

PRODUCT SPECIFICATION

March 2005

PNEUMATIC ACTUATED INDUSTRIAL VALVES

SERIES: 5800 SIZES 1 to 4 INCHES

Compact Globe Control Valves



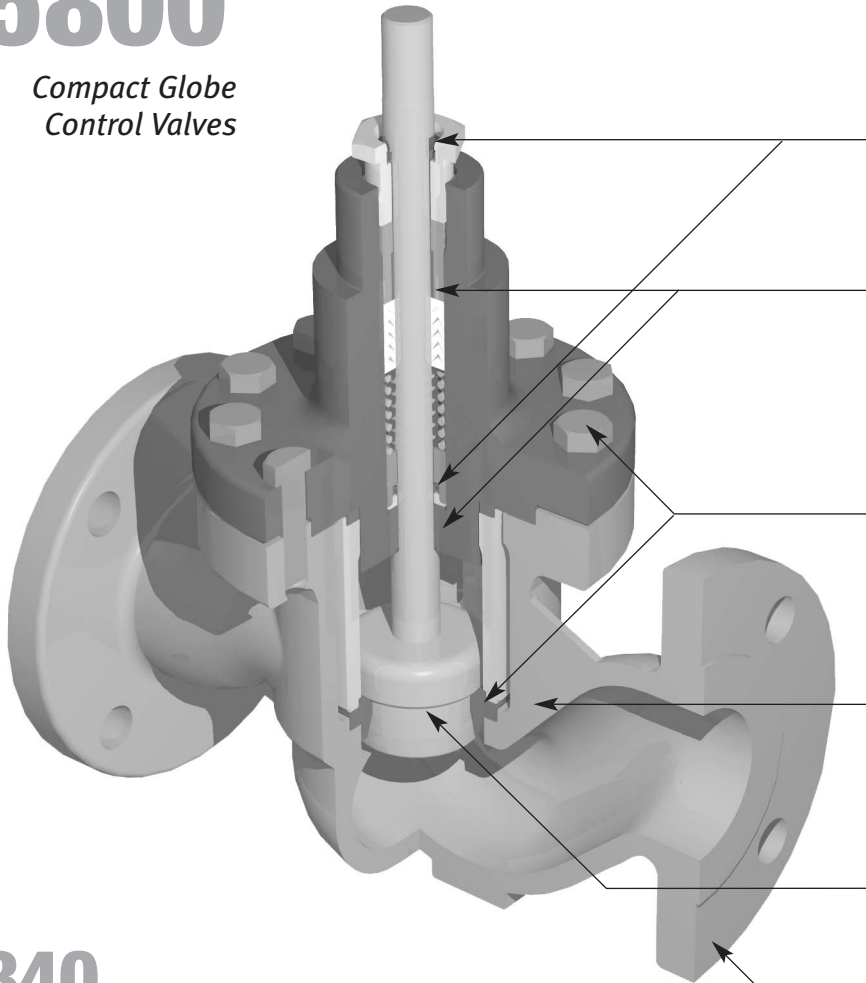
WARREN CONTROLS

Two-Way, Reciprocating, Steel or Stainless Steel Body
Valves for Process and Utility Applications



SERIES: 5800

Compact Globe
Control Valves



Stem Wipers

provide outstanding packing protection and stem stability.

Standard Dual Point PEEK Bearing Plug Guiding

provides both stability and low friction, resulting in lowest hysteresis and precision control.

Bolted Bonnet and Cage-Retained Seat

make the 5800 ideal for easy access, maintenance, and trim inspection.

Low Profile and Reduced Face to Face Design

offers footprint minimizing valuable space consumption.

Trim Choices Available

include 316SS, Alloy 6, PEEK and PTFE.

Rugged Body

with a selection of port reductions.

5840

Two-Way Single Seat Unbalanced Valve with Cage-Retained Seat

Description

Warren Controls Series 5800 Compact Globe Control Valves feature rugged high efficiency bodies of steel or stainless steel, with cage-retained seats for ease of maintenance, and a variety of trim materials and port sizes. The equal percentage and linear plugs provide excellent modulating control of a wide variety of fluids. The Series 5800 is ideally suited where value and long life are important objectives for applications including but not limited to the Chemical, Food & Beverage, General Service, Marine, Pulp & Paper, Refining, and Pharmaceutical Industries with temperatures from -20 to 800°F, severe service, dirty fluids, high pressure drops, and corrosive fluids.

Body Style Versus Application

2-Way Valves (Control of Liquids, Gases, and Steam)

5840 Two-Way Single Seat Unbalanced Valve with Cage Retained Seat

The 5840 Valve is particularly effective for the control of liquids, gases, and steam. It is a suitable solution for applications with dirty fluids and high pressure drops. ANSI Class IV and VI shut-off.

Sizes:	1, 1-1/2, 2, 2-1/2, 3, 4 inch
Body:	WCB Steel or CF8M Stainless Steel 150LB Flange or 300LB Flange
Trim:	EQ% or Linear, 316 Stainless Steel, TFE, PEEK, or Alloy 6
Shut-off:	ANSI Class IV (Stainless Steel and Alloy 6 Trim), ANSI Class VI (TFE and PEEK Trim)
Packing & Bonnet:	TFE V-Ring, Spring Loaded, w/ PEEK Bearings (+32 to 450°F), Adjustable Graphite w/ PEEK Bearings (+32 to 450°F), Adjustable Graphite w/ Graphite Gaskets & Alloy 6 Bearings (+32 to 550°F), Adjustable Graphite w/ Graphite Gaskets, Alloy 6 Bearings & Extension Bonnet (+32 to 800°F)
Temperature:	+32 to 450°F (TFE or PEEK Trim) +32 to 800°F (Stainless Steel or Alloy 6 Trim)
Rangeability:	50:1



Flow direction is reversed when used with Cylinder Actuator Fail Closed

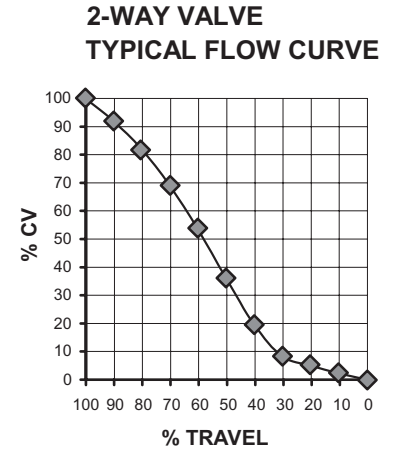
Body Pressure-Temperature Ratings:				
Temperature (F)	150 FLG Steel	300 FLG Steel	150 FLG St Steel	300 FLG St Steel
+32° To 100°F	285	740	275	720
150°	272	707	255	670
175°	266	691	245	645
200°	260	675	235	620
225°	252	670	230	605
250°	245	665	225	590
275°	237	660	220	575
300°	230	655	215	560
325°	222	650	210	548
350°	215	645	205	537
375°	207	640	200	526
400°	200	635	195	515
450°	185	617	182	497
500°	170	600	170	480
550°	155	575	155	465
600°	140	550	140	450
650°	125	535	125	445
700°	110	520	110	430
750°	95	505	95	425
800°	80	410	80	420

Pressure ratings are PSIG
For applications below 32° consult factory

Trim Materials	Flowing Differential Pressure Limit
316 Stainless Steel	100 PSID
TFE	100 PSID
PEEK	100 PSID
Alloy 6	300 PSID

Flow Coefficients (Cv) Versus Travel

Valve				5840 Flow Coefficients (Cv) Two-Way Single Seat Unbalanced Valve with Cage-Retained Seat									
Valve Size(IN)	Trim Size(IN)	Trim Style	Port Size	%Travel									
				100%	90%	80%	70%	60%	50%	40%	30%	20%	10%
1	0.876	EQ%	FULL	12.0	10.8	8.88	6.20	3.18	1.91	1.31	0.94	0.65	0.35
		LINEAR	FULL	12.0	10.8	9.60	8.40	7.20	6.00	4.80	3.60	2.40	1.20
	0.501	EQ%	1SR	5.00	4.48	3.70	2.59	1.33	0.80	0.55	0.39	0.27	0.15
		LINEAR	1SR	5.00	4.50	4.00	3.50	3.00	2.50	2.00	1.50	1.00	0.50
	0.376	EQ%	2SR	2.50	2.24	1.85	1.29	0.66	0.40	0.27	0.20	0.14	0.07
		LINEAR	2SR	2.50	2.25	2.00	1.75	1.50	1.25	1.00	0.75	0.50	0.25
0.251	EQ%	3SR	1.25	1.12	0.93	0.65	0.33	0.20	0.14	0.10	0.07	0.04	
	LINEAR	3SR	1.25	1.13	1.00	0.88	0.75	0.63	0.50	0.38	0.25	0.13	
1.5	1.251	EQ%	FULL	24.0	21.5	17.8	12.4	6.36	3.82	2.62	1.87	1.30	0.70
		LINEAR	FULL	24.0	21.6	19.2	16.8	14.4	12.0	9.60	7.20	4.80	2.40
	0.876	EQ%	1SR	12.0	10.8	8.88	6.20	3.18	1.91	1.31	0.94	0.65	0.35
2	1.688	EQ%	FULL	43.0	38.5	31.8	22.2	11.4	6.84	4.69	3.35	2.32	1.25
		LINEAR	FULL	43.0	38.7	34.4	30.1	25.8	21.5	17.2	12.9	8.60	4.30
	1.251	EQ%	1SR	24.0	21.5	17.8	12.4	6.36	3.82	2.62	1.87	1.30	0.70
2.5	2.126	EQ%	FULL	65.0	58.2	48.1	33.6	17.2	10.3	7.09	5.07	3.51	1.89
		LINEAR	FULL	65.0	58.5	52.0	45.5	39.0	32.5	26.0	19.5	13.0	6.50
	1.688	EQ%	1SR	43.0	38.5	31.8	22.2	11.4	6.84	4.69	3.35	2.32	1.25
3	2.501	EQ%	FULL	100	89.6	74.0	51.7	26.5	15.9	10.9	7.80	5.40	2.90
		LINEAR	FULL	100	90.0	80.0	70.0	60.0	50.0	40.0	30.0	20.0	10.0
	2.126	EQ%	1SR	65.0	58.2	48.1	33.6	17.2	10.3	7.09	5.07	3.51	1.89
4	3.376	EQ%	FULL	170	152	126	87.9	45.1	27.0	18.5	13.3	9.18	4.93
		LINEAR	FULL	170	153	136	119	102	85.0	68.0	51.0	34.0	17.0
	2.501	EQ%	1SR	100	89.6	74.0	51.7	26.5	15.9	10.9	7.80	5.40	2.90
		LINEAR	1SR	100	90.0	80.0	70.0	60.0	50.0	40.0	30.0	20.0	10.0



Steam Table					
Steam Pressure PSIG	Temp. °F	Temp. °C	Sensible Heat BTU/Lb.	Latent Heat BTU/Lb.	Total Heat BTU/Lb.
0	212	100	180	971	1151
10	239	115	207	952	1159
25	266	130	236	934	1170
50	297	147	267	912	1179
75	320	160	290	896	1186
100	338	170	309	881	1190
125	353	178	325	868	1193
150	365	185	339	858	1197
200	387	197	362	838	1200
250	406	208	381	821	1202
300	422	217	399	805	1204
400	448	231	438	778	1216
500	470	243	453	752	1205
600	489	254	475	729	1204

Rectangular Tank Capacity in Gallons

$$\text{Gallons} = \frac{\text{Height} \times \text{Width} \times \text{Length (inches)}}{230}$$

or

$$\text{Gallons} = H \times W \times L \text{ (Ft.)} \times 7.5$$

Circular Tank Storage Capacity in Gallons

$$\text{Storage} = 6D^2 \times L \text{ (Gallons)}$$

Where:

D = Tank Diameter in Feet
L = Length in Feet

Load Sizing Calculations

Glossary of Terms

t = Time in Hours
Cp = Specific Heat of Liquid
S = Specific Gravity of Fluid
W = Weight in Lbs.
ΔT = Temperature Rise or Fall in °F
h_{fg} = Latent Heat of Steam

Conversion Factors

1 Lb. Steam / Hr. = 1000 BTU / Hr.
1 Cubic Meter = 264 U.S. Gallons
1 Cubic Foot Water = 62.4 Lbs.
1 PSI = 2.04 Inches of Mercury
1 PSI = 2.3 Feet of Water
1 PSI = 27.7 Inches of Water
1 U.S. Gallon Water = 231 Cubic Inches
1 U.S. Gallon Water = 8.33 Lbs.

Heating Water with Steam

Quick Method

$$\text{Lbs./Hr.} = \frac{\text{GPM}}{2} \times \Delta T$$

Accurate Method

$$\text{Lbs./Hr.} = \frac{\text{GPM} \times 500 \times \Delta T}{h_{fg}}$$

Heating or Cooling Water with Water

$$\text{GPM}_1 = \text{GPM}_2 \times \frac{\text{°F water}_2 \text{ temp. rise or drop}}{\text{°F water}_1 \text{ temp. rise or drop}}$$

Heating or Cooling Water

$$\text{GPM} = \frac{\text{BTU / Hr.}}{(\text{°F water temp. rise or drop}) \times 500}$$

Heating Oil with Steam

$$\text{Lbs./Hr.} = \frac{\text{GPM}}{4} \times (\text{°F oil temp. rise})$$

Heating Air with Water

$$\text{GPM} = 2.16 \times \frac{\text{CFM} \times (\text{°F air temp. rise})}{1000 \times (\text{°F water temp. drop})}$$

Heating Liquids with Steam

$$\text{Lbs./Hr.} = \frac{\text{GPM} \times 60 \times \text{Cp} \times \text{W}}{h_{fg}} \times \Delta T$$

Heating Liquids in Steam Jacketed Kettles

$$\text{Lbs./Hr.} = \frac{\text{GPM} \times \text{Cp} \times \text{S} \times 8.33}{h_{fg} \times t} \times \Delta T$$

General Liquid Heating

$$\text{Lbs./Hr.} = \frac{W \times \text{Cp}}{h_{fg} \times t} \times \Delta T$$

Heating Air with Steam

$$\text{Lbs./Hr.} = \frac{\text{CFM}}{900} \times \Delta T$$

Valve			Actuator		Shut-Off ΔP Two-Way Single Seat Unbalanced with Cage-Retained Seat							
5840												
Trim Size (IN)	Valve Size (IN)	Plug Travel (IN)	Pneumatic Actuator	Spring Range	Maximum Shut-off ΔP in PSI							
					Fail Closed Reverse Acting				Fail Open Direct Acting			
					Air Signal to Actuator See "Pneumatic Ranges"...bottom right				Air Signal to Actuator See "Pneumatic Ranges"...bottom right			
					Range 1	Range 2	Range 3	Range 4	Range 1	Range 2	Range 3	Range 4
0.251	1	3/4	DL49	Low	N/A	740	740	N/A	740	740	740	N/A
				Full	492	740	740	N/A	492	740	740	N/A
				High	740	740	740	N/A	740	740	740	N/A
			Cylinder 4"		N/A	N/A	N/A	N/A	740	740	740	740
0.376	1	3/4	DL49	Low	N/A	554	740	N/A	740	740	740	N/A
				Full	113	740	740	N/A	113	740	740	N/A
				High	740	740	740	N/A	554	740	740	N/A
			Cylinder 4"		N/A	N/A	N/A	N/A	740	740	740	740
0.501	1	3/4	DL49	Low	N/A	253	501	N/A	740	740	740	N/A
				Full	4	501	740	N/A	4	501	740	N/A
				High	740	740	740	N/A	253	740	740	N/A
			DL84	Low	N/A	N/A	N/A	N/A	740	740	740	N/A
				Full	N/A	N/A	N/A	N/A	N/A	359	740	N/A
				High	N/A	N/A	N/A	N/A	N/A	359	740	N/A
			Cylinder 4"		N/A	N/A	N/A	N/A	740	740	740	740
0.876	1 and 1-1/2	3/4	DL49	Low	N/A	24	105	N/A	268	430	740	N/A
				Full	N/A	105	187	N/A	N/A	105	740	N/A
				High	349	512	593	N/A	24	187	740	N/A
			DL84	Low	N/A	59	198	N/A	616	740	740	N/A
				Full	N/A	59	198	N/A	N/A	59	740	N/A
				High	616	740	740	N/A	N/A	59	740	N/A
			Cylinder 4"		372	659	740	740	585	740	740	740
1.251	1-1/2 and 2	3/4	DL49	Low	N/A	N/A	23	N/A	103	182	701	N/A
				Full	N/A	23	63	N/A	N/A	23	541	N/A
				High	142	222	262	N/A	N/A	63	581	N/A
			DL84	Low	N/A	N/A	68	N/A	273	410	740	N/A
				Full	N/A	N/A	68	N/A	N/A	N/A	740	N/A
				High	273	410	478	N/A	N/A	N/A	740	N/A
			DL84XR Xtra-High		478	615	683	N/A	N/A	N/A	N/A	
			Cylinder 4"		147	323	399	473	258	463	667	740
			Cylinder 6"		570	N/A	N/A	N/A	740	740	N/A	N/A
1.688	2	3/4	DL49	Low	N/A	N/A	N/A	N/A	38	82	366	N/A
				Full	N/A	N/A	16	N/A	N/A	N/A	279	N/A
				High	60	104	126	N/A	N/A	16	301	N/A
			DL84	Low	N/A	N/A	19	N/A	132	207	695	N/A
				Full	N/A	N/A	19	N/A	N/A	N/A	470	N/A
				High	132	207	244	N/A	N/A	N/A	470	N/A
			DL84XR Xtra-High		244	319	357	N/A	N/A	N/A	N/A	
			Cylinder 4"		74	177	219	260	123	236	348	460
			Cylinder 6"		313	N/A	N/A	N/A	430	682	N/A	N/A

NOTES:

- 1) 5840 Seat closure ANSI Class IV (Stainless Steel and Alloy 6 Trim), ANSI Class VI (TFE and PEEK Trim.)
- 2) Inlet pressure **cannot** exceed Body Pressure-Temperature Rating.
- 3) The 3-15 and 1-17 ranges apply to valves with diaphragm actuators and control signals coming directly from I/P transducers with matching ranges. The 0-30 and 0-40 ranges apply to valves with diaphragm actuators and a positioner or an I/P transducer of suitable range. The 0-60, 0-80, 0-100, and 0-120 ranges apply to valves with cylinder actuators and a positioner.
- 4) N/A indicates that the air signal is not capable of providing any shut-off or it exceeds the actuator's maximum air pressure.

Maximum air pressure
DL49...30PSIG
DL84 & 84XR...30PSIG
DL115 & 115XR...40PSIG
- 5) See Actuators, Positioners, and Accessories section for explanation of spring ranges.

Pneumatic Ranges		
	Diaphragm	Cylinder
Range 1	3-15	0-60
Range 2	1-17	0-80
Range 3	0-30	0-100
Range 4	0-40	0-120

Shut-Off ΔP Ratings

NOTES:

- 1) 5840 Seat closure ANSI Class IV (Stainless Steel and Alloy 6 Trim), ANSI Class VI (TFE and PEEK Trim.)
- 2) Inlet pressure **cannot** exceed Body Pressure-Temperature Rating.
- 3) The 3-15 and 1-17 ranges apply to valves with diaphragm actuators and control signals coming directly from I/P transducers with matching ranges. The 0-30 and 0-40 ranges apply to valves with diaphragm actuators and a positioner or an I/P transducer of suitable range. The 0-60, 0-80, 0-100, and 0-120 ranges apply to valves with cylinder actuators and a positioner.
- 4) N/A indicates that the air signal is not capable of providing any shut-off or it exceeds the actuator's maximum air pressure.

Maximum air pressure
DL49...30 PSIG
DL84 & 84XR...30 PSIG
DL115 & 115XR...40 PSIG

- 5) See Actuators, Positioners, and Accessories section for explanation of spring ranges.

Valve			Actuator		Shut-Off ΔP Two-Way Single Seat Unbalanced with Cage-Retained Seat									
Trim Size (IN)	Valve Size (IN)	Plug Travel (IN)	Pneumatic Actuator	Spring Range	Maximum Shut-off ΔP in PSI									
					Fail Closed Reverse Acting				Fail Open Direct Acting					
					Air Signal to Actuator See "Pneumatic Ranges"...bottom right				Air Signal to Actuator See "Pneumatic Ranges"...bottom right					
					Range 1	Range 2	Range 3	Range 4	Range 1	Range 2	Range 3	Range 4		
1.688	2-1/2	1-1/2	DL84	Low	N/A	N/A	8	N/A	121	196	684	N/A		
				Full	N/A	N/A	8	N/A	N/A	N/A	458	N/A		
				High	121	196	233	N/A	N/A	N/A	458	N/A		
				DL115	Low	N/A	N/A	50	50	204	307	740	740	
					Full	N/A	N/A	50	50	N/A	N/A	666	740	
					High	204	307	358	358	N/A	N/A	666	740	
					DL115XR	Xtra-High	N/A	N/A	740	740	N/A	N/A	N/A	N/A
						Cylinder 6"	309	407	503	597	419	671	740	740
						Cylinder 8"	568	738	740	740	740	740	740	740
	2.126	2-1/2 and 3	1-1/2	DL84	Low	N/A	N/A	N/A	N/A	64	112	419	N/A	
					Full	N/A	N/A	N/A	N/A	N/A	N/A	277	N/A	
					High	64	112	135	N/A	N/A	N/A	277	N/A	
				DL115	Low	N/A	N/A	20	20	117	182	603	740	
					Full	N/A	N/A	20	20	N/A	N/A	408	732	
					High	117	182	214	214	N/A	N/A	408	732	
					DL115XR	Xtra-High	N/A	N/A	473	473	N/A	N/A	N/A	N/A
						Cylinder 6"	179	257	317	376	252	411	571	730
						Cylinder 8"	358	466	575	682	568	740	740	740
2.501		3 and 4	1-1/2	DL84	Low	N/A	N/A	N/A	N/A	39	74	296	N/A	
					Full	N/A	N/A	N/A	N/A	N/A	N/A	193	N/A	
					High	39	74	91	N/A	N/A	N/A	193	N/A	
				DL115	Low	N/A	N/A	7	7	77	124	428	662	
					Full	N/A	N/A	7	7	N/A	N/A	288	522	
					High	77	124	147	147	N/A	N/A	288	522	
					DL115XR	Xtra-High	N/A	N/A	335	335	N/A	N/A	N/A	N/A
						Cylinder 6"	124	186	229	272	175	290	405	520
						Cylinder 8"	259	336	415	493	410	587	740	740
	3.376	4	1-1/2	DL84	Low	N/A	N/A	N/A	N/A	12	31	153	N/A	
					Full	N/A	N/A	N/A	N/A	N/A	N/A	97	N/A	
					High	12	31	41	N/A	N/A	N/A	97	N/A	
				DL115	Low	N/A	N/A	N/A	N/A	33	59	226	354	
					Full	N/A	N/A	N/A	N/A	N/A	N/A	149	277	
					High	33	50	72	72	N/A	N/A	149	277	
					DL115XR	Xtra-High	N/A	N/A	174	174	N/A	N/A	N/A	N/A
						Cylinder 6"	65	102	126	149	87	150	213	276
						Cylinder 8"	142	185	228	271	225	322	419	517

Call for Availability

Pneumatic Ranges		
	Diaphragm	Cylinder
Range 1	3-15	0-60
Range 2	1-17	0-80
Range 3	0-30	0-100
Range 4	0-40	0-120

Dimensions & Weights

Component 5840 To 550°F		Dimension (IN) by Valve Size (IN)					
Variable		1	1-1/2	2	2-1/2	3	4
A	150FLG	7-1/4	8-3/4	10	10-7/8	11-3/4	13-7/8
	300FLG	7-3/4	9-1/4	10-1/2	11-1/2	12-1/2	14-1/2
B		2-3/4	3-3/8	3-1/2	4	4-3/8	5-1/4
C	DL49 Direct*	17-1/4	17-1/4	17-1/4	N/A	N/A	N/A
	DL49 Reverse	16-5/8	16-5/8	16-5/8	N/A	N/A	N/A
	DL84 Direct*	21-1/4	21-1/4	21-1/4	23-3/8	23-3/8	23-3/8
	DL84 or 84XR Reverse	20-5/8	20-5/8	20-5/8	22-3/4	22-3/4	22-3/4
	DL115 Direct*	N/A	N/A	N/A	35-3/4	35-3/4	35-3/4
	DL115 or 115XR Reverse	N/A	N/A	N/A	CF	CF	CF
	4" Cylinder	19-3/8	19-3/8	19-3/8	N/A	N/A	N/A
	6" Cylinder	N/A	23	23	25-1/8	25-1/8	25-1/8
	8" Cylinder	N/A	N/A	N/A	25-1/4	25-1/4	25-1/4
H	DL49	3-7/8	3-7/8	3-7/8	N/A	N/A	N/A
W/760	DL84 or 84 XR	5-5/8	5-5/8	5-5/8	7-3/4	7-3/4	7-3/4
	DL115 Direct	N/A	N/A	N/A	12-7/8	12-7/8	12-7/8
	DL115 or 115XR Reverse	N/A	N/A	N/A	CF	CF	CF
	4" Cylinder	4-5/8	4-5/8	4-5/8	N/A	N/A	N/A
	6" Cylinder	N/A	4-5/8	4-5/8	7	7	7
	8" Cylinder	N/A	N/A	N/A	7	7	7

Component 5840 with extension bonnet above 550°F to 800°F		Dimension (IN) by Valve Size (IN)					
Variable		1	1-1/2	2	2-1/2	3	4
C	DL49 Direct*	22-1/4	22-1/4	22-1/4	N/A	N/A	N/A
	DL49 Reverse	21-5/8	21-5/8	21-5/8	N/A	N/A	N/A
	DL84 Direct*	26-1/4	26-1/4	26-1/4	30-3/8	30-3/8	30-3/8
	DL84 or 84XR Reverse	25-5/8	25-5/8	25-5/8	29-3/4	29-3/4	29-3/4
	DL115 Direct*	N/A	N/A	N/A	42-3/4	42-3/4	42-3/4
	DL115 or 115XR Reverse	N/A	N/A	N/A	CF	CF	CF
	4" Cylinder	24-3/8	24-3/8	24-3/8	N/A	N/A	N/A
	6" Cylinder	N/A	28	28	32-1/8	32-1/8	32-1/8
	8" Cylinder	N/A	N/A	N/A	32-1/4	32-1/4	32-1/4
H	DL49	8-7/8	8-7/8	8-7/8	N/A	N/A	N/A
W/760	DL84 or 84XR	10-5/8	10-5/8	10-5/8	14-3/4	14-3/4	14-3/4
	DL115 Direct	N/A	N/A	N/A	19-7/8	19-7/8	19-7/8
	DL115 or 115XR Reverse	N/A	N/A	N/A	CF	CF	CF
	4" Cylinder	9-5/8	9-5/8	9-5/8	N/A	N/A	N/A
	6" Cylinder	N/A	9-5/8	9-5/8	14	14	14
	8" Cylinder	N/A	N/A	N/A	14	14	14

Valve Size (IN)	Weight (LB)			
	Standard		With Extension Bonnet	
	150FLG	300FLG	150FLG	300FLG
1	25	29	29	33
1-1/2	33	39	37	43
2	40	44	44	48
2-1/2	64	74	74	84
3	77	90	87	100
4	120	140	130	150

Actuator Removal Clearance
Above DL49, 84, 84XR, 4" Cylinder, or 6" Cylinder on 1 thru 2 inch valve allow 4-7/8 inches.

Above DL84, 84XR, 115, 115XR, 6" Cylinder, or 8" Cylinder on 2-1/2 thru 4 inch valve allow 5-5/8 inches.

Actuator	Dimension (IN)	
D	DL49	11
	DL84 or 84XR	13-7/8
	DL115 or 115XR	16-3/4
	4" Cylinder	7-1/8
	6" Cylinder	10
	8" Cylinder	12-3/4
RADIUS	DL49	7-7/8
W/760	DL84 or 84XR	8-1/8
	DL115 Direct	10-5/8
	DL115 or 115XR Reverse	CF
	4" Cylinder	9-5/8
	6" Cylinder	9-5/8
	8" Cylinder	9-5/8

Actuator	Weight (LB)
DL49	24-1/2
DL84 84XR	48-1/2
DL115 Direct	105
DL115 Reverse	CF
DL115XR Reverse	CF
4" Cylinder	20
6" Cylinder	28
8" Cylinder	41
Positioner	Weight (LB)
760	10

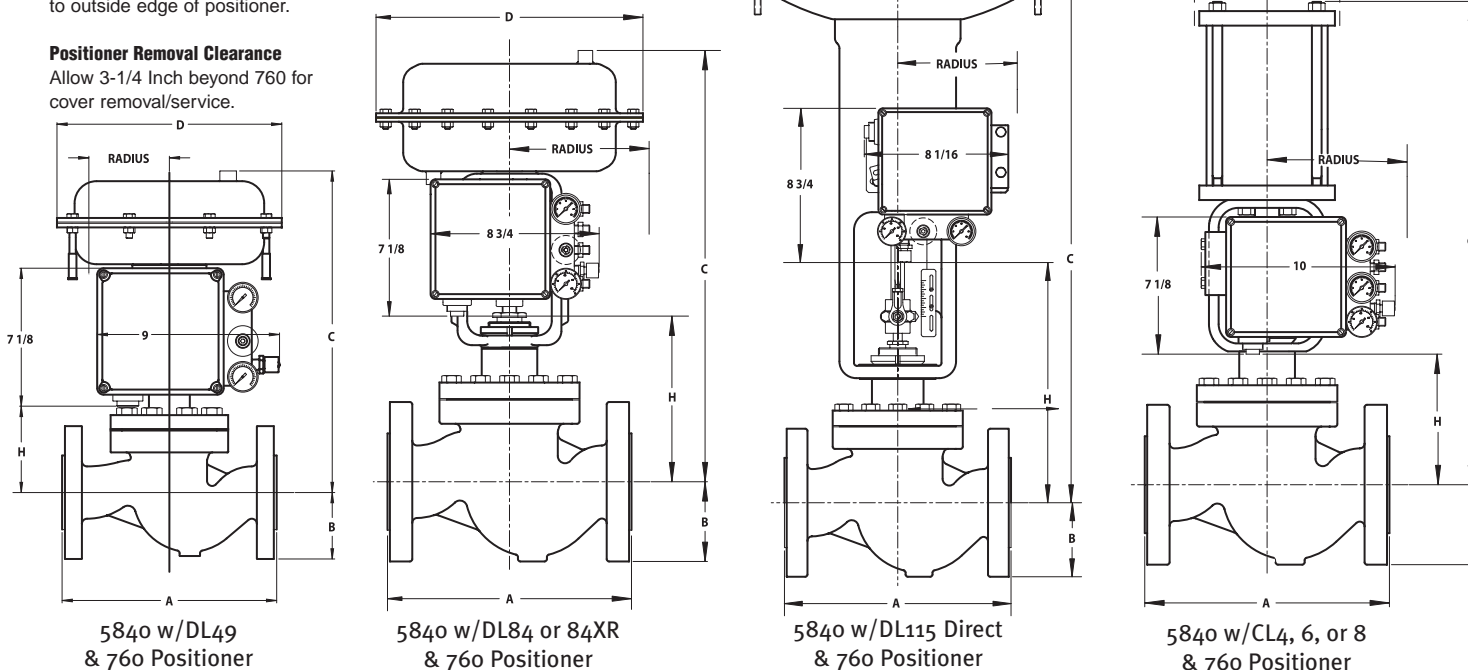
* Includes 1-3/8 inch for air fitting
H = Centerline of pipe to bottom of positioner
CF = Consult factory N/A = Not Available

Consult factory for drawings, weights, and dimensions of configurations not shown.

Actual shipping weights may vary.

RADIUS is from centerline of actuator to outside edge of positioner.

Positioner Removal Clearance
Allow 3-1/4 Inch beyond 760 for cover removal/service.



Face to face dimensions conform to ANSI/ISA S75.03

Actuators, Positioners, & Accessories

Diaphragm Actuators

Actuator		Spring Range (PSI)			
Size	Action	Low	Full	High	Xtra-High
DL49	Direct	3-9	4-13	8-12	N/A
DL49	Reverse	4-10	5-14	10-14	N/A
DL84 & DL115	Direct	3-9	3-15	9-15	N/A
DL84 & DL115	Reverse	3-9	3-15	9-15	N/A
DL84XR & DL115XR	Direct	N/A	N/A	N/A	See Note
DL84XR & DL115XR	Reverse	N/A	N/A	N/A	See Note

Note: The spring range of XR (eXtended Range) actuators varies with travel. These actuators require positioners or I/P's for modulating control.

Effective Area:	DL49 (49 Sq In), DL84 & 84XR (84 Sq In) DL115 & 115XR (115 Sq In)
Springs:	DL49, 84 & 84XR Multiple DL115 Single DL115XR Dual
Max Air Supply:	DL49, 84 & 84XR 30PSIG DL115 & 115XR 40PSIG
Air Connections:	1/4 NPT
Diaphragm:	Buna-N Fabric Reinforced
Diaphragm Chambers:	Steel
Yoke:	DL49, 84, 84XR, DL115 & 115XR Ductile Iron
Stem:	300 Series Stainless Steel
Finish:	DL49 Epoxy-Coated DL84, 84XR, 115, & 115XR Acrylic Enamel
Ambient Temperature:	DL49 -20 to 160°F DL84, 84XR, 115 & 115XR -40 to 180°F
Mounting:	Vertical Above or Below Valve
Handwheel:	Available on DL84, 84XR, 115 & 115XR Not Available on DL49

Cylinder Actuators

Piston Diameter:	4, 6, & 8 Inch
Springs:	Single
Max Air Supply:	120PSIG
Air Connections:	1/4 NPT
Piston:	Aluminum
Cylinder:	Aluminum
Heads:	Aluminum, Black Anodized
Yoke:	Steel, Acrylic Painted
Stem:	416 Series Stainless Steel, Hard Chromate Plated
Ambient Temperature:	-25 to 250°F
Mounting:	Vertical Above or Below Valve

Note: Cylinder Actuators require a positioner for modulating control.

Positioners

Split Ranging with Positioners

Positioners are sometimes used to “Split-Range” two control valves in a parallel configuration within a piping scheme. This technique is used to obtain higher rangeability than could otherwise be achieved with a single control valve. Typically one smaller valve supplying 15% to 35% of total flow is mated with a larger valve supplying 65% to 85% of total flow.

The best-matched pair will each be providing similar rangeability for each respective flow contribution to the manifold. Calculated as maximum flow /minimum controllable flow, the smaller valve should not be attempting to control flow below 5% of stroke. Estimate Cv from Cv tables vs. stroke to calculate this.

Split Ranging with Positioners (Continued)

The chosen positioners would then have a Low Range signal for the smaller valve and a High Range Signal for the larger valve. With this, a single control signal can be sequentially applied to each valve. At mid-signal range, the little valve is completely open while the larger valve is just starting to open. Controlability for wide process set point ranges is dramatically improved.

BLX Models:



BLX Pneumatic

Models:	BFP_: Full Range Signal (3-15 PSIG) BLP_: Low Range Signal (3-9 PSIG) BHP_: High Range Signal (9-15 PSIG)
Options	2SPDT Limit Switches, 4-20 mA Feedback
Ingress & Corrosion Protection:	NEMA, 4X, IP66
Supply Pressure:	Pneumatic 145 PSIG Max Not to exceed actuator rating
Air Consumption:	0.19 SCFM at 30 PSIG, 0.25 SCFM at 40 PSIG, 0.61 SCFM at 100 PSIG

BLX Electro-Pneumatic

Models:	BFE_: Full Range Signal (4-20 mA) BLE_: Low Range Signal (4-12 mA) BHE_: High Range Signal (12-20 mA)
Options	2SPDT Limit Switches, 4-20 mA Feedback
Ingress & Corrosion Protection:	NEMA, 4X, IP66
Supply Pressure:	21.8 to 145 PSIG Not to exceed actuator rating
Air Consumption:	0.21 SCFM at 30 PSIG, 0.28 SCFM at 40 PSIG, 0.69 SCFM at 100 PSIG

BLX Electro-Pneumatic Intrinsically Safe

Models:	BFL_: Full Range Signal (4-20 mA) BLI_: Low Range Signal (4-12 mA) BHL_: High Range Signal (12-20 mA)
Options	2SPDT Limit Switches, 4-20 mA Feedback
Ingress & Corrosion Protection:	NEMA, 4X, IP66
Approvals & Ratings:	FM Intrinsically Safe: Class I II III, Div 1, Groups A,B,C,D,E,F,G.

CSA Intrinsically Safe: Class I, Div 1, Groups A, B, C, D.
Class II, Div 1, Groups E, F, G.
Class III.
Class I, Div 2, Groups A, B, C, D.
Class II, Div 2, Groups E, F, G.

Supply Pressure:	30 to 145 PSIG Not to exceed actuator rating
Air Consumption:	0.21 SCFM at 30 PSIG, 0.28 SCFM at 40 PSIG, 0.69 SCFM at 100 PSIG

BLX Electro-Pneumatic Explosion Proof

Models:	BFX_: Full Range Signal (4-20 mA) BLX_: Low Range Signal (4-12 mA) BHX_: High Range Signal (12-20 mA)
Options	2SPDT Limit Switches, 4-20 mA Feedback
Ingress & Corrosion Protection:	NEMA, 4X, IP66
Approvals & Ratings:	FM Intrinsically Safe: Class I II III, Div 1, Groups A,B,C,D,E,F,G. Non-Incendive: Class I, Div 2, Groups A,B,C. Explosion Proof: Class I, Div 1, Groups B,C,D. Class I II III, Div 1, Groups E,F,G.
CSA Intrinsically Safe:	Class I, Div 1, Groups A,B,C,D. Class II, Div 1, Groups E,F,G. Class III. Class I, Div 2, Groups A,B,C,D. Class II, Div 2, Groups E,F,G.

Actuators, Positioners, & Accessories

BLX Electro-Pneumatic Explosion Proof (Continued)

Explosion Proof: Class I, Div 1, Groups B,C,D.
Class II, Div 1, Groups E,F,G.
Supply Pressure: 30 to 145 PSIG **Not to exceed actuator rating**
Air Consumption: 0.21 SCFM at 30 PSIG, 0.28 SCFM at 40 PSIG,
0.69 SCFM at 100 PSIG

BLX Electro-Pneumatic Fail Freeze

Models: BFF_: Full Range Signal (4-20 mA)
BLF_: Low Range Signal (4-12 mA)
BHF_: High Range Signal (12-20 mA)
Options 2SPDT Limit Switches, 4-20 mA Feedback
Ingress & Corrosion Protection: NEMA, 4X, IP66
Supply Pressure: 20 to 100 PSIG Max **Not to exceed actuator rating**
Air Consumption: 0.21 SCFM at 30 PSIG, 0.28 SCFM at 40 PSIG,
0.69 SCFM at 100 PSIG

All Models:

Construction: Aluminum Housing with Polyester Powder Coat
Action: Direct or Reverse
Media: Clean Dry Oil Free Air Filtered to 5 micron
Air Connections: 1/4 NPT
Flow Capacity: 9.8 SCFM at 30 PSIG, 13.1 SCFM at 40 PSIG
32.5 SCFM at 100 PSIG
Electrical Connection: 1/2 NPT
Gauges: Input 0-30 PSIG,
Output 0-60 PSIG, Supply 0-60 PSIG, (Diaphragm Actuator),
Output 0-100 PSIG, Supply 0-100PSIG (Cylinder Actuator),
Housing Black Steel Case with Chrome Ring
Ambient Temperature: -40 to 185°F (Except Fail Freeze -4 to 158°F)
Mounting: Yoke Mounted
Limit Switches and Feedback Options are NEMA 4X, IP66 only, and are not suitable for hazardous locations.

Moore 760 Models:



760P Pneumatic

Models: 76P_: Full Range Signal (3-15 PSIG)
Options Limit Switches, 4-20 mA Feedback (*Reduced feedback span for valves with less than 1 inch travel – Call factory for details.*)

760E Electro-Pneumatic

Models: 76E_: Full Range Signal (4-20 mA)
Options Limit Switches, 4-20 mA Feedback (*Reduced feedback span for valves with less than 1 inch travel – Call factory for details.*)
Approvals & Ratings:

FM Intrinsically Safe: Class I, Div 1, Groups A,B,C,D.
Class II, Div 1, Groups E,F,G.
Class III, Div 1.

Non-Incendive: Class I, Div 2, Groups A,B,C,D.
Suitable for: Class II, Div 2, Groups F,G.
Class III, Div 2.

CSA Intrinsically Safe: Class I, Div 1, Groups A,B,C,D.
Class II, Div 1, Groups E,F,G.
Class III, Div 1.
Suitable for: Class I, Div 2, Groups A,B,C,D.
Class II, Div 2, Groups E,F,G.
Class III, Div 2.

All Models:

Construction: Aluminum Housing with Epoxy/Polyester Powder Coat
Ingress & Corrosion Protection: NEMA 4, 4X, IP65

All Models (Continued)

Action: Direct or Reverse
Supply Pressure: 150 PSIG Max **Not to exceed actuator rating**
Media: Clean Dry Oil Free Air Filtered to 3 micron
Flow Capacity: 9.0 SCFM
Air Consumption: 0.5 SCFM Typical
Air Connections: 1/4 NPT
Electrical Connection: 3/4 NPT
Gauges: Input 0-30 PSIG,
Output 0-60 PSIG, (Diaphragm Actuator),
Output 0-100 PSIG (Cylinder Actuator),
Housing Black Steel Case with Chrome Ring
Ambient Temperature: 760P -40 to 180°F, 760E -40 to 167°F
Mounting: Yoke Mounted

Westlock ICoT Models:



Electro-Pneumatic

Models: 510_: Full Range Signal (4-20 mA)
Options 2SPDT Limit Switches

Intelligent with Keypad

Models: 520_: Full Range Signal (4-20 mA)
Calibration 3 Button Keypad
Options 2SPDT Limit Switches, 4-20 mA Feedback

Intelligent with HART

Models: 530_: Full Range Signal (4-20 mA)
Calibration 3 Button Keypad & HART
Options 2SPDT Limit Switches, 4-20 mA Feedback

Intelligent with Foundation Fieldbus

Models: 540_: Full Range Signal (4-20 mA)
Calibration 3 Button Keypad & Foundation Fieldbus
Options 2SPDT Limit Switches, 4-20 mA Feedback

All Models:

Construction: Engineered Resin Housing
Ingress & Corrosion Protection: NEMA 4, 4X
Approvals & Ratings: Non-Incendive Groups: Groups A-G, Div. 2
Action: Direct or Reverse
Supply Pressure: 15 to 45 PSIG (Diaphragm Actuator) **Not to exceed actuator rating**
45 to 120 PSIG (Cylinder Actuator) **Not to exceed actuator rating**
Media: Clean Dry Oil Free Air Filtered to 40 micron
Flow Capacity: 8.0 SCFM at 25 PSIG (Diaphragm Actuator),
16.2 SCFM at 90 PSIG (Cylinder Actuator)
Air Consumption: 0.003 SCFM at 20 PSIG (Diaphragm Actuator)
0.008 SCFM at 90 PSIG (Cylinder Actuator)
Air Connections: 1/4 NPT
Electrical Connection: 1/2 NPT
Gauges: Supply 0-60 PSIG,
Output 0-60 PSIG (Diaphragm Actuator)
Output 0-100 PSIG (Cylinder Actuator),
Housing Black Steel Case with Chrome Ring
Ambient Temperature: -40 to 180°F
Mounting: Yoke Mounted

Actuators, Positioners, & Accessories

Position Indication Switches

Proximity Mark 1



Models: 2 SPDT Switches
4 SPDT Switches
6 SPDT Switches
2 SPDT Switches w/ 2K Potentiometer
2 SPDT Switches w/ 4-20 mA Feedback

Construction: Aluminum Housing, Hard Anodized

Locations: NEMA 1, 2, 3, 3R, 3S

Ambient Temperature: -40 to 180°F

Electrical Connection: 3/4 NPT, Terminal Strip

Mounting: Yoke Mounted

I/P's

Type 500X



Locations: NEMA 4X

Construction: Zinc Alloy Base with Aluminum Bonnet, Epoxy Painted

Ranges: 3-9, 9-15, 3-15, 1-17, or 6-30 PSI

Supply Pressure: Minimum 3 PSIG Above Maximum Output
Maximum 100 PSIG **Not to exceed actuator rating**

Flow Capacity: 4.5 SCFM at 25 PSIG, 12 SCFM at 100 PSIG

Air Consumption: 0.05 SCFM Midrange Typical

Ambient Temperature: -20 to 140°F

Type 550X



Locations: NEMA 4X (IP65)

Construction: Chromate-treated Aluminum with Epoxy Paint

Ranges: 0-30, or 0-60 PSI

Supply Pressure: Minimum 5 PSIG Above Maximum Output
Maximum 100 PSIG **Not to exceed actuator rating**

Flow Capacity: 12 SCFM at 100 PSIG

Air Consumption: 6.0 SCFH Midrange Typical

Ambient Temperature: -20 to 150°F

Type 950X



Locations: NEMA 4X (IP65), Explosion proof

Construction: Chromate-treated Aluminum with Epoxy Paint

Ranges: 3-15 PSI

Supply Pressure: Minimum 5 PSIG Above Maximum Output
Maximum 100 PSIG **Not to exceed actuator rating**

Flow Capacity: 4.5 SCFM at 25 PSIG

Air Consumption: 3.0 SCFH Midrange Typical.

Ambient Temperature: -40 to 160°F

IP's (continued)

All Models:

Input: 4-20 mA
Field Reversible

Air Connections: 1/4 NPT

Electrical Connection: 1/2 NPT, Pigtail Leads

Media: Clean Dry Oil Free Air Filtered to 40 micron

Mounting: Yoke Mounted

Air Filter Regulators



Models: Type 300, Type 350SS

Output Ranges: Type 300, 0-30, 0-60, or 0-120 PSIG
Type 350SS, 0-100 PSIG

Supply Pressure: Type 300, 250 PSIG Maximum
Type 350SS, 290 PSIG Maximum

Construction: Type 300, Die-Cast Aluminum with Irridite and Baked Epoxy Paint
Type 350SS, 316 Stainless Steel

Gauge: Type 300, Output, Housing Steel Painted
Type 350SS, Output, Housing Stainless Steel

Air Connections: 1/4 NPT

Filter: Type 300, 40 micron. Type 350SS, 25 micron

Mounting: Chamber Mounted

Solenoids



Models: For use with Diaphragm Actuators or Positioners with Cylinder Actuators
8320G184, EF8320G184, 8320G202, EF8320G202
For use with Cylinder Actuators without Positioners
8342G1, EF8342G1, 8342G701, EF8342G701

Construction: (EF)8320G184, 3-Way Brass
(EF)8320G202, 3-Way Stainless Steel
(EF)8342G1, 4-Way Brass
(EF)8342G701, 4-Way Stainless Steel

Locations: 8320G184, 8320G202, 8342G1, & 8342G701
Watertight, Types 1, 2, 3, 3S, 4, and 4X
EF8320G184, EF8320G202, EF8342G1
& EF8342G701 Explosion proof and Watertight,
Types 3, 3S, 4, 4X 6, 6P, 7 & 9

Supply: 120VAC

Ambient Temperature: +32 to 125°F

Air Connections: 1/4 NPT

Electrical Connection: 1/2 NPT, Pigtail Leads

Approvals: CSA, UL, CE

Mounting: Chamber Mounted

Air Tubing

Standard: Copper

Optional: Stainless Steel

Positioners

Valve Type	Actuator Action	Input Signal			Failure Modes	
		Pneumatic	Electro-Pneumatic	Increasing Signal	Loss of Signal ¹ Valve Fails...	Loss of Supply Valve Fails...
5840	Direct	3-15 PSI	4-20 mA	Closes Valve	Open	Open
	Reverse	3-15 PSI	4-20 mA	Opens Valve	Closed	Closed

¹ Valves with Fail Freeze Positioners Fail in Last Position on Loss of Signal.

Positioner Feedback

Valve Type	Actuator Action	Feedback Signal ²	Signal Increases as
5840	Direct	4-20 mA	Valve Closes
	Reverse	4-20 mA	Valve Opens

² Reduced feedback span for valves with 760 and less than 1 inch travel.

Positioner Limit Switches

Valve Type	Position	Settings	
		Switch 1	Switch 2
5840	Valve Closed	Closed	Open
	Valve Open	Open	Closed

I/P's

Valve Type	Actuator Action	Input Signal	Increasing Signal	Failure Modes	
				Loss of Signal Valve Fails...	Loss of Air Supply Valve Fails...
5840	Direct	As Required For Shut-off	Closes Valve	Open	Open
	Reverse	As Required For Shut-off	Opens Valve	Closed	Closed

SOLENOIDS (without Positioners or I/P's)

Valve Type	Actuator Action	Solenoid Energized	Failure Modes		
			Loss of Signal Valve Fails...	Loss of Air Supply Valve Fails...	Solenoid De-energized Valve Fails...
5840	Direct	Closes Valve	Open	Open	Open
	Reverse	Opens Valve	Closed	Closed	Closed

If the Solenoid is used with a Positioner or an I/P, refer to the Positioner or I/P listings for factory default settings and failure modes with the solenoid not failed.

Proximity MARK 1 Position Indication Switches Feedback

Valve Type	Actuator Action	Feedback Signal		Feedback Signal Increases as
		Potentiometer ³	mA	
5840	Direct	0-350 ohm	4-20 mA	Valve Closes
	Reverse	0-350 ohm	4-20 mA	Valve Opens

³ Span varies from approx 155 to 350 ohm depending on actuator and travel.

Limit Switches

Valve Type	Position	Settings	
		Switch 1, 3, 5	Switch 2, 4, 6
5840	Valve Closed	Closed	Open
	Valve Open	Open	Closed

Air Filter Regulators

Actuator	Output Pressure
DL49, 84 & 84XR	30PSIG
DL115 & 115XR	40PSIG
4", 6" & 8" Cylinder	100PSIG

Configurations

1. SELECTIONS Please make a selection from each table of OPTIONS below to make a complete model number string.

58 **-40**

2. OPTIONS

VALVE BODY

Model	Valve Type	Size	Body Material	End Connection	Trim Style	Trim Material	Trim Cv	Packing Type	Bonnet Construction
58N 1"-2" Bodies Diaphragm: 49" or 84" Cylinder: 4" or 6"	40 Single Seat 2-Way, Unbalanced w/Cage Retained Seat	100 1 inch 150 1-1/2 inch 200 2 inch 250 2-1/2 inch 300 3 inch 400 4 inch	W WCB F CF8M	F 150 lb. Flanged G 300 lb. Flanged	E Equal % L Linear	S 316 Stainless Steel T TFE Soft Seats P PEEK Soft Seats 6 Alloy 6 Wrapped	F Full Port 1 1st Port Reduction 2 2nd Port Reduction 3 3rd Port Reduction 4 4th Port Reduction	T Teflon G Graphite	S 450F Tmax H 550F Tmax X 800F Tmax w/Ext. Bonnet Graphite w/PEEK Bearings Used for Temp. up to 500F
58H 2.5"-4" Bodies Diaphragm: 84" or 115" Cylinder: 6" or 8"									

NOTE: Check Factory for Availability of Reduced Trims

TS Teflon Packing, PEEK Bearings
GS Graphite Packing, PEEK Bearings
GH Graphite Packing and Gaskets, Alloy 6 Bearings
GX GH with Extension Bonnet & Stem

VALVE TYPE/TRIM MATERIAL COMBINATIONS:

SIZE	TRIM MATERIAL			
	S 316 SS	T TFE Soft Seats	P PEEK Soft Seats	6 Alloy 6/316 SS
100 1 inch	40	40	40	40
150 1-1/2 in.	40	40	40	40
200 2 inch	40	40	40	40
250 2-1/2 in.	40	40	40	40
300 3 inch	40	40	40	40
400 4 inch	40	40	40	40

VALVE TYPE/ACTUATOR COMPATIBILITY:

VALVE STYLE	VALVE SIZES	ACTUATORS
Type 5840	1"-2"	DL49 & Cylinder 4"
Type 5840	1"-4"	DL84
Type 5840	1-1/2"-2"	DL84XR
Type 5840	1-1/2"-4"	Cylinder 6"
Type 5840	2-1/2"-4"	DL115, DL 115XR & Cylinder 8"

See Shut-Off ΔP Ratings for details.

ACTUATOR				ACCESSORIES			
Actuator Series	Action	Spring Range	Handwheel	Positioners, I/P's & Limit Switches	Air Filter Regulators	ASCO Solenoids	Special Options

00 None DIAPHRAGMS:	O None R Reverse	O None L Low 3-9psi 49D;84; & 115 4-10psi 49R	O None R Reverse D Direct <i>NOTE: DL84; DL115; DL84XR & DL115XR only - Must match action.</i>
49 DL49 (49 Sq.In.)	Stem Fail Down	F Full 3-15psi 84 ; 115 5-14psi 49R; 4-13psi 49D	
84 DL84 (84 Sq.In.)	D Direct Stem Fail Up	H High 9-15 psi 84; 115 10-14 psi 49R 8-12 psi 49D	
8X DL84XR (84 Ext. Rng.) for 58N only		X Xtra-High DL84XR & DL115XR	
15 DL115 (115 Sq.In.)			
5X DL115XR			
CYLINDERS:			
C1 4" Spring Fail			
C2 6" Spring Fail			
C3 8" Spring Fail			

NOTE:
5X & 8X Only
in Xtra-High
Spring Range,
Reverse Acting

MODE	ACTUATOR ACTION
Closed	Reverse
Open	Direct

ACTUATOR/BODY COMPATIBILITY:

DIAPHRAGM	BODY
49 49 Sq.In. (DL49)	For 58N Bodies
84 84 Sq.In. (DL84)	All Bodies
8X DL84XR	For 58N Bodies
15 115 Sq.In. (DL115)	For 58H Bodies
5X DL115XR	For 58H Bodies
CYLINDERS	
C1 4" Spring Fail	For 58N Body
C2 6" Spring Fail	All Bodies
C3 8" Spring Fail	For 58H Bodies

0000 None POSITIONERS:	x digit spec. F Full Range Signal, 3-15 PSI or 4-20mA L Low of Split Range, 3-9 PSI or 4-12mA H High of Split Range, 9-15 PSI or 12-20mA
BxP BLX Pneumatic	
BxE BLX ElectroPneumatic	
BxI BLX ElectroPneu. Intrn. Safe	
BxX BLX ElectroPneu. Exp. Proof	
BxF BLX ElectroPneu. Fail Freeze	
76P Moore760 Pneumatic	
76E Moore760 Electro-Pneumatic	
510 Westlock ICoT Electro-Pneumatic	
520 Westlock ICoT Intelligent-Keypad	4th digit spec.
530 Westlock ICoT Intelligent-Hart	O No Additions
540 Westlock ICoT Found.Fieldbus	L w/Mech. Lmt Switch's
	F w/4-20 Feedback
	B w/Switch's & Feedback
PROXIMITY SWITCHES:	
PX11 Mark 1 Series - 2 ea. SPDT	
PX12 Mark 1 Series - 2 ea. SPDT w/2k Pot.	
PX13 Mark 1 Series - 2 ea. SPDT w/4-20 Feedback	
PX14 Mark 1 Series - 4 ea. SPDT	
PX15 Mark 1 Series - 6 ea. SPDT	
I/P's Use with Diaphragm Only	
MAP1 Type 500X I/P, 3-9 PSI	
MAP2 Type 500X I/P, 9-15 PSI	
MAP3 Type 500X I/P, 3-15 PSI	
MAP4 Type 500X I/P, 1-17 PSI	
MAP5 Type 500X I/P, 6-30 PSI	
MAP6 Type 550X I/P, 0-30 PSI	
MAP7 Type 550X I/P, 0-60 PSI-For 15 or 5X only	
MAP9 Type 950X I/P, 3-15 EXP	

Note: Standard pneumatic tubing is copper. SS tubing "T" is optional.
SS tagging "G" (Two lines, 24 characters/line) is optional.
SS tubing and tagging together "B" is optional.

Warren Controls does not assume responsibility for the selection, use, or maintenance of any product. Responsibility for proper selection, use, and maintenance of any Warren Controls product remains solely with the purchaser and end-user.



ACTUATED INDUSTRIAL VALVES

1800 SERIES	2800 SERIES	2900 SERIES	3800 SERIES	5800 SERIES
Heavy Globe Control Valves	Precision Globe Control Valves	High Capacity General Purpose Globe Control Valves	E-Ball Rotary Control Valves	Compact Globe Control Valves
styles: <ul style="list-style-type: none"> • 2-way balanced • 2-way unbalanced • 3-way mixing • 3-way diverting 	styles: <ul style="list-style-type: none"> • 2-way unbalanced • 3-way mixing • 3-way diverting 	styles: <ul style="list-style-type: none"> • 2-way balanced • 2-way unbalanced • 3-way mixing • 3-way diverting 	styles: <ul style="list-style-type: none"> • 2-way rotary <ul style="list-style-type: none"> - flow to open - flow to close 	styles: <ul style="list-style-type: none"> • 2-way cage-retained seat
sizes 2-1/2 to 12 in. class 300 ends 150,300 RF flg body Cast Iron, WCB, CF8M trim 316 SST, Alloy 6 Cv up to 1649 temp. -20° to 800°F body limit to 740 psi shutoff class III, IV rangeability 50:1	sizes 1/2 to 2 in. class 250 & 300 ends Butt weld, NPT body Bronze, CF8M trim Bronze, 316SST, 17-4pH, Alloy 6, TFE, PEEK Cv up to 40 temp. -20° to 500°F body limit to 720 psi shutoff class III, IV, VI rangeability 50:1	sizes 2-1/2 to 10 in. class 125 & 250 ends Flange body Cast Iron trim Bronze, 300SS, 17-4pH, Alloy 6 Cv up to 960 temp. -20° to 400°F body limit to 400 psi shutoff class II, III, IV rangeability 50:1	sizes 1 to 8 in. class 300 ends 150,300 RF flg body WCB, CF8M trim 316 SST, Alloy 6, Ceramic, TFE, PEEK Cv up to 1420 temp. -20° to 800°F body limit to 740 psi shutoff class IV, VI rangeability 100:1	sizes 1 to 4 in. class 300 ends 150,300 RF flg body WCB, CF8M trim 316 SST, Alloy 6, TFE, PEEK Cv up to 170 temp. -20° to 800°F body limit to 740 psi shutoff class IV, VI rangeability 50:1
<ul style="list-style-type: none"> • Heavy Duty • Severe Service • High Pressure Differentials • Corrosive Materials, Liquids, Gases & Steam • Modulating or On/Off Control 	<ul style="list-style-type: none"> • Economical • Precision Control • Suited for Gases, Steam, or Liquids that are Not Viscous or Solids Bearing 	<ul style="list-style-type: none"> • High Capacity • General Purpose • Moderate Pressure Drops • Compatible Liquids and Gas, Steam & Water • Modulating or On/Off Control 	<ul style="list-style-type: none"> • Eccentric, Segmented Ball • Well Suited for Erosive Service • Various Trim Options Include Ceramic for Slurries or Gritty Materials & Teflon® for Class VI Shutoff 	<ul style="list-style-type: none"> • Highly Efficient, Compact Design • High Pressure Drops • Typically Suited for High Force Piston Actuators for Steam, Chemicals & Dirty Fluids • Minimizes Cavitation or Flashing Effects

WARREN CONTROLS

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