XCS-4K2A1D	1/2"					OFF/ON	
	XCS-2K2A1D	XCS-5K2A1D	3/4"						
XCS-0K2A5D ②	XCS-42K2A5D	XCS-45K2A5D	3/4"					OFF/ON	

XCS THREE POSITION KEY OPERATED SELECTOR SWITCH (MAINTAINED)*										
CATALOG NUMBER			HUB SIZE	THREE POSITION DIAGRAM						NAMEPLATE MARKING
COVER WITH DEVICE	COMPLETE UNITS (BOX & COVER)			LEFT POSITION		CENTER POSITION		RIGHT POSITION		
	DEAD-END	FEED-THRU		LEFT BLOCKS	RIGHT BLOCKS	LEFT BLOCKS	RIGHT BLOCKS	LEFT BLOCKS	RIGHT BLOCKS	
XCS-0K3C4D	XCS-1K3C4D	XCS-4K3C4D	1/2"							HOA
	XCS-2K3C4D	XCS-5K3C4D	3/4"							
XCS-0K3C5D ②	XCS-42K3C5D	XCS-45K3C5D	3/4"							HOA

① For other than standard marking, refer to the special feature section of the price list.

② These sub-assemblies require deep style box SWB-14 or SWB-18 through SWB-49.

For control stations with 1" conduit openings or for multi-gang assemblies, order cover with devices and box as separate components.

* Key removal in all positions for 2 & 3 position key operated selectors. Consult factory for variations.



KILLARK®



Selector Switch

Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
NEMA 7 (C,D) 9(E,F,G)

Listed - File E53360

Certified - File LR11714
See files for details or call Killark.

FEATURES-SPECIFICATIONS

XCS SPRING RETURN SELECTOR SWITCH Two Position Spring Return to Left							
CATALOG NUMBER			HUB SIZE	TWO POSITION DIAGRAM			
COVER WITH DEVICE ^①	COMPLETE UNITS (BOX & COVER)			LEFT POSITION		RIGHT POSITION	
	DEAD-END	FEED-THRU	LEFT BLOCK	RIGHT BLOCK	LEFT BLOCK	RIGHT BLOCK	
XCS-0S2L3F	XCS-42S2L3F	XCS-45S2L3F	3/4"				

XCS SPRING RETURN SELECTOR SWITCH Three Position Spring Return to Center From Right and Left									
CATALOG NUMBER			HUB SIZE	THREE POSITION DIAGRAM					
COVER WITH DEVICE ^①	COMPLETE UNITS (BOX & COVER)			LEFT POSITION		CENTER POSITION		RIGHT POSITION	
	DEAD-END	FEED-THRU	LEFT BLOCK	RIGHT BLOCK	LEFT BLOCK	RIGHT BLOCK	LEFT BLOCK	RIGHT BLOCK	
XCS-0S3M6G	XCS-42S3M6G	XCS-45S3M6G	3/4"						

XCS SPRING RETURN SELECTOR SWITCH Three Position Spring Return to Center From Right, Maintain in Left									
CATALOG NUMBER			HUB SIZE	THREE POSITION DIAGRAM					
COVER WITH DEVICE ^①	COMPLETE UNITS (BOX & COVER)			LEFT POSITION		CENTER POSITION		RIGHT POSITION	
	DEAD-END	FEED-THRU	LEFT BLOCK	RIGHT BLOCK	LEFT BLOCK	RIGHT BLOCK	LEFT BLOCK	RIGHT BLOCK	
XCS-0S3L6G	XCS-42S3L6G	XCS-45S3L6G	3/4"						

XCS SPRING RETURN SELECTOR SWITCH Three Position Spring Return to Center From Left, Maintain in Right									
CATALOG NUMBER			HUB SIZE	THREE POSITION DIAGRAM					
COVER WITH DEVICE ^①	COMPLETE UNITS (BOX & COVER)			LEFT POSITION		CENTER POSITION		RIGHT POSITION	
	DEAD-END	FEED-THRU	LEFT BLOCK	RIGHT BLOCK	LEFT BLOCK	RIGHT BLOCK	LEFT BLOCK	RIGHT BLOCK	
XCS-0S3R6G	XCS-42S3R6G	XCS-45S3R6G	3/4"						

^① All spring return assemblies must be installed on deep style box SWB-14 or SWB-18 through SWB-49.
For control stations with 1" conduit openings or for multi-gang assemblies, order cover with devices and box as separate components.



Key Operated

**Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
NEMA 7 (C,D) 9(E,F,G)**

Listed - File E53360

Certified - File LR11714
See files for details or call Killark.

FEATURES-SPECIFICATIONS

XCS KEY OPERATED SPRING RETURN SELECTOR SWITCH ① Two Position Spring Return to Left							
CATALOG NUMBER			HUB SIZE	TWO POSITION DIAGRAM			
COVER WITH DEVICE ②	COMPLETE UNITS (BOX & COVER)			LEFT POSITION		RIGHT POSITION	
	DEAD-END	FEED-THRU	LEFT BLOCK	RIGHT BLOCK	LEFT BLOCK	RIGHT BLOCK	
XCS-0K2L3F22D	XCS-42K2L3F22D	XCS-45K2L3F22D	3/4"				

XCS KEY OPERATED SPRING RETURN SELECTOR SWITCH ① Three Position Spring Return to Center From Right and Left									
CATALOG NUMBER			HUB SIZE	THREE POSITION DIAGRAM					
COVER WITH DEVICE ②	COMPLETE UNITS (BOX & COVER)			LEFT POSITION		CENTER POSITION		RIGHT POSITION	
	DEAD-END	FEED-THRU	LEFT BLOCK	RIGHT BLOCK	LEFT BLOCK	RIGHT BLOCK	LEFT BLOCK	RIGHT BLOCK	
XCS-0K3M6G32D	XCS-42K3M6G32D	XCS-45K3M6G32D	3/4"						

XCS KEY OPERATED SPRING RETURN SELECTOR SWITCH ① Three Position Spring Return to Center From Right, Maintain in Left									
CATALOG NUMBER			HUB SIZE	THREE POSITION DIAGRAM					
COVER WITH DEVICE ②	COMPLETE UNITS (BOX & COVER)			LEFT POSITION		CENTER POSITION		RIGHT POSITION	
	DEAD-END	FEED-THRU	LEFT BLOCK	RIGHT BLOCK	LEFT BLOCK	RIGHT BLOCK	LEFT BLOCK	RIGHT BLOCK	
XCS-0K3L6G32D	XCS-42K3L6G32D	XCS-45K3L6G32D	3/4"						

XCS KEY OPERATED SPRING RETURN SELECTOR SWITCH ① Three Position Spring Return to Center From Left, Maintain in Right									
CATALOG NUMBER			HUB SIZE	THREE POSITION DIAGRAM					
COVER WITH DEVICE ②	COMPLETE UNITS (BOX & COVER)			LEFT POSITION		CENTER POSITION		RIGHT POSITION	
	DEAD-END	FEED-THRU	LEFT BLOCK	RIGHT BLOCK	LEFT BLOCK	RIGHT BLOCK	LEFT BLOCK	RIGHT BLOCK	
XCS-0K3R6G32D	XCS-42K3R6G32D	XCS-45K3R6G32D	3/4"						

① All key operators are furnished keyed different.
If keyed alike is required substitute letter "A" for "D" at end of catalog number.
Keys are removable in left position selectors and in center position for 3 position selectors.
For key removable in all positions change "22" in 2 position to "20" and "32" in 3 position to "30".
② All spring return assemblies must be installed on deep style box SWB-14 or SWB-18 through SWB-49.
For control stations with 1" conduit openings or for multi-gang assemblies, order cover with devices and box as separate components.



X-10
Blank Cover



Standard
Push Button
(Mushroom)



Miniature
Push Button

X BLANK AND SPECIAL COVERS	
CAT. NO.	DESCRIPTION
X-10	Blank cover
X-60	Cover with (1) 3/4" NPSM Hole [ⓐ]
X-64	Cover with (2) 3/4" NPSM Holes [ⓐ] [ⓑ]

[ⓐ] For "G" series short operators.
[ⓑ] When X-64 cover is used, one operator must be a pilot light due to electrical clearances.

STANDARD PUSH BUTTON ASSEMBLY (1-3/8" DIAMETER)			MINIATURE PUSH BUTTON ASSEMBLY (3/4" DIAMETER)			
CATALOG NUMBER						SHROUD
RED	GREEN	BLACK	RED	GREEN	BLACK	
X01BR	X01BG	X01BK	X01AR	X01AG	X01AK	Full
X03BR	X03BG	X03BK	X03AR	X03AG	X03AK	Half
X05BR	—	—	—	—	—	Mushroom*

*1-1/2" diameter



Pilot Light

XCS PILOT LIGHT OPERATOR ASSEMBLY [ⓐ]				
CATALOG NUMBER				SHROUD
RED	GREEN	CLEAR	AMBER	
X021BR	X021BG	X021BC	X021BA	Standard



Standard
Lockout



Miniature
Lockout



Selector
Lockout



Hole Plug



Dust/Weather
Cap



GOM Lockout

ACCESSORIES						
PUSH BUTTON LOCKOUT [ⓐ]	SELECTOR LOCKOUT [ⓐ]	HOLE PLUG [ⓐ]	DUST/WEATHER CAP			DESCRIPTION
			RED	GREEN	BLACK	
XLOB	G0-567-LOK	XOBP	XDBR	XDBG	XDBB	Standard operator
XLOA	—	XOAP	—	—	—	Miniature operator

[ⓐ] Replacement only by qualified person. Operator is staked into position at factory. Removal may damage operator or cover threads.

CATALOG NUMBER GOMLOCK	
LOCKOUT FOR MAINTAINED PUSH BUTTON COVERS	
XCS-OMMR3	
FXCS-OMMR3	

XCS REPLACEMENT BLANK NAMEPLATES	
CATALOG NUMBER	DESCRIPTION
XCSNPPB	XCS/FXCS full size (standard) push button
XCSNPPBM	XCS/FXCS miniature push button
XCSNPPL	XCS/FXCS pilot light
XCSNPSS2	XCS/FXCS 2 position selector switch
XCSNPSS3	XCS/FXCS 3 position selector switch





**Incandescent
Filament Lamp**

INCANDESCENT LAMP CANDELABRA SCREW BASE		
CAT. NO.	VOLT	COLOR
0460051B	120V AC/DC	CLEAR
0460414B	24V AC/DC	CLEAR



LED Lamp

XCS-FXCS LED LAMPS		
CAT. NO.	VOLT	COLOR
XCSLED-R110	120 VAC	RED
XCSLED-G110	120 VAC	GREEN
XCSLED-A110	120 VAC	AMBER

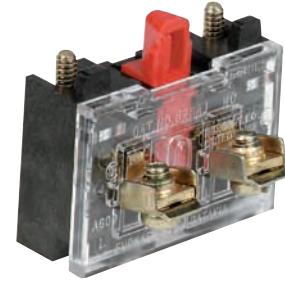


**Incandescent
Filament Lamp**



LED Lamp

XCS-FXCS LAMPS			
CAT. NO.	LAMP TYPE	VOLTS AC/DC	COLOR
YOSY24MB	FILAMENT	24	CLEAR
YOSY120MB	FILAMENT	120	CLEAR
GOLED-A110	LED	110	AMBER
GOLED-G110	LED	110	GREEN
GOLED-R110	LED	110	RED
GOLED-A24	LED	24	AMBER
GOLED-G24	LED	24	GREEN
GOLED-R24	LED	24	RED



Contact Block

STANDARD CONTACT BLOCKS	
CAT. NO.	DESCRIPTION
GO-8672-BJK	1 N.O.
GO-8672-BJJ	1 N.O.
GO-8672-BJH	1 N.O. Early Make
GO-8672-BJE	1 N.C. Late Make

CONTACT BLOCKS FOR XCS SERIES CATALOG NUMBERS ENDING WITH B4-U, B7, A8 OR A9	
CAT. NO.	DESCRIPTION
YOWE-OT2B	1 N.O.
YOWE-OT2D	1 N.C.

CONTACT BLOCK FOR FXCS SERIES CATALOG NUMBERS ENDING WITH B-13U	
CAT. NO.	DESCRIPTION
GO-8672-PTCH	(1) N.O. (1) N.C.

CONTACT BLOCK FOR FXCS SERIES CATALOG NUMBERS ENDING WITH B4-U, B7, A5, C5	
CAT. NO.	DESCRIPTION
GO-8672-PTCC	(2) N.O. (2) N.C.





XS-3C

**Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
NEMA 7(C,D) 9(E,F,G)**

-  Listed - FILE E53360
 -  Certified - File LR11712
 -  File OP7A5.AE
- See files for details or call Killark.

FEATURES-SPECIFICATIONS

Applications

Used where making, breaking, or changing connections in an electric circuit are required.

Features

XS Series are front lever rotary operated switch assemblies with standard provisions for padlocking in either “ON” or “OFF” position. The lever is connected to a threaded stainless steel shaft which passes through the cover.

XS TUMBLER SWITCH						
COVER		CATALOG NUMBER			SWITCH STYLE	SWITCH RATING 120/277 VAC, 1Ø
WITH DEVICE	WITHOUT DEVICE	HUB SIZE	COMPLETE UNITS (BOX, COVER AND SWITCH)			
			DEAD-END	FEED-THRU		
XS-1C	XNS-1C	1/2" 3/4"	XS-11C XS-21C	XS-41C XS-51C	1-POLE	20A [Ⓜ]
XS-2C	XNS-2C	1/2" 3/4"	XS-12C XS-22C	XS-42C XS-52C	2-POLE	20A [Ⓜ]
XS-8C	XNS-8C	1/2" 3/4"	XS-18C XS-28C	XS-48C XS-58C	3-POLE	①
XS-3C	XNS-3C	1/2" 3/4"	XS-13C XS-23C	XS-43C XS-53C	3-WAY/ SPDT No center off	20A [Ⓜ]
XS-5C	XNS-5C	1/2" 3/4"	XS-15C XS-25C	XS-45C XS-55C	SPDT Center off	20A [Ⓜ]
XS-6C	XNS-6C	1/2" 3/4"	XS-16C XS-26C	XS-46C XS-56C	DPDT No center off	20A [Ⓜ]
XS-7C	XNS-7C	1/2" 3/4"	XS-17C XS-27C	XS-47C XS-57C	DPDT Center off	20A [Ⓜ]
XS-1D	XNS-1D	1/2" 3/4"	XS-11D XS-21D	XS-41D XS-51D	1-POLE	30A [Ⓜ]
XS-2D	XNS-2D	1/2" 3/4"	XS-12D XS-22D	XS-42D XS-52D	2-POLE	30A [Ⓜ]
XS-4C	—	—	—	—	4-WAY	20A [Ⓜ]

① Rated 15 amperes, 240/480 VAC., 3Ø: 3HP-240 VAC., 5 HP-480 VAC.
[Ⓜ] Horsepower rated 1 HP at 120VAC, 2 HP at 240VAC.





XAL
Pull Ring



XAS
Break Glass

Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
NEMA 7(C,D) 9(E,F,G)

FEATURES-SPECIFICATIONS

Applications

- Hazardous areas due to the presence of flammable gases or vapors, combustible dusts or easily ignitable fibers or flyings
- Installation at petroleum refineries, chemical and petrochemical plants, storage areas, and other processing facilities where hazardous substances are handled or stored
- Areas where emergency control of fire alarm or signal circuits is required

Features

- Enclosure is made of copper free aluminum alloy
- Conduit openings are 3/4" NPT feed through
- Red, textured powder epoxy paint finish is standard on box and cover and provides high visibility for alarm station
- XAL-458 has (2) normally open and (2) normally closed contacts.
- Bilingual nameplates included per CSA requirement
- Internal ground screw is standard

Operation

XAL: The alarm station is activated by lifting the front cover and pulling down ring. This quick, easy to use two-step process prevents unintentional operation. Operator is reset by depressing shaft and returning plate to original position.

XAL Series:

- Listed - File E50498
- Listed - CE69
- Certified - File LR31085
- Listed - California State Fire Marshall #7150-1439:100

XAS: Breaking glass with hammer provided activates alarm. Reset by replacing glass.

Replacement glass catalog number **YOKK-15214**.

Replacement hammer and chain **KIT-232**.

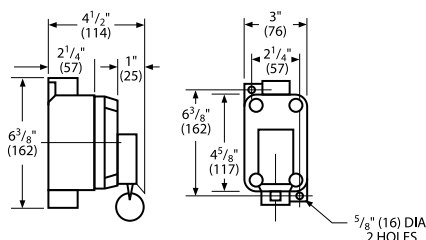
XAS Series:

- Listed - File E50498
- Certified - File LR31085
See files for details or call Killark.

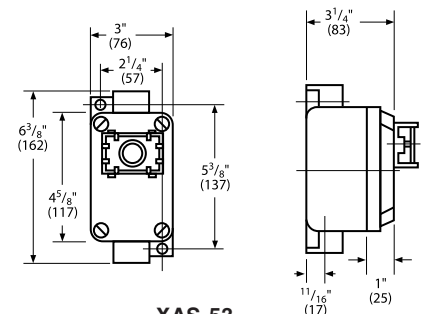
XAL FIRE ALARM STATION		
CATALOG NUMBER	OPERATION TYPE	CONTACT BLOCKS
XAL-53	Pull ring	(1) NO/NC
XAL-458	Pull ring	(2) NO/NC
XAS-53	Break glass	(1) NO/NC

CONTACT BLOCK RATING								
AC						DC		
VOLTS	MAKE AMPERES	VA	BREAK AMPERES	VA	CONTINUOUS CARRYING AMPERES	VOLTS	MAKE BREAK	CONTINUOUS CARRYING AMPERES
120	60	7200	6	720	10	125	1.1	2.5
240	30	7200	3	720	10	250	0.55	2.5
480	15	7200	1.5	720	10	600	0.2	2.5
600	12	7200	1.2	720	10	—	—	—

Dimensions



XAL-53



XAS-53

Note: On XAL-458 the overall depth is 5-9/16"



Class I, Div. 1 & 2, Groups B,C,D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
NEMA 3, 4, 4X, 7(B,C,D) 9(E,F,G)

See Area Classification Chart below

FEATURES-SPECIFICATIONS

Applications

G Series custom control panel operators are designed for use in hazardous locations when installed in suitable enclosures such as B7E EXB, XJB, DB, SWB and GCS Series boxes and B7, Y7 Starter Enclosures.

Features

- Operators are all aluminum except for certain movable parts which are stainless steel, all other parts such as screws are either stainless steel or plated steel
- Threaded bodies are all 3/4"-14 NPSM thread
- Control stations can be grouped into a single assembly thus reducing installation time and cost
- Junction boxes may be used to mount operators along with glass lens for viewing internally mounted meters. Additional relays, timers, terminal blocks, or other equipment may also be internally mounted to provide a single centralized control unit.
- Custom operators other than standard assemblies listed may be ordered by proper catalog number from custom operator ordering system pages C40 & C41

Electrical Rating

Push button stations, selector switches Heavy duty 600 VAC max.
 Pilot lights 120 VAC.

Dimensions

See Dimensional information for G Series operators on page C42.

Recommended Operator Selection

Short Style

DB/SWB/GCS Enclosures. Assemblies with wall thickness up to 1/2" thick.

Long Style

All B7E/XJB Enclosures. EXB (see page E12) enclosures with cover thickness up to 1-1/2" thick.

Extended Style

EXB larger size enclosures (see page E12) with cover thickness up to 2-1/2" thick.

Killark long and extended push buttons, selector switches, reset and

potentiometer operators are CEN-ELEC/ATEX EExd IIB+H2 when installed in series EXB*CEN and GR*CEN enclosures.

For pilot lights and illuminated push buttons in CENELEC/ATEX applications see page C33.

CONTACT BLOCK RATINGS						
CURRENT	120 VAC	240 VAC	480 VAC	600 VAC	125 VDC	250 VDC
Inrush	60	30	15	12	.55	.275
Breaking	6	3	1.5	1.2	.55	.275
Carrying	10	10	10	10	2.50	2.50

Note: Contact blocks can be stacked four deep maximum.

AREA CLASSIFICATION CHART FOR OPERATORS					
G01 ^④	G017 ^②	G030 ^②	G057 ^②	G0L2 ^④	G0L38 ^③
G02 ^④	G018 ^②	G034 ^②	G058 ^②	G0L3 ^④	G0L39 ^③
G05 ^④	G019 ^②	G035 ^② G036 ^③	G059 ^②	G0L4 ^④	G0L113 ^③
G06 ^④	G021 ^②	G037 ^③	G0113 ^③	G0L5 ^④	G0L114 ^③
G07 ^④	G022 ^②	G038 ^③	G0114 ^③	G0L6 ^④	G0LRST ^④
G08 ^③	G023 ^②	G039 ^③	G0133 ^②	G0L7 ^④ G0L8 ^③	G0M1 ^⑤
G010 ^④	G025 ^②	G040 ^①	G0134 ^②	G0L14 ^④	G0R11 ^④
G014 ^④	G026 ^②	G050 ^②	G0B3 ^④	G0L15 ^④	G0RST ^④
G015 ^④	G027 ^②	G051 ^②	G0B4 ^④	G0L36 ^③	G011388 ^②
G016 ^②	G028 ^②	G056 ^②	G0L1 ^④	G0L37 ^④	G011372 ^②

① Class II Div. 1 & 2 Group EFG NEMA 9EFG
 ② Class I Div. 1 & 2 Group CD, Class II Div. 1 & 2 Group EFG, Class III NEMA 7CD, 9EFG
 ③ Class I Div. 1 & 2 Group BCD, Class II Div. 1 & 2 Group EFG, Class III NEMA 3, 4, 7BCD, 9EFG
 ④ Class I Div. 1 & 2 Group BCD, Class II Div. 1 & 2 Group EFG, Class III NEMA 3, 4, 4X, 7BCD, 9EFG
 ⑤ Class I Div. 1 & 2 Group CD, Class II Div. 1 & 2 Group EFG, Class III NEMA 3, 4, 7CD, 9EFG



Single Push Button
Long



Single Push Button
Extended



"G" Series Operator
Maintained



Double Push Button

Class I, Div. 1 & 2, Groups B,C,D^①
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
NEMA 3, 4, 4X, 7(B,C,D) 9(E,F,G)

See Area Classification Chart
page C40 for Details

Listed - File E12379

Certified - File LR11714
See files for details or call Killark.

FEATURES-SPECIFICATIONS

G SINGLE PUSH BUTTON (MOMENTARY CONTACT)					
CATALOG NUMBER ^①			COLOR	CONTACT TYPE ^③	NAMEPLATE MARKING ^②
SHORT ^④	LONG	EXTENDED			
G021-GZ1B	G01-GX1B N34	GOL1G1	Green		Start or Stop
G021-KZ1C	G01-KX1C N34	GOL1K1	Black		Reset or Blank
G021-RZ2B	G01-RX2B N34	GOL1R2	Red		Start or Stop
G021-KZ2C	G01-KX2C N34	GOL1K2	Black		Reset or Blank
G021-GZ3C	G01-GX3C N34	GOL1G3	Green		Reset or Blank
G021-RZ3C	G01-RX3C N34	GOL1R3	Red		Reset or Blank
G021-KZ3C	G01-KX3C N34	GOL1K3	Black		Reset or Blank
G021-GZ0C	G01-GX0C N34	GOL1G	Green	None	Reset or Blank
G021-RZ0C	G01-RX0C N34	GOL1R	Red		Reset or Blank
G021-KZ0C	G01-KX0C N34	GOL1K	Black		Reset or Blank

G SINGLE PUSH BUTTON (MAINTAINED CONTACT) MUSHROOM HEAD PUSH - PULL OPERATION					
GOM21-GM3C	GOM1-GM3C N34	GOML1G3	Green		Blank
GOM21-RM3C	GOM1-RM3C N34	GOML1R3	Red		Blank
GOM21-KM3C	GOM1-KM3C N34	GOML1K3	Black		Blank
GOM21-GM0C	GOM1-GM0C N34	GOML1G	Green	None	Blank
GOM21-RM0C	GOM1-RM0C N34	GOML1R	Red		Blank
GOM21-KM0C	GOM1-KM0C N34	GOML1K	Black		Blank

G DOUBLE PUSH BUTTON (MOMENTARY CONTACT)					
G022-GR12D	G02-GR12D N34	GOL2GR12	Green/Red		Start/Stop or Blank
G022-KK12D	G02-KK12D N34	GOL2KK12	Black/Black		Start/Stop or Blank
G022-GR33D	G02-GR33D N34	GOL2GR33	Green/Red		Start/Stop or Blank
G022-KK33D	G02-KK33D N34	GOL2KK33	Black/Black		Start/Stop or Blank
G022-GR00D	G02-GR00D N34	GOL2GR	Green/Red	None	Start/Stop or Blank
G022-KK00D	G02-KK00D N34	GOL2KK	Black/Black		Start/Stop or Blank

G DOUBLE PUSH BUTTON (MAINTAINED CONTACT) ^⑤					
—	GOR11-GR6D N34	—	Green/Red		Start/Stop or Blank
—	GOR11-GR7D N34	—	Green/Red		Start/Stop or Blank
—	GOR11-GR8D N34	—	Green/Red		Start/Stop or Blank
—	GOR11-GROD N34	—	Green/Red	None	Start/Stop or Blank

^① Refer to catalog page C30 to select proper operator for enclosure, pages C38 & C39 for accessories, page C30 for complete details on Area Classification of operators, page C42 for Dimensional information.

^② Nameplates are double sided.

^③ Contact Blocks are shown in their normal position.

^④ Short style operators are suitable for Class I Group C & D, Class II Group E,F,G only.

^⑤ When pressed, the green button will remain in a depressed position. Pressing red button releases green from the depressed position.



KILLARK

Class I, Div. 1 & 2, Groups B,C,D[Ⓢ]
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
NEMA 3, 4, 4X, 7(B,C,D) 9(E,F,G)

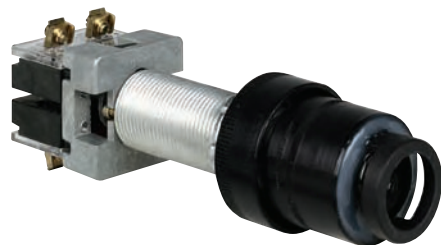
See Area Classification Chart
page C40 for Details

 Listed - File E12379

 Certified - File LR11714
See files for details or call Killark.





Pilot Light








Illuminated Button

FEATURES-SPECIFICATIONS

G PILOT LIGHTS					
CATALOG NUMBER [Ⓢ]			COLOR	CONTACT TYPE [Ⓢ]	NAMEPLATE MARKING [Ⓢ]
SHORT [Ⓢ]	LONG	EXTENDED			
G023-A23C	GOB3-A23C N34	GOL3A	Amber	 110-120 Volts Full Volts	Blank
G023-B23C	GOB3-B23C N34	GOL3B	Blue		Blank
G023-C23C	GOB3-C23C N34	GOL3C	Clear		Blank
G023-F23C	GOB3-F23C N34	GOL3F	Frosted		Blank
G023-G23C	GOB3-G23C N34	GOL3G	Green		Blank
G023-R23C	GOB3-R23C N34	GOL3R	Red		Blank

G PILOT LIGHTS WITH LED 110 VOLT LAMPS					
—	GOB3-A23C N34 LED	GOL3A LED	Amber	 110-120 Volts Full Volts (LED)	Blank
—	GOB3-G23C N34 LED	GOL3G LED	Green		Blank
—	GOB3-R23C N34 LED	GOL3R LED	Red		Blank

G ILLUMINATED BUTTON OR PUSH TO TEST PILOT LIGHT					
—	GOB4-A233C N34	GOL4A3	Amber	 110-120 Volts Full Volts	Blank
—	GOB4-B233C N34	GOL4B3	Blue		Blank
—	GOB4-C233C N34	GOL4C3	Clear		Blank
—	GOB4-F233C N34	GOL4F3	Frosted		Blank
—	GOB4-G233C N34	GOL4G3	Green		Blank
—	GOB4-R233C N34	GOL4R3	Red		Blank
—	GOB4-A230C N34	GOL4A	Amber	 110-120 Volts No Contact Blocks	Blank
—	GOB4-B230C N34	GOL4B	Blue		Blank
—	GOB4-C230C N34	GOL4C	Clear		Blank
—	GOB4-F230C N34	GOL4F	Frosted		Blank
—	GOB4-G230C N34	GOL4G	Green		Blank
—	GOB4-R230C N34	GOL4R	Red		Blank

G ILLUMINATED BUTTON OR PUSH TO TEST PILOT LIGHT WITH LED 110 VOLT LAMPS					
—	GOB4-A233C N34 LED	GOL4A3 LED	Amber	 110-120 Volts Full Volts (LED)	Blank
—	GOB4-G233C N34 LED	GOL4G3 LED	Green		Blank
—	GOB4-R233C N34 LED	GOL4R3 LED	Red		Blank
—	GOB4-A230C N34 LED	GOL4A LED	Amber	 110-120 Volts (LED) No Contact Blocks	Blank
—	GOB4-G230C N34 LED	GOL4G LED	Green		Blank
—	GOB4-R230C N34 LED	GOL4R LED	Red		Blank

[Ⓢ] Refer to catalog page C30 to select proper operator for enclosure, pages C38 & C39 for accessories, page C30 for complete details on Area Classification of operators, page C42 for Dimensional information.

[Ⓢ] Nameplates are double sided.

[Ⓢ] Contact Blocks are shown in their normal position.

[Ⓢ] Short style operators are suitable for Class I Group C & D, Class II Group E,F,G only.





Pilot Light ATEX



Illuminated Push Button ATEX

Class I, Div. 1 & 2, Groups B,C,D
 Class I, Zones 1 & 2, Groups IIB+H₂, IIA
 Class II, Div. 1 & 2, Groups E,F,G
 Class III
 NEMA 3, 4, 4X, 7(B,C,D) 9(E,F,G)
 ATEX-EEExd IIB + H2

Listed - File E12379

Certified - File LR11714

PTB No. 03ATEX 1203 U

FEATURES-SPECIFICATIONS

G PILOT LIGHTS				
CATALOG NUMBER ^①		COLOR	CONTACT TYPE ^③	NAME PLATE MARKING ^②
LONG	EXTENDED			
GOB3-A23C N34CN	GOL3ACN	Amber	110-120 Volts Full Volts	Blank
GOB3-B23C N34CN	GOL3BCN	Blue		Blank
GOB3-C23C N34CN	GOL3CCN	Clear		Blank
GOB3-F23C N34CN	GOL3FCN	Frosted		Blank
GOB3-G23C N34CN	GOL3GCN	Green		Blank
GOB3-R23C N34CN	GOL3RCN	Red		Blank
G PILOT LIGHTS WITH LED 110 VOLT LAMPS				
GOB3-A23C N34LEDCN	GOL3ALEDCN	Amber	110-120 Volts Full Volts (LED)	Blank
GOB3-G23C N34LEDCN	GOL3GLEDCN	Green		Blank
GOB3-R23C N34LEDCN	GOL3RLEDCN	Red		Blank
G ILLUMINATED PUSH BUTTON OR PUSH TO TEST PILOT LIGHT				
GOB4-A233CN34CN	GOL4A3CN	Amber	110-120 Volts Full Volts	Blank
GOB4-B233CN34CN	GOL4B3CN	Blue		Blank
GOB4-C233CN34CN	GOL4C3CN	Clear		Blank
GOB4-F233CN34CN	GOL4F3CN	Frosted		Blank
GOB4-G233CN34CN	GOL4G3CN	Green		Blank
GOB4-R233CN34CN	GOL4R3CN	Red		Blank
GOB4-A230CN34CN	GOL4A0CN	Amber	110-120 Volts No Contact Blocks	Blank
GOB4-B230CN34CN	GOL4B0CN	Blue		Blank
GOB4-C230CN34CN	GOL4C0CN	Clear		Blank
GOB4-F230CN34CN	GOL4F0CN	Frosted		Blank
GOB4-G230CN34CN	GOL4G0CN	Green		Blank
GOB4-R230CN34CN	GOL4R0CN	Red		Blank
G ILLUMINATED PUSH BUTTON OR PUSH TO TEST PILOT LIGHT WITH LED 110 VOLT LAMPS				
GOB4-A233CN34LEDCN	GOL4A3LEDCN	Amber	110-120 Volts Full Volts (LED)	Blank
GOB4-G233CN34LEDCN	GOL4G3LEDCN	Green		Blank
GOB4-R233CN34LEDCN	GOL4R3LEDCN	Red		Blank
GOB4-A230CN34LEDCN	GOL4A0LEDCN	Amber	110-120 Volts (LED) No Contact Blocks	Blank
GOB4-G230CN34LEDCN	GOL4G0LEDCN	Green		Blank
GOB4-R230CN34LEDCN	GOL4R0LEDCN	Red		Blank

^① Refer to catalog page C30 to select proper operator for enclosure, pages C38 & C39 for accessories, page C30 for complete details on Area Classification of operators, page C42 for Dimensional information.

^② Nameplates are double sided.

^③ Contact Blocks are shown in their normal position.

NOTE: British standards BSEN50014 and EN50018 have special marking and relamping demands that require modifications to the standard Killark Pilot Lights. Pilots lights and illuminated push buttons on this page must be used for enclosures that are modified to meet ATEX/CENELEC.



Selector Switch
Maintained Contact



Selector Switch
Spring Return

Class I, Div. 1 & 2, Groups B,C,D^①
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
NEMA 3, 4, 4X, 7(B,C,D) 9(E,F,G)

See Area Classification Chart
page C40 for Details

Listed - File E12379

Certified - File LR11714
See files for details or call Killark.

FEATURES-SPECIFICATIONS

G SELECTOR SWITCH MAINTAINED CONTACT				
CATALOG NUMBER ^①			CONTACT ARRANGEMENT ^②	TYPE OF OPERATION ^③
SHORT ^④	LONG	EXTENDED		
G025-2A3F	G05-2A3F N34	G0L52A3	Left Right Two position	Two position
G025-3C3G	G05-3C3G N34	G0L53C3	Left Center Right Three position	Three position
G025-4H8H	G05-4H8H N34	G0L54H8	1 2 3 4 Four position	Four position

G SELECTOR SWITCH MAINTAINED CONTACT WITHOUT CONTACTS				
G025-2A0F	G05-2A0F N34	G0L52A	None	Two position
G025-3C0G	G05-3C0G N34	G0L53C	None	Three position
G025-4H0H	G05-4H0H N34	G0L54H	None	Four position

G SELECTOR SWITCH SPRING RETURN				
G026-3F	G06-3F N34	G0L63	Left Right Two position spring return to left	Two position spring return to left
G027-6G	G07-6G N34	G0L76	Left Center Right Three position spring return to center from right or left	Three position spring return to center from right or left
G034-6G	G014-6G N34	G0L146	Left Center Right Three position spring return to center from right, maintain in left	Three position spring return to center from right, maintain in left
G035-6G	G015-6G N34	G0L156	Left Center Right Three position spring return to center from left, maintain in right	Three position spring return to center from left, maintain in right

G SELECTOR SWITCH SPRING RETURN WITHOUT CONTACTS				
G026-0F	G06-0F N34	G0L6	None	Two position spring return to left
G027-0G	G07-0G N34	G0L7	None	Three position spring return to center from right or left
G034-0G	G014-0G N34	G0L14	None	Three position spring return to center from right, maintain in left
G035-0G	G015-0G N34	G0L15	None	Three position spring return to center from left, maintain in right

^① Refer to catalog page C30 to select proper operator for enclosure, C38 & C39 for Accessories, C30 for complete details on Area Classification of operators, C42 for Dimensional Information, C40 for Special Contact Configurations.

^② Nameplates are Double sided. 2 position marked ON-OFF and Blank on other side.

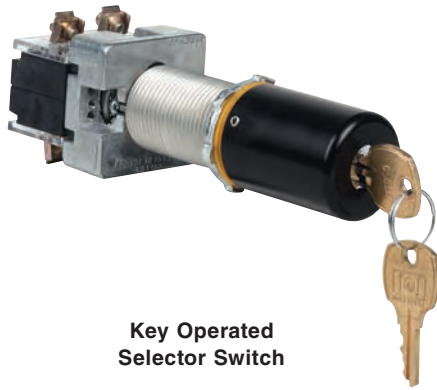
3 position marked HAND-OFF-AUTO and Blank on other side. 4 position is Blank.

^③ Contact Blocks are shown in their normal position.

^④ Short style operators are suitable for Class I Group C & D, Class II Group E,F,G only.



KILLARK



**Key Operated
 Selector Switch**

Class I, Div. 1 & 2, Groups B,C,D®
Class 1, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
NEMA 3, 4, 4X, 7(B,C,D) 9(E,F,G)



**See Area Classification Chart
 page C40 for Details**

 Listed - File E12379


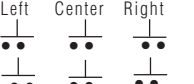
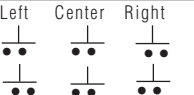
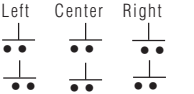
 Certified - File LR11714

See files for details or call Killark.

FEATURES-SPECIFICATIONS

G KEY SELECTOR SWITCH MAINTAINED CONTACT ④				
CATALOG NUMBER ①			CONTACT ARRANGEMENT ③	TYPE OF OPERATION ②⑤
SHORT ⑥	LONG	EXTENDED		
G028-2A3F22D	G08-2A3F22D N34	G0L82A322D		Two position
G028-3C3G32D	G08-3C3G32D N34	G0L83C332D		Three position

G KEY SELECTOR SWITCH MAINTAINED CONTACT WITHOUT CONTACTS ④				
G028-2A0F22D	G08-2A0F22D N34	G0L82A022D	None	Two position
G028-3C0G32D	G08-3C0G32D N34	G0L83C032D	None	Three position

G KEY SELECTOR SWITCH SPRING RETURN ④				
G056-2L3F22D	G036-2L3F22D N34	G0L36L322D		Two position spring return to left
G057-3C6G32D	G037-3C6G32D N34	G0L37C632D		Three position spring return to center from right or left
G058-3L6G32D	G038-3L6G32D N34	G0L38L632D		Three position spring return to center from right, maintain in left
G059-3R6G32D	G039-3R6G32D N34	G0L39R632D		Three position spring return to center from left, maintain in right

G KEY SELECTOR SWITCH SPRING RETURN WITHOUT CONTACTS ④				
G056-2L0F22D	G036-2L0F22D N34	G0L36L022D	None	Two position spring return to left
G057-3C0G32D	G037-3C0G32D N34	G0L37C032D	None	Three position spring return to center from right or left
G058-3L0G32D	G038-3L0G32D N34	G0L38L032D	None	Three position spring return to center from right, maintain in left
G059-3R0G32D	G039-3R0G32D N34	G0L39R032D	None	Three position spring return to center from left, maintain in right

① Refer to catalog page C30 to select proper operator for enclosure, pages C38 & C39 for Accessories, page C30 for complete details on Area Classification of operators, page C42 for Dimensional Information, page C40 for Special Contact Configurations.

② Nameplates are Double sided. 2 position marked ON-OFF and Blank on other side. 3 position marked HAND-OFF-AUTO and Blank on other side. 4 position is Blank.

③ Contact Blocks are shown in their normal position.

④ All Key Operators are furnished Keyed Different If Keyed Alike is required substitute letter "A" for letter "D" in catalog number.

⑤ Keys are removable in Left position on 2 position selectors and in Center position on 3 position selectors. For key removal in ALL positions change "22" in 2 position to "20" and "32" in 3 position to "30".

⑥ Short style operators are suitable for Class I Group C & D, Class II Group E,F,G only.



Snap Switch



Potentiometer and Rheostat
(electrical device not included)



Reset



Rotary or Motor Shaft



Capillary Seal

Class I, Div. 1 & 2, Groups B,C,D^①
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
NEMA 3, 4, 4X, 7(B,C,D) 9(E,F,G)

See Area Classification Chart
page C40 for Details

Certified - File LR11714
See file for details or call Killark.

FEATURES-SPECIFICATIONS

G SNAP SWITCH OPERATOR					
CATALOG NUMBER ^①		TYPE SWITCH	RATINGS		NAMEPLATE MARKING ^②
SHORT ^④	LONG		125 VAC	250 VAC	
GO30-31F	GO10-31F N34	SPST	10 Amp	5 Amp	Off/On or Blank
GO30-33F	GO10-33F N34	SPDT (3-way)	10 Amp	10 Amp	Off/On or Blank

(UL File E10501)

G POTENTIOMETERS AND RHEOSTATS OPERATOR				
CATALOG NUMBER ^①			TYPE	DESCRIPTION ^①
SHORT ^④	LONG	EXTENDED		
GO133	GO113 N34	GOL113	Single turn	Control operator for use with potentiometers or rheostats having a 1/4" diameter by 7/8" long shaft.
GO134	GO114 N34	GOL114	Fifteen turn	

(UL File E150827)

G RESET OPERATOR				
CATALOG NUMBER ^①			NAMEPLATE ^③	TYPE OPERATION ^①
SHORT ^④	LONG	EXTENDED		
GO40-KX2C	GO-RST	GOLRST	Reset or Blank	Black plunger type reset operator, supplied with a 6" long fiber extension which can be removed or cut to desired length.

(UL File E150827)

G ROTARY OR MOTOR SHAFT OPERATOR			
CATALOG NUMBER ^①	SHAFT DIAMETER	TYPE	DESCRIPTION ^①
GO-16 ^⑤	1/4"	Male-Female	Rotary or motor shaft operator used to transfer rotary motion through wall of explosion proof enclosure.
GO-18 ^⑤	3/8"		
GO-17 ^⑤	1/4"	Male-Male	
GO-19 ^⑤	3/8"		
GO-50	1/2"		
GO-51	1/2"		

GO50 requires 1-1/4" NPSM opening (UL File E150827)

G CAPILLARY SEALS			
CATALOG NUMBER ^①	CAPILLARY SIZE	TYPE	DESCRIPTION ^①
GO-11388-078 ^⑤	0.078± .002 Dia.	Accepts Capillary With Max. Bulb Dia. of 9/16".	Use where a mechanical means for passing a thermostat or similar capillary tube through the wall of a hazardous location enclosure.
GO-11372-093 ^⑤	0.093± .002 Dia.		

^① Refer to catalog page C30 to select proper operator for enclosure, pages C38 & C39 for Accessories, page C30 for complete details on Area Classification of operators, page C42 for Dimensional Information.

^② Nameplates are double sided.

^③ GO40 series reset button is suitable for Class II E, F, and G locations only.

^④ Short style operators are suitable for Class I Group C & D, Class II Group E, F, G only.

^⑤ These devices are not UL or CSA approved.





Style 1 - GCS-16



Style 2 - GCS-163



Style 3 - SWBC-16

Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
NEMA 7(C,D) 9(E,F,G)
SWBC Series:

Listed - File E10514

Certified - File LR11716

See files for details or call Killark.

FEATURES-SPECIFICATIONS

GCS STYLE 1 - WITH DRILLED AND TAPPED OPERATOR HOLES IN COVER ①											
CATALOG NUMBER	NO. OF OPERATOR HOLES	CONSISTS OF		DIMENSIONS							
		BOX	COVER	A	B	C	D	E	G	H	I
GCS-13	1	SWB-13	X-60	6-1/8" (156)	2-3/8" (60)	5/16" (8)	5-3/16" (148)	3-5/8" (92)	—	3-1/2" (89)	2-9/16" (65)
GCS-14	1	SWB-14	X-60	6-1/8" (156)	2-3/8" (60)	5/16" (8)	5-1/4" (133)	3-5/8" (92)	—	4-5/16" (110)	3-3/8" (86)
GCS-15	2	SWB-15	X-61	7-3/8" (187)	3-1/8" (79)	5/16" (8)	6-1/2" (165)	4" (102)	1" (25)	4-1/4" (108)	3-1/4" (82)
GCS-16	3	SWB-16	X-62	9-3/8" (238)	3-3/16" (81)	5/16" (8)	8-1/2" (216)	4" (108)	2" (51)	4-1/4" (105)	3-1/4" (82)
GCS-83	4	SWB-83 ^②	X-84	13" (330)	3-1/4" (82)	3/8" (10)	11-7/8" (302)	4-3/8" (111)	1-1/4" (32)	4-3/16" (106)	3-1/4" (82)
GCS-85	5	SWB-83 ^②	X-85	13" (330)	3-1/4" (82)	3/8" (10)	11-7/8" (302)	4-3/8" (111)	2" (51)	4-3/16" (106)	3-3/16" (81)

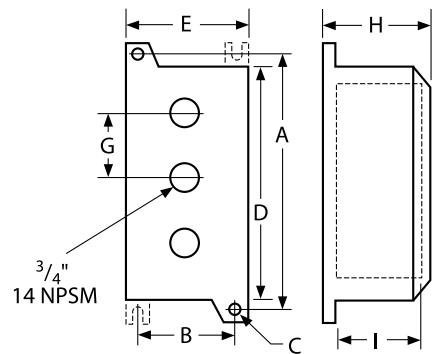
GCS STYLE 2 - WITH DRILLED AND TAPPED OPERATOR HOLES IN BACK OF BOX ①											
CATALOG NUMBER	NO. OF OPERATOR HOLES	BOX	COVER	A	B	C	D	E	G	H	I
GCS-131	1	SWB-13	X-10	6-1/8" (156)	2-3/8" (60)	5/16" (8)	5-3/16" (148)	3-5/8" (92)	—	3-1/2" (89)	2-9/16" (65)
GCS-141	1	SWB-14	X-10	6-1/8" (156)	2-3/8" (60)	5/16" (8)	5-1/4" (133)	3-5/8" (92)	—	4-5/16" (110)	3-3/8" (86)
GCS-152	2	SWB-15	X-11	7-3/8" (187)	3-1/8" (79)	5/16" (8)	6-1/2" (165)	4" (102)	1" (25)	4-1/4" (108)	3-1/4" (82)
GCS-163	3	SWB-16	X-12	9-3/8" (238)	3-3/16" (81)	5/16" (8)	8-1/2" (216)	4" (102)	2" (51)	4-1/4" (108)	3-1/4" (82)
GCS-834	4	SWB-83 ^②	X-83	13" (330)	3-1/4" (82)	3/8" (10)	11-7/8" (302)	4-3/8" (111)	1-1/4" (32)	4-3/16" (106)	3-1/4" (82)
GCS-835	5	SWB-83 ^②	X-83	13" (330)	3-1/4" (82)	3/8" (10)	11-7/8" (302)	4-3/8" (111)	2" (51)	4-3/16" (106)	3-3/16" (81)

SWB STYLE 3 - BLANK BOX AND COVER - NO OPERATOR HOLES ①											
CATALOG NUMBER	NO. OF OPERATOR HOLES	BOX	COVER	A	B	C	D	E	G	H	I
SWBC-13	None	SWB-13	X-10	6-1/8" (156)	2-3/8" (60)	5/16" (8)	5-3/16" (148)	3-5/8" (92)	—	3-1/2" (89)	2-9/16" (65)
SWBC-14	None	SWB-14	X-10	6-1/8" (156)	2-3/8" (60)	5/16" (8)	5-1/4" (133)	3-5/8" (92)	—	4-5/16" (110)	3-3/8" (86)
SWBC-15	None	SWB-15	X-11	7-3/8" (187)	3-1/8" (79)	5/16" (8)	6-1/2" (165)	4" (102)	—	4-1/4" (108)	3-1/4" (82)
SWBC-16	None	SWB-16	X-12	9-3/8" (238)	3-3/16" (81)	5/16" (8)	8-1/2" (216)	4" (111)	—	4-1/4" (108)	3-1/4" (82)
SWBC-83	None	SWB-83 ^②	X-83	13" (330)	3-1/4" (82)	3/8" (10)	11-7/8" (302)	4-3/8" (111)	—	4-3/16" (106)	3-3/16" (81)

① All GCS and SWBC Series are cataloged without conduit openings. Specify conduit size and location when ordering.

② GCS-83, GCS-834, and GCS-85, GCS-835 are provided with four mounting lugs.

Dimensions



Notes: Use short style operators for cover devices and long style operators for back of box mounted devices when panel mounting.

Style 2 control stations with holes in back of box are typically used for panel mounting.





Rubber Boot



Hole Plug



Trim Locknut Spacer



Transformer
GO-8670



Push Button Lockout
GO-8665



Push Button Lockout
GO-10502



Selector Switch Lockout



Reset Plate



Sealing Locknut
GO-RL

ACCESSORIES		
CATALOG NUMBER	USED ON OPERATOR TYPE	DESCRIPTION
GO-8176-1	G01, G021, GOL1	Protective rubber boot (Black)
GO-8176-2	G01, G021, GOL1	Protective rubber boot (Red)
GO-8176-3	G01, G021, GOL1	Protective rubber boot (Green)
GO-8177	3/4" NPSM	Hole plug
GO-8222	1/4" Thick, Used as external spacer.	Trim locknut spacer
GO-8670-32	G023, GOB3, GOL3	Transformer 220V-110V
GO-8670-34	G023, GOB3, GOL3	Transformer 440V-110V
GO-8671-42	GOB4, GOL4	Transformer 220V-110V
GO-8671-44	GOB4, GOL4	Transformer 440V-110V
GO-8665	G02, G022, GOL2, GOR11	Push button lockout
GO-10502	G01, G021, GOL1	Push button lockout
GO567-LOK	GO & GOL5-6-7-14-15-26-27-34-35	Selector switch lockout
GO-RL	For use with GO's	Sealing lockout
GO-9824	GO40, GO-RST, GOLRST	Reset plate
B7PLR220	G023, GOB3, GOL3, GOB4, GOL4	Resistor kit 220V-110V
B7PLR440	G023, GOB3, GOL3, GOB4, GOL4	Resistor kit 440V-110V
B7PLR550	G023, GOB3, GOL3, GOB4, GOL4	Resistor kit 550V-110V
GOLED-R110	GOB3, GOL3, GOB4, GOL4	LED lamps 120V (Red)
GOLED-G110	GOB3, GOL3, GOB4, GOL4	LED lamps 120V (Green)
GOLED-A110	GOB3, GOL3, GOB4, GOL4	LED lamps 120V (Amber)



Lens Guard Assembly

REPLACEMENT LENS GUARD ASSEMBLIES		
CATALOG NUMBER		LENS COLOR
GOL3/GOB3/G023 SERIES	GOL4/GOB4 SERIES	
GO15726-A	KIT-354	Amber
GO15726-B	KIT-355	Blue
GO15726-C	KIT-356	Clear
GO15726-F	KIT-357	Frosted
GO15726-G	KIT-358	Green
GO15726-R	KIT-359	Red

REPLACEMENT BLANK NAMEPLATES	
CATALOG NUMBER	DESCRIPTION
YOKK-9484-2	Push button pilot lights
YOKK-10291	Double push button
YOKK-10286	2 Position selector switch
YOKK-10287	3 Position selector switch
YOKK-10285	4 Position selector switch



GOMLOCK



**Standard Mushroom
Momentary**



**Jumbo Mushroom
Momentary**

ACCESSORIES		
CATALOG NUMBER	FOR USE ON OPERATOR TYPE	DESCRIPTION
GOMLOCK	GOM1-GOM21-GOML-G01-G021-GOL1	Lock Out for Standard Size Momentary & Maintained Head
GOMSTG	G01-G021-GOL1	Standard Size Momentary Mushroom Head (Green)
GOMSTR	G01-G021-GOL1	Standard Size Momentary Mushroom Head (Red)
GOMSTK	G01-G021-GOL1	Standard Size Momentary Mushroom Head (Black)
GOMJUR	G01-G021-GOL1	Jumbo Size Momentary Mushroom Head (Red)

Dimensions - Standard Mushroom - 1-1/2" Diameter

Jumbo Mushroom - 2-1/4" Diameter

**Replacement
Parts**



**Slide Base
GO23**



**Bayonet Base
GOL3/GOL4
GOB3/GOB4**



Contact Block

PILOT LIGHT LAMPS				
CATALOG NUMBER	VOLTS	WATTS	AMPS	STYLE
GO-8668-120	120	3	0.025	G023
GO-8668-24	24	1.7	0.073	
YOSY120MB	120	3	0.025	GOB3/GOL3
YOSY24MB	24	1.7	0.073	GOB4/GOL4

GO STANDARD CONTACT BLOCKS	
CATALOG NUMBER	DESCRIPTION
GO-8672-BJK	1 N.O.
GO-8672-BJJ	1 N.C.
GO-8672-BJH	1 N.O. Early make
GO-8672-BJE	1 N.C. Late break



LED Lamp for GOB3/GOL3 - GOB4/GOL4

PILOT LIGHT LED LAMPS		
CATALOG NUMBER	VOLTS	COLOR
GOLED-A110	110 VAC/DC	Amber
GOLED-B110	110 VAC/DC	Blue
GOLED-G110	110 VAC/DC	Green
GOLED-R110	110 VAC/DC	Red
GOLED-W110	110 VAC/DC	White
GOLED-A24	24 VAC/DC	Amber
GOLED-B24	24 VAC/DC	Blue
GOLED-G24	24 VAC/DC	Green
GOLED-R24	24 VAC/DC	Red
GOLED-W24	24 VAC/DC	White



CHART 1 – SINGLE BUTTON				
G01 SYMBOL	G021 SYMBOL	G0L1 SYMBOL	G0M1 SYMBOL	COLOR
KX	KZ	K	KM	Black
RX	RZ	R	RM	Red
GX	GZ	G	GM	Green

CHART 2 – DOUBLE BUTTON	
SYMBOL	COLOR
KK	Black/Black
GG	Green/Green
RR	Red/Red
RG	Red/Green
KR	Black/Red
KG	Black/Green

CHART 3 – PILOT LIGHT LENS	
SYMBOL	COLOR
A	Amber
B	Blue
C	Clear
F	Frosted
G	Green
R	Red

CHART 4 – CONTACT BLOCKS	
SYMBOL	ARRANGEMENT
1	One N.O. block
2	One N.C. block
3	One universal (One N.O. and one N.C.)
4	One delayed break N.C. block
5	One early make N.O. block
6	Two N.O. blocks
7	Two N.C. blocks
8	Two universal (Two N.O. and two N.C.)
0	Omit contact block

CHART 5 – SELECTOR SWITCHES	
SYMBOL	NO. OF POSITIONS
2	Two
3	Three

CHART 6 – PILOT LIGHT LAMPS		
G023 SYMBOL	GOB3/GOB4 SYMBOL	VOLTAGE
23	23	120
4	4	24

CHART 7A – SELECTOR SWITCH CAMS							
CAM AND CONTACT SELECTION TABLE FOR 2 AND 3 POSITION SELECTOR OPERATOR							
		Left position	Center position	Right position			
SYMBOL	CONTACTS BLOCKS	LEFT BLOCKS	RIGHT BLOCKS	LEFT BLOCKS	RIGHT BLOCKS	LEFT BLOCKS	RIGHT BLOCKS
A	NC	X	X			0	0
	NO	0	0			X	X
B	NC	X	0	X	X	0	X
	NO	0	X	0	0	X	0
C	NC	X	X	0	0	0	0
	NO	0	0	0	0	X	X
D	NC	0	0	X	X	0	0
	NO	0	0	0	0	X	X
E	NC	0	0	X	X	0	0
	NO	X	X	0	0	0	0
G	NC	X	0	0	X	0	0
	NO	0	0	0	0	X	X

Note: Spring return operators are supplied with special fixed cam. Changes cannot be made for cam substitution.

CHART 7B	
CAM	PART NUMBER
A	0106775B
B	11586ABAB
C	11587ABAB
D	11588ABAB
E	11589ABAB
G	11590ABAB

CHART 8 – NAMEPLATES [Ⓞ]			
SYMBOL	NAMEPLATE MARKINGS		G SERIES FORMS THAT NAMEPLATE CAN BE USED ON
	FRONT	BACK	
A	Omit nameplate	Omit nameplate	All
B	Start	Stop	G01, 21, 23, 20, 40, GOB3
C	Blank	Reset	G01, 21, 23, 20, 40, GOB3, GOB4
E	Blank	On	G0R4
F	Blank-Blank	Off-On	G05, 25, 6, 26, 8, 28, 10, 30, 36, 56
G	Blank-Blank-Blank	Hand-Off-Auto	G05, 25, 7, 27, 8, 28, 10, 30, 14, 34
H	Blank-Blank-Blank-Blank	Start-Stop	G05, 25, 10, 30

CHART 9 – KEY LOCK	
SYMBOL	TYPE
22	2 Position key remove left
20	2 Position key remove both
32	3 Position key remove center
30	3 Position key remove all

CHART 10 – KEY STYLE	
SYMBOL	TYPE
D	Keys different
A	Keys alike

[Ⓞ] Symbol not required on extended length GOL part number.

G DIMENSIONS					
SERIES	FIGURE	A	B	C	D
G01	1	15/16" (24)	1-3/4" (44)	3-7/16" (87)	1-1/4" (32)
G02	3	13/16" (21)	2" (51)	3-3/4" (95)	—
G0B3	4	1-1/8" (29)	2" (51)	2-3/4" (70)	1-9/16" (40)
G0B4	5	2-3/8" (60)	2-1/4" (57)	4" (101)	1-13/16" (46)
G05	9	1-5/16" (33)	1-3/4" (44)	3-7/16" (87)	1-1/4" (32)
G06,G07,G014,G015	9	1-5/16" (33)	1-3/4" (44)	3-13/16" (97)	1-1/4" (32)
G08	10	2-9/16" (65)	1-3/4" (44)	3-1/2" (89)	1-1/4" (32)
G010	11	1-5/16" (33)	1-3/4" (44)	4" (101)	1-1/4" (32)
G016,G018	7	1-1/4" (32)	1" (25)	13/16" (21)	1-1/2" (38)
G017,G019	7	13/16" (21)	1" (25)	13/16" (21)	1-1/2" (38)
G021	1	15/16" (24)	3/4" (19)	2-7/16" (62)	1-1/4" (32)
G022	3	13/16" (21)	1" (25)	2-3/4" (70)	—
G023	4	1-1/8" (29)	1" (25)	1-3/4" (44)	1-9/16" (40)
G025	9	1-5/16" (33)	3/4" (19)	2-7/16" (62)	1-1/4" (32)
G026,G027,G034,G035	9	1-5/16" (33)	3/4" (19)	2-13/16" (71)	1-1/4" (32)
G030	11	1-5/16" (33)	3/4" (19)	3" (76)	1-1/4" (32)
G036,G037,G038,G039	10	2-9/16" (65)	1-3/4" (44)	3-7/8" (98)	1-1/4" (32)
G040	2	15/16" (24)	11/16" (17)	1" (25)	1-1/4" (32)
G050	7	1-1/2" (38)	2" (51)	6-5/16" (160)	2-5/16" (59)
G051	7	2-1/4" (57)	1-5/8" (41)	5-9/16" (141)	1" (25)
G056,G057,G058,G059	10	2-9/16" (65)	3/4" (19)	2-7/8" (73)	1-1/4" (32)
G0113,G0114	6	1" (25)	2" (51)	3-5/8" (67)	1-13/16" (46)
G0133,G0134	6	1" (25)	1" (25)	2-5/8" (67)	1-13/16" (46)
GO-11388-078	8	1-5/16" (33)	3/4" (19)	N/A	1-1/2" (38)
GO-11372-093	8	1-5/16" (33)	3/4" (19)	N/A	1-1/2" (38)
G0R11	3	13/16" (21)	2" (51)	4-1/8" (105)	—
G0-RST	2	15/16" (24)	2-5/16" (59)	2-3/8" (+6") (60)	1-1/4" (32)
G0M1	1	1-7/8" (48)	1-7/16" (37)	4" (101)	1-5/8" (41)
EXTENDED LENGTH OPERATORS:					
G0L1	1	15/16" (24)	2-3/4" (70)	4-7/16" (113)	1-1/4" (32)
G0L2	3	13/16" (21)	2-3/4" (70)	4-1/2" (114)	—
G0L3	4	1-1/8" (29)	2-3/4" (70)	3-3/8" (86)	1-9/16" (40)
G0L4	5	2-3/8" (60)	2-3/4" (70)	4-5/8" (117)	1-13/16" (46)
G0L5	9	1-5/16" (33)	2-3/4" (70)	4-7/16" (113)	1-1/4" (32)
G0L6,G0L7,G0L14,G0L15	9	1-5/16" (33)	2-3/4" (70)	4-13/16" (122)	1-1/4" (32)
G0L8	10	2-9/16" (65)	2-3/4" (70)	4-1/2" (114)	1-1/4" (32)
G0L36,G0L37,G0L38,G0L	10	2-9/16" (65)	2-3/4" (70)	4-7/8" (124)	1-1/4" (32)
G0L113,G0L114	6	1" (25)	3" (76)	4-5/8" (117)	1-13/16" (46)
G0LRST	2	15/16" (24)	2-3/4" (70)	3" (+6") (76)	1-1/4" (32)

NOTE: All operators are for installation into a 3/4"-14 NPSM opening except G050 which is for 1-1/4"-11-1/2 NPSM and GO-11388-078 + GO-11372-093 which are for use in a 3/4"-14 NPT opening.

Special Operators

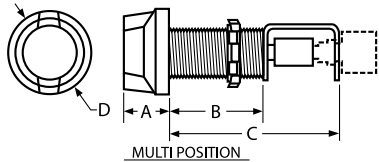


FIGURE 6

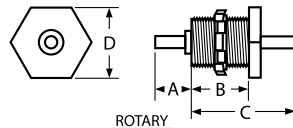


FIGURE 7

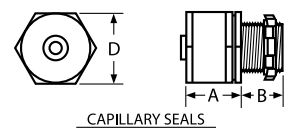


FIGURE 8

Selector Switches

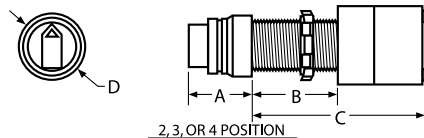


FIGURE 9

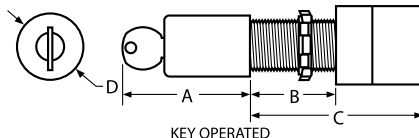


FIGURE 10

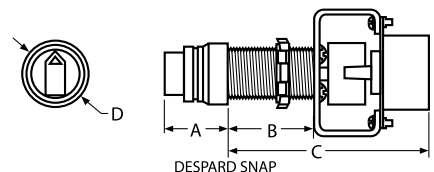


FIGURE 11

Push Buttons

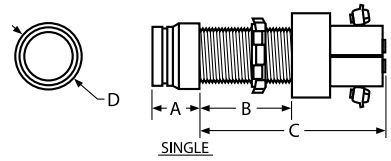


FIGURE 1

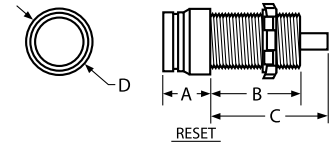


FIGURE 2

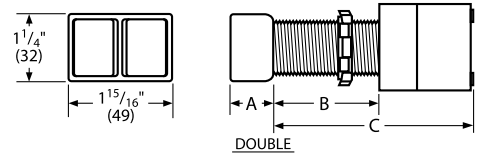


FIGURE 3

Pilot Lights

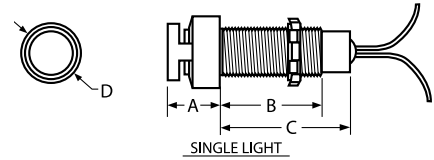


FIGURE 4

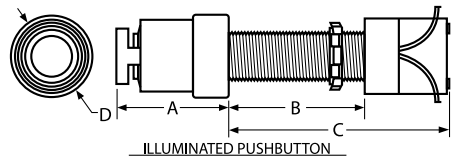


FIGURE 5





Line Starter



Combination Starter

Class I, Div. 1 & 2, Groups B,C,D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III, Div. 1 & 2
NEMA 3, 4, 4X, 7(B,C,D) 9(E,F,G)

Classified - File E83969
 Certified - File LR11714
 See files for details or call Killark.

FEATURES-SPECIFICATIONS



Applications

The PRISM® B7 Series of across-the-line starter and combination motor control centers utilize SSSR single-speed, non-reversing NEMA type starters.

Prism enclosures universal design accommodates, as standard, the magnetic starters made by the following manufacturers:

- Allen-Bradley — 509 Series
- Cutler-Hammer — A10 Series
- Cutler-Hammer — AN16 Series
- Furnas — Class 14 Series
- GE — CR306 Series
- Square D — 8536 Series
- Telemecanique — A20 Series
- Westinghouse — A200 Series

In addition, the SSSR combination starters will house a motor circuit protector or circuit breakers manufactured by:

- Square D — FA, FH, FC Frames
- Cutler-Hammer — HMC, EHD, FDB, FD, HFD, FDC Frames
- General Electric — TEB-TEC-TED-THED-Frame

There is sufficient space in the combination starter enclosure for a control transformer, if required.

Standard Materials

- Enclosure — Copper-free aluminum
- O-ring Gasket — BUNA-N nitrile
- Cover Bolts — 316 grade stainless steel
- CB/MCP Handle — Copper-free aluminum
- Reset Operator — Thermoplastic polyester button molded onto stainless steel shaft. Aluminum shroud.
- Mounting Pan — Sheet aluminum
- Hinge — Aluminum with stainless steel pin
- Reset Shroud — Black anodized

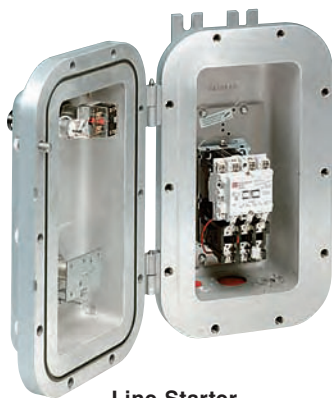
Features

- Nema 4, 4X rated — providing protection from hose directed water and corrosion
- Universal mounting pan, pre-drilled to facilitate easy field installation of starters. Provision for grounding supplied as standard.
- More wiring room — meets latest NEC wire bend requirements
- Quick release, captivated cover bolts of 316 grade stainless steel
- Flange sealing gasket located to the inside of cover bolt — preventing water seepage into enclosure through bolt holes
- Hinged cover provided as standard for an extra measure of safety and convenience
- Breaker (MCP) handle can be pad-locked in “ON” or “OFF” position

- Provisions provided for drain and breather plus conduit openings for power and control
- Reset button provided as standard
- Two control operator openings provided plugged as standard. Additional openings can be factory or field drilled.
- Copper-free (less than 4/10 of 1% copper) enclosure
- Ductile mounting lugs

Catalog Logic

See page C48 for enclosures with controls.



Line Starter



Combination Starter

Class I, Div. 1 & 2, Groups B,C,D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III, Div. 1 & 2
NEMA 3, 4, 4X, 7(B,C,D) 9(E,F,G)

Classified - File E83969

Certified - File LR11714
See files for details or call Killark.

FEATURES-SPECIFICATIONS

Magnetic Line Starters - 3 Pole, 3 Phase, Single Speed Non Reversing 600 VAC Max, 60Hz

Square D or Cutler-Hammer motor starters available as standard. Heaters not included. See page C49 to order.

B7 MAGNETIC LINE STARTERS						
NEMA STARTER SIZE	MOTOR VOLTS	COIL VOLTS [Ⓢ]	MAX. HP	CATALOG NUMBER		ENCLOSURE ONLY NO INTERIORS
				CUTLER-HAMMER SERIES AN16	SQUARE D SERIES 8536	
0	SEP. CONTROL	120	—	B7010HB	B7010SB	B7011
0	230	240	3	B7010HG	B7010SG	
0	460	480	5	B7010HK	B7010SK	
0	575	600	5	B7010HM	B7010SM	
1	SEP. CONTROL	120	—	B7011HB	B7011SB	B7011
1	230	240	7-1/2	B7011HG	B7011SG	
1	460	480	10	B7011HK	B7011SK	
1	575	600	10	B7011HM	B7011SM	
2	SEP. CONTROL	120	—	B7012HB	B7012SB	B7012
2	230	240	15	B7012HG	B7012SG	
2	460	480	25	B7012HK	B7012SK	
2	575	600	25	B7012HM	B7012SM	
3	SEP. CONTROL	120	—	B7013HB	B7013SB	B7013
3	230	240	30	B7013HG	B7013SG	
3	460	480	50	B7013HK	B7013SK	
3	575	600	50	B7013HM	B7013SM	
4	SEP. CONTROL	120	—	B7014HB	B7014SB	B7014
4	230	240	50	B7014HG	B7014SG	
4	460	480	100	B7014HK	B7014SK	
4	575	600	100	B7014HM	B7014SM	

[Ⓢ] See catalog logic page C48 for other standard coil voltages.

[Ⓢ] Control transformers for use on Combination Starters Only. Will not fit into B701 Series of Non-Combination Starters.

[Ⓢ] See catalog page C48 for modifications and accessories to enclosure.



Combination Starters
3-Pole, 3-Phase, Single
Speed Non Reversing
600 VAC Max, 60Hz

Square D or Cutler-Hammer motor starters and motor circuit protector available. Heaters not included. See page C49 to order. Enclosure sized to accommodate control circuit transformer.

B7 COMBINATION MAGNETIC LINE STARTERS							
NEMA STARTER SIZE	MOTOR VOLTS	COIL VOLTS ^①	MAX. HP	DISCONNECT TRIP AMPS	CATALOG NUMBER		ENCLOSURE ONLY NO INTERIORS
					CUTLER-HAMMER SERIES AN16	SQUARE D SERIES 8536	
0	SEP. CONTROL	120	—	3	B7020HBCA	B7020SBAA	B7021
0	SEP. CONTROL	120	—	7	B7020HBCB	B7020SBAB	
0	SEP. CONTROL	120	—	15	B7020HBCC	B7020SBAC	
0	230	240	1	7	B7020HGCB	B7020SGAB	
0	230	240	3	15	B7020HGCC	B7020SGAC	
0	460	480	1	3	B7020HKCA	B7020SKAA	
0	460	480	2	7	B7020HKCB	B7020SKAB	
0	460	480	5	15	B7020HKCC	B7020SKAC	
0	575	600	1	3	B7020HMCA	B7020SMAA	
0	575	600	2	7	B7020HMCB	B7020SMAB	
0	575	600	5	15	B7020HMCC	B7020SMAC	
1	SEP. CONTROL	120	—	15	B7021HBCC	B7021SBAC	B7021
1	SEP. CONTROL	120	—	30	B7021HBCF	B7021SBAF	
1	230	240	7-1/2	30	B7021HGCF	B7021SGAF	
1	460	480	10	30	B7021HKCF	B7021SKAF	
1	575	600	10	30	B7021HMCF	B7021SMAF	
2	SEP. CONTROL	120	—	50	B7022HBCK	B7022SBAK	B7022
2	SEP. CONTROL	120	—	70	B7022HBCM	B7022SBAM	
2	230	240	15	50	B7022HGCK	B7022SGAK	
2	230	240	15	70	B7022HGCM	B7022SGAM	
2	460	480	25	50	B7022HKCK	B7022SKAK	
2	575	600	25	50	B7022HMCK	B7022SMAK	
3	SEP. CONTROL	120	—	100	B7023HBCQ	B7023SBAQ	B7023
3	230	240	30	100	B7023HGCK	B7023SGAQ	
3	460	480	50	100	B7023HKCQ	B7023SKAQ	
3	575	600	50	100	B7023HMCQ	B7023SMAQ	
4	SEP. CONTROL	120	—	150	B7024HBCT	B7024SBBT	B7024
4	230	240	50	150	B7024HGCT	B7024SGBT	
4	460	480	100	150	B7024HKCT	B7024SKBT	
4	575	600	100	150	B7024HMCT	B7024SMBT	
5	SEP. CONTROL	120	—	250	B7025CBCMCPJ250	B7025SBSMAGK250	See chart below
5	SEP. CONTROL	120	—	400	B7025CBCMCPK400	B7025SBSMAGL400	
5	230	240	75	250	B7025CGCMCPJ250	B7025SGSMAGK250	
5	230	240	100	400	B7025CGCMCPK400	B7025SGSMAGL400	
5	460	480	150	250	B7025CKCMCPJ250	B7025SKSMAGK250	
5	460	480	200	400	B7025CKCMCPK400	B7025SKSMAGL400	
5	575	600	150	250	B7025CMCMCPJ250	B7025SMSMAGK250	
5	575	600	200	400	B7025CMCMCPK400	B7025SMSMAGL400	

① See catalog logic page C48 for other standard coil voltages.

② Combination Starter enclosures provide sufficient space for factory of field mounting a control transformer.

③ See catalog page C48 for modifications and accessories to enclosure.

SIZE 5 COMBINATION MOTOR STARTER ENCLOSURE ONLY					
STARTER MANUFACTURER	STARTER TYPE	CIRCUIT BREAKER FRAME			ENCLOSURE CAT. NUMBER
		C-H	GE	SQ-D	
Allen Bradley	Series 509	J	F-225	K	B7025A2
Allen Bradley	Series 509	K	J-600	L	B7025A4
Cutler Hammer	Freedom-AN16	J	F-225	K	B7025C2
Cutler Hammer	Freedom-AN16	K	J-600	L	B7025C4
General Electric	Series 306	J	F-225	K	B7025G2
General Electric	Series 306	K	J-600	L	B7025G4
Square D	Series 8536	J	F-225	K	B7025S2
Square D	Series 8536	K	J-600	L	B7025S4
Westinghouse	Advantage	J	F-225	K	B7025W2
Westinghouse	Advantage	K	J-600	L	B7025W4





Supplied with Cutler-Hammer Advantage Starters

Applications

The PRISM® B7 Series of Combination Starters are used for Motor Control and Circuit protection of motors in Hazardous And Hostile locations. These Hazardous locations are typically due to the presence of flammable gases or vapors, combustible dust, or easily ignitable fibers and flyings, and areas which are subject to corrosion, weather and dampness.

Advantage Starter Features

- Solid-State Electronic Starter
- Brownout Protection
- Communications capabilities
- Overload Heaters not required
- Phase loss and phase unbalance protection
- Selectable automatic/manual reset
- Class II ground-fault protection

Enclosure Features

- Nema 4, 4X rated – providing protection from hose directed water and corrosion
- Universal mounting pan, pre-drilled to facilitate easy field installation of starters. Provision for grounding supplied as standard.
- More wiring room – meets latest NEC wire bend requirements
- Quick release, captivated cover bolts of 316 grade stainless steel

- Flange sealing gasket located to the inside of cover bolt – preventing water seepage into enclosure through bolt holes
- Hinged cover provided as standard for an extra measure of safety and convenience
- Breaker (MCP) handle can be pad-locked in “ON” or “OFF” position
- Provisions provided for drain and breather plus conduit openings for power and control
- Field replaceable reset button provided as standard with gold contact blocks
- Two control operator openings provided plugged as standard. Additional openings can be factory or field drilled
- Copper-free (less than 4/10 of 1% copper) enclosure
- Ductile mounting lugs

Modifications & Accessories

- Select from B7 Modification Chart on page C48
- Minimum Control Transformer
 - Size 1-2 100VA
 - Size 3-4 150VA
 - Size 5 300VA
- Advantage Starters Auxiliary Contact Modules
 - 2NO/2NC = **B7ADAC**

**Class I, Div. 1 & 2, Groups B,C,D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III, Div. 1 & 2
NEMA 3, 4, 4X, 7(B,C,D) 9(E,F,G)**

Classified - File E83969

Certified - File LR11714
See files for details or call Killark.

Standard Materials

Enclosure – Copper-free aluminum
O-ring Gasket – BUNA-N nitrile
Cover Bolts – 316 grade stainless steel
CB/MCP Handle – Copper-free aluminum
Reset Operator – Thermoplastic polyester button molded onto stainless steel shaft. Aluminum shroud.
Mounting Pan – Sheet aluminum
Hinge – Aluminum with stainless steel pin
Reset Shroud – Black anodized

B7AD COMBINATION STARTER								
NEMA STARTER SIZE	MOTOR VOLTS	MAXIMUM HP	COIL VOLTS	FULL LOAD AMPERAGE RANGE(1)	DISCONNECT AMP TRIP	CATALOG NUMBER		
						WITH MOTOR PROTECTOR AND STARTER	ENCLOSURE ONLY	
1L	230	1	120/60	.47-4.14	3	B7AD02LH6CA	B7AD021	
	460	2				B7AD02LH6CB		
	575	2				B7AD02LH6CC		
1	230	7-1/2	120/60	3.15-27	30	B7AD021H6CF	B7AD021	
	460	10						
	575	10						
2	230	15	120/60	3.15-45	50	B7AD022H6CK	B7AD022	
	460	25						
	575	25						
3	230	30	120/60	9.9-90	100	B7AD023H6CQ	B7AD023	
	460	50						
	575	50						
4	230	50	120/60	9.9-133	150	B7AD024H6CT	B7AD024	
	460	100						
	575	100						
5	230	100	120/60	38.3-270	400	B7AD025H6K400	B7AD025K	
	460	200						
	575	200						

Notes: (1) Heaters are not required with the Advantage Starter. The Overload Module has trip current settings via DIP Switch between the amperage range shown.

(2) All Advantage Starters are wired for separate control and must be controlled at the coil voltage shown. For 50 HZ applications a 110V 50 Hz coil is available. To order with this 50 Hz coil replace the number “6” in catalog number with “5”.

(3) Enclosures provide sufficient space for factory or field mounting a control transformer.



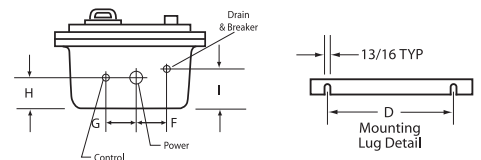
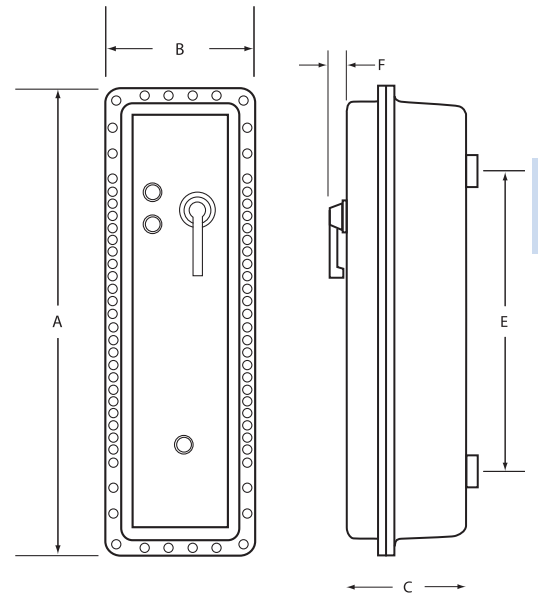
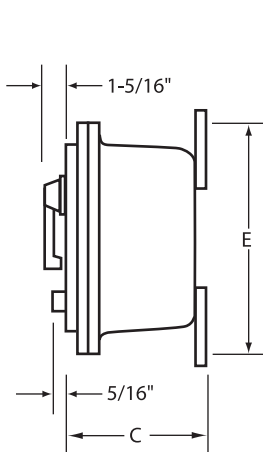
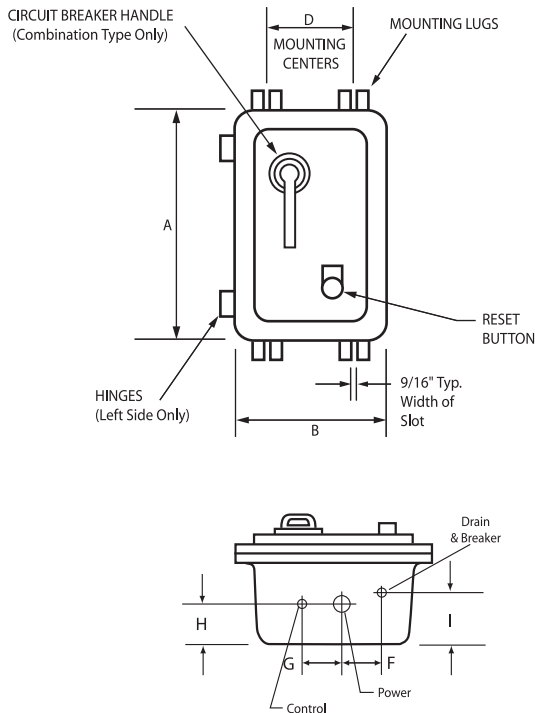
B7 DIMENSIONS															
CATALOG NUMBER	NEMA SIZE	TYPE	DIMENSIONS									EST. ENCL. WEIGHT LBS.	CONDUIT OPENINGS TOP/BOTTOM (IN.) [ⓐ]		
			A	B	C	D	E	F	G	H	I		POWER	CONTROL	DRAIN BREATHER
B7011	0,1	Starter Only	18" (457)	11" (280)	9-1/8" (232)	3-5/8" (92)	16-3/8" (416)	2-1/8" (54)	2-3/8" (60)	2-11/16" (68)	3-7/16" (87)	46	1-1/2"	3/4"	1/2"
B7012	2	Starter Only	20" (508)	12-1/2" (317)	9-1/8" (232)	5" (127)	18-3/8" (467)	2-1/2" (63)	2-1/2" (63)	2-11/16" (68)	3-3/16" (81)	56	1-1/2"	3/4"	1/2"
B7013	3	Starter Only	26-1/4" (667)	12-1/2" (317)	10-3/4" (276)	5" (127)	24-5/8" (625)	2-1/2" (63)	2-3/4" (70)	4-1/16" (103)	5-1/2" (140)	80	2"	1"	1/2"
B7014	4	Starter Only	34-1/4" (870)	16-1/2" (419)	11-1/2" (292)	9" (229)	32-5/8" (830)	3-3/4" (95)	4" (102)	4-7/16" (113)	6" (152)	155	3"	1"	1/2"
B7021	0,1	Combination Starter	23" (584)	14-1/2" (368)	9-1/8" (232)	7" (178)	21-3/8" (543)	2-1/8" (54)	2-1/2" (64)	2-11/16" (68)	3-7/16" (87)	78	1-1/2"	3/4"	1/2"
B7022	2	Combination Starter	25-1/2" (648)	14-1/2" (368)	9-1/8" (232)	7" (178)	23-7/8" (606)	2-1/8" (54)	2-1/2" (64)	2-11/16" (68)	3-7/16" (87)	88	1-1/2"	3/4"	1/2"
B7023	3	Combination Starter	27-1/4" (692)	17-7/8" (454)	11" (280)	10-3/8" (263)	25-5/8" (651)	3-1/2" (89)	3-1/2" (89)	4-3/16" (106)	5-1/2" (140)	143	2"	1"	1/2"
B7024	4	Combination Starter	34-1/4" (870)	21-1/2" (546)	11-7/8" (302)	14" (356)	32-5/8" (829)	4-3/4" (121)	5" (127)	4-9/16" (116)	6-3/16" (157)	235	3"	1"	1/2"

[ⓐ] 1/2" conduit openings may be used for drain and/or breather installation. Smaller conduit openings may be used by utilizing reducing bushings.
Custom conduit sizes and locations are available upon request.

DIMENSIONS FOR SIZE 5 COMBINATION STARTER													
DIMENSIONS										CONDUIT TOP & BTM. (NPT)			ENCL. WT. (LBS.)
A	B	C	D	E	F	G	H	I	J	K	L	M	
62-1/4" (1581)	20-1/4" (514)	15" (381)	18-1/2" (470)	43-1/2" (1105)	2-5/8" (67)	3-1/8" (79)	5-3/8" (137)	7-3/8" (187)	3-1/2 (89)	4" (102)	1/2" (13)	1" (25)	540

Dimensions B7 Size 0 Thru 4

Dimensions B7 Size 5



B7 MODIFICATIONS AND ACCESSORIES		
CATALOG NUMBER		DESCRIPTION
SIZE 0 THRU 4	SIZE 5	
B7DBP	B7EDBP	Double pushbutton (Start/Stop)
B7RPL	B7ERPL	Red pilot light 120 Volt
B7GPL	B7EGPL	Green pilot light 120 Volt
B7APL	B7EAPL	Amber pilot light 120 Volt
B7LPBR	B7ELPBR	Illuminated red pushbutton 120 Volt
B7LPBG	B7ELPBG	Illuminated green pushbutton 120 Volt
B7LPBA	B7ELPBA	Illuminated amber pushbutton 120 Volt
B7PLR220	B7PLR220	Pilot light resistor 220 Volt to 110 Volt
B7PLR440	B7PLR440	Pilot light resistor 440 Volt to 110 Volt
B7PLR550	B7PLR550	Pilot light resistor 550 Volt to 110 Volt
B72SS	B7ESS	2 position selector switch (On-Off)
B7SSHOA	B7ESSHOA	3 position selector switch (Hand-Off-Auto)
B7HAC	B75CAC	Cutler Hammer auxiliary contact (1N0/1NC)
B7SAC	B75SAC	Square D auxiliary contact (1N0/1NC)
B7TB	B7TB	Terminal block (6 Terminals)
—	B7IPR	Interposing relay 120 Volt coil
B7CT50	—	Control transformer 50VA (0,1,2)*
B7CT75	—	Control transformer 75VA (0,1,2)*

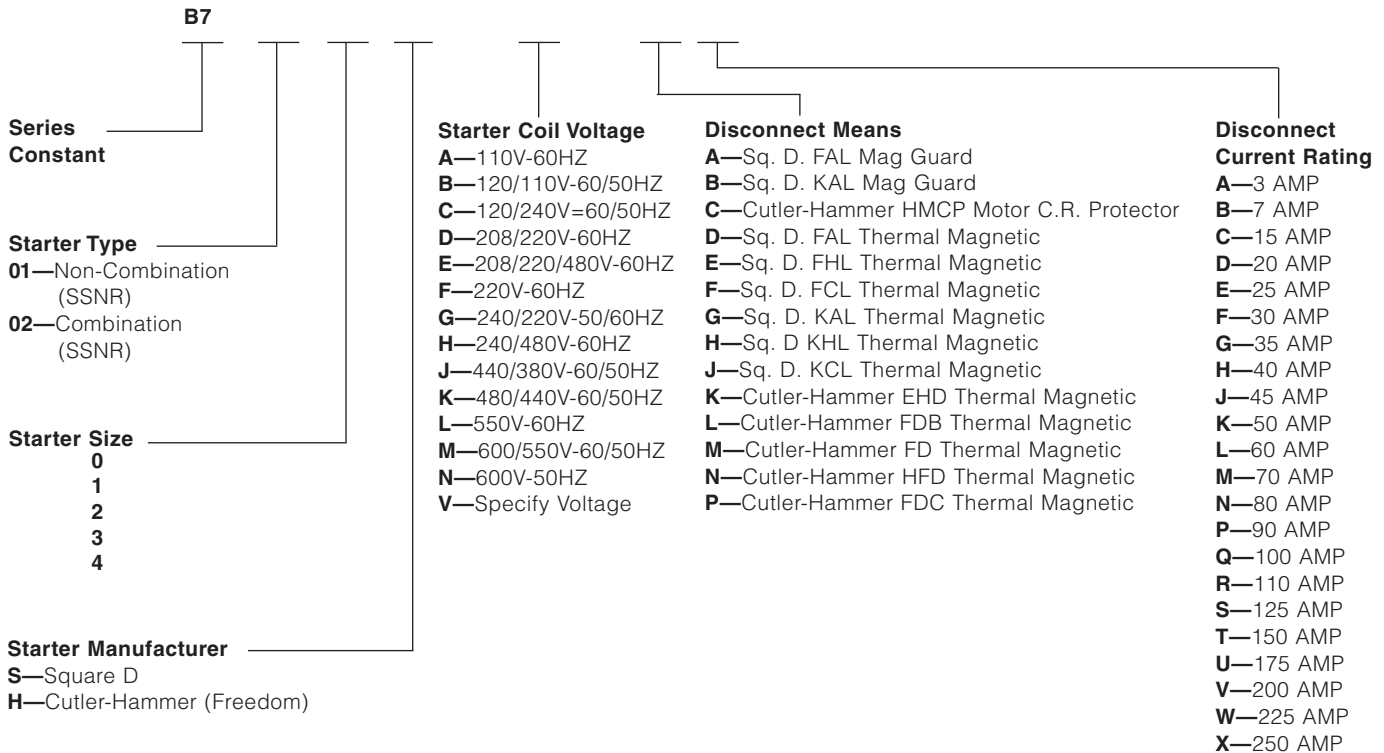
B7 MODIFICATIONS AND ACCESSORIES (CONTINUED)		
CATALOG NUMBER		DESCRIPTION
SIZE 0 THRU 4	SIZE 5	
B7CT100	—	Control transformer 100VA (0,1,2)*
B7CT150	—	Control transformer 150VA (0,1,2)*
B7CT200	—	Control transformer 200VA (3,4)*
B7CT250	—	Control transformer 250VA (3,4)*
—	B7CT300	Control transformer 300VA (5)*
—	B7CT500	Control transformer 500VA (5)*
KB1B	KB1B	Breather** (not CSA)
KB1D	KB1D	Drain** (not CSA)
KIT-251	KIT-251	Grounding kit
B7SF	B7SF	Special finish - Baked epoxy outside
B7DLO	B7DLO	Delete lock ""ON"" feature for breaker handle
B7SH251	B7SH251	Space heater 25 Watt 120 Volt
B7SH252	B7SH252	Space heater 25 Watt 240 Volt
B7SH254	B7SH254	Space heater 25 Watt 480 Volt
B7SH501	B7SH501	Space heater 50 Watt 120 Volt
B7SH502	B7SH502	Space heater 50 Watt 240 Volt
B7SH504	B7SH504	Space heater 50 Watt 480 Volt

* Control transformers are primary 240/480 - Secondary 120 Volt. **Control transformers for use on Combination Starters Only. Will not fit into B701 Series of Non-Combination Starters.**

* All control transformers include fused primary and secondary circuits.

** Installation of drains and breathers will void the NEMA4-4x ratings - voids Group B for CSA.

Catalog Logic - B7 Enclosures with Controls



This Catalog Logic Chart is for reference only and is to be used for selection of special voltage and amperage requirements. Consult Factory since not all assemblies are available with complete list of options displayed.

Overload heaters are not supplied as part of the starter assemblies and are to be ordered as separate items by catalog number and priced accordingly. Heaters should be selected on the basis of the actual full-load current and service factor as shown on the

motor nameplate or in the manufacturer's published literature. When motor and overload relay are in the same ambient and the service factor of the motor is 1.15 to 1.25, select heaters from the heater selection chart. If the service factor of the

motor is 1.0, or there is no service factor shown, or a maximum of 115% protection is desired, select one size smaller heater than indicated.

When motor and overload relay are in different ambients, select heaters from the chart using adjusted motor

currents as follows: decrease rated motor current 1% for each PC motor ambient exceeds controller ambient; increase rated motor current 1% for each PC controller ambient exceeds motor ambient.

SQUARE D 8536 SERIES STARTERS SSNR NEMA SIZES 0-1 THROUGH 5															
CATALOG NUMBER		FULL-LOAD CURRENT (AMPS)		CATALOG NUMBER		FULL-LOAD CURRENT (AMPS)		CATALOG NUMBER		FULL-LOAD CURRENT (AMPS)					
FOR SIZE 0-1				FOR SIZE 1				FOR SIZE 3				FOR SIZE 4			
KB044		0.28-0.30		KB022		11.4-12.7		KCC209		13.6-14.5		KCC643		41.1-43.5	
KB051		0.31-0.34		KB025		12.8-14.1		KCC228		14.6-15.5		KCC685		43.6-46.8	
KB057		0.35-0.37		KB280		14.2-15.9		KCC246		15.6-17.4		KCC746		46.9-50.0	
KB063		0.38-0.44		KB032		16.0-17.5		KCC263		17.5-18.5		KCC815		50.1-54.9	
KB071		0.45-0.53		KB036		17.6-19.7		KCC288		18.6-19.9		KCC877		55.0-57.5	
KB081		0.54-0.59		KB040		19.8-21.9		KCC310		20.0-21.5		KCC940		57.6-61.8	
KB092		0.60-0.64		KB045		22.0-24.4		KCC333		21.6-22.9		KCC103		61.9-66.2	
KB103		0.65-0.72		KB050		24.5-26.0		KCC364		23.0-24.5		KCC112		66.3-72.4	
KB116		0.73-0.80		FOR SIZE 2				KCC396		24.6-26.3		KCC121		72.5-78.1	
KB130		0.81-0.90		KB485		3.18-3.40		KCC427		26.4-28.2		KCC132		78.2-80.7	
KB145		0.91-1.03		KB550		3.41-3.76		KCC466		28.3-30.0		KCC143		80.8-86.5	
KB167		1.04-1.14		KB625		3.77-4.00		KCC501		30.1-32.3		KCC156		86.6-93.9	
KB188		1.15-1.27		KB690		4.01-4.57		KCC545		32.4-34.9		KCC167		94.0-100	
KB210		1.28-1.43		KB770		4.58-5.03		KCC594		35.0-37.6		KCC180		101.-112.	
KB240		1.44-1.62		KB820		5.04-5.32		KCC643		37.7-40.0		KCC196		113.-117.	
KB265		1.63-1.77		KB910		5.33-5.97		KCC685		40.1-42.8		KCC208		118.-123.	
KB330		1.78-1.97		KB102		5.98-6.88		KCC749		42.9-45.3		KCC219		124.-133.	
KB300		1.98-2.32		KB115		6.89-7.82		KCC815		45.4-49.1		FOR SIZE 5			
KB370		2.33-2.51		KB128		7.83-8.47		KCC877		49.2-53.4		KDD112		82.5-88.2	
KB415		2.52-2.99		KB014		8.48-9.15		KCC940		53.5-57.4		KDD121		88.3-95.9	
KB485		3.00-3.42		KB155		9.16-10.1		KCC103		57.5-61.3		KDD128		96.0-102.	
KB550		3.43-3.75		KB175		10.2-11.2		KCC112		61.4-63.5		KDD140		103.-109.	
KB625		3.76-3.98		KB195		11.3-12.0		KCC121		63.6-66.3		KDD150		110.-121.	
KB690		3.99-4.48		KB022		12.1-13.6		KCC132		66.4-69.0		KDD160		122.-139.	
KB770		4.49-4.93		KB025		13.7-15.2		KCC143		69.1-70.9		KDD185		140.-154.	
KB820		4.94-5.21		KB280		15.3-17.1		KCC156		71.0-73.7		KDD220		155.-163.	
KB910		5.22-5.84		KB032		17.2-19.0		KCC167		73.8-76.5		KDD240		164.-175.	
KB102		5.85-6.67		KB036		19.1-21.5		KCC180		76.6-78.4		KDD250		176.-184.	
KB115		6.68-7.54		KB040		21.6-24.1		KCC196		78.5-86.0		KDD265		185.-195.	
KB128		7.55-8.14		KB045		24.2-27.0						KDD280		196.-215.	
KB014		8.15-8.72		KB050		27.1-28.7						KDD300		216.-224.	
KB155		8.73-9.66		KB056		28.8-30.4						KDD320		225.-243.	
KB175		9.67-10.5		KB062		30.5-32.2						KDD320		244.-266.	
KB195		10.6-11.3		KB070		32.3-35.4									
KB022		11.4-12.0		KB079		35.5-38.2									
				KB088		38.3-45.0									

NOTE: Square D 8536 series starters SSNR ambient compensated 20PC to 60PC block type overload using 3 heaters. Three required for each starter.

CUTLER-HAMMER HEATER (EACH HEATER PACK CONSISTS OF 3 HEATERS)													
CATALOG NUMBER	MOTOR FULL-LOAD AMPERE RATING DIAL POSITION				CATALOG NUMBER	MOTOR FULL-LOAD AMPERE RATING DIAL POSITION							
	A	B	C	D		A	B	C	D				
FOR SIZES 0-1													
KH2001B-3	.254	.306	.359	.411	FOR SIZE 2								
KH2002B-3	.375	.452	.530	.607	KH2015B-3	29.0	34.0	39.1	44.1				
KH2003B-3	.560	.676	.791	.907	KH2016B-3	39.6	45.5	51.5	57.4				
KH2004B-3	.814	.983	1.15	1.32	KH2017B-3	53.9	60.9	67.9	74.9				
KH2005B-3	1.20	1.45	1.71	1.96	FOR SIZES 3-4								
KH2006B-3	1.79	2.16	2.53	2.90	KH2018-3	18.0	20.2	22.3	24.5				
KH2007B-3	2.15	2.60	3.04	3.49	KH2019-3	24.6	27.6	30.5	33.4				
KH2008B-3	3.23	3.90	4.56	5.23	KH2020-3	33.5	37.5	41.5	45.6				
KH2009B-3	4.55	5.50	6.45	7.40	KH2021-3	45.7	51.2	56.7	62.1				
KH2010B-3	6.75	8.17	9.58	11.0	KH2022-3	62.2	69.7	77.1	84.6				
KH2011B-3	9.14	10.8	12.4	14.0	KH2023-3	84.7	95.0	105.0	115.0				
KH2012B-3	14.0	16.9	19.9	22.8	KH2024-3	106.0	118.0	131.0	144.0				
KH2013B-3	18.7	22.7	26.7	30.7	FOR SIZE 5								
KH2014B-3	23.5	28.5	33.5	38.5	KH2004B-3	49	59	69	79				
					KH2005B-3	72	87	103	118				
					KH2006B-3	107	130	152	174				
					KH2007B-3	129	156	182	209				
					KH2008B-3	194	234	274	---				





Y7011ZH

Class I, Div. 1 & 2, Groups C,D
Class 1, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
NEMA 7(C,D) 9(E,F,G)

 Certified - File LR11714

 APPROVED Contact Killark for FM file numbers.
See files for details or call Killark.

FEATURES-SPECIFICATIONS

Applications

- Hazardous areas due to the presence of flammable gases or vapors, combustible dusts or easily ignitable fibers or flyings
- Installations at petroleum refineries, chemical and petrochemical plants, storage areas and other processing facilities where hazardous substances are handled or stored
- Full-voltage, across-the-line starting and stopping of polyphase AC squirrel cage induction motors or as the primary starter for wound rotor motors
- Provides running and undervoltage protection of motor
- Remote starting and stopping of motor

Features

- Rectangular bolted cover design provides for attractive, compact, uniform installations
- Ground flange joint between box and cover provides required flame path
- Two drilled and tapped power conduit openings, one top and one bottom are standard on all assemblies.
- One 3/4"-14 NPT drilled, tapped and plugged conduit opening is provided in bottom for remote control
- Two 3/4"-14 NPSM drilled, tapped, and plugged openings in cover are provided for addition of local control operator

- External reset button and stainless steel cover bolts are standard
- Hinges are either stainless steel or aluminum and are mounted on the left side of all assemblies
- Enclosure is cast copper-free aluminum alloy
- Available for Cutler-Hammer AN16 Freedom or Square D 8536 starters

Overload Heaters

Heaters not included. See page C49 for heater selection

Dimensions

See page C52 for dimensional data

Modifications

See page C52

Y7 MAGNETIC LINE STARTER (ENCLOSURES WITHOUT SPACE FOR CONTROL TRANSFORMER)					
NEMA STARTER SIZE	MOTOR VOLTS	COIL VOLTS	MAXIMUM HP	CATALOG NUMBER	
				CUTLER-HAMMER SERIES AN16	SQUARE D SERIES 8536
0	Sep Control	120	—	Y7010BH	Y7010BS
0	230	240	3	Y7010DH	Y7010DS
0	440-460	480	5	Y7010KH	Y7010KS
1	Sep Control	120	—	Y7011BH	Y7011BS
1	230	240	7-1/2	Y7011DH	Y7011DS
1	440-460	480	10	Y7011KH	Y7011KS
2	Sep Control	120	—	Y7012BH	Y7012BS
2	230	240	15	Y7012DH	Y7012DS
2	440-460	480	25	Y7012KH	Y7012KS
0	Enclosure only No interior			Y7010ZH	Y7010ZS
1	Enclosure only No interior			Y7011ZH	Y7011ZS
2	Enclosure only No interior			Y7012ZH	Y7012ZS

Y7 MAGNETIC LINE STARTER (ENCLOSURES WITH SPACE FOR CONTROL TRANSFORMER)					
NEMA STARTER SIZE	MOTOR VOLTS	COIL VOLTS	MAXIMUM HP	CATALOG NUMBER	
				CUTLER-HAMMER SERIES AN16	SQUARE D SERIES 8536
0	230//460	120	3//5	Y7000BH	Y7000BS
1	230//460	120	7 1/2//10	Y7001BH	Y7001BS
2	230//460	120	15//25	Y7002BH	Y7002BS
0	Enclosure only No interior			Y7000ZH	Y7000ZS
1	Enclosure only No interior			Y7001ZH	Y7001ZS
2	Enclosure only No interior			Y7002ZH	Y7002ZS



Y7021ZHAZ

Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
NEMA 7(C,D) 9(E,F,G)

 Certified - File LR11714

 APPROVED Contact Killark for FM file numbers.
 See files for details or call Killark.

FEATURES-SPECIFICATIONS

Applications

- Hazardous areas due to the presence of flammable gases or vapors, combustible dusts or easily ignitable fibers or flyings
- Full-voltage, across-the-line starting and stopping of polyphase AC squirrel cage induction motors or as the primary starter for wound rotor motors
- Provides running and undervoltage protection of motor
- Motor branch circuit disconnect and short circuit protection

Features

- Rectangular bolted cover design provides for attractive, compact, uniform installations
- Two 3/4"-14 NPSM drilled, tapped, and plugged openings are provided for addition of local operators
- Two drilled, tapped and plugged openings, one top and one bottom are supplied for installation of drain and breather
- Hinges are either stainless steel or aluminum and are mounted on the left side of all assemblies
- Circuit breaker handle mechanism interlocks with circuit breaker to prevent opening of enclosure when circuit is in the "ON" position

- External handle is vault type with standard provisions for locking in the "OFF" position with up to three padlocks
- Circuit breaker is trip free of handle mechanism

Modifications

Modifications are available.
 See page C52.

Dimensions

For dimensional data, see page C52.

Overload Heaters

Heaters are not included.
 See page C49 for heater selection.

Y7 COMBINATION MAGNETIC LINE STARTER						
NEMA STARTER SIZE	MOTOR VOLTS	COIL VOLTS	MAXIMUM HP	DISCONNECT TRIP AMPS	CATALOG NUMBER	
					CUTLER-HAMMER SERIES AN16	SQUARE D SERIES 8536
0	Sep Control	120	-	3	Y7020BHVV	Y7020BSVV
0	Sep Control	120	-	7	Y7020BHVX	Y7020BSVX
0	Sep Control	120	-	15	Y7020BHVA	Y7020BSVA
0	230	240	1	7	Y7020DHVX	Y7020DSVX
0	230	240	3	15	Y7020DHVA	Y7020DSVA
0	460	480	1	3	Y7020KHVV	Y7020KSVV
0	460	480	5	7	Y7020KHVX	Y7020KSVX
1	Sep Control	120	-	15	Y7021BHVA	Y7021BSVA
1	Sep Control	120	-	30	Y7021BHVC	Y7021BSVC
1	230	240	7-1/2	30	Y7021DHVC	Y7021DSVC
1	460	480	10	30	Y7021KHVC	Y7021KSVC
2	Sep Control	120	-	50	Y7022BHVE	Y7022BSVE
2	Sep Control	120	-	70	Y7022BHVX	Y7022BSVX
2	230	240	15	50	Y7022DHVE	Y7022DSVE
2	230	240	15	70	Y7022DHVX	Y7022DSVX
2	460	480	25	50	Y7022KHVE	Y7022KSVE
0	Enclosure only. No Interior				Y7020ZHVZ	Y7020ZSVZ
1	Enclosure only. No Interior				Y7021ZHVZ	Y7021ZSVZ
2	Enclosure only. No Interior				Y7022ZHVZ	Y7022ZSVZ

Combination Starter Modifications

Modifications are available by ordering the following by catalog number as separate items and noting on the order that they are to be assembled into the enclosure.

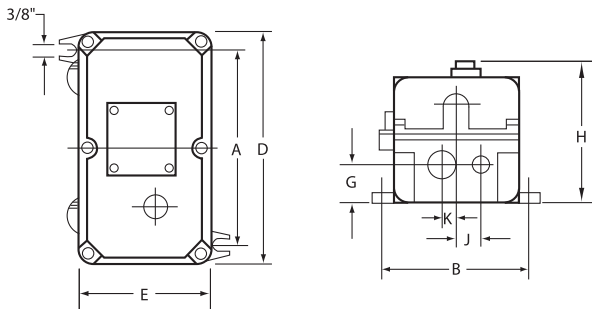
FEATURES-SPECIFICATIONS

Y7 MAGNETIC LINE STARTERS DIMENSIONS										
NEMA SIZE	A	B	D	E	G	H	J	K	CONDUIT SIZE	
									POWER	CONTROL
0-1 [Ⓞ]	7-3/4"(197)	7-1/4"(184)	10"(254)	6"(152)	2"(51)	7-5/8"(194)	1-1/8"(28)	3/4"(19)	1-1/2"	3/4"
2 [Ⓞ]	9"(228)	7-3/4"(197)	11-1/4"(286)	6-1/2"(165)	2"(51)	7-5/8"(194)	1-1/8"(28)	7/8"(22)	1-1/2"	3/4"
0-1 [Ⓢ]	8-3/4"(222)	11-1/8"(282)	12-1/2"(317)	10-1/2"(267)	2"(51)	8-1/4"(209)	2-3/8"(60)	2-3/8"(60)	1-1/2"	3/4"
2 [Ⓢ]	8-3/4"(222)	11-1/8"(282)	12-1/2"(317)	10-1/2"(267)	2"(51)	8-1/4"(209)	2-3/8"(60)	2-3/8"(60)	1-1/2"	3/4"

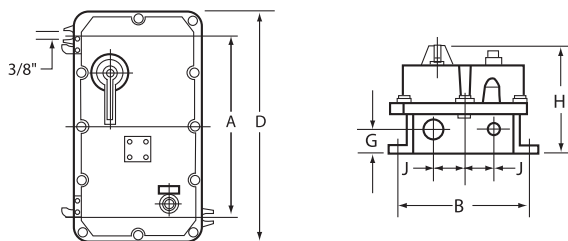
[Ⓞ] Without space for control transformer. [Ⓢ] With space for control transformer.

Y7 COMBINATION STARTERS DIMENSIONS										
NEMA SIZE	A	B	D	E	G	H	J	CONDUIT SIZE		
								POWER	CONTROL	
0-1	16-1/4"(413)	11-1/8"(282)	20"(508)	10-1/2"(267)	2"(51)	9"(228)	2-3/8"(60)	1-1/2"	3/4"	
2	16-1/4"(413)	11-1/8"(282)	20"(508)	10-1/2"(267)	2"(51)	9"(228)	2-3/8"(60)	1-1/2"	3/4"	

Dimensions



Magnetic Line Starters
Sizes 0, 1, 2



Combination Starters
Sizes 0, 1, 2

Y7 MODIFICATIONS AND ACCESSORIES	
CATALOG NUMBER	DESCRIPTION
G022-GR12D	Double pushbutton (Start/Stop)
GOB3-R23C N34	Red pilot light 120 Volt
GOB3-G23C N34	Green pilot light 120 Volt
GOB3-A23C N34	Amber pilot light 120 Volt
B7PLR220	Pilot light resistor 220 Volt to 120 Volt
B7PLR440	Pilot light resistor 440 Volt to 120 Volt
B7PLR550	Pilot light resistor 550 Volt to 120 Volt
G025-2A3F	2 position selector switch (On/Off)
G025-3C3G	3 position selector switch (Hand/Off/Auto)
B7HAC	Cutler-Hammer auxiliary contact (1NO/1NC)
B7SAC	Square D auxiliary contact (1NO/1NC)
B7CT50	Control transformer 50VA*
B7CT75	Control transformer 75VA*
B7CT100	Control transformer 100VA*
KDB-1	Breather
KDB-1	Drain
KIT-251	Grounding kit

* Control transformers are primary 240/480 - Secondary 120 Volt.

* All control transformers include fused primary and secondary circuits.





**XSD, XSX, Series
Non Factory Sealed**



**FXSD, FXSX Series
Factory Sealed**

**Class I, Div. 1 & 2, Groups C,D
Class 1, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
NEMA 7(C,D) 9(E,F,G)
NEMA 3 (Factory sealed type)**

Listed - File E53360 and/or E12379

Certified - File LR11714

FM - File 25219
See files for details or call Killark.

FEATURES-SPECIFICATIONS

Applications

- Provides manual starting and stopping of small AC or DC motors
- Motor running protection when overload heaters are used
- XSX/FXSX Series (without overload protection) are ideally suited for across-the-line applications where a positive disconnect means is required

Features

- FXSX-FXSD Series require no external seals (factory sealed) and are NEMA 3 (raintight) rated
- Enclosures are cast copper-free aluminum alloy
- Operating shaft is stainless steel
- Multiple gang assemblies available in combination with pilot lights, push-buttons and switches on request
- Ground flange joint between bolted cover and box provide required flame path
- Provisions for padlocking switch in either "ON" or "OFF" position is standard

Dimensions

For dimensional data, see page C54.

XSD/FXSD SERIES WITH OVERLOAD PROTECTION ①

Non-Factory Sealed:

Square D, Class 2510, Type F
1-Pole, 1HP, 115-230 VAC
2-Pole, 1HP, 115-230 VAC
3/4 HP, 115-230 VDC

Factory Sealed:

Square D, Class 2510, Type F
1-Pole, 1HP, 115-230 VAC
2-Pole, 1HP, 115-230 VAC
3/4 HP, 115-230 VDC

XSD SINGLE GANG ②			
CATALOG NUMBER		HUB STYLE	HUB SIZE
1-POLE SINGLE PHASE	2-POLE SINGLE PHASE		
XSD-11	XSD-12	Dead end	1/2"
XSD-21	XSD-22		3/4"
XSD-41	XSD-42	Feed thru	1/2"
XSD-51	XSD-52		3/4"
XSD-01	XSD-02	Cover and Switch assembly	

FXSD SINGLE GANG			
CATALOG NUMBER		HUB STYLE	HUB SIZE
1-POLE SINGLE PHASE	2-POLE SINGLE PHASE		
FXSD11	FXSD12	Dead end	1/2"
FXSD21	FXSD22		3/4"
FXSD41	FXSD42	Feed thru	1/2"
FXSD51	FXSD52		3/4"
FXSD01	FXSD02	Cover and Switch assembly	

① Order heaters separately on page C54.
② FM and CSA only

XSX/FXSX SERIES WITHOUT OVERLOAD PROTECTION

Non-Factory Sealed:

Square D, Class 2510, Type K
2-Pole, 2 HP, 115 VAC
2 HP, 200-230 VAC
3 HP, 460-575 VAC
3-Pole, 2 HP, 115 VAC
7-1/2 HP, 200-230 VAC
10 HP, 460-575 VAC

Factory Sealed:

Square D, Class 2510, Type K
2-Pole, 2 HP, 115 VAC
2 HP, 200-230 VAC
3 HP, 460-575 VAC
3-Pole, 2 HP, 115 VAC
3 HP, 200-230 VAC
5 HP, 460-575 VAC

XSX SINGLE GANG ①			
CATALOG NUMBER		HUB STYLE	HUB SIZE
2-POLE 30A., 250V 20A., 600V 1-PHASE	3-POLE 30A., 250V 20A., 600V 3-PHASE		
XSX-12	XSX-13	Dead end	1/2"
XSX-22	XSX-23		3/4"
XSX-42	XSX-43	Feed thru	1/2"
XSX-52	XSX-53		3/4"
XSX-2	XSX-3	Cover and Switch assembly	

FXSX SINGLE GANG			
CATALOG NUMBER		HUB STYLE	HUB SIZE
2-POLE 30A., 250V 20A., 600V 1-PHASE	3-POLE 30A., 250V 20A., 600V 3-PHASE		
FXSX12	FXSX13	Dead end	1/2"
FXSX22	FXSX23		3/4"
FXSX42	FXSX43	Feed thru	1/2"
FXSX52	FXSX53		3/4"
FXSX02	FXSX03	Cover and Switch assembly	

① FM and CSA only

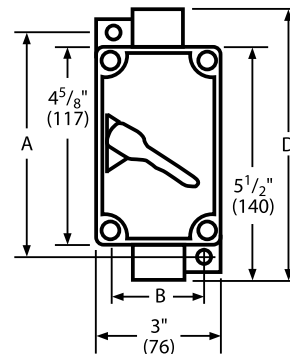
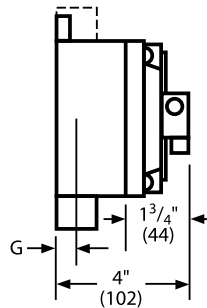


HEATER TABLE [Ⓢ]		
CATALOG NUMBER	FULL-LOAD MOTOR CURRENT	SQUARE D HEATER CATALOG NUMBER
YOSD-A.49	0.41-0.44	A.49
YOSD-A.54	0.45-0.49	A.54
YOSD-A.59	0.50-0.53	A.59
YOSD-A.65	0.54-0.58	A.65
YOSD-A.71	0.59-0.65	A.71
YOSD-A.78	0.66-0.71	A.78
YOSD-A.86	0.72-0.78	A.86
YOSD-A.95	0.79-0.85	A.95
YOSD-A1.02	0.86-0.96	A1.02
YOSD-A1.16	0.97-1.04	A1.16
YOSD-A1.25	1.05-1.16	A1.25
YOSD-A1.39	1.17-1.29	A1.39
YOSD-A1.54	1.30-1.37	A1.54
YOSD-A1.63	1.38-1.47	A1.63
YOSD-A1.75	1.48-1.56	A1.75
YOSD-A1.86	1.57-1.65	A1.86
YOSD-A1.99	1.66-1.79	A1.99
YOSD-A2.15	1.80-1.95	A2.15
YOSD-A2.31	1.96-2.15	A2.31
YOSD-A2.57	2.16-2.38	A2.57
YOSD-A2.81	2.39-2.75	A2.81
YOSD-A3.61	2.76-2.84	A3.61
YOSD-A3.95	2.85-3.06	A3.95
YOSD-A4.32	3.07-3.45	A4.32
YOSD-A4.79	3.46-3.70	A4.79
YOSD-A5.30	3.71-4.07	A5.30
YOSD-A5.78	4.08-4.32	A5.78
YOSD-A6.20	4.33-4.90	A6.20
YOSD-A6.99	4.91-5.35	A6.99
YOSD-A7.65	5.36-5.85	A7.65
YOSD-A8.38	5.86-6.41	A8.38
YOSD-A9.25	6.42-6.79	A9.25
YOSD-A9.85	6.80-7.57	A9.85
YOSD-A11.0	7.58-8.15	A11.0
YOSD-A11.9	8.16-8.98	A11.9
YOSD-A13.2	8.99-9.67	A13.2
YOSD-A14.1	9.68-9.95	A14.1
YOSD-A14.8	9.96-10.8	A14.8
YOSD-A16.2	10.9-12.1	A16.2
YOSD-A17.9	12.2-13.1	A17.9
YOSD-A19.8	13.2-13.9	A19.8
YOSD-A21.3	14.0-15.0	A21.3
YOSD-A25.2	15.1-16.0	A25.2

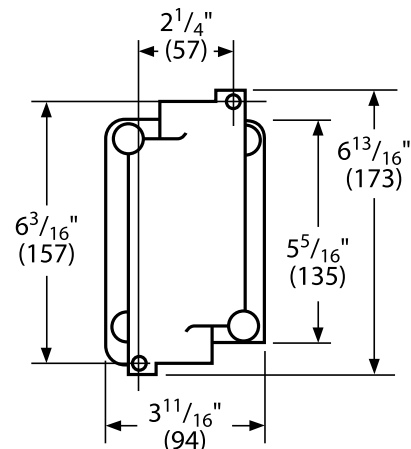
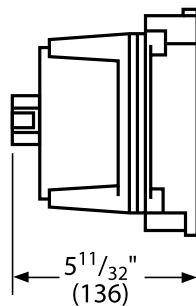
[Ⓢ] Overload heaters are not supplied as part of the starter assemblies and need to be ordered as separate items by catalog number and priced accordingly.

FEATURES-SPECIFICATIONS

XSD/XSX NON-FACTORY SEALED DIMENSIONS					
BOX STYLE	HUB SIZE	A	B	D	G
Single gang dead-end	1/2"	5-1/4"(133)	2-1/4"(57)	—	11/16"(17)
	3/4"	5-1/4"(133)	2-1/4"(57)	—	11/16"(17)
	1"	5-3/8"(136)	2-3/8"(60)	—	7/8"(22)
Single gang feed-thru	1/2"	5-1/4"(133)	2-1/4"(57)	6"(152)	11/16"(17)
	3/4"	5-1/4"(133)	2-1/4"(57)	6"(152)	11/16"(17)
	1"	5-3/8"(136)	2-3/8"(60)	6"(152)	7/8"(22)



FACTORY SEALED (FXSD/FXSX)





B7MS1P
 Push Button Style



B7MS2R
 Rotary Style

Class I, Div. 1 & 2, Groups B,C,D
Class I, Zones 1 & 2, Groups IIB+H2, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III, Div. 1 & 2
NEMA 3, 4, 4X, 7(B,C,D) 9(E,F,G)

US Certified - File LR11714

FEATURES-SPECIFICATIONS

Applications

The PRISM® B7MS Series of non-reversing, manual line voltage starters and enclosures are suitable for use in applications requiring manual across-the-line starting and stopping of small single and polyphase AC motors, and where overload protection is needed. Manual starters are generally used on small machine tools, fans and blowers, pumps, compressors, and conveyors as well as many other types of electrical equipment.

PRISM® enclosures universal design accommodates, as standard, IEC starter manufacturers including Square D, Cutler-Hammer, ABB, Siemens, Moeller, Sprecher + Schuh, Allen-Bradley, Advance Controls, and WEG.

Square D © Schneider Electric
 Siemens © Siemens AG
 Moeller © Moeller Electric Corp.
 See catalog pg. DE8A for copyrights of other brands referenced.

When ordered with starters, ABB or Square D supplied.

Features

- Compact size enclosures provide application flexibility with cost savings over industry standard sizes
- NEMA 4, 4X rated - providing protection from hose directed water and corrosion
- Pre-drilled to facilitate easy field installation of starters
- 2 operating styles, rotary or push button, including lock-out provision.
- Provisions for drain and breather
- Bi-directional ductile mounting lugs
- Two NPT conduit openings provided as standard, with custom openings on request

Electrical Rating

- Starters rated 600V, 3 phase up to 50HP

Standard Materials/Finish

- Enclosures: Copper-free aluminum (less than 4/10 of 1% copper content)
- Cover Bolts: 316 Stainless Steel
- O-ring Gasket: Silicone
- Finish: Grey Powder Polyester painted exterior, electrostatically applied

MODIFICATIONS	
SUFFIX NUMBER	DESCRIPTION
KIT-251	100 amp ground lug
A	Auxiliary contacts 1 NO + 1 NC
SU-2	Hinge-9 Installed
SU3*	Drain & Breather installed (NEMA 7CD)
SU3B*	Drain & Breather installed (NEMA 7BCD)
B7SPNPT	Change Std. conduit size and location
SU9	Special paint finish
SU14	Fungus proofing of enclosures

*NOTE: The installation of a Drain & Breather will void the NEMA 4-4X rating of enclosure.

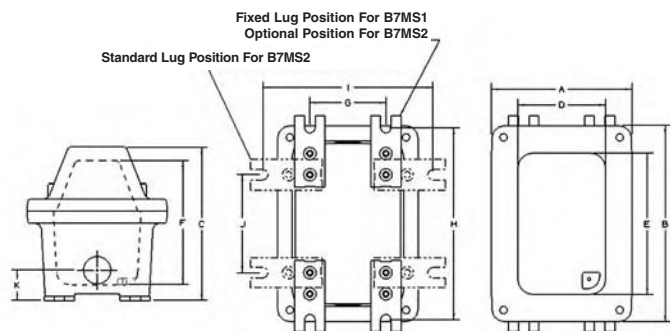
Catalog Logic

B7MS 1 R S 1 A

- Constant for Series ————
- Enclosure Size ————
- 1 = B7EP
- 2 = B7EQ
- Operating Device ————
- R = Rotary
- P = Push Buttons
- Starter Manufacturer to be supplied ————
- S = Square D
- A = ABB
- Blank = Enclosure only
- Horsepower (FLA) of starter ————
- Accessories ————

A = Aux. Contacts NO + NC

DIMENSIONS



Enclosure	OUTSIDE BOX DIMENSIONS			NOMINAL INSIDE BOX			MOUNTING DIMENSIONS					CONDUIT SIZE
	A	B	C	D	E	F	G	H	I	J	K	
B7MS1	5-3/4	8-1/16	6-5/16	3-5/8	5-13/16	5-1/16	3-1/8	8-1/8	-	-	1-1/4	1
B7MS2	8-1/8	13-1/16	7-13/16	4-1/4	9-13/16	6-5/16	2-1/2	11-3/8	6-3/8	7-1/2	1-13/16	1-1/2



B7MS - ROTARY STYLE WITH ABB MS132 & MS450 SERIES								
	CATALOG NUMBER	ADJUSTMENT RANGE FLA	SINGLE PHASE HP		200V-208V	230V	THREE PHASE HP	
			120V	230V			480V	600V
ENCLOSURE WITHOUT STARTER B7MS1R	B7MS1RA-1	0.63 - 1.0					0.5	0.5
	B7MS1RA-2	1.0 - 1.6		0.1			0.75	0.75
	B7MS1RA-3	1.6 - 2.5		0.167		0.5	1	1.5
	B7MS1RA-4	2.5 - 4.0	0.125	0.33		1	2	3
	B7MS1RA-5	4.0 - 6.3	0.25	0.5		1.5	3	5
	B7MS1RA-6	6.3 - 9.0	0.33	1		2.5	5	7.5
	B7MS1RA-7	9.0 - 12.5	0.5	2		3	7.5	10
	B7MS1RA-8	12.5 - 16.0	1	2.5		5	10	10
	B7MS1RA-9	16.0 - 20.0	1.5	3		5	10	15
	B7MS1RA-10	20.0 - 25.0	2	3		7.5	15	20
ENCLOSURE WITHOUT STARTER B7MS2RA FOR USE WITH ABB ONLY	B7MS2RA-12	11 - 16	1	3	5	5	10	15
	B7MS2RA-13	14 - 20	1.5	3	5	7.5	15	20
	B7MS2RA-14	18 - 25	2	5	7.5	10	20	25
	B7MS2RA-15	22 - 32	3	5	10	10	25	30
	B7MS2RA-16	28 - 40	3	7.5	15	15	30	40
	B7MS2RA-17	36 - 45	5	7.5	15	15	30	40
	B7MS2RA-18	40 - 50	5	10	15	20	40	50

B7MS - PUSH BUTTON STYLE SQUARE D GV2 SERIES								
	CATALOG NUMBER	ADJUSTMENT RANGE FLA	SINGLE PHASE HP		200V-208V	230V	THREE PHASE HP	
			120V	230V			480V	600V
ENCLOSURE WITHOUT STARTER B7MS1P*	B7MS1PS-1	0.63 - 1.0					0.5	0.5
	B7MS1PS-2	1.0 - 1.6		0.1			0.75	1
	B7MS1PS-3	1.6 - 2.5		0.167	0.5	0.5	1	1.5
	B7MS1PS-4	2.5 - 4.0	0.125	0.33	0.75	1	2	3
	B7MS1PS-5	4.0 - 6.3	0.25	0.5	1.5	1.5	3	5
	B7MS1PS-6	6.0 - 10.0	0.5	1.5	2	3	5	7.5
	B7MS1PS-7	9.0 - 14.0	0.75	2	3	3	10	10
	B7MS1PS-8	13.0 - 18.0	1	3	5	5	10	15
	B7MS1PS-9	17.0 - 23.0	1.5	3	5	7.5	15	20
	B7MS1PS-10	20.0 - 25.0	2	3	5	7.5	15	20
ENCLOSURE WITHOUT STARTER B7MS2P	B7MS2PS-12	10.0 - 16.0	1	2	3	5	10	10
	B7MS2PS-14	16.0 - 25.0	2	3	5	7.5	15	20
	B7MS2PS-16	25.0 - 40.0	3	7.5	10	10	25	30
	B7MS2PS-18	40.0 - 63.0	5	10	20	20	40	50

B7MS - ROTARY STYLE WITH SQUARE D GV2 & GV3 SERIES								
	CATALOG NUMBER	ADJUSTMENT RANGE FLA	SINGLE PHASE HP		200V-208V	230V	THREE PHASE HP	
			120V	230V			480V	600V
ENCLOSURE WITHOUT STARTER B7MS1R	B7MS1RS-1	0.63 - 1.0					0.5	0.5
	B7MS1RS-2	1.0 - 1.6		0.1			0.75	1
	B7MS1RS-3	1.6 - 2.5		0.167	0.5	0.5	1	1.5
	B7MS1RS-4	2.5 - 4.0	0.125	0.33	0.75	1	2	3
	B7MS1RS-5	4.0 - 6.3	0.25	0.5	1.5	1.5	3	5
	B7MS1RS-6	6.0 - 10.0	0.5	1.5	2	3	5	7.5
	B7MS1RS-7	9.0 - 14.0	0.75	2	3	3	10	10
	B7MS1RS-8	13.0 - 18.0	1	3	5	5	10	15
	B7MS1RS-9	17.0 - 23.0	1.5	3	5	7.5	15	20
	B7MS1RS-10	20.0 - 25.0	2	3	5	7.5	15	20
	B7MS1RS-11	24.0 - 32.0	2	5	10	10	20	30
ENCLOSURE WITHOUT STARTER B7MS2R								

B7MS1R - For use with ABB MS116, MS325, MS132 Automation Direct BM3 Cutler-Hammer XTPB Moeller PKZMO Siemens 3RV Sprecher + Schuh KTA7 SQ D Telemecanique GV2P WEG MPW25

B7MS2R - For use with Automation Direct BM3
B7MS2RA - For use with ABB MS450
B7MS1P - For use with Cutler-Hammer XTPB Moeller PKZMO1 SQ D Telemecanique GV2ME WEG MPW25

B7MS2P - For use with Advance Control MMS25

* **B7MS1PRW** - (enclosure without starter) For use with Allen-Bradley 140 Sorecher + Schuh KT4





B7MSN2P



INTERNAL VIEW

Class I, Div. 1 & 2, Groups B,C,D
Class I, Zones 1 & 2, Groups IIB+H2, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III, Div. 1 & 2
NEMA 3, 4, 4X, 7(B,C,D) 9(E,F,G)

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FEATURES-SPECIFICATIONS

Applications

The PRISM® B7MSN Series of non-reversing, manual line voltage starters and enclosures are suitable for use in applications requiring manual across-the-line starting and stopping of small single and polyphase AC motors, and where overload protection is needed. Manual starters are generally used on small machine tools, fans and blowers, pumps, compressors, and conveyors as well as many other types of electrical equipment.

PRISM® enclosures universal design accommodates, as standard, starter manufacturers including

- Allen-Bradley 609 Series
- Cutler-Hammer B100M Series
- GE CR106 Series
- Square D 2510M Series

Allen Bradley © Rockwell Automation
 Cutler-Hammer © Eaton Corporation
 GE © General Electric Company
 Square D © Schneider Electric

Features

- Compact size enclosures provide application flexibility with cost savings over industry standard sizes
- NEMA 4, 4X rated - providing protection from hose directed water and corrosion
- Pre-drilled to facilitate easy field installation of starters
- Large double green/red start-stop push buttons
- Can be pad locked in "OFF" position
- Provisions for drain and breather
- Bi-directional ductile mounting lugs
- Two 1-1/2" NPT conduit openings provided as standard, with custom openings on request

Electrical Rating

NEMA starter sizes 0, 1, 1-1/2 FVNR;
 2 pole single phase = 230 VAC
 3 pole three phase = 600 VAC
 2 pole VDC = 230 VDC

Overload Heaters

Heaters are not included, see next page.

Standard Materials /Finish

- Enclosures: Copper-free aluminum (less than 4/10 of 1% copper content)
- Cover Bolts: 316 Stainless Steel
- O-ring Gasket: Silicone
- Finish: Grey Powder Polyester painted exterior, electrostatically applied

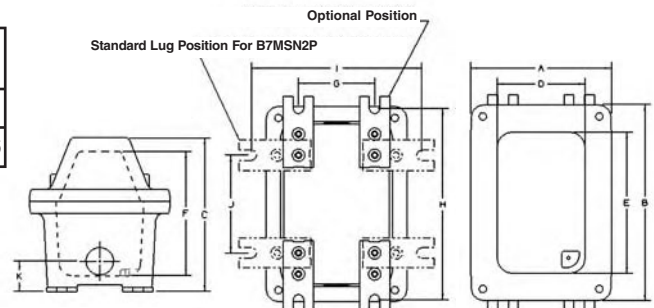
MODIFICATIONS	
SUFFIX NUMBER	DESCRIPTION
KIT-251	100 amp ground lug
AO	Aux. contact NO only
AC	Aux. contact NC only
SU-2	Hinge-9 Installed
SU3*	Drain & Breather installed (NEMA 7CD)
SU3B*	Drain & Breather installed (NEMA 7BCD)
B7SPNPT	Change Std. conduit size and location
SU9	Special paint finish
SU14	Fungus proofing of enclosures

*NOTE: The installation of a Drain & Breather will void the NEMA 4-4X rating of enclosure.

ENCLOSURE	CATALOG NUMBER		SIZE/PHASE	SINGLE PHASE HP		THREE PHASE				DC HP	
	W/CUTLER-HAMMER	W/SQUARE D		120VAC	230VAC	208VAC	230VAC	480VAC**	600VAC	115DC	230VDC
B7MSN2P	B7MSN2PC0B	B7MSN2PS0B	M-0 2P	1	2					1 CH	1.5 CH
	B7MSN2PC1B	B7MSN2PS1B	M-1 2P	2	3					1.5 CH	2 CH
		B7MSN2PSDB	M-1P 2P	3	5						
	B7MSN2PC0C	B7MSN2PS0C	M-0 3P			3	3	5	5		
	B7MSN2PC1C	B7MSN2PS1C	M-1 3P			7.5	7.5	10	10		
		B7MSN2PS0V	M-0 2P VDC							1	1.5
	B7MSN2PS1V	M-1 2P VDC							1.5	2	

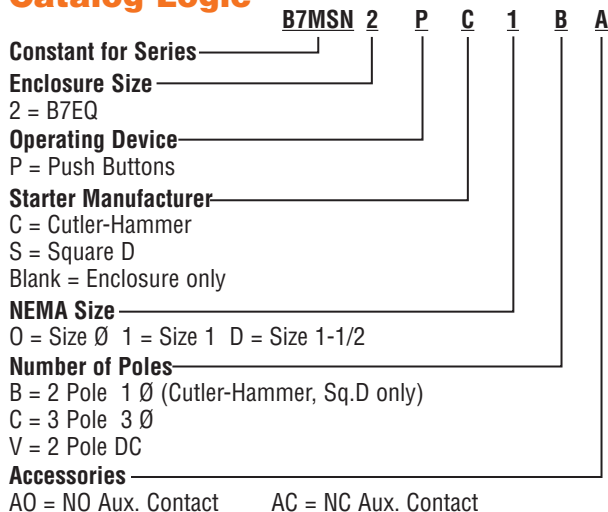
** = INCLUDES 380VAC CH = CUTLER-HAMMER ONLY

Enclosure	OUTSIDE BOX DIMENSIONS			NOMINAL INSIDE BOX			MOUNTING DIMENSIONS				
	A	B	C	D	E	F	G	H	I	J	K
B7MSN2P	8-1/8	13-1/16	7-13/16	4-1/4	9-13/16	6-5/16	2-1/2	11-3/8	6-3/8	7-1/2	11-13/16



B7MSN Heater Selection^①		
Square D 2510M Only		
Motor Full Load AMPS @ 40°C		
Size 0		
CATALOG NUMBER	SINGLE PHASE	THREE PHASE
KB044	0.33 - 0.36	0.29 - 0.32
KB051	0.37 - 0.40	0.33 - 0.36
KB057	0.41 - 0.45	0.37 - 0.39
KB063	0.46 - 0.52	0.40 - 0.47
KB071	0.53 - 0.59	0.48 - 0.56
KB081	0.60 - 0.66	0.57 - 0.63
KB092	0.67 - 0.73	0.64 - 0.69
KB103	0.74 - 0.81	0.70 - 0.77
KB116	0.82 - 0.91	0.78 - 0.86
KB130	0.92 - 1.02	0.87 - 0.96
KB145	1.03 - 1.14	0.97 - 1.11
KB167	1.15 - 1.29	1.12 - 1.23
KB188	1.20 - 1.42	1.24 - 1.37
KB210	1.43 - 1.64	1.38 - 1.55
KB240	1.65 - 1.80	1.56 - 1.75
KB265	1.81 - 2.10	1.76 - 1.92
KB300	2.11 - 2.30	1.93 - 2.16
KB330	2.31 - 2.61	2.17 - 2.50
KB370	2.62 - 2.99	2.51 - 2.81
KB415	3.00 - 3.37	2.82 - 3.16
KB485	3.38 - 3.94	3.17 - 3.40
KB550	3.95 - 4.24	3.41 - 3.76
KB625	4.25 - 4.54	3.77 - 4.00
KB690	4.55 - 5.29	4.01 - 4.68
KB770	5.30 - 5.73	4.69 - 5.18
KB820	5.74 - 6.35	5.19 - 5.51
KB910	6.36 - 7.08	5.52 - 6.19
KB102	7.09 - 7.83	6.20 - 7.12
KB115	7.84 - 8.47	7.13 - 8.15
KB128	8.48 - 9.83	8.16 - 8.60
KB014	9.84 - 10.5	8.61 - 9.21
KB155	10.6 - 11.4	9.22 - 10.1
KB175	11.5 - 12.8	10.2 - 11.2
KB195	12.9 - 13.9	11.3 - 12.0
KB022	14.0 - 16.1	-----
KB025	16.2 - 18.0	-----
SIZE 1 & 1P	SIZE 1 & 1P	SIZE 1 & 1P
KB195	-----	11.3 - 12.1
KB022	-----	12.2 - 13.6
KB025	16.2 - 17.6	13.7 - 15.3
KB280	17.7 - 20.6	15.4 - 17.3
KB032	20.7 - 23.1	17.4 - 19.1
KB036	23.2 - 26.0	19.2 - 21.7
KB040	-----	21.8 - 24.2
KB045	-----	24.3 - 26.0
SIZE 1P	SIZE 1P	SIZE 1P
KB036	23.2 - 27.1	-----
KB040	27.2 - 29.2	-----
KB045	29.3 - 33.0	-----
KB050	33.1 - 36.0	-----

Catalog Logic



B7MSN Heater Selections
CUTLER-HAMMER

CATALOG NUMBER	MOTOR FULL-LOAD AMPS @ 40°C		CUTLER-HAMMER CODEMARK	CATALOG NUMBER	MOTOR FULL-LOAD AMPS @ 40°C		CUTLER-HAMMER CODEMARK
	SINGLE PHASE	THREE PHASE			SINGLE PHASE	THREE PHASE	
YOWEA200-FH03	.28-.29	.25-.26	FH03	YOWEA200-FH30	4.04-4.40	3.54-3.86	FH30
YOWEA200-FH04	.30-.33	.27-.29	FH04	YOWEA200-FH31	4.41-4.81	3.87-4.22	FH31
YOWEA200-FH05	.34-.36	.30-.32	FH05	YOWEA200-FH32	4.82-5.26	4.23-4.61	FH32
YOWEA200-FH06	.37-.40	.33-.35	FH06	YOWEA200-FH33	5.27-5.74	4.62-5.03	FH33
YOWEA200-FH07	.41-.45	.36-.39	FH07	YOWEA200-FH34	5.75-6.25	5.04-5.49	FH34
YOWEA200-FH08	.46-.50	.40-.44	FH08	YOWEA200-FH35	6.27-6.83	5.50-5.99	FH35
YOWEA200-FH09	.51-.56	.45-.49	FH09	YOWEA200-FH36	6.84-7.45	6.00-6.53	FH36
YOWEA200-FH10	.57-.63	.50-.55	FH10	YOWEA200-FH37	7.46-8.11	6.54-7.11	FH37
YOWEA200-FH11	.64-.70	.56-.61	FH11	YOWEA200-FH38	8.12-8.81	7.12-7.73	FH38
YOWEA200-FH12	.71-.78	.62-.68	FH12	YOWEA200-FH39	8.82-9.58	7.74-8.40	FH39
YOWEA200-FH13	.79-.86	.69-.75	FH13	YOWEA200-FH40	9.59-10.40	8.41-9.12	FH40
YOWEA200-FH14	.87-.95	.76-.83	FH14	YOWEA200-FH41	10.41-11.3	9.13-9.89	FH41
YOWEA200-FH15	.96-1.04	.84-.91	FH15	YOWEA200-FH42	11.4-12.2	9.9-10.7	FH42
YOWEA200-FH16	1.05-1.14	.92-1.00	FH16	YOWEA200-FH43	12.3-13.5	10.8-11.8	FH43
YOWEA200-FH17	1.15-1.25	1.01-1.10	FH17	YOWEA200-FH44	13.6-14.9	11.9-13.0	FH44
YOWEA200-FH18	1.26-1.39	1.11-1.22	FH18	YOWEA200-FH45	15.0-16.0	13.1-14.0	FH45
YOWEA200-FH19	1.40-1.54	1.23-1.35	FH19	YOWEA200-FH46	16.1-17.1	14.1-15.0	FH46
YOWEA200-FH20	1.55-1.71	1.36-1.50	FH20	YOWEA200-FH47	17.2-18.3	15.1-16.1	FH47
YOWEA200-FH21	1.72-1.89	1.51-1.66	FH21	YOWEA200-FH48	18.4-19.7	16.2-17.3	FH48
YOWEA200-FH22	1.90-2.10	1.67-1.84	FH22	YOWEA200-FH49	19.8-21.2	17.4-18.6	FH49
YOWEA200-FH23	2.11-2.32	1.85-2.03	FH23	YOWEA200-FH50	21.3-22.8	18.7-20.0	FH50
YOWEA200-FH24	2.33-2.54	2.04-2.23	FH24	YOWEA200-FH51	22.9-24.5	20.1-21.5	FH51
YOWEA200-FH25	2.55-2.79	2.24-2.45	FH25	YOWEA200-FH52	24.6-26.4	21.6-23.2	FH52
YOWEA200-FH26	2.80-3.07	2.46-2.69	FH26	YOWEA200-FH53	26.5-28.5	23.2-25.0	FH53
YOWEA200-FH27	3.08-3.36	2.70-2.95	FH27	YOWEA200-FH54	28.6-30.8	25.1-26.8	FH54
YOWEA200-FH28	3.37-3.68	2.96-3.23	FH28	YOWEA200-FH55	30.9-33.3	— — —	FH55
YOWEA200-FH29	3.69-4.03	3.24-3.53	FH29	YOWEA200-FH56	33.4-36.0	— — —	FH56
				YOWEA200-FH57	36.1-38.9	— — —	FH57

^① Select heater element based on motor nameplate listed full load amps.
Trip rating of element is 125% of motor minimum F.L.A. listed for the element

**CUTLER HAMMER/EATON
B100 STARTERS FULL
VOLTAGE, NON-REVERSING
SINGLE AND POLYPHASE**

Applications

XMSW Series, non-reversing, manual line voltage starters and enclosures are suitable for use in applications requiring manual across-the-line starting and stopping of small single and polyphase AC motors, and where overload protection is needed. Manual starters are generally used on small machine tools, fans and blowers, pumps, compressors, and conveyors as well as many other types of electrical machinery.



Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
NEMA 3R, 7(C,D) 9(E,F,G)



Listed - File E12379

See files for details or call Killark.

FEATURES-SPECIFICATIONS

Features

- Rectangular bolted cover design provides for attractive, compact, uniform installations
- Enclosure and external handle are diecast copper-free (less than 0.4%) aluminum alloy
- Cast "ON," "OFF," "TRIPPED" markings on cover align with external handle and provide clear indication of enclosed starter condition
- External handle is a vault type with standard provisions for locking in the "OFF" position with up to three pad-locks. Provision for locking in "ON" position is available as factory modification (add suffix SU-40 to catalog number).
- Two cast 1" NPT conduit hubs with integral pipe stop, one top and one bottom, are standard on all assemblies

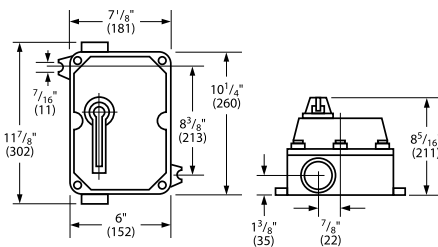
Electrical Rating

Starter sizes 0, 1, 11/2

Two pole, single phase; three pole, polyphase

Maximum 10 HP, 600 Volts AC

Dimensions



① Select heater element based on motor nameplate listed. Full-load amps. Trip rating of element is 125% of motor minimum F.L.A. listed for the element.

XMSW MANUAL LINE STARTERS ① ②						
NEMA SIZE	NUMBER OF POLE SIZE	MAXIMUM HORSEPOWER			CATALOG NUMBER	
		120 VAC	208-240 VAC	480-600 VAC	WITH STARTER	ENCLOSURE ONLY
0	2-POLE; 1Ø, A C	1	2	—	XMSW-0BT	XMSW-00T
0	3-POLE; 3Ø, A C	2	3	5	XMSW-0CT	
1	2-POLE; 1Ø, A C	2	3	—	XMSW-1BT	
1	3-POLE; 3Ø, A C	3	7-1/2	10	XMSW-1CT	
1-1/2	2-POLE; 1Ø, A C	3	5	—	XMSW-DBT	

① Heaters not included. If heaters are required order as separate item by catalog number, three phase starters require three heaters. Single phase starters require two heaters.

② Three pole starters may be used on two-phase four-wire circuits by running one wire direct to motor.

HEATER TABLE FOR XMSW SERIES MANUAL LINE STARTERS ①						
CATALOG NUMBER	MOTOR FULL-LOAD AMPS @ 40°C		CUTLER HAMMER	CATALOG NUMBER	MOTOR FULL-LOAD AMPS @ 40°C	
	SINGLE PHASE	THREE PHASE			SINGLE PHASE	THREE PHASE
YOWEA200-FH03	.28-.29	.25-.26	FH03	YOWEA200-FH30	4.04-4.40	3.54-3.86
YOWEA200-FH04	.30-.33	.27-.29	FH04	YOWEA200-FH31	4.41-4.81	3.87-4.22
YOWEA200-FH05	.34-.36	.30-.32	FH05	YOWEA200-FH32	4.82-5.26	4.23-4.61
YOWEA200-FH06	.37-.40	.33-.35	FH07	YOWEA200-FH33	5.27-5.74	4.62-5.03
YOWEA200-FH07	.41-.45	.36-.39	FH07	YOWEA200-FH34	5.75-6.25	5.04-5.49
YOWEA200-FH08	.46-.50	.40-.44	FH08	YOWEA200-FH35	6.27-6.83	5.50-5.99
YOWEA200-FH09	.51-.56	.45-.49	FH09	YOWEA200-FH36	6.84-7.45	6.00-6.53
YOWEA200-FH10	.57-.63	.50-.55	FH10	YOWEA200-FH37	7.46-8.11	6.54-7.11
YOWEA200-FH11	.64-.70	.56-.61	FH11	YOWEA200-FH38	8.12-8.81	7.12-7.73
YOWEA200-FH12	.71-.78	.62-.68	FH12	YOWEA200-FH39	8.82-9.58	7.74-8.40
YOWEA200-FH13	.79-.86	.69-.75	FH13	YOWEA200-FH40	9.59-10.40	8.41-9.12
YOWEA200-FH14	.87-.95	.76-.83	FH14	YOWEA200-FH41	10.41-11.3	9.13-9.89
YOWEA200-FH15	.96-1.04	.84-.91	FH15	YOWEA200-FH42	11.4-12.2	9.9-10.7
YOWEA200-FH16	1.05-1.14	.92-1.00	FH16	YOWEA200-FH43	12.3-13.5	10.8-11.8
YOWEA200-FH17	1.15-1.25	1.01-1.10	FH17	YOWEA200-FH44	13.6-14.9	11.9-13.0
YOWEA200-FH18	1.26-1.39	1.11-1.22	FH18	YOWEA200-FH45	15.0-16.0	13.1-14.0
YOWEA200-FH19	1.40-1.54	1.23-1.35	FH19	YOWEA200-FH46	16.1-17.1	14.1-15.0
YOWEA200-FH20	1.55-1.71	1.36-1.50	FH20	YOWEA200-FH47	17.2-18.3	15.1-16.1
YOWEA200-FH21	1.72-1.89	1.51-1.66	FH21	YOWEA200-FH48	18.4-19.7	16.2-17.3
YOWEA200-FH22	1.90-2.10	1.67-1.84	FH22	YOWEA200-FH49	19.8-21.2	17.4-18.6
YOWEA200-FH23	2.11-2.32	1.85-2.03	FH23	YOWEA200-FH50	21.3-22.8	18.7-20.0
YOWEA200-FH24	2.33-2.54	2.04-2.23	FH24	YOWEA200-FH51	22.9-24.5	20.1-21.5
YOWEA200-FH25	2.55-2.79	2.24-2.45	FH25	YOWEA200-FH52	24.6-26.4	21.6-23.2
YOWEA200-FH26	2.80-3.07	2.46-2.69	FH26	YOWEA200-FH53	26.5-28.5	23.2-25.0
YOWEA200-FH27	3.08-3.36	2.70-2.95	FH27	YOWEA200-FH54	28.6-30.8	25.1-26.8
YOWEA200-FH28	3.37-3.68	2.96-3.23	FH28	YOWEA200-FH55	30.9-33.3	— —
YOWEA200-FH29	3.69-4.03	3.24-3.53	FH29	YOWEA200-FH56	33.4-36.0	— —
				YOWEA200-FH57	36.1-38.9	— —



General Suitability —
See catalog pages for details







General Suitability —
See catalog pages for details









PRODUCT	PAGE NO.	Wet / Damp Location (or N3)	NEMA 4 (or 4X, or IP6x)	Class I, Div. 2 / Zone 2	Class I, Zone 2 Ex nR (option)	Class I, Div. 2 / Zone 1	Class II / III Div. 1	Class II / III Div. 2	Class I, Div. 1 C,D / Zone I	Class I, Div. 1 A,B,C,D / Zone I	CENELEC Zone 2	CENELEC Zone 1
INCANDESCENT FIXTURES												
NV2 Series Class I, Div.2; NEMA 4X.....	2-5	X	X	X				X				
V Series Standard Location..... Class I, Div. 2; NEMA 4..... Accessories, Dimensions.....	6-8 9-10 11-13	X	X	X								
DV Series DV Dust Ignition Proof.....	14	X					X					
NVPI Series Wet Locations Class II, Div. 2 Non-Metallic/Non-Glass.....	15	X	X					X				
EMI Series Hazardous Location NEMA 4X Groups C,D 60-300 Watt Incandescent.....	137-138	X	X				X	X				
E Series/H Series Hazardous Location Groups A,B 200-300 Watt Incandescent H Series Replacement Parts.....	16 16						X	X	X			
XHL Series Hazardous Location Handlamps 100 Watt Incandescent	14								X			

PRODUCT	PAGE NO.	Wet / Damp Location (or N3)	NEMA 4 (or 4X, or IP6x)	Class I, Div. 2 / Zone 2	Class I, Zone 2 Ex nR (option)	Class I, Div. 2 / Zone 1	Class II / III Div. 1	Class II / III Div. 2	Class I, Div. 1 C,D / Zone I	Class I, Div. 1 A,B,C,D / Zone I	CENELEC Zone 2	CENELEC Zone 1
COMPACT FLUORESCENT												
NV2F Series 13-42 Watt Quad-Pin.....	2-5	X	X	X					X			
NVPF Series 13-26 Watt Class II, Div. 2 Non-Metallic/Non-Glass	15	X	X						X			
MBF Series 13-39 Watt for Standard & Certain Hazardous Locations..... Accessories	22-23 26-27	X	X	X	X				X			
VQ1F/VQ2F Series (Replaces VBF/VQF) 13-84 Watt for Standard & Certain Hazardous Locations.....	43-50	X	X	X					X			
EBF/EQF Series 13-84 Watt for Hazardous Location.....	137-138	X	X						X	X		
XHLF Series Hazardous Location Handlamps 26 Watt Fluorescent.....	14								X	X		
NWPFN Series Surface Mount Non-Metallic/Non-Glass 13-26 Watt	206-207	X	X	X					X			

General Suitability —
See catalog pages for details








General Suitability —
See catalog pages for details











PRODUCT	PAGE NO.	Wet / Damp Location (or N3)	NEMA 4 (or 4X, or IP6x)	Class I, Div. 2 / Zone 2	Class I, Zone 2 Ex nR (option)	Class I, Div. 2 / Zone 1	Class II / III Div. 1	Class II / III Div. 2	Class I, Div. 1 C,D / Zone I	Class I, Div. 1 A,B,C,D / Zone I	CENELEC Zone 2	CENELEC Zone 1
LINEAR FLUORESCENT												
DBF Series Fluorescent Class I, Div. 2 	172	X	X	X				X				
LINEAR^{lite}™ LZ2S Series Fluorescent Stainless Steel 	173	X	X	X				X				
LINEAR^{lite}™ LZ2N Series Fluorescent Non-Metallic Class I, Div. 2 Class II, Div. 1 	174-177	X	X	X		X						
HFX-T Series BIAXIAL Fluorescent Class I, Div. 1 	178-179	X	X			X		X				
HFX Series Hazardous Location Paint Spray Suitable 	180-185	X	X			X		X				
See L206-207 for emergency backed models 	206-207	X	X	X		X						

PRODUCT	PAGE NO.	Wet / Damp Location (or N3)	NEMA 4 (or 4X, or IP6x)	Class I, Div. 2 / Zone 2	Class I, Zone 2 Ex nR (option)	Class I, Div. 2 / Zone 1	Class II / III Div. 1	Class II / III Div. 2	Class I, Div. 1 C,D / Zone I	Class I, Div. 1 A,B,C,D / Zone I	CENELEC Zone 2	CENELEC Zone 1
FLOODLIGHTS & WALL MOUNT FIXTURES												
KWP Series Wallpack for Class I, Div. 2 & N4 	194-195	X	X	X								
QL Quartz Floods 	186-187	X										
KF Series Floods Aluminum Class I, Div. 2 Marine I 150 to 1000 Watt 	189-191	X	X	X								
KF-SS MariGard Stainless Class I, Div. 2 Marine N4 150-400 Watt 	192-193	X	X	X	X							
EM/DM Portable Floods 	188	X	X				X			X		
EZ-T Trunnion 	196-197	X	X							X		
EMERGENCY SIGNALING STROBE LIGHTING												
ESX Strobe Class I, Div. 1 	214-215	X	X				X			X		
NVSL/NVSZ LED and XENON Non-Metallic, Non-Glass 	216-218	X	X	X			X					

General Suitability —
See catalog pages for details

General Suitability —
See catalog pages for details

PRODUCT	PAGE NO.	Wet / Damp Location (or N3)	NEMA 4 (or 4X, or IP6x)	Class I, Div. 2 / Zone 2	Class I, Zone 2 Ex nR (option)	Class I, Div. 2 / Zone 1	Class II / III Div. 1	Class II / III Div. 2	Class I, Div. 1 C,D / Zone I	Class I, Div. 1 A,B,C,D / Zone I	CENELEC Zone 2	CENELEC Zone 1
EMERGENCY LIGHTING BATTERY-BACKED												
												
DE3B/DE4B	198											
Class II, Div. 1												
Exit Accessory	204	X	X					X				
												
VE3B/VE4B VE3Q/VE4Q												
Class I, Div. 2/N4												
Class II/N4	198	X	X	X				X				
Exit Accessory	204											
												
EEQ												
Class I, Div. 1	211	X						X	X			
Exit Accessory	211											
												
EBB												
Class I, D1/N3												
Halogen Lamps	212	X						X	X			
BATTERY OPTION FLUORESCENT												
												
DBFE												
Linear Fluorescent												
Class I, D2/N4	208	X	X	X				X				
												
LZ2NE/LZ2SE (FRP or SS)												
Class I, Div. 2												
Class II, Div. 2	209	X	X	X				X				
												
HFXE												
Class I, Div. 1	210	X	X	X				X	X			

PRODUCT	PAGE NO.	Wet / Damp Location (or N3)	NEMA 4 (or 4X, or IP6x)	Class I, Div. 2 / Zone 2	Class I, Zone 2 Ex nR (option)	Class I, Div. 2 / Zone 1	Class II / III Div. 1	Class II / III Div. 2	Class I, Div. 1 C,D / Zone I	Class I, Div. 1 A,B,C,D / Zone I	CENELEC Zone 2	CENELEC Zone 1
FITTINGS & ADAPTERS												
												
FKA & FHC	219	X										
												
HOOK/LOOP	219	X										
												
FH HOOK	220	X										
												
V Series Fixture Hangers	220	X										
												
HXB & XFH	221	X						X		X		
												
EKF Series Flexible Couplings	221	X						X		X	X	
												
JL & JAL	222	X						X		X		
												
ENY-2SET Pendant Seals	222	X						X		X	X	
												
VMCHVM Adapter	223	X	X	X	X			X				
												
EAC Adapters	224	X	X					X		X		



Pendant Incandescent



Pendant Fluorescent



Ceiling Incandescent



Ceiling Fluorescent

See page L15 for NVP Series with Lexan® Globes

Class I, Div. 2, Groups A,B,C,D
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 2, Groups F,G
Class III
Marine
NEMA 3, 4, 4X, IP66



ABS Type Approval

FEATURES-SPECIFICATIONS

ENVIRORITE® II

Applications

Designed specifically for corrosive & wet NEMA 4X and hazardous environments. Typical applications include manufacturing plants, chemical and petrochemical processing facilities, sewage treatment plants, off-shore and dockside installations, agricultural, commercial/industrial, mining and marine facilities.

Features

- NV2 Series non-metallic light fixtures combine an outstanding balance of strength, stiffness, toughness and electrical properties
- Energy and labor saving fluorescent or incandescent models
- Accessories include polycarbonate dome reflectors and wall extension
- Molded from 30% glass-filled thermoset polyester for high strength
- Resists corrosive effects of most chemicals, hydrocarbons and solvents
- Designed for indoor and outdoor, globe down applications.

to the following standards:

- UL 1598 Standard for luminaires
- UL 1598A Marine type luminaires
- UL 844 Standard for lighting fixtures for hazardous locations
- CSA C22.2 no. 137-M1981 electric luminaires for use in hazardous locations
- Enclosed and gasketed
- NEMA 3, 4X, IP66



Pendant 3/4" Fixture w/clear Globe & Guard*		
Type	Standard Globe	Tempered Globe
150A Incan.	NV2IG15ASG	NV2IG15AHG
13 W Fluor.	NV2FG13ASG	NV2FG13AHG
18 W Fluor.	NV2FG18ASG	NV2FG18AHG
26 W Fluor.	NV2FG26ASG	NV2FG26AHG
32 W Fluor.	NV2FG32ASG	NV2FG32AHG
42 W Fluor.	NV2FG42ASG	NV2FG42AHG

Ceiling 3/4" Fixture w/clear Globe & Guard*		
Type	Standard Globe	Tempered Globe
150A Incan.	NV2IG15XSG	NV2IG15XHG
13 W Fluor.	NV2FG13XSG	NV2FG13XHG
18 W Fluor.	NV2FG18XSG	NV2FG18XHG
26 W Fluor.	NV2FG26XSG	NV2FG26XHG
32 W Fluor.	NV2FG32XSG	NV2FG32XHG
42 W Fluor.	NV2FG42XSG	NV2FG42XHG

Wall 3/4" Fixture w/clear Globe & Guard*		
Type	Standard Globe	Tempered Globe
150A Incan.	NV2IG15BSG	NV2IG15BHG
13 W Fluor.	NV2FG13BSG	NV2FG13BHG
18 W Fluor.	NV2FG18BSG	NV2FG18BHG
26 W Fluor.	NV2FG26BSG	NV2FG26BHG
32 W Fluor.	NV2FG32BSG	NV2FG32BHG
42 W Fluor.	NV2FG42BSG	NV2FG42BHG

***Notes:**

- Tempered Globes are required for Wet Location applications
- All assemblies are unit packed with required components (not assembled)
- **Fluorescent unit pack models (only) include the lamp**
- Reflector is sold separately. For wall mounting with reflector, the NVEXTG extension is required and sold separately
- Fluorescent models use "world voltage" ballasts for 120VAC through 277VAC 50/60Hz applications
- Incandescent models 277VAC max.
- For M20 ceiling units change "X" in part # to "M". For wall units change "B" to "W". M20 Pendant not available.

Colored Globe Options**

Example: NV2IG15ASG-R for Ruby Standard Globe or NV2IG15AHG-R for Ruby Tempered Globe

Suffix and available combinations		
Color	Standard Globe	Tempered Globe
Amber	A	A
Blue	B	B
Ruby	R	R
Green	G	NA
Purple	P	NA
Blue-Green	BG	BG

**Tempered globes are required for wet locations.

T-codes @ 40°C Max; with or without Reflector						
Globe Type	Class I Div.2		Class II Div.2		Minimum Start	
	Clear	Color	Clear	Color	°C	°F
75A	T2C	T2B	T3C	-	-	-
100A	T2A	T2	T3C	-	-	-
150A	T2B	T2	-	-	-	-
13 Fluor	T3C	T3C	T4A	T4A	-20	-4
18 Fluor	T3C	T3C	T4A	T4A	-20	-4
26 Fluor	T3B	T3A	T4A	T4A	-20	-4
32 Fluor	T3B	T3A	T4A	T4A	-20	-4
42 Fluor	T2D	T2C	T4A	T4A	-20	-4

Min. supply wire Fluor. 60° C, Incan. 90° C

Fluorescent Operating Max. Amps		
Type	120 VAC	277 VAC
13W Fluor	.144	.067
18W Fluor	.158	.073
26W Fluor	.22	.097
32W Fluor	.285	.128
42W Fluor	.38	.166



Wall Mount Incandescent



Wall Mount Fluorescent



Wall Mount with Extension and Dome Reflector accessories

Class I, Div. 2, Groups A,B,C,D
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 2, Groups F,G
Class III
Marine
NEMA 3, 4, 4X, IP66



ABS Type Approval

COMPONENT PARTS



Pendant



Ceiling/Wall



Wall Elbow



Ceiling/Wall (Interior Detail)



Incandescent



Fluorescent



Globe



Guard



Reflector



Extension



Gray Blank



Clear

NV2 SPLICE BOXES - INCLUDES SILICONE GASKETS & BRASS SCREWS

CATALOG NUMBER	DESCRIPTION		
NV2AG	Pendant	3/4" NPT	Pendant splice box includes a 316 stainless steel set screw at the conduit connection
NV2XG ^①	Ceiling Box	3/4" NPT	Ceiling box vol. 24 cu. inches
NV2MG ^①		M20	
NV2BG	Wall Bracket		Use with NV2XG or NV2MG for wall mount

NV2 BODIES

CATALOG NUMBER	DESCRIPTION
NV2IG15	Incandescent Body with E-26 medium base socket; fixture rated voltage 277VAC max.
NV2FG13	13 W Fluorescent Body World Voltage 120V - 277V 50/60Hz
NV2FG18	18 W Fluorescent Body World Voltage 120V - 277V 50/60Hz
NV2FG26	26 W Fluorescent Body World Voltage 120V - 277V 50/60Hz
NV2FG32	32 W Fluorescent Body World Voltage 120V - 277V 50/60Hz
NV2FG42	42 W Fluorescent Body World Voltage 120V - 277V 50/60Hz

NV2 GLASS GLOBES & GUARDS^②

CATALOG NUMBER	DESCRIPTION	
VCG-100	Clear	150 watt Lamp size A-21 max.
VCGP-100	Clear, Tempered	
NV2GG		Guard

NV2 REFLECTORS AND EXTENSION

CATALOG NUMBER	DESCRIPTION
NVPSD12	White Polycarbonate Reflector (secured by guard)
NVEXTG	Extension (for wall mount fixture with reflector)

BLANK COVERS FOR NV2XG CEILING BOXES

CATALOG NUMBER	DESCRIPTION
NV2CG	Gray Cover
NV2CC ^①	Clear Cover

NV2F FLUORESCENT REPLACEMENT LAMPS AND BALLASTS

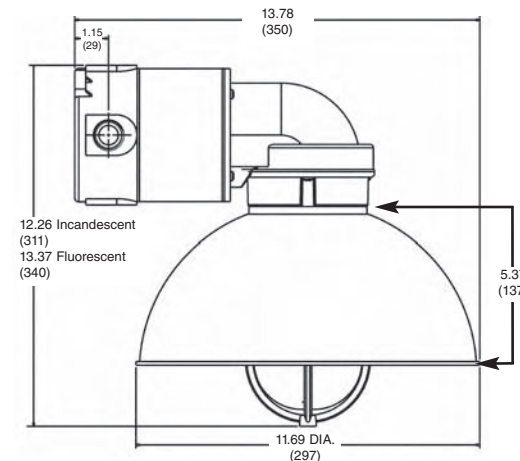
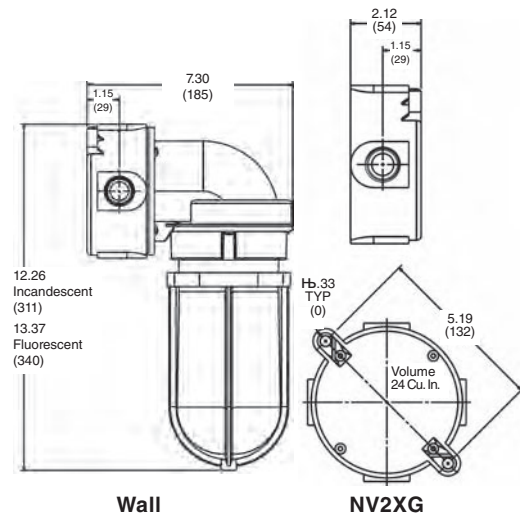
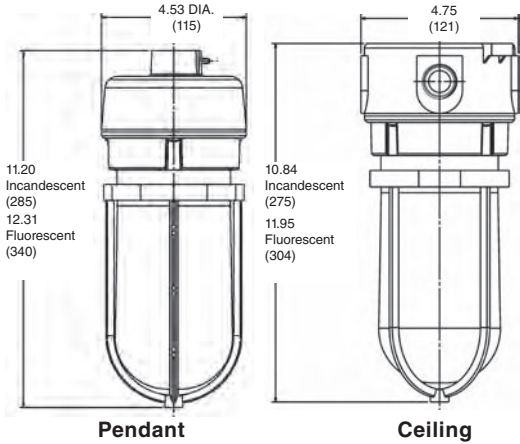
CATALOG NUMBER	LAMP	BALLAST
MQL13	13 W Quad-Pin Lamp 900 Lumens	BKF131830 13/18 Watt Rep. Ballast
MQL18	18 W Quad-Pin Lamp 1200 Lumens	
MQL26	26 W Quad-Pin Lamp 1800 Lumens	
MQL32	32 W Quad-Pin Lamp 2400 Lumens	BKF26324230 26/32/42 Watt Rep. Ballast
MQL42	42 W Quad-Pin Lamp 3200 Lumens	

① NV2 ceiling (wall) boxes have 4 10-32 brass inserts with 2 ground screws. May be used for wet locations, as terminal/junction, boxes, or instruments using 'clear' blank cover.

② See page L12 for colored globes; use tempered for wet locations.



Dimensions*



Wall mount with optional reflector and with extension. Extension required only for wall mount units using reflector.

*NOTE: Dimensional diagrams show incandescent models, but include height also for fluorescent.

NV To NV2 Cross Reference

OLD	NEW#	NEW DESCRIPTION
Complete Fixtures		
NVA15GG	NV2G15ASG	INC 150W PEND STD GLOBE/GRD
NVA15GHG	NV2G15AHG	INC 150W PEND TEMPER GLB/GRD
NVX15GG	NV2G15XSG	INC 150W CEIL STD GLOBE/GRD
NVX15GHG	NV2G15XHG	INC 150W CEIL TEMPER GLB/GRD
NVB15GG	NV2G15BSG	INC 150W WALL STD GLOBE/GRD
NVB15GHG	NV2G15BHG	INC 150W WALL TEMPER GLB/GRD
NVQA18GG	NV2FG18ASG	FL18 120-277 PEND STD GLOB/GRD
NVQA18GHG	NV2FG18AHG	FL18 120-277 PEND TEM GLOB/GRD
NVQX18GG	NV2FG18XSG	FL18 120-277 CEIL STD GLOB/GRD
NVQX18GHG	NV2FG18XHG	FL18 120-277 CEIL TEM GLB/GRD
NVQB18GG	NV2FG18BSG	FL18 120-277 WALL STD GLOB/GRD
NVQB18GHG	NV2FG18BHG	FL18 120-277 WALL TEM GLOB/GRD

Components

NVA	NV2AG	3/4" Pendant
NVX	NV2XG	3/4" Ceiling (Wall) Box
NVB	NV2BG	Elbow, use with Ceiling Box
NVQFC	NV2FG18	Fluorescent Body 120-277VAC 50/60Hz
NVQFC184 (1)	NV2FG18	Fluorescent Body 120-277VAC 50/60Hz
NVFC	NV2G15	Incandescent Body
NVFC-LT (2)	NV2G15	Incandescent Body
NVG	NV2GG	Guard
NVQ-18	MQL18	18W Compact Fluor. Lamp
NVBC	NV2CG	Blank Cover w/Two Gaskets
NVSG	NV2CG	Use Blank Cover's extra gasket

(1) "4" for 277VAC Fluorescent no longer required
 (2) Insulated socket incandescent no longer needed for 90c wire

Key New Features:

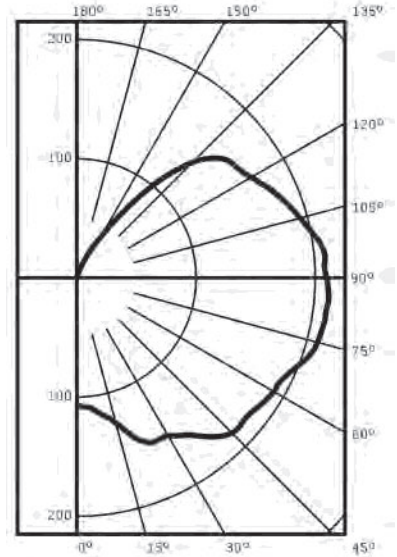
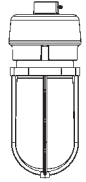
- Certified for Hostile Locations: Class I Div 2; Class II Div 2; N4X; IP66
- ABS Approval
- 120-277VAC 50/60Hz World Voltage Ballasts on Fluorescents
- Four new Fluorescent Wattages: 13, 26, 32, 42
- Only 90° C wire for Incandescent suitable for Marine with 150A
- New Dome Reflector
- Colored "100" Series globes can be ordered in assemblies
- M20 Metric ceiling/wall box
- Four 10-32 bosses in ceiling box for user applications
- Clear Blank covers available for user applications

Backward Compatibility:

- NVG & NV2GG are interchangeable
- Globes are interchangeable
- Old NV Incandescent and Fluorescent bodies will fit new NV2 Boxes and Elbow, but assembly is Wet Location listed only
- New NV2G15 Incandescent will fit old NV Boxes and Elbow
- New NV2FGx Fluorescent will fit old NVX box, not pendant or elbow
- Reflectors will fit old bodies for pendant or ceiling applications

Photometrics

NV2G15 Incandescent
 With Globe & Guard
Candlepower - 150 Watt
 A-21 lamp 2850 lumens
 For 75 Watt multiply by .42
 For 100 Watt multiply by .61



ZONAL LUMEN SUMMARY			
ZONE	LUMENS	%LAMP	%FIXT
0- 30	117	4.1	5.6
0- 40	219	7.7	10.5
0- 50	528	18.5	25.3
0- 90	1172	41.1	56.1
90-120	608	21.3	29.1
90-130	754	26.5	36.1
90-150	903	31.7	43.3
90-180	915	32.1	43.9
0-180	2997	73.2	100.0
TOTAL LUMINAIRE EFFICIENCY =			73.2 %

COEFFICIENTS OF UTILIZATION – ZONAL CAVITY METHOD

% EFFECTIVE FLOOR CAVITY REFLECTANCE 0.20	80					70					50					30					10					0				
	70	50	30	10	0	70	50	30	10	0	50	30	10	0	50	30	10	0	50	30	10	0	50	30	10	0				
% WALL REFLECTANCE 1w	70	50	30	10	0	70	50	30	10	0	50	30	10	0	50	30	10	0	50	30	10	0	50	30	10	0	50	30	10	0
ROOM CAVITY RATIO RCRW	20% Effective Floor Cavity Reflectance																													
0	.79	.79	.79	.79	.74	.74	.74	.74	.74	.64	.64	.64	.64	.54	.54	.54	.54	.45	.45	.45	.41	.41	.41	.41						
1	.69	.64	.59	.55	.63	.59	.55	.51	.50	.47	.44	.41	.39	.37	.34	.32	.30	.26	.25	.23	.19	.19	.19	.19						
2	.61	.53	.47	.42	.56	.49	.44	.39	.41	.37	.33	.34	.31	.28	.27	.25	.23	.19	.18	.14	.14	.14	.14	.14						
3	.55	.46	.39	.33	.50	.42	.36	.31	.35	.30	.26	.29	.25	.22	.23	.20	.18	.14	.14	.11	.11	.11	.11	.11						
4	.49	.40	.33	.27	.45	.37	.30	.25	.31	.26	.21	.25	.21	.18	.20	.17	.14	.11	.11	.09	.09	.09	.09	.09						
5	.45	.35	.28	.23	.41	.33	.26	.21	.27	.22	.18	.22	.18	.15	.18	.14	.12	.09	.09	.08	.08	.08	.08	.08						
6	.41	.31	.24	.19	.38	.29	.22	.18	.24	.19	.15	.20	.16	.12	.16	.12	.10	.08	.06	.06	.06	.06	.06	.06						
7	.38	.28	.21	.16	.35	.26	.20	.15	.22	.17	.13	.18	.14	.11	.14	.11	.08	.06	.06	.06	.06	.06	.06	.06						
8	.35	.25	.19	.14	.32	.23	.17	.13	.20	.15	.11	.16	.12	.09	.13	.10	.07	.06	.06	.06	.06	.06	.06	.06						
9	.33	.23	.17	.12	.30	.21	.15	.12	.18	.13	.10	.15	.11	.08	.12	.09	.06	.05	.05	.05	.05	.05	.05	.05						
10	.30	.21	.15	.11	.28	.19	.14	.10	.16	.12	.09	.14	.10	.07	.11	.08	.06	.04	.04	.04	.04	.04	.04	.04						

SPACING CRITERION = 2.3
 TEST NO. 1716





Enclosed & Gasketed

 Listed - File E27731

 Certified - File LR11851

INTRODUCTION AND ORDERING INFORMATION

V Series
Enclosed & Gasketed

Applications

Locations requiring durable, protected lighting fixtures

Wet and dirt laden locations

Industrial environments requiring enclosed and gasketed (vapor tight) fixtures

Fixtures intended for base-up mounting

Heat resistant glass globes recommended for wet locations

Features

- Electrostatically applied epoxy/polyester finish
- Modular design
- Hubs are threaded for attachment to conduit
- Set screws in pendant fixtures
- Copper-free aluminum (less than 4/10 of 1%)

Class I, Div. 2, NEMA 4 models available - see VXFC Series lighting assemblies & components, pages L9-L12. Dimensions page L13.



PENDANT MOUNT WITH VGA SPLICE BOX								
FITURE TYPE	LAMP WATT	HUB SIZE	CATALOG NUMBER		CONSISTS OF			
			FIXTURE W/ GLOBE	FIXTURE W/ GLOBE & GUARD	MOUNTING BOX	FIXTURE BODY	CLEAR GLOBE*	GUARD (if selected)
100	150	1/2"	VUAG-1-100 ⊕	VUAGG-1-100 ⊕	VGA-1	VFC-100	VCG-100	VAG-100
		3/4"	VUAG-2-100 ⊕	VUAGG-2-100 ⊕	VGA-2	VFC-100	VCG-100	VAG-100
200	300	1/2"	VUAG-1-200 ⊕	VUAGG-1-200 ⊕	VGA-1	VFC-200	VCG-200	VAG-200
		3/4"	VUAG-2-200 ⊕	VUAGG-2-200 ⊕	VGA-2	VFC-200	VCG-200	VAG-200



CEILING MOUNT WITH FEET USING VBC SPLICE BOX AND VBA ADAPTER								
FITURE TYPE	LAMP WATT	HUB SIZE	CATALOG NUMBER		CONSISTS OF			
			FIXTURE W/ GLOBE	FIXTURE W/ GLOBE & GUARD	MOUNTING BOX/ADAPTER	FIXTURE BODY	CLEAR GLOBE*	GUARD (if selected)
100	150	1/2"	VUXBG-1-100 ⊕	VUXGG-1-100 ⊕	VBC-1 + VBA	VFC-100	VCG-100	VAG-100
		3/4"	VUXBG-2-100 ⊕	VUXGG-2-100 ⊕	VBC-2 + VBA	VFC-100	VCG-100	VAG-100
200	300	1/2"	VUXBG-1-200 ⊕	VUXGG-1-200 ⊕	VBC-1 + VBA	VFC-200	VCG-200	VAG-200
		3/4"	VUXBG-2-200 ⊕	VUXGG-2-200 ⊕	VBC-2 + VBA	VFC-200	VCG-200	VAG-200



CEILING MOUNT WITH VGX SPLICE BOX								
FITURE TYPE	LAMP WATT	HUB SIZE	CATALOG NUMBER		CONSISTS OF			
			FIXTURE W/ GLOBE	FIXTURE W/ GLOBE & GUARD	MOUNTING BOX	FIXTURE BODY	CLEAR GLOBE*	GUARD (if selected)
100	150	1/2"	VUXG-1-100 ⊕	VUXGG-1-100 ⊕	VGX-1	VFC-100	VCG-100	VAG-100
		3/4"	VUXG-2-100 ⊕	VUXGG-2-100 ⊕	VGX-2	VFC-100	VCG-100	VAG-100
200	300	1/2"	VUXG-1-200 ⊕	VUXGG-1-200 ⊕	VGX-1	VFC-200	VCG-200	VAG-200
		3/4"	VUXG-2-200 ⊕	VUXGG-2-200 ⊕	VGX-2	VFC-200	VCG-200	VAG-200



CEILING MOUNT WITH VGC SPLICE BOX - FEED THROUGH								
FITURE TYPE	LAMP WATT	HUB SIZE	CATALOG NUMBER		CONSISTS OF			
			FIXTURE W/ GLOBE	FIXTURE W/ GLOBE & GUARD	MOUNTING BOX	FIXTURE BODY	CLEAR GLOBE*	GUARD (if selected)
100	150	1/2"	VUCG-1-100 ⊕	VUCGG-1-100 ⊕	VGC-1	VFC-100	VCG-100	VAG-100
		3/4"	VUCG-2-100 ⊕	VUCGG-2-100 ⊕	VGC-2	VFC-100	VCG-100	VAG-100
200	300	1/2"	VUCG-1-200 ⊕	VUCGG-1-200 ⊕	VGC-1	VFC-200	VCG-200	VAG-200
		3/4"	VUCG-2-200 ⊕	VUCGG-2-200 ⊕	VGC-2	VFC-200	VCG-200	VAG-200

*For other colors, order globes and fixture components separately.


⊕ Fixture supplied as component unit pack when ordered by this catalog number.

⊗ Catalog number for ordering convenience; fixture is shipped as components as listed in catalog number table.





Enclosed & Gasketed

 Listed - File E27731

 Certified - File LR11851

ORDERING INFORMATION



CEILING MOUNT WITH VGH SPLICE BOX - DEAD END								
FIXTURE TYPE	LAMP WATT	HUB SIZE	CATALOG NUMBER		CONSISTS OF			
			FIXTURE W/ GLOBE	FIXTURE W/ GLOBE & GUARD	MOUNTING BOX	FIXTURE BODY	CLEAR GLOBE*	GUARD (if selected)
100	150	1/2"	VUHG-1-100 ②	VUHGG-1-100 ②	VGH-1	VFC-100	VCG-100	VAG-100
		3/4"	VUHG-2-100 ②	VUHGG-2-100 ②	VGH-2	VFC-100	VCG-100	VAG-100
200	300	1/2"	VUHG-1-200 ②	VUHGG-1-200 ②	VGH-1	VFC-200	VCG-200	VAG-200
		3/4"	VUHG-2-200 ②	VUHGG-2-200 ②	VGH-2	VFC-200	VCG-200	VAG-200



CEILING MOUNT WITH VXA DEEP 5-HUB SPLICE BOX								
FIXTURE TYPE	LAMP WATT	HUB SIZE	CATALOG NUMBER		CONSISTS OF			
			FIXTURE W/ GLOBE	FIXTURE W/ GLOBE & GUARD	MOUNTING BOX	FIXTURE BODY	CLEAR GLOBE*	GUARD (if selected)
100	150	1/2"	VXAG-110 ②	VXAGG-110 ①	VXA-1	VFC-100	VCG-100	VAG-100
		3/4"	VXAG-210 ②	VXAGG-210 ②	VXA-2	VFC-100	VCG-100	VAG-100
200	300	1/2"	VXAG-120 ②	VXAGG-120 ②	VXA-1	VFC-200	VCG-200	VAG-200
		3/4"	VXAG-220 ②	VXAGG-220 ②	VXA-2	VFC-200	VCG-200	VAG-200



CEILING MOUNT WITH VBA ADAPTER FOR ROUND OUTLET BOX								
FIXTURE TYPE	LAMP WATT	HUB SIZE	CATALOG NUMBER		CONSISTS OF			
			FIXTURE W/ GLOBE	FIXTURE W/ GLOBE & GUARD	BOX ADAPTER	FIXTURE BODY	CLEAR GLOBE*	GUARD (if selected)
100	150	1/2"	VOB-100 ①	VOBG-100 ①	VBA	VFC-100	VCG-100	VAG-100
200	300	3/4"	VOB-200 ②	VOBG-200 ①	VBA	VFC-200	VCG-200	VAG-200

NOTES: Mounts directly to VJ ,VB or steel 3-1/2" or 4" outlet boxes. Supplied with gasket.



CEILING MOUNT WITH VFPS ADAPTER FOR SQUARE OR OCTAGON OUTLET BOX								
FIXTURE TYPE	LAMP WATT	HUB SIZE	CATALOG NUMBER		CONSISTS OF			
			FIXTURE W/ GLOBE	FIXTURE W/ GLOBE & GUARD	BOX ADAPTER	FIXTURE BODY	CLEAR GLOBE*	GUARD (if selected)
100	150	1/2"	VFCA-100 ①	VFCA-100 ②	VFPS	VFC-100	VCG-100	VAG-100
200	300	3/4"	VFCA-200 ②	VFCA-200 ②	VFPS	VFC-200	VCG-200	VAG-200

NOTES: Mounts directly to steel 4" square and 3-1/2" or 4" octagon outlet box. Supplied with gasket.

*For other colors, order globe and fixture components separately.

① Fixture supplied as component unit pack when ordered by this catalog number.

② Catalog number for ordering convenience; fixture is shipped as components as listed in catalog number table.



KILLARK®



Enclosed & Gasketed

Listed - File E27731

Certified - File LR11851

ORDERING INFORMATION



WALL MOUNT WITH FEET USING VBC SPLICE BOX AND VB ELBOW								
FIXTURE TYPE	LAMP WATT	HUB SIZE	CATALOG NUMBER		CONSISTS OF			
			FIXTURE W/ GLOBE	FIXTURE W/ GLOBE & GUARD	MOUNTING BOX/ELBOW	FIXTURE BODY	CLEAR GLOBE*	GUARD (if selected)
100	150	1/2"	VFBG-1-100 ①	VFBGG-1-100 ①	VBC-1+VB-1	VFC-100	VCG-100	VAG-100
		3/4"	VFBG-2-100 ①	VFBGG-2-100 ①	VBC-2+VB-2	VFC-100	VCG-100	VAG-100
200	300	1/2"	VFBG-1-200 ②	VFBGG-1-200 ②	VBC-1+VB-1	VFC-200	VCG-200	VAG-200
		3/4"	VFBG-2-200 ②	VFBGG-2-200 ②	VBC-2+VB-2	VFC-200	VCG-200	VAG-200



WALL MOUNT WITH VB ELBOW TO MOUNT TO 4" OUTLET BOX								
FIXTURE TYPE	LAMP WATT	HUB SIZE	CATALOG NUMBER		CONSISTS OF			
			FIXTURE W/ GLOBE	FIXTURE W/ GLOBE & GUARD	MOUNTING ELBOW	FIXTURE BODY	CLEAR GLOBE*	GUARD (if selected)
100	150	1/2"	VFBG-110 ②	VFBGG-110 ①	VB-1	VFC-100	VCG-100	VAG-100
		3/4"	VFBG-210 ②	VFBGG-210 ①	VB-2	VFC-100	VCG-100	VAG-100
200	300	1/2"	VFBG-120 ②	VFBGG-120 ②	VB-1	VFC-200	VCG-200	VAG-200
		3/4"	VFBG-220 ②	VFBGG-220 ②	VB-2	VFC-200	VCG-200	VAG-200

Mounts directly to VJ or VB Series or 4" steel outlet boxes. One hub in back, supplied with gasket.



WALL MOUNT-WITH VFL ELBOW FOR DIRECT MOUNT TO V SERIES SPLICE BOXES								
FIXTURE TYPE	LAMP WATT	HUB SIZE	CATALOG NUMBER		CONSISTS OF			
			FIXTURE W/ GLOBE	FIXTURE W/ GLOBE & GUARD	MOUNTING ELBOW	FIXTURE BODY	CLEAR GLOBE*	GUARD (if selected)
100	150	—	VOBL-100 ②	VOBLG-100 ①	VFL	VFC-100	VCG-100	VAG-100
200	300	—	VOBL-200 ②	VOBLG-200 ②	VFL	VFC-200	VCG-200	VAG-200

Mounts directly to V Series splice boxes, not to VBC box.



STANCHION MOUNT FOR 1-1/4" THREADED PIPE								
FIXTURE TYPE	LAMP WATT	HUB SIZE	CATALOG NUMBER		CONSISTS OF			
			FIXTURE W/ GLOBE	FIXTURE W/ GLOBE & GUARD	MOUNTING ARM	FIXTURE BODY	CLEAR GLOBE*	GUARD (if selected)
100	150	1-1/4"	VD-410G ①	VD-410GG ①	VD-4	VFC-100	VCG-100	VAG-100
200	300	1-1/4"	VD-420G ②	VD-420GG ②	VD-4	VFC-200	VCG-200	VAG-200

*For other colors, order globe and fixture components separately.

① Fixture supplied as component unit pack when ordered by this catalog number.

② Catalog number for ordering convenience; fixture is shipped as components as listed in catalog number table.







Pendant



Ceiling

**Class I, Div. 2, Groups A,B,C,D
 Class I, Zone 2, Groups IIC,IIB,IIA
 NEMA 3, 4***

-  Listed - File E10514
 UL-1571 Standard for incandescent fixtures
 UL-844 Standard for hazardous location fixtures
-  Certified - File LR11713

FEATURES-SPECIFICATIONS

Applications

Killark "V" Series Vaportight fixtures are now available Third Party Certified for use in certain hazardous as well as wet locations which require durable, protected lighting fixtures.

Wet and dirt laden industrial environments such as walkways, tunnels, loading docks, stairwells, etc. made hazardous by the presence of flammable vapors as defined by the NEC.

Fixtures intended for base-up mounting only.

Heat resistant (tempered) glass globes recommended for wet locations.

Features

Killark Vaportight assemblies using VXFC bodies & tempered glass have all the features & advantages of "V" Enclosed & Gasketed" models plus:

- Heavy-duty silicone gasketing for NEMA 4 requirements
- Third party tested & labeled for use in C1D2 areas
- Modular design permits selection of splice box, fixture body, globe, guard and reflector for specific or custom applications
- Existing V Series mounting boxes may be retrofitted to upgrade to NEMA 4; C1D2 suitability

Copper-free aluminum construction with electrostatically applied epoxy/polyester finish resists corrosion

* Wet location when used with tempered glass.



APPLICATION DATA ①			
FIXTURE TYPE	LAMP SIZE	GLOBE TYPE	TEMPERATURE CODE @ 40°C
100	A-19 60W	colored & clear	T2C (230°C)
100	A-19 70W	colored & clear	T2D (215°C)
100	A-19 100W	colored & clear	T2A (280°C)
100	A-21 100W	colored & clear	T2B (260°C)
100	A-21 150W	colored & clear	T2 (300°C)
200	A-23 150W	colored & clear	T2A (280°C)
200	PS-25 150W	colored & clear	T2B (260°C)
200	A-23 200W	colored & clear	T2 (300°C)
200	PS-25 200W	colored & clear	T2A (280°C)
200	PS-25 300W	colored & clear	(350°C)

① Suitability based on base up installation

See dimensions page L13.



**Class I, Div. 2, Groups A,B,C,D[Ⓞ]
Class I, Zone 2, Groups IIC,IIB,IIA
NEMA 3, 4**

-  Listed - File E10514
UL-1571 Standard for incandescent fixtures
UL-844 Standard for hazardous location fixtures
-  Certified - File LR11713

FEATURES-SPECIFICATIONS



PENDANT MOUNT WITH VGA SPLICE BOX							
FIXTURE TYPE	LAMP WATT	HUB SIZE	CATALOG NUMBER	CONSISTS OF			
			FIXTURE W/ GLOBE & GUARD	MOUNTING BOX	FIXTURE BODY	CLEAR GLOBE*	GUARD
100	150	1/2"	VUAGG-1-100PX [Ⓞ]	VGA-1	VXFC-100 N34	VCGP-100	VAG-100
		3/4"	VUAGG-2-100PX [Ⓞ]	VGA-2	VXFC-100 N34	VCGP-100	VAG-100
200	300	1/2"	VUAGG-1-200PX [Ⓞ]	VGA-1	VXFC-200 N34	VCGP-200	VAG-200
		3/4"	VUAGG-2-200PX [Ⓞ]	VGA-2	VXFC-200 N34	VCGP-200	VAG-200



CEILING FIXTURE WITH VGX SPLICE BOX							
FIXTURE TYPE	LAMP WATT	HUB SIZE	CATALOG NUMBER	CONSISTS OF			
			FIXTURE W/ GLOBE & GUARD	MOUNTING BOX	FIXTURE BODY	CLEAR GLOBE*	GUARD
100	150	1/2"	VUXGG-1-100PX [Ⓞ]	VGX-1	VXFC-100 N34	VCGP-100	VAG-100
		3/4"	VUXGG-2-100PX [Ⓞ]	VGX-2	VXFC-100 N34	VCGP-100	VAG-100
200	300	1/2"	VUXGG-1-200PX [Ⓞ]	VGX-1	VXFC-200 N34	VCGP-200	VAG-200
		3/4"	VUXGG-2-200PX [Ⓞ]	VGX-2	VXFC-200 N34	VCGP-200	VAG-200



CEILING FIXTURE WITH MOUNTING FEET USING VBC SPLICE BOX & VBA ADAPTER							
FIXTURE TYPE	LAMP WATT	HUB SIZE	CATALOG NUMBER	CONSISTS OF			
			FIXTURE W/ GLOBE & GUARD	MOUNTING BOX/ADAPTER	FIXTURE BODY	CLEAR GLOBE*	GUARD
100	150	1/2"	VUXBGG-1-100PX [Ⓞ]	VBC-1+VBA	VXFC-100 N34	VCGP-100	VAG-100
		3/4"	VUXBGG-2-100PX [Ⓞ]	VBC-2+VBA	VXFC-100 N34	VCGP-100	VAG-100
200	300	1/2"	VUXBGG-1-200PX [Ⓞ]	VBC-1+VBA	VXFC-200 N34	VCGP-200	VAG-200
		3/4"	VUXBGG-2-200PX [Ⓞ]	VBC-2+VBA	VXFC-200 N34	VCGP-200	VAG-200



STANCHION MOUNT FOR 1-1/4" THREADED PIPE							
FIXTURE TYPE	LAMP WATT	HUB SIZE	CATALOG NUMBER	CONSISTS OF			
			FIXTURE W/ GLOBE & GUARD	MOUNTING BOX/ADAPTER	FIXTURE BODY	CLEAR GLOBE*	GUARD
100	150	1-1/4"	VD-410GGPX [Ⓞ]	VD-4	VFC-100 N34	VCGP-100	VAG-100
200	300	1-1/4"	VD-420GGPX [Ⓞ]	VD-4	VFC-200 N34	VCGP-200	VAG-200



WALL FIXTURE WITH MOUNTING FEET USING VBC SPLICE BOX & VB ELBOW							
FIXTURE TYPE	LAMP WATT	HUB SIZE	CATALOG NUMBER	CONSISTS OF			
			FIXTURE W/ GLOBE & GUARD	MOUNTING BOX/ELBOW	FIXTURE BODY	CLEAR GLOBE*	GUARD
100	150	1/2"	VFBGG-1-100PX [Ⓞ]	VBC-1+VB-1	VXFC-100 N34	VCGP-100	VAG-100
		3/4"	VFBGG-2-100PX [Ⓞ]	VBC-2+VB-2	VXFC-100 N34	VCGP-100	VAG-100
200	300	1/2"	VFBGG-1-200PX [Ⓞ]	VBC-1+VB-1	VXFC-200 N34	VCGP-200	VAG-200
		3/4"	VFBGG-2-200PX [Ⓞ]	VBC-2+VB-2	VXFC-200 N34	VCGP-200	VAG-200

*For other colors, order globes and mounting components separately.
[Ⓞ] Fixture supplied as component unit pack when ordered by this catalog number.
[Ⓢ] See page L9 for temperature codes; NEMA 3, 4 when used with tempered glass.

 Listed - File E27731

 Certified - File LR11851

VFC Fixture Bodies

Fixture bodies contain lamp receptacle and are threaded to accept globes, guards and reflectors. These fixture bodies are designed for metallic boxes and mount directly to V Series splice

boxes. They may also be mounted to VJ Series, VB Series or other 4" outlet boxes with the use of the appropriate adapter plate. Each fixture body is supplied with gaskets.



VFC-100
VXFC-100[Ⓢ]



VFC-200
VXFC-200[Ⓢ]

V FIXTURE BODIES	
CATALOG NUMBER	DESCRIPTION
VFC-100	150W max. Enclosed & Gasketed Fixture Body
VFC-200	300W max. Enclosed & Gasketed Fixture Body
VXFC-100 N34	150W max. NEMA 3,4 - Class I, Div. 2 Fixture Body [Ⓢ]
VXFC-200 N34	300W max. NEMA 3,4 - Class I, Div. 2 Fixture Body [Ⓢ]

[Ⓢ] Use VXFC body with tempered globe for NEMA 3, 4 - Class I, Div. 2 applications. VXFC body is Class I, Div. 2 only (not N3, N4) when used with standard globes. Consult temperature table, page L9 for suitability.



VGA



VGH



VGC



VGX



VXA



VBC

V Splice Boxes

For use with types 100 and 200 fixture bodies

V SPLICE BOXES		
CATALOG NUMBER	HUB SIZE & QTY.	DESCRIPTION
VGA-1	1/2" 1	Pendant mount
VGA-2	3/4" 1	
VGH-1	1/2" 1	Ceiling mount
VGH-2	3/4" 1	
VGC-1	1/2" 2	Ceiling mount
VGC-2	3/4" 2	
VGX-1	1/2" 4	Ceiling mount
VGX-2	3/4" 4	
VXA-1	1/2" 5	Ceiling mount, deep box
VXA-2	3/4" 5	
VBC-1*	1/2" 4	Ceiling mount, with 3 close-up plugs (requires VBA Adapter)
VBC-2*	3/4" 4	
VXAB	- -	Blank close-up plate (less gasket)

* Volume cu. in. is 18.



VBA



VFPS

V ADAPTER MOUNTING PLATES	
CATALOG NUMBER	DESCRIPTION
VBA	Adapts fixture body to VB, VJ or steel 3-1/2" & 4" splice boxes. Supplied with gasket.
VFPS	Adapts fixture body to steel 4" square outlet boxes or 3-1/2" or 4" octagon boxes



VB



VFL



VD

V MOUNTING BRACKETS			
CATALOG NUMBER	HUB SIZE	QTY.	DESCRIPTION
VB-1	1/2"	1	Wall mount to VJ or VB boxes
VB-2	3/4"	1	Wall mount to VJ or VB boxes
VFL	—	—	Wall mount to V boxes directly or to VJ, VB boxes with VBA adapter
VD-4	1-1/4"	1	Stanchion mount



 Listed - File E27731

 Certified - File LR11851



V GLASS GLOBES		
CATALOG NUMBER		DESCRIPTION
150 W A-21 LAMP	300 W PS-25 LAMP	
VCG-100	VCG-200	Clear
VCGP-100	VCGP-200	Clear Tempered. Thermal and shock resistant [Ⓢ]
VCGPT-100	—	Clear Tempered with Tuffskin [®] coating [Ⓢ]
VAMG-100	VAMG-200	Amber
VAMGP-100	—	Amber Tempered [Ⓢ]
VGG-100	VGG-200	Blue Green
VGGP-100	VGGP-200	Blue Green Tempered [Ⓢ]
VBG-100	—	Blue
VBGP-100	—	Blue Tempered [Ⓢ]
VRG-100	VRG-200	Ruby
VRGP-100	VRGP-200	Ruby Tempered [Ⓢ]
VRS-100	—	Green
VPS-100	—	Purple
75 W A-19 LAMP	150 W A-21 LAMP	Polycarbonate. Cannot be used with guard or in high ambient temperature locations (40°C/104°F max.) Not UL Listed.
VPLCG-100	VPLCG-200	
500 W PS-35 LAMP		
VCG-500		Clear (for replacement) Formerly DCG-20
VCGP-500		Tempered. Thermal and shock resistant (for replacement).

[Ⓢ] Recommended for use with VXFC fixture basis.

[Ⓢ] TM Thomas Manufacturing.



V GUARDS	
CATALOG NUMBER	DESCRIPTION
VAG-100	100 Series Vaportite guard
VAG-200	200 Series Vaportite guard



V REFLECTORS		
CATALOG NUMBER	DESCRIPTION	
VPRSD-100	100 Series Reflector	16 3/8" Dia. 5 5/8" High. White polypropylene for pendant & ceiling applications. Not for use with wall or stanchion models.
VPRSD-200	200 Series Reflector	



Body To Splice Box Gasket
100 or 200 Series
VTG Standard
VTG-S Silicone (pictured)

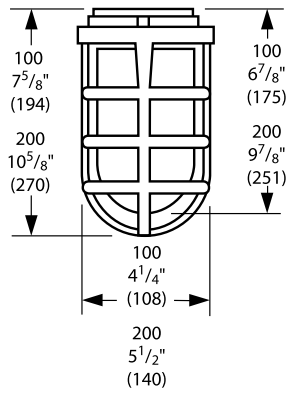
V SERIES GASKETS			
CATALOG NUMBER		TYPE	DESCRIPTION
100 SERIES	200 SERIES		
VTG		VFC	Fixture body to splice box
VTG-S		VXFC	Silicone, Fixture body to splice box
VBNB		—	Replacement Gaskets for VB-1/VB-2 and VBA
15871AABB	VTGG	VFC	Globe gasket
VTGG1-S	VTGG2-S	VFXC	Silicone, globe gasket



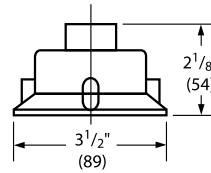
Globe Gasket
100 Series Standard - 15871AABB
200 Series Standard - VTGG (pictured)
100 Series Silicone - VTGG1-S
200 Series Silicone - VTGG2-S



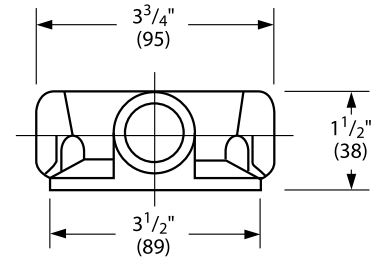
V LAMP SOCKET	
CATALOG NUMBER	DESCRIPTION
VRME	For fixture types 100 and 200



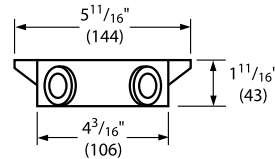
V Fixture
w/o Splice Box



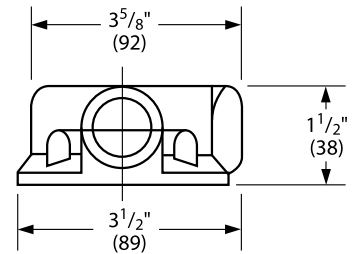
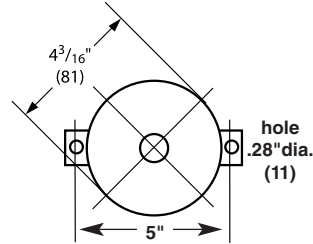
VGA



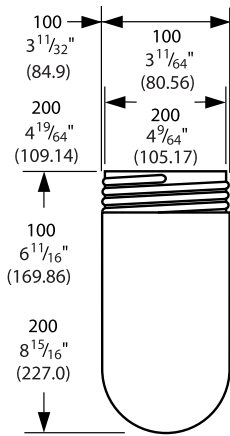
VGC VGX



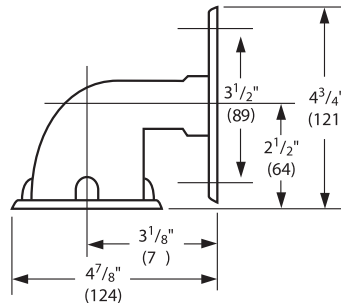
VBC-1 & VBC-2



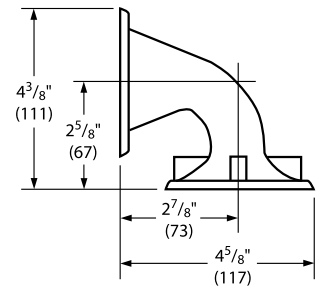
VGH



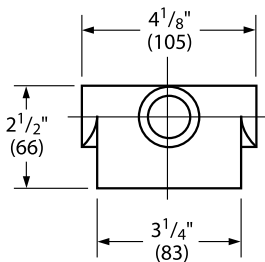
V Fixture
Globes



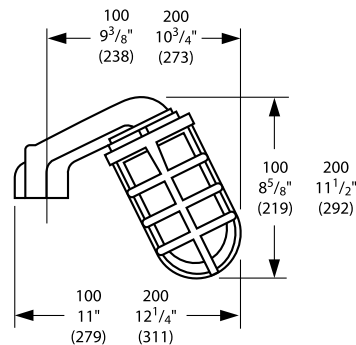
VB



VFL



VXA



V Stanchion





DAG Guard

Class II, Div. 1 & 2 Groups E,F,G[Ⓢ]
Class III

Listed - File E12976

Certified - File LR11713

FEATURES-SPECIFICATIONS

DV DUST-IGNITION PROOF

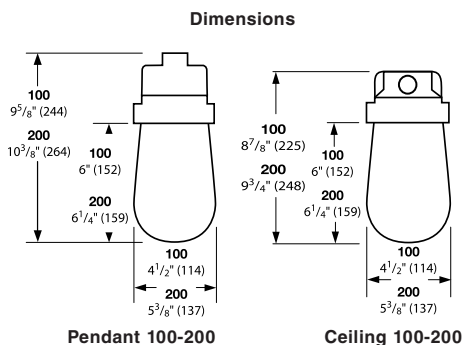
Applications

For hazardous locations where suspended metal, carbon (coal, etc.) and grain dusts create explosive or ignitable mixtures with the air

Features

Cast of corrosion resistant aluminum alloy with electrostatically applied epoxy/polyester finish

Ceiling mounted units supplied with 4 hubs.



DV 100/200				
MODEL SIZE	LAMP SIZE	HUB	CATALOG NUMBER	
			PENDANT	CEILING
TYPE 100	100 Watt A-21	1/2"	DVA-110	DVX-110
	150 Watt A-23	3/4"	DVA-210	DVX-210
TYPE 200	150 Watt PS-25	1/2"	DVA-120	DVX-120
	200 Watt PS-25	3/4"	DVA-220	DVX-220

ACCESSORIES/REPLACEMENT PARTS			
FITTURE TYPE	CATALOG NUMBER		
	GLASS GLOBE	WIRE GUARD	REPLACEMENT SOCKET
100	DCGE-10	DAG-100	VRME
200	DCGE-20	DAG-200	VRME

[Ⓢ] Temperature code T3B, use supply wire suitable for 150° C.

XHL SERIES HAND LAMPS



XHL



XHLF

XHL Series Hand Lamps are a handy accessory to the ACCEPTOR® Series. Used as a supplemental illumination source for areas where flammable materials are present such as processed finished goods, storage vats or handling areas.

Features XHL Incandescent

- Phenolic handle for long service in rugged conditions
- Aluminum guard
- Heat and impact resistant globe
- Supplied with an A-21 100 Watt (100A/RS) Rough Service lamp
- Supplied with 2 grommets for use with either 14/3 or 16/3 user furnished SO cable

CATALOG NUMBER	DESCRIPTION
XHL-100	Handlamp
XHL-GL	Replacement Globe
XHLG	Replacement Guard
XHLS	Replacement Socket

XHL Incandescent
Class I, Div. 1 & 2, Groups C, D
Class I, Zones 1 & 2, Groups IIB,IIA

Listed File No. E97760

Certified File No. LR10019

Features XHLF Fluorescent (120 VAC)

- No exposed metal parts
- Furnished with 26 watt 1800 Lumen fluorescent lamp and light shield
- Supplied with grommet for use with 16/3 user furnished SO cable

CATALOG NUMBER	DESCRIPTION
XHLF26	Fluorescent hand lamp
XHLF26-50KP	Fluorescent hand lamp with 50' of 16/3 SOW cord and 15A Acceptor plug

XHLF Fluorescent
Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB,IIA
Class II, Div. 1 & 2, Groups F,G

Listed File No. E97760





Pendant Fluorescent



Ceiling Incandescent



Wall Mount Fluorescent

NEW!
NON-GLASS

Class II, Div. 2, Groups F,G
NEMA 3,4,4X

Certified* - File LR11713

Self-ballasted
CFL's for 26W ①

FEATURES-SPECIFICATIONS



Applications

Designed specifically for corrosive & wet NEMA 4X and hazardous dust environments.

Typical applications include food processing, sewage treatment plants, off-shore and dockside installations and agricultural.

Features

- NVP Series non-metallic light fixtures combine an outstanding balance of strength, stiffness, toughness and electrical properties
- Polycarbonate lens
- Energy and labor saving fluorescent or incandescent models
- Molded from 30% glass-filled thermoset polyester for high strength
- Resists corrosive effects of most chemicals, hydrocarbons and solvents
- Designed for indoor and outdoor globe down applications
- All assemblies are unit packed with required components (not assembled)
- **Fluorescent unit pack models (only) include the lamp**
- Fluorescent models use "world voltage" ballasts for 120VAC through 277VAC 50/60Hz applications
- For M20 ceiling units change "X" in part # to "M". For wall units change "B" to "W". M20 Pendant not available

- Photometrics "similar" to those shown on L4-L5.
- See dimensions on L4

Pendant 3/4" Clear Polycarbonate Globe & Guard*	
75A Incan. ①	NVPIG75AG
13 W Fluor.	NVPFG13AG
18 W Fluor.	NVPFG18AG
26 W Fluor.	NVPFG26AG

Ceiling 3/4" Clear Polycarbonate Globe & Guard*	
75A Incan. ①	NVPIG75XG
13 W Fluor.	NVPFG13XG
18 W Fluor.	NVPFG18XG
26 W Fluor.	NVPFG26XG

Wall 3/4" Clear Polycarbonate Globe & Guard*	
75A Incan. ①	NVPIG75BG
13 W Fluor.	NVPFG13BG
18 W Fluor.	NVPFG18BG
26 W Fluor.	NVPFG26BG

to the following standards:

- UL 1598 Standard for luminaires
- UL 844 Standard for lighting fixtures for hazardous locations
- CSA C22.2 no. 137-M1981 electric luminaires for use in hazardous locations
- Enclosed and gasketed
- NEMA 3, 4X

APPLICATION DATA ①					
WATTAGE & TYPE	CLASS II DIV. 2 CLEAR OR COLOR	MIN. START		CURRENT FLUOR. VAC	
		C°	F°	120V	277V
75A ①	F, G	—	—	—	—
13 Fluor	F, G	-20°C	-4°F	.144	.067
18 Fluor	F, G	-20°C	-4°F	.158	.073
26 Fluor	F, G	-20°C	-4°F	.220	.097

① Incandescent models w/medium base socket marked for 75W 277V Max or self-ballasted CFL's to 26W max, lamps F.O.B.

Polycarbonate Globe Options for ASSEMBLIES: Red or Green
For RED polycarbonate add -R e.g. NVPIG75AG-R
For GREEN polycarbonate add -G e.g. NVPIG75AG-G

COMPONENTS **	
CATALOG NUMBER	DESCRIPTION
NVPIG75 ①	Incandescent Body with E26 socket; 75W Max ①
NVPFG13	13W Fluor Body & 120 - 277VAC 50/60Hz Ballast (less lamp)
NVPFG18	18W Fluor Body & 120 - 277VAC 50/60Hz Ballast (less lamp)
NVPFG26	26W Fluor Body & 120 - 277VAC 50/60Hz Ballast (less lamp)
NV2AG	3/4" Pendant splice box
NV2XG	3/4" Ceiling splice box
NV2BG	Elbow (used between NV2XG and Fixture Body)
NV2GG	Guard
VPLCG100	Clear Poly Globe
VPLCG100R	Red Poly Globe
VPLCG100G	Green Poly Globe

* Reflectors shown on L3 are not recommended - globe taper prevents guard from holding reflector securely.
 ** For 13-26W Quad Pin Lamps and Replacement Ballasts see page L3.



E INCANDESCENT



EPG-2-200



EXG-2-200



EBG-2-200

Class I, Div. 1 & 2, Groups A,B,C,D
Class I, Zones 1 & 2, Groups IIC,IIB,IIA
Class II, Div. 1 & 2, Groups E,F,G



HG-200

Applications

For hazardous locations including where **Group A or Group B** gases are present, indoors or outdoors.

General, local or supplementary lighting in areas where Group A or Group B gases are manufactured, used or handled.

Features

- Cast of corrosion resistant aluminum alloy with electrostatically applied epoxy/polyester finish
- For 200 watt or 300 watt PS-30 medium base lamps. Fixture for lamp base-up mounting only
- Omit "G" in catalog number to omit guard

Groups **A,B** Rated

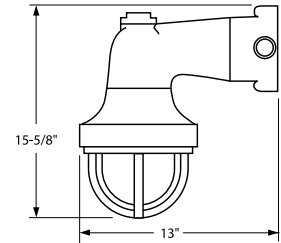
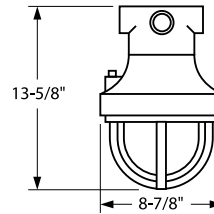
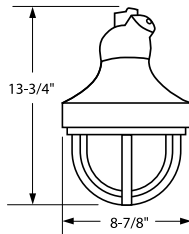
E INCANDESCENT FIXTURE	
CATALOG NUMBER	DESCRIPTION
EPG-2-200	Pendant 3/4" hub
EXG-2-200	Ceiling 3/4" hub
EBG-2-200	Bracket 3/4" hub

Note: For 200 watt or 300 watt PS-30 lamps. Fixture for lamp base-up mounting only.

E ACCESSORIES	
CATALOG NUMBER	DESCRIPTION
HG-200	Guard
EGSA-200	Globe w/ support assembly
HRME*	Replacement socket
ERSD30	Dome reflector
ERA30	Angle reflector

* Also fits discontinued H series medium base fixtures

E APPLICATION DATA							
LAMP WATTS	RATED AMBIENT °C	CLASS I, DIV. 1 & 2		CLASS II, DIV. 1 & 2		CLASS III SUITABILITY	SUPPLY WIRE °C
		T-CODE	GROUPS	T-CODE	GROUPS		
200	40	T4	A, B, C, D	T3C	E F G	YES	90
300	40	T3C	A, B, C, D	T3A	E, F	NO	150



H INCANDESCENT

500W MOGUL BASE



SERIES DISCONTINUED

AVAILABLE REPLACEMENT PARTS	
CATALOG NUMBER	DESCRIPTION
HP-2	3/4" Pendant Mount
HX-2	3/4" Ceiling Mount
HB-2	3/4" Wall Mount
HGSA-500F	Globe with Support Assembly
EZG1G	Guard
HRMO	Replacement Mogul Socket
HRD-400	Deep Reflector 21-1/8" dia.

Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB,IIA
Class II, Div. 1 & 2, Groups E,F,G

Listed - File E12976

Certified - File LR11713



HP-2



HX-2



HB-2



HGSA-500F



EZG1G



HRMO



HRD-400



KILLARK®



Class I, Div. 2, Groups A,B,C,D
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
Suitable for wet locations
Marine
NEMA 3, 4X



FEATURES-SPECIFICATIONS

CERTILITE® LED

Applications

CERTILITE® MBL LED fixtures are designed for installations where moisture, dirt, dust, corrosion and vibration may be present, or NEMA 3 and 4X areas where wind, water, snow or high ambients can be expected. They can be used in locations made hazardous by the presence of flammable vapors or gases or combustible dusts as defined by the NEC.

Typical applications include manufacturing plants, and certain chemical and petrochemical processing facilities, sewage treatment plants, off-shore and dockside installations, garages and storage facilities.

Compliances

- UL-8750 for LED lighting
- UL Marine type lighting fixtures (HID models) UL-844 Standard for lighting fixtures for hazardous locations, Class I, Division 2; Class II, Divisions 1 and 2; Class III
- CSA C22.2 no. 137-M1981 electric luminaires for use in hazardous locations
- Enclosed and gasketed
- NEMA 3, 4X

Materials

- Ballast tank, splice box and guards (MBAG, VMAG) corrosion resistant copper-free aluminum alloy
- Baked powder epoxy/polyester finish, electrostatically applied for complete, uniform corrosion protection
- All external hardware - stainless steel
- Reflectors - Polyester reinforced fiberglass

LED Luminaire Features and Standards

- Compact in Size with Traditional Industrial Appearance and Suitability
- Wide variety of optics including globes, globes with reflectors, all-glass refractors, and spin-top refractors
- Optional Mounting arrangements including Pendant, Wall, Ceiling, and Stanchion
- MBL LED Housings can be retrofitted to existing MB splice boxes; upgrade from Fluorescent or HID
- Energy Savings - less than 50 Watts of Power; 25 Watts for MBL2230
- Long Life - 50,000 - 60,000 maintenance free hours to 70% initial lumens
- Crisp White Light for Excellent Color Rendering - Chromaticity 5000°K (CCT); 70 CRI

- Ambient suitability -40°C to 40°C (to 55°C for MBL2230)
- Instant on - including after power interruption
- "World Voltage" 120-277VAC 50/60Hz
- Solder-LESS LED Board Connections – Vibration Resistant
- Dual Drivers - Redundant Systems (built-in backup), or for additional energy savings half of MBL4530 can be turned off
- LM80-08* Measurement of lumen maintenance for LED light sources
- LM79-08* Certified "Absolute" Photometry, including Chromaticity Color for Solid State Lighting
- L70 Values - Industry Nomenclature for Hours of use to 70% of Initial Lumens

* LM-xx are Illumination Engineering Society Standards designed to promote uniformity in testing procedures among test labs and manufacturers. For more information go to www.ies.org

Catalog Number Logic **MBL 45 30 A 2 R5 G**

Housing Series

LED Wattage

22 - 22 Watt
 45 - 45 Watt

Voltage

30 - 120-277VAC

Mounting Style

A — Pendant
X — Ceiling
B — Wall
D — Stanchion 25°

Entry

2 — 3/4" NPT (A, X, B)
3 — 1" NPT (A, X, B)
4 — 1-1/4" NPT (D only)
5 — 1-1/2" NPT (D only)
8 — M20 4 hub (X only)

Guard

N — No Guard
G — Guard

Optic

GL —Globe
R1 —Type 1 Glass Refractor
R5 —Type 5 Glass Refractor
S8 — 8" Spin-top Type V Refractor
S5 —12" Spin-top V Refractor
FG —Silicone Coated Globe
T1 —Teflon® ① coated Type 1 Glass Refractor
T5 —Teflon® coated Type V Glass Refractor
T8 —8" Teflon® Spin-top V Refractor
TV —12" Teflon® Spin-top V Refractor

Options

CP - Component Pack (housing, mount, optic, guard if selected)

AN - Assembled Fixture (components as selected)

①Teflon® is a registered trademark of DuPont, Inc.



KILLARK®



PENDANT



WALL



CEILING



STANCHION



ORDERING INFORMATION

MBL SERIES PENDANT WITH OPTIC AND GUARD ①

WATTS	HUB SIZE②	VOLTAGE③	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	8" SPIN-TOP TYPE V REFRACTOR & GUARD	12" SPIN-TOP TYPE V REFRACTOR & GUARD
22	3/4"	120-277VAC	MBL2230A2GLG	MBL2230A2R1G	MBL2230A2R5G	MBL2230A2S8G	MBL2230A2S5G
45	3/4"	120-277VAC	MBL4530A2GLG	MBL4530A2R1G	MBL4530A2R5G	MBL4530A2S8G	MBL4530A2S5G

MBL SERIES CEILING WITH OPTIC AND GUARD ①

WATTS	HUB SIZE②	VOLTAGE③	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	8" SPIN-TOP TYPE V REFRACTOR & GUARD	12" SPIN-TOP TYPE V REFRACTOR & GUARD
22	3/4"	120-277VAC	MBL2230X2GLG	MBL2230X2R1G	MBL2230X2R5G	MBL2230X2S8G	MBL2230X2S5G
45	3/4"	120-277VAC	MBL4530X2GLG	MBL4530X2R1G	MBL4530X2R5G	MBL4530X2S8G	MBL4530X2S5G

MBL SERIES WALL WITH OPTIC AND GUARD ①

WATTS	HUB SIZE②	VOLTAGE③	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	8" SPIN-TOP TYPE V REFRACTOR & GUARD	12" SPIN-TOP TYPE V REFRACTOR & GUARD
22	3/4"	120-277VAC	MBL2230B2GLG	MBL2230B2R1G	MBL2230B2R5G	MBL2230B2S8G	MBL2230B2S5G
45	3/4"	120-277VAC	MBL4530B2GLG	MBL4530B2R1G	MBL4530B2R5G	MBL4530B2S8G	MBL4530B2S5G

MBL SERIES 25° STANCHION WITH OPTIC AND GUARD ①

WATTS	HUB SIZE④	VOLTAGE⑤	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	8" SPIN-TOP TYPE V REFRACTOR & GUARD	12" SPIN-TOP TYPE V REFRACTOR & GUARD
22	1-1/4"	120-277VAC	MBL2230D4GLG	MBL2230D4R1G	MBL2230D4R5G	MBL2230D4S8G	MBL2230D4S5G
45	1-1/4"	120-277VAC	MBL4530D4GLG	MBL4530D4R1G	MBL4530D4R5G	MBL4530D4S8G	MBL4530D4S5G

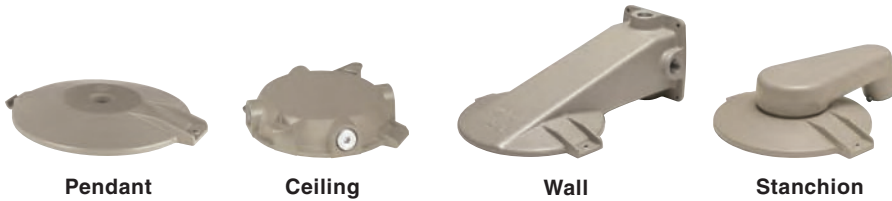
① Catalog numbers shown are with Guard; to omit guard change ending G to N; e.g. MBL2230A2GLN

② Catalog numbers shown are with 3/4" conduit openings; change "2" to "3" for 1" e.g. MBL2230A3GLG

③ 120VAC through 277VAC 50/60Hz

④ Catalog numbers shown are with 1-1/4" conduit openings; change "4" to "5" for 1-1/2" e.g. MBL2230D5GLG





MB MOUNTING BRACKETS				
CATALOG NUMBER				HUB SIZE
PENDANT	CEILING	WALL	STANCHION	
MBA-2	MBX-2	MBB-2	—	3/4"
MBA-3	MBX-3	MBB-3	—	1"
—	MBX-8*	—	—	M20
—	—	—	MBD-4	1-1/4"
—	—	—	MBD-5	1-1/2"

* MBX-8 furnished with 3 non-metallic plugs

MBL LED OPTICS AND ACCESSORIES		
DESCRIPTION	OPTIC LOGIC	GUARD
Globe (glass)	MBG (GL)	MBAG
Reflector (all glass) Type I	VMR171 (R1)	VMAG17
Reflector (all glass) Type V	VMR175 (R5)	VMAG17
Reflector (spin top) 8" Type V	VZRG1550 (S8)	VMRWG8
Reflector (spin top) 12" Type V	VZRG2550 (S5)	VMRWGS
Globe (Silicone coated)	MBGT (FG)	MBAG
Reflector Teflon® ① coated (all glass) Type I	VMR171T (T1)	VMAG17
Reflector Teflon® coated (all glass) Type V	VMR175T (T5)	VMAG17
Reflector (spin top) 8" Type V	VZRG1550T (T8)	VMRWG8
Reflector (spin top) 12" Type V	VZRG2550T (TV)	VMRWGS
Reflector for MBG Globe - DOME ②	VMPSD-17	NA
Reflector for MBG Globe - ANGLE ②	VMPA-17	NA
120VAC Photocell with FS Style Cover	VMFSPC1	NA
208-277VAC Photocell with FS Style Cover	VMFSPC2	NA
3-sided EXIT Accessory (use without guard)	VEXA100B	NA

① Teflon is a registered trademark of DuPont, Inc.

② Reflectors for use with MBG/MBAG only; VMG17 globe with VMAG17 guard will fit without reflector.

MBL LED HOUSINGS WITH DRIVERS AND LEDS - ELECTRICAL RATINGS					
CAT. NO.	VOLTAGE 50/60HZ	WATTAGE	AMPS 120/277	CIL ^③	WEIGHT
MBL2230	120-277VAC	25.8	.215/.093	1980	8 LBS
MBL4530	120-277VAC	48.4	.416/.180	3960	15.5 LBS

THERMAL PERFORMANCE DATA (ANY OPTIC)					
CAT. NO.	AMBIENT	C1D2	C2D1	L70	SUPPLY WIRE
MBL2230	40°C	T4A	T4 (EFG)	60,000 HRS	75°C
MBL2230	55°C	T4	T4(EFG)	50,000 HRS	90°C
MBL4530	40°C	T4A	T4(EFG)	55,000 HRS	90°C

③ CIL = Calculated Initial Lumens of LED component based on mfg. data and driver current INSIDE the optic. This value is provided as a reference only for comparison to traditional light sources such as incandescent, HID, or fluorescent which use initial values in "relative" photometry. KILLARK LED luminaires are tested using the Absolute photometry method (LM79-08), which calculates delivered lumens only. KILLARK's LED luminaires provide very bright white 5000° K (CCT) color and can appear brighter than traditional light sources with higher lumen values under both photopic and scotopic conditions.

④ Driver THD < 20%, Powerfactor 99% @ 120V; Line Regulation 2%; Load regulation 5%; Protected against Over-voltage and Over-current.

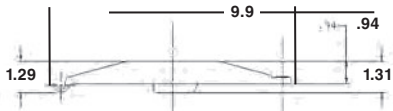
⑤ VMRWG8 Plated Steel, VMRWGS 316 Stainless Steel.

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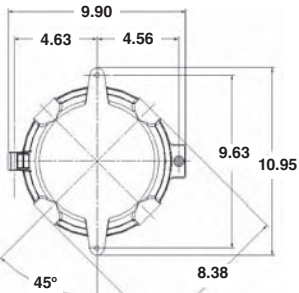


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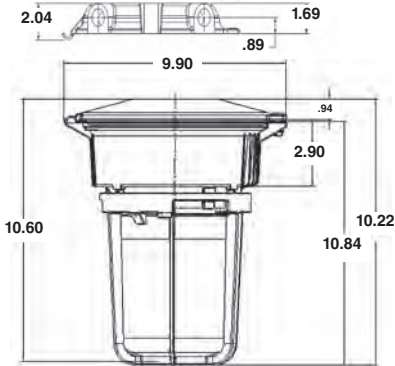




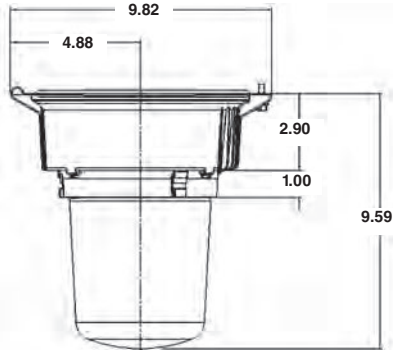
MBA Pendant



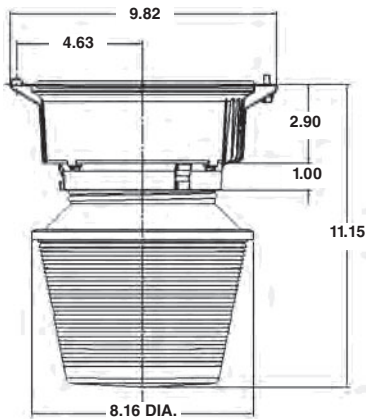
MBX Ceiling



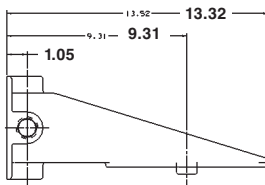
MBL Pendant, Globe, Guard



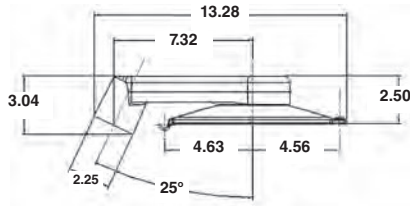
MBL & MBG Globe Only



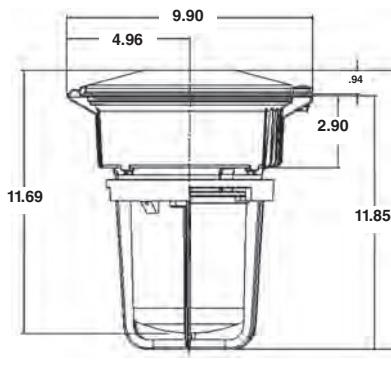
MBL & 8" Type V Spin-top



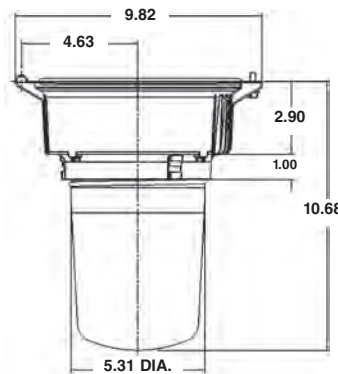
MBB Wall Mount



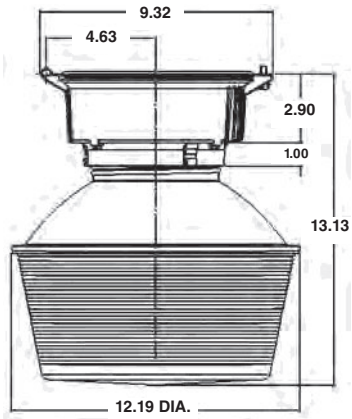
MBD Stanchion



MBL Pendant, Refractor, Guard

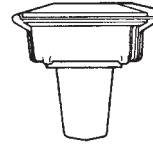


MBL & VMR Refractor



MBL & 12" Type V Spin-top

LED 45 Watt Globe Only



Zonal Lumen Summary

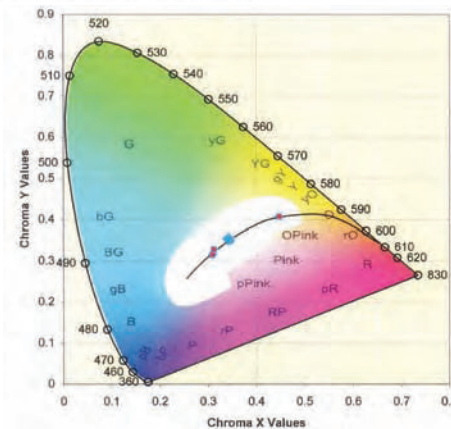
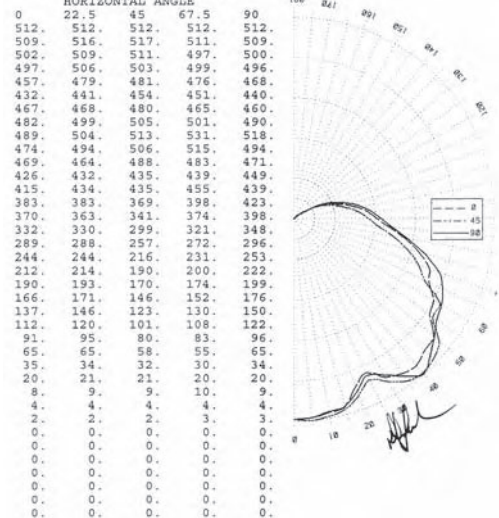
Zone	Lumens	%Lamp	%Fixt
0-30	397	N.A.	13.5%
0-40	710	N.A.	24.2%
0-60	1488	N.A.	50.6%
0-90	2471	N.A.	84.1%
90-120	430	N.A.	14.6%
90-130	460	N.A.	15.6%
90-150	468	N.A.	15.9%
90-180	468	N.A.	15.9%
0-180	2940	N.A.	100

Absolute Photometry

Total Luminaire Efficiency = N.A.%

Spacing to Mounting Height Ratio 1.5

CANDLEPOWER DISTRIBUTION



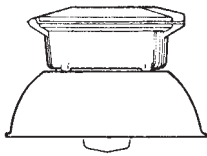
Chromaticity 5101°K (CCT); 72.2 CRI

Certified Report BAL15302.0

① 22W model values approx. 50% of 45W



LED 45Watt Globe and Dome Reflector ①

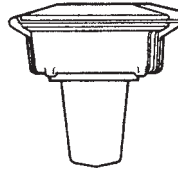


Zonal Lumen Summary

Zone	Lumens	%Lamp	%Fixt
0-30	502	N.A.	19.4%
0-40	896	N.A.	34.6%
0-60	1859	N.A.	71.8%
0-90	2577	N.A.	99.5%
90-120	7	N.A.	0.3%
90-130	11	N.A.	0.4%
90-150	13	N.A.	0.5%
90-180	13	N.A.	0.5%
0-180	2590	N.A.	100

Absolute Photometry
Total Luminaire Efficiency = N.A.%
Spacing to Mounting Height Ratio 1.5

LED 45Watt Glass Type V Refractor ①

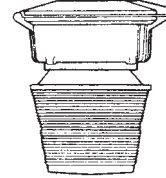


Zonal Lumen Summary

Zone	Lumens	%Lamp	%Fixt
0-30	386	N.A.	13.3%
0-40	631	N.A.	21.7%
0-60	1305	N.A.	44.8%
0-90	2519	N.A.	86.6%
90-120	315	N.A.	10.8%
90-130	355	N.A.	12.2%
90-150	390	N.A.	13.4%
90-180	391	N.A.	13.4%
0-180	2910	N.A.	100

Absolute Photometry
Total Luminaire Efficiency = N.A.%
Spacing to Mounting Height Ratio 1.3

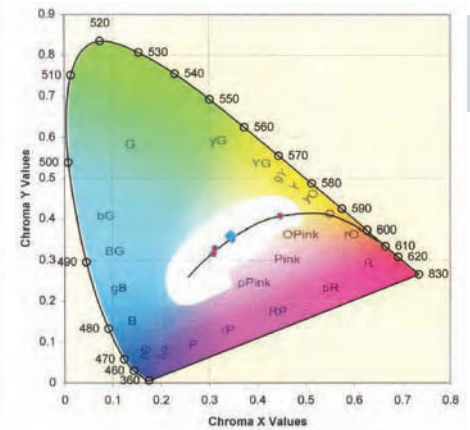
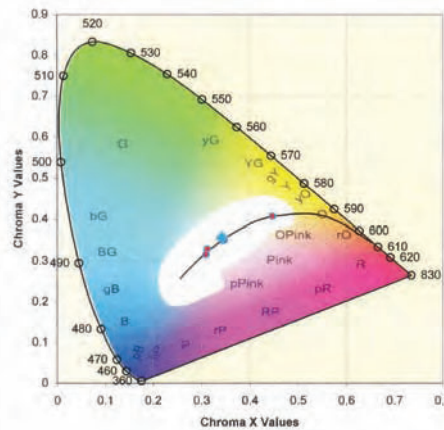
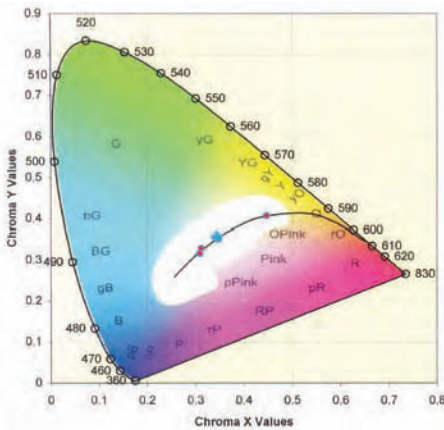
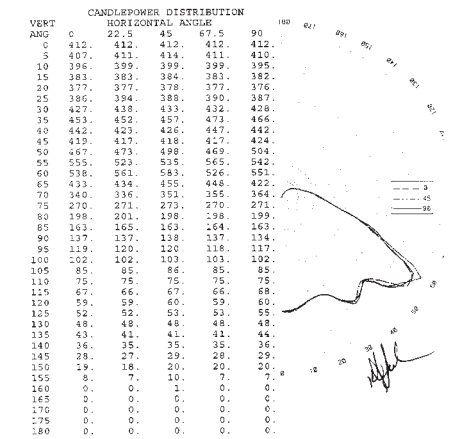
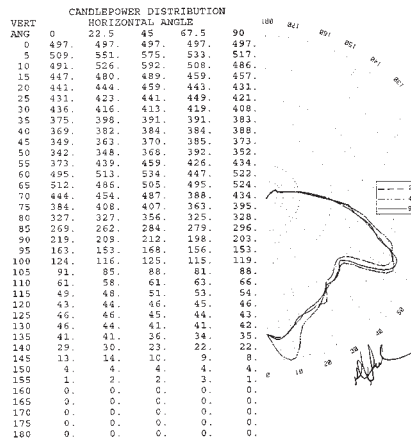
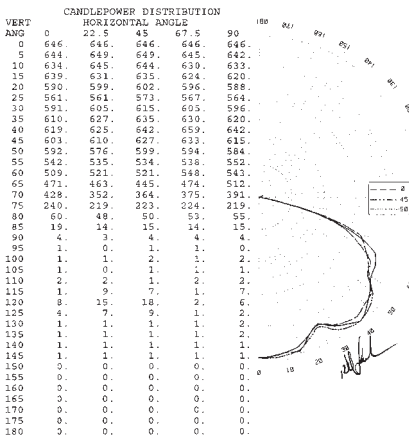
LED 45Watt 8" Spin-top Type V Refractor ①



Zonal Lumen Summary

Zone	Lumens	%Lamp	%Fixt
0-30	328	N.A.	12.1%
0-40	617	N.A.	22.7%
0-60	1429	N.A.	52.5%
0-90	2332	N.A.	85.7%
90-120	287	N.A.	10.6%
90-130	334	N.A.	12.3%
90-150	384	N.A.	14.1%
90-180	388	N.A.	14.3%
0-180	2720	N.A.	100

Absolute Photometry
Total Luminaire Efficiency = N.A.%
Spacing to Mounting Height Ratio 1.6



① 22W model values approx. 50% of 45W



Pendant



Ceiling



Wall



Stanchion

Class I, Div. 2, Groups A,B,C,D*
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G*
Class III
Suitable for wet locations
Marine
NEMA 3, 4X

Listed - Files E10514 and E91793 (Marine)

Certified - File LR11713

FEATURES-SPECIFICATIONS

CERTILITE®

Applications

CERTILITE® MB fixtures are designed for installations where moisture, dirt, dust, corrosion and vibration may be present, or NEMA 3 and 4X areas where wind, water, snow or high ambi-ents can be expected. They can be used in locations made hazardous by the presence of flammable vapors or gases or combustible dusts as defined by the NEC.

Typical applications include manufact-uring plants, and certain chemical and petrochemical processing facilities, sewage treatment plants, off-shore and dockside installations, garages and storage facilities.

Compliances

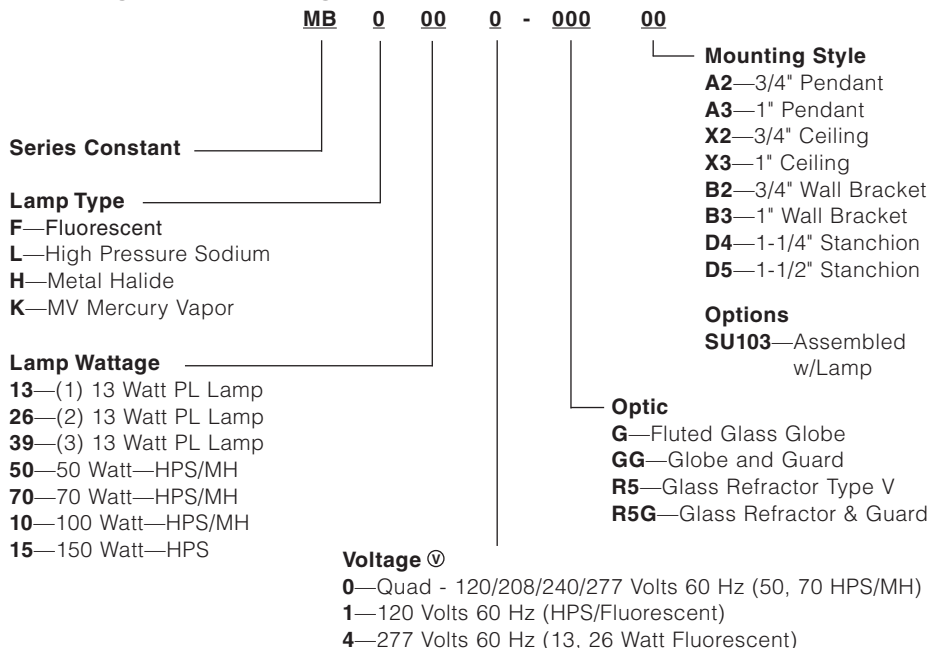
- UL-1572 Standard for HID lighting fixtures
- UL-1570 Standard for Fluorescent fixtures
- UL Marine type lighting fixtures (HID models) UL-844 Standard for lighting fixtures for hazardous locations, Class I, Division 2; Class II, Divisions 1 and 2; Class III
- CSA C22.2 no. 137-M1981 electric luminaries for use in hazardous locations
- Enclosed and gasketed
- NEMA 3, 4X

Features

- Ballast tank and splice box — corrosion resistant copper-free aluminum alloy
- Baked powder epoxy/polyester finish, electrostatically applied for complete, uniform corrosion protection
- All external hardware — stainless steel
- Guard — copper-free aluminum alloy
- Normally shipped as components for quick delivery

- Refractor guard — steel with corro-sion resistant finish
- Reflector — lightweight, corrosion resistant fiberglass reinforced polyester
- Fluorescent models furnished with lamps. Energy efficient instant on white light (2700K). 10,000 hour lamp life
- HID lamp holders are E26 medium base

Catalog Number Logic



① Consult factory for available lamp and voltage combinations.

* See Hazardous Location Application Data on page L28 for limitations.





Class I, Div. 2, Groups A,B,C,D*
Class I, Zone 2, Groups IIC,IIB,IIA
Class II, Div. 1 & 2, Groups E,F,G*
Class III
Suitable for wet locations
NEMA 3, 4X

 Listed - Files E10514 and E91793

 Certified - File LR11713

FEATURES-SPECIFICATIONS

PENDANT



PENDANT FLUORESCENT					
LAMP TYPE	LAMP/① WATTS	HUB SIZE ①	VOLTAGE 60 HZ ③	CATALOG NUMBER ②	
				GLOBE AND GUARD	REFRACTOR AND GUARD
Bi-Pin	13 Watt (1 x 13)	3/4"	120	MBF131-GGA2	MBF131-R5GA2
	26 Watt (2 x 13)	3/4"	120	MBF261-GGA2	MBF261-R5GA2
	39 Watt (3 x 13)	3/4"	120	MBF391-GGA2	MBF391-R5GA2

CEILING



CEILING FLUORESCENT					
LAMP TYPE	LAMP/① WATTS	HUB SIZE ②	VOLTAGE 60 HZ ③	CATALOG NUMBER ②	
				GLOBE AND GUARD	REFRACTOR AND GUARD
Bi-Pin	13 Watt (1 x 13)	3/4"	120	MBF131-GGX2	MBF131-R5GX2
	26 Watt (2 x 13)	3/4"	120	MBF261-GGX2	MBF261-R5GX2
	39 Watt (3 x 13)	3/4"	120	MBF391-GGX2	MBF391-R5GX2

WALL



WALL FLUORESCENT					
LAMP TYPE	LAMP/① WATTS	HUB SIZE ②	VOLTAGE 60 HZ ③	CATALOG NUMBER ②	
				GLOBE AND GUARD	REFRACTOR AND GUARD
Bi-Pin	13 Watt (1 x 13)	3/4"	120	MBF131-GGB2	MBF131-R5GB2
	26 Watt (2 x 13)	3/4"	120	MBF261-GGB2	MBF261-R5GB2
	39 Watt (3 x 13)	3/4"	120	MBF391-GGB2	MBF391-R5GB2

STANCHION



STANCHION FLUORESCENT					
LAMP TYPE	LAMP/① WATTS	HUB SIZE ②	VOLTAGE 60 HZ ③	CATALOG NUMBER ②	
				GLOBE AND GUARD	REFRACTOR AND GUARD
Bi-Pin	13 Watt (1 x 13)	1-1/4"	120	MBF131-GGD4	MBF131-R5GD4
	26 Watt (2 x 13)	1-1/4"	120	MBF261-GGD4	MBF261-R5GD4
	39 Watt (3 x 13)	1-1/4"	120	MBF391-GGD4	MBF391-R5GD4

① Fixtures supplied with Bi-Pin fluorescent lamps. Replacement number MPL13.

② Catalog numbers shown are with 3/4" conduit openings (1-1/4" on stanchion mount) and include globe and guard. See catalog logic for other possible configurations.

③ Catalog numbers are shown with 120V ballasts. 1 & 2 lamp fixtures are available with 277V ballasts. Change 6th character from "1" to "4"; e.g. MBF264-GGA2.

* See Hazardous Location Application Data on page L28 for limitations.





Class I, Div. 2, Groups A,B,C,D*
Class I, Zone 2, Groups IIC,IIB,IIA
Class II, Div. 1 & 2, Groups E,F,G*
Class III
Suitable for wet locations
UL Marine
NEMA 3, 4X

 Listed - Files E10514 and E91793 (Marine)

 Certified - File LR11713

FEATURES-SPECIFICATIONS

PENDANT



PENDANT 50-150W HIGH PRESSURE SODIUM					
LAMP TYPE	LAMP WATTS/ANSI	HUB SIZE [Ⓞ]	VOLTAGE 60 HZ [Ⓞ]	CATALOG NUMBER [Ⓞ]	
				GLOBE AND GUARD	REFRACTOR AND GUARD
HPS	50 (S68)	3/4"	120	MBL501-GGA2	MBL501-R5GA2
	70 (S62)	3/4"	120	MBL701-GGA2	MBL701-R5GA2
	100 (S54)	3/4"	120	MBL101-GGA2	MBL101-R5GA2
	150 (S55)	3/4"	120	MBL151-GGA2	MBL151-R5GA2

CEILING



CEILING 50-150W HIGH PRESSURE SODIUM					
LAMP TYPE	LAMP WATTS/ANSI	HUB SIZE [Ⓞ]	VOLTAGE 60 HZ [Ⓞ]	CATALOG NUMBER [Ⓞ]	
				GLOBE AND GUARD	REFRACTOR AND GUARD
HPS	50 (S68)	3/4"	120	MBL501-GGX2	MBL501-R5GX2
	70 (S62)	3/4"	120	MBL701-GGX2	MBL701-R5GX2
	100 (S54)	3/4"	120	MBL101-GGX2	MBL101-R5GX2
	150 (S55)	3/4"	120	MBL151-GGX2	MBL151-R5GX2

WALL



WALL 50-150W HIGH PRESSURE SODIUM					
LAMP TYPE	LAMP WATTS/ANSI	HUB SIZE [Ⓞ]	VOLTAGE 60 HZ [Ⓞ]	CATALOG NUMBER [Ⓞ]	
				GLOBE AND GUARD	REFRACTOR AND GUARD
HPS	50 (S68)	3/4"	120	MBL501-GGB2	MBL501-R5GB2
	70 (S62)	3/4"	120	MBL701-GGB2	MBL701-R5GB2
	100 (S54)	3/4"	120	MBL101-GGB2	MBL101-R5GB2
	150 (S55)	3/4"	120	MBL151-GGB2	MBL151-R5GB2

STANCHION



STANCHION 50-150W HIGH PRESSURE SODIUM					
LAMP TYPE	LAMP WATTS/ANSI	HUB SIZE [Ⓞ]	VOLTAGE 60 HZ [Ⓞ]	CATALOG NUMBER [Ⓞ]	
				GLOBE AND GUARD	REFRACTOR AND GUARD
HPS	50 (S68)	1-1/4"	120	MBL501-GGD4	MBL501-R5GD4
	70 (S62)	1-1/4"	120	MBL701-GGD4	MBL701-R5GD4
	100 (S54)	3/4"	120	MBL101-GGD4	MBL101-R5GD4
	150 (S55)	1-1/4"	120	MBL151-GGD4	MBL151-R5GD4
	150	1-1/4"	120	MBL151-GGD4	MBL151-R5GD4

[Ⓞ] Catalog numbers shown are 120. Consult factory for other available voltages.

[Ⓞ] Catalog numbers shown with 3/4" conduit openings (1-1/4" on stanchion mount) and includes globe and guard or IES type V 8" glass refractor and guard. See catalog logic for other possible configurations.

* See Hazardous Location Application Data on page L28 for limitations.





Class I, Div. 2, Groups A,B,C,D*
Class I, Zone 2, Groups IIC,IIB,IIA
Class II, Div. 1 & 2, Groups E,F,G*
Class III
Suitable for wet locations
UL Marine
NEMA 3, 4X

 Listed - Files E10514 and E91793 (Marine)

 Certified - File LR11713

ORDERING INFORMATION

PENDANT



PENDANT 50-100W METAL HALIDE					
LAMP TYPE	LAMP WATTS/ANSI	HUB SIZE [ⓐ]	VOLTAGE 60 HZ [ⓑ]	CATALOG NUMBER [ⓐ]	
				GLOBE AND GUARD	REFRACTOR AND GUARD
MH [ⓐ]	50 (M110)	3/4"	120/208/240/277	MBH500-GGA2	MBH500-R5GA2
	70 (M98)	3/4"	120/208/240/277	MBH700-GGA2	MBH700-R5GA2
	100 (M90)	3/4"	120/208/240/277	MBH100-GGA2	MBH100-R5GA2

CEILING



CEILING 50-100W METAL HALIDE					
LAMP TYPE	LAMP WATTS/ANSI	HUB SIZE [ⓐ]	VOLTAGE 60 HZ [ⓑ]	CATALOG NUMBER [ⓐ]	
				GLOBE AND GUARD	REFRACTOR AND GUARD
MH [ⓐ]	50 (M110)	3/4"	120/208/240/277	MBH500-GGX2	MBH500-R5GX2
	70 (M98)	3/4"	120/208/240/277	MBH700-GGX2	MBH700-R5GX2
	100 (M90)	3/4"	120/208/240/277	MBH100-GGX2	MBH100-R5GX2

WALL



WALL 50-100W METAL HALIDE					
LAMP TYPE	LAMP WATTS/ANSI	HUB SIZE [ⓐ]	VOLTAGE 60 HZ [ⓑ]	CATALOG NUMBER [ⓐ]	
				GLOBE AND GUARD	REFRACTOR AND GUARD
MH [ⓐ]	50 (M110)	3/4"	120/208/240/277	MBH500-GGB2	MBH500-R5GB2
	70 (M98)	3/4"	120/208/240/277	MBH700-GGB2	MBH700-R5GB2
	100 (M90)	3/4"	120/208/240/277	MBH100-GGB2	MBH100-R5GB2

STANCHION



STANCHION 50-100W METAL HALIDE					
LAMP TYPE	LAMP WATTS/ANSI	HUB SIZE [ⓐ]	VOLTAGE 60 HZ [ⓑ]	CATALOG NUMBER [ⓐ]	
				GLOBE AND GUARD	REFRACTOR AND GUARD
MH [ⓐ]	50 (M110)	1-1/4"	120/208/240/277	MBH500-GGD4	MBH500-R5GD4
	70 (M98)	1-1/4"	120/208/240/277	MBH700-GGD4	MBH700-R5GD4
	100 (M90)	1-1/4"	120/208/240/277	MBH100-GGD4	MBH100-R5GD4

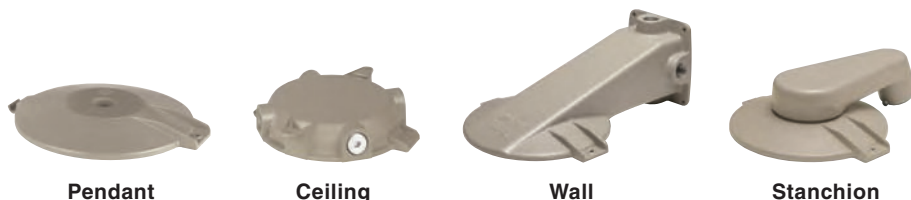
[ⓐ] Metal Halide MB fixtures use quad-volt ballasts.

[ⓑ] Catalog numbers shown with 3/4" conduit openings (1-1/4" on stanchion mount) and include globe and guard or IES type V 8" glass refractor and guard. See catalog logic for other possible configurations.

[ⓒ] 50,70, 100 MH Ballasts include a separate ignitor and are PULSE circuits.

* See Hazardous Location Application Data on page L28 for limitations.





MB MOUNTING BRACKETS				
CATALOG NUMBER				HUB SIZE
PENDANT	CEILING	WALL	STANCHION	
MBA-2	MBX-2	MBB-2	—	3/4"
MBA-3	MBX-3	MBB-3	—	1"
—	MBX-8*	—	—	M20
—	—	—	MBD-4	1-1/4"
—	—	—	MBD-5	1-1/2"

* MBX-8 furnished with 3 non-metallic plugs



EBRS



EMRS



ENY-2SET

MB ACCESSORIES	
CATALOG NUMBER	DESCRIPTION
EMRS	MB medium base replacement socket (E26)
EBRS	MB Bi-Pin base replacement socket
MPL13	Replacement lamp for MBF and EBF series
ENY-2SET	3/4" ENY seal with set screw for sealed (Ex nR) pendant installations
ENY-3SET	1" ENY seal with set screw for sealed (Ex nR) pendant installations

MB BALLAST TANK ^④			
LAMP TYPE	LAMP WATTAGE	VOLTAGE 60 HZ	CATALOG NUMBER
FL	13	120	MBF131
	26	120	MBF261
	39	120	MBF391
HPS	50	120	MBL501
	70	120	MBL701
	100	120	MBL101
	150	120	MBL151
MH	50	120/208/240/277	MBH500
	70	120/208/240/277	MBH700
	100	120/208/240/277	MBH100

^④ Catalog numbers shown are 120 volt (except Metal Halide). Consult catalog number logic on page L22 and change sixth character to indicate other available voltages.

MB BALLAST DATA										
LAMP	LAMP TYPE		STARTING AMPS	OPERATING AMPS	OPEN CIRCUIT AMPS	INPUT WATTS MAX	BALLAST CIRCUIT	REGULATIONS	MINIMUM START TEMPERATURE	
	WATTS	VOLTS - VAC							°F	°C
FL ^①	13	120/277	.39/.35	.30/.3	—	16	NPF	—	0°F	-18°C
HPS	50	120	.75	.55	.90	60	HX-HPF ^②	±5% Line voltage ^③	-40°F	-40°C
	70	120	.85	.75	1.30	82	HX-HPF ^②	±5% Line voltage ^③	-40°F	-40°C
	100	120	1.50	1.05	1.80	115	HX-HPF ^②	±5% Line voltage ^③	-40°F	-40°C
	150	120	2.20	1.50	2.35	170	HX-HPF ^②	±5% Line voltage ^③	-40°F	-40°C
MH	50	120/208 240/277	.87/.51/.47/.39	.6/.35/.3/.25	1.6/.67/.57/.5	67	HX-HPF ^②	±5% Line voltage ^③ ±12% Lamp watts ^③	-20°F	-30°C
	70	120/208 240/277	.8/.5/.43/.39	.85/.5/.43/.37	1.7/1.04/.87/.78	95	HX-HPF ^②	±5% Line voltage ^③ ±12% Lamp watts ^③	-20°F	-30°C
	100	120/208 240/277	1.2/.8/.65/.6	1.15/.66/.58/.5	2.3/1.4/1.15/1.0	129	HX-HPF ^②	±5% Line voltage ^③ ±12% Lamp watts ^③	-20°F	-30°C

^①Per lamp, max available lamps @ 120 volt is .3; max @ 277 volt is .2.

^②Ballasts are High Power Factor 90%+.

^③Lamp watts within ANSI Trapezoid limitations.



Globe



MBG

Refractor



VZRG1550

Guards



MBAG



VMRWG8

Reflectors



VMPSD-17

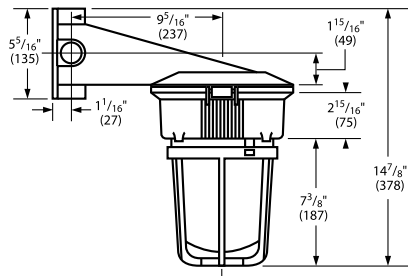
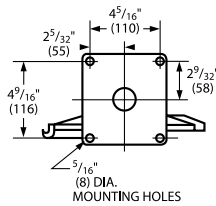
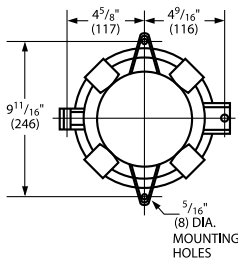
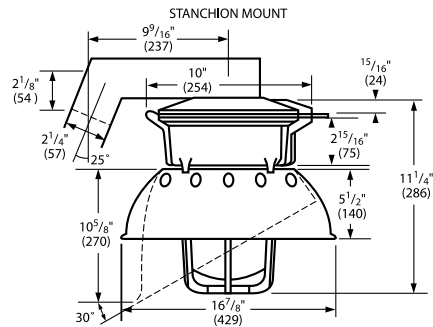
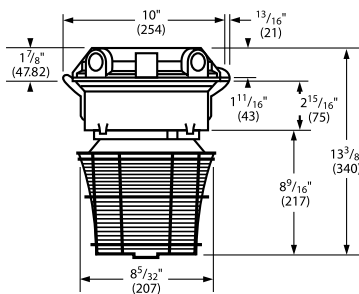


VMPA-17

ORDERING INFORMATION

MB ACCESSORIES	
CATALOG NUMBER	DESCRIPTION
MBG	Heat and impact resistant globe
VZRG1550	(I.E.S. Type V) closed bottom 8" glass refractor
MBAG	Globe guard - Epoxy/polyester painted aluminum
VMRWG8	Refractor guard - plated steel
VMPSD-17	Standard dome reflector (fiberglass reinforced polyester)
VMPA-17	Angle reflector (fiberglass reinforced polyester)

Dimensions



MBF HAZARDOUS LOCATION DATA							
			CLASS I, DIVISION 2 GROUPS A, B, C, D [ⓐ] LAMP TEMP, W/GLOBE, GLOBE & REFLECTOR [ⓑ] OR 8" GLASS REFRACTOR	CLASS II, DIVISION 1 & 2 [ⓐ] MAXIMUM SURFACE TEMPERATURE W/GLOBE, GUARD [ⓑ] & REFLECTOR [ⓑ] OR 8" GLASS REFRACTOR [ⓑ]	CLASS III, DIV. 1 & 2 [ⓐ] W/GLOBE, W/GUARD [ⓑ] & REFLECTOR [ⓑ] OR 8" GLASS REFRACTOR	SUPPLY WIRE SUITABLE FOR °C	
LAMP TYPE	LAMPS/ WATTS	RATED AMBIENT °C	UL/CSA TEMP I.D.	UL/CSA TEMP I.D.	GROUP		
PL	13	40	(T3B) 165°C	(T4) 135°C	E, F & G	YES	90
	26 (2x13)	40	(T3B) 165°C	(T4) 135°C	E, F & G	YES	90
	39 (3x13)	25	(T3A) 180°C	(T4) 135°C	E, F & G	YES	90

- ⓐ Verify temperatures for suitability for intended use.
- ⓑ Includes both standard dome and angle reflectors.
- ⓒ Guard required for Class II, Division 1 and Class III, Division 1 applications.
- ⓓ Note: 8 inch glass refractor not CSA certified for Class II, Division 1 and Class III, Divisions 1 installations.

MB HAZARDOUS LOCATION DATA												
LAMP		RATED AMBIENT °C	CLASS I, DIV. 2, GROUPS A, B, C, D [ⓐ] LAMP TEMPERATURES			CLASS II, DIV. 1 & 2, GROUPS E, F, G [ⓑ] MAXIMUM SURFACE TEMPERATURES			CLASS III, DIV. 1 & 2 [ⓑ]			SUPPLY WIRE SUITABLE FOR °C
TYPE	WATTAGE		WITHOUT [ⓐ] REFLECTOR	WITH [ⓑ] REFLECTOR	WITH REFRACTOR	WITHOUT [ⓐ] REFLECTOR	WITH [ⓑ] REFLECTOR	WITH REFRACTOR	WITHOUT [ⓐ] REFLECTOR	WITH [ⓑ] REFLECTOR	WITH REFRACTOR	
HPS	50	40	215°C(T2D)	215°C(T2D)	215°C(T2D)	120°C(T4A)	135°C(T4)	120°C(T4A)	YES	YES	YES	75
	50	55	230°C(T2C)	230°C(T2C)	230°C(T2C)	135°C(T4)	160°C(T3C)	135°C(T4)	YES	YES	YES	90
	50	65	230°C(T2C)	230°C(T2C)	230°C(T2C)	160°C(T3C)	160°C(T3C)	160°C(T3C)	YES	YES	YES	90
	70	40	260°C(T2B)	260°C(T2B)	230°C(T2C)	120°C(T4A)	135°C(T4)	120°C(T4A)	YES	YES	YES	75
	100	40	280°C(T2A)	280°C(T2A)	280°C(T2A)	160°C(T3C)	160°C(T3C)	160°C(T3C)	YES	YES	YES	90
	150	40	325°C(T1)	325°C(T1)	325°C(T1)	—	—	160°C(T3C)	NO	NO	YES	110
MH	50	40	230°C(T2C)	230°C(T2C)	230°C(T2C)	160°C(T3C)	160°C(T3C)	160°C(T3C)	YES	YES	YES	90
	70	40	230°C(T2C)	230°C(T2C)	230°C(T2C)	160°C(T3C)	160°C(T3C)	160°C(T3C)	YES	YES	YES	90
	100	40	280°C(T2A)	280°C(T2A)	280°C(T2A)	160°C(T3C)	160°C(T3C)	160°C(T3C)	YES	YES	YES	85
	150	40	325°C(T1)	325°C(T1)	325°C(T1)	180°C(T3A)	200°C(T3)	—	NO	NO	NO	110

- ⓐ Verify temperatures for suitability for intended use.
- ⓑ Includes both standard dome and angle reflectors.
- ⓒ Guard required for Class II, Division 1 and Class III applications.
- ⓓ Based on luminaire with globe and guard only.
- ⓔ 150 watt HPS—Groups E, F only with or without reflector and Groups E, F and G with refractor.

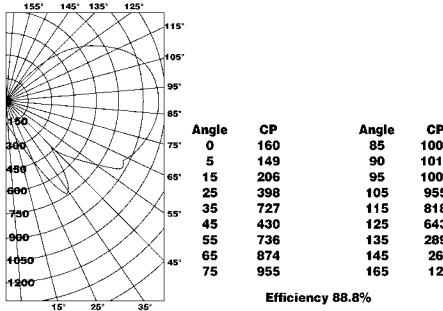
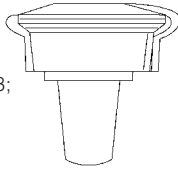
HIGH PRESSURE SODIUM

With Globe Only
50 – 100 Watt Medium Base

CANDLEPOWER-100 WATT

B-17 Clear Lamp
(9500 Lumens)

For CP of a 70 Watt
Luminaire multiply by .663;
For a 50 Watt Luminaire
multiply by .421

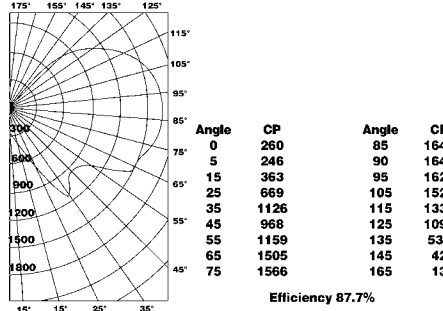
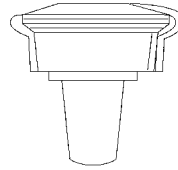


HIGH PRESSURE SODIUM

With Globe Only
150 Watt Medium Base

CANDLEPOWER-150 WATT

B-17 Clear Lamp
(16000 Lumens)



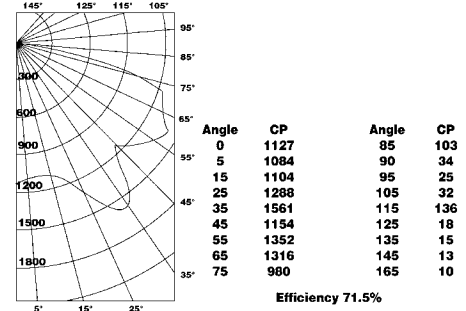
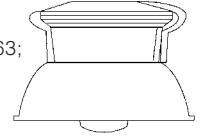
HIGH PRESSURE SODIUM

With Globe and Dome Reflector
50 – 100 Watt Medium Base

CANDLEPOWER-100 WATT

B-17 Clear Lamp
(9500 Lumens)

For CP of a 70 Watt
Luminaire multiply by .663;
For a 50 Watt Luminaire
multiply by .421



COEFFICIENTS OF UTILIZATION-ZONAL CAVITY

% Effective Ceiling Cavity Reflectance rcc	80						70						50						30						10						0																																																																																																																																	
	50		30		10		50		30		10		50		30		10		50		30		10		50		30		10		50		30		10																																																																																																																													
% Wall Reflectance rwc	20% Effective Floor Cavity Reflectance																																																																																																																																																															
Room Cavity Ratio RCR	20% Effective Floor Cavity Reflectance																																																																																																																																																															
1	.76	.70	.65	.70	.65	.60	.59	.55	.51	.48	.45	.42	.39	.36	.34	.30	.63	.55	.49	.58	.51	.45	.48	.43	.38	.39	.35	.31	.31	.28	.25	.21	.54	.45	.38	.49	.42	.35	.44	.35	.30	.33	.28	.24	.26	.22	.19	.15	.46	.37	.31	.43	.34	.28	.35	.29	.24	.28	.23	.19	.22	.18	.15	.11	.40	.32	.25	.37	.29	.23	.31	.24	.19	.25	.19	.15	.19	.15	.12	.09	.36	.27	.21	.33	.25	.19	.27	.21	.16	.22	.17	.13	.17	.13	.10	.07	.32	.23	.18	.19	.21	.16	.24	.18	.13	.19	.14	.11	.15	.11	.08	.05	.28	.20	.15	.26	.19	.14	.21	.16	.11	.17	.12	.09	.13	.09	.06	.04	.25	.18	.13	.23	.16	.12	.19	.14	.10	.16	.11	.07	.12	.08	.05	.03	.23	.16	.11	.21	.14	.10	.17	.12	.08	.14	.09	.06	.11	.07	.04	.02

SPACING TO MOUNTING HEIGHT RATIO-S/MH 3.9
ILLUMINATION ON HORIZONTAL SURFACE

Illumination for 100 Watts HPS
For 70 Watt Mult. by .663
For 50 Watt Mult. by .421

$$FC = \frac{(Candlepower) (COS \theta)}{D^2}$$

FOOTCANDLE CHART (INITIAL) 100 WATT
HORIZONTAL DISTANCE FROM SOURCE IN FT.

MOUNTING HEIGHT	HORIZONTAL DISTANCE FROM SOURCE IN FT.											
	0'	4'	8'	12'	16'	20'	24'	28'	32'	36'	40'	
8'	2.50	5.05	2.38	2.00	1.22	.72	.46	.31	.21	.16	.12	
10'	1.60	2.40	2.86	1.53	1.27	.78	.51	.35	.25	.18	.14	
12'	1.11	1.42	2.80	1.06	1.01	.82	.54	.38	.28	.20	.15	
14'	.82	.98	2.04	1.25	.79	.71	.57	.40	.29	.22	.17	
16'	.63	.68	1.26	1.40	.59	.62	.51	.42	.31	.23	.18	

Test No. HP-03126

COEFFICIENTS OF UTILIZATION-ZONAL CAVITY

% Effective Ceiling Cavity Reflectance rcc	80						70						50						30						10						0																																																																																																																																	
	50		30		10		50		30		10		50		30		10		50		30		10		50		30		10		50		30		10																																																																																																																													
% Wall Reflectance rwc	20% Effective Floor Cavity Reflectance																																																																																																																																																															
Room Cavity Ratio RCR	20% Effective Floor Cavity Reflectance																																																																																																																																																															
1	.75	.69	.64	.69	.64	.59	.58	.54	.51	.48	.45	.42	.39	.37	.35	.30	.63	.55	.48	.58	.51	.45	.48	.43	.38	.39	.35	.31	.31	.28	.25	.21	.53	.45	.38	.49	.41	.35	.41	.35	.30	.33	.29	.24	.26	.22	.19	.15	.46	.37	.30	.42	.34	.28	.35	.29	.24	.28	.23	.19	.22	.18	.15	.12	.40	.31	.25	.37	.29	.23	.31	.24	.19	.25	.20	.15	.19	.15	.12	.09	.35	.27	.21	.32	.25	.19	.27	.21	.16	.22	.17	.13	.17	.13	.10	.07	.31	.23	.17	.29	.21	.16	.24	.18	.13	.19	.14	.11	.15	.11	.08	.06	.28	.20	.15	.26	.18	.13	.21	.15	.11	.17	.12	.09	.13	.10	.07	.04	.25	.18	.13	.23	.16	.12	.19	.14	.10	.16	.11	.07	.12	.08	.05	.03	.22	.15	.10	.21	.14	.10	.17	.12	.08	.14	.09	.06	.11	.07	.04	.02

SPACING TO MOUNTING HEIGHT RATIO-S/MH 4.0
ILLUMINATION ON HORIZONTAL SURFACE

Illumination for 100 Watts HPS
For 70 Watt Mult. by .663
For 50 Watt Mult. by .421

$$FC = \frac{(Candlepower) (COS \theta)}{D^2}$$

FOOTCANDLE CHART (INITIAL) 150 WATT
HORIZONTAL DISTANCE FROM SOURCE IN FT.

MOUNTING HEIGHT	HORIZONTAL DISTANCE FROM SOURCE IN FT.											
	0'	4'	8'	12'	16'	20'	24'	28'	32'	36'	40'	
8'	4.06	9.50	5.35	3.20	2.03	1.21	.75	.51	.35	.26	.19	
10'	2.60	4.40	5.00	2.60	1.86	1.30	.86	.58	.41	.30	.23	
12'	1.81	2.67	4.40	2.38	1.54	1.23	.90	.64	.46	.33	.26	
14'	1.33	1.81	3.37	2.29	1.38	1.12	.86	.66	.50	.37	.28	
16'	1.02	1.07	2.38	2.20	1.34	.95	.81	.64	.51	.40	.30	

Test No. HP-03128

COEFFICIENTS OF UTILIZATION-ZONAL CAVITY

% Effective Ceiling Cavity Reflectance rcc	80						70						50						30						10						0																																																																																																																																	
	50		30		10		50		30		10		50		30		10		50		30		10		50		30		10		50		30		10																																																																																																																													
% Wall Reflectance rwc	20% Effective Floor Cavity Reflectance																																																																																																																																																															
Room Cavity Ratio RCR	20% Effective Floor Cavity Reflectance																																																																																																																																																															
1	.72	.68	.65	.70	.67	.64	.66	.64	.61	.63	.61	.59	.60	.58	.57	.55	.61	.56	.51	.60	.54	.50	.57	.43	.48	.54	.50	.47	.51	.48	.45	.44	.52	.46	.41	.51	.45	.40	.49	.35	.39	.46	.42	.38	.44	.40	.37	.35	.45	.38	.33	.44	.37	.32	.42	.29	.32	.40	.35	.31	.38	.34	.30	.28	.39	.32	.27	.38	.32	.27	.37	.24	.26	.35	.30	.26	.33	.29	.25	.23	.35	.28	.23	.34	.28	.23	.33	.21	.22	.31	.26	.22	.30	.25	.21	.20	.31	.24	.19	.30	.24	.19	.29	.18	.19	.28	.22	.18	.26	.22	.18	.16	.28	.21	.16	.27	.21	.16	.26	.16	.16	.25	.19	.16	.23	.19	.15	.14	.25	.19	.14	.24	.18	.14	.19	.23	.14	.22	.17	.14	.21	.17	.13	.12	.22	.16	.11	.21	.15	.11	.17	.20	.11	.20	.15	.11	.19	.14	.11	.09

SPACING TO MOUNTING HEIGHT RATIO-S/MH 1.7
ILLUMINATION ON HORIZONTAL SURFACE

Illumination for 100 Watts HPS
For 70 Watt Mult. by .663
For 50 Watt Mult. by .421

$$FC = \frac{(Candlepower) (COS \theta)}{D^2}$$

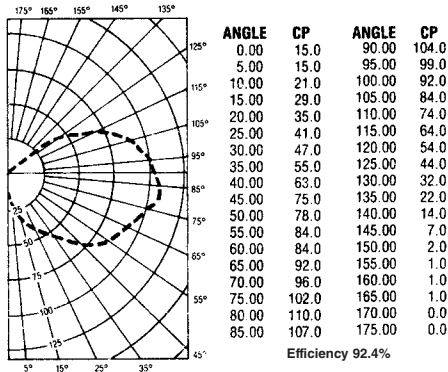
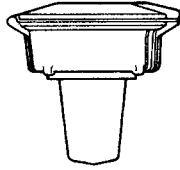
FOOTCANDLE CHART (INITIAL) 100 WATT
HORIZONTAL DISTANCE FROM SOURCE IN FT.

MOUNTING HEIGHT	HORIZONTAL DISTANCE FROM SOURCE IN FT.											
	0'	4'	8'	12'	16'	20'	24'	28'	32'	36'	40'	
8'	17.34	4.53	6.35	3.60	1.85	1.04	.63	.32	.21	.14	.04	
10'	11.10	9.20	6.43	3.25	2.08	1.21	.74	.49	.33	.19	.13	
12'	7.70	6.52	6.36	2.82	1.95	1.32	.82	.55	.38	.27	.20	
14'	5.66	4.99	5.01	3.01	1.86	1.30	.91	.63	.42	.37	.23	
16'	4.34	3.92	3.63	3.12	1.59	1.19	.87	.67	.46	.34	.26	

Test No. HP-03125

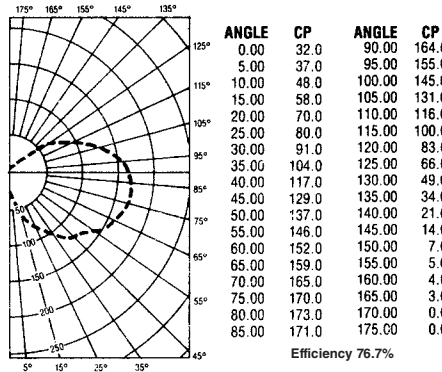
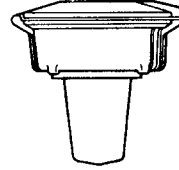
FLUORESCENT
With Globe Only—13 Watt

CANDLEPOWER
—13 WATT
(900 Lumens
One Lamp)



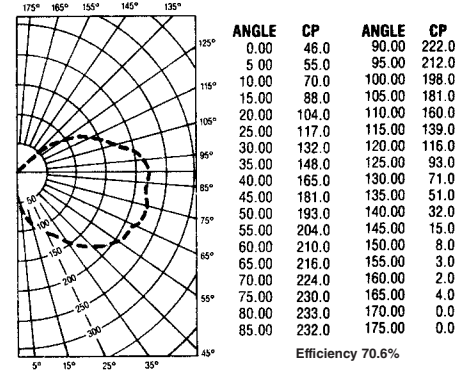
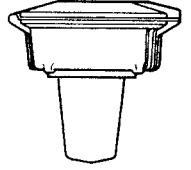
FLUORESCENT
With Globe Only—26 Watt

CANDLEPOWER
—26 WATT
(1800 Lumens
Two Lamps)



FLUORESCENT
With Globe Only—39 Watt

CANDLEPOWER
—39 WATT
(2700 Lumens
Three Lamps)



COEFFICIENTS OF UTILIZATION — ZONAL CAVITY

% EFFECTIVE CEILING CAVITY REFLECTANCE ρ_{cc}	% WALL REFLECTANCE ρ_w					ROOM CAVITY RATIO RCR		
	80	70	50	30	10		0	
0	1.01	1.01	0.95	0.83	0.83	0.72	0.62	0.57
1	.80	.74	.69	.58	.54	.48	.43	.40
2	.66	.58	.51	.41	.37	.32	.29	.25
3	.55	.47	.40	.32	.27	.23	.20	.18
4	.49	.39	.32	.25	.21	.17	.14	.14
5	.42	.33	.26	.20	.17	.14	.11	.10
6	.37	.28	.21	.16	.14	.11	.08	.08
7	.33	.24	.18	.14	.12	.09	.07	.06
8	.29	.21	.15	.12	.10	.08	.06	.05
9	.26	.18	.13	.10	.09	.07	.05	.04
10	.24	.16	.11	.09	.08	.06	.04	.03

SPACING CRITERIA: ADJACENT = 4.1
DIAGONAL = 2.9

COEFFICIENTS OF UTILIZATION — ZONAL CAVITY

% EFFECTIVE CEILING CAVITY REFLECTANCE ρ_{cc}	% WALL REFLECTANCE ρ_w					ROOM CAVITY RATIO RCR		
	80	70	50	30	10		0	
0	.85	.85	.79	.70	.70	.61	.53	.49
1	.67	.62	.58	.54	.54	.48	.41	.37
2	.56	.49	.43	.37	.33	.30	.25	.22
3	.47	.40	.34	.29	.27	.23	.20	.18
4	.41	.33	.27	.23	.22	.19	.16	.13
5	.35	.28	.22	.19	.18	.15	.12	.10
6	.31	.23	.18	.15	.14	.11	.08	.07
7	.28	.20	.15	.12	.11	.09	.06	.05
8	.25	.18	.13	.11	.10	.08	.06	.05
9	.22	.16	.11	.09	.08	.07	.05	.04
10	.20	.14	.10	.08	.07	.06	.04	.03

SPACING CRITERIA: ADJACENT = 3.8
DIAGONAL = 2.7

COEFFICIENTS OF UTILIZATION — ZONAL CAVITY

% EFFECTIVE CEILING CAVITY REFLECTANCE ρ_{cc}	% WALL REFLECTANCE ρ_w					ROOM CAVITY RATIO RCR		
	80	70	50	30	10		0	
0	.78	.78	.73	.64	.64	.56	.48	.45
1	.62	.58	.54	.50	.50	.44	.36	.33
2	.51	.45	.40	.37	.33	.30	.25	.22
3	.44	.37	.31	.29	.25	.22	.18	.15
4	.38	.31	.25	.24	.21	.18	.14	.12
5	.33	.26	.20	.20	.17	.14	.11	.09
6	.29	.22	.17	.17	.14	.11	.08	.07
7	.26	.19	.14	.14	.11	.09	.06	.05
8	.23	.16	.12	.12	.10	.08	.06	.05
9	.21	.14	.10	.10	.08	.07	.05	.04
10	.19	.13	.09	.09	.07	.06	.04	.03

SPACING CRITERIA: ADJACENT = 3.7
DIAGONAL = 2.6

ILLUMINATION ON HORIZONTAL SURFACE

FOOTCANDLE CHART (INITIAL) 13 WATT
HORIZONTAL DISTANCE FROM SOURCE IN FT.

MOUNTING HEIGHT FT.	HORIZONTAL DISTANCE FROM SOURCE IN FT.							
	0'	4'	8'	12'	16'	20'	24'	28'
8'	.23	.46	.41	.22	.12	.07	.05	.03
10'	.15	.28	.28	.20	.13	.08	.05	.04
12'	.10	.19	.21	.18	.12	.08	.06	.04
14'	.08	.13	.16	.14	.11	.08	.06	.04
16'	.06	.10	.11	.11	.10	.07	.06	.04

$FC = \frac{(CANDLEPOWER) (\cos \theta)}{D^2}$

Test No. 5659.1

ILLUMINATION ON HORIZONTAL SURFACE

FOOTCANDLE CHART (INITIAL) 26 WATT
HORIZONTAL DISTANCE FROM SOURCE IN FT.

MOUNTING HEIGHT FT.	HORIZONTAL DISTANCE FROM SOURCE IN FT.							
	0'	4'	8'	12'	16'	20'	24'	28'
8'	.50	.92	.71	.39	.22	.13	.08	.05
10'	.32	.58	.53	.36	.22	.14	.09	.06
12'	.22	.38	.39	.32	.21	.14	.10	.07
14'	.16	.27	.30	.27	.19	.14	.10	.07
16'	.13	.20	.23	.22	.18	.13	.10	.07

$FC = \frac{(CANDLEPOWER) (\cos \theta)}{D^2}$

Test No. 5658.0

ILLUMINATION ON HORIZONTAL SURFACE

FOOTCANDLE CHART (INITIAL) 39 WATT
HORIZONTAL DISTANCE FROM SOURCE IN FT.

MOUNTING HEIGHT FT.	HORIZONTAL DISTANCE FROM SOURCE IN FT.							
	0'	4'	8'	12'	16'	20'	24'	28'
8'	.72	1.38	1.00	.55	.31	.18	.11	.07
10'	.46	.86	.76	.51	.31	.19	.12	.09
12'	.44	.58	.58	.44	.30	.20	.13	.09
14'	.33	.41	.44	.38	.28	.20	.14	.10
16'	.25	.29	.34	.31	.25	.18	.14	.10

$FC = \frac{(CANDLEPOWER) (\cos \theta)}{D^2}$

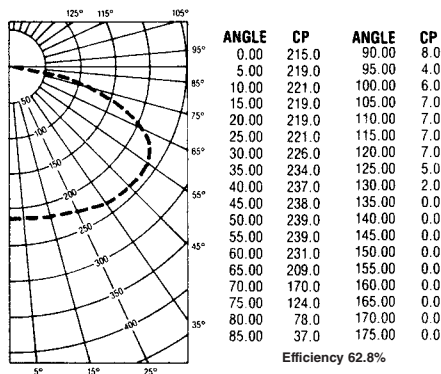
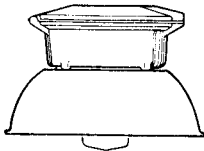
Test No. 5657.0



FLUORESCENT
With Globe and Dome
Reflector—26 Watt

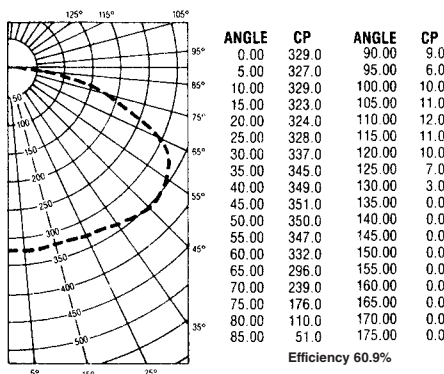
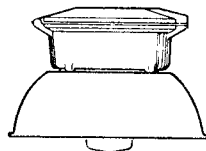
CANDLEPOWER
—26 WATT
(1800 Lumens
Two Lamp)

For CP of a 13 Watt
Luminaire Multiply by .50



FLUORESCENT
With Globe and Dome
Reflector—39 Watt

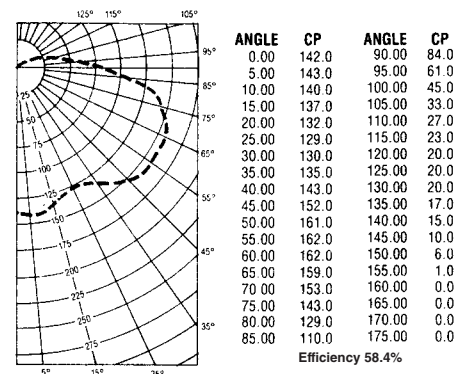
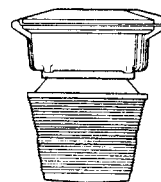
CANDLEPOWER
—39 WATT
(2700 Lumens
Three Lamps)



FLUORESCENT
With Type V "8"
Reflector—26 Watt

CANDLEPOWER
—26 WATT
(1800 Lumens
Two Lamps)

For CP of a 13 Watt
Luminaire multiply by .50



COEFFICIENTS OF UTILIZATION — ZONAL CAVITY

% EFFECTIVE CEILING CAVITY REFLECTANCE ρ_{cc}	20% Effective Floor Cavity Reflectance															
	80	70	50	30	10	0										
% WALL REFLECTANCE ρ_w	50 30 10	50 30 10	50 30 10	50 30 10	50 30 10	0										
ROOM CAVITY RATIO R_{CR}	20% Effective Floor Cavity Reflectance															
0	75	75	75	73	73	69	69	69	68	66	63	63	62			
1	64	61	58	62	59	57	59	57	55	53	54	53	51	50		
2	54	50	45	53	49	45	51	47	44	48	45	42	46	44	41	40
3	47	41	37	46	41	36	44	39	36	42	38	35	40	37	34	32
4	41	35	30	40	34	30	38	33	29	36	32	29	35	31	28	27
5	35	29	24	34	29	24	33	28	24	31	27	23	30	26	23	21
6	31	25	20	30	24	20	29	24	20	28	23	19	27	22	19	18
7	27	21	17	27	21	17	26	20	17	25	20	16	24	19	16	15
8	24	18	14	24	18	14	23	18	14	22	17	14	21	17	14	12
9	22	16	12	21	16	12	20	15	12	19	15	12	19	15	12	10
10	20	14	10	19	14	10	18	14	10	18	13	10	17	13	10	09

SPACING CRITERIA: ADJACENT = 1.7
DIAGONAL = 1.2

COEFFICIENTS OF UTILIZATION — ZONAL CAVITY

% EFFECTIVE CEILING CAVITY REFLECTANCE ρ_{cc}	20% Effective Floor Cavity Reflectance															
	80	70	50	30	10	0										
% WALL REFLECTANCE ρ_w	50 30 10	50 30 10	50 30 10	50 30 10	50 30 10	0										
ROOM CAVITY RATIO R_{CR}	20% Effective Floor Cavity Reflectance															
0	72	72	72	70	70	67	67	67	66	64	64	61	61	60		
1	62	59	56	60	58	55	58	53	53	55	51	53	51	50	48	
2	53	48	44	52	47	44	49	46	42	47	44	41	45	42	40	39
3	46	40	36	45	40	36	43	38	35	41	37	34	39	36	33	32
4	40	34	29	39	33	29	37	32	29	36	31	28	34	30	28	26
5	34	28	24	34	28	24	32	27	23	31	26	23	29	26	22	21
6	30	24	20	30	24	20	28	23	19	27	22	19	26	22	19	17
7	27	21	17	26	21	17	25	20	16	24	20	16	23	19	16	15
8	24	18	14	23	18	14	22	17	14	21	17	14	20	16	13	12
9	21	16	12	21	15	12	20	15	12	19	15	12	18	14	11	10
10	19	14	10	19	14	10	18	13	10	17	13	10	17	13	10	09

SPACING CRITERIA: ADJACENT = 1.6
DIAGONAL = 1.1

COEFFICIENTS OF UTILIZATION — ZONAL CAVITY

% EFFECTIVE CEILING CAVITY REFLECTANCE ρ_{cc}	20% Effective Floor Cavity Reflectance															
	80	70	50	30	10	0										
% WALL REFLECTANCE ρ_w	50 30 10	50 30 10	50 30 10	50 30 10	50 30 10	0										
ROOM CAVITY RATIO R_{CR}	20% Effective Floor Cavity Reflectance															
0	67	67	67	65	65	60	60	60	55	55	55	51	51	49		
1	55	51	48	53	49	46	48	46	43	44	42	40	41	39	37	35
2	46	40	36	44	39	35	40	36	33	37	33	31	34	31	29	27
3	39	33	29	37	32	28	34	30	26	31	28	24	29	26	23	21
4	34	28	23	32	27	22	30	25	21	27	23	20	25	21	19	17
5	29	23	19	28	22	18	26	21	17	23	19	16	21	18	15	15
6	26	20	16	25	19	15	23	18	14	21	17	13	19	15	12	11
7	23	17	13	22	17	13	20	15	12	18	14	11	17	13	11	09
8	20	15	11	20	14	11	18	13	10	16	12	10	15	12	09	08
9	18	13	09	18	13	09	16	12	09	15	11	08	14	10	08	06
10	17	12	08	16	11	08	15	10	08	13	10	07	12	09	07	05

SPACING CRITERIA: ADJACENT = 1.5
DIAGONAL = 1.1

ILLUMINATION ON HORIZONTAL SURFACE

FOOTCANDLE CHART (INITIAL) 26 WATT
HORIZONTAL DISTANCE FROM SOURCE IN FT.

MOUNTING HEIGHT FT.	0'	4'	8'	12'	16'	20'	24'	28'
8'	3.36	2.49	1.31	.63	.31	.15	.09	.04
10'	2.15	1.75	1.13	.63	.34	.19	.13	.06
12'	1.49	1.30	.94	.56	.36	.22	.19	.09
14'	1.10	.99	.75	.53	.35	.23	.15	.10
16'	.84	.78	.62	.47	.33	.23	.16	.11

$$FC = \frac{(CANDLEPOWER)(\cos \theta)}{D^2}$$

Test No. 5689.0

ILLUMINATION ON HORIZONTAL SURFACE

FOOTCANDLE CHART (INITIAL) 39 WATT
HORIZONTAL DISTANCE FROM SOURCE IN FT.

MOUNTING HEIGHT FT.	0'	4'	8'	12'	16'	20'	24'	28'
8'	5.14	3.71	1.94	.93	.43	.21	.11	.06
10'	3.29	2.61	1.66	.92	.55	.28	.15	.09
12'	2.28	1.92	1.38	.86	.52	.32	.19	.12
14'	1.68	1.47	1.13	.78	.51	.33	.22	.14
16'	1.29	1.16	.93	.69	.48	.33	.23	.16

$$FC = \frac{(CANDLEPOWER)(\cos \theta)}{D^2}$$

Test No. 5692.0

ILLUMINATION ON HORIZONTAL SURFACE

FOOTCANDLE CHART (INITIAL) 26 WATT
HORIZONTAL DISTANCE FROM SOURCE IN FT.

MOUNTING HEIGHT FT.	0'	4'	8'	12'	16'	20'	24'	28'
8'	2.22	1.44	.84	.43	.22	.12	.07	.05
10'	1.42	1.04	.66	.42	.24	.14	.09	.06
12'	.99	.79	.55	.37	.24	.15	.10	.07
14'	.72	.62	.43	.32	.23	.16	.11	.07
16'	.55	.49	.36	.27	.21	.15	.11	.08

$$FC = \frac{(CANDLEPOWER)(\cos \theta)}{D^2}$$

Test No. 5691.0





**HIGH WATTAGE VM4L
AVAILABLE 2011**

**Class I, Div. 2, Groups A,B,C,D
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
Suitable for wet locations
Marine
NEMA 3, 4X**



FEATURES-SPECIFICATIONS

CERTILITE[®] V LED

Applications

CERTILITE[®] VM1L LED fixtures are designed for installations where moisture, dirt, dust, corrosion and vibration may be present, or NEMA 3 and 4X areas where wind, water, snow or high ambients can be expected. They can be used in locations made hazardous by the presence of flammable vapors or gases or combustible dusts as defined by the NEC.

Typical applications include manufacturing plants, and certain chemical and petrochemical processing facilities, sewage treatment plants, off-shore and dockside installations, garages and storage facilities.

Compliances

- UL-8750 for LED lighting
- UL Marine type lighting fixtures (HID models) UL-844 Standard for lighting fixtures for hazardous locations, Class I, Division 2; Class II, Divisions 1 and 2; Class III
- CSA C22.2 no. 137-M1981 electric luminaires for use in hazardous locations
- Enclosed and gasketed
- NEMA 3, 4X

Materials

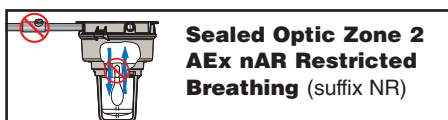
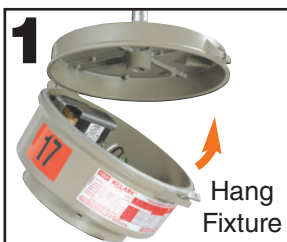
- Ballast tank, splice box and cast guards corrosion resistant copper-free aluminum alloy
- Baked powder epoxy/polyester finish, electrostatically applied for complete, uniform corrosion protection
- All external hardware - stainless steel
- Reflectors - Polyester reinforced fiberglass

LED Luminaire Features and Standards

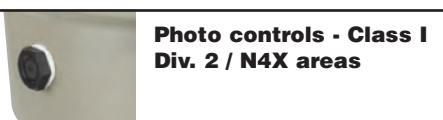
- Reduced profile with Traditional Industrial Appearance and Suitability
- Wide variety of optics including globes, globes with reflectors, all-glass refractors, and spin-top refractors
- Swing-Barrel Nut patented tank mounting system
- Optional Mounting arrangements including Pendant, Wall, Ceiling, Stanchion and others
- VM1L LED Housings can be retrofitted to existing VM splice boxes; upgrade from HID sources
- Energy Savings - less than 50 Watts of Power
- Long Life - 50,000 - 55,000 maintenance free hours to 70% initial lumens
- Crisp White Light for Excellent Color Rendering - Chromaticity 5000°K (CCT); 70 CRI
- Ambient suitability -40°C to 55°C
- Instant on - including after power interruption
- "World Voltage" 120-277VAC 50/60Hz
- Solder-LESS LED Board Connections - Vibration Resistant
- Dual Drivers - Redundant Systems (built-in backup), or for additional energy savings half of VM1L4530 can be turned off
- LM80-08* Measurement of lumen maintenance for LED light sources
- LM79-08* Certified "Absolute" Photometry, including Chromaticity Color for Solid State Lighting
- L70 Values - Industry Nomenclature for Hours of use to 70% of Initial Lumens

* LM-xx are Illumination Engineering Society Standards designed to promote uniformity in testing procedures among test labs and manufacturers. For more information go to www.ies.org

Swing-Barrel Nut



No External Seals. Lower T-codes. Suitable for Class I Div. 2 Classified areas per the NEC[®]



Available as Field or Factory Installed to save energy when light not required.



For easy fixture relocation or repair due to impact damage.

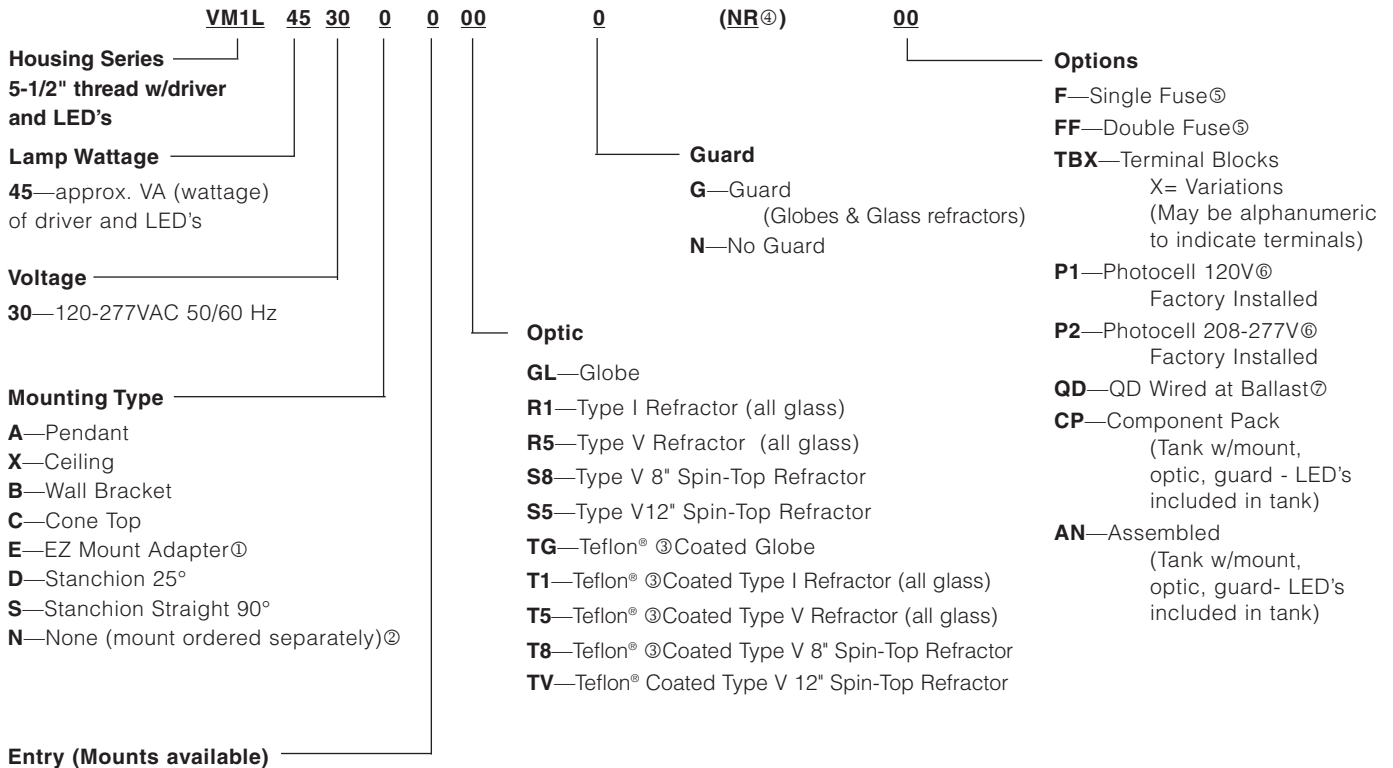


Safety: Secures fixture to structure in case of conduit failure.





CertiLite®V LED Catalog Number Logic



- ① Completes as "EZ", conduit mounting boxes ordered separately - See L39.
- ② NN mount ordered separately.
- ③ Teflon[®] is a registered trademark of DuPont, Inc.
- ④ Restricted Breathing - See L39 for more information.
- ⑤ Fusing not for Marine or Canadian installations.
- ⑥ Photo cells for Class I, Div. 2 only.
- ⑦ QD = Quick Disconnect. Allows easy tank removal for maintenance. Electrician simply unplugs tank from mount for fixture relocation or repair due to impact damage.



PENDANT



CEILING



WALL



CONE

ORDERING INFORMATION

VM1L SERIES PENDANT WITH OPTIC AND GUARD ①							
WATTS	HUB SIZE②	VOLTAGE③	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	8" SPIN-TOP TYPE V REFRACTOR & GUARD	12" SPIN-TOP TYPE V REFRACTOR & GUARD
45	3/4"	120-277VAC	VM1L4530A2GLG	VM1L4530A2R1G	VM1L4530A2R5G	VM1L4530A2S8G	VM1L4530A2S5G

VM1L SERIES CEILING WITH OPTIC AND GUARD ①							
WATTS	HUB SIZE②	VOLTAGE③	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	8" SPIN-TOP TYPE V REFRACTOR & GUARD	12" SPIN-TOP TYPE V REFRACTOR & GUARD
45	3/4"	120-277VAC	VM1L4530X2GLG	VM1L4530X2R1G	VM1L4530X2R5G	VM1L4530X2S8G	VM1L4530X2S5G

VM1L SERIES WALL WITH OPTIC AND GUARD ①							
WATTS	HUB SIZE②	VOLTAGE③	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	8" SPIN-TOP TYPE V REFRACTOR & GUARD	12" SPIN-TOP TYPE V REFRACTOR & GUARD
45	3/4"	120-277VAC	VM1L4530B2GLG	VM1L4530B2R1G	VM1L4530B2R5G	VM1L4530B2S8G	VM1L4530B2S5G

VM1L SERIES CONE WITH OPTIC AND GUARD ①							
WATTS	HUB SIZE②	VOLTAGE③	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	8" SPIN-TOP TYPE V REFRACTOR & GUARD	12" SPIN-TOP TYPE V REFRACTOR & GUARD
45	3/4"	120-277VAC	VM1L4530C2GLG	VM1L4530C2R1G	VM1L4530C2R5G	VM1L4530C2S8G	VM1L4530C2S5G

① Catalog numbers shown are with Guard; to omit guard change ending G to N; e.g. VM1L4530A2GLN

② Catalog numbers shown are with 3/4" conduit openings; change "2" to "3" for 1" e.g. VM1L4530A3GLG

③ 120VAC through 277VAC 50/60Hz


KILLARK®



STANCHION 25°



STANCHION STRAIGHT



EZ ADAPTER

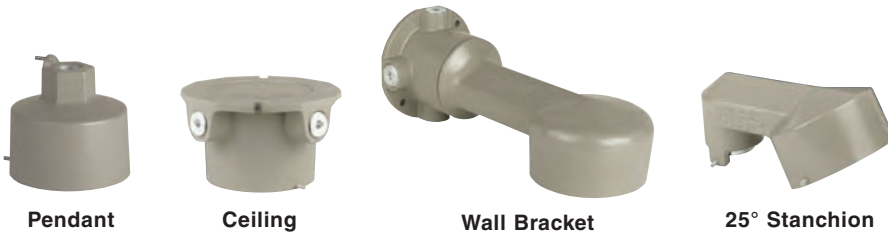
ORDERING INFORMATION

VM1L SERIES 25° STANCHION WITH OPTIC AND GUARD ①							
WATTS	HUB SIZE②	VOLTAGE③	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	8" SPIN-TOP TYPE V REFRACTOR & GUARD	12" SPIN-TOP TYPE V REFRACTOR & GUARD
45	1-1/2"	120-277VAC	VM1L4530D5GLG	VM1L4530D5R1G	VM1L4530D5R5G	VM1L4530D5S8G	VM1L4530D5S5G

VM1L SERIES STRAIGHT STANCHION WITH OPTIC AND GUARD ①							
WATTS	HUB SIZE②	VOLTAGE③	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	8" SPIN-TOP TYPE V REFRACTOR & GUARD	12" SPIN-TOP TYPE V REFRACTOR & GUARD
45	1-1/2"	120-277VAC	VM1L4530S5GLG	VM1L4530S5R1G	VM1L4530S5R5G	VM1L4530S5S8G	VM1L4530S5S5G

VM1L SERIES EZ ADAPTER WITH OPTIC AND GUARD ①							
WATTS	HUB SIZE④	VOLTAGE③	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	8" SPIN-TOP TYPE V REFRACTOR & GUARD	12" SPIN-TOP TYPE V REFRACTOR & GUARD
45	④	120-277VAC	VM1L4530EZGLG	VM1L4530EZR1G	VM1L4530EZR5G	VM1L4530EZS8G	VM1L4530EZS5G

- ① Catalog numbers shown are with Guard; to omit guard change ending G to N; e.g. VM1L4530D5GLN
- ② Catalog numbers shown are with 1-1/2" conduit openings; change "5" to "4" for 1-1/4" e.g. VM1L4530D4GLG
- ③ 120VAC through 277VAC 50/60Hz
- ④ VMEZA tank adapters UL "classified" as an assembly for use between VM tanks and EZ mounts. Order EZ mounts separately (see below).



Pendant

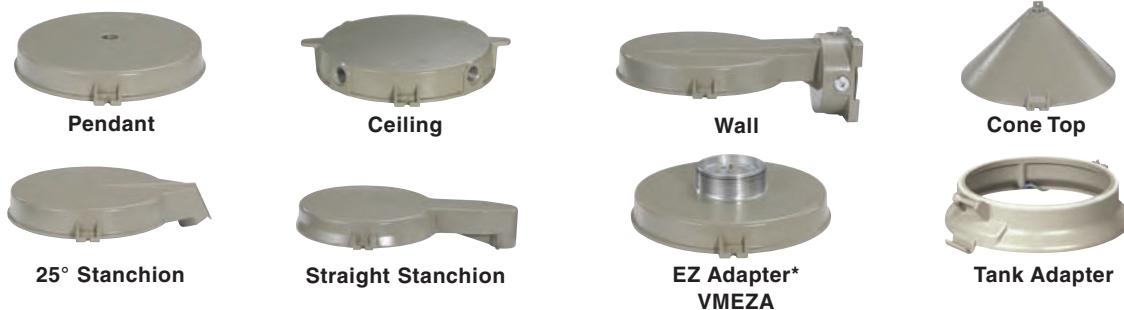
Ceiling

Wall Bracket

25° Stanchion

MOUNTING BOXES FOR EZ ADAPTER				
CATALOG NUMBER				HUB SIZE
PENDANT	CEILING	BRACKET	STANCHION	
EZA2	EZX2	EZB2	—	3/4"
EZA3	EZX3	EZB3	—	1"
—	—	—	EZD4A*	1-1/4"/1-1/2**

*1-1/2" furnished with 1-1/2"-1-1/4" reducer and extension.



CERTILITE® VM MOUNTING SPLICE BOXES								
HUB SIZE	CATALOG NUMBER							
	PENDANT	CEILING 4 HUB	CEILING 5 HUB	WALL	CONE TOP	25 DEGREE STANCHION	90 DEGREE STANCHION	
3/4"	VMA2B	VMX2B	VMX6B	VMB2B	VMC2B	—	—	
1"	VMA3B	VMX3B	VMX7B	VMB3B	VMC3B	—	—	
1-1/4"	—	—	—	—	—	VMD4B	VMS4B	
1-1/2"	—	—	—	—	—	VMD5B	VMS5B	
M-20	—	VMX8B**	VMX9B	—	—	—	—	

*VMEZA is used between a ballast tank and an EZ mount-ordered separately. See L39 for more info.

**VMX8B furnished with 3 non-metallic plugs.

VM1L LED OPTICS AND ACCESSORIES		
DESCRIPTION	OPTIC LOGIC	GUARD
Globe (glass)	VMG17 (GL)	VMAG17
Refractor (all glass) Type I	VMR171 (R1)	VMAG17
Refractor (all glass) Type V	VMR175 (R5)	VMAG17
Refractor (spin top) 8" Type V	VZRG1550 (S8)	VMRWG8
Refractor (spin top) 12" Type V	VZRG2550 (S5)	VMRWGS
Globe Teflon® ① coated	VMG17T	VMAG17
Refractor Teflon® coated (all glass) Type I	VMR171T (T1)	VMAG17
Refractor Teflon® coated (all glass) Type V	VMR175T (T5)	VMAG17
Refractor (spin top) Teflon® coated 8" Type V	VZRG1550T (T8)	VMRWG8
Refractor (spin top) Teflon® coated 12" Type V	VZRG2550T (TV)	VMRWGS
DOME REFLECTOR (fiberglass reinforced polyester)	VMPSD40	NA
ANGLE REFLECTOR (fiberglass reinforced polyester)	VMPA40	NA
120VAC Photocell with FS Style Cover	VMFSPC1	NA
208-277VAC Photocell with FS Style Cover	VMFSPC2	NA
3-sided EXIT Accessory (use without guard)	VEXA100B	NA
Tank adapter to Crouse-Hinds® VM Series mounts*	VMCHVM	NA

① Teflon is a registered trademark of DuPont, Inc.

* See page L223 for more information.

VM1L LED HOUSINGS WITH DRIVERS AND LEDES - ELECTRICAL RATINGS					
CAT. NO.	VOLTAGE 50/60HZ	WATTAGE	AMPS 120/277	CIL ^③	WEIGHT
VM1L4530	120-277VAC	48.4	.416/.180	3960	15.5 LBS

THERMAL PERFORMANCE DATA (ANY OPTIC)						
CAT. NO.	AMBIENT	C1D2	C122 NR	C2D1	L70	SUPPLY WIRE
VM1L4530	40°C	T4A	T6	T4(EFG)	55,000 HRS	75°C
VM1L4530	55°C	T4	T6	T4(EFG)	50,000 HRS	90°C

③ CIL = Calculated Initial Lumens of LED component based on mfg. data and driver current INSIDE the optic. This value is provided as a reference only for comparison to traditional light sources such as incandescent, HID, or fluorescent which use initial values in "relative" photometry. KILLARK LED luminaires are tested using the Absolute photometry method (LM79-08), which calculates delivered lumens only. KILLARK's LED luminaires provide very bright white 5000[°] K (CCT) color and can appear brighter than traditional light sources with higher lumen values under both photopic and scotopic conditions.

④ Driver THD < 20%, Powerfactor 99% @ 120V; Line Regulation 2%; Load regulation 5%; Protected against Over-voltage and Over-current.

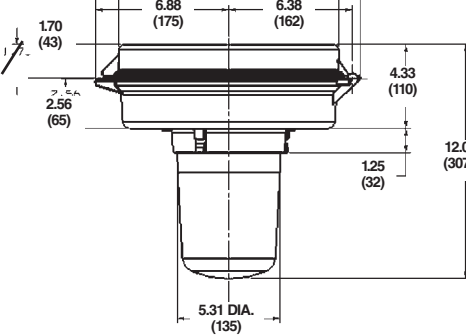
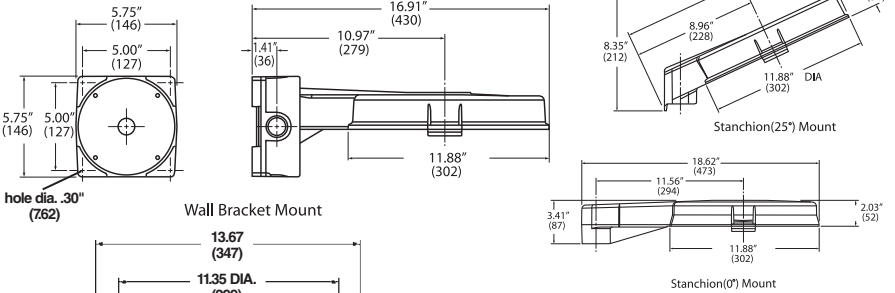
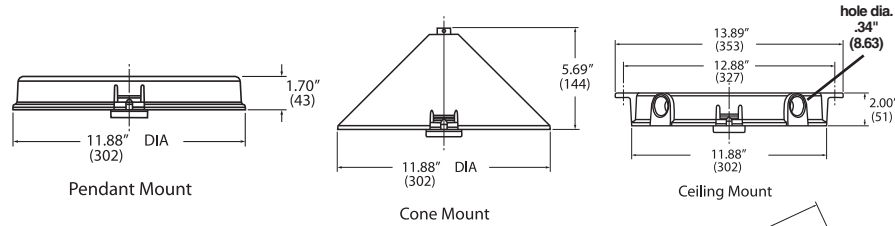
⑤ VMRWG8 Plated Steel, VMRWGS 316 Stainless Steel.

OPTICS

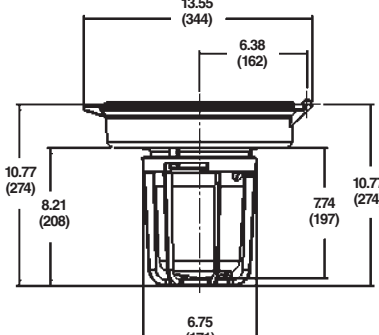


ACCESSORIES

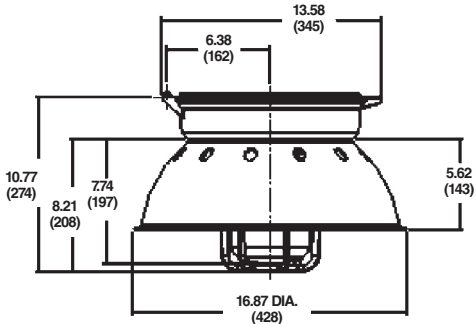




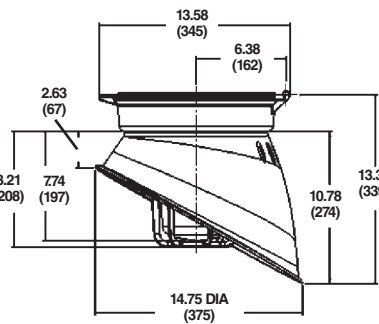
VM1L Tank w/Pendant Mount & Globe



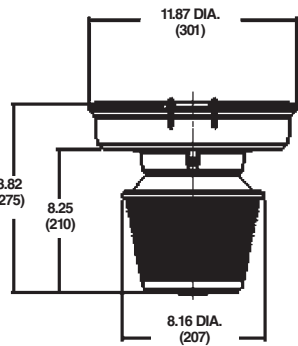
VM1L Tank Globe & Guard



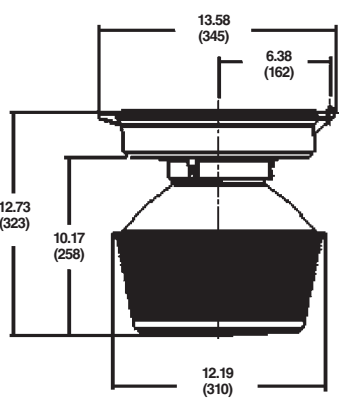
VM1L Tank with Dome Refractor



VM1L Tank with Angle Refractor

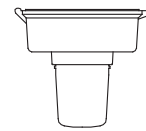


VM1L Tank with 8" Spin-top Refractor



VM1L Tank with 12" Spin-top Refractor

LED 45 Watt Globe Only

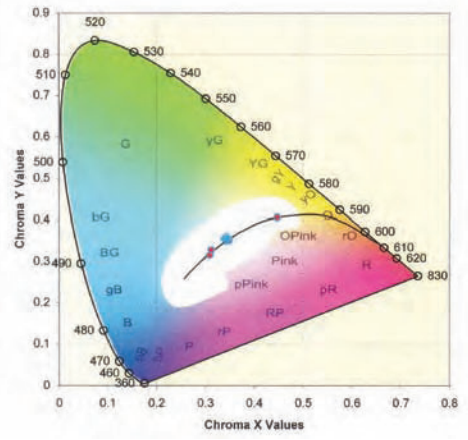
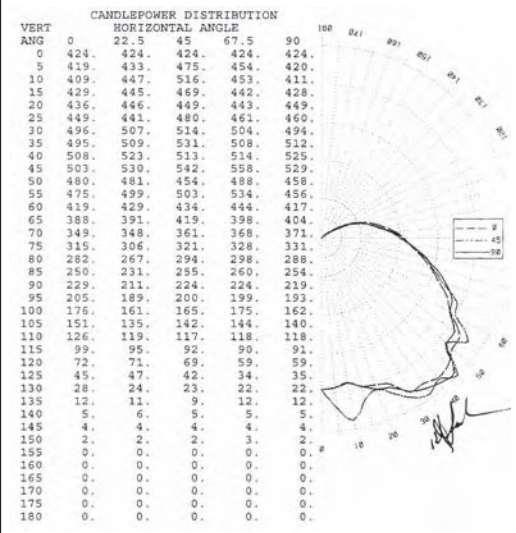


Zonal Lumen Summary

Zone	Lumens	%Lamp	%Fixt
0-30	381	N.A.	12.4%
0-40	704	N.A.	22.9%
0-60	1568	N.A.	50.9%
0-90	2576	N.A.	83.6%
90-120	456	N.A.	14.8%
90-130	492	N.A.	16.0%
90-150	504	N.A.	16.4%
90-180	504	N.A.	16.4%
0-180	3080	N.A.	100

Absolute Photometry

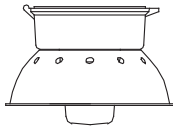
Total Luminaire Efficiency = N.A.%
 Spacing to Mounting Height Ratio 1.8



Chromaticity 5080°K (CCT); 72.4 CRI
 Certified Report BAL15305.0



LED 45 Watt
Globe & Dome Reflector



Zonal Lumen Summary

Zone	Lumens	%Lamp	%Fixt
0-30	495 N.A.		18.1%
0-40	898 N.A.		32.8%
0-60	1964 N.A.		71.7%
0-90	2725 N.A.		99.4%
90-120	9 N.A.		0.3%
90-130	13 N.A.		0.5%
90-150	15 N.A.		0.6%
90-180	15 N.A.		0.6%
0-180	2740 N.A.		100

Absolute Photometry

Total Luminaire Efficiency = N.A.%
Spacing to Mounting Height Ratio 1.7

LED 45 Watt
Globe & Type V Refractor



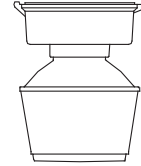
Zonal Lumen Summary

Zone	Lumens	%Lamp	%Fixt
0-30	386 N.A.		13.3%
0-40	631 N.A.		21.7%
0-60	1305 N.A.		44.8%
0-90	2519 N.A.		86.6%
90-120	315 N.A.		10.8%
90-130	355 N.A.		12.2%
90-150	390 N.A.		13.4%
90-180	391 N.A.		13.4%
0-180	2910 N.A.		100

Absolute Photometry

Total Luminaire Efficiency = N.A.%
Spacing to Mounting Height Ratio 1.3

LED 45 Watt 12" Spin-top
Type V Refractor

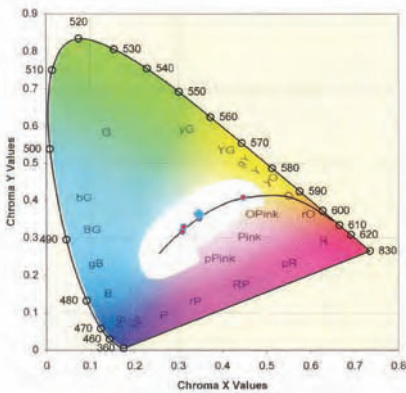
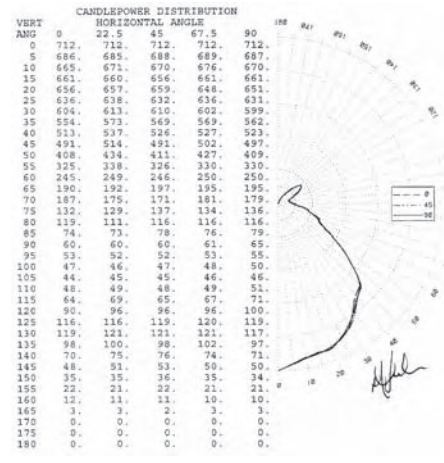
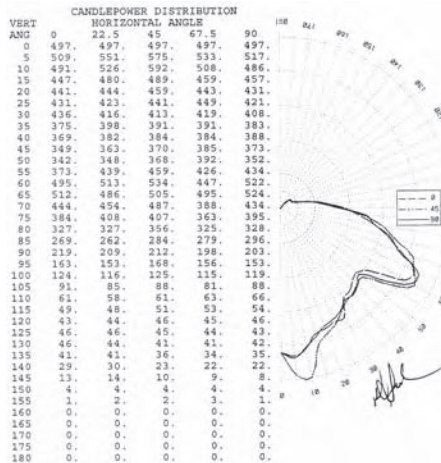
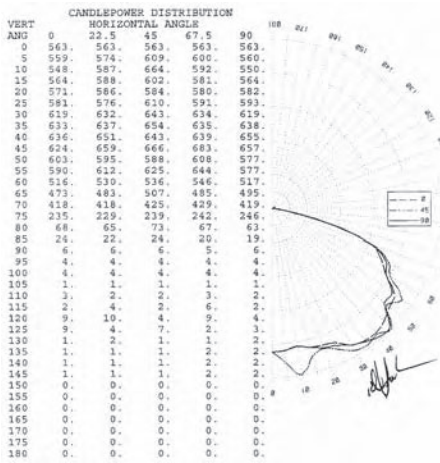


Zonal Lumen Summary

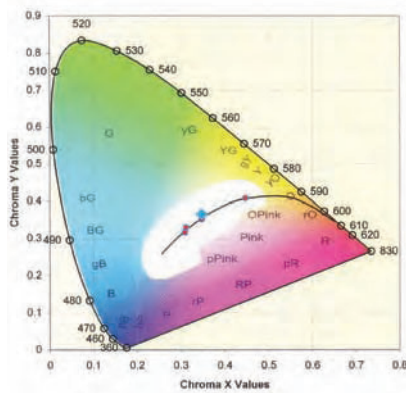
Zone	Lumens	%Lamp	%Fixt
0-30	547 N.A.		22.8%
0-40	903 N.A.		37.6%
0-60	1587 N.A.		66.1%
0-90	2003 N.A.		83.5%
90-120	172 N.A.		7.2%
90-130	278 N.A.		11.6%
90-150	386 N.A.		16.1%
90-180	397 N.A.		16.5%
0-180	2400 N.A.		100

Absolute Photometry

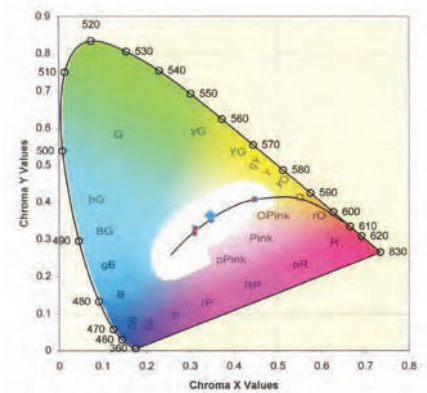
Total Luminaire Efficiency = N.A.%
Spacing to Mounting Height Ratio 1.3



Chromaticity 5015°K (CCT); 70.6 CRI
Certified Report BAL15306.0



Chromaticity 5089°K (CCT); 72.3 CRI
Certified Report BAL15309.0



Chromaticity 4960°K (CCT); 70.3 CRI
Certified Report BAL15311.0

CERTILITE®

NEW!

Replaces
**VBF/VQF
 Series**



**VM1/Pendant
 Globe & Guard**



**VM2/Ceiling
 Globe & Guard**



**VM1/Wall
 Globe & Guard**



**VM2/Stanchion 25°
 Refractor & Guard**

Class I, Div. 2, Groups A,B,C,D
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
Suitable for wet locations
NEMA 3, 4, 4X; IP66

Certified - File LR11713

NR Restricted Breathing Option®
Class I, Zone 2 AEx nAnR
Class I, Zone 2 Ex nR

FEATURES-SPECIFICATIONS

Applications:

CertiLite® VQ1F/VQ2F Series are designed for installations where moisture, dirt, dust, corrosion and vibration may be present, or NEMA 3 and 4X areas and where wind, water, snow or high ambients can be expected. They can be used in locations made hazardous by the presence of flammable vapors and gases or combustible dusts, as defined by the NEC®. Typical applications include manufacturing plants and certain chemical and petrochemical processing facilities, sewage treatment plants, off-shore and dockside installations, garages and warehouses.

Standard Materials:

- Ballast tank and splice box – corrosion resistant copper-free aluminum alloy with baked powder epoxy/polyester finish, electrostatically applied for complete, uniform corrosion protection.
- All external hardware – 316 stainless steel.
- Guards – Painted copper-free aluminum alloy or 316SS for 7-3/4" glass optics and Enclosed Reflectors.
- Reflectors – lightweight, corrosion resistant fiberglass reinforced polyester, or copper-free aluminum.

Features:

- "World Voltage" Ballast 120 through 277 VAC 50/60Hz
- Six mounting splice box types: Pendant, Ceiling, Wall bracket, Cone Top, 25° Angle Stanchion, Straight Stanchion – in a variety of entry sizes, including M20 for the VMX ceiling style.
- Elevated ambients to 55°C 13W-64W
- Two lamp models have 2 ballasts for separate switching or system redundancy
- Normally shipped as components for fast delivery, or may be ordered factory assembled.
- Options for Fuses and Quick Disconnect
- Tank assemblies include quad-pin lamp

Compliances

- UL1598 Standard for luminaires
- UL1598A Marine type luminaire
- UL-844 Standard for lighting fixtures for hazardous locations
- CSA C22.2 no. 137-M1981 electric luminaires for use in hazardous locations

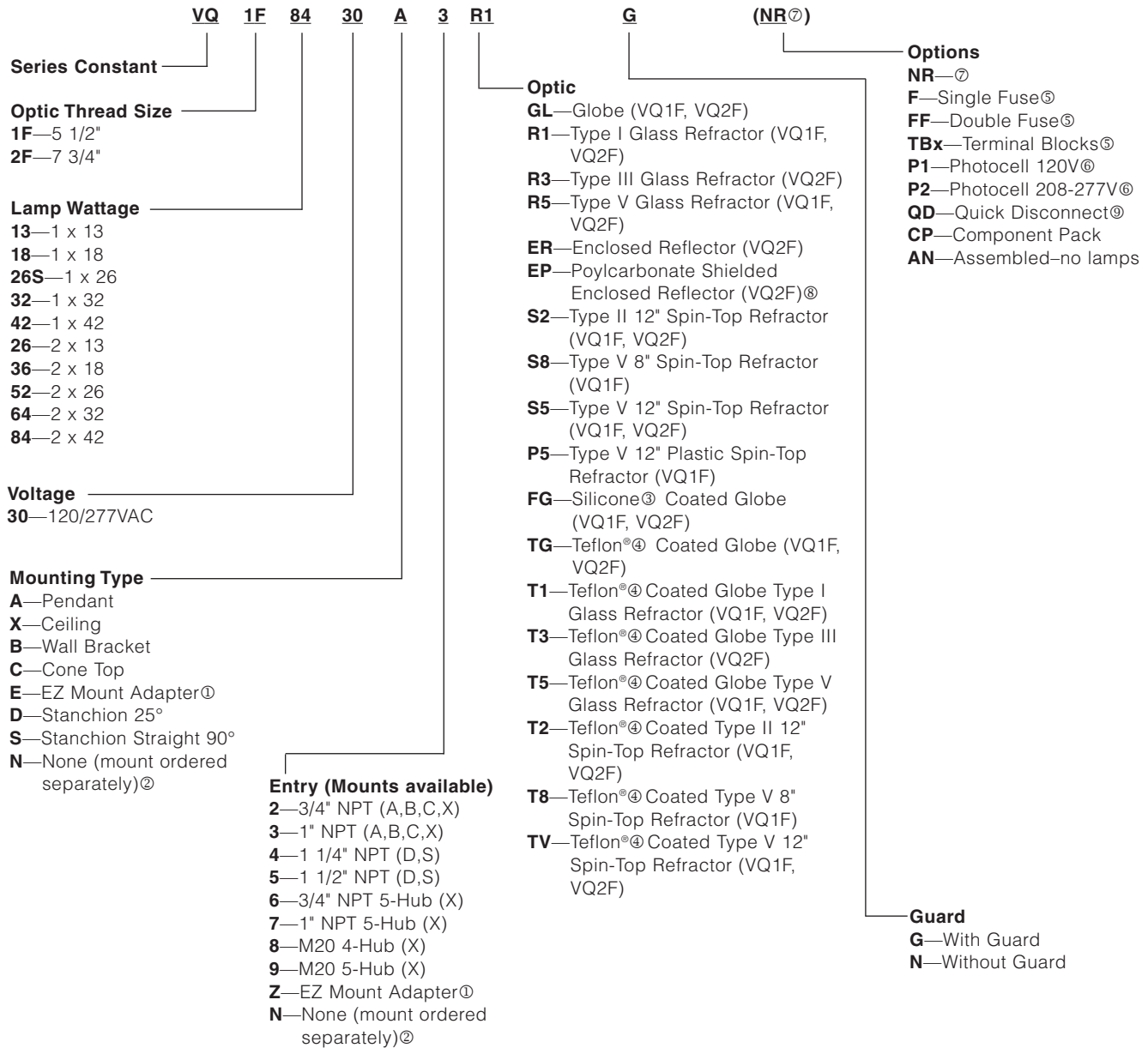
FEATURES	BENEFITS
Swing-Barrel Nut Patented Tank Mounting System	<ul style="list-style-type: none"> • Stainless-to-Stainless securement • Takes load off during installation • Uses ordinary tools • Saves time and labor
Sealed Optic Zone 2 AEx nAR Restricted Breathing (suffix NR)	NO External Seals. Lower T-codes, Suitable for Class I Div. 2 Classified areas per the NEC®. See L54 for more info.
All glass refractors I III V	Compact (5-1/2" thread size, types I & V) Standard (7-3/4", thread size, types I, III, V) Enhances user selection flexibility
"EZ" mount adapter	Easier Maintenance, saves labor, move fixture from the ladder to the workbench
Photo controls - Class I Div. 2 / N4X areas	Available as Field or Factory Installed to save energy when light not required
Earthquake Tab - Built-in attachment point for safety cables	Safety: Secures fixture to structure in case of conduit failure. "3rd hand" accessories for lamp change out. See L53 for more info.
"FULL CUTOFF" & CUTOFF Optics	For "Dark Sky" Requirements. Helps to minimize offending light pollution. See L56 for more info.
VMEP40 "Food Optic" VQ2F	Expanded Offering for Food or Grain Handling Applications to minimize contamination. See L55 for more info.

Compliances Continued:

- Enclosed and gasketed
- NEMA 3, 4X IP66
- UL 60079-15 - Electrical apparatus for Explosive Gas Atmospheres with Type of Protection "n" (Restricted Breathing and non-sparking).

Note: VQ1F dimensions are the same as VM1 and VQ2F are same as VM2 - See L100-L103.

CertiLite® Catalog Number Logic; 13-84 W Compact Fluorescent Fixtures



① Completes as "EZ", conduit mounting boxes ordered separately - See L83.
 ② NN mount ordered separately.
 ③ Silicone coated globe for additional impact protection.
 ④ Teflon® is a registered trademark of DuPont, Inc.
 ⑤ Fusing not for Marine or Canadian installations.
 ⑥ Photo cells for Class I, Div. 2 only
 ⑦ Restricted Breathing - See L54 for more information.
 ⑧ Not for use with wall or straight (90°) Stanchion.
 ⑨ QD = Quick Disconnect. Allows easy tank removal for maintenance. Electrician simply unplugs de-energized ballast from supply circuit.



VM1 Pendant
w/5-1/2"
Globe & Guard



VM2 Pendant
w/7-3/4"
Globe & Guard



VM1 Ceiling
w/5-1/2"
Globe & Guard



VM2 Ceiling
w/7-3/4"
Globe & Guard

Class I, Div. 2, Groups A,B,C,D
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
Suitable for wet locations
NEMA 3, 4, 4X; IP66



NR Restricted Breathing Option
Class I, Zone 2 AEx nAnR
Class I, Zone 2 Ex nR



VQ1F - VQ2F 13 - 84 WATT COMPACT FLUORESCENT - PENDANT											
DESCRIPTION				5-1/2" OPTIC THREAD SIZE			7-3/4" OPTIC THREAD SIZE				
WATTS	LAMPS INCL.	HUB SIZE	VOLTAGE	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	12" SPIN-TOP TYPE V REFRACTOR & GUARD	
13	1X13	3/4"	120VAC THROUGH 227VAC 50/60Hz	VQ1F1330A2GLG	VQ1F1330A2R1G	VQ1F1330A2R5G	VQ2F1330A2GLG	VQ2F1330A2R1G	VQ2F1330A2R5G	VQ2F1330A2S5G	
18	1X18	3/4"		VQ1F1830A2GLG	VQ1F1830A2R1G	VQ1F1830A2R5G	VQ2F1830A2GLG	VQ2F1830A2R1G	VQ2F1830A2R5G	VQ2F1830A2S5G	
26	1X26	3/4"		VQ1F26S30A2GLG	VQ1F26S30A2R1G	VQ1F26S30A2R5G	VQ2F26S30A2GLG	VQ2F26S30A2R1G	VQ2F26S30A2R5G	VQ2F26S30A2S5G	
32	1X32	3/4"		VQ1F3230A2GLG	VQ1F3230A2R1G	VQ1F3230A2R5G	VQ2F3230A2GLG	VQ2F3230A2R1G	VQ2F3230A2R5G	VQ2F3230A2S5G	
42	1X42	3/4"		VQ1F4230A2GLG	VQ1F4230A2R1G	VQ1F4230A2R5G	VQ2F4230A2GLG	VQ2F4230A2R1G	VQ2F4230A2R5G	VQ2F4230A2S5G	
26	2X13	3/4"		VQ1F2630A2GLG	VQ1F2630A2R1G	VQ1F2630A2R5G	VQ2F2630A2GLG	VQ2F2630A2R1G	VQ2F2630A2R5G	VQ2F2630A2S5G	
36	2X18	3/4"		VQ1F3630A2GLG	VQ1F3630A2R1G	VQ1F3630A2R5G	VQ2F3630A2GLG	VQ2F3630A2R1G	VQ2F3630A2R5G	VQ2F3630A2S5G	
52	2X26	3/4"		VQ1F5230A2GLG	VQ1F5230A2R1G	VQ1F5230A2R5G	VQ2F5230A2GLG	VQ2F5230A2R1G	VQ2F5230A2R5G	VQ2F5230A2S5G	
64	2X32	3/4"		VQ1F6430A2GLG	VQ1F6430A2R1G	VQ1F6430A2R5G	VQ2F6430A2GLG	VQ2F6430A2R1G	VQ2F6430A2R5G	VQ2F6430A2S5G	
84	2X42	3/4"		VQ1F8430A2GLG	VQ1F8430A2R1G	VQ1F8430A2R5G	VQ2F8430A2GLG	VQ2F8430A2R1G	VQ2F8430A2R5G	VQ2F8430A2S5G	

VQ1F - VQ2F 13 - 84 WATT COMPACT FLUORESCENT - CEILING											
DESCRIPTION				5-1/2" OPTIC THREAD SIZE			7-3/4" OPTIC THREAD SIZE				
WATTS	LAMPS INCL.	HUB SIZE	VOLTAGE	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	12" SPIN-TOP TYPE V REFRACTOR & GUARD	
13	1X13	3/4"	120VAC THROUGH 227VAC 50/60Hz	VQ1F1330X2GLG	VQ1F1330X2R1G	VQ1F1330X2R5G	VQ2F1330X2GLG	VQ2F1330X2R1G	VQ2F1330X2R5G	VQ2F1330X2S5G	
18	1X18	3/4"		VQ1F1830X2GLG	VQ1F1830X2R1G	VQ1F1830X2R5G	VQ2F1830X2GLG	VQ2F1830X2R1G	VQ2F1830X2R5G	VQ2F1830X2S5G	
26	1X26	3/4"		VQ1F26S30X2GLG	VQ1F26S30X2R1G	VQ1F26S30X2R5G	VQ2F26S30X2GLG	VQ2F26S30X2R1G	VQ2F26S30X2R5G	VQ2F26S30X2S5G	
32	1X32	3/4"		VQ1F3230X2GLG	VQ1F3230X2R1G	VQ1F3230X2R5G	VQ2F3230X2GLG	VQ2F3230X2R1G	VQ2F3230X2R5G	VQ2F3230X2S5G	
42	1X42	3/4"		VQ1F4230X2GLG	VQ1F4230X2R1G	VQ1F4230X2R5G	VQ2F4230X2GLG	VQ2F4230X2R1G	VQ2F4230X2R5G	VQ2F4230X2S5G	
26	2X13	3/4"		VQ1F2630X2GLG	VQ1F2630X2R1G	VQ1F2630X2R5G	VQ2F2630X2GLG	VQ2F2630X2R1G	VQ2F2630X2R5G	VQ2F2630X2S5G	
36	2X18	3/4"		VQ1F3630X2GLG	VQ1F3630X2R1G	VQ1F3630X2R5G	VQ2F3630X2GLG	VQ2F3630X2R1G	VQ2F3630X2R5G	VQ2F3630X2S5G	
52	2X26	3/4"		VQ1F5230X2GLG	VQ1F5230X2R1G	VQ1F5230X2R5G	VQ2F5230X2GLG	VQ2F5230X2R1G	VQ2F5230X2R5G	VQ2F5230X2S5G	
64	2X32	3/4"		VQ1F6430X2GLG	VQ1F6430X2R1G	VQ1F6430X2R5G	VQ2F6430X2GLG	VQ2F6430X2R1G	VQ2F6430X2R5G	VQ2F6430X2S5G	
84	2X42	3/4"		VQ1F8430X2GLG	VQ1F8430X2R1G	VQ1F8430X2R5G	VQ2F8430X2GLG	VQ2F8430X2R1G	VQ2F8430X2R5G	VQ2F8430X2S5G	

Ⓞ See hazardous application data on page L49 for application suitability.
 Ⓞ Catalog numbers shown are with Guard; to omit guard change ending G to N; e.g. VQ1F1330A2GLN.
 Ⓞ Catalog numbers shown are with 3/4" conduit openings; change "2" to "3" for 1"; e.g. VQ1F1330A3GLG.
 Ⓞ Ballasts are electronic for included Quad-Pin Lamps and 120VAC through 277VAC operation.
 Ⓞ Add suffix NR for AEx nR Restricted Breathing; see page L54 for more information.



**VM1 Wall
w/5-1/2"
Globe & Guard**



**VM2 Wall
w/7-3/4"
Globe & Guard**




**VM1 EZ Adapter
w/5-1/2"
Globe & Guard**



**VM2 EZ Adapter
w/7-3/4"
Globe & Guard**

Class I, Div. 2, Groups A,B,C,D[Ⓞ]
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
Suitable for wet locations
NEMA 3, 4, 4X; IP66

 Certified - File LR11713

NR Restricted Breathing Option[Ⓞ]
Class I, Zone 2 AEx nAnR
Class I, Zone 2 Ex nR 

VQ1F - VQ2F 13 - 84 WATT COMPACT FLUORESCENT - WALL											
DESCRIPTION				5-1/2" OPTIC THREAD SIZE [Ⓞ]			7-3/4" OPTIC THREAD SIZE [Ⓞ]				
WATTS	LAMPS INCL.	HUB SIZE [Ⓞ]	VOLTAGE [Ⓞ]	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	12" SPIN-TOP TYPE V REFRACTOR & GUARD	
13	1X13	3/4"	120VAC THROUGH	VQ1F1330B2GLG	VQ1F1330B2R1G	VQ1F1330B2R5G	VQ2F1330B2GLG	VQ2F1330B2R1G	VQ2F1330B2R5G	VQ2F1330B2S5G	
18	1X18	3/4"		VQ1F1830B2GLG	VQ1F1830B2R1G	VQ1F1830B2R5G	VQ2F1830B2GLG	VQ2F1830B2R1G	VQ2F1830B2R5G	VQ2F1830B2S5G	
26	1X26	3/4"		VQ1F26S30B2GLG	VQ1F26S30B2R1G	VQ1F26S30B2R5G	VQ2F26S30B2GLG	VQ2F26S30B2R1G	VQ2F26S30B2R5G	VQ2F26S30B2S5G	
32	1X32	3/4"		VQ1F3230B2GLG	VQ1F3230B2R1G	VQ1F3230B2R5G	VQ2F3230B2GLG	VQ2F3230B2R1G	VQ2F3230B2R5G	VQ2F3230B2S5G	
42	1X42	3/4"		VQ1F4230B2GLG	VQ1F4230B2R1G	VQ1F4230B2R5G	VQ2F4230B2GLG	VQ2F4230B2R1G	VQ2F4230B2R5G	VQ2F4230B2S5G	
26	2X13	3/4"		227VAC 50/60Hz	VQ1F2630B2GLG	VQ1F2630B2R1G	VQ1F2630B2R5G	VQ2F2630B2GLG	VQ2F2630B2R1G	VQ2F2630B2R5G	VQ2F2630B2S5G
36	2X18	3/4"			VQ1F3630B2GLG	VQ1F3630B2R1G	VQ1F3630B2R5G	VQ2F3630B2GLG	VQ2F3630B2R1G	VQ2F3630B2R5G	VQ2F3630B2S5G
52	2X26	3/4"			VQ1F5230B2GLG	VQ1F5230B2R1G	VQ1F5230B2R5G	VQ2F5230B2GLG	VQ2F5230B2R1G	VQ2F5230B2R5G	VQ2F5230B2S5G
64	2X32	3/4"			VQ1F6430B2GLG	VQ1F6430B2R1G	VQ1F6430B2R5G	VQ2F6430B2GLG	VQ2F6430B2R1G	VQ2F6430B2R5G	VQ2F6430B2S5G
84	2X42	3/4"			VQ1F8430B2GLG	VQ1F8430B2R1G	VQ1F8430B2R5G	VQ2F8430B2GLG	VQ2F8430B2R1G	VQ2F8430B2R5G	VQ2F8430B2S5G

VQ1F - VQ2F 13 - 84 WATT COMPACT FLUORESCENT - EZ ADAPTER [Ⓞ]											
DESCRIPTION				5-1/2" OPTIC THREAD SIZE [Ⓞ]			7-3/4" OPTIC THREAD SIZE [Ⓞ]				
WATTS	LAMPS INCL.	HUB SIZE [Ⓞ]	VOLTAGE [Ⓞ]	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	12" SPIN-TOP TYPE V REFRACTOR & GUARD	
13	1X13	Ⓞ	120VAC THROUGH	VQ1F1330EZGLG	VQ1F1330EZR1G	VQ1F1330EZR5G	VQ2F1330EZGLG	VQ2F1330EZR1G	VQ2F1330EZR5G	VQ2F1330EZS5G	
18	1X18	Ⓞ		VQ1F1830EZGLG	VQ1F1830EZR1G	VQ1F1830EZR5G	VQ2F1830EZGLG	VQ2F1830EZR1G	VQ2F1830EZR5G	VQ2F1830EZS5G	
26	1X26	Ⓞ		VQ1F26S30EZGLG	VQ1F26S30EZR1G	VQ1F26S30EZR5G	VQ2F26S30EZGLG	VQ2F26S30EZR1G	VQ2F26S30EZR5G	VQ2F26S30EZS5G	
32	1X32	Ⓞ		VQ1F3230EZGLG	VQ1F3230EZR1G	VQ1F3230EZR5G	VQ2F3230EZGLG	VQ2F3230EZR1G	VQ2F3230EZR5G	VQ2F3230EZS5G	
42	1X42	Ⓞ		VQ1F4230EZGLG	VQ1F4230EZR1G	VQ1F4230EZR5G	VQ2F4230EZGLG	VQ2F4230EZR1G	VQ2F4230EZR5G	VQ2F4230EZS5G	
26	2X13	Ⓞ		227VAC 50/60Hz	VQ1F2630EZGLG	VQ1F2630EZR1G	VQ1F2630EZR5G	VQ2F2630EZGLG	VQ2F2630EZR1G	VQ2F2630EZR5G	VQ2F2630EZS5G
36	2X18	Ⓞ			VQ1F3630EZGLG	VQ1F3630EZR1G	VQ1F3630EZR5G	VQ2F3630EZGLG	VQ2F3630EZR1G	VQ2F3630EZR5G	VQ2F3630EZS5G
52	2X26	Ⓞ			VQ1F5230EZGLG	VQ1F5230EZR1G	VQ1F5230EZR5G	VQ2F5230EZGLG	VQ2F5230EZR1G	VQ2F5230EZR5G	VQ2F5230EZS5G
64	2X32	Ⓞ			VQ1F6430EZGLG	VQ1F6430EZR1G	VQ1F6430EZR5G	VQ2F6430EZGLG	VQ2F6430EZR1G	VQ2F6430EZR5G	VQ2F6430EZS5G
84	2X42	Ⓞ			VQ1F8430EZGLG	VQ1F8430EZR1G	VQ1F8430EZR5G	VQ2F8430EZGLG	VQ2F8430EZR1G	VQ2F8430EZR5G	VQ2F8430EZS5G

- [Ⓞ] See hazardous location data on page L49 for application suitability.
- [Ⓞ] Catalog numbers shown are with Guard; to omit guard change ending G to N; e.g. VQ1F1330B2GLN.
- [Ⓞ] Catalog numbers shown are with 3/4" conduit openings; change "2" to "3" for 1"; e.g. VQ1F1330B3GLG.
- [Ⓞ] Ballasts are electronic for included Quad-Pin Lamps and 120VAC through 277VAC operation.
- [Ⓞ] Add suffix NR for AEx nR Restricted Breathing; see page L54 for more information.
- [Ⓞ] VMEZA tank adapters "classified" as an assembly for use between VM type tanks and EZ mounts. Order EZ mounts separately.



**VM1 Stanchion 25°
w/5-1/2"
Globe & Guard**



**VM1 Stanchion
Straight
w/5-1/2"
Globe & Guard**

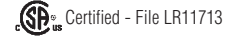


**VM2 Stanchion 25°
w/7-3/4"
Globe & Guard**



**VM2 Stanchion
Straight
w/7-3/4"
Globe & Guard**

Class I, Div. 2, Groups A,B,C,D
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
Suitable for wet locations
NEMA 3, 4, 4X; IP66



NR Restricted Breathing Option
Class I, Zone 2 AEx nAnR
Class I, Zone 2 Ex nR




VQ1F - VQ2F 13 - 84 WATT COMPACT FLUORESCENT - STANCHION 25° ANGLE											
DESCRIPTION				5-1/2" OPTIC THREAD SIZE ②				7-3/4" OPTIC THREAD SIZE ②			
WATTS	LAMPS INCL.	HUB SIZE ③	VOLTAGE ④	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	12" SPIN-TOP TYPE V REFRACTOR & GUARD	
13	1X13	3/4"	120VAC THROUGH 227VAC 50/60Hz	VQ1F1330D5GLG	VQ1F1330D5R1G	VQ1F1330D5R5G	VQ2F1330D5GLG	VQ2F1330D5R1G	VQ2F1330D5R5G	VQ2F1330D5S5G	
18	1X18	3/4"		VQ1F1830D5GLG	VQ1F1830D5R1G	VQ1F1830D5R5G	VQ2F1830D5GLG	VQ2F1830D5R1G	VQ2F1830D5R5G	VQ2F1830D5S5G	
26	1X26	3/4"		VQ1F26S30D5GLG	VQ1F26S30D5R1G	VQ1F26S30D5R5G	VQ2F26S30D5GLG	VQ2F26S30D5R1G	VQ2F26S30D5R5G	VQ2F26S30D5S5G	
32	1X32	3/4"		VQ1F3230D5GLG	VQ1F3230D5R1G	VQ1F3230D5R5G	VQ2F3230D5GLG	VQ2F3230D5R1G	VQ2F3230D5R5G	V12F3230D5S5G	
42	1X42	3/4"		VQ1F4230D5GLG	VQ1F4230D5R1G	VQ1F4230D5R5G	VQ2F4230D5GLG	VQ2F4230D5R1G	VQ2F4230D5R5G	VQ2F4230D5S5G	
26	2X13	3/4"		VQ1F2630D5GLG	VQ1F2630D5R1G	VQ1F2630D5R5G	VQ2F2630D5GLG	VQ2F2630D5R1G	VQ2F2630D5R5G	VQ2F2630D5S5G	
36	2X18	3/4"		VQ1F3630D5GLG	VQ1F3630D5R1G	VQ1F3630D5R5G	VQ2F3630D5GLG	VQ2F3630D5R1G	VQ2F3630D5R5G	VQ2F3630D5S5G	
52	2X26	3/4"		VQ1F5230D5GLG	VQ1F5230D5R1G	VQ1F5230D5R5G	VQ2F5230D5GLG	VQ2F5230D5R1G	VQ2F5230D5R5G	VQ2F5230D5S5G	
64	2X32	3/4"		VQ1F6430D5GLG	VQ1F6430D5R1G	VQ1F6430D5R5G	VQ2F6430D5GLG	VQ2F6430D5R1G	VQ2F6430D5R5G	VQ2F6430D5S5G	
84	2X42	3/4"		VQ1F8430D5GLG	VQ1F8430D5R1G	VQ1F8430D5R5G	VQ2F8430D5GLG	VQ2F8430D5R1G	VQ2F8430D5R5G	VQ2F8430D5S5G	

VQ1F - VQ2F 13 - 84 WATT COMPACT FLUORESCENT - STANCHION STRAIGHT											
DESCRIPTION				5-1/2" OPTIC THREAD SIZE ②				7-3/4" OPTIC THREAD SIZE ②			
WATTS	LAMPS INCL.	HUB SIZE ③	VOLTAGE ④	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	12" SPIN-TOP TYPE V REFRACTOR & GUARD	
13	1X13	1-1/2"	120VAC THROUGH 227VAC 50/60Hz	VQ1F1330S5GLG	VQ1F1330S5R1G	VQ1F1330S5R5G	VQ2F1330S5GLG	VQ2F1330S5R1G	VQ2F1330S5R5G	VQ2F1330S5S5G	
18	1X18	1-1/2"		VQ1F1830S5GLG	VQ1F1830S5R1G	VQ1F1830S5R5G	VQ2F1830S5GLG	VQ2F1830S5R1G	VQ2F1830S5R5G	VQ2F1830S5S5G	
26	1X26	1-1/2"		VQ1F26S30S5GLG	VQ1F26S30S5R1G	VQ1F26S30S5R5G	VQ2F26S30S5GLG	VQ2F26S30S5R1G	VQ2F26S30S5R5G	VQ2F26S30S5S5G	
32	1X32	1-1/2"		VQ1F3230S5GLG	VQ1F3230S5R1G	VQ1F3230S5R5G	VQ2F3230S5GLG	VQ2F3230S5R1G	VQ2F3230S5R5G	VQ2F3230S5S5G	
42	1X42	1-1/2"		VQ1F4230S5GLG	VQ1F4230S5R1G	VQ1F4230S5R5G	VQ2F4230S5GLG	VQ2F4230S5R1G	VQ2F4230S5R5G	VQ2F4230S5S5G	
26	2X13	1-1/2"		VQ1F2630S5GLG	VQ1F2630S5R1G	VQ1F2630S5R5G	VQ2F2630S5GLG	VQ2F2630S5R1G	VQ2F2630S5R5G	VQ2F2630S5S5G	
36	2X18	1-1/2"		VQ1F3630S5GLG	VQ1F3630S5R1G	VQ1F3630S5R5G	VQ2F3630S5GLG	VQ2F3630S5R1G	VQ2F3630S5R5G	VQ2F3630S5S5G	
52	2X26	1-1/2"		VQ1F5230S5GLG	VQ1F5230S5R1G	VQ1F5230S5R5G	VQ2F5230S5GLG	VQ2F5230S5R1G	VQ2F5230S5R5G	VQ2F5230S5S5G	
64	2X32	1-1/2"		VQ1F6430S5GLG	VQ1F6430S5R1G	VQ1F6430S5R5G	VQ2F6430S5GLG	VQ2F6430S5R1G	VQ2F6430S5R5G	VQ2F6430S5S5G	
84	2X42	1-1/2"		VQ1F8430S5GLG	VQ1F8430S5R1G	VQ1F8430S5R5G	VQ2F8430S5GLG	VQ2F8430S5R1G	VQ2F8430S5R5G	VQ2F8430S5S5G	

① See hazardous location data on page L49 for application suitability.
 ② Catalog numbers shown are with Guard; to omit guard change ending G to N; e.g. VQ1F1330D5GLN.
 ③ Catalog numbers shown are with 1-1/2" conduit openings; change "5" to "4" for 1-1/4"; e.g. VQ1F1330D4GLG.
 ④ Ballasts are electronic for included Quad-Pin Lamps and 120VAC through 277VAC operation.
 ⑤ Add suffix NR for AEx nR Restricted Breathing; see page L54 for more information.

MOUNTING SPLICE BOXES							
HUB SIZE	CATALOG NUMBER						
	PENDANT	CEILING 4 HUB	CEILING 5 HUB	WALL	CONE TOP	25 DEGREE STANCHION	90 DEGREE STANCHION
3/4"	VMA2B	VMX2B	VMX6B	VMB2B	VMC2B	—	—
1"	VMA3B	VMX3B	VMX7B	VMB3B	VMC3B	—	—
1-1/4"	—	—	—	—	—	VMD4B	VMS4B
1-1/2"	—	—	—	—	—	VMD5B	VMS5B
M-20	—	VMX8B**	VMX9B	—	—	—	—

*VMEZA is used between a ballast tank and an EZ mount-ordered separately. See L94 for more info.

**VMX8B furnished with 3 non-metallic  plugs.

DESCRIPTION	VQ1F LOW WATTAGE 5-1/2" OPTIC THREAD SIZE		VQ2F LOW WATTAGE 7-3/4" OPTIC THREAD SIZE	
	OPTICS	GUARD	OPTICS	GUARD
Globe (glass)	VMG17	VMAG17	VMG25	VMAG25S
Refractor (all glass) Type V	VMR175	VMAG17	VMR255	VMAG25S
Refractor (all glass) Type I	VMR171 [Ⓞ]	VMAG17	VMR251	VMAG25S
Refractor (all glass) Type III	—	—	VMG25	VMAG25S
Refractor (spin top glass) 8" Type V	VZRG1550	VMRWG8	—	—
Refractor (spin top glass) 12" Type V	VZRG2550	VMRWG	VZRG4050	VMRWG
Refractor (spin top glass) 12" Type II	VZRG2520	VMRWG	VZRG4020	VMRWG
Refractor (spin top plastic) 12" Type V	VZRP175	VMRWG	—	—
Enclosed Refractor (glass lens)	—	—	VMER40	VMERG
Enclosed Refractor (plastic lens)	—	—	VMEP40	—

* See L95 for full selection and information.

BALLAST TANKS ONLY 120VAC THROUGH 277VAC 50/60HZ			
CATALOG NUMBER			
5-1/2" OPTIC	7-3/4" OPTIC	WATTS	LAMPS INCL.
VQIF1330	VQ2F1330	13	1X13
VQIF1830	VQ2F1830	18	1X18
VQIF26S30	VQ2F26S30	26	1X26
VQIF3230	VQ2F3230	32	1X32
VQIF4230	VQ2F4230	42	1X42
VQIF2630	VQ2F2630	26	2X13
VQIF3630	VQ2F3630	36	2X18
VQIF5230	VQ2F5230	52	2X26
VQIF6430	VQ2F6430	64	2X32
VQIF8430	VQ2F8430	84	2X42

REPLACEMENT LAMPS	
CATALOG NUMBER	DESCRIPTION
MQL13	13W Quad-Pin
MQL18	18W Quad-Pin
MQL26	26W Quad-Pin
MQL32	32W Quad-Pin
MQL42	42W Quad-Pin

NOTE: VQ1F dimensions are the same as VMI; VQ2F dimensions are the same as VM2. See L100-L102.

LUMEN OUTPUT	
LAMP SOURCE	LUMEN OUTPUT
13 Watt (1X13)	900
18 Watt (1X18)	1200
26 Watt (1X26)	1800
32 Watt (1X32)	2400
42 Watt (1X42)	3200
26 Watt (2X13)	1800
36 Watt (2X18)	2400
52 Watt (2X26)	3600
64 Watt (2X32)	4800
84 Watt (2X42)	6400

Ⓞ Order splice box, optic and guard separately.

③ See pages L98, L99 for ballast data.

VBF/VBQ BALLAST DATA						
LAMP SOURCE	LAMP WATTS/TYP	VOLTAGE 60HZ	OPERATING (AMPS)	BALLAST CIRCUIT	REGULATION	MIN. START
Quad-Pin Fluorescent	13 Watt (1X13) 18 Watt (1X18)	120-277	.144 (120)/.067 (277) .158 (120)/.073 (277)	HPF	Electronic	5°F (-20°C) 5°F (-15°C)
	26 Watt (1X26) 32 Watt (1X32) 42 Watt (1X42)	120-277	.24 (120)/.11 (277) .31 (120)/.13 (277) .38 (120)/.18 (277)	HPF	Electronic	-4°F (-20°C) Watt
	26 Watt (2X13) 36 Watt (2X18)	120-277	.288 (120)/.134 (277) .316 (120)/.146 (277)	HPF	Electronic	5°F (-15°C)
	52 Watt (2X26) 64 Watt (2X32) 84 Watt (2X42)	120-277	.48 (120)/.11 (277) .62 (120)/.26 (277) .76 (120)/.36 (277)	HPF	Electronic	-4°F (-20°C)



VQ1F/VQ2F SERIES THERMAL PERFORMANCE DATA ① CLASS I DIVISION 2 GROUPS A,B,C,D / ZONE 2 GROUPS IIC, IIB, IIA / CLASS II E,F,G / CLASS III									
CATALOG NUMBER*	LAMP WATTS	AMBIENT DEGREES C	CLASS I DIVISION 2		CLASS I ZONE 2 NR II		CLASS II DIVISION 1 (3)		SUPPLY WIRE TEMP. MIN. °C
			GLOBE OR REFRACTOR ①	GLOBE + REFLECTOR	GLOBE OR REFRACTOR ②	GLOBE + REFLECTOR	GLOBE OR REFRACTOR ①	GLOBE + REFLECTOR	
VQ1F1330	13 (1X13)	40	T3C	T3C	T6	T6	T3C (EFG)	T3C (EFG)	75
		55	T3C	T3C	T6	T6	T3C (EFG)	T3C (EFG)	75
VQ1F1830	18 (1X18)	40	T3C	T3C	T6	T6	T3C (EFG)	T3C (EFG)	75
		55	T3C	T3C	T6	T6	T3C (EFG)	T3C (EFG)	75
VQ1F26S30	26 (1X26)	40	T3A	T3A	T6	T6	T3C (EFG)	T3C (EFG)	75
		55	T3A	T3A	T6	T6	T3C (EFG)	T3C (EFG)	75
VQ1F3230	32 (1X32)	40	T3A	T3A	T6	T6	T3C (EFG)	T3C (EFG)	75
		55	T3A	T3A	T6	T6	T3C (EFG)	T3C (EFG)	75
VQ1F4230	42 (1X42)	40	T3A	T3A	T6	T6	T3C (EFG)	T3C (EFG)	75
		55	T3A	T3A	T6	T6	T3C (EFG)	T3C (EFG)	75
VQ1F2630	26 (2X13)	40	T3A	T3A	T6	T6	T3C (EFG)	T3C (EFG)	60
		55	T3A	T3A	T5	T5	T3C (EFG)	T3C (EFG)	75
VQ1F3630	36 (2X18)	40	T3A	T3A	T6	T6	T3C (EFG)	T3C (EFG)	60
		55	T3A	T3A	T6	T6	T3C (EFG)	T3C (EFG)	75
VQ1F5230	52 (2X26)	40	T3	T2D	T6	T5	T3C (EFG)	T3C (EFG)	75
		55	T2D	T2D	T4	T4	T3C (EFG)	T3C (EFG)	75
VQ1F6430	64 (2X32)	40	T3	T2D	T6	T5	T3C (EFG)	T3C (EFG)	75
		55	T2D	T2D	T4	T4	T3C (EFG)	T3C (EFG)	75
VQ1F8430	84 (2X42)	40	T2B	T2B	T4	T4	T3C (EFG)	T3C (EFG)	75
		55	XXX	XXX	XXX	XXX	XXX	XXX	XXX
VQ2F1330	13 (1X13)	40	T3C	T3C	T6	T6	T4A (EFG)	T4A (EFG)	60
		55	T3C	T3C	T6	T6	T4A (EFG)	T4A (EFG)	75
VQ2F1830	18 (1X18)	40	T3C	T3C	T6	T6	T4A (EFG)	T4A (EFG)	60
		55	T3C	T3C	T6	T6	T4A (EFG)	T4A (EFG)	75
VQ2F26S30	26 (1X26)	40	T3A	T3A	T6	T6	T4A (EFG)	T4A (EFG)	60
		55	T3A	T3A	T6	T6	T4A (EFG)	T4A (EFG)	75
VQ2F3230	32 (1X32)	40	T3A	T3A	T6	T6	T4A (EFG)	T4A (EFG)	60
		55	T3A	T3A	T6	T6	T4A (EFG)	T4A (EFG)	75
VQ2F4230	42 (1X42)	40	T3A	T3A	T6	T6	T4A (EFG)	T4A (EFG)	60
		55	T3A	T3A	T6	T6	T4A (EFG)	T4A (EFG)	75
VQ2F2630	26 (2X13)	40	T3A	T3A	T6	T6	T4A (EFG)	T4A (EFG)	60
		55	T3A	T3A	T6	T6	T4A (EFG)	T4A (EFG)	75
VQ2F3630	36 (2X18)	40	T3A	T3A	T6	T6	T4A (EFG)	T4A (EFG)	60
		55	T3A	T3A	T6	T6	T4A (EFG)	T4A (EFG)	75
VQ2F5230	52 (2X26)	40	T3	T3	T6	T6	T4A (EFG)	T4A (EFG)	60
		55	T3	T3	T6	T6	T4A (EFG)	T4A (EFG)	75
VQ2F6430	64 (2X32)	40	T3	T3	T6	T6	T4A (EFG)	T4A (EFG)	60
		55	T3	T3	T6	T6	T4A (EFG)	T4A (EFG)	75
VQ1F8430	84 (2X42)	40	T2C	T2C	T6	T6	T4A (EFG)	T4A (EFG)	75
		55	XXX	XXX	XXX	XXX	XXX	XXX	XXX-

T-CODE & TEMPERATURE RANGE CONVERSION TABLE °C															
T1	350	325	T2	T2A	T2B	T2C	T2D	T3	T3A	T3B	T3C	T4	T4A	T5	T6
351-450	326-350	301-325	281-300	261-280	231-260	216-230	201-215	181-200	166-180	161-165	136-160	121-135	101-120	86-100	<=85

① C1D2 & T-codes for Refractors include VMR "All Glass" and VZ Spin-Top Types. Also applies for VMER40 and VMEP40 in VQ2F models.

② T-codes for Ex nR Refractors are for VMR "All Glass" Types. Also applies for VMER40 and VMEP40 in VQ2F models.

③ Models suitable for Class II Div. 1 are also suitable for Class III.

* VQ1F models use 5-1/2" CertiLite® VM optics; VQ2F models use 7-3/4" VM optics.



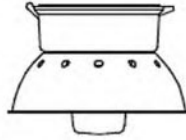
VQ1F 64Watt
Globe Only



64 Watt Fluorescent
4800 Lumens

- For 13W Multiply by 0.188
- For 18W Multiply by 0.250
- For 26W Multiply by 0.375
- For 32W Multiply by 0.500
- For 36W Multiply by 0.500
- For 42W Multiply by 0.667
- For 52W Multiply by 0.750
- For 84W Multiply by 1.333

VQ1F 64Watt
Globe & Dome Reflector



64 Watt Fluorescent
4800 Lumens

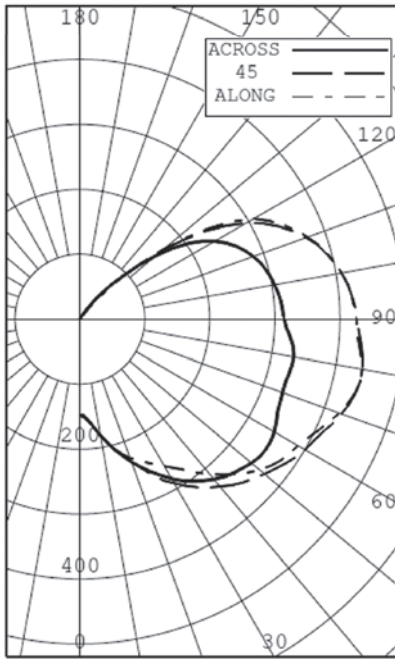
- For 13W Multiply by 0.188
- For 18W Multiply by 0.250
- For 26W Multiply by 0.375
- For 32W Multiply by 0.500
- For 36W Multiply by 0.500
- For 42W Multiply by 0.667
- For 52W Multiply by 0.750
- For 84W Multiply by 1.333

VQ1F 64Watt
Type V Glass Refractor



64 Watt Fluorescent
4800 Lumens

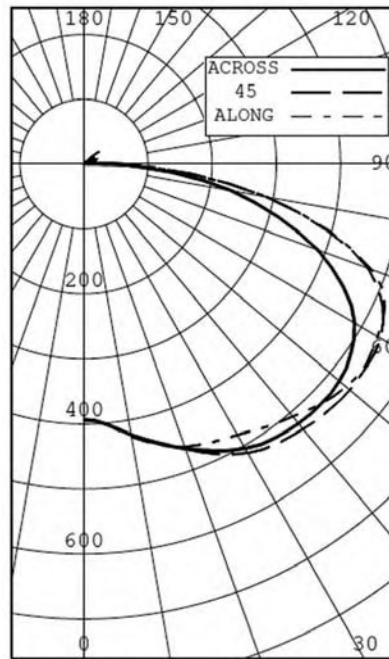
- For 13W Multiply by 0.188
- For 18W Multiply by 0.250
- For 26W Multiply by 0.375
- For 32W Multiply by 0.500
- For 36W Multiply by 0.500
- For 42W Multiply by 0.667
- For 52W Multiply by 0.750
- For 84W Multiply by 1.333



ZONAL LUMENS AND PERCENTAGES

ZONE	LUMENS	% LAMP	% LUMINAIRE
0-30	196	4.08	5.37
0-40	387	8.07	10.62
0-60	987	20.55	27.05
0-90	2235	46.57	61.28
40-90	1848	38.50	50.66
60-90	1249	26.02	34.23
90-180	1413	29.43	38.72
0-180	3648	76.00	100.00

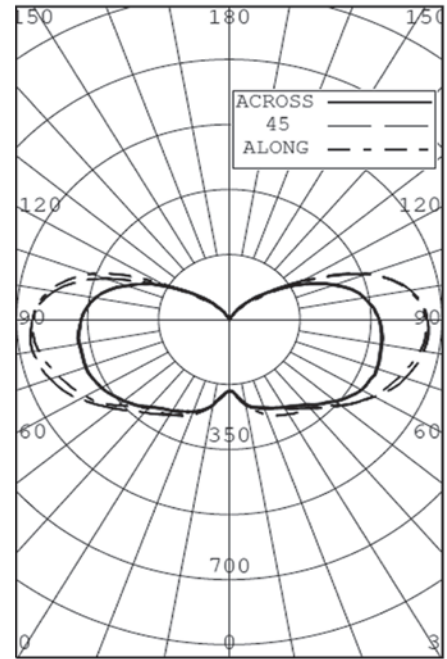
** EFFICIENCY: 76.0% **



ZONAL LUMENS AND PERCENTAGES

ZONE	LUMENS	% LAMP	% LUMINAIRE
0-30	392	8.16	14.47
0-40	714	14.87	26.38
0-60	1594	33.21	58.94
0-90	2639	54.98	97.55
40-90	1925	40.11	71.17
60-90	1045	21.76	38.61
90-180	66	1.38	2.45
0-180	2705	56.36	100.00

** EFFICIENCY: 56.4% **



BOTH SIDES
ZONAL LUMENS AND PERCENTAGES

ZONE	LUMENS	% LAMP	% LUMINAIRE
0-30	219	4.56	5.88
0-40	407	8.47	10.91
0-60	1008	20.99	27.03
0-90	2395	49.91	64.26
40-90	1989	41.43	53.34
60-90	1388	28.91	37.23
90-180	1333	27.76	35.74
0-180	3728	77.67	100.00

** EFFICIENCY: 77.7% **

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

FC R/W	80	70	50	30	10	0									
	70	50	30	10	50	30	10	0							
0	84	84	84	78	78	78	68	68	68	59	59	51	51	51	47
1	72	66	62	57	54	53	50	46	45	42	40	37	35	34	31
2	63	55	49	43	38	37	32	27	26	23	21	19	17	16	14
3	57	47	40	34	28	27	22	17	16	14	12	11	10	9	8
4	51	41	33	27	21	20	15	11	10	8	7	6	5	4	3
5	47	36	28	22	16	15	11	7	6	4	3	2	1	1	0
6	43	32	24	19	13	12	8	5	4	2	1	0	0	0	0
7	39	28	21	15	9	8	5	3	2	1	0	0	0	0	0
8	36	25	19	14	8	7	4	2	1	0	0	0	0	0	0
9	34	23	17	12	7	6	3	1	0	0	0	0	0	0	0
10	32	21	15	11	6	5	2	1	0	0	0	0	0	0	0

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

FC R/W	80	70	50	30	10	0									
	70	50	30	10	50	30	10	0							
0	67	67	67	65	65	65	62	62	62	59	59	56	56	56	55
1	59	55	52	45	41	40	37	33	32	29	27	25	23	22	20
2	52	46	41	37	30	29	25	20	19	16	14	13	12	11	10
3	47	39	34	29	23	22	18	13	12	9	8	7	6	5	4
4	43	34	28	24	18	17	13	9	8	5	4	3	2	1	1
5	39	30	24	20	14	13	9	6	5	3	2	1	0	0	0
6	35	26	21	16	10	9	6	4	3	2	1	0	0	0	0
7	33	24	18	14	9	8	5	3	2	1	0	0	0	0	0
8	31	21	15	11	7	6	4	2	1	0	0	0	0	0	0
9	29	19	14	11	7	6	4	2	1	0	0	0	0	0	0
10	26	18	13	10	6	5	3	1	0	0	0	0	0	0	0

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

FC R/W	80	70	50	30	10	0												
	70	50	30	10	50	30	10	0										
0	86	86	86	86	81	81	81	81	71	71	71	62	62	62	54	54	54	50
1	73	68	62	56	50	49	46	41	40	37	35	32	30	29	26	24	22	20
2	65	56	49	43	36	35	32	27	26	23	21	19	17	16	14	13	12	11
3	58	48	40	34	28	27	23	18	17	14	12	10	9	8	7	6	5	4
4	52	41	33	27	21	20	16	11	10	7	6	5	4	3	2	1	1	0
5	48	36	28	23	17	16	12	8	7	5	4	3	2	1	0	0	0	0
6	44	32	25	19	13	12	8	5	4	3	2	1	0	0	0	0	0	0
7	40	29	21	16	10	9	6	4	3	2	1	0	0	0	0	0	0	0
8	37	26	19	14	9	8	5	3	2	1	0	0	0	0	0	0	0	0
9	35	24	17	12	8	7	4	2	1	0	0	0	0	0	0	0	0	0
10	32	22	15	11	7	6	3	1	0	0	0	0	0	0	0	0	0	0

Certified Report LSI25349

Certified Report LSI25351

Certified Report LSI25357



CERTILITE[®]V
The Logical Choice



Class I, Div. 2, Groups A,B,C,D^①
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III

Suitable for wet locations
NEMA 3, 4, 4X; IP66

Listed - File E10514 (Hazardous & Marine)

Certified - File LR11713

NR Restricted Breathing Option^②
Class I, Zone 2 AEx nAnR
Class I, Zone 2 Ex nR

FEATURES-SPECIFICATIONS

KILLARK[®] CertiLite[®]V Series sets a new standard for industrial grade HID luminaires. Designed for installations where moisture, dirt, dust, corrosion and vibration may be present, these fixtures are suitable for NEMA 3 and 4X areas and where wind, water, snow or high ambients can be expected. They also can be used in locations made hazardous by the presence of flammable vapors and gases or combustible dusts, as defined by the NEC[®]. Typical applications include manufacturing sites, chemical and petrochemical processing facilities, sewage treatment plants, off-shore and dockside installations, garages and warehouses.

Standard Materials:

- Ballast tank and splice box – corrosion resistant copper-free aluminum alloy with baked powder epoxy/polyester finish, electrostatically applied for complete, uniform corrosion protection.
- All external hardware – 316 stainless steel.
- Guards – Painted copper-free aluminum alloy or 316SS for 7-3/4" glass optics and Enclosed Reflectors.
- Spin-top Refractor Guards are Plated Steel.
- Reflectors – lightweight, corrosion resistant fiberglass reinforced polyester, or copper-free aluminum.

Additional Features:

- Seven mounting splice box types; Pendant, Flex Pendant, Ceiling, Wall bracket, Cone Top, 25° Angle Stanchion, Straight Stanchion – in a variety of entry sizes, including M20 for the VMX ceiling style.
- Quartz auxiliary, HPS instant restart, Ballast Protectors
- Minimum starting temperature: HPS – 40°C; MV, MH & MHP – 30°C
- Normally shipped as components for fast delivery, or may be ordered factory assembled with or without lamps.
- Options for fuses and Quick Disconnect

Compliances

- UL1598 Standard for luminaires
- UL1598A Marine type luminaire
- UL-844 Standard for lighting fixtures for hazardous locations
- CSA C22.2 no. 137-M1981 electric luminaires for use in hazardous locations
- Enclosed and gasketed
- NEMA 3, 4X IP66
- UL 60079-15 - Electrical apparatus for Explosive Gas Atmospheres with Type of Protection "n" (Restricted Breathing and non-sparking).

FEATURES	BENEFITS
Swing-Barrel Nut Patented Tank Mounting System	<ul style="list-style-type: none"> • Stainless-to-Stainless securement • Takes load off during installation • Uses ordinary tools • Saves time and labor
New ballast tank sizes	Cover a wider range of wattage sizes and socket types (will include five total) for maximum user selection flexibility
Sealed Optic Zone 2 AEx nAR Restricted Breathing (suffix NR)	NO External Seals. Lower T-codes, Suitable for Class I Div. 2 Classified areas per the NEC [®]
All glass refractors	Compact (5-1/2" thread size, types I & V) Standard (7-3/4", thread size, types I, III, V) Enhances user selection flexibility
New "EZ" mount adapter	Easier Maintenance, saves labor, move fixture from the ladder to the workbench
Photo controls - Class I Div. 2 / N4X areas	Available as Field or Factory Installed to save energy when light not required
Earthquake Tab - Built-in attachment point for safety cables	Safety: Secures fixture to structure in case of conduit failure. "3rd hand" accessories for lamp change out
"FULL CUTOFF" & CUTOFF Optics	For "Dark Sky" Requirements. Helps to minimize offending light pollution
VMEP40 "Food Optic"	Expanded Offering for Food or Grain Handling Applications to minimize contamination
NEMA Decals	Easier Maintenance, Saves labor "Have the right lamp in hand before going up the ladder".
Expanded lamp types and wattages	Philips [®] QL Induction type and 600Watt HPS available for long life or high lumen requirements
CertiLite Software	Used to determine number of fixtures required and their proper layout for various tasks and applications.



KILLARK[®]

Philips[®] is a registered trademark of Koninklijke Philips Electronics N.V.

①② See Thermal Performance Tables beginning L104.

CERTILITE® V
The Logical Choice



VM1
5 1/2" Optic
Reduced Profile
Medium Base



VM2
7 3/4" Optic
Reduced Profile
Medium Base



VM3
5 1/2" Optic
Low Wattage
Mogul Base

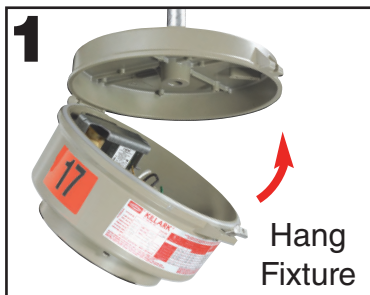


VM4
7 3/4" Optic
Low Wattage
Mogul Base



VM5
7 3/4" Optic
High Wattage
Mogul Base

SWING-BARREL NUT



- The CertiLite®V Swing-Barrel Nut System provides a Stainless-to-Stainless securement between tank and mounting box. No more Stainless-to-Aluminum connections or need for Stainless inserts.
- Users can easily lift the tank into place and "take the load off," then tighten. Saves time and labor.

- Only the patented Swing-Barrel Nut Stainless System can be tightened with a common screwdriver or nut driver; others are either stainless-to-aluminum, or require a wrench or special deep socket.

NOTE: CertiLite®V series tanks are backwardly compatible with older CertiLite® mounts. Simply remove Barrel Nut and thread into old mount.

QUICK LOCATOR TABLE

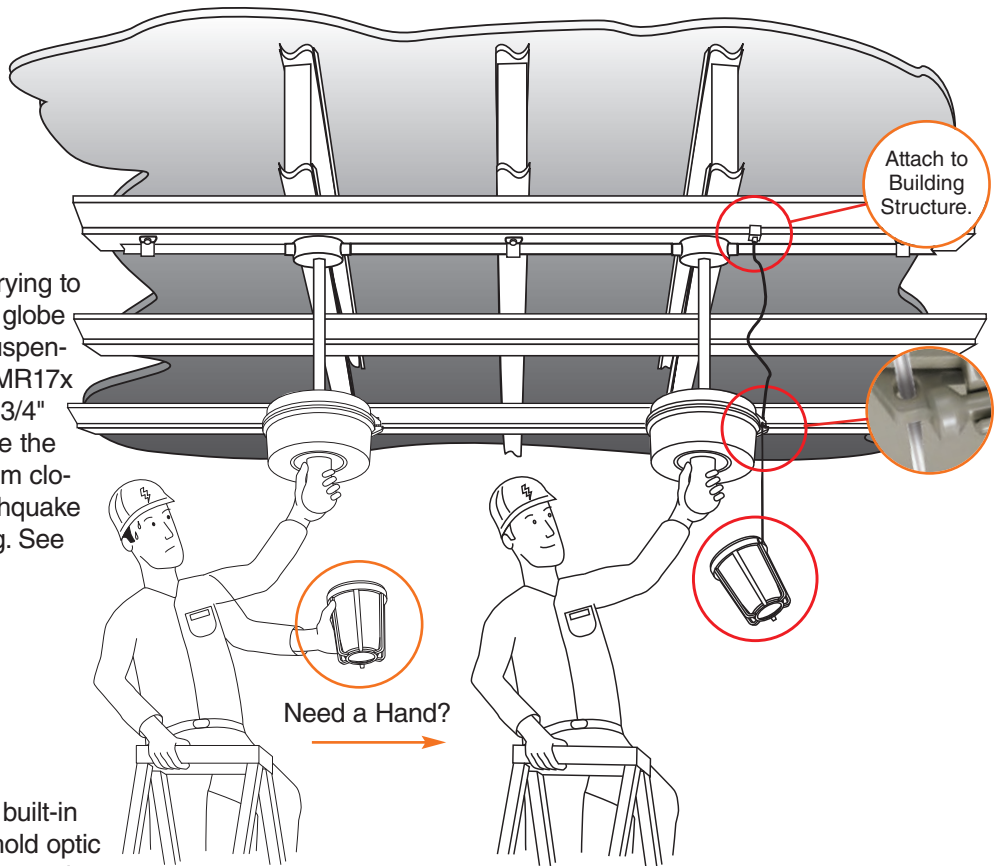
Lamp Type	Wattage Range	Luminaire Tank	Begins on Page
HPS	35-150	VM1 & VM2	L58
	50-100	VM3 & VM4	L67
	200-600	VM5	L80
MH	50-100	VM1 & VM2	L62
	70-250	VM3 & VM4	L71
	400	VM5	L84
MHP	125-175	VM1 & VM2	L62
	125-200	VM3 & VM4	L75
	250-400	VM5	L86
QL	55	VM1	L91
	85	VM4	L91
	165	VM5	L91
Accessories			L93
Dimensional Information			L100
Temperature Data			L104
Photometrics			L114
VM1 & VM2 Logic Tree			L57
VM3 & VM4 Logic Tree			L66
VM5 Logic Tree			L79
QL Logic Tree			L90
Cross-reference guide CertiLite® to CertiLite®V			L97

CERTILITE®V
The Logical Choice
For Personnel Safety

Maintenance personnel are often in awkward positions when relamping: trying to simultaneously hold on to a ladder, a globe and the lamp. Available "3rd Hand" suspension cables support 5-1/2" VMG17/VMR17x optics, utilizing the VMAG17 guard. 7-3/4" VMG25/VMR25x/VMG40 optics utilize the VMAGxxS guard and VMAGBC bottom closure. Cables attach to a special "Earthquake Tab" built into the ballast tank housing. See Suspension Accessories page L96.



CertiLite®V tanks as standard have a built-in "Earthquake Tab." The tab is used to hold optic suspension devices, and can simultaneously be used to add a safety cable linked to the building superstructure.



EZ MOUNT & LAMP IDENTIFICATION

To enable easy and safe removal of CertiLite®V fixtures for maintenance, install with the new VMEZA ballast tank to EZ mount adapter.

The complete assembly is removed for maintenance at the workbench.

Large facilities often keep spares so that a "new" fixture is put in at the time one needs maintenance – thus eliminating the need to set up access equipment multiple times.



**HAVE THE RIGHT LAMP IN HAND
BEFORE GOING UP THE LADDER.**



YELLOW
150W HPS

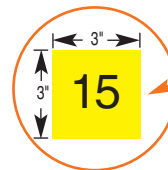


RED
175W MH



RED
175W MHP

* "P" designates newer Pulse Start Metal Halide lamps: 150, 175, 200, 250, 320, 350 and 400 watt models.



NEMA Decals
for Lamp Type
& Wattage

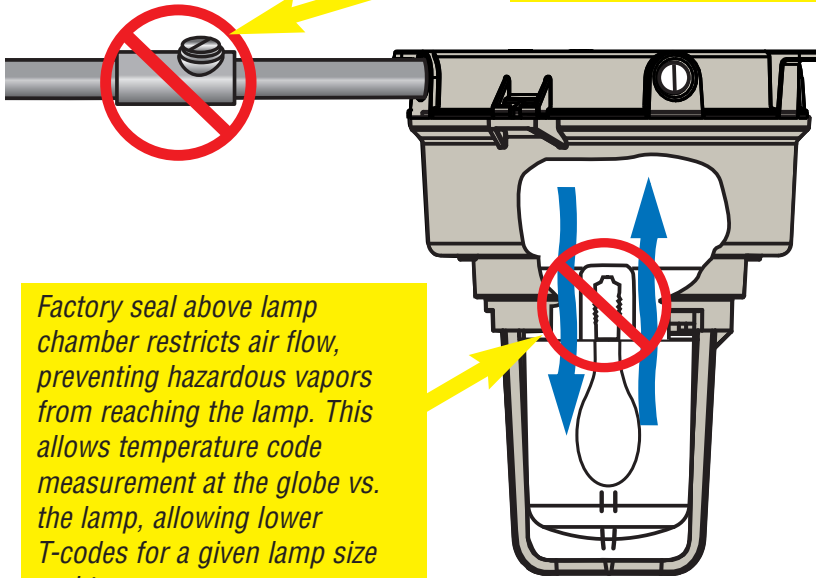


KILLARK®

CERTILITE® V
The Logical Choice
For Lower T-Codes

NEW “Sealed Optic” construction, option “NR.” Rated for Class I, Zone 2 **AEx nAnR/Ex nR II** Restricted Breathing. “Sealed Entry” is no longer required to obtain **significantly lower T-codes.**

No labor intensive conduit seals or sealed cable glands required for installation



Factory seal above lamp chamber restricts air flow, preventing hazardous vapors from reaching the lamp. This allows temperature code measurement at the globe vs. the lamp, allowing lower T-codes for a given lamp size and type.

- CertiLite® V luminaires with the NR option are factory sealed to save installation time and labor costs.
- AEx nAnR/Ex nR II is covered under NEC® Article 505, and indicates Non-Arcing and Non-Breathing.
- North American Class I Division 2 designated locations may use properly marked Zone 2 rated equipment per NEC Article 501.5.
- The CertiLite® V NR option is available for VMG, VMR, and VMER40 optics, but not VZRG Type “Spin-top” Refractors.
- Permits the use of fewer higher wattage luminaires for a given application.

KILLARK® CERTILITE® V	LUMINAIRE FOR HAZARDOUS LOCATIONS WHEN COMPLETELY ASSEMBLED WITH UL LISTED LUMINAIRE FITTINGS FOR HAZARDOUS LOCATIONS. SEE HUBBELL BALLAST HOUSING, SUITABLE FOR WET LOCATIONS. ALSO LISTED AS LUMINAIRE FITTING FOR HAZARDOUS LOCATIONS. (A) ALSO LISTED AS IMRC, MARINE TYPE LUMINAIRE, OUTSIDE TYPE (SALT WATER).											
	CLASS I, DIV. 2, OPERATION TEMP			SURVEILLANCE EXPOSURE						CLASS I, DIV. 2, EX-IB W/EA OR II, OPERATION TEMP CODE		
CATALOG NO.	DATE CODE	US LISTED 794A	CLASS I, DIV. 2, OPERATION TEMP		CLASS II, DIV. 1+		CLASS I, DIV. 2, EX-IB W/EA OR II, OPERATION TEMP		CLASS I, DIV. 2, EX-IB W/EA OR II, OPERATION TEMP CODE		UL LISTED	
VM3S150NR	T4507		90	93	95	90	93	95	90	93		95
LAMP WATTS	150	LAMP TYPE	HPS	GLOBE		EFG		T2A		T4		
INPUT WATTS	188	ANSI CODE	555	T2B		T3C		T2A		T4		
POWER FACTOR	.90+	HSZ	60	T2B		T3C		T2A		T4		
PRIMARY VOLTS	120/208/240/277			T2B		T3C		T2A		T4		
STARTING AMPS	2.0/1.15/1.0/ .85			T2B		T3C		T2A		T4		
OPERATING AMPS	1.65/ .95/ .83/ .72			T2B		T3C		T2A		T4		

See the Benefit!

Lamp Type and Wattage	Examples at 40c ambient. See thermal performance charts beginning L84 for more information	Class I Div. 2/ Zone 2 Globe only	Class I Zone 2 AEX nAnR II	Reduction in Applied T-Code
150 HPS	VM3 w/VMG or VMR	T2B (260°C)	T4 (135°C)	-125°C
	VM4 w/VMG or VMR	T2B (260°C)	T4 (135°C)	-125°C
400 HPS	VM5 w/VMG	350° C	T3 (200°C)	-150°C
	VM5 w/VMER40	350° C	T3 (200°C)	-150°C
175 MH	VM3 w/VMG or VMR	T2A (280°C)	T3 (200°C)	-80°C
	VM4 w/VMG or VMR	T2B (260°C)	T4 (135°C)	-125°C
400 MH	VM5 w/VMG40	325° (300°C)	T3 (200°C)	-100°C
	VM5 w/VMER40	T2 (300°C)	T3 (200°C)	-100°C

①Based on Lamp temperature data
 ②Based on Globe temperature data

CERTILITE®V

The Logical Choice

**For Food & Grain Safety
and Low Bay Applications**




Grain Area



VMEP40 Optic



Food Area

 Listed and Certified
Class I Div. 2; Class II Div. 1;
N4X

- CertiLite®V VM4 or VM5 series luminaires with the new VMEP40 Optic have a strong non-glass polycarbonate shield protecting food from potential broken glass contamination, as could be the case even with heat-resistant heavy duty globes.
- Unique design incorporates internal glass lens to seal out dust and vapors from the lamp, with a polycarbonate shield banded tightly at the bottom.
- Copper-free aluminum reflector has anodized finish for easy cleaning; threaded portion at top is natural aluminum to prevent paint dust contamination during maintenance (from attaching/detaching).
- Polycarbonate shield is replaceable and must always be used to maintain ratings. Order part number VMEP40-LENS.

SAFETY COATING

EXPANDED TEFLON® COATED OPTICS

- CertiLite®V now offers additional all-glass threaded refractors, and many are available with a Teflon coating.
- Teflon® coating helps to reduce the likelihood of glass breakage, and if broken, reduces the area of contamination. Also enhances cleanability.

Teflon® is a registered trademark of Dupont, Inc.



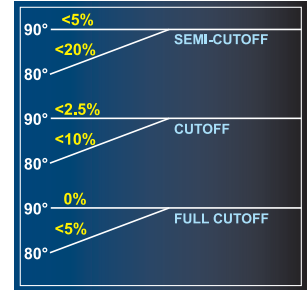
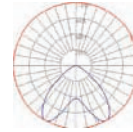
VMG17T



KILLARK®

CERTILITE®V
The Logical Choice
For Dark Sky Needs

- The CertiLite®V VMER40 Enclosed Reflector meets the “Full Cutoff” photometric requirement in many areas, such as observatories, to minimize offending light pollution. Fits VM4 and VM5 Series tanks.
- Use VMDARK1 gasket kit to enable the deep HRD Series Reflectors to meet the “Full Cutoff” requirement over globes on the VM4, or “Cutoff” on VM5 Series tanks. See L96 for more information.

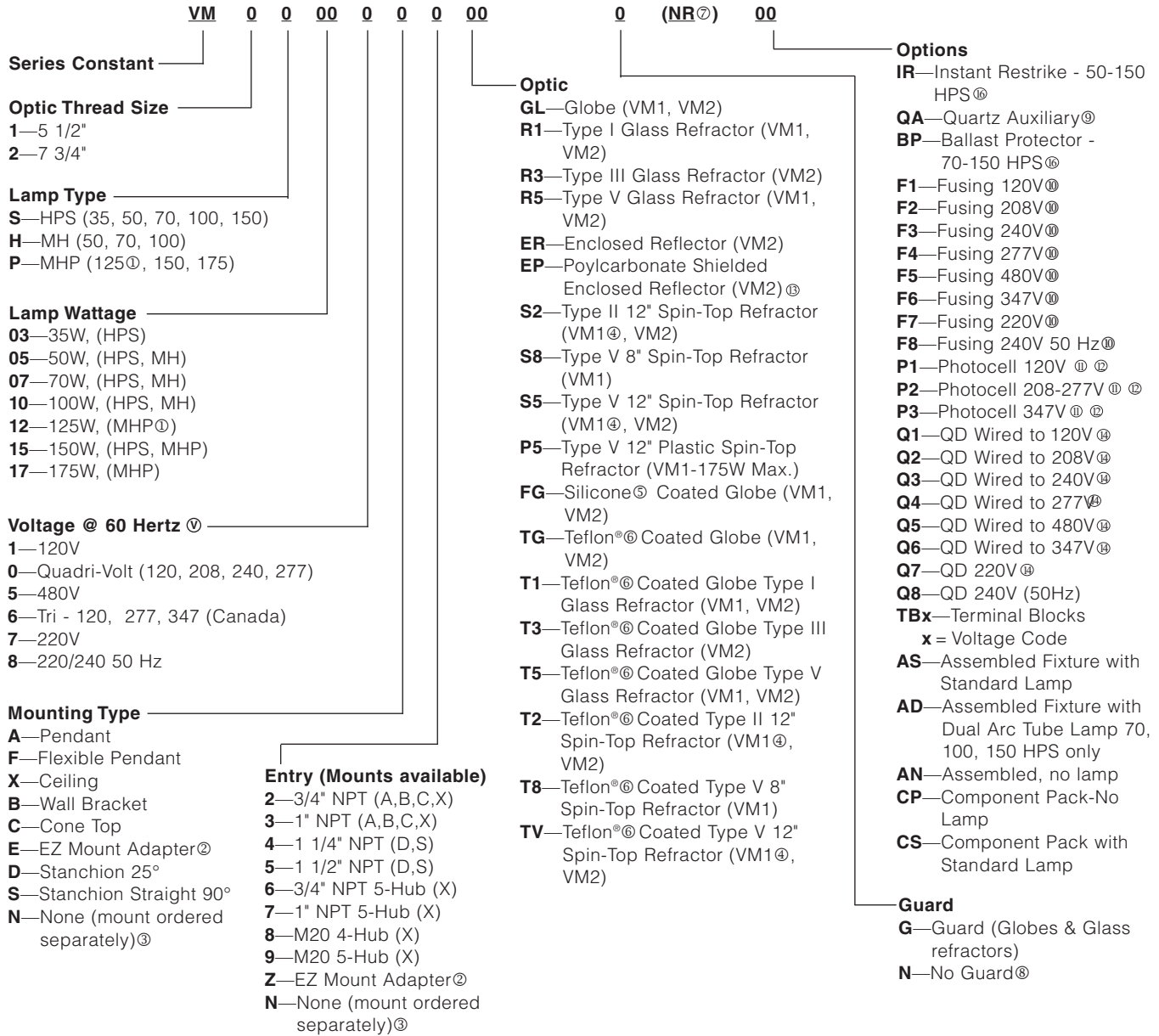


COMPETITIVE COMPARISONS

CertiLite®V KILLARK		vs.	COMPETITION
	Swing-barrel nut (patented) Stainless-to-Stainless securement between tank and mounting box. Can be tightened with a common screwdriver or nut driver.		Either not stainless, or require a wrench or special deep socket.
	Earthquake tab Built in securement location for safety cables, optic “3rd Hand” or to building structure.		Not Available
	Maintenance Safety Optic suspension systems		Not Available
	Suspension safety cable to building superstructure		Not Available
	“Sealed Optic” Instead of more costly “Sealed Entry” Meets AEx nAR Requirements		“Sealed Entry” requires extra parts (conduit seals) and labor to install, and block pulling of replacement wiring.
	VMEP40 Food Area Suitable Optic		Only Glass Optics Offered
	Dark Sky Optics Available		Limited, if any, solutions for light pollution, a problem in many areas.
	316 Stainless Guards For 7 3/4" All Glass Optics. Optional Bottom Closure.		“Ordinary” stainless & open bottom type only. Provides less protection from bottom impact or corrosion.



CertiLife®V Catalog Number Logic; 35-175 Low Wattage (Medium Base) HID Fixtures



① Special order lamp type/wattage not shown in grids, minimums apply.
 ② Completes as "EZ", conduit mounting boxes ordered separately - See L83.
 ③ NN mount ordered separately.
 ④ 12" Spintops for use with VM3 tanks ship with a Mogul to Mogul socket extender for enhanced photometrics vs. 7 3/4", which are used on VM5, but will fit VM4.
 ⑤ Silicone coated globe for additional impact protection.
 ⑥ Teflon® is a registered trademark of DuPont, Inc.
 ⑦ Consult factory for available lamp and voltage combinations.

⑦ Restricted Breathing - See L54 for more information.
 ⑧ Order Guards for Spin-Tops & VMER40 separately.
 ⑨ QA not suitable for Class I, Div. 2/Zone 2 applications; consult factory for other hazardous applications.
 ⑩ Fusing not for Marine or Canadian installations.
 ⑪ Photo cells for Class I, Div. 2 only, or C1Z2 nR Ⓞ, not Class II.
 ⑫ Field connection to proper tap in case of Multitap Ballasts.
 ⑬ Not for use with wall or straight (90°) Stanchion.
 ⑭ QD = Quick Disconnect. Allows easy tank removal for maintenance. Electrician simply unplugs de-energized ballast from supply circuit.
 ⑮ 220V 60Hz or 230V 50Hz used with QA-requires VM5 tank.
 ⑯ IR and BP cannot be ordered together.





VM1 Pendant
w/5-1/2"
Globe & Guard



VM2 Pendant
w/7-3/4"
Globe & Guard



VM1
Flexible Pendant
w/5-1/2"
Refractor & Guard



VM2
Flexible Pendant
w/7-3/4"
Refractor & Guard

Class I, Div. 2, Groups A,B,C,D[Ⓛ]
 Class I, Zone 2, Groups IIC, IIB, IIA
 Class II, Div. 1 & 2, Groups E,F,G
 Class III

Suitable for wet locations
 NEMA 3, 4, 4X; IP66

UL Listed - File E10514 (Hazardous & Marine)

SP Certified - File LR11713

NR Restricted Breathing Option[Ⓛ]

Class I, Zone 2 AEx nAnR

Class I, Zone 2 Ex nR

VM 35-150 HIGH PRESSURE SODIUM-PENDANT										
DESCRIPTION				5-1/2" OPTIC THREAD SIZE [Ⓛ]			7-3/4" OPTIC THREAD SIZE [Ⓛ]			
WATTS	ANSI	HUB SIZE [Ⓛ]	VOLTAGE [Ⓛ]	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	12" SPIN-TOP TYPE V REFRACTOR & GUARD
35	S76	3/4"	120V	VM1S031A2GLG	VM1S031A2R1G	VM1S031A2R5G	VM2S031A2GLG	VM2S031A2R1G	VM2S031A2R5G	VM2S031A2S5G
50	S68	3/4"	Quad	VM1S050A2GLG	VM1S050A2R1G	VM1S050A2R5G	VM2S050A2GLG	VM2S050A2R1G	VM2S050A2R5G	VM2S050A2S5G
70	S62	3/4"	Quad	VM1S070A2GLG	VM1S070A2R1G	VM1S070A2R5G	VM2S070A2GLG	VM2S070A2R1G	VM2S070A2R5G	VM2S070A2S5G
			Tri	VM1S076A2GLG	VM1S076A2R1G	VM1S076A2R5G	VM2S076A2GLG	VM2S076A2R1G	VM2S076A2R5G	VM2S076A2S5G
			480	VM1S075A2GLG	VM1S075A2R1G	VM1S075A2R5G	VM2S075A2GLG	VM2S075A2R1G	VM2S075A2R5G	VM2S075A2S5G
100	S54	3/4"	Quad	VM1S100A2GLG	VM1S100A2R1G	VM1S100A2R5G	VM2S100A2GLG	VM2S100A2R1G	VM2S100A2R5G	VM2S100A2S5G
			Tri	VM1S106A2GLG	VM1S106A2R1G	VM1S106A2R5G	VM2S106A2GLG	VM2S106A2R1G	VM2S106A2R5G	VM2S106A2S5G
			480	VM1S105A2GLG	VM1S105A2R1G	VM1S105A2R5G	VM2S105A2GLG	VM2S105A2R1G	VM2S105A2R5G	VM2S105A2S5G
150	S55	3/4"	Quad	VM1S150A2GLG	VM1S150A2R1G	VM1S150A2R5G	VM2S150A2GLG	VM2S150A2R1G	VM2S150A2R5G	VM2S150A2S5G
			Tri	VM1S156A2GLG	VM1S156A2R1G	VM1S156A2R5G	VM2S156A2GLG	VM2S156A2R1G	VM2S156A2R5G	VM2S156A2S5G
			480	VM1S155A2GLG	VM1S155A2R1G	VM1S155A2R5G	VM2S155A2GLG	VM2S155A2R1G	VM2S155A2R5G	VM2S155A2S5G

VM 35-150 HIGH PRESSURE SODIUM-FLEX PENDANT										
DESCRIPTION				5-1/2" OPTIC THREAD SIZE [Ⓛ]			7-3/4" OPTIC THREAD SIZE [Ⓛ]			
WATTS	ANSI	HUB SIZE [Ⓛ]	VOLTAGE [Ⓛ]	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	12" SPIN-TOP TYPE V REFRACTOR & GUARD
35	S76	3/4"	120V	VM1S031F2GLG	VM1S031F2R1G	VM1S031F2R5G	VM2S031F2GLG	VM2S031F2R1G	VM2S031F2R5G	VM2S031F2S5G
50	S68	3/4"	Quad	VM1S050F2GLG	VM1S050F2R1G	VM1S050F2R5G	VM2S050F2GLG	VM2S050F2R1G	VM2S050F2R5G	VM2S050F2S5G
70	S62	3/4"	Quad	VM1S070F2GLG	VM1S070F2R1G	VM1S070F2R5G	VM2S070F2GLG	VM2S070F2R1G	VM2S070F2R5G	VM2S070F2S5G
			Tri	VM1S076F2GLG	VM1S076F2R1G	VM1S076F2R5G	VM2S076F2GLG	VM2S076F2R1G	VM2S076F2R5G	VM2S076F2S5G
			480	VM1S075F2GLG	VM1S075F2R1G	VM1S075F2R5G	VM2S075F2GLG	VM2S075F2R1G	VM2S075F2R5G	VM2S075F2S5G
100	S54	3/4"	Quad	VM1S100F2GLG	VM1S100F2R1G	VM1S100F2R5G	VM2S100F2GLG	VM2S100F2R1G	VM2S100F2R5G	VM2S100F2S5G
			Tri	VM1S106F2GLG	VM1S106F2R1G	VM1S106F2R5G	VM2S106F2GLG	VM2S106F2R1G	VM2S106F2R5G	VM2S106F2S5G
			480	VM1S105F2GLG	VM1S105F2R1G	VM1S105F2R5G	VM2S105F2GLG	VM2S105F2R1G	VM2S105F2R5G	VM2S105F2S5G
150	S55	3/4"	Quad	VM1S150F2GLG	VM1S150F2R1G	VM1S150F2R5G	VM2S150F2GLG	VM2S150F2R1G	VM2S150F2R5G	VM2S150F2S5G
			Tri	VM1S156F2GLG	VM1S156F2R1G	VM1S156F2R5G	VM2S156F2GLG	VM2S156F2R1G	VM2S156F2R5G	VM2S156F2S5G
			480	VM1S155F2GLG	VM1S155F2R1G	VM1S155F2R5G	VM2S155F2GLG	VM2S155F2R1G	VM2S155F2R5G	VM2S155F2S5G


Ⓛ See hazardous location data pages L104-107 for application suitability
 Ⓛ Catalog numbers shown are with Guard; to omit guard change ending G to N; e.g. VM1S050A2GLN
 Ⓛ Catalog numbers shown are with 3/4" conduit openings; change "2" to "3" for 1" e.g. VM1S050A3GLG
 Ⓛ Consult catalog logic for other available voltage & lamp combinations
 Ⓛ Add suffix NR for AEx nR Restricted Breathing; see page L54 for more information

Class I, Div. 2, Groups A,B,C,D[Ⓛ]
 Class I, Zone 2, Groups IIC, IIB, IIA
 Class II, Div. 1 & 2, Groups E,F,G
 Class III

Suitable for wet locations

NEMA 3, 4, 4X; IP66

 Listed - File E10514 (Hazardous & Marine)

 Certified - File LR11713

NR Restricted Breathing Option[Ⓛ]

Class I, Zone 2 AEx nAnR 

Class I, Zone 2 Ex nR 



VM1 Ceiling
w/5-1/2"
Globe & Guard



VM2 Ceiling
w/7-3/4"
Globe & Guard



VM1 Wall
w/5-1/2"
Refractor & Guard



VM2 Wall
w/7-3/4"
Refractor & Guard

VM 35-150 HIGH PRESSURE SODIUM-CEILING										
DESCRIPTION				5-1/2" OPTIC THREAD SIZE [Ⓛ]			7-3/4" OPTIC THREAD SIZE [Ⓛ]			
WATTS	ANSI	HUB SIZE [Ⓛ]	VOLTAGE [Ⓛ]	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	12" SPIN-TOP TYPE V REFRACTOR & GUARD
35	S76	3/4"	120V	VM1S031X2GLG	VM1S031X2R1G	VM1S031X2R5G	VM2S031X2GLG	VM2S031X2R1G	VM2S031X2R5G	VM2S031X2S5G
50	S68	3/4"	Quad	VM1S050X2GLG	VM1S050X2R1G	VM1S050X2R5G	VM2S050X2GLG	VM2S050X2R1G	VM2S050X2R5G	VM2S050X2S5G
70	S62	3/4"	Quad	VM1S070X2GLG	VM1S070X2R1G	VM1S070X2R5G	VM2S070X2GLG	VM2S070X2R1G	VM2S070X2R5G	VM2S070X2S5G
			Tri	VM1S076X2GLG	VM1S076X2R1G	VM1S076X2R5G	VM2S076X2GLG	VM2S076X2R1G	VM2S076X2R5G	VM2S076X2S5G
			480	VM1S075X2GLG	VM1S075X2R1G	VM1S075X2R5G	VM2S075X2GLG	VM2S075X2R1G	VM2S075X2R5G	VM2S075X2S5G
100	S54	3/4"	Quad	VM1S100X2GLG	VM1S100X2R1G	VM1S100X2R5G	VM2S100X2GLG	VM2S100X2R1G	VM2S100X2R5G	VM2S100X2S5G
			Tri	VM1S106X2GLG	VM1S106X2R1G	VM1S106X2R5G	VM2S106X2GLG	VM2S106X2R1G	VM2S106X2R5G	VM2S106X2S5G
			480	VM1S105X2GLG	VM1S105X2R1G	VM1S105X2R5G	VM2S105X2GLG	VM2S105X2R1G	VM2S105X2R5G	VM2S105X2S5G
150	S55	3/4"	Quad	VM1S150X2GLG	VM1S150X2R1G	VM1S150X2R5G	VM2S150X2GLG	VM2S150X2R1G	VM2S150X2R5G	VM2S150X2S5G
			Tri	VM1S156X2GLG	VM1S156X2R1G	VM1S156X2R5G	VM2S156X2GLG	VM2S156X2R1G	VM2S156X2R5G	VM2S156X2S5G
			480	VM1S155X2GLG	VM1S155X2R1G	VM1S155X2R5G	VM2S155X2GLG	VM2S155X2R1G	VM2S155X2R5G	VM2S155X2S5G

VM 35-150 HIGH PRESSURE SODIUM-WALL										
DESCRIPTION				5-1/2" OPTIC THREAD SIZE [Ⓛ]			7-3/4" OPTIC THREAD SIZE [Ⓛ]			
WATTS	ANSI	HUB SIZE [Ⓛ]	VOLTAGE [Ⓛ]	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	12" SPIN-TOP TYPE V REFRACTOR & GUARD
35	S76	3/4"	120V	VM1S031B2GLG	VM1S031B2R1G	VM1S031B2R5G	VM2S031B2GLG	VM2S031B2R1G	VM2S031B2R5G	VM2S031B2S5G
50	S68	3/4"	Quad	VM1S050B2GLG	VM1S050B2R1G	VM1S050B2R5G	VM2S050B2GLG	VM2S050B2R1G	VM2S050B2R5G	VM2S050B2S5G
70	S62	3/4"	Quad	VM1S070B2GLG	VM1S070B2R1G	VM1S070B2R5G	VM2S070B2GLG	VM2S070B2R1G	VM2S070B2R5G	VM2S070B2S5G
			Tri	VM1S076B2GLG	VM1S076B2R1G	VM1S076B2R5G	VM2S076B2GLG	VM2S076B2R1G	VM2S076B2R5G	VM2S076B2S5G
			480	VM1S075B2GLG	VM1S075B2R1G	VM1S075B2R5G	VM2S075B2GLG	VM2S075B2R1G	VM2S075B2R5G	VM2S075B2S5G
100	S54	3/4"	Quad	VM1S100B2GLG	VM1S100B2R1G	VM1S100B2R5G	VM2S100B2GLG	VM2S100B2R1G	VM2S100B2R5G	VM2S100B2S5G
			Tri	VM1S106B2GLG	VM1S106B2R1G	VM1S106B2R5G	VM2S106B2GLG	VM2S106B2R1G	VM2S106B2R5G	VM2S106B2S5G
			480	VM1S105B2GLG	VM1S105B2R1G	VM1S105B2R5G	VM2S105B2GLG	VM2S105B2R1G	VM2S105B2R5G	VM2S105B2S5G
150	S55	3/4"	Quad	VM1S150B2GLG	VM1S150B2R1G	VM1S150B2R5G	VM2S150B2GLG	VM2S150B2R1G	VM2S150B2R5G	VM2S150B2S5G
			Tri	VM1S156B2GLG	VM1S156B2R1G	VM1S156B2R5G	VM2S156B2GLG	VM2S156B2R1G	VM2S156B2R5G	VM2S156B2S5G
			480	VM1S155B2GLG	VM1S155B2R1G	VM1S155B2R5G	VM2S155B2GLG	VM2S155B2R1G	VM2S155B2R5G	VM2S155B2S5G

Ⓛ See hazardous location data pages L104-107 for application suitability
 Ⓛ Catalog numbers shown are with Guard; to omit guard change ending G to N; e.g. VM1S050X2GLN
 Ⓛ Catalog numbers shown are with 3/4" conduit openings; change "2" to "3" for 1" e.g. VM1S050X3GLG
 Ⓛ Consult catalog logic for other available voltage & lamp combinations
 Ⓛ Add suffix NR for AEx nR Restricted Breathing; see page L54 for more information

Class I, Div. 2, Groups A,B,C,D[Ⓛ]
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III

Suitable for wet locations
NEMA 3, 4, 4X; IP66

 US Listed - File E10514 (Hazardous & Marine)

 Certified - File LR11713

NR Restricted Breathing Option[Ⓛ]

Class I, Zone 2 AEx nAnR 

Class I, Zone 2 Ex nR 



VM1 Cone
w/5-1/2"
Globe & Guard



VM2 Cone
w/7-3/4"
Globe & Guard



VM1 EZ Adapter
w/5-1/2"
Refractor & Guard



VM2 EZ Adapter
w/7-3/4"
Refractor & Guard

VM 35-150 HIGH PRESSURE SODIUM-CONE											
DESCRIPTION				5-1/2" OPTIC THREAD SIZE [Ⓛ]			7-3/4" OPTIC THREAD SIZE [Ⓛ]				
WATTS	ANSI	HUB SIZE [Ⓛ]	VOLTAGE [Ⓛ]	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	12" SPIN-TOP TYPE V REFRACTOR & GUARD	
35	S76	3/4"	120V	VM1S031C2GLG	VM1S031C2R1G	VM1S031C2R5G	VM2S031C2GLG	VM2S031C2R1G	VM2S031C2R5G	VM2S031C2S5G	
50	S68	3/4"	Quad	VM1S050C2GLG	VM1S050C2R1G	VM1S050C2R5G	VM2S050C2GLG	VM2S050C2R1G	VM2S050C2R5G	VM2S050C2S5G	
70	S62	3/4"	Quad	VM1S070C2GLG	VM1S070C2R1G	VM1S070C2R5G	VM2S070C2GLG	VM2S070C2R1G	VM2S070C2R5G	VM2S070C2S5G	
			Tri	VM1S076C2GLG	VM1S076C2R1G	VM1S076C2R5G	VM2S076C2GLG	VM2S076C2R1G	VM2S076C2R5G	VM2S076C2S5G	
			480	VM1S075C2GLG	VM1S075C2R1G	VM1S075C2R5G	VM2S075C2GLG	VM2S075C2R1G	VM2S075C2R5G	VM2S075C2S5G	
100	S54	3/4"	Quad	VM1S100C2GLG	VM1S100C2R1G	VM1S100C2R5G	VM2S100C2GLG	VM2S100C2R1G	VM2S100C2R5G	VM2S100C2S5G	
			Tri	VM1S106C2GLG	VM1S106C2R1G	VM1S106C2R5G	VM2S106C2GLG	VM2S106C2R1G	VM2S106C2R5G	VM2S106C2S5G	
			480	VM1S105C2GLG	VM1S105C2R1G	VM1S105C2R5G	VM2S105C2GLG	VM2S105C2R1G	VM2S105C2R5G	VM2S105C2S5G	
150	S55	3/4"	Quad	VM1S150C2GLG	VM1S150C2R1G	VM1S150C2R5G	VM2S150C2GLG	VM2S150C2R1G	VM2S150C2R5G	VM2S150C2S5G	
			Tri	VM1S156C2GLG	VM1S156C2R1G	VM1S156C2R5G	VM2S156C2GLG	VM2S156C2R1G	VM2S156C2R5G	VM2S156C2S5G	
			480	VM1S155C2GLG	VM1S155C2R1G	VM1S155C2R5G	VM2S155C2GLG	VM2S155C2R1G	VM2S155C2R5G	VM2S155C2S5G	

VM 35-150 HIGH PRESSURE SODIUM-EZ ADAPTER [Ⓛ]											
DESCRIPTION				5-1/2" OPTIC THREAD SIZE [Ⓛ]			7-3/4" OPTIC THREAD SIZE [Ⓛ]				
WATTS	ANSI	HUB SIZE [Ⓛ]	VOLTAGE [Ⓛ]	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	12" SPIN-TOP TYPE V REFRACTOR & GUARD	
35	S76	Ⓛ	120V	VM1S031EZGLG	VM1S031EZR1G	VM1S031EZR5G	VM2S031EZGLG	VM2S031EZR1G	VM2S031EZR5G	VM2S031EZR5G	
50	S68	Ⓛ	Quad	VM1S050EZGLG	VM1S050EZR1G	VM1S050EZR5G	VM2S050EZGLG	VM2S050EZR1G	VM2S050EZR5G	VM2S050EZR5G	
70	S62	Ⓛ	Quad	VM1S070EZGLG	VM1S070EZR1G	VM1S070EZR5G	VM2S070EZGLG	VM2S070EZR1G	VM2S070EZR5G	VM2S070EZR5G	
			Tri	VM1S076EZGLG	VM1S076EZR1G	VM1S076EZR5G	VM2S076EZGLG	VM2S076EZR1G	VM2S076EZR5G	VM2S076EZR5G	
			480	VM1S075EZGLG	VM1S075EZR1G	VM1S075EZR5G	VM2S075EZGLG	VM2S075EZR1G	VM2S075EZR5G	VM2S075EZR5G	
100	S54	Ⓛ	Quad	VM1S100EZGLG	VM1S100EZR1G	VM1S100EZR5G	VM2S100EZGLG	VM2S100EZR1G	VM2S100EZR5G	VM2S100EZR5G	
			Tri	VM1S106EZGLG	VM1S106EZR1G	VM1S106EZR5G	VM2S106EZGLG	VM2S106EZR1G	VM2S106EZR5G	VM2S106EZR5G	
			480	VM1S105EZGLG	VM1S105EZR1G	VM1S105EZR5G	VM2S105EZGLG	VM2S105EZR1G	VM2S105EZR5G	VM2S105EZR5G	
150	S55	Ⓛ	Quad	VM1S150EZGLG	VM1S150EZR1G	VM1S150EZR5G	VM2S150EZGLG	VM2S150EZR1G	VM2S150EZR5G	VM2S150EZR5G	
			Tri	VM1S156EZGLG	VM1S156EZR1G	VM1S156EZR5G	VM2S156EZGLG	VM2S156EZR1G	VM2S156EZR5G	VM2S156EZR5G	
			480	VM1S155EZGLG	VM1S155EZR1G	VM1S155EZR5G	VM2S155EZGLG	VM2S155EZR1G	VM2S155EZR5G	VM2S155EZR5G	

[Ⓛ] See hazardous location data pages L104-107 for application suitability.

[Ⓛ] Catalog numbers shown are with Guard; to omit guard change ending G to N; e.g. VM1S050C2GLN.

[Ⓛ] Catalog numbers shown are with 3/4" conduit openings; change "2" to "3" for 1" e.g. VM1S050C3GLG.

[Ⓛ] Consult catalog logic for other available voltage & lamp combinations.

[Ⓛ] Add suffix NR for AEx nR Restricted Breathing; see page L54 for more information.

[Ⓛ] VMEZA tank adapters UL "classified" as an assembly for use between VM tanks and EZ mounts. Order EZ mounts separately. See page L83.





VM1 Stanchion 25° w/5-1/2" Globe & Guard **VM2 Stanchion 25° w/7-3/4" Globe & Guard**
VM1 Stanchion Straight w/5-1/2" Refractor & Guard **VM2 Stanchion Straight w/7-3/4" Refractor & Guard**

Class I, Div. 2, Groups A,B,C,D
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III

Suitable for wet locations

NEMA 3, 4, 4X; IP66

UL Listed - File E10514 (Hazardous & Marine)

CS Certified - File LR11713

NR Restricted Breathing Option

Class I, Zone 2 AEx nAnR

Class I, Zone 2 Ex nR

VM 35-150 HIGH PRESSURE SODIUM - STANCHION 25° ANGLE										
DESCRIPTION				5-1/2" OPTIC THREAD SIZE			7-3/4" OPTIC THREAD SIZE			
WATTS	ANSI	HUB SIZE	VOLTAGE	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	12" SPIN-TOP TYPE V REFRACTOR & GUARD
35	S76	1-1/2"	120V	VM1S031D5GLG	VM1S031D5R1G	VM1S031D5R5G	VM2S031D5GLG	VM2S031D5R1G	VM2S031D5R5G	VM2S031D5S5G
50	S68	1-1/2"	Quad	VM1S050D5GLG	VM1S050D5R1G	VM1S050D5R5G	VM2S050D5GLG	VM2S050D5R1G	VM2S050D5R5G	VM2S050D5S5G
70	S62	1-1/2"	Quad	VM1S070D5GLG	VM1S070D5R1G	VM1S070D5R5G	VM2S070D5GLG	VM2S070D5R1G	VM2S070D5R5G	VM2S070D5S5G
			Tri	VM1S076D5GLG	VM1S076D5R1G	VM1S076D5R5G	VM2S076D5GLG	VM2S076D5R1G	VM2S076D5R5G	VM2S076D5S5G
			480	VM1S075D5GLG	VM1S075D5R1G	VM1S075D5R5G	VM2S075D5GLG	VM2S075D5R1G	VM2S075D5R5G	VM2S075D5S5G
100	S54	1-1/2"	Quad	VM1S100D5GLG	VM1S100D5R1G	VM1S100D5R5G	VM2S100D5GLG	VM2S100D5R1G	VM2S100D5R5G	VM2S100D5S5G
			Tri	VM1S106D5GLG	VM1S106D5R1G	VM1S106D5R5G	VM2S106D5GLG	VM2S106D5R1G	VM2S106D5R5G	VM2S106D5S5G
			480	VM1S105D5GLG	VM1S105D5R1G	VM1S105D5R5G	VM2S105D5GLG	VM2S105D5R1G	VM2S105D5R5G	VM2S105D5S5G
150	S55	1-1/2"	Quad	VM1S150D5GLG	VM1S150D5R1G	VM1S150D5R5G	VM2S150D5GLG	VM2S150D5R1G	VM2S150D5R5G	VM2S150D5S5G
			Tri	VM1S156D5GLG	VM1S156D5R1G	VM1S156D5R5G	VM2S156D5GLG	VM2S156D5R1G	VM2S156D5R5G	VM2S156D5S5G
			480	VM1S155D5GLG	VM1S155D5R1G	VM1S155D5R5G	VM2S155D5GLG	VM2S155D5R1G	VM2S155D5R5G	VM2S155D5S5G

VM 35-150 HIGH PRESSURE SODIUM - STANCHION STRAIGHT										
DESCRIPTION				5-1/2" OPTIC THREAD SIZE			7-3/4" OPTIC THREAD SIZE			
WATTS	ANSI	HUB SIZE	VOLTAGE	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	12" SPIN-TOP TYPE V REFRACTOR & GUARD
35	S76	1-1/2"	120V	VM1S031S5GLG	VM1S031S5R1G	VM1S031S5R5G	VM2S031S5GLG	VM2S031S5R1G	VM2S031S5R5G	VM2S031S5S5G
50	S68	1-1/2"	Quad	VM1S050S5GLG	VM1S050S5R1G	VM1S050S5R5G	VM2S050S5GLG	VM2S050S5R1G	VM2S050S5R5G	VM2S050S5S5G
70	S62	1-1/2"	Quad	VM1S070S5GLG	VM1S070S5R1G	VM1S070S5R5G	VM2S070S5GLG	VM2S070S5R1G	VM2S070S5R5G	VM2S070S5S5G
			Tri	VM1S076S5GLG	VM1S076S5R1G	VM1S076S5R5G	VM2S076S5GLG	VM2S076S5R1G	VM2S076S5R5G	VM2S076S5S5G
			480	VM1S075S5GLG	VM1S075S5R1G	VM1S075S5R5G	VM2S075S5GLG	VM2S075S5R1G	VM2S075S5R5G	VM2S075S5S5G
100	S54	1-1/2"	Quad	VM1S100S5GLG	VM1S100S5R1G	VM1S100S5R5G	VM2S100S5GLG	VM2S100S5R1G	VM2S100S5R5G	VM2S100S5S5G
			Tri	VM1S106S5GLG	VM1S106S5R1G	VM1S106S5R5G	VM2S106S5GLG	VM2S106S5R1G	VM2S106S5R5G	VM2S106S5S5G
			480	VM1S105S5GLG	VM1S105S5R1G	VM1S105S5R5G	VM2S105S5GLG	VM2S105S5R1G	VM2S105S5R5G	VM2S105S5S5G
150	S55	1-1/2"	Quad	VM1S150S5GLG	VM1S150S5R1G	VM1S150S5R5G	VM2S150S5GLG	VM2S150S5R1G	VM2S150S5R5G	VM2S150S5S5G
			Tri	VM1S156S5GLG	VM1S156S5R1G	VM1S156S5R5G	VM2S156S5GLG	VM2S156S5R1G	VM2S156S5R5G	VM2S156S5S5G
			480	VM1S155S5GLG	VM1S155S5R1G	VM1S155S5R5G	VM2S155S5GLG	VM2S155S5R1G	VM2S155S5R5G	VM2S155S5S5G

① See hazardous location data pages L104-107 for application suitability.
 ② Catalog numbers shown are with Guard; to omit guard change ending G to N; e.g. VM1S050D5GLN.
 ③ Catalog numbers shown are with 1-1/2" conduit openings; change "5" to "4" for 1-1/4" e.g. VM1S050D4GLG.
 ④ Consult catalog logic for other available voltage & lamp combinations.
 ⑤ Add suffix NR for AEx nR Restricted Breathing; see page L54 for more information.



VM1 Pendant
w/5-1/2"
Globe & Guard



VM2 Pendant
w/7-3/4"
Globe & Guard



VM1 Flexible Pendant
w/5-1/2"
Refractor & Guard



VM2 Flexible Pendant
w/7-3/4"
Refractor & Guard

Class I, Div. 2, Groups A,B,C,D[Ⓢ]
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III

Suitable for wet locations
NEMA 3, 4, 4X; IP66

Listed - File E10514 (Hazardous & Marine)

Certified - File LR11713

NR Restricted Breathing Option[Ⓢ]

Class I, Zone 2 AEx nAnR

Class I, Zone 2 Ex nR

VM 50-175 METAL HALIDE (PULSE**) - PENDANT										
DESCRIPTION				5-1/2" OPTIC THREAD SIZE [Ⓢ]			7-3/4" OPTIC THREAD SIZE [Ⓢ]			
WATTS	ANSI	HUB SIZE [Ⓢ]	VOLTAGE [Ⓢ]	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	12" SPIN-TOP TYPE V REFRACTOR & GUARD
50	M110	3/4"	Quad	VM1H050A2GLG	VM1H050A2R1G	VM1H050A2R5G	VM2H050A2GLG	VM2H050A2R1G	VM2H050A2R5G	VM2H050A2S5G
			Tri	VM1H056A2GLG	VM1H056A2R1G	VM1H056A2R5G	VM2H056A2GLG	VM2H056A2R1G	VM2H056A2R5G	VM2H056A2S5G
70	M98	3/4"	Quad	VM1H070A2GLG	VM1H070A2R1G	VM1H070A2R5G	VM2H070A2GLG	VM2H070A2R1G	VM2H070A2R5G	VM2H070A2S5G
			Tri	VM1H076A2GLG	VM1H076A2R1G	VM1H076A2R5G	VM2H076A2GLG	VM2H076A2R1G	VM2H076A2R5G	VM2H076A2S5G
			480	VM1H075A2GLG	VM1H075A2R1G	VM1H075A2R5G	VM2H075A2GLG	VM2H075A2R1G	VM2H075A2R5G	VM2H075A2S5G
100	M90	3/4"	Quad	VM1H100A2GLG	VM1H100A2R1G	VM1H100A2R5G	VM2H100A2GLG	VM2H100A2R1G	VM2H100A2R5G	VM2H100A2S5G
			Tri	VM1H106A2GLG	VM1H106A2R1G	VM1H106A2R5G	VM2H106A2GLG	VM2H106A2R1G	VM2H106A2R5G	VM2H106A2S5G
			480	VM1H105A2GLG	VM1H105A2R1G	VM1H105A2R5G	VM2H105A2GLG	VM2H105A2R1G	VM2H105A2R5G	VM2H105A2S5G
150	M102	3/4"	Quad	VM1P150A2GLG	VM1P150A2R1G	VM1P150A2R5G	VM2P150A2GLG	VM2P150A2R1G	VM2P150A2R5G	VM2P150A2S5G
			Tri	VM1P156A2GLG	VM1P156A2R1G	VM1P156A2R5G	VM2P156A2GLG	VM2P156A2R1G	VM2P156A2R5G	VM2P156A2S5G
	M142	480	VM1P155A2GLG	VM1P155A2R1G	VM1P155A2R5G	VM2P155A2GLG	VM2P155A2R1G	VM2P155A2R5G	VM2P155A2S5G	
175	M137	3/4"	Quad	VM1P170A2GLG	VM1P170A2R1G	VM1P170A2R5G	VM2P170A2GLG	VM2P170A2R1G	VM2P170A2R5G	VM2P170A2S5G
			Tri	VM1P176A2GLG	VM1P176A2R1G	VM1P176A2R5G	VM2P176A2GLG	VM2P176A2R1G	VM2P176A2R5G	VM2P176A2S5G
	M152	480	VM1P175A2GLG	VM1P175A2R1G	VM1P175A2R5G	VM2P175A2GLG	VM2P175A2R1G	VM2P175A2R5G	VM2P175A2S5G	

VM 50-175 METAL HALIDE (PULSE**) - FLEX PENDANT										
DESCRIPTION				5-1/2" OPTIC THREAD SIZE [Ⓢ]			7-3/4" OPTIC THREAD SIZE [Ⓢ]			
WATTS	ANSI	HUB SIZE [Ⓢ]	VOLTAGE [Ⓢ]	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	12" SPIN-TOP TYPE V REFRACTOR & GUARD
50	M110	3/4"	Quad	VM1H050F2GLG	VM1H050F2R1G	VM1H050F2R5G	VM2H050F2GLG	VM2H050F2R1G	VM2H050F2R5G	VM2H050F2S5G
			Tri	VM1H056F2GLG	VM1H056F2R1G	VM1H056F2R5G	VM2H056F2GLG	VM2H056F2R1G	VM2H056F2R5G	VM2H056F2S5G
70	M98	3/4"	Quad	VM1H070F2GLG	VM1H070F2R1G	VM1H070F2R5G	VM2H070F2GLG	VM2H070F2R1G	VM2H070F2R5G	VM2H070F2S5G
			Tri	VM1H076F2GLG	VM1H076F2R1G	VM1H076F2R5G	VM2H076F2GLG	VM2H076F2R1G	VM2H076F2R5G	VM2H076F2S5G
			480	VM1H075F2GLG	VM1H075F2R1G	VM1H075F2R5G	VM2H075F2GLG	VM2H075F2R1G	VM2H075F2R5G	VM2H075F2S5G
100	M90	3/4"	Quad	VM1H100F2GLG	VM1H100F2R1G	VM1H100F2R5G	VM2H100F2GLG	VM2H100F2R1G	VM2H100F2R5G	VM2H100F2S5G
			Tri	VM1H106F2GLG	VM1H106F2R1G	VM1H106F2R5G	VM2H106F2GLG	VM2H106F2R1G	VM2H106F2R5G	VM2H106F2S5G
			480	VM1H105F2GLG	VM1H105F2R1G	VM1H105F2R5G	VM2H105F2GLG	VM2H105F2R1G	VM2H105F2R5G	VM2H105F2S5G
150	M102	3/4"	Quad	VM1P150F2GLG	VM1P150F2R1G	VM1P150F2R5G	VM2P150F2GLG	VM2P150F2R1G	VM2P150F2R5G	VM2P150F2S5G
			Tri	VM1P156F2GLG	VM1P156F2R1G	VM1P156F2R5G	VM2P156F2GLG	VM2P156F2R1G	VM2P156F2R5G	VM2P156F2S5G
	M142	480	VM1P155F2GLG	VM1P155F2R1G	VM1P155F2R5G	VM2P155F2GLG	VM2P155F2R1G	VM2P155F2R5G	VM2P155F2S5G	
175	M137	3/4"	Quad	VM1P170F2GLG	VM1P170F2R1G	VM1P170F2R5G	VM2P170F2GLG	VM2P170F2R1G	VM2P170F2R5G	VM2P170F2S5G
			Tri	VM1P176F2GLG	VM1P176F2R1G	VM1P176F2R5G	VM2P176F2GLG	VM2P176F2R1G	VM2P176F2R5G	VM2P176F2S5G
	M152	480	VM1P175F2GLG	VM1P175F2R1G	VM1P175F2R5G	VM2P175F2GLG	VM2P175F2R1G	VM2P175F2R5G	VM2P175F2S5G	

① See hazardous location data pages L104-107 for application suitability.

② Catalog numbers shown are with Guard; to omit guard change ending G to N; e.g. VM1H050A2GLN.

③ Catalog numbers shown are with 3/4" conduit openings; change "2" to "3" for 1" e.g. VM1H050A3GLG.

④ Consult catalog logic for other available voltage & lamp combinations.

⑤ Add suffix NR for AEx nR Restricted Breathing; see page L54 for more information.

** 50, 70, & 100 Watt "Traditional Metal Halide" ballasts include a Pulse Ignitor, as do 150 & 175W Metal Halide Pulse models.





VM1 Ceiling
w/5-1/2"
Globe & Guard



VM2 Ceiling
w/7-3/4"
Globe & Guard



VM1 Wall
w/5-1/2"
Refractor & Guard



VM2 Wall
w/7-3/4"
Refractor & Guard

Class I, Div. 2, Groups A,B,C,DⓄ
 Class I, Zone 2, Groups IIC, IIB, IIA
 Class II, Div. 1 & 2, Groups E,F,G
 Class III

Suitable for wet locations

NEMA 3, 4, 4X; IP66

US Listed - File E10514 (Hazardous & Marine)

Certified - File LR11713

NR Restricted Breathing OptionⓄ

Class I, Zone 2 AEx nAnR

Class I, Zone 2 Ex nR

VM 50-175 METAL HALIDE (PULSE**) - CEILING										
DESCRIPTION				5-1/2" OPTIC THREAD SIZE Ⓞ			7-3/4" OPTIC THREAD SIZE Ⓞ			
WATTS	ANSI	HUB SIZE Ⓞ	VOLTAGE Ⓞ	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	12" SPIN-TOP TYPE V REFRACTOR & GUARD
50	M110	3/4"	Quad	VM1H050X2GLG	VM1H050X2R1G	VM1H050X2R5G	VM2H050X2GLG	VM2H050X2R1G	VM2H050X2R5G	VM2H050X2S5G
			Tri	VM1H056X2GLG	VM1H056X2R1G	VM1H056X2R5G	VM2H056X2GLG	VM2H056X2R1G	VM2H056X2R5G	VM2H056X2S5G
70	M98	3/4"	Quad	VM1H070X2GLG	VM1H070X2R1G	VM1H070X2R5G	VM2H070X2GLG	VM2H070X2R1G	VM2H070X2R5G	VM2H070X2S5G
			Tri	VM1H076X2GLG	VM1H076X2R1G	VM1H076X2R5G	VM2H076X2GLG	VM2H076X2R1G	VM2H076X2R5G	VM2H076X2S5G
			480	VM1H075X2GLG	VM1H075X2R1G	VM1H075X2R5G	VM2H075X2GLG	VM2H075X2R1G	VM2H075X2R5G	VM2H075X2S5G
100	M90	3/4"	Quad	VM1H100X2GLG	VM1H100X2R1G	VM1H100X2R5G	VM2H100X2GLG	VM2H100X2R1G	VM2H100X2R5G	VM2H100X2S5G
			Tri	VM1H106X2GLG	VM1H106X2R1G	VM1H106X2R5G	VM2H106X2GLG	VM2H106X2R1G	VM2H106X2R5G	VM2H106X2S5G
			480	VM1H105X2GLG	VM1H105X2R1G	VM1H105X2R5G	VM2H105X2GLG	VM2H105X2R1G	VM2H105X2R5G	VM2H105X2S5G
150	M102	3/4"	Quad	VM1P150X2GLG	VM1P150X2R1G	VM1P150X2R5G	VM2P150X2GLG	VM2P150X2R1G	VM2P150X2R5G	VM2P150X2S5G
			Tri	VM1P156X2GLG	VM1P156X2R1G	VM1P156X2R5G	VM2P156X2GLG	VM2P156X2R1G	VM2P156X2R5G	VM2P156X2S5G
	M142	480	VM1P155X2GLG	VM1P155X2R1G	VM1P155X2R5G	VM2P155X2GLG	VM2P155X2R1G	VM2P155X2R5G	VM2P155X2S5G	
175	M137	3/4"	Quad	VM1P170X2GLG	VM1P170X2R1G	VM1P170X2R5G	VM2P170X2GLG	VM2P170X2R1G	VM2P170X2R5G	VM2P170X2S5G
			Tri	VM1P176X2GLG	VM1P176X2R1G	VM1P176X2R5G	VM2P176X2GLG	VM2P176X2R1G	VM2P176X2R5G	VM2P176X2S5G
	M152	480	VM1P175X2GLG	VM1P175X2R1G	VM1P175X2R5G	VM2P175X2GLG	VM2P175X2R1G	VM2P175X2R5G	VM2P175X2S5G	

VM 50-175 METAL HALIDE (PULSE**) - WALL										
DESCRIPTION				5-1/2" OPTIC THREAD SIZE Ⓞ			7-3/4" OPTIC THREAD SIZE Ⓞ			
WATTS	ANSI	HUB SIZE Ⓞ	VOLTAGE Ⓞ	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	12" SPIN-TOP TYPE V REFRACTOR & GUARD
50	M110	3/4"	Quad	VM1H050B2GLG	VM1H050B2R1G	VM1H050B2R5G	VM2H050B2GLG	VM2H050B2R1G	VM2H050B2R5G	VM2H050B2S5G
			Tri	VM1H056B2GLG	VM1H056B2R1G	VM1H056B2R5G	VM2H056B2GLG	VM2H056B2R1G	VM2H056B2R5G	VM2H056B2S5G
70	M98	3/4"	Quad	VM1H070B2GLG	VM1H070B2R1G	VM1H070B2R5G	VM2H070B2GLG	VM2H070B2R1G	VM2H070B2R5G	VM2H070B2S5G
			Tri	VM1H076B2GLG	VM1H076B2R1G	VM1H076B2R5G	VM2H076B2GLG	VM2H076B2R1G	VM2H076B2R5G	VM2H076B2S5G
			480	VM1H075B2GLG	VM1H075B2R1G	VM1H075B2R5G	VM2H075B2GLG	VM2H075B2R1G	VM2H075B2R5G	VM2H075B2S5G
100	M90	3/4"	Quad	VM1H100B2GLG	VM1H100B2R1G	VM1H100B2R5G	VM2H100B2GLG	VM2H100B2R1G	VM2H100B2R5G	VM2H100B2S5G
			Tri	VM1H106B2GLG	VM1H106B2R1G	VM1H106B2R5G	VM2H106B2GLG	VM2H106B2R1G	VM2H106B2R5G	VM2H106B2S5G
			480	VM1H105B2GLG	VM1H105B2R1G	VM1H105B2R5G	VM2H105B2GLG	VM2H105B2R1G	VM2H105B2R5G	VM2H105B2S5G
150	M102	3/4"	Quad	VM1P150B2GLG	VM1P150B2R1G	VM1P150B2R5G	VM2P150B2GLG	VM2P150B2R1G	VM2P150B2R5G	VM2P150B2S5G
			Tri	VM1P156B2GLG	VM1P156B2R1G	VM1P156B2R5G	VM2P156B2GLG	VM2P156B2R1G	VM2P156B2R5G	VM2P156B2S5G
	M142	480	VM1P155B2GLG	VM1P155B2R1G	VM1P155B2R5G	VM2P155B2GLG	VM2P155B2R1G	VM2P155B2R5G	VM2P155B2S5G	
175	M137	3/4"	Quad	VM1P170B2GLG	VM1P170B2R1G	VM1P170B2R5G	VM2P170B2GLG	VM2P170B2R1G	VM2P170B2R5G	VM2P170B2S5G
			Tri	VM1P176B2GLG	VM1P176B2R1G	VM1P176B2R5G	VM2P176B2GLG	VM2P176B2R1G	VM2P176B2R5G	VM2P176B2S5G
	M152	480	VM1P175B2GLG	VM1P175B2R1G	VM1P175B2R5G	VM2P175B2GLG	VM2P175B2R1G	VM2P175B2R5G	VM2P175B2S5G	

① See hazardous location data pages L104-107 for application suitability.

② Catalog numbers shown are with Guard; to omit guard change ending G to N; e.g. VM1H050X2GLN.

③ Catalog numbers shown are with 3/4" conduit openings; change "2" to "3" for 1" e.g. VM1H050X3GLG.

④ Consult catalog logic for other available voltage & lamp combinations.

⑤ Add suffix NR for AEx nR Restricted Breathing; see page L54 for more information.

** 50, 70, & 100 Watt "Traditional Metal Halide" ballasts include a Pulse Ignitor, as do 150 & 175W Metal Halide Pulse models.





**VM1 Cone
w/5-1/2"
Globe & Guard**



**VM2 Cone
w/7-3/4"
Globe & Guard**



**VM1 EZ Adapter
w/5-1/2"
Refractor & Guard**



**VM2 EZ Adapter
w/7-3/4"
Refractor & Guard**

**Class I, Div. 2, Groups A,B,C,D[Ⓢ]
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III**

**Suitable for wet locations
NEMA 3, 4, 4X; IP66**

UL[®] Listed - File E10514 (Hazardous & Marine)

CSF[®] Certified - File LR11713

NR Restricted Breathing Option[Ⓢ]

Class I, Zone 2 AEx nAnR ^{UL}

Class I, Zone 2 Ex nR ^{CSF}

VM 50-175 METAL HALIDE (PULSE**) - CONE										
DESCRIPTION				5-1/2" OPTIC THREAD SIZE [Ⓢ]			7-3/4" OPTIC THREAD SIZE [Ⓢ]			
WATTS	ANSI	HUB SIZE [Ⓢ]	VOLTAGE [Ⓢ]	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	12" SPIN-TOP TYPE V REFRACTOR & GUARD
50	M110	3/4"	Quad	VM1H050C2GLG	VM1H050C2R1G	VM1H050C2R5G	VM2H050C2GLG	VM2H050C2R1G	VM2H050C2R5G	VM2H050C2S5G
			Tri	VM1H056C2GLG	VM1H056C2R1G	VM1H056C2R5G	VM2H056C2GLG	VM2H056C2R1G	VM2H056C2R5G	VM2H056C2S5G
70	M98	3/4"	Quad	VM1H070C2GLG	VM1H070C2R1G	VM1H070C2R5G	VM2H070C2GLG	VM2H070C2R1G	VM2H070C2R5G	VM2H070C2S5G
			Tri	VM1H076C2GLG	VM1H076C2R1G	VM1H076C2R5G	VM2H076C2GLG	VM2H076C2R1G	VM2H076C2R5G	VM2H076C2S5G
			480	VM1H075C2GLG	VM1H075C2R1G	VM1H075C2R5G	VM2H075C2GLG	VM2H075C2R1G	VM2H075C2R5G	VM2H075C2S5G
100	M90	3/4"	Quad	VM1H100C2GLG	VM1H100C2R1G	VM1H100C2R5G	VM2H100C2GLG	VM2H100C2R1G	VM2H100C2R5G	VM2H100C2S5G
			Tri	VM1H106C2GLG	VM1H106C2R1G	VM1H106C2R5G	VM2H106C2GLG	VM2H106C2R1G	VM2H106C2R5G	VM2H106C2S5G
			480	VM1H105C2GLG	VM1H105C2R1G	VM1H105C2R5G	VM2H105C2GLG	VM2H105C2R1G	VM2H105C2R5G	VM2H105C2S5G
150	M102	3/4"	Quad	VM1P150C2GLG	VM1P150C2R1G	VM1P150C2R5G	VM2P150C2GLG	VM2P150C2R1G	VM2P150C2R5G	VM2P150C2S5G
			Tri	VM1P156C2GLG	VM1P156C2R1G	VM1P156C2R5G	VM2P156C2GLG	VM2P156C2R1G	VM2P156C2R5G	VM2P156C2S5G
	M142	480	VM1P155C2GLG	VM1P155C2R1G	VM1P155C2R5G	VM2P155C2GLG	VM2P155C2R1G	VM2P155C2R5G	VM2P155C2S5G	
175	M137	3/4"	Quad	VM1P170C2GLG	VM1P170C2R1G	VM1P170C2R5G	VM2P170C2GLG	VM2P170C2R1G	VM2P170C2R5G	VM2P170C2S5G
			Tri	VM1P176C2GLG	VM1P176C2R1G	VM1P176C2R5G	VM2P176C2GLG	VM2P176C2R1G	VM2P176C2R5G	VM2P176C2S5G
	M152	480	VM1P175C2GLG	VM1P175C2R1G	VM1P175C2R5G	VM2P175C2GLG	VM2P175C2R1G	VM2P175C2R5G	VM2P175C2S5G	

VM 50-175 METAL HALIDE (PULSE**) - EZ ADAPTER [Ⓢ]										
DESCRIPTION				5-1/2" OPTIC THREAD SIZE [Ⓢ]			7-3/4" OPTIC THREAD SIZE [Ⓢ]			
WATTS	ANSI	HUB SIZE [Ⓢ]	VOLTAGE [Ⓢ]	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	12" SPIN-TOP TYPE V REFRACTOR & GUARD
50	M110	Ⓢ	Quad	VM1H050EZGLG	VM1H050EZR1G	VM1H050EZR5G	VM2H050EZGLG	VM2H050EZR1G	VM2H050EZR5G	VM2H050EZS5G
			Tri	VM1H056EZGLG	VM1H056EZR1G	VM1H056EZR5G	VM2H056EZGLG	VM2H056EZR1G	VM2H056EZR5G	VM2H056EZS5G
70	M98	Ⓢ	Quad	VM1H070EZGLG	VM1H070EZR1G	VM1H070EZR5G	VM2H070EZGLG	VM2H070EZR1G	VM2H070EZR5G	VM2H070EZS5G
			Tri	VM1H076EZGLG	VM1H076EZR1G	VM1H076EZR5G	VM2H076EZGLG	VM2H076EZR1G	VM2H076EZR5G	VM2H076EZS5G
			480	VM1H075EZGLG	VM1H075EZR1G	VM1H075EZR5G	VM2H075EZGLG	VM2H075EZR1G	VM2H075EZR5G	VM2H075EZS5G
100	M90	Ⓢ	Quad	VM1H100EZGLG	VM1H100EZR1G	VM1H100EZR5G	VM2H100EZGLG	VM2H100EZR1G	VM2H100EZR5G	VM2H100EZS5G
			Tri	VM1H106EZGLG	VM1H106EZR1G	VM1H106EZR5G	VM2H106EZGLG	VM2H106EZR1G	VM2H106EZR5G	VM2H106EZS5G
			480	VM1H105EZGLG	VM1H105EZR1G	VM1H105EZR5G	VM2H105EZGLG	VM2H105EZR1G	VM2H105EZR5G	VM2H105EZS5G
150	M102	Ⓢ	Quad	VM1P150EZGLG	VM1P150EZR1G	VM1P150EZR5G	VM2P150EZGLG	VM2P150EZR1G	VM2P150EZR5G	VM2P150EZS5G
			Tri	VM1P156EZGLG	VM1P156EZR1G	VM1P156EZR5G	VM2P156EZGLG	VM2P156EZR1G	VM2P156EZR5G	VM2P156EZS5G
	M142	480	VM1P155EZGLG	VM1P155EZR1G	VM1P155EZR5G	VM2P155EZGLG	VM2P155EZR1G	VM2P155EZR5G	VM2P155EZS5G	
175	M137	Ⓢ	Quad	VM1P170EZGLG	VM1P170EZR1G	VM1P170EZR5G	VM2P170EZGLG	VM2P170EZR1G	VM2P170EZR5G	VM2P170EZS5G
			Tri	VM1P176EZGLG	VM1P176EZR1G	VM1P176EZR5G	VM2P176EZGLG	VM2P176EZR1G	VM2P176EZR5G	VM2P176EZS5G
	M152	480	VM1P175EZGLG	VM1P175EZR1G	VM1P175EZR5G	VM2P175EZGLG	VM2P175EZR1G	VM2P175EZR5G	VM2P175EZS5G	

① See hazardous location data pages L104-107 for application suitability.

② Catalog numbers shown are with Guard; to omit guard change ending G to N; e.g. VM1H050C2GLN.

③ Catalog numbers shown are with 3/4" conduit openings; change "2" to "3" for 1" e.g. VM1H050C3GLG.

④ Consult catalog logic for other available voltage & lamp combinations.

⑤ Add suffix NR for AEx nR Restricted Breathing; see page L54 for more information.

** 50, 70, & 100 Watt "Traditional Metal Halide" ballasts include a Pulse Ignitor, as do 150 & 175W Metal Halide Pulse models.





VM1 Stanchion 25° w/5-1/2" Globe & Guard **VM2 Stanchion 25° w/7-3/4" Globe & Guard** **VM1 Stanchion Straight w/5-1/2" Refractor & Guard** **VM2 Stanchion Straight w/7-3/4" Refractor & Guard**

Class I, Div. 2, Groups A,B,C,D
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III

Suitable for wet locations

NEMA 3, 4, 4X; IP66

US Listed - File E10514 (Hazardous & Marine)

US Certified - File LR11713

NR Restricted Breathing Option

Class I, Zone 2 AEx nAnR

Class I, Zone 2 Ex nR

VM 50-175 METAL HALIDE (PULSE**) - STANCHION 25° ANGLE										
DESCRIPTION				5-1/2" OPTIC THREAD SIZE ②			7-3/4" OPTIC THREAD SIZE ②			
WATTS	ANSI	HUB SIZE ③	VOLTAGE ④	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	12" SPIN-TOP TYPE V REFRACTOR & GUARD
50	M110	1-1/2"	Quad	VM1H050D5GLG	VM1H050D5R1G	VM1H050D5R5G	VM2H050D5GLG	VM2H050D5R1G	VM2H050D5R5G	VM2H050D5S5G
			Tri	VM1H056D5GLG	VM1H056D5R1G	VM1H056D5R5G	VM2H056D5GLG	VM2H056D5R1G	VM2H056D5R5G	VM2H056D5S5G
70	M98	1-1/2"	Quad	VM1H070D5GLG	VM1H070D5R1G	VM1H070D5R5G	VM2H070D5GLG	VM2H070D5R1G	VM2H070D5R5G	VM2H070D5S5G
			Tri	VM1H076D5GLG	VM1H076D5R1G	VM1H076D5R5G	VM2H076D5GLG	VM2H076D5R1G	VM2H076D5R5G	VM2H076D5S5G
			480	VM1H075D5GLG	VM1H075D5R1G	VM1H075D5R5G	VM2H075D5GLG	VM2H075D5R1G	VM2H075D5R5G	VM2H075D5S5G
100	M90	1-1/2"	Quad	VM1H100D5GLG	VM1H100D5R1G	VM1H100D5R5G	VM2H100D5GLG	VM2H100D5R1G	VM2H100D5R5G	VM2H100D5S5G
			Tri	VM1H106D5GLG	VM1H106D5R1G	VM1H106D5R5G	VM2H106D5GLG	VM2H106D5R1G	VM2H106D5R5G	VM2H106D5S5G
			480	VM1H105D5GLG	VM1H105D5R1G	VM1H105D5R5G	VM2H105D5GLG	VM2H105D5R1G	VM2H105D5R5G	VM2H105D5S5G
150	M102 M142	1-1/2"	Quad	VM1P150D5GLG	VM1P150D5R1G	VM1P150D5R5G	VM2P150D5GLG	VM2P150D5R1G	VM2P150D5R5G	VM2P150D5S5G
			Tri	VM1P156D5GLG	VM1P156D5R1G	VM1P156D5R5G	VM2P156D5GLG	VM2P156D5R1G	VM2P156D5R5G	VM2P156D5S5G
			480	VM1P155D5GLG	VM1P155D5R1G	VM1P155D5R5G	VM2P155D5GLG	VM2P155D5R1G	VM2P155D5R5G	VM2P155D5S5G
175	M137 M152	1-1/2"	Quad	VM1P170D5GLG	VM1P170D5R1G	VM1P170D5R5G	VM2P170D5GLG	VM2P170D5R1G	VM2P170D5R5G	VM2P170D5S5G
			Tri	VM1P176D5GLG	VM1P176D5R1G	VM1P176D5R5G	VM2P176D5GLG	VM2P176D5R1G	VM2P176D5R5G	VM2P176D5S5G
			480	VM1P175D5GLG	VM1P175D5R1G	VM1P175D5R5G	VM2P175D5GLG	VM2P175D5R1G	VM2P175D5R5G	VM2P175D5S5G

VM 50-175 METAL HALIDE (PULSE**) - STANCHION STRAIGHT										
DESCRIPTION				5-1/2" OPTIC THREAD SIZE ②			7-3/4" OPTIC THREAD SIZE ②			
WATTS	ANSI	HUB SIZE ③	VOLTAGE ④	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	12" SPIN-TOP TYPE V REFRACTOR & GUARD
50	M110	1-1/2"	Quad	VM1H050S5GLG	VM1H050S5R1G	VM1H050S5R5G	VM2H050S5GLG	VM2H050S5R1G	VM2H050S5R5G	VM2H050S5S5G
			Tri	VM1H056S5GLG	VM1H056S5R1G	VM1H056S5R5G	VM2H056S5GLG	VM2H056S5R1G	VM2H056S5R5G	VM2H056S5S5G
70	M98	1-1/2"	Quad	VM1H070S5GLG	VM1H070S5R1G	VM1H070S5R5G	VM2H070S5GLG	VM2H070S5R1G	VM2H070S5R5G	VM2H070S5S5G
			Tri	VM1H076S5GLG	VM1H076S5R1G	VM1H076S5R5G	VM2H076S5GLG	VM2H076S5R1G	VM2H076S5R5G	VM2H076S5S5G
			480	VM1H075S5GLG	VM1H075S5R1G	VM1H075S5R5G	VM2H075S5GLG	VM2H075S5R1G	VM2H075S5R5G	VM2H075S5S5G
100	M90	1-1/2"	Quad	VM1H100S5GLG	VM1H100S5R1G	VM1H100S5R5G	VM2H100S5GLG	VM2H100S5R1G	VM2H100S5R5G	VM2H100S5S5G
			Tri	VM1H106S5GLG	VM1H106S5R1G	VM1H106S5R5G	VM2H106S5GLG	VM2H106S5R1G	VM2H106S5R5G	VM2H106S5S5G
			480	VM1H105S5GLG	VM1H105S5R1G	VM1H105S5R5G	VM2H105S5GLG	VM2H105S5R1G	VM2H105S5R5G	VM2H105S5S5G
150	M102 M142	1-1/2"	Quad	VM1P150S5GLG	VM1P150S5R1G	VM1P150S5R5G	VM2P150S5GLG	VM2P150S5R1G	VM2P150S5R5G	VM2P150S5S5G
			Tri	VM1P156S5GLG	VM1P156S5R1G	VM1P156S5R5G	VM2P156S5GLG	VM2P156S5R1G	VM2P156S5R5G	VM2P156S5S5G
			480	VM1P155S5GLG	VM1P155S5R1G	VM1P155S5R5G	VM2P155S5GLG	VM2P155S5R1G	VM2P155S5R5G	VM2P155S5S5G
175	M137 M152	1-1/2"	Quad	VM1P170S5GLG	VM1P170S5R1G	VM1P170S5R5G	VM2P170S5GLG	VM2P170S5R1G	VM2P170S5R5G	VM2P170S5S5G
			Tri	VM1P176S5GLG	VM1P176S5R1G	VM1P176S5R5G	VM2P176S5GLG	VM2P176S5R1G	VM2P176S5R5G	VM2P176S5S5G
			480	VM1P175S5GLG	VM1P175S5R1G	VM1P175S5R5G	VM2P175S5GLG	VM2P175S5R1G	VM2P175S5R5G	VM2P175S5S5G

① See hazardous location data pages L104-107 for application suitability.

② Catalog numbers shown are with Guard; to omit guard change ending G to N; e.g. VM1H050D4GLN.

③ Catalog numbers shown are with 1-1/2" conduit openings; change "5" to "4" for 1-1/4" e.g. VM1H050D4GLG.

④ Consult catalog logic for other available voltage & lamp combinations.

⑤ Add suffix NR for AEx nR Restricted Breathing; see page L54 for more information.

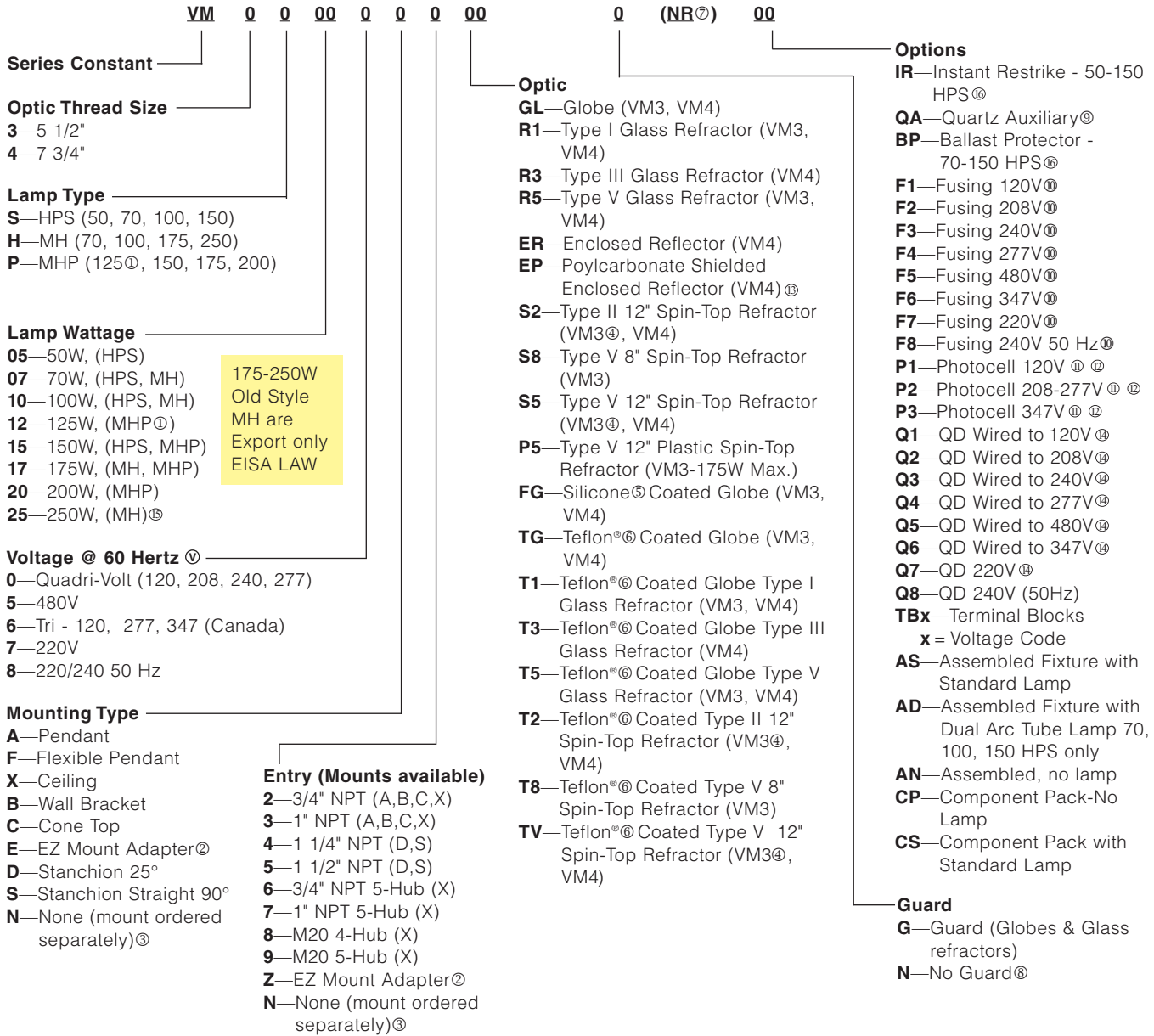
** 50, 70, & 100 Watt "Traditional Metal Halide" ballasts include a Pulse Ignitor, as do 150 & 175W Metal Halide Pulse models.



KILLARK®



CertiLite®V Catalog Number Logic; 50-250 Low Wattage (Mogul Base) HID Fixtures



Ⓞ Special order lamp type/wattage not shown in grids, minimums apply.
 Ⓞ Completes as "EZ", conduit mounting boxes ordered separately - See L83.
 Ⓞ NN mount ordered separately.
 Ⓞ 12" Spintops for use with VM3 tanks ship with a Mogul to Mogul socket extender for enhanced photometrics vs. 7 3/4", which are used on VM5, but will fit VM4.
 Ⓞ Silicone coated globe for additional impact protection.
 Ⓞ Teflon[®] is a registered trademark of DuPont, Inc.
 Ⓞ Consult factory for available lamp and voltage combinations.

Ⓞ Restricted Breathing - See L54 for more information.
 Ⓞ Order Guards for Spin-Tops & VMER40 separately.
 Ⓞ QA not suitable for Class I, Div. 2/Zone 2 applications; consult factory for other hazardous applications.
 Ⓞ Fusing not for Marine or Canadian installations.
 Ⓞ Photo cells for Class I, Div. 2 only, or C1Z2 nR [Ⓞ], - not Class II.
 Ⓞ Field connection to proper tap in case of Multitap Ballasts.
 Ⓞ Not for use with wall or straight (90°) Stanchion.
 Ⓞ QD = Quick Disconnect. Allows easy tank removal for maintenance. Electrician simply unplugs de-energized ballast from supply circuit.
 Ⓞ 220V 60Hz or 230V 50Hz used with QA-requires VM5 tank.
 Ⓞ IR and BP cannot be ordered together.





**Pendant
w/ 5-1/2"
Globe & Guard**



**Flexible Pendant
w/ 5-1/2"
Refractor & Guard**



**Pendant
w/ 7-3/4"
Globe & Guard**



**Flexible Pendant
w/ 7-3/4"
Refractor & Guard**



**Pendant
w/ Enclosed Reflector**

Class I, Div. 2, Groups A,B,C,D[Ⓛ]
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III

Suitable for wet locations
NEMA 3, 4, 4X; IP66

cUL^{us} Listed - File E10514 (Hazardous & Marine)

SP^{us} Certified - File LR11713

NR Restricted Breathing Option[Ⓢ]

Class I, Zone 2 AEx nAnR[Ⓛ]

Class I, Zone 2 Ex nR[Ⓢ]

VM 50-150 WATT HIGH PRESSURE SODIUM PENDANT										
DESCRIPTION				5-1/2" OPTIC THREAD SIZE [Ⓢ]			7-3/4" OPTIC THREAD SIZE [Ⓢ]			
WATTS	ANSI	HUB SIZE [Ⓢ]	VOLTAGE [Ⓢ]	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	ENCLOSED REFLECTOR
50	S68	3/4"	Quad	VM3S050A2GLG	VM3S050A2R1G	VM3S050A2R5G	VM4S050A2GLG	VM4S050A2R1G	VM4S050A2R5G	VM4S050A2ERN
				VM3S070A2GLG	VM3S070A2R1G	VM3S070A2R5G	VM4S070A2GLG	VM4S070A2R1G	VM4S070A2R5G	VM4S070A2ERN
70	S62	3/4"	Tri	VM3S076A2GLG	VM3S076A2R1G	VM3S076A2R5G	VM4S076A2GLG	VM4S076A2R1G	VM4S076A2R5G	VM4S076A2ERN
				VM3S075A2GLG	VM3S075A2R1G	VM3S075A2R5G	VM4S075A2GLG	VM4S075A2R1G	VM4S075A2R5G	VM4S075A2ERN
			480	VM3S100A2GLG	VM3S100A2R1G	VM3S100A2R5G	VM4S100A2GLG	VM4S100A2R1G	VM4S100A2R5G	VM4S100A2ERN
				VM3S106A2GLG	VM3S106A2R1G	VM3S106A2R5G	VM4S106A2GLG	VM4S106A2R1G	VM4S106A2R5G	VM4S106A2ERN
100	S54	3/4"	Tri	VM3S105A2GLG	VM3S105A2R1G	VM3S105A2R5G	VM4S105A2GLG	VM4S105A2R1G	VM4S105A2R5G	VM4S105A2ERN
				VM3S150A2GLG	VM3S150A2R1G	VM3S150A2R5G	VM4S150A2GLG	VM4S150A2R1G	VM4S150A2R5G	VM4S150A2ERN
			480	VM3S156A2GLG	VM3S156A2R1G	VM3S156A2R5G	VM4S156A2GLG	VM4S156A2R1G	VM4S156A2R5G	VM4S156A2ERN
				VM3S155A2GLG	VM3S155A2R1G	VM3S155A2R5G	VM4S155A2GLG	VM4S155A2R1G	VM4S155A2R5G	VM4S155A2ERN

VM 50-150 WATT HIGH PRESSURE SODIUM FLEXIBLE PENDANT										
DESCRIPTION				5-1/2" OPTIC THREAD SIZE [Ⓢ]			7-3/4" OPTIC THREAD SIZE [Ⓢ]			
WATTS	ANSI	HUB SIZE [Ⓢ]	VOLTAGE [Ⓢ]	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	ENCLOSED REFLECTOR
50	S68	3/4"	Quad	VM3S050F2GLG	VM3S050F2R1G	VM3S050F2R5G	VM4S050F2GLG	VM4S050F2R1G	VM4S050F2R5G	VM4S050F2ERN
				VM3S070F2GLG	VM3S070F2R1G	VM3S070F2R5G	VM4S070F2GLG	VM4S070F2R1G	VM4S070F2R5G	VM4S070F2ERN
70	S62	3/4"	Tri	VM3S076F2GLG	VM3S076F2R1G	VM3S076F2R5G	VM4S076F2GLG	VM4S076F2R1G	VM4S076F2R5G	VM4S076F2ERN
				VM3S075F2GLG	VM3S075F2R1G	VM3S075F2R5G	VM4S075F2GLG	VM4S075F2R1G	VM4S075F2R5G	VM4S075F2ERN
			480	VM3S100F2GLG	VM3S100F2R1G	VM3S100F2R5G	VM4S100F2GLG	VM4S100F2R1G	VM4S100F2R5G	VM4S100F2ERN
				VM3S106F2GLG	VM3S106F2R1G	VM3S106F2R5G	VM4S106F2GLG	VM4S106F2R1G	VM4S106F2R5G	VM4S106F2ERN
100	S54	3/4"	Tri	VM3S105F2GLG	VM3S105F2R1G	VM3S105F2R5G	VM4S105F2GLG	VM4S105F2R1G	VM4S105F2R5G	VM4S105F2ERN
				VM3S150F2GLG	VM3S150F2R1G	VM3S150F2R5G	VM4S150F2GLG	VM4S150F2R1G	VM4S150F2R5G	VM4S150F2ERN
			480	VM3S156F2GLG	VM3S156F2R1G	VM3S156F2R5G	VM4S156F2GLG	VM4S156F2R1G	VM4S156F2R5G	VM4S156F2ERN
				VM3S155F2GLG	VM3S155F2R1G	VM3S155F2R5G	VM4S155F2GLG	VM4S155F2R1G	VM4S155F2R5G	VM4S155F2ERN

[Ⓛ] See hazardous application data on pages L108-L111 for limitations.

[Ⓢ] Catalog numbers shown are with guard (except enclosed reflector); to omit guard change ending G to N; e.g. VM3S050A2GLN

[Ⓢ] Catalog numbers shown are with 3/4" conduit openings; change 2 to 3 for 1"; e.g. VM3S050A3GLG.

[Ⓢ] Consult catalog logic for other available voltages.

[Ⓢ] Add suffix NR for restricted breathing; see page L54 for more information.





Ceiling
w/ 5-1/2"
Globe & Guard



Wall
w/ 5-1/2"
Refractor & Guard



Ceiling
w/ 7-3/4"
Globe & Guard



Wall
w/ 7-3/4"
Refractor & Guard



Ceiling
w/ Enclosed Reflector

Class I, Div. 2, Groups A,B,C,D[Ⓞ]
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III

Suitable for wet locations
NEMA 3, 4, 4X; IP66

UL Listed - File E10514 (Hazardous & Marine)

SP Certified - File LR11713

NR Restricted Breathing Option[Ⓞ]

Class I, Zone 2 AEx nAnR

Class I, Zone 2 Ex nR

VM 50-150 WATT HIGH PRESSURE SODIUM CEILING										
DESCRIPTION				5-1/2" OPTIC THREAD SIZE [Ⓞ]			7-3/4" OPTIC THREAD SIZE [Ⓞ]			
WATTS	ANSI	HUB SIZE [Ⓞ]	VOLTAGE [Ⓞ]	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	ENCLOSED REFLECTOR
50	S68	3/4"	Quad	VM3S050X2GLG	VM3S050X2R1G	VM3S050X2R5G	VM4S050X2GLG	VM4S050X2R1G	VM4S050X2R5G	VM4S050X2ERN
			Quad	VM3S070X2GLG	VM3S070X2R1G	VM3S070X2R5G	VM4S070X2GLG	VM4S070X2R1G	VM4S070X2R5G	VM4S070X2ERN
70	S62	3/4"	Tri	VM3S076X2GLG	VM3S076X2R1G	VM3S076X2R5G	VM4S076X2GLG	VM4S076X2R1G	VM4S076X2R5G	VM4S076X2ERN
			480	VM3S075X2GLG	VM3S075X2R1G	VM3S075X2R5G	VM4S075X2GLG	VM4S075X2R1G	VM4S075X2R5G	VM4S075X2ERN
100	S54	3/4"	Quad	VM3S100X2GLG	VM3S100X2R1G	VM3S100X2R5G	VM4S100X2GLG	VM4S100X2R1G	VM4S100X2R5G	VM4S100X2ERN
			Tri	VM3S106X2GLG	VM3S106X2R1G	VM3S106X2R5G	VM4S106X2GLG	VM4S106X2R1G	VM4S106X2R5G	VM4S106X2ERN
			480	VM3S105X2GLG	VM3S105X2R1G	VM3S105X2R5G	VM4S105X2GLG	VM4S105X2R1G	VM4S105X2R5G	VM4S105X2ERN
150	S55	3/4"	Quad	VM3S150X2GLG	VM3S150X2R1G	VM3S150X2R5G	VM4S150X2GLG	VM4S150X2R1G	VM4S150X2R5G	VM4S150X2ERN
			Tri	VM3S156X2GLG	VM3S156X2R1G	VM3S156X2R5G	VM4S156X2GLG	VM4S156X2R1G	VM4S156X2R5G	VM4S156X2ERN
			480	VM3S155X2GLG	VM3S155X2R1G	VM3S155X2R5G	VM4S155X2GLG	VM4S155X2R1G	VM4S155X2R5G	VM4S155X2ERN

VM 50-150 WATT HIGH PRESSURE SODIUM WALL										
DESCRIPTION				5-1/2" OPTIC THREAD SIZE [Ⓞ]			7-3/4" OPTIC THREAD SIZE [Ⓞ]			
WATTS	ANSI	HUB SIZE [Ⓞ]	VOLTAGE [Ⓞ]	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	ENCLOSED REFLECTOR
50	S68	3/4"	Quad	VM3S050B2GLG	VM3S050B2R1G	VM3S050B2R5G	VM4S050B2GLG	VM4S050B2R1G	VM4S050B2R5G	VM4S050B2ERN
			Quad	VM3S070B2GLG	VM3S070B2R1G	VM3S070B2R5G	VM4S070B2GLG	VM4S070B2R1G	VM4S070B2R5G	VM4S070B2ERN
70	S62	3/4"	Tri	VM3S076B2GLG	VM3S076B2R1G	VM3S076B2R5G	VM4S076B2GLG	VM4S076B2R1G	VM4S076B2R5G	VM4S076B2ERN
			480	VM3S075B2GLG	VM3S075B2R1G	VM3S075B2R5G	VM4S075B2GLG	VM4S075B2R1G	VM4S075B2R5G	VM4S075B2ERN
100	S54	3/4"	Quad	VM3S100B2GLG	VM3S100B2R1G	VM3S100B2R5G	VM4S100B2GLG	VM4S100B2R1G	VM4S100B2R5G	VM4S100B2ERN
			Tri	VM3S106B2GLG	VM3S106B2R1G	VM3S106B2R5G	VM4S106B2GLG	VM4S106B2R1G	VM4S106B2R5G	VM4S106B2ERN
			480	VM3S105B2GLG	VM3S105B2R1G	VM3S105B2R5G	VM4S105B2GLG	VM4S105B2R1G	VM4S105B2R5G	VM4S105B2ERN
150	S55	3/4"	Quad	VM3S150B2GLG	VM3S150B2R1G	VM3S150B2R5G	VM4S150B2GLG	VM4S150B2R1G	VM4S150B2R5G	VM4S150B2ERN
			Tri	VM3S156B2GLG	VM3S156B2R1G	VM3S156B2R5G	VM4S156B2GLG	VM4S156B2R1G	VM4S156B2R5G	VM4S156B2ERN
			480	VM3S155B2GLG	VM3S155B2R1G	VM3S155B2R5G	VM4S155B2GLG	VM4S155B2R1G	VM4S155B2R5G	VM4S155B2ERN

[Ⓞ] See hazardous application data on pages L108-L111 for limitations.

[Ⓞ] Catalog numbers shown are with guard, to omit guard (except enclosed reflector); change ending G to N; e.g. VM3S050X2GLN

[Ⓞ] Catalog numbers shown are with 3/4" conduit openings, change 2 to 3 for 1"; e.g. VM3S050X3GLG.

[Ⓞ] Consult catalog logic for other available voltages.

[Ⓞ] Add suffix NR for restricted breathing; see page L54 for more information.





**Cone
w/ 5-1/2"
Globe & Guard**



**EZ Adapter
w/ 5-1/2"
Refractor & Guard**



**Cone
w/ 7-3/4"
Globe & Guard**



**EZ Adapter
w/ 7-3/4"
Refractor & Guard**



**Cone
w/ Enclosed Reflector**

Class I, Div. 2, Groups A,B,C,D[Ⓛ]
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III

Suitable for wet locations
NEMA 3, 4, 4X; IP66

UL[®] US Listed - File E10514 (Hazardous & Marine)

SP[®] Certified - File LR11713

NR Restricted Breathing Option[Ⓛ]

Class I, Zone 2 AEx nAnR[Ⓛ]

Class I, Zone 2 Ex nR[Ⓛ]

VM 50-150 WATT HIGH PRESSURE SODIUM CONE											
DESCRIPTION				5-1/2" OPTIC THREAD SIZE [Ⓛ]			7-3/4" OPTIC THREAD SIZE [Ⓛ]				
WATTS	ANSI	HUB SIZE[Ⓛ]	VOLTAGE[Ⓛ]	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	ENCLOSED REFLECTOR	
50	S68	3/4"	Quad	VM3S050C2GLG	VM3S050C2R1G	VM3S050C2R5G	VM4S050C2GLG	VM4S050C2R1G	VM4S050C2R5G	VM4S050C2ERN	
				VM3S070C2GLG	VM3S070C2R1G	VM3S070C2R5G	VM4S070C2GLG	VM4S070C2R1G	VM4S070C2R5G	VM4S070C2ERN	
70	S62	3/4"	Tri	VM3S076C2GLG	VM3S076C2R1G	VM3S076C2R5G	VM4S076C2GLG	VM4S076C2R1G	VM4S076C2R5G	VM4S076C2ERN	
				480	VM3S075C2GLG	VM3S075C2R1G	VM3S075C2R5G	VM4S075C2GLG	VM4S075C2R1G	VM4S075C2R5G	VM4S075C2ERN
				Quad	VM3S100C2GLG	VM3S100C2R1G	VM3S100C2R5G	VM4S100C2GLG	VM4S100C2R1G	VM4S100C2R5G	VM4S100C2ERN
100	S54	3/4"	Tri	VM3S106C2GLG	VM3S106C2R1G	VM3S106C2R5G	VM4S106C2GLG	VM4S106C2R1G	VM4S106C2R5G	VM4S106C2ERN	
				480	VM3S105C2GLG	VM3S105C2R1G	VM3S105C2R5G	VM4S105C2GLG	VM4S105C2R1G	VM4S105C2R5G	VM4S105C2ERN
				Quad	VM3S150C2GLG	VM3S150C2R1G	VM3S150C2R5G	VM4S150C2GLG	VM4S150C2R1G	VM4S150C2R5G	VM4S150C2ERN
150	S55	3/4"	Tri	VM3S156C2GLG	VM3S156C2R1G	VM3S156C2R5G	VM4S156C2GLG	VM4S156C2R1G	VM4S156C2R5G	VM4S156C2ERN	
				480	VM3S155C2GLG	VM3S155C2R1G	VM3S155C2R5G	VM4S155C2GLG	VM4S155C2R1G	VM4S155C2R5G	VM4S155C2ERN

VM 50-150 WATT HIGH PRESSURE SODIUM EZ ADAPTER[Ⓛ]											
DESCRIPTION				5-1/2" OPTIC THREAD SIZE [Ⓛ]			7-3/4" OPTIC THREAD SIZE [Ⓛ]				
WATTS	ANSI	HUB SIZE[Ⓛ]	VOLTAGE[Ⓛ]	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	ENCLOSED REFLECTOR	
50	S68	Ⓛ	Quad	VM3S050EZGLG	VM3S050EZR1G	VM3S050EZR5G	VM4S050EZGLG	VM4S050EZR1G	VM4S050EZR5G	VM4S050EZERN	
				Quad	VM3S070EZGLG	VM3S070EZR1G	VM3S070EZR5G	VM4S070EZGLG	VM4S070EZR1G	VM4S070EZR5G	VM4S070EZERN
70	S62	Ⓛ	Tri	VM3S076EZGLG	VM3S076EZR1G	VM3S076EZR5G	VM4S076EZGLG	VM4S076EZR1G	VM4S076EZR5G	VM4S076EZERN	
				480	VM3S075EZGLG	VM3S075EZR1G	VM3S075EZR5G	VM4S075EZGLG	VM4S075EZR1G	VM4S075EZR5G	VM4S075EZERN
				Quad	VM3S100EZGLG	VM3S100EZR1G	VM3S100EZR5G	VM4S100EZGLG	VM4S100EZR1G	VM4S100EZR5G	VM4S100EZERN
100	S54	Ⓛ	Tri	VM3S106EZGLG	VM3S106EZR1G	VM3S106EZR5G	VM4S106EZGLG	VM4S106EZR1G	VM4S106EZR5G	VM4S106EZERN	
				480	VM3S105EZGLG	VM3S105EZR1G	VM3S105EZR5G	VM4S105EZGLG	VM4S105EZR1G	VM4S105EZR5G	VM4S105EZERN
				Quad	VM3S150EZGLG	VM3S150EZR1G	VM3S150EZR5G	VM4S150EZGLG	VM4S150EZR1G	VM4S150EZR5G	VM4S150EZERN
150	S55	Ⓛ	Tri	VM3S156EZGLG	VM3S156EZR1G	VM3S156EZR5G	VM4S156EZGLG	VM4S156EZR1G	VM4S156EZR5G	VM4S156EZERN	
				480	VM3S155EZGLG	VM3S155EZR1G	VM3S155EZR5G	VM4S155EZGLG	VM4S155EZR1G	VM4S155EZR5G	VM4S155EZERN

[Ⓛ] See hazardous application data on pages L108-L111 for limitations.

[Ⓛ] Catalog numbers shown are with guard (except enclosed reflector); to omit guard change ending G to N; e.g. VM3S050C2GLN

[Ⓛ] Cone top catalog numbers shown are with 3/4" conduit openings, change 2 to 3 for 1"; e.g. VM3S050C3GLG.

[Ⓛ] Consult catalog logic for other available voltages.

[Ⓛ] Add suffix NR for restricted breathing; see page L54 for more information.

[Ⓛ] VMEZA tank adapters UL "classified" as an assembly for use between VM tanks and EZ mounts. Order EZ mounts separately. See page L83.





Stanchion 25°
w/ 5-1/2"
Globe & Guard



Stanchion Straight
w/ 5-1/2"
Refractor & Guard



Stanchion 25°
w/ 7-3/4"
Globe & Guard



Stanchion Straight
w/ 7-3/4"
Refractor & Guard



Stanchion 25°
w/ Enclosed Reflector

Class I, Div. 2, Groups A,B,C,D[Ⓢ]
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III

Suitable for wet locations
NEMA 3, 4, 4X; IP66

cULus Listed - File E10514 (Hazardous & Marine)

Certified - File LR11713

NR Restricted Breathing Option[Ⓢ]

Class I, Zone 2 AEx nAnR

Class I, Zone 2 Ex nR

VM 50-150 WATT HIGH PRESSURE SODIUM STANCHION 25° ANGLE											
DESCRIPTION				5-1/2" OPTIC THREAD SIZE [Ⓢ]			7-3/4" OPTIC THREAD SIZE [Ⓢ]				
WATTS	ANSI	HUB SIZE [Ⓢ]	VOLTAGE [Ⓢ]	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	ENCLOSED REFLECTOR	
50	S68	1-1/2"	Quad	VM3S050D5GLG	VM3S050D5R1G	VM3S050D5R5G	VM4S050D5GLG	VM4S050D5R1G	VM4S050D5R5G	VM4S050D5ERN	
			Tri	VM3S070D5GLG	VM3S070D5R1G	VM3S070D5R5G	VM4S070D5GLG	VM4S070D5R1G	VM4S070D5R5G	VM4S070D5ERN	
70	S62	1-1/2"	480	VM3S076D5GLG	VM3S076D5R1G	VM3S076D5R5G	VM4S076D5GLG	VM4S076D5R1G	VM4S076D5R5G	VM4S076D5ERN	
			Tri	VM3S075D5GLG	VM3S075D5R1G	VM3S075D5R5G	VM4S075D5GLG	VM4S075D5R1G	VM4S075D5R5G	VM4S075D5ERN	
			Quad	VM3S100D5GLG	VM3S100D5R1G	VM3S100D5R5G	VM4S100D5GLG	VM4S100D5R1G	VM4S100D5R5G	VM4S100D5ERN	
100	S54	1-1/2"	480	VM3S106D5GLG	VM3S106D5R1G	VM3S106D5R5G	VM4S106D5GLG	VM4S106D5R1G	VM4S106D5R5G	VM4S106D5ERN	
			Tri	VM3S105D5GLG	VM3S105D5R1G	VM3S105D5R5G	VM4S105D5GLG	VM4S105D5R1G	VM4S105D5R5G	VM4S105D5ERN	
			Quad	VM3S150D5GLG	VM3S150D5R1G	VM3S150D5R5G	VM4S150D5GLG	VM4S150D5R1G	VM4S150D5R5G	VM4S150D5ERN	
150	S55	1-1/2"	480	VM3S156D5GLG	VM3S156D5R1G	VM3S156D5R5G	VM4S156D5GLG	VM4S156D5R1G	VM4S156D5R5G	VM4S156D5ERN	
			Tri	VM3S155D5GLG	VM3S155D5R1G	VM3S155D5R5G	VM4S155D5GLG	VM4S155D5R1G	VM4S155D5R5G	VM4S155D5ERN	
			Quad	VM3S155D5GLG	VM3S155D5R1G	VM3S155D5R5G	VM4S155D5GLG	VM4S155D5R1G	VM4S155D5R5G	VM4S155D5ERN	

VM 50-150 WATT HIGH PRESSURE SODIUM STANCHION STRAIGHT											
DESCRIPTION				5-1/2" OPTIC THREAD SIZE [Ⓢ]			7-3/4" OPTIC THREAD SIZE [Ⓢ]				
WATTS	ANSI	HUB SIZE [Ⓢ]	VOLTAGE [Ⓢ]	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	ENCLOSED REFLECTOR	
50	S68	1-1/2"	Quad	VM3S050S5GLG	VM3S050S5R1G	VM3S050S5R5G	VM4S050S5GLG	VM4S050S5R1G	VM4S050S5R5G	VM4S050S5ERN	
			Tri	VM3S070S5GLG	VM3S070S5R1G	VM3S070S5R5G	VM4S070S5GLG	VM4S070S5R1G	VM4S070S5R5G	VM4S070S5ERN	
70	S62	1-1/2"	480	VM3S076S5GLG	VM3S076S5R1G	VM3S076S5R5G	VM4S076S5GLG	VM4S076S5R1G	VM4S076S5R5G	VM4S076S5ERN	
			Tri	VM3S075S5GLG	VM3S075S5R1G	VM3S075S5R5G	VM4S075S5GLG	VM4S075S5R1G	VM4S075S5R5G	VM4S075S5ERN	
			Quad	VM3S100S5GLG	VM3S100S5R1G	VM3S100S5R5G	VM4S100S5GLG	VM4S100S5R1G	VM4S100S5R5G	VM4S100S5ERN	
100	S54	1-1/2"	480	VM3S106S5GLG	VM3S106S5R1G	VM3S106S5R5G	VM4S106S5GLG	VM4S106S5R1G	VM4S106S5R5G	VM4S106S5ERN	
			Tri	VM3S105S5GLG	VM3S105S5R1G	VM3S105S5R5G	VM4S105S5GLG	VM4S105S5R1G	VM4S105S5R5G	VM4S105S5ERN	
			Quad	VM3S150S5GLG	VM3S150S5R1G	VM3S150S5R5G	VM4S150S5GLG	VM4S150S5R1G	VM4S150S5R5G	VM4S150S5ERN	
150	S55	1-1/2"	480	VM3S156S5GLG	VM3S156S5R1G	VM3S156S5R5G	VM4S156S5GLG	VM4S156S5R1G	VM4S156S5R5G	VM4S156S5ERN	
			Tri	VM3S155S5GLG	VM3S155S5R1G	VM3S155S5R5G	VM4S155S5GLG	VM4S155S5R1G	VM4S155S5R5G	VM4S155S5ERN	
			Quad	VM3S155S5GLG	VM3S155S5R1G	VM3S155S5R5G	VM4S155S5GLG	VM4S155S5R1G	VM4S155S5R5G	VM4S155S5ERN	

[Ⓢ] See hazardous application data on pages L108-L111 for limitations.

[Ⓢ] Catalog numbers shown are with guard (except enclosed reflector); to omit guard change ending G to N; e.g. VM3S050D5GLN

[Ⓢ] Catalog numbers shown are with 1-1/2" conduit openings, change 5 to 4 for 1-1/4"; e.g. VM3S050D4GLG.

[Ⓢ] Consult catalog logic for other available voltages.

[Ⓢ] Add suffix NR for restricted breathing; see page L54 for more information.





**Pendant
w/ 5-1/2"
Globe & Guard**



**Flexible Pendant
w/ 5-1/2"
Refractor & Guard**



**Pendant
w/ 7-3/4"
Globe & Guard**



**Flexible Pendant
w/ 7-3/4"
Refractor & Guard**



**Pendant
w/ Enclosed Reflector**

Class I, Div. 2, Groups A,B,C,D
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III

Suitable for wet locations

NEMA 3, 4, 4X; IP66

UL Listed - File E10514 (Hazardous & Marine)

SB Certified - File LR11713

NR Restricted Breathing Option

Class I, Zone 2 AEx nAnR

Class I, Zone 2 Ex nR

VM 70-250 WATT METAL HALIDE PENDANT											
DESCRIPTION				5-1/2" OPTIC THREAD SIZE			7-3/4" OPTIC THREAD SIZE				
WATTS	ANSI	HUB SIZE	VOLTAGE	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	ENCLOSED REFLECTOR	
70	M98 M143	3/4"	Quad	VM3H070A2GLG	VM3H070A2R1G	VM3H070A2R5G	VM4H070A2GLG	VM4H070A2R1G	VM4H070A2R5G	VM4H070A2ERN	
			Tri	VM3H076A2GLG	VM3H076A2R1G	VM3H076A2R5G	VM4H076A2GLG	VM4H076A2R1G	VM4H076A2R5G	VM4H076A2ERN	
			480	VM3H075A2GLG	VM3H075A2R1G	VM3H075A2R5G	VM4H075A2GLG	VM4H075A2R1G	VM4H075A2R5G	VM4H075A2ERN	
100	M90 M140	3/4"	Quad	VM3H100A2GLG	VM3H100A2R1G	VM3H100A2R5G	VM4H100A2GLG	VM4H100A2R1G	VM4H100A2R5G	VM4H100A2ERN	
			Tri	VM3H106A2GLG	VM3H106A2R1G	VM3H106A2R5G	VM4H106A2GLG	VM4H106A2R1G	VM4H106A2R5G	VM4H106A2ERN	
			480	VM3H105A2GLG	VM3H105A2R1G	VM3H105A2R5G	VM4H105A2GLG	VM4H105A2R1G	VM4H105A2R5G	VM4H105A2ERN	
175 Ⓢ	M57	3/4"	Quad	VM3H170A2GLG	VM3H170A2R1G	VM3H170A2R5G	VM4H170A2GLG	VM4H170A2R1G	VM4H170A2R5G	VM4H170A2ERN	
			Tri	VM3H176A2GLG	VM3H176A2R1G	VM3H176A2R5G	VM4H176A2GLG	VM4H176A2R1G	VM4H176A2R5G	VM4H176A2ERN	
			480	VM3H175A2GLG	VM3H175A2R1G	VM3H175A2R5G	VM4H175A2GLG	VM4H175A2R1G	VM4H175A2R5G	VM4H175A2ERN	
250 Ⓢ	M58	3/4"	Quad	VM3H250A2GLG	VM3H250A2R1G	VM3H250A2R5G	VM4H250A2GLG	VM4H250A2R1G	VM4H250A2R5G	VM4H250A2ERN	
			Tri	VM3H256A2GLG	VM3H256A2R1G	VM3H256A2R5G	VM4H256A2GLG	VM4H256A2R1G	VM4H256A2R5G	VM4H256A2ERN	
			480	VM3H255A2GLG	VM3H255A2R1G	VM3H255A2R5G	VM4H255A2GLG	VM4H255A2R1G	VM4H255A2R5G	VM4H255A2ERN	

VM 70-250 WATT METAL HALIDE FLEXIBLE PENDANT											
DESCRIPTION				5-1/2" OPTIC THREAD SIZE			7-3/4" OPTIC THREAD SIZE				
WATTS	ANSI	HUB SIZE	VOLTAGE	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	ENCLOSED REFLECTOR	
70	M98 M143	3/4"	Quad	VM3H070F2GLG	VM3H070F2R1G	VM3H070F2R5G	VM4H070F2GLG	VM4H070F2R1G	VM4H070F2R5G	VM4H070F2ERN	
			Tri	VM3H076F2GLG	VM3H076F2R1G	VM3H076F2R5G	VM4H076F2GLG	VM4H076F2R1G	VM4H076F2R5G	VM4H076F2ERN	
			480	VM3H075F2GLG	VM3H075F2R1G	VM3H075F2R5G	VM4H075F2GLG	VM4H075F2R1G	VM4H075F2R5G	VM4H075F2ERN	
100	M90 M140	3/4"	Quad	VM3H100F2GLG	VM3H100F2R1G	VM3H100F2R5G	VM4H100F2GLG	VM4H100F2R1G	VM4H100F2R5G	VM4H100F2ERN	
			Tri	VM3H106F2GLG	VM3H106F2R1G	VM3H106F2R5G	VM4H106F2GLG	VM4H106F2R1G	VM4H106F2R5G	VM4H106F2ERN	
			480	VM3H105F2GLG	VM3H105F2R1G	VM3H105F2R5G	VM4H105F2GLG	VM4H105F2R1G	VM4H105F2R5G	VM4H105F2ERN	
175 Ⓢ	M57	3/4"	Quad	VM3H170F2GLG	VM3H170F2R1G	VM3H170F2R5G	VM4H170F2GLG	VM4H170F2R1G	VM4H170F2R5G	VM4H170F2ERN	
			Tri	VM3H176F2GLG	VM3H176F2R1G	VM3H176F2R5G	VM4H176F2GLG	VM4H176F2R1G	VM4H176F2R5G	VM4H176F2ERN	
			480	VM3H175F2GLG	VM3H175F2R1G	VM3H175F2R5G	VM4H175F2GLG	VM4H175F2R1G	VM4H175F2R5G	VM4H175F2ERN	
250 Ⓢ	M58	3/4"	Quad	VM3H250F2GLG	VM3H250F2R1G	VM3H250F2R5G	VM4H250F2GLG	VM4H250F2R1G	VM4H250F2R5G	VM4H250F2ERN	
			Tri	VM3H256F2GLG	VM3H256F2R1G	VM3H256F2R5G	VM4H256F2GLG	VM4H256F2R1G	VM4H256F2R5G	VM4H256F2ERN	
			480	VM3H255F2GLG	VM3H255F2R1G	VM3H255F2R5G	VM4H255F2GLG	VM4H255F2R1G	VM4H255F2R5G	VM4H255F2ERN	

Ⓢ See hazardous application data on pages L108-L111 for limitations.

Ⓢ Catalog numbers shown are with guard (except enclosed reflector); to omit guard change ending G to N; e.g. VM3H070A2GLN

Ⓢ Catalog numbers shown are with 3/4" conduit openings, change 2 to 3 for 1"; e.g. VM3H070A3GLG.

Ⓢ Consult catalog logic for other available voltages.

Ⓢ Add suffix NR for restricted breathing; see page L54 for more information.

Ⓢ 175W M57 & 250W M58 Fixtures are EXPORT ONLY (EISA LAW).





Ceiling w/ 5-1/2" Globe & Guard



Wall w/ 5-1/2" Refractor & Guard



Ceiling w/ 7-3/4" Globe & Guard



Wall w/ 7-3/4" Refractor & Guard



Ceiling w/ Enclosed Reflector

Class I, Div. 2, Groups A,B,C,D[Ⓛ]
 Class I, Zone 2, Groups IIC, IIB, IIA
 Class II, Div. 1 & 2, Groups E,F,G
 Class III

Suitable for wet locations
 NEMA 3, 4, 4X; IP66

UL Listed - File E10514 (Hazardous & Marine)

Certified - File LR11713

NR Restricted Breathing Option[Ⓛ]
 Class I, Zone 2 AEx nAnR
 Class I, Zone 2 Ex nR

VM 70-250 WATT METAL HALIDE CEILING										
DESCRIPTION				5-1/2" OPTIC THREAD SIZE [Ⓛ]			7-3/4" OPTIC THREAD SIZE [Ⓛ]			
WATTS	ANSI	HUB SIZE [Ⓛ]	VOLTAGE [Ⓛ]	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	ENCLOSED REFLECTOR
70	M98 M143	3/4"	Quad	VM3H070X2GLG	VM3H070X2R1G	VM3H070X2R5G	VM4H070X2GLG	VM4H070X2R1G	VM4H070X2R5G	VM4H070X2ERN
			Tri	VM3H076X2GLG	VM3H076X2R1G	VM3H076X2R5G	VM4H076X2GLG	VM4H076X2R1G	VM4H076X2R5G	VM4H076X2ERN
			480	VM3H075X2GLG	VM3H075X2R1G	VM3H075X2R5G	VM4H075X2GLG	VM4H075X2R1G	VM4H075X2R5G	VM4H075X2ERN
100	M90 M140	3/4"	Quad	VM3H100X2GLG	VM3H100X2R1G	VM3H100X2R5G	VM4H100X2GLG	VM4H100X2R1G	VM4H100X2R5G	VM4H100X2ERN
			Tri	VM3H106X2GLG	VM3H106X2R1G	VM3H106X2R5G	VM4H106X2GLG	VM4H106X2R1G	VM4H106X2R5G	VM4H106X2ERN
			480	VM3H105X2GLG	VM3H105X2R1G	VM3H105X2R5G	VM4H105X2GLG	VM4H105X2R1G	VM4H105X2R5G	VM4H105X2ERN
175 [Ⓛ]	M57	3/4"	Quad	VM3H170X2GLG	VM3H170X2R1G	VM3H170X2R5G	VM4H170X2GLG	VM4H170X2R1G	VM4H170X2R5G	VM4H170X2ERN
			Tri	VM3H176X2GLG	VM3H176X2R1G	VM3H176X2R5G	VM4H176X2GLG	VM4H176X2R1G	VM4H176X2R5G	VM4H176X2ERN
			480	VM3H175X2GLG	VM3H175X2R1G	VM3H175X2R5G	VM4H175X2GLG	VM4H175X2R1G	VM4H175X2R5G	VM4H175X2ERN
250 [Ⓛ]	M58	3/4"	Quad	VM3H250X2GLG	VM3H250X2R1G	VM3H250X2R5G	VM4H250X2GLG	VM4H250X2R1G	VM4H250X2R5G	VM4H250X2ERN
			Tri	VM3H256X2GLG	VM3H256X2R1G	VM3H256X2R5G	VM4H256X2GLG	VM4H256X2R1G	VM4H256X2R5G	VM4H256X2ERN
			480	VM3H255X2GLG	VM3H255X2R1G	VM3H255X2R5G	VM4H255X2GLG	VM4H255X2R1G	VM4H255X2R5G	VM4H255X2ERN

VM 70-250 WATT METAL HALIDE WALL										
DESCRIPTION				5-1/2" OPTIC THREAD SIZE [Ⓛ]			7-3/4" OPTIC THREAD SIZE [Ⓛ]			
WATTS	ANSI	HUB SIZE [Ⓛ]	VOLTAGE [Ⓛ]	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	ENCLOSED REFLECTOR
70	M98 M143	3/4"	Quad	VM3H070B2GLG	VM3H070B2R1G	VM3H070B2R5G	VM4H070B2GLG	VM4H070B2R1G	VM4H070B2R5G	VM4H070B2ERN
			Tri	VM3H076B2GLG	VM3H076B2R1G	VM3H076B2R5G	VM4H076B2GLG	VM4H076B2R1G	VM4H076B2R5G	VM4H076B2ERN
			480	VM3H075B2GLG	VM3H075B2R1G	VM3H075B2R5G	VM4H075B2GLG	VM4H075B2R1G	VM4H075B2R5G	VM4H075B2ERN
100	M90 M140	3/4"	Quad	VM3H100B2GLG	VM3H100B2R1G	VM3H100B2R5G	VM4H100B2GLG	VM4H100B2R1G	VM4H100B2R5G	VM4H100B2ERN
			Tri	VM3H106B2GLG	VM3H106B2R1G	VM3H106B2R5G	VM4H106B2GLG	VM4H106B2R1G	VM4H106B2R5G	VM4H106B2ERN
			480	VM3H105B2GLG	VM3H105B2R1G	VM3H105B2R5G	VM4H105B2GLG	VM4H105B2R1G	VM4H105B2R5G	VM4H105B2ERN
175 [Ⓛ]	M57	3/4"	Quad	VM3H170B2GLG	VM3H170B2R1G	VM3H170B2R5G	VM4H170B2GLG	VM4H170B2R1G	VM4H170B2R5G	VM4H170B2ERN
			Tri	VM3H176B2GLG	VM3H176B2R1G	VM3H176B2R5G	VM4H176B2GLG	VM4H176B2R1G	VM4H176B2R5G	VM4H176B2ERN
			480	VM3H175B2GLG	VM3H175B2R1G	VM3H175B2R5G	VM4H175B2GLG	VM4H175B2R1G	VM4H175B2R5G	VM4H175B2ERN
250 [Ⓛ]	M58	3/4"	Quad	VM3H250B2GLG	VM3H250B2R1G	VM3H250B2R5G	VM4H250B2GLG	VM4H250B2R1G	VM4H250B2R5G	VM4H250B2ERN
			Tri	VM3H256B2GLG	VM3H256B2R1G	VM3H256B2R5G	VM4H256B2GLG	VM4H256B2R1G	VM4H256B2R5G	VM4H256B2ERN
			480	VM3H255B2GLG	VM3H255B2R1G	VM3H255B2R5G	VM4H255B2GLG	VM4H255B2R1G	VM4H255B2R5G	VM4H255B2ERN

[Ⓛ] See hazardous application data on pages L108-L111 for limitations.

[Ⓛ] Catalog numbers shown are with guard (except enclosed reflector); to omit guard change ending G to N; e.g. VM3H070X2GLN

[Ⓛ] Catalog numbers shown are with 3/4" conduit openings, change 2 to 3 for 1"; e.g. VM3H070X3GLG.

[Ⓛ] Consult catalog logic for other available voltages.

[Ⓛ] Add suffix NR for restricted breathing; see page L54 for more information.

[Ⓛ] 175W M57 & 250W M58 Fixtures are EXPORT ONLY (EISA LAW).





**Cone
w/ 5-1/2"
Globe & Guard**



**EZ Adapter
w/ 5-1/2"
Refractor & Guard**



**Cone
w/ 7-3/4"
Globe & Guard**



**EZ Adapter
w/ 7-3/4"
Refractor & Guard**



**Cone
w/ Enclosed Reflector**

Class I, Div. 2, Groups A,B,C,D[Ⓢ]
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
Suitable for wet locations
NEMA 3, 4, 4X; IP66

US Listed - File E10514 (Hazardous & Marine)

Certified - File LR11713

NR Restricted Breathing Option[Ⓢ]
Class I, Zone 2 AEx nAnR
Class I, Zone 2 Ex nR

VM 70-250 WATT METAL HALIDE CONE										
DESCRIPTION				5-1/2" OPTIC THREAD SIZE [Ⓢ]			7-3/4" OPTIC THREAD SIZE [Ⓢ]			
WATTS	ANSI	HUB SIZE [Ⓢ]	VOLTAGE [Ⓢ]	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	ENCLOSED REFLECTOR
70	M98 M143	3/4"	Quad	VM3H070C2GLG	VM3H070C2R1G	VM3H070C2R5G	VM4H070C2GLG	VM4H070C2R1G	VM4H070C2R5G	VM4H070C2ERN
			Tri	VM3H076C2GLG	VM3H076C2R1G	VM3H076C2R5G	VM4H076C2GLG	VM4H076C2R1G	VM4H076C2R5G	VM4H076C2ERN
			480	VM3H075C2GLG	VM3H075C2R1G	VM3H075C2R5G	VM4H075C2GLG	VM4H075C2R1G	VM4H075C2R5G	VM4H075C2ERN
100	M90 M140	3/4"	Quad	VM3H100C2GLG	VM3H100C2R1G	VM3H100C2R5G	VM4H100C2GLG	VM4H100C2R1G	VM4H100C2R5G	VM4H100C2ERN
			Tri	VM3H106C2GLG	VM3H106C2R1G	VM3H106C2R5G	VM4H106C2GLG	VM4H106C2R1G	VM4H106C2R5G	VM4H106C2ERN
			480	VM3H105C2GLG	VM3H105C2R1G	VM3H105C2R5G	VM4H105C2GLG	VM4H105C2R1G	VM4H105C2R5G	VM4H105C2ERN
175 Ⓢ	M57	3/4"	Quad	VM3H170C2GLG	VM3H170C2R1G	VM3H170C2R5G	VM4H170C2GLG	VM4H170C2R1G	VM4H170C2R5G	VM4H170C2ERN
			Tri	VM3H176C2GLG	VM3H176C2R1G	VM3H176C2R5G	VM4H176C2GLG	VM4H176C2R1G	VM4H176C2R5G	VM4H176C2ERN
			480	VM3H175C2GLG	VM3H175C2R1G	VM3H175C2R5G	VM4H175C2GLG	VM4H175C2R1G	VM4H175C2R5G	VM4H175C2ERN
250 Ⓢ	M58	3/4"	Quad	VM3H250C2GLG	VM3H250C2R1G	VM3H250C2R5G	VM4H250C2GLG	VM4H250C2R1G	VM4H250C2R5G	VM4H250C2ERN
			Tri	VM3H256C2GLG	VM3H256C2R1G	VM3H256C2R5G	VM4H256C2GLG	VM4H256C2R1G	VM4H256C2R5G	VM4H256C2ERN
			480	VM3H255C2GLG	VM3H255C2R1G	VM3H255C2R5G	VM4H255C2GLG	VM4H255C2R1G	VM4H255C2R5G	VM4H255C2ERN

VM 70-250 WATT METAL HALIDE EZ ADAPTER										
DESCRIPTION				5-1/2" OPTIC THREAD SIZE [Ⓢ]			7-3/4" OPTIC THREAD SIZE [Ⓢ]			
WATTS	ANSI	HUB SIZE [Ⓢ]	VOLTAGE [Ⓢ]	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	ENCLOSED REFLECTOR
70	M98 M143	Ⓢ	Quad	VM3H070EZGLG	VM3H070EZR1G	VM3H070EZR5G	VM4H070EZGLG	VM4H070EZR1G	VM4H070EZR5G	VM4H070EZERN
			Tri	VM3H076EZGLG	VM3H076EZR1G	VM3H076EZR5G	VM4H076EZGLG	VM4H076EZR1G	VM4H076EZR5G	VM4H076EZERN
			480	VM3H075EZGLG	VM3H075EZR1G	VM3H075EZR5G	VM4H075EZGLG	VM4H075EZR1G	VM4H075EZR5G	VM4H075EZERN
100	M90 M140	Ⓢ	Quad	VM3H100EZGLG	VM3H100EZR1G	VM3H100EZR5G	VM4H100EZGLG	VM4H100EZR1G	VM4H100EZR5G	VM4H100EZERN
			Tri	VM3H106EZGLG	VM3H106EZR1G	VM3H106EZR5G	VM4H106EZGLG	VM4H106EZR1G	VM4H106EZR5G	VM4H106EZERN
			480	VM3H105EZGLG	VM3H105EZR1G	VM3H105EZR5G	VM4H105EZGLG	VM4H105EZR1G	VM4H105EZR5G	VM4H105EZERN
175 Ⓢ	M57	Ⓢ	Quad	VM3H170EZGLG	VM3H170EZR1G	VM3H170EZR5G	VM4H170EZGLG	VM4H170EZR1G	VM4H170EZR5G	VM4H170EZERN
			Tri	VM3H176EZGLG	VM3H176EZR1G	VM3H176EZR5G	VM4H176EZGLG	VM4H176EZR1G	VM4H176EZR5G	VM4H176EZERN
			480	VM3H175EZGLG	VM3H175EZR1G	VM3H175EZR5G	VM4H175EZGLG	VM4H175EZR1G	VM4H175EZR5G	VM4H175EZERN
250 Ⓢ	M58	Ⓢ	Quad	VM3H250EZGLG	VM3H250EZR1G	VM3H250EZR5G	VM4H250EZGLG	VM4H250EZR1G	VM4H250EZR5G	VM4H250EZERN
			Tri	VM3H256EZGLG	VM3H256EZR1G	VM3H256EZR5G	VM4H256EZGLG	VM4H256EZR1G	VM4H256EZR5G	VM4H256EZERN
			480	VM3H255EZGLG	VM3H255EZR1G	VM3H255EZR5G	VM4H255EZGLG	VM4H255EZR1G	VM4H255EZR5G	VM4H255EZERN

[Ⓢ] See hazardous application data on pages L108-L111 for limitations.

[Ⓢ] Catalog numbers shown are with guard (except enclosed reflector); to omit guard change ending G to N; e.g. VM3H070C2GLN

[Ⓢ] Catalog numbers shown are with 3/4" conduit openings, change 2 to 3 for 1"; e.g. VM3H070C3GLG.

[Ⓢ] Consult catalog logic for other available voltages.

[Ⓢ] Add suffix NR for restricted breathing; see page L54 for more information.

[Ⓢ] 175W M57 & 250W M58 Fixtures are EXPORT ONLY (EISA LAW).

[Ⓢ] VMEZA tank adapters UL "classified" as an assembly for use between VM tanks and EZ mounts. Order EZ mounts separately. See page L83.



KILLARK®



Stanchion 25°
w/ 5-1/2"
Globe & Guard



Stanchion Straight
w/ 5-1/2"
Refractor & Guard



Stanchion 25°
w/ Enclosed Reflector



Stanchion 25°
w/ 7-3/4"
Globe & Guard



Stanchion Straight
w/ 7-3/4"
Refractor & Guard

Class I, Div. 2, Groups A,B,C,D[Ⓛ]
 Class I, Zone 2, Groups IIC, IIB, IIA
 Class II, Div. 1 & 2, Groups E,F,G
 Class III

Suitable for wet locations
 NEMA 3, 4, 4X; IP66

us Listed - File E10514 (Hazardous & Marine)

Certified - File LR11713

NR Restricted Breathing Option[Ⓛ]
 Class I, Zone 2 AEx nAnR
 Class I, Zone 2 Ex nR

VM 70-250 WATT METAL HALIDE STANCHION 25° ANGLE										
DESCRIPTION				5-1/2" OPTIC THREAD SIZE [Ⓛ]			7-3/4" OPTIC THREAD SIZE [Ⓛ]			
WATTS	ANSI	HUB SIZE [Ⓛ]	VOLTAGE [Ⓛ]	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	ENCLOSED REFLECTOR
70	M98 M143	1-1/2"	Quad	VM3H070D5GLG	VM3H070D5R1G	VM3H070D5R5G	VM4H070D5GLG	VM4H070D5R1G	VM4H070D5R5G	VM4H070D5ERN
			Tri	VM3H076D5GLG	VM3H076D5R1G	VM3H076D5R5G	VM4H076D5GLG	VM4H076D5R1G	VM4H076D5R5G	VM4H076D5ERN
			480	VM3H075D5GLG	VM3H075D5R1G	VM3H075D5R5G	VM4H075D5GLG	VM4H075D5R1G	VM4H075D5R5G	VM4H075D5ERN
100	M90 M140	1-1/2"	Quad	VM3H100D5GLG	VM3H100D5R1G	VM3H100D5R5G	VM4H100D5GLG	VM4H100D5R1G	VM4H100D5R5G	VM4H100D5ERN
			Tri	VM3H106D5GLG	VM3H106D5R1G	VM3H106D5R5G	VM4H106D5GLG	VM4H106D5R1G	VM4H106D5R5G	VM4H106D5ERN
			480	VM3H105D5GLG	VM3H105D5R1G	VM3H105D5R5G	VM4H105D5GLG	VM4H105D5R1G	VM4H105D5R5G	VM4H105D5ERN
175 [Ⓛ]	M57	1-1/2"	Quad	VM3H170D5GLG	VM3H170D5R1G	VM3H170D5R5G	VM4H170D5GLG	VM4H170D5R1G	VM4H170D5R5G	VM4H170D5ERN
			Tri	VM3H176D5GLG	VM3H176D5R1G	VM3H176D5R5G	VM4H176D5GLG	VM4H176D5R1G	VM4H176D5R5G	VM4H176D5ERN
			480	VM3H175D5GLG	VM3H175D5R1G	VM3H175D5R5G	VM4H175D5GLG	VM4H175D5R1G	VM4H175D5R5G	VM4H175D5ERN
250 [Ⓛ]	M58	1-1/2"	Quad	VM3H250D5GLG	VM3H250D5R1G	VM3H250D5R5G	VM4H250D5GLG	VM4H250D5R1G	VM4H250D5R5G	VM4H250D5ERN
			Tri	VM3H256D5GLG	VM3H256D5R1G	VM3H256D5R5G	VM4H256D5GLG	VM4H256D5R1G	VM4H256D5R5G	VM4H256D5ERN
			480	VM3H255D5GLG	VM3H255D5R1G	VM3H255D5R5G	VM4H255D5GLG	VM4H255D5R1G	VM4H255D5R5G	VM4H255D5ERN

VM 70-250 WATT METAL HALIDE STANCHION STRAIGHT										
DESCRIPTION				5-1/2" OPTIC THREAD SIZE [Ⓛ]			7-3/4" OPTIC THREAD SIZE [Ⓛ]			
WATTS	ANSI	HUB SIZE [Ⓛ]	VOLTAGE [Ⓛ]	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	ENCLOSED REFLECTOR
70	M98 M143	1-1/2"	Quad	VM3H070S5GLG	VM3H070S5R1G	VM3H070S5R5G	VM4H070S5GLG	VM4H070S5R1G	VM4H070S5R5G	VM4H070S5ERN
			Tri	VM3H076S5GLG	VM3H076S5R1G	VM3H076S5R5G	VM4H076S5GLG	VM4H076S5R1G	VM4H076S5R5G	VM4H076S5ERN
			480	VM3H075S5GLG	VM3H075S5R1G	VM3H075S5R5G	VM4H075S5GLG	VM4H075S5R1G	VM4H075S5R5G	VM4H075S5ERN
100	M90 M140	1-1/2"	Quad	VM3H100S5GLG	VM3H100S5R1G	VM3H100S5R5G	VM4H100S5GLG	VM4H100S5R1G	VM4H100S5R5G	VM4H100S5ERN
			Tri	VM3H106S5GLG	VM3H106S5R1G	VM3H106S5R5G	VM4H106S5GLG	VM4H106S5R1G	VM4H106S5R5G	VM4H106S5ERN
			480	VM3H105S5GLG	VM3H105S5R1G	VM3H105S5R5G	VM4H105S5GLG	VM4H105S5R1G	VM4H105S5R5G	VM4H105S5ERN
175 [Ⓛ]	M57	1-1/2"	Quad	VM3H170S5GLG	VM3H170S5R1G	VM3H170S5R5G	VM4H170S5GLG	VM4H170S5R1G	VM4H170S5R5G	VM4H170S5ERN
			Tri	VM3H176S5GLG	VM3H176S5R1G	VM3H176S5R5G	VM4H176S5GLG	VM4H176S5R1G	VM4H176S5R5G	VM4H176S5ERN
			480	VM3H175S5GLG	VM3H175S5R1G	VM3H175S5R5G	VM4H175S5GLG	VM4H175S5R1G	VM4H175S5R5G	VM4H175S5ERN
250 [Ⓛ]	M58	1-1/2"	Quad	VM3H250S5GLG	VM3H250S5R1G	VM3H250S5R5G	VM4H250S5GLG	VM4H250S5R1G	VM4H250S5R5G	VM4H250S5ERN
			Tri	VM3H256S5GLG	VM3H256S5R1G	VM3H256S5R5G	VM4H256S5GLG	VM4H256S5R1G	VM4H256S5R5G	VM4H256S5ERN
			480	VM3H255S5GLG	VM3H255S5R1G	VM3H255S5R5G	VM4H255S5GLG	VM4H255S5R1G	VM4H255S5R5G	VM4H255S5ERN

[Ⓛ] See hazardous application data on pages L108-L111 for limitations.

[Ⓛ] Catalog numbers shown are with guard (except enclosed reflector); to omit guard change ending G to N; e.g. VM3H070D5GLN

[Ⓛ] Catalog numbers shown are with 3/4" conduit openings, change 5 to 4 for 1-1/4"; e.g. VM3H070D4GLG.

[Ⓛ] Consult catalog logic for other available voltages.

[Ⓛ] Add suffix NR for restricted breathing; see page L54 for more information.

[Ⓛ] 175W M57 & 250W M58 Fixtures are EXPORT ONLY (EISA LAW).





**Pendant
w/ 5-1/2"
Globe & Guard**



**Flexible Pendant
w/ 5-1/2"
Refractor & Guard**



**Pendant
w/ 7-3/4"
Globe & Guard**



**Flexible Pendant
w/ 7-3/4"
Refractor & Guard**



**Pendant
w/ Enclosed Reflector**

Class I, Div. 2, Groups A,B,C,D
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III

Suitable for wet locations
NEMA 3, 4, 4X; IP66

UL Listed - File E10514 (Hazardous & Marine)

SF Certified - File LR11713

NR Restricted Breathing Option
Class I, Zone 2 AEx nAnR **UL**
Class I, Zone 2 Ex nR **SF**

VM 150-200 WATT METAL HALIDE PULSE PENDANT											
DESCRIPTION				5-1/2" OPTIC THREAD SIZE			7-3/4" OPTIC THREAD SIZE				
WATTS	ANSI	HUB SIZE	VOLTAGE	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	ENCLOSED REFLECTOR	
150	M102 M142	3/4"	Quad	VM3P150A2GLG	VM3P150A2R1G	VM3P150A2R5G	VM4P150A2GLG	VM4P150A2R1G	VM4P150A2R5G	VM4P156A2ERN	
			Tri	VM3P156A2GLG	VM3P156A2R1G	VM3P156A2R5G	VM4P156A2GLG	VM4P156A2R1G	VM4P156A2R5G	VM4P155A2ERN	
			480	VM3P155A2GLG	VM3P155A2R1G	VM3P155A2R5G	VM4P155A2GLG	VM4P155A2R1G	VM4P155A2R5G	VM4P170A2ERN	
175	M137 M152	3/4"	Quad	VM3P170A2GLG	VM3P170A2R1G	VM3P170A2R5G	VM4P170A2GLG	VM4P170A2R1G	VM4P170A2R5G	VM4P170A2ERN	
			Tri	VM3P176A2GLG	VM3P176A2R1G	VM3P176A2R5G	VM4P176A2GLG	VM4P176A2R1G	VM4P176A2R5G	VM4P176A2ERN	
			480	VM3P175A2GLG	VM3P175A2R1G	VM3P175A2R5G	VM4P175A2GLG	VM4P175A2R1G	VM4P175A2R5G	VM4P175A2ERN	
200	M136	3/4"	Quad	VM3P200A2GLG	VM3P200A2R1G	VM3P200A2R5G	VM4P200A2GLG	VM4P200A2R1G	VM4P200A2R5G	VM4P200A2ERN	
			Tri	VM3P206A2GLG	VM3P206A2R1G	VM3P206A2R5G	VM4P206A2GLG	VM4P206A2R1G	VM4P206A2R5G	VM4P206A2ERN	
			480	VM3P205A2GLG	VM3P205A2R1G	VM3P205A2R5G	VM4P205A2GLG	VM4P205A2R1G	VM4P205A2R5G	VM4P205A2ERN	

VM 150-200 WATT METAL HALIDE PULSE FLEXIBLE PENDANT											
DESCRIPTION				5-1/2" OPTIC THREAD SIZE			7-3/4" OPTIC THREAD SIZE				
WATTS	ANSI	HUB SIZE	VOLTAGE	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	ENCLOSED REFLECTOR	
150	M102 M142	3/4"	Quad	VM3P150F2GLG	VM3P150F2R1G	VM3P150F2R5G	VM4P150F2GLG	VM4P150F2R1G	VM4P150F2R5G	VM4P156F2ERN	
			Tri	VM3P156F2GLG	VM3P156F2R1G	VM3P156F2R5G	VM4P156F2GLG	VM4P156F2R1G	VM4P156F2R5G	VM4P155F2ERN	
			480	VM3P155F2GLG	VM3P155F2R1G	VM3P155F2R5G	VM4P155F2GLG	VM4P155F2R1G	VM4P155F2R5G	VM4P170F2ERN	
175	M137 M152	3/4"	Quad	VM3P170F2GLG	VM3P170F2R1G	VM3P170F2R5G	VM4P170F2GLG	VM4P170F2R1G	VM4P170F2R5G	VM4P170F2ERN	
			Tri	VM3P176F2GLG	VM3P176F2R1G	VM3P176F2R5G	VM4P176F2GLG	VM4P176F2R1G	VM4P176F2R5G	VM4P176F2ERN	
			480	VM3P175F2GLG	VM3P175F2R1G	VM3P175F2R5G	VM4P175F2GLG	VM4P175F2R1G	VM4P175F2R5G	VM4P175F2ERN	
200	M136	3/4"	Quad	VM3P200F2GLG	VM3P200F2R1G	VM3P200F2R5G	VM4P200F2GLG	VM4P200F2R1G	VM4P200F2R5G	VM4P200F2ERN	
			Tri	VM3P206F2GLG	VM3P206F2R1G	VM3P206F2R5G	VM4P206F2GLG	VM4P206F2R1G	VM4P206F2R5G	VM4P206F2ERN	
			480	VM3P205F2GLG	VM3P205F2R1G	VM3P205F2R5G	VM4P205F2GLG	VM4P205F2R1G	VM4P205F2R5G	VM4P205F2ERN	

Ⓢ See hazardous application data on pages L108-L111 for limitations.

Ⓢ Catalog numbers shown are with guard (except enclosed reflector); to omit guard change ending G to N; e.g. VM3P150A2GLN

Ⓢ Catalog numbers shown are with 3/4" conduit openings; change 2 to 3 for 1"; e.g. VM3P150A3GLG.

Ⓢ Consult catalog logic for other available voltages.

Ⓢ Add suffix NR for restricted breathing; see page L54 for more information.



Ceiling
w/ 5-1/2"
Globe & Guard



Wall
w/ 5-1/2"
Refractor & Guard



Ceiling
w/ 7-3/4"
Globe & Guard



Wall
w/ 7-3/4"
Refractor & Guard



Ceiling
w/ Enclosed Reflector

Class I, Div. 2, Groups A,B,C,D[Ⓛ]
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III

Suitable for wet locations
NEMA 3, 4, 4X; IP66

cULus Listed - File E10514 (Hazardous & Marine)

Certified - File LR11713

NR Restricted Breathing Option[Ⓛ]

Class I, Zone 2 AEx nAnR

Class I, Zone 2 Ex nR

VM 150-200 WATT METAL HALIDE PULSE CEILING										
DESCRIPTION				5-1/2" OPTIC THREAD SIZE [Ⓛ]			7-3/4" OPTIC THREAD SIZE [Ⓛ]			
WATTS	ANSI	HUB SIZE [Ⓛ]	VOLTAGE [Ⓛ]	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	ENCLOSED REFLECTOR
150	M102 M142	3/4"	Quad	VM3P150X2GLG	VM3P150X2R1G	VM3P150X2R5G	VM4P150X2GLG	VM4P150X2R1G	VM4P150X2R5G	VM4P150X2ERN
			Tri	VM3P156X2GLG	VM3P156X2R1G	VM3P156X2R5G	VM4P156X2GLG	VM4P156X2R1G	VM4P156X2R5G	VM4P156X2ERN
			480	VM3P155X2GLG	VM3P155X2R1G	VM3P155X2R5G	VM4P155X2GLG	VM4P155X2R1G	VM4P155X2R5G	VM4P155X2ERN
175	M137 M152	3/4"	Quad	VM3P170X2GLG	VM3P170X2R1G	VM3P170X2R5G	VM4P170X2GLG	VM4P170X2R1G	VM4P170X2R5G	VM4P170X2ERN
			Tri	VM3P176X2GLG	VM3P176X2R1G	VM3P176X2R5G	VM4P176X2GLG	VM4P176X2R1G	VM4P176X2R5G	VM4P176X2ERN
			480	VM3P175X2GLG	VM3P175X2R1G	VM3P175X2R5G	VM4P175X2GLG	VM4P175X2R1G	VM4P175X2R5G	VM4P175X2ERN
200	M136	3/4"	Quad	VM3P200X2GLG	VM3P200X2R1G	VM3P200X2R5G	VM4P200X2GLG	VM4P200X2R1G	VM4P200X2R5G	VM4P200X2ERN
			Tri	VM3P206X2GLG	VM3P206X2R1G	VM3P206X2R5G	VM4P206X2GLG	VM4P206X2R1G	VM4P206X2R5G	VM4P206X2ERN
			480	VM3P205X2GLG	VM3P205X2R1G	VM3P205X2R5G	VM4P205X2GLG	VM4P205X2R1G	VM4P205X2R5G	VM4P205X2ERN

VM 150-200 WATT METAL HALIDE PULSE WALL										
DESCRIPTION				5-1/2" OPTIC THREAD SIZE [Ⓛ]			7-3/4" OPTIC THREAD SIZE [Ⓛ]			
WATTS	ANSI	HUB SIZE [Ⓛ]	VOLTAGE [Ⓛ]	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	ENCLOSED REFLECTOR
150	M102 M142	3/4"	Quad	VM3P150B2GLG	VM3P150B2R1G	VM3P150B2R5G	VM4P150B2GLG	VM4P150B2R1G	VM4P150B2R5G	VM4P150B2ERN
			Tri	VM3P156B2GLG	VM3P156B2R1G	VM3P156B2R5G	VM4P156B2GLG	VM4P156B2R1G	VM4P156B2R5G	VM4P156B2ERN
			480	VM3P155B2GLG	VM3P155B2R1G	VM3P155B2R5G	VM4P155B2GLG	VM4P155B2R1G	VM4P155B2R5G	VM4P155B2ERN
175	M137 M152	3/4"	Quad	VM3P170B2GLG	VM3P170B2R1G	VM3P170B2R5G	VM4P170B2GLG	VM4P170B2R1G	VM4P170B2R5G	VM4P170B2ERN
			Tri	VM3P176B2GLG	VM3P176B2R1G	VM3P176B2R5G	VM4P176B2GLG	VM4P176B2R1G	VM4P176B2R5G	VM4P176B2ERN
			480	VM3P175B2GLG	VM3P175B2R1G	VM3P175B2R5G	VM4P175B2GLG	VM4P175B2R1G	VM4P175B2R5G	VM4P175B2ERN
200	M136	3/4"	Quad	VM3P200B2GLG	VM3P200B2R1G	VM3P200B2R5G	VM4P200B2GLG	VM4P200B2R1G	VM4P200B2R5G	VM4P200B2ERN
			Tri	VM3P206B2GLG	VM3P206B2R1G	VM3P206B2R5G	VM4P206B2GLG	VM4P206B2R1G	VM4P206B2R5G	VM4P206B2ERN
			480	VM3P205B2GLG	VM3P205B2R1G	VM3P205B2R5G	VM4P205B2GLG	VM4P205B2R1G	VM4P205B2R5G	VM4P205B2ERN

[Ⓛ] See hazardous application data on pages L108-L111 for limitations.

[Ⓛ] Catalog numbers shown are with guard (except enclosed reflectors); to omit guard, change ending G to N; e.g. VM3P050X2GLN

[Ⓛ] Catalog numbers shown are with 3/4" conduit openings, change 2 to 3 for 1"; e.g. VM3P150X3GLG.

[Ⓛ] Consult catalog logic for other available voltages.

[Ⓛ] Add suffix NR for restricted breathing; see page L54 for more information.





Cone
w/ 5-1/2"
Globe & Guard



EZ Adapter
w/ 5-1/2"
Refractor & Guard



Cone
w/ 7-3/4"
Globe & Guard



EZ Adapter
w/ 7-3/4"
Refractor & Guard



Cone
w/ Enclosed Reflector

Class I, Div. 2, Groups A,B,C,D[Ⓢ]
 Class I, Zone 2, Groups IIC, IIB, IIA
 Class II, Div. 1 & 2, Groups E,F,G
 Class III

Suitable for wet locations
 NEMA 3, 4, 4X; IP66

US Listed - File E10514 (Hazardous & Marine)

Certified - File LR11713

NR Restricted Breathing Option[Ⓢ]

Class I, Zone 2 AEx nAnR

Class I, Zone 2 Ex nR

VM 150-200 WATT METAL HALIDE PULSE CONE											
DESCRIPTION				5-1/2" OPTIC THREAD SIZE [Ⓢ]			7-3/4" OPTIC THREAD SIZE [Ⓢ]				
WATTS	ANSI	HUB SIZE [Ⓢ]	VOLTAGE [Ⓢ]	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	ENCLOSED REFLECTOR	
150	M102 M142	3/4"	Quad	VM3P150C2GLG	VM3P150C2R1G	VM3P150C2R5G	VM4P150C2GLG	VM4P150C2R1G	VM4P150C2R5G	VM4P150C2ERN	
			Tri	VM3P156C2GLG	VM3P156C2R1G	VM3P156C2R5G	VM4P156C2GLG	VM4P156C2R1G	VM4P156C2R5G	VM4P156C2ERN	
			480	VM3P155C2GLG	VM3P155C2R1G	VM3P155C2R5G	VM4P155C2GLG	VM4P155C2R1G	VM4P155C2R5G	VM4P155C2ERN	
175	M137 M152	3/4"	Quad	VM3P170C2GLG	VM3P170C2R1G	VM3P170C2R5G	VM4P170C2GLG	VM4P170C2R1G	VM4P170C2R5G	VM4P170C2ERN	
			Tri	VM3P176C2GLG	VM3P176C2R1G	VM3P176C2R5G	VM4P176C2GLG	VM4P176C2R1G	VM4P176C2R5G	VM4P176C2ERN	
			480	VM3P175C2GLG	VM3P175C2R1G	VM3P175C2R5G	VM4P175C2GLG	VM4P175C2R1G	VM4P175C2R5G	VM4P175C2ERN	
200	M136	3/4"	Quad	VM3P200C2GLG	VM3P200C2R1G	VM3P200C2R5G	VM4P200C2GLG	VM4P200C2R1G	VM4P200C2R5G	VM4P200C2ERN	
			Tri	VM3P206C2GLG	VM3P206C2R1G	VM3P206C2R5G	VM4P206C2GLG	VM4P206C2R1G	VM4P206C2R5G	VM4P206C2ERN	
			480	VM3P205C2GLG	VM3P205C2R1G	VM3P205C2R5G	VM4P205C2GLG	VM4P205C2R1G	VM4P205C2R5G	VM4P205C2ERN	

VM 150-200 WATT METAL HALIDE PULSE EZ ADAPTER											
DESCRIPTION				5-1/2" OPTIC THREAD SIZE [Ⓢ]			7-3/4" OPTIC THREAD SIZE [Ⓢ]				
WATTS	ANSI	HUB SIZE [Ⓢ]	VOLTAGE [Ⓢ]	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	ENCLOSED REFLECTOR	
150	M102 M142	Ⓢ	Quad	VM3P150EZGLG	VM3P150EZR1G	VM3P150EZR5G	VM4P150EZGLG	VM4P150EZR1G	VM4P150EZR5G	VM4P150EZERN	
			Tri	VM3P156EZGLG	VM3P156EZR1G	VM3P156EZR5G	VM4P156EZGLG	VM4P156EZR1G	VM4P156EZR5G	VM4P156EZERN	
			480	VM3P155EZGLG	VM3P155EZR1G	VM3P155EZR5G	VM4P155EZGLG	VM4P155EZR1G	VM4P155EZR5G	VM4P155EZERN	
175	M137 M152	Ⓢ	Quad	VM3P170EZGLG	VM3P170EZR1G	VM3P170EZR5G	VM4P170EZGLG	VM4P170EZR1G	VM4P170EZR5G	VM4P170EZERN	
			Tri	VM3P176EZGLG	VM3P176EZR1G	VM3P176EZR5G	VM4P176EZGLG	VM4P176EZR1G	VM4P176EZR5G	VM4P176EZERN	
			480	VM3P175EZGLG	VM3P175EZR1G	VM3P175EZR5G	VM4P175EZGLG	VM4P175EZR1G	VM4P175EZR5G	VM4P175EZERN	
200	M136	Ⓢ	Quad	VM3P200EZGLG	VM3P200EZR1G	VM3P200EZR5G	VM4P200EZGLG	VM4P200EZR1G	VM4P200EZR5G	VM4P200EZERN	
			Tri	VM3P206EZGLG	VM3P206EZR1G	VM3P206EZR5G	VM4P206EZGLG	VM4P206EZR1G	VM4P206EZR5G	VM4P206EZERN	
			480	VM3P205EZGLG	VM3P205EZR1G	VM3P205EZR5G	VM4P205EZGLG	VM4P205EZR1G	VM4P205EZR5G	VM4P205EZERN	

[Ⓢ] See hazardous application data on pages L108-L111 for limitations.

[Ⓢ] Catalog numbers shown are with guard (except enclosed reflector); to omit guard change ending G to N; e.g. VM3P150C2GLN

[Ⓢ] Catalog numbers shown are with 3/4" conduit openings; change 2 to 3 for 1"; e.g. VM3P150C3GLG.

[Ⓢ] Consult catalog logic for other available voltages.

[Ⓢ] Add suffix NR for restricted breathing; see page L54 for more information.

[Ⓢ] VMEZA tank adapters UL "Classified" as an assembly for use between VM Tanks and EZ mounts. Order EZ mounts separately, see page L83.



Stanchion 25°
w/ 5-1/2"
Globe & Guard



Stanchion Straight
w/ 5-1/2"
Refractor & Guard



Stanchion 25°
w/ 7-3/4"
Globe & Guard



Stanchion Straight
w/ 7-3/4"
Refractor & Guard



Stanchion 25°
w/ Enclosed Reflector

Class I, Div. 2, Groups A,B,C,D[Ⓢ]
 Class I, Zone 2, Groups IIC, IIB, IIA
 Class II, Div. 1 & 2, Groups E,F,G
 Class III

Suitable for wet locations
 NEMA 3, 4, 4X; IP66

Listed - File E10514 (Hazardous & Marine)

Certified - File LR11713

NR Restricted Breathing Option[Ⓢ]

Class I, Zone 2 AEx nAnR

Class I, Zone 2 Ex nR

VM 150-200 WATT METAL HALIDE PULSE STANCHION 25° ANGLE										
DESCRIPTION				5-1/2" OPTIC THREAD SIZE [Ⓢ]			7-3/4" OPTIC THREAD SIZE [Ⓢ]			
WATTS	ANSI	HUB SIZE [Ⓢ]	VOLTAGE [Ⓢ]	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	ENCLOSED REFLECTOR
150	M102 M142	1-1/2"	Quad	VM3P150D5GLG	VM3P150D5R1G	VM3P150D5R5G	VM4P150D5GLG	VM4P150D5R1G	VM4P150D5R5G	VM4P150D5ERN
			Tri	VM3P156D5GLG	VM3P156D5R1G	VM3P156D5R5G	VM4P156D5GLG	VM4P156D5R1G	VM4P156D5R5G	VM4P156D5ERN
			480	VM3P155D5GLG	VM3P155D5R1G	VM3P155D5R5G	VM4P155D5GLG	VM4P155D5R1G	VM4P155D5R5G	VM4P155D5ERN
175	M137 M152	1-1/2"	Quad	VM3P170D5GLG	VM3P170D5R1G	VM3P170D5R5G	VM4P170D5GLG	VM4P170D5R1G	VM4P170D5R5G	VM4P170D5ERN
			Tri	VM3P176D5GLG	VM3P176D5R1G	VM3P176D5R5G	VM4P176D5GLG	VM4P176D5R1G	VM4P176D5R5G	VM4P176D5ERN
			480	VM3P175D5GLG	VM3P175D5R1G	VM3P175D5R5G	VM4P175D5GLG	VM4P175D5R1G	VM4P175D5R5G	VM4P175D5ERN
200	M136	1-1/2"	Quad	VM3P200D5GLG	VM3P200D5R1G	VM3P200D5R5G	VM4P200D5GLG	VM4P200D5R1G	VM4P200D5R5G	VM4P200D5ERN
			Tri	VM3P206D5GLG	VM3P206D5R1G	VM3P206D5R5G	VM4P206D5GLG	VM4P206D5R1G	VM4P206D5R5G	VM4P206D5ERN
			480	VM3P205D5GLG	VM3P205D5R1G	VM3P205D5R5G	VM4P205D5GLG	VM4P205D5R1G	VM4P205D5R5G	VM4P205D5ERN

VM 150-200 WATT METAL HALIDE PULSE STANCHION STRAIGHT										
DESCRIPTION				5-1/2" OPTIC THREAD SIZE [Ⓢ]			7-3/4" OPTIC THREAD SIZE [Ⓢ]			
WATTS	ANSI	HUB SIZE [Ⓢ]	VOLTAGE [Ⓢ]	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE I GLASS REFRACTOR & GUARD	TYPE V GLASS REFRACTOR & GUARD	ENCLOSED REFLECTOR
150	M102 M142	1-1/2"	Quad	VM3P150S5GLG	VM3P150S5R1G	VM3P150S5R5G	VM4P150S5GLG	VM4P150S5R1G	VM4P150S5R5G	VM4P150S5ERN
			Tri	VM3P156S5GLG	VM3P156S5R1G	VM3P156S5R5G	VM4P156S5GLG	VM4P156S5R1G	VM4P156S5R5G	VM4P156S5ERN
			480	VM3P155S5GLG	VM3P155S5R1G	VM3P155S5R5G	VM4P155S5GLG	VM4P155S5R1G	VM4P155S5R5G	VM4P155S5ERN
175	M137 M152	1-1/2"	Quad	VM3P170S5GLG	VM3P170S5R1G	VM3P170S5R5G	VM4P170S5GLG	VM4P170S5R1G	VM4P170S5R5G	VM4P170S5ERN
			Tri	VM3P176S5GLG	VM3P176S5R1G	VM3P176S5R5G	VM4P176S5GLG	VM4P176S5R1G	VM4P176S5R5G	VM4P176S5ERN
			480	VM3P175S5GLG	VM3P175S5R1G	VM3P175S5R5G	VM4P175S5GLG	VM4P175S5R1G	VM4P175S5R5G	VM4P175S5ERN
200	M136	1-1/2"	Quad	VM3P200S5GLG	VM3P200S5R1G	VM3P200S5R5G	VM4P200S5GLG	VM4P200S5R1G	VM4P200S5R5G	VM4P200S5ERN
			Tri	VM3P206S5GLG	VM3P206S5R1G	VM3P206S5R5G	VM4P206S5GLG	VM4P206S5R1G	VM4P206S5R5G	VM4P206S5ERN
			480	VM3P205S5GLG	VM3P205S5R1G	VM3P205S5R5G	VM4P205S5GLG	VM4P205S5R1G	VM4P205S5R5G	VM4P205S5ERN

[Ⓢ] See hazardous application data on pages L108-L111 for limitations.

[Ⓢ] Catalog numbers shown are with guard (except enclosed reflectors); to omit guard change ending G to N; e.g. VM3P150D5GLN

[Ⓢ] Catalog numbers shown are with 1-1/2" conduit openings, change 5 to 4 for 1-1/4"; e.g. VM3P150D4GLG.

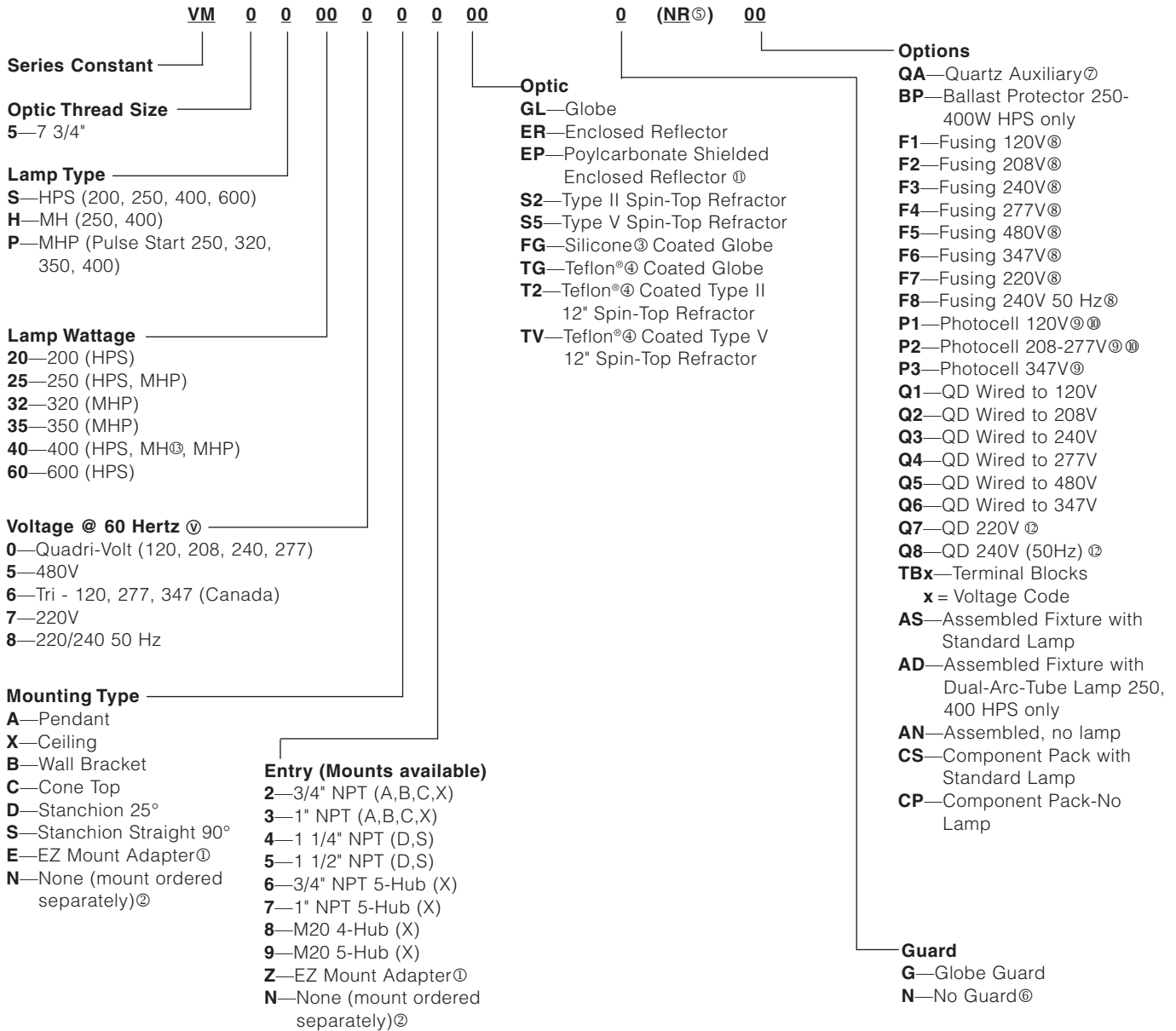
[Ⓢ] Consult catalog logic for other available voltages.

[Ⓢ] Add suffix NR for restricted breathing; see page L54 for more information.





CertiLite®V Catalog Number Logic; 200-400 High Wattage (Mogul Base) HID Fixtures



Entry (Mounts available)
 2—3/4" NPT (A,B,C,X)
 3—1" NPT (A,B,C,X)
 4—1 1/4" NPT (D,S)
 5—1 1/2" NPT (D,S)
 6—3/4" NPT 5-Hub (X)
 7—1" NPT 5-Hub (X)
 8—M20 4-Hub (X)
 9—M20 5-Hub (X)
 Z—EZ Mount Adapter①
 N—None (mount ordered separately)②

① Completes as "EZ", conduit mounting boxes ordered separately - See L83.
 ② NN mount ordered separately.
 ③ Silicone coated globe for additional impact protection.
 ④ Teflon® is a registered trademark of DuPont, Inc.
 ⑤ Restricted Breathing - See L54 for more information.
 ⑥ Order Guards for Spin-Tops & VMER40 separately.
 Consult factory for available lamp and voltage combinations.

⑦ QA not suitable for Class I, Div. 2/Zone 2 applications; consult factory for other hazardous applications.
 ⑧ Fusing not for Marine or Canadian installations.
 ⑨ Photo cells for Class I, Div. 2 only, or C1Z2 nR ⑩, not Class II.
 ⑩ Field connection to proper tap in case of Multitap Ballasts.
 ⑪ Not for use with wall or straight (90°) Stanchion.
 ⑫ QD = Quick Disconnect. Allows easy tank removal for maintenance. Electrician simply unplugs de-energized ballast from supply circuit.
 ⑬ 400W M59 fixtures and EXPORT ONLY (EISA LAW).





Pendant
w/ Globe &
Guard



Pendant
w/ Spin-Top
Refractor



Ceiling
w/ Enclosed
Reflector

Class I, Div. 2, Groups A,B,C,D[Ⓢ]
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III

Suitable for wet locations
NEMA 3, 4, 4X; IP66

Listed - File E10514 (Hazardous & Marine)

Certified - File LR11713

NR Restricted Breathing Option[Ⓢ]
Class I, Zone 2 AEx nAnR
Class I, Zone 2 Ex nR

VM 200-600 WATT HIGH PRESSURE SODIUM PENDANT							
DESCRIPTION				7-3/4" OPTIC THREAD SIZE [Ⓢ]			
WATTS	ANSI	HUB SIZE [Ⓢ]	VOLTAGE [Ⓢ]	GLOBE & GUARD	TYPE V SPIN-TOP GLASS REFRACTOR	ENCLOSED REFLECTOR	POLYCARBONATE SHIELDED ENCLOSED REFLECTOR
200	S66	3/4"	Quad	VM5S200A2GLG	VM5S200A2S5N	VM5S200A2ERN	VM5S200A2EPN
			Tri	VM5S206A2GLG	VM5S206A2S5N	VM5S206A2ERN	VM5S206A2EPN
			480	VM5S205A2GLG	VM5S205A2S5N	VM5S205A2ERN	VM5S205A2EPN
250	S50	3/4"	Quad	VM5S250A2GLG	VM5S250A2S5N	VM5S250A2ERN	VM5S250A2EPN
			Tri	VM5S256A2GLG	VM5S256A2S5N	VM5S256A2ERN	VM5S256A2EPN
			480	VM5S255A2GLG	VM5S255A2S5N	VM5S255A2ERN	VM5S255A2EPN
400	S51	3/4"	Quad	VM5S400A2GLG	VM5S400A2S5N	VM5S400A2ERN	VM5S400A2EPN
			Tri	VM5S406A2GLG	VM5S406A2S5N	VM5S406A2ERN	VM5S406A2EPN
			480	VM5S405A2GLG	VM5S405A2S5N	VM5S405A2ERN	VM5S405A2EPN
600	S106	3/4"	Quad	—	—	VM5S600A2ERN	—
			Tri	—	—	VM5S606A2ERN	—
			480	—	—	VM5S605A2ERN	—

VM 200-600 WATT HIGH PRESSURE SODIUM CEILING							
DESCRIPTION				7-3/4" OPTIC THREAD SIZE [Ⓢ]			
WATTS	ANSI	HUB SIZE [Ⓢ]	VOLTAGE [Ⓢ]	GLOBE & GUARD	TYPE V SPIN-TOP GLASS REFRACTOR	ENCLOSED REFLECTOR	POLYCARBONATE SHIELDED ENCLOSED REFLECTOR
200	S66	3/4"	Quad	VM5S200X2GLG	VM5S200X2S5N	VM5S200X2ERN	VM5S200X2EPN
			Tri	VM5S206X2GLG	VM5S206X2S5N	VM5S206X2ERN	VM5S206X2EPN
			480	VM5S205X2GLG	VM5S205X2S5N	VM5S205X2ERN	VM5S205X2EPN
250	S50	3/4"	Quad	VM5S250X2GLG	VM5S250X2S5N	VM5S250X2ERN	VM5S250X2EPN
			Tri	VM5S256X2GLG	VM5S256X2S5N	VM5S256X2ERN	VM5S256X2EPN
			480	VM5S255X2GLG	VM5S255X2S5N	VM5S255X2ERN	VM5S255X2EPN
400	S51	3/4"	Quad	VM5S400X2GLG	VM5S400X2S5N	VM5S400X2ERN	VM5S400X2EPN
			Tri	VM5S406X2GLG	VM5S406X2S5N	VM5S406X2ERN	VM5S406X2EPN
			480	VM5S405X2GLG	VM5S405X2S5N	VM5S405X2ERN	VM5S405X2EPN
600	S106	3/4"	Quad	—	—	VM5S600X2ERN	—
			Tri	—	—	VM5S606X2ERN	—
			480	—	—	VM5S605X2ERN	—

[Ⓢ] See hazardous application data on pages L112-L113 for limitations.

[Ⓢ] Globe catalog number shown with guard. To omit guard, change G to N; e.g. VM5S200A2GLN. Order spin top and enclosed reflector guards separately.

[Ⓢ] Catalog numbers shown are with 3/4" conduit openings, change 2 to 3 for 1"; e.g. VM5S200A3GLG.

[Ⓢ] Consult catalog logic for other available voltages.

[Ⓢ] Add suffix NR for restricted breathing; see page L54 for more information.





**Wall
w/ Globe &
Guard**



**Wall
w/ Spin-Top
Refractor**



**Cone
w/ Enclosed
Reflector**

Class I, Div. 2, Groups A,B,C,D[Ⓛ]
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III

Suitable for wet locations

NEMA 3, 4, 4X; IP66

UL^{us} Listed - File E10514 (Hazardous & Marine)

SF[®] Certified - File LR11713

NR Restricted Breathing Option[Ⓛ]

Class I, Zone 2 AEx nAnR^{UL}

Class I, Zone 2 Ex nR^{SF}

VM 200-600 WATT HIGH PRESSURE SODIUM WALL							
DESCRIPTION				7-3/4" OPTIC THREAD SIZE [Ⓛ]			
WATTS	ANSI	HUB SIZE [Ⓛ]	VOLTAGE [Ⓛ]	GLOBE & GUARD	TYPE V SPIN-TOP GLASS REFRACTOR	ENCLOSED REFLECTOR	POLYCARBONATE SHIELDED ENCLOSED REFLECTOR
200	S66	3/4"	Quad	VM5S200B2GLG	VM5S200B2S5N	VM5S200B2ERN	—
			Tri	VM5S206B2GLG	VM5S206B2S5N	VM5S206B2ERN	—
			480	VM5S205B2GLG	VM5S205B2S5N	VM5S205B2ERN	—
250	S50	3/4"	Quad	VM5S250B2GLG	VM5S250B2S5N	VM5S250B2ERN	—
			Tri	VM5S256B2GLG	VM5S256B2S5N	VM5S256B2ERN	—
			480	VM5S255B2GLG	VM5S255B2S5N	VM5S255B2ERN	—
400	S51	3/4"	Quad	VM5S400B2GLG	VM5S400B2S5N	VM5S400B2ERN	—
			Tri	VM5S406B2GLG	VM5S406B2S5N	VM5S406B2ERN	—
			480	VM5S405B2GLG	VM5S405B2S5N	VM5S405B2ERN	—
600	S106	3/4"	Quad	—	—	VM5S600B2ERN	—
			Tri	—	—	VM5S606B2ERN	—
			480	—	—	VM5S605B2ERN	—

VM 200-600 WATT HIGH PRESSURE SODIUM CONE							
DESCRIPTION				7-3/4" OPTIC THREAD SIZE [Ⓛ]			
WATTS	ANSI	HUB SIZE [Ⓛ]	VOLTAGE [Ⓛ]	GLOBE & GUARD	TYPE V SPIN-TOP GLASS REFRACTOR	ENCLOSED REFLECTOR	POLYCARBONATE SHIELDED ENCLOSED REFLECTOR
200	S66	3/4"	Quad	VM5S200C2GLG	VM5S200C2S5N	VM5S200C2ERN	VM5S200C2EPN
			Tri	VM5S206C2GLG	VM5S206C2S5N	VM5S206C2ERN	VM5S206C2EPN
			480	VM5S205C2GLG	VM5S205C2S5N	VM5S205C2ERN	VM5S205C2EPN
250	S50	3/4"	Quad	VM5S250C2GLG	VM5S250C2S5N	VM5S250C2ERN	VM5S250C2EPN
			Tri	VM5S256C2GLG	VM5S256C2S5N	VM5S256C2ERN	VM5S256C2EPN
			480	VM5S255C2GLG	VM5S255C2S5N	VM5S255C2ERN	VM5S255C2EPN
400	S51	3/4"	Quad	VM5S400C2GLG	VM5S400C2S5N	VM5S400C2ERN	VM5S400C2EPN
			Tri	VM5S406C2GLG	VM5S406C2S5N	VM5S406C2ERN	VM5S406C2EPN
			480	VM5S405C2GLG	VM5S405C2S5N	VM5S405C2ERN	VM5S405C2EPN
600	S106	3/4"	Quad	—	—	VM5S600C2ERN	—
			Tri	—	—	VM5S606C2ERN	—
			480	—	—	VM5S605C2ERN	—

[Ⓛ] See hazardous application data on pages L112-L113 for limitations.

[Ⓛ] Globe catalog number shown with guard. To omit guard, change G to N; e.g. VM5S200B2GLN. Order spin top and enclosed reflector guards separately.

[Ⓛ] Catalog numbers shown are with 3/4" conduit openings, change 2 to 3 for 1"; e.g. VM5S200B3GLG.

[Ⓛ] Consult catalog logic for other available voltages.

[Ⓛ] Add suffix NR for restricted breathing; see page L54 for more information.





**Stanchion 25°
w/ Globe &
Guard**



**Stanchion 25°
w/ Spin-Top
Refractor**



**Stanchion Straight
w/ Enclosed
Reflector**

Class I, Div. 2, Groups A,B,C,D[Ⓛ]
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
Suitable for wet locations
NEMA 3, 4, 4X; IP66

UL Listed - File E10514 (Hazardous & Marine)

SFB Certified - File LR11713

NR Restricted Breathing Option[Ⓛ]
Class I, Zone 2 AEx nAnR
Class I, Zone 2 Ex nR

VM 200-600 WATT HIGH PRESSURE SODIUM STANCHION 25° ANGLE						
DESCRIPTION				7-3/4" OPTIC THREAD SIZE [Ⓛ]		
WATTS	ANSI	HUB SIZE [Ⓛ]	VOLTAGE [Ⓛ]	GLOBE & GUARD	TYPE V SPIN-TOP GLASS REFRACTOR	ENCLOSED REFLECTOR
200	S66	1-1/2"	Quad	VM5S200D5GLG	VM5S200D5S5N	VM5S200D5ERN
			Tri	VM5S206D5GLG	VM5S206D5S5N	VM5S206D5ERN
			480	VM5S205D5GLG	VM5S205D5S5N	VM5S205D5ERN
250	S50	1-1/2"	Quad	VM5S250D5GLG	VM5S250D5S5N	VM5S250D5ERN
			Tri	VM5S256D5GLG	VM5S256D5S5N	VM5S256D5ERN
			480	VM5S255D5GLG	VM5S255D5S5N	VM5S255D5ERN
400	S51	1-1/2"	Quad	VM5S400D5GLG	VM5S400D5S5N	VM5S400D5ERN
			Tri	VM5S406D5GLG	VM5S406D5S5N	VM5S406D5ERN
			480	VM5S405D5GLG	VM5S405D5S5N	VM5S405D5ERN
600	S106	1-1/2"	Quad	—	—	VM5S600D5ERN
			Tri	—	—	VM5S606D5ERN
			480	—	—	VM5S605D5ERN

VM 200-600 WATT HIGH PRESSURE SODIUM STANCHION STRAIGHT						
DESCRIPTION				7-3/4" OPTIC THREAD SIZE [Ⓛ]		
WATTS	ANSI	HUB SIZE [Ⓛ]	VOLTAGE [Ⓛ]	GLOBE & GUARD	TYPE V SPIN-TOP GLASS REFRACTOR	ENCLOSED REFLECTOR
200	S66	1-1/2"	Quad	VM5S200S5GLG	VM5S200S5S5N	VM5S200S5ERN
			Tri	VM5S206S5GLG	VM5S206S5S5N	VM5S206S5ERN
			480	VM5S205S5GLG	VM5S205S5S5N	VM5S205S5ERN
250	S50	1-1/2"	Quad	VM5S250S5GLG	VM5S250S5S5N	VM5S250S5ERN
			Tri	VM5S256S5GLG	VM5S256S5S5N	VM5S256S5ERN
			480	VM5S255S5GLG	VM5S255S5S5N	VM5S255S5ERN
400	S51	1-1/2"	Quad	VM5S400S5GLG	VM5S400S5S5N	VM5S400S5ERN
			Tri	VM5S406S5GLG	VM5S406S5S5N	VM5S406S5ERN
			480	VM5S405S5GLG	VM5S405S5S5N	VM5S405S5ERN
600	S106	1-1/2"	Quad	—	—	VM5S600S5ERN
			Tri	—	—	VM5S606S5ERN
			480	—	—	VM5S605S5ERN

[Ⓛ] See hazardous application data on pages L112-L113 for limitations.

[Ⓛ] Globe catalog number shown with guard. To omit guard, change G to N; e.g. VM5S200D5GLN. Order spin top and enclosed reflector guards separately.

[Ⓛ] Catalog numbers shown are with 1-1/2" conduit openings, change 5 to 4 for 1-1/4"; e.g. VM5S200D4GLG.

[Ⓛ] Consult catalog logic for other available voltages.

[Ⓛ] Add suffix NR for restricted breathing; see page L54 for more information.





**EZ Adapter
w/ Globe &
Guard**



**EZ Adapter
w/ Spin-Top
Refractor**



**EZ Adapter
w/ Enclosed
Reflector**

Class I, Div. 2, Groups A,B,C,D
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III

Suitable for wet locations
NEMA 3, 4, 4X; IP66

Listed - File E10514 (Hazardous & Marine)

Certified - File LR11713

NR Restricted Breathing Option
Class I, Zone 2 AEx nAnR
Class I, Zone 2 Ex nR

VM 200-600 WATT HIGH PRESSURE SODIUM EZ ADAPTER							
DESCRIPTION				7-3/4" OPTIC THREAD SIZE			
WATTS	ANSI	HUB SIZE	VOLTAGE	GLOBE & GUARD	TYPE V SPIN-TOP GLASS REFRACTOR	ENCLOSED REFLECTOR	POLYCARBONATE SHIELDED ENCLOSED REFLECTOR
200	S66	3	Quad	VM5S200EZGLG	VM5S200EZR5N	VM5S200EZERN	VM5S200EZEPN
			Tri	VM5S206EZGLG	VM5S206EZR5N	VM5S206EZERN	VM5S206EZEPN
			480	VM5S205EZGLG	VM5S205EZR5N	VM5S205EZERN	VM5S205EZEPN
250	S50	3	Quad	VM5S250EZGLG	VM5S250EZR5N	VM5S250EZERN	VM5S250EZEPN
			Tri	VM5S256EZGLG	VM5S256EZR5N	VM5S256EZERN	VM5S256EZEPN
			480	VM5S255EZGLG	VM5S255EZR5N	VM5S255EZERN	VM5S255EZEPN
400	S51	3	Quad	VM5S400EZGLG	VM5S400EZR5N	VM5S400EZERN	VM5S400EZEPN
			Tri	VM5S406EZGLG	VM5S406EZR5N	VM5S406EZERN	VM5S406EZEPN
			480	VM5S405EZGLG	VM5S405EZR5N	VM5S405EZERN	VM5S405EZEPN
600	S106	3	Quad	—	—	VM5S600EZERN	—
			Tri	—	—	VM5S606EZERN	—
			480	—	—	VM5S605EZERN	—



Pendant



Ceiling



Wall Bracket



25° Stanchion

MOUNTING BOXES				
CATALOG NUMBER				HUB SIZE
PENDANT	CEILING	BRACKET	STANCHION	
EZA2	EZX2	EZB2	—	3/4"
EZA3	EZX3	EZB3	—	1"
—	—	—	EZD4A*	1-1/4"/1-1/2**

*1-1/2" furnished with 1-1/2"-1-1/4" reducer and extension. Extension only part number EZDVMA.

- ① See hazardous application data on pages L112-L113 for limitations.
- ② Globe catalog number shown with guard. To omit guard, change G to N; e.g. VM5S200EZGLN. Order spin top and enclosed reflector guards separately.
- ③ VMEZA tank adapters UL "classified" as an assembly for use between VM tanks and EZ mounts. See above for separate ordering information
- ④ Consult catalog logic for other available voltages.
- ⑤ Add suffix NR for restricted breathing; see page L54 for more information.
- ⑥ VMEP40 not for use with EZ wall bracket.



Pendant
w/ Globe &
Guard



Ceiling
w/ Globe &
Guard



Wall
w/ Spin-Top
Refractor



Cone
w/ Enclosed
Reflector

Class I, Div. 2, Groups A,B,C,D[Ⓢ]
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
Suitable for wet locations
NEMA 3, 4, 4X; IP66

UL Listed - File E10514 (Hazardous & Marine)

Certified - File LR11713

NR Restricted Breathing Option[Ⓢ]
Class I, Zone 2 AEx nAnR
Class I, Zone 2 Ex nR

VM 400 WATT METAL HALIDE PENDANT							
DESCRIPTION				7-3/4" OPTIC THREAD SIZE [Ⓢ]			
WATTS	ANSI	HUB SIZE [Ⓢ]	VOLTAGE [Ⓢ]	GLOBE & GUARD	TYPE V SPIN-TOP GLASS REFRACTOR	ENCLOSED REFLECTOR	POLYCARBONATE SHIELDED ENCLOSED REFLECTOR
400 [Ⓢ]	M59	3/4"	Quad	VM5H400A2GLG	VM5H400A2S5N	VM5H400A2ERN	VM5H400A2EPN
			Tri	VM5H406A2GLG	VM5H406A2S5N	VM5H406A2ERN	VM5H406A2EPN
			480	VM5H405A2GLG	VM5H405A2S5N	VM5H405A2ERN	VM5H405A2EPN

VM 400 WATT METAL HALIDE CEILING							
DESCRIPTION				7-3/4" OPTIC THREAD SIZE [Ⓢ]			
WATTS	ANSI	HUB SIZE [Ⓢ]	VOLTAGE [Ⓢ]	GLOBE & GUARD	TYPE V SPIN-TOP GLASS REFRACTOR	ENCLOSED REFLECTOR	POLYCARBONATE SHIELDED ENCLOSED REFLECTOR
400 [Ⓢ]	M59	3/4"	Quad	VM5H400X2GLG	VM5H400X2S5N	VM5H400X2ERN	VM5H400X2EPN
			Tri	VM5H406X2GLG	VM5H406X2S5N	VM5H406X2ERN	VM5H406X2EPN
			480	VM5H405X2GLG	VM5H405X2S5N	VM5H405X2ERN	VM5H405X2EPN

VM 400 WATT METAL HALIDE WALL							
DESCRIPTION				7-3/4" OPTIC THREAD SIZE [Ⓢ]			
WATTS	ANSI	HUB SIZE [Ⓢ]	VOLTAGE [Ⓢ]	GLOBE & GUARD	TYPE V SPIN-TOP GLASS REFRACTOR	ENCLOSED REFLECTOR	POLYCARBONATE SHIELDED ENCLOSED REFLECTOR
400 [Ⓢ]	M59	3/4"	Quad	VM5H400B2GLG	VM5H400B2S5N	VM5H400B2ERN	—
			Tri	VM5H406B2GLG	VM5H406B2S5N	VM5H406B2ERN	—
			480	VM5H405B2GLG	VM5H405B2S5N	VM5H405B2ERN	—

VM 400 WATT METAL HALIDE CONE							
DESCRIPTION				7-3/4" OPTIC THREAD SIZE [Ⓢ]			
WATTS	ANSI	HUB SIZE [Ⓢ]	VOLTAGE [Ⓢ]	GLOBE & GUARD	TYPE V SPIN-TOP GLASS REFRACTOR	ENCLOSED REFLECTOR	POLYCARBONATE SHIELDED ENCLOSED REFLECTOR
400 [Ⓢ]	M59	3/4"	Quad	VM5H400C2GLG	VM5H400C2S5N	VM5H400C2ERN	VM5H400C2EPN
			Tri	VM5H406C2GLG	VM5H406C2S5N	VM5H406C2ERN	VM5H406C2EPN
			480	VM5H405C2GLG	VM5H405C2S5N	VM5H405C2ERN	VM5H405C2EPN

[Ⓢ] See hazardous application data on pages L112-L113 for limitations.

[Ⓢ] Globe catalog number shown with guard. To omit guard, change G to N; e.g. VM5H400A2GLN. Order spin top and enclosed reflector guards separately.

[Ⓢ] Catalog numbers shown are with 3/4" conduit openings, change 2 to 3 for 1"; e.g. VM5H400A3GLG.

[Ⓢ] Consult catalog logic for other available voltages.

[Ⓢ] Add suffix NR for restricted breathing; see page L54 for more information.

[Ⓢ] 400W M59 Fixtures are EXPORT ONLY (EISA LAW).





**Stanchion 25°
w/ Globe &
Guard**



**Stanchion 90°
w/ Spin-Top
Refractor**



**EZ Adapter
w/ Enclosed
Reflector**

Class I, Div. 2, Groups A,B,C,D[Ⓛ]
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III

Suitable for wet locations

NEMA 3, 4, 4X; IP66

UL[®] Listed - File E10514 (Hazardous & Marine)

CS[®] Certified - File LR11713

NR Restricted Breathing Option[Ⓛ]

Class I, Zone 2 AEx nAR[Ⓛ]

Class I, Zone 2 Ex nR[Ⓛ]

VM 400 WATT METAL HALIDE STANCHION 25° ANGLE							
DESCRIPTION				7-3/4" OPTIC THREAD SIZE [Ⓛ]			
WATTS	ANSI	HUB SIZE [Ⓛ]	VOLTAGE [Ⓛ]	GLOBE & GUARD	TYPE V SPIN-TOP GLASS REFRACTOR	ENCLOSED REFLECTOR	POLYCARBONATE SHIELDED ENCLOSED REFLECTOR
400 [Ⓛ]	M59	1-1/2"	Quad	VM5H400D5GLG	VM5H400D5S5N	VM5H400D5ERN	—
			Tri	VM5H406D5GLG	VM5H406D5S5N	VM5H406D5ERN	—
			480	VM5H405D5GLG	VM5H405D5S5N	VM5H405D5ERN	—

VM 400 WATT METAL HALIDE STANCHION STRAIGHT							
DESCRIPTION				7-3/4" OPTIC THREAD SIZE [Ⓛ]			
WATTS	ANSI	HUB SIZE [Ⓛ]	VOLTAGE [Ⓛ]	GLOBE & GUARD	TYPE V SPIN-TOP GLASS REFRACTOR	ENCLOSED REFLECTOR	POLYCARBONATE SHIELDED ENCLOSED REFLECTOR
400 [Ⓛ]	M59	1-1/2"	Quad	VM5H400S5GLG	VM5H400S5S5N	VM5H400S5ERN	—
			Tri	VM5H406S5GLG	VM5H406S5S5N	VM5H406S5ERN	—
			480	VM5H405S5GLG	VM5H405S5S5N	VM5H405S5ERN	—

VM 400 WATT METAL HALIDE EZ ADAPTER							
DESCRIPTION				7-3/4" OPTIC THREAD SIZE [Ⓛ]			
WATTS	ANSI	HUB SIZE [Ⓛ]	VOLTAGE [Ⓛ]	GLOBE & GUARD	TYPE V SPIN-TOP GLASS REFRACTOR	ENCLOSED REFLECTOR	POLYCARBONATE SHIELDED ENCLOSED REFLECTOR [Ⓛ]
400 [Ⓛ]	M59	Ⓛ	Quad	VM5H400EZGLG	VM5H400EZS5N	VM5H400EZERN	VM5H400EZEPN
			Tri	VM5H406EZGLG	VM5H406EZS5N	VM5H406EZERN	VM5H406EZEPN
			480	VM5H405EZGLG	VM5H405EZS5N	VM5H405EZERN	VM5H405EZEPN

[Ⓛ] See hazardous application data on pages L112-L113 for limitations.

[Ⓛ] Globe catalog number shown with guard. To omit guard, change G to N; e.g. VM5H400D5GLN. Order spin top and enclosed reflector guards separately.

[Ⓛ] Catalog numbers shown with 1-1/2" conduit openings; change 5 to 4 for 1-1/4"; e.g. VM5H400D4GLG.

[Ⓛ] Consult catalog logic for other available voltages.

[Ⓛ] Add suffix NR for restricted breathing; see page L54 for more information.

[Ⓛ] 400W M59 Fixtures are EXPORT ONLY (EISA LAW).

[Ⓛ] VMEZA tank adapters UL "classified" as an assembly for use between VM tanks and EZ mounts. Order EZ mounts separately. See page L83.

[Ⓛ] VMEP40 not for use with EZ wall bracket.



Pendant
w/ Globe &
Guard



Pendant
w/ Spin-Top
Refractor



Ceiling
w/ Enclosed
Reflector

Class I, Div. 2, Groups A,B,C,D^①
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
Suitable for wet locations
NEMA 3, 4, 4X; IP66

cUL^{us} Listed - File E10514 (Hazardous & Marine)

SP Certified - File LR11713

NR Restricted Breathing Option^⑤
Class I, Zone 2 AEx nAnR
Class I, Zone 2 Ex nR

VM 250-400 WATT METAL HALIDE PULSE PENDANT							
DESCRIPTION				7-3/4" OPTIC THREAD SIZE ^②			
WATTS	ANSI	HUB SIZE ^③	VOLTAGE ^④	GLOBE & GUARD	TYPE V SPIN-TOP GLASS REFRACTOR	ENCLOSED REFLECTOR	POLYCARBONATE SHIELDED ENCLOSED REFLECTOR
250	M138 M153	3/4"	Quad	VM5P250A2GLG	VM5P250A2S5N	VM5P250A2ERN	VM5P250A2EPN
			Tri	VM5P256A2GLG	VM5P256A2S5N	VM5P256A2ERN	VM5P256A2EPN
			480	VM5P255A2GLG	VM5P255A2S5N	VM5P255A2ERN	VM5P255A2EPN
320	M132 M154	3/4"	Quad	VM5P320A2GLG	VM5P320A2S5N	VM5P320A2ERN	VM5P320A2EPN
			Tri	VM5P326A2GLG	VM5P326A2S5N	VM5P326A2ERN	VM5P326A2EPN
			480	VM5P325A2GLG	VM5P325A2S5N	VM5P325A2ERN	VM5P325A2EPN
350	M131	3/4"	Quad	VM5P350A2GLG	VM5P350A2S5N	VM5P350A2ERN	VM5P350A2EPN
			Tri	VM5P356A2GLG	VM5P356A2S5N	VM5P356A2ERN	VM5P356A2EPN
			480	VM5P355A2GLG	VM5P355A2S5N	VM5P355A2ERN	VM5P355A2EPN
400	M135 M155	3/4"	Quad	VM5P400A2GLG	VM5P400A2S5N	VM5P400A2ERN	VM5P400A2EPN
			Tri	VM5P406A2GLG	VM5P406A2S5N	VM5P406A2ERN	VM5P406A2EPN
			480	VM5P405A2GLG	VM5P405A2S5N	VM5P405A2ERN	VM5P405A2EPN

VM 250-400 WATT METAL HALIDE PULSE CEILING							
DESCRIPTION				7-3/4" OPTIC THREAD SIZE ^②			
WATTS	ANSI	HUB SIZE ^③	VOLTAGE ^④	GLOBE & GUARD	TYPE V SPIN-TOP GLASS REFRACTOR	ENCLOSED REFLECTOR	POLYCARBONATE SHIELDED ENCLOSED REFLECTOR
250	M138 M153	3/4"	Quad	VM5P250X2GLG	VM5P250X2S5N	VM5P250X2ERN	VM5P250X2EPN
			Tri	VM5P256X2GLG	VM5P256X2S5N	VM5P256X2ERN	VM5P256X2EPN
			480	VM5P255X2GLG	VM5P255X2S5N	VM5P255X2ERN	VM5P255X2EPN
320	M132 M154	3/4"	Quad	VM5P320X2GLG	VM5P320X2S5N	VM5P320X2ERN	VM5P320X2EPN
			Tri	VM5P326X2GLG	VM5P326X2S5N	VM5P326X2ERN	VM5P326X2EPN
			480	VM5P325X2GLG	VM5P325X2S5N	VM5P325X2ERN	VM5P325X2EPN
350	M131	3/4"	Quad	VM5P350X2GLG	VM5P350X2S5N	VM5P350X2ERN	VM5P350X2EPN
			Tri	VM5P356X2GLG	VM5P356X2S5N	VM5P356X2ERN	VM5P356X2EPN
			480	VM5P355X2GLG	VM5P355X2S5N	VM5P355X2ERN	VM5P355X2EPN
400	M135 M155	3/4"	Quad	VM5P400X2GLG	VM5P400X2S5N	VM5P400X2ERN	VM5P400X2EPN
			Tri	VM5P406X2GLG	VM5P406X2S5N	VM5P406X2ERN	VM5P406X2EPN
			480	VM5P405X2GLG	VM5P405X2S5N	VM5P405X2ERN	VM5P405X2EPN

^① See hazardous application data on pages L112-L113 for limitations.

^② Globe catalog number shown with guard. To omit guard, change G to N; e.g. VM5P250A2GLN. Order spin top and enclosed reflector guards separately.

^③ Catalog numbers shown are with 3/4" conduit openings, change 2 to 3 for 1"; e.g. VM5P250A3GLG.

^④ Consult catalog logic for other available voltages.

^⑤ Add suffix NR for restricted breathing; see page L54 for more information.





**Wall
w/ Globe &
Guard**



**Wall
w/ Spin-Top
Refractor**



**Cone
w/ Enclosed
Reflector**

Class I, Div. 2, Groups A,B,C,D[Ⓢ]
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III

Suitable for wet locations
NEMA 3, 4, 4X; IP66

UL Listed - File E10514 (Hazardous & Marine)

SF Certified - File LR11713

NR Restricted Breathing Option[Ⓢ]

Class I, Zone 2 AEx nAnR

Class I, Zone 2 Ex nR

VM 250-400 WATT METAL HALIDE PULSE WALL							
DESCRIPTION				7-3/4" OPTIC THREAD SIZE [Ⓢ]			
WATTS	ANSI	HUB SIZE [Ⓢ]	VOLTAGE [Ⓢ]	GLOBE & GUARD	TYPE V SPIN-TOP GLASS REFRACTOR	ENCLOSED REFLECTOR	POLYCARBONATE SHIELDED ENCLOSED REFLECTOR
250	M138 M153	3/4"	Quad	VM5P250B2GLG	VM5P250B2S5N	VM5P250B2ERN	—
			Tri	VM5P256B2GLG	VM5P256B2S5N	VM5P256B2ERN	—
			480	VM5P255B2GLG	VM5P255B2S5N	VM5P255B2ERN	—
320	M132 M154	3/4"	Quad	VM5P320B2GLG	VM5P320B2S5N	VM5P320B2ERN	—
			Tri	VM5P326B2GLG	VM5P326B2S5N	VM5P326B2ERN	—
			480	VM5P325B2GLG	VM5P325B2S5N	VM5P325B2ERN	—
350	M131	3/4"	Quad	VM5P350B2GLG	VM5P350B2S5N	VM5P350B2ERN	—
			Tri	VM5P356B2GLG	VM5P356B2S5N	VM5P356B2ERN	—
			480	VM5P355B2GLG	VM5P355B2S5N	VM5P355B2ERN	—
400	M135 M155	3/4"	Quad	VM5P400B2GLG	VM5P400B2S5N	VM5P400B2ERN	—
			Tri	VM5P406B2GLG	VM5P406B2S5N	VM5P406B2ERN	—
			480	VM5P405B2GLG	VM5P405B2S5N	VM5P405B2ERN	—

VM 250-400 WATT METAL HALIDE PULSE CONE							
DESCRIPTION				7-3/4" OPTIC THREAD SIZE [Ⓢ]			
WATTS	ANSI	HUB SIZE [Ⓢ]	VOLTAGE [Ⓢ]	GLOBE & GUARD	TYPE V SPIN-TOP GLASS REFRACTOR	ENCLOSED REFLECTOR	POLYCARBONATE SHIELDED ENCLOSED REFLECTOR
250	M138 M153	3/4"	Quad	VM5P250C2GLG	VM5P250C2S5N	VM5P250C2ERN	VM5P250C2EPN
			Tri	VM5P256C2GLG	VM5P256C2S5N	VM5P256C2ERN	VM5P256C2EPN
			480	VM5P255C2GLG	VM5P255C2S5N	VM5P255C2ERN	VM5P255C2EPN
320	M132 M154	3/4"	Quad	VM5P320C2GLG	VM5P320C2S5N	VM5P320C2ERN	VM5P320C2EPN
			Tri	VM5P326C2GLG	VM5P326C2S5N	VM5P326C2ERN	VM5P326C2EPN
			480	VM5P325C2GLG	VM5P325C2S5N	VM5P325C2ERN	VM5P325C2EPN
350	M131	3/4"	Quad	VM5P350C2GLG	VM5P350C2S5N	VM5P350C2ERN	VM5P350C2EPN
			Tri	VM5P356C2GLG	VM5P356C2S5N	VM5P356C2ERN	VM5P356C2EPN
			480	VM5P355C2GLG	VM5P355C2S5N	VM5P355C2ERN	VM5P355C2EPN
400	M135 M155	3/4"	Quad	VM5P400C2GLG	VM5P400C2S5N	VM5P400C2ERN	VM5P400C2EPN
			Tri	VM5P406C2GLG	VM5P406C2S5N	VM5P406C2ERN	VM5P406C2EPN
			480	VM5P405C2GLG	VM5P405C2S5N	VM5P405C2ERN	VM5P405C2EPN

[Ⓢ] See hazardous application data on pages L112-L113 for limitations.

[Ⓢ] Globe catalog number shown with guard. To omit guard, change G to N; e.g. VM5P250B2GLN. Order spin top and enclosed reflector guards separately.

[Ⓢ] Catalog numbers shown are with 3/4" conduit openings, change 2 to 3 for 1"; e.g. VM5P250B3GLG.

[Ⓢ] Consult catalog logic for other available voltages.

[Ⓢ] Add suffix NR for restricted breathing; see page L54 for more information.





**Stanchion 25°
w/ Globe &
Guard**



**Stanchion 25°
w/ Spin-Top
Refractor**



**Stanchion Straight
w/ Enclosed
Reflector**

Class I, Div. 2, Groups A,B,C,D[Ⓢ]
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
Suitable for wet locations
NEMA 3, 4, 4X; IP66

UL Listed - File E10514 (Hazardous & Marine)

SP Certified - File LR11713

NR Restricted Breathing Option[Ⓢ]
Class I, Zone 2 AEx nAnR
Class I, Zone 2 Ex nR

VM 250-400 WATT METAL HALIDE PULSE STANCHION 25° ANGLE						
DESCRIPTION				7-3/4" OPTIC THREAD SIZE [Ⓢ]		
WATTS	ANSI	HUB SIZE [Ⓢ]	VOLTAGE [Ⓢ]	GLOBE & GUARD	TYPE V SPIN-TOP GLASS REFRACTOR	ENCLOSED REFLECTOR
250	M138 M153	1-1/2"	Quad	VM5P250D5GLG	VM5P250D5S5N	VM5P250D5ERN
			Tri	VM5P256D5GLG	VM5P256D5S5N	VM5P256D5ERN
			480	VM5P255D5GLG	VM5P255D5S5N	VM5P255D5ERN
320	M132 M154	1-1/2"	Quad	VM5P320D5GLG	VM5P320D5S5N	VM5P320D5ERN
			Tri	VM5P326D5GLG	VM5P326D5S5N	VM5P326D5ERN
			480	VM5P325D5GLG	VM5P325D5S5N	VM5P325D5ERN
350	M131	1-1/2"	Quad	VM5P350D5GLG	VM5P350D5S5N	VM5P350D5ERN
			Tri	VM5P356D5GLG	VM5P356D5S5N	VM5P356D5ERN
			480	VM5P355D5GLG	VM5P355D5S5N	VM5P355D5ERN
400	M135 M155	1-1/2"	Quad	VM5P400D5GLG	VM5P400D5S5N	VM5P400D5ERN
			Tri	VM5P406D5GLG	VM5P406D5S5N	VM5P406D5ERN
			480	VM5P405D5GLG	VM5P405D5S5N	VM5P405D5ERN

VM 250-400 WATT METAL HALIDE PULSE STANCHION STRAIGHT						
DESCRIPTION				7-3/4" OPTIC THREAD SIZE [Ⓢ]		
WATTS	ANSI	HUB SIZE [Ⓢ]	VOLTAGE [Ⓢ]	GLOBE & GUARD	TYPE V SPIN-TOP GLASS REFRACTOR	ENCLOSED REFLECTOR
250	M138 M153	1-1/2"	Quad	VM5P250S5GLG	VM5P250S5S5N	VM5P250S5ERN
			Tri	VM5P256S5GLG	VM5P256S5S5N	VM5P256S5ERN
			480	VM5P255S5GLG	VM5P255S5S5N	VM5P255S5ERN
320	M132 M154	1-1/2"	Quad	VM5P320S5GLG	VM5P320S5S5N	VM5P320S5ERN
			Tri	VM5P326S5GLG	VM5P326S5S5N	VM5P326S5ERN
			480	VM5P325S5GLG	VM5P325S5S5N	VM5P325S5ERN
350	M131	1-1/2"	Quad	VM5P350S5GLG	VM5P350S5S5N	VM5P350S5ERN
			Tri	VM5P356S5GLG	VM5P356S5S5N	VM5P356S5ERN
			480	VM5P355S5GLG	VM5P355S5S5N	VM5P355S5ERN
400	M135 M155	1-1/2"	Quad	VM5P400S5GLG	VM5P400S5S5N	VM5P400S5ERN
			Tri	VM5P406S5GLG	VM5P406S5S5N	VM5P406S5ERN
			480	VM5P405S5GLG	VM5P405S5S5N	VM5P405S5ERN

[Ⓢ] See hazardous application data on pages L112-L113 for limitations.

[Ⓢ] Globe catalog number shown with guard. To omit guard, change G to N; e.g. VM5P250D5GLN. Order spin top and enclosed reflector guards separately.

[Ⓢ] Catalog numbers shown with 1-1/2" conduit openings; change 5 to 4 for 1-1/4"; e.g. VM5P250D4GLG.

[Ⓢ] Consult catalog logic for other available voltages.

[Ⓢ] Add suffix NR for restricted breathing; see page L54 for more information.





**EZ Adapter
w/ Globe &
Guard**



**EZ Adapter
w/ Spin-Top
Refractor**



**EZ Adapter
w/ Enclosed
Reflector**

Class I, Div. 2, Groups A,B,C,D
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
Suitable for wet locations
NEMA 3, 4, 4X; IP66

Listed - File E10514 (Hazardous & Marine)

Certified - File LR11713

NR Restricted Breathing Option
Class I, Zone 2 AEx nAnR
Class I, Zone 2 Ex nR

VM 250-400 WATT METAL HALIDE PULSE EZ ADAPTER							
DESCRIPTION				7-3/4" OPTIC THREAD SIZE			
WATTS	ANSI	HUB SIZE	VOLTAGE	GLOBE & GUARD	TYPE V SPIN-TOP GLASS REFRACTOR	ENCLOSED REFLECTOR	POLYCARBONATE SHIELDED ENCLOSED REFLECTOR
250	M138 M153	3	Quad	VM5P250EZGLG	VM5P250EZS5N	VM5P250EZERN	VM5P250EZEPN
			Tri	VM5P256EZGLG	VM5P256EZS5N	VM5P256EZERN	VM5P256EZEPN
			480	VM5P255EZGLG	VM5P255EZS5N	VM5P255EZERN	VM5P255EZEPN
320	M132 M154	3	Quad	VM5P320EZGLG	VM5P320EZS5N	VM5P320EZERN	VM5P320EZEPN
			Tri	VM5P326EZGLG	VM5P326EZS5N	VM5P326EZERN	VM5P326EZEPN
			480	VM5P325EZGLG	VM5P325EZS5N	VM5P325EZERN	VM5P325EZEPN
350	M131	3	Quad	VM5P350EZGLG	VM5P350EZS5N	VM5P350EZERN	VM5P350EZEPN
			Tri	VM5P356EZGLG	VM5P356EZS5N	VM5P356EZERN	VM5P356EZEPN
			480	VM5P355EZGLG	VM5P355EZS5N	VM5P355EZERN	VM5P355EZEPN
400	M135 M155	3	Quad	VM5P400EZGLG	VM5P400EZS5N	VM5P400EZERN	VM5P400EZEPN
			Tri	VM5P406EZGLG	VM5P406EZS5N	VM5P406EZERN	VM5P406EZEPN
			480	VM5P405EZGLG	VM5P405EZS5N	VM5P405EZERN	VM5P405EZEPN



Pendant



Ceiling



Wall Bracket

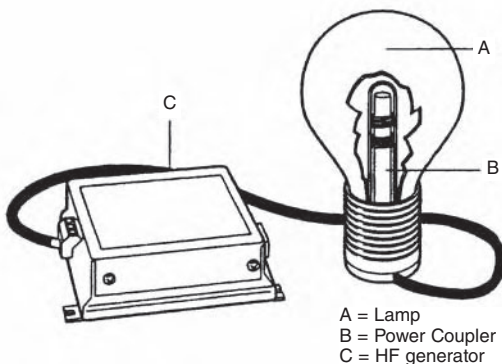


25° Stanchion

MOUNTING BOXES				
CATALOG NUMBER				HUB SIZE
PENDANT	CEILING	BRACKET	STANCHION	
EZA2	EZX2	EZB2	—	3/4"
EZA3	EZX3	EZB3	—	1"
—	—	—	EZD4A*	1-1/4"/1-1/2"

*1-1/2" furnished with 1-1/2"-1-1/4" reducer and extension. Extension only part number EZDVMA.

- ① See hazardous application data on pages L112-L113 for limitations.
- ② Globe catalog number shown with guard. To omit guard, change G to N; e.g. VM5P250EZGLN. Order spin top and enclosed reflector guards separately.
- ③ VMEZA tank adapters UL "classified" as an assembly for use between VM tanks and EZ mounts. See above for separate ordering information.
- ④ Consult catalog logic for other available voltages.
- ⑤ Add suffix NR for restricted breathing; see page L54 for more information.
- ⑥ VMEP40 not for use with EZ wall bracket.



Class I, Div. 2, Groups A,B,C,D[Ⓛ]
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
Suitable for wet locations
NEMA 3, 4, 4x

Listed - File LR11713

CERTILITE®V LUMINAIRE WITH INDUCTION LIGHTING SYSTEM

APPLICATIONS

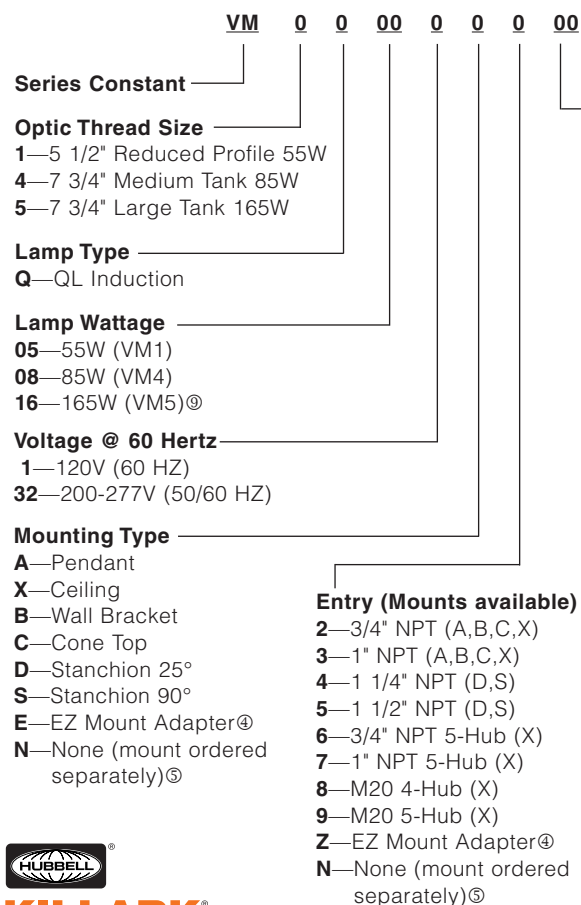
- Where long life lamp sources (up to 100,000 hours) [Ⓛ] are needed.
- In areas that require "instant on" illumination.
- Where cool globe temperatures are required.
- In difficult-to-reach installations.
- In cold environment applications.

Philips® is a registered trademark of Koninklijke Philips Electronics N.V.

FEATURES

- Almost maintenance-free Philips® QL Induction Lamp system.
- Includes lamp.
- Up to 100,000 hour life minimizes maintenance costs.
- Instant start and restart in low temperatures down to -40°C.
- White light with 80+ CRI (Color rendering Index).
- High lumen output & efficacy.
- Less than 10% THD (Total Harmonic Distortion) will not add electrical noise to circuits.

CertiLite®V Catalog Number Logic; 85-165W QL Induction Fixtures



- Options**
- P1—Photocell 120V
 P2—Photocell 208-277V
- Guard**
- G—Guard (Globes & Glass refractors)
 N—No Guard[Ⓛ]
- Optic**
- GL—Globe[Ⓛ]
 R1—Type I Glass Refractor
 R3—Type III Glass Refractor
 R5—Type V Glass Refractor
 S2—Type II 12" Spin-Top Refractor
 S5—Type V 12" Spin-Top Refractor
 ER—Enclosed Reflector
 EP—Polycarbonate Shielded Enclosed Reflector[Ⓛ]

QL SIZE	INITIAL LUMENS	NOMINAL LUMENS [Ⓛ]	EFFICACY [Ⓛ]
55 WATT	3800	3500	63.5
85 WATT	6500	6000	70
165 WATT	12500	12000	72.5

[Ⓛ] See hazardous application data on pages L108-L111 for limitations.
[Ⓛ] Must not exceed 40°C ambient.
[Ⓛ] Order Guards for Spin-Tops & VMER40 separately.
[Ⓛ] Completes as "EZ", conduit mounts ordered separately - See L83.
[Ⓛ] NN mount ordered separately.
[Ⓛ] Not for use with wall or straight (90°) stanchion.
[Ⓛ] At 100 hours; up to 75% of nominal value maintained at 60,000 hours.
[Ⓛ] Lumens per watt.
[Ⓛ] 165W uses VMG25 in VM5 tank (or VMR25x all glass refractors).



Class I, Div. 2, Groups A,B,C,D
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
Suitable for wet locations
NEMA 3, 4, 4x

Listed - File LR11713

VM 55-165W QL INDUCTION PENDANT [®] (INCLUDES LAMP)								
DESCRIPTION				5-1/2" OPTIC THREAD SIZE [®]		7-3/4" OPTIC THREAD SIZE [®]		
WATTS	HUB SIZE [®]	VOLTAGE	TANK STYLE	GLOBE & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE V GLASS REFRACTOR & GUARD	ENCLOSED REFRACTOR
55	3/4"	120 200-277	VM1	VM1Q051A2GLG	VM1Q051A2R5G	—	—	—
				VM1Q0532A2GLG	VM1Q0532A2R5G	—	—	—
85	3/4"	120 200-277	VM4	—	—	VM4Q081A2GLG	VM4Q081A2R5G	VM4Q081A2ERN
				—	—	VM4Q0832A2GLG	VM4Q0832A2R5G	VM4Q0832A2ERN
165	3/4"	120 200-277	VM5	—	—	VM5Q161A2GLG	VM5Q161A2R5G	VM5Q161A2ERN
				—	—	VM5Q1632A2GLG	VM5Q1632B2R5G	VM5Q1632A2ERN

VM 55-165W QL INDUCTION CEILING [®] (INCLUDES LAMP)								
DESCRIPTION				5-1/2" OPTIC THREAD SIZE [®]		7-3/4" OPTIC THREAD SIZE [®]		
WATTS	HUB SIZE [®]	VOLTAGE	TANK STYLE	GLOBE & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE V GLASS REFRACTOR & GUARD	ENCLOSED REFRACTOR
55	3/4"	120 200-277	VM1	VM1Q051X2GLG	VM1Q051X2R5G	—	—	—
				VM1Q0532X2GLG	VM1Q0532X2R5G	—	—	—
85	3/4"	120 200-277	VM4	—	—	VM4Q081X2GLG	VM4Q081X2R5G	VM4Q081X2ERN
				—	—	VM4Q0832X2GLG	VM4Q0832X2R5G	VM4Q0832X2ERN
165	3/4"	120 200-277	VM5	—	—	VM5Q161X2GLG	VM5Q161X2R5G	VM5Q161X2ERN
				—	—	VM5Q1632X2GLG	VM5Q1632X2R5G	VM5Q1632X2ERN

VM 55-165W QL INDUCTION WALL [®] (INCLUDES LAMP)								
DESCRIPTION				5-1/2" OPTIC THREAD SIZE [®]		7-3/4" OPTIC THREAD SIZE [®]		
WATTS	HUB SIZE [®]	VOLTAGE	TANK STYLE	GLOBE & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE V GLASS REFRACTOR & GUARD	ENCLOSED REFRACTOR
55	3/4"	120 200-277	VM1	VM1Q051B2GLG	VM1Q051B2R5G	—	—	—
				VM1Q0532B2GLG	VM1Q0532B2R5G	—	—	—
85	3/4"	120 200-277	VM4	—	—	VM4Q081B2GLG	VM4Q081B2R5G	VM4Q081B2ERN
				—	—	VM4Q0832B2GLG	VM4Q0832B2R5G	VM4Q0832B2ERN
165	3/4"	120 200-277	VM5	—	—	VM5Q161B2GLG	VM5Q161B2R5G	VM5Q161B2ERN
				—	—	VM5Q1632B2GLG	VM5Q1632B2R5G	VM5Q1632B2ERN

VM 55-165W QL INDUCTION CONE [®] (INCLUDES LAMP)								
DESCRIPTION				5-1/2" OPTIC THREAD SIZE [®]		7-3/4" OPTIC THREAD SIZE [®]		
WATTS	HUB SIZE [®]	VOLTAGE	TANK STYLE	GLOBE & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE V GLASS REFRACTOR & GUARD	ENCLOSED REFRACTOR
55	3/4"	120 200-277	VM1	VM1Q051C2GLG	VM1Q051C2R5G	—	—	—
				VM1Q0532C2GLG	VM1Q0532C2R5G	—	—	—
85	3/4"	120 200-277	VM4	—	—	VM4Q081C2GLG	VM4Q081C2R5G	VM4Q081C2ERN
				—	—	VM4Q0832C2GLG	VM4Q0832C2R5G	VM4Q0832C2ERN
165	3/4"	120 200-277	VM5	—	—	VM5Q161C2GLG	VM5Q161C2R5G	VM5Q161C2ERN
				—	—	VM5Q1632C2GLG	VM5Q1632C2R5G	VM5Q1632C2ERN

[®] See hazardous application data on pages L108-L111 for limitations.

[®] Globe catalog number shown with guard. To omit guard, change G to N; e.g. VM4Q081A2GLN. Order spin top and enclosed reflector guards separately.

[®] Catalog numbers shown are with 3/4" conduit openings, change 2 to 3 for 1"; e.g. VM4Q081A3GLG.





**Stanchion 25°
w/ Globe &
Guard**



**Stanchion 90°
w/ Spin-Top
Refractor**



**EZ Adapter
w/ Enclosed
Reflector**

Class I, Div. 2, Groups A,B,C,D[Ⓛ]
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
Suitable for wet locations
NEMA 3, 4, 4x

 Listed - File LR11713

VM 55-165W QL INDUCTION 25° STANCHION [Ⓛ] (INCLUDES LAMP)								
DESCRIPTION				5-1/2" OPTIC THREAD SIZE [Ⓛ]		7-3/4" OPTIC THREAD SIZE [Ⓛ]		
WATTS	HUB SIZE [Ⓛ]	VOLTAGE	TANK STYLE	GLOBE & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE V GLASS REFRACTOR & GUARD	ENCLOSED REFRACTOR
55	1-1/2"	120 200-277	VM1	VM1Q051D5GLG	VM1Q051D5R5G	—	—	—
				VM1Q0532D5GLG	VM1Q0532D5R5G	—	—	—
85	1-1/2"	120 200-277	VM4	—	—	VM4Q081D5GLG	VM4Q081D5R5G	VM4Q081D5ERN
				—	—	VM4Q0832D5GLG	VM4Q0832D5R5G	VM4Q0832D5ERN
165	1-1/2"	120 200-277	VM5	—	—	VM5Q161D5GLG	VM5Q161D5R5G	VM5Q161D5ERN
				—	—	VM5Q1632D5GLG	VM5Q1632D5R5G	VM5Q1632D5ERN

VM 55-165W QL INDUCTION STRAIGHT STANCHION [Ⓛ] (INCLUDES LAMP)								
DESCRIPTION				5-1/2" OPTIC THREAD SIZE [Ⓛ]		7-3/4" OPTIC THREAD SIZE [Ⓛ]		
WATTS	HUB SIZE [Ⓛ]	VOLTAGE	TANK STYLE	GLOBE & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE V GLASS REFRACTOR & GUARD	ENCLOSED REFRACTOR
55	1-1/2"	120 200-277	VM1	VM1Q051S5GLG	VM1Q051S5R5G	—	—	—
				VM1Q0532S5GLG	VM1Q0532S5R5G	—	—	—
85	1-1/2"	120 200-277	VM4	—	—	VM4Q081S5GLG	VM4Q081S5R5G	VM4Q081S5ERN
				—	—	VM4Q0832S5GLG	VM4Q0832S5R5G	VM4Q0832S5ERN
165	1-1/2"	120 200-277	VM5	—	—	VM5Q161S5GLG	VM5Q161S5R5G	VM5Q161S5ERN
				—	—	VM5Q1632S5GLG	VM5Q1632S5R5G	VM5Q1632S5ERN

VM 55-165W QL INDUCTION EZ ADAPTER [Ⓛ] (INCLUDES LAMP)								
DESCRIPTION				5-1/2" OPTIC THREAD SIZE [Ⓛ]		7-3/4" OPTIC THREAD SIZE [Ⓛ]		
WATTS	HUB SIZE [Ⓛ]	VOLTAGE	TANK STYLE	GLOBE & GUARD	TYPE V GLASS REFRACTOR & GUARD	GLOBE & GUARD	TYPE V GLASS REFRACTOR & GUARD	ENCLOSED REFRACTOR
55	Ⓛ	120 200-277	VM1	VM1Q051EZGLG	VM1Q051EZR5G	—	—	—
				VM1Q0532EZGLG	VM1Q0532EZR5G	—	—	—
85	Ⓛ	120 200-277	VM4	—	—	VM4Q081EZGLG	VM4Q081EZR5G	VM4Q081EZERN
				—	—	VM4Q0832EZGLG	VM4Q0832EZR5G	VM4Q0832EZERN
165	Ⓛ	120 200-277	VM5	—	—	VM5Q161EZGLG	VM5Q161EZR5G	VM5Q161EZERN
				—	—	VM5Q1632EZGLG	VM5Q1632EZR5G	VM5Q1632EZERN

[Ⓛ] See hazardous application data on pages L108-L111 for limitations.

[Ⓛ] Globe catalog number shown with guard. To omit guard, change G to N; e.g. VM4Q081D5GLN. Order spin top and enclosed reflector guards separately.

[Ⓛ] Stanchion catalog numbers shown are with 1-1/2" conduit openings, change "5" to "4" for 1-1/4"; e.g. VM4Q081D4GLG.

[Ⓛ] VMEZA tank adapters are UL "classified" as an assembly for use between VM tanks and EZ mounts. Order EZ mounts separately. See page L83.

CERTILITE®V PHOTO CELL ACCESSORY




PHOTO CONTROL FOR STANDARD AND HAZARDOUS CLASS I DIVISION 2 AREAS [Ⓜ]			
CATALOG NUMBER	VOLTS	FREQUENCY	WATTS
HUB2PC120	120VAC	50/60Hz	400
HUB2PC227 [Ⓝ]	208-277VAC [Ⓝ]	50/60Hz	400
HUB2PC347	347VAC	50/60Hz	440

- Ⓜ Must be factory installed. Add P1 (for 120V), P2 (for 208-277V) or P3 (for 347V) suffixes are also for use with KFxxx - 76 Floods and KWP Series Wallpack Luminaires.
- Ⓝ Photo control cells for Class 1 Division 2 only.
- Ⓞ Marked 220-277V, suitable for 208V.

PHOTO CELL FIELD KITS*		
CATALOG NUMBER [Ⓜ]	VOLTS	FREQUENCY
HUB2PC120FK	120VAC	50/60Hz
HUB2PC277FK	208-277VAC	50/60Hz
HUB2PC347FK	347VAC	50/60Hz


Photo Control Component UL/CSA



* Includes instructions for KF/KWP Series.
[Ⓜ] 40°C ambient max. C1 D2 (T3) to 400W max.

FS COVER MOUNTED PHOTO CELLS*	
CATALOG NUMBER [Ⓜ] [Ⓝ]	VOLTS
VMFSPC1	120VAC
VMFSPC2	208-277VAC
VMFSPC3	347VAC

FACTORY SEALED




SP
C1, DIV.2 & N4X

* Includes photo cell and factory drilled cover and gasket.
[Ⓜ] Order single gang FS box separately.
[Ⓝ] 40°C ambient max. T3 to 400W max.

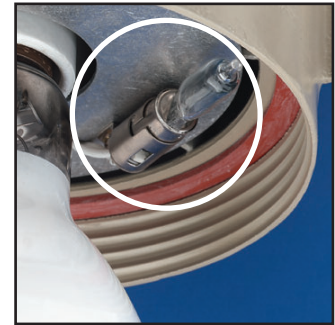
HKB-GL PHOTO CELLS	
CATALOG NUMBER [Ⓜ]	VOLTS
VMHKPC1	120VAC
VMHKPC2	208-277VAC
VMHKPC3	347VAC

FACTORY SEALED



SP
Class I, DIV. 1 BCD
Class II, DIV. 1&2 EFG
CLASS III
NEMA 3, 4X IP66

[Ⓜ] 40°C ambient T3 Rated.



Auxiliary Lighting

Momentary voltage outages or dips can temporarily extinguish HID lamps which may require up to ten (10) minutes to restrike. To provide illumination during this period, about 10% of the fixtures should be specified with auxiliary lighting.

Quartz Auxiliary

Quartz auxiliary is available for all Certilite®V Series fixtures (except those with plastic refractors) by adding the suffix "QA" to the fixture catalog number. Example: VM3S050A2GLG-QA.

Low wattage fixtures with this option use 100 or 150 watt quartz lamps. High wattage fixtures can use up to 250 watt quartz lamps. Quartz lamps are not supplied with the fixture. Use quartz lamp type Q100 CL/DC (100W) or Q150 CL/DC (150W) DC Bayonet T-4 Base.

Due to the quartz envelope surface temperature (exceeding 600°C), fixtures with this option are not suitable for Class I, Division 2, Class I, Zone 2, some Class I, Zone 2 Ex nR, Class II and Class III hazardous locations. Contact the factory for specific fixture suitabilities.

Instant Restrike

Available for low wattage High Pressure Sodium Fixtures by adding Suffix "IR" to catalog number Example: VM3S050A2GLG-IR.

Additional instant restrike interior circuitry may decrease High Pressure Sodium lamp life. Feature will not affect fixture suitability in hazardous location applications.

Ballast Protection Circuit

Optional factory installed special ballast protector replaces the standard HPS ignitor and applies starting pulse to the lamp for 10 to 15 seconds each time voltage is supplied to the ballast. If the lamp has not ignited by the end of the time period, the starter will cease pulsing. Used to eliminate the continuous high voltage pulsing of the ignitor when end of life, lamp cycling, or missing lamp conditions exist. Available for HPS fixtures. Add suffix "BP" to fixture catalog number.

Notes: BP and IR cannot be used together.
 QTZ and IR cannot be used together.



Pendant



Flexible Pendant



Ceiling



Wall



Cone Top



25° Stanchion



Straight Stanchion



EZ Adapter*
VMEZA

CERTILITE®V VM MOUNTING SPLICE BOXES								
CATALOG NUMBER								
HUB SIZE	PENDANT	FLEXIBLE PENDANT	CEILING 4 HUB	CEILING 5 HUB	WALL	CONE TOP	25 DEGREE STANCHION	90 DEGREE STANCHION
3/4"	VMA2B	VMF2B	VMX2B	VMX6B	VMB2B	VMC2B	—	—
1"	VMA3B	VMF3B	VMX3B	VMX7B	VMB3B	VMC3B	—	—
1-1/4"	—	—	—	—	—	—	VMD4B	VMS4B
1-1/2"	—	—	—	—	—	—	VMD5B	VMS5B
M-20	—	—	VMX8B**	VMX9B	—	—	—	—

*VMEZA is used between a ballast tank and an EZ mount-ordered separately. See L83 for more information.

**VMX8B furnished with 3 non-metallic plugs.



VM1 Low Wattage
5-1/2" Optic Thread Size



VM2 Low Wattage
7-3/4" Optic Thread Size



VM3 Low Wattage
5-1/2" Optic Thread Size



VM4 Low Wattage
7-3/4" Optic Thread Size

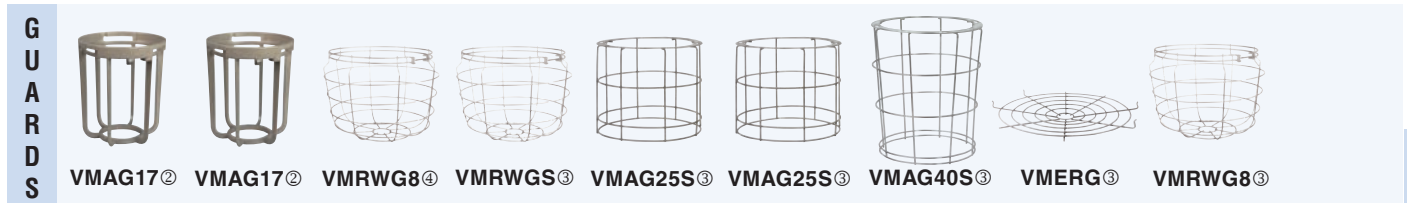


VM5 High Wattage
7-3/4" Optic Thread Size

CERTILITE®V VM 35-600W BALLAST TANK ASSEMBLIES CATALOG NUMBERS															
WATTS	VOLTAGE @ 60 Hz	MEDIUM BASE E26						MOGUL BASE E39 SOCKET							
		HPS		MH-MHP		HPS		MH-MHP			MH PULSE				
		LOW WATTAGE		LOW WATTAGE		LOW WATTAGE		HIGH WATTAGE		LOW WATTAGE	HIGH WATTAGE		LOW WATTAGE	HIGH WATTAGE	
		5-1/2"	7-3/4"	5-1/2"	7-3/4"	5-1/2"	7-3/4"	7-3/4"	5-1/2"	7-3/4"	7-3/4"	5-1/2"	7-3/4"	7-3/4"	
35	120	VM1S031	VM2S031	—	—	—	—	—	—	—	—	—	—	—	
50	Quad	VM1S050	VM2S050	VM1H050	VM2H050	VM3S050	VM4S050	—	—	—	—	—	—	—	
	Tri	—	—	VM1H056	VM2H056	VM3S056	VM4S056	—	—	—	—	—	—	—	
	480	—	—	—	—	VM3S055	VM4S055	—	—	—	—	—	—	—	
70	Quad	VM1S070	VM2S070	VM1H070	VM2H070	VM3S070	VM4S070	—	VM3H070	VM4H070	—	—	—	—	
	Tri	VM1S076	VM2S076	VM1H076	VM2H076	VM3S076	VM4S076	—	VM3H076	VM4H076	—	—	—	—	
	480	VM1S075	VM2S075	VM1H075	VM2H075	VM3S075	VM4S075	—	VM3H075	VM4H075	—	—	—	—	
100	Quad	VM1S100	VM2S100	VM1H100	VM2H100	VM3S100	VM4S100	—	VM3H100	VM4H100	—	—	—	—	
	Tri	VM1S106	VM2S106	VM1H106	VM2H106	VM3S106	VM4S106	—	VM3H106	VM4H106	—	—	—	—	
	480	VM1S105	VM2S105	VM1H105	VM2H105	VM3S105	VM4S105	—	VM3H105	VM4H105	—	—	—	—	
150	Quad	VM1S150	VM2S150	VM1P150	VM2P150	VM3S150	VM4S150	—	—	—	—	VM3P150	VM4P150	—	
	Tri	VM1S156	VM2S156	VM1P156	VM2P156	VM3S156	VM4S156	—	—	—	—	VM3P156	VM4P156	—	
	480	VM1S155	VM2S155	VM1P155	VM2P155	VM3S155	VM4S155	—	—	—	—	VM3P155	VM4P155	—	
175	Quad	—	—	VM1P170	VM2P170	—	—	—	VM3H170	VM4H170	—	VM3P150	VM4P150	—	
	Tri	—	—	VM1P176	VM2P176	—	—	—	VM3H176	VM4H176	—	VM3P156	VM4P156	—	
	480	—	—	VM1P175	VM2P175	—	—	—	VM3H175	VM4H175	—	VM3P155	VM4P155	—	
200	Quad	—	—	—	—	—	—	VM5S200	—	—	—	VM3P200	VM4P200	—	
	Tri	—	—	—	—	—	—	VM5S206	—	—	—	VM3P206	VM4P206	—	
	480	—	—	—	—	—	—	VM5S205	—	—	—	VM3P205	VM4P205	—	
250	Quad	—	—	—	—	—	—	VM5S250	VM3H250	VM4H250	—	—	—	VM5P250	
	Tri	—	—	—	—	—	—	VM5S256	VM3H256	VM4H256	—	—	—	VM5P256	
	480	—	—	—	—	—	—	VM5S255	VM3H255	VM4H255	—	—	—	VM5P255	
320	Quad	—	—	—	—	—	—	—	—	—	—	—	—	VM5P320	
	Tri	—	—	—	—	—	—	—	—	—	—	—	—	VM5P326	
	480	—	—	—	—	—	—	—	—	—	—	—	—	VM5P325	
350	Quad	—	—	—	—	—	—	—	—	—	—	—	—	VM5P350	
	Tri	—	—	—	—	—	—	—	—	—	—	—	—	VM5P356	
	480	—	—	—	—	—	—	—	—	—	—	—	—	VM5P355	
400	Quad	—	—	—	—	—	—	VM5S400	—	—	VM5H400	—	—	VM5P400	
	Tri	—	—	—	—	—	—	VM5S406	—	—	VM5H406	—	—	VM5P406	
	480	—	—	—	—	—	—	VM5S405	—	—	VM5H405	—	—	VM5P405	
600	Quad	—	—	—	—	—	—	VM5S600	—	—	—	—	—	—	
	Tri	—	—	—	—	—	—	VM5S606	—	—	—	—	—	—	
	480	—	—	—	—	—	—	VM5S605	—	—	—	—	—	—	

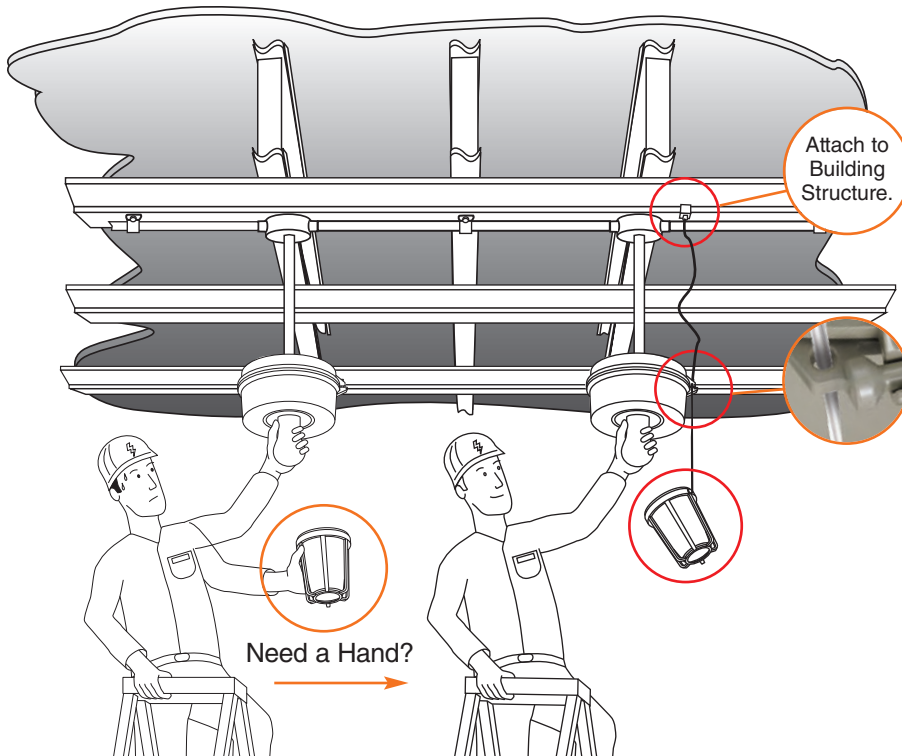


CERTILITE®V OPTICS & GUARDS						
DESCRIPTION	VM1/VM3 Low Wattage 5-1/2" Optic Thread Size		VM2/VM4/VM5QL Low Wattage 7-3/4" Optic Thread Size		VM5 High Wattage 7-3/4" Optic Thread Size	
	OPTICS	GUARD	OPTICS	GUARD	OPTICS	GUARD
Globe (glass)	VMG17	VMAG17	VMG25	VMAG25S	VMG40	VMAG40S
Refractor (all glass) Type V	VMR175	VMAG17	VMR255	VMAG25S	—	—
Refractor (all glass) Type I	VMR171 ^②	VMAG17	VMR251 ^②	VMAG25S	—	—
Refractor (all glass) Type III	—	—	VMR253 ^②	VMAG25S	—	—
Refractor (spin top glass) 8" Type V	VZRG1550	VMRWG8	—	—	—	—
Refractor (spin top glass) 12" Type V	VZRG2550	VMRWG	VZRG4050 ^①	VMRWG	VZRG4050	VMRWG
Refractor (spin top glass) 12" Type II	VZRG2520	VMRWG	VZRG4020 ^①	VMRWG	VZRG4020	VMRWG
Refractor (spin top plastic) 12" Type V	VZRP175	VMRWG	—	—	—	—
Enclosed Reflector (glass lens)	—	—	VMER40	VMERG	VMER40	VMERG
Enclosed Reflector (plastic lens)	—	—	VMEP40	—	VMEP40	—
Globe (Tuffskin® coated) ^⑤	VMG17F	VMAG17	VMG25F	VMAG25S	VMG40F	VMAG40S
Globe (Teflon® coated) ^⑤	VMG17T	VMAG17	VMG25T	VMAG25S	VMG40T	VMAG40S
Refractor (Teflon coated) Type V	VMR175T	VMAG17	VMR255T	VMAG25S	—	—
Refractor (Teflon coated) Type I	VMR171T	VMAG17	VMR251T	VMAG25S	—	—
Refractor (Teflon coated) Type III	—	—	VMR253T	VMAG25S	—	—
Refractor (Spin Top Teflon coated) 8" Type V	—	VMRWG8	—	—	—	—
Refractor (Spin Top Teflon coated) 12" Type V	VZRG2550T	VMRWG	VZRG4050T ^①	VMRWG	VZRG4050T	VMRWG
Refractor (Spin Top Teflon coated) 12" Type II	VZRG2520T	VMRWG	VZRG4020T ^①	VMRWG	VZRG4020T	VMRWG



① For reference VM5 Spin Top optics fit VM4 tanks, but VM3 tanks and optics are recommended for low wattage Spin Top applications. VM3 12" Spin Tops ship with a mogul-to-mogul extender for improved photometrics.
 ② Standard material, copper-free aluminum painted.
 ③ Standard material, 316 stainless steel.
 ④ Standard material, plated steel.
 ⑤ Tuffskin® is a registered trademark of Thomas Manufacturing, Co. Teflon® is a registered trademark of DuPont, Inc. Alzak is a registered trademark of Alcoa.
 ⑥ 175W max; not hazloc listed
 ⑦ Type I (III) all-glass refractors align with fixture hinge. Ceiling mount unit utilizing these optics must have offset conduit feed.
 ⑧ For wall applications, mount must be spaced out.

CERTILITE®V REFLECTORS				
VMPD40	VMPA40	HRD400	HRD400ALZ	VMAGBC
Standard Dome Fiberglass White Reflector Dia: 16"	30° Angle Fiberglass White Reflector Dia: 16"	Deep Aluminum White Reflector Dia: 21"	Deep Aluminum Anodized Reflector Dia: 21"	Bottom Closure for VMAG25S/VMAG40S

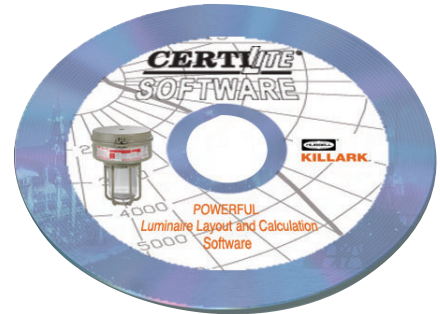


SUSPENSION DEVICES ^④		
TANK	DESCRIPTION	CATALOG NUMBER
VM GLOBE & GUARD UNITS	"3rd hand" safety kits. 24" stainless cable holds globe using guard for lamp change out. Attaches to tank's built-in "Earthquake Tab".	VMAGSC^④
VM (ALL TANKS)	10' Stainless Steel Safety Cable with loop grip. Drop limit 1'. Attaches to "Earthquake Tab" (L41) and to building structure (e.g. I-beam).	VMSC10

^④ VM2, VM4 and VM5 units require VMAGBC bottom closure, sold separately, in addition to guard.

CERTILITE[®] DESIGN
LIGHTING DESIGN SOFTWARE

POWERFUL Luminaire Layout and Calculation Software

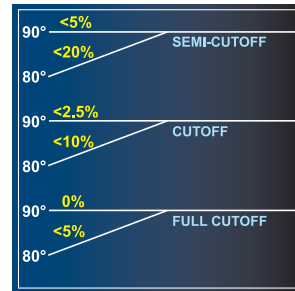


Software is used to determine number of fixtures required and their proper layout for various tasks and applications.

Contact you local Killark sales representative for availability.

DARK SKY KITS		
VMDARK1	Gasket Kit	On VM2/VM4 "Full Cutoff" when used with HRD400 or HRD400ALZ On VM5 "Cutoff" when used with HRD400 or HRD400ALZ
VMER40	Enclosed Reflector	Enclosed Reflector "Full Cutoff" on VM2/VM4/VM5 as standard

Note: CertiLite[®]V luminaires may be configured for "Full Cutoff", or Semi-Cutoff photometric distribution. See page L56 for more information.



See page L56 for more information.



VMCHVM adapter for upgrading existing Crouse-Hinds[®] to Killark, see page L223 for more information.



- ← Existing box
- ← VMCHVM adapter shown in red for illustration
- ← New Killark VM series fixture

SOCKET REPLACEMENTS	
0735015B	Mogul Socket VM3, VM4, VM5
VMBNKIT	Barrel nut and long bolt adapts older CertiLite tanks to newer CertiLite [®] mounts.

FUSE KITS
See catalog logic for factory installed fuses, or page L98-99 for field installation kits.

Crouse-Hinds is a registered trademark of Cooper Crouse-Hinds, LLC,

GENERAL CROSS-REFERENCE FOR CERTILITE® TO CERTILITE®V***							
	WATTS	ANSI LAMP TYPE		GLOBE & GUARD	SPIN-TOP REFRACTOR	ENCLOSED REFLECTOR	TANK ONLY
HPS	50	S68	Certilite®	VML0-0-1GG	VML0-0-1GG58	—	VMLO-0-10
			Certilite®V	VM3S0500GLG	VM3S0500S8N	—	VM3S050
	70	S62	Certilite®	VML0-0-4GG	VML0-0-4GG58	—	VMLO-0-40
			Certilite®V	VM3S0700GLG	VM3S0700S8N	—	VM3S070
	100	S54	Certilite®	VML0-0-5GG	VML0-0-5GG58	—	VMLO-0-50
			Certilite®V	VM3S1000GLG	VM3S1000S8N	—	VM3S100
	150	S55	Certilite®	VML0-0-9GG	VML0-0-9GG58	—	VMLO-0-90
			Certilite®V	VM3S1500GLG	VM3S1500S8N	—	VM3S150
	250	S50	Certilite®	VMV0-0-7GG	VMV0-0-7GG5	VMV0-0-7GER	VMV0-0-70
			Certilite®V	VM5S2500GLG	VM5S2500S5N	VM5S2500ERN	VM5S250
	400	S51	Certilite®	VMV0-0-8GG	VMV0-0-8GG5	VMV0-0-8GER	VMV0-0-80
			Certilite®V	VM5S4000GLG	VM5S4000S5N	VM5S4000ERN	VM5S400
MH	70	M98	Certilite®	VMM0-0-4GG	VMM0-0-4GG58	—	VMM0-0-40
			Certilite®V	VM3H0700GLG	VM3H0700S8N	—	VM3H070
	100	M90	Certilite®	VMM0-0-5GG	VMM0-0-5GG58	—	VMM0-0-50
			Certilite®V	VM3H1000GLG	VM3H1000S8N	—	VM3H100
	175	M57	Certilite®	VMM0-0-6GG	VMM0-0-6GG58	—	VMM0-0-60
			Certilite®V	VM3H1700GLG	VM3H1700S5N	—	VM3H170
250	M58	Certilite®	VMM0-0-7GG	VMM0-0-7GG58	—	VMM0-0-70	
		Certilite®V	VM3H2500GLG	VM3H2500S5N	—	VM3H250	
MHP	175	M137	Certilite®	VMU0-0-6GG	VMU0-0-6GG58	—	VMU0-0-60
			Certilite®V	VM3P1700GLG	VM3P1700S8N	—	VM3P170
	250	M138	Certilite®	VMP0-0-7GG	VMP0-0-7GG5	VMP0-0-7GER	VMP0-0-70
			Certilite®V	VM5P2500GLG	VM5P2500S5N	VM5P2500ERN	VM5P250
	320	M132	Certilite®	VMP0-0-32GG	VMP0-0-32GG5	VMP0-0-32GER	VMP0-0-320
			Certilite®V	VM5P3200GLG	VM5P3200S5N	VM5P3200ERN	VM5P320
350	M131	Certilite®	VMP0-0-35GG	VMP0-0-35GG5	VMP0-0-35GER	VMP0-0-350	
		Certilite®V	VM5P3500GLG	VM5P3500S5N	VM5P3500ERN	VM5P350	
400	M135	Certilite®	VMP0-0-8GG	VMP0-0-8GG5	VMP0-0-8GER	VMP0-0-80	
		Certilite®V	VM5P4000GLG	VM5P4000S5N	VM5P4000ERN	VM5P400	
MV	100	H38	Certilite®	VMK0-0-5GG	VMK0-0-5GG58	—	VMK0-0-50
			Certilite®V	VM3M1000GLG	VM3M1000S8N	—	VM3M100
	175	H39	Certilite®	VMK0-0-6GG	VMK0-0-6GG58	—	VMK0-0-60
			Certilite®V	VM3M1700GLG	VM3M1700S8N	—	VM3M170
250	H37	Certilite®	VMK0-0-7GG	VMK0-0-7GG58	—	VMK0-0-70	
		Certilite®V	VM3M2500GLG	VM3M2500S8N	—	VM3M250	
400	H33	Certilite®	VME0-0-8GG	VME0-0-8GG5	VME0-0-8GER	VME0-0-80	
		Certilite®V	VM5M4000GLG	VM5M4000S5N	VM5M4000ERN	VM5M400	

COMPONENTS			
	Certilite®	Certilite®V	DESCRIPTION
MOUNTS	VMA-2	VMA2B	3/4" Pendant
	VMA-3	VMA3B	1" Pendant
	VMB-2	VMB2B	3/4" Wall Bracket
	VMB-3	VMB3B	1" Wall Bracket
	VMC-2	VMC2B	3/4" Cone Top
	VMD-4	VMD4B	1-1/4" 25° Stanchion
	VMD-5	VMD5B	1-1/2" 25° Stanchion
	VMDS-5	VMS5B	1-1/2" 90° Stanchion
	VMX-2	VMX2B	3/4" Ceiling
	VMX-3	VMX3B	1" Ceiling
OPS	VMG-17	VMG17	5-1/2" GLOBE
	VMGT-17	VMG17F	TUFFSKIN GLOBE
	VMGTC-17	VMG17T	TELFON GLOBE
	VMG-40	VMG40	7-3/4" HIGH WATT GLOBE
	VZRG-1550	VZRG1550	8" SPIN-TOP V REFRACTOR
	VZRG-2550	VZRG2550	12" SPIN-TOP V REFRACTOR
	VZRG-2510	VZRG2520	12" SPIN-TOP II REFRACTOR
	VZRP-175	VZRP175	12" POLY REFRACTOR
	VZRG-4050	VZRG4050	12" SPIN-TOP V REFRACTOR
	VZRG-4020	VZRG4020	12" SPIN-TOP II REFRACTOR
VMER40	VMER40	ENCLOSED REFLECTOR	
GUARDS	VMAG-17	VMAG17	5-1/2" GLOBE GUARD
	VMAG-40	VMAG40S	HIGH WATT GLOBE GUARD
	VMRWG-8	VMRWG8	8" SPIN-TOP GUARD
	VMRWG	VMRWG	12" SPIN-TOP GUARD
REFLECTORS	VMPSD-17	VMPSD40	WHITE REFLECTOR
	VMPA-17	VMPA40	WHITE ANGLE REFLECTOR
	VMPSD-40	VMPSD40	WHITE REFLECTOR
	VMPA-40	VMPA40	WHITE ANGLE REFLECTOR
	HRD-400	HRD400	DEEP WHITE REFLECTOR
	HRD-400ALZ	HRD400ALZ	DEEP ALZAK REFLECTOR

Ⓢ All Certilite®V tanks use "40" reflectors.



CertiLite®V Fixture



*** See catalog logic for more information regarding additional conduit sizing and fixture options and accessories.

Ⓢ 175-400W MH Fixtures are EXPORT ONLY (EISA LAW).

MOUNT CODES ① ①		
Certilite® ①-①	Certilite®V ①①	DESCRIPTION
A-2	A2	3/4" Pendant
A-3	A3	1" Pendant
B-2	B2	3/4" Wall Bracket
B-3	B3	1" Wall Bracket
C-2	C2	3/4" Cone Top
D-4	D4	1-1/4" 25° Stanchion
D-5	D5	1-1/2" 25° Stanchion
S-5	S5	1-1/2" 90° Stanchion
X-2	X2	3/4" Ceiling
X-3	X3	1" Ceiling

VOLTAGE CODES ②		
Certilite®	Certilite®V	DESCRIPTION
0	0	Quad-Tap 120, 208, 240, 277V 60Hz
6	6	Tri-Tap 120, 277, 347V 60Hz
5	5	480V 60Hz
7	7	220V 60Hz
8	8	240V 50Hz

OPTIONS		
Certilite®	Certilite®V	DESCRIPTION
QTZ	QA	Quartz Auxiliary
IR	IR	Instant Restart
BP	BP	Ballast Protector
NR	NR	Restricted Breathing
SU103	AS	Assembled w/Standard Lamp

HID BALLAST DATA & FUSE KITS ^①											
LAMP SOURCE	LAMP WATTS/TYPE	VOLTAGE	CURRENT (AMPS)			INPUT WATTS	BALLAST CIRCUIT ^②	REGULATION	MIN. START	VM FUSE KIT	EZ FUSE KIT
			START	OPERATING	OPEN						
HPS	35 S-76	120	.78	.38	.65	46	R/HPF	±5% VOLTAGE* ±5% WATTAGE	-40C -40F	1VM-2	—
HPS	50 S-68	120	.58	.58	1.24	66	HX/HPF	±5% VOLTAGE* ±12% WATTAGE	-40C -40F	1VM-5	1FK-5
		208	.35	.33	.59					2VM-3	2FK-3
		240	.30	.29	.50					2VM-3	2FK-3
		277	.24	.25	.44					1VM-2	1FK-2
		220-240/50	.32	.32	.55	66	HX/HPF	±10% VOLTAGE* ±10% WATTAGE	-40C -40F	1VM-2	1FK-2
HPS	70 S-62	120	.75	.81	1.45	93	HX/HPF	±5% VOLTAGE* ±12% WATTAGE	-40C -40F	1VM-5	1FK-5
		208	.45	.47	.85					2VM-3	2FK-3
		240	.35	.40	.75					2VM-2	2FK-2
		277	.37	.35	.65					1VM-2	1FK-2
		480	.21	.21	.36					2VM-2	2FK-2
		347	.28	.30	0.52				1VM-2	1FK-2	
		220-240/50	.45	.46	.75	94	HX/HPF	±5% VOLTAGE* ±5% WATTAGE	-40C -40F	1VM-2	1FK-2
HPS	100 S-54	120	1.30	1.15	2.20	130	HX/HPF	±5% VOLTAGE* ±12% WATTAGE	-40C -40F	1VM-7	1FK-7
		208	.76	.67	1.27					2VM-5	2FK-5
		240	.66	.58	1.10					2VM-3	2FK-3
		277	.60	.50	.85					1VM-3	1FK-3
		480	0.35	0.29	.55					2VM-3	2FK-3
		347	.44	.39	.70				1VM-3	1FK-3	
		220-240/50	.56/.51	.67/.62	1.28/1.17				1VM-4	1FK-4	
HPS	(55 VOLT LAMP) S-55	120	2.00	1.65	2.80	188	HX/HPF	±5% VOLTAGE* ±12% WATTAGE	-40C -40F	1VM-10	1FK-10
		208	1.15	.95	1.60					2VM-5	2FK-5
		240	1.00	.83	1.40					2VM-5	2FK-5
		277	.85	.72	1.25					1VM-4	1FK-4
		480	.50	.42	.70					2VM-2	2FK-2
		347	.52	.59	.92				1VM-3	1FK-3	
		220-240/50	1.27/1.16	.91/.83	1.52/1.40				1VM-5	1FK-5	
HPS	200 S-66	120	1.50	2.2	1.3	240	CWA	±10% VOLTAGE* ±8% WATTAGE	-40C -40F	1VM-6	—
		208	.90	1.28	.75					2VM-4	—
		240	.75	1.11	.65					2VM-3	—
		277	.65	.96	.60					1VM-3	—
		480	.35	.58	.58					2VM-2	—
HPS	250 S-50	120	1.80	2.75	1.50	295	CWA	±10% VOLTAGE* ±5% WATTAGE	-40C -40F	1VM-7	1FK-7
		208	1.00	1.60	.87					2VM-4	2FK-4
		240	.90	1.38	.75					2VM-4	2FK-4
		277	.78	1.20	.65					1VM-3	1FK-3
		480	.38	.69	.37					2VM-2	2FK-2
		347	.56	.93	.75				1VM-2	1FK-2	
		220-240/50	1.00/.90	.91/.83	.90/.80				1VM-4	1FK-4	
HPS	400 S-51	120	2.82	4.30	1.83	464	CWA	±10% VOLTAGE* ±5% WATTAGE	-40C -40F	1VM-10	1FK-10
		208	1.56	2.48	1.15					2VM-8	2FK-8
		240	1.36	2.15	.84					2VM-5	2FK-5
		277	1.18	1.86	.71					1VM-5	1FK-5
		480	.60	1.00	.75					2VM-3	2FK-3
		347	1.05	1.40	.75				1VM-5	1FK-5	
		220-240/50	1.65/1.50	2.30/2.10	1.20/1.10				1VM-6	1FK-6	
HPS	600 S-106	120	5.25	5.50	3.0	685	CWA	±10% VOLTAGE* ±10% WATTAGE	-40C -40F	1VM-20	—
		208	3.00	3.25	1.75					2VM-15	—
		240	2.60	2.85	1.80					2VM-10	—
		277	2.15	2.50	1.40					1VM-10	—
		480	1.2	1.43	.75					2VM-4	—
		347	1.7	2.00	1.10				1VM-5	—	
MH	50 M-110	120	.46	.58	1.2	67	HX-HPF	±5% VOLTAGE ±10% WATTAGE	-30C -20F	1VM-3	1FK-3
		208	.27	.33	.68					2VM-2	2FK-2
		240	.17	.21	.59					2VM-2	2FK-2
		277	.20	.25	.51					1VM-2	1FK-2
		347	.21	.24	.48					1VM-2	1FK-2
MH	70 M-98	120	.80	.85	1.70	90	HX-HPF	±5% VOLTAGE ±12% WATTAGE	-30C -20F	1VM-4	1FK-4
		208	.50	.50	1.04					2VM-3	2FK-3
		240	.43	.43	.87					2VM-2	2FK-2
		277	.39	.39	.78					1VM-2	1FK-2
		480	0.19	0.23	.50					2VM-1	2FK-1
		347	.30	.30	.60				1VM-2	1FK-2	
MH	100 M-90	120	1.20	1.15	2.3	129	HX-HPF	±5% VOLTAGE ±12% WATTAGE	-30C -20F	1VM-6	1FK-6
		208	.70	1.50	.60					2VM-4	2FK-4
		240	.61	1.30	.55					2VM-3	2FK-3
		277	.55	1.15	.45					1VM-3	1FK-3
		480	0.30	0.30	0.55					2VM-2	2FK-2
		347	.40	.90	.40				1VM-2	1FK-2	
		220-240/50	.45/.41	.52/.51	.60/.85				1VM-4	1FK-4	
MH	175 M-57	120	.80	1.80	1.80	210	CWA	±10% VOLTAGE ±5% WATTAGE	-30C -20F	1VM-5	1FK-5
		208	.42	1.04	1.04					2VM-3	2FK-3
		240	.42	.90	.90					2VM-3	2FK-3
		277	.35	.78	.78					1VM-2	1FK-2
		480	.22	.45	.45					2VM-2	2FK-2
		347	.42	.62	.62				1VM-2	1FK-2	
		220-240/50	.60/.55	.98/.90	.97/.89				1VM-3	1FK-3	
MH	250 M-58	120	1.25	2.60	2.50	295	CWA	±10% VOLTAGE ±5% WATTAGE	-30C -20F	1VM-8	1FK-8
		208	.65	1.50	1.58					2VM-5	2FK-5
		240	.60	1.30	1.25					2VM-5	2FK-5
		277	.50	1.12	1.10					1VM-3	1FK-3
		480	.25	.65	.65					2VM-2	2FK-2
		347	.90	.95	.65				1VM-3	1FK-3	
		220-240/50	.94/.86	1.35/1.24	1.20/1.10				1VM-4	1FK-4	
MH	400 M-59	120	1.10	4.00	3.80	458	CWA	±10% VOLTAGE ±5% WATTAGE	-30C -20F	1VM-10	1FK-10
		208	.70	2.30	2.20					2VM-7	2FK-7
		240	.52	2.00	1.90					2VM-5	2FK-5
		277	.45	1.75	1.65					1VM-5	1FK-5
		480	.38	1.00	1.00					2VM-4	2FK-4
		347	1.20	1.40	1.35				1VM-4	2FK-4	
		220-240/50	1.30/1.19	2.20/2.00	2.10/1.93				1VM-6	2FK-6	

① Fuse kits, for field installation, must be used within guidelines of governing Electric Codes. Fuses not permitted by CSA C22.2 no. 137 for Canada.

② All ballasts circuits are High Power Factor 90%+.

* Lamp watts: within ANSI trapezoid limitations.

Consult major lamp & ballast manufacturer catalogs if more detailed data is needed.



KILLARK®

HID BALLAST DATA & FUSE KIT ①											
LAMP SOURCE	LAMP WATTS/TYPE	VOLTAGE	CURRENT (AMPS)			INPUT WATTS	BALLAST CIRCUIT ②	REGULATION	MIN. START	VM FUSE KIT	EZ FUSE KIT
			START	OPERATING	OPEN						
MHP	125 M-150	120	0.85	1.40	0.90	155	CWA	±10% VOLTAGE ±10% WATTAGE	-30C -20F	1VM-4	1FK-4
		208	0.50	0.80	0.55					2VM-3	2FK-3
		240	0.40	0.70	0.45					2VM-2	2FK-2
		277	0.35	0.60	0.40					1VM-2	1FK-2
		480	0.20	0.35	0.25					2VM-1	2FK-1
347	0.30	0.45	0.25	1VM-1	2FK-2						
MHP	150 M-102	120	1.75	1.60	3.65	185	HX-HPF	±5% VOLTAGE ±12% WATTAGE	-30C -20F	1VM-10	1FK-10
		208	1.30	1.00	2.10					2VM-5	2FK-5
		240	0.85	0.80	1.80					2VM-5	2FK-5
		277	0.77	0.70	1.58					1VM-4	1FK-4
		480	0.45	0.42	0.81					2VM-3	2FK-3
347	0.30	0.62	0.98	1VM-3	1FK-3						
MHP	175 M-137	120	0.95	1.80	1.80	208	CWA	±10% VOLTAGE ±10% WATTAGE	-30C -20F	1VM-5	1FK-5
		208	0.55	1.05	1.05					2VM-3	2FK-3
		240	0.45	0.90	0.90					2VM-3	2FK-3
		277	0.40	0.80	0.80					1VM-2	1FK-2
		480	0.25	0.50	0.45					2VM-2	2FK-2
347	0.40	0.70	0.60	1VM-2	1FK-2						
MHP	250 M-138	120	2.30	2.50	1.40	291	CWA	±10% VOLTAGE ±10% WATTAGE	-30C -20F	1VM-8	1FK-8
		208	1.30	1.45	0.80					2VM-5	2FK-5
		240	1.15	1.25	0.70					2VM-5	2FK-5
		277	1.00	1.10	0.60					1VM-3	1FK-3
		480	0.21	0.57	0.48					2VM-2	2FK-2
347	0.45	0.95	0.75	1VM-3	1FK-3						
MHP	320 M-132	120	1.80	3.25	2.30	368	CWA	±10% VOLTAGE ±10% WATTAGE	-30C -20F	1VM-8	1FK-8
		208	1.05	1.90	1.35					2VM-6	2FK-6
		240	0.30	1.65	1.15					2VM-5	2FK-5
		277	0.80	1.40	1.00					1VM-3	1FK-3
		480	0.45	0.80	0.60					2VM-5	2FK-5
347	0.70	1.10	0.80	1VM-3	1FK-3						
MHP	350 M-131	120	2.20	3.40	2.20	400	CWA	±10% VOLTAGE ±10% WATTAGE	-30C -20F	1VM-10	1FK-10
		208	1.30	2.00	1.30					2VM-7	2FK-7
		240	1.10	1.70	1.10					2VM-5	2FK-5
		277	1.00	1.50	1.00					1VM-5	1FK-5
		480	0.60	0.85	0.60					2VM-3	2FK-3
347	0.85	1.20	0.80	1VM-3	1FK-3						
MHP	400 M-135	120	2.85	3.80	2.20	452	CWA	±10% VOLTAGE ±10% WATTAGE	-30C -20F	1VM-10	1FK-10
		208	1.65	2.20	1.50					2VM-7	2FK-7
		240	1.45	1.90	1.10					2VM-5	2FK-5
		277	1.25	1.65	0.95					1VM-5	1FK-5
		480	0.75	1.00	0.60					2VM-3	2FK-3
347	1.10	1.35	0.75	1VM-4	1FK-4						

① Fuse kits, for field installation, must be used within guidelines of governing Electric Codes. Fuses not permitted by CSA C22.2 no.137 for Canada.

② All ballasts circuits are High Power Factor 90%+.

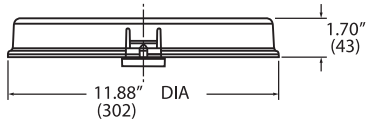
③ Nominal voltages measured at 115V or 230V.

* Lamp watts: within ANSI trapezoid limitations .

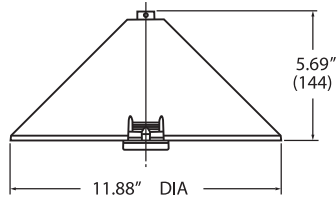
Consult major lamp & ballast manufacturer catalogs if more detailed data is needed.

QL INDUCTION BALLAST DATA							
LAMP SOURCE	LAMP WATTS/TYPE	VOLTAGE	INRUSH CURRENT .005 SEC	NOMINAL OPERATING CURRENT	THD	REGULATION	MIN. START
Induction	55	120	16A	.46A	<10%	±20V, ±2% W	-40C
		200-277	12A	.26A			-40F
Induction	85	120	16A	.73A	<10%	±20V, ±2% W	-40C
		200-277	12A	.40A			-40F
Induction	165	120	28A	1.42A	<10%	±20V, ±2% W	-40C
		200-277	24A	.74A			-40F

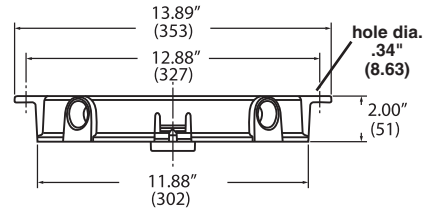




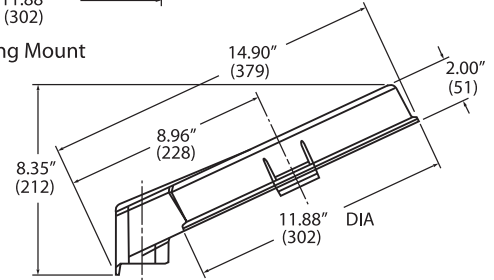
Pendant Mount



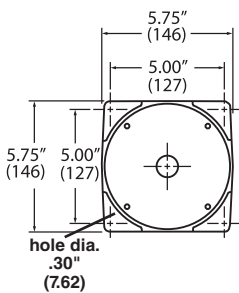
Cone Mount



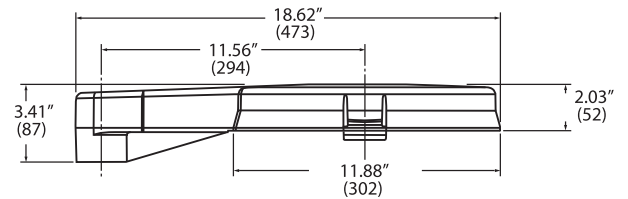
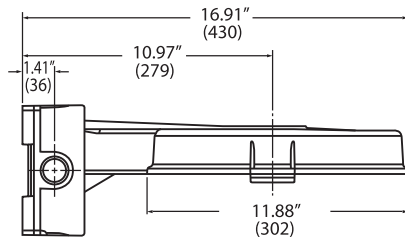
Ceiling Mount



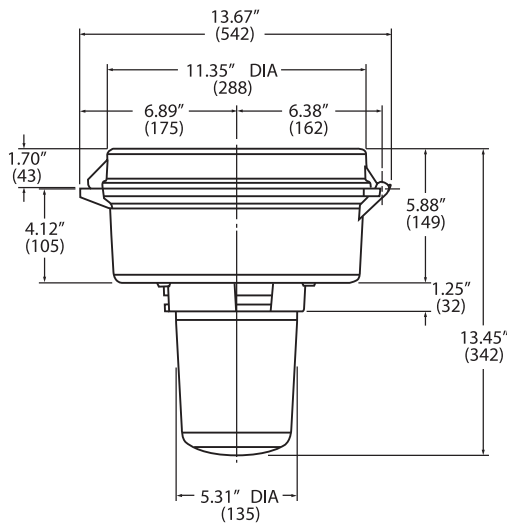
Stanchion(25°) Mount



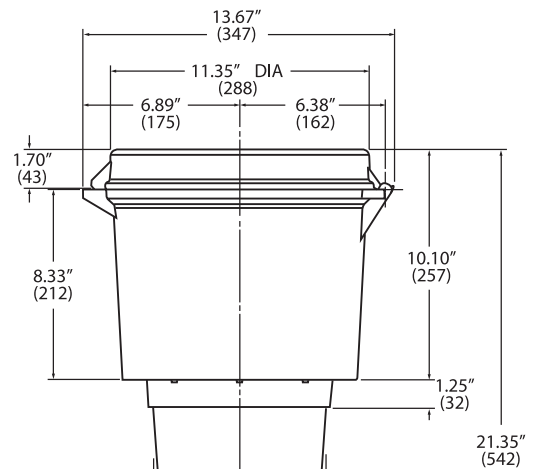
Wall Bracket Mount



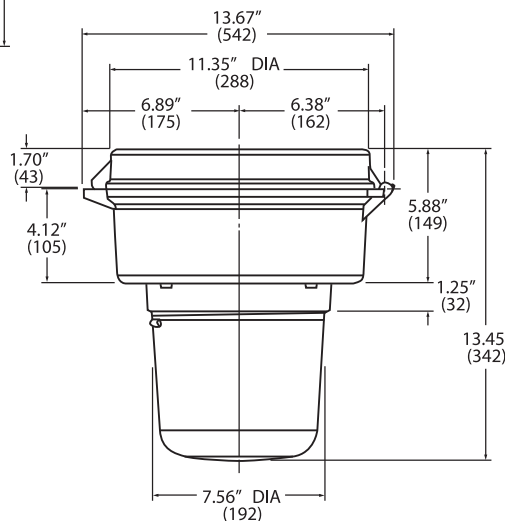
Stanchion(0°) Mount



VM3 Fixture



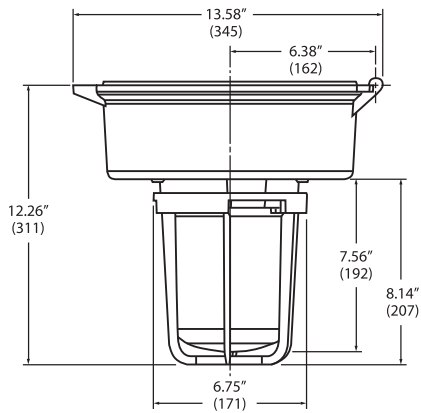
VM5 Fixture



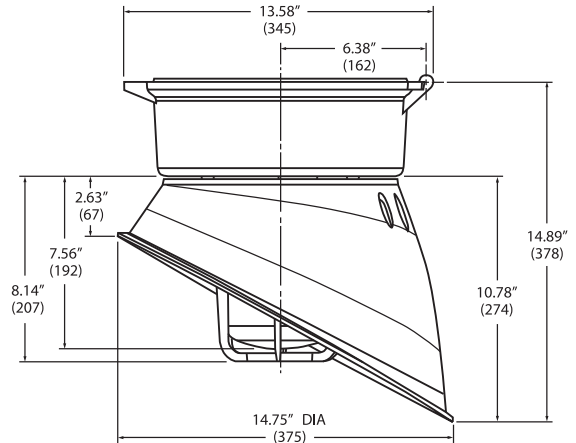
VM4 Fixture

For VM1 & VM2 height, deduct 1.56" (40mm) from the VM3 or VM4 tank respectively, or overall dimensions with same mount and optic. All other dimensions are the same.

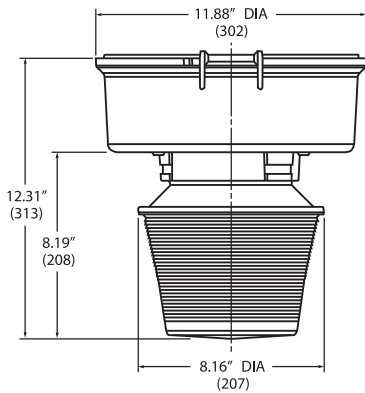




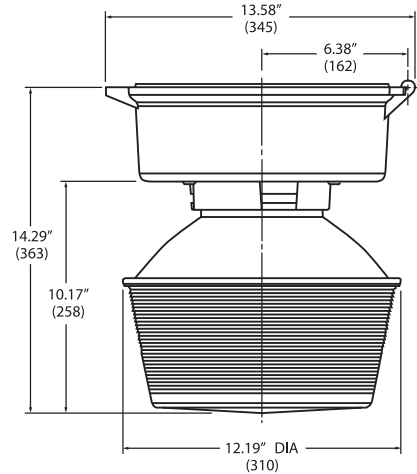
VM3 BALLAST TANK
5-1/2" OPTICS GLOBE OR REFRACTOR
VMAG17 GLOBE GUARD



VM3 BALLAST TANK
VMG17 5-1/2" OPTICS GLOBE
VMPA-40 ANGLED REFLECTOR

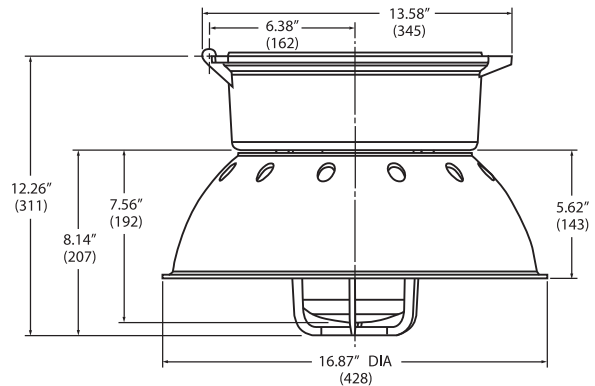


VM3 BALLAST TANK
VZRG-1550 8" SPUN REFRACTOR



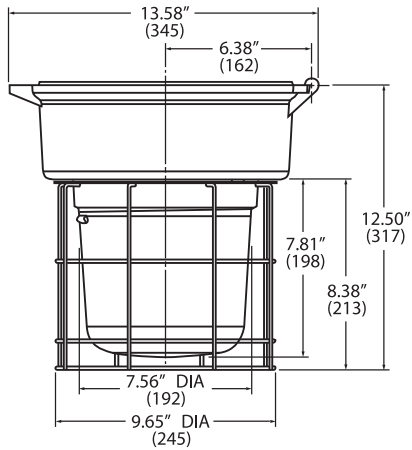
VM3 BALLAST TANK
VZRG 12" SPUN REFRACTOR

For VM1 & VM2 height, deduct 1.56" (40mm) from the VM3 or VM4 tank respectively, or overall dimensions with same mount and optic. All other dimensions are the same.

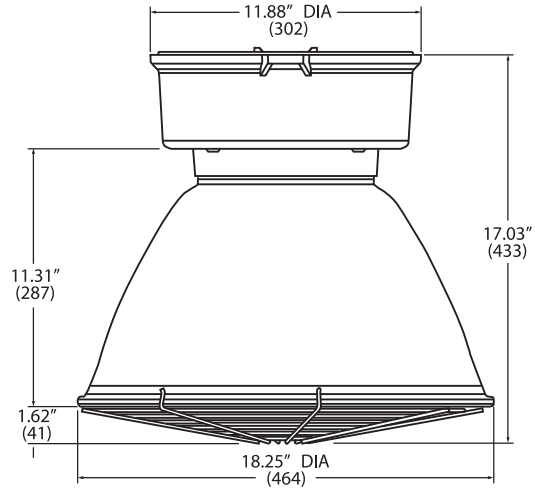


VM3 BALLAST TANK
VMG17 5-1/2" OPTICS GLOBE
VMPD-40 DOME REFLECTOR

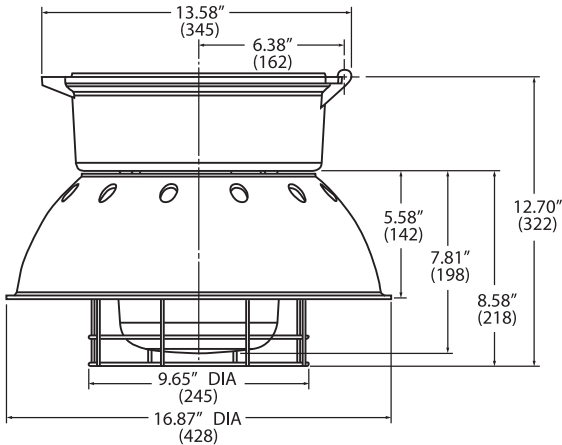




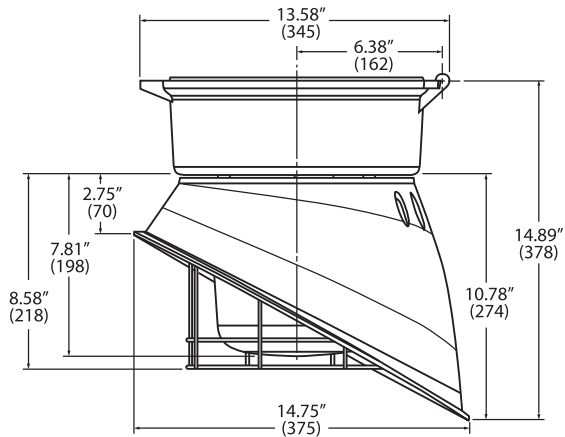
VM4 BALLAST TANK
7-3/4" OPTICS GLOBE (VMG25)
OR REFRACTOR (VMR25 SERIES)
VMAG255 WIRE GUARD



VM4 BALLAST TANK
VMER40 ENCLOSED REFLECTOR
VMERG GUARD

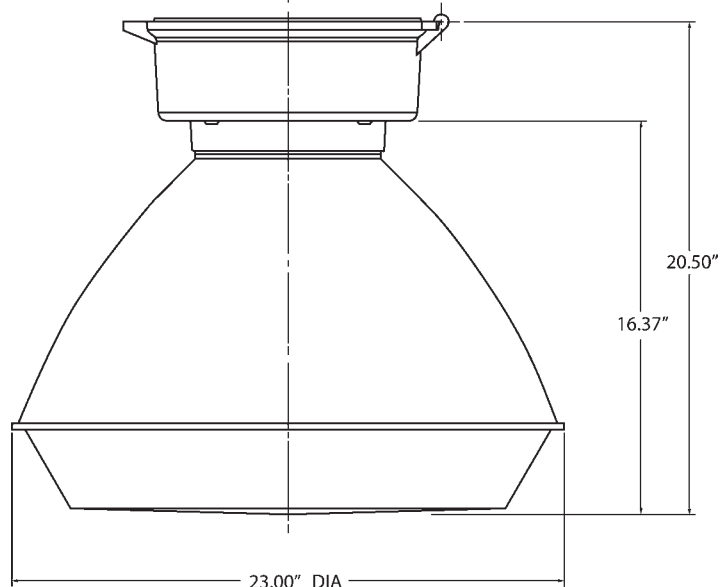


VM4 BALLAST TANK
VMG25 7-3/4" OPTICS GLOBE
VMAG255 WIRE GUARD
VMPSD-40 DOME REFLECTOR



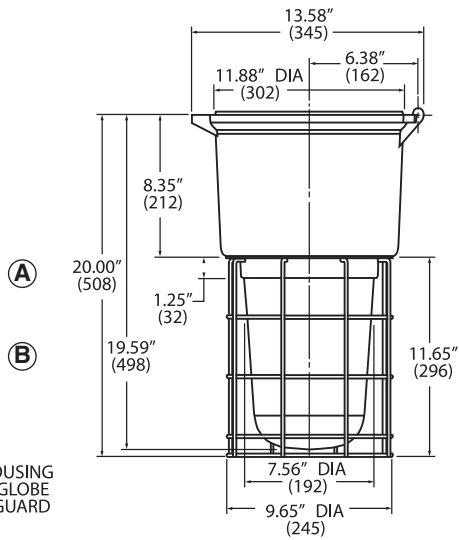
VM4 BALLAST TANK
VMG25 7-3/4" OPTICS GLOBE
VMAG255 WIRE GUARD
VMMA-40 ANGLE REFLECTOR
VM4
W/VMEP40

For VM1 & VM2 height, deduct 1.56" (40mm) from the VM3 or VM4 tank respectively, or overall dimensions with same mount and optic. All other dimensions are the same.

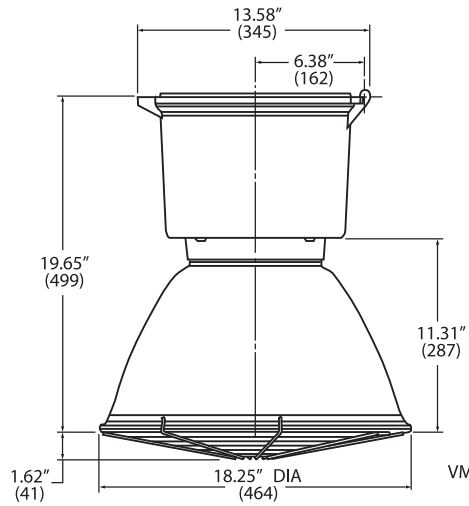


VM4 with VMEP40 Optic

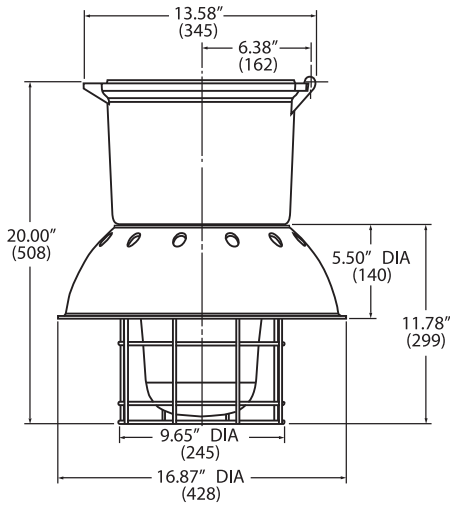




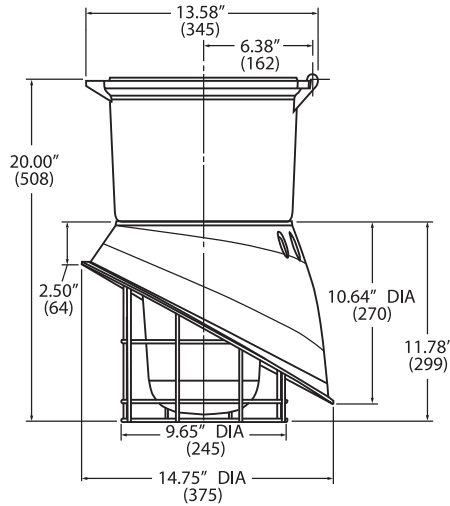
VM5 BALLAST HOUSING
VMG-40 OPTICS GLOBE
VMAG40S WIRE GUARD



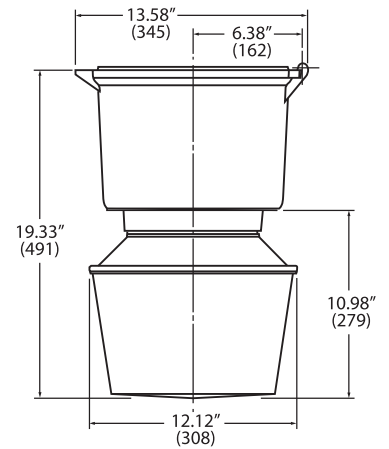
VM5 BALLAST HOUSING
VMER40 ENCLOSED REFLECTOR
VMERG WIRE GUARD



VM5 BALLAST HOUSING
VMG-40 OPTICS GLOBE
VMAG40S WIRE GUARD
VMPSD-40 DOME REFLECTOR



VM5 BALLAST HOUSING
VMG-40 OPTICS GLOBE
VMAG40S WIRE GUARD
VMPE-40 ANGLE REFLECTOR

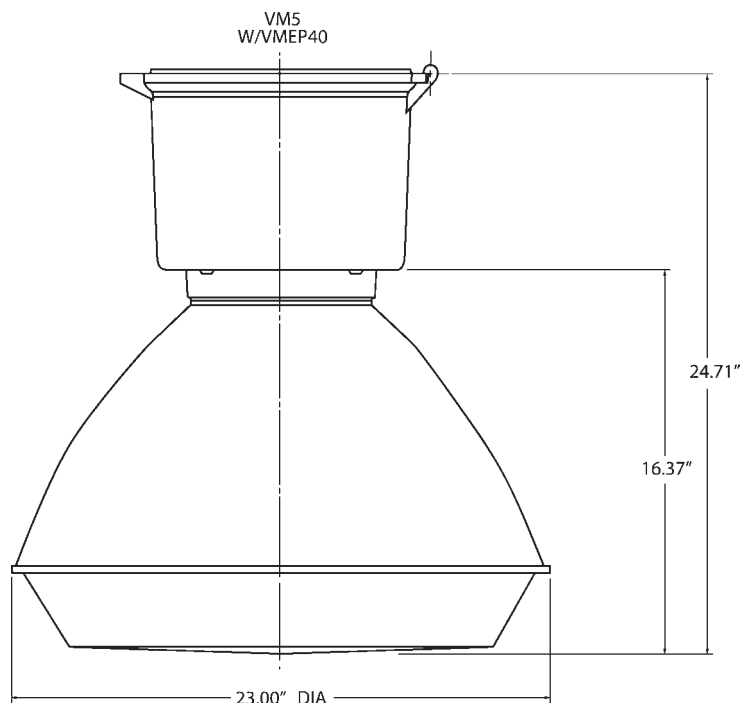


VM5 BALLAST HOUSING
12\"/>

QL 165W uses VM5 tank and VMG25 series optics, VMAG25S guard

Ⓐ 16.59 (421)

Ⓑ 16.11 (409)



VM5 with VMPE40 Optic



VM1/VM2 SERIES THERMAL PERFORMANCE DATA ① CLASS I DIVISION 2 GROUPS A,B,C,D / ZONE 2 GROUPS IIC, IIB, IIA													
DESCRIPTION			VM1 SERIES**					VM2 SERIES**					
LAMP TYPE	LAMP WATTAGE	AMBIENT °C	GLOBE ONLY	GLOBE W/ REFLECTOR	VMR	REFRACTORS		GLOBE ONLY	GLOBE W/ REFLECTOR	REFRACTOR VMR	ENCLOSED REFLECTORS		SUPPLY WIRE °C
						VZRG 8"	VZRG 12"				VMER40	VMEP40	
HPS	35	40	T3C	T3C	T3C	T3C	T3C	T3C	T3C	T3C	T3C	T3C	60
		55	T3B	T3B	T3B	T3B	T3B	T3B	T3B	T3B	T3B	T3B	75
		65	T3A	T3A	T3A	T3A	T3A	T3A	T3A	T3A	T3A	T3A	75
HPS	50	40	T3	T3	T3	T3	T3	T3	T3	T3	T3	T3	60
		55	T3	T3	T3	T3	T3	T3	T3	T3	T3	T3	75
		65	T3	T3	T3	T3	T3	T3	T3	T3	T3	T3	90
HPS	70	40	T2C	T2C	T2C	T2C	T2C	T2C	T2C	T2C	T2C	T2C	75
		55	T2C	T2C	T2C	T2C	T2C	T2C	T2B	T2C	T2C	T2C	90
		65	T2B	T2B	T2B	T2B	T2B	T2B	T2B	T2B	T2B	T2B	90
HPS	100	40	T2B	T2B	T2B	T2B	T2B	T2B	T2B	T2B	T2B	T2B	75
		55	T2C	T2B	T2B	T2B	T2B	T2B	T2B	T2B	T2B	T2B	90
		65	—	—	—	—	—	—	—	—	—	—	—
HPS	150	40	325°C	325°C	325°C	325°C	325°C	325°C	325°C	325°C	325°C	325°C	90
		55	325°C	325°C	325°C	325°C	325°C	325°C	325°C	325°C	325°C	325°C	90
		65	—	—	—	—	—	—	—	—	—	—	—
MH	50	40	T3	T3	T3	T3	T3	T3	T3	T3	T3	T3	60
		55	T3	T3	T3	T3	T3	T2D	T2D	T2D	T2D	T2D	75
		65	T2D	T2D	T2D	T2D	T2D	T2D	T2D	T2D	T2D	T2D	90
MH	70	40	T2C	T2C	T2C	T2C	T2C	T2C	T2C	T2C	T2C	T2C	750
		55	T2C	T2B	T2C	T2C	T2C	T2C	T2C	T2C	T2C	T2C	75
		65	T2B	T2B	T2B	T2B	T2B	T2B	T2B	T2B	T2B	T2B	90
MH	100	40	T2B	T2B	T2B	T2B	T2B	T2A	T2A	T2B	T2B	T2B	75
		55	T2A	T2A	T2A	T2A	T2A	T2A	T2A	T2A	T2A	T2A	90
		65	T2A	T2A	T2A	T2A	T2A	T2A	T2A	T2A	T2A	T2A	105
MHP	150/125	40	350°C	350°C	350°C	350°C	350°C	325°C	325°C	325°C	325°C	325°C	90
		55	350°C	350°C	350°C	350°C	350°C	325°C	325°C	325°C	325°C	325°C	90
		65	—	—	—	—	—	—	—	—	—	—	—
MHP	175	40	450°C	450°C	450°C	450°C	450°C	450°C	450°C	450°C	450°C	450°C	90
		55	—	—	—	—	—	450°C	450°C	450°C	450°C	450°C	105
		65	—	—	—	—	—	—	—	—	—	—	—
QL	55	40	T3C	T3C	T3C	T3C	T3C	—	—	—	—	—	-75
		55	—	—	—	—	—	—	—	—	—	—	—
		65	—	—	—	—	—	—	—	—	—	—	—

T-CODE & TEMPERATURE RANGE CONVERSION TABLE °C															
T1	350	325	T2	T2A	T2B	T2C	T2D	T3	T3A	T3B	T3C	T4	T4A	T5	T6
351-450	326-350	301-325	281-300	261-280	231-260	216-230	201-215	181-200	166-180	161-165	136-160	121-135	101-120	86-100	<=85

① Data does not apply to luminaires with auxiliary quartz lighting; consult factory with requirements.
The suitability of these fixtures for Class I Division 2 / Zone 2 locations must be determined for each application based on NEC® Articles 501.125(B) or 505.

** VM1 Series accepts 5-1/2" threaded optics; VM2 accepts 7-3/4" optics.

— Not available.

VM1/VM2 SERIES THERMAL PERFORMANCE DATA ① CLASS I ZONE 2 RESTRICTED BREATHING											
DESCRIPTION			VM1 SERIES**			VM2 SERIES**					
LAMP TYPE	LAMP WATTAGE	AMBIENT °C	GLOBE ONLY	GLOBE W/ REFLECTOR	REFRACTOR VMR	GLOBE ONLY	GLOBE W/ REFLECTOR	REFRACTOR VMR	ENCLOSED REFLECTORS		SUPPLY WIRE °C
									VMER40	VMEP40	
HPS	50	40	T5	T4	T5	T5	T4	T5	T4	T4	60
		55	T4	T4	T4	T4	T4	T4	T4	T4	75
		65	T4	T4	T4	T4	T4	T4	T4	T4	90
HPS	70	40	T4	T4	T4	T4	T4	T4	T4	T4	75
		55	T4	T4	T4	T4	T4	T4	T4	T4	90
		65	T4	T4	T4	T4	T4	T4	T4	T4	90
HPS	100	40	T3	T3	T3	T3	T3	T3	T3	T3	90
		55	T3	T3	T3	T3	T3	T3	T3	T3	90
		65	—	—	—	—	—	—	—	—	—
HPS	150	40	T3	T3	T3	T3	T3	T3	T3	T3	90
		55	T3	T3	T3	T3	T3	T3	T3	T3	90
		65	—	—	—	—	—	—	—	—	—
MH	50	40	T6	T5	T6	T5	T5	T5	T5	T5	60
		55	T4	T4	T4	T4	T4	T4	T4	T4	75
		65	T4	T4	T4	T4	T4	T4	T4	T4	90
MH	70	40	T5	T5	T5	T4	T4	T4	T4	T4	75
		55	T4	T4	T4	T4	T4	T4	T4	T4	75
		65	T4	T4	T4	T4	T4	T4	T4	T4	90
MH	100	40	T4	T4	T4	T4	T4	T4	T4	T4	75
		55	T3	T3	T3	T3	T3	T3	T3	T3	90
		65	T3	T3	T3	T3	T3	T3	T3	T3	105
MHP	150/125	40	T3	T3	T3	T3	T3	T3	T3	T3	90
		55	T3	T3	T3	T3	T3	T3	T3	T3	90
		65	—	—	—	—	—	—	—	—	—
MHP	175	40	T3	T3	T3	T3	T3	T3	T3	T3	90
		55	—	—	—	T3	T3	T3	T3	T3	105
		65	—	—	—	—	—	—	—	—	—
HPS	35	40	T6	T6	T6	T6	T6	T6	T6	T6	60
		55	T5	T5	T5	T5	T5	T5	T5	T5	75
		65	T5	T5	T5	T5	T5	T5	T5	T5	90

T-CODE & TEMPERATURE RANGE CONVERSION TABLE °C															
T1	350	325	T2	T2A	T2B	T2C	T2D	T3	T3A	T3B	T3C	T4	T4A	T5	T6
351-450	326-350	301-325	281-300	261-280	231-260	216-230	201-215	181-200	166-180	161-165	136-160	121-135	101-120	86-100	<=85

① Data does not apply to luminaires with auxiliary quartz lighting; consult factory with requirements.
 The suitability of these fixtures for Class I Zone 2 AEx nAR II locations must be determined for each application based on NEC® Article 505.

** VM1 Series accepts 5-1/2" threaded optics; VM2 accepts 7-3/4" optics.

— Not available.

VM1/VM2 SERIES THERMAL PERFORMANCE DATA ① CLASS II DIVISIONS 1 & 2 GROUPS E, F, G & CLASS III*													
DESCRIPTION			VM1 SERIES**					VM2 SERIES**					
LAMP TYPE	LAMP WATTAGE	AMBIENT °C	GLOBE ONLY	GLOBE W/ REFLECTOR	VMR	REFRACTORS		GLOBE ONLY	GLOBE W/ REFLECTOR	REFRACTOR VMR	ENCLOSED REFLECTORS		SUPPLY WIRE °C
						VZRG 8"	VZRG 12"				VMER40	VMEP40	
HPS	35	40	T4A	T4A	T4A	T4A	T4A	T6	T6	T6	T6	T6	60
		55	T4	T4	T4	T4	T4	T5	T5	T5	T5	75	
		65	T4	T4	T4	T4	T4	T4A	T4A	T4A	T4A	75	
HPS	50	40	T4A	T4A	T4A	T4A	T4A	T6	T6	T6	T6	T6	60
		55	T4	T4	T4	T4	T4	T5	T5	T5	T5	75	
		65	T4	T4	T4	T4	T4	T5	T4A	T4A	T4A	T4A	90
HPS	70	40	T4A	T4A	T4A	T4A	T4A	T5	T5	T5	T5	T5	75
		55	T4	T4	T4	T4	T4	T4A	T4A	T4A	T4A	75	
		65	T4	T4	T4	T4	T4	T4A	T4A	T4A	T4A	90	
HPS	100	40	T3C	T3C	T3C	T3C	T3C	T4A	T4A	T4A	T4A	T4A	90
		55	T3C	T3C	T3C	T3C	T3C	T4	T4	T4	T4	90	
		65	—	—	—	—	—	—	—	—	—	—	
HPS	150	40	T3C	T3C	T3C	T3C	T3C	T4	T4	T4	T4	T4	90
		55	—	—	—	—	—	T3C	T3C	T3C	T3C	90	
		65	—	—	—	—	—	—	—	—	—	—	
MH	50	40	T4A	T4A	T4A	T4A	T4A	T5	T5	T5	T5	T5	60
		55	T4	T4	T4	T4	T4	T4A	T4A	T4A	T4A	75	
		65	T3C	T3C	T3C	T3C	T3C	T4A	T4A	T4A	T4A	90	
MH	70	40	T4A	T4A	T4A	T4A	T4A	T5	T5	T5	T5	T5	75
		55	T4	T4	T4	T4	T4	T4A	T4A	T4A	T4A	75	
		65	T3C	T3C	T3C	T3C	T3C	T4A	T4A	T4A	T4A	90	
MH	100	40	T4	T4	T4	T4	T4	T4A	T4A	T4A	T4A	T4A	75
		55	T3C	T3C	T3C	T3C	T3C	T4	T4	T4	T4	90	
		65	T3C	T3C	T3C	T3C	T3C	T4	T4	T4	T4	105	
MHP	150/125	40	T3C	T3C	T3C	T3C	T3C	T4	T4	T4	T4	T4	90
		55	T3A	T3A	T3A	T3A	T3A	T3C	T3C	T3C	T3C	90	
		65	—	—	—	—	—	—	—	—	—	—	
MHP	175	40	—	—	—	—	—	T3C	T3C	T3C	T3C	T3C	90
		55	—	—	—	—	—	T3C	T3C	T3C	T3C	105	
		65	—	—	—	—	—	—	—	—	—	—	
QL	55	40	EFG	EFG	EFG	EFG	EFG	—	—	—	—	—	75

T-CODE & TEMPERATURE RANGE CONVERSION TABLE °C ② ③															
T1	350	325	T2	T2A	T2B	T2C	T2D	T3	T3A	T3B	T3C	T4	T4A	T5	T6
351-450	326-350	301-325	281-300	261-280	231-260	216-230	201-215	181-200	166-180	161-165	136-160	121-135	101-120	86-100	<=85

① Data does not apply to luminaires with auxiliary quartz lighting; consult factory with requirements.

② Limit for E & F.

③ Limit for G & Class III.

* Luminaires rated for Group G (<165°C), T3B are also suitable for Class III applications; Luminaires rated for E & F ≤ 200°C (T3).

** VM1 Series accepts 5-1/2" threaded optics; VM2 accepts 7-3/4" optics.

— Not available.



VM1/VM2 SERIES THERMAL PERFORMANCE DATA ① ②													
"SIMULTANEOUS PRESENCE" CLASS I DIVISION 2 (LAMP TEMPERATURE IN DUST CONDITIONS) & CLASS II DIVISION I													
DESCRIPTION			VM1 SERIES**					VM2 SERIES**					
LAMP TYPE	LAMP WATTAGE	AMBIENT °C	GLOBE ONLY	GLOBE W/ REFLECTOR	VMR	REFRACTORS		GLOBE ONLY	GLOBE W/ REFLECTOR	REFRACTOR VMR	ENCLOSED REFLECTORS		SUPPLY WIRE °C
						VZRG 8"	VZRG 12"				VMER40	VMEP40	
HPS	35	40	T3A	T3A	T3A	T3A	T3A	T2D	T2D	T2D	T2D	T2D	60
		55	—	—	—	—	—	—	—	—	—	—	—
		65	—	—	—	—	—	—	—	—	—	—	—
HPS	50	40	T2C	T2C	T2C	T2C	T2C	T2D	T2D	T2D	T2D	T2D	60
		55	—	—	—	—	—	—	—	—	—	—	—
		65	—	—	—	—	—	—	—	—	—	—	—
HPS	70	40	T2B	T2B	T2B	T2B	T2B	T2B	T2B	T2B	T2B	T2B	75
		55	—	—	—	—	—	—	—	—	—	—	—
		65	—	—	—	—	—	—	—	—	—	—	—
HPS	100	40	T2A	T2A	T2A	T2A	T2A	T2B	T2B	T2B	T2B	T2B	75
		55	—	—	—	—	—	—	—	—	—	—	—
		65	—	—	—	—	—	—	—	—	—	—	—
HPS	150	40	325°C	325°C	325°C	325°C	325°C	325°C	325°C	325°C	325°C	325°C	90
		55	—	—	—	—	—	—	—	—	—	—	—
		65	—	—	—	—	—	—	—	—	—	—	—
MH	50	40	T2B	T2B	T2B	T2B	T2B	T2C	T3C	T3C	T3C	T3C	75
		55	—	—	—	—	—	—	—	—	—	—	—
		65	—	—	—	—	—	—	—	—	—	—	—
MH	70	40	T2B	T2B	T2B	T2B	T2B	T2C	T2C	T2C	T2C	T2C	75
		55	—	—	—	—	—	—	—	—	—	—	—
		65	—	—	—	—	—	—	—	—	—	—	—
MH	100	40	T2	T2	T2	T2	T2	T2A	T2A	T2A	T2A	T2A	90
		55	—	—	—	—	—	—	—	—	—	—	—
		65	—	—	—	—	—	—	—	—	—	—	—
MHP	150/125	40	350°C	350°C	350°C	350°C	350°C	350°C	350°C	350°C	350°C	350°C	90
		55	—	—	—	—	—	—	—	—	—	—	—
		65	—	—	—	—	—	—	—	—	—	—	—
MHP	175	40	—	—	—	—	—	450°C	450°C	450°C	450°C	450°C	90
		55	—	—	—	—	—	—	—	—	—	—	—
		65	—	—	—	—	—	—	—	—	—	—	—

T-CODE & TEMPERATURE RANGE CONVERSION TABLE °C															
T1	350	325	T2	T2A	T2B	T2C	T2D	T3	T3A	T3B	T3C	T4	T4A	T5	T6
351-450	326-350	301-325	281-300	261-280	231-260	216-230	201-215	181-200	166-180	161-165	136-160	121-135	101-120	86-100	<=85

① Data does not apply to luminaires with auxiliary quartz lighting; consult factory with requirements.

② Table shows lamp temperature inside dust covered optic - see Class II table for Groups E, F, G and Class III data.

** VM1 Series accepts 5-1/2" threaded optics; VM2 accepts 7-3/4" optics.

— Not available.



VM3/VM4 SERIES THERMAL PERFORMANCE DATA ① CLASS I DIVISION 2 GROUPS A,B,C,D / ZONE 2 GROUPS IIC, IIB, IIA													
DESCRIPTION			VM3 SERIES**					VM4 SERIES**					
LAMP TYPE	LAMP WATTAGE	AMBIENT °C	GLOBE ONLY	GLOBE W/ REFLECTOR	VMR	REFRACTORS		GLOBE ONLY	GLOBE W/ REFLECTOR	REFRACTOR VMR	ENCLOSED REFLECTORS		SUPPLY WIRE °C
						VZRG 8"	VZRG 12"				VMER40	VMEP40	
HPS	50	40	T3B	T3B	T3B	T3B	T3B	T3C	T3C	T3C	T3C	T3C	90
		55	T3A	T3A	T3A	T3A	T3A	T3B	T3B	T3B	T3B	T3B	90
		65	T3	T3	T3	T3	T3	T3	T3	T3	T3	T3	90
HPS	70	40	T3	T3	T3	T3	T3A	T3A	T3A	T3A	T3A	T3A	90
		55	T3	T3	T3	T3	T3	T3	T3A	T3	T3	T3	90
		65	T3	T3	T3	T3	T3	T3	T3	T3	T3	T3	90
HPS	100	40	T2D	T2D	T2D	T2D	T3	T3	T3	T3	T3	T3	90
		55	T2C	T2C	T2C	T2C	T2C	T2D	T2D	T2D	T2D	T2D	90
		65	T2C	T2C	T2C	T2C	T2C	T2C	T2C	T2C	T2C	T2C	110
HPS	150	40	T2B	T2B	T2B	T2B	T2B	T2B	T2B	T2B	T2B	T2B	90
		55	T2B	T2B	T2B	T2B	T2B	T2B	T2B	T2B	T2B	T2B	90
		65	—	—	—	—	—	—	—	—	—	—	—
MH	70	40	T3B	T3A	T3B	T3A	T3C	T3C	T3C	T3C	T3C	T3C	90
		55	T3	T3	T3	T3	T3	T3C	T3B	T3C	T3C	T3C	90
		65	T2D	T2D	T2D	T3	T3	T3A	T3A	T3A	T3A	T3A	90
MH	100	40	T3	T3	T3	T3	T3A	T3A	T3	T3A	T3A	T3A	90
		55	T3	T3	T3	T3	T2D	T3	T3	T3	T3	T3	90
		65	T2D	T2D	T2D	T2D	T2D	T3	T3	T3	T3	T3	90
MH	175	40	T2A	T2A	T2A	T2B	T2B	T2B	T2B	T2B	T2B	T2B	90
		55	T2	T2	T2	T2	T2	T2A	T2A	T2A	T2A	T2A	110
		65	—	—	—	—	—	—	—	—	—	—	—
MH	250	40	325°C	325°C	325°C	T2	T2	T2	T2	T2	T2	T2	90
		55	—	—	—	—	—	—	—	—	—	—	—
		65	—	—	—	—	—	—	—	—	—	—	—
MHP	125/150/175	40	T2A	T2A	T2A	T2B	T2B	T2B	T2B	T2B	T2B	T2B	90
		55	T2A	T2A	T2A	T2A	T2A	T2A	T2A	T2A	T2A	T2A	110
		65	—	—	—	—	—	T2A	T2A	T2A	T2A	T2A	110
MHP	200	40	T2A	T2A	T2A	T2B	T2B	T2B	T2B	T2B	T2B	T2B	90
		55	T2	T2	T2	T2	T2	T2A	T2A	T2A	T2A	T2A	110
		65	—	—	—	—	—	—	—	—	—	—	—
QL	85	40	—	—	—	—	—	T3	T3	T3	T3	T3	75
		55	—	—	—	—	—	—	—	—	—	—	—
		65	—	—	—	—	—	—	—	—	—	—	—

T-CODE & TEMPERATURE RANGE CONVERSION TABLE °C															
T1	350	325	T2	T2A	T2B	T2C	T2D	T3	T3A	T3B	T3C	T4	T4A	T5	T6
351-450	326-350	301-325	281-300	261-280	231-260	216-230	201-215	181-200	166-180	161-165	136-160	121-135	101-120	86-100	<=85

① Data does not apply to luminaires with auxiliary quartz lighting; consult factory with requirements. The suitability of these fixtures for Class I Division 2 / Zone 2 locations must be determined for each application based on NEC® Articles 501.125(B) or 505.


** VM3 Series accepts 5-1/2" threaded optics; VM4 accepts 7-3/4" threaded optics.

— Not available.



VM3/VM4 SERIES THERMAL PERFORMANCE DATA ①											
CLASS I ZONE 2 RESTRICTED BREATHING											
DESCRIPTION			VM3 SERIES**			VM4 SERIES**					
LAMP TYPE	LAMP WATTAGE	AMBIENT °C	GLOBE ONLY	GLOBE W/ REFLECTOR	REFRACTOR VMR	GLOBE ONLY	GLOBE W/ REFLECTOR	REFRACTOR VMR	ENCLOSED REFLECTORS		SUPPLY WIRE °C
									VMER40	VMEP40	
HPS	50	40	T6	T6	T6	T6	T6	T6	T6	T6	90
		55	T5	T5	T5	T6	T6	T6	T6	T6	90
		65	T4	T4	T4	T5	T5	T5	T5	T5	90
HPS	70	40	T5	T5	T5	T6	T6	T6	T6	T6	90
		55	T5	T5	T5	T5	T5	T5	T5	T5	90
		65	T4	T4	T4	T5	T5	T5	T5	T5	90
HPS	100	40	T5	T5	T5	T5	T5	T5	T5	T5	90
		55	T4	T4	T4	T5	T5	T5	T5	T5	90
		65	T4	T4	T4	T4	T4	T4	T4	T4	110
HPS	150	40	T4	T4	T4	T4	T4	T4	T4	T4	90
		55	T3	T3	T3	T4	T4	T4	T4	T4	90
		65	—	—	—	—	—	—	—	—	—
MH	70	40	T5	T5	T5	T5	T6	T6	T6	T6	90
		55	T4	T4	T4	T5	T5	T5	T5	T5	90
		65	T4	T4	T4	T4	T4	T4	T4	T4	90
MH	100	40	T4	T4	T4	T5	T5	T5	T5	T5	90
		55	T4	T4	T4	T5	T4	T4	T4	T4	90
		65	T4	T4	T4	T4	T4	T4	T4	T4	90
MH	175	40	T3	T3	T3	T4	T4	T4	T4	T4	90
		55	T3	T3	T3	T4	T4	T4	T4	T4	110
		65	—	—	—	—	—	—	—	—	—
MH	250	40	T3	T3	T3	T3	T3	T3	T3	T3	90
		55	—	—	—	—	—	—	—	—	—
		65	—	—	—	—	—	—	—	—	—
MHP	150/175	40	T3	T3	T3	T4	T4	T4	T4	T4	90
		55	T3	T3	T3	T4	T4	T4	T4	T4	90
		65	—	—	—	T3	T3	T3	T3	T3	110
MHP	200	40	T3	T3	T3	T4	T4	T4	T4	T4	90
		55	T3	T3	T3	T3	T3	T3	T3	T3	110
		65	—	—	—	—	—	—	—	—	—

T-CODE & TEMPERATURE RANGE CONVERSION TABLE °C															
T1	350	325	T2	T2A	T2B	T2C	T2D	T3	T3A	T3B	T3C	T4	T4A	T5	T6
351-450	326-350	301-325	281-300	261-280	231-260	216-230	201-215	181-200	166-180	161-165	136-160	121-135	101-120	86-100	<=85

① Data does not apply to luminaires with auxiliary quartz lighting; consult factory with requirements.
 The suitability of these fixtures for Class I Zone 2 AEx nAR II locations must be determined for each application based on NEC® Article 505. Restricted breathing fixture with photo cell T3  only.

** VM3 Series accepts 5-1/2" threaded optics; VM4 accepts 7-3/4" threaded optics.

— Not available.

VM3/VM4 SERIES THERMAL PERFORMANCE DATA ①													
CLASS II DIVISIONS 1 & 2 GROUPS E, F, G & CLASS III*													
DESCRIPTION			VM3 SERIES**					VM4 SERIES**					
LAMP TYPE	LAMP WATTAGE	AMBIENT °C	GLOBE ONLY	GLOBE W/ REFLECTOR	VMR	REFRACTORS		GLOBE ONLY	GLOBE W/ REFLECTOR	REFRACTOR VMR	ENCLOSED REFLECTORS		SUPPLY WIRE °C
						VZRG 8"	VZRG 12"				VMER40	VMEP40	
HPS	50	40	T3C	T3C	T3C	T3C	T3C	T3B	T3B	T3B	T3B	T3B	90
		55	—	—	—	—	—	—	—	—	—	—	—
		65	—	—	—	—	—	—	—	—	—	—	—
HPS	70	40	T3C	T3C	T3C	T3C	T3C	T3B	T3B	T3B	T3B	T3B	90
		55	—	—	—	—	—	—	—	—	—	—	—
		65	—	—	—	—	—	—	—	—	—	—	—
HPS	100	40	T3C	T3C	T3C	T3C	T3C	T3B	T3B	T3B	T3B	T3B	90
		55	—	—	—	—	—	—	—	—	—	—	—
		65	—	—	—	—	—	—	—	—	—	—	—
HPS	150	40	T3C	T3C	T3C	T3C	T3C	T3B	T3B	T3B	T3B	T3B	90
		55	—	—	—	—	—	—	—	—	—	—	—
		65	—	—	—	—	—	—	—	—	—	—	—
MH	70	40	T3C	T3C	T3C	T3C	T3C	T3B	T3B	T3B	T3B	T3B	90
		55	—	—	—	—	—	—	—	—	—	—	—
		65	—	—	—	—	—	—	—	—	—	—	—
MH	100	40	T3C	T3C	T3C	T3C	T3C	T3B	T3B	T3B	T3B	T3B	90
		55	—	—	—	—	—	—	—	—	—	—	—
		65	—	—	—	—	—	—	—	—	—	—	—
MH	175	40	—	—	—	—	—	T3B	T3B	T3B	T3B	T3B	90
		55	—	—	—	—	—	—	—	—	—	—	—
		65	—	—	—	—	—	—	—	—	—	—	—
MH	250	40	—	—	—	—	—	T3B	T3B	T3B	T3B	T3B	90
		55	—	—	—	—	—	—	—	—	—	—	—
		65	—	—	—	—	—	—	—	—	—	—	—
MHP	150/175	40	—	—	—	—	—	T3B	T3B	T3B	T3B	T3B	90
		55	—	—	—	—	—	—	—	—	—	—	—
		65	—	—	—	—	—	—	—	—	—	—	—
MHP	200	40	—	—	—	—	—	T3B	T3B	T3B	T3B	T3B	90
		55	—	—	—	—	—	—	—	—	—	—	—
		65	—	—	—	—	—	—	—	—	—	—	—
QL	85	40	—	—	—	—	—	T3B	T3B	T3B	T4	T4	75
		55	—	—	—	—	—	—	—	—	—	—	—
		65	—	—	—	—	—	—	—	—	—	—	—

T-CODE & TEMPERATURE RANGE CONVERSION TABLE °C															
T1	350	325	T2	T2A	T2B	T2C	T2D	T3	T3A	T3B	T3C	T4	T4A	T5	T6
351-450	326-350	301-325	281-300	261-280	231-260	216-230	201-215	181-200	166-180	161-165	136-160	121-135	101-120	86-100	<=85

① Data does not apply to luminaires with auxiliary quartz lighting; consult factory with requirements.

② Limit for E & F.

③ Limit for G & Class III.

* Luminaires rated for Group G (<165°C), T3B are also suitable for Class III applications; Luminaires rated for E & F ≤ 200°C (T3).

** VM3 Series accepts 5-1/2" threaded optics; VM4 accepts 7-3/4" optics.

— Not available.




VM3/VM4 SERIES THERMAL PERFORMANCE DATA ① ②													
“SIMULTANEOUS PRESENCE” CLASS I DIVISION 2 (LAMP TEMPERATURE IN DUST CONDITIONS) & CLASS II DIVISION I													
DESCRIPTION			VM3 SERIES**					VM4 SERIES**					
LAMP TYPE	LAMP WATTAGE	AMBIENT °C	GLOBE ONLY	GLOBE W/ REFLECTOR	VMR	REFRACTORS		GLOBE ONLY	GLOBE W/ REFLECTOR	REFRACTOR VMR	ENCLOSED REFLECTORS		SUPPLY WIRE °C
						VZRG 8"	VZRG 12"				VMER40	VMEP40	
HPS	50	40	T3	T2D	T3	T3	T3	T3B	T3A	T3B	T3A	T3A	90
		55	—	—	—	—	—	—	—	—	—	—	—
		65	—	—	—	—	—	—	—	—	—	—	—
HPS	70	40	T3	T2D	T3	T3	T3	T3	T3	T3	T3	T3A	90
		55	—	—	—	—	—	—	—	—	—	—	—
		65	—	—	—	—	—	—	—	—	—	—	—
HPS	100	40	T2C	T2C	T2C	T2C	T2C	T2D	T2D	T2D	T2D	T3	90
		55	—	—	—	—	—	—	—	—	—	—	—
		65	—	—	—	—	—	—	—	—	—	—	—
HPS	150	40	T2A	T2A	T2A	T2A	T2A	T2B	T2B	T2B	T2B	T2B	90
		55	—	—	—	—	—	—	—	—	—	—	—
		65	—	—	—	—	—	—	—	—	—	—	—
MH	70	40	T3A	T3A	T3A	T3A	T3A	T3C	T3B	T3C	T3C	T3C	90
		55	—	—	—	—	—	—	—	—	—	—	—
		65	—	—	—	—	—	—	—	—	—	—	—
MH	100	40	T2D	T2D	T2D	T2D	T2D	T3	T3	T3	T3	T3	90
		55	—	—	—	—	—	—	—	—	—	—	—
		65	—	—	—	—	—	—	—	—	—	—	—
MH	175	40	—	—	—	—	—	T2A	T2A	T2A	T2A	T2A	90
		55	—	—	—	—	—	—	—	—	—	—	—
		65	—	—	—	—	—	—	—	—	—	—	—
MH	250	40	—	—	—	—	—	325°C	325°C	325°C	325°C	325°C	90
		55	—	—	—	—	—	—	—	—	—	—	—
		65	—	—	—	—	—	—	—	—	—	—	—
MHP	150/175	40	—	—	—	—	—	T2A	T2A	T2A	T2A	T2A	90
		55	—	—	—	—	—	—	—	—	—	—	—
		65	—	—	—	—	—	—	—	—	—	—	—
MHP	200	40	—	—	—	—	—	T2A	T2A	T2A	T2A	T2A	90
		55	—	—	—	—	—	—	—	—	—	—	—
		65	—	—	—	—	—	—	—	—	—	—	—

T-CODE & TEMPERATURE RANGE CONVERSION TABLE °C															
T1	350	325	T2	T2A	T2B	T2C	T2D	T3	T3A	T3B	T3C	T4	T4A	T5	T6
351-450	326-350	301-325	281-300	261-280	231-260	216-230	201-215	181-200	166-180	161-165	136-160	121-135	101-120	86-100	<=85

① Data does not apply to luminaries with auxiliary quartz lighting; consult factory with requirements.
 ② Table shows lamp temperature inside dust covered optic - see Class II table for Groups E, F, G and Class III data.
 ** VM3 Series accepts 5-1/2" threaded optics; VM4 accepts 7-3/4" optics.
 — Not available.

VM5 SERIES THERMAL PERFORMANCE DATA ①												
DESCRIPTION			CLASS I DIVISION 2 GROUPS A, B, C, D / ZONE 2 GROUPS IIC, IIB, IIA					CLASS I ZONE 2, "RESTRICTED BREATHING" ②				
LAMP TYPE	LAMP WATTAGE	AMBIENT °C	GLOBE ONLY	GLOBE W/ REFLECTOR	REFRACTOR VZRG 12"	ENCLOSED REFLECTORS		GLOBE ONLY	GLOBE W/ REFLECTOR	ENCLOSED REFLECTORS		SUPPLY WIRE °C
						VMER40	VMEP40			VMER40	VMEP40	
HPS	200	40	325°C	325°C	325°C	T2	T2	T3	T3	T4	T4	90
		55	350°C	350°C	350°C	325°C	325°C	T3	T3	T3	T3	125
		65	—	—	—	—	—	—	—	—	—	—
HPS	250	40	325°C	325°C	325°C	T2	T2	T3	T3	T4	T4	90
		55	350°C	350°C	350°C	325°C	325°C	T3	T3	T3	T3	125
		65	350°C	350°C	350°C	325°C	325°C	T3	T3	T4	T4	125
HPS	400	40	350°C	450°C	350°C	350°C	350°C	T3	T3	T3	T3	90
		55	450°C	—	450°C	450°C	450°C	T3	—	T3	T3	125
		65	—	—	—	—	—	—	—	—	—	—
HPS	600	40	—	—	—	450°C	450°C	—	—	T3	T3	90
		55	—	—	—	450°C	450°C	—	—	T3	T3	125
		65	—	—	—	—	—	—	—	—	—	—
MH	250	40	T2	325°C	T2	T2	T2	T3	T3	T3	T3	90
		55	—	—	—	—	—	—	—	—	—	—
		65	—	—	—	—	—	—	—	—	—	—
MH	400	40	T2	325°C	T2	T2	T2	T3	T3	T3	T3	90
		55	—	—	—	—	—	—	—	—	—	—
		65	—	—	—	—	—	—	—	—	—	—
MHP	250	40	T2B	T2B	T2B	T2B	T2B	T4	T4	T4	T4	90
		55	T2A	T2A	T2A	T2B	T2B	T3	T3	T3	T3	90
		65	—	—	—	—	—	—	—	—	—	—
MHP	320	40	T2B	T2B	T2B	T2B	T2B	T4	T4	T4	T4	90
		55	T2A	T2A	T2A	T2B	T2B	T3	T3	T3	T3	90
		65	T2A	—	T2A	T2A	T2A	T3	—	T3	T3	125
MHP	350	40	T2A	T2A	T2A	T2B	T2B	T3	T3	T4	T4	90
		55	T2	T2	T2A	T2A	T2A	T3	T3	T3	T3	125
		65	—	—	—	—	—	—	—	—	—	—
MHP	400	40	T2A	T2A	T2A	T2B	T2B	T3	T3	T4	T4	90
		55	T2	T2	T2A	T2A	T2A	T3	T3	T3	T3	125
		65	—	—	—	—	—	—	—	—	—	—
QL	165 ③	40	T3	T3	T3	T3A	T3A	T6	T5	T6	T6	75
		55	—	—	—	—	—	—	—	—	—	—
		65	—	—	—	—	—	—	—	—	—	—

T-CODE & TEMPERATURE RANGE CONVERSION TABLE °C															
T1	350	325	T2	T2A	T2B	T2C	T2D	T3	T3A	T3B	T3C	T4	T4A	T5	T6
351-450	326-350	301-325	281-300	261-280	231-260	216-230	201-215	181-200	166-180	161-165	136-160	121-135	101-120	86-100	<=85

① Data does not apply to luminaries with auxiliary quartz lighting; consult factory with requirements.
The suitability of these fixtures for Class I Zone 2 AEx nAR II locations must be determined for each application based on NEC® Article 505. Restricted breathing fixture with photo cell T3  only.

② See L50 for Restricted Breathing Information.

③ VM5Q uses VM4 optics including VMG25 and VMR25x all glass refractors.

— Not available



VM5 SERIES THERMAL PERFORMANCE DATA ① ②													
DESCRIPTION			CLASS II DIVISION 1 & 2 GROUPS E, F, G & CLASS III*					SIMULTANEOUS PRESENCE ③ LAMP TEMP. IN DUST CONDITIONS					
LAMP TYPE	LAMP WATTAGE	AMBIENT °C	GLOBE ONLY	GLOBE W/ REFLECTOR	REFRACTOR VZRG 12"	ENCLOSED REFLECTORS		GLOBE ONLY	GLOBE W/ REFLECTOR	REFRACTOR VZRG 12"	ENCLOSED REFLECTORS		SUPPLY WIRE °C
						VMER40	VMEP40				VMER40	VMEP40	
HPS	200	40	T3C	T3C	T4A	T4	T4	350°C	350°C	325°C	325°C	325°C	90
		55	—	—	T4	T3C	T3C	—	—	350°C	350°C	350°C	125
		65	—	—	—	—	—	—	—	—	—	—	—
HPS	250	40	T3C	T3C	T4A	T4	T4	350°C	350°C	325°C	325°C	325°C	90
		55	—	—	T4	T3C	T3C	—	—	350°C	350°C	350°C	125
		65	—	—	T4	T3C	T3C	—	—	350°C	350°C	350°C	125
HPS	400	40	T3B	T3B	T4	T4	T4	T1	T1	350°C	350°C	350°C	90
		55	—	—	T3C	T3B	T3B	—	—	T1	T1	T1	125
		65	—	—	—	—	—	—	—	—	—	—	—
MH	250	40	—	—	T4	T4	T4	—	—	325°C	325°C	325°C	90
		55	—	—	—	—	—	—	—	—	—	—	—
		65	—	—	—	—	—	—	—	—	—	—	—
MH	400	40	—	—	T4	T4	T4	—	—	325°C	325°C	325°C	90
		55	—	—	—	—	—	—	—	—	—	—	—
		65	—	—	—	—	—	—	—	—	—	—	—
MHP	250	40	—	—	T4	T4	T4	—	—	T2B	T2B	T2B	90
		55	—	—	T4	T4	T4	—	—	T2A	T2A	T2A	90
		65	—	—	—	—	—	—	—	—	—	—	—
MHP	320	40	—	—	T4	T4	T4	—	—	T2B	T2B	T2B	90
		55	—	—	T3C	T3C	T3C	—	—	T2A	T2A	T2A	90
		65	—	—	—	—	—	—	—	—	—	—	—
MHP	350	40	—	—	T4	T4	T4	—	—	T2A	T2A	T2A	90
		55	—	—	T3C	T3C	T3C	—	—	T2	T2	T2	125
		65	—	—	—	—	—	—	—	—	—	—	—
MHP	400	40	—	—	T4	T4	T4	—	—	T2A	T2A	T2A	90
		55	—	—	T3C	T3C	T3C	—	—	T2	T2	T2	125
		65	—	—	—	—	—	—	—	—	—	—	—
QL	165 ⑤	40	T3C	T3C	T3C	T3C	T3C	—	—	—	—	—	75
		55	—	—	—	—	—	—	—	—	—	—	—
		65	—	—	—	—	—	—	—	—	—	—	—

T-CODE & TEMPERATURE RANGE CONVERSION TABLE °C ③ ④															
T1	350	325	T2	T2A	T2B	T2C	T2D	T3	T3A	T3B	T3C	T4	T4A	T5	T6
351-450	326-350	301-325	281-300	261-280	231-260	216-230	201-215	181-200	166-180	161-165	136-160	121-135	101-120	86-100	<=85

*** Table shows lamp temperature inside optic dust conditions, see Class II table for Groups E, F, G data.

① Data does not apply to luminaires with auxiliary quartz lighting; consult factory with requirements.

② Table shows lamp temperature inside dust covered optic - see Class II table for Groups E, F, G and Class III data.

③ Limit for E & F.

④ Limit for G & Class III.

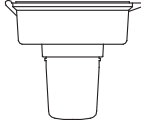
⑤ VM5Q uses VM4 optics including VMG25 and VMR25x all glass refractors.

* Luminaires rated for Group G (= < 165°C), T3B are also suitable for Class III applications; Luminaires rated for E & F ≤ 200°C (T3).

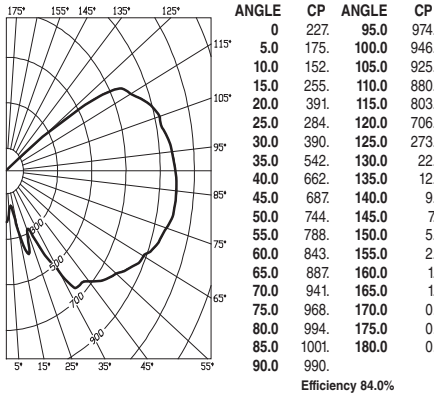
— Not available.



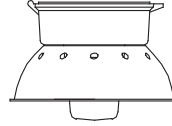
HIGH PRESSURE SODIUM-VM1, VM3
With Globe Only
35-150 Watt
Mogul Base



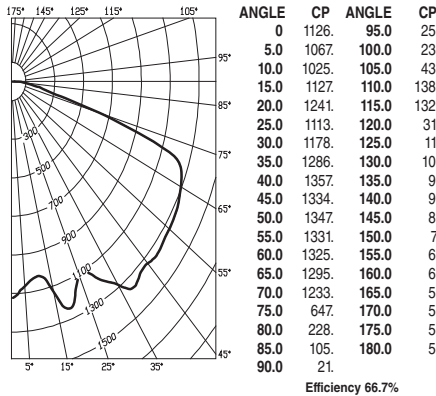
CANDLEPOWER – 100 WATT
9500 lumens
For 35 watt multiply by 0.236
For 50 watt multiply by 0.42
For 70 watt multiply by 0.68
For 150 watt multiply by 1.68



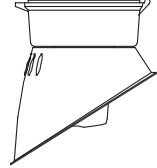
HIGH PRESSURE SODIUM-VM1, VM3
With Globe & Dome Reflector
35-150 Watt
Mogul Base



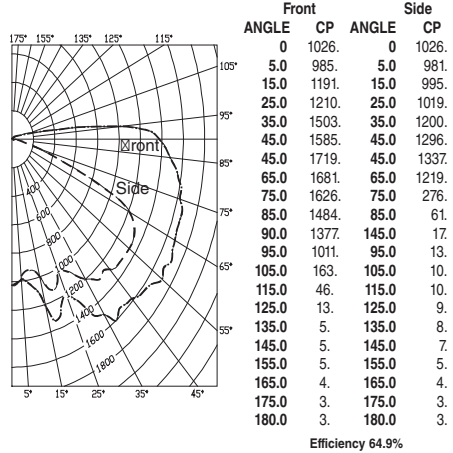
CANDLEPOWER – 100 WATT
9500 lumens
For 35 watt multiply by 0.236
For 50 watt multiply by 0.42
For 70 watt multiply by 0.68
For 150 watt multiply by 1.68



HIGH PRESSURE SODIUM-VM1, VM3
With Globe & Angle Reflector
35-150 Watt
Mogul Base



CANDLEPOWER – 100 WATT
9500 lumens
For 35 watt multiply by 0.236
For 50 watt multiply by 0.42
For 70 watt multiply by 0.68
For 150 watt multiply by 1.68



COEFFICIENTS OF UTILIZATION – ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE 1cc	80	70	50	30	10	0
% WALL REFLECTANCE 1w	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance					
0	.91	.91	.91	.85	.85	.85
1	.77	.71	.66	.61	.57	.56
2	.68	.59	.52	.45	.38	.33
3	.61	.50	.42	.35	.28	.22
4	.55	.43	.35	.28	.22	.16
5	.50	.37	.29	.23	.18	.14
6	.45	.33	.25	.19	.14	.10
7	.41	.29	.21	.16	.12	.09
8	.38	.26	.18	.13	.10	.07
9	.35	.23	.16	.11	.08	.05
10	.32	.21	.14	.09	.06	.04

SPACING TO MOUNTING HEIGHT RATIO - 3.3

COEFFICIENTS OF UTILIZATION – ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE 1cc	80	70	50	30	10	0
% WALL REFLECTANCE 1w	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance					
0	.78	.78	.78	.76	.76	.76
1	.70	.67	.64	.61	.58	.57
2	.63	.57	.52	.48	.43	.38
3	.57	.49	.44	.39	.34	.29
4	.51	.43	.36	.31	.26	.22
5	.46	.37	.30	.26	.21	.17
6	.42	.33	.26	.22	.18	.14
7	.39	.29	.23	.18	.14	.10
8	.36	.26	.20	.15	.11	.08
9	.33	.23	.17	.13	.09	.06
10	.30	.20	.14	.10	.07	.05

SPACING TO MOUNTING HEIGHT RATIO - 1.8

COEFFICIENTS OF UTILIZATION – ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE 1cc	80	70	50	30	10	0
% WALL REFLECTANCE 1w	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance					
0	.76	.76	.76	.74	.74	.74
1	.67	.63	.59	.56	.53	.51
2	.60	.54	.48	.44	.40	.36
3	.54	.46	.40	.36	.32	.28
4	.49	.40	.34	.29	.25	.21
5	.45	.35	.29	.24	.20	.16
6	.41	.31	.25	.21	.17	.13
7	.38	.28	.22	.17	.13	.09
8	.34	.25	.19	.15	.11	.08
9	.32	.22	.16	.12	.08	.05
10	.29	.20	.14	.10	.07	.05

SPACING TO MOUNTING HEIGHT RATIO - 1.7

Test No. HPK09950

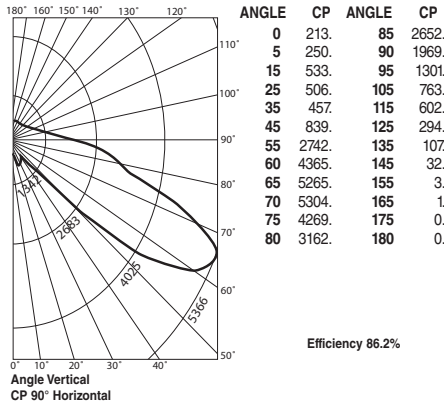
Test No. HPK09951

Test No. HPK09952

HIGH PRESSURE SODIUM-VM1, VM3
 With Type I All Glass Refractor
 35-150 Watt
 Mogul Base



CANDLEPOWER – 100 WATT
 9500 lumens
 For 35 watt multiply by 0.236
 For 50 watt multiply by 0.42
 For 70 watt multiply by 0.68
 For 150 watt multiply by 1.68



COEFFICIENTS OF UTILIZATION – ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE Icc	80	70	50	30	10	0
% WALL REFLECTANCE Iw	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance					
0	.99 .99 .99 .99	.95 .95 .95 .95	.87 .87 .87 .81	.81 .81 .74 .74	.74 .74 .71	
1	.83 .76 .70 .64	.79 .72 .67 .61	.66 .61 .57 .52	.54 .51 .48 .45		
2	.72 .61 .52 .44	.68 .58 .49 .42	.52 .45 .39 .36	.42 .37 .33 .30		
3	.63 .50 .40 .32	.59 .47 .38 .31	.42 .34 .28 .26	.33 .28 .23 .20		
4	.56 .42 .32 .24	.52 .40 .30 .23	.35 .27 .21 .19	.28 .22 .17 .14		
5	.50 .36 .26 .19	.47 .34 .25 .18	.30 .22 .16 .14	.23 .18 .13 .10		
6	.46 .31 .22 .15	.43 .30 .21 .14	.26 .19 .13 .11	.21 .15 .10 .08		
7	.42 .28 .19 .12	.39 .26 .18 .12	.23 .16 .10 .11	.19 .12 .08 .06		
8	.39 .25 .16 .10	.36 .24 .15 .10	.21 .14 .09 .11	.17 .11 .07 .05		
9	.36 .23 .14 .09	.34 .21 .14 .08	.19 .12 .07 .11	.15 .10 .06 .04		
10	.34 .21 .13 .08	.32 .20 .12 .07	.18 .11 .06 .10	.14 .09 .05 .03		

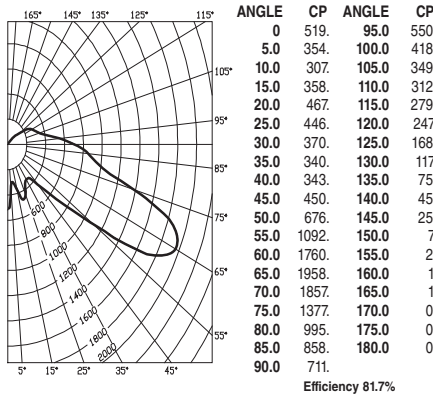
SPACING TO MOUNTING HEIGHT RATIO - 6.76 90-270°

Test No. HPK09954

HIGH PRESSURE SODIUM-VM1, VM3
 With Type V All Glass Refractor
 35-150 Watt
 Mogul Base



CANDLEPOWER – 100 WATT
 9500 lumens
 For 35 watt multiply by 0.236
 For 50 watt multiply by 0.42
 For 70 watt multiply by 0.68
 For 150 watt multiply by 1.68



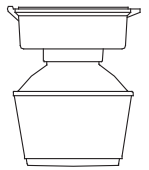
COEFFICIENTS OF UTILIZATION – ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE Icc	80	70	50	30	10	0
% WALL REFLECTANCE Iw	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance					
0	.93 .93 .93 .93	.89 .89 .89 .89	.81 .81 .81 .75	.75 .75 .68 .68	.65	
1	.78 .72 .66 .61	.74 .68 .63 .58	.62 .58 .54 .50	.48 .45 .42		
2	.68 .58 .50 .43	.64 .55 .48 .41	.49 .43 .38 .34	.39 .35 .32 .29		
3	.60 .48 .39 .32	.56 .45 .37 .30	.40 .33 .28 .26	.32 .27 .23 .20		
4	.53 .40 .30 .23	.49 .38 .29 .22	.33 .26 .20 .19	.26 .21 .16 .13		
5	.47 .34 .25 .18	.44 .32 .23 .17	.28 .21 .15 .14	.22 .16 .12 .09		
6	.43 .30 .21 .14	.40 .28 .20 .14	.25 .18 .12 .11	.19 .14 .10 .07		
7	.40 .26 .18 .12	.37 .25 .17 .11	.22 .15 .10 .10	.17 .12 .08 .06		
8	.36 .24 .16 .10	.34 .22 .15 .09	.20 .13 .08 .12	.12 .07 .15 .10	.06 .04	
9	.34 .22 .14 .09	.32 .20 .13 .08	.18 .12 .07 .16	.11 .07 .14 .09	.06 .04	
10	.32 .20 .12 .07	.30 .19 .12 .07	.17 .11 .06 .15	.09 .06 .13 .08	.05 .03	

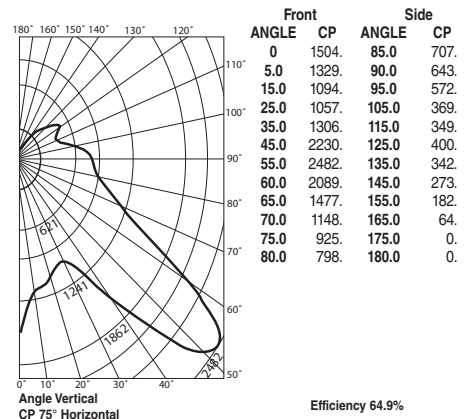
SPACING TO MOUNTING HEIGHT RATIO - 1.1

Test No. HPK09953

HIGH PRESSURE SODIUM-VM1, VM3
 With Type II 12" Spin-Top Refractor
 35-150 Watt
 Mogul Base



CANDLEPOWER – 100 WATT
 9500 lumens
 For 35 watt multiply by 0.236
 For 50 watt multiply by 0.42
 For 70 watt multiply by 0.68
 For 150 watt multiply by 1.68



COEFFICIENTS OF UTILIZATION – ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE Icc	80	70	50	30	10	0
% WALL REFLECTANCE Iw	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance					
0	.84 .84 .84 .84	.80 .80 .80 .80	.73 .73 .73	.66 .66 .66	.60 .60 .60	.57
1	.75 .70 .66 .62	.71 .67 .63 .60	.60 .57 .55	.54 .52 .50	.49 .47 .45	.42
2	.67 .59 .53 .48	.63 .56 .51 .46	.51 .46 .43	.46 .42 .39	.41 .38 .36	.33
3	.60 .51 .44 .39	.56 .48 .42 .37	.43 .38 .34	.39 .35 .31	.35 .31 .29	.26
4	.54 .44 .37 .31	.51 .42 .35 .30	.38 .32 .28	.34 .29 .25	.30 .26 .23	.21
5	.49 .39 .31 .26	.46 .37 .30 .25	.33 .27 .23	.30 .25 .21	.26 .22 .19	.17
6	.45 .34 .27 .22	.42 .32 .26 .21	.29 .23 .19	.26 .21 .18	.23 .19 .16	.14
7	.41 .30 .23 .18	.39 .29 .22 .18	.26 .20 .16	.23 .19 .15	.21 .17 .14	.12
8	.38 .27 .20 .16	.36 .26 .20 .15	.23 .18 .14	.21 .16 .13	.19 .15 .12	.10
9	.35 .25 .18 .14	.33 .23 .17 .13	.21 .16 .12	.19 .15 .11	.17 .13 .10	.09
10	.33 .22 .16 .12	.31 .21 .16 .12	.19 .14 .11	.18 .13 .10	.16 .12 .09	.08

SPACING TO MOUNTING HEIGHT RATIO - 1.36 0-180°

Test No. HPK09483

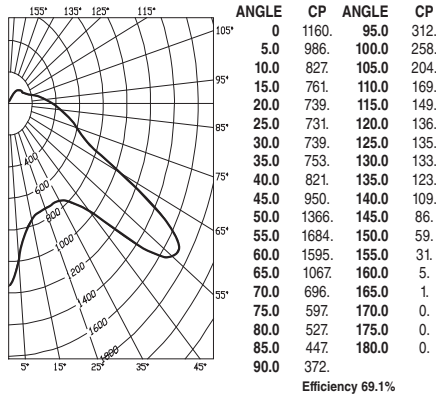
HIGH PRESSURE SODIUM-VM1, VM3

With Type V 8" Spin-Top Refractor
35-150 Watt
Mogul Base



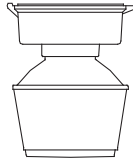
CANDLEPOWER – 100 WATT

9500 lumens
For 35 watt multiply by 0.236
For 50 watt multiply by 0.42
For 70 watt multiply by 0.68
For 150 watt multiply by 1.68



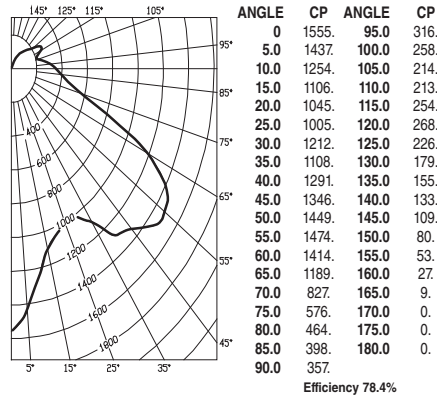
HIGH PRESSURE SODIUM-VM1, VM3

With Type V 12" Spin-Top Refractor
35-150 Watt
Mogul Base



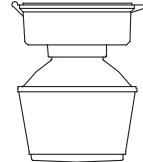
CANDLEPOWER – 100 WATT

9500 lumens
For 35 watt multiply by 0.236
For 50 watt multiply by 0.42
For 70 watt multiply by 0.68
For 150 watt multiply by 1.68



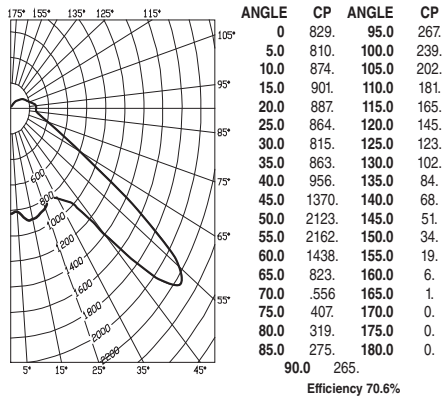
HIGH PRESSURE SODIUM-VM1, VM3

With Type V 12" Spin-Top Poly Refractor
35-150 Watt
Mogul Base



CANDLEPOWER – 100 WATT

9500 lumens
For 35 watt multiply by 0.236
For 50 watt multiply by 0.42
For 70 watt multiply by 0.68
For 150 watt multiply by 1.68



COEFFICIENTS OF UTILIZATION – ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE Icc	80	70	50	30	10	0
% WALL REFLECTANCE Iw	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance					
0	.79	.79	.79	.76	.76	.76
1	.70	.66	.62	.59	.67	.63
2	.63	.56	.50	.46	.60	.54
3	.56	.48	.41	.36	.53	.46
4	.51	.41	.34	.29	.48	.39
5	.46	.35	.28	.23	.43	.34
6	.41	.31	.24	.19	.39	.29
7	.37	.27	.20	.15	.35	.26
8	.34	.24	.17	.13	.32	.23
9	.32	.21	.15	.11	.30	.21
10	.29	.19	.13	.09	.28	.19

SPACING TO MOUNTING HEIGHT RATIO - 0.8

COEFFICIENTS OF UTILIZATION – ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE Icc	80	70	50	30	10	0
% WALL REFLECTANCE Iw	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance					
0	.90	.90	.90	.87	.87	.87
1	.80	.76	.72	.68	.77	.73
2	.72	.65	.59	.54	.69	.62
3	.65	.56	.49	.44	.62	.54
4	.59	.49	.41	.35	.56	.47
5	.53	.42	.35	.29	.51	.41
6	.49	.37	.30	.25	.46	.36
7	.45	.33	.26	.21	.42	.32
8	.41	.29	.22	.17	.39	.28
9	.38	.27	.20	.15	.36	.26
10	.35	.23	.17	.12	.33	.23

SPACING TO MOUNTING HEIGHT RATIO - 0.9

COEFFICIENTS OF UTILIZATION – ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE Icc	80	70	50	30	10	0
% WALL REFLECTANCE Iw	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance					
0	.82	.82	.82	.82	.79	.79
1	.73	.70	.66	.63	.70	.67
2	.66	.60	.55	.50	.63	.58
3	.60	.52	.46	.41	.57	.50
4	.54	.45	.38	.33	.51	.43
5	.49	.39	.32	.27	.46	.37
6	.44	.34	.27	.22	.42	.32
7	.40	.29	.22	.18	.38	.28
8	.36	.25	.19	.14	.34	.25
9	.33	.23	.17	.12	.32	.22
10	.30	.20	.14	.10	.29	.19

SPACING TO MOUNTING HEIGHT RATIO - 2.8

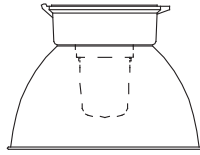
Test No. HPK09472

Test No. HPK09479

Test No. HPK09478

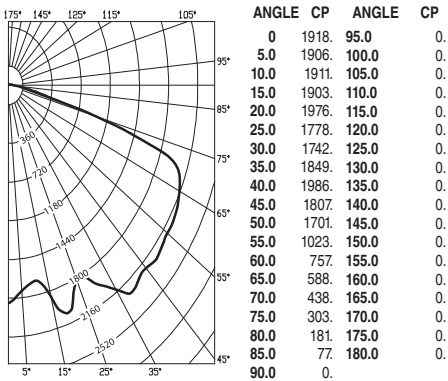


HIGH PRESSURE SODIUM-VM1, VM3
 With Globe & Full Cutoff Deep White Reflector*
 35-150 Watt
 Mogul Base



CANDLEPOWER – 100 WATT

9500 lumens
 For 35 watt multiply by 0.236
 For 50 watt multiply by 0.42
 For 70 watt multiply by 0.68
 For 150 watt multiply by 1.68

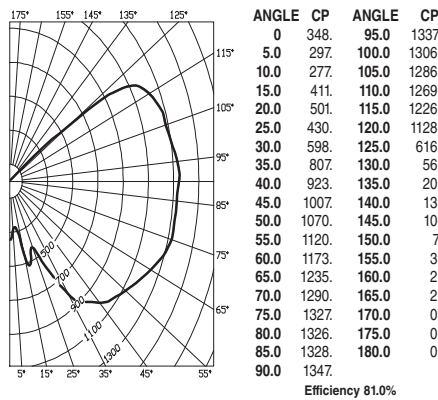


METAL HALIDE, METAL HALIDE
PULSE-VM1, VM3
 With Globe
 50-250 Watt
 Mogul Base

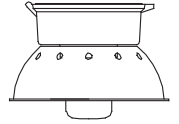


CANDLEPOWER – 175 WATT

14000 lumens
 For 50 MH watt multiply by 0.29
 For 70 MH watt multiply by 0.40
 For 100 MH watt multiply by 0.64
 For 250 MH watt multiply by 1.46
 For 150 MHP watt multiply by 1.00
 For 175 MHP watt multiply by 1.25
 For 200 MHP watt multiply by 1.50

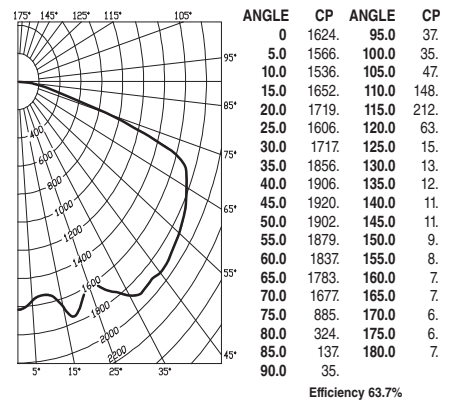


METAL HALIDE, METAL HALIDE
PULSE-VM1, VM3
 With Globe and Dome Reflector
 50-250 Watt
 Mogul Base



CANDLEPOWER – 175 WATT
 14000 lumens

For 50 MH watt multiply by 0.29
 For 70 MH watt multiply by 0.40
 For 100 MH watt multiply by 0.64
 For 250 MH watt multiply by 1.46
 For 150 MHP watt multiply by 1.00
 For 175 MHP watt multiply by 1.25
 For 200 MHP watt multiply by 1.50



COEFFICIENTS OF UTILIZATION – ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE 1 _{cc}	80	70	50	30	10	0
% WALL REFLECTANCE 1 _w	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance					
0	75.75 75.75 74.74 74.74 74	70.70 70.70 67.67 67.67 65.65 65.65 63				
1	70.67 64.62 68.65 63.61	63.61 59.60 59.57 58.57 56.54				
2	64.60 56.53 63.58 55.52	56.53 51.54 52.50 52.50 49.47				
3	59.53 49.45 58.52 48.45	51.47 44.49 46.43 47.45 43.41				
4	54.48 42.39 53.47 42.38	45.41 38.44 40.37 42.39 37.36				
5	50.43 37.33 49.42 37.33	41.36 33.39 36.33 38.35 32.31				
6	46.38 33.29 45.38 33.29	37.32 29.32 32.29 35.31 28.27				
7	43.34 29.25 42.34 29.25	33.28 25.32 28.25 31.28 25.24				
8	39.31 26.22 38.31 26.22	30.25 22.29 25.22 28.24 22.20				
9	36.28 23.19 35.28 23.19	27.22 19.26 22.19 26.22 19.18				
10	33.24 19.16 32.24 19.16	23.19 16.23 18.16 22.18 15.14				

SPACING TO MOUNTING HEIGHT RATIO - 1.5

* Values using Spacer Kit

COEFFICIENTS OF UTILIZATION – ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE 1 _{cc}	80	70	50	30	10	0
% WALL REFLECTANCE 1 _w	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance					
0	88.88 88.88 83.83 83.83 72.72 72	62.62 62.62 52.52 52.52 48				
1	76.70 64.60 70.65 60.56 55.51 48	46.43 41.38 38.34 30				
2	67.58 51.45 61.54 47.42 45.40 36	38.34 30.30 27.25 21				
3	60.49 41.35 55.46 38.33 38.33 28	32.27 23.25 22.19 15				
4	54.42 34.28 49.39 32.26 33.27 22	27.22 18.22 18.15 11				
5	49.37 29.23 44.34 27.21 29.22 18	23.18 15.19 15.11 09				
6	44.33 25.19 41.30 23.17 25.19 15	21.16 12.16 12.09 07				
7	41.29 21.16 37.27 20.15 22.16 12	18.13 10.14 11.08 05				
8	37.26 18.13 34.24 17.12 20.14 10	16.12 08.13 09.06 04				
9	35.23 16.11 32.21 15.10 18.12 09	15.10 07.12 08.05 03				
10	32.21 14.09 29.19 13.09 16.11 05	13.09 05.10 07.04 02				

SPACING TO MOUNTING HEIGHT RATIO - 3.0

COEFFICIENTS OF UTILIZATION – ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE 1 _{cc}	80	70	50	30	10	0
% WALL REFLECTANCE 1 _w	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance					
0	75.75 75.75 73.73 73.73 69.69 69	66.66 66 63.63 63 61				
1	68.64 61.59 66.63 60.57 59.57 55	55.53 54 52.51 49				
2	61.55 51.47 59.54 50.46 51.48 44	49.46 43 46 44 42 40				
3	55.48 42.38 53.47 41.37 44.40 36	42.38 35 40 37 34 33				
4	50.41 35.30 48.40 34.30 38.33 29	36.32 29 35 31 28 26				
5	45.36 30.25 43.35 29.25 33.28 24	32.27 24 30 26 23 22				
6	41.32 26.21 40.31 25.21 30.24 21	28.24 20 27 23 20 18				
7	37.28 22.18 36.27 22.18 26.21 17	25.20 17 24 20 17 15				
8	34.25 19.15 33.24 19.15 23.18 15	22.18 14 21 17 14 13				
9	32.22 17.13 31.22 17.13 21.16 13	20.16 13 20 16 12 11				
10	29.20 14.10 28.19 14.10 18.14 10	18.13 10 17 13 10 09				

SPACING TO MOUNTING HEIGHT RATIO - 1.8

Test No. HPK10116

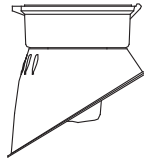
Test No. HPK09935

Test No. HPK09936



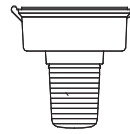
METAL HALIDE, METAL HALIDE PULSE-VM1, VM3

With Globe and
Angle Reflector
50-250 Watt
Mogul Base



METAL HALIDE, METAL HALIDE PULSE-VM1, VM3

With Type I All
Glass Refractor
50-250 Watt
Mogul Base



METAL HALIDE, METAL HALIDE PULSE-VM1, VM3

with Type V All
Glass Refractor
50-250 Watt
Mogul Base



CANDLEPOWER – 175 WATT

14000 lumens

For 50 MH watt multiply by 0.29
For 70 MH watt multiply by 0.40
For 100 MH watt multiply by 0.64
For 250 MH watt multiply by 1.46
For 150 MHP watt multiply by 1.00
For 175 MHP watt multiply by 1.25
For 200 MHP watt multiply by 1.50

CANDLEPOWER – 175 WATT

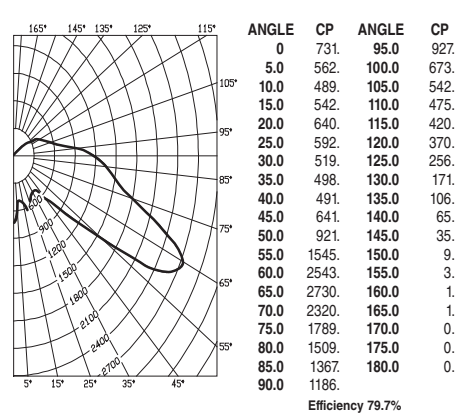
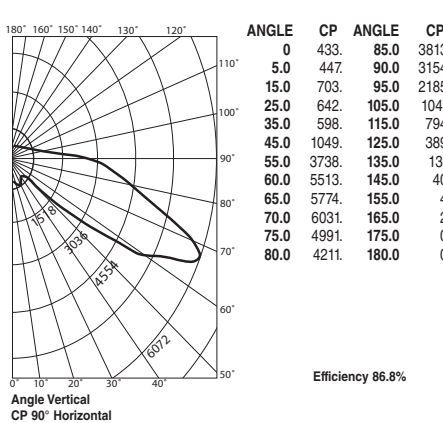
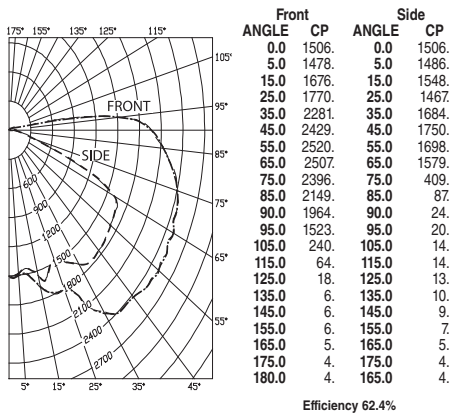
14000 lumens

For 50 MH watt multiply by 0.29
For 70 MH watt multiply by 0.40
For 100 MH watt multiply by 0.64
For 250 MH watt multiply by 1.46
For 150 MHP watt multiply by 1.00
For 175 MHP watt multiply by 1.25
For 200 MHP watt multiply by 1.50

CANDLEPOWER – 175 WATT

14000 lumens

For 50 MH watt multiply by 0.29
For 70 MH watt multiply by 0.40
For 100 MH watt multiply by 0.64
For 250 MH watt multiply by 1.46
For 150 MHP watt multiply by 1.00
For 175 MHP watt multiply by 1.25
For 200 MHP watt multiply by 1.50



COEFFICIENTS OF UTILIZATION – ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE I_{cc}	80					70					50					30					10					0				
	70	50	30	10	0	70	50	30	10	0	50	30	10	0	50	30	10	0	50	30	10	0	50	30	10	0				
% WALL REFLECTANCE I_w	20% Effective Floor Cavity Reflectance																													
	0	.73	.73	.73	.71	.71	.71	.67	.67	.67	.63	.63	.63	.60	.60	.60	.58													
	1	.65	.61	.57	.54	.63	.59	.56	.53	.55	.53	.50	.52	.50	.48	.49	.47	.46	.44											
	2	.58	.52	.47	.43	.56	.50	.46	.42	.47	.44	.40	.45	.41	.39	.42	.39	.37	.35											
	3	.53	.45	.39	.35	.51	.44	.39	.34	.41	.37	.33	.39	.35	.32	.37	.33	.31	.29											
	4	.48	.39	.33	.29	.46	.38	.32	.28	.36	.31	.27	.34	.30	.26	.32	.28	.25	.24											
	5	.44	.35	.28	.24	.42	.34	.28	.23	.32	.27	.23	.30	.26	.22	.28	.24	.21	.20											
	6	.40	.31	.25	.20	.38	.30	.24	.20	.28	.23	.19	.27	.22	.19	.25	.21	.18	.17											
	7	.37	.27	.21	.17	.35	.27	.21	.17	.25	.20	.17	.24	.19	.16	.23	.19	.16	.14											
	8	.34	.24	.19	.15	.32	.24	.18	.14	.22	.18	.14	.21	.17	.14	.20	.16	.13	.12											
	9	.31	.22	.16	.13	.30	.21	.16	.12	.20	.15	.12	.19	.15	.12	.18	.14	.12	.10											
10	.28	.19	.14	.10	.27	.19	.14	.10	.18	.13	.10	.17	.13	.10	.16	.12	.09	.08												

SPACING TO MOUNTING HEIGHT RATIO - 1.7

COEFFICIENTS OF UTILIZATION – ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE I_{cc}	80					70					50					30					10					0				
	70	50	30	10	0	70	50	30	10	0	50	30	10	0	50	30	10	0	50	30	10	0	50	30	10	0				
% WALL REFLECTANCE I_w	20% Effective Floor Cavity Reflectance																													
	0	.99	.99	.99	.99	.95	.95	.95	.95	.87	.87	.87	.80	.80	.80	.73	.73	.73	.70											
	1	.83	.76	.69	.63	.79	.72	.66	.61	.65	.60	.56	.58	.54	.51	.52	.49	.46	.43											
	2	.72	.61	.52	.44	.67	.58	.49	.42	.51	.44	.39	.46	.40	.35	.40	.36	.32	.28											
	3	.63	.50	.40	.32	.59	.47	.38	.31	.42	.34	.28	.37	.31	.25	.32	.27	.22	.19											
	4	.56	.42	.32	.24	.52	.40	.30	.23	.35	.27	.21	.31	.24	.19	.27	.21	.17	.14											
	5	.51	.36	.26	.19	.47	.34	.25	.18	.30	.22	.16	.27	.20	.14	.23	.17	.13	.10											
	6	.46	.32	.22	.15	.43	.30	.21	.15	.26	.19	.13	.23	.17	.11	.20	.14	.10	.07											
	7	.42	.28	.19	.13	.39	.27	.18	.12	.24	.16	.11	.21	.14	.09	.18	.12	.08	.06											
	8	.39	.25	.17	.11	.37	.24	.16	.10	.21	.14	.09	.19	.12	.08	.16	.11	.07	.05											
	9	.36	.23	.15	.09	.34	.22	.14	.09	.19	.12	.08	.17	.11	.07	.15	.10	.06	.04											
10	.34	.21	.13	.08	.32	.20	.12	.07	.18	.11	.07	.16	.10	.06	.14	.09	.05	.03												

SPACING TO MOUNTING HEIGHT RATIO - 5.7 90-270°

COEFFICIENTS OF UTILIZATION – ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE I_{cc}	80					70					50					30					10					0				
	70	50	30	10	0	70	50	30	10	0	50	30	10	0	50	30	10	0	50	30	10	0	50	30	10	0				
% WALL REFLECTANCE I_w	20% Effective Floor Cavity Reflectance																													
	0	.90	.90	.90	.90	.86	.86	.86	.86	.79	.79	.79	.72	.72	.72	.66	.66	.66	.63											
	1	.76	.70	.64	.59	.72	.66	.61	.57	.60	.56	.52	.54	.50	.47	.48	.45	.43	.40											
	2	.66	.57	.49	.42	.62	.54	.46	.40	.48	.42	.37	.43	.38	.33	.38	.34	.30	.27											
	3	.58	.47	.38	.31	.55	.44	.36	.30	.39	.33	.27	.35	.29	.24	.30	.26	.22	.19											
	4	.52	.39	.30	.23	.48	.37	.29	.22	.33	.25	.20	.29	.23	.18	.25	.20	.16	.13											
	5	.46	.33	.24	.18	.43	.31	.23	.17	.28	.20	.15	.24	.18	.13	.21	.16	.12	.09											
	6	.42	.29	.21	.14	.39	.28	.20	.14	.24	.17	.12	.21	.15	.11	.19	.13	.09	.07											
	7	.39	.26	.18	.12	.36	.25	.17	.11	.22	.15	.10	.19	.13	.09	.16	.11	.08	.05											
	8	.36	.23	.15	.10	.33	.22	.15	.09	.19	.13	.08	.17	.11	.07	.15	.10	.06	.04											
	9	.33	.21	.14	.09	.31	.20	.13	.08	.18	.12	.07	.16	.10	.06	.14	.09	.06	.04											
10	.31	.19	.12	.08	.29	.18	.12	.07	.16	.10	.06	.14	.09	.05	.13	.08	.05	.03												

SPACING TO MOUNTING HEIGHT RATIO - 1.1

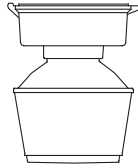
Test No. HPK09937

Test No. HPK09980

Test No. HPK09946

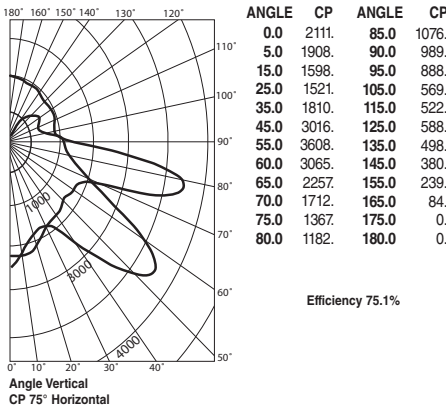
METAL HALIDE, METAL HALIDE PULSE-VM1, VM3

With Type II 12" Spin-Top Refractor
50-250 Watt
Mogul Base



CANDLEPOWER – 175 WATT
14000 lumens

For 50 MH watt multiply by 0.29
For 70 MH watt multiply by 0.40
For 100 MH watt multiply by 0.64
For 250 MH watt multiply by 1.46
For 150 MHP watt multiply by 1.00
For 175 MHP watt multiply by 1.25
For 200 MHP watt multiply by 1.50



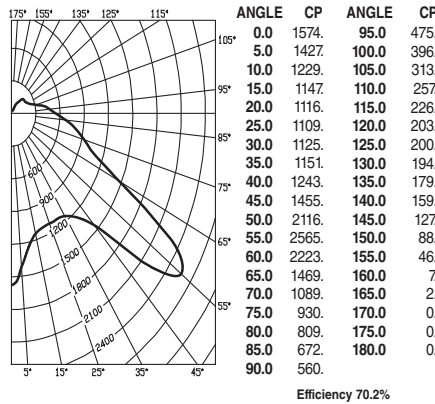
METAL HALIDE, METAL HALIDE PULSE-VM1, VM3

With Type V 8" Spin-Top Refractor
50-250 Watt
Mogul Base



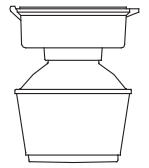
CANDLEPOWER – 175 WATT
14000 lumens

For 50 MH watt multiply by 0.29
For 70 MH watt multiply by 0.40
For 100 MH watt multiply by 0.64
For 250 MH watt multiply by 1.46
For 150 MHP watt multiply by 1.00
For 175 MHP watt multiply by 1.25
For 200 MHP watt multiply by 1.50



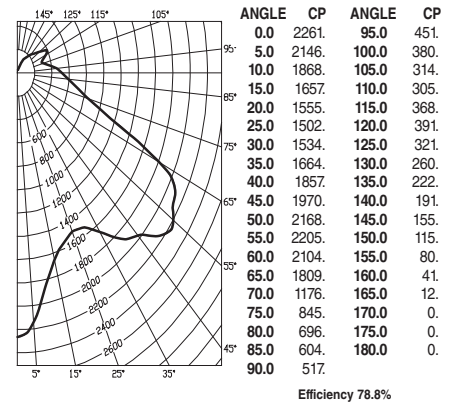
METAL HALIDE, METAL HALIDE PULSE-VM1, VM3

With Type V 12" Spin-Top Refractor
50-250 Watt
Mogul Base



CANDLEPOWER – 175 WATT
14000 lumens

For 50 MH watt multiply by 0.29
For 70 MH watt multiply by 0.40
For 100 MH watt multiply by 0.64
For 250 MH watt multiply by 1.46
For 150 MHP watt multiply by 1.00
For 175 MHP watt multiply by 1.25
For 200 MHP watt multiply by 1.50



COEFFICIENTS OF UTILIZATION – ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE ρ_{cc}	80	70	50	30	10	0
% WALL REFLECTANCE ρ_w	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance					
0	.85 .85 .85 .85	.81 .81 .81 .81	.74 .74 .74	.67 .67 .67	.60 .60 .60	.57
1	.75 .71 .67 .63	.71 .67 .63 .60	.61 .58 .55	.55 .52 .50	.49 .47 .46	.43
2	.67 .60 .54 .49	.63 .57 .51 .47	.51 .47 .43	.46 .42 .39	.41 .38 .36	.33
3	.60 .51 .44 .39	.57 .49 .42 .37	.44 .39 .34	.39 .35 .31	.35 .32 .29	.26
4	.54 .44 .37 .31	.51 .42 .35 .30	.38 .32 .28	.34 .29 .26	.30 .27 .23	.21
5	.49 .39 .31 .26	.46 .37 .30 .25	.33 .27 .23	.30 .25 .21	.27 .23 .19	.17
6	.45 .34 .27 .22	.42 .33 .26 .21	.29 .24 .19	.26 .22 .18	.24 .19 .16	.14
7	.41 .31 .23 .19	.39 .29 .23 .18	.26 .21 .16	.24 .19 .15	.21 .17 .14	.12
8	.38 .27 .21 .16	.36 .26 .20 .15	.24 .18 .14	.21 .17 .13	.19 .15 .12	.10
9	.35 .25 .18 .14	.33 .24 .18 .13	.21 .16 .12	.19 .15 .11	.17 .13 .10	.09
10	.33 .23 .16 .12	.31 .22 .16 .12	.20 .14 .11	.18 .13 .10	.16 .12 .09	.08

SPACING TO MOUNTING HEIGHT RATIO - 1.48 0-180°

COEFFICIENTS OF UTILIZATION – ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE ρ_{cc}	80	70	50	30	10	0
% WALL REFLECTANCE ρ_w	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance					
0	.81 .81 .81 .81	.78 .78 .78 .78	.72 .72 .72	.66 .66 .66	.62 .62 .62	.59
1	.71 .67 .63 .59	.68 .64 .61 .57	.59 .56 .54	.54 .52 .50	.50 .48 .47	.44
2	.64 .57 .51 .46	.61 .54 .49 .45	.50 .46 .42	.46 .43 .40	.42 .40 .37	.35
3	.57 .49 .42 .37	.54 .47 .41 .36	.43 .38 .34	.40 .35 .32	.36 .33 .30	.28
4	.51 .42 .35 .29	.49 .40 .34 .29	.37 .31 .27	.34 .29 .25	.31 .27 .24	.22
5	.46 .36 .29 .24	.44 .35 .28 .23	.32 .26 .22	.29 .24 .21	.27 .23 .19	.17
6	.42 .32 .25 .20	.40 .30 .24 .19	.28 .22 .18	.26 .21 .17	.24 .19 .16	.14
7	.38 .28 .21 .16	.36 .27 .20 .16	.24 .19 .15	.22 .17 .14	.21 .16 .13	.11
8	.35 .24 .18 .13	.33 .23 .17 .13	.22 .16 .12	.20 .15 .11	.18 .14 .11	.09
9	.32 .22 .16 .11	.31 .21 .15 .11	.20 .14 .11	.18 .13 .10	.17 .12 .09	.08
10	.30 .20 .14 .09	.28 .19 .13 .09	.17 .12 .09	.16 .11 .08	.15 .11 .08	.06

SPACING TO MOUNTING HEIGHT RATIO - 1.0

COEFFICIENTS OF UTILIZATION – ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE ρ_{cc}	80	70	50	30	10	0
% WALL REFLECTANCE ρ_w	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance					
0	.91 .91 .91 .91	.87 .87 .87 .87	.81 .81 .81	.74 .74 .74	.69 .69 .69	.66
1	.81 .76 .72 .69	.77 .73 .70 .66	.68 .65 .62	.62 .60 .58	.57 .55 .54	.51
2	.73 .66 .59 .54	.70 .63 .57 .53	.58 .53 .50	.53 .50 .47	.49 .46 .44	.41
3	.66 .57 .50 .44	.63 .54 .48 .43	.50 .45 .40	.46 .42 .38	.43 .39 .36	.34
4	.59 .49 .41 .36	.56 .47 .40 .35	.43 .38 .33	.40 .35 .31	.37 .33 .29	.27
5	.54 .43 .35 .29	.51 .41 .34 .29	.38 .32 .27	.35 .30 .26	.32 .28 .24	.22
6	.49 .38 .30 .25	.47 .36 .29 .24	.34 .27 .23	.31 .26 .22	.29 .24 .20	.18
7	.45 .33 .26 .21	.43 .32 .25 .20	.30 .24 .19	.27 .22 .18	.25 .21 .17	.15
8	.41 .30 .22 .18	.39 .29 .22 .17	.26 .20 .16	.24 .19 .15	.23 .18 .15	.13
9	.38 .27 .20 .15	.36 .26 .19 .15	.24 .18 .14	.22 .17 .13	.20 .16 .13	.11
10	.35 .24 .17 .13	.33 .23 .16 .12	.21 .15 .12	.20 .14 .11	.18 .14 .10	.09

SPACING TO MOUNTING HEIGHT RATIO - .9

Test No. HPK09482

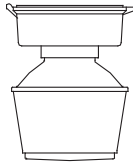
Test No. HPK09473

Test No. HPK09475



METAL HALIDE, METAL HALIDE PULSE-VM1, VM3

With Type V 12" Spin-
Top Poly Refractor
50-250 Watt
Mogul Base

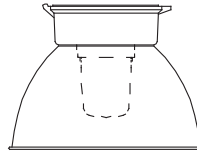


CANDLEPOWER – 175 WATT

14000 lumens
For 50 MH watt multiply by 0.29
For 70 MH watt multiply by 0.40
For 100 MH watt multiply by 0.64
For 150 MHP watt multiply by 1.00
For 175 MHP watt multiply by 1.25

METAL HALIDE, METAL HALIDE PULSE-VM1, VM3

with Globe and Full
Cutoff Deep White
Reflector*
50-250 Watt
Mogul Base



CANDLEPOWER – 175 WATT

14000 lumens
For 50 MH watt multiply by 0.29
For 70 MH watt multiply by 0.40
For 100 MH watt multiply by 0.64
For 250 MH watt multiply by 1.46
For 150 MHP watt multiply by 1.00
For 175 MHP watt multiply by 1.25
For 200 MHP watt multiply by 1.50

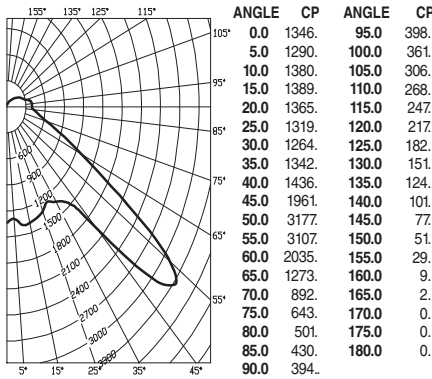
HIGH PRESSURE SODIUM-VM2, VM4

With Globe
35-150 Watt
Mogul Base

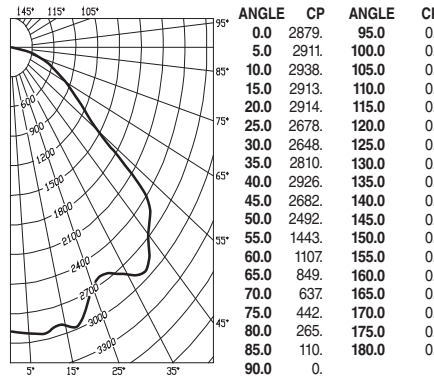


CANDLEPOWER – 100 WATT

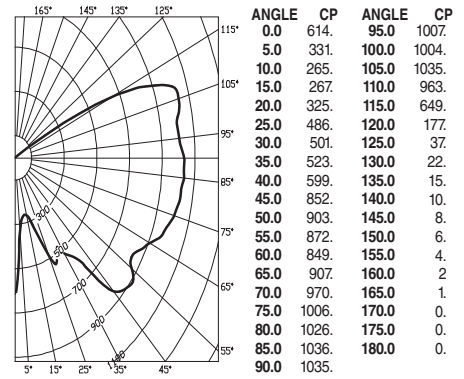
9500 lumens
For 35 watt multiply by 0.236
For 50 watt multiply by 0.42
For 70 watt multiply by 0.68
For 150 watt multiply by 1.68



Efficiency 71.9%



Efficiency 65.5%



Efficiency 84.6%

COEFFICIENTS OF UTILIZATION – ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE ρ_{cc}	% WALL REFLECTANCE ρ_w					ROOM CAVITY RATIO RCR												
	80	70	50	30	10	0	20% Effective Floor Cavity Reflectance											
0	.83	.83	.83	.80	.80	.80	.74	.74	.74	.69	.69	.69	.64	.64	.64	.62		
1	.74	.70	.67	.64	.71	.68	.65	.62	.63	.60	.58	.58	.56	.54	.53	.51	.49	
2	.67	.61	.55	.51	.64	.58	.54	.49	.54	.50	.47	.50	.47	.44	.44	.42	.40	
3	.61	.52	.46	.41	.58	.51	.45	.40	.47	.42	.38	.44	.40	.36	.41	.37	.35	.33
4	.54	.45	.38	.33	.52	.44	.37	.32	.41	.35	.31	.38	.33	.30	.35	.31	.28	.26
5	.49	.39	.32	.27	.47	.38	.31	.26	.35	.30	.25	.33	.28	.24	.30	.26	.23	.21
6	.45	.34	.27	.22	.42	.33	.26	.22	.31	.25	.21	.28	.24	.20	.26	.22	.19	.17
7	.40	.30	.23	.18	.38	.29	.22	.18	.27	.21	.17	.25	.20	.16	.23	.19	.15	.13
8	.37	.26	.19	.15	.35	.25	.19	.14	.23	.18	.14	.22	.17	.13	.20	.16	.12	.11
9	.34	.23	.17	.13	.32	.23	.16	.12	.21	.16	.12	.20	.15	.11	.18	.14	.11	.09
10	.31	.21	.14	.10	.29	.20	.14	.10	.18	.13	.09	.17	.12	.09	.16	.12	.09	.07

SPACING TO MOUNTING HEIGHT RATIO - 2.6

COEFFICIENTS OF UTILIZATION – ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE ρ_{cc}	% WALL REFLECTANCE ρ_w					ROOM CAVITY RATIO RCR												
	80	70	50	30	10	0	20% Effective Floor Cavity Reflectance											
0	.76	.76	.76	.76	.74	.74	.74	.71	.71	.71	.68	.68	.68	.65	.65	.65	.64	
1	.70	.67	.65	.63	.68	.66	.64	.62	.63	.61	.60	.61	.59	.58	.58	.57	.56	.55
2	.65	.60	.56	.53	.63	.60	.55	.52	.57	.54	.51	.55	.52	.50	.53	.51	.49	.48
3	.60	.54	.49	.46	.58	.53	.49	.45	.51	.48	.45	.49	.46	.44	.48	.45	.43	.42
4	.55	.48	.43	.39	.54	.47	.43	.39	.46	.42	.38	.44	.41	.38	.43	.40	.37	.36
5	.51	.43	.38	.34	.49	.43	.38	.34	.41	.37	.34	.40	.36	.33	.39	.36	.33	.32
6	.47	.39	.34	.30	.46	.38	.33	.30	.37	.33	.29	.36	.32	.29	.35	.32	.29	.28
7	.43	.35	.30	.26	.42	.35	.30	.26	.34	.29	.26	.33	.29	.26	.32	.28	.25	.24
8	.40	.32	.26	.23	.39	.31	.26	.23	.30	.26	.22	.29	.25	.22	.29	.25	.22	.21
9	.37	.28	.23	.20	.36	.28	.23	.20	.27	.23	.20	.27	.23	.20	.26	.22	.19	.18
10	.33	.25	.20	.16	.32	.24	.19	.16	.24	.19	.16	.23	.19	.16	.23	.19	.16	.15

SPACING TO MOUNTING HEIGHT RATIO - 1.5

*Values using Dark Sky gasket kit

COEFFICIENTS OF UTILIZATION – ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE ρ_{cc}	% WALL REFLECTANCE ρ_w					ROOM CAVITY RATIO RCR												
	80	70	50	30	10	0	20% Effective Floor Cavity Reflectance											
0	.94	.94	.94	.94	.88	.88	.88	.88	.78	.78	.78	.68	.68	.68	.59	.59	.59	.55
1	.80	.74	.68	.63	.74	.69	.64	.59	.59	.55	.52	.51	.47	.45	.43	.40	.38	.34
2	.71	.61	.54	.47	.65	.57	.50	.44	.49	.43	.38	.41	.37	.33	.34	.31	.28	.24
3	.63	.52	.44	.37	.58	.48	.41	.35	.41	.35	.30	.35	.30	.26	.29	.25	.21	.18
4	.57	.45	.36	.29	.52	.42	.34	.27	.36	.29	.24	.30	.25	.20	.25	.20	.17	.14
5	.52	.39	.30	.24	.47	.36	.28	.22	.31	.24	.19	.26	.21	.16	.21	.17	.13	.11
6	.47	.34	.26	.20	.43	.32	.24	.19	.27	.21	.16	.23	.18	.13	.19	.14	.11	.08
7	.43	.30	.22	.17	.40	.28	.21	.15	.24	.18	.13	.20	.15	.11	.17	.12	.09	.07
8	.40	.27	.19	.14	.36	.25	.18	.13	.22	.15	.11	.18	.13	.09	.15	.11	.07	.05
9	.37	.24	.17	.12	.34	.23	.16	.11	.19	.14	.09	.16	.11	.08	.13	.09	.06	.04
10	.34	.22	.15	.10	.31	.20	.14	.09	.17	.12	.08	.14	.10	.06	.12	.08	.05	.03

SPACING TO MOUNTING HEIGHT RATIO - 1.9

Test No. HPK09477

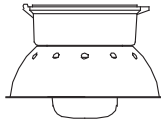
Test No. HPK10118

Test No. HPK09955



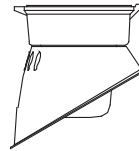
HIGH PRESSURE SODIUM-VM2, VM4

With Globe and Dome Reflector
 35-150 Watt
 Mogul Base



HIGH PRESSURE SODIUM-VM2, VM4

With Globe and Angle Reflector
 35-150 Watt
 Mogul Base



HIGH PRESSURE SODIUM-VM2, VM4

With Type I All Glass Refractor
 35-150 Watt
 Mogul Base



CANDLEPOWER – 100 WATT

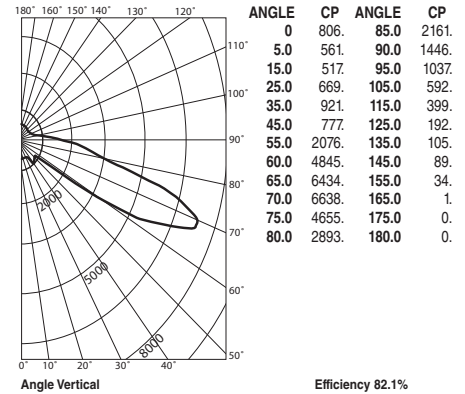
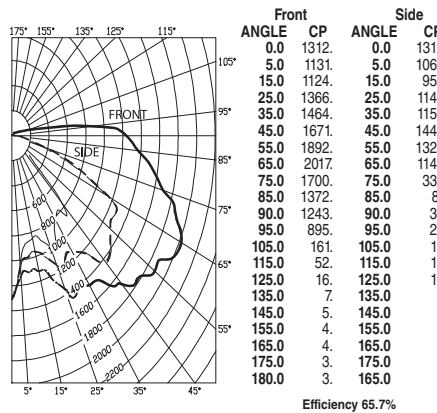
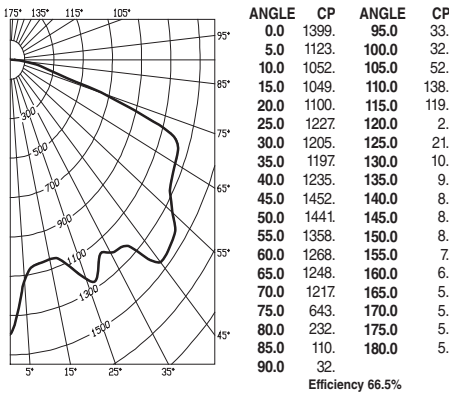
9500 lumens
 For 35 watt multiply by 0.236
 For 50 watt multiply by 0.42
 For 70 watt multiply by 0.68
 For 150 watt multiply by 1.68

CANDLEPOWER – 100 WATT

9500 lumens
 For 35 watt multiply by 0.236
 For 50 watt multiply by 0.42
 For 70 watt multiply by 0.68
 For 150 watt multiply by 1.68

CANDLEPOWER – 100 WATT

9500 lumens
 For 35 watt multiply by 0.236
 For 50 watt multiply by 0.42
 For 70 watt multiply by 0.68
 For 150 watt multiply by 1.68



COEFFICIENTS OF UTILIZATION – ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE ρ_{cc}	80	70	50	30	10	0
% WALL REFLECTANCE ρ_w	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance					
0	.79	.79	.79	.77	.77	.77
1	.71	.68	.64	.61	.69	.66
2	.64	.58	.53	.49	.62	.57
3	.58	.50	.44	.39	.56	.49
4	.52	.43	.37	.32	.50	.42
5	.47	.38	.31	.26	.45	.37
6	.43	.33	.27	.22	.41	.32
7	.39	.29	.23	.19	.38	.29
8	.36	.26	.20	.16	.35	.26
9	.33	.23	.18	.13	.32	.23
10	.30	.20	.15	.11	.29	.20

COEFFICIENTS OF UTILIZATION – ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE ρ_{cc}	80	70	50	30	10	0
% WALL REFLECTANCE ρ_w	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance					
0	.78	.78	.78	.76	.76	.76
1	.69	.64	.61	.57	.66	.62
2	.62	.55	.45	.39	.53	.48
3	.56	.48	.42	.37	.46	.41
4	.50	.42	.35	.30	.40	.34
5	.46	.37	.30	.25	.34	.29
6	.42	.32	.26	.21	.31	.25
7	.39	.29	.23	.18	.27	.21
8	.35	.26	.20	.15	.24	.19
9	.33	.23	.17	.13	.22	.17
10	.30	.20	.14	.11	.20	.14

COEFFICIENTS OF UTILIZATION – ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE ρ_{cc}	80	70	50	30	10	0
% WALL REFLECTANCE ρ_w	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance					
0	.95	.95	.95	.91	.91	.91
1	.81	.74	.69	.63	.77	.71
2	.70	.60	.51	.44	.66	.57
3	.61	.49	.40	.32	.58	.47
4	.54	.41	.32	.24	.51	.39
5	.49	.35	.26	.19	.46	.34
6	.44	.31	.22	.15	.42	.29
7	.41	.27	.19	.12	.38	.26
8	.38	.24	.16	.10	.35	.23
9	.35	.22	.14	.09	.33	.21
10	.33	.20	.13	.08	.31	.19

SPACING TO MOUNTING HEIGHT RATIO - 1.3

SPACING TO MOUNTING HEIGHT RATIO - 1.3

SPACING TO MOUNTING HEIGHT RATIO - 1.64 90-270°

Test No. HPK09956

Test No. HPK09957

Test No. HPK09960



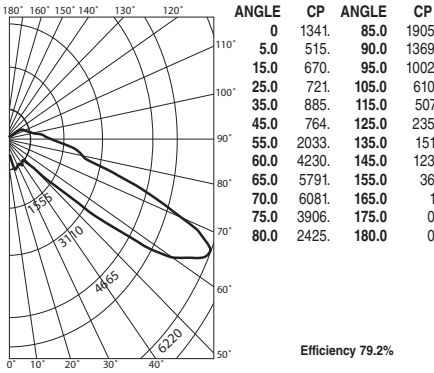
KILLARK®

HIGH PRESSURE SODIUM-VM2, VM4
With Type III All Glass Refractor
35-150 Watt
Mogul Base



CANDLEPOWER – 100 WATT

9500 lumens
For 35 watt multiply by 0.236
For 50 watt multiply by 0.42
For 70 watt multiply by 0.68
For 150 watt multiply by 1.68



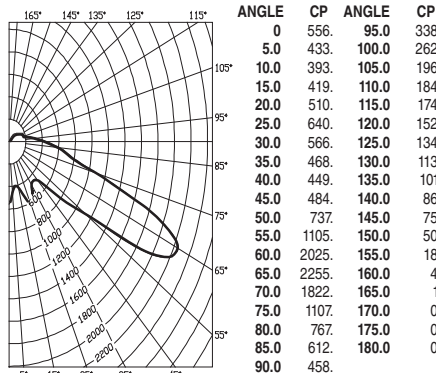
Angle Vertical
CP 75° Horizontal

HIGH PRESSURE SODIUM-VM2, VM4
With Type V All Glass Refractor
35-150 Watt
Mogul Base



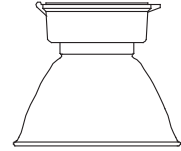
CANDLEPOWER – 100 WATT

9500 lumens
For 35 watt multiply by 0.236
For 50 watt multiply by 0.42
For 70 watt multiply by 0.68
For 150 watt multiply by 1.68



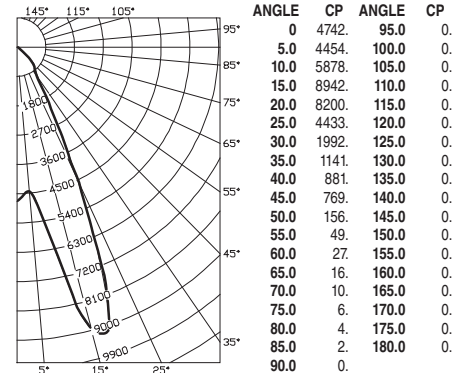
Efficiency 77.1%

HIGH PRESSURE SODIUM-VM2, VM4
With Enclosed Reflector
35-150 Watt
Mogul Base



CANDLEPOWER – 100 WATT

9500 lumens
For 35 watt multiply by 0.236
For 50 watt multiply by 0.42
For 70 watt multiply by 0.68
For 150 watt multiply by 1.68



Efficiency 66.1%

COEFFICIENTS OF UTILIZATION — ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE I_{cc}	80	70	50	30	10	0
% WALL REFLECTANCE I_w	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance					
0	.91 .91 .91 .91	.88 .88 .88 .88	.81 .81 .81	.75 .75 .75	.70 .70 .70	.67
1	.78 .71 .66 .61	.74 .68 .63 .59	.63 .58 .55	.57 .54 .51	.52 .50 .47	.44
2	.67 .57 .49 .43	.63 .55 .47 .41	.50 .43 .38	.45 .40 .35	.41 .37 .33	.30
3	.59 .47 .38 .31	.55 .45 .36 .30	.40 .33 .28	.36 .31 .26	.33 .28 .24	.21
4	.52 .40 .30 .23	.49 .38 .29 .22	.34 .27 .21	.30 .24 .19	.27 .22 .17	.15
5	.47 .34 .25 .18	.44 .32 .24 .18	.29 .22 .16	.26 .20 .15	.23 .18 .13	.11
6	.43 .30 .21 .15	.40 .28 .20 .14	.25 .18 .13	.23 .17 .12	.20 .15 .11	.08
7	.39 .26 .18 .12	.37 .25 .17 .12	.23 .16 .11	.20 .14 .10	.18 .13 .09	.07
8	.36 .24 .16 .10	.34 .22 .15 .10	.20 .14 .09	.18 .12 .08	.16 .11 .07	.05
9	.34 .21 .14 .09	.32 .20 .13 .08	.19 .12 .08	.17 .11 .07	.15 .10 .06	.05
10	.31 .20 .12 .08	.30 .19 .12 .07	.17 .11 .07	.15 .10 .06	.14 .09 .06	.04

SPACING TO MOUNTING HEIGHT RATIO - 0.16 0-180°

COEFFICIENTS OF UTILIZATION — ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE I_{cc}	80	70	50	30	10	0
% WALL REFLECTANCE I_w	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance					
0	.88 .88 .88 .88	.84 .84 .84 .84	.78 .78 .78	.73 .73 .73	.68 .68 .68	.65
1	.75 .70 .65 .60	.72 .67 .62 .58	.61 .58 .54	.56 .53 .51	.52 .49 .47	.45
2	.66 .57 .49 .43	.62 .54 .48 .42	.50 .44 .39	.45 .41 .37	.41 .38 .34	.32
3	.58 .47 .38 .32	.54 .45 .37 .31	.41 .34 .29	.37 .31 .27	.34 .29 .25	.23
4	.51 .39 .30 .23	.48 .37 .29 .23	.34 .27 .21	.30 .24 .20	.27 .22 .18	.16
5	.45 .33 .24 .18	.43 .31 .23 .17	.28 .21 .16	.25 .19 .15	.23 .18 .13	.11
6	.41 .29 .20 .14	.39 .27 .20 .14	.25 .18 .13	.22 .16 .12	.20 .15 .11	.09
7	.38 .26 .18 .12	.36 .24 .17 .12	.22 .16 .11	.20 .14 .10	.18 .13 .09	.07
8	.35 .23 .15 .10	.33 .22 .15 .10	.20 .14 .09	.18 .12 .08	.16 .11 .08	.06
9	.33 .21 .14 .09	.31 .20 .13 .09	.18 .12 .08	.17 .11 .07	.15 .10 .07	.05
10	.30 .19 .12 .08	.29 .18 .12 .07	.17 .11 .07	.15 .10 .06	.14 .09 .06	.04

SPACING TO MOUNTING HEIGHT RATIO - 1.4

COEFFICIENTS OF UTILIZATION — ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE I_{cc}	80	70	50	30	10	0
% WALL REFLECTANCE I_w	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance					
0	.80 .80 .80 .80	.78 .78 .78 .78	.75 .75 .75	.72 .72 .72	.69 .69 .69	.67
1	.77 .76 .75 .74	.76 .75 .73 .72	.72 .71 .70	.69 .69 .68	.67 .66 .65	.65
2	.75 .73 .71 .69	.74 .72 .70 .68	.70 .68 .67	.68 .67 .66	.66 .65 .64	.63
3	.73 .70 .68 .66	.72 .69 .67 .65	.68 .66 .64	.66 .65 .63	.65 .63 .62	.62
4	.71 .67 .65 .63	.70 .67 .64 .62	.65 .63 .62	.64 .62 .61	.63 .62 .60	.60
5	.69 .65 .62 .60	.68 .64 .62 .60	.63 .61 .59	.62 .60 .59	.61 .60 .59	.58
6	.67 .63 .60 .58	.66 .62 .60 .58	.61 .59 .58	.61 .59 .57	.60 .58 .57	.56
7	.65 .61 .58 .56	.64 .60 .58 .56	.60 .57 .56	.59 .57 .55	.58 .56 .55	.54
8	.63 .59 .56 .54	.62 .58 .56 .54	.58 .55 .54	.57 .55 .53	.56 .55 .53	.53
9	.61 .56 .54 .52	.60 .56 .53 .52	.56 .53 .52	.55 .53 .51	.55 .53 .51	.51
10	.57 .52 .49 .47	.57 .52 .49 .47	.52 .49 .47	.51 .49 .47	.51 .49 .47	.46

SPACING TO MOUNTING HEIGHT RATIO - 1.0

Test No. HPK09962

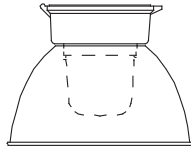
Test No. HPK09959

Test No. HPK09958



HIGH PRESSURE SODIUM-VM2, VM4

With Globe & full Cutoff
 Deep White Reflector*
 35-150 Watt
 Mogul Base



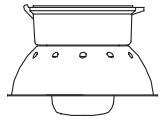
METAL HALIDE, METAL HALIDE PULSE-VM2, VM4

With Globe
 50-250 Watt
 Mogul Base



METAL HALIDE, METAL HALIDE PULSE-VM2, VM4

With Globe &
 Dome Reflector
 50-250 Watt
 Mogul Base



CANDLEPOWER – 100 WATT

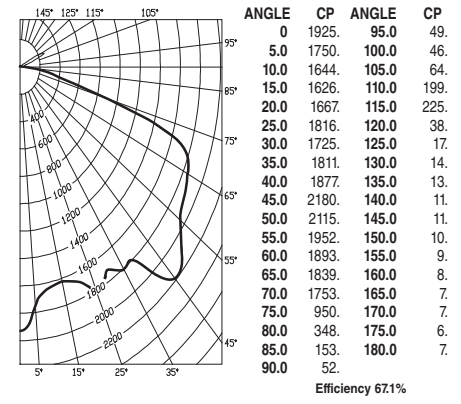
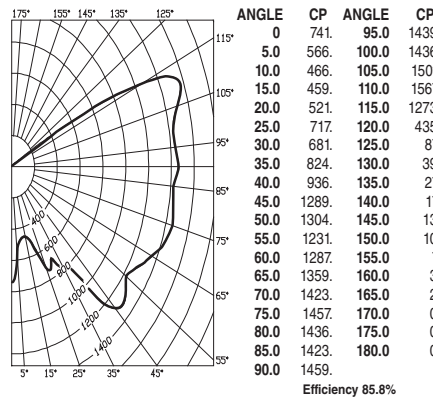
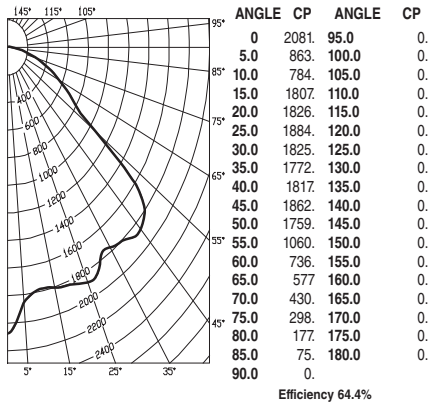
9500 lumens
 For 35 watt multiply by 0.236
 For 50 watt multiply by 0.42
 For 70 watt multiply by 0.68
 For 150 watt multiply by 1.68

CANDLEPOWER – 175 WATT

14000 lumens
 For 50 MH watt multiply by 0.29
 For 70 MH watt multiply by 0.40
 For 100 MH multiply by 0.64
 For 250 MH multiply by 1.46
 For 150 MHP multiply by 1.00
 For 175 MHP multiply by 1.25
 For 200 MHP multiply by 1.50

CANDLEPOWER – 175 WATT

14000 lumens
 For 50 MH watt multiply by 0.29
 For 70 MH watt multiply by 0.40
 For 100 MH multiply by 0.64
 For 250 MH multiply by 1.46
 For 150 MHP multiply by 1.00
 For 175 MHP multiply by 1.25
 For 200 MHP multiply by 1.50



COEFFICIENTS OF UTILIZATION --- ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE 1cc	80	70	50	30	10	0
% WALL REFLECTANCE 1w	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance					
0	76.76 76.76	74.74 74.74	71.71 71.71	68.68 68.68	65.65 65.65	64
1	70.67 65.62	68.66 63.61	63.61 59.56	61.59 58.58	57.56 55.55	
2	65.60 56.53	63.59 55.52	57.54 51.51	54.52 50.53	47.49 47.47	
3	60.54 49.45	58.53 48.45	51.47 44.44	49.46 43.48	45.43 41.41	
4	55.48 43.38	53.47 42.39	45.41 38.44	44.40 38.43	40.37 36.36	
5	50.43 38.34	49.42 37.33	41.36 33.33	40.36 33.38	35.32 31.31	
6	47.39 33.29	45.38 33.29	37.32 29.29	36.32 29.35	31.29 27.27	
7	43.35 29.28	42.34 29.25	33.29 25.25	32.29 25.31	28.25 24.24	
8	40.31 26.22	39.31 26.22	30.25 22.22	29.25 22.28	25.22 21.21	
9	36.28 23.19	36.28 23.19	27.22 19.22	26.22 19.26	22.19 18.18	
10	33.24 19.16	32.24 19.16	23.19 16.23	22.19 16.22	18.15 14.14	

COEFFICIENTS OF UTILIZATION --- ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE 1cc	80	70	50	30	10	0
% WALL REFLECTANCE 1w	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance					
0	95.95 95.95	89.89 89.89	78.78 78.78	68.68 68.68	59.59 59.59	54
1	81.75 70.65	75.70 65.60	60.56 53.51	48.45 43.41	38.34 34.34	
2	72.63 55.49	66.58 51.45	50.44 39.42	38.34 35.31	28.24 24.24	
3	65.53 45.38	59.50 42.36	42.36 31.35	30.26 29.25	22.18 22.18	
4	58.46 37.30	53.43 35.28	36.30 25.30	25.25 21.25	17.17 14.14	
5	53.40 31.25	48.37 29.23	32.25 20.26	21.22 17.14	11.11 11.11	
6	48.35 27.21	44.33 25.19	28.21 17.23	14.19 15.11	09.09 07.07	
7	44.31 23.17	40.29 22.16	25.18 14.21	15.12 17.13	09.07 07.07	
8	40.28 20.15	37.26 19.14	22.16 12.18	13.10 15.11	08.05 05.05	
9	37.25 18.12	34.23 16.12	20.14 10.17	12.08 14.09	06.04 04.04	
10	34.22 15.10	32.21 14.10	18.12 08.15	10.07 12.08	05.03 03.03	

COEFFICIENTS OF UTILIZATION --- ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE 1cc	80	70	50	30	10	0
% WALL REFLECTANCE 1w	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance					
0	80.80 80.80	77.77 77.77	73.73 73.73	70.70 70.70	66.66 66.66	65
1	72.68 65.62	70.66 63.61	63.61 58.58	60.58 56.57	55.54 52.52	
2	65.59 54.49	63.57 52.49	54.50 47.47	52.48 46.49	46.44 42.42	
3	58.51 45.40	56.49 44.39	47.42 38.45	45.41 37.43	39.36 35.35	
4	53.44 37.32	51.43 37.32	41.35 31.39	39.34 30.37	33.30 28.28	
5	48.38 32.27	46.37 31.26	35.30 26.34	29.25 25.22	23.23 21.21	
6	44.34 27.23	42.33 27.22	31.26 22.30	25.21 29.24	21.19 21.19	
7	40.30 23.19	38.29 23.19	28.22 18.27	22.18 25.21	18.16 18.16	
8	36.24 18.14	35.26 20.16	25.19 16.24	21.19 15.23	18.15 14.14	
9	34.24 18.14	33.23 18.14	22.17 13.21	17.13 20.16	13.12 13.12	
10	31.21 15.11	30.20 15.11	19.14 11.19	14.11 18.14	10.09 10.09	

SPACING TO MOUNTING HEIGHT RATIO - 1.3

*Values using Dark Sky gasket kit

SPACING TO MOUNTING HEIGHT RATIO - 2.3

SPACING TO MOUNTING HEIGHT RATIO - 1.5

Test No. HPK10125

Test No. HPK09919

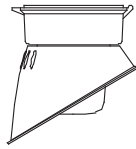
Test No. HPK09920



KILLARK®

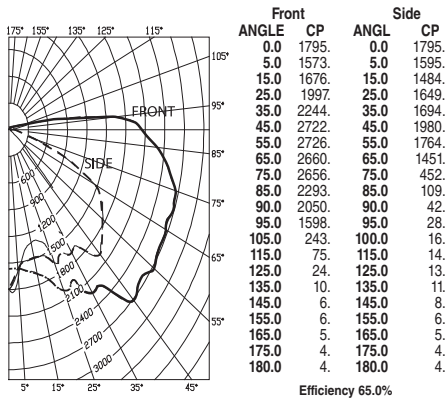
METAL HALIDE, METAL HALIDE PULSE-VM2, VM4

With Globe &
Angle Reflector
50-250 Watt
Mogul Base



CANDLEPOWER – 175 WATT

14000 lumens
For 50 MH watt multiply by 0.29
For 70 MH watt multiply by 0.40
For 100 MH multiply by 0.64
For 250 MH multiply by 1.46
For 150 MHP multiply by 1.00
For 175 MHP multiply by 1.25
For 200 MHP multiply by 1.50



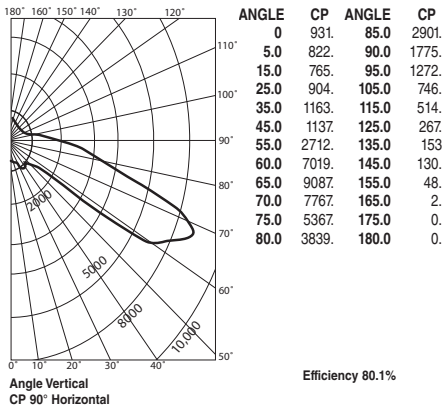
METAL HALIDE, METAL HALIDE PULSE-VM2, VM4

With Type I All
Glass Refractor
50-250 Watt
Mogul Base



CANDLEPOWER – 175 WATT

14000 lumens
For 50 MH watt multiply by 0.29
For 70 MH watt multiply by 0.40
For 100 MH multiply by 0.64
For 250 MH multiply by 1.46
For 150 MHP multiply by 1.00
For 175 MHP multiply by 1.25
For 200 MHP multiply by 1.50



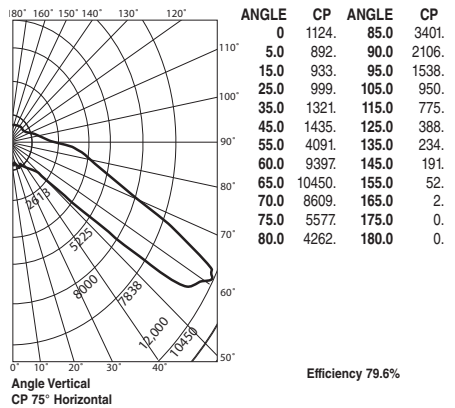
METAL HALIDE, METAL HALIDE PULSE-VM2, VM4

With Type III All
Glass Refractor
50-250 Watt
Mogul Base



CANDLEPOWER – 175 WATT

14000 lumens
For 50 MH watt multiply by 0.29
For 70 MH watt multiply by 0.40
For 100 MH multiply by 0.64
For 250 MH multiply by 1.46
For 150 MHP multiply by 1.00
For 175 MHP multiply by 1.25
For 200 MHP multiply by 1.50



COEFFICIENTS OF UTILIZATION -- ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE I _{cc}	80	70	50	30	10	0
% WALL REFLECTANCE I _w	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance					
0	.77	.77	.77	.75	.75	.75
1	.68	.64	.60	.57	.62	.59
2	.61	.55	.49	.45	.59	.44
3	.56	.48	.42	.37	.53	.46
4	.50	.42	.35	.30	.48	.40
5	.46	.37	.30	.25	.44	.36
6	.42	.33	.26	.22	.40	.32
7	.39	.29	.23	.18	.37	.28
8	.35	.26	.20	.16	.34	.25
9	.33	.23	.17	.13	.31	.23
10	.30	.20	.15	.11	.29	.20

SPACING TO MOUNTING HEIGHT RATIO - 1.6

COEFFICIENTS OF UTILIZATION -- ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE I _{cc}	80	70	50	30	10	0
% WALL REFLECTANCE I _w	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance					
0	.93	.93	.93	.89	.89	.89
1	.78	.72	.66	.61	.75	.69
2	.68	.58	.50	.43	.64	.55
3	.59	.47	.38	.31	.56	.45
4	.53	.40	.30	.23	.50	.38
5	.47	.34	.25	.18	.45	.33
6	.43	.30	.21	.15	.41	.28
7	.40	.26	.18	.12	.37	.25
8	.36	.24	.16	.10	.34	.23
9	.34	.21	.14	.09	.32	.20
10	.32	.20	.12	.08	.30	.19

SPACING TO MOUNTING HEIGHT RATIO - 1.82 90-270°

COEFFICIENTS OF UTILIZATION -- ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE I _{cc}	80	70	50	30	10	0
% WALL REFLECTANCE I _w	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance					
0	.92	.92	.92	.88	.88	.88
1	.78	.72	.66	.61	.74	.68
2	.67	.57	.49	.43	.64	.55
3	.59	.47	.38	.31	.56	.45
4	.52	.40	.30	.23	.49	.38
5	.47	.34	.25	.18	.44	.32
6	.43	.30	.21	.15	.40	.28
7	.39	.26	.18	.12	.37	.25
8	.36	.24	.16	.10	.34	.23
9	.34	.21	.14	.09	.32	.20
10	.32	.20	.12	.08	.30	.19

SPACING TO MOUNTING HEIGHT RATIO - 1.74 0-180°

Test No. HPK09921

Test No. HPK09934

Test No. HPK09930



KILLARK®

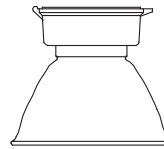
METAL HALIDE, METAL HALIDE PULSE-VM2, VM4

With Type V All Glass Refractor
50-250 Watt
Mogul Base



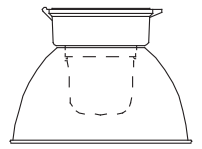
METAL HALIDE, METAL HALIDE PULSE-VM2, VM4

With Enclosed Reflector
50-250 Watt
Mogul Base



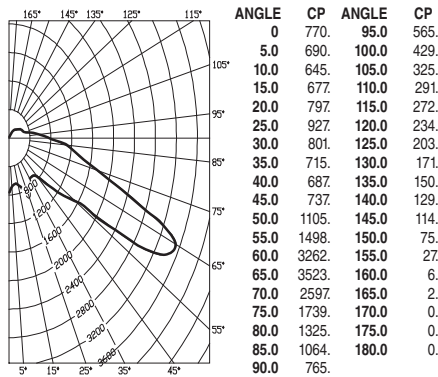
METAL HALIDE, METAL HALIDE PULSE-VM2, VM4

With Globe & Full Cutoff
50-250 Watt
Mogul Base



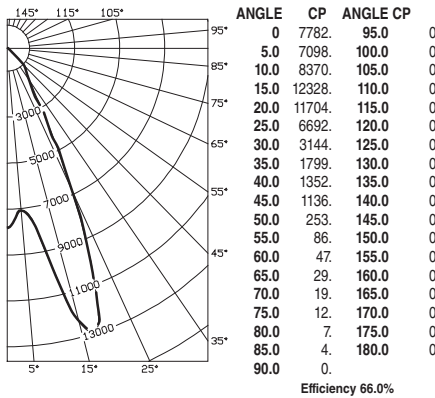
CANDLEPOWER – 175 WATT

14000 lumens
For 50 MH watt multiply by 0.29
For 70 MH watt multiply by 0.40
For 100 MH multiply by 0.68
For 250 MH multiply by 1.46
For 150 MHP multiply by 1.00
For 175 MHP multiply by 1.25
For 200 MHP multiply by 1.50



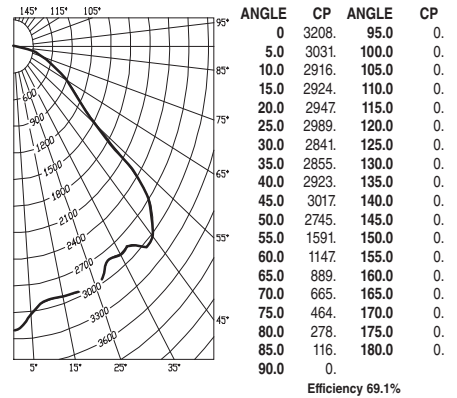
CANDLEPOWER – 175 WATT

14000 lumens
For 50 MH watt multiply by 0.29
For 70 MH watt multiply by 0.40
For 100 MH multiply by 0.68
For 250 MH multiply by 1.46
For 150 MHP multiply by 1.00
For 175 MHP multiply by 1.25
For 200 MHP multiply by 1.50



CANDLEPOWER – 175 WATT

14000 lumens
For 50 MH watt multiply by 0.29
For 70 MH watt multiply by 0.40
For 100 MH multiply by 0.68
For 250 MH multiply by 1.46
For 150 MHP multiply by 1.00
For 175 MHP multiply by 1.25
For 200 MHP multiply by 1.50



COEFFICIENTS OF UTILIZATION -- ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE 1cc	80	70	50	30	10	0						
% WALL REFLECTANCE 1w	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0						
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance											
0	92.92	92.92	89.89	89.89	89.89	82.82	82.82	76.76	76.76	71.71	71.71	68
1	79.73	67.62	75.70	65.60	64.60	56.59	55.52	54.51	49.46	46		
2	69.59	51.45	65.56	49.43	51.46	40.47	38.43	39.35	32			
3	60.49	40.33	57.46	38.32	42.35	30.38	32.27	34.20	25	23		
4	53.40	31.24	50.38	30.23	35.27	22.31	25.20	28.18	16			
5	47.34	25.18	45.32	24.18	29.22	16.26	20.15	24.14	11			
6	43.30	21.15	41.29	20.14	26.19	13.23	17.12	21.11	09			
7	40.27	18.13	37.26	18.12	23.16	11.21	15.10	19.09	07			
8	37.24	16.11	35.23	15.10	21.14	09.19	13.09	17.08	06			
9	34.22	14.09	32.21	14.09	19.13	08.17	12.08	16.07	05			
10	32.20	13.08	30.19	12.08	17.11	07.16	10.06	14.06	04			

SPACING TO MOUNTING HEIGHT RATIO - 1.4

COEFFICIENTS OF UTILIZATION -- ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE 1cc	80	70	50	30	10	0				
% WALL REFLECTANCE 1w	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0				
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance									
0	80.80	80.80	78.78	78.78	75.75	75.75	71.71	71.69	69.69	67
1	77.76	75.73	76.74	73.72	72.71	70	69.69	68.67	66.66	65
2	75.73	71.69	74.71	70.68	69.68	67	67.66	65.65	64.63	63
3	73.70	67.65	71.69	67.65	67.65	64	66.64	63.64	63.62	61
4	70.67	64.62	69.66	64.62	65.63	61	64.62	61.62	61.60	59
5	68.64	62.60	67.64	61.59	63.61	59	62.60	58.61	59.58	57
6	66.62	59.57	66.62	59.57	61.59	57	60.58	57.59	58.56	56
7	64.60	57.55	64.60	57.55	59.57	55	58.56	55.58	56.54	54
8	62.58	55.53	62.58	55.53	57.55	53	56.54	53.56	54.52	52
9	60.56	53.51	60.55	53.51	55.52	51	54.52	51.54	52.50	50
10	58.54	51.48	58.54	51.48	53.50	49	52.49	49.51	50.46	48

SPACING TO MOUNTING HEIGHT RATIO - 1.0

COEFFICIENTS OF UTILIZATION -- ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE 1cc	80	70	50	30	10	0				
% WALL REFLECTANCE 1w	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0				
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance									
0	81.81	81.81	79.79	79.79	76.76	76.76	73.73	73.70	70.70	68
1	75.72	70.67	73.71	68.66	68.66	64	65.64	62.63	61.60	59
2	69.64	60.57	68.63	59.56	61.58	55	58.56	54.57	55.53	51
3	64.58	53.49	63.57	52.49	55.51	48	53.50	47.51	49.46	45
4	59.52	46.42	57.51	46.42	49.45	41	48.44	41.41	46.43	39
5	54.46	41.36	53.46	40.36	44.39	36	43.39	36.42	38.35	34
6	50.42	36.32	49.41	36.32	40.35	32	39.35	31.38	34.31	30
7	46.37	32.28	45.37	32.28	36.31	27	35.31	27.34	30.27	26
8	43.34	28.24	42.33	28.24	32.27	24	31.27	24.31	27.24	22
9	39.30	25.21	38.30	25.21	29.24	21	28.24	21.28	24.21	19
10	35.26	21.17	35.26	21.17	25.20	17	25.20	17.24	20.17	16

SPACING TO MOUNTING HEIGHT RATIO - 1.4

* Values using Dark Sky gasket kit

Test No. HPK09929

Test No. HPK09922

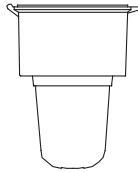
Test No. HPK10129



KILLARK®

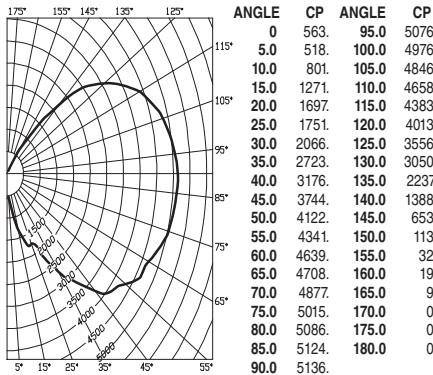
HIGH PRESSURE SODIUM-VM5

With Globe
200-400 Watt
Mogul Base



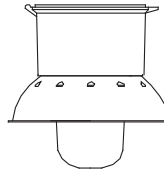
CANDLEPOWER – 400 WATT

51000 lumens
For 200 watt multiply by 0.43
For 250 watt multiply by 0.53



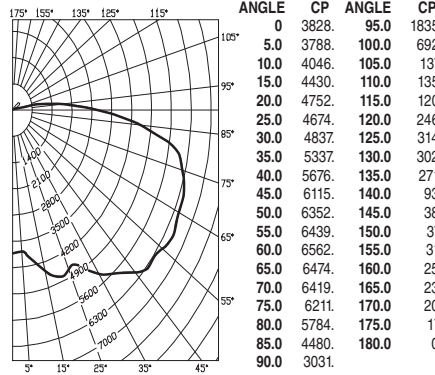
HIGH PRESSURE SODIUM-VM5

With Globe & Reflector
200-400 Watt
Mogul Base



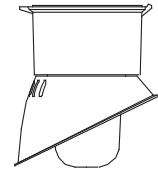
CANDLEPOWER – 400 WATT

51000 lumens
For 200 watt multiply by 0.43
For 250 watt multiply by 0.53



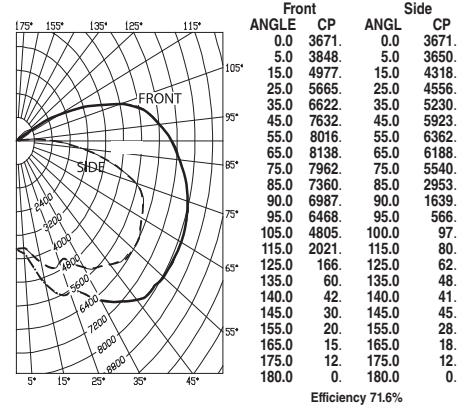
HIGH PRESSURE SODIUM-VM5

With Globe & Angle Reflector
200-400 Watt
Mogul Base



CANDLEPOWER – 400 WATT

51000 lumens
For 200 watt multiply by 0.43
For 250 watt multiply by 0.53



COEFFICIENTS OF UTILIZATION -- ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE 1cc	80	70	50	30	10	0
% WALL REFLECTANCE 1w	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance					
0	.97 .97 .97 .97	.90 .90 .90 .90	.77 .77 .77	.66 .66 .66	.55 .55 .55	.50
1	.83 .77 .71 .66	.76 .71 .66 .61	.59 .56 .52	.49 .46 .43 .40	.37 .35	.30
2	.73 .64 .56 .50	.67 .59 .52 .46	.49 .44 .39	.40 .36 .32 .28	.26 .21	.21
3	.66 .55 .46 .39	.60 .50 .42 .36	.42 .35 .30	.34 .29 .25 .26	.23 .19	.16
4	.59 .47 .38 .31	.54 .43 .35 .29	.36 .29 .24	.29 .24 .19 .22	.18 .15	.12
5	.54 .41 .32 .25	.49 .37 .29 .23	.31 .24 .19	.25 .20 .16 .19	.15 .12	.09
6	.49 .36 .27 .21	.45 .33 .25 .19	.27 .21 .16	.22 .17 .13 .17	.13 .10	.07
7	.45 .32 .23 .18	.41 .29 .22 .16	.24 .18 .13	.19 .14 .10 .15	.11 .08	.05
8	.41 .28 .20 .15	.37 .26 .19 .13	.21 .15 .11	.17 .12 .09 .13	.09 .06	.04
9	.38 .25 .18 .13	.35 .23 .16 .12	.19 .13 .09	.16 .11 .07 .12	.08 .05	.03
10	.35 .23 .15 .11	.32 .21 .14 .10	.17 .12 .08	.14 .09 .06	.11 .07 .04	.02

SPACING TO MOUNTING HEIGHT RATIO - 4.3

COEFFICIENTS OF UTILIZATION -- ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE 1cc	80	70	50	30	10	0
% WALL REFLECTANCE 1w	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance					
0	.88 .88 .88 .88	.85 .85 .85 .85	.80 .80 .80	.76 .76 .76	.72 .72 .72	.70
1	.76 .70 .65 .60	.73 .68 .63 .59	.63 .59 .56	.59 .56 .53	.55 .53 .50	.48
2	.67 .58 .51 .45	.64 .56 .50 .44	.52 .47 .42	.49 .44 .40	.46 .42 .38	.36
3	.60 .49 .42 .36	.57 .48 .40 .34	.44 .38 .33	.41 .36 .32	.39 .34 .30	.28
4	.54 .42 .34 .28	.51 .41 .33 .27	.38 .32 .26	.36 .30 .25	.33 .28 .24	.22
5	.49 .37 .29 .23	.46 .36 .28 .22	.33 .27 .21	.31 .25 .21	.29 .24 .20	.18
6	.44 .33 .25 .19	.42 .31 .24 .19	.29 .23 .18	.28 .22 .17	.26 .21 .17	.15
7	.41 .29 .21 .16	.39 .28 .21 .16	.26 .20 .15	.24 .19 .14	.23 .18 .14	.12
8	.37 .26 .18 .13	.36 .25 .18 .13	.23 .17 .13	.22 .16 .12	.20 .15 .12	.10
9	.35 .23 .16 .11	.33 .22 .16 .11	.21 .15 .11	.20 .14 .10	.19 .14 .10	.08
10	.32 .20 .14 .08	.30 .20 .13 .09	.19 .13 .09	.17 .12 .08	.16 .12 .08	.07

SPACING TO MOUNTING HEIGHT RATIO - 2.2

COEFFICIENTS OF UTILIZATION -- ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE 1cc	80	70	50	30	10	0
% WALL REFLECTANCE 1w	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance					
0	.83 .83 .83 .83	.80 .80 .80 .80	.74 .74 .74	.69 .69 .69	.64 .64 .64	.61
1	.72 .67 .63 .59	.69 .64 .60 .57	.59 .56 .53	.55 .52 .50	.50 .48 .46	.44
2	.64 .57 .50 .45	.61 .54 .49 .44	.50 .45 .41	.46 .42 .39	.42 .39 .36	.34
3	.58 .49 .42 .36	.55 .47 .40 .35	.43 .38 .33	.40 .35 .31	.36 .33 .29	.27
4	.52 .42 .35 .29	.49 .40 .34 .28	.37 .31 .27	.34 .29 .25	.31 .27 .24	.22
5	.47 .37 .29 .24	.45 .35 .28 .23	.32 .27 .22	.30 .25 .21	.27 .23 .20	.18
6	.43 .32 .25 .20	.41 .31 .24 .20	.29 .23 .19	.26 .21 .18	.24 .20 .17	.15
7	.39 .29 .22 .17	.37 .27 .21 .16	.25 .20 .15	.23 .18 .15	.22 .17 .14	.12
8	.36 .25 .19 .14	.34 .24 .18 .14	.23 .17 .13	.21 .16 .12	.19 .15 .12	.10
9	.33 .23 .16 .12	.32 .22 .16 .12	.20 .15 .11	.19 .14 .11	.17 .13 .10	.08
10	.30 .20 .14 .10	.29 .19 .13 .09	.18 .13 .09	.17 .12 .08	.15 .11 .08	.06

SPACING TO MOUNTING HEIGHT RATIO - 2.2

Test No. HPK09924

Test No. HPK09927

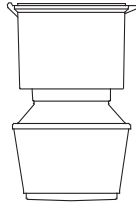
Test No. HPK09928



KILLARK®

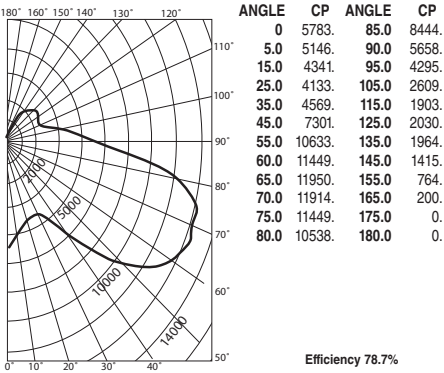
HIGH PRESSURE SODIUM-VM5

With Type II 12" Spintop Refractor
 200-400 Watt
 Mogul Base



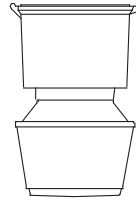
CANDLEPOWER – 400 WATT

51000 lumens
 For 200 watt multiply by 0.43
 For 250 watt multiply by 0.53



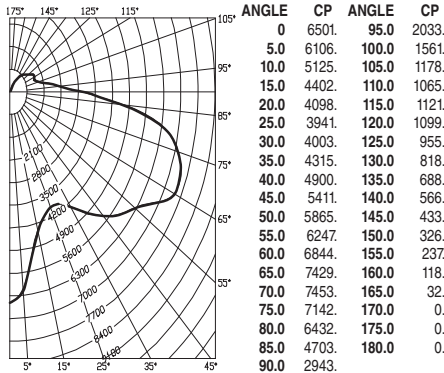
HIGH PRESSURE SODIUM-VM5

With Type V 12" Spintop Reflector
 200-400 Watt
 Mogul Base



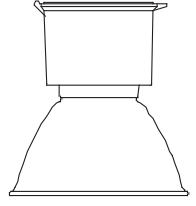
CANDLEPOWER – 400 WATT

51000 lumens
 For 200 watt multiply by 0.43
 For 250 watt multiply by 0.53



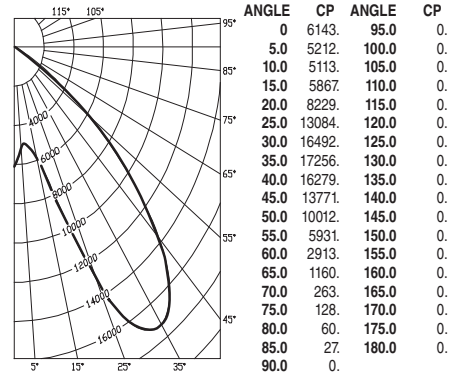
HIGH PRESSURE SODIUM-VM5

With Enclosed Reflector
 200-600 Watt
 Mogul Base



CANDLEPOWER – 400 WATT

51000 lumens
 For 200 watt multiply by 0.43
 For 250 watt multiply by 0.53
 For 600 watt multiply by 1.76



COEFFICIENTS OF UTILIZATION -- ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE 1cc	80	70	50	30	10	0
% WALL REFLECTANCE 1w	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance					
0	.89 .89 .89 .89	.85 .85 .85 .85	.78 .78 .78	.71 .71 .71	.64 .64 .64	.61
1	.77 .72 .67 .63	.73 .68 .64 .60	.62 .58 .55	.55 .53 .50	.50 .48 .45	.42
2	.68 .60 .53 .47	.64 .56 .50 .45	.51 .45 .41	.45 .41 .37	.40 .37 .34	.31
3	.61 .50 .42 .36	.57 .48 .40 .34	.43 .37 .32	.38 .33 .29	.34 .30 .26	.23
4	.54 .43 .35 .28	.51 .41 .33 .27	.36 .30 .25	.32 .27 .23	.29 .24 .21	.18
5	.49 .37 .29 .23	.46 .35 .28 .22	.32 .25 .20	.28 .23 .18	.25 .20 .17	.14
6	.45 .33 .25 .19	.42 .31 .24 .18	.28 .21 .17	.25 .19 .15	.22 .17 .14	.11
7	.41 .29 .21 .16	.39 .28 .20 .15	.25 .19 .14	.22 .17 .13	.20 .15 .11	.09
8	.38 .26 .19 .14	.36 .25 .18 .13	.22 .16 .12	.20 .15 .11	.18 .13 .10	.08
9	.35 .24 .17 .12	.33 .23 .16 .11	.20 .14 .10	.18 .13 .09	.16 .12 .08	.07
10	.33 .22 .15 .10	.31 .21 .14 .10	.19 .13 .09	.17 .12 .08	.15 .10 .07	.06

SPACING TO MOUNTING HEIGHT RATIO - 1.38 0-180°

COEFFICIENTS OF UTILIZATION -- ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE 1cc	80	70	50	30	10	0
% WALL REFLECTANCE 1w	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance					
0	.96 .96 .96 .96	.93 .93 .93 .93	.86 .86 .86	.80 .80 .80	.74 .74 .74	.71
1	.83 .77 .71 .67	.79 .74 .69 .64	.68 .64 .60	.62 .59 .56	.57 .54 .52	.49
2	.73 .63 .55 .49	.69 .60 .53 .47	.55 .49 .44	.50 .45 .41	.46 .42 .38	.35
3	.64 .53 .44 .37	.61 .51 .42 .36	.46 .39 .34	.42 .36 .31	.38 .33 .29	.26
4	.58 .46 .37 .30	.55 .44 .35 .29	.40 .33 .27	.36 .30 .25	.33 .28 .24	.21
5	.53 .40 .31 .24	.50 .38 .30 .23	.35 .27 .22	.32 .25 .20	.29 .23 .19	.17
6	.48 .35 .26 .20	.45 .33 .25 .19	.30 .23 .18	.28 .22 .17	.25 .20 .16	.13
7	.44 .31 .22 .16	.41 .29 .22 .16	.27 .20 .15	.25 .18 .14	.22 .17 .13	.11
8	.41 .28 .20 .14	.38 .27 .19 .14	.24 .18 .13	.22 .16 .12	.20 .15 .11	.09
9	.38 .25 .17 .12	.36 .24 .17 .12	.22 .16 .11	.20 .14 .10	.18 .13 .10	.08
10	.35 .23 .15 .11	.33 .22 .15 .10	.20 .14 .10	.18 .13 .09	.17 .12 .08	.07

SPACING TO MOUNTING HEIGHT RATIO - .8

COEFFICIENTS OF UTILIZATION -- ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE 1cc	80	70	50	30	10	0
% WALL REFLECTANCE 1w	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance					
0	.85 .85 .85 .85	.83 .83 .83 .83	.79 .79 .79	.76 .76 .76	.73 .73 .73	.71
1	.79 .77 .75 .72	.78 .75 .73 .71	.72 .71 .69	.70 .68 .67	.67 .66 .65	.64
2	.74 .70 .66 .63	.73 .68 .65 .62	.66 .63 .61	.64 .62 .59	.62 .60 .58	.57
3	.69 .63 .59 .55	.68 .62 .58 .54	.60 .57 .54	.58 .55 .53	.57 .54 .52	.51
4	.64 .56 .51 .47	.62 .56 .51 .47	.54 .50 .46	.52 .49 .46	.51 .48 .45	.44
5	.58 .51 .45 .41	.57 .50 .45 .41	.48 .44 .40	.47 .43 .40	.46 .42 .39	.38
6	.54 .45 .39 .35	.52 .44 .39 .35	.43 .38 .35	.42 .38 .34	.41 .37 .34	.33
7	.49 .40 .34 .30	.48 .39 .34 .30	.38 .33 .29	.37 .33 .29	.36 .32 .29	.28
8	.44 .35 .29 .25	.43 .34 .29 .25	.34 .28 .25	.33 .28 .25	.32 .28 .24	.23
9	.40 .31 .25 .21	.39 .30 .25 .21	.29 .24 .21	.29 .24 .20	.28 .24 .20	.19
10	.35 .25 .19 .15	.34 .25 .19 .15	.24 .19 .15	.23 .19 .15	.23 .18 .15	.14

SPACING TO MOUNTING HEIGHT RATIO - 2.3

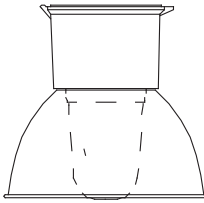
Test No. HPK09932

Test No. HPK09931

Test No. HPK09933

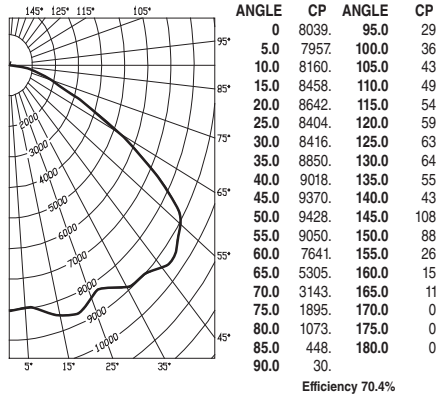
HIGH PRESSURE SODIUM-VM5

With Globe & Deep White Reflector
200-400 Watt
Mogul Base



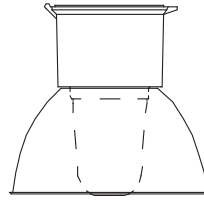
CANDLEPOWER – 400 WATT

51000 lumens
For 200 watt multiply by 0.43
For 250 watt multiply by 0.53



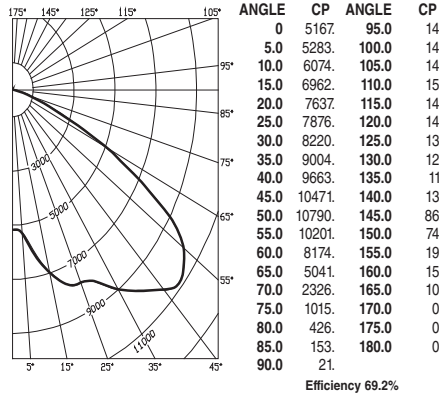
HIGH PRESSURE SODIUM-VM5

With Globe & Deep Alzak Reflector
200-400 Watt
Mogul Base



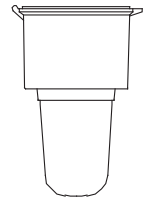
CANDLEPOWER – 400 WATT

51000 lumens
For 200 watt multiply by 0.43
For 250 watt multiply by 0.53



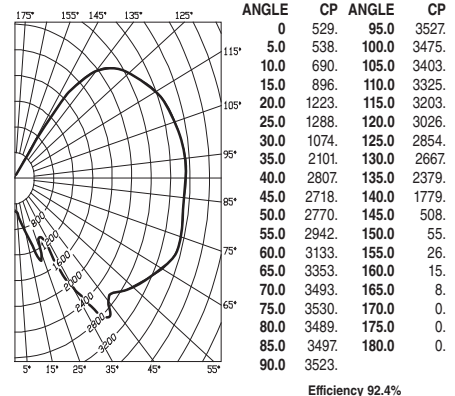
METAL HALIDE, METAL HALIDE PULSE- VM5

With Globe
250-400 Watt
Mogul Base



CANDLEPOWER – 400 WATT

36000 lumens
For 250 MH multiply by 0.61
For 250 MHP multiply by 0.66
For 320 MHP multiply by 0.92
For 350 MHP multiply by 1.00
For 400 MHP multiply by 1.22



COEFFICIENTS OF UTILIZATION – ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE I _{cc}	80	70	50	30	10	0
% WALL REFLECTANCE I _w	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance					
0	.84	.84	.84	.82	.82	.82
1	.77	.74	.71	.68	.75	.72
2	.70	.65	.60	.56	.63	.59
3	.64	.57	.51	.47	.54	.50
4	.58	.50	.43	.39	.46	.42
5	.53	.44	.37	.32	.39	.35
6	.48	.39	.32	.28	.35	.31
7	.44	.34	.28	.23	.30	.26
8	.41	.30	.24	.20	.27	.23
9	.37	.27	.21	.17	.24	.20
10	.34	.24	.18	.14	.21	.17

SPACING TO MOUNTING HEIGHT RATIO - 1.7

COEFFICIENTS OF UTILIZATION – ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE I _{cc}	80	70	50	30	10	0
% WALL REFLECTANCE I _w	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance					
0	.83	.83	.83	.81	.81	.81
1	.76	.73	.70	.68	.74	.71
2	.70	.64	.60	.56	.63	.59
3	.64	.57	.51	.47	.54	.50
4	.57	.49	.43	.38	.46	.42
5	.52	.43	.37	.32	.39	.35
6	.47	.38	.31	.27	.34	.30
7	.43	.33	.27	.22	.29	.25
8	.39	.29	.23	.18	.25	.21
9	.36	.26	.20	.16	.22	.18
10	.32	.22	.16	.12	.19	.15

SPACING TO MOUNTING HEIGHT RATIO - 2.5

COEFFICIENTS OF UTILIZATION – ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE I _{cc}	80	70	50	30	10	0
% WALL REFLECTANCE I _w	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance					
0	100	100	100	92	92	92
1	86	79	73	68	78	73
2	76	66	58	52	61	54
3	68	57	48	41	52	44
4	61	49	40	33	43	35
5	55	42	33	27	37	29
6	51	37	28	22	31	24
7	46	33	25	18	27	20
8	43	29	21	16	24	18
9	39	26	19	13	21	15
10	36	24	16	11	19	14

SPACING TO MOUNTING HEIGHT RATIO - 3.6

Test No. HPK09925

Test No. HPK09926

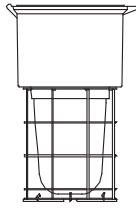
Test No. HPK09911



KILLARK®

METAL HALIDE, METAL HALIDE PULSE - VM5

With Globe & Guard
 250-400 Watt
 Mogul Base

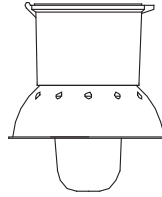


CANDLEPOWER - 400 WATT

36000 lumens
 For 250 MH multiply by 0.61
 For 250 MHP multiply by 0.66
 For 320 MHP multiply by 0.92
 For 350 MHP multiply by 1.00
 For 400 MHP multiply by 1.22

METAL HALIDE, METAL HALIDE PULSE - VM5

With Globe &
 Dome Reflector
 250-400 Watt
 Mogul Base

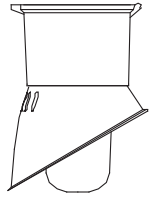


CANDLEPOWER - 400 WATT

36000 lumens
 For 250 MH multiply by 0.61
 For 250 MHP multiply by 0.66
 For 320 MHP multiply by 0.92
 For 350 MHP multiply by 1.00
 For 400 MHP multiply by 1.22

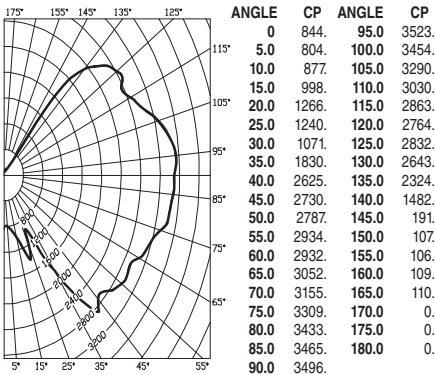
METAL HALIDE, METAL HALIDE PULSE - VM5

With Globe & Angle Reflector
 250-400 Watt
 Mogul Base

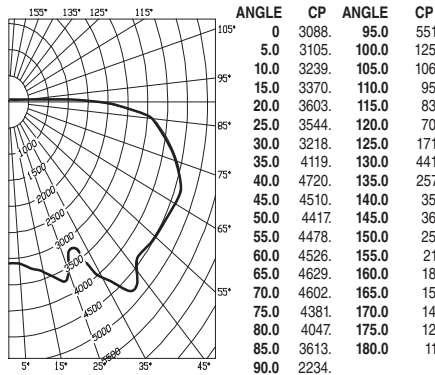


CANDLEPOWER - 400 WATT

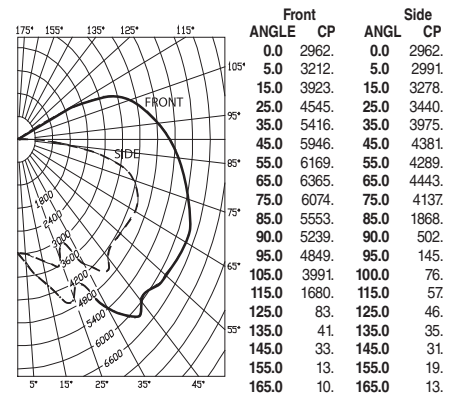
36000 lumens
 For 250 MH multiply by 0.61
 For 250 MHP multiply by 0.66
 For 320 MHP multiply by 0.92
 For 350 MHP multiply by 1.00
 For 400 MHP multiply by 1.22



Efficiency 88.7%



Efficiency 76.1%



Efficiency 73.3%

COEFFICIENTS OF UTILIZATION -- ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE 1cc	80						70						50						30						10						0																																																																																																																																																																																																																																																																																																																																							
	70		50		30		10		0		70		50		30		10		0		50		30		10		0		50		30		10		0																																																																																																																																																																																																																																																																																																																																			
% WALL REFLECTANCE 1w	20% Effective Floor Cavity Reflectance																																																																																																																																																																																																																																																																																																																																																																					
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance																																																																																																																																																																																																																																																																																																																																																																					
0	96	96	96	96	89	89	89	89	76	76	76	64	64	64	53	53	53	48	90	90	90	87	87	87	83	83	83	78	78	78	74	74	74	73	76	76	76	71	71	71	68	68	68	60	60	60	57	57	57	54	54	54	50	68	68	68	61	61	61	58	58	58	51	51	51	48	48	48	43	43	43	40	40	40	38	38	38	33	33	33	31	31	31	28	28	28	25	25	25	21	65	65	65	59	59	59	56	56	56	52	52	52	48	48	48	43	43	43	40	40	40	37	37	37	33	33	33	30	30	30	26	26	26	22	22	22	19	19	19	15	59	59	59	53	53	53	50	50	50	46	46	46	41	41	41	35	35	35	33	33	33	29	29	29	26	26	26	22	22	22	18	18	18	15	15	15	12	12	12	10	53	53	53	47	47	47	44	44	44	40	40	40	36	36	36	31	31	31	29	29	29	25	25	25	22	22	22	18	18	18	15	15	15	12	12	12	10	10	10	07	49	49	49	43	43	43	40	40	40	36	36	36	32	32	32	27	27	27	25	25	25	21	21	21	18	18	18	14	14	14	11	11	11	09	09	09	07	45	45	45	39	39	39	36	36	36	32	32	32	28	28	28	23	23	23	21	21	21	17	17	17	14	14	14	11	11	11	08	08	08	05	05	05	03	38	38	38	32	32	32	29	29	29	25	25	25	21	21	21	16	16	16	14	14	14	11	11	11	08	08	08	05	05	05	03	03	03	01	01	01	00	35	35	35	29	29	29	26	26	26	22	22	22	18	18	18	14	14	14	11	11	11	08	08	08	05	05	05	03	03	03	01	01	01	00	00	00	00

SPACING TO MOUNTING HEIGHT RATIO - 3.2

COEFFICIENTS OF UTILIZATION -- ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE 1cc	80						70						50						30						10						0																																																																																																																																																																																																																																																																																																																																							
	70		50		30		10		0		70		50		30		10		0		50		30		10		0		50		30		10		0																																																																																																																																																																																																																																																																																																																																			
% WALL REFLECTANCE 1w	20% Effective Floor Cavity Reflectance																																																																																																																																																																																																																																																																																																																																																																					
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance																																																																																																																																																																																																																																																																																																																																																																					
0	90	90	90	90	87	87	87	87	83	83	83	78	78	78	74	74	74	73	90	90	90	87	87	87	83	83	83	78	78	78	74	74	74	73	76	76	76	71	71	71	68	68	68	60	60	60	57	57	57	54	54	54	50	68	68	68	61	61	61	58	58	58	51	51	51	48	48	48	43	43	43	40	40	40	38	38	38	33	33	33	31	31	31	28	28	28	25	25	25	21	65	65	65	59	59	59	56	56	56	52	52	52	48	48	48	43	43	43	40	40	40	37	37	37	33	33	33	30	30	30	26	26	26	22	22	22	19	19	19	15	59	59	59	53	53	53	50	50	50	46	46	46	41	41	41	35	35	35	33	33	33	29	29	29	26	26	26	22	22	22	18	18	18	15	15	15	12	12	12	10	53	53	53	47	47	47	44	44	44	40	40	40	36	36	36	31	31	31	29	29	29	25	25	25	22	22	22	18	18	18	15	15	15	12	12	12	10	10	10	07	49	49	49	43	43	43	40	40	40	36	36	36	32	32	32	27	27	27	25	25	25	21	21	21	18	18	18	14	14	14	11	11	11	09	09	09	07	45	45	45	39	39	39	36	36	36	32	32	32	28	28	28	23	23	23	21	21	21	17	17	17	14	14	14	11	11	11	08	08	08	05	05	05	03	38	38	38	32	32	32	29	29	29	25	25	25	21	21	21	16	16	16	14	14	14	11	11	11	08	08	08	05	05	05	03	03	03	01	01	01	00	35	35	35	29	29	29	26	26	26	22	22	22	18	18	18	14	14	14	11	11	11	08	08	08	05	05	05	03	03	03	01	01	01	00	00	00	00

SPACING TO MOUNTING HEIGHT RATIO - 2.0

COEFFICIENTS OF UTILIZATION -- ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE 1cc	80						70						50						30						10						0																																																																																																																																																																																																																																																																																																																																													
	70		50		30		10		0		70		50		30		10		0		50		30		10		0		50		30		10		0																																																																																																																																																																																																																																																																																																																																									
% WALL REFLECTANCE 1w	20% Effective Floor Cavity Reflectance																																																																																																																																																																																																																																																																																																																																																																											
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance																																																																																																																																																																																																																																																																																																																																																																											
0	85	85	85	85	82	82	82	82	76	76	76	70	70	70	65	65	65	63	85	85	85	82	82	82	78	78	78	74	74	74	70	70	70	66	66	66	63	74	74	74	69	69	69	66	66	66	61	61	61	58	58	58	54	54	54	50	66	66	66	61	61	61	58	58	58	54	54	54	50	50	50	46	46	46	43	43	43	40	40	40	37	37	37	33	33	33	31	31	31	28	28	28	25	25	25	21	65	65	65	59	59	59	56	56	56	52	52	52	48	48	48	43	43	43	40	40	40	37	37	37	33	33	33	30	30	30	26	26	26	22	22	22	19	19	19	15	59	59	59	53	53	53	50	50	50	46	46	46	41	41	41	35	35	35	33	33	33	29	29	29	26	26	26	22	22	22	18	18	18	15	15	15	12	12	12	10	53	53	53	47	47	47	44	44	44	40	40	40	36	36	36	31	31	31	29	29	29	25	25	25	22	22	22	18	18	18	15	15	15	12	12	12	10	10	10	07	49	49	49	43	43	43	40	40	40	36	36	36	32	32	32	27	27	27	25	25	25	21	21	21	18	18	18	14	14	14	11	11	11	09	09	09	07	45	45	45	39	39	39	36	36	36	32	32	32	28	28	28	23	23	23	21	21	21	17	17	17	14	14	14	11	11	11	08	08	08	05	05	05	03	38	38	38	32	32	32	29	29	29	25	25	25	21	21	21	16	16	16	14	14	14	11	11	11	08	08	08	05	05	05	03	03	03	01	01	01	00	35	35	35	29	29	29	26	26	26	22	22	22	18	18	18	14	14	14	11	11	11	08	08	08	05	05	05	03	03	03	01	01	01	00	00	00	00

SPACING TO MOUNTING HEIGHT RATIO - 2.2

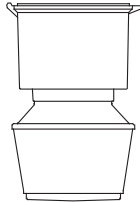
Test No. HPK09912

Test No. HPK09918

Test No. HPK09917

METAL HALIDE, METAL HALIDE PULSE-VM5

With Type II 12" Spintop Refractor
250-400 Watt
Mogul Base

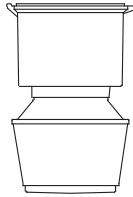


CANDLEPOWER - 400 WATT

36000 lumens
For 250 MH multiply by 0.61
For 250 MHP multiply by 0.66
For 320 MHP multiply by 0.92
For 350 MHP multiply by 1.00
For 400 MHP multiply by 1.22

METAL HALIDE, METAL HALIDE PULSE-VM5

With Type V 12" Spintop Refractor
250-400 Watt
Mogul Base

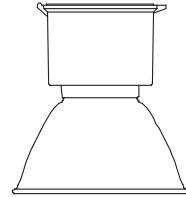


CANDLEPOWER - 400 WATT

36000 lumens
For 250 MH multiply by 0.61
For 250 MHP multiply by 0.66
For 320 MHP multiply by 0.92
For 350 MHP multiply by 1.00
For 400 MHP multiply by 1.22

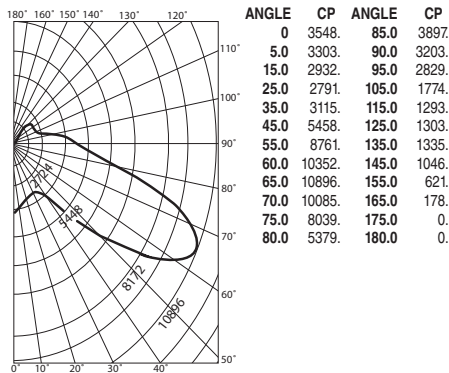
METAL HALIDE, METAL HALIDE PULSE-VM5

With Enclosed Reflector
250-400 Watt
Mogul Base

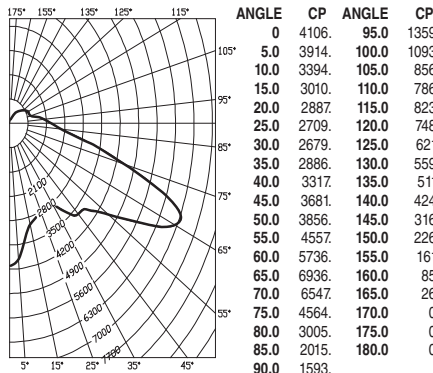


CANDLEPOWER - 400 WATT

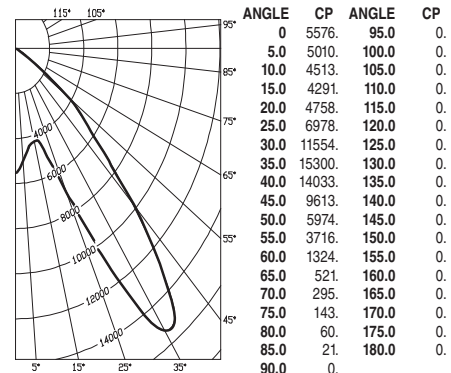
36000 lumens
For 250 MH multiply by 0.61
For 250 MHP multiply by 0.66
For 320 MHP multiply by 0.92
For 350 MHP multiply by 1.00
For 400 MHP multiply by 1.22



Angle Vertical
CP 75° Horizontal
Efficiency 78.8%



Efficiency 82.3%



Efficiency 71.5%

COEFFICIENTS OF UTILIZATION -- ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE lcc	80	70	50	30	10	0
% WALL REFLECTANCE lw	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance					
0	.89 .89 .89 .85 .85 .85	.77 .77 .77	.70 .70 .70	.64 .64 .64	.61	
1	.78 .73 .68 .64 .74 .69 .65 .61	.62 .59 .56	.56 .53 .51	.50 .48 .46	.43	
2	.69 .60 .53 .48 .65 .57 .51 .46	.51 .46 .42	.46 .42 .38 .41	.38 .35 .32		
3	.61 .51 .43 .37 .57 .48 .41 .35	.43 .37 .32	.38 .33 .29 .34	.30 .27 .24		
4	.55 .44 .35 .29 .51 .41 .34 .28	.37 .30 .25	.33 .27 .23 .29	.25 .21 .18		
5	.50 .38 .30 .23 .46 .36 .28 .22	.32 .25 .21	.28 .23 .19 .25	.20 .17 .14		
6	.45 .33 .25 .19 .42 .31 .24 .19	.28 .22 .17	.25 .19 .15 .22	.17 .14 .12		
7	.41 .29 .22 .16 .39 .28 .21 .16	.25 .19 .14	.22 .17 .13 .20	.15 .11 .09		
8	.38 .26 .19 .14 .36 .25 .18 .13	.22 .16 .12	.20 .15 .11 .18	.13 .10 .08		
9	.35 .24 .17 .12 .33 .23 .16 .11	.20 .14 .10	.18 .13 .09 .16	.12 .08 .07		
10	.33 .22 .15 .10 .31 .20 .14 .10	.18 .13 .09 .16	.12 .08 .15 .10 .07 .06			

SPACING TO MOUNTING HEIGHT RATIO - 1.88 0-180°

COEFFICIENTS OF UTILIZATION -- ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE lcc	80	70	50	30	10	0
% WALL REFLECTANCE lw	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance					
0	.95 .95 .95 .91 .91 .91 .91	.84 .84 .84	.78 .78 .78	.73 .73 .73	.70	
1	.82 .77 .72 .67 .79 .74 .69 .65	.68 .64 .61	.62 .59 .56	.57 .55 .53	.50	
2	.73 .64 .56 .50 .69 .61 .54 .48	.56 .50 .45	.51 .46 .42 .47	.43 .40 .37		
3	.64 .53 .45 .38 .61 .51 .43 .37	.47 .40 .35	.43 .37 .33 .39	.34 .30 .28		
4	.57 .45 .36 .30 .54 .43 .35 .29	.39 .32 .27	.36 .30 .25 .33	.28 .23 .21		
5	.52 .39 .30 .23 .49 .37 .29 .23	.34 .27 .21	.31 .25 .20 .28	.23 .18 .16		
6	.47 .34 .26 .20 .45 .33 .25 .19	.30 .23 .18	.27 .21 .17 .25	.20 .15 .13		
7	.43 .30 .22 .16 .41 .29 .21 .16	.27 .20 .15	.24 .18 .14 .22	.17 .13 .11		
8	.40 .27 .19 .14 .38 .26 .19 .13	.24 .17 .13	.22 .16 .12 .20	.15 .11 .09		
9	.37 .25 .17 .12 .35 .24 .17 .12	.22 .15 .11	.20 .14 .10 .18	.13 .09 .08		
10	.34 .22 .15 .10 .32 .21 .14 .10	.19 .13 .09 .18	.12 .08 .16 .11 .08 .06			

SPACING TO MOUNTING HEIGHT RATIO - .9

COEFFICIENTS OF UTILIZATION -- ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE lcc	80	70	50	30	10	0
% WALL REFLECTANCE lw	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance					
0	.86 .86 .86 .86 .84 .84 .84	.80 .80 .80	.77 .77 .77	.74 .74 .74	.72	
1	.81 .78 .76 .73 .79 .76 .74 .72	.73 .72 .70	.71 .69 .68	.68 .67 .66	.65	
2	.75 .71 .67 .64 .73 .69 .66 .63	.67 .64 .62	.65 .62 .60	.63 .61 .59	.58	
3	.70 .64 .59 .56 .68 .63 .59 .55	.61 .57 .54	.59 .56 .53	.57 .55 .52	.51	
4	.64 .57 .52 .48 .63 .56 .51 .47	.54 .50 .47	.53 .49 .46	.51 .48 .46	.44	
5	.59 .51 .45 .41 .58 .50 .45 .41	.49 .44 .40	.47 .43 .40	.46 .43 .40	.38	
6	.54 .45 .39 .35 .53 .44 .39 .35	.43 .38 .35	.42 .38 .34	.41 .37 .34	.33	
7	.49 .40 .34 .29 .48 .39 .33 .29	.38 .33 .29	.37 .32 .29	.36 .32 .29	.27	
8	.44 .35 .28 .24 .43 .34 .28 .24	.33 .28 .24	.32 .27 .24	.31 .27 .24	.22	
9	.40 .30 .24 .20 .39 .29 .24 .20	.29 .23 .20	.28 .23 .19	.27 .23 .19	.18	
10	.35 .25 .18 .14 .34 .24 .18 .14	.23 .18 .14	.23 .18 .14	.22 .17 .14	.13	

SPACING TO MOUNTING HEIGHT RATIO - 2.1

Test No. HPK10081

Test No. HPK10078

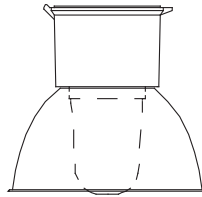
Test No. HPK10077



KILLARK®

METAL HALIDE, METAL HALIDE PULSE-VM5

With Globe & Deep White Reflector
 250-400 Watt
 Mogul Base

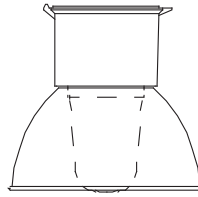


CANDLEPOWER - 400 WATT

36000 lumens
 For 250 MH multiply by 0.61
 For 250 MHP multiply by 0.66
 For 320 MHP multiply by 0.92
 For 350 MHP multiply by 1.00
 For 400 MHP multiply by 1.22

METAL HALIDE, METAL HALIDE PULSE-VM5

With Globe & Deep Alzak Reflector
 250-400 Watt
 Mogul Base

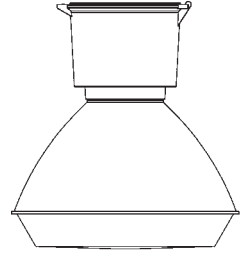


CANDLEPOWER - 400 WATT

36000 lumens
 For 250 MH multiply by 0.61
 For 250 MHP multiply by 0.66
 For 320 MHP multiply by 0.92
 For 350 MHP multiply by 1.00
 For 400 MHP multiply by 1.22

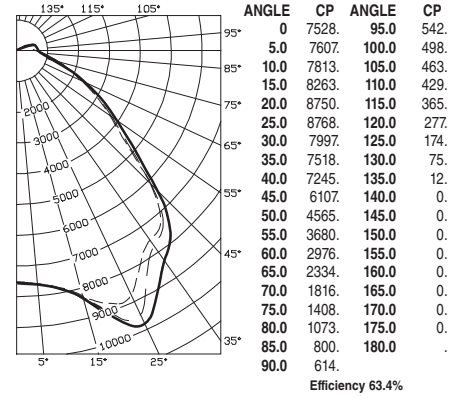
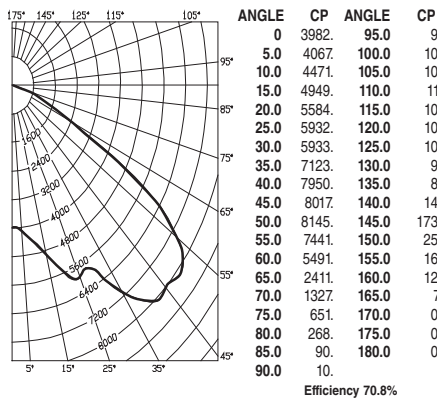
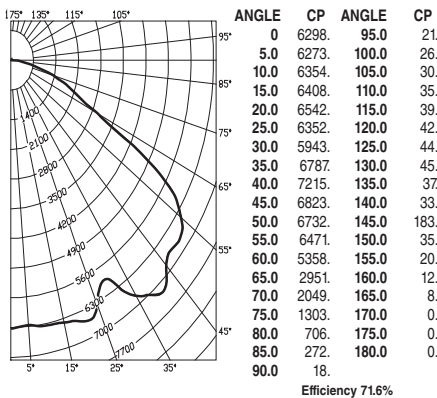
METAL HALIDE, METAL HALIDE PULSE-VM5

With Enclosed Poly Shielded Reflector
 250-400 Watt
 Mogul Base



CANDLEPOWER - 400 WATT

36000 lumens
 For 250 MH multiply by 0.61
 For 250 MHP multiply by 0.66
 For 320 MHP multiply by 0.92
 For 350 MHP multiply by 1.00
 For 400 MHP multiply by 1.22



COEFFICIENTS OF UTILIZATION -- ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE T _{cc}	80	70	50	30	10	0
% WALL REFLECTANCE T _w	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance					
0	.84 .84 .84 .84 .82 .82 .82 .82	.79 .79 .79 .75 .75 .75 .72 .72 .72	.70			
1	.78 .74 .71 .69 .76 .73 .70 .68	.70 .67 .65 .67 .65 .63 .64 .63 .61	.60			
2	.71 .66 .61 .57 .69 .64 .60 .57	.62 .58 .55 .59 .56 .54 .57 .55 .52	.51			
3	.65 .58 .53 .48 .63 .57 .52 .48	.55 .50 .47 .53 .49 .46 .51 .48 .45	.44			
4	.59 .51 .45 .40 .58 .50 .44 .40	.48 .43 .39 .47 .42 .39 .45 .41 .38	.37			
5	.54 .45 .39 .34 .53 .44 .38 .34	.43 .38 .34 .41 .37 .33 .40 .36 .33	.31			
6	.50 .40 .34 .29 .48 .40 .34 .29	.38 .33 .29 .37 .32 .28 .36 .31 .28	.27			
7	.45 .36 .29 .25 .44 .35 .29 .25	.34 .28 .24 .33 .28 .24 .32 .27 .24	.23			
8	.42 .32 .25 .21 .40 .31 .25 .21	.30 .25 .21 .29 .24 .21 .28 .24 .20	.19			
9	.38 .28 .22 .18 .37 .28 .22 .18	.27 .22 .18 .26 .21 .18 .25 .21 .18	.16			
10	.35 .25 .19 .15 .34 .24 .19 .15	.24 .18 .15 .23 .18 .15 .22 .18 .14	.13			

SPACING TO MOUNTING HEIGHT RATIO - 1.6

COEFFICIENTS OF UTILIZATION -- ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE T _{cc}	80	70	50	30	10	0
% WALL REFLECTANCE T _w	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance					
0	.83 .83 .83 .83 .81 .81 .81	.78 .78 .78 .74 .74 .74	.71 .71 .71 .70			
1	.77 .74 .71 .69 .75 .72 .70 .68	.69 .67 .65 .67 .65 .63 .64 .63 .61	.60			
2	.71 .66 .61 .58 .69 .64 .60 .57	.62 .58 .56 .59 .57 .54 .57 .55 .53	.52			
3	.65 .58 .53 .49 .63 .57 .52 .48	.55 .51 .47 .53 .49 .46 .51 .48 .46	.44			
4	.59 .51 .45 .40 .57 .50 .44 .40	.48 .43 .40 .47 .42 .39 .45 .41 .38	.37			
5	.54 .45 .39 .34 .52 .44 .38 .34	.42 .37 .33 .41 .36 .33 .40 .36 .32	.31			
6	.49 .39 .33 .28 .47 .39 .33 .28	.37 .32 .28 .36 .31 .28 .35 .31 .27	.26			
7	.44 .34 .28 .23 .43 .34 .28 .23	.33 .27 .23 .31 .27 .23 .30 .26 .23	.21			
8	.40 .30 .24 .19 .39 .30 .24 .19	.29 .23 .19 .28 .23 .19 .27 .22 .19	.17			
9	.37 .27 .21 .16 .36 .26 .20 .16	.25 .20 .16 .25 .20 .16 .24 .19 .16	.15			
10	.33 .23 .17 .13 .32 .22 .17 .13	.22 .16 .13 .21 .16 .12 .20 .16 .12	.11			

SPACING TO MOUNTING HEIGHT RATIO - 2.5

COEFFICIENTS OF UTILIZATION -- ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE T _{cc}	80	70	50	30	10	0
% WALL REFLECTANCE T _w	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance					
0	.75 .75 .75 .75 .72 .72 .72	.68 .68 .68 .65 .65 .65	.61 .61 .61 .59			
1	.69 .66 .63 .61 .66 .64 .61 .59	.60 .58 .57 .57 .56 .54	.54 .53 .52 .50			
2	.63 .59 .55 .51 .61 .57 .54 .50	.54 .51 .49 .52 .49 .47 .49 .47 .45	.44			
3	.59 .53 .48 .44 .57 .51 .47 .44	.49 .45 .43 .47 .44 .41 .45 .42 .40	.39			
4	.54 .47 .42 .38 .52 .46 .41 .38	.44 .40 .37 .42 .39 .36 .40 .37 .35	.34			
5	.50 .43 .37 .34 .48 .42 .37 .33	.40 .36 .33 .38 .35 .32 .37 .34 .31	.30			
6	.46 .39 .33 .30 .45 .38 .33 .29	.36 .32 .29 .35 .31 .28 .34 .30 .28	.27			
7	.43 .35 .30 .26 .42 .34 .29 .26	.33 .29 .26 .32 .28 .25 .31 .27 .25	.23			
8	.40 .32 .27 .23 .39 .31 .26 .23	.30 .26 .23 .29 .25 .22 .28 .24 .22	.21			
9	.37 .29 .24 .21 .36 .28 .24 .20	.27 .23 .20 .26 .23 .20 .26 .23 .20	.18			
10	.34 .25 .20 .17 .33 .25 .20 .17	.24 .20 .17 .23 .19 .16 .22 .19 .16	.15			

SPACING TO MOUNTING HEIGHT RATIO - 1.5

Test No. HPK09915

Test No. HPK09914

Test No. HPK09904



LED Technology



Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III, Div. 1 & 2
Suitable for wet locations
Marine
NEMA 3, 4, 4X
Factory Sealed



Certified - File LR11713

FEATURES-SPECIFICATIONS

HOSTILELITE® LED

Applications

HOSTILELITE® EML LED Series fixtures are designed for installations where moisture, dirt, dust, corrosion and vibration may be present, or NEMA 3 and 4x areas where wind, water, snow or high ambients can be expected. They can be used in locations made hazardous due to the presence of flammable or explosive gases, vapors and combustible dusts as defined by the NEC.

Applications include classified areas such as paint manufacturing plants, ammunition facilities, oil and gas producing and refining plants, off-shore and dockside installations, tank farms, pipeline pumping stations and marine loading and fuel transfer terminals.

Compliances

- UL-8750 for LED lighting
- UL-844 Electric Lighting Fixtures for use in Hazardous Locations
- UL Marine Type Electric Lighting Fixtures
- CSA C22.2 no. 137-M1981 Electric Luminaires for use in Hazardous Locations
- NEMA 3, 4, 4X, 7CD, 9EFG

Materials

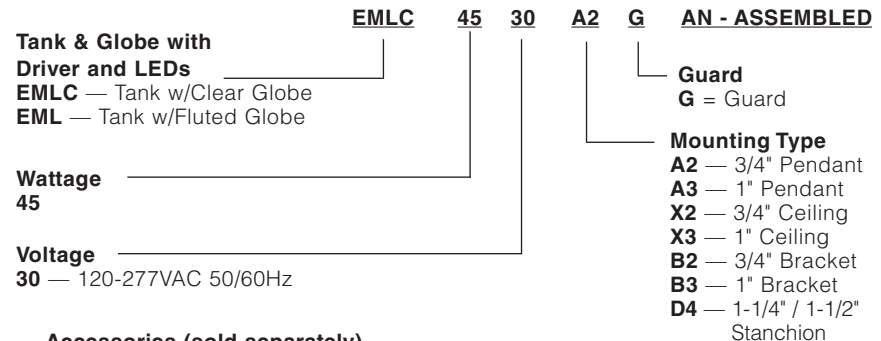
- Ballast tank, splice box and guards corrosion resistant copper-free aluminum alloy
- Baked powder epoxy/polyester finish, electrostatically applied for complete, uniform corrosion protection
- All external hardware - Stainless Steel
- Reflectors are aluminum with white finish

LED Luminaire Features and Standards

- Compact Explosion-proof with Traditional Industrial Appearance and Suitability
- Fluted or Exclusive Clear Globe; Dome or Angle Reflectors
- Optional Mounting arrangements including Pendant, Wall, Ceiling, and Stanchion
- EML LED Housings can be retrofitted to existing EZ splice boxes; upgrade from Incandescent, Fluorescent or HID
- Energy Savings - less than 50 Watts of Power
- Long Life - 50,000 - 55,000 Maintenance Free Hours to 70% Initial Lumens
- Crisp White Light for Excellent Color Rendering - Chromaticity Avg. 4950°K (CCT); 69 CRI
- Ambient suitability -40°C to 55°C
- Instant on - including after power interruption
- "World Voltage" 120-277VAC 50/60Hz
- Solder-LESS LED Board Connections - Vibration Resistant
- Dual Drivers - Redundant Systems (built-in backup)
- LM80-08* Measurement of lumen maintenance for LED light sources
- LM79-08* Certified "Absolute" Photometry, including Chromaticity Color for Solid State Lighting
- L70 Values - Industry Nomenclature for Hours of use to 70% of Initial Lumens
- Factory Sealed Construction - no external seal required, simply wire mounting cap and thread-in fixture to install

* LM-xx are Illumination Engineering Society Standards designed to promote uniformity in testing procedures among test labs and manufacturers. For more information go to www.ies.org

Catalog Number Logic



Accessories (sold separately)

- ERSD30** — Dome Reflector
- ERA30** — Angle Reflector



KILLARK®



Pendant



Ceiling



Wall



Stanchion

Class I, Div. 1 & 2, Groups C,D
 Class I, Zones 1 & 2, Groups IIB, IIA
 Class II, Div. 1 & 2, Groups E,F,G
 Class III, Div. 1 & 2
 Suitable for wet locations
 Marine
 NEMA 3, 4, 4X
 Factory Sealed



Certified - File LR11713

ORDERING INFORMATION

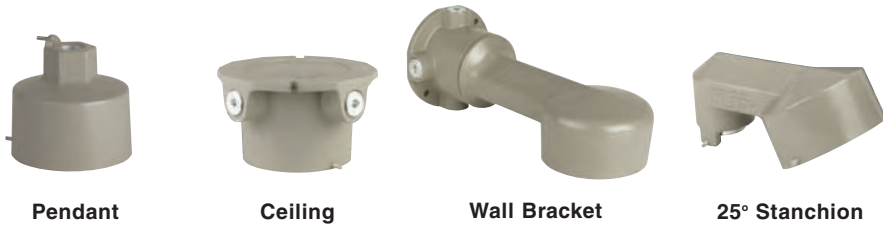
EML SERIES PENDANT WITH OPTIC AND GUARD ^①				
WATTS	HUB SIZE ^②	VOLTAGE ^④	FLUTED GLOBE & GUARD	CLEAR GLOBE & GUARD*
45	3/4"	120-277VAC	EML4530A2G	EMLC4530A2G

EML SERIES CEILING WITH OPTIC AND GUARD ^①				
WATTS	HUB SIZE ^②	VOLTAGE ^④	FLUTED GLOBE & GUARD	CLEAR GLOBE & GUARD*
45	3/4"	120-277VAC	EML4530X2G	EMLC4530X2G

EML SERIES WALL WITH OPTIC AND GUARD ^①				
WATTS	HUB SIZE ^②	VOLTAGE ^④	FLUTED GLOBE & GUARD	CLEAR GLOBE & GUARD*
45	3/4"	120-277VAC	EML4530B2G	EMLC4530B2G

EML SERIES 25° STANCHION WITH OPTIC AND GUARD ^①				
WATTS	HUB SIZE ^③	VOLTAGE ^④	FLUTED GLOBE & GUARD	CLEAR GLOBE & GUARD*
45	1-1/4"/1-1/2"	120-277VAC	EML4530D4G	EMLC4530D4G

^① Catalog numbers shown are with Guard; Omit G if guard not required e.g. EML4530A2.
^② Catalog numbers shown are with 3/4" conduit openings; change "2" to "3" for 1" e.g. EML4530A3G.
^③ Stanchion conduit hub size supplied is 1-1/2" with 1-1/2" to 1-1/4" reducer for 1-1/4" mounting (refer to catalog logic).
^④ 120VAC through 277VAC 50/60Hz.
 * Exclusive from KILLARK; clear globe for maximum brightness.



EZ MOUNTING BRACKETS				
CATALOG NUMBER				HUB SIZE
PENDANT	CEILING	WALL	STANCHION	
EZA2	EZX2	EZB2	—	3/4"
EZA3	EZX3	EZB3	—	1"
—	—	—	EZD4*	1-1/4" / 1-1/2**

* 1-1/2" furnished with 1-1/2" - 1-1/4" reducer

EML - EMLC LED ACCESSORIES	
DESCRIPTION	CATALOG NUMBER
Guard ^①	EMG2
Dome Reflector ^②	ERSD30
Angle Reflector ^②	ERA30
CIDI C2D1 N4X Photocell 120VAC	VMHKPC1
CIDI C2D1 N4X Photocell 208-277VAC	VMHKPC2
Replacement Fluted Globe & Support	EMGS3
Replacement Clear Globe & Support	EMGS2
Adapter to old Killark "H" Series or Crouse Hinds ^③	EAC/EACH ^③

- ① Guards are cast of copper-free aluminum with electrostatically applied epoxy/polyester.
- ② Reflectors are aluminum with white finish.
- ③ Adapters for discontinued Killark "H" Series and Crouse Hinds[®] available. See page L200 for more information.

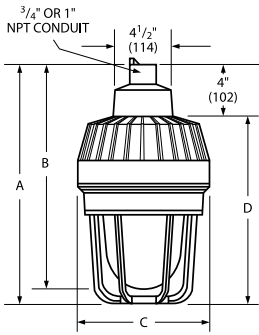
EML(C) LED HOUSINGS & GLOBE, DRIVERS AND LEDS - ELECTRICAL RATINGS					
CAT. NO.	VOLTAGE 50/60HZ	WATTAGE	AMPS 120/277	CIL ^④	WEIGHT
EML(C)4530	120-277VAC	49.4	.412/.178	3960	26 LBS

④ CIL = Calculated Initial Lumens of LED component based on mfg. data and driver current INSIDE the optic. This value is provided as a reference only for comparison to traditional light sources such as incandescent, HID, or fluorescent which use initial values in "relative" photometry. KILLARK LED luminaires are tested using the Absolute photometry method (LM79-08), which calculates delivered lumens only. KILLARK's LED luminaires provide very bright white 50000 K (CCT) color and can appear brighter than traditional light sources with higher lumen values under both photopic and scotopic conditions.

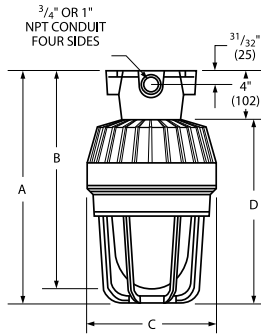
THERMAL PERFORMANCE DATA					
CAT. NO.	AMBIENT	C1D1/C1Z1	C2D1	L70	SUPPLY WIRE
EML(C)4530	40°C	T6	T4A (EFG)	55,000 HRS	75°C
EML(C)4530	55°C	T5	T4 (EFG)	50,000 HRS	90°C



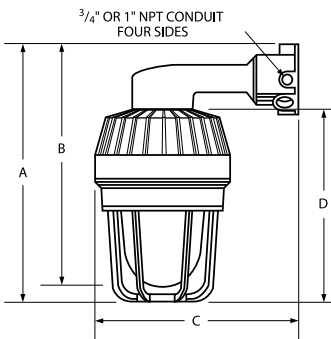
Pendant



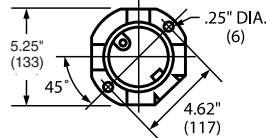
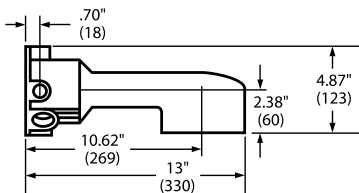
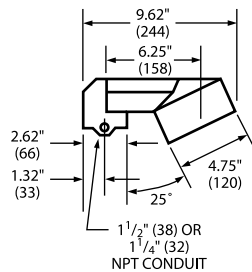
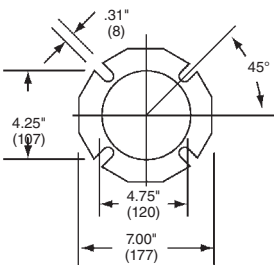
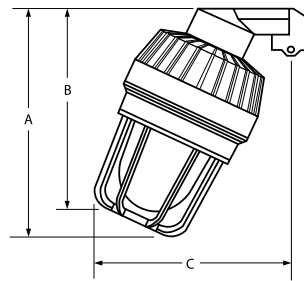
Ceiling



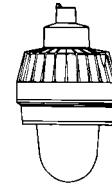
Wall



25° Stanchion



LED 45 Watt Fluted Globe Only



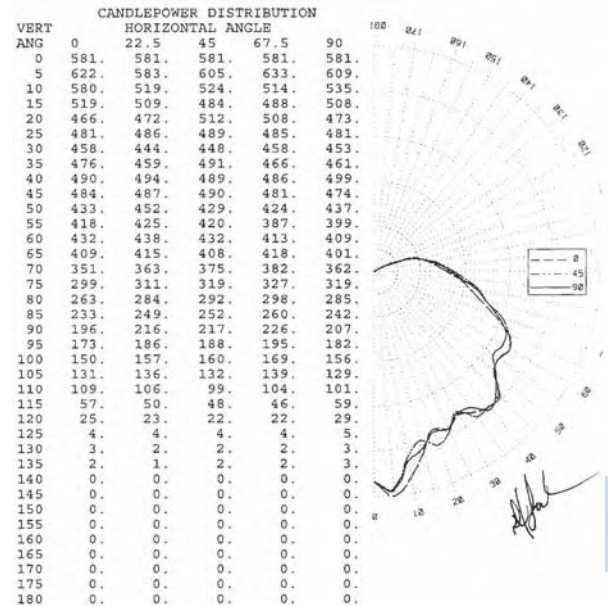
Zonal Lumen Summary

Zone	Lumens	%Lamp	%Fixt
0-30	424	N.A.	14.7%
0-40	720	N.A.	25.0%
0-60	1463	N.A.	50.8%
0-90	2479	N.A.	86.1%
90-120	396	N.A.	13.7%
90-130	400	N.A.	13.9%
90-150	401	N.A.	13.9%
90-180	401	N.A.	13.9%
0-180	2880	N.A.	100.00

Absolute Photometry

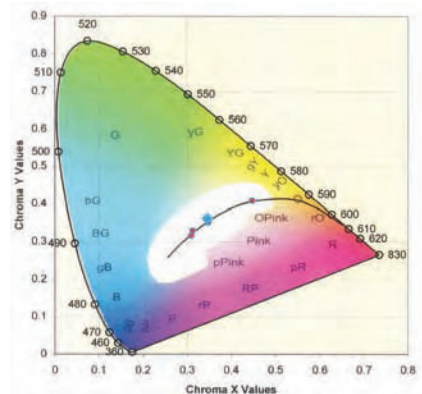
Total Luminaire Efficiency = N.A.%

Spacing to Mounting Height Ratio 1.2



EML(C) DIMENSIONS ①				
TYPE	A	B	C	D
Pendant	15-15/16" (404)	15-1/16" (382)	8-13/16" (224)	11-15/16" (303)
Ceiling	15-15/16" (404)	15-1/16" (382)	8-13/16" (224)	11-15/16" (303)
Wall	16-13/16" (426)	15-15/16" (404)	15" (379)	11-15/16" (303)
Stanchion	15-1/8" (384)	14" (356)	13-1/2" (343)	

① See L143 for reflector dimensions.

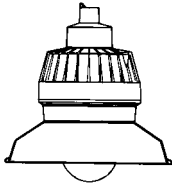


Chromaticity 4976°K (CCT); 69.4 CRI
 Certified Report BAL15296.0



KILLARK®

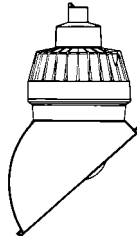
LED 45 Watt Fluted Globe & Dome Reflector



Zone	Lumens	%Lamp	%Fixt
0-30	677 N.A.		25.1%
0-40	1124 N.A.		41.6%
0-60	2164 N.A.		80.2%
0-90	2700 N.A.		100.0%
90-120	0 N.A.		0.0%
90-130	0 N.A.		0.0%
90-150	0 N.A.		0.0%
90-180	0 N.A.		0.0%
0-180	2700 N.A.		100

Absolute Photometry
Total Luminaire Efficiency = N.A.%
Spacing to Mounting Height Ratio 1.2

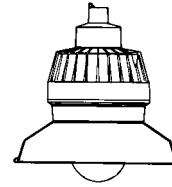
LED 45 Watt Fluted Globe & Angle Reflector



Zone	Lumens	%Lamp	%Fixt
0-30	602 N.A.		23.7%
0-40	943 N.A.		37.1%
0-60	1619 N.A.		63.7%
0-90	2350 N.A.		92.5%
90-120	185 N.A.		7.3%
90-130	190 N.A.		7.5%
90-150	190 N.A.		7.5%
90-180	190 N.A.		7.5%
0-180	2540 N.A.		100

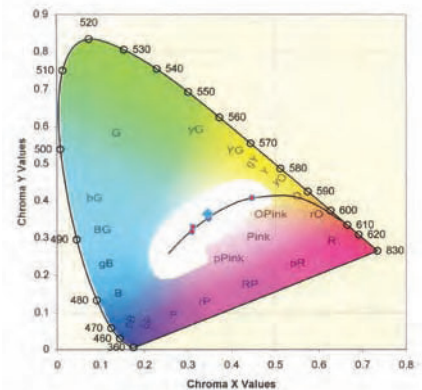
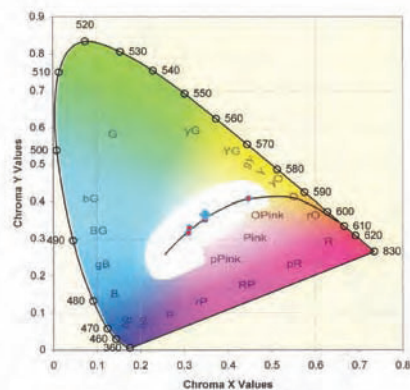
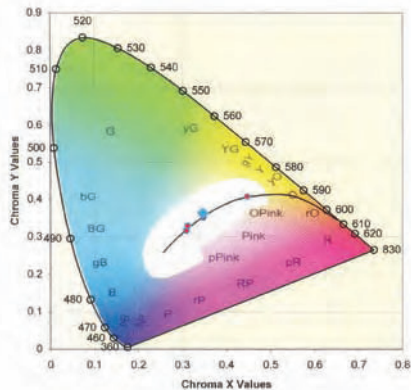
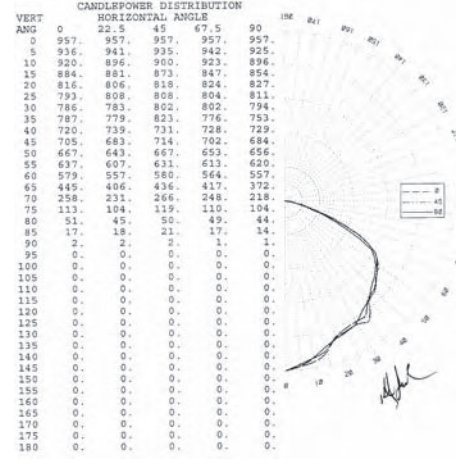
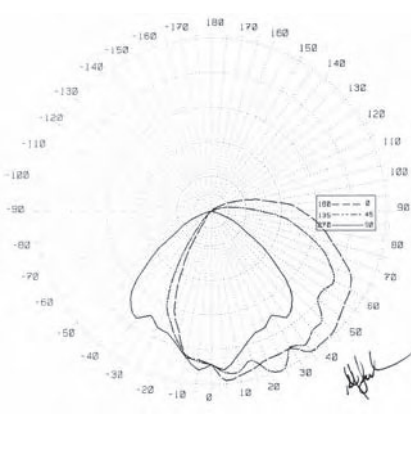
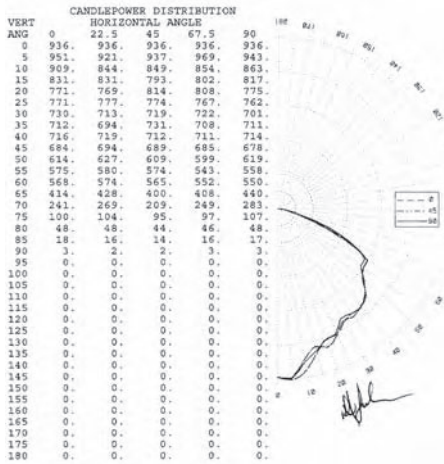
Absolute Photometry
Total Luminaire Efficiency = N.A.%
Spacing to Mounting Height Ratio NA

LED 45 Watt Clear Globe & Dome Reflector



Zone	Lumens	%Lamp	%Fixt
0-30	708 N.A.		24.9%
0-40	1203 N.A.		42.2%
0-60	2299 N.A.		80.7%
0-90	2850 N.A.		100.0%
90-120	0 N.A.		0.0%
90-130	0 N.A.		0.0%
90-150	0 N.A.		0.0%
90-180	0 N.A.		0.0%
0-180	2850 N.A.		100

Absolute Photometry
Total Luminaire Efficiency = N.A.%
Spacing to Mounting Height Ratio 1.3





Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III, Div. 1 & 2
Suitable for wet locations
Marine
NEMA 3, 4, 4X
Factory Sealed

Listed - Files E10514 and E91793 (Marine)

Certified - File LR11713

FEATURES-SPECIFICATIONS

HOSTILELITE®

Applications

HOSTILELITE® EM, EB, & EQ Series fixtures are designed for installations where moisture, dirt, dust, corrosion and vibration may be present, or NEMA 3 and 4x areas where wind, water, snow or high ambients can be expected. They can be used in locations made hazardous due to the presence of flammable or explosive gases, vapors and combustible dusts as defined by the NEC.

Applications include classified areas such as paint manufacturing plants, ammunition facilities, oil and gas producing and refining plants, off-shore and dockside installations, tank farms, pipeline pumping stations and marine loading and fuel transfer terminals.

Features:

- Four light sources—Incandescent, compact fluorescent, high pressure sodium and metal halide
- Mounting choice—Pendant, ceiling, 25° stanchion or 90° wall mount, all with “wireless” design that allows fast, easy fixture installation
- Factory sealed—No external seal needed. Simply wire mounting cap and thread on fixture to install
- Compact size—Medium base incandescent and HID lamps, plus PL fluorescent lamps allow smaller fixture design
- Corrosion resistant—Copper-free aluminum die-cast construction. Baked powder epoxy finish, electrostatically applied. Exposed hardware is 316 grade stainless steel

Accessories

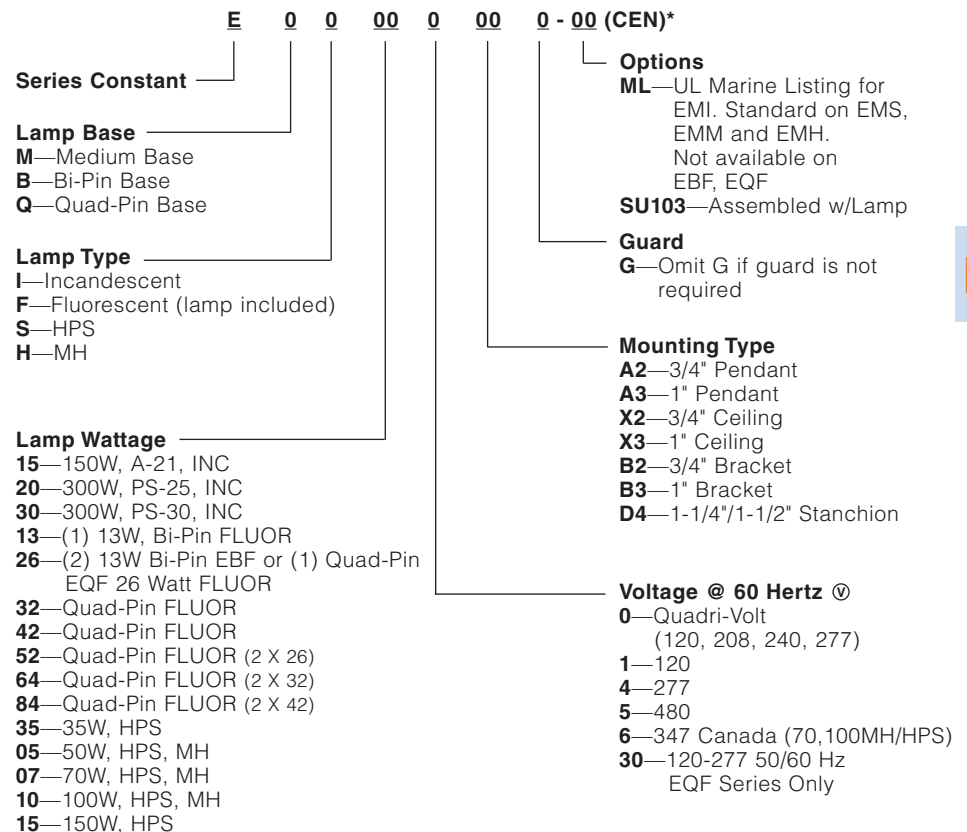
- Available with or without guard, standard dome or 25° angle reflector, exit sign and inner colored globes

Compliances

- UL-844 Electric Lighting Fixtures for use in Hazardous Locations
- UL Marine Type Electric Lighting Fixtures

- UL-1598 Standard for Fluorescent, Incandescent and HID fixtures
- CSA C22.2 no. 137-M1981 Electric Luminaires for use in Hazardous Locations
- NEMA 3, 4, 4X, 7CD, 9EFG

Catalog Number Logic



*CEN (CENELEC) approval option available on certain models. See page L144 for more information.
① Consult factory for available lamp and voltage combinations.





Pendant



Ceiling



Wall



Stanchion

Class I, Div. 1 & 2, Groups C,D
 Class I, Zones 1 & 2, Groups IIB, IIA
 Class II, Div. 1 & 2, Groups E,F,G
 Class III, Div. 1 & 2
 Suitable for wet locations
 Marine
 NEMA 3, 4, 4X
 Factory Sealed

Listed - Files E10514 and E91793 (Marine)

Certified - File LR11713

FEATURES-SPECIFICATIONS

EM 60-300W MEDIUM BASE INCANDESCENT ^①						
LAMP TYPE	LAMP/WATTS	LAMP SIZE	CATALOG NUMBER ^④			
			PENDANT 3/4" ^②	CEILING 3/4" ^②	WALL 3/4" ^②	STANCHION 1-1/4" ^③
INC	60, 75, 100, 150	A-19, A-21	EMI15A2G	EMI15X2G	EMI15B2G	EMI15D4G
	100, 150, 200, 300	A-23, PS-25	EMI20A2G	EMI20X2G	EMI20B2G	EMI20D4G
	200, 300	PS-25, PS-30	EMI30A2G	EMI30X2G	EMI30B2G	EMI30D4G

EBF 13-26W Bi-Pin COMPACT FLUORESCENT ^①						
LAMP TYPE	Bi-Pin FLUORESCENT		CATALOG NUMBER ^④			
	LAMP INCLUDED	LINE VOLTAGE @60Hz	PENDANT 3/4" ^②	CEILING 3/4" ^②	WALL 3/4" ^②	STANCHION 1-1/4" ^③
COMPACT FLUOR.	13 (1 X 13)	120	EBF131A2G	EBF131X2G	EBF131B2G	EBF131D4G
		277	EBF134A2G	EBF134X2G	EBF134B2G	EBF134D4G
	26 (2 X 13)	120	EBF261A2G	EBF261X2G	EBF261B2G	EBF261D4G
		277	EBF264A2G	EBF264X2G	EBF264B2G	EBF264D4G

EQF 26-42W WORLD VOLTAGE QUAD-PIN COMPACT FLUORESCENT ^①						
LAMP TYPE	Quad-Pin FLUORESCENT		CATALOG NUMBER ^④			
	LAMP INCLUDED	LINE VOLTAGE	PENDANT 3/4" ^②	CEILING 3/4" ^②	WALL 3/4" ^②	STANCHION 1-1/4" ^③
COMPACT FLUOR.	26 Watt ^⑤	120-277VAC 50-60Hz	EQF2630A2G	EQF2630X2G	EQF2630B2G	EQF2630D4G
	32 Watt ^⑤	120-277VAC 50-60Hz	EQF3230A2G	EQF3230X2G	EQF3230B2G	EQF3230D4G
	42 Watt ^⑤	120-277VAC 50-60Hz	EQF4230A2G	EQF4230X2G	EQF4230B2G	EQF4230D4G
	52 Watt (2 X 26)	120-277VAC 50-60Hz	EQF5230A2G	EQF5230X2G	EQF5230B2G	EQF5230D4G
	64 Watt (2 X 32)	120-277VAC 50-60Hz	EQF6430A2G	EQF6430X2G	EQF6430B2G	EQF6430D4G
	84 Watt (2 X 42)	120-277VAC 50-60Hz	EQF8430A2G	EQF8430X2G	EQF8430B2G	EQF8430D4G

^① See Hazardous Location Application Data on pages L144-145 for specific suitability.

^② For 1" pendant, ceiling and wall hubs, substitute "3" for "2" in catalog number; example: EBF131A3G.

^③ Stanchion conduit hub size supplied is 1-1/2" with 1-1/2" to 1-1/4" reducer for 1-1/4" mounting. (refer to catalog logic).

^④ Luminaire catalog numbers include guards. To order luminaire without guard, omit last letter "G" from catalog number.

^⑤ EQF 26-42 Watt fixtures use a tank extension ring and are 2.5" taller than EBF fixtures.

NOTE: Reflectors must be ordered separately (see page L140). All luminaires are designed for mounting with lamp in base up position.





Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III, Div. 1 & 2
Suitable for wet locations
Marine
NEMA 3, 4, 4X
Factory Sealed

Listed - Files E10514 and E91793 (Marine)

Certified - File LR11713

FEATURES-SPECIFICATIONS

EM 35-150W MEDIUM BASE HIGH PRESSURE SODIUM ^{① ④}							
LAMP TYPE	LAMP WATTS	ANSI LAMP TYPE	VOLTAGE @60 HERTZ	CATALOG NUMBER ^④			
				PENDANT 3/4" ^②	CEILING 3/4" ^②	WALL 3/4" ^②	STANCHION 1-1/4" ^③
HPS	35	S-76	120	EMS351A2G	EMS351X2G	EMS351B2G	EMS351D4G
	50	S-68	120, 208, 240, 277	EMS050A2G	EMS050X2G	EMS050B2G	EMS050D4G
	70	S-62	120, 208, 240, 277	EMS070A2G	EMS070X2G	EMS070B2G	EMS070D4G
	70	S-62	480	EMS075A2G	EMS075X2G	EMS075B2G	EMS075D4G
	100	S-54	120, 208, 240, 277	EMS100A2G	EMS100X2G	EMS100B2G	EMS100D4G
	100	S-54	480	EMS105A2G	EMS105X2G	EMS105B2G	EMS105D4G
	150	S-55	120	EMS151A2G	EMS151X2G	EMS151B2G	EMS151D4G

EM 50-100W MEDIUM BASE METAL HALIDE ^{① ④}							
LAMP TYPE	LAMP WATTS	ANSI LAMP TYPE	VOLTAGE @60 HERTZ	CATALOG NUMBER ^④			
				PENDANT 3/4" ^②	CEILING 3/4" ^②	WALL 3/4" ^②	STANCHION 1-1/4" ^③
MH	50	M-110	120, 208, 240, 277	EMH050A2G	EMH050X2G	EMH050B2G	EMH050D4G
	70	M-98	120, 208, 240, 277	EMH070A2G	EMH070X2G	EMH070B2G	EMH070D4G
	100	M-90	120, 208, 240, 277	EMH100A2G	EMH100X2G	EMH100B2G	EMH100D4G

^① See Hazardous Location Application Data on page L144-145 for specific suitabilities.
^② For 1" pendant, ceiling and wall hubs, substitute "3" for "2" in catalog number; example: EMS351A3G.
^③ Stanchion conduit hub size supplied is 1-1/2" with 1-1/2" to 1-1/4" reducer for 1-1/4" mounting. (refer to catalog logic).
^④ Luminaire catalog numbers include guards. To order luminaire without guard, omit last letter "G" from catalog number.
 NOTE: Reflectors must be ordered separately (see page L140). All luminaires are designed for mounting with lamp in base up position.



EMI15/20/EBF



EMI30 & HID



Pendant



Ceiling



Wall Bracket



25° Stanchion

Listed - Files E10514 and E91793 (Marine)

Certified - File LR11713

Housing, Globe and Globe Support Assemblies^①

INCANDESCENT			
CATALOG NUMBER	LAMP TYPE	WATTS	VOLTS ^③
EMI15	A-19	60, 75	250 MAX. VAC
	A-19, A-21	100	
	A-21	150	
EMI20	A-23, PS-25	150	250 MAX. VAC
	A-23, PS-25	200	
	PS-25	300	
EMI30	PS-25	200	250 MAX. VAC
	PS-30	300	

FLUORESCENT with lamp(s)*			
CATALOG NUMBER	ANSI LAMP TYPE	WATTS	VOLTS
EBF131	Bi-Pin	13	120VAC
EBF134	Fluorescent		277VAC
EBF261	Bi-Pin	26 (2x13)	120VAC
EBF264	Fluorescent		277VAC
EQF2630	Quad Pin Fluorescent	26	120-277 VAC 50-60Hz
EQF3230		32	
EQF4230		42	
EQF5230		52 (2X26)	
EQF6430		64 (2X32)	
EQF8430		84 (2X42)	

HPS			
CATALOG NUMBER	ANSI LAMP TYPE	WATTS	VOLTS @60HZ.
EMS351	S-76	35	120
EMS050	S-68	50	Quadri-Volt
EMS070	S-62	70	Quadri-Volt
EMS075			480
EMS100	S-54	100	Quadri-Volt
EMS105			480
EMS151	S-55	150	120

METAL HALIDE			
CATALOG NUMBER	ANSI LAMP TYPE	WATTS	VOLTS @60HZ.
EMH050	M-110	50	Quadri-Volt
EMH070	M-98	70	Quadri-Volt
EMH100	M-90	100	Quadri-Volt

MOUNTING BOXES				
CATALOG NUMBER				HUB SIZE
PENDANT	CEILING	BRACKET	STANCHION	
EZA2	EZX2	EZB2	—	3/4"
EZA3	EZX3	EZB3	—	1"
—	—	—	EZD4*	1-1/4"/1-1/2**

*1-1/2" furnished with 1-1/2"-1-1/4" reducer



HIC-BEIGE
replacement
wiring plug
for EZBx
Wall Bracket



EZCUP

Close up plug for
EZ mounting
boxes. Used for
maintenance when
fixture is removed
for service.



EMG1



EMG2



EAC[®]



Standard Dome



Angle Dome

GUARDS		
CATALOG NUMBER	SERIES	LAMP TYPE
EMG1	EMI15	INC
	EMI20	INC
	EBF	Bi-Pin
	EQF (26, 32, 42)	Quad-Pin
EMG2	EMI30	INC
	EMS	HPS
	EMH	MH
	ESX	Strobe
	EQF (52, 64, 84)	Quad-Pin

Guards are cast of copper-free aluminum with electrostatically applied epoxy/polyester finish.

① Assemblies may be ordered with the CEN (CENELEC) suffix. See page L144 for more information.

② Adapters for discontinued Killark "H" Series and Crouse Hinds[®] available. See page L224 for more information.

③ UL fixture rating; socket rated 600V.

* Consult factory for 52, 64 and 84 Watt availability.

REFLECTORS		
CATALOG NUMBER		SERIES
STANDARD DOME	ANGLE	
ERSD15	ERA15	EMI15/EMI20
		EBF
		EQF
ERSD30	ERA30	EMI30
		EMS
		EMH
		EQF (52, 64, 84)

Reflectors are aluminum with white finish.



FACTORY SEALED

Class I, DIV. 1 BCD
Class II, DIV. 1&2 EFG
CLASS III
NEMA 3, 4X IP66
*40°C ambient T3 Rated

PHOTO CELL FIELD KITS WITH HKB-GL BOX AND COVER	
CATALOG NUMBER	VOLTS
VMHKPC1	120VAC
VMHKPC2	208-277VAC
VMHKPC3	347VAC





Exit Sign Accessory

Hazardous Locations Exit Sign Applications

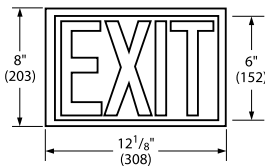
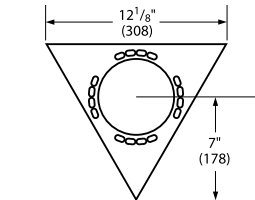
For use in hazardous areas to mark exits over doorways and in hallways.

Features

- Three sided illuminated sign visible from all three sides
- EXIT printed in 6" high red letters with 3/4" strokes as required by OSHA. Sign has open bottom providing light on exit area while illuminating the panel

EXIT SIGN	
CATALOG NUMBER	DESCRIPTION
HEXA-100	Fits EMI15, EMI20, EBF/EQF/EEQ Series without guard * (Fixture not included)

* EQF to 42W



Replacement Globe & Support Assemblies

REPLACEMENT GLOBE AND GLOBE SUPPORTS			
CATALOG NUMBER ^①	SERIES	LAMP TYPE	MAX. WATTAGE
EMGS1	EMI15	INC	150
	EMI20	INC	300
	EBF13/26	PL Bi-Pin Fluorescent	26
	EQF	PL Quad-Pin Fluorescent	26, 32, 42
EMGS2 ^② EMGS3	EMI30	INC	300
	EMS	HPS	150
	EMH	MH	100
	EQF	PL Quad-Pin Fluorescent	52, 62, 84

① EMGS1, EMGS3 are internally fluted glass.
② EMGS2 is smooth clear glass used for ESX strobe.



EM Series



EB Series



**Female
EZTB**



**Male
EZCB**

REPLACEMENT SOCKETS	
CATALOG NUMBER	DESCRIPTION
EMRS	EM Series E-26 Medium Base
EBRS	EB Series

REPLACEMENT CONNECTION BLOCKS	
CATALOG NUMBER	DESCRIPTION
EZTB	Female
EZCB	Male

COLORED GLOBE KITS FOR HAZARDOUS LOCATIONS ^②	
KIT NO.	GLOBE COLOR
KT-100SU41R	RED
KT-100SU41G	GREEN

Used to modify EMI20 Series only fixtures to accept a colored inner globe. The kit includes the globe plus an adapter assembly and mounting instructions.

② Maximum lamp size A-21 150 Watt.

REPLACEMENT FLUORESCENT LAMPS	
CATALOG NUMBER	SIZE & TYPE
MPL13	13W Bi-Pin
MQL26	26W Quad-Pin
MQL32	32W Quad-Pin
MQL42	42W Quad-Pin



EM/EB BALLAST DATA								
LAMP SOURCE	LAMP WATTS/TYPE	VOLTAGE @ 60 HERTZ	START (AMPS)	OPERATING (AMPS)	OPEN (AMPS)	BALLAST CIRCUIT	REGULATION	MIN, START
(1) Bi-Pin Fluorescent	13W (1 X 13)	120 277	.39 .35	.30	—	NPF	—	32°F (0°C)
(2) Bi-Pin Fluorescent	26W (2 X 13)	120 277	.78 .70	.60	—	NPF	—	32°F (0°C)
Quad-Pin Fluorescent	26W 32W 42W	120-277	—	.24(120)/.11(277) .31(120)/.13(277) .38(120)/.18(277)	—	HPF	ELECTRONIC	0°F (-18°C)
Quad-Pin Fluorescent	52W (2X26) 64W (2X36) 84W (2X42)	120-277	—	.48(120)/.22(277) .62(120)/.26(277) .76(120)/.36(277)	—	HPF	ELECTRONIC	0°F (-18°C)
HPS	35W S-76	120	.55	.40	.65	R-HPF [Ⓞ]	±5% Line Voltage*	0°F (-40°C)
HPS	50W S-68	120	.58	.58	1.24	HX-HPF [Ⓞ]	±5% Line Voltage*	0°F (-40°C)
		208	.35	.33	.59			
		240	.30	.29	.50			
		277	.24	.25	.44			
HPS	70W S-62	120	.75	.81	1.45	HX-HPF [Ⓞ]	±5% Line Voltage*	0°F (-40°C)
		208	.45	.47	.85			
		240	.37	.40	.75			
		277	.35	.35	.65			
		480	.21	.21	.36			
HPS	100W S-54	120	1.30	1.15	2.20	HX-HPF [Ⓞ]	±5% Line Voltage*	0°F (-40°C)
		208	.76	.66	1.27			
		240	.66	.57	1.10			
		277	.60	.49	.85			
		480	.33	.28	.57			
HPS	150W S-55	120	2.20	1.50	2.35	HX-HPF [Ⓞ]	±5% Line Voltage*	0°F (-40°C)
MH	50W M-110	120	.87	.60	1.16	HX-HPF [Ⓞ]	±5% Line Voltage ±12% Lamp Watts	-20°F (-30°C)
		208	.51	.35	.67			
		240	.47	.30	.57			
		277	.39	.25	.50			
MH	70W M-98	120	.80	.85	1.70	HX-HPF [Ⓞ]	±5% Line Voltage ±12% Lamp Watts	-20°F (-30°C)
		208	.50	.50	1.04			
		240	.43	.43	.87			
		277	.39	.37	.78			
MH	100W M-90	120	1.20	1.15	2.30	HX-HPF [Ⓞ]	±5% Line Voltage ±12% Lamp Watts	-20°F (-30°C)
		208	.70	.60	1.30			
		240	.61	.55	1.10			
		277	.55	.45	.95			

* Lamp watts within ANSI Trapezoid limitations.

Ⓞ Ballast circuits are High Power Factor 90%+.





Pendant



Ceiling



Wall

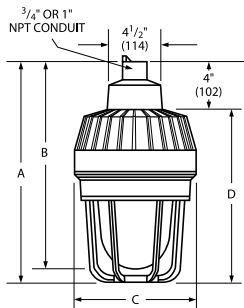


Stanchion

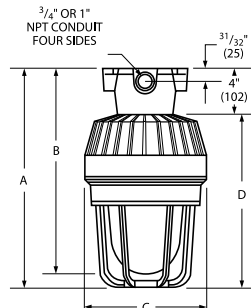
FEATURES-SPECIFICATIONS

EM/EMB/ESX DIMENSIONS															
SERIES	PENDANT				CEILING				WALL				STANCHION		
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C
EMI15 EMI20 EBF13 EBF26	14-5/16" (363)	13-11/16" (346)	7-7/16" (188)	10-5/16" (261)	14-5/16" (363)	13-11/16" (347)	7-7/16" (188)	10-5/16" (261)	15-13/16" (385)	14-7/16" (366)	14-1/2" (369)	10-5/16" (26)	14" (256)	13-1/4" (337)	13" (330)
EQF to 42W EEQ	16-13/16" (427)	16-3/16" (411)	7-7/16" (188)	12-5/8" (321)	16-13/16" (427)	16-3/16" (411)	7-7/16" (188)	12-5/8" (321)	18-5/16" (465)	16-15/16" (430)	14-1/2" (368)	12-5/8" (321)	16-1/4" (413)	15-3/4" (400)	15-1/4" (387)
EMI30 EMH EMS ESX EQF 52, 64, 84	15-15/16" (404)	15-1/16" (382)	8-13/16" (224)	11-15/16" (303)	15-15/16" (404)	15-1/16" (382)	8-13/16" (224)	11-15/16" (303)	16-13/16" (426)	15-13/16" (404)	15" (379)	11-15/16" (303)	15-1/8" (384)	14" (356)	13-1/2" (343)

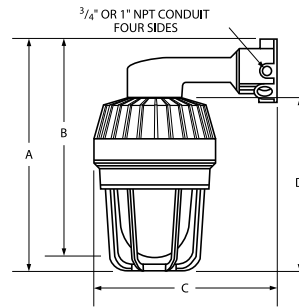
Pendant



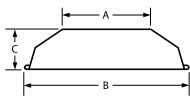
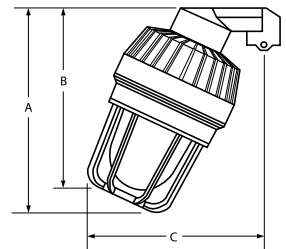
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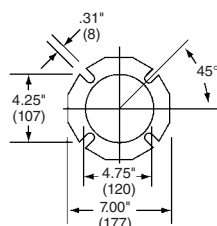
Wall



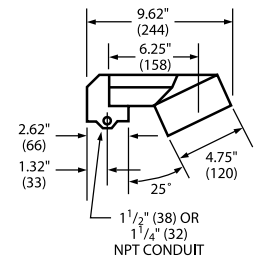
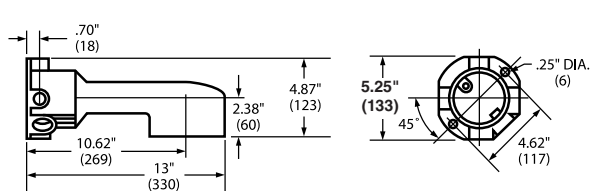
25° Stanchion



Standard Dome



Angle



REFLECTOR DIMENSIONS

SERIES	STANDARD DOME				ANGLE			
	A	B	C	A	B	C	D	
EMI15/EMI20 EBF/EQF to 42W	7-3/8" (187)	14" (356)	3-3/4" (95)	7" (178)	11-1/2" (292)	7-3/4" (197)	1" (25)	
EMI30/EMS EMH EQF 52, 64, 84	8-3/4" (222)	16-1/8" (409)	3-15/16" (100)	8-3/4" (222)	14-3/16" (360)	7-3/4" (197)	1" (25)	



EM/EB/EQ HAZARDOUS LOCATION DATA-CLASS I, DIV. 1 & 2 ^① ②							
FIXTURE SERIES	LAMP TYPE/SIZE MAX.	LAMP WATTS	RATED AMBIENT °C	SUPPLY WIRE SUITABLE FOR °C MIN.	CLASS I, DIVISIONS 1 & 2 MAXIMUM SURFACE TEMPERATURE °C		
					UL/CSA		
					WITH OR WITHOUT REFLECTOR		
					TEMP. I.D.	ACTUAL TEMP.	UL/CSA GROUPS
EMI15	INC A-19	60	40	75	T6	79	C,D
			55	75	T6		C,D
			65	75	T4A		C,D
EMI15	INC A-19	75	40	75	T4A	103	C,D
			55	90	T4A		C,D
			65	90	T4		C,D
EMI15	INC A-19	100	40	75	T4A	103	C,D
			55	90	T4A		C,D
			65	90	T4		C,D
EMI15	INC A-21	100	40	75	T4A	101	C,D
			55	90	T4A		C,D
			65	90	T4		C,D
EMI15	INC A-21	150	40	75	T4	123	C,D
			55	90	T3C		C,D
			65	90	T3C		C,D
EMI20	INC A-23	100	40	90	T4A	107	C,D
			55	90	T4		C,D
			65	90	T4		C,D
EMI20	INC A-23	150	40	90	T4	132	C,D
			55	90	T3C		C,D
			65	111	T3C		C,D
EMI20	INC PS-25	150	40	90	T4	126	C,D
			55	110	T3C		C,D
			65	110	T3C		C,D
EMI20	INC A-23	200	40	90	T3C	146	C,D
			55	90	T3B		C,D
			65	110	T3A		C,D
EMI20	INC PS-25	200	40	90	T3C	154	C,D
			55	90	T3A		C,D
			65	110	T3A		C,D
EMI20	INC PS-25	300	40	90	T3	190	C,D
			55	110	T2D		C,D
			65				C,D
EMI30	INC PS-25	200	40	110	T3C	146	C,D
			55	110	T3B		C,D
			65	125	T3A		C,D
EMI30	INC PS-25	300	40	110	T3C	143	C,D
			55	110	T3B		C,D
			65	125	T3A		C,D
EMI30	INC PS-30	200	40	110	T3C	146	C,D
			55	110	T3B		C,D
			65	125	T3A		C,D
EMI30	INC PS-30	300	40	110	T3C	146	C,D
			55	110	T3B		C,D
			65	125	T3A		C,D
EBF13	1 13W Bi-Pin	13	40	75	T6	62	C,D
			55	90	T6		C,D
			65	90	T5		C,D
EBF26	2 13W Bi-Pin	26	40	75	T6	62	C,D
			55	90	T6		C,D
			65	90	T5		C,D
EQF26	1 26W Quad-Pin	26	40	75	T6	75	C,D
EQF32	1 32W Quad-Pin	32	40	75	T6	75	C,D
EQF42	1 42W Quad-Pin	42	40	75	T6	75	C,D
EQF52	2 26W Quad-Pin	52	40	75	T6	85	C,D
EQF64	2 32W Quad-Pin	64	40	75	T6	85	C,D
EQF84	2 42W Quad-Pin	84	40	75	T6	85	C,D
EMS35	HPS S-70	35	40	75	T6	65	C,D
			55	90	T5		C,D
			65	90	T4A		C,D
EMS05	HPS S-68	50	40	75	T6	68	C,D
			55	75	T6		C,D
			65	90	T5		C,D
EMS07	HPS S-62	70	40	75	T6	83	C,D
			55	90	T5		C,D
			65	90	T4A		C,D
EMS100	HPS S-54	100	40	75	T5	99	C,D
			55	90	T4A		C,D
			65	110	T4A		C,D
EMS151	HPS S-55	150	40	75	T4A	119	C,D
			55	90	T4		C,D
			65	110	T3C		C,D
EMH05	MH M-110	50	40	75	T6	78	C,D
			55	90	T5		C,D
			65	110	T4A		C,D
EMH07	MH M-98	75	40	75	T5	95	C,D
			55	90	T4A		C,D
			65	110	T4A		C,D
EMH100	MH M-90	100	40	75	T4A	101	C,D
			55	90	T4		C,D
			65	110	T3C		C,D

① Do not install where marked operating temperature exceeds ignition temperature of hazardous atmosphere.

② See Class II table for simultaneous presence ratings.



CEN Option

Applications

Killark EM/EB/ESX series fixtures are available with a European "Certificate of Conformity" from PTB (Physikalisch-Technische Bundesanstalt), the approval agency based in Germany. Fixtures with this rating will be useful for Original Equipment Manufacturers and others who build and ship apparatus into European markets.

This approval is granted by PTB with the use of a special ground lug and label. Fixtures carrying an EEx d IIB approval are automatically granted an IP54 (ingress protection) rating. See Temperature Code chart below for PTB certified ratings. Killark EM/EB/ESX fixtures with the PTB rating and labels still carry all UL & CSA ratings.

Fixture housing/globe/globe support assemblies (e.g. EM120 CEN) may be ordered with the CEN suffix. Complete fixture numbers, with the CEN suffix, will be shipped with the mounting boxes, guards and accessories as component parts. Reflectors and other accessory parts, as listed on pages L123-124, may be used. Killark fixtures are NPT tapped and plugged with at least one conduit hole open.

Compliances

- EN 50014:1992
- EN 50018:1994

EEx d IIB T6 (or T5-T2)

PTB No. Ex-98.E.1076

MAXIMUM AMBIENT TEMPERATURE RANGE -20°C TO 40°C				
TYPE OF LUMINAIRE	TYPE OF ENCLOSURE	FORM OF THE LAMP	MAXIMUM WATTAGE	TEMPERATURE CLASS
EMI15	EM020	A-19/A-21	150W	T4
EMI20	EM020	A-23/PS-25	300W	T3
EMI30	EM030	PS-25/PS-30	300W	T2
EMH05	EM030	BD17/M-110	50W	T6
EMH07	EM030	BD17/M-98	70W	T5
EMH10	EM030	BD17/M-90	100W	T4
EMS35	EM030	ED17/S-76	35W	T6
EMS05	EM030	ED17/S-68	50W	T6
EMS07	EM030	ED17/S-62	70W	T5
EMS10	EM030	ED17/S-54	100W	T5
EMS15	EM030	ED17/S-55	150W	T4
EBF13	EM020	PL13	13W	T6
EBF26	EM020	PL13	26W	T6
ESX()120	EM030	120V AC	0.17 A	T6
ESX()240	EM030	240V AC	0.12 A	T6
ESX()1274	EM030	12 TO 74 V DC	1.25 TI 0.2 A	T6



EM/EB/EQ HAZARDOUS LOCATION DATA—CLASS II, III, DIVISIONS 1 & 2 ① ②															
FIXTURE SERIES	LAMP TYPE/SIZE MAX.	LAMP WATTS	RATED AMBIENT °C	SUPPLY WIRE SUITABLE FOR °C MIN.	CLASS II, DIV. 1 & 2 MAXIMUM SURFACE TEMPERATURE °C				UL/CSA GROUPS	CLASS III DIV. 1 & 2 UL/CSA SUITABILITY	UL MARINE LISTED ³	U.L. PAINT SPRAY SUITABILITY	UL/CSA TYPE 3 (RAIN-TIGHT)	UL/CSA TYPE 4 (HOSE-DOWN) ³	
					UL/CSA WITHOUT REFLECTOR		UL/CSA WITH REFLECTOR								
					TEMP. I.D.	ACTUAL TEMP. °C	TEMP. I.D.	ACTUAL TEMP. °C							
EMI15	INC A-19	60	40	75	T3C	132	T3C	132	E,F,G	YES	YES	NO	YES	YES	
			55	75	T3A				E,F	NO	YES	NO	YES	YES	
			65	75	T3A				E,F	NO	YES	NO	YES	YES	
EMI15	INC A-19	75	40	75	T3A	163	T3A	162	E,F	NO	YES	NO	YES	YES	
			55	90	T3A				E,F	NO	YES	NO	YES	YES	
			65	90	T3A				E,F	NO	YES	NO	YES	YES	
EMI15	INC A-19	100	40	75	T3A	163	T3A	162	E,F	NO	YES	NO	YES	YES	
			55	90	T3A				E,F	NO	YES	NO	YES	YES	
			65	90	T3A				E,F	NO	YES	NO	YES	YES	
EMI15	INC A-21	100	40	75	T3A	172	T3A	172	E,F	NO	YES	NO	YES	YES	
			55	90	T3				E,F	NO	YES	NO	YES	YES	
			65	90	T3				E,F	NO	YES	NO	YES	YES	
EMI15	INC A-21	150	40	75	N/A	192	T3	192	E,F	NO	YES	NO	YES	YES	
			55		N/A										
			65		N/A										
EMI20	INC A-23	100	40	90	T3A	166	T3A	166	E,F	NO	YES	NO	YES	YES	
			55	90	T3				E,F	NO	YES	NO	YES	YES	
			65		N/A										
EMI20	INC A-23	150	40	90	T3	196	T3A	178	E,F	NO	YES	NO	YES	YES	
			55	90	T3				E,F	NO	YES	NO	YES	YES	
			65		N/A										
EMI20	INC PS-25	150	40	90	N/A	N/A	N/A	N/A	NO	NO	YES	NO	YES	YES	
			55		N/A										
			65		N/A										
EMI20	INC A-23	200	40	90	N/A	N/A	N/A	N/A	NO	NO	YES	NO	YES	YES	
			55		N/A										
			65		N/A										
EMI20	INC PS-25	200	40	90	N/A	N/A	N/A	N/A	NO	NO	YES	NO	YES	YES	
			55		N/A										
			65		N/A										
EMI20	INC PS-25	300	40	90	N/A	N/A	N/A	N/A	NO	NO	YES	NO	YES	YES	
			55		N/A										
			65		N/A										
EMI30	INC PS-25	200	40	110	N/A	N/A	N/A	N/A	NO	NO	YES	NO	YES	YES	
			55		N/A										
			65		N/A										
EMI30	INC PS-25	300	40	110	N/A	N/A	N/A	N/A	NO	NO	YES	NO	YES	YES	
			55		N/A										
			65		N/A										
EMI30	INC PS-30	200	40	110	N/A	N/A	N/A	N/A	NO	NO	YES	NO	YES	YES	
			55		N/A										
			65		N/A										
EMI30	INC PS-30	300	40	110	N/A	N/A	N/A	N/A	NO	NO	YES	NO	YES	YES	
			55		N/A										
			65		N/A										
EBF13	1 13W Bi-Pin	13	40	75	T6	69	T6	66	E,F,G	YES	NO	YES	YES	YES	
			55	90	T6				E,F,G	YES	NO	YES	YES	YES	
			65	90	T5				E,F,G	YES	NO	YES	YES	YES	
EBF26	2 13W Bi-Pin	26	40	75	T6	69	T6	66	E,F,G	YES	NO	YES	YES	YES	
			55	90	T6				E,F,G	YES	NO	YES	YES	YES	
			65	90	T5				E,F,G	YES	NO	YES	YES	YES	
EQF26	126W Quad-Pin	26	40	75	T4	135	T4	135	E,F,G	YES	NO	YES	YES	YES	
			55												
			65												
EQF32	132W Quad-Pin	32	40	75	T4	135	T4	135	E,F,G	YES	NO	YES	YES	YES	
			55												
			65												
EQF42	142W Quad-Pin	42	40	75	T4	135	T4	135	E,F,G	YES	NO	YES	YES	YES	
			55												
			65												
EQF52	226W Quad-Pin	52	40	75	T4	135	T4	135	E,F,G	YES	NO	YES	YES	YES	
			55												
			65												
EQF64	232W Quad-Pin	64	40	75	T4	135	T4	135	E,F,G	YES	NO	YES	YES	YES	
			55												
			65												
EQF84	242W Quad-Pin	84	40	75	T4	135	T4	135	E,F,G	YES	NO	YES	YES	YES	
			40	75	T4A	116	T4A	116	E,F,G	YES	YES	YES	YES	YES	
			55		N/A										
EMS35	HPS S-70	35	40	75	T4A	116	T4A	116	E,F,G	YES	YES	YES	YES	YES	
			55		N/A										
			65		N/A										
EMS05	HPS S-68	50	40	75	T4A	116	T4A	116	E,F,G	YES	YES	YES	YES	YES	
			55	75	T4				E,F,G	YES	YES	YES	YES	YES	
			65	90	T3C				E,F,G	YES	YES	YES	YES	YES	
EMS07	HPS S-62	70	40	75	T4A	116	T4A	116	E,F,G	YES	YES	YES	YES	YES	
			55	90	T4				E,F,G	YES	YES	YES	YES	YES	
			65	90	T3C				E,F,G	YES	YES	YES	YES	YES	
EMS100	HPS S-54	100	40	75	T3B	161	T3B	161	E,F,G	YES	YES	NO	YES	YES	
			55		N/A										
			65		N/A										
EMS150	HPS S-55	150	40	75	T3A	180	T3B	180	E,F	NO	YES	NO	YES	YES	
			55	90	T3				E,F	NO	YES	NO	YES	YES	
			65		N/A										
EMH05	MH M-110	50	40	75	T4	121	T4	121	E,F,G	YES	YES	YES	YES	YES	
			55	90	T3C				E,F	NO	YES	YES	YES	YES	
			65	110	T3B				E,F,G	NO	YES	YES	YES	YES	
EMH07	MH M-98	70	40	75	T4	121	T4	121	E,F,G	YES	YES	YES	YES	YES	
			55	90	T3C				E,F,G	YES	YES	YES	YES	YES	
			65	110	T3B				E,F,G	YES	YES	YES	YES	YES	
EMH100	MH M-90	100	40	75	T3C	153	T3C	153	E,F,G	YES	YES	NO	YES	YES	
			55	90	T3A				NO	YES	YES	NO	YES	YES	
			65		N/A										

① Do not install where marked operating temperature exceeds ignition temperature of hazardous atmosphere.

② Fixtures rated for simultaneous presence as shown in Class II table (unless marked with N/A).

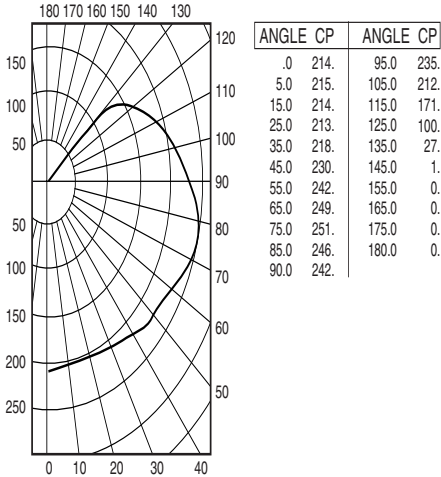
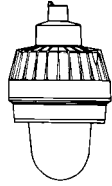
③ For UL-Marine and UL/CSA Type 4 listing add suffix "ML" to "EMI" Series fixture catalog number; standard on "EMS" and "EMH" series. Not available on "EBF", or "EQF" series.

EMI15 INCANDESCENT

With Globe Only
100 – 150 Watt Medium Base

CANDLEPOWER – 150 WATT

A-21 lamp 2880 lumens
For 100 watt multiply by .587



Coefficients of Utilization -- Zonal Cavity Method

% Effective Ceiling Cavity Reflection tcc	80	70	50	30	10	0
0	.87 .87 .87 .87	.82 .82 .82 .82	.72 .72 .72	.64 .64 .64	.56 .56 .56	.52
1	.75 .70 .65 .61	.70 .66 .61 .58	.57 .54 .51	.50 .47 .45	.43 .41 .39	.35
2	.67 .59 .52 .46	.62 .55 .49 .44	.48 .43 .39 .41	.37 .34 .35	.32 .29 .26	
3	.60 .50 .43 .37	.56 .47 .40 .35	.41 .35 .31 .35	.31 .27 .30	.26 .23 .20	
4	.55 .44 .36 .30	.51 .41 .34 .29	.36 .30 .25 .31	.26 .22 .26	.22 .19 .16	
5	.50 .39 .31 .25	.46 .36 .29 .24	.31 .26 .21 .27	.22 .18 .23	.19 .16 .13	
6	.45 .34 .26 .21	.42 .32 .25 .20	.28 .22 .18 .24	.19 .15 .20	.16 .13 .11	
7	.42 .30 .23 .18	.38 .28 .22 .17	.25 .19 .15 .21	.17 .13 .18	.14 .11 .09	
8	.38 .27 .20 .15	.36 .26 .19 .15	.22 .17 .13 .19	.15 .11 .16	.13 .10 .08	
9	.36 .25 .18 .13	.33 .23 .17 .13	.20 .15 .11 .17	.13 .10 .15	.11 .08 .07	
10	.33 .22 .16 .12	.31 .21 .15 .11	.18 .13 .10 .16	.12 .08 .14	.10 .07 .06	

Spacing Criterion -- SC = 1.6

Illumination on Horizontal Surface

Mounting Height in Feet	FOOTCANDLE CHART (Initial) 150 WATT INCANDESCENT										
	0'	5'	10'	12'	14'	16'	18'	20'	25'	30'	
8'	3.34	2.05	.90	.65	.47	.34	.26	.20	.11	.07	
10'	2.14	1.65	.81	.62	.47	.36	.28	.22	.13	.08	
12'	1.48	1.17	.70	.56	.45	.36	.29	.23	.14	.09	
14'	1.09	.91	.60	.50	.41	.34	.28	.23	.15	.10	
16'	.83	.73	.51	.44	.37	.32	.27	.23	.15	.10	
18'	.66	.59	.44	.38	.33	.29	.25	.22	.15	.10	

$FC = \frac{\text{(Candlepower)}}{\text{DISTANCE}^2}$

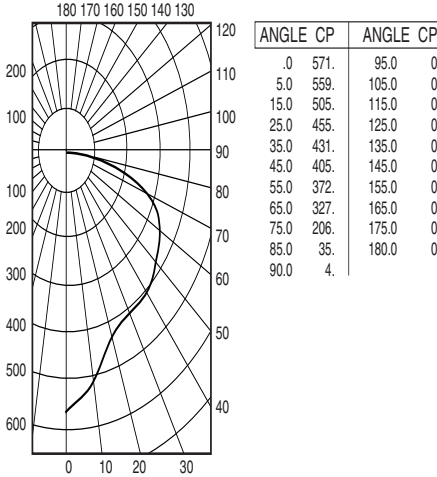
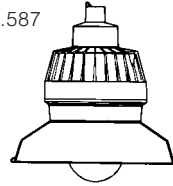
Test No. LTL-00679

EMI15 INCANDESCENT

With Globe and Standard Dome Reflector
100 – 150 Watt Medium Base

CANDLEPOWER – 150 WATT

A-21 lamp 2880 lumens
For 100 watt multiply by .587



Coefficients of Utilization -- Zonal Cavity Method

% Effective Ceiling Cavity Reflection tcc	80	70	50	30	10	0
0	.79 .79 .79 .79	.77 .77 .77 .77	.74 .74 .74	.70 .70 .70	.67 .67 .67	.66
1	.72 .68 .65 .62	.70 .67 .64 .61	.64 .62 .59	.61 .59 .58	.59 .57 .56	.54
2	.65 .59 .54 .50	.63 .58 .53 .49	.55 .51 .48	.53 .50 .47	.51 .48 .46	.45
3	.58 .51 .45 .41	.57 .50 .45 .40	.48 .43 .40	.46 .42 .39	.44 .41 .38	.37
4	.53 .45 .39 .34	.52 .44 .38 .34	.42 .37 .34	.41 .37 .33	.39 .36 .33	.31
5	.49 .40 .33 .29	.47 .39 .33 .29	.37 .32 .28	.36 .32 .28	.35 .31 .28	.26
6	.45 .35 .29 .24	.43 .35 .29 .24	.33 .28 .24	.32 .27 .24	.31 .27 .24	.22
7	.41 .31 .25 .21	.40 .31 .25 .21	.30 .24 .21	.29 .24 .20	.28 .23 .20	.19
8	.38 .28 .22 .18	.37 .28 .22 .18	.27 .22 .18	.26 .21 .18	.25 .21 .18	.16
9	.35 .26 .20 .16	.34 .25 .20 .16	.24 .19 .16	.24 .19 .16	.23 .19 .16	.14
10	.32 .23 .18 .14	.32 .23 .18 .14	.22 .17 .14	.22 .17 .14	.21 .17 .14	.13

Spacing Criterion -- SC = 1.2

Illumination on Horizontal Surface

Mounting Height in Feet	FOOTCANDLE CHART (Initial) 150 WATT INCANDESCENT										
	0'	5'	10'	12'	14'	16'	18'	20'	25'	30'	
8'	8.92	4.17	1.47	.98	.67	.48	.33	.23	.11	.06	
10'	5.71	3.17	1.43	1.02	.72	.51	.40	.30	.14	.08	
12'	3.96	2.57	1.32	.99	.75	.57	.44	.33	.19	.10	
14'	2.91	2.05	1.18	.93	.73	.57	.46	.36	.21	.13	
16'	2.23	1.68	1.04	.86	.69	.56	.45	.37	.22	.14	
18'	1.76	1.39	.91	.76	.65	.54	.44	.36	.22	.15	

$FC = \frac{\text{(Candlepower)}}{\text{DISTANCE}^2}$

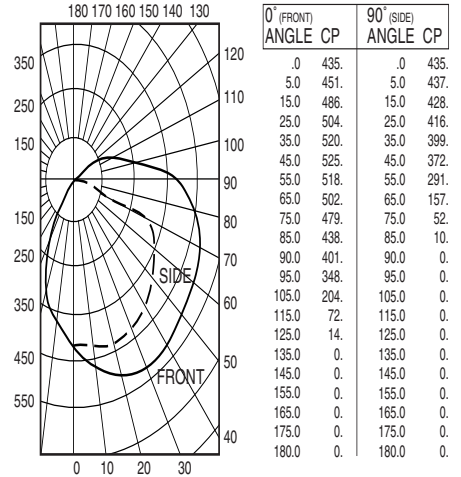
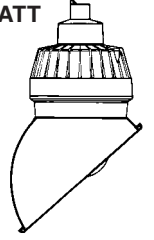
Test No. LTL-00680

EMI15 INCANDESCENT

With Globe and Angle Reflector
100 – 150 Watt Medium Base

CANDLEPOWER – 150 WATT

A-21 lamp 2880 lumens
For 100 watt multiply by .587



Coefficients of Utilization -- Zonal Cavity Method

% Effective Ceiling Cavity Reflection tcc	80	70	50	30	10	0
0	.70 .70 .70 .70	.68 .68 .68 .68	.64 .64 .64	.60 .60 .60	.57 .57 .57	.55
1	.63 .59 .56 .53	.60 .57 .54 .52	.54 .51 .49	.50 .48 .47	.47 .46 .44	.43
2	.56 .51 .46 .42	.54 .49 .45 .41	.46 .43 .40	.43 .41 .38	.41 .38 .36	.35
3	.51 .44 .39 .35	.49 .43 .38 .34	.40 .36 .33	.38 .35 .32	.36 .33 .30	.29
4	.47 .39 .34 .30	.45 .38 .33 .29	.36 .32 .28	.34 .30 .27	.32 .29 .26	.25
5	.43 .35 .29 .25	.41 .34 .29 .25	.32 .28 .24	.30 .26 .23	.29 .25 .23	.21
6	.40 .31 .26 .22	.38 .30 .25 .21	.29 .24 .21	.27 .23 .20	.26 .22 .20	.18
7	.36 .28 .23 .19	.35 .27 .22 .18	.26 .21 .18	.24 .20 .17	.23 .20 .17	.16
8	.34 .25 .20 .16	.33 .25 .20 .16	.23 .19 .16	.22 .18 .15	.21 .18 .14	.14
9	.31 .23 .18 .13	.30 .22 .18 .14	.21 .17 .14	.20 .16 .14	.19 .16 .13	.12
10	.29 .21 .16 .13	.28 .20 .16 .13	.20 .15 .12	.19 .15 .12	.18 .14 .12	.11

Spacing Criterion -- SC = 1.8 / 1.4

Illumination on Horizontal Surface

Mounting Height in Feet	FOOTCANDLE CHART (Initial) 150 WATT INCANDESCENT										
	0'	5'	10'	12'	14'	16'	18'	20'	25'	30'	
8'	6.79	4.90	1.99	1.38	.97	.70	.53	.40	.22	.13	
10'	4.35	3.61	1.86	1.37	1.02	.77	.58	.45	.25	.15	
12'	3.02	2.73	1.64	1.29	1.00	.77	.61	.48	.28	.18	
14'	2.21	2.11	1.43	1.17	.95	.76	.62	.50	.30	.19	
16'	1.69	1.66	1.23	1.04	.87	.73	.60	.50	.32	.21	
18'	1.34	1.34	1.06	.92	.79	.67	.57	.48	.28	.21	

$FC = \frac{\text{(Candlepower)}}{\text{DISTANCE}^2}$

Test No. LTL-00681

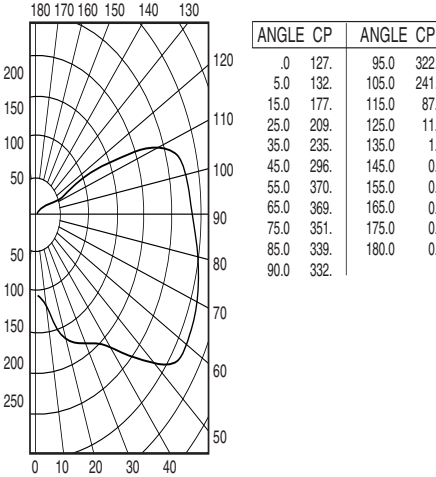
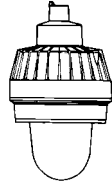


EMI20 INCANDESCENT

With Globe Only
150 – 200 Watt Medium Base

CANDLEPOWER – 200 WATT

A-23 lamp 4000 lumens
For 150 watt multiply by .695



Coefficients of Utilization -- Zonal Cavity Method

Table with 8 columns for % Effective Ceiling Cavity Reflectance (1cc) and 8 columns for % Wall Reflectance (1w). Rows represent Room Cavity Ratio (RCR) from 0 to 10. The table is divided into sections for 20% Effective Floor Cavity Reflectance.

Spacing Criterion -- SC = 3.0

Illumination on Horizontal Surface

FOOTCANDLE CHART (Initial) 200 WATT INCANDESCENT. Table showing footcandle values for mounting heights from 8' to 18' and horizontal distances from 0' to 30'.

FC = (Candlepower) (COS Ø)
DISTANCE²

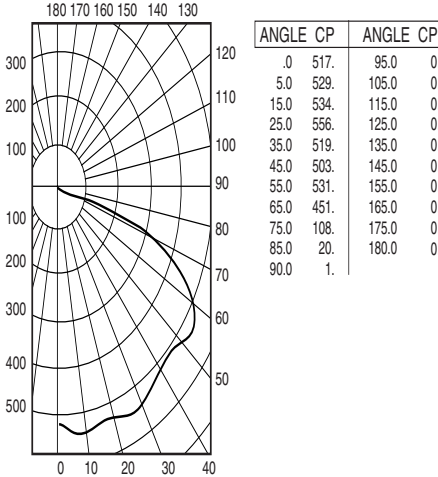
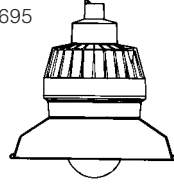
Test No. LTL-00670

EMI20 INCANDESCENT

With Globe and Standard Dome Reflector
150 – 200 Watt Medium Base

CANDLEPOWER – 200 WATT

A-23 lamp 4000 lumens
For 150 watt multiply by .695



Coefficients of Utilization -- Zonal Cavity Method

Table with 8 columns for % Effective Ceiling Cavity Reflectance (1cc) and 8 columns for % Wall Reflectance (1w). Rows represent Room Cavity Ratio (RCR) from 0 to 10. The table is divided into sections for 20% Effective Floor Cavity Reflectance.

Spacing Criterion -- SC = 1.5

Illumination on Horizontal Surface

FOOTCANDLE CHART (Initial) 200 WATT INCANDESCENT. Table showing footcandle values for mounting heights from 8' to 18' and horizontal distances from 0' to 30'.

FC = (Candlepower) (COS Ø)
DISTANCE²

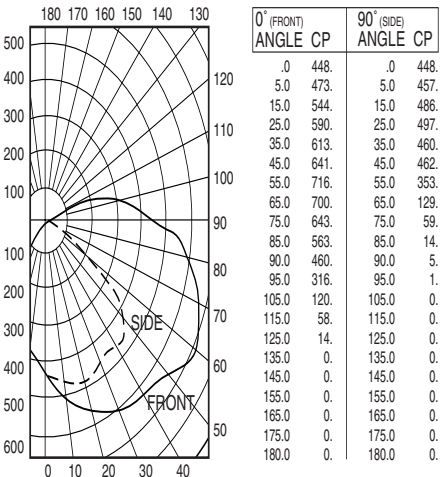
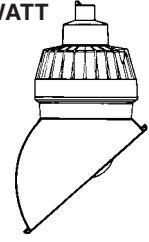
Test No. LTL-00671

EMI20 INCANDESCENT

With Globe and Angle Reflector
150 – 200 Watt Medium Base

CANDLEPOWER – 200 WATT

A-23 lamp 4000 lumens
For 150 watt multiply by .695



Coefficients of Utilization -- Zonal Cavity Method

Table with 8 columns for % Effective Ceiling Cavity Reflectance (1cc) and 8 columns for % Wall Reflectance (1w). Rows represent Room Cavity Ratio (RCR) from 0 to 10. The table is divided into sections for 20% Effective Floor Cavity Reflectance.

0-DEG / 90-DEG

Spacing Criterion -- SC = 2.0 / 1.6

Illumination on Horizontal Surface

FOOTCANDLE CHART (Initial) 200 WATT INCANDESCENT. Table showing footcandle values for mounting heights from 8' to 18' and horizontal distances from 0' to 30'.

FC = (Candlepower) (COS Ø)
DISTANCE²

Test No. LTL-00672

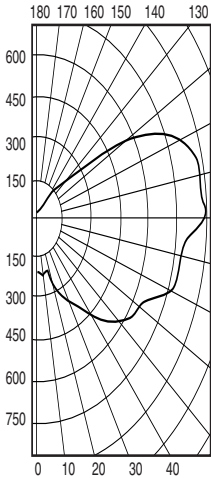
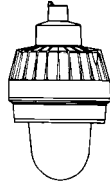


EMH (MH)

With Globe Only
50 – 100 Watt Medium Base

CANDLEPOWER – 100 WATT MH

B-17 clear lamp 8500 lumens
For 70 watt M.H. multiply by .647
For 50 watt M.H. multiply by .447



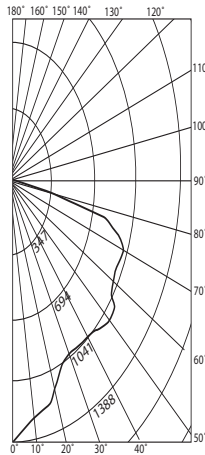
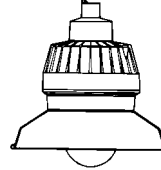
ANGLE CP	ANGLE CP
.0	173.
5.0	206.
10.0	188.
15.0	225.
20.0	290.
25.0	361.
30.0	403.
35.0	452.
40.0	492.
45.0	552.
50.0	618.
55.0	610.
60.0	731.
65.0	658.
70.0	776.
75.0	796.
80.0	787.
85.0	863.
90.0	874.

EMH (MH)

With Globe and Standard Dome Reflector
50 – 100 Watt Medium Base

CANDLEPOWER – 100 WATT MH

B-17 clear lamp 8500 lumens
For 70 watt M.H. multiply by .647
For 50 watt M.H. multiply by .447



ANGLE	CP	ANGLE	CP
0	1388.	95.0	2.
5.0	1323.	100.0	1.
10.0	1257.	105.0	0.
15.0	1225.	110.0	0.
20.0	1102.	115.0	0.
25.0	1032.	120.0	0.
30.0	1033.	125.0	0.
35.0	1037.	130.0	0.
40.0	1048.	135.0	0.
45.0	1075.	140.0	0.
50.0	1073.	145.0	0.
55.0	1006.	150.0	0.
60.0	982.	155.0	0.
65.0	999.	160.0	0.
70.0	992.	165.0	0.
75.0	792.	170.0	0.
80.0	210.	175.0	0.
85.0	48.	180.0	0.
90.0	7.		

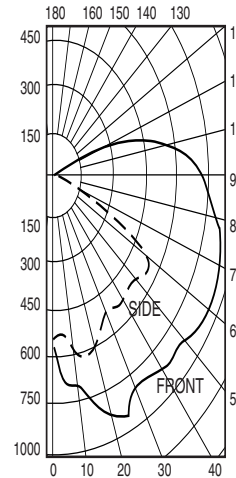
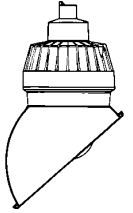
Efficiency 60.6%

EMH (MH)

With Globe and Angle Reflector
50 – 100 Watt Medium Base

CANDLEPOWER – 100 WATT MH

B-17 clear lamp 8500 lumens
For 70 watt M.H. multiply by .647
For 50 watt M.H. multiply by .447



0° (FRONT) ANGLE CP	90° (SIDE) ANGLE CP
.0	741.
5.0	775.
15.0	928.
25.0	1099.
35.0	1249.
45.0	1239.
55.0	1305.
65.0	1258.
75.0	1218.
85.0	1262.
90.0	1119.
95.0	998.
105.0	163.
115.0	54.
125.0	0.
135.0	0.
145.0	0.
155.0	0.
165.0	0.
175.0	0.
180.0	0.

Coefficients of Utilization -- Zonal Cavity Method

% Effective Ceiling Cavity Reflectance Icc	80	70	50	30	10	0
% Wall Reflectance Iw	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
Room Cavity Ratio RCR	20% Effective Floor Cavity Reflectance					
0	.84 .84 .84 .84	.79 .79 .79 .79	.69 .69 .69 .69	.60 .60 .60 .60	.51 .51 .51 .47	
1	.72 .67 .62 .57	.67 .62 .58 .53	.53 .50 .46 .45	.45 .42 .40 .38	.35 .33 .30 .30	
2	.63 .55 .48 .42	.58 .51 .45 .39	.43 .38 .34 .36	.32 .29 .29 .27	.24 .20 .20 .24	
3	.57 .47 .39 .33	.52 .43 .36 .31	.37 .31 .27 .31	.26 .22 .25 .21	.18 .15 .15 .18	
4	.51 .41 .33 .27	.47 .38 .30 .25	.32 .26 .21 .26	.22 .18 .21 .18	.15 .12 .12 .15	
5	.46 .35 .27 .22	.42 .32 .25 .20	.27 .22 .17 .23	.18 .14 .18 .14	.11 .09 .11 .09	
6	.42 .31 .23 .18	.39 .29 .22 .17	.24 .18 .14 .20	.15 .12 .16 .12	.09 .07 .16 .12	
7	.39 .28 .20 .15	.36 .25 .19 .14	.21 .16 .12 .18	.13 .10 .14 .11	.08 .05 .14 .11	
8	.36 .25 .18 .13	.33 .23 .16 .12	.19 .14 .10 .16	.11 .08 .13 .09	.06 .04 .13 .09	
9	.33 .22 .16 .11	.30 .21 .14 .10	.17 .12 .09 .14	.10 .07 .11 .08	.05 .03 .11 .08	
10	.31 .20 .14 .10	.28 .19 .13 .09	.16 .11 .07 .13	.09 .06 .10 .07	.04 .03 .10 .07	

Spacing Criterion -- SC = 3.4

COEFFICIENTS OF UTILIZATION -- ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE Icc	80	70	50	30	10	0
% WALL REFLECTANCE Iw	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance					
0	.72 .72 .72 .72	.70 .70 .70 .70	.67 .67 .67 .67	.64 .64 .64 .62	.62 .62 .62 .61	
1	.65 .61 .58 .55	.63 .60 .57 .54	.57 .55 .53 .55	.53 .51 .51 .52	.51 .49 .48 .48	
2	.58 .52 .47 .43	.56 .50 .46 .42	.48 .44 .41 .46	.43 .40 .44 .41	.39 .38 .38 .38	
3	.52 .44 .38 .34	.50 .43 .38 .33	.41 .37 .33 .39	.36 .32 .38 .34	.32 .30 .30 .30	
4	.47 .38 .32 .28	.45 .37 .32 .27	.36 .31 .27 .34	.30 .27 .33 .29	.26 .25 .25 .26	
5	.42 .34 .28 .23	.41 .33 .27 .23	.32 .27 .23 .30	.26 .22 .29 .25	.22 .21 .21 .21	
6	.39 .30 .24 .20	.38 .29 .24 .20	.28 .23 .19 .27	.23 .19 .26 .22	.19 .18 .18 .18	
7	.36 .27 .21 .17	.35 .26 .21 .17	.25 .20 .17 .25	.20 .17 .24 .20	.17 .15 .15 .17	
8	.33 .24 .19 .15	.32 .24 .19 .15	.23 .18 .15 .22	.18 .15 .22 .18	.15 .13 .13 .15	
9	.31 .22 .17 .13	.30 .22 .17 .13	.21 .17 .13 .21	.16 .13 .20 .16	.13 .12 .12 .13	
10	.29 .21 .15 .12	.28 .20 .15 .12	.20 .15 .12 .18	.15 .12 .18 .15	.12 .11 .11 .12	

SPACING TO MOUNTING HEIGHT RATIO - 1.12

Coefficients of Utilization -- Zonal Cavity Method

% Effective Ceiling Cavity Reflectance Icc	80	70	50	30	10	0
% Wall Reflectance Iw	70 50 30 10	70 50 30 10	50 30 10	50 30 10	50 30 10	0
Room Cavity Ratio RCR	20% Effective Floor Cavity Reflectance					
0	.61 .61 .61 .61	.59 .59 .59 .59	.55 .55 .55 .55	.51 .51 .51 .51	.48 .48 .48 .46	
1	.54 .50 .47 .44	.51 .48 .46 .43	.45 .42 .40 .41	.40 .38 .38 .37	.35 .35 .34 .34	
2	.48 .42 .38 .34	.46 .41 .37 .33	.38 .34 .31 .35	.32 .29 .32 .30	.28 .26 .26 .26	
3	.43 .37 .32 .27	.41 .35 .31 .27	.33 .29 .25 .30	.27 .24 .28 .25	.23 .21 .21 .21	
4	.39 .32 .27 .23	.37 .31 .26 .22	.29 .24 .21 .26	.23 .20 .24 .21	.19 .17 .17 .17	
5	.36 .28 .23 .19	.34 .27 .22 .18	.25 .21 .17 .23	.19 .16 .21 .18	.16 .14 .14 .14	
6	.33 .25 .20 .16	.31 .24 .19 .15	.22 .18 .15 .22	.16 .13 .18 .15	.12 .11 .11 .12	
7	.30 .22 .17 .14	.28 .21 .17 .13	.20 .16 .13 .18	.15 .12 .17 .14	.11 .10 .11 .11	
8	.28 .20 .15 .12	.26 .19 .15 .11	.18 .14 .11 .17	.13 .10 .15 .12	.10 .09 .10 .09	
9	.25 .18 .13 .10	.24 .17 .13 .10	.16 .12 .09 .16	.11 .08 .14 .11	.08 .07 .08 .07	
10	.24 .16 .12 .09	.23 .16 .11 .08	.15 .11 .08 .14	.10 .08 .13 .10	.07 .06 .07 .06	

D-DEG / 90-DEG

Spacing Criterion -- SC = 2.25 / 1.58

Illumination on Horizontal Surface

Mounting Height in Feet	FOOTCANDLE CHART (Initial) 100 WATT METAL HALIDE									
	Horizontal Distance From Source in Feet									
	0'	5'	10'	12'	14'	16'	18'	20'	25'	30'
8'	2.70	3.93	2.32	1.65	1.25	1.00	.76	.59	.35	.21
10'	1.73	2.58	1.95	1.60	1.21	.93	.75	.64	.38	.25
12'	1.20	1.66	1.55	1.35	1.17	.92	.73	.62	.41	.26
14'	.88	1.23	1.24	1.10	.99	.87	.72	.59	.39	.28
16'	.67	.80	.98	.90	.82	.76	.68	.58	.38	.27
18'	.53	.62	.83	.73	.70	.63	.60	.55	.38	.27

FC = (Candlepower) (COS θ)
DISTANCE²

Test No. BAL 6689.0

Test No. BAL 6702

Illumination on Horizontal Surface

Mounting Height in Feet	FOOTCANDLE CHART (Initial) 100 WATT METAL HALIDE									
	Horizontal Distance From Source in Feet									
	0'	5'	10'	12'	14'	16'	18'	20'	25'	30'
8'	11.58	11.82	4.86	3.48	2.39	1.75	1.32	1.01	.55	.32
10'	7.41	7.86	4.38	3.35	2.56	1.93	1.43	1.12	.64	.40
12'	5.14	5.61	3.81	3.04	2.44	1.95	1.55	1.18	.71	.45
14'	3.78	4.31	3.43	2.70	2.23	1.85	1.52	1.26	.74	.48
16'	2.89	3.21	2.96	2.50	2.02	1.71	1.45	1.22	.80	.51
18'	2.29	2.56	2.55	2.22	1.88	1.56	1.35	1.17	.80	.52
8'	11.58	7.52	2.73	2.04	1.32	.62	.47	.16	.04	.02
10'	7.41	6.40	2.74	1.88	1.50	1.12	.79	.40	.11	.04
12'	5.14	4.54	2.38	1.90	1.37	1.13	.90	.65	.25	.07
14'	3.78	3.47	2.13	1.69	1.40	1.03	.86	.73	.41	.17
16'	2.89	2.57	1.88	1.55	1.26	1.07	.84	.68	.46	.28
90° 18'	2.29	2.05	1.62	1.40	1.17	.97	.85	.67	.47	.29

FC = (Candlepower) (COS θ)
DISTANCE²

Test No. BALL 6703.0



KILLARK



Class I, Div. 1 & 2 Groups C,D
Class I, Zone 1 & 2, Groups IIB,IIA
Class I, Zone 1, AEx d IIB
Class II, Div. 1 & 2, Groups E,F,G
Class III, Div. 1 & 2
Suitable for wet locations
Marine
NEMA 3, 4, 4X
Factory Sealed

 Listed - File E10514 and E91793

 Certified - File LR11713

FEATURES-SPECIFICATIONS

HOSTILELITE®

HOSTILELITE® EZ fixtures are now available with Pulse Start Metal Halide ballasts. Pulse Start systems provide higher and better maintained light output with longer life compared standard metal halide systems. Pulse start and standard Metal Halide lamps and ballasts are not interchangeable.

Applications

HOSTILELITE® EZ Series mogul base fixtures are designed for installations where moisture, dirt, dust, corrosion and vibration may be present, or NEMA 3 and 4x areas where wind, water, snow or high ambients can be expected. They can be used in locations made hazardous due to the presence of flammable or explosive gases, vapors and combustible dusts as defined by the NEC.

Typical applications include classified areas such as paint manufacturing plants, ammunition facilities, oil and gas producing and refining plants, off-shore and dockside installations, tank farms, pipeline pumping stations and marine loading and fuel transfer terminals.

Features

- Three light sources—High Pressure Sodium (50-400W), Metal Halide (70-400W) and Pulse Start Metal Halide (175-400W)
- HOSTILELITE® EZ fixtures are now available with Pulse Start Metal Halide ballasts
- Mounting choice—Pendant, ceiling, 25° stanchion or 90° wall mount, all with “wireless” design that allows fast, easy fixture installation or removal for

maintenance. See pages L196-197 for trunnion mounted fixtures

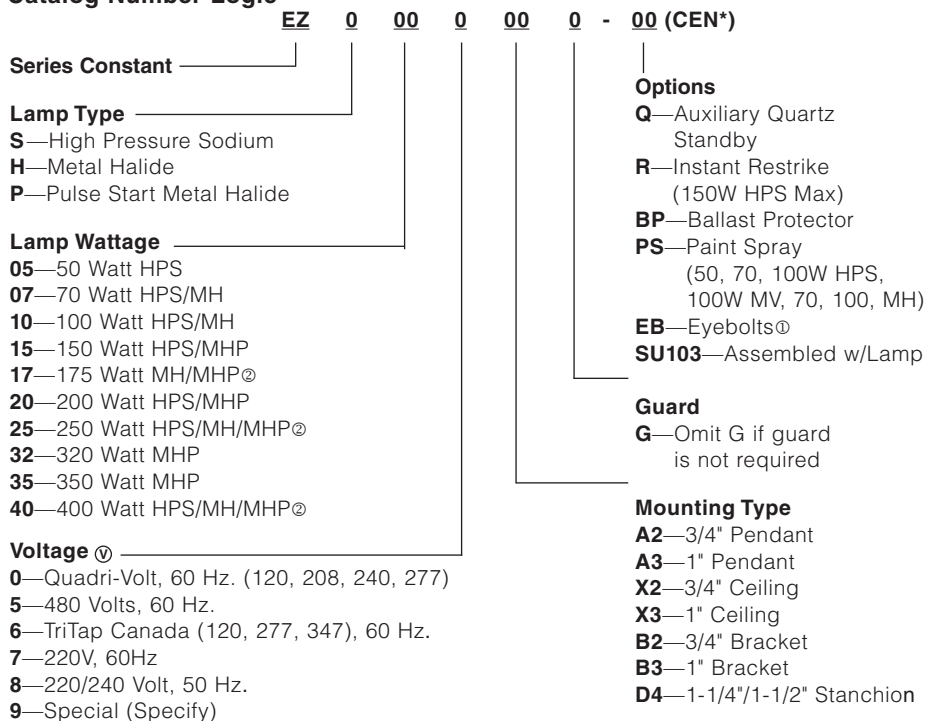
- Factory sealed—No external seal needed. Simply wire mounting cap and thread on fixture to install
- Corrosion resistant—Copper-free aluminum die cast construction. Baked powder epoxy finish, electrostatically applied. Exposed hardware is 316 grade stainless steel
- Accessories—Available with or without guard, standard dome or angle reflector
- Options—EZ Series fixtures can be specified with instant restart for HPS lamps, auxiliary quartz circuit, ballast

protector, and fuse kits.
(See page L160 for details)

Compliances

- UL-844 Electric Lighting Fixtures for use in Hazardous Locations
- UL Marine Type Electric Lighting Fixtures
- UL-1598 Standard for HID Lighting Fixtures
- CSA C22.2 no. 137-M1981 Electric Luminaires for use in Hazardous Locations
- CSA C22.2 no. 94-1976 Special purpose enclosure
- NEMA 3, 4, 4x, 7CD, 9EFG

Catalog Number Logic



*CEN (CENELEC) Approved option available on some models. See page L164 for more information.

® Two eyebolts plus 12" of connecting chain included. © 175,250 and 400W MH EXPORT ONLY (EISA LAW).

® Consult factory for available lamp and voltage combinations.



KILLARK®

Class I, Div. 1 & 2 Groups C,D
 Class I, Zone 1 & 2, Groups IIB,IIA
 Class I, Zone 1, AEx d IIB
 Class II, Div. 1 & 2, Groups E,F,G
 Class III, Div. 1 & 2
 Suitable for wet locations
 Marine
 NEMA 3, 4, 4X
 Factory Sealed

 Listed - File E10514 and E91793 (Marine)

 Certified - File LR11713

FEATURES-SPECIFICATIONS



EZ 50-400 WATT, HIGH PRESSURE SODIUM ① ④						
WATTS	ANSI LAMP	VOLTAGE @ 60Hz	CATALOG NUMBER			
			PENDANT 3/4"②	CEILING 3/4"②	WALL 3/4"②	STANCHION 1-1/4"③
50	S-68	120, 208, 240, 277	EZS050A2G	EZS050X2G	EZS050B2G	EZS050D4G
		120, 277, 347	—	—	—	—
		480	—	—	—	—
70	S-62	120, 208, 240, 277	EZS070A2G	EZS070X2G	EZS070B2G	EZS070D4G
		120, 277, 347	EZS076A2G	EZS076X2G	EZS076B2G	EZS076D4G
		480	EZS075A2G	EZS075X2G	EZS075B2G	EZS075D4G
100	S-54	120, 208, 240, 277	EZS100A2G	EZS100X2G	EZS100B2G	EZS100D4G
		120, 277, 347	EZS106A2G	EZS106X2G	EZS106B2G	EZS106D4G
		480	EZS105A2G	EZS105X2G	EZS105B2G	EZS105D4G
150	S-55	120, 208, 240, 277	EZS150A2G	EZS150X2G	EZS150B2G	EZS150D4G
		120, 277, 347	EZS156A2G	EZS156X2G	EZS156B2G	EZS156D4G
		480	EZS155A2G	EZS155X2G	EZS155B2G	EZS155D4G
250	S-50	120, 208, 240, 277	EZS250A2G	EZS250X2G	EZS250B2G	EZS250D4G
		120, 277, 347	EZS256A2G	EZS256X2G	EZS256B2G	EZS256D4G
		480	EZS255A2G	EZS255X2G	EZS255B2G	EZS255D4G
400	S-51	120, 208, 240, 277	EZS400A2G	EZS400X2G	EZS400B2G	EZS400D4G
		120, 277, 347	EZS406A2G	EZS406X2G	EZS406B2G	EZS406D4G
		480	EZS405A2G	EZS405X2G	EZS405B2G	EZS405D4G

① See Hazardous Location Application Data on pages L164-165 for specific suitability.

② For 1 inch pendant, ceiling and wall hubs, substitute "3" for "2" in catalog number; example: EZS070A3G.

③ Stanchion conduit hub size supplied is 1-1/2" with 1-1/2" to 1-1/4" reducer for 1-1/4" mounting. (Refer to catalog logic).


④ Luminaire catalog numbers include guards. To order luminaire without guard, omit last letter "G" from catalog number.

NOTE: Reflectors must be ordered separately (see page L161).

All luminaires are designed for mounting with lamp in base up position.



Class I, Div. 1 & 2 Groups C,D
 Class I, Zone 1 & 2, Groups IIB,IIA
 Class I, Zone 1, AEx d IIB
 Class II, Div. 1 & 2, Groups E,F,G
 Class III, Div. 1 & 2
 Suitable for wet locations
 Marine
 NEMA 3, 4, 4X
 Factory Sealed

 Listed - File E10514 and E91793 (Marine)

 Certified - File LR11713

ORDERING INFORMATION



Pendant

Ceiling

Wall

Stanchion


EZ 70-400 WATT, METAL HALIDE ① ④ ⑥						
WATTS	ANSI LAMP	VOLTAGE @ 60Hz	CATALOG NUMBER			
			PENDANT 3/4"②	CEILING 3/4"②	WALL 3/4"②	STANCHION 1-1/4"③
70	M-98	120, 208, 240, 277	EZH070A2G	EZH070X2G	EZH070B2G	EZH070D4G
		120, 277, 347	EZH076A2G	EZH076X2G	EZH076B2G	EZH076D4G
		480	EZH075A2G	EZH075X2G	EZH075B2G	EZH075D4G
100	M-90	120, 208, 240, 277	EZH100A2G	EZH100X2G	EZH100B2G	EZH100D4G
		120, 277, 347	EZH106A2G	EZH106X2G	EZH106B2G	EZH106D4G
		480	EZH105A2G	EZH105X2G	EZH105B2G	EZH105D4G
175	M-57⑤	120, 208, 240, 277	EZH170A2G	EZH170X2G	EZH170B2G	EZH170D4G
		120, 277, 347	EZH176A2G	EZH176X2G	EZH176B2G	EZH176D4G
		480	EZH175A2G	EZH175X2G	EZH175B2G	EZH175D4G
250	M-58	120, 208, 240, 277	EZH250A2G	EZH250X2G	EZH250B2G	EZH250D4G
		120, 277, 347	EZH256A2G	EZH256X2G	EZH256B2G	EZH256D4G
		480	EZH255A2G	EZH255X2G	EZH255B2G	EZH255D4G
400	M-59	120, 208, 240, 277	EZH400A2G	EZH400X2G	EZH400B2G	EZH400D4G
		120, 277, 347	EZH406A2G	EZH406X2G	EZH406B2G	EZH406D4G
		480	EZH405A2G	EZH405X2G	EZH405B2G	EZH405D4G

① See Hazardous Location Application Data on pages L 164-165 for specific suitabilities.
 ② For 1 inch pendant, ceiling and wall hubs, substitute "3" for "2" in catalog number; example: EZH070A3G.
 ③ Stanchion conduit hub size supplied is 1-1/2" with 1-1/2" to 1-1/4" reducer for 1-1/4" mounting. (Refer to catalog logic).
 ④ Luminaire catalog numbers include guards. To order luminaire without guard, omit last letter "G" from catalog number.
 ⑤ Will also operate 150W M107 Metal Halide Lamps.
 ⑥ 175, 250, 400W MH EXPORT ONLY (EISA LAW).

NOTE: Reflectors must be ordered separately (see page L 161).
 All luminaires are designed for mounting with lamp in base up position.



Class I, Div. 1 & 2 Groups C,D
 Class I, Zone 1 & 2, Groups IIB,IIA
 Class I, Zone 1, AEx d IIB
 Class II, Div. 1 & 2, Groups E,F,G
 Class III, Div. 1 & 2
 Suitable for wet locations
 Marine
 NEMA 3, 4, 4X
 Factory Sealed

 Listed - File E10514 and E91793 (Marine)

 Certified - File LR11713

ORDERING INFORMATION



Pendant

Ceiling

Wall

Stanchion

EZ 175-400 WATT, PULSE START METAL HALIDE ① ④						
WATTS	ANSI LAMP	VOLTAGE @ 60Hz	CATALOG NUMBER			
			PENDANT 3/4"②	CEILING 3/4"②	WALL 3/4"②	STANCHION 1-1/4"③
150	M-102 M-142	120, 208, 240, 277	EZP150A2G	EZP150X2G	EZP150B2G	EZP150D4G
		120,277,347	EZP156A2G	EZP156X2G	EZP156B2G	EZP156D4G
		480	EZP155A2G	EZP155X2G	EZP155B2G	EZP155D4G
175	M-137	120, 208, 240, 277	EZP170A2G	EZP170X2G	EZP170B2G	EZP170D4G
		120,277,347	EZP176A2G	EZP176X2G	EZP176B2G	EZP176D4G
		480	EZP175A2G	EZP175X2G	EZP175B2G	EZP175D4G
250	M-138	120, 208, 240, 277	EZP250A2G	EZP250X2G	EZP250B2G	EZP250D4G
		120,277,347	EZP256A2G	EZP256X2G	EZP256B2G	EZP256D4G
		480	EZP255A2G	EZP255X2G	EZP255B2G	EZP255D4G
320	M-132	120, 208, 240, 277	EZP320A2G	EZP320X2G	EZP320B2G	EZP320D4G
		120,277,347	EZP326A2G	EZP326X2G	EZP326B2G	EZP326D4G
		480	EZP325A2G	EZP325X2G	EZP325B2G	EZP325D4G
350	M-131	120, 208, 240, 277	EZP350A2G	EZP350X2G	EZP350B2G	EZP350D4G
		120,277,347	EZP356A2G	EZP356X2G	EZP356B2G	EZP356D4G
		480	EZP355A2G	EZP355X2G	EZP355B2G	EZP355D4G
400	M-135	120, 208, 240, 277	EZP400A2G	EZP400X2G	EZP400B2G	EZP400D4G
		120,277,347	EZP406A2G	EZP406X2G	EZP406B2G	EZP406D4G
		480	EZP405A2G	EZP405X2G	EZP405B2G	EZP405D4G

① See Hazardous Location Application Data on pages L164-165 for specific suitability.

② For 1 inch pendant, ceiling and wall hubs, substitute "3" for "2" in catalog number; example: EZP170A3G.

③ Stanchion conduit hub size supplied is 1-1/2" with 1-1/2" to 1-1/4" reducer for 1-1/4" mounting. (Refer to catalog logic).

④ Luminaire catalog numbers include guards. To order luminaire without guard, omit last letter "G" from catalog number.

NOTE: Reflectors must be ordered separately (see page L161).

All luminaires are designed for mounting with lamp in base up position.



Mounting Boxes



MOUNTING BOXES				
HUB SIZE	CATALOG NUMBER			
	PENDANT	CEILING	BRACKET	STANCHION
3/4"	EZA2	EZX2**	EZB2	—
1"	EZA3	EZX3	EZB3	—
1-1/4"/1-1/2"	—	—	—	EZD4*

* Supplied as 1-1/2" NPT with 1-1/2" x 1-1/4" reducer
 ** 25 cu. in. below EZTB tangs.



HIC-BEIGE
replacement wiring
plug for EZBx
Wall Bracket



Replacement Globe
& Support Assemblies

REPLACEMENT GLOBE & GLOBE SUPPORT ASSEMBLY			
SERIES	LAMP TYPE	WATTAGE	CATALOG NUMBER
EZS	HPS	50-150	EZGS1
EZH	MH	70-250	
EZP	MHP	150, 175, 250	
EZS	HPS	250, 400	EZGS2
EZH	MH	400	
EZP	MHP	320-400	



EZCUP

Close up plug for EZ mounting boxes.
Used for maintenance when fixture is removed for service.

EZ Options

Instant Restart Option

Factory installed special ignitor provides hot lamp instant restart of HPS lamps after power interruption of up to 1 minute. Available for 50, 70, 100 and 150 watt HPS lamps only. Add suffix "R" to fixture catalog number (50/60 Hz).


Quartz Emergency Lamp

Factory installed special auxiliary quartz relay and D.C. bayonet base socket installed to accept 100 watt, 120 volt quartz (100Q/DC) lamps only. Lamps not supplied. Refer to Hazardous Location Application Data chart to verify suitability. Add suffix "Q" to fixture catalog number.

Ballast Protection Cutout

Optional factory installed special ballast protector replaces the standard HPS ignitor and applies starting pulse to the lamp for 10 to 15 seconds each time voltage is supplied to the ballast. If the lamp has not ignited by the end of the time period, the starter will cease pulsing. Used to eliminate the continuous high voltage pulsing of the ignitor when end of life, lamp cycling, or missing lamp conditions exist. Available for 70, 100, 150, 250 and 400 watt HPS fixtures. Add suffix "BP" to fixture catalog number.

Notes:
BP & R cannot be used together.
Q & R cannot be used together.



FACTORY SEALED
 Class I, DIV. 1 BCD
 Class II, DIV. 1&2 EFG
 CLASS III
 NEMA 3, 4X IP66
 *40°C ambient T3 Rated

PHOTO CELL FIELD KITS WITH HKB-GL BOX AND COVER	
CATALOG NUMBER	VOLTS
VMHKPC1	120VAC
VMHKPC2	208-277VAC
VMHKPC3	347VAC

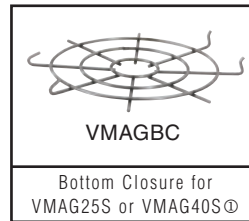


EZG1



VMAG40S

GUARDS				
CATALOG NUMBER	SERIES	LAMP TYPE	WATTAGE	DESCRIPTION
EZG1	EZS	HPS	50-150	Painted cast aluminum
	EZH	MH	70-250	
	EZP	MHP	150, 175, 250	
VMAG40S	EZH	MH	400	Cadmium plated steel
	EZP	MHP	320-400	



[Ⓞ]For VMAG40S with bottom closure order part number VMAG40SBC.



VMPSD-40



EZTB



VMPA-40



HRD-400 (pictured)
HRD-400ALZ



EZCB



EZMO

REFLECTORS	
CATALOG NUMBER	DESCRIPTION
VMPSD40	Standard dome. fiberglass reinforced polyester
VMPA40	30° Angle fiberglass reinforced polyester
HRD400	Deep dome. Aluminum with white finish [Ⓞ]
HRD400ALZ	Deep dome with specular anodized finish [Ⓞ]

REPLACEMENT CONNECTION BLOCKS AND LAMP SOCKET	
CATALOG NUMBER	DESCRIPTION
EZTB	Female (goes in splice box)
EZCB	Male (goes in top of fixture body)
EZMO	Replacement lamp socket with gasket

[Ⓞ]For clearance, wall mount models require standoff of 1/2" if not bottom feed; 1-1/2" if bottom feed.



Housing Globe & Globe Support Assemblies

NOTE: See pages L98-99 for ballast data & fuse kit information.

FEATURES-SPECIFICATIONS

HPS HOUSING GLOBE & GLOBE SUPPORT ASSEMBLIES ^①			
WATTS	ANSI LAMP TYPE	VOLTAGE	CATALOG NUMBER
50	S-68/HPS	120, 208, 240, 277/60Hz	EZS050
		220, 240V/50Hz	EZS058
70	S-62/HPS	120, 208, 240, 277/60Hz	EZS070
		480 60Hz	EZS075
		120, 277, 347/60Hz	EZS076
		220, 240V/50Hz	EZS078
100	S-54/HPS	120, 208, 240, 277/60Hz	EZS100
		480 60Hz	EZS105
		120, 277, 347/60Hz	EZS106
		220, 240V/50Hz	EZS108
150	S-55/HPS	120, 208, 240, 277/60Hz	EZS150
		480 60Hz	EZS155
		120, 277, 347/60Hz	EZS156
		220, 240V/50Hz	EZS158
250	S-50/HPS	120, 208, 240, 277/60Hz	EZS250
		480 60Hz	EZS255
		120, 277, 347/60Hz	EZS256
		220, 240V/50Hz	EZS258
400	S-51/HPS	120, 208, 240, 277/60Hz	EZS400
		480 60Hz	EZS405
		120, 277, 347/60Hz	EZS406
		220, 240V/50Hz	EZS408

^① HPS and MH assemblies may be ordered with the CEN (CENELEC) suffix; see page L164 for more information.

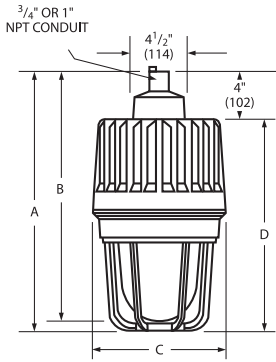
METAL HALIDE HOUSING GLOBE & GLOBE SUPPORT ASSEMBLIES ^①			
WATTS	ANSI LAMP TYPE	VOLTAGE	CATALOG NUMBER
70	M-98/MH	120, 208, 240, 277/60Hz	EZH070
		120, 277, 347V/60Hz	EZH076
		480 60Hz	EZH075
		220/240V/50Hz	EZH078
100	M-90/MH	120, 208, 240, 277/60Hz	EZH100
		120, 347V/60Hz	EZH106
		120, 220, 240V/50Hz	EZH108
		480 60Hz	EZH105
175	M-57/MH	120, 208, 240, 277/60Hz	EZH170
		480 60Hz	EZH175
		120, 277, 347V/60Hz	EZH176
		220, 240V/50Hz	EZH178
250	M-58/MH	120, 208, 240, 277/60Hz	EZH250
		480 60Hz	EZH255
		120, 277, 347V/60Hz	EZH256
		220, 240V/50Hz	EZH258
400	M-59/MH	120, 208, 240, 277/60Hz	EZH400
		480 60Hz	EZH405
		120, 277, 347V/60Hz	EZH406
		220, 240V/50Hz	EZH408

PULSE START HOUSING GLOBE & GLOBE SUPPORT ASSEMBLIES			
WATTS	ANSI LAMP TYPE	VOLTAGE	CATALOG NUMBER
175 ^②	M137/MHP	120, 208, 240, 277/60Hz	EZP170
		480	EZP175
		120, 277, 347V/60Hz	EZP176
		220, 240V/50 Hz	EZP178
250	M138/MHP	120, 208, 240, 277/60Hz	EZP250
		480	EZP255
		120, 277, 347V/60Hz	EZP256
		220, 240V/50Hz	EZP258
320	M132/MHP	120, 208, 240, 277/60Hz	EZP320
		480	EZP325
		120, 277, 347V/60Hz	EZP326
		220, 240V/50Hz	EZP328
350	M131/MHP	120, 208, 240, 277/60Hz	EZP350
		480	EZP355
		120, 277, 347V/60Hz	EZP356
		220, 240V/50Hz	EZP358
400	M135/MHP	120, 208, 240, 277/60Hz	EZP400
		480	EZP405
		120, 277, 347V/60Hz	EZP406
		220, 240V/50Hz	EZP408

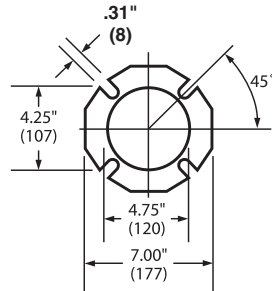
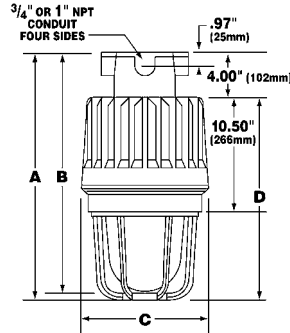
^②For 150 Watt, change "7" to "5" in catalog number. Example EZP150.



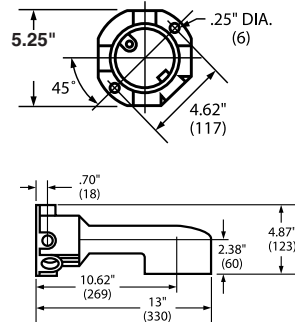
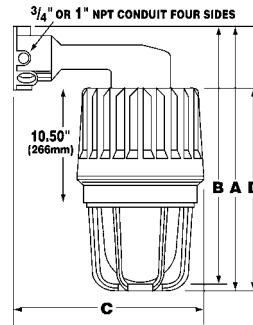
Pendant



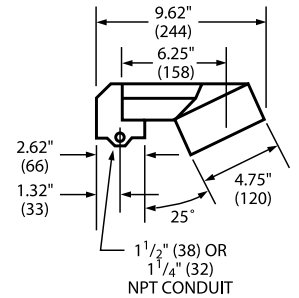
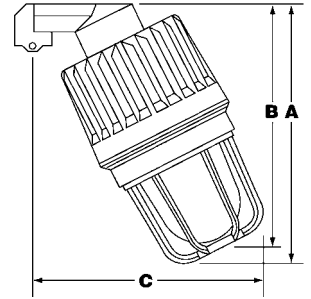
Ceiling



Wall Bracket



25° Stanchion

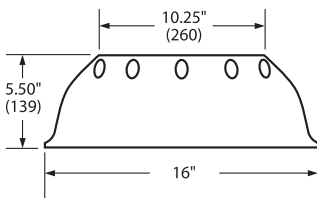


MOUNTING DIMENSIONS															
	PENDANT				CEILING				BRACKET				STANCHION		
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C
50-250W*	22" (558)	21-1/4" (539)	11-1/4" (285)	18" (457)	22" (558)	21-1/4" (539)	11-1/4" (285)	18" (457)	22-7/8" (580)	22-1/8" (561)	16-3/4" (425)	18" (457)	24-7/8" (631)	24" (609)	19-13/16" (503)
250-400W**	26-1/4" (666)	24-1/4" (615)	11-1/4" (285)	22-1/4" (565)	26-1/4" (666)	24-1/4" (615)	11-1/4" (285)	22-1/4" (565)	26-7/8" (682)	24-7/8" (631)	16-3/4" (425)	22-1/4" (565)	28-1/2" (724)	26-11/16" (678)	21-1/2" (546)

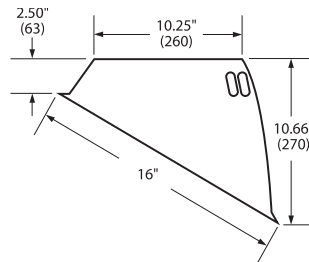
* 50, 70, 100, and 150W HPS; 70, 100, 175 and 250W MH; 150, 175, 250W MHP.
** 250 and 400W HPS, 400W MH; 320, 350, 400W MHP.

Reflector Dimensions

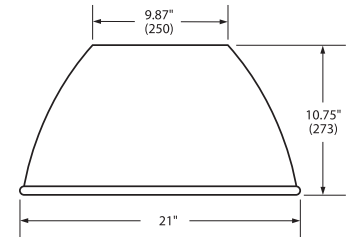
Standard Dome



Angle



Deep Dome



EZ HAZARDOUS LOCATION DATA—CLASS I, DIVISIONS 1 & 2 ①②④							
LAMP			RATED AMBIENT °C	SUPPLY WIRE SUITABLE FOR °C MIN.	CLASS I, DIVISIONS 1 & 2 MAXIMUM SURFACE TEMPERATURE UL/CSA		
SERIES	TYPE	WATTS			TEMP. I. D. W/O Q.T.Z.	TEMP. I. D. W/Q.T.Z. ③	UL/CSA GROUPS
EZS	HPS	50	40	85	T5	T4	C, D
			55	85	T5	N/A	C, D
			65	85	T4A	N/A	C, D
		70	40	85	T5	T4	C, D
			55	85	T5	N/A	C, D
			65	85	T4A	N/A	C, D
		100	40	85	T5	T4	C, D
			55	85	T5	N/A	C, D
			65	85	T4A	N/A	C, D
		150	40	85	T4A	T4	C, D
			55	85	T4A	N/A	C, D
			65	85	T4	N/A	C, D
		250	40	85	T3C	T3C	C, D
			55	85	T3C	N/A	C, D
400	40		85	T3C	T3C	C, D	
EZH	MH	70	40	85	T4A	N/A	C, D
			55	85	T4A	N/A	C, D
			65	85	T4A	N/A	C, D
		100	40	85	T4A	N/A	C, D
			55	85	T4A	N/A	C, D
			65	85	T4A	N/A	C, D
		175	40	85	T4	T3C	C, D
			55	85	T4	N/A	C, D
		250	40	85	T3C	T3C	C, D
			55	85	T3C	N/A	C, D
EZP	MHP	150 or 175	40	85	T4	T3C	C, D
			55	85	T4	N/A	C, D
		250	40	85	T3C	T3C	C, D
			55	25	T3C	N/A	C, D
		320	40	85	T3A	T3A	C, D
		350	40	85	T3A	T3A	C, D
		400	40	85	T3A	T3A	C, D



CEN Option

Applications

Killark EZ series fixtures are available with a European “Certificate of Conformity” from PTB (Physikalisch-Technische Bundesanstalt), the approval agency based in Germany. Fixtures with this rating will be useful for Original Equipment Manufacturers and others who build and ship apparatus into European markets.

This approval is granted by PTB with the use of a special ground lug and label. Fixtures carrying an EEx d IIB approval are automatically granted an IP54 (ingress protection) rating. See Temperature Code chart below for PTB certified ratings. Killark EZ fixtures with the PTB rating and labels still carry all UL & CSA ratings.

Fixture housing/globe/globe support assemblies (e.g. EMS050 CEN) may be ordered with the CEN suffix. Complete fixture numbers, with the CEN suffix, will be shipped with the mounting boxes, guards and accessories as component parts. Reflectors and other accessory parts, as listed on pages L144-145, may be used. Killark fixtures are NPT tapped and plugged with at least one conduit hole open.

Compliances

- EN 50014:1992
- EN 50018:1994



EEx d IIB T6 (or T5-T2)
PTB No. Ex-98.E.1076

Notes for Class I, II, III Application Data Tables.

① Instant restrike limited to 55°C ambient maximum.

* ② Temperature code ID marked with an asterisk on Class II table are listed for simultaneous use in Class I, Groups C, D, and Class II, Groups E, F, G or Groups E, F.

③ Fixtures marked “N/A” not suitable for Class II applications when supplied with auxiliary quartz.

④ See Class II table for fixtures suitable for locations having deposits of readily combustible paint residue (paint spray booths).

Do not install where marked operating temperature exceeds ignition temperature of hazardous atmosphere.

See page L165 for Class II, III tables.

MAXIMUM AMBIENT TEMPERATURE RANGE -20°C TO 40°C				
TYPE OF LUMINAIRE	TYPE OF ENCLOSURE	FORM OF THE LAMP	MAXIMUM WATTAGE	TEMPERATURE CLASS
EZH50	EZ025	ED28/M-110	50W	T4
EZH70	EZ025	ED28/M-98	70W	T4
EZH10	EZ025	ED28/M-90	100W	T4
EZH15	EZ025	ED28/M-102	150W	T4
EZH17	EZ025	ED28/M-57	175W	T4
EZH25	EZ025	ED28/M-58	250W	T3
EZH40	EZ040	ED37/M-59	400W	T3
EZS50	EZ025	ED23-1/2/S-68	50W	T4
EZS70	EZ025	ED23-1/2/S-62	70W	T4
EZS10	EZ025	ED23-1/2/S-54	100W	T4
EZS15	EZ025	ED23-1/2/S-55	150W	T4
EZS25	EZ040	ED18/S-50	250W	T3
EZS40	EZ040	ED18/S-51	400W	T3



EZ HAZARDOUS LOCATION DATA ^① —CLASS II & III, DIVISIONS 1 & 2 ^{① ②}														
LAMP			RATED AMBIENT °C	SUPPLY WIRE SUITABLE FOR C°	CLASS II, DIV. 1 & 2, MAX. SURFACE TEMP. UL/CSA SUITABILITY				CLASS III, DIV. 1 & 2 UL/CSA SUITABILITY		UL-595 MARINE	U.L. PAINT SPRAY SUITABILITY ^④	UL/CSA TYPE 3 (RAINTIGHT)	UL/CSA TYPE 4 (HOSEDOWN)
LAMP					TEMP. I.D. W/O QTZ.	TEMP. I.D. WITH QTZ ^③	GROUPS		W/O QTZ.	WITH QTZ ^③				
EZS	HPS	50	40	85	T3C*	T3B*	E,F	E,F,G	YES	YES	YES	YES	YES	YES
			55	85	T3C*	N/A	E,F,G	N/A	YES	NO	YES	NO	YES	YES
			85	T3B*	N/A	E,F,G	N/A	YES	NO	YES	NO	YES	YES	
EZS	HPS	70	85	85	T3C*	T3B*	E,F,G	E,F,G	YES	NO	YES	YES	YES	YES
			55	85	T3C*	N/A	E,F,G	N/A	YES	NO	YES	NO	YES	YES
			65	85	T3B*	N/A	E,F,G	N/A	YES	YES	YES	NO	YES	YES
EZS	HPS	100	40	85	T3C*	T3B*	E,F,G	E,F,G	YES	NO	YES	YES	YES	YES
			55	85	T3C*	N/A	E,F,G	N/A	YES	NO	YES	NO	YES	YES
			65	85	T3B*	N/A	E,F,G	N/A	YES	YES	YES	NO	YES	YES
EZS	HPS	150	40	85	T3C*	T3B*	E,F,G	E,F,G	YES	YES	YES	NO	YES	YES
			55	85	T3C*	N/A	E,F	N/A	YES	YES	YES	NO	YES	YES
			65	85	T3B*	N/A	E,F,G	N/A	YES	YES	YES	NO	YES	YES
EZS	HPS	250	40	85	T3	T3	E,F	E,F	NO	NO	YES	NO	YES	YES
EZS	HPS	400	40	85	N/A	N/A	N/A	N/A	NO	NO	YES	NO	YES	YES
EZH	MH	70	40	85	T4A	N/A	E,F	N/A	YES	NO	YES	YES	YES	YES
			55	85	T4	N/A	E,F,G	N/A	YES	NO	YES	NO	YES	YES
			65	85	T3C	N/A	E,F	N/A	YES	NO	YES	NO	YES	YES
EZH	MH	100	40	85	T4A	N/A	E,F,G	N/A	YES	NO	YES	YES	YES	YES
			55	85	T4	N/A	E,F,G	N/A	YES	NO	YES	NO	YES	YES
			65	85	T3C	N/A	E,F,G	N/A	YES	NO	YES	NO	YES	YES
EZH	MH	175	40	85	T3C*	T3A*	E,F,G	N/A	YES	NO	YES	NO	YES	YES
			55	85	T3C*	N/A	E,F,G	N/A	YES	NO	YES	NO	YES	YES
EZH	MH	250	40	85	N/A	N/A	N/A	N/A	NO	NO	YES	NO	YES	YES
EZH	MH	400	40	85	N/A	N/A	N/A	N/A	NO	NO	YES	NO	YES	YES
EZP	MHP	150 or 175	40	85	T3C*	T3A*	E,F,G	EF	YES	NO	YES	NO	YES	YES
			55	85	T3C*	N/A	E,F,G	N/A	YES	NO	YES	NO	YES	YES
EZP	MHP	250	40	85	N/A	N/A	N/A	N/A	NO	NO	YES	NO	YES	YES
EZP	MHP	320, 350	40	85	N/A	N/A	N/A	N/A	NO	NO	YES	NO	YES	YES
EZP	MHP	400	40	85	N/A	N/A	N/A	N/A	NO	NO	YES	NO	YES	YES

Notes for Class I, II, III Application Data Tables.

① Instant restrike limited to 55°C ambient maximum.

* ② Temperature code ID marked with an asterisk on Class II table are listed for simultaneous use in Class I, Groups C, D, and Class II, Groups E, F, G or Groups E, F.

③ Fixtures marked "NO" or "N/A" are not suitable for Class II or III applications when supplied with auxiliary quartz.

④ Suitability for locations having deposits of readily combustible paint residue (paint spray booths).

Do not install where marked operating temperature exceeds ignition temperature of hazardous atmosphere.

See page L164 for Class I data.

TABLE N.E.C. 500-5 (d)		
I.D. NUMBER	DEGREES C	DEGREES F
T1	450	842
T2	300	572
T2A	280	536
T2B	260	500
T2C	230	446
T2D	215	419
T3	200	392
T3A	180	356
T3B	165	329
T3C	160	320
T4	135	275
T4A	120	248
T5	100	212
T6	85	185

HIGH PRESSURE SODIUM
With Globe Only
50 – 150 Watt Mogul Base

CANDLEPOWER – 100 WATT
E-23½ clear lamp
9500 lumens

For 50 watt multiply by .42
For 70 watt multiply by .67
For 150 watt multiply by 1.68

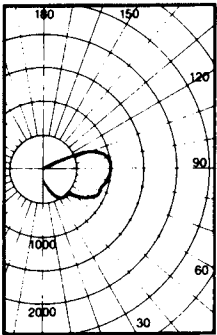
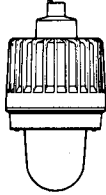


Table with 4 columns: ANGLE, CP, ANGLE, CP. Lists candlepower values for various beam angles from 0 to 85 degrees. Efficiency 75.7%.

HIGH PRESSURE SODIUM
With Globe and Standard Dome Reflector
50 – 150 Watt Mogul Base

CANDLEPOWER – 100 WATT
E-23½ clear lamp
9500 lumens

For 50 watt multiply by .42
For 70 watt multiply by .67
For 150 watt multiply by 1.68

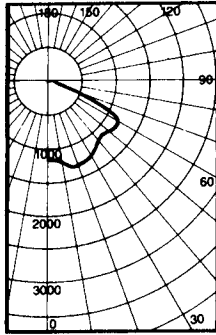
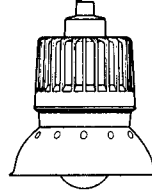


Table with 4 columns: ANGLE, CP, ANGLE, CP. Lists candlepower values for various beam angles from 0 to 85 degrees. Efficiency 55.9%.

HIGH PRESSURE SODIUM
With Globe and Deep Dome HRD-400 Reflector
50 – 150 Watt Mogul Base

CANDLEPOWER – 100 WATT
E-23½ clear lamp
9500 lumens

For 50 watt multiply by .42
For 70 watt multiply by .67
For 150 watt multiply by 1.68

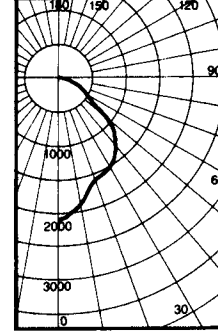
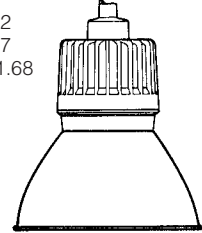


Table with 4 columns: ANGLE, CP, ANGLE, CP. Lists candlepower values for various beam angles from 0 to 90 degrees. Efficiency 46.8%.

COEFFICIENTS OF UTILIZATION — ZONAL CAVITY METHOD

Table showing Coefficients of Utilization for different room cavity ratios and ceiling/wall reflectance levels.

SPACING TO MOUNTING HEIGHT RATIO — S/MH = 3.7
SPACING CRITERION — SC = 3.6

COEFFICIENTS OF UTILIZATION — ZONAL CAVITY METHOD

Table showing Coefficients of Utilization for different room cavity ratios and ceiling/wall reflectance levels.

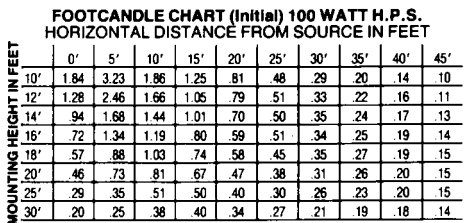
SPACING TO MOUNTING HEIGHT RATIO — S/MH = 1.6
SPACING CRITERION — SC = 1.6

COEFFICIENTS OF UTILIZATION — ZONAL CAVITY METHOD

Table showing Coefficients of Utilization for different room cavity ratios and ceiling/wall reflectance levels.

SPACING TO MOUNTING HEIGHT RATIO — S/MH = 1.1
SPACING CRITERION — SC = 1.1

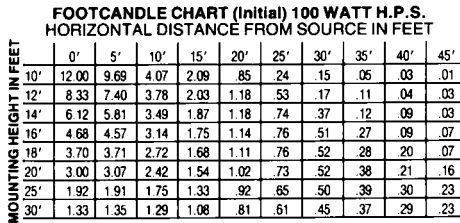
ILLUMINATION ON HORIZONTAL SURFACE



FC = (Candlepower) (COS Ø)
DISTANCE²

Test No. LSI-9182

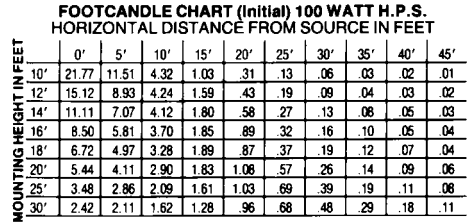
ILLUMINATION ON HORIZONTAL SURFACE



FC = (Candlepower) (COS Ø)
DISTANCE²

Test No. LSI-9228

ILLUMINATION ON HORIZONTAL SURFACE



FC = (Candlepower) (COS Ø)
DISTANCE²

Test No. LSI-9230

HIGH PRESSURE SODIUM
With Globe and Angle Reflector
50 - 150 Watt Mogul Base

CANDLEPOWER - 100 WATT
E-23½ clear lamp
9500 lumens

For 50 watt multiply by .42
For 70 watt multiply by .67
For 150 watt multiply by 1.68

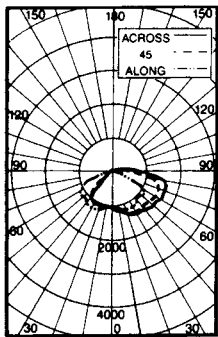
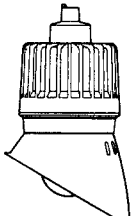


Table with columns for ANGLE (0 to 180 degrees) and CANDLEPOWER (CP) values at various angles. Efficiency is noted as 57.4%.

HIGH PRESSURE SODIUM
With Globe Only
250 - 400 Watt Mogul Base

CANDLEPOWER - 400 WATT
E-18 clear lamp
50000 lumens

For 250 watt multiply by .60

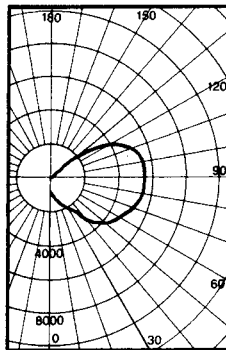
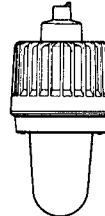


Table with columns for ANGLE and CANDLEPOWER (CP) values. Efficiency is noted as 88.8%.

HIGH PRESSURE SODIUM
With Globe and Standard Dome Reflector
250 - 400 Watt Mogul Base

CANDLEPOWER - 400 WATT
E-18 clear lamp
50000 lumens

For 250 watt multiply by .60

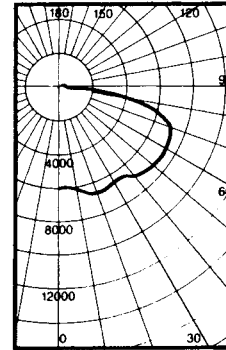
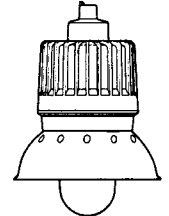


Table with columns for ANGLE and CANDLEPOWER (CP) values. Efficiency is noted as 75.1%.

COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Table showing coefficients of utilization based on ceiling, wall, and room cavity ratios for different floor cavity reflectances.

SPACING TO MOUNTING HEIGHT RATIO - S/MH = 2.0
SPACING CRITERION (Along) - SC = 1.6
SPACING CRITERION (Across) - SC = 2.0

COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Table showing coefficients of utilization based on ceiling, wall, and room cavity ratios for different floor cavity reflectances.

SPACING TO MOUNTING HEIGHT RATIO - S/MH = 4.0
SPACING CRITERION - SC = 3.8

COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Table showing coefficients of utilization based on ceiling, wall, and room cavity ratios for different floor cavity reflectances.

SPACING TO MOUNTING HEIGHT RATIO - S/MH = 1.7
SPACING CRITERION - SC = 1.7

ILLUMINATION ON HORIZONTAL SURFACE

Footcandle chart for 100 Watt H.P.S. lamp showing footcandle values at various distances and mounting heights.

Test No. LSI-9229

ILLUMINATION ON HORIZONTAL SURFACE

Footcandle chart for 400 Watt H.P.S. lamp showing footcandle values at various distances and mounting heights.

Test No. LSI-9055

ILLUMINATION ON HORIZONTAL SURFACE

Footcandle chart for 400 Watt H.P.S. lamp showing footcandle values at various distances and mounting heights.

Test No. LSI-9056

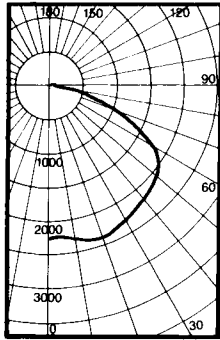
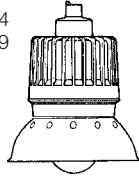


KILLARK®

**METAL HALIDE,
PULSE START METAL HALIDE**
With Globe and Standard Dome Reflector
70 – 250 Watt Mogul Base

CANDLEPOWER – 175 WATT MH
E-28 coated MH (14000 lumens)

For CP of 70W MH multiply by .40
For CP of 100W MH multiply by .56
For CP of 150W MH multiply by .96
For CP of 250W MH multiply by 1.46
For CP of 175W MHP multiply by 1.14
For CP of 250W MHP multiply by 1.69



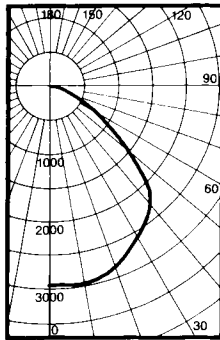
ANGLE	CP	ANGLE	CP
0	2324	90.0	30.
5.0	2353	95.0	37.
10.0	2417	100.0	56.
15.0	2464	105.0	69.
20.0	2477	110.0	64.
25.0	2440	115.0	41.
30.0	2374	120.0	19.
35.0	2311	125.0	4.
40.0	2248	130.0	0.
45.0	2184	135.0	0.
50.0	2114	140.0	0.
55.0	1988	145.0	0.
60.0	1711	150.0	0.
65.0	1299	155.0	0.
70.0	851	160.0	0.
75.0	493	165.0	0.
80.0	234	170.0	0.
85.0	94	175.0	0.
		180.0	0.

Efficiency 64.6%

**METAL HALIDE,
PULSE START METAL HALIDE**
With Globe and Deep Dome HRD-400 Reflector
70 – 250 Watt Mogul Base

CANDLEPOWER – 175 WATT MH
E-28 coated MH (14000 lumens)

For CP of 70W MH multiply by .40
For CP of 100W MH multiply by .56
For CP of 150W MH multiply by .96
For CP of 250W MH multiply by 1.46
For CP of 175W MHP multiply by 1.14
For CP of 250W MHP multiply by 1.69



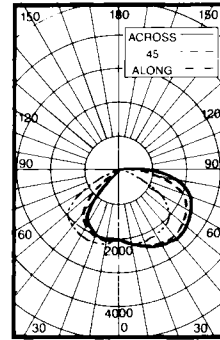
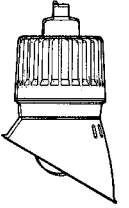
ANGLE	CP	ANGLE	CP
0	3034	90.0	30.
5.0	3041	95.0	37.
10.0	3050	100.0	56.
15.0	3005	105.0	69.
20.0	2987	110.0	64.
25.0	2769	115.0	41.
30.0	2636	120.0	19.
35.0	2486	125.0	4.
40.0	2343	130.0	0.
45.0	2034	135.0	0.
50.0	1489	140.0	0.
55.0	1006	145.0	0.
60.0	682	150.0	0.
65.0	502	155.0	0.
70.0	366	160.0	0.
75.0	233	165.0	0.
80.0	125	170.0	0.
85.0	31	175.0	0.
90.0	0	180.0	0.

Efficiency 51.9%

**METAL HALIDE,
PULSE START METAL HALIDE**
With Globe and Angle Reflector
70 – 250 Watt Mogul Base

CANDLEPOWER – 175 WATT MH
E-28 coated MH (14000 lumens)

For CP of 70W MH multiply by .40
For CP of 100W MH multiply by .56
For CP of 150W MH multiply by .96
For CP of 250W MH multiply by 1.46
For CP of 175W MHP multiply by 1.14
For CP of 250W MHP multiply by 1.69



ANGLE	90	45	0
0	2119	2119	2119
5.0	2161	2211	2184
15.0	2295	2386	2402
25.0	2261	2522	2565
35.0	2208	2610	2678
45.0	2116	2545	2711
55.0	1717	2405	2590
65.0	915	2211	2412
75.0	300	1675	2077
85.0	32	873	1452
90.0	0	636	1146
95.0	0	432	845
105.0	0	72	263
115.0	4	0	49
125.0	0	0	0
135.0	2	0	0
145.0	0	0	0
155.0	0	0	0
165.0	3	0	0
175.0	4	0	0
180.0	0	0	0

Efficiency 63.6%

COEFFICIENTS OF UTILIZATION — ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE ρ_{cc}	80					70					50					30					10					0									
	70	50	30	10	0	70	50	30	10	0	50	30	10	0	50	30	10	0	50	30	10	0	50	30	10	0									
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance																																		
	0	77	77	77	75	75	75	71	71	68	68	68	65	65	65	64	0																		
	1	70	68	65	63	69	66	64	61	63	61	59	60	59	57	58	57	55	54	0															
	2	64	59	55	52	63	58	54	51	55	52	50	53	51	48	51	49	47	46	0															
	3	59	52	47	43	57	51	46	42	49	45	42	47	44	41	45	42	40	38	0															
	4	54	46	41	36	52	45	40	36	43	39	35	42	38	35	40	37	34	33	0															
	5	49	41	35	31	48	40	34	31	38	34	30	37	33	30	36	32	29	28	0															
	6	45	36	30	26	43	35	30	26	34	29	26	33	29	25	32	28	25	24	0															
	7	41	32	26	22	40	31	26	22	30	25	22	29	25	21	28	24	21	20	0															
	8	38	29	23	19	37	28	23	19	27	22	19	26	22	19	26	22	19	17	0															
	9	35	26	20	17	34	26	20	17	25	20	17	24	19	16	23	19	16	15	0															
10	32	24	18	15	31	23	18	15	22	18	14	22	17	14	21	17	14	13	0																

SPACING TO MOUNTING HEIGHT RATIO — S/MH = 1.5
SPACING CRITERION — SC = 1.5

COEFFICIENTS OF UTILIZATION — ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE ρ_{cc}	80					70					50					30					10					0											
	70	50	30	10	0	70	50	30	10	0	50	30	10	0	50	30	10	0	50	30	10	0	50	30	10	0											
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance																																				
	0	62	62	62	60	60	60	58	58	55	55	55	53	53	53	53	XX	0																			
	1	58	56	54	52	56	55	53	52	52	51	50	50	49	48	49	48	47	XX	0																	
	2	54	50	48	45	52	49	47	45	48	45	44	46	44	43	45	43	42	XX	0																	
	3	50	45	42	39	49	44	41	39	43	40	38	42	39	37	40	39	38	XX	0																	
	4	46	41	37	34	45	40	37	34	39	36	34	38	35	33	37	35	33	XX	0																	
	5	43	37	33	30	42	37	33	30	36	32	30	35	32	30	34	31	29	XX	0																	
	6	40	34	30	27	39	33	29	27	32	29	26	31	28	26	31	28	26	XX	0																	
	7	37	30	26	24	36	30	26	23	29	26	23	28	25	23	28	25	23	XX	0																	
	8	34	28	24	21	33	27	23	21	27	23	21	26	23	20	25	22	20	XX	0																	
	9	32	25	21	18	31	25	21	18	24	21	18	24	20	18	23	20	18	XX	0																	
10	29	23	19	16	29	23	19	16	22	19	16	22	18	16	21	18	16	XX	0																		

SPACING TO MOUNTING HEIGHT RATIO — S/MH = 1.3
SPACING CRITERION — SC = 1.3

COEFFICIENTS OF UTILIZATION — ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE ρ_{cc}	80					70					50					30					10					0												
	70	50	30	10	0	70	50	30	10	0	50	30	10	0	50	30	10	0	50	30	10	0	50	30	10	0												
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance																																					
	0	75	75	75	73	73	73	69	69	69	66	66	66	62	62	62	61	0																				
	1	68	64	61	58	66	63	60	57	59	57	55	56	54	53	54	52	51	46	0																		
	2	61	56	51	47	60	54	50	47	52	48	45	49	46	44	47	44	42	41	0																		
	3	56	49	43	39	54	48	43	39	45	41	38	43	40	37	41	38	36	34	0																		
	4	51	43	38	33	50	42	37	33	40	36	32	39	35	32	37	34	31	29	0																		
	5	47	39	33	28	45	38	32	28	36	31	28	34	30	27	33	29	26	25	0																		
	6	43	34	29	24	42	34	28	24	32	27	24	31	27	23	30	26	23	24	0																		
	7	39	31	25	21	38	30	25	21	29	24	20	27	23	20	26	22	20	18	0																		
	8	37	28	22	18	35	27	22	18	26	21	18	25	21	17	24	20	17	16	0																		
	9	34	25	20	16	33	25	19	16	23	19	16	23	19	16	23	18	15	14	0																		
10	31	23	17	14	30	22	17	14	21	17	14	21	17	14	21	16	13	12	0																			

SPACING TO MOUNTING HEIGHT RATIO — S/MH = 1.9
SPACING CRITERION (Along) — SC = 1.6
SPACING CRITERION (Across) — SC = 1.9

ILLUMINATION ON HORIZONTAL SURFACE

FOOTCANDLE CHART (Initial) 175 WATT M.H.
HORIZONTAL DISTANCE FROM SOURCE IN FEET

MOUNTING HEIGHT IN FEET

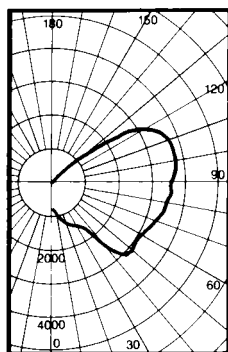
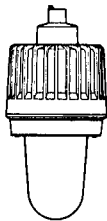
METAL HALIDE, PULSE START METAL HALIDE

With Globe Only
320 - 400 Watt Mogul Base

CANDLEPOWER – 400 WATT MH

E-37 coated MH
36000 lumens

For CP of MHP320 multiply by .87
For CP of MHP350 multiply by 1.05
For CP of MHP400 multiply by 1.22



ANGLE	CP	ANGLE	CP
0	812	90	3511
5	872	95	3591
10	1029	100	3634
15	1187	105	3626
20	1295	110	3551
25	1376	115	3397
30	1471	120	3063
35	1778	125	2392
40	2519	130	1443
45	3028	135	592
50	3051	140	136
55	3016	145	8
60	3076	150	0
65	3180	155	0
70	3299	160	0
75	3389	165	0
80	3419	170	0
85	3452	175	0
		180	0

Efficiency 87.3%

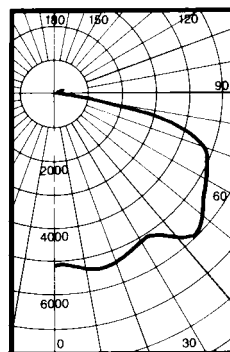
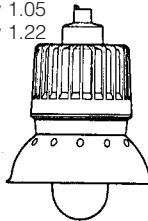
METAL HALIDE, PULSE START METAL HALIDE

With Globe and Standard Dome Reflector
320 - 400 Watt Mogul Base

CANDLEPOWER – 400 WATT MH

E-37 coated MH
36000 lumens

For CP of MHP320 multiply by .87
For CP of MHP350 multiply by 1.05
For CP of MHP400 multiply by 1.22



ANGLE	CP	ANGLE	CP
0	5056	90	121
5	5108	95	90
10	5242	100	83
15	5305	105	118
20	5263	110	203
25	5173	115	280
30	5051	120	258
35	5085	125	145
40	5577	130	36
45	5819	135	0
50	5578	140	0
55	5270	145	0
60	5043	150	0
65	4836	155	0
70	4477	160	0
75	3216	165	0
80	1382	170	0
85	444	175	0
		180	0

Efficiency 72.5%

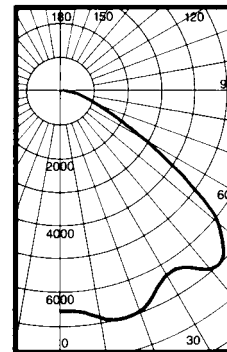
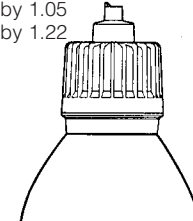
METAL HALIDE, PULSE START METAL HALIDE

With Globe and Deep Dome Reflector
320 - 400 Watt Mogul Base

CANDLEPOWER – 400 WATT MH

E-37 coated MH
36000 lumens

For CP of MHP320 multiply by .87
For CP of MHP350 multiply by 1.05
For CP of MHP400 multiply by 1.22



ANGLE	CP	ANGLE	CP
0	6505	90	90
5	6587	95	90
10	6777	100	83
15	6930	105	118
20	6884	110	203
25	6636	115	280
30	6269	120	258
35	6329	125	145
40	6870	130	36
45	6882	135	0
50	5778	140	0
55	3859	145	0
60	2305	150	0
65	1704	155	0
70	1190	160	0
75	743	165	0
80	397	170	0
85	100	175	0
90	0	180	0

Efficiency 58.2%

COEFFICIENTS OF UTILIZATION — ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE ρ_{cc}	80			70			50			30			10			0		
	70	50	30	70	50	30	70	50	30	70	50	30	70	50	30	10		
0	95	95	95	95	88	88	88	76	76	65	65	65	54	54	54	49		
1	82	76	70	66	75	70	65	61	59	55	52	49	46	44	40	38	36	31
2	72	63	56	49	66	58	51	46	49	43	39	40	36	32	32	29	26	22
3	64	54	45	39	59	49	42	36	41	35	30	34	29	25	27	23	20	16
4	58	47	38	31	53	43	35	29	36	29	25	29	24	20	23	19	16	13
5	53	40	32	26	48	37	29	24	31	25	20	25	20	16	20	16	13	10
6	48	36	27	21	44	33	25	19	27	21	16	22	17	13	17	13	10	07
7	44	31	23	18	40	29	21	16	24	18	13	19	14	11	15	11	08	06
8	40	28	20	15	37	26	19	14	21	16	11	18	13	09	14	10	07	05
9	37	25	18	13	34	23	16	12	19	14	10	16	11	08	12	08	06	04
10	35	23	16	11	32	21	14	10	18	12	08	14	10	06	11	07	05	03

SPACING TO MOUNTING HEIGHT RATIO — S/MH = 3.4
SPACING CRITERION — SC = 3.3

COEFFICIENTS OF UTILIZATION — ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE ρ_{cc}	80			70			50			30			10			0		
	70	50	30	70	50	30	70	50	30	70	50	30	70	50	30	10		
0	86	86	86	86	84	84	84	80	80	80	80	76	76	76	72	72	71	
1	78	74	70	67	75	72	69	66	68	66	63	65	63	61	62	61	59	57
2	70	63	58	53	68	61	56	52	58	54	51	56	52	49	53	50	48	46
3	62	54	47	42	60	53	47	42	50	45	41	48	44	40	46	42	39	37
4	57	47	40	35	55	46	40	35	44	38	34	42	37	33	40	36	33	31
5	52	41	34	29	50	40	34	29	38	33	28	37	32	28	35	31	27	25
6	47	36	29	24	45	35	29	24	34	28	24	32	27	23	31	26	23	21
7	43	32	25	20	41	31	25	20	30	24	20	29	23	19	28	23	19	17
8	39	29	22	17	38	28	22	17	27	21	17	26	21	17	25	20	16	15
9	36	26	19	15	35	25	19	15	24	19	15	23	18	14	22	18	14	13
10	34	23	17	13	33	23	17	13	22	16	13	21	16	12	20	16	12	11

SPACING TO MOUNTING HEIGHT RATIO — S/MH = 1.7
SPACING CRITERION — SC = 1.7

COEFFICIENTS OF UTILIZATION — ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE ρ_{cc}	80			70			50			30			10			0		
	70	50	30	70	50	30	70	50	30	70	50	30	70	50	30	10		
0	69	69	69	69	68	68	68	68	65	65	65	62	62	62	59	59	59	
1	64	62	60	58	63	61	59	57	58	57	55	56	55	54	54	53	52	51
2	59	56	52	49	58	54	51	49	52	50	48	51	48	47	49	47	46	44
3	55	49	45	42	53	49	45	42	47	44	41	45	43	40	44	42	40	38
4	51	44	40	36	49	44	40	36	42	39	36	41	38	35	40	37	35	34
5	47	40	35	31	45	39	35	31	38	34	31	37	33	31	36	33	30	29
6	43	36	31	27	42	35	30	27	34	30	27	34	30	27	32	29	26	25
7	39	32	27	23	38	31	27	23	30	26	23	29	26	23	29	25	23	22
8	36	28	24	20	35	28	23	20	27	23	20	27	23	20	26	22	20	19
9	33	26	21	18	32	25	21	18	24	20	17	24	20	17	23	20	17	16
10	31	23	18	15	30	23	18	15	22	18	15	22	18	15	21	18	15	14

SPACING TO MOUNTING HEIGHT RATIO — S/MH = 1.6
SPACING CRITERION — SC = 1.6

ILLUMINATION ON HORIZONTAL SURFACE

FOOTCANDLE CHART (Initial) 400 WATT M.H.
HORIZONTAL DISTANCE FROM SOURCE IN FEET

MOUNTING HEIGHT IN FEET	0'	5'	10'	15'	20'	25'	30'	35'	40'	45'
10'	8.12	9.85	10.71	5.15	2.84	1.69	1.04	0.70	0.48	0.35
12'	5.64	7.52	7.93	5.17	2.91	1.79	1.17	0.78	0.56	0.40
14'	4.14	5.52	4.89	4.91	2.90	1.83	1.23	0.86	0.61	0.45
16'	3.17	4.03	3.50	4.59	2.91	1.85	1.25	0.89	0.66	0.49
18'	2.51	3.28	3.03	3.53	2.82	1.86	1.29	0.94	0.68	0.52
20'	2.03	2.71	2.46	2.28	2.68	1.86	1.29	0.94	0.71	0.53
25'	1.30	1.55	1.66	1.48	1.92	1.71	1.28	0.95	0.73	0.56
30'	0.90	1.10	1.23	1.19	1.14	1.27	1.19	0.93	0.72	0.57

FC = (Candlepower) (COS θ)
DISTANCE²

Test No. LSI-9051

ILLUMINATION ON HORIZONTAL SURFACE

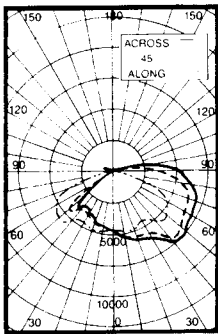
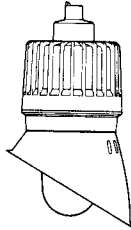
FOOTCANDLE CHART (Initial) 400 WATT M.H.
HORIZONTAL DISTANCE FROM SOURCE IN FEET

MOUNTING HEIGHT IN FEET	0'	5'	10'	15'	20'	25'	30'	35'	40'	45'
10'	50.56	37.02	20.57	9.00	4.33	2.29	1.42	0.67	0.46	0.14
12'	35.11	28.26	17.56	9.44	4.77	2.72	1.59	1.06	0.53	0.38
14'	25.80	22.43	13.98	9.43	5.07	3.00	1.87	1.17	0.82	0.43
16'	19.75	18.02	12.03	8.83	5.31	3.23	2.06	1.36	0.90	0.66
18'	15.61	14.65	10.41	7.80	5.15	3.25	2.12	1.43	1.03	0.71
20'	12.64	12.11	9.25	6.51	5.14	3.40	2.25	1.54	1.08	0.81
25'	8.09	7.91	6.74	5.10	4.25	3.29	2.34	1.66	1.20	0.92
30'	5.62	5.59	4.99	4.11	3.26	2.81	2.29	1.71	1.27	1.00

**METAL HALIDE,
 PULSE START METAL HALIDE**
 With Globe and Angle Reflector
 320 - 400 Watt Mogul Base

CANDLEPOWER – 400 WATT MH
 E-37 coated MH
 36000 lumens

For CP of MHP320 multiply by .87
 For CP of MHP350 multiply by 1.05
 For CP of MHP400 multiply by 1.22



ANGLE	90	45	0
0	4595	4595	4595
5.0	4618	4919	4939
15.0	4793	5333	5517
25.0	4570	5472	5935
35.0	4805	5945	6540
45.0	5494	7013	7441
55.0	5056	6497	7083
65.0	4155	6198	6846
75.0	1238	5725	6557
85.0	227	4475	5586
90.0	85	3287	5204
95.0	48	2003	4052
105.0	8	337	1296
115.0	0	24	163
125.0	0	0	0
135.0	0	0	0
145.0	0	0	0
155.0	0	0	0
165.0	0	0	0
175.0	0	0	0
180.0	0	0	0

Efficiency 70.2%

COEFFICIENTS OF UTILIZATION — ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE ρ_c	80					70					50					30					10					0
	70	50	30	10	0	70	50	30	10	0	50	30	10	0	50	30	10	0	50	30	10	0				
0	82	82	82	80	80	80	80	80	80	75	75	75	71	71	71	67	67	67	66	66	66	66	66			
1	73	69	65	62	71	67	63	60	63	60	57	59	57	55	56	54	52	50	52	50	48	45	42	40		
2	66	59	54	49	63	57	52	48	54	50	46	51	47	44	48	45	42	40	42	40	38	35	33	33		
3	59	51	44	39	57	49	43	39	47	41	37	44	40	36	41	38	35	33	33	33	33	29	28	28		
4	54	45	38	33	52	44	37	32	41	36	31	39	34	30	37	33	29	28	28	28	28	25	23	23		
5	49	39	33	27	47	38	32	27	36	31	26	34	29	26	32	28	25	23	23	23	23	20	19	19		
6	45	35	28	23	43	34	27	23	32	26	22	30	25	22	29	24	21	19	19	19	19	16	15	15		
7	41	31	24	20	40	30	24	19	28	23	19	27	22	18	25	21	18	16	16	16	16	13	12	12		
8	38	28	21	17	36	27	21	17	25	20	16	24	19	16	23	19	15	14	14	14	14	11	10	10		
9	35	25	19	14	34	24	18	14	23	18	14	22	17	13	21	16	13	12	12	12	12	9	8	8		
10	32	22	16	12	31	22	16	12	21	16	12	20	15	12	19	14	11	10	10	10	10	7	6	6		

SPACING TO MOUNTING HEIGHT RATIO — S/MH = 2.2
 SPACING CRITERION (Along) — SC = 1.7
 SPACING CRITERION (Across) — SC = 2.2

ILLUMINATION ON HORIZONTAL SURFACE

FOOTCANDLE CHART (Initial) 400 WATT M.H.							FOOTCANDLE CHART (Initial) 400 WATT M.H.								
HORIZONTAL DISTANCE FROM SOURCE (Front) IN FEET							HORIZONTAL DISTANCE FROM SOURCE (Side) IN FEET								
0	5	10	15	20	25	30	0	5	10	15	20	25	30		
10	45.96	42.47	26.31	12.26	6.12	3.47	2.14	10	45.96	32.70	19.42	8.63	3.72	1.42	87
20	31.91	22.42	22.08	13.26	6.57	3.65	2.41	20	31.91	24.86	16.01	9.13	4.51	1.24	96
40	23.44	24.40	17.98	12.06	6.82	4.14	2.64	40	23.44	20.07	12.66	8.90	4.87	2.94	1.60
50	17.95	18.74	14.62	11.29	6.96	4.33	2.83	50	17.95	16.28	10.74	8.33	5.14	3.06	1.94
80	14.18	15.23	12.66	10.26	6.75	4.36	2.92	80	14.18	13.23	9.29	7.14	4.98	3.11	2.01
100	11.49	12.56	10.62	8.77	6.58	4.45	3.02	100	11.49	10.94	8.18	5.89	4.86	3.29	2.16
200	7.35	8.01	7.33	6.15	5.58	4.27	3.07	200	7.35	7.17	6.28	4.55	3.89	3.11	2.26

FC = (Candlepower) (COS θ) / DISTANCE²

Test No. LSI-9053

CERTILITE[®] DESIGN
LIGHTING DESIGN SOFTWARE

**POWERFUL
 Luminaire Layout
 and Calculation
 Software**



Software is used to determine number of fixtures required and their proper layout for various tasks and applications.

Contact you local Killark sales representative for availability.



Class I, Div. 2, Groups A,B,C,D[Ⓢ]
Class I, Zone 2, Groups IIC,IIB,IIA
Class II, Div. 1 & 2, Groups E,F,G[Ⓢ]
Class III, Div. 1 & 2
Suitable for wet locations
NEMA 3, 4

Listed - File E12976

Certified - File LR11713

FEATURES-SPECIFICATIONS

LINEARLITE[®] *

* marca registrada MEXICO

Applications

LINEARLITE DBF fluorescent fixtures are designed for general and task lighting of areas where flammable gases or vapors or combustible dusts may exist due to abnormal conditions resulting in the creation of a Class I, Division 2 or Class II or III, Div. 1 or 2, hazardous location as defined in the NEC. Also for lighting non-hazardous wet locations indoors and outdoors.

Features

- Sheet steel 20 ga. housing with continuous weld prevents foreign matter from entering enclosure
- Lens frame assembly has silicon rubber gasketing and heat tempered glass lens
- Electrostatically applied polyester finish

DBF FLUORESCENT FIXTURES				
CATALOG NUMBER	CONDUIT SIZE [Ⓢ]	NUMBER OF LAMPS	LINE VOLTAGE	DESCRIPTION
DBF32302	3/4"	2	120-277V 50/60 Hz	32W T8 electronic ballast 265 MA 0°F start
DBF4012 [Ⓢ]			120V 60 Hz	40W rapid start electronic F40T12 medium bi-pin 430MA
DBF4042			277V 60 Hz	
DBF6012 [Ⓢ]			120V 60 Hz	60W rapid start high output F48T12/HO recessed double contact 800MA
DBF6042	277V 60 Hz			
DBF32303	3/4"	3	120-277V 50/60 Hz	32W T8 electronic ballast 265 MA 0°F start
DBF4013			120V 60 Hz	40W rapid start electronic F40T12 medium bi-pin 430MA
DBF4043			277V 60 Hz	
DBF6013			120V 60 Hz	60W rapid start high output F48T12/HO recessed double contact 800MA
DBF6043			277V 60 Hz	

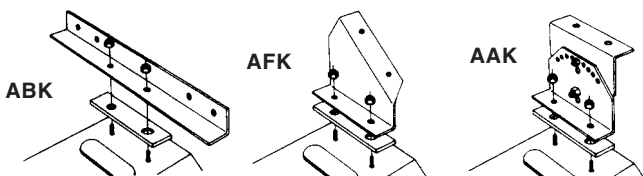
- Standard ballast starting temperature for 40 watt is 50°F.
 - Ballasts are Class P Type with internal, automatic, thermally-activated protective device.
 - Optional external ballast fusing availability by adding suffix **FB**.
 - For other voltages consult factory.
 - 60 watt high output ballasts are standard -20°F start.
- Fixtures are supplied without lamps. To order with lamps installed add suffix **WL**.
- Ⓢ UL/CSA Class I, Div. 2
 Ⓢ Hubs can be relocated in field to fixture end for feed-thru wiring.
 Ⓢ Change 1 to 8 for 230V 50 Hz.
 Ⓢ CSA Class II, Div. I

**SEE PAGE L208
FOR DBFE
EMERGENCY MODELS**

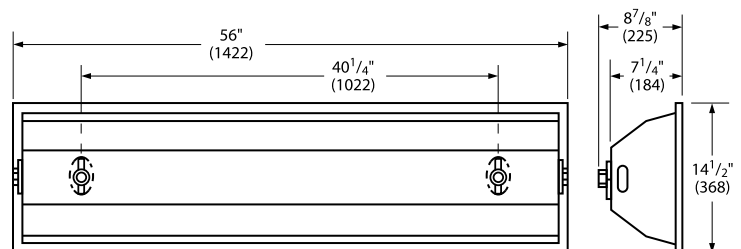
MOUNTING HARDWARE [Ⓢ]	
CATALOG NUMBER	DESCRIPTION
ABK	Angle bar chain bracket
AFK	45° fixed angle bracket
AAK	45° adjustable angle bracket
DBF-HUB	Replacement hub
DBF-DL	Door & Lens

Ⓢ Must be ordered separately. Brackets sold as sets.

DBF HAZARDOUS LOCATION APPLICATION DATA [Ⓢ]									
NUMBER OF LAMPS	LAMP WATTS	RATED AMBIENT °C	SUPPLY WIRE SUITABLE FOR °C MIN.	CLASS I, DIV. 2, GROUPS A, B, C, D MAX. LAMP TEMP. °C UL/CSA TEMP/I.D.	CLASS II, DIV. 1 & 2, GROUPS E, F, G MAX. SURFACE TEMP. °C SUITABILITY UL/CSA TEMP/I.D.	CLASS III DIV. 1 & 2 UL/CSA	NEMA TYPE 3 (RAINTIGHT)	NEMA TYPE 4 (HOSEDOWN)	
2	32/40	40	90	T6 (85°C/185°F)	T6 (85°C/185°F)	YES	YES	YES	
3	32/40	40	90	T5 (100°C/212°F)	T6 (85°C/185°F)	YES	YES	YES	
2	60	40	90	T4A (120°C/248°F)	T6 (85°C/185°F)	YES	YES	YES	
3	60	40	90	T4 (138°C/275°F)	T6 (85°C/185°F)	YES	YES	YES	



KILLARK[®]





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Class I, Div. 2, Groups A,B,C,D
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Group E,F,G
AEx nAll, Ex nAll
Wet Locations
NEMA 4X, IP66

Certified - File LR11713

ABS Type Approval

Applications

LINEARLITE® rugged 316 stainless fluorescent fixtures are suitable for wet, harsh, corrosive and hazardous locations. The LZ2S Series can be used in Class I, Division 2 and Zone 2 hazardous vapors and in Class II combustible dust areas typically found in refineries, chemical plants, waste water & sewage treatment facilities, as well as in tunnels, food processing and coastal areas.

ABS (American Bureau of Shipping) type approval for use on decks, vessels, platforms, barges, ships and boats. Also suitable for docks and marinas.

Features

- NEMA 4X & IP66 rated stainless enclosure with Lexan® impact resistant polycarbonate lens.
- Two 3/4" NPT stainless hubs - one at each end (includes aluminum 3/4" close-up plug and two 3/4" x 1/2" reducers for maximum user flexibility).
- Two 1/4" - 20 stainless bushings furnished in top of fixture for threaded rod.

Lexan® is a registered trademark of General Electric

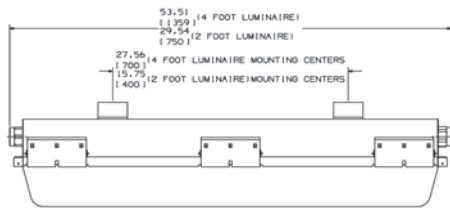
Additional Data

- L209 - Emergency models
- L175 - Ballast data
- L176 - Mounting accessories/ Replacement parts
- L176 - L177 - Photometrics

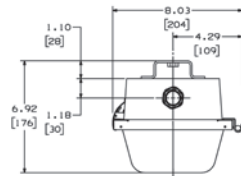
LZ2S STAINLESS			
NUMBER OF LAMPS/WATTS	VOLTAGE AC 60 Hz	DESCRIPTION	LZ2S
BIAXIAL LAMP TYPE FIXTURES			
1-40W	120-277V	2' 1-Lamp Biaxial Electronic 50/60 Hz, 0°F Start 4-Pin	LZ2S40130
1-55W	120-277V	2' 1-Lamp Biaxial Electronic 50/60 Hz, 0°F Start 4-Pin	LZ2S55130
2-40W	120-277V	2' 2-Lamp Biaxial Electronic 50/60 Hz, 0°F Start 4-Pin	LZ2S40230
4-40W	120-277V	4' 4-Lamp Biaxial Electronic 50/60 Hz, 0°F Start 4-Pin	LZ2S40430
DOUBLE-ENDED LAMP TYPE FIXTURES			
2-17W	120-277V	2' 2-Lamp T-8 Electronic 50/60 Hz, 0°F Start Medium Bi-Pin	LZ2S17230
3-17W	120-277V	2' 3-Lamp T-8 Electronic 50/60 Hz, 0°F Start Medium Bi-Pin	LZ2S17330
2-28W	120-277V 50-60 Hz	4' 2-Lamp T-5 Electronic 0°F Start Miniature Bi-Pin	LZ2S28230
3-28W	120-277V 50-60 Hz	4' 3-Lamp T-5 Electronic 0°F Start Miniature Bi-Pin	LZ2S28330
2-32Wⓐ	120-277V 347V	4' 2-Lamp T-8 Electronic 50/60 Hz 0°F Start Medium Bi-Pin	LZ2S32230 ⓐ LZ2S32215
3-32W	120-277V 347V	4' 3-Lamp T-8 Electronic 50/60 Hz 0°F Start Medium Bi-Pin	LZ2S32330 LZ2S32315
2-40W	120V 277V 230V 50 Hzⓑ	4' 2-Lamp T-12 Electronic Medium Bi-Pin Start 50°F 40W/60°F 34W	LZ2S40201 LZ2S40204 LZ2S40208
2-44W	120V 277V	4' 2-Lamp T-8 Electronic -20°F Start High Output Recessed Double Contact	LZ2S44230
2-54W 3-54W	120-277V	4' 2-Lamp T5 Electronic 50/60 Hz, -20°F Start Miniature Bi-Pin	LZ2S54230 LZ2S54330
2-60W	120-277V	4' 2-Lamp T-12 Electronic -20°F Start High Output Recessed Double Contact	LZ2S60230

ⓑ 50 Hz ballast is magnetic.

ⓐ Add suffix 55C for 2X 32W 120V-277V # L32S32230-55C.



See LZ2N Logic for Options



LZ2S, LZ2SE HAZARDOUS LOCATION APPLICATION DATA									
NUMBER OF LAMPS/WATTS	RATED AMBIENT °C	SUITABLE FOR °C SUPPLY WIRE	CLASS I, DIV. 2 MAX. SURFACE TEMP.			CLASS II, DIV. 1 & 2 MAX. SURFACE TEMP.			CLASS III DIV. 1 & 2 SUITABILITY
			TEMP.	T-CODE	GROUPS	TEMP.	T-CODE	GROUPS	
1 X 40W BIAXIAL	40°	75	160°C	T3C	A, B, C, D	100°C	T5	E, F, G	Yes
1 X 55W BIAXIAL	40°	60	160°C	T3C	A, B, C, D	100°C	T5	E, F, G	Yes
2 X 40W BIAXIAL	40°	75	160°C	T3C	A, B, C, D	100°C	T5	E, F, G	Yes
4 X 40W BIAXIAL	40°	75	160°C	T3C	A, B, C, D	100°C	T5	E, F, G	Yes
2 X 17W	40°	60	85°C	T5	A, B, C, D	100°C	T5	E, F, G	Yes
3 X 17W	40°	60	85°C	T5	A, B, C, D	100°C	T5	E, F, G	Yes
2 X 28W	40°	60	120°C	T4A	A, B, C, D	100°C	T5	E, F, G	Yes
3 X 28W	40°	60	120°C	T4A	A, B, C, D	100°C	T5	E, F, G	Yes
2 X 32W	40°	60	85°C	T6	A, B, C, D	100°C	T5	E, F, G	Yes
2 X 32W	55°ⓐ	90	100°C	T5	A, B, C, D	N/A	N/A	N/A	Yes
3 X 32W	40°	60	85°C	T6	A, B, C, D	100°C	T5	E, F, G	Yes
2 X 40W	40°	60	120°C	T4A	A, B, C, D	100°C	T5	E, F, G	Yes
2 X 44W	40°	60	120°C	T4A	A, B, C, D	100°C	T5	E, F, G	Yes
2 X 54W	40°	75	160°C	T3C	A, B, C, D	100°C	T5	E, F, G	Yes
3 X 54W	35°ⓑ	75	180°C	T3A	A, B, C, D	N/A	N/A	N/A	Yes
2 X 60W	40°	75	135°C	T4	A, B, C, D	100°C	T5	E, F, G	Yes

ⓐ L32SE, 40°C max. battery models.

ⓑ T-code measured at 40°C.



KILLARK®



4' Nominal Style



2' Nominal Style

Quick release diffuser clamp and hinged cover requires no special tools.

LZ2N/LZ2S luminaires contain no exposed glass and carry Class II, "G" ratings required for many food processing areas.

Class I, Div. 2 Groups A,B,C,D
Class I, Zones 2, Groups IIC,IIB,IIA
Class II, Div. 1 & 2, Groups F,G
AEx nAll, Ex nAll
Wet Locations
NEMA 4X, IP66

Certified - File LR11713

ABS Type Approval
NSF Food Handling

FEATURES-SPECIFICATIONS

LINEARLITE® *

* marca registrada MEXICO

Applications

LINEARLITE® rugged Non-Metallic fluorescent fixtures are suitable for wet, harsh and hazardous locations. Use where enclosed and gasketed fixtures are required to withstand exposure to moisture, dust and corrosives. The LZ2N Series can also be used in Class I, Division 2 and Zone 2 hazarous vapors and in Class II areas where combustible dusts may exist. Typical areas used are in refineries, chemical plants, waste water & sewage treatment facilities, as well as in tunnels, food processing and coastal areas.

ABS (American Bureau of Shipping) type approval for use on decks, vessels, platforms, barges, ships and boats. Also suitable for docks and marinas.

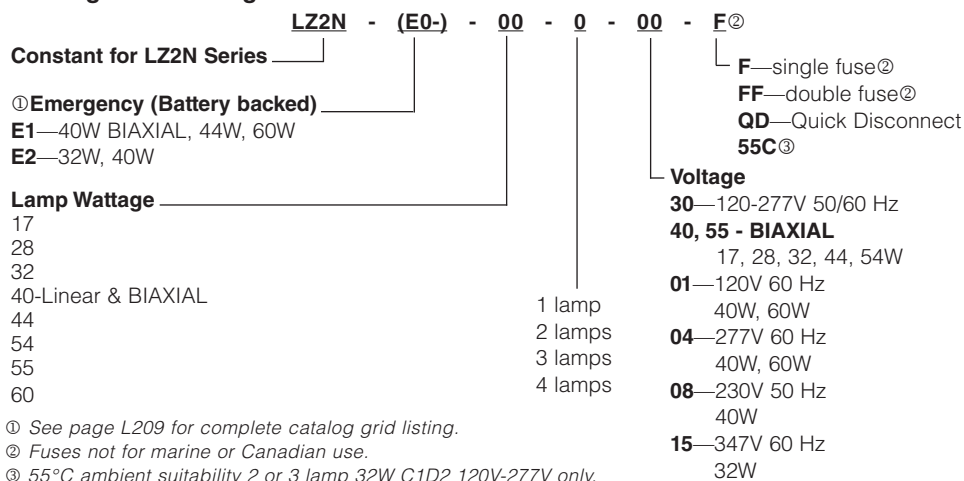
NSF (National Sanitation Foundation) approved for "Food Handling" areas, typically requiring non-glass lighting.

Features

- Housing-one piece fiberglass reinforced polyester, NEMA 4X & IP66 rated.
- Lexan® Clear Lens, impact resistant polycarbonate
- Two 3/4" NTP aluminum hubs - one at each end (includes one 3/4" close-up plug and two 3/4" x 1/2" reducers for maximum user flexibility)
- Two 1/4"-20 aluminum bushings furnished in top of fixture for threaded rod
- 2' and 4' luminaires
- Lamp types-
Linear 17, 28, 32, 40, 44, 54, 60W
Long compact 40, 55W (single ended)
- Electronic ballast standard
- World voltage (most models) 120 thru 277V, 50/60 Hz

Lexan® is a registered trademark of General Electric

Catalog Number Logic



LZ2N, LZ2NE HAZARDOUS LOCATION APPLICATION DATA										
NUMBER OF LAMPS/WATTS	RATED AMBIENT °C	SUITABLE FOR °C SUPPLY WIRE	CLASS I, DIV. 2 MAX. SURFACE TEMP.			CLASS II, DIV. 1 & 2 MAX. SURFACE TEMP.			CLASS III DIV. 1 & 2 SUITABILITY	NEMA 4X IP66
			TEMP.	T-CODE	GROUPS	TEMP.	T-CODE	GROUPS		
2 X 17W	40°	60	85°C	T5	A, B, C, D	100°C	T5	F, G	Yes	Yes
3 X 17W	40°	60	85°C	T5	A, B, C, D	100°C	T5	F, G	Yes	Yes
1 X 40W BIAxIAL	40°	60	100°C	T5	A, B, C, D	100°C	T5	F, G	Yes	Yes
1 X 55W BIAxIAL	40°	60	160°C	T3C	A, B, C, D	100°C	T5	F, G	Yes	Yes
2 X 40W BIAxIAL	40°	60	100°C	T5	A, B, C, D	100°C	T5	F, G	Yes	Yes
4 X 40W BIAxIAL	40°	60	120°C	T4A	A, B, C, D	100°C	T5	F, G	Yes	Yes
2 X 28W	40°	60	120°C	T4A	A, B, C, D	100°C	T5	F, G	Yes	Yes
3 X 28W	40°	60	120°C	T4A	A, B, C, D	100°C	T5	F, G	Yes	Yes
2 X 32W	40°	75	85°C	T6	A, B, C, D	100°C	T5	F, G	Yes	Yes
2 X 32W	55°ⓐ	90	100°C	T5	A, B, C, D	N/A	N/A	N/A	Yes	Yes
3 X 32W	40°	75	85°C	T6	A, B, C, D	100°C	T5	F, G	Yes	Yes
3 X 32W	55°ⓐ	90	100°C	T5	A, B, C, D	N/A	N/A	N/A	Yes	Yes
2 X 40W	40°	60	120°C	T4A	A, B, C, D	100°C	T5	F, G	Yes	Yes
2 X 44W	40°	60	100°C	T5	A, B, C, D	100°C	T5	F, G	Yes	Yes
2 X 54W T5	40°	75	160°C	T3C	A, B, C, D	100°C	T5	F, G	Yes	Yes
3 X 54W T5	40°	75	180°C	T3A	A, B, C, D	120°C	T4A	F, G	Yes	Yes
2 X 60W	40°	75	135°C	T4	A, B, C, D	100°C	T5	F, G	Yes	Yes

ⓐ LZ2NE, 40°C max. battery models.



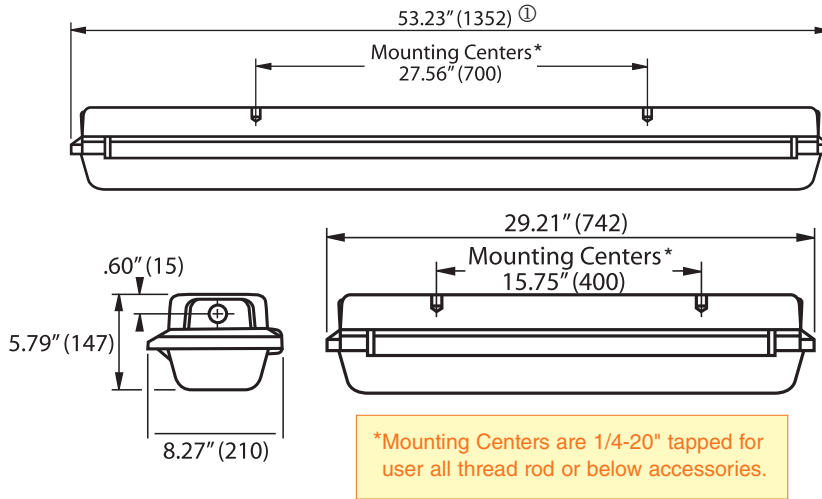
LZ2N NON-METALLIC			
NUMBER OF LAMPS/WATTS	VOLTAGE AC 60 Hz	DESCRIPTION	LZ2N
BIAXIAL LAMP TYPE FIXTURES			
1-40W	120-277V	2' 1-Lamp Biaxial Electronic 50/60 Hz 0°F Start 4-Pin	LZ2N40130
1-55W	120-277V	2' 1-Lamp Biaxial Electronic 50/60 Hz 0°F Start 4-Pin	LZ2N55130
2-40W	120-277V	2' 2-Lamp Biaxial Electronic 50/60 Hz 0°F Start 4-Pin	LZ2N40230
4-40W	120-277V	4' 4-Lamp Biaxial Electronic 50/60 Hz 0°F Start 4-Pin	LZ2N40430
DOUBLE-ENDED LAMP TYPE FIXTURES			
2-17W	120-277V	2' 2-Lamp T8 Electronic 50/60 Hz 0°F Start Medium Bi-Pin	LZ2N17230
3-17W	120-277V	2' 3-Lamp T8 Electronic 50/60 Hz 0°F Start Medium Bi-Pin	LZ2N17330
2-28W	120-277V	4' 2-Lamp T-5 Electronic 50/60 Hz 0°F Start Miniature Bi-Pin	LZ2N28230
3-28W	120-277V	4' 3-Lamp T-5 Electronic 50/60 Hz 0°F Start Miniature Bi-Pin	LZ2N28330
2-32W	120-277V 347V	4' 2-Lamp T-8 Electronic 50/60 Hz 0°F Start Medium Bi-Pin	LZ2N32230 ④ LZ2N32215
3-32W	120-277V 347V	4' 3-Lamp T-8 Electronic 50/60 Hz 0°F Start Medium Bi-Pin	LZ2N32330 ④ LZ2N32315
2-40W	120V 277V 230V 50 Hz ②	4' 2-Lamp T-12 Electronic, Medium Bi-Pin Start 50°F 40W/60°F 34W	LZ2N40201 LZ2N40204 LZ2N40208
2-44W	120-277V	4' 2-Lamp T-8 Electronic -20°F Start High Output 50/60 Hz Recessed Double Contact	LZ2N44230
2-54W	120-277V	4' 2-Lamp T-5 Electronic 50/60 Hz -20°F Start Miniature Bi-Pin	LZ2N54230
3-54W	120-277V	4' 2-Lamp T-5 Electronic 50/60 Hz -20°F Start Miniature Bi-Pin	LZ2N54330
2-60W	120-277V	4' 2-Lamp T-12 Electronic -20°F Start High Output 50/60 Hz Recessed Double Contact	LZ2N60230

**See page L209
for LZ2NE
Non-metallic
and LZ2SE
316 Stainless
Emergency
Models**

LZ2NAND LZ2S BALLAST DATA ①					
NUMBER OF LAMPS/WATTS	VOLTAGE	LINE CURRENT AMPS		INPUT WATTS	STARTING TEMPERATURE
1 X 40W BIAXIAL	120-277V	.35 (120V)	.15 (277V)	39	0°F (-18°C)
1 X 55W BIAXIAL	120-277V	.49 (120V)	.22 (277V)	58	0°F (-18°C)
2 X 40W BIAXIAL	120-277V	.60 (120V)	.28 (277V)	78	0°F (-18°C)
4 X 40W BIAXIAL	120-277V	1.32 (120V)	.56 (277V)	156	0°F (-18°C)
2 X 17W	120-277V	.32 (120V)	.14 (277V)	38	0°F (-18°C)
3 X 17W	120-277V	.39 (120V)	.17 (277V)	48	0°F (-18°C)
2 X 28W	120-277V	.55 (120V)	.23 (277V)	66	0°F (-18°C)
3 X 28W	120-277V	.83 (120V)	.35 (277V)	99	0°F (-18°C)
2 X 32W	120-277V	.54 (120V)	.24 (277V)	65	0°F (-18°C)
3 X 32W	120-277V	.71 (120V)	.31 (277V)	85	0°F (-18°C)
2 X 40W	120-277V	.62 (120V)	.24 (277V)	71	50°F (10°C) ③
2 X 44W	120-277V	.84 (120V)	.36 (277V)	99	-20°F (-29°C)
2 X 54W	120-277V	1.00 (120V)	.43 (277V)	120	-20°F (-29°C)
3 X 54W	120-277V	1.52 (120V)	.66 (277V)	182	-20°F (-29°C)
2 X 60W	120-277V	1.13 (120V)	.48 (277V)	125	-20°F (-29°C)

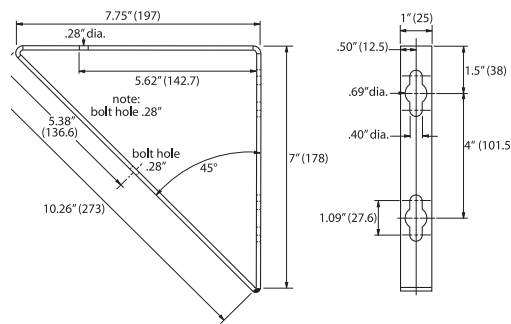
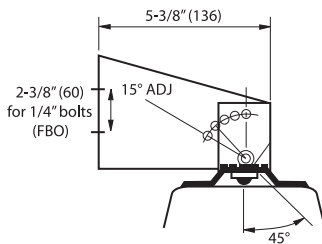
① Includes normal powered LZ2NE and LZ2SE models, lamps not included.
② Magnetic ballast.
③ 50°C 34T12; 60°F 40T12.
④ See LOGIC for 55°C ambient suitability.

DIMENSIONS LZ2N, LZ2NE SERIES



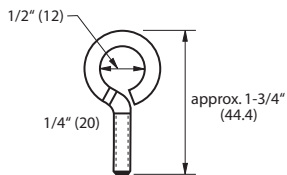
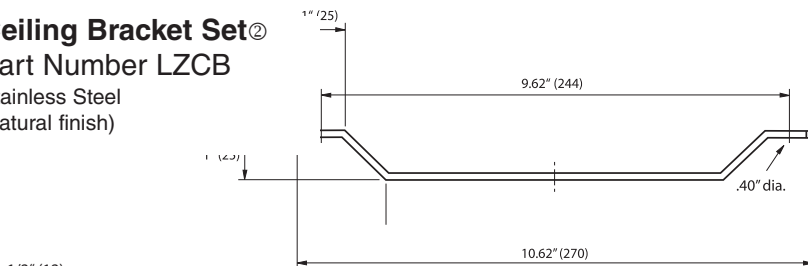
Mounting Accessories For All LZ2N, LZ2S Series

Wall Bracket Set ②
Part Number LZWB
Stainless Steel (natural finish)



Adjustable Wall Bracket Set ②
Part Number LZAB
Stainless Steel bracket with ceramic coated pivot bolt

Ceiling Bracket Set ②
Part Number LZCB
Stainless Steel (natural finish)



Eyebolt Set
Part Number LZEB
Stainless Steel bolt with lockwasher & nut (natural finish)

Replacement Parts:	
LZ2N4LENS	4' Lens only LZ2N/LZ2S
LZ2N2LENS	2' Lens only LZ2N/LZ2S
LZ2N4BAR	4' Locking Bar only LZ2N
LZ2N2BAR	2' Locking Bar only LZ2N
LZ2S-LATCH	Latch and Spring

Suspension Chains (2 required)
Part Number HFX-SC
36" length plated steel chain with snap link ends
For use with LZEB

① Dimensions in () are millimeters.
② Product accessories have hardware for attachment to fixture; hardware to attach to wall/ceiling F.B.O.
NOTE: Eyebolts are 316 Series, brackets are 300 Series Stainless Steel.

FLUORESCENT FIXTURE- LZ2N(S)40230

2' - 2 40 Watt Biaxial
Lamp Type F40/2G11/835/RS
Lumens 3150 each

Total Bare Lamp Lumens 6300

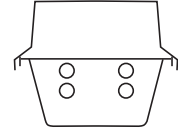
All data provided is for F40/2G11/835/RS lamps

For LZ2N40130 1-lamp models multiply x .50

For LZ2N55130 1-lamp models multiply x .76

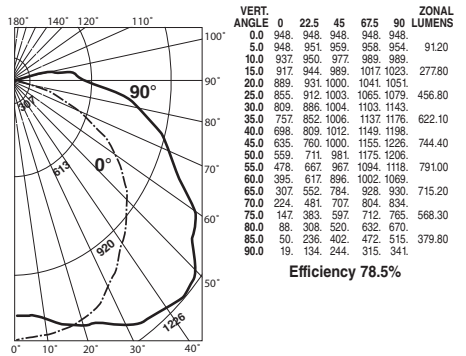
For LZ2N17230 multiply x .44

For LZ2N17330 multiply x .66



ZONAL LUMENS

ZONAL LUMENS	
0-30	826
0-40	1447
0-60	2977
0-90	4638



COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTANCE t_{cc}	80					70					50					30					10					0																																																																																																																																																																										
	70	50	30	10	0	70	50	30	10	0	50	30	10	0	50	30	10	0	30	10	0	30	10	0																																																																																																																																																																												
% WALL REFLECTANCE t_w	70	50	30	10	0	70	50	30	10	0	50	30	10	0	50	30	10	0	30	10	0	30	10	0																																																																																																																																																																												
ROOM CAVITY RATIO RCR	20% Effective Floor Cavity Reflectance																																																																																																																																																																																																			
0	.92	.92	.92	.92	.90	.90	.90	.90	.84	.84	.84	.80	.80	.76	.76	.76	.74	.81	.76	.72	.68	.79	.74	.70	.66	.66	.63	.66	.63	.61	.62	.60	.58	.56	.73	.65	.58	.53	.70	.63	.57	.52	.59	.54	.50	.56	.52	.48	.53	.49	.46	.44	.65	.56	.48	.42	.63	.54	.47	.42	.51	.45	.40	.48	.43	.39	.45	.41	.37	.35	.59	.49	.41	.35	.57	.47	.40	.34	.45	.38	.33	.42	.37	.32	.40	.35	.31	.29	.54	.43	.35	.29	.52	.42	.34	.29	.39	.33	.28	.37	.32	.27	.35	.30	.26	.24	.50	.38	.30	.25	.48	.37	.30	.25	.35	.29	.24	.33	.28	.23	.32	.27	.23	.21	.46	.34	.27	.22	.44	.33	.26	.21	.32	.25	.21	.30	.25	.20	.29	.24	.20	.18	.43	.31	.24	.19	.41	.30	.24	.19	.29	.23	.18	.27	.22	.18	.26	.21	.17	.16	.40	.28	.21	.17	.38	.28	.21	.17	.26	.20	.16	.25	.20	.16	.24	.19	.16	.14	.37	.26	.19	.15	.36	.25	.19	.15	.24	.19	.15	.23	.18	.14	.22	.17	.14	.12

SPACING TO MOUNTING HEIGHT RATIO - 1.28 0-180°
SPACING TO MOUNTING HEIGHT RATIO - 1.88 90-270°

Test No. BAL12356



FLUORESCENT FIXTURE- L22N(S)40430
4' – 4 40 Watt BIAxIAL Lumens 3150 each
Lamp Type F40/2G11/835/RS

Total Bare Lamp Lumens 12600

All data provided is for F40/2G11/835/RS lamps

FLUORESCENT FIXTURE- L22N(S)32230
4' – 2 32W F32WT8/835/RS LAMPS
2950 Lumens Each

Total Bare Lamp Lumens 5900

For 28 Watt T5 Multiply By .98
For 34/40 Watt T12 Multiply By 1.07
For 44 Watt T8 Multiply By 1.36
For 54 Watt T5 Multiply By 1.69
For 60 Watt T12 Multiply By 1.46

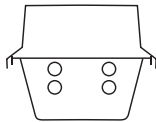
FLUORESCENT FIXTURE- L22N(S)32330
4' – 3 32W F32WT8/835/RS LAMPS
2950 Lumens Each

Total Bare Lamp Lumens 8850

For 28 Watt T5 Multiply By .98
For 54 Watt T5 HO Multiply By 1.69

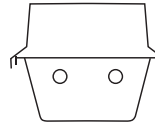
ZONAL LUMENS
ZONE LUMENS

0-30	1649
0-40	2863
0-60	5876
0-90	8993



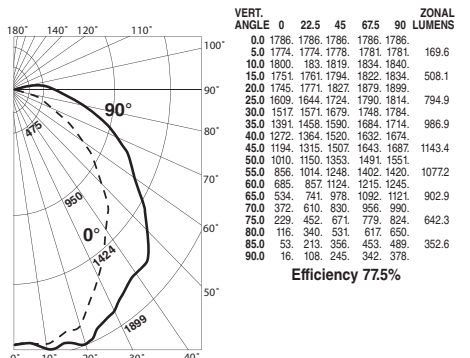
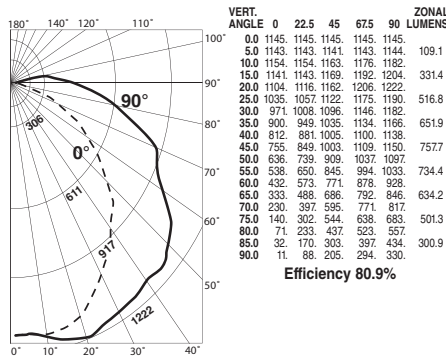
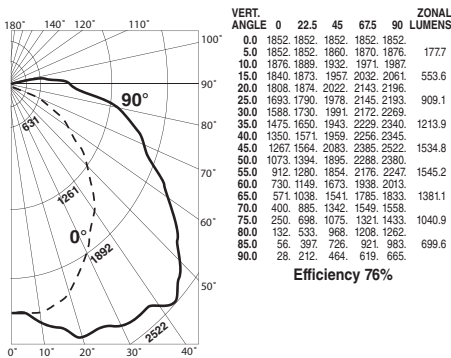
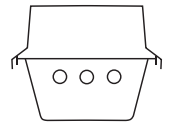
ZONAL LUMENS
ZONE LUMENS

0-30	957
0-40	1608
0-60	3077
0-90	4521



ZONAL LUMENS
ZONE LUMENS

0-30	1482
0-40	2470
0-60	4651
0-90	6562



COEFFICIENTS OF UTILIZATION – ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTAN 1cc	% WALL REFLECTANCE 1w						20% Effective Floor Cavity Reflectance											
	80	70		50		30		10		0								
0	.89	.89	.89	.87	.87	.87	.82	.82	.82	.77	.77	.77	.73	.73	.71			
1	.79	.74	.70	.66	.72	.68	.65	.65	.62	.64	.61	.59	.61	.58	.57	.54		
2	.71	.63	.57	.68	.61	.56	.51	.58	.53	.49	.54	.50	.47	.51	.48	.45	.43	
3	.64	.54	.47	.41	.61	.53	.46	.41	.50	.44	.39	.47	.42	.38	.44	.40	.37	.35
4	.58	.47	.40	.34	.56	.46	.39	.34	.44	.37	.33	.41	.36	.32	.39	.34	.31	.29
5	.53	.42	.34	.29	.51	.41	.34	.28	.39	.32	.28	.36	.31	.27	.35	.30	.26	.24
6	.48	.37	.30	.25	.47	.36	.29	.24	.34	.28	.24	.33	.27	.23	.31	.26	.22	.21
7	.45	.34	.26	.21	.43	.33	.26	.21	.31	.25	.21	.30	.24	.20	.28	.23	.20	.18
8	.41	.30	.23	.19	.40	.30	.23	.19	.28	.22	.18	.27	.22	.18	.26	.21	.17	.16
9	.39	.28	.21	.17	.37	.27	.21	.16	.26	.20	.16	.25	.19	.16	.24	.19	.15	.14
10	.36	.25	.19	.15	.35	.25	.19	.15	.24	.18	.14	.23	.18	.14	.22	.17	.14	.12

SPACING TO MOUNTING HEIGHT RATIO - 1.28 0-180°
SPACING TO MOUNTING HEIGHT RATIO - 1.94 90-270°

Test No. BAL 12357

COEFFICIENTS OF UTILIZATION – ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTAN 1cc	% WALL REFLECTANCE 1w						20% Effective Floor Cavity Reflectance											
	80	70		50		30		10		0								
0	.95	.95	.95	.93	.93	.93	.88	.88	.88	.83	.83	.83	.79	.79	.77			
1	.85	.80	.76	.72	.82	.78	.74	.70	.73	.70	.67	.69	.67	.64	.62	.60		
2	.76	.68	.62	.57	.73	.66	.61	.56	.63	.58	.54	.59	.55	.56	.53	.50	.48	
3	.69	.59	.52	.46	.66	.58	.51	.45	.54	.49	.44	.52	.47	.42	.49	.45	.41	.39
4	.63	.52	.44	.38	.60	.51	.43	.38	.48	.42	.37	.45	.40	.36	.43	.39	.35	.33
5	.57	.46	.38	.32	.55	.45	.37	.32	.43	.36	.31	.40	.35	.30	.39	.34	.30	.28
6	.53	.41	.33	.28	.51	.40	.33	.28	.38	.32	.27	.36	.31	.26	.35	.30	.26	.24
7	.49	.37	.30	.24	.47	.36	.29	.24	.35	.28	.24	.33	.27	.23	.32	.27	.23	.21
8	.45	.34	.27	.22	.44	.33	.26	.21	.32	.25	.21	.30	.25	.21	.29	.24	.20	.18
9	.42	.31	.24	.19	.41	.30	.24	.19	.29	.23	.19	.28	.22	.18	.27	.22	.18	.16
10	.40	.28	.22	.17	.38	.28	.21	.17	.27	.21	.17	.26	.20	.17	.25	.20	.16	.15

SPACING TO MOUNTING HEIGHT RATIO - 1.26 0-180°
SPACING TO MOUNTING HEIGHT RATIO - 1.56 90-270°

Test No. BAL 12358

COEFFICIENTS OF UTILIZATION – ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTAN 1cc	% WALL REFLECTANCE 1w						20% Effective Floor Cavity Reflectance											
	80	70		50		30		10		0								
0	.91	.91	.91	.89	.89	.89	.84	.84	.84	.80	.80	.80	.76	.76	.74			
1	.82	.78	.74	.70	.79	.75	.72	.69	.71	.68	.66	.68	.65	.63	.64	.62	.61	.59
2	.74	.67	.61	.56	.71	.65	.59	.55	.61	.57	.53	.58	.55	.51	.55	.52	.50	.48
3	.67	.58	.51	.45	.64	.56	.50	.45	.53	.48	.44	.51	.46	.42	.48	.44	.41	.39
4	.61	.51	.44	.38	.59	.50	.43	.37	.47	.41	.37	.45	.40	.36	.43	.38	.35	.33
5	.56	.45	.38	.32	.54	.44	.37	.32	.42	.36	.31	.40	.35	.31	.38	.34	.30	.28
6	.51	.40	.33	.28	.50	.40	.33	.28	.38	.32	.27	.36	.31	.27	.35	.30	.26	.24
7	.47	.37	.29	.24	.46	.36	.29	.24	.34	.28	.24	.33	.27	.23	.31	.27	.23	.21
8	.44	.33	.26	.22	.43	.33	.26	.21	.31	.25	.21	.30	.25	.21	.29	.24	.20	.19
9	.41	.30	.24	.19	.40	.30	.23	.19	.29	.23	.19	.28	.22	.19	.27	.22	.18	.17
10	.39	.28	.22	.17	.37	.27	.21	.17	.26	.21	.17	.26	.21	.17	.25	.20	.17	.15

SPACING TO MOUNTING HEIGHT RATIO - 1.26 0-180°
SPACING TO MOUNTING HEIGHT RATIO - 1.48 90-270°

Test No. BAL 12359



2' Nominal Style

4' Nominal Style

Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III, Div. 1 & 2
NEMA 3, 4X, 7(C,D) 9(E,F,G)
Suitable for wet locations
Suitable for paint spray booths

Listed - File E12976 and E89665 (Marine)

Certified - File LR11713

FEATURES-SPECIFICATIONS

Applications

Biaxial single ended lamp type HFX-T fixtures provide greater efficiency and lumen output than standard models. Designed for installations where moisture, dirt, dust, corrosion and vibration may be present, or NEMA 3 and 4X areas where wind, water and snow can be expected. They can also be used in locations made hazardous due to the presence of flammable or explosive gases, vapors and combustible ducts as defined by the NEC.

Typical applications include classified areas such as inside paint spray booths, paint manufacturing plants, ammunition facilities, oil and gas producing and refining plants, off-shore and dockside installations, tank farms, pipeline pumping stations and marine loading and fuel transfer terminals.

Features

- UL Listed and labeled for use inside paint spray booths and rooms
- 2' nominal compact models facilitate use in areas too small for nominal 4' models, or where the light must be confined
- Standard ballast is 120-277V at 50/60 Hz^①
- 0°F starting temperature

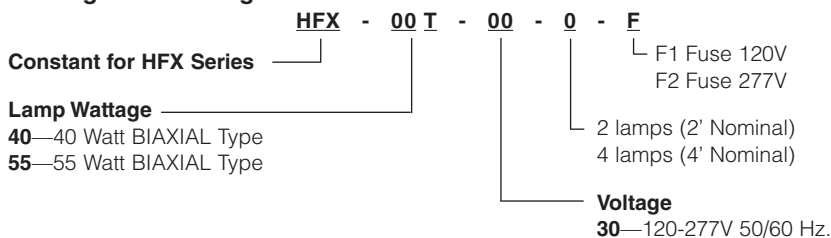
- Construction is strong lightweight corrosion resistant copper-free aluminum alloy, less than 4/10 of 1%
- All external hardware is corrosion resistant 316 stainless steel
- UL Listed externally fused ballast option; protects fixture on line side of ballast, prevents ballast burnout
- Suitable for use in both indoor and outdoor wet locations
- Relamping easily accomplished by removing screw in cap and socket
- Factory sealed construction

- Extruded aluminum reflectors are easily removable for cleaning. White baked enamel finish

Compliances

- UL-1570, Standard for Fluorescent Lighting Fixtures
- UL Marine Type Lighting Fixtures
- UL-844, Standard for Lighting Fixtures for Hazardous Locations
- CSA C22.2 137-M1981
- Meets requirements of NFPA 70-1987 Article 516 and NFPA standard 33

Catalog Number Logic



HFX-T BIAxIAL TYPE LIGHT FIXTURES ①②				
CATALOG NUMBER	CONDUIT SIZE	LINE VOLTAGE	DESCRIPTION	PROFILE
HFX-40T-302	3/4"	120V-277V	2' 2 Lamp 40W BIAxIAL T5	 Two Glass Tubes 2' or 4' Nominal
HFX-55T-302			2' 2 Lamp 55W BIAxIAL T5	
HFX-40T-304		50/60 Hz	4' 4 Lamp 40W BIAxIAL T5	
HFX-55T-304			4' 4 Lamp 55W BIAxIAL T5	

① See page L182 for ballast current information.

② Consult HFX page L183 for dimensions and accessories. Photometrics on following page.

SEE PAGE L210
FOR HFXE
EMERGENCY MODELS

HFX-T, HFXE-T HAZARDOUS LOCATION APPLICATION DATA												
DESCRIPTION	RATED AMBIENT °C	SUITABLE FOR °C SUPPLY WIRE	CLASS I, DIV. 1 & 2 MAX. SURFACE TEMP.			CLASS II, DIV. 1 & 2 MAX. SURFACE TEMP.			CLASS III DIV. 1 & 2 SUITABILITY	UL MARINE	PAINT SPRAY SUITABLE	NEMA 3 & 4X
			TEMP.	T-CODE	GROUPS	TEMP.	T-CODE	GROUPS				
HFX-T 40W 2 LAMP	40	60	85°C	T6	C, D	120°C	T4A	E, F, G	Yes	Yes	Yes	Yes
HFX-T 55W 2 LAMP	40	60	85°C	T6	C, D	120°C	T4A	E, F, G	Yes	Yes	Yes	Yes
HFX-T 40W 4 LAMP	40	60	85°C	T6	C, D	120°C	T4A	E, F, G	Yes	Yes	Yes	Yes
HFX-T 55W 4 LAMP	40	60	85°C	T6	C, D	120°C	T4A	E, F, G	Yes	Yes	Yes	Yes





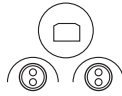
4' Nominal Style



2' Nominal Style

FLUORESCENT FIXTURE- HFX-40T-302

Lamp Type F40/2G11/835/RS
 2' – 2 40 Watt Biaxial 3150 Lumens each.
Total Bare Lamp Lumens 6300
 For 55W Biaxial multiply by 1.52.

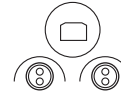


ZONAL LUMENS

ZONE	LUMENS
0-30	1246
0-40	2102
0-60	3989
0-90	5237

FLUORESCENT FIXTURE- HFX-40T-304

Lamp Type F40/2G11/835/RS
 4' – 4 40 Watt Biaxial 3150 Lumens each.
Total Bare Lamp Lumens 12600
 For 55W Biaxial multiply by 1.52.



ZONAL LUMENS

ZONE	LUMENS
0-30	2197
0-40	3685
0-60	7050
0-90	9559

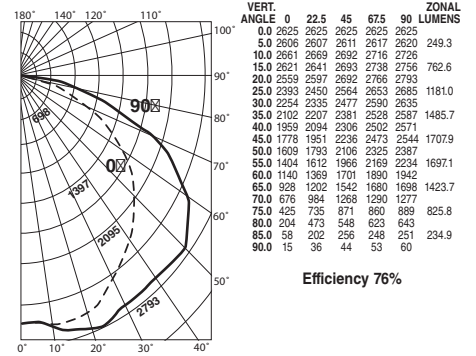
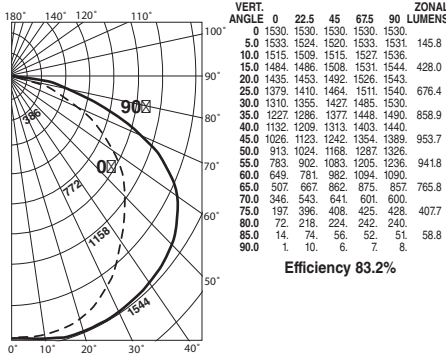


WIRE GUARD ①	
CATALOG NUMBER	DESCRIPTION
2HFX-G2	302 HFX-T Models
2HFX-G4	304 HFX-T Models

① 316 Stainless Steel

Consult page L183 for dimensions and accessories.

SEE PAGE L210 FOR HFXE EMERGENCY MODELS



COEFFICIENTS OF UTILIZATION – ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTAN 1cc	80					70					50					30					10					0																																																																																				
	70	50	30	10	0	70	50	30	10	0	70	50	30	10	0	70	50	30	10	0	70	50	30	10	0	70	50	30	10	0																																																																																
ROOM CAVITY RCR	20% Effective Floor Cavity Reflectance																																																																																																													
0	99.99	99.99	97.97	97.97	92.92	92.92	88.88	88.88	85.85	85.85	83	90.86	82.79	88.84	81.78	80.78	75.75	73.74	72.71	69	81.74	68.63	79.73	67.63	70.65	61.67	63	60.64	61	58.56	74.65	58.52	72.63	57.51	61.55	50.50	58.54	50.56	52	49.47	67.57	49.43	65.56	49.43	54.47	42.42	52.46	42.50	45	41.39	62.50	43.37	60.50	42.37	48.41	36.36	46.40	36.44	39	35.34	57.45	37.32	55.44	37.32	43.36	31.31	41.36	31.40	35	31.29	52.41	33.28	51.40	33.28	39.32	28.28	38.32	27.36	31	27.25	49.37	30.25	47.36	30.25	35.29	24.24	34.29	24.33	28	24.23	45.34	27.22	44.33	27.22	32.26	22.22	32.26	22.31	25	22.20	43.31	24.20	41.31	24.20	30.24	20.20	29.24	20.28	23	20.18

SPACING TO MOUNTING HEIGHT RATIO - 1.28 0-180°
 SPACING TO MOUNTING HEIGHT RATIO - 1.50 90-270°

COEFFICIENTS OF UTILIZATION – ZONAL CAVITY METHOD

% EFFECTIVE CEILING CAVITY REFLECTAN 1cc	80					70					50					30					10					0																																																																																				
	70	50	30	10	0	70	50	30	10	0	70	50	30	10	0	70	50	30	10	0	70	50	30	10	0	70	50	30	10	0																																																																																
ROOM CAVITY RCR	20% Effective Floor Cavity Reflectance																																																																																																													
0	90.90	90.90	88.88	88.88	84.84	84.84	81.81	81.81	77.77	77.77	76	82.78	74.71	80.76	73.70	73.70	70.68	70.68	65.65	63	74.67	61.57	72.66	60.56	63.58	55.50	60.56	53.58	55	52.50	67.58	52.46	65.57	51.46	55.49	45.45	52.48	44.50	47	43.42	61.51	44.39	59.50	43.38	48.42	36.36	46.41	37.45	40	37.35	56.45	38.33	54.44	38.33	43.37	32.32	41.36	32.40	35	31.30	51.41	33.28	50.40	33.28	38.32	28.28	37.32	28.36	31	27.26	47.37	30.25	46.36	29.25	35.29	24.24	34.28	24.33	28	24.22	44.33	27.22	43.33	26.22	32.26	22.22	32.26	22.31	25	22.20	41.30	24.20	40.30	24.20	29.23	19.23	29.23	19.23	23	19.18	38.28	22.18	37.28	22.18	27.21	17.21	26.21	17.25	21	17.16

SPACING TO MOUNTING HEIGHT RATIO - 1.28 0-180°
 SPACING TO MOUNTING HEIGHT RATIO - 1.52 90-270°

Test No. BAL12360

Test No. BAL12361



Class I, Div. 1 & 2 Groups C,D
Class I, Zones 1 & 2, Groups IIB,IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III, Div. 1 & 2
NEMA 3, 4X, 7(C,D) 9(E,F,G)
Suitable for wet locations
Suitable for paint spray booths

Listed - File E12976 and E89665 (Marine)

Certified - File LR11713

FEATURES-SPECIFICATIONS

Applications

HFX Series fluorescent fixtures are designed for installations where moisture, dirt, dust, corrosion and vibration may be present, or NEMA 3 and 4X areas where wind, water and snow can be expected. They can also be used in locations made hazardous due to the presence of flammable or explosive gases, vapors and combustible ducts as defined by the NEC.

Typical applications include classified areas such as inside paint spray booths, paint manufacturing plants, ammunition facilities, oil and gas producing and refining plants, off-shore and dockside installations, tank farms, pipeline pumping stations and marine loading and fuel transfer terminals.

Features

- UL Listed and labeled for use inside paint spray booths and rooms
- Construction is strong lightweight corrosion resistant copper-free aluminum alloy, less than 4/10 of 1%
- Class P ballast(s) with internal automatic thermally activated protective device
- All external hardware is corrosion resistant 316 stainless steel to provide maintenance free long life
- UL factory sealed construction (no external seals required). Saves installation time and cost
- Electronic energy efficient ballasts are standard on 430 MA fixtures and meet the requirements of many states

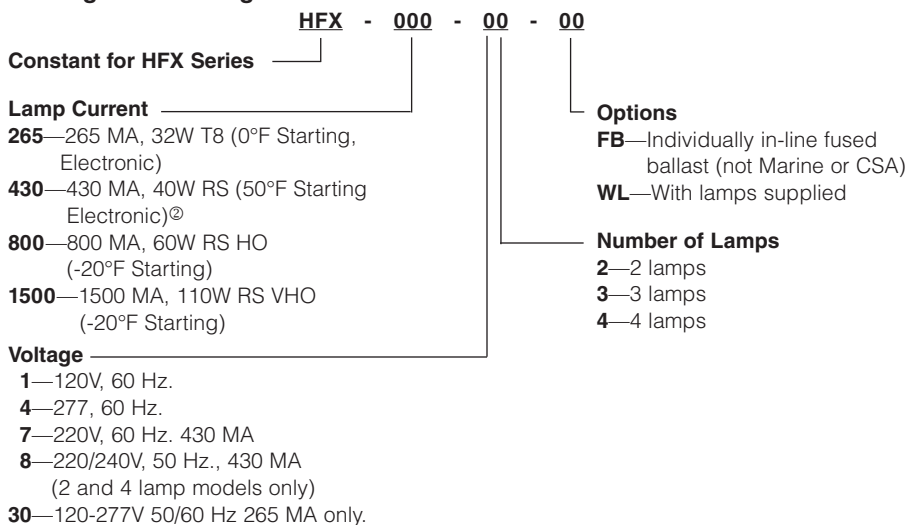
- Extruded aluminum reflectors are easily removable for cleaning. White baked enamel finish
- Optional 316 stainless steel wire guard for added protection
- Threaded O-Ring gasketed covers provide easy access to lamp chambers, ballast and wiring compartment
- UL Listed externally fused ballast option; protects fixture on line side of ballast, prevents ballast burnout
- Suitable for use in both indoor and outdoor wet locations
- Relamping from either end permits easy access, speed and flexibility in relamping

- Spring loaded sockets on both lamp ends provide positive electrical contact and improved vibration resistance

Compliances

- UL-1570, Standard for Fluorescent Lighting Fixtures
- UL Marine Type Lighting Fixtures
- UL-844, Standard for Lighting Fixtures for Hazardous Locations
- CSA C22.2 137-M1981
- Meets requirements of NFPA 70-1987 Article 516 and NFPA standard 33

Catalog Number Logic



SEE PAGE L210
 FOR HFXE
 EMERGENCY MODELS

HFX, HFXE HAZARDOUS LOCATION APPLICATION DATA ①													
FIXTURE SERIES	LAMP WATTS	RATED AMBIENT °C	SUITABLE FOR °C SUPPLY WIRE	CLASS I, DIV. 1 & 2 MAX. SURFACE TEMP.			CLASS II, DIV. 1 & 2 MAX. SURFACE TEMP.			CLASS III DIV. 1 & 2 SUITABILITY	UL MARINE	PAINT SPRAY SUITABLE	NEMA 3 & 4
				TEMP.	T-CODE	GROUPS	TEMP.	T-CODE	GROUPS				
HFX	32	40	90	100°C	T5	C, D	120°C	T4A	E, F, G	Yes	Yes	Yes	Yes
HFX	40	40	90	100°C	T5	C, D	120°C	T4A	E, F, G	Yes	Yes	Yes	Yes
HFX	60	40	90	100°C	T5	C, D	120°C	T4A	E, F, G	Yes	Yes	Yes	Yes
HFX	110	40	90	100°C	T5	C, D	120°C	T4A	E, F, G	Yes	Yes	Yes	Yes

① Ratings apply to all 2, 3, and 4 lamp models.

② 430 MA ballasts 60°F start with 34 watt lamps.



KILLARK®



**Class I, Div. 1 & 2 Groups C,D
Class I, Zones 1 & 2, Groups IIB,IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III, Div. 1 & 2
NEMA 3, 4X, 7(C,D) 9(E,F,G)
Suitable for wet locations
Suitable for paint spray booths**

Listed - File E12976 and E89665 (Marine)

Certified - File LR11713

FEATURES-SPECIFICATIONS

HFX FLUORESCENT LIGHT FIXTURES				
CATALOG NUMBER ^{①②}	CONDUIT SIZE	LINE VOLTAGE @60 HERTZ	DESCRIPTION	NUMBER OF LAMPS
HFX-265-302	3/4"	120V-277V 50/60 Hz	32W T8 electronic ballast 265MA	 Two Glass Tubes 4' Nominal
HFX-430-12		120V	40W rapid start electronic F40T12	
HFX-430-42		277V	medium Bi-Pin 430MA	
HFX-800-12		120V	60W rapid start high output F48T12/HO	
HFX-800-42		277V	recessed double contact 800MA	
HFX-1500-12		120V	110W rapid start VHO F48T12/VHO	
HFX-1500-42	277V	recessed double contact 1500MA		
HFX-265-303	3/4"	120V-277V 50/60 Hz	32W T8 electronic ballast 265MA	 Three Glass Tubes 4' Nominal
HFX-430-13		120V	40W rapid start electronic F40T12	
HFX-430-43		277V	medium Bi-Pin 430MA	
HFX-800-13		120V	60W rapid start high output F48T12/HO	
HFX-800-43		277V	recessed double contact 800MA	
HFX-1500-13		120V	110w rapid start VHO F48T12/VHO	
HFX-1500-43	277V	recessed double contact 1500MA		
HFX-265-304	3/4"	120V-277V 50/60 Hz	32W T8 electronic ballast 265MA	 Four Glass Tubes[®] 4' Nominal
HFX-430-14		120V	40W rapid start electronic F40T12	
HFX-430-44		277V	medium Bi-Pin 430MA	
HFX-800-14		120V	60W rapid start high output F48T12/HO	
HFX-800-44		277V	recessed double contact 800MA	
HFX-1500-14		120V	110W rapid start VHO F48T12/VHO	
HFX-1500-44	277V	recessed double contact 1500MA		

^① Standard ballasts starting temperatures:
32 Watt (265MA) Electronic 0°F
40 Watt (430MA) Electronic 50°F, 60°F with 34 Watt lamps
60 Watt (800MA) Electronic -20°F
110 Watt (1500MA) Electronic -20°F

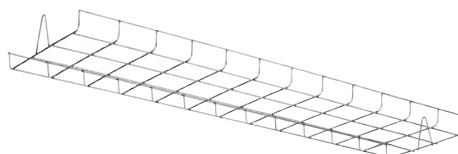
Optional cold weather electromagnetic ballast (0°F starting 40 Watt 430MA) add suffix **CW** to catalog number.

^② Optional UL listed in-line ballast fusing is available by adding suffix **FB** to catalog number (UL only).

^③ Safety chain accessory catalog number **HFX-SC** available, supplied standard with 4 lamp fixtures.

WIRE GUARD	
CATALOG NUMBER	DESCRIPTION
2HFX-G4	2-Lamp 316 grade stainless steel
3HFX-G4	3-Lamp 316 grade stainless steel

4 lamp fixture requires two 2HFX-G4 guards.



**SEE PAGE L210
FOR HFXE
EMERGENCY MODELS**



Class I, Div. 1 & 2 Groups C,D
 Class I, Zones 1 & 2, Groups IIB,IIA
 Class II, Div. 1 & 2, Groups E,F,G
 Class III, Div. 1 & 2
 NEMA 3, 4X, 7(C,D) 9(E,F,G)
 Suitable for wet locations
 Suitable for paint spray booths

 Listed - File E12976 and E89665 (Marine)

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FEATURES-SPECIFICATIONS

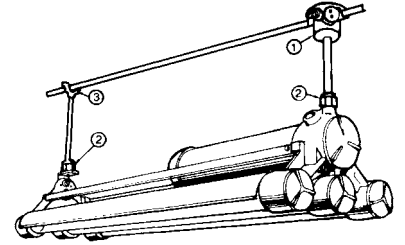
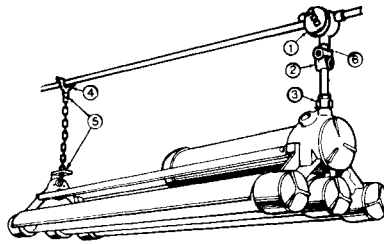
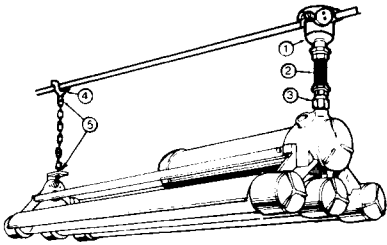
HFX BALLAST DATA					
CATALOG NUMBER	NO. OF LAMPS	VOLTAGE	LINE CURRENT AMPS	INPUT WATTS	STARTING TEMPERATURE
32 WATT T-8 ELECTRONIC 48" 265MA					
HFX-265-302	2	120-277	.54 (120V) .24 (277V)	71	0°F (-18°C)
HFX-265-303 ^①	3	120-277	.71 (120V) .31 (277V)	88	0°F (-18°C)
HFX-265-304	4	120-277	1.10 (120V) .48 (277V)	142	0°F (-18°C)
40 WATT RAPID START ELECTRONIC T-12 MEDIUM BI-PIN 48" 430MA					
HFX-430-12	2	120	.51 ^②	60	60°F (16°C)
HFX-430-42	2	277	.22 ^②	60	60°F (16°C)
HFX-430-13 ^①	3	120	.69 ^②	91	60°F (16°C)
HFX-430-43 ^①	3	277	.30 ^②	91	60°F (16°C)
HFX-430-14	4	120	1.02 ^②	120	60°F (16°C)
HFX-430-44	4	277	.44 ^②	120	60°F (16°C)
40 WATT BIAxIAL TYPE					
HFX-40T-302	2	120-277 50/60 Hz	.63 (120V) .27 (277V)	76	0°F (-18°C)
HFX-40T-304	4	120-277 50/60 Hz	1.32 (120V) .54 (277V)	156	0°F (-18°C)
55 WATT BIAxIAL TYPE					
HFX-55T-302	2	120-277 50/60 Hz	.94 (120V) .41 (277V)	112	-20°F (-29°C)
HFX-55T-304	4	120-277 50/60 Hz	1.97 (120V) .84 (277V)	232	-20°F (-29°C)
60 WATT RAPID START HIGH OUTPUT T-12 RECESSED DOUBLE CONTACT 48" 800MA					
HFX-800-12	2	120	1.40	135	-20°F (-29°C)
HFX-800-42	2	277	.61	145	-20°F (-29°C)
HFX-800-13	3	120	2.40	260	-20°F (-29°C)
HFX-800-43	3	277	1.03	235	-20°F (-29°C)
HFX-800-14	4	120	2.80	270	-20°F (-29°C)
HFX-800-44	4	277	1.22	290	-20°F (-29°C)
110 WATT RAPID START VERY HIGH OUTPUT T-12 RECESSED DOUBLE CONTACT 48" 1500MA					
HFX-1500-12	2	120	2.10	242	-20°F (-29°C)
HFX-1500-42	2	277	.92	242	-20°F (-29°C)
HFX-1500-13	3	120	3.38	376	-20°F (-29°C)
HFX-1500-43	3	277	1.48	377	-20°F (-29°C)
HFX-1500-14	4	120	4.20	484	-20°F (-29°C)
HFX-1500-44	4	277	1.84	484	-20°F (-29°C)

① 3 lamp 265MA and 430MA fixtures use a single ballast.

② Line current and 60°F start using 34 Watt lamps. Start temperature for 40 Watt lamps is 50°F (10°C). 40 Watt lamps current approximately 24% higher.



Typical installation using conduit hardware.



Dummy (non-powered) end lowers for relamping clearance, which is required when fixtures are mounted in close proximity. Flexible mounting provides free swing and impact protection.

1. Splice Box/Fixture Hanger (HXB)
2. Flexible Pendant Hanger (EKJ)
3. Union (GUM)
4. Rigid Support Saddle Bracket (KFHS)
5. Support Hook (KEFHM)

Note: Leave extra links to support fixture in relamping position. Chain furnished by others.

Dummy (non-powered) end lowers for relamping clearance, which is required when fixtures are mounted in close proximity.

1. Splice Box/Fixture Hanger (XFH)
2. Swivel Hanger (KESD)
3. Union (GUM)
4. Rigid Support Saddle Bracket (KFHS)
5. Support Hook (KEFHM)
6. 3/4" Rigid Threaded Nipple

Note: Leave extra links to support fixture in relamping position. Chain furnished by others.

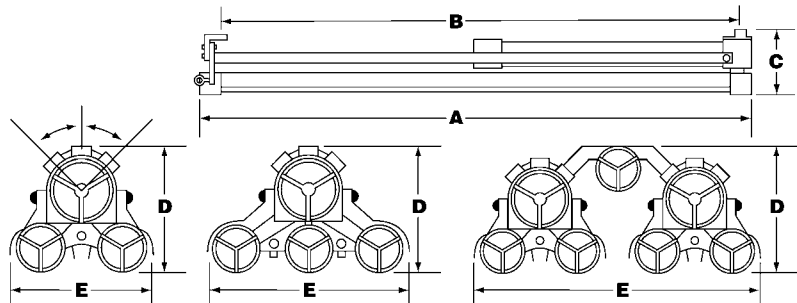
Rigid mounted—for installations where relamping can be accomplished without lowering dummy end.

1. Splice Box/Fixture Hanger (HXB)
2. Union (GUM)
3. Rigid Support Saddle Bracket (KFHS)

For wall mounting, use securely fastened 3/4" pipe 6" or less in length. Floor flange (furnished by others) recommended for dummy end as well as chain or cable providing vertical strain relief from above fixture. Chain furnished by others.

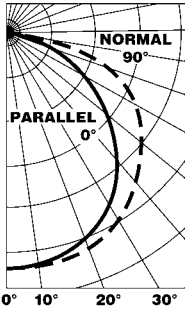
MOUNTING HARDWARE			
CATALOG NUMBER	HUB SIZE	LENGTH	DESCRIPTION
HXB-12	1/2"	—	HXB SERIES Splice Box/ 3/4" Fixture Hanger
HXB-22	3/4"	—	
EKJ-24	3/4"	4	EKJ SERIES Flexible Pendant Hanger
EKJ-26	3/4"	6	
EKJ-28	3/4"	8	
EKJ-210	3/4"	10	
EKJ-212	3/4"	12	
EKJ-215	3/4"	15	
EKJ-218	3/4"	18	
GUM-2	3/4"		GU SERIES Male Union

MOUNTING HARDWARE		
CATALOG NUMBER	HUB SIZE	DESCRIPTION
XFH-22	3/4"	XFH SERIES Splice box/fixture hanger
KESD-75	3/4"	KESD SERIES Swivel Hanger 15° swivel drop from center and full 360° free swing
KFHS-5075	3/4"	KFHS SERIES Rigid support saddle bracket for fluorescent fixtures (dummy end) Will support 350 lbs. and straddle Max. 1-1/4" conduit
KEFHM-75	3/4"	KEFHM SERIES Safety support hook with 3/4" male end For dummy end of fixture Will support 200 lbs. screw closed 3/8" jaw opening
HFX-SC	—	HFX SERIES Safety chain (36" length plated steel), standard on 4-tube fixture



HFX DIMENSIONS								
HFX MODEL	CONDUIT SIZE	DIMENSIONS						NET WEIGHT
		A	B	C	D	E		
Nominal 2'	2 Tubes 3/4-14 NPT	28-15/16" (735)	24-3/8" (619)	9-3/32" (231)	9-3/32" (231)	11" (279)		36.0 Lbs.
Nominal 4'	2 Tubes 3/4-14 NPT	52-13/16" (1367)	48-3/8" (1229)	9-3/32" (231)	9-3/32" (231)	11" (279)		47.7 Lbs.
Nominal 4'	3 Tubes 3/4-14 NPT	52-13/16" (1367)	48-3/8" (1229)	9-3/32" (231)	9-3/32" (231)	15-5/8" (397)		63.0 Lbs.
Nominal 4'	4 Tubes 3/4-14 NPT	52-13/16" (1367)	48-3/8" (1229)	9-3/32" (231)	10-1/8" (257)	23" (584)		99.9 Lbs.

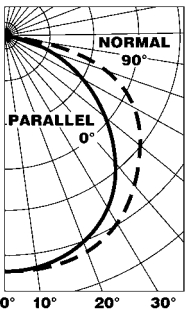




Total Bare Lamp Lumens 6400
 All data provided is for F40T12RS/WW lamps 40W rapid start warm white. For Candlepowers/Lumen multipliers of other lamps use the following:
 32W T8 (2850 lumen lamp) .89
 34W T12 (2700 lumen lamp) .84
 60W F48T12/WW/HO Warm White High Output 1.35
 110W F48T12/WW/VHO Warm White Very High Output 1.97

ZONAL LUMENS	
ZONE LUMENS	
0-30	1076
0-40	1769
0-60	3194
0-90	4189

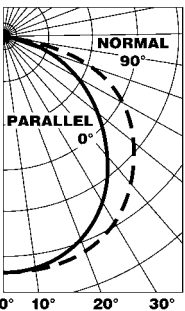
CANDLEPOWER 2-40/T12 RAPID START						
VERTICAL ANGLE	HORIZONTAL ANGLE					ZONAL LUMENS
	0	22.5	45	67.5	90	
0.0	1325.	1325.	1325.	1325.	1325.	—
5.0	1359.	1366.	1366.	1369.	1365.	130
10.0	1313.	1321.	1328.	1338.	1325.	—
15.0	1309.	1315.	1323.	1333.	1333.	375
20.0	1288.	1302.	1318.	1331.	1333.	—
25.0	1196.	1213.	1238.	1252.	1259.	571
30.0	1147.	1169.	1198.	1229.	1236.	—
35.0	1037.	1065.	1104.	1145.	1160.	693
40.0	961.	1000.	1047.	1105.	1126.	—
45.0	819.	857.	921.	990.	1019.	714
50.0	737.	784.	867.	950.	982.	—
55.0	634.	690.	796.	899.	937.	711
60.0	518.	584.	711.	821.	836.	—
65.0	412.	498.	645.	693.	699.	594
70.0	263.	363.	465.	485.	487.	—
75.0	172.	281.	326.	339.	343.	318
80.0	80.	168.	189.	215.	223.	—
85.0	25.	75.	89.	89.	84.	84
90.0	6.	11.	14.	20.	22.	—



Total Bare Lamp Lumens 9600
 All data provided is for F40T12RS/WW lamps 40W rapid start warm white. For Candlepowers/Lumen multipliers of other lamps use the following:
 32W T8 (2850 lumen lamp) .89
 34W T12 (2700 lumen lamp) .84
 60W F48T12/WW/HO Warm White High Output 1.35
 110W F48T12/WW/VHO Warm White Very High Output 1.97

ZONAL LUMENS	
ZONE LUMENS	
0-30	1583
0-40	2613
0-60	4743
0-90	6194

CANDLEPOWER 3-40/T12 RAPID START						
VERTICAL ANGLE	HORIZONTAL ANGLE					ZONAL LUMENS
	0	22.5	45	67.5	90	
0.0	1971.	1971.	1971.	1971.	1971.	—
5.0	1988.	1985.	1987.	1994.	1990.	190
10.0	1946.	1949.	1953.	1960.	1962.	—
15.0	1929.	1934.	1944.	1959.	1963.	552
20.0	1897.	1907.	1926.	1947.	1961.	—
25.0	1773.	1788.	1817.	1850.	1866.	842
30.0	1688.	1713.	1758.	1802.	1819.	—
35.0	1551.	1580.	1640.	1701.	1722.	1030
40.0	1427.	1467.	1545.	1626.	1661.	—
45.0	1232.	1281.	1376.	1487.	1528.	1070
50.0	1101.	1159.	1284.	1417.	1463.	—
55.0	952.	1027.	1188.	1340.	1395.	1061
60.0	780.	871.	1068.	1233.	1254.	—
65.0	620.	735.	961.	1042.	1049.	887
70.0	403.	540.	706.	739.	742.	—
75.0	247.	414.	486.	512.	520.	475
80.0	120.	253.	290.	323.	323.	—
85.0	30.	93.	92.	84.	81.	89
90.0	3.	9.	12.	19.	19.	—



Total Bare Lamp Lumens 12800
 All data provided is for F40T12RS/WW lamps 40W rapid start warm white. For Candlepowers/Lumen multipliers of other lamps use the following:
 32W T8 (2850 lumen lamp) .89
 34W T12 (2700 lumen lamp) .84
 60W F48T12/WW/HO Warm White High Output 1.35
 110W F48T12/WW/VHO Warm White Very High Output 1.97

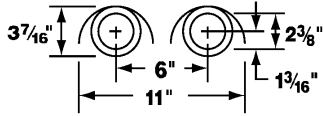
ZONAL LUMENS	
ZONE LUMENS	
0-30	2152
0-40	3538
0-60	6388
0-90	8379

CANDLEPOWER 4-40/T12 RAPID START						
VERTICAL ANGLE	HORIZONTAL ANGLE					ZONAL LUMENS
	0	22.5	45	67.5	90	
0.0	2650.	2650.	2650.	2650.	2650.	—
5.0	2718.	2733.	2733.	2738.	2730.	261
10.0	2627.	2641.	2656.	2677.	2650.	—
15.0	2617.	2630.	2646.	2665.	2665.	750
20.0	2577.	2604.	2635.	2663.	2666.	—
25.0	2393.	2427.	2476.	2504.	2518.	1141
30.0	2294.	2338.	2396.	2458.	2472.	—
35.0	2074.	2131.	2207.	2290.	2321.	1386
40.0	1922.	2000.	2095.	2209.	2252.	—
45.0	1637.	1713.	1843.	1980.	2037.	1427
50.0	1474.	1567.	1734.	1901.	1963.	—
55.0	1269.	1381.	1592.	1798.	1874.	1422
60.0	1035.	1168.	1422.	1643.	1672.	—
65.0	823.	997.	1291.	1386.	1398.	1187
70.0	526.	726.	929.	970.	973.	—
75.0	343.	562.	652.	678.	686.	636
80.0	159.	336.	378.	431.	446.	—
85.0	50.	149.	177.	177.	168.	167
90.0	13.	22.	28.	41.	44.	—



HFX SERIES • LIGHTING
PHOTOMETRIC DATA/COEFFICIENTS OF UTILIZATION
ZONAL CAVITY METHOD • FLUORESCENT FIXTURES

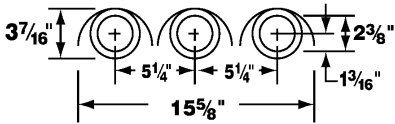
L185



HFX-430-12
 Lamp Type F40T12RS/WW
 2 – 48" 40 Watt 3200 Lumen
 Warm White Lamps

2 LAMP		20% EFFECTIVE FLOOR CAVITY REFLECTANCE																	
% EFFECTIVE CEILING CAVITY REFLECTANCE	rcc	.80		.70		.50		.30		.10		.00							
% WALL REFLECTANCE	rw	.70	.50	.30	.10	.70	.50	.30	.10	.50	.30	.10	.50	.30	.10	.50	.30	.10	.00
ROOM CAVITY RATIOS	0	.78	.78	.78	.78	.76	.76	.76	.76	.73	.73	.73	.70	.70	.70	.67	.67	.67	.65
	1	.71	.68	.66	.63	.70	.67	.64	.62	.64	.62	.60	.62	.60	.58	.59	.58	.57	.55
	2	.65	.60	.56	.52	.63	.59	.55	.51	.56	.53	.50	.54	.51	.49	.52	.50	.48	.46
	3	.60	.53	.48	.43	.58	.52	.47	.43	.50	.46	.42	.48	.45	.42	.46	.43	.41	.39
	4	.54	.47	.41	.37	.53	.46	.41	.36	.44	.40	.36	.43	.39	.35	.41	.38	.35	.34
	5	.50	.41	.35	.31	.48	.40	.35	.31	.39	.34	.30	.38	.33	.30	.36	.33	.30	.28
	6	.45	.37	.31	.26	.44	.36	.30	.26	.35	.30	.26	.34	.29	.26	.33	.29	.26	.24
	7	.42	.33	.27	.23	.41	.32	.27	.23	.31	.26	.23	.30	.26	.22	.29	.25	.22	.21
	8	.38	.29	.24	.20	.37	.29	.23	.20	.28	.23	.20	.27	.23	.19	.26	.22	.19	.18
	9	.35	.26	.21	.17	.34	.26	.21	.17	.25	.20	.17	.24	.20	.17	.24	.20	.17	.17
	10	.33	.24	.19	.15	.32	.24	.18	.15	.23	.18	.15	.22	.18	.15	.22	.18	.15	.14

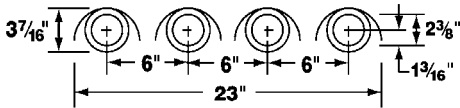
Spacing Criteria: End = 1.3 Diagonal = 1.3 Cross = 1.4



HFX-430-13
 Lamp Type F40T12RS/WW
 3 – 48" 40 Watt 3200 Lumen
 Warm White Lamps

3 LAMP		20% EFFECTIVE FLOOR CAVITY REFLECTANCE																	
% EFFECTIVE CEILING CAVITY REFLECTANCE	rcc	.80		.70		.50		.30		.10		.00							
% WALL REFLECTANCE	rw	.70	.50	.30	.10	.70	.50	.30	.10	.50	.30	.10	.50	.30	.10	.50	.30	.10	.00
ROOM CAVITY RATIOS	0	.77	.77	.77	.77	.75	.75	.75	.75	.72	.72	.72	.69	.69	.69	.66	.66	.66	.65
	1	.71	.68	.65	.63	.69	.66	.64	.62	.63	.61	.60	.61	.59	.58	.59	.57	.56	.55
	2	.64	.59	.55	.51	.63	.58	.54	.51	.56	.52	.49	.54	.51	.48	.52	.49	.47	.46
	3	.59	.52	.47	.43	.57	.51	.46	.43	.49	.45	.42	.47	.44	.41	.46	.43	.40	.39
	4	.54	.46	.41	.36	.52	.45	.40	.36	.44	.39	.36	.42	.38	.35	.41	.37	.35	.33
	5	.49	.41	.35	.30	.47	.40	.34	.30	.38	.34	.30	.37	.33	.30	.36	.32	.29	.28
	6	.45	.36	.30	.26	.44	.36	.30	.26	.34	.29	.26	.33	.29	.26	.32	.28	.25	.24
	7	.41	.32	.27	.23	.40	.32	.26	.23	.31	.26	.22	.30	.25	.22	.29	.25	.22	.21
	8	.38	.29	.23	.19	.37	.28	.23	.19	.28	.23	.19	.27	.22	.19	.26	.22	.19	.18
	9	.35	.26	.20	.17	.34	.26	.20	.17	.25	.20	.17	.24	.20	.17	.23	.19	.16	.15
	10	.32	.24	.18	.15	.32	.23	.18	.15	.23	.18	.15	.22	.18	.15	.21	.17	.14	.13

Spacing Criteria: End = 1.3 Diagonal = 1.3 Cross = 1.4



HFX-430-14
 Lamp Type F40T12RS/WW
 4 – 48" 40 Watt 3200 Lumen
 Warm White Lamps

4 LAMP		20% EFFECTIVE FLOOR CAVITY REFLECTANCE																	
% EFFECTIVE CEILING CAVITY REFLECTANCE	rcc	.80		.70		.50		.30		.10		.00							
% WALL REFLECTANCE	rw	.70	.50	.30	.10	.70	.50	.30	.10	.50	.30	.10	.50	.30	.10	.50	.30	.10	.00
ROOM CAVITY RATIOS	0	.78	.78	.78	.78	.76	.76	.76	.76	.73	.73	.73	.70	.70	.70	.67	.67	.67	.65
	1	.71	.68	.66	.63	.70	.67	.64	.62	.64	.62	.60	.62	.60	.58	.59	.58	.57	.55
	2	.65	.60	.56	.52	.63	.59	.55	.51	.56	.53	.50	.54	.51	.49	.52	.50	.48	.46
	3	.60	.53	.48	.43	.58	.52	.47	.43	.50	.46	.42	.48	.45	.42	.46	.43	.41	.39
	4	.54	.47	.41	.37	.53	.46	.41	.36	.44	.40	.36	.43	.39	.35	.41	.38	.35	.34
	5	.50	.41	.35	.31	.48	.40	.35	.31	.39	.34	.30	.38	.33	.30	.36	.33	.30	.28
	6	.45	.37	.31	.26	.44	.36	.30	.26	.35	.30	.26	.34	.29	.26	.33	.29	.26	.24
	7	.42	.33	.27	.23	.41	.32	.27	.23	.31	.26	.23	.30	.26	.22	.29	.25	.22	.21
	8	.38	.29	.24	.20	.37	.29	.23	.20	.28	.23	.20	.27	.23	.19	.26	.22	.19	.18
	9	.35	.26	.21	.17	.34	.26	.21	.17	.25	.20	.17	.24	.20	.17	.24	.20	.17	.15
	10	.33	.24	.19	.15	.32	.24	.18	.15	.23	.18	.15	.22	.18	.15	.22	.18	.15	.14

Spacing Criteria: End = 1.3 Diagonal = 1.3 Cross = 1.4



QL-500K



QL-1505K



FEATURES-SPECIFICATIONS

Applications

Provides maximum light output with low initial cost. Designed for instant turn-on and high illumination levels where H.I.D. costs are prohibitive. Used to illuminate construction sites, security areas, sports areas, sign lighting and other applications.

QL Series Features

- **Tempered Glass Lens Assembly**—Thermal shock-and impact-resistant glass lens mounted in a die cast aluminum door frame
- **Cast Aluminum Housing**—The cast aluminum body is designed with a specialized heat dissipating fin system for cooler operation
- **Versatile Mounting**—The standard unit has a 1/2 inch swivel knuckle with cast construction for strength and durability
- **High Temperature Gasketing**—A weathertight seal is provided by a high temperature silicone door gasket
- **Exclusive Socket System**—This two-piece, high temperature socket allows easy relamping and prevents socket from binding
- **Reflector**—Linear parabolic reflector system provides maximum light output and control

- **High Temperature Gasketing**—A weathertight seal is provided by a high temperature silicone gasket attached to the housing. Four lens clips positively seal the lens to the gasket with consistent pressure to assure a weathertight seal

- **Versatile Mounting**—The standard unit has a 1/2 inch swivel knuckle with cast construction for strength and universal aiming

See photometric data for QL Series fixtures on page L187.

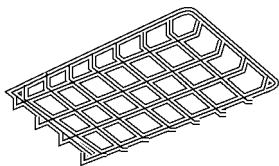
QL QUARTZ FLOODLIGHTS				
CATALOG NUMBER	LAMP AND WATTAGE	BEAM SPREAD	WEIGHT	E.P.A. SQ. FT.
QL-500K [Ⓛ]	300/500	Wide	4 Lbs. (1.8)	.53
QL-500K-WQ [Ⓜ]	300/500	Wide	4 Lbs. (1.8)	.53
QL-1505K [Ⓢ]	1000/1500	Wide	6 Lbs. (2.7)	.86
QL-1505K-WQ ^{ⓈⓂ}	1000/1500	Wide	6 Lbs. (2.7)	.86

[Ⓛ] Lamps not included.

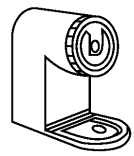
[Ⓜ] Lamps supplied-shipped separately. 500W 120V, 1500 240V.

[Ⓢ] 1500W models must be aimed 10° or more below horizontal.

ACCESSORIES/REPLACEMENT PARTS		
DESCRIPTION	QL-500K	QL-1505K
Guard	QL-5G	QL-15G
Trunnion Box	QL-TB	
Lens ONLY	0461330B	0461331B
Socket (2 Required)	K800-2166-0108	0732016B
1/2" Knuckle	K20750110214	
Lens Gasket	K265-0481-0307	

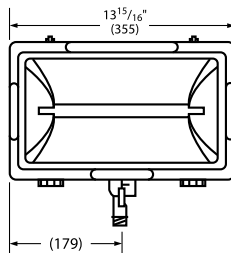


Guard

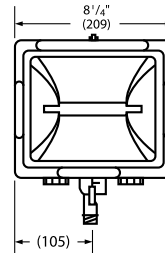


Trunnion Box

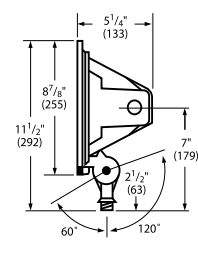
Dimensions



QL-1500 Watt



QL-500 Watt



QL-1500 and QL-500 Watt



QL SERIES

QL-500K

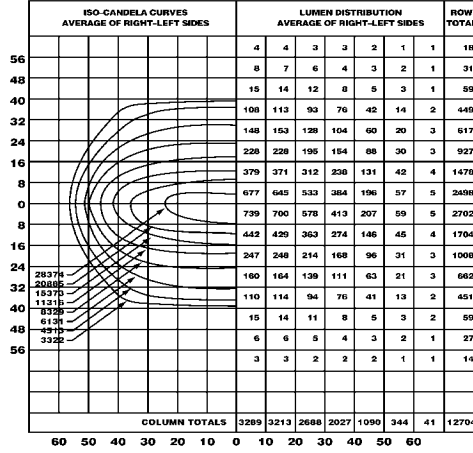
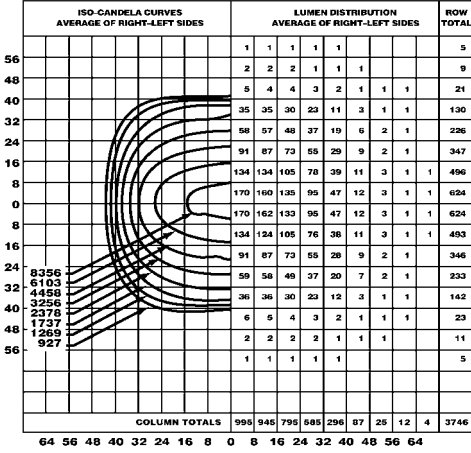
Test No: HP-00930
Source: Incandescent
Lamp: Q500T3/CL
Watts: 500
LCL: —
Lumens: 10950

IES/NEMA Type: 5H X 5V
Beam Spread Horiz: 88°
Beam Spread Vert: 82°
Beam Efficiency: 65%
Beam Lumens: 7060
Max. Beam Candle: 9265
Avg. Max. Candle: 8356

QL-1505K

Test No: HP-00854
Source: Incandescent
Lamp: Q1500T3/CL
Watts: 1500
LCL: —
Lumens: 35800

IES/NEMA Type: 6H X 5V
Beam Spread Horiz: 115°
Beam Spread Vert: 78°
Beam Efficiency: 68%
Beam Lumens: 24306
Max. Beam Candle: 33219
Avg. Max. Candle: 28374

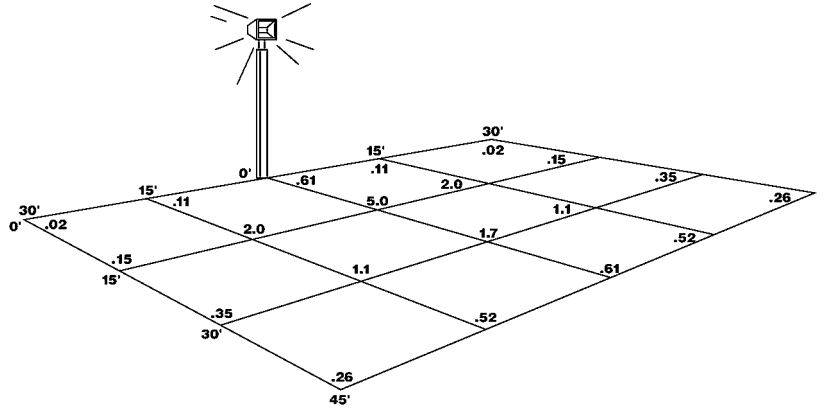


QL SERIES

500 Watt Tungsten Halogen

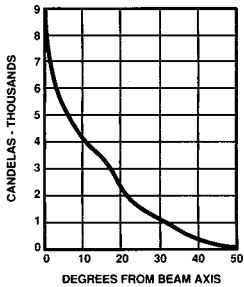
Footcandle Array Based on:

- 15' Mounting Height
- Aimed at 30° below horizontal
- Not to scale. All values are initial footcandles.
- Data calculated from Test No. HP-02305.

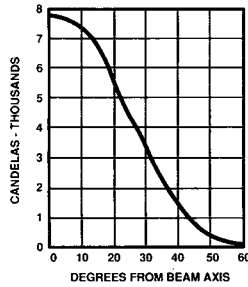


EM/DM SERIES

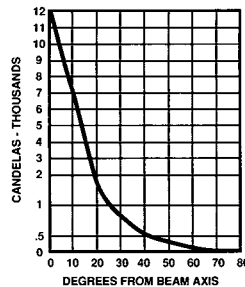
70 WATT HPS



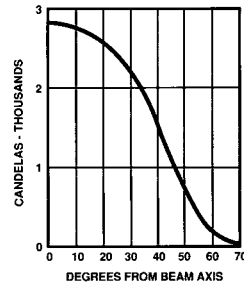
150 WATT HPS



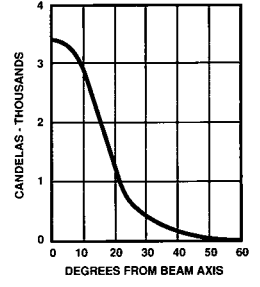
70 WATT MH



110 WATT INC



150 WATT INC



See page L188 for catalog data.





EMHP071

Class I, Div. 1 & 2 Groups C,D
Class I, Zones 1 & 2 Groups IIB,IIA
Class II, Div. 1 & 2, Groups F,G
Class III, Div. 1 & 2
NEMA 3, 4X, 7(C,D) 9(F,G)
Suitable for wet locations

Listed - File E89665 and E97760

Certified - File LR11713

FEATURES-SPECIFICATIONS

Applications

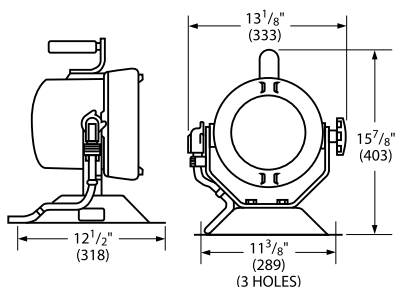
EM & DM Series portable floodlights provide emergency or maintenance lighting in wet locations or areas made hazardous due to the presence of flammable gases or vapors and combustible dusts as defined by the NEC.

Typical uses are in manufacturing plants, chemical, petrochemical and other industrial process facilities, oil refineries, grain storage sights, aircraft maintenance and refueling areas, tank farms and pipeline pumping stations.

Features

- Factory sealed 100 foot 16/3 SOW cord supplied as standard. See catalog section PR for Acceptor® plugs and receptacles

Dimensions



- Corrosion resistant, rain tight, copper-free cast aluminum housing helps assure safe, reliable operation
- Light weight, strong spun aluminum base provides stability, permits hanging fixture temporarily on wall or lowering it inverted
- Aluminum specular reflector directs light beam for concentrated illumination
- Tempered glass lens resists heat and shock
- Nitrile rubber O-ring gasketing provides an excellent seal for use in wet locations

- Photometric data—see page L187
- Lamps included on all models

Compliances

- UL-844 portable electric lighting units for use in hazardous locations
- UL-1598 standard for incandescent or HID lighting fixtures
- UL Marine type electric lighting fixtures
- CSA-C22.2 nos. 12 & 137
- NEMA 3, 4

EM/DM HPS PORTABLE FLOODLIGHTS			
CATALOG NUMBER	LAMP WATTS	VOLTAGE @60 HERTZ	DESCRIPTION ①
EMSP151	150	120	Class I, Div. 1 & 2, Groups C & D
DMSP101*	100	120	Class I, Div. 1 & 2, Groups C & D; Class II, Div. 1 & 2, Groups F & G; Class III
EM MH			
EMHP071	70	120	Class I, Div. 1 & 2, Groups C & D; Class II, Div. 1 & 2, Group F
EM INCANDESCENT			
EMIP111	110	120	Class I, Div. 1 & 2, Groups C & D; Class II, Div. 1 & 2, Group F

① Refer to hazardous location application data below for specific T codes and temperatures.

② EMIP111 can be used with PAR 38 150 Watt incandescent lamp. See hazardous location application data.

* DMS series units have a limiting device to prevent positioning of the fixture head in an orientation where dust could build up on the lens. Any attempt to defeat its purpose can be dangerous.

EM INCANDESCENT ①								
SERIES	LAMP TYPE	LAMP WATTS	RATED AMBIENT DEGREES °F/°C	CLASS I, DIV. 1 & 2 MAX. SURFACE TEMP.		CLASS II, DIV. 1 & 2 MAX. SURFACE TEMP.		CLASS III, DIV. 1 & 2 MAX. SURFACE TEMP.
				UL/CSA TEMP. I.D. °F/°C	UL/CSA GROUPS	UL/CSA TEMP. I.D. °F/°C	UL/CSA GROUPS	UL/CSA TEMP. I.D. °F/°C
EMS	HPS	150	77°/25°	T3C (320°/160°)	CD	—	—	—
DMS	HPS	100	104°/40°	T4A (248°/120°)	CD	T3C (320°-160°)	FG	T3C (320°-160°)
EMH	MH	70	104°/40°	T4 (275°/135°)	CD	T3 (392°-200°)	F	—
EMI	INC	110	104°/40°	T3A (356°/180°)	CD	T3 (392°-200°)	F	—
EMI	INC	150	104°/40°	T3A (356°/180°)	CD	—	—	—

① Do not install where marked operating temperature exceeds ignition temperature of Hazardous Atmosphere.





Class I, Div. 2 Groups A,B,C,D®
Class I, Zone 2, Groups IIC,IIB,IIA (nRⓈ)

Suitable for wet locations

NEMA 4X, IP66

ABS Type Approval



Type approval for shipboard useⓈ

FEATURES-SPECIFICATIONS

Applications

KF series floodlights can be used in industrial installations where flammable gases or vapors may exist due to abnormal conditions resulting in the creation of a Class I, Div. 2 hazardous location as defined by the NEC. Also can be used where general corrosive atmospheric conditions exist such as ocean piers, marinas and costal areas.

Designed for heavy duty applications where long life and maintenance-free service are essential.

Features

- Rugged weathertight housing of copper-free aluminum with corrosion resistant bronze finish
- Wide beam distribution
- Thermal shock, impact-resistant lens
- Continuous silicone gasketing
- All external hardware is corrosion resistant including HubbellGard® ceramic coated screws
- Trunnion mounting-heavy gauge, hot dip galvanized steel mounting with stainless steel hardware
- Photometric data & accessories—see page L191
- 3/4" NPT entry on back lower left

CATALOG LOGIC

KF	P	40	0	-76	NR F1 P1 AS
1	2	3	4	5	6

1 **KF - Series Constant** (aluminum flood)

Lamp Type

- S = High Pressure Sodium
- H = Metal Halide
- P = Pulse Start Metal Halide

3 Wattage

- 07 = 70 Watt (HPS)
- 10 = 100 Watt (HPS)
- 15 = 150 Watt (MHP, HPS)
- 17 = 175 Watt (MH, MHP)Ⓢ
- 20 = 200 Watt (MHP)
- 25 = 250 Watt (MH, MHP, HPS)Ⓢ
- 32 = 320 Watt (MHP)
- 35 = 350 Watt (MHP)
- 40 = 400 Watt (MH, MHP, HPS)Ⓢ
- 100 = 1000 Watt (MH, HPS)ⓈⓈⓈ

4 Voltage*Ⓢ

- 0 = Quad - 120, 208, 240, 277V - 60Hz
- 5 = 480V
- 6 = Tri - 120, 277, 347V (for Canada only)
- 7 = 220V 60Hz
- 8 = 220/240V 50 Hz

- **76 Series Constant** (7 x 6 optic pattern)

6 Options

- NR - Ex nR Restricted Breathing (Ex nR II)
- IR - Instant Restrike 150W HPS**
- BP - 150 - 400 HPS**
- Fuse option 400W max. (not for Marine or CSA)

F1 single 120V	F5 double 480V
F2 double 208V	F6 single 347V
F3 double 240V	F7 double 220V
F4 single 277V	F8 single 230V 50Hz
- Photocell option (400W max.)

P1 120V	P1 208-277V	P1 347V
---------	-------------	---------
- Terminal Blocks

TBx	x=1-8	x = voltage code
TBLx	Lx=1-8 looping	x = voltage code
- Lamps

AS = Assembled Standard Lamp
AD = Assembled Dual-Arc-Tube Lamp;
150, 250, 400HPS only

Ⓢ Not suitable for submersion or wave impact.

Ⓢ MH175,250,400 are EXPORT ONLY (EISA LAW).

Ⓢ Consult factory for other available voltage/ lamp combinations.

Ⓢ 1000 Watt fixture aiming angle limited to 45°-135° (no straight up or down) 1000 Watt fixtures are rated and listed for 40° ambient.

Ⓢ Use Phillips C1000S52/ED37 11-1/2" lamp for 1000 HPS.

Ⓢ Use 11-1/2" BT37 lamp available from GE, Venture or Phillips (MH).

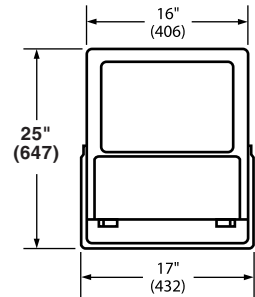
Ⓢ NR suffix Restricted Breathing models provide lower T-codes - Requires sealed entry.

Ⓢ Consult T-code chart for suitability. T-Codes=>306 are suitable for Groups B,C,D only.

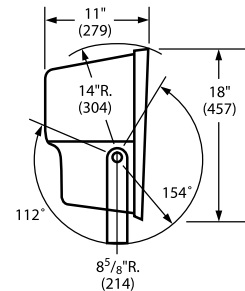
**IR & BP cannot be ordered together.



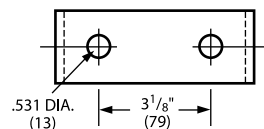
Elevated Ambients to 55°C —
Consult T-Code Chart
for suitability.



Front



Side



Trunnion Mounting Detail



KILLARK®



KFS-6



KFCB



KFWB



K4040



4041

ORDERING INFORMATION

MH, PULSE START ORDERING INFORMATION*			
CATALOG NUMBER	LAMP AND WATTAGE	VOLTS Ⓞ	BEAM SPREAD H° X V°
KFP150-76 KFP155-76	150 MHP M-102/142	QUAD 480	7 (145°) X 6 (114°)
KFP170-76 KFP175-76	175 MH M-137/152	QUAD 480	7 (145°) x 6 (114°)
KFP200-76 KFP205-76	200 MH M-136	QUAD 480	7 (145°) x 6 (114°)
KFP250-76 KFP255-76	250 MHP M-138	QUAD 480	7 (145°) x 6 (114°)
KFP320-76 KFP325-76	320 MHP M-132	QUAD 480	7 (146°) x 6 (119°)
KFP350-76 KFP355-76	350 MHP M-131	QUAD 480	7 (146°) x 6 (119°)
KFP400-76 KFP405-76	400 MHP M-135	QUAD 480	7 (146°) x 6 (119°)

HPS, MH, START ORDERING INFORMATION*				
CATALOG NUMBER	LAMP AND WATTAGE	VOLTS Ⓞ	BEAM SPREAD H° X V°	
KFS070-76 KFS075-76	70 HPS M-102/142	QUAD 480	7 (144°) X 6 (113°)	
KFS100-76 KFS105-76	100 HPS M-137/152	QUAD 480	7 (145°) x 6 (114°)	
KFS150-76 KFS155-76	150 HPS S-55	QUAD 480	7 (144°) x 6 (113°)	
KFS250-76 KFS255-76	250 HPS S-50	QUAD 480	7 (144°) x 6 (113°)	
KFS400-76 KFS405-76	400 HPS S-51	QUAD 480	7 (144°) x 6 (113°)	
KFS1000-76 KFS1005-76	1000 HPS S-52 ⓄⓄ	QUAD 480	7 (130°) x 6 (114°)	
EXPORT ONLY	KFH170-76 KFH175-76	170 MH M-57	QUAD 480	7 (145°) x 6 (114°)
	KFH250-76 KFH255-76	250 MH M-58	QUAD 480	7 (145°) x 6 (114°)
	KFH400-76 KFH405-76	400 MH M-59	QUAD 480	7 (146°) x 6 (119°)
	KFH1000-76 KFH1005-76	1000 MH M-47 ⓄⓄ	QUAD 480	7 (145°) x 6 (114°)

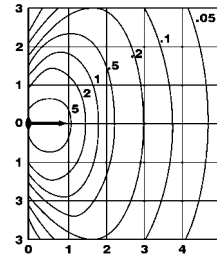
* Consult T-Code Chart for hazardous location suitability.
 Ⓞ Consult factory for other available voltages.
 Ⓞ 1000 watt fixture aiming angle limited to 45°-135° (no straight up or down) 1000 watt fixtures are rated and listed for 40° ambient.
 Ⓞ Use Philips C1000S52/ED37 11-1/2" lamp.

KF MOUNTING ACCESSORIESⓄ	
CATALOG NUMBER	DESCRIPTION
KFS-6	Steel slipfitter for 2" pipe (2-3/8" o.d.) tenon. Slips 3.75" over pipe.
KFCB	Heavy duty cast-iron crossarm fitting for horizontal trunnion
KFWB	Heavy duty wall mount and/or pipe clamp fitting Clamps 2" pipe (2-3/8" o.d.) thru 2-1/2" pipe (2-7/8" o.d.)
K4040	Heavy duty steel wall bracket. (Must use with KFCB crossarm fitting)
4041	Heavy duty steel wall bracket 2" pipe (2-3/8" o.d.) tenon fitting
KF-Door	Replacement Door & Lens assembly

Ⓞ Fittings available to adapt trunnion mount floodlights to crossarms, poles and walls. Must be ordered separately.

HAZARDOUS LOCATION APPLICATION DATA						
LUMINAIRE WATTAGE	AMBIENT	C1D2 T-CODE ^①	C1Z2NR T-CODE ^②	SUPPLY WIRE C [°]	AIMING RANGE & DIAGRAM ^③	
70W HPS	40C	T2B	T4	75	180° - 0°	A
	55C	T2B	T4	75	180° - 0°	A
	65C	T2B	T4	90	180° - 0°	A
100W HPS	40C	T2B	T4	75	180° - 0°	A
	55C	T2B	T4	75	180° - 0°	A
	65C	T2B	T4	90	180° - 0°	A
150W HPS	40C	T2B	T4	75	180° - 0°	A
	55C	T2B	T4	90	180° - 0°	A
	65C	T2B	T4	105	180° - 0°	A
250W HPS	40C	325C	T4	90	180° - 0°	A
	55C	325C	T3	105	180° - 0°	A
	65C	325C	T3	105	135° - 0°	B
400W HPS	40C	357C	T3	90	180° - 0°	A
	55C	363C	T3	110	135° - 0°	B
	65C	XXX	XXX	NA	XXX	NA
1000W HPS	40C	T1	T2	110	135°-45°	C
	55C	XXX	XXX	NA	XXX	NA
	65C	XXX	XXX	NA	XXX	NA
175MH	40C	350C	T4	90	180° - 0°	A
	55C	350C	T3	105	180° - 0°	A
	65C	325C	T4	105	135° - 45°	C
250W MH	40C	350C	T4	90	180° - 0°	A
	55C	350C	T3	105	180° - 0°	A
	65C	325C	T4	105	135° - 45°	C
400W MH	40C	325C	T3	105	135° - 0°	B
	50C	301C	T3	105	90° - 45°	D
	65C	XXX	XXX	NA	XXX	NA
1000W MH	40C	442C	T2	110	135°-45°	C
	55C	XXX	XXX	NA	XXX	NA
	65C	XXX	XXX	NA	XXX	NA
150W MHP	40C	325C	T4	90	180° - 0°	A
	55C	325C	T3	90	180° - 0°	A
	65C	325C	T3	105	180° - 0°	A
175W MHP	40C	325C	T4	90	180° - 0°	A
	55C	325C	T3	90	180° - 0°	A
	65C	325C	T3	105	180° - 0°	A
200W MHP	40C	325C	T4	90	180° - 0°	A
	55C	325C	T3	90	180° - 0°	A
	65C	325C	T3	105	180° - 0°	A
250W MHP	40C	350C	T3	90	180° - 0°	A
	55C	350C	T3	105	180° - 0°	A
	65C	XXX	XXX	NA	XXX	NA
320W MHP	40C	366C	T3	90	180° - 0°	A
	55C	366C	T3	105	180° - 0°	A
	65C	XXX	XXX	NA	XXX	NA
350W MHP	40C	350C	T3	90	180° - 0°	A
	55C	350C	T3	110	135° - 45°	C
	65C	XXX	XXX	NA	XXX	XXX
400W MHP	40C	350C	T3	90	180° - 0°	A
	55C	325C	T3	110	135° - 45°	C
	65C	XXX	XXX	NA	XXX	XXX

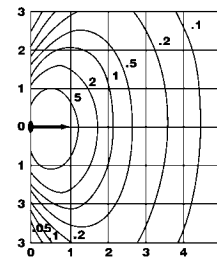
PHOTOMETRIC DATA
KF SERIES



KFH-XXX-76

IES Type—7H x 6V (146° x 119°)
 Source—Metal Halide (Clear) 34000 Lumens
 Wattage—400 (ANSI M59)
 For 250W MH multiply by .6
 For 1000W MH multiply by 3.1
 Mounting Height (Grid Value)—25 feet
 Aiming Angle—45°
 Test Number—HP-00738

CONVERSION CHART					
MOUNTING HEIGHT (FEET)	20	25	28	30	35
CORRECTION FACTOR	1.56	1.00	.80	.69	.51

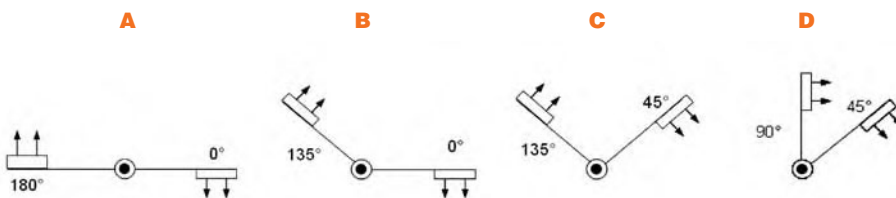


KFS-XXX-76

IES Type—7H x 6V (144° x 117°)
 Source—High Pressure Sodium (Clear) 50000 Lumens
 Wattage—400 (ANSI S51)
 For 150W HPS multiply by .32
 For 250W HPS multiply by .6
 For 1000W HPS multiply by 2.5
 Mounting Height (Grid Value)—25 feet
 Aiming Angle—45°
 Test Number—HP-00740

CONVERSION CHART					
MOUNTING HEIGHT (FEET)	23	25	30	35	40
CORRECTION FACTOR	1.18	1.00	.69	.51	.39

Aiming Figures Based on Ambient & Lamp^③



- ① Temperatures equal or higher than 306°C are suitable for Groups B,C,D only.
- ② C1D2 NR Restricted Breathing requires Sealed Entry.
- ③ Aiming angle limited by ambient temperature and lamp type - See Diagrams.

④ In converting to a different mounting height, multiply all footcandle values by the correction factor and convert the grid size to the mounting height selected. Example: to convert 25 foot to 30 foot mounting height, multiply all footcandle values by .69. (Grid now becomes 30 replacing 25). To convert footcandles to Lux, multiply values by 10.76. To convert feet to meters, divide values by 3.281.



**KFS-6G
Steel Slipfitter
(includes bolts)**



**K4040G
Steel Wall/Pole Bracket**



**KFCBG
Cross Arm Fitting**

Class I Div. 2, Groups A,B,C,D*
AEx nR/Ex nR**
Class I Zone 2, IIC, IIB, IIA*

UL UL 1598 HID Marine for Wet Locations
UL 844 Hazardous Locations

CSA CSA C22.2 9.9-9.6 General Requirements
CSA C22.2 137-M1981 Hazardous Locations
CSA Enclosure type IP66/67

ABS Type Approval for Shipboard Use

* Consult temperature data table on next page to determine application suitability.

FEATURES-SPECIFICATIONS

MARIGARD®

Applications

- Offshore production platforms
- Refineries
- Offshore drilling rigs and barges
- Ocean-going vessels
- Commercial fishing vessels
- Ports, wharfs and jetties
- Waste water and sewage treatment facilities
- Any type of washdown, corrosive, abrasive, or dirty environment

Features and Benefits

- Type 316 Stainless Steel Housing. 16-gauge housing ensures low corrosion and long life, reducing maintenance costs
- Rugged quick-release 316 SS Lens Latches. No hardware seizing on disassembly saves maintenance time and money. Only tool needed is a screwdriver
- 316 SS Safety Lens Door Chains. Enables hands-free safe re-lamping
- 316 SS Mounting Yoke Reliable and safe installation
- Highly efficient photometrics and excellent asymmetrical distribution. Photometrics above 85%. Minimizes the number of required fixtures to deliver desired light levels. Saves in energy costs
- Hot-dipped Galvanized Steel Mounting Accessories. Corrosion resistant in marine and corrosive environments, assuring reliable installation

- 316 SS 3/4" Conduit Hub. Maintains grounding continuity. Watertight seal. Corrosion resistant
- Silicone Gasketed Lens Door Frame. Provides watertight seal, protecting interior from moisture and corrosives

KFSS STAINLESS STEEL FLOOD LIGHTS			
CATALOG NUMBER	LAMP TYPE AND CIRCUIT	VOLTAGE [Ⓛ]	BEAM SPREAD H° X V°
KFS150SS	150 HPS	120/208/240/277 @60Hz	6 (118) x 6 (118)
KFS156SS	S-55	120/277/347 @60 Hz	
KFS250SS	250 HPS	120/208/240/277 @60Hz	6 (118) x 6 (118)
KFS256SS	S-50	120/277/347 @60 Hz	
KFS400SS	400 HPS	120/208/240/277 @60Hz	6 (118) x 6 (118)
KFS406SS	S-51	120/277/347 @60 Hz	
KFH250SS	250 MH [Ⓢ]	120/208/240/277 @60Hz	6 (118) x 6 (118)
KFH256SS	M-58	120/277/347 @60 Hz	
KFP250SS	250 MHP [Ⓢ]	120/208/240/277 @60Hz	6 (118) x 6 (118)
KFP256SS	M-138	120/277/347 @60 Hz	
KFH400SS	400 MH [Ⓢ]	120/208/240/277 @60Hz	6 (118) x 6 (118)
KFH406SS	M-59	120/277/347 @60 Hz	
KFP400SS	400 MHP [Ⓢ]	120/208/240/277 @60Hz	6 (118) x 6 (118)
KFP406SS	M-135	120/277/347 @60 Hz	

[Ⓛ] Voltage: 6th character in the catalog number denotes voltage. See "Catalog Number Logic" for details; e.g. KFS155SS = 480 Volt 60Hz.; KFH408SS=240V 50Hz.

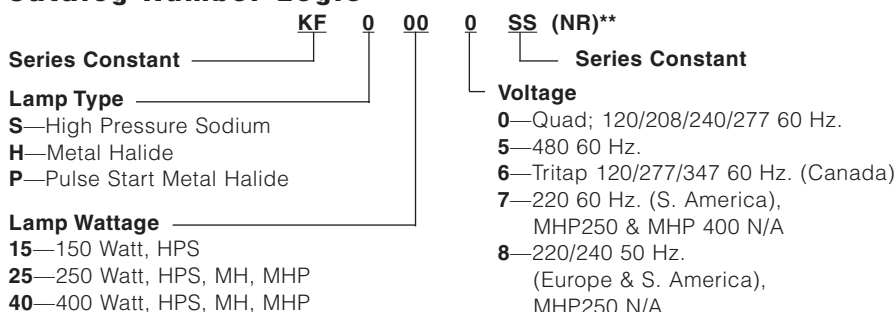
[Ⓢ] Mercury Vapor Lamps of the same wattage may be used if desired.

[Ⓢ] Use a Pulse Start Metal Halide Lamp rated for Horizontal Position.

[Ⓢ] Consult factory for available lamp and voltage combinations.

KFSS ACCESSORIES	
CATALOG NUMBER	DESCRIPTION
KFS-6G	Steel slipfitter for 2" pipe (2-3/8" O.D.) tenon. Hot-dipped galvanized (bolts included)
K4040G	Steel wall/pole bracket. Hot-dipped galvanized (bolts included)
KFCBG	Cross arm fitting for horizontal trunnion. Hot-dipped galvanized (bolts included)

Catalog Number Logic

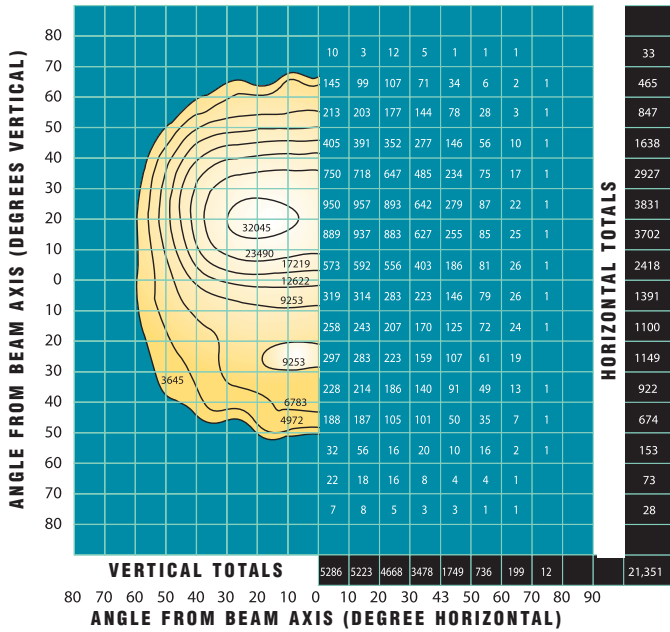


**Restricted Breathing option-see next page.



KILLARK®

AVERAGE OF RIGHT-LEFT SIDES
ISO CANDELA CURVES LUMEN DISTRIBUTION



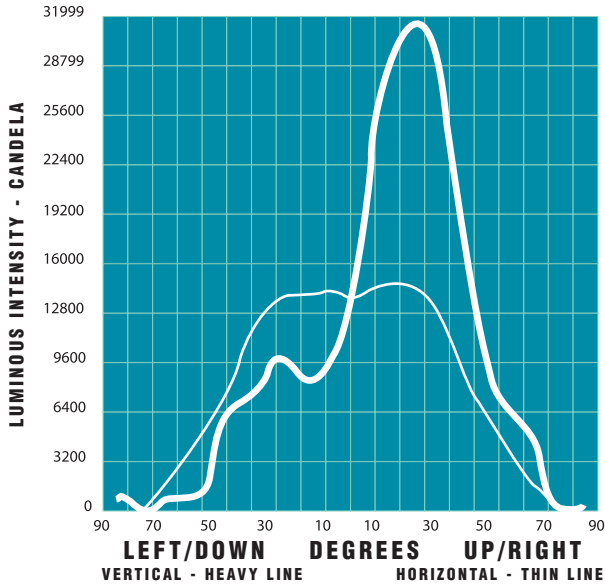
MARIGARD®
MARINE FLOODLIGHTS

ANGLE FROM BEAM AXIS (DEGREES HORIZONTAL)

Test Number: HP-07477 Lumens: 50,000
 Source: HPS IES/NEMA Type: 6H x 6V
 Lamp: ED-18 Maximum Beam Candlepower: 36,447
 Lamp Watts: 400 Average Maximum Candlepower: 32,045
 LCL: 5.75" Total Efficiency: 85.41%

	HORIZONTALLY	VERTICALLY	LUMENS	EFFICIENCY
BEAM	81.8	41.0	22,196	44.39%
FIELD	118.4	118.6	40,591	81.18%

AXIAL CANDELA TRACES

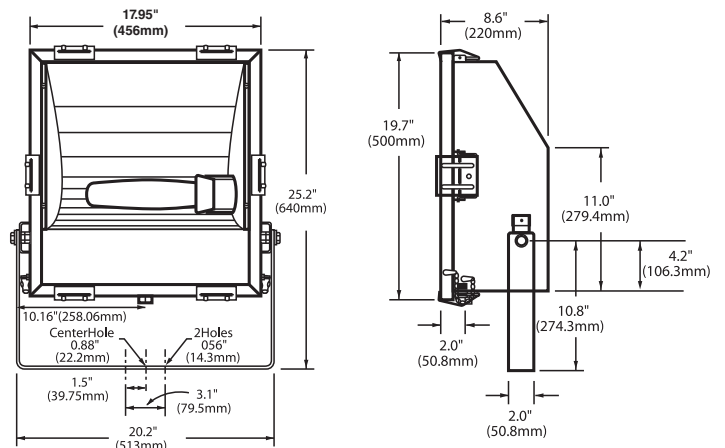


MARIGARD TEMPERATURE CODES

LAMP		RATED AMBIENT C°	CLASS 1 DIV. 2 TEMP. (CODE)	CLASS 1 ZONE 2 TEMP. (CODE)	Ex nR ①	SUPPLY WIRE C°
TYPE	WATTAGE					
HPS	150	40	270°C (T2A)	270°C (T2)	T4	90°C
HPS	150	55	285°C (T2)	285°C (T2)	T4	90°C
HPS	150	65	295°C (T2)	295°C (T2)	T3	110°C
HPS	250	40	380°C (T1)	380°C (T1)	T3	90°C
HPS	250	55	395°C (T1)	395°C (T1)	T3	110°C
HPS	400	40	380°C (T1)	380°C (T1)	T3	110°C
MH-MHP-MV	250	40	365°C (T1)	365°C (T1)	T3	110°C
MH-MHP-MV	250	55	380°C (T1)	380°C (T1)	T2	110°C
MH-MHP-MV	400	40	365°C (T1)	365°C (T1)	T3	110°C

① Ex nR with NR adder. Allows lower T-CODE approvals through the use of sealed cable entrance fittings. See fittings section or select other gland/connector as appropriate for type of cable used.

Dimensions



Rugged yet easy-to-open 316 SS Latches require no special tools!



Two 316 SS Lens Chains allow for hands-free maintenance!



Wall Pack Luminaires

Class I, Div. 2, Groups A,B,C,D
Class I, Zone 2, Groups IIC, IIB, IIA
NEMA 4X



FEATURES-SPECIFICATIONS

CERTILITE®

Applications

KWP Wall Luminaires are ideally suited for applications requiring a pleasing aesthetic appearance or hazardous location suitability in a compact energy saving fixture. Units are of copper-free aluminum construction for cool operation with a bronze electrostatically applied powder-coat finish. Suitable for locations such as perimeter security lighting, parking areas, factories and parking garages.

Features

- Aluminum with Bronze finish 1/2" hub on either side for conduit entry
- Mogul Porcelain Socket
- Reflector is specular aluminum precision formed for optimal performance
- Suitability for 40°C ambient, 90°C supply wire required
- Lens thermal shock and impact resistant prismatic borosilicate glass
- Full front access available for lamp or ballast service by hinging front door
- Two Hubbell Guard® Corrosion resistant hex head fasteners provide water-tight seal for door gasket
- Options include:
factory installed photo cells, fusing, instant restrike, ballast protector and lamps

Catalog Logic

KWP	P	15	0	P1
1	2	3	4	5
1	KWP - Series Constant (Wallpack)			
2	Lamp Type			
	S = High Pressure Sodium			
	H = Metal Halide			
	P = Metal Halide Pulse			
3	Wattage			
	05 = 50 Watt HPS			
	07 = 70 Watt (HPS, MH)			
	10 = 100 Watt (HPS, MH)			
	15 = 150 Watt (HPS, MHP)			
	17 = 175 Watt (MH, MHP)			
4	Voltage			
	0 = 120, 208, 240, 277V @ 60Hz (QUAD)			
	5 = 480 @60Hz			
	6 = 120, 277, 347 @ 60Hz (for Canada)			
	7 = 220 @ 60Hz			
	8 = 220/240V @ 50Hz			
5	Options			
	FUSING - (Not for Canada or Marine applications)			
	F1 single 120V 60Hz	F5 double 480V 60Hz		
	F2 double 208V 60Hz	F6 single 347V 60Hz		
	F3 double 240V 60Hz	F7 double 220V 60Hz		
	F4 single 277V 60Hz	F8 single 230V 50Hz		
	Photocells (Factory installed)			
	P1 120V			
	P2 208-277V (field connection to correct ballast tap)			
	P3 347V			
	Other Options			
	IR Instant Restrike HPS to 150w - not available with BP			
	BP Ballast Protector HPS - Not available with IR			
	Terminal Blocks	Assembly with Lamps		
	TBx x=1-8	AS Standard lamp		
	TBLx x=1-8 looping	AD Dual-Arc-Tube (70-150 HPS)		

Compliances

- UL 1598 Standard for Luminaires
- UL 844 Standard for lighting fixtures for hazardous locations
- CSA C22 no. 137-M1981 electric luminaires for use in hazardous locations
- Enclosed and gasketed
- NEMA 3, 4X

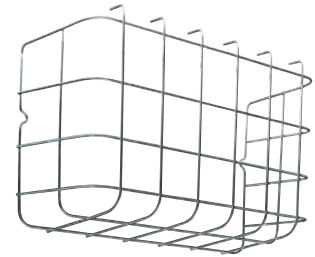




Glare Shield



Clear Shield

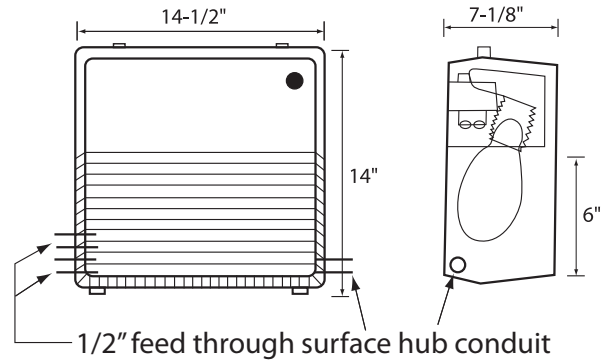


Wire Guard

ORDERING INFORMATION

HPS, MH, MHP ORDERING INFORMATION*				
CATALOG NUMBER	LAMP TYPE	VOLTAGE [Ⓛ]	T-CODE AT 400 C	
KWPS050	50 HPS	QUAD	2150C (T2D)	
KWPS055	S-68	480		
KWPS070	70 HPS	QUAD	2150C (T2D)	
KWPS075	S-62	480		
KWPS100	100 HPS	QUAD	2150C (T2D)	
KWPS105	S-54	480		
KWPS150	150 HPS	QUAD	2600C (T2B)	
KWPS155	S-55	480		
KWPH070	70 MH	QUAD	2000C (T3)	
KWPH075	M-98	480		
KWPH100	100 MH	QUAD	2000C (T3)	
KWPH105	M-90	480		
E D N B L E Y	KWPH170	175 MH	QUAD	2600C (T2B)
	KWPH175	M-57	480	
E I S A	KWPP150	150 MHP	QUAD	2600C (T2B)
	KWPP155	M102/142	480	
	KWPP170	175 MHP	QUAD	2600C (T2B)
	KWPP175	M137/152	480	

KWP ACCESSORIES	
CATALOG NUMBER	DESCRIPTION
PGPS	Clear Shield (Polycarbonate) for Protecting Lens
PGWG	Wire Guard, Cadmium Plated Steel
PVLV	Glare Shield Full Cutoff Visor - Formed Bronze Aluminum Forces light to Walkway
KWPLENS	Replacement Door and Lens



[Ⓛ]For other voltages, see logic.

Photo Cell Field Kits for Harsh NEMA 4X and Class I, Div. 2 Locations*

PHOTO CELL FIELD KITS [Ⓛ]	
CATALOG NUMBER	VOLTS
VMFSPC1	120VAC
VMFSPC2	208-277VAC
VMFSPC3	347VAC



Order single gang FS back box separately. Can be used to control several luminaires.

* 40°C ambient max. T3 to 400W max.

[Ⓛ] Includes factory drilled FSBC cover and gasket.





Shown with optional VMPSD40 reflector

Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB,IIA
NEMA 3, 4, 4X, 7(C,D)
Factory Sealed

Listed - file E10514

CSA LR11713

FEATURES-SPECIFICATIONS

Applications

HOSTILELITE® EZ series trunnion mount luminaires provide directional lighting in both vertical and horizontal planes when used with floodlight mounting hardware.

Typical applications include refineries, drilling rigs and platforms, loading docks, bulk fuel loading terminals, and pipeline pumping stations.

Features

- Three light sources
 - High Pressure Sodium (50-400W)
 - Metal Halide (70-400)
 - Metal Halide Pulse (175-400)

- Trunnion mounted—Trunnion yoke of 316 grade stainless steel attaches via mounting blocks to fixture ballast housing
- Factory sealed—No external seal needed
- Corrosion resistant—Fixture of copper-free aluminum die cast construction. Baked powder epoxy finish, electrostatically applied. Exposed hardware of 316 grade stainless steel
- Accessories—Guards, reflectors and mounting hardware available. Must be ordered separately, see illustration
- Mounting method—See page L197 for typical installation using mounting accessories

Compliances

- UL-844 Electric Lighting Fixtures for use in Hazardous Locations
- UL-1598 Standard for HID Lighting Fixtures
- CSA C22.2 no. 137-M1981 Electric Luminaires for use in Hazardous Locations
- NEMA 3, 4, 4X, 7CD

EZ HAZARDOUS LOCATION APPLICATION DATA

FIXTURE SERIES	LAMP TYPE	LAMP WATTS	SUITABLE AMBIENT °C	SUPPLY WIRE MIN. °C	CLASS I, DIV. 1 & 2 ^① MAX. SURFACE TEMP.		TYPE 3 (RAINTIGHT)	TYPE 4 (HOSEDOWN)	TYPE 4X (CORROSION RESISTANT)
					TEMP. I.D. (ACTUAL TEMP.)	GROUPS			
EZS	HPS	50	40	85	T4 (135°C)	C,D	YES	YES	YES
EZS	HPS	70	40	85	T4 (135°C)	C,D	YES	YES	YES
EZS	HPS	100	40	85	T4 (135°C)	C,D	YES	YES	YES
EZS	HPS	150	40	85	T4 (135°C)	C,D	YES	YES	YES
EZS	HPS	250	40	85	T3C (160°C)	C,D	YES	YES	YES
EZS	HPS	400	40	85	T3 (200°C)	C,D	YES	YES	YES
EZH	MH	70	40	85	T4A (120°C)	C,D	YES	YES	YES
EZH	MH	100	40	85	T4A (120°C)	C,D	YES	YES	YES
EZH	MH	175 ^②	40	85	T3B (165°C)	C,D	YES	YES	YES
EZH	MH	250 ^②	40	85	T3A (180°C)	C,D	YES	YES	YES
EZH	MH	400 ^②	40	85	T2D (215°C)	C,D	YES	YES	YES
EZP	MHP	175/200	40	85	T3C (160°C)	C,D	YES	YES	YES
EZP	MHP	250/320	40	85	T3 (200°C)	C,D	YES	YES	YES
EZP	MHP	350/400	40	85	T2D (215°C)	C,D	YES	YES	YES

^① T-Code with or without reflector.

^② EXPORT ONLY (EISA LAW).





Shown with optional VMPSD40 reflector[®]

Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB,IIA
NEMA 3, 4, 4X, 7(C,D)
Factory Sealed

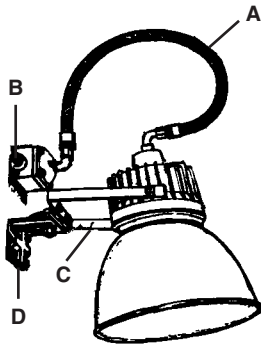
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 LR 11713

FEATURES-SPECIFICATIONS

Installation Method

Typical EZ Series trunnion mounted luminaire using conduit hardware.

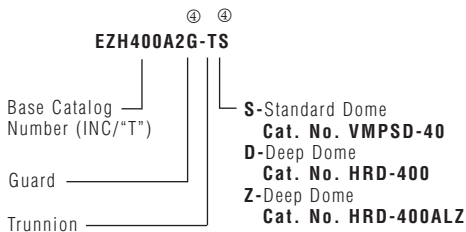


- A. Flexible coupling. See page L221 for EKJ series
- B. Splice box. See page L222 for JL/JAL series
- C. Trunnion yoke supplied with EZ-T series floodlight fixture
- D. Mounting accessory wall mount (KFWB) shown. See page L190 for this and other fittings available to adapt trunnion mount floodlights to crossarms, poles or walls

EZ 50-400W HPS FLOODLIGHTS ^{①②③}				
WATTS	ANSI LAMP TYPE	VOLTAGE @60 HERTZ	HUB SIZE	CATALOG NUMBER
50 HPS	S-68	120, 208, 240, 277	3/4" ^④	EZS050A2-T
70 HPS	S-62	120, 208, 240, 277		EZS070A2T
100 HPS	S-54	120, 208, 240, 277		EZS100A2-T
150 HPS	S-55	120, 208, 240, 277		EZS150A2-T
250 HPS	S-50	120, 208, 240, 277		EZS250A2-T
400 HPS	S-51	120, 208, 240, 277		EZS400A2-T

EZ 70-400W MH FLOODLIGHTS ^{①②③}				
WATTS	ANSI LAMP TYPE	VOLTAGE @60 HERTZ	HUB SIZE	CATALOG NUMBER
70 MH	M-98	120, 208, 240, 277	3/4" ^④	EZH070A2-T
100 MH	M-90	120, 208, 240, 277		EZH100A2-T
175 MH ^⑤	M-57	120, 208, 240, 277		EZH170A2-T
250 MH ^⑤	M-58	120, 208, 240, 277		EZH250A2-T
400 MH ^⑤	M-59	120, 208, 240, 277		EZH400A2-T

EZ 175-400W MH PULSE FLOODLIGHTS ^{①②③}				
WATTS	ANSI LAMP TYPE	VOLTAGE @60 HERTZ	HUB SIZE	CATALOG NUMBER
175 MHP	M-137/M-152	120, 208, 240, 277	3/4" ^④	EZP170A2-T
200 MHP	M-136	120, 208, 240, 277		EZP200A2-T
250 MHP	M-138/M153	120, 208, 240, 277		EZP250A2-T
320 MHP	M-132/M154	120, 208, 240, 277		EZP320A2-T
350 MHP	M-131	120, 208, 240, 277		EZP350A2-T
400 MHP	M-135/M155	120, 208, 240, 277		EZP400A2-T



^① Luminaire catalog numbers provide for a single 3/4" NPT flexible conduit connection only. For 1" NPT conduit connection, substitute "3" for "2" in catalog number; example: EZS050A3-T.

^② Consult page L156 for other available voltage.

^③ Accessories may be ordered with fixture as a single catalog number with the following logic. Components shipped separately.

^④ Optional Accessory.

^⑤ See options page L161.

^⑥ EXPORT ONLY (EISA LAW).

EZ ACCESSORIES [®]		
CATALOG NUMBER	DESCRIPTION	
EZG1	HPS 50-150 MH 175-250 MV 100-250	Guard
VMAG40S [®]	HPS 250-400 MH, MV 400	Reflector
VMPSD40	Standard dome	
HRD400	Deep dome white	
HRD400ALZ	Deep dome*	

* Specular anodized finish.





CERTILITE® E
EMERGENCY

NEW!
TWO BATTERY
MODELS

Replaces
DEB/VEB/VEQ
Series

DE3B/DE4B
Class II, Div. 1 & 2, Groups E,F,G[Ⓢ]
Class III
NEMA 3, 4, 4X; IP66 
VE4B/VF4B/VE3Q/VE4Q
Class I, Div. 2, Groups A,B,C,D[Ⓢ]
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
NEMA 3, 4, 4X; IP66 
Class I, Zone 2 AEx nAnR[Ⓢ]
Class I, Zone 2 Ex nR[Ⓢ]

FEATURES-SPECIFICATIONS

Applications

CERTILITE® VEB and VEQ Emergency Lighting fixtures provide continuous illumination under normal power and switch to emergency battery backup during power outages. Emergency Units ONLY are available that operate only when normal power fails.

Units contain battery unit(s) that provides the OSHA required 90 minutes of illumination for egress.

DExx units are designed for general and task lighting in indoor or outdoor wet locations or where **combustible dusts** may exist and create a hazardous location, as defined by the NEC.

VExx units are designed for general and task lighting in indoors or outdoors where **flammable gases or vapors, combustible dusts, or simultaneous presence** may exist and create a hazardous location, as defined by the NEC.

Use Push-To-Test station suitable for area of use for testing purposes.

Features

- Bi-Pin Twin D(V)ExB or Quad-Pin triple-tube (VExQ) long-life compact fluorescent lamps included
- World Voltage on Quad-Pin VExQ Series: 120 through 277VAC; 50 through 60 Hz
- LED charging indicator light visible through lens
- Pre-wired terminal block for easy power connection
- Two lamp models include two independent redundant systems
- Six mounting splice box types - Pendant, Ceiling, Wall bracket, Cone Top, 25° Angle Stanchion, Straight Stanchion.
- Normally shipped as components for fast delivery, or may be ordered factory assembled.
- Options for Fuses and Quick Disconnect

Standard Materials

- Ballast tank and splice box – copper-free aluminum alloy with baked powder epoxy/polyester finish, electrostatically applied. External hardware – 316 SS.


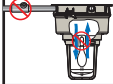





Compliances

- UL1598 Standard for luminaires
- UL1598A Marine type luminaire
- UL-844 Standard for lighting fixtures for hazardous locations
- CSA C22.2 no. 137-M1981 electric luminaires for use in hazardous locations

- UL-924 Emergency Lighting
- Enclosed and gasketed
- NEMA 3, 4X IP66
- UL 60079-15 - Electrical apparatus for Explosive Gas Atmospheres with Type of Protection “n” (Restricted Breathing and non-sparking).

Accessories

- VEXA—100B 3-sided Exit sign: (Use w/o guard)
- VEXA—400 4-sided Exit sign: (Use w/o guard)
- VMPSD—40 Dome and VMFA—40 Angle Reflectors (see page L118)
- XCS-OB3-PTT “Push-To-Test” n.c Station (order SWB box separately)

FEATURES		BENEFITS
	Swing-Barrel Nut Patented Tank Mounting System	<ul style="list-style-type: none"> • Stainless-to-Stainless securement • Takes load off during installation • Uses ordinary tools • Saves time and labor
	Sealed Optic Zone 2 AEx nAR Restricted Breathing (suffix NR)	NO External Seals. Lower T-codes, Suitable for Class I Div. 2 Classified areas per the NEC [Ⓢ] . See L54 for more information.
	All glass refractors I III V	Compact (5-1/2" thread size, types I & V) Standard (7-3/4", thread size, types I, III, V) Enhances user selection flexibility
	“EZ” mount adapter	Easier Maintenance, saves labor, move fixture from the ladder to the workbench
	Photo controls -Class I Div. 2 / N4X areas (VExx) tanks only	Available as Field or Factory Installed to save energy when light not required. For AC ballast only.
	Earthquake Tab - Built-in attachment point for safety cables	Safety: Secures fixture to structure in case of conduit failure. “3rd hand” accessories for lamp change out. See L53 for more information.
	VMEP40 “Food Optic” VQ2F	Expanded Offering for Food or Grain Handling Applications to minimize contamination. See L53 for more information.

Ⓢ See Hazardous Application Data page L205 for limitations.

Ⓢ NR Restricted breathing (VExx) for lower T-Codes. See page L54.

Options

- RD - Red paint housing, mount, guard (VMAG17, VMAG25S)
- F, FF - Factory fused; F = Single fuse for 120V, 230V 50 Hz (VExQ); FF = Double fuse for 208V, 220V 60 Hz, 240V

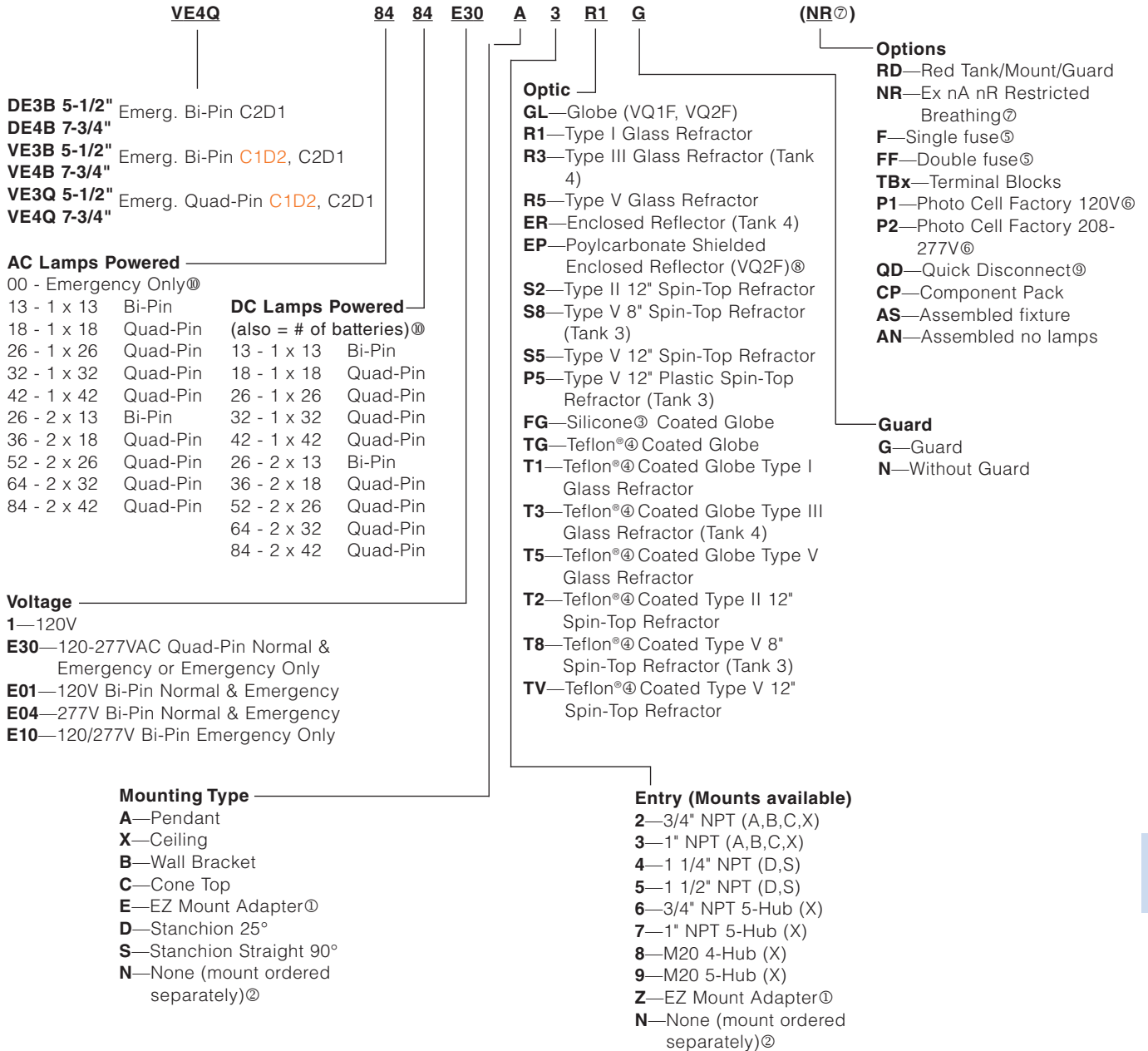
Note: xE3x dimensions are the same as VM3
xE4x dimensions are the same as VM4
See L___ for more information

Photometrics similar to VQ1F Series.
See page L150.



KILLARK®

CertiLife®E Catalog Number Logic; 13-84W Battery Backed (Compact Fluorescent) Fixtures



® Completes as "EZ", conduit mounting boxes ordered separately - See L83.
 ® NN mount ordered separately.
 ® Silicone coated globe for additional impact protection.
 ® Teflon® is a registered trademark of DuPont, Inc.
 ® Fusing not for Marine or Canadian installations

® Photo cells for Class I, Div. 2 only. VExx Models
 ® Restricted Breathing - See L54 for more information.
 ® Not for use with wall or straight (90°) Stanchion.
 ® QD = Quick Disconnect. Allows easy tank removal for maintenance. Electrician simply unplugs de-energized tank from supply circuit.
 ® Bi-Pin & Quad-Pin cannot be mixed. Wattages cannot be mixed e.g. 4232 or 6484.



**Tank 3 Pendant
w/ 5-1/2"
Globe & Guard**



**Tank 4 Ceiling
w/ 7-3/4"
Globe & Guard**



**Tank 3 Wall
w/ 5-1/2"
Reflector & Guard**



**Tank 4 Cone
w/ 7-3/4"
Globe & Guard**

See Page L198 for Suitabilities^①

13 - 84 WATT EMERGENCY FIXTURES - 3/4" PENDANT (** CEILING - WALL - CONE) COMPACT FLUORESCENT								
DESCRIPTION		5-1/2" OPTIC THREAD SIZE ^②			7-3/4" OPTIC THREAD SIZE ^②			
WATTS/ TYPE	VOLTAGE	GLOBE & GUARD	TYPE V GLASS REFRACTOR & GUARD	8" SPIN-TOP TYPE V REFRACTOR & GUARD	GLOBE & GUARD	TYPE V GLASS REFRACTOR & GUARD	12" SPIN-TOP TYPE V REFRACTOR & GUARD	
Class II Div 1, N4X, IP66 ^①	13W (1x13) Emer Only	120V or 277 VAC	DE3B0013E10A2GLG	DE3B0013E10A2R5G	DE3B0013E10A2S8G	DE4B0013E10A2GLG	DE4B0013E10A2R5G	DE4B0013E10A2S5G
	26W (2x13) Emer Only		DE3B0026E10A2GLG	DE3B0026E10A2R5G	DE3B0026E10A2S8G	DE4B0026E10A2GLG	DE4B0026E10A2R5G	DE4B0026E10A2S5G
	13W (1x13) Normal	120VAC 60Hz	DE3B1313E01A2GLG	DE3B1313E01A2R5G	DE3B1313E01A2S8G	DE4B1313E01A2GLG	DE4B1313E01A2R5G	DE4B1313E01A2S5G
	13W (1x13) Emergency	277VAC 60Hz	DE3B1313E04A2GLG	DE3B1313E04A2R5G	DE3B1313E04A2S8G	DE4B1313E04A2GLG	DE4B1313E04A2R5G	DE4B1313E04A2S5G
	26W (2x13) Normal	120VAC 60Hz	DE3B2613E01A2GLG	DE3B2613E01A2R5G	DE3B2613E01A2S8G	DE4B2613E01A2GLG	DE4B2613E01A2R5G	DE4B2613E01A2S5G
	13W (1x13) Emergency	277VAC 60Hz	DE3B2613E04A2GLG	DE3B2613E04A2R5G	DE3B2613E04A2S8G	DE4B2613E04A2GLG	DE4B2613E04A2R5G	DE4B2613E04A2S5G
	26W (2x13) Normal	120VAC 60Hz	DE3B2626E01A2GLG	DE3B2626E01A2R5G	DE3B2626E01A2S8G	DE4B2626E01A2GLG	DE4B2626E01A2R5G	DE4B2626E01A2S5G
	26W (2x13) Emergency	277VAC 60Hz	DE3B2626E04A2GLG	DE3B2626E04A2R5G	DE3B2626E04A2S8G	DE4B2626E04A2GLG	DE4B2626E04A2R5G	DE4B2626E04A2S5G
Class I Div 2, Class II Div 1, N4X, IP66 ^①	13W (1x13) Emer Only	120V or 277VAC	VE3B0013E10A2GLG	VE3B0013E10A2R5G	VE3B0013E10A2S8G	VE4B0013E10A2GLG	VE4B0013E10A2R5G	VE4B0013E10A2S5G
	26W (2x13) Emer Only		VE3B0026E10A2GLG	VE3B0026E10A2R5G	VE3B0026E10A2S8G	VE4B0026E10A2GLG	VE4B0026E10A2R5G	VE4B0026E10A2S5G
	13W (1x13) Normal	120VAC 60Hz	VE3B1313E01A2GLG	VE3B1313E01A2R5G	VE3B1313E01A2S8G	VE4B1313E01A2GLG	VE4B1313E01A2R5G	VE4B1313E01A2S5G
	13W (1x13) Emergency	277VAC 60Hz	VE3B1313E04A2GLG	VE3B1313E04A2R5G	VE3B1313E04A2S8G	VE4B1313E04A2GLG	VE4B1313E04A2R5G	VE4B1313E04A2S5G
	26W (2x13) Normal	120VAC 60Hz	VE3B2613E01A2GLG	VE3B2613E01A2R5G	VE3B2613E01A2S8G	VE4B2613E01A2GLG	VE4B2613E01A2R5G	VE4B2613E01A2S5G
	13W (1x13) Emergency	277VAC 60Hz	VE3B2613E04A2GLG	VE3B2613E04A2R5G	VE3B2613E04A2S8G	VE4B2613E04A2GLG	VE4B2613E04A2R5G	VE4B2613E04A2S5G
	26W (2x13) Normal	120VAC 60Hz	VE3B2626E01A2GLG	VE3B2626E01A2R5G	VE3B2626E01A2S8G	VE4B2626E01A2GLG	VE4B2626E01A2R5G	VE4B2626E01A2S5G
	26W (2x13) Emergency	277VAC 60Hz	VE3B2626E04A2GLG	VE3B2626E04A2R5G	VE3B2626E04A2S8G	VE4B2626E04A2GLG	VE4B2626E04A2R5G	VE4B2626E04A2S5G
	18W (1x18) Emer Only	120 to 277 50-60Hz	VE3Q0018E30A2GLG	VE3Q0018E30A2R5G	VE3Q0018E30A2S8G	VE4Q0018E30A2GLG	VE4Q0018E30A2R5G	VE4Q0018E30A2S5G
	36W (2x18) Emer Only	120 to 277 50-60Hz	VE3Q0036E30A2GLG	VE3Q0036E30A2R5G	VE3Q0036E30A2S8G	VE4Q0036E30A2GLG	VE4Q0036E30A2R5G	VE4Q0036E30A2S5G
	18W (1x18) Normal/Emer	120 to 277 50-60Hz	VE3Q1818E30A2GLG	VE3Q1818E30A2R5G	VE3Q1818E30A2S8G	VE4Q1818E30A2GLG	VE4Q1818E30A2R5G	VE4Q1818E30A2S5G
	36W (2x18) Normal	120 to 277 50-60Hz	VE3Q3618E30A2GLG	VE3Q3618E30A2R5G	VE3Q3618E30A2S8G	VE4Q3618E30A2GLG	VE4Q3618E30A2R5G	VE4Q3618E30A2S5G
	18W (1x18) Emergency		VE3Q3618E30A2GLG	VE3Q3618E30A2R5G	VE3Q3618E30A2S8G	VE4Q3618E30A2GLG	VE4Q3618E30A2R5G	VE4Q3618E30A2S5G
	36W (2x18) Normal/Emer	120 to 277 50-60Hz	VE3Q3636E30A2GLG	VE3Q3636E30A2R5G	VE3Q3636E30A2S8G	VE4Q3636E30A2GLG	VE4Q3636E30A2R5G	VE4Q3636E30A2S5G
	26W (1x26) Emer Only	120 to 277 50-60Hz	VE3Q0026E30A2GLG	VE3Q0026E30A2R5G	VE3Q0026E30A2S8G	VE4Q0026E30A2GLG	VE4Q0026E30A2R5G	VE4Q0026E30A2S5G
	52W (2x26) Emer Only	120 to 277 50-60Hz	VE3Q0052E30A2GLG	VE3Q0052E30A2R5G	VE3Q0052E30A2S8G	VE4Q0052E30A2GLG	VE4Q0052E30A2R5G	VE4Q0052E30A2S5G
	26W (1x26) Normal/Emer	120 to 277 50-60Hz	VE3Q2626E30A2GLG	VE3Q2626E30A2R5G	VE3Q2626E30A2S8G	VE4Q2626E30A2GLG	VE4Q2626E30A2R5G	VE4Q2626E30A2S5G
	52W (2x26) Normal	120 to 277 50-60Hz	VE3Q5226E30A2GLG	VE3Q5226E30A2R5G	VE3Q5226E30A2S8G	VE4Q5226E30A2GLG	VE4Q5226E30A2R5G	VE4Q5226E30A2S5G
	26W (1x26) Emergency		VE3Q5226E30A2GLG	VE3Q5226E30A2R5G	VE3Q5226E30A2S8G	VE4Q5226E30A2GLG	VE4Q5226E30A2R5G	VE4Q5226E30A2S5G
	52W (2x26) Normal/Emer	120 to 277 50-60Hz	VE3Q5252E30A2GLG	VE3Q5252E30A2R5G	VE3Q5252E30A2S8G	VE4Q5252E30A2GLG	VE4Q5252E30A2R5G	VE4Q5252E30A2S5G
	32W (1x32) Emer Only	120 to 277 50-60Hz	VE3Q0032E30A2GLG	VE3Q0032E30A2R5G	VE3Q0032E30A2S8G	VE4Q0032E30A2GLG	VE4Q0032E30A2R5G	VE4Q0032E30A2S5G
	64W (2x32) Emer Only	120 to 277 50-60Hz	VE3Q0064E30A2GLG	VE3Q0064E30A2R5G	VE3Q0064E30A2S8G	VE4Q0064E30A2GLG	VE4Q0064E30A2R5G	VE4Q0064E30A2S5G
	32W (1x32) Normal/Emer	120 to 277 50-60Hz	VE3Q3232E30A2GLG	VE3Q3232E30A2R5G	VE3Q3232E30A2S8G	VE4Q3232E30A2GLG	VE4Q3232E30A2R5G	VE4Q3232E30A2S5G
	64W (2x32) Normal	120 to 277 50-60Hz	VE3Q6432E30A2GLG	VE3Q6432E30A2R5G	VE3Q6432E30A2S8G	VE4Q6432E30A2GLG	VE4Q6432E30A2R5G	VE4Q6432E30A2S5G
	32W (1x32) Emergency		VE3Q6432E30A2GLG	VE3Q6432E30A2R5G	VE3Q6432E30A2S8G	VE4Q6432E30A2GLG	VE4Q6432E30A2R5G	VE4Q6432E30A2S5G
	64W (2x32) Normal/Emer	120 to 277 50-60Hz	VE3Q6464E30A2GLG	VE3Q6464E30A2R5G	VE3Q6464E30A2S8G	VE4Q6464E30A2GLG	VE4Q6464E30A2R5G	VE4Q6464E30A2S5G
	42W (1x42) Emer Only	120 to 277 50-60Hz	VE3Q0042E30A2GLG	VE3Q0042E30A2R5G	VE3Q0042E30A2S8G	VE4Q0042E30A2GLG	VE4Q0042E30A2R5G	VE4Q0042E30A2S5G
	84W (2x42) Emer Only	120 to 277 50-60Hz	VE3Q0084E30A2GLG	VE3Q0084E30A2R5G	VE3Q0084E30A2S8G	VE4Q0084E30A2GLG	VE4Q0084E30A2R5G	VE4Q0084E30A2S5G
42W (1x42) Normal/Emer	120 to 277 50-60Hz	VE3Q4242E30A2GLG	VE3Q4242E30A2R5G	VE3Q4242E30A2S8G	VE4Q4242E30A2GLG	VE4Q4242E30A2R5G	VE4Q4242E30A2S5G	
84W (2x42) Normal	120 to 277 50-60Hz	VE3Q8442E30A2GLG	VE3Q8442E30A2R5G	VE3Q8442E30A2S8G	VE4Q8442E30A2GLG	VE4Q8442E30A2R5G	VE4Q8442E30A2S5G	
42W (1x42) Emergency		VE3Q8442E30A2GLG	VE3Q8442E30A2R5G	VE3Q8442E30A2S8G	VE4Q8442E30A2GLG	VE4Q8442E30A2R5G	VE4Q8442E30A2S5G	
84W (2x42) Normal/Emer	120 to 277 50-60Hz	VE3Q8484E30A2GLG	VE3Q8484E30A2R5G	VE3Q8484E30A2S8G	VE4Q8484E30A2GLG	VE4Q8484E30A2R5G	VE4Q8484E30A2S5G	

^① See hazardous location data pages L204 - L205 for application suitability

^② xE3x models use 5-1/2" CertiLite® V VM optics accessories; xE4x models use 7-3/4" VM optics accessories.

** Grid is populated with 3/4" Pendant models with Optic Guards, to omit guard change last G to N e.g. DE3B0013E10A2GLN

- 3/4" Ceiling models change A2 to X2

- 3/4" Wall Bracket models change A2 to B2

- 3/4" Cone-top models change A2 to C2

- For 1" change to A3, X3, B3, or C3



**DE3B | VE3B | VE3Q
DE4B | VE4B | VE4Q SERIES • LIGHTING
COMPACT FLUORESCENT EMERGENCY FIXTURES**

L201



**Tank 1 Stanchion 25°
w/5-1/2"
Globe & Guard**



**Tank 4 Stanchion Straight
w/ 7-3/4"
Refractor & Guard**



**Tank 3 EZ Adapter
w/ 5-1/2"
Refractor & Guard**

See Page L198 for Suitabilities^①

13 - 84 WATT EMERGENCY FIXTURES - 25° STANCHION (** STRAIGHT STANCHION, EZ ADAPTER) COMPACT FLUORESCENT								
DESCRIPTION		5-1/2" OPTIC THREAD SIZE ^②			7-3/4" OPTIC THREAD SIZE ^②			
WATTS/ TYPE	VOLTAGE	GLOBE & GUARD	TYPE V GLASS REFRACTOR & GUARD	8" SPIN-TOP TYPE V REFRACTOR & GUARD	GLOBE & GUARD	TYPE V GLASS REFRACTOR & GUARD	12" SPIN-TOP TYPE V REFRACTOR & GUARD	
Class I Div 1, N4X, IP66 ^①	13W (1x13) Emer Only	120V or 277VAC	DE3B0013E10D5GLG	DE3B0013E10D5R5G	DE3B0013E10D5S8G	DE4B0013E10D5GLG	DE4B0013E10D5R5G	DE4B0013E10D5S5G
	26W (2x13) Emer Only		DE3B0026E10D5GLG	DE3B0026E10D5R5G	DE3B0026E10D5S8G	DE4B0026E10D5GLG	DE4B0026E10D5R5G	DE4B0026E10D5S5G
	13W (1x13) Normal	120VAC 60Hz	DE3B1313E01D5GLG	DE3B1313E01D5R5G	DE3B1313E01D5S8G	DE4B1313E01D5GLG	DE4B1313E01D5R5G	DE4B1313E01D5S5G
	13W (1x13) Emergency	277VAC 60Hz	DE3B1313E04D5GLG	DE3B1313E04D5R5G	DE3B1313E04D5S8G	DE4B1313E04D5GLG	DE4B1313E04D5R5G	DE4B1313E04D5S5G
	26W (2x13) Normal	120VAC 60Hz	DE3B2613E01D5GLG	DE3B2613E01D5R5G	DE3B2613E01D5S8G	DE4B2613E01D5GLG	DE4B2613E01D5R5G	DE4B2613E01D5S5G
	13W (1x13) Emergency	277VAC 60Hz	DE3B2613E04D5GLG	DE3B2613E04D5R5G	DE3B2613E04D5S8G	DE4B2613E04D5GLG	DE4B2613E04D5R5G	DE4B2613E04D5S5G
	26W (2x13) Normal	120VAC 60Hz	DE3B2626E01D5GLG	DE3B2626E01D5R5G	DE3B2626E01D5S8G	DE4B2626E01D5GLG	DE4B2626E01D5R5G	DE4B2626E01D5S5G
	26W (2x13) Emergency	277VAC 60Hz	DE3B2626E04D5GLG	DE3B2626E04D5R5G	DE3B2626E04D5S8G	DE4B2626E04D5GLG	DE4B2626E04D5R5G	DE4B2626E04D5S5G
Class I Div 2, Class II Div 1, N4X, IP66 ^①	13W (1x13) Emer Only	120V or 277VAC	VE3B0013E10D5GLG	VE3B0013E10D5R5G	VE3B0013E10D5S8G	VE4B0013E10D5GLG	VE4B0013E10D5R5G	VE4B0013E10D5S5G
	26W (2x13) Emer Only		VE3B0026E10D5GLG	VE3B0026E10D5R5G	VE3B0026E10D5S8G	VE4B0026E10D5GLG	VE4B0026E10D5R5G	VE4B0026E10D5S5G
	13W (1x13) Normal	120VAC 60Hz	VE3B1313E01D5GLG	VE3B1313E01D5R5G	VE3B1313E01D5S8G	VE4B1313E01D5GLG	VE4B1313E01D5R5G	VE4B1313E01D5S5G
	13W (1x13) Emergency	277VAC 60Hz	VE3B1313E04D5GLG	VE3B1313E04D5R5G	VE3B1313E04D5S8G	VE4B1313E04D5GLG	VE4B1313E04D5R5G	VE4B1313E04D5S5G
	26W (2x13) Normal	120VAC 60Hz	VE3B2613E01D5GLG	VE3B2613E01D5R5G	VE3B2613E01D5S8G	VE4B2613E01D5GLG	VE4B2613E01D5R5G	VE4B2613E01D5S5G
	13W (1x13) Emergency	277VAC 60Hz	VE3B2613E04D5GLG	VE3B2613E04D5R5G	VE3B2613E04D5S8G	VE4B2613E04D5GLG	VE4B2613E04D5R5G	VE4B2613E04D5S5G
	26W (2x13) Normal	120VAC 60Hz	VE3B2626E01D5GLG	VE3B2626E01D5R5G	VE3B2626E01D5S8G	VE4B2626E01D5GLG	VE4B2626E01D5R5G	VE4B2626E01D5S5G
	26W (2x13) Emergency	277VAC 60Hz	VE3B2626E04D5GLG	VE3B2626E04D5R5G	VE3B2626E04D5S8G	VE4B2626E04D5GLG	VE4B2626E04D5R5G	VE4B2626E04D5S5G
	18W (1x18) Emer Only	120 to 277 50-60Hz	VE3Q0018E30D5GLG	VE3Q0018E30D5R5G	VE3Q0018E30D5S8G	VE4Q0018E30D5GLG	VE4Q0018E30D5R5G	VE4Q0018E30D5S5G
	36W (2x18) Emer Only	120 to 277 50-60Hz	VE3Q0036E30D5GLG	VE3Q0036E30D5R5G	VE3Q0036E30D5S8G	VE4Q0036E30D5GLG	VE4Q0036E30D5R5G	VE4Q0036E30D5S5G
	18W (1x18) Normal/Emer	120 to 277 50-60Hz	VE3Q1818E30D5GLG	VE3Q1818E30D5R5G	VE3Q1818E30D5S8G	VE4Q1818E30D5GLG	VE4Q1818E30D5R5G	VE4Q1818E30D5S5G
	36W (2x18) Normal	120 to 277 50-60Hz	VE3Q3618E30D5GLG	VE3Q3618E30D5R5G	VE3Q3618E30D5S8G	VE4Q3618E30D5GLG	VE4Q3618E30D5R5G	VE4Q3618E30D5S5G
	18W (1x18) Emergency		VE3Q3618E30D5GLG	VE3Q3618E30D5R5G	VE3Q3618E30D5S8G	VE4Q3618E30D5GLG	VE4Q3618E30D5R5G	VE4Q3618E30D5S5G
	36W (2x18) Normal/Emer	120 to 277 50-60Hz	VE3Q3636E30D5GLG	VE3Q3636E30D5R5G	VE3Q3636E30D5S8G	VE4Q3636E30D5GLG	VE4Q3636E30D5R5G	VE4Q3636E30D5S5G
	26W (1x26) Emer Only	120 to 277 50-60Hz	VE3Q0026E30D5GLG	VE3Q0026E30D5R5G	VE3Q0026E30D5S8G	VE4Q0026E30D5GLG	VE4Q0026E30D5R5G	VE4Q0026E30D5S5G
	52W (2x26) Emer Only	120 to 277 50-60Hz	VE3Q0052E30D5GLG	VE3Q0052E30D5R5G	VE3Q0052E30D5S8G	VE4Q0052E30D5GLG	VE4Q0052E30D5R5G	VE4Q0052E30D5S5G
	26W (1x26) Normal/Emer	120 to 277 50-60Hz	VE3Q2626E30D5GLG	VE3Q2626E30D5R5G	VE3Q2626E30D5S8G	VE4Q2626E30D5GLG	VE4Q2626E30D5R5G	VE4Q2626E30D5S5G
	52W (2x26) Normal	120 to 277 50-60Hz	VE3Q5226E30D5GLG	VE3Q5226E30D5R5G	VE3Q5226E30D5S8G	VE4Q5226E30D5GLG	VE4Q5226E30D5R5G	VE4Q5226E30D5S5G
	26W (1x26) Emergency		VE3Q5226E30D5GLG	VE3Q5226E30D5R5G	VE3Q5226E30D5S8G	VE4Q5226E30D5GLG	VE4Q5226E30D5R5G	VE4Q5226E30D5S5G
	52W (2x26) Normal/Emer	120 to 277 50-60Hz	VE3Q5252E30D5GLG	VE3Q5252E30D5R5G	VE3Q5252E30D5S8G	VE4Q5252E30D5GLG	VE4Q5252E30D5R5G	VE4Q5252E30D5S5G
	32W (1x32) Emer Only	120 to 277 50-60Hz	VE3Q0032E30D5GLG	VE3Q0032E30D5R5G	VE3Q0032E30D5S8G	VE4Q0032E30D5GLG	VE4Q0032E30D5R5G	VE4Q0032E30D5S5G
	64W (2x32) Emer Only	120 to 277 50-60Hz	VE3Q0064E30D5GLG	VE3Q0064E30D5R5G	VE3Q0064E30D5S8G	VE4Q0064E30D5GLG	VE4Q0064E30D5R5G	VE4Q0064E30D5S5G
	32W (1x32) Normal/Emer	120 to 277 50-60Hz	VE3Q3232E30D5GLG	VE3Q3232E30D5R5G	VE3Q3232E30D5S8G	VE4Q3232E30D5GLG	VE4Q3232E30D5R5G	VE4Q3232E30D5S5G
	64W (2x32) Normal	120 to 277 50-60Hz	VE3Q6432E30D5GLG	VE3Q6432E30D5R5G	VE3Q6432E30D5S8G	VE4Q6432E30D5GLG	VE4Q6432E30D5R5G	VE4Q6432E30D5S5G
	32W (1x32) Emergency		VE3Q6432E30D5GLG	VE3Q6432E30D5R5G	VE3Q6432E30D5S8G	VE4Q6432E30D5GLG	VE4Q6432E30D5R5G	VE4Q6432E30D5S5G
	64W (2x32) Normal/Emer	120 to 277 50-60Hz	VE3Q6464E30D5GLG	VE3Q6464E30D5R5G	VE3Q6464E30D5S8G	VE4Q6464E30D5GLG	VE4Q6464E30D5R5G	VE4Q6464E30D5S5G
	42W (1x42) Emer Only	120 to 277 50-60Hz	VE3Q0042E30D5GLG	VE3Q0042E30D5R5G	VE3Q0042E30D5S8G	VE4Q0042E30D5GLG	VE4Q0042E30D5R5G	VE4Q0042E30D5S5G
	84W (2x42) Emer Only	120 to 277 50-60Hz	VE3Q0084E30D5GLG	VE3Q0084E30D5R5G	VE3Q0084E30D5S8G	VE4Q0084E30D5GLG	VE4Q0084E30D5R5G	VE4Q0084E30D5S5G
42W (1x42) Normal/Emer	120 to 277 50-60Hz	VE3Q4242E30D5GLG	VE3Q4242E30D5R5G	VE3Q4242E30D5S8G	VE4Q4242E30D5GLG	VE4Q4242E30D5R5G	VE4Q4242E30D5S5G	
84W (2x42) Normal	120 to 277 50-60Hz	VE3Q8442E30D5GLG	VE3Q8442E30D5R5G	VE3Q8442E30D5S8G	VE4Q8442E30D5GLG	VE4Q8442E30D5R5G	VE4Q8442E30D5S5G	
42W (1x42) Emergency		VE3Q8442E30D5GLG	VE3Q8442E30D5R5G	VE3Q8442E30D5S8G	VE4Q8442E30D5GLG	VE4Q8442E30D5R5G	VE4Q8442E30D5S5G	
84W (2x42) Normal/Emer	120 to 277 50-60Hz	VE3Q8484E30D5GLG	VE3Q8484E30D5R5G	VE3Q8484E30D5S8G	VE4Q8484E30D5GLG	VE4Q8484E30D5R5G	VE4Q8484E30D5S5G	

^① See hazardous location data pages L204 - L205 for application suitability

^② xE3x models use 5-1/2" CertiLite™ V VM optics accessories; xE4x models use 7-3/4" VM optics accessories.

** Grid is populated with 1-1/2" 25° Stanchion models with Optic Guards, to omit guard change last G to N e.g. DE3B0013E10A2GLN

- 1-1/2" Straight models change D5 to S5

- 1-1/4" Stanchions change "5" to "4" e.g. D4 or S4

- EZ adapter models require EZ Mounts to energize, see L83 for more information



KILLARK®



Tank 3

5-1/2" Optic Thread Size



Tank 4

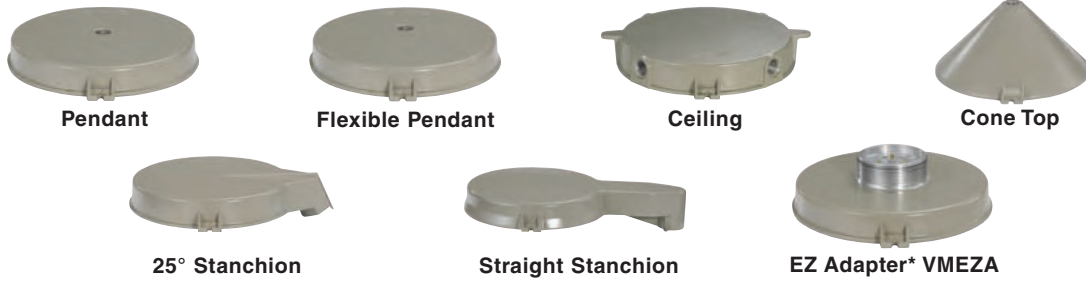
7-3/4" Optic Thread Size

See Page L198 for Suitabilities®

BALLAST-BATTERY TANKS WITH LAMPS						
DESCRIPTION				INITIAL LUMENS		
WATTS/ TYPE	VOLTAGE	5-1/2" OPTIC THREAD SIZE ②	7-3/4" OPTIC THREAD SIZE ③	NORMAL AC	EMER. BATTERY	
Class II Div 1, N4X, IP66 ①	13W (1 x 13) Emer Only	120V or 277VAC	DE3B0013E10	DE4B0013E10	—	625
	26W (2 x 13) Emer Only		DE3B0026E10	DE4B0026E10	—	1250
	13W (1x13) Normal	120VAC 60Hz	DE3B1313E01	DE4B1313E01	825	625
	13W (1x13) Emergency	277VAC 60Hz	DE3B1313E04	DE4B1313E04	825	625
	26W (2x13) Normal	120VAC 60Hz	DE3B2613E01	DE4B2613E01	1650	625
	13W (1x13) Emergency	277VAC 60Hz	DE3B2613E04	DE4B2613E04	1650	625
	26W (2x13) Normal	120VAC 60Hz	DE3B2626E01	DE4B2626E01	1650	1250
	26W (2x13) Emergency	277VAC 60Hz	DE3B2626E04	DE4B2626E04	1650	1250
Class I Div 2, Class II Div 1, N4X, IP66 ①	13W (1 x 13) Emer Only	120V or 277VAC	VE3B0013E10	VE4B0013E10	—	625
	26W (2 x 13) Emer Only		VE3B0026E10	VE4B0026E10	—	1250
	13W (1x13) Normal	120VAC 60Hz	VE3B1313E01	VE4B1313E01	825	625
	13W (1x13) Emergency	277VAC 60Hz	VE3B1313E04	VE4B1313E04	825	625
	26W (2x13) Normal	120VAC 60Hz	VE3B2613E01	VE4B2613E01	1650	625
	13W (1x13) Emergency	277VAC 60Hz	VE3B2613E04	VE4B2613E04	1650	625
	26W (2x13) Normal	120VAC 60Hz	VE3B2626E01	VE4B2626E01	1650	1250
	26W (2x13) Emergency	277VAC 60Hz	VE3B2626E04	VE4B2626E04	1650	1250
	18W (1 x 18) Emer Only	120 to 277 50-60Hz	VE3Q0018E30	VE4Q0018E30	—	400
	36W (2 x 18) Emer Only	120 to 277 50-60Hz	VE3Q0036E30	VE4Q0036E30	—	800
	18W (1x18) Normal/Emer	120 to 277 50-60Hz	VE3Q1818E30	VE4Q1818E30	1200	400
	36W (2x18) Normal	120 to 277 50-60Hz	VE3Q3618E30	VE4Q3618E30	2400	400
	18W (1x18) Emergency				2400	800
	36W (2x18) Normal/Emer	120 to 277 50-60Hz	VE3Q3636E30	VE4Q3636E30	2400	800
	26W 1 x 26 Emer Only	120 to 277 50-60Hz	VE3Q0026E30	VE4Q0026E30	—	425
	52W 2 x 26 Emer Only	120 to 277 50-60Hz	VE3Q0052E30	VE4Q0052E30	—	850
26W (1x26) Normal/Emer	120 to 277 50-60Hz	VE3Q2626E30	VE4Q2626E30	1800	425	
52W (2x26) Normal	120 to 277 50-60Hz	VE3Q5226E30	VE4Q5226E30	3600	425	
26W (1x26) Emergency				3600	850	
52W (2x26) Normal/Emer	120 to 277 50-60Hz	VE3Q5252E30	VE4Q5252E30	3600	850	
32W (1 x 32) Emer Only	120 to 277 50-60Hz	VE3Q0032E30	VE4Q0032E30	—	525	
64W (2 x 32) Emer Only	120 to 277 50-60Hz	VE3Q0064E30	VE4Q0064E30	—	1050	
32W (1x32) Normal/Emer	120 to 277 50-60Hz	VE3Q3232E30	VE4Q3232E30	2400	525	
64W (2x32) Normal	120 to 277 50-60Hz	VE3Q6432E30	VE4Q6432E30	4800	525	
32W (1x32) Emergency				4800	1050	
64W (2x32) Normal/Emer	120 to 277 50-60Hz	VE3Q6464E30	VE4Q6464E30	4800	1050	
42W (1 x 42) Emer Only	120 to 277 50-60Hz	VE3Q0042E30	VE4Q0042E30	—	700	
84W (2 x 42) Emer Only	120 to 277 50-60Hz	VE3Q0084E30	VE4Q0084E30	—	1400	
42W (1x42) Normal/Emer	120 to 277 50-60Hz	VE3Q4242E30	VE4Q4242E30	3200	700	
84W (2x42) Normal	120 to 277 50-60Hz	VE3Q8442E30	VE4Q8442E30	6400	700	
42W (1x42) Emergency				6400	1400	
84W (2x42) Normal/Emer	120 to 277 50-60Hz	VE3Q8484E30	VE4Q8484E30	6400	1400	

① See hazardous location data pages L204 - L205 for application suitability
 ② See VM3 5-1/2" Optics Page L95; xE3x series use VM mounts and accessories
 ③ See VM4 7-3/4" Optics Page L95; xE4x series use VM mounts and accessories





See Ordering Information on Page L83 for EZ Mounting Boxes

MOUNTING SPLICE BOXES								
		CATALOG NUMBER						
HUB SIZE	PENDANT	FLEXIBLE PENDANT	CEILING 4 HUB	CEILING 5 HUB	WALL	CONE TOP	25 DEGREE STANCHION	90 DEGREE STANCHION
3/4"	VMA2B	VMF2B	VMX2B	VMX6B	VMB2B	VMC2B	—	—
1"	VMA3B	VMF3B	VMX3B	VMX7B	VMB3B	VMC3B	—	—
1-1/4"	—	—	—	—	—	—	VMD4B	VMS4B
1-1/2"	—	—	—	—	—	—	VMD5B	VMS5B
M-20	—	—	VMX8B**	VMX9B	—	—	—	—

*VMEZA is used between a ballast tank and an EZ mount-ordered separately. See L94 for more information.

**VMX8B furnished with 3 non-metallic plugs.

OPTICS & GUARDS	DESCRIPTION			
	5-1/2" Optic Thread Size		7-3/4" Optic Thread Size	
	OPTICS	GUARD	OPTICS	GUARD
Globe (glass)	VMG17	VMAG17	VMG25	VMAG25S
Reflector (all glass) Type V	VMR175	VMAG17	VMR255	VMAG25S
Reflector (all glass) Type I	VMR171	VMAG17	VMR251	VMAG25S
Reflector (all glass) Type III	—	—	VMR253	VMAG25S
Reflector (spin top glass) 8" Type V	VZRG1550	VMRWG8	—	—
Reflector (spin top glass) 12" Type V	VZRG2550	VMRWG	VZRG4050	VMRWG
Reflector (spin top glass) 12" Type II	VZRG2520	VMRWG	VZRG4020	VMRWG
Reflector (spin top plastic) 12" Type V	VZRP175	VMRWG	—	—
Enclosed Reflector (glass lens)	—	—	VMER40	VMERG
Enclosed Reflector (plastic lens)	—	—	VMEP40	—



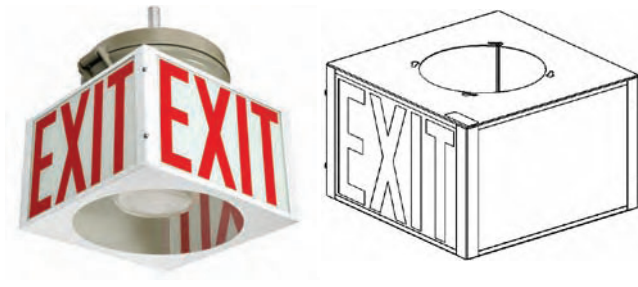
OPTICS	OPTICS									
	VMG17	VMR175 VMR171	VZRG1550	VZRG2550 VZRG2520 VZRP175	VMG25	VMR255 VMR253 VMR251	VMG40	VMER40	VZRG4050 VZRG4020	VMEP40

GUARDS	GUARDS									
	VMAG17	VMAG17	VMRWG8	VMRWGS	VMAG25S	VMAG25S	VMAG40S	VMERG	VMRWG8	

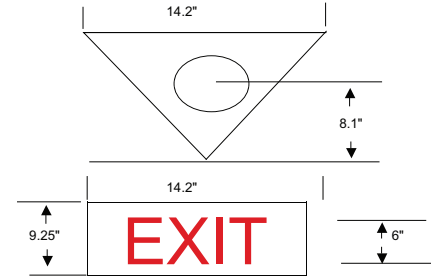
REFLECTORS			
VMPSD40	VMPA40	HRD400	HRD400ALZ
Standard Dome Fiberglass White Reflector Dia: 16"	30° Angle Fiberglass White Reflector Dia: 16"	Deep Aluminum White Reflector Dia: 21"	Deep Aluminum Anodized Reflector Dia: 21"

VMAGBC
Bottom Closure for VMAG25S/VMAG40S

VEXA400 4-Sided EXIT for all Models
Letters are 3/4" x 8" Red on white
Unit includes 3 EXIT Faces and
2 Blank for Maximum Flexibility
Dimensions: 14.56" x 9.22"



VEXA100B 3-Sided EXIT Accessory for xE3x models
Letters are 3/4" x 6" Red on White



VEXA100B Exit Accessory Dimensions

FEATURES-SPECIFICATIONS

REPLACEMENT BATTERY UNITS	
WATTAGE/TYPE	CATALOG NUMBER
13W BI-PIN	KFBP6 FOR DEXB
13W BI-PIN	KFBP5 FOR VEXB
18/26/32/42W QUAD-PIN	KFBP7

REPLACEMENT LAMPS	
WATTAGE/TYPE	CATALOG NUMBER
13W BI-PIN	MPL-13
26W QUAD-PIN	MQL18
26W QUAD-PIN	MQL26
32W QUAD-PIN	MQL32
42W QUAD-PIN	MQL42

See pages L94-L96 for VM mounts, optics and accessories including reflectors and suspension devices.

BALLAST DATA *						
LAMP WATTS	VOLTAGE AC	START	OPERATING	INPUT WATTS	BALLAST CIRCUIT	REGULATION
26WATT (1X13)	120 / 277	0.39/.35	0.3	16	NPF	—
26WATT (2X13)	120 / 277	0.78/.70	0.6	32	NPF	—
18 WATT (1X18)	120 THROUGH 277	—	.16@120V /.07 @277V	19	HPF	—
26WATT (1X26)	120 THROUGH 277	—	.27@120V /.13 @277V	29	HPF	ELECTRONIC
32WATT (1X32)	120 THROUGH 277	—	.31@120V /.15 @277V	36	HPF	ELECTRONIC
42WATT (1X42)	120 THROUGH 277	—	.37@120V /.17 @277V	46	HPF	ELECTRONIC
36 WATT (2X18)	120 THROUGH 277	—	.32@120V /.14 @277V	38	HPF	—
52WATT (2X26)	120 THROUGH 277	—	.54@120V /.26 @277V	58	HPF	ELECTRONIC
64WATT (2X32)	120 THROUGH 277	—	.62@120V /.30 @277V	72	HPF	ELECTRONIC
84WATT (2X42)	120 THROUGH 277	—	.74@120V /.34 @277V	92	HPF	ELECTRONIC

* Add per battery prox .6 amp for charging current. Prox 24 hours to full recharge after full discharge.

APPLICATION DATA					
CATALOG SERIES*	LAMP WATTS	AMBIENT DEG. C	CLASS II DIVISION 1 [Ⓞ]		SUPPLY WIRE TEMP. MIN. °C
			GLOBE OR REFRACTOR [Ⓞ]	GLOBE + REFLECTOR	
DE3B0013	1 X 13	40	T3B (EFG)	T3B (EFG)	60
DE3B0026	2 X 13	40	T3B (EFG)	T3C (EFG)	60
DE3B1313	1 X 13	40	T3B (EFG)	T3C (EFG)	60
DE3B2613	2 X 13	40	T3B (EFG)	T3C (EFG)	60
DE3B2626	2 X 13	40	T3B (EFG)	T3C (EFG)	60
DE4B0013	1 X 13	40	T4A (EFG)	T4A (EFG)	60
DE4B0026	2 X 13	40	T4A (EFG)	T4A (EFG)	60
DE4B1313	1 X 13	40	T4A (EFG)	T4A (EFG)	60
DE4B2613	2 X 13	40	T4A (EFG)	T4A (EFG)	60
DE4B2626	2 X 13	40	T4A (EFG)	T4A (EFG)	60

[Ⓞ] T-codes for Refractors include VMR "All Glass" and VZ Spin-Top Types. Also applies for VMER40 and VMEP40 in DE4B models.

[Ⓞ] Models suitable for Class II Div. 1 are also suitable for Class III.

* DE3B models use 5-1/2" CertiLite[®]V VM optics; DE4B models use 7-3/4" VM optics.



APPLICATION DATA									
CATALOG SERIES*	LAMP WATTS	AMBIENT DEG. C	CLASS I DIVISION 2		CLASS I ZONE 2 nR II		CLASS II DIVISION 1 ^③		SUPPLY WIRE TEMP. MIN. °C
			GLOBE OR REFRACTOR ^①	GLOBE + REFLECTOR	GLOBE OR REFRACTOR ^②	GLOBE + REFLECTOR	GLOBE OR REFRACTOR ^①	GLOBE + REFLECTOR	
VE3B0013	1 X 13	40	T3	T3	T6	T6	T3B (EFG)	T3B (EFG)	60
VE3B0026	2 X 13	40	T3	T3	T6	T6	T3B (EFG)	T3C (EFG)	60
VE3B1313	1 X 13	40	T3A	T3A	T6	T6	T3B (EFG)	T3C (EFG)	60
VE3B2613	2 X 13	40	T3	T3	T6	T6	T3B (EFG)	T3C (EFG)	60
VE3B2626	2 X 13	40	T3	T3	T6	T6	T3B (EFG)	T3C (EFG)	60
VE3Q0018	1 X 18	40	T6	T6	T6	T6	T3B (EFG)	T3C (EFG)	60
VE3Q0036	2 X 18	40	T3C	T3C	T6	T6	T3B (EFG)	T3C (EFG)	60
VE3Q1818	1 X 18	40	T3A	T3A	T6	T6	T3B (EFG)	T3C (EFG)	60
VE3Q3618	2 X 18	40	T3C	T3C	T6	T6	T3B (EFG)	T3C (EFG)	60
VE3Q3636	2 X 18	40	T3C	T3C	T6	T6	T3B (EFG)	T3C (EFG)	60
VE3Q0026	1 X 26	40	T6	T6C	T6	T6	T3B (EFG)	T3C (EFG)	75
VE3Q0052	2 X 26	40	T2D	T2D	T6	T6	T3B (EFG)	T3C (EFG)	75
VE3Q2626	1 X 26	40	T3A	T3A	T6	T6	T3B (EFG)	T3C (EFG)	60
VE3Q5226	2 X 26	40	T2D	T2D	T5	T5	T3B (EFG)	T3C (EFG)	75
VE3Q5252	2 X 26	40	T2D	T2D	T5	T5	T3B (EFG)	T3C (EFG)	75
VE3Q0032	1 X 32	40	T6	T6	T6	T6	T3B (EFG)	T3C (EFG)	75
VE3Q0064	2 X 32	40	T2D	T2D	T6	T6	T3B (EFG)	T3C (EFG)	75
VE3Q3232	1 X 32	40	T3A	T3A	T6	T6	T3B (EFG)	T3C (EFG)	60
VE3Q6432	2 X 32	40	T2D	T2D	T5	T5	T3B (EFG)	T3C (EFG)	75
VE3Q6464	2 X 32	40	T2D	T2D	T5	T5	T3B (EFG)	T3C (EFG)	75
VE3Q0042	1 X 42	40	T6	T6	T6	T6	T3B (EFG)	T3C (EFG)	75
VE3Q0084	2 X 42	40	T2B	T2B	T6	T6	T3B (EFG)	T3C (EFG)	75
VE3Q4242	1 X 42	40	T3A	T3A	T6	T6	T3B (EFG)	T3C (EFG)	60
VE3Q8442	2 X 42	40	T2B	T2B	T4	T4	T3B (EFG)	T3C (EFG)	75
VE3Q8484	2 X 42	40	T2B	T2B	T4	T4	T3B (EFG)	T3C (EFG)	75
VE4B0013	1 X 13	40	T3	T3	T6	T6	T3B (EFG)	T3C (EFG)	60
VE4B0026	2 X 13	40	T3	T3	T6	T6	T3B (EFG)	T3C (EFG)	60
VE4B1313	1 X 13	40	T3A	T3A	T6	T6	T3B (EFG)	T3C (EFG)	60
VE4B2613	2 X 13	40	T3	T3	T6	T6	T3B (EFG)	T3C (EFG)	60
VE4B2626	2 X 13	40	T3	T3	T6	T6	T3B (EFG)	T3C (EFG)	60
VE4Q0018	1 X 18	40	T3C	T3C	T6	T6	T4A (EFG)	T4A (EFG)	60
VE4Q0036	2 X 18	40	T3C	T3C	T6	T6	T4A (EFG)	T4A (EFG)	60
VE4Q1818	1 X 18	40	T3C	T3C	T6	T6	T4A (EFG)	T4A (EFG)	60
VE4Q3618	2 X 18	40	T3C	T3C	T6	T6	T4A (EFG)	T4A (EFG)	60
VE4Q3636	2 X 18	40	T3C	T3C	T6	T6	T4A (EFG)	T4A (EFG)	60
VE4Q0026	1 X 26	40	T3C	T3C	T6	T6	T4A (EFG)	T4A (EFG)	60
VE4Q0052	2 X 26	40	T3C	T3C	T6	T6	T4A (EFG)	T4A (EFG)	60
VE4Q2626	1 X 26	40	T3C	T3C	T6	T6	T4A (EFG)	T4A (EFG)	60
VE4Q5226	2 X 26	40	T3	T3	T6	T6	T4A (EFG)	T4A (EFG)	75
VE4Q5252	2 X 26	40	T3	T3	T6	T6	T4A (EFG)	T4A (EFG)	75
VE4Q0032	1 X 32	40	T3	T3	T6	T6	T4A (EFG)	T4A (EFG)	75
VE4Q0064	2 X 32	40	T3	T3	T6	T6	T4A (EFG)	T4A (EFG)	75
VE4Q3232	1 X 32	40	T3	T3	T6	T6	T4A (EFG)	T4A (EFG)	75
VE4Q6432	2 X 32	40	T3	T3	T6	T6	T4A (EFG)	T4A (EFG)	75
VE4Q6464	2 X 32	40	T3	T3	T6	T6	T4A (EFG)	T4A (EFG)	75
VE4Q0042	1 X 42	40	T3	T3	T6	T6	T4A (EFG)	T4A (EFG)	75
VE4Q0084	2 X 42	40	T3	T3	T6	T6	T4A (EFG)	T4A (EFG)	75
VE4Q4242	1 X 42	40	T3	T3	T6	T6	T4A (EFG)	T4A (EFG)	75
VE4Q8442	2 X 42	40	T3	T3	T6	T6	T4A (EFG)	T4A (EFG)	75
VE4Q8484	2 X 42	40	T3	T3	T6	T6	T4A (EFG)	T4A (EFG)	75

① T-codes for Refractors include VMR "All Glass" and VZ Spin-Top Types. Also applies for VMER40 and VMEP40 in DE4B models.

② Models suitable for Class II Div. 1 are also suitable for Class III.

* DE3B models use 5-1/2" CertiLite® V VM optics; DE4B models use 7-3/4" VM optics.



Wall Mounted



Ceiling Mounted



Exit Sign



Class I, Div. 2, Groups A,B,C,D
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. I, Groups F,G
Class III
Marine
NEMA 3, 4, 4X, IP66



Certified - File LR11713

FEATURES-SPECIFICATIONS

ENVIORITE®

Surface Mount Luminaires 13-26W Fluorescent

Applications

Killark's NWP Series of fluorescent luminaires are designed for task lighting of wet & corrosive NEMA 4X environments and hazardous locations.

Typical uses include manufacturing plants, chemical and petrochemical processing facilities, sewage treatment plants, off-shore and dockside installations, agricultural, commercial, industrial, and mining facilities.

NWP surface mount luminaires contain no exposed glass and carry Class II, F&G ratings required for many food processing areas.

Features

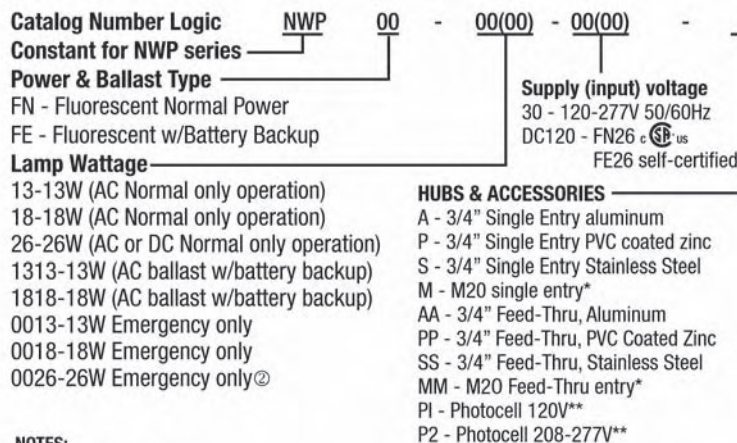
- Non-metallic housing has a lightweight yet robust low profile construction
- Can be wall mounted or ceiling mounted in horizontal or vertical position
- Energy and labor saving fluorescent
- Emergency and normal power models available.
- Emergency version has internal battery which provides 90 minutes of illumination in the event of a power failure
- Resists corrosive effects of most chemicals, hydrocarbons and solvents
- Designed for indoor and outdoor applications
- Includes fluorescent lamp
- 'World Voltage' ballasts for 120VAC through 277VAC 50/60Hz installations
- Wiring terminals are included as standard

Materials

- Enclosure - High strength polycarbonate
- Gasket - Silicone
- External Hardware - Stainless steel
- Lens - Lexan®
- Entry - One 3/4" NPT copper-free aluminum hub with 3/4 x 1/2" reducer is standard. A second hub may be purchased separately.

Lexan® is a registered trademark of General Electric

Catalog Number Logic



NOTES:

- * Certification Pending.
- ** Photocells for FN Models only - Class I, Div. 2 NEMA 4X only.

NWP WALLPACK 13-26W FLUORESCENT WLONE 3/4" ALUMINUM HUB					
LAMP	VOLTAGE	DESCRIPTION	CAT. NUMBER ①	MAX. AMBIENT SUITABILITY ③	MIN START
NORMAL POWER MODELS - AMBIENT SUITABILITY 40°C MAX.					
1-13W	120-277V 50/60HZ	13W WALL OR CEILING	NWPFN1330A	40°C	15°C
1-18W	120-277V 50/60HZ	18W WALL OR CEILING	NWPFN1830A	40°C	15°C
1-26W	120-277V 50/60HZ	26W WALL OR CEILING	NWPFN2630A	40°C	15°C
1-26W	120V DCK	26W WALL OR CEILING	NWPFN26DC120A	40°C	15°C
NORMAL AND EMERGENCY MODELS					
1-13W	120-277V 50/60HZ	13W WALL OR CEILING	NWPF131330A	35°C	15°C
1-18W	120-277V 50/60HZ	18W WALL OR CEILING	NWPF181830A	30°C	15°C
EMERGENCY ONLY MODELS - AMBIENT SUITABILITY 40°C MAX.					
1-13W	120-277V 50/60HZ	13W WALL OR CEILING	NWPF001330A	40°C	0°C
1-18W	120-277V 50/60HZ	18W WALL OR CEILING	NWPF001830A	40°C	0°C
1-26W	120-277V 50/60HZ	26W WALL OR CEILING	NWPF002630A	40°C	0°C
1-26W	120V DC ②	26W WALL OR CEILING	NWPF0026DC120A	40°C	0°C

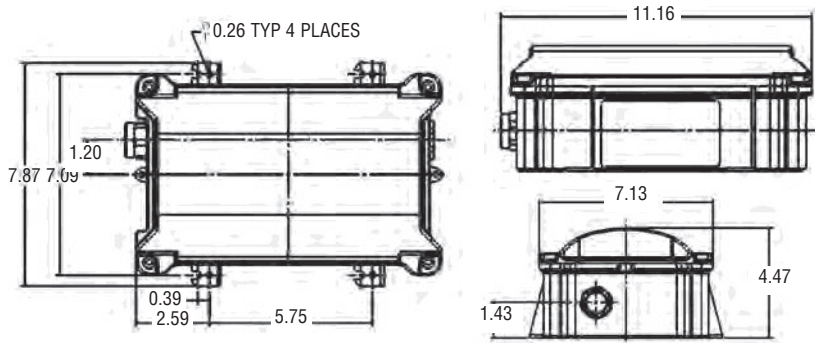
① Provided with one 3/4 aluminum hub as standard.

② NWPFN 120V DC model is cCSAus, NWPF120VDC emergency-only model is Killark self-certified.

③ T-code measurements taken in 40°C ambient; operating ambient reduced for normal and emergency models to maintain battery performance.



Keyhole Slots Provided for Ease in Mounting



TECHNICAL DATA

T-Codes @ 40c ③					
WATTS	Class I Div. 2		Class II Div. 2	Minimum Start	
	①	②		C°	F°
13W	T3	T6	F,G	-15	4
18W	T3	T3	F,G	-15	4
26W	T3	T3	F,G	-15	4

① Normal power or normal + emergency
 ② Emergency only models
 ③ See catalog grids for ambient suitability

Fluorescent Operating Max. Amps		
TYPE	120VAC	277VAC
13W Fluorescent	.144	.067
18W Fluorescent	.158	.073
26W Fluorescent	.22	.097

Use .1 Amp for 'Emergency Only' units, or as an adder for Normal & Emergency models.

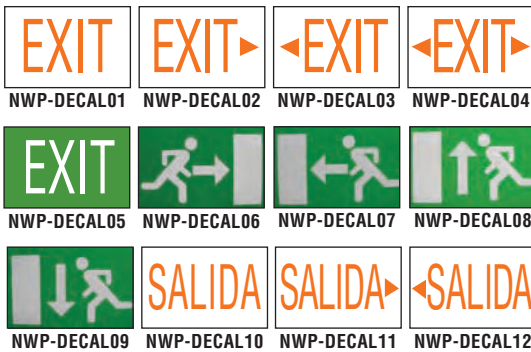
BOLT ON EXIT SIGN



Catalog Number NWP-EXIT-SIGN DESCRIPTION

Bolt-on Exit Sign accessory includes hardware to mount to fixture and ability to make arrows left, right or none. Construction white painted steel and nonglass red diffuser, with bottom opening for downlight.

SELF ADHESIVE DECALS



Optional decal styles available upon request - Minimums apply. Factory installed decals, order as FAD_#. Example FAD01.

NWP Replacement Parts & Lamps	
Catalog #	Description
NWP-LENSONLY	Replacement Lens
NWP-KFBP7	Replacement battery pack
MQL-13	13W Quad-pin lamp
MQL-18	18W Quad-pin lamp
MQL-26	26W Quad-pin lamp

ACCESSORIES

FIELD HUB KITS	
Catalog #	Description
NWP-HUBA	Aluminum hub, gasket, locknut
NWP-HUBP	Precoated zinc hub, gasket, locknut
NWP-HUBS	Stainless steel hub, gasket, locknut
NWP-HUBM	M20 Plated Brass

PHOTOMETRICS

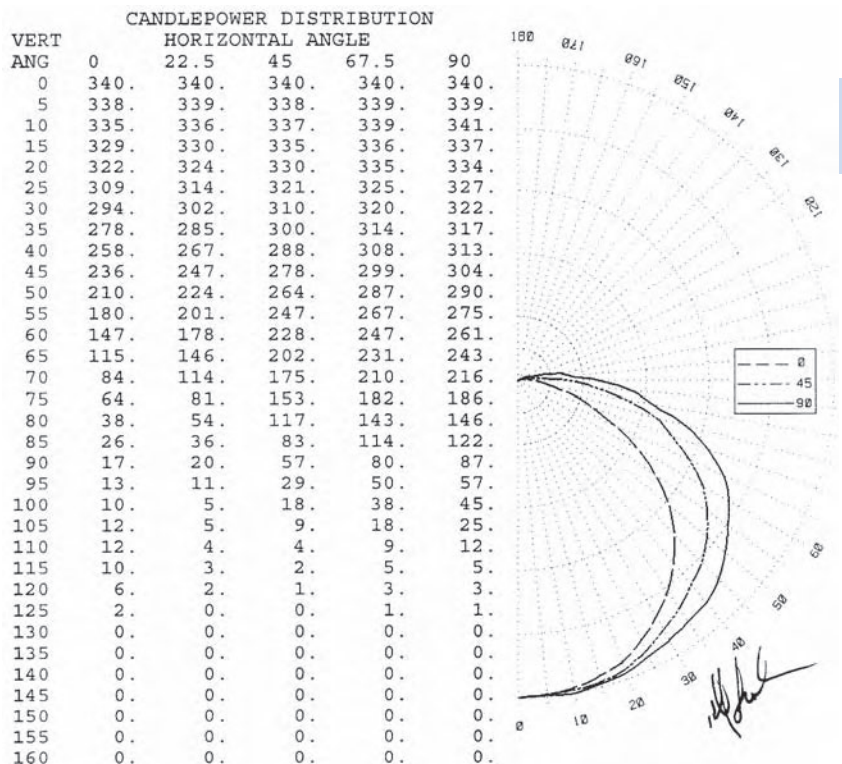


NWPFN2630x

Candlepower - 26 Watt
 CFL26 lamp 1800 lumens
 For 13 Watt multiply by .50
 For 18 Watt multiply by .67

Zonal Lumen Summary			
Zone	Lumens	%Lamp	%Fixt
0-30	275	15.3%	20.3%
0-40	463	25.7%	34.2%
0-60	886	49.2%	65.5%
0-90	1301	72.3%	96.1%
90-120	52	2.9%	3.9%
90-130	52	2.9%	3.9%
90-150	52	2.9%	3.9%
90-180	52	2.9%	3.9%
0-180	1353	75.2%	100

Total Luminaire Efficiency = 75.2%
 Space to Mt. Ht. Ratio: End 1.3; Side 1.4
 Certified Report BAL 15312.0





Class I, Div. 2, Groups A,B,C,D
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 2 Groups F,G
NEMA 3, 4

UL Listed
Compliances: UL 44; UL 81570, UL924
 UL Wet Location Listed (Indoor & Outdoor)

FEATURES-SPECIFICATIONS

LINEARLITE®* E

* marca registrada MEXICO EMERGENCY

Applications

LINEARLITE DBFE Emergency Lighting fixtures provide continuous illumination under normal power and switch to emergency battery backup during power outages. Units contain a battery unit that provides the OSHA required 90 minutes of illumination for egress.

Units are designed for general and task lighting in areas where flammable gases or vapors or combustible dusts may exist due to abnormal conditions, and create a Division 2 hazardous location, as defined by the NEC.

Features

- Sheet steel 20 ga. housing with continuous weld prevents foreign matter from entering enclosure
- Lens frame assembly has silicon rubber gasketing and heat tempered glass lens
- Electrostatically applied polyester finish
- NEMA 4 construction for wet locations
- LED charging indicator light visible through lens
- Push-To-Test Button mounted on sloping side of fixture - allows end-to-end mounting of fixtures

DBFE FLUORESCENT EMERGENCY LIGHTING				
CATALOG NUMBER	CONDUIT SIZE	NUMBER OF LAMPS	LINE VOLTAGE	DESCRIPTION
DBFE232302	3/4"	2	120-277V 50/60 Hz	32W T8 electronic ballast 0°F start Medium bi-pin base
DBFE24012 DBFE24042			120V 60 Hz 277V 60 Hz	40W T12 bi-pin 50°F start electronic Medium bi-pin base
DBFE16012 DBFE16042			120V 60 Hz 277V 60 Hz	60W rapid start high output F48T12/HO Recessed double contact 800MA
DBFE232303	3/4"	3	120-277V 50/60 Hz	32W T8 electronic ballast 0°F start Medium bi-pin base
DBFE24013 DBFE24043			120V 60 Hz 277V 60 Hz	40W T12 bi-pin 50°F start electronic Medium bi-pin base
KFBP7			(32/40 or 60 Watt) Replacement battery unit	

Notes: Emergency unit will start lamps at 0°F
32W T8 Electronic ballast minimum start is 0°F;
40W ballast is electronic with 50°F start (add CW for electromagnetic 0°F);
60W electromagnetic ballast start -20°F
32W & 40W units operate 2 Lamps in emergency mode for maximum illumination
60W units operate a single lamp. 3 Lamp 60W emergency units not available.
For dimensional data and mounting accessories, see DBF series page L172.
Digit after E is number of lamps energized during power loss.

EMERGENCY LUMEN CHART		
LAMPS	INITIAL LUMENS	AFTER 90 MINUTES
2 32W Lamps	625	455
2 40W Lamps	610	420
1 60W Lamp	780	460

DBFE HAZARDOUS LOCATION APPLICATION DATA							
NO. OF LAMPS	LAMP WATTS	RATED AMBIENT °C	SUPPLY WIRE SUITABLE FOR °C MIN.	CLASS I, DIV. 2, GROUPS A,B,C,D MAX. LAMP TEMP.°C UL/CSA TEMP./I.D.	CLASS II, DIV. 2, GROUPS E,F,G MAX. SURF. TEMP.°C UL/CSA TEMP./I.D.	NEMA TYPE 3 (RAINTIGHT)	NEMA TYPE 4 (HOSEDOWN)
2	32/40	40	90	T6 (85°C/185°F)	T6 (85°C/185°F)	YES	YES
3	32/40	40	90	T5 (100°C/212°F)	T6 (85°C/185°F)	YES	YES
2	60	40	90	T4A (120°C/248°F)	T6 (85°C/185°F)	YES	YES



LZ2NE/LZ2NSE SERIES EMERGENCY FLUORESCENT



LZ2NE 2' Non-metallic



LZ2SE 4' Stainless

Class I, Div. 2 Groups A,B,C,D
Class I, Zones 2, Groups IIC,IIB,IIA
Class II, Div. 1 & 2, Groups E[Ⓢ], F,G
AEx nAll, Ex nAll
Wet Locations
NEMA 4X, IP66

Certified - File LR11713

ABS Type Approval

NSF Food Handling^④

FEATURES-SPECIFICATIONS

LINEARLITE[®] * E
 * marca registrada MEXICO EMERGENCY

Applications

LINEARLITE Emergency Lighting fixtures provide continuous illumination under normal power and switch to emergency battery back-up during power outages. Units contain a battery unit that provides the OSHA required 90 minutes of illumination for egress.

Units are available in non-metallic or 316 Stainless construction and designed for wet, harsh and corrosive environments. The LZ2NE and LZ2SE Series can also be used in Class I, Division 2 and Zone 2 hazardous vapors and in Class II areas where combustible dusts may exist. Typical areas used are in refineries, chemical plants, waste water & sewage treatment facilities, as well as in tunnels, food processing and coastal areas.

ABS (American Bureau of Shipping) type approval for use on decks, vessels, platforms, garages, ships and boats. Also suitable for docks and marinas.

Ⓢ LZ2SE only for Group E
 Ⓢ LZ2NE is NSF approved

Additional Data

- L173 or L174 - Features
- L175 - Ballast Data
- L176 - Mounting Accessories
- L176 - L177 - Photometrics

REPLACEMENT BATTERY UNIT	
Ⓢ KFBP7	Ⓢ KFBP7HO

LZ2NE/LZ2SE BATTERY-BACKED				
NUMBER OF LAMPS/WATTS	VOLTAGE AC 60 Hz	DESCRIPTION	LZ2NE ^①	LZ2SE ^①
BIAXIAL LAMP TYPE FIXTURES				
1-40W [Ⓢ]	120-277V	2' 1-Lamp Biaxial Electronic 50/60 Hz 0°F Start 4-Pin	LZ2NE1-40130	LZ2SE1-40130
1-55W [Ⓢ]	120-277V	2' 1-Lamp Biaxial Electronic 50/60 Hz 0°F Start 4-Pin	LZ2NE1-55130	LZ2SE1-55130
2-40W [Ⓢ]	120-277V	2' 2-Lamp Biaxial Electronic 50/60 Hz 0°F Start 4-Pin	LZ2NE1-40230	LZ2SE1-40230
4-40W [Ⓢ]	120-277V	4' 4-Lamp Biaxial Electronic 50/60 Hz 0°F Start 4-Pin	LZ2NE1-40430	LZ2SE1-40430
DOUBLE-ENDED LAMP TYPE FIXTURES				
2-17W [Ⓢ]	120-277V	2' 2-Lamp T-8 Electronic 50/60 Hz 0°F Start Medium Bi-Pin	LZ2NE2-17230	LZ2SE2-17230
3-17W [Ⓢ]	120-277V	2' 3-Lamp T-8 Electronic 50/60 Hz 0°F Start Medium Bi-Pin	LZ2NE2-17330	LZ2SE2-17330
2-28W [Ⓢ]	120-277V	4' 2-Lamp T-5 Electronic 50/60 Hz 0°F Start Miniature Bi-Pin	LZ2NE1-28230	LZ2SE1-28230
3-28W [Ⓢ]	120-277V	4' 3-Lamp T-8 Electronic 50/60 Hz 0°F Start Miniature Bi-Pin	LZ2NE1-28330	LZ2SE1-28330
2-32W [Ⓢ]	120-277V	4' 2-Lamp T-8 Electronic 50/60 Hz 0°F Start Medium Bi-Pin	LZ2NE1-32230	LZ2SE1-32230
2-32W [Ⓢ]	120-277V 347V	4' 2-Lamp T-8 Electronic 50/60 Hz 0°F Start Medium Bi-Pin	LZ2NE2-32215	LZ2SE2-32215
3-32W [Ⓢ]	120-277V	4' 3-Lamp T-8 Electronic 50/60 Hz 0°F Start Medium Bi-Pin	LZ2NE1-32330	LZ2SE1-32330
3-32W [Ⓢ]	120-277V 347V	4' 3-Lamp T-8 Electronic 50/60 Hz 0°F Start Medium Bi-Pin	LZ2NE2-32315	LZ2SE2-32315
2-40W [Ⓢ]	120V 277V 230V 50 Hz [Ⓢ]	4' 2-Lamp T-12 Electronic Medium Bi-Pin Start 50°F 40W/60°F 34W	LZ2NE2-40201 LZ2NE2-40204 LZ2NE2-40208	LZ2SE2-40201 LZ2SE2-40204 LZ2SE2-40208
2-44W [Ⓢ]	120-277V	4' 2-Lamp T-8 Electronic -20°F Start High Output Recessed Double Contact	LZ2NE1-44230	LZ2SE1-44230
2-54W [Ⓢ]	120-277V	4' 2-Lamp T-5 Electronic 50/60 Hz -20°F Start Miniature Bi-Pin	LZ2NE1-54230	LZ2SE1-54230
2-60W [Ⓢ]	120-277V	4' 2-Lamp T-12 Electronic -20°F Start High Output Recessed Double Contact	LZ2NE1-60201	LZ2SE1-60230

① Digit after E is number of lamps energized during power loss. For optional fused ballasts, add to catalog number F1 for 120V, F4 for 277V, F8 for 230V. Fusing no for marine or Canadian use. Lamps not included.

Ⓢ Magnetic ballast

Features

- NEMA 4 & IP66 rated enclosure
- Housing-one piece fiberglass reinforced polyester or 316 Stainless Steel
- Clear Lexan[®] impact resistant polycarbonate lens (Lexan is a registered trademark of General Electric)
- Two 3/4" NTP hubs - one at each end (includes one 3/4" close-up plug and two 3/4" X 1/2" reducers for maximum user flexibility)
- Two 1/4" - 20 bushings furnished in top of fixture for threaded rod

EMERGENCY LUMEN CHART	
LAMPS	INITIAL LUMENS
2 X 17 T8	550
1 X 40 BIAxIAL	900
1 X 55 BIAxIAL	950
1 X 28 T5	1175
1 X 32 T8 (E1)	925
2 X 32 T8 (E2)	625
2 X 40 T12	610
1 X 44 T8	950
1 X 54 T5	1200
1 X 60 T12	780



KILLARK[®]



Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III, Div. 1 & 2
NEMA 3, 7(C,D) 9(E,F,G)
Suitable for wet locations

Listed - File E12976 and E89665 (Marine)®
UL 924, UL 844

Certified - File LR11713

FEATURES-SPECIFICATIONS

Applications

HFXE Series Emergency Lighting fixtures provide continuous illumination under normal power and switch to emergency battery backup during power outages. Units contain a battery unit that provides the OSHA required 90 minutes of illumination for egress.

Units are designed for installations where moisture, dirt, dust, corrosion and vibration may be present, or wet locations where wind, water and snow can be expected. They can also be used in locations made hazardous due to the presence of flammable or explosive gases, vapors and combustible ducts as defined by the NEC.

Features

- Construction is strong lightweight corrosion resistant copper-free aluminum alloy, less than 4/10 of 1%
- All external hardware is corrosion resistant 316 stainless steel to provide maintenance free long life
- World voltage ballasts standard on 32W and BIAXIAL models (120-277V 50/60 Hz)
- LED charging indicator light on ballast enclosure.

HFXE FLUORESCENT EMERGENCY LIGHTING				
CATALOG NUMBER ① ②	CONDUIT SIZE	LINE VOLTAGE	DESCRIPTION	PROFILE
HFXE2-265-302	3/4"	120-277V 50/60 Hz	32W T8 electronic ballast 265MA	 Two Glass Tubes 4' Nominal
HFXE2-430-12		120V 60 Hz	40W T12 electronic ballast 430MA	
HFXE2-430-42		277V 60 Hz	40W T12 electronic ballast 430MA	
HFXE1-800-12		120V 60 Hz	60W T12 electronic ballast 800MA	
HFXE1-800-42		277V 60 Hz	60W T12 electronic ballast 800MA	
HFXE2-265-303	3/4"	120-277V 50/60 Hz	32W T8 electronic ballast 265MA	 Three Glass Tubes 4' Nominal
HFXE2-430-13		120V 60 Hz	40W T12 electronic ballast 430MA	
HFXE2-430-43		277V 60 Hz	40W T12 electronic ballast 430MA	
HFXE1-800-13		120V 60 Hz	60W T12 electronic ballast 800MA	
HFXE2-265-304	3/4"	120-277V 50/60 Hz	32W T8 electronic ballast 265MA	 Four Glass Tubes 4' Nominal
HFXE2-430-14		120V 60 Hz	40W T12 electronic ballast 430MA	
HFXE2-430-44		277V 60 Hz	40W T12 electronic ballast 430MA	
HFXE1-800-14		120V 60 Hz	60W T12 electronic ballast 800MA	
HFXE1-800-44	③	277V 60 Hz	60W T12 electronic ballast 800MA	
BIAXIAL SERIES				
HFXE1-40T-302	3/4"	120-277V 50/60 HZ	2' 2 Lamp 40W BIAXIAL	 Two Glass Tubes 4' Nominal
HFXE1-55T-302			2' 2 Lamp 55W BIAXIAL	
HFXE1-40T-304			4' 4 Lamp 40W BIAXIAL	
HFXE1-55T-304			4' 4 Lamp 55W BIAXIAL	

① Digit after "E" in catalog logic indicates number of lamps energized in emergency mode.

② Consult non-emergency HFX pages L164-169 for thermal, dimensional and other data, plus for available accessories. 40W & 60W are not available with universal voltage or 240V 50Hz ballasts.

③ 1,2 and 3 tube models are third party certified. 4 tube models are self-certified.

NOTES: For fusing, add suffix F1 for 120V; F4 for 277V.

Emergency unit will start lamps at 0°F

32W T8 electronic ballast minimum start is 0°F

40W ballast is electronic with 50°F start (add CW for electromagnetic 0°F)

60W electromagnetic ballast start at -20°F

32W & 40W units operate 2 lamps in emergency mode for a maximum illumination

60W and BIAXIAL units operate a single lamp. 3 lamp 277V 60W emergency units not available.

Replacement Battery Pack #KFBP10

SEE PAGES L180 TO L185 FOR DIMENSIONS, ACCESSORIES AND PHOTOMETRICS

EMERGENCY LUMEN CHART		
LAMPS	INITIAL LUMENS	AFTER 90 MINUTES
2 32W lamps	1350	900
2 40W lamps	1100	640
1 60W lamp	1200	810
1 40W BIAXIAL	900	540
1 55W BIAXIAL	900	465





Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
NEMA 3

- Complies: UL 844; UL 1570, UL924 (File E162407)
 UL Wet Location Listed (Indoor & Outdoor)
 Rated for 40C° ambient. Minimum start 0° C
 Temperature codes:
 Class I C,D **T6**;
 Class II E,F,G **T4**;
- Suitable for Class III
 Certified File LR11713

FEATURES-SPECIFICATIONS

HOSTILELITE® E
 EMERGENCY

Applications

HOSTILELITE® EEQ Emergency Lighting fixtures provide continuous illumination under normal power and switch to emergency battery backup during power outages. Emergency Units ONLY are available that operate only when normal power fails.

Units contain battery unit that provides the OSHA required 90 minutes of illumination (same lamp) for egress.

Units are designed for general and task lighting indoors or outdoors where flammable gases or vapors or combustible dusts exist and create a hazardous location, as defined by the NEC.

See Page L212 for available Push-To-Test hazardous location control stations.

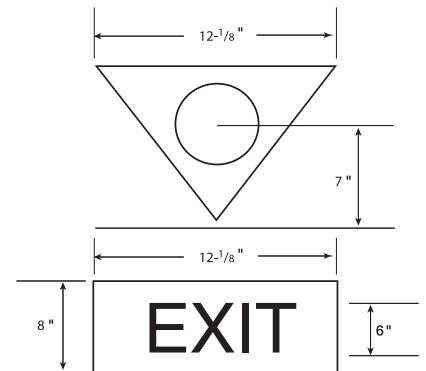
Features

- Quad-Pin long-life triple-tube compact fluorescent lamps included
- Choice of Pendant, Ceiling, Wall or Stanchion mount
- Factory Sealed - No external seal required
- Corrosion resistant-Copper-free aluminum (less than 4/10 of 1%) die-cast construction w/Baked-on epoxy/polyester powder finish
- Exposed hardware is 316 grade stainless steel
- LED charging indicator light visible through lens

Accessories

Exit sign: Model **HEXA-100** (note omit 2nd "G" in catalog number for globe-only fixture) see page L144.

Reflectors: Use standard dome **ERSD15** or angle model **ERA15** (see page L146).



EEQ 26, 32 & 42WATT NORMAL & EMERGENCY MODE FIXTURES					
QUAD-PIN FLUOR. LAMP INCLUDED	LINE VOLTAGE @ 60 HZ	CATALOG NUMBER ③④⑥			
		PENDANT 3/4" ①	CEILING 3/4" ①	BRACKET 3/4" ①	STANCHION 1-1/4" ②
26Watt	120 or 277VAC⑤	EEQ2626E10A2GG	EEQ2626E10X2GG	EEQ2626E10B2GG	EEQ2626E10D4GG
32Watt	120 or 277VAC⑤	EEQ3232E10A2GG	EEQ3232E10X2GG	EEQ3232E10B2GG	EEQ3232E10D4GG
42Watt	120 or 277VAC⑤	EEQ4242E10A2GG	EEQ4242E10X2GG	EEQ4242E10B2GG	EEQ4242E10D4GG

EEQ 26, 32 & 42WATT EMERGENCY-ONLY MODE FIXTURES					
QUAD-PIN FLUOR. LAMP INCLUDED	LINE VOLTAGE @ 60 HZ	CATALOG NUMBER ③④⑥			
		PENDANT 3/4" ①	CEILING 3/4" ①	BRACKET 3/4" ①	STANCHION 1-1/4" ②
26Watt	120 or 277VAC⑤	EEQ0026E10A2GG	EEQ0026E10X2GG	EEQ0026E10B2GG	EEQ0026E10D4GG
32Watt	120 or 277VAC⑤	EEQ0032E10A2GG	EEQ0032E10X2GG	EEQ0032E10B2GG	EEQ0032E10D4GG
42Watt	120 or 277VAC⑤	EEQ0042E10A2GG	EEQ0042E10X2GG	EEQ0042E10B2GG	EEQ0042E10D4GG

- ① Pendant, Ceiling & Bracket models may be changed to 1" hubs by changing the 12th character from 2 to 3; e.g. EEQ2626E10A3GG.
- ② Stanchion fixtures are 1-1/2" with a 1-1/2 to 1-1/4" reducer.
- ③ Omit 2nd "G" for globe-only fixture for use with HEXA-100 Exit Accessory.
- ④ Standard color for fixtures is Killark beige. Add -R for RED adder..

- ⑤ All EEQ fixtures are factory set to 120V and can be changed to 277V in field by following included instructions. Replacement battery pack kit KFBP9.
- ⑥ EEQ fixtures use a tank extension ring and are 2-1/2" taller than EBF fixtures (see page L143).
- ⑦ Photometric characteristics similar to EBF26 page L152, except adjusted for lumen output.

LUMEN OUTPUT⑦		
LAMP SOURCE	NORMAL POWER	EMERG. POWER
26Watt	1800	450
32Watt	2400	575
42Watt	3200	750

BALLAST DATA					
LAMP WATTS	VOLTAGE	OPERATING AMPS	INPUT WATTS	BALLAST CIRCUIT	REGULATION
26Watt (1x26)	120 / 277 VAC	.24@120V / .11 @277V	29	HPF	Electronic
32Watt (1X32)	120 / 277 VAC	.31@120V / .13 @277V	36	HPF	Electronic
42Watt (1x42)	122 / 277 VAC	.38@120V / .17 @277V	46	HPF	Electronic





Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2 Groups E,F,G
Class III, Div. 1 & 2
NEMA 7CD, 9EFG

- Listed File E162407
UL-844 Electric Lighting Fixtures for use in Hazardous Locations
- Certified File LR11713
UL-924 Emergency Lighting & Power Equipment

FEATURES-SPECIFICATIONS

HOSTILE^{ITE}® E
EMERGENCY

Applications

Where required by NEC, Life Safety Code, etc., to provide illumination during interruption of normal power to lighting system.

Hazardous Locations (gas, vapor, dust), include such areas as: Oil & Gas Refining, Production & Storage, Grain Processing, Paint Manufacture.

Features

- Patented design three high intensity lamps can be independently adjusted to provide custom emergency lighting to a specific area
- Three 20 watt MR16 lamps included
- Pendant, bracket and ceiling mounting styles for a mounting arrangement that suits any lighting layout
- Remote hazardous location test station (included) allows testing of fixture at a convenient ground level location
- Factory wired for 120V; can be field changed to 208/240/277V.
- Four tough, long life lead-acid batteries require no maintenance and have a 12 VDC output of 60 watts for 90 minutes
- Safety disconnect feature automatically disconnects lamps from battery if globe is removed
- Solid state battery charger has a low voltage disconnect feature
- Red pilot light, easily visible inside

globe, indicates AC power is being supplied to batter charger

- Fixture housings are factory sealed by the electro-mechanical connection block
- The only wiring required is attaching supply wires to the integral female connection block in the mounting

cap. Threading fixture onto mounting cap makes the electrical connection

- Electrical continuity is not made during assembly or disassembly without five or more threads secured to insure a flame path
- Suitable in ambients 0°C to 40°C

EBB HALOGEN EMERGENCY LIGHTING						
ANSI LAMP TYPE	WATTS	VOLTAGE ^①	HUB SIZE	CATALOG NUMBER		
				PENDANT	WALL	CEILING
MR16	3x20W	120, 208, 240, 277V	3/4"	EBB32010A2	EBB32010B2	—
			1"	EBB32010A3	EBB32010B3	EBB32010X3

^① Suitable for 220V/50Hz.

EBB ACCESSORIES	
CATALOG NUMBER	DESCRIPTION
EZG1	Guard (die cast aluminum)
VMPSD40	Reflector (standard dome)
EBB-L12	MR16 12 volt lamp
17505AAAB	MR16 lamp socket
EBB-RB	Rechargeable battery (4 used per unit)
EBB-BC	Battery charger (circuit board)
EBB-TRANS*	Transformer Kit 120, 208, 240, 277V
EBB-PL	LED pilot light



Remote test station (included) allows "Push-To-Test" at a location convenient to the user. ©

HAZARDOUS LOCATION APPLICATION DATA					
LAMP TYPE	LAMP WATTS	RATED AMBIENT DEGREES	MAX SURFACE TEMPERATURE		
			CLASS I	CLASS II	SIMULTANEOUS CLASS I & II
MR16 Halogen	60W Total	40°C	T6 (85°C)	T5 (100°C)	T5 (100°C)

Note: EBB Series fixtures should not be stored for extended periods before energizing.
© Furnished with 3/4" feed thru mounting box. For Push-To-Test N.C. momentary cover only. Use also with HFxE, DE3B, VE3Q, EEQ, and LZ2NE. Cover only XCS-0B2-PTT. Order SWB back box separately.
* Replaces #17506AAAB.



Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2 Groups E,F,G
Class III, Div. 1 & 2
NEMA 7CD, 9EFG

- Listed File E162407
 UL-844 Electric Lighting Fixtures for use in Hazardous Locations
- UL-924 Emergency Lighting & Power Equipment
- Certified File LR11713

FEATURES-SPECIFICATIONS

Dimensions: See EZ 50-250 Watt dimensions on page L147

Factory sealed; external seals not required

Cast of copper-free Aluminum (Less than 0.4% copper)

Electrostatically applied epoxy polyester finish is baked on for high density corrosion protection

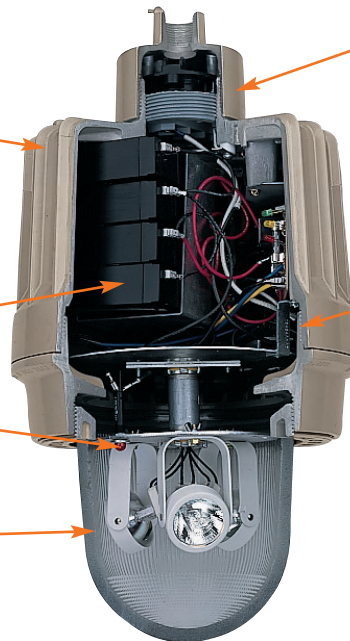
Four lead-acid batteries are maintenance free and provide 60 watts to the lamps for 90 minutes*

Red pilot light indicates AC power flow to battery charger

Lamps automatically disconnect from battery if globe is disengaged

Glass globe prestressed for heat and impact resistance - Globe is internally fluted on sides and prismatic on bottom

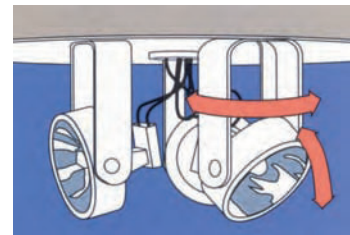
* EBB Series fixtures should not be stored for extended periods before energizing.



Wireless assembly of fixture tank to mounting cap — Electro-mechanical male/female block allows fast, easy installation and bench top servicing without disconnecting supply wires

Nameplate displays Third Party Certifications and ratings in English and French (large red plate identifies it as an emergency fixture)

Acme double lead threads assure quick and trouble free assembly

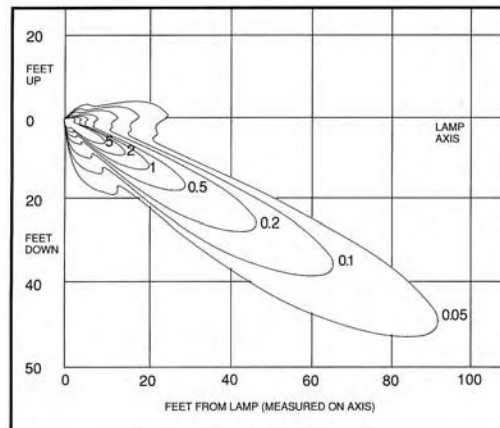


Lamps adjustable on 2 axis for maximum aiming flexibility.



VEXA400 Exit Accessory

- White painted steel frame
- 8" Red Letters
- 5 Panes: 3 Exit and 2 Blank
- Fits EBB and VE4Q with globe only
- Dimensions: 14.57" x 9.22"



Photometrics

Typical vertical ISO foot candle distribution.

One 20 watt lamp aimed at 20° below horizontal.

Note: Some minor variations in light spread will occur as each lamp is rotated up/down within the glass globe.





Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III, Div. 1 & 2
Suitable for wet locations
UL Marine
NEMA 3, 4X
Factory sealed

Listed - File E84609

Certified - File LR11713

FEATURES-SPECIFICATIONS

HOSTILELITE®

Applications

HOSTILELITE® ESX Series strobe fixtures can be an excellent warning device in hazardous, hostile or wet locations where hearing is impaired due to high ambient noise conditions.

Compliances

- UL-1203 explosion-proof and dust ignition-proof electrical equipment for use in hazardous (classified) locations
- UL-1638 visual signaling appliances
- UL Marine-type electric lighting fixtures
- NEMA 3, 4, 4X, 7CD, 9EFG

Specifications

- Electronic component temperature range -40°C to +55°C
- NEC temperature code, T6 (<85°C)
- Flash rate-85 flashes per minute
- Xenon type lamp

- Voltage and amperage:

12-74 VDC:

Draws 1.25A avg. @ 12 VDC tapering to 0.2A avg. @ 74 VDC, .75A avg. @ 24 VDC

120 VAC (50/60 HZ):

Draws 0.30A avg.

240 VAC (50/60 HZ):

Draws 0.17A avg.

- Power supply output:

13 watts standard

11 watts for 12-74 VDC

- Intensity:

Clear 200 candela effective

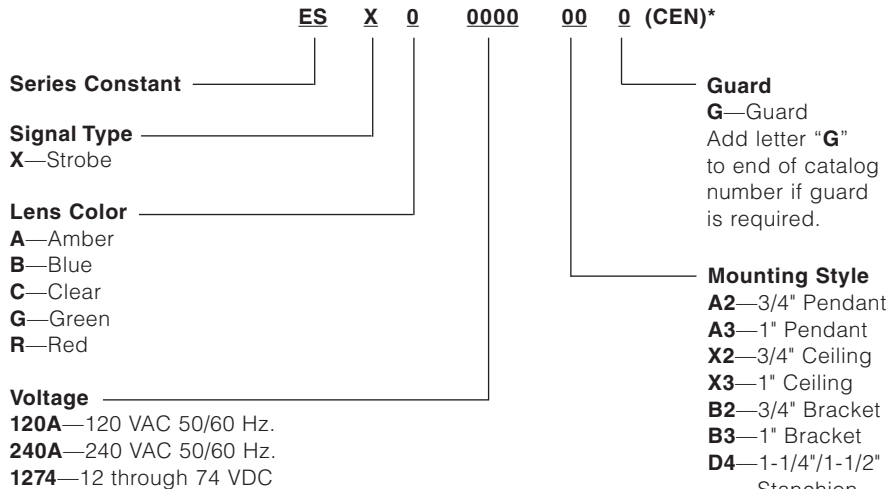
Amber 170 candela effective

Blue 90 candela effective

Red 40 candela effective

Green 70 candela effective

Catalog Number Logic



*CEN (CENELEC) approved option available. See pages L144 for more information. ESX Series strobes with CENELEC labeling are rated T6 by PTB.

REPLACEMENT POWER SUPPLY	
CATALOG NUMBER	VOLTAGE
ESX120PS	120VAC, 50/60 HZ.
ESX240PS	220/240VAC, 50/60 HZ.
ESX1274PS	12-74 VDC

REPLACEMENT LENS & LAMP ASSEMBLY	
CATALOG NUMBER	DESCRIPTION
ESXAL	Amber
ESXBL	Blue
ESXCL	Clear
ESXGL	Green
ESXRL	Red
EMGS2	Rep globe support assembly



Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III, Div. 1 & 2
Suitable for wet locations
Marine
NEMA 3, 4X
Factory sealed

 Listed - File E84609

 Certified - File LR11713

FEATURES-SPECIFICATIONS

PENDANT



PENDANT ESX STROBE SIGNAL LIGHT ① ②			
LAMP TYPE	HUB SIZE ③	VOLTAGE @60 HERTZ	CATALOG NUMBER GLOBE AND MOUNT ①
STROBE	3/4"	120 VAC, 50/60 HZ.	ESXR120AA2
		240 VAC, 50/60 HZ.	ESXR240AA2
		12-74 VDC	ESXR1274A2

CEILING



CEILING ESX STROBE SIGNAL LIGHT ① ②			
LAMP TYPE	HUB SIZE ③	VOLTAGE @60 HERTZ	CATALOG NUMBER GLOBE AND MOUNT ①
STROBE	3/4"	120 VAC, 50/60 HZ.	ESXR120AX2
		240 VAC, 50/60 HZ.	ESXR240AX2
		12-74 VDC	ESXR1274X2

WALL



WALL ESX STROBE SIGNAL LIGHT ① ②			
LAMP TYPE	HUB SIZE ③	VOLTAGE @60 HERTZ	CATALOG NUMBER GLOBE AND MOUNT ①
STROBE	3/4"	120 VAC, 50/60 HZ.	ESXR120AB2
		240 VAC, 50/60 HZ.	ESXR240AB2
		12-74 VDC	ESXR1274B2

STANCHION



STANCHION ESX STROBE SIGNAL LIGHT ① ②			
LAMP TYPE	HUB SIZE ④	VOLTAGE @60 HERTZ	CATALOG NUMBER GLOBE AND MOUNT ①
STROBE	1-1/4"	120 VAC, 50/60 HZ.	ESXR120AD4
		240 VAC, 50/60 HZ.	ESXR240AD4
		12-74 VDC	ESXR1274D4

① Catalog numbers do not include guards. To order add letter "G" to end of catalog number or order EMG2 separately.

② Catalog numbers include Red lens. To specify different colored lens, change fourth character in catalog number to one of the following: "B"=Blue, "C"=Clear, "A"=Amber, "G"=Green.

③ Standard hub size is 3/4" NPT. To order 1" NPT, change last character of catalog number from "2" to "3".

④ Stanchion mount is standard with 1-1/2" NPT and a 1-1/2" NPT to 1-1/4" NPT reducer installed.



KILLARK®

NOTE: See EM series for dimensions, page L143.



Class I, Div. 2, Groups A,B,C,D
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 1&2, Group F,G;
Class III
CSA Enclosure Type 4X, IP66
NEMA 4X, Marine Rated



PENDANT LED



CEILING LED



WALL XENON

Certified - File LR11713

FEATURES-SPECIFICATIONS



Signal Luminaires

Applications

These new signal luminaires can be excellent warning devices in corrosive, wet NEMA 4X harsh environments, and in hazardous locations.

NVS signals contain no exposed glass and carry Class II, F&G ratings required for many food processing areas.

Features

- NVSL Series LED with very compact profile and 50,000 hours expected life; steady - on or flashing.
- NVSZ Series Xenon with 10,000 hours expected life; flashing only.
- LED utilizes inverted cone design to provide full 360 degree coverage for more light projection.
- LED and Xenon available in five colors - red, green, amber, blue and clear.
- Flash rate for LED is 7 micro flashes approximately every second for increased visual perception.
- Xenon flash rate 60 to 80 per minute
- Can be mounted in any orientation including lens in the UP or SIDE positions.
- Materials: High strength 30% glass-filled thermoset polyester body with Lexan®* lens.
- Resists corrosive effects of most chemicals, hydrocarbons and solvents
- Designed for indoor and outdoor applications

Catalog Numeric Logic

NVS L C F G 01 A A G
1 2 3 4 5 6 7 8 9

1 NVS - Series Constant Non-Metallic Signal

2 Source
L = LED
Z = Xenon

3 Fixture Size
C = Compact LED
M = Medium Xenon

4 Flash State
F = Flashing LED or Xenon
S = Steady LED

5 Color (Body, Mount, Guard)
G = Gray

6 Voltage
01 - 120VAC 50/60Hz **Xenon model**
08 - 240VAC 50/60Hz **Xenon model**
25 - 120-240VAC 50/60Hz **LED model**
26 - 12-80VDC (24VAC) **LED or Xenon**

7 Color of Strobe
A = Amber, R = Red, G = Green, B = Blue, C = Clear

8 Mount Type
A = 3/4" pendant
X = 3/4" Ceiling
B = 3/4" Wall Bracket (consists of ceiling box and elbow to support body)
M = M20 Ceiling
W = M20 Wall Mount

9 Guard
G = Guard
N = No Guard

Example: NVSLCFG25AAG
LED Gray Body Flashing Amber
Pendant w/Guard 120-240VAC

HAZARDOUS LOCATION SUITABILITY				
Source	Series	CL1	CL2	Ambient Range
		Div.2	Div.1	
		Operating Temp. Code	Groups	
LED	NVSLC	T6	F,G	-40°C to +40°C
Xenon	NVZSM	T2C	F,G	-40°C to +40°C

Intensity in Candelas		Flashing	Steady
LED	Amber	4.3/7.4*	11.3
	Red	5.9/10.1*	15.4
	Green	4.5/7.8*	11.8
	Blue	2.5/4.3*	6.6
Xenon	Clear	4.8/8.2*	12.5
	Amber	40	-
	Red	10	-
	Green	20	-
	Blue	20	-
	Clear	50	-

*CD-S/CD-Effective

Electrical Ratings Max.		
LED	120VAC	040mA Flash
	240VAC	020mA Flash
	12VDC	400mA
	80VDC	60mA
	24VAC	198mA Flash
Xenon	120VAC	.04 Avg.
	240VAC	.02 Avg.
	12VDC	.40 Avg.
	80VDC	.05 Avg.
	24VAC	.35 Avg.

to the following standards:

- UL 1598 Standard for luminaires
- UL 1598A Marine type luminaires
- UL 844 Standard for lighting fixtures for hazardous locations
- UL 1638 Standard for visual signalling applications
- CSA C22.2 no. 137-M1981 electric luminaires for use in hazardous locations
- Enclosed and gasketed, NEMA 3, 4X IP66

* Lexan® is a registered trademark of General Electric.





Down & side orientation



Up & side orientation

Class I, Div. 2, Groups A,B,C,D
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 1&2, Group F,G;
Class III
CSA Enclosure Type 4X, IP66
NEMA 4X, Marine Rated

 Certified - File LR11713

FEATURES-SPECIFICATIONS

NVS SERIES DESCRIPTION/CATALOG ORDERING INFORMATION						
	3/4" Pendant	Amber	Red	Green	Blue	Clear
LED	Flashing 120-240VAC	NVSLCFG25AAG	NVSLCFG25RAG	NVSLCFG25GAG	NVSLCFG25BAG	NVSLCFG25CAG
	Flashing 12-80VDC; 24VAC	NVSLCFG26AAG	NVSLCFG26RAG	NVSLCFG26GAG	NVSLCFG26BAG	NVSLCFG26CAG
	Steady 120-240VAC	NVSLCSG25AAG	NVSLCSG25RAG	NVSLCSG25GAG	NVSLCSG25BAG	NVSLCSG25CAG
	Steady 12-80VDC; 24VAC	NVSLCSG26AAG	NVSLCSG26RAG	NVSLCSG26GAG	NVSLCSG26BAG	NVSLCSG26CAG
XENON	Flashing 120VAC	NVSMFG01AAG	NVSMFG01RAG	NVSMFG01GAG	NVSMFG01BAG	NVSMFG01CAG
	Flashing 12-80VDC; 24VAC	NVSMFG26AAG	NVSMFG26RAG	NVSMFG26GAG	NVSMFG26BAG	NVSMFG26CAG
	Flashing 240VAC	NVSMFG08AAG	NVSMFG08RAG	NVSMFG08GAG	NVSMFG08BAG	NVSMFG08CAG
	3/4" Ceiling	Amber	Red	Green	Blue	Clear
LED	Flashing 120-240VAC	NVSLCFG25AXG	NVSLCFG25RXG	NVSLCFG25GXG	NVSLCFG25BXG	NVSLCFG25CXG
	Flashing 12-80VDC; 24VAC	NVSLCFG26AXG	NVSLCFG26RXG	NVSLCFG26GXG	NVSLCFG26BXG	NVSLCFG26CXG
	Steady 120-240VAC	NVSLCSG25AXG	NVSLCSG25RXG	NVSLCSG25GXG	NVSLCSG25BXG	NVSLCSG25CXG
	Steady 12-80VDC; 24VAC	NVSLCSG26AXG	NVSLCSG26RXG	NVSLCSG26GXG	NVSLCSG26BXG	NVSLCSG26CXG
XENON	Flashing 120VAC	NVSMFG01AXG	NVSMFG01RXG	NVSMFG01GXG	NVSMFG01BXG	NVSMFG01CXG
	Flashing 12-80VDC; 24VAC	NVSMFG26AXG	NVSMFG26RXG	NVSMFG26GXG	NVSMFG26BXG	NVSMFG26CXG
	Flashing 240VAC	NVSMFG08AXG	NVSMFG08RXG	NVSMFG08GXG	NVSMFG08BXG	NVSMFG08CXG
	3/4" Wall	Amber	Red	Green	Blue	Clear
LED	Flashing 120-240VAC	NVSLCFG25ABG	NVSLCFG25RBG	NVSLCFG25GBG	NVSLCFG25BBG	NVSLCFG25CBG
	Flashing 12-80VDC; 24VAC	NVSLCFG26ABG	NVSLCFG26RBG	NVSLCFG26GBG	NVSLCFG26BBG	NVSLCFG26CBG
	Steady 120-240VAC	NVSLCSG25ABG	NVSLCSG25RBG	NVSLCSG25GBG	NVSLCSG25BBG	NVSLCSG25CBG
	Steady 12-80VDC; 24VAC	NVSLCSG26ABG	NVSLCSG26RBG	NVSLCSG26GBG	NVSLCSG26BBG	NVSLCSG26CBG
XENON	Flashing 120VAC	NVSMFG01ABG	NVSMFG01RBG	NVSMFG01GBG	NVSMFG01BBG	NVSMFG01CBG
	Flashing 12-80VDC; 24VAC	NVSMFG26ABG	NVSMFG26RBG	NVSMFG26GBG	NVSMFG26BBG	NVSMFG26CBG
	Flashing 240VAC	NVSMFG08ABG	NVSMFG08RBG	NVSMFG08GBG	NVSMFG08BBG	NVSMFG08CBG

COMPONENT/REPLACEMENT PARTS

CATALOG NO. DESCRIPTION

NVSLC LED SERIES^①

NVSLCFG25A	LED BODY AMBR FLASH 120-240VAC
NVSLCFG25R	LED BODY RED FLASH 120-240VAC
NVSLCFG25G	LED BODY GRN FLASH 120-240VAC
NVSLCFG25B	LED BODY BLUE FLASH 120-240VAC
NVSLCFG25C	LED BODY CLR FLASH 120-240VAC
NVSLCSG25A	LED BODY AMBR STEADY 120-240VAC
NVSLCSG25R	LED BODY RED STEADY 120-240VAC
NVSLCSG25G	LED BODY GRN STEADY 120-240VAC
NVSLCSG25B	LED BODY BLUE STEADY 120-240VAC
NVSLCSG25C	LED BODY CLR STEADY 120-240VAC
NVSLCFG26A	LED BODY AMBR FLASH 12-80VDC: 24VAC
NVSLCFG26R	LED BODY RED FLASH 12-80VDC: 24VAC
NVSLCFG26G	LED BODY GRN FLASH 12-80VDC: 24VAC
NVSLCFG26B	LED BODY BLUE FLASH 12-80VDC: 24VAC
NVSLCFG26C	LED BODY CLR FLASH 12-80VDC: 24VAC
NVSLCSG26A	LED BODY AMBR STEADY 12-80VDC: 24VAC
NVSLCSG26R	LED BODY RED STEADY 12-80VDC: 24VAC
NVSLCSG26G	LED BODY GRN STEADY 12-80VDC: 24VAC
NVSLCSG26B	LED BODY BLUE STEADY 12-80VDC: 24VAC
NVSLCSG26C	LED BODY CLR STEADY 12-80VDC: 24VAC

NV2GG-S NVSLC COMPACT LED GUARD
^①BODY AND LENS W/O MOUNTING BOX OR GUARD

NVSZM XENON SERIES^②

NVSZMFG01	NVS XENON BODY WITH LAMP 120VAC
NVSZMFG08	NVS XENON BODY WITH LAMP 240VAC
NVSZMFG26	NVS XENON BODY WITH LAMP 12-80VDC; 24VAC
NVSZ-LAMP	NVS XENON REPLACEMENT LAMP
NVSMA	NVS AMBER LENS & GASKET
NVSMR	NVS RED LENS & GASKET
NVSMG	NVS GREEN LENS & GASKET
NVSMB	NVS BLUE LENS & GASKET
NVSMC	NVS CLEAR LENS & GASKET
NV2GG	NVSZM MEDIUM XENON GUARD

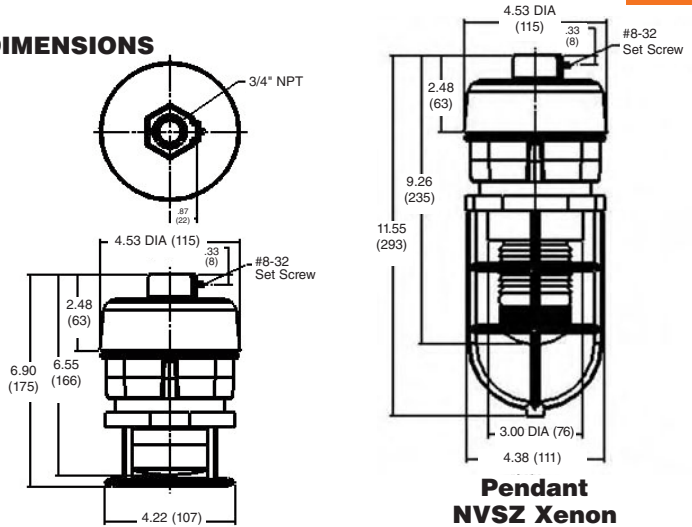
^②BODY AND POWER SUPPLY W/LAMP

NVS MOUNTING BOXES^③

NV2XG	NVS Ceiling/Wall Mtg Box
NV2AG	NVS Pendant Box
NV2BG	NVS Wall Elbow (use with NV2XG/NV2MG Box)
NV2MG	NVS M20 Ceiling/Wall Mtg Box

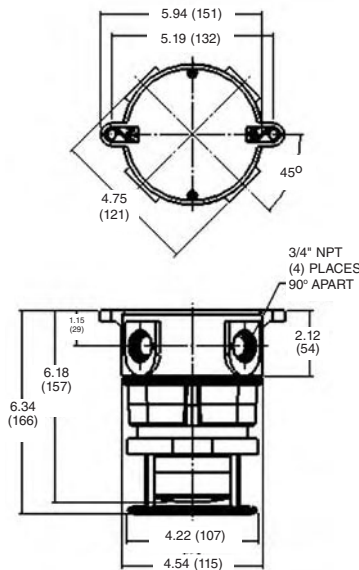
^③See NV2 series page L3 for additional information.

DIMENSIONS

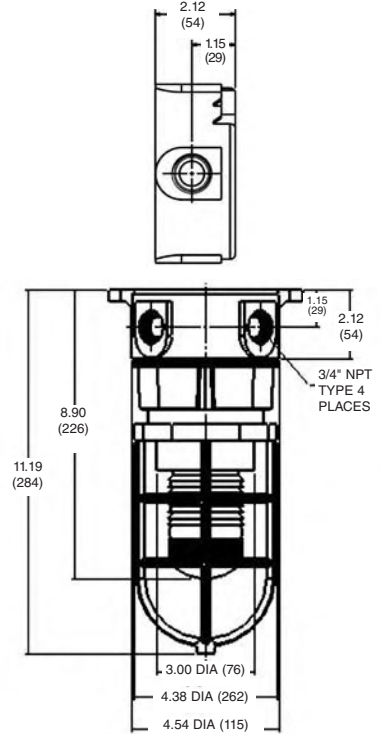


Pendant NVSL LED

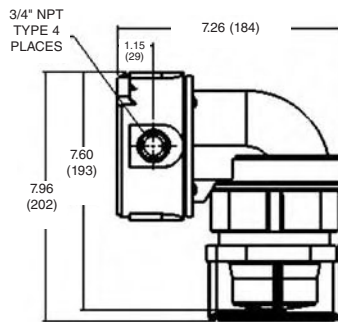
Pendant NVSZ Xenon



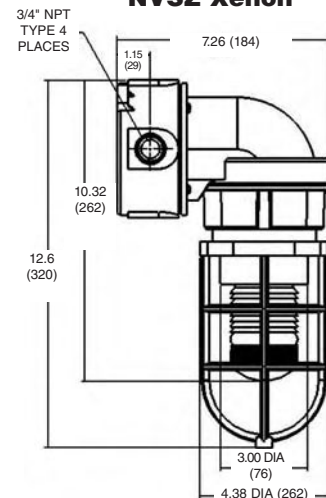
Ceiling/Wall NVSL LED



Ceiling/Wall NVSZ Xenon



Wall NVSL LED



Wall NVSZ Xenon



NV2GG-S Compact Guard



NV2GG Medium Guard





FKA



FH



HOOKLOOP

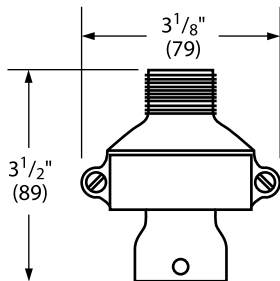
FEATURES-SPECIFICATIONS

FKA

Features

- Ball joint permits fixture to hang plumb. Fixture may swing up to 20° from vertical in any direction
- Cast of aluminum alloy (copper-free aluminum; less than 4/10 of 1%)
- Set screw locks fixture stem in place. Cannot accidentally loosen – intended for use with threaded metal conduit
- Joint cannot twist conductor
- Suitable for fixtures up to 125 pounds

FKA		
CATALOG NUMBER	MALE THREAD	FIXTURE STEM SIZE
FKA-22	3/4"	3/4"



For replacement ball only catalog number 00890545



Listed - File E27731



Certified - File LR11851

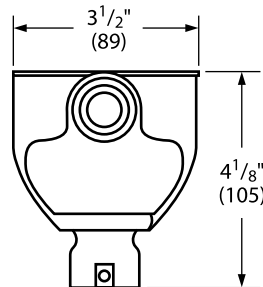
See files for details or call Killark.

FH

Features

- Combination splice box and flexible fixture hanger
- Ball joint permits fixture to hang plumb. Fixture may swing up to 20° from vertical
- Cast of aluminum alloy (copper-free aluminum; less than 4/10 of 1%)
- Set screw locks fixture stem in place – intended for use with threaded metal conduit
- Joint cannot twist conductors
- Cover may be removed for easy wiring – 11 cu. inches
- Mounts directly to metal conduit
- Suitable for fixtures up to 125 pounds

FH			
TWO HUBS FEED THRU	THREE HUBS T	CONDUIT SIZE	FIXTURE STEM SIZE
FHC-21	FHT-21	3/4"	1/2"
FHC-22	FHT-22	3/4"	3/4"



For replacement ball only catalog number 00890545



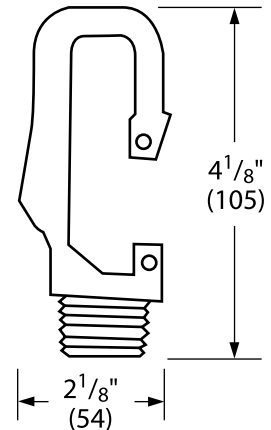
Listed - File E27731

HOOKLOOP

Features

- Pendant fixture hanger consists of a "HOOK" and safety bar which allows conversion to a "LOOP" configuration as necessary
- 3/4" male thread
- Maximum load 125 pounds

HOOKLOOP
CATALOG NUMBER
HOOKLOOP



Listed - File E27731



Certified - File LR11851

See files for details or call Killark.



FH

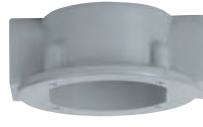


Hook

V Hanger Boxes



VGA



VGC



VGH



VGX

Covers



Flexible Hanger Covers



Hub Covers
(for Rigid Mounting)

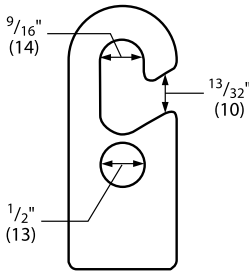
FEATURES-SPECIFICATIONS

FH HOOK

Features

- Economical hanger for pendant fixtures
- Fixtures may absorb minor bumps and vibration through free swinging action
- Hub provided with a set screw to prevent accidental loosening of fixture stem
- A 1/2 inch hole in body is for flexible cable. Cord may be assembled with plug for quick removal of fixtures
- Cast of aluminum alloy (copper-free—less than 4/10 of 1%)
- FH supports up to 125 pounds

FH HOOK, LOOP		
CATALOG NUMBER	DESCRIPTION	FIXTURE STEM SIZE
FH-2	Hook	3/4"



V SERIES

Features

- Flexible fixture hanger for threaded fixture stem
- Enclosed and gasketed, suitable for wet locations
- Permits angular displacement of fixture without twisting wires
- Cushioned—absorbs shock and vibration. Internal strap assures ground continuity

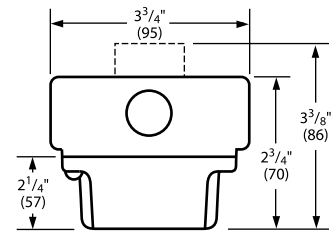
- Combines splice box and hanger in one unit. Splice box available in four configurations
- Cast of corrosion resistant aluminum alloy (copper-free—less than 4/10 of 1%)
- Supports up to 125 pounds

UL Listed - File E27731 or E3397

FLEXIBLE HANGERS, V SERIES ENCLOSED AND GASKETED			
CATALOG NUMBER		HUB SIZE	FIXTURE STEM SIZE
HANGER W/SPLICE BOX	SPLICE BOX ONLY		
VPFHA-12	VGA-1	1/2"	3/4"
VPFHA-22	VGA-2	3/4"	3/4"
VPFHC-12	VGC-1	1/2"	3/4"
VPFHC-22	VGC-2	3/4"	3/4"
VPFHH-12	VGH-1	1/2"	3/4"
VPFHH-22	VGH-2	3/4"	3/4"
VPFHX-12	VGX-1	1/2"	3/4"
VPFHX-22	VGX-2	3/4"	3/4"

FIXTURE HANGERS ONLY		
CATALOG NUMBER	DESCRIPTION	FIXTURE STEM SIZE
VPFH-2	Flexible hanger cover, maximum load 125 Lbs.	3/4"
VG-2	Hub cover for rigid mounting	3/4"

See page L11 for other box configurations.



Flexible cover with box, dotted line is VGA pendant.

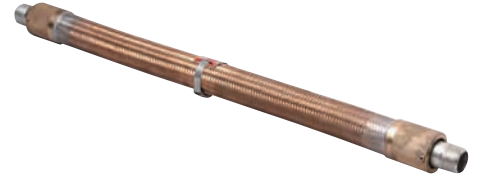
UL Listed - File E27731 or E3397
See files for details or call Killark.



HXB



XFH



EKJ

FEATURES-SPECIFICATIONS

HXB

**Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB,IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III**

Features

- Fixture hanger for hazardous locations combining splice box and hanger
- Set screws in female hub prevents accidental loosening of fixture stem; set screws in hub cover lock cover to the splice box
- Four hubs in "X" configuration up to 3/4"
- Flange mounting ring cast as integral part of box
- Splice box wiring hole with cover for access to box interior
- Cast of corrosion resistant aluminum alloy (copper-free aluminum; less than 4/10 of 1%)
- Supports to 125 pounds; vol. 16 cu."

Listed - File E10514

Certified - File LR11716

HXB SPLICE BOX AND HANGER		
CATALOG NUMBER	CONDUIT HUB SIZE	FIXTURE STEM SIZE
HXB-11	1/2"	1/2"
HXB-12	1/2"	3/4"
HXB-21	3/4"	1/2"
HXB-22	3/4"	3/4"
HXBC	Blank Cover	
HIC-SILVER	Replacement Wiring Plug	

XFH

**Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIB,IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III**

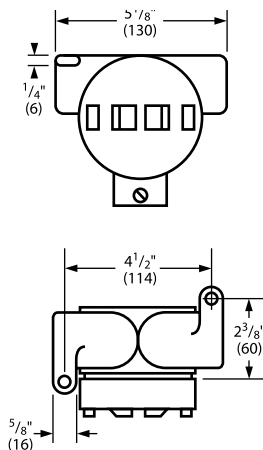
Features

- Fixture hanger for hazardous locations combining splice box and hanger
- Set screws in female hub prevents accidental loosening of fixture
- Straight through conduit hubs for through feed
- Mounting lugs are standard
- Cast of corrosion resistant aluminum alloy (copper-free aluminum; less than 4/10 of 1%)
- Supports to 125 pounds

Listed - File E10514

Certified - File LR11716

XFH SPLICE BOX AND HANGER		
CATALOG NUMBER	CONDUIT HUB SIZE	FIXTURE STEM SIZE
XFH-21	3/4"	1/2"
XFH-22	3/4"	3/4"



EKJ

**Class I, Div. 1 & 2, Groups A,B,C,D
Class I, Zones 1 & 2, Groups IIC,IIA,IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III**

Features

- Fixture pendant hanger for hazardous locations
- Permits free swing and plumb hang
- Set screws in each hub prevents accidental loosening of fixture
- Constructed of seamless bronze hose with brass outer braid. Asphaltum impregnated jute inner insulates and protects wire from abrasion. Brass female end fittings are supplied with short nipples
- Electrical ground continuity without bonding jumper
- Suitable for wet locations as well as hazardous locations
- Flexible lengths 4 to 18 inches
- Supports to 125 pounds

Listed - File E10514

Certified - File LR11716

EKJ FLEXIBLE PENDANT HANGER*		
CATALOG NUMBER	CONDUIT HUB SIZE	FIXTURE STEM SIZE
EKJ-14	1/2"	4"
EKJ-24	3/4"	4"
EKJ-16	1/2"	6"
EKJ-26	3/4"	6"
EKJ-18	1/2"	8"
EKJ-28	3/4"	8"
EKJ-110	1/2"	10"
EKJ-210	3/4"	10"
EKJ-112	1/2"	12"
EKJ-212	3/4"	12"
EKJ-115	1/2"	15"
EKJ-215	3/4"	15"
EKJ-118	1/2"	18"
EKJ-218	3/4"	18"

*See page F67 for EKJ 1" sizes



KILLARK®



JL



JAL



ENY Pendant Seal

FEATURES-SPECIFICATIONS

JL/JAL

Class I, Div. 1 & 2, Groups C,D
Class I, Zones 1 & 2, Groups IIC,IIB
Class II, Div. 1 & 2, Groups E,F,G
Class III

Features

- Splice box and hub cover for mounting pendant fixtures in hazardous locations
- Conduit openings in two configurations

- Flange type cover. Set screw in hub prevents accidental loosening of fixture stem
- Integral lugs for mounting box to ceiling
- Cast of corrosion resistant aluminum alloy (copper-free aluminum; less than 4/10 of 1%)
- Supports up to 125 pounds

Listed - File E10514

Certified - File LR11716

ENY PENDANT SEALS

Class I, Div. 1 & 2, Groups A,B,C,D
Class I, Zones 1 & 2, Groups IIC,IIB,IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III

Features

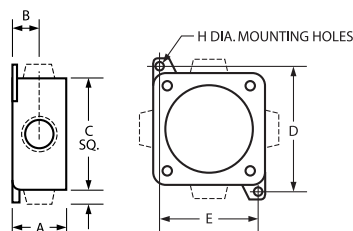
- ENY Pendant Seals are designed for hazardous locations and meet code requirements for a safety set-screw when hanging fixtures. Common applications are for Class I Division I Group B or Class I Zone 2 Ex nR restricted breathing fixtures
- Cast of corrosion resistant aluminum alloy (copper-free aluminum; less than 4/10 of 1%)
- Supports up to 125 pounds

See page F48 for sealing compound and packing fiber

JL/JAL SPLICE BOX AND HUB COVER FIXTURE HANGER				
CATALOG NUMBER		CONDUIT BOX	COVER	TYPE
JL SERIES W/HUB COVER	JAL SERIES W/HUB COVER			
JLC-11	—	1/2"	1/2"	C Straight Through
JLC-12	—	1/2"	3/4"	
JLC-21	—	3/4"	1/2"	
JLC-22	—	3/4"	3/4"	
JLX-11	JALX-11	1/2"	1/2"	X Four Hubs
JLX-12	JALX-12	1/2"	3/4"	
JLX-21	JALX-21	3/4"	1/2"	
JLX-22	JALX-22	3/4"	3/4"	
—	JALX-31	1"	1/2"	
—	JALX-32	1"	3/4"	

CATALOG NUMBER	SIZE
ENY-2SET	3/4"
ENY-3SET	1"

JL/JAL DIMENSIONS						
SERIES	A	B	C	D	E	H
JL	1-15/16" (49)	11/16" (17)	3-1/4" (95)	4-7/32" (107)	2-3/8" (60)	5/16" (8)
JAL	2-3/8" (60)	15/32" (12)	4-5/8" (117)	5-1/4" (133)	4-1/8" (105)	5/16" (8)





**Class I, Div. 2, Groups A,B,C,D
Class I, Zone 2, Groups IIC, IIB, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
NEMA 3, 4, 4X**



FEATURES-SPECIFICATIONS

CERTILITE®

Applications

VMCHVM adapters are designed to ease upgrading of existing Crouse-Hinds® “VM, LM, DM” series fixtures to Killark “VM” CERTILITE® fixtures. Units are primarily designed to aid replacement of old ceiling or wall mount units where removal of the existing mounting box and conduit would be difficult or time consuming. Adapter & Killark fixtures rated NEMA 4.

Adapters allow the upgrade of older Mercury Vapor fixtures to newer HID lamp sources, Compact Fluorescent Lamps, LED Induction or to Emergency Lighting.

Series included are VQ1F, VQ2F, VE3Q, VE3V, VE4Q and VM1L.

Note: Adapters are used with Fixture Ballast Tanks (plus globes & guards), e.g. VM3S150, VMG17, VMAG17. Complete fixture with mounting splice box is not required. Adapters are painted to match Killark beige fixture finish.

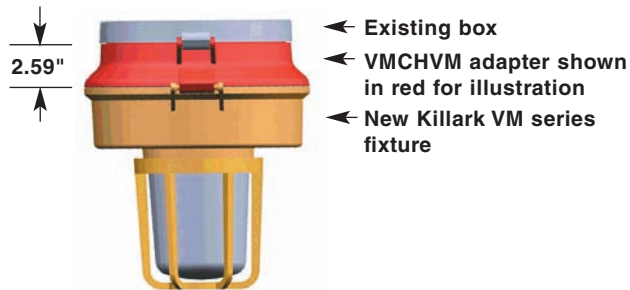
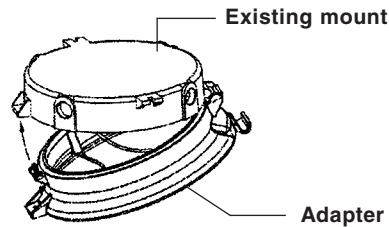
Features

- Allows use of CertiLite®V's patented Swing-Barrel nut for ease of maintenance. Attaches to Crouse-Hinds® mount with hinge and set screw.

Temperature codes:

See Certilite®V or VM series product pages or as listed with other desired product series.

VM COMPETITIVE ADAPTER		
CATALOG NUMBER	DESCRIPTION	EXAMPLE OF MODEL UTILIZED OR REPLACED
VMCHXM	Crouse ceiling mount or wall mount splice box. Adapter allows simple attachment of Killark ballast tank to existing mount.	Ceiling mounts CM2, CM3 Wall mounts TWM2, TWM3



**Note - To use the adaptor ring in assemblies using CertiLite®V housings, substitute RC for the MOUNT code.
Example: VM3S150X2GLG
Becomes VM3S150RCGLG**



EAC/EACH



EZBA12

Class I, Div. 1 & 2, Group D
Class I, Zones 1 & 2, Groups IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III



FEATURES-SPECIFICATIONS

HOSTILELITE®

Applications

EAC Series adapters are designed to ease upgrading of existing Crouse-Hinds® "EV" series or existing Killark "H" series to Killark HOSTILELITE® EM or EZ series. Units are primarily designed to aid replacement of old ceiling or wall mount units where removal of the existing mounting box and conduit would be difficult or time consuming. Adapter & Killark fixtures rated NEMA 4.

Adapters allow the upgrade of older incandescent fixtures to newer Fluorescent or HID lamp sources, or to Emergency Lighting including ESX strobes or EEQ emergency series.

Note: Adapters are used with Fixture Housing, Globe, Globe Support assemblies, e.g. EBF261 & EMG1; EMS151 & EMG2; or EZH100 & EZG1. Complete fixture with mounting box is not required. Adapters are painted to match Killark beige fixture finish.

Features

- Setscrews permit secure adapter attachment into old mounting box and to new fixture
- Converted fixtures may be easily removed for service using the Killark EZ mounting system. Wire terminals are included in the adapter (EZTB Terminal Block)

Temperature codes:

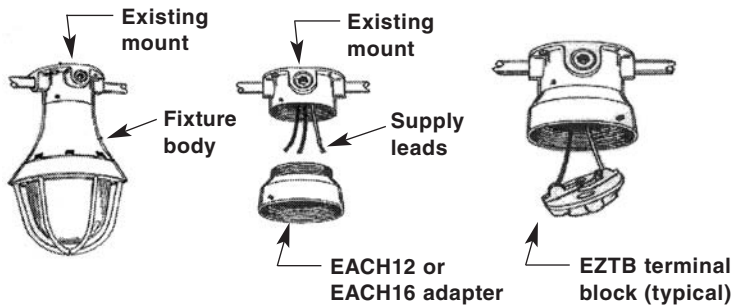
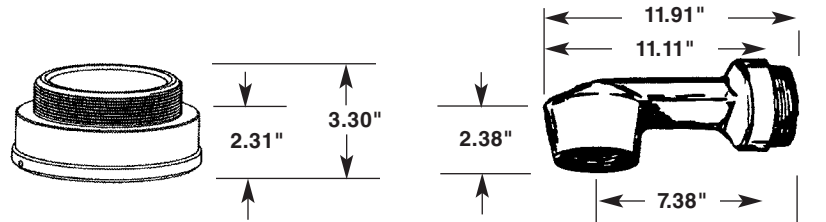
See EM/EB/EQ series pages L144 to L145

EZ series pages L164 to L165

ESX series pages L214 to L215

EEQ series page L211

EAC/EZBA FIXTURE ADAPTERS		
CATALOG NUMBER	DESCRIPTION	EXAMPLE OF MODEL UTILIZED OR REPLACED
EAC	Killark "H" series Ceiling or Wall	HXG-2-125 Fixture
EACH12	Crouse old style Ceiling Mount with lamp socket in adapter ring between fixture body and a GUF 12 pitch box	"GUF" box w/Set Screw
EZBA12	Crouse old style Wall Mount, old style Arm with integral lamp socket (socket in fixture in newer models) attached to GUF 12 pitch mounting box. EZBA12 includes arm	"GUF" box w/Set Screw
EACH16	Crouse newer style ceiling or wall fixtures w/lamp socket in fixture body; mounted to EV series 16 pitch threaded box; adapter fits in ceiling box or existing arm attached to wall fixture	EVA26/EV22 Box; EVBX240



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www.hubbell.com.mx



UK Hubbell Products
Ph: +44 (0) 1283 500500
www.hubbell.co.uk

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For More Listings:
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KILLARK®

3940 M. L. King Dr.
St. Louis, MO 63113
TEL: (314) 531-0460 FAX: (314) 531-7164
www.hubbell-killark.com

Hubbell Canada, Inc.
870 Brock Road South
Pickering, Ontario L1W-1Z8
(905) 839-1139

Hubbell De Mexico
Av. Coyoacan 1051
Col. Del Valle
Mexico, D.F. 03100
001-5255-9151-9999

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