



PENTAIR



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NETWORKING AND COMMUNICATIONS  
SPECIFIER'S GUIDE

EQUIPMENT PROTECTION

DESIGN WITH CONFIDENCE™

VOLUME 10

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Hoffman is a leading designer and manufacturer of systems to safely and reliably protect the electronic controls and mission critical electrical systems in industrial, data communications, commercial construction and government applications. Our product catalog features the wide array of enclosures, accessories and thermal management products.

We have developed significant vertical market expertise to help us understand and develop industry solutions to address your particular circumstances. Our extensive network of North American distributors and our global sales channel can help you obtain the products you need.

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Pentair ([pentair.com](http://pentair.com)) delivers industry-leading products, services and solutions for its customers in diverse needs in water and other fluids, thermal management and equipment protection. With 2012 pro forma revenues of approximately \$8 billion, Pentair employs more than 30,000 people worldwide.

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# CHAPTER 1 FREE-STAND CABINETS

## FEATURED PRODUCTS



### NET SERIES CABINETS

Net Series Cabinets provide an economical, general-purpose solution to house servers and communication equipment for contractors, small computer rooms, schools or smaller networks. For application flexibility, multiple sizes, adjustable racks and accessories are available.



### PROLINE™ CONTAINMENT SYSTEMS

Increase cooling efficiency and lower energy costs with PROLINE™ Containment Systems. By preventing hot and cold airflows from mixing, the systems allow for higher thermal density within the cabinet and eliminate the need for additional cooling units. PROLINE is ideal for hot or cold air containment and on raised and non-raised floors.

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### PROLINE SERVER CABINETS

PROLINE Server Cabinets maximize airflow for effective cooling. With a wide range of cooling options, including passive, hot/cold aisle, floor ducted and top ducted, PROLINE cabinets ensure optimum equipment performance and service life.



**FREE-STAND CABINETS PRODUCT SELECTION GUIDE**

					
CABINET SERIES	NET SERIES	SEISMIC	PROLINE™	PROLINE™	PROLINE™
Models	Server & Voice/Data	Seismic	Server	CONNECTEK™	Network Switch
Application	General DataCom computer room General networking	Seismic Zones Network and battery	Remote networking Vented front window door	Data center Network equipment	Data center Network switches
Density	Low density	Low density	Low density	Low density	High density
DIMENSIONS					
Rack Units	21 to 43	45	24 to 42	42	42
Height	49.00 in. or 84.00 in.	84.05 in.	50.75 in. or 82.30 in.	78.28 in.	78.35 in.
Width	23.52 in. - 31.50 in.	27.55 in. or 31.50 in.	23.62 in.	27.56 in. or 31.50 in.	31.50 in.
Depth	34.00 in. - 49.75 in.	31.50 in. - 47.25 in.	35.40 in. - 47.24 in.	35.40 in. - 47.24 in.	39.34 in. - 47.24 in.
RATINGS					
Loading - Static (Ultimate load testing)	1,000 lbs. static	2,500 lbs. static	1,500 lbs. static	1,500 lbs. static	1,500 lbs.
Certifications and Listings	RoHS compliant ISO 9001 EIA (rack spacing)	RoHS compliant ISO 9001 EIA (rack spacing) UL 1863 (static load rating) Telcordia GR-63-CORE, NEBS requirements	RoHS compliant ISO 9001 EIA (rack spacing)	RoHS compliant ISO 9001 EIA (rack spacing)	RoHS ISO 9001 EIA (rack spacing)
STRUCTURE					
Front and Back Door	Reversible, window or perforated front, split perforated, or louvered rear, all with key locks	Window front, louvered rear with multi-point key lock	Window perforated front, perforated rear with key lock	Perforated front, split perforated rear with key locking handle	Fully perforated front, split perforated rear
Base	Open	Open	Open with casters, levelers and anti-tip bracket	Open with internal bolt brackets	Open
Top	Fan-ready (2 in. x 6 in.) top with cable cap and grommet	Fan-ready (2 in. x 6 in.) top with cable cap and grommet	Removable, fully perforated with cable entry cap and grommet	Removable perforated with sliding gland plate for cable entry	Solid with sliding gland plate for cable entry
Rack Angles	2 sets Communications have tapped 10-32 Server has square hole	2 sets Communications have tapped 10-32 Server has square hole	2 sets Square hole Dash mark [-] at start and stop of RU	2 sets Tapped hole 10-32 Dash mark [-] at start and stop of RU	Front rack angles tapped per EIA universal standards RU
Sides	Removable with quarter-turn latch	Removable with quarter-turn latch and screws	Removable with 2 snap latches, quarter-turn key latch ready	No sides or removable sides with 2 snap latches, quarter-turn key latch ready	No sides or removable sides with fastening screws
FEATURES					
Cable Management	Limited offering	Robust offering	Robust offering	Robust offering	Front and rear cable management supports
Power Management	Rack-mount and panel-mount PDUs available	Rack-mount and panel-mount PDUs available	Rack-mount and panel-mount PDUs available	Rack-mount and panel-mount PDUs available	Rack-mount PDUs available
Unique Features	<ul style="list-style-type: none"> <li>19-in. or 23-in. rack spacing on 27.55 in. and 31.50 in. widths</li> </ul>	<ul style="list-style-type: none"> <li>Heavy-gauge construction, extra welds, heavy-duty washers, 3-point vault-style latching Zone 4 1,100 lbs. Can be used as battery cabinet.</li> </ul>	<ul style="list-style-type: none"> <li>Cabinet can be rolled into place, levelers positioned and anti-tip bracket attached. Anti-tip bracket, casters, levelers are standard.</li> </ul>	<ul style="list-style-type: none"> <li>Includes front vertical cable managers with covers and rear vertical tie-down cable managers.</li> <li>CISCO versions available.</li> </ul>	<ul style="list-style-type: none"> <li>Ideal for CISCO Network Switches 6500 series with right-to-left airflow.</li> <li>Rear upper rack angles (4 RU) ideal for fiber-to-copper transition or other network devices.</li> <li>Complete cable management for patch cords and permanent link cables.</li> </ul>





PROLINE™	PROLINE™	PROLINE™	PROLINE™	PROLINE™	VARISTAR
FLOTEK™ - PC	FLOTEK™ - HCA	FLOTEK™ - FD	Server and Voice/Data	Server and Voice/Data	VARISTAR LHX
Data center Passive cooling	Data center Hot aisle/cold aisle	Data center Floor ducted	Factory floor Type 12 with/without AC	Factory floor remote location Type 1, filtered fan	Data center Remote non-data center
Low density	High density	High density	Application specific	Application specific	Very high server density
42 (51 max.)	42 (51 max.)	42 (51 max.)	42 (51 max.)	42 (51 max.)	42 (51 max.)
78.22 in. (94.10 in. max.)	78.22 in. (94.10 in. max.)	78.22 in. (94.10 in. max.)	78.22 in. (94.10 in. max.)	78.22 in. (94.10 in. max.)	78.22 in. (94.10 in. max.)
23.62 in.	23.62 in.	23.62 in.	27.56 in. or 31.50 in.	27.56 in. or 31.50 in.	31.50 in.
35.40 in. - 47.24 in.	35.40 in. - 47.24 in.	35.40 in. - 47.24 in.	35.40 in. - 47.24 in.	35.43 in. - 47.24 in.	48.00 in.
1,500 lbs. static	1,500 lbs. static	1,500 lbs. static	1,500 lbs. static	1,500 lbs. static	2,200 lbs. Total and 19-in. equipment 880 lbs.
RoHS compliant ISO 9001 EIA (rack spacing)	RoHS compliant ISO 9001 EIA (rack spacing)	RoHS compliant ISO 9001 EIA (rack spacing)	RoHS compliant ISO 9001 EIA (rack spacing) UL 508 Type 12 cUL Type 12 NEMA/EEMAC Type 12	RoHS compliant ISO 9001 EIA (rack spacing) UL 508 Type 1 cUL Type 1 NEMA/EEMAC Type 1	RoHS, ISO 9001 EIA IP 55
Perforated front, split perforated rear with key locking handle	Perforated front, split fan rear with key locking handle	Window front, split fan rear with key locking handle	Window front, solid door rear with key locking handle	Window front, solid door rear with key locking handle	Front window, rear solid, both fully gasketed
Open with internal bolt brackets	Open with internal bolt brackets	Open base with floor duct, casters and levelers	Gland plate base with casters and levelers	Gland plate base with casters and levelers	100 mm plinth
Perforated with sliding gland plate for cable entry	Removable solid with sliding gland plate for cable entry	Removable solid with sliding gland plate for cable entry	Removable solid	Removable pagoda top with high-capacity 10-in. fan	Solid, fully gasketed
2 sets Square hole Dash mark (-) at start and stop of RU	2 sets Square hole Dash mark (-) at start and stop of RU	2 sets Square hole Dash mark (-) at start and stop of RU	2 sets Communications have tapped 10-32 holes Server has square hole Dash mark (-) at start and stop of RU	2 sets Communications have tapped 10-32 holes Server has square hole Dash mark (-) at start and stop of RU	2 sets Square hole EIA universal standard
No sides or removable sides with 2 snap latches, quarter-turn key latch ready	No sides or removable sides with 2 snap latches, quarter-turn key latch ready	No sides or removable sides with 2 snap latches, quarter-turn key latch ready	Removable sides with fastening screws	Removable sides with fastening screws	Solid, fully gasketed
Robust offering	Robust offering	Robust offering	Robust offering	Robust offering	Robust offering
Rack-mount and panel- mount PDUs available	Rack-mount and panel- mount PDUs available	Rack-mount and panel- mount PDUs available	Rack-mount and panel- mount PDUs available	Rack-mount and panel- mount PDUs available	Rack-mount PDUs available
Provides maximum cooling without added fans for hot aisle/cold aisle and other data center configurations.	Ideal for hot aisle/ cold aisle data center configurations in high- density applications. Rear split doors access separately powered banks of fans for redundancy with easy equipment access.	Integrates raised floor cool air pathway to the network equipment. Raised floor cutout required.	Configuration offered that is air conditioner- ready (AC cutout to side). Data-center-within-a- data-center concept. Fully gasketed to keep out side-air infiltration.	Pagoda top-mounted fan with lower side intake filters on access panels.	Heat exchanger provides 20 kW or 40 kW cabinet cooling. Totally enclosed cooling system provides maximum cooling efficiency. Integral thermal mgmt. communication system Ideal for high-density servers and remote (non-data center) located networks.

## NET SERIES COMMUNICATION AND SERVER CABINET



- Rack angle settings on all 700- and 800-mm wide cabinets can accommodate either 19- or 23-in. rack spacing
- In 600-mm wide cabinets, equipment mounted on 19-in. rack angles is centered
- In 700- and 800-mm wide cabinets, 19-in. rack angles can be set to center equipment or to mount equipment next to the left or the right side for improved cable management
- Rack angles infinitely positionable within the cabinet for easy adjustment to desired position
- All doors are field removable and reversible with left or right hinging for installation flexibility
- Communication cabinet has fully perforated or window front and louvered rear doors for equipment ventilation
- Server cabinet has fully perforated front and split rear perforated doors for easy access to servers
- Doors have key-locking handles that provide security with convenient access for authorized personnel
- Removable side panels with quarter-turn key-locking latch are inset for flush appearance
- Two cable entry ports with caps and grommets on cabinet top for wiring ease
- Fan-ready top with integral finger guard. Order up to two 6-in. fans separately.
- Caster- and leveler-ready open base design. Order casters and levelers separately.

### SPECIFICATIONS

- Some models available with or without sides
- Welded multi-formed steel frame. The top and columns are 16 gauge; base is 14 gauge.
- Multi-formed rigid doors are 14 gauge steel
- Window made of 1/8-in. smoke-tinted acrylic
- Formed solid sides are 14 gauge steel
- Rack angles are 12 gauge steel
- Ground studs provided on doors and covers

### FINISH

Pretreated steel coated with RAL 9005 black textured low-gloss polyester powder paint. Other finishes available—contact Hoffman Customer Service.

### LOAD RATING

1000 lb. (454 kg) per UL 1863 with load evenly distributed in enclosure

**NOTE: UL 1863 requires that the cabinet be tested with a load four times the rating. The cabinet was tested to 4000 lb. (1814 kg) without failure to meet the 1000 lb. (454 kg) rating. Contact Hoffman if other loading specifications are required.**

### ACCESSORIES

Net Series Rack Angles  
 Net Series Caster Kit  
 Net Series Leveler Kit  
 Net Series Joining Kit  
 Net Series Tool-less (Snap-in) Blanking Panels for 19-in. Racks  
 Net Series Vertical Tie-Down Cable Manager  
 Net Series Tool-less Shelf

### BULLETIN: DC

### INDUSTRY STANDARDS

UL 1863 Listed (perforated, split perforated and louvered door models only)

EIA 310-D  
 IEC 60529, IP20

Perforated door material meets equipment manufacturer ventilation requirements

### APPLICATION

Net Series Cabinets are an economical solution for contractors, small computer rooms, schools or smaller networks that require a general-purpose cabinet to house servers and communication equipment. Multiple sizes, adjustable rack angles and accessories give Net Series Cabinets wide application flexibility.

### FEATURES

- Includes two sets of adjustable L-shaped rack angles for convenient equipment mounting
- Rack angles on communication cabinets have tapped 10-32 holes per EIA standards. Order 10-32 fasteners separately.
- Rack angles on server cabinets have square holes per EIA standards. Order fasteners and cage nuts separately.



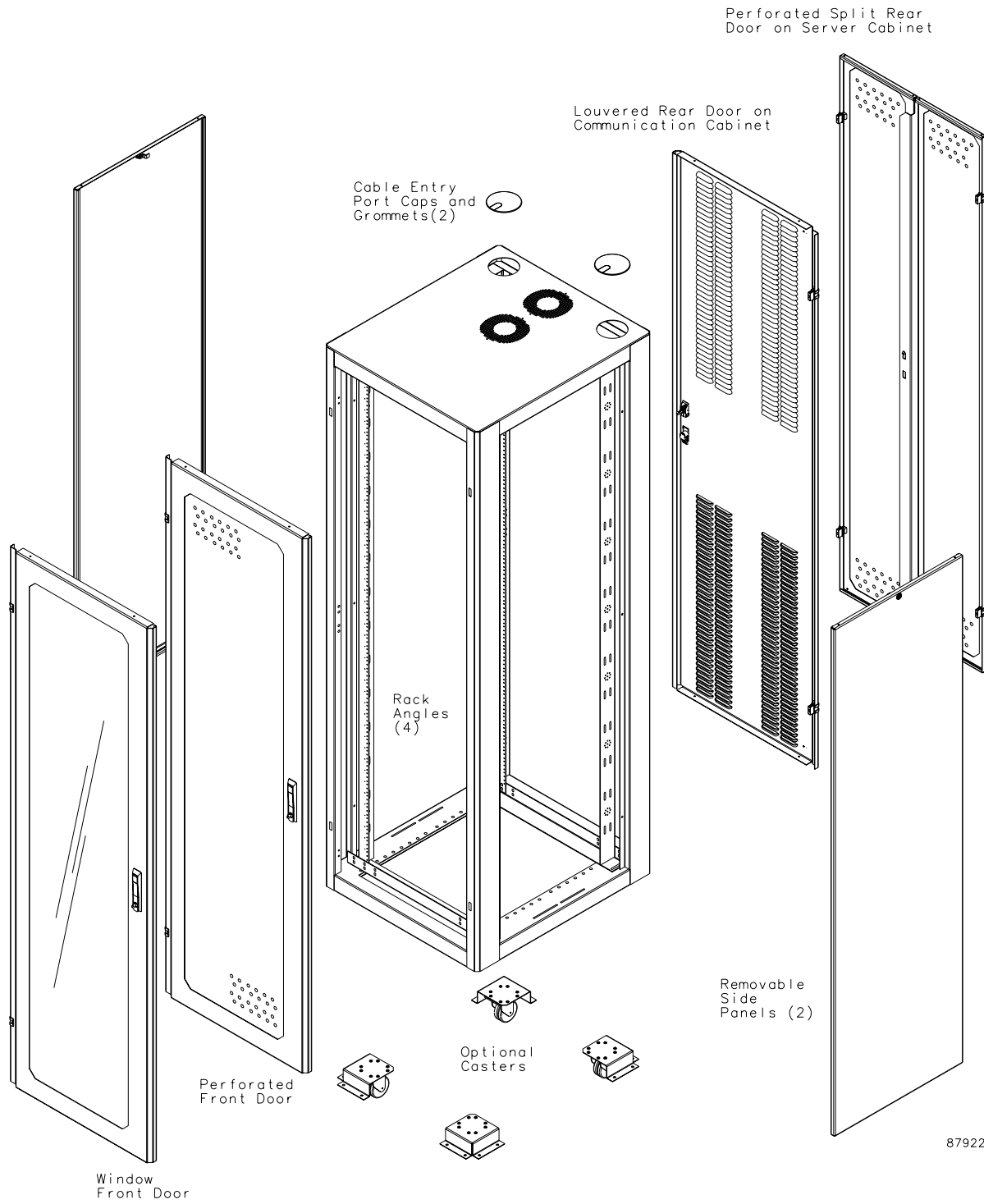
Standard Product

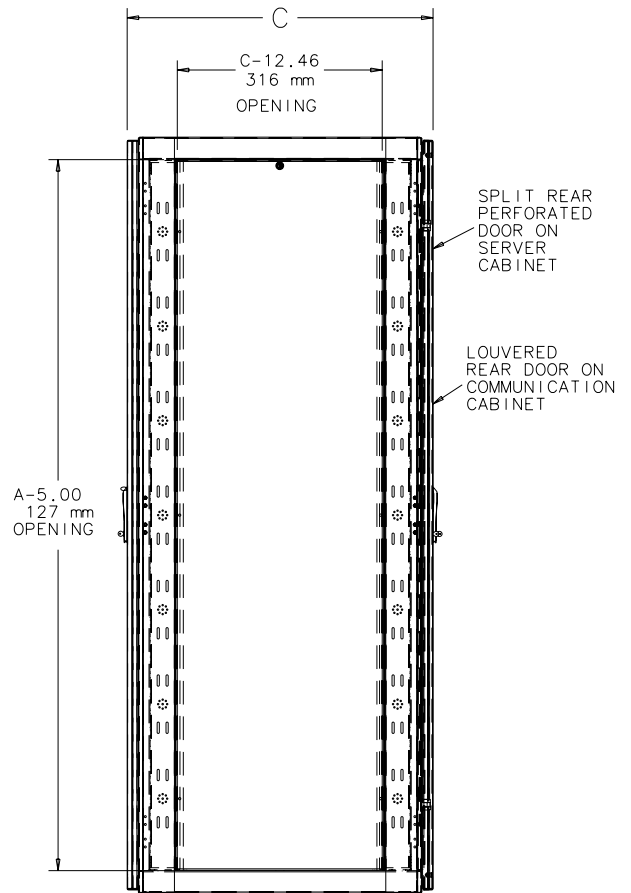
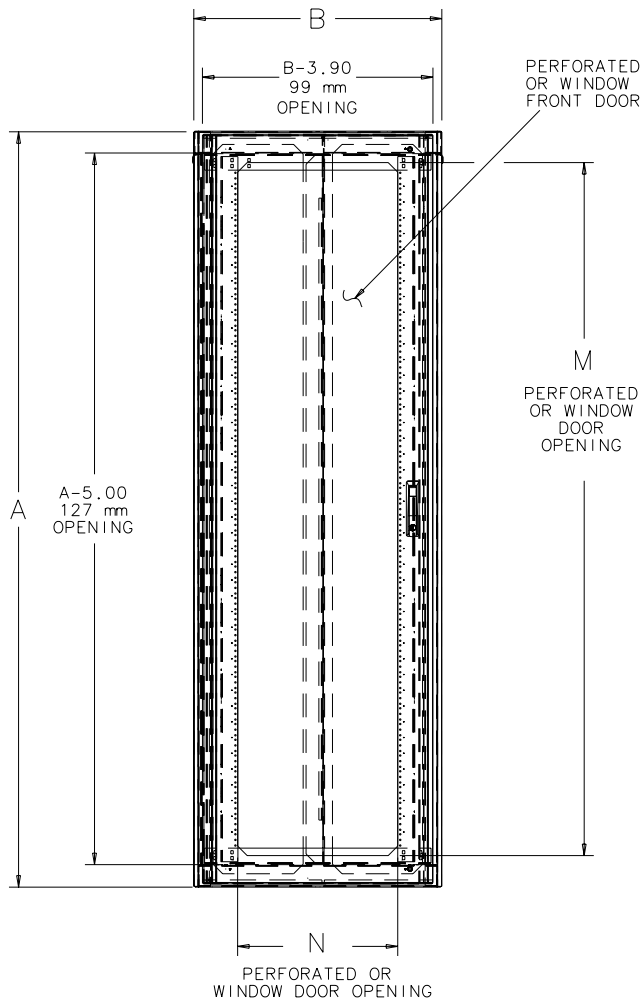
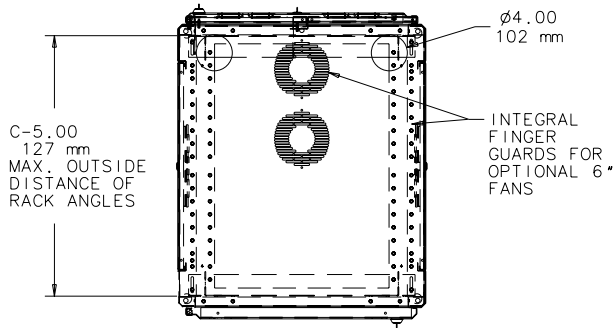
Catalog Number	AxBxC in./mm	Description	Rack Units	M in./mm	N in./mm	Rack Angle Holes	Additional Rack Angles
NC1268	49.00 x 23.62 x 33.99 1245 x 600 x 863	Communication Cabinet	23	42.00 1067	14.71 374	Tapped 10-32	NRAT126
NC2178	84.00 x 27.56 x 33.99 2134 x 700 x 863	Communication Cabinet	43	77.00 1956	18.65 474	Tapped 10-32	NRAT217
NC2178NS	84.00 x 27.56 x 33.98 2134 x 700 x 863	Communication Cabinet No Sides	43	77.00 1956	18.65 474	Tapped 10-32	NRAT217
NC2179	84.00 x 27.56 x 37.93 2134 x 700 x 963	Communication Cabinet	43	77.00 1956	18.65 474	Tapped 10-32	NRAT217
NC21710	84.00 x 27.56 x 41.86 2134 x 700 x 1063	Communication Cabinet	43	77.00 1956	18.65 474	Tapped 10-32	NRAT217
NC2188	84.00 x 31.50 x 33.99 2134 x 800 x 863	Communication Cabinet	43	77.00 1956	22.58 574	Tapped 10-32	NRAT218
NC2189	84.00 x 31.50 x 37.93 2134 x 800 x 963	Communication Cabinet	43	77.00 1956	22.58 574	Tapped 10-32	NRAT218
NC21810	84.00 x 31.50 x 41.86 2134 x 800 x 1063	Communication Cabinet	43	77.00 1956	22.58 574	Tapped 10-32	NRAT218
NCW2168	84.00 x 23.62 x 33.99 2134 x 600 x 863	Communication Cabinet, Window Door	43	77.00 1956	14.71 374	Tapped 10-32	NRAT216
NCW2168NS	84.00 x 23.62 x 33.98 2134 x 600 x 863	Communication Cabinet, Window Door No Sides	43	77.00 1956	14.71 374	Tapped 10-32	NRAT216
NCW2178	82.68 x 27.56 x 31.50 2100 x 700 x 800	Communication Cabinet, Window Door	43	77.00 1956	18.65 474	Tapped 10-32	NRAT217
NCW2178NS	84.00 x 27.56 x 33.98 2134 x 700 x 863	Communication Cabinet, Window Door No Sides	43	77.00 1956	18.65 474	Tapped 10-32	NRAT217
NCW2188	82.68 x 31.50 x 31.50 2100 x 800 x 800	Communication Cabinet, Window Door	43	77.00 1956	22.58 574	Tapped 10-32	NRAT218
NS12610	49.00 x 23.62 x 41.86 1245 x 600 x 1063	Server Cabinet	23	42.00 1067	14.71 374	Square	NRAS126
NS2169	84.00 x 23.62 x 37.93 2134 x 600 x 963	Server Cabinet	43	77.00 1956	14.71 374	Square	NRAS216
NS2169NS	84.00 x 23.62 x 37.91 2134 x 600 x 963	Server Cabinet No Sides	43	77.00 1956	14.71 374	Square	NRAS216
NS21610	84.00 x 23.62 x 41.86 2134 x 600 x 1063	Server Cabinet	43	77.00 1956	14.71 374	Square	NRAS216
NS21610NS	84.00 x 23.62 x 41.85 2134 x 600 x 1063	Server Cabinet No Sides	43	77.00 1956	14.71 374	Square	NRAS216
NS21611	84.00 x 23.62 x 45.80 2134 x 600 x 1163	Server Cabinet	43	77.00 1956	14.71 374	Square	NRAS216
NS21612	84.00 x 23.62 x 49.74 2134 x 600 x 1263	Server Cabinet	43	77.00 1956	14.71 374	Square	NRAS216
NS21711	84.00 x 27.56 x 45.80 2134 x 700 x 1163	Server Cabinet	43	77.00 1956	18.65 474	Square	NRAS217
NS21811	84.00 x 31.50 x 45.80 2134 x 800 x 1163	Server Cabinet	43	77.00 1956	22.58 574	Square	NRAS218

Tapped and square hole rack angles of the same size can be used interchangeably in communication and server cabinets. See rack angle table for available rack angles.

Catalog numbers with "NS" at the end have no sides.



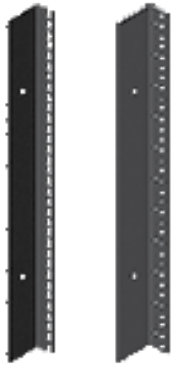




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### NET SERIES RACK ANGLES



Rack angles are available with either 10-32 tapped or square mounting holes. Communication and server cabinets can use either tapped-hole or square-hole rack angles. Finish is RAL 9005 black, low-gloss smooth polyester powder paint. Shipped in sets of two with two mounting brackets and mounting hardware.

BULLETIN: DCY

Catalog Number	AxB in./mm	Length in./mm	Hole Type	Use with Net Series Cabinet H x W
NRAT126	47.24 x 23.62 1200 x 600	40.37 1025	Tapped	1245 x 600
NRAT216	82.68 x 23.62 2100 x 600	78.87 2003	Tapped	2134 x 600
NRAT217	82.68 x 27.56 2100 x 700	78.87 2003	Tapped	2134 x 700
NRAT218	82.68 x 31.50 2100 x 800	78.87 2003	Tapped	2134 x 800
NRAS126	47.24 x 23.62 1200 x 600	40.37 1025	Square	1245 x 600
NRAS216	82.68 x 23.62 2100 x 600	78.87 2003	Square	2134 x 600
NRAS217	82.68 x 27.56 2100 x 700	78.87 2003	Square	2134 x 700
NRAS218	82.68 x 31.50 2100 x 800	78.87 2003	Square	2134 x 800

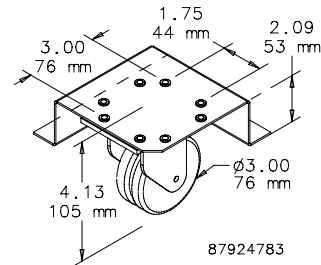
### NET SERIES CASTER KIT



These recessed ball-bearing casters allow Net Series Cabinet repositioning with a minimal effort. Casters add 2 in. to height of cabinet. Kit includes four casters, recessed brackets and mounting hardware.

BULLETIN: DCY

Catalog Number	Description
NCK	Set of four casters, recessed brackets and mounting hardware



### NET SERIES LEVELER KIT



Leveler Kits allow adjustment of Net Series Cabinets for uneven floors. Can be used with casters to stabilize final installation.

BULLETIN: DCY

Catalog Number	Description
NLK	Set of four levelers

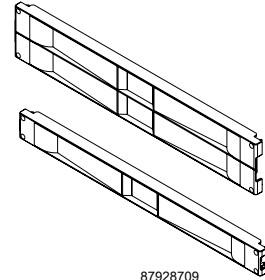
**TOOL-LESS (SNAP-IN) BLANKING PANELS FOR 19-IN. RACKS**



These Tool-less 19-in. Blanking Panels provide easy tool-less installation and ensure proper airflow to equipment. Made of black composite material and can be used with tapped or square EIA universal spaced rack mounting angles.

BULLETIN: DACCY

Catalog Number	Description	Rack Units	Fits	Pkg. Qty.
D19BPT1RU	Blanking Panel, 19 in.	1	19 in., universal rack spacing, tapped or square holes	10
D19BPT2RU	Blanking Panel, 19 in.	2	19 in., universal rack spacing, tapped or square holes	10



87928709

**NET SERIES VERTICAL TIE-DOWN CABLE MANAGER**



Hold larger cable bundles securely. VELCRO™ Cable Wraps provide convenient cable fastening and easy access to individual cables. One piece design. Holes provided for addition of cable transitions, spools, or D-Rings (order separately). Made of steel coated with RAL 9005 black polyester powder paint. Includes mounting hardware.

VELCRO is a trademark of Velcro Industries B.V.

BULLETIN: DCY

Catalog Number	A in./mm	Fits Cabinet Height
NVCMTD12	40.37 1025	1245
NVCMTD21	78.87 2003	2134



87798903

### TOOL-LESS SHELF

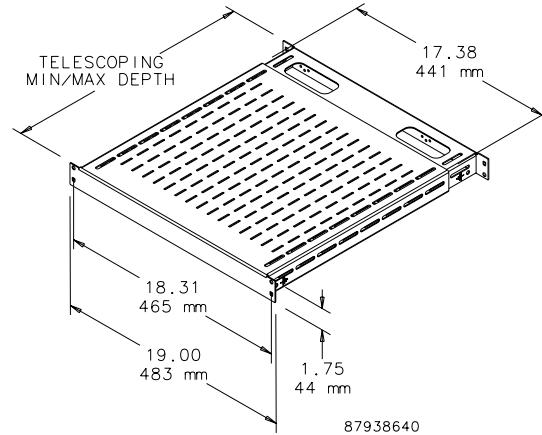


An easy-to-install tool-less vented 19-in. shelf. Mounts onto rack angles that have EIA-spaced square holes (.375 in.). Shelf slides open and provides a variable-sized, continuous surface for equipment. Back of shelf has oval cutouts for power and data cables. Accessory hole patterns at back of shelf fit small and large D-rings to help manage cable. Made of steel with a 150 lb. (68 kg) static load rating. Available with RAL 9005 black or RAL 7035 gray polyester powder coat finish.

**BULLETIN: DACCY**

Catalog Number	Description	Finish	Minimum Depth mm/in.	Maximum Depth mm/in.
D19FVT69B	Shelf, vented, 19 in. tool-less	Black	495 19.50	851 33.50
D19FVT69G	Shelf, vented, 19 in. tool-less	Gray	495 19.50	851 33.50
D19FVT912B	Shelf, vented, 19 in. tool-less	Black	792 31.20	1151 45.30
D19FVT912G	Shelf, vented, 19 in. tool-less	Gray	792 31.20	1151 45.30

Minimum and maximum depth measured from rack angle to rack angle.



87938640

### NET SERIES JOINING KIT

The joining kit enables joining Net Series Cabinets without sides to form a single bank of cabinets. Each kit joins two cabinets.

**BULLETIN: DCY**

Catalog Number	Description
NJK	Net Series Joining Kit

## Notes



## PROLINE™ CONTAINMENT SYSTEM



### APPLICATION

The PROLINE™ Containment System prevents hot and cold airflows from mixing. The system increases cooling efficiency, lowers energy costs, allows for higher thermal density within the cabinet and eliminates the need to buy additional cooling units. Use for either hot or cold air containment and on raised and non-raised floors. The PROLINE Containment System is easy to order and to install.

Customize your Containment System by purchasing the Aisle Doors, Ceiling Panels with Windows, Chimney and Ceiling Panels for Chimney separately.

### FEATURES

- Aisle door slides to the right to provide quick access to aisle way
- Easy to order
- Accommodates 36-in. (OSHA minimum aisle widths) and 48-in. (two-floor-tile-wide) aisle ways
- Ergonomically positioned grab handles on interior and exterior of contained aisle
- Clear, transparent door and roof panels provide maximum light to aisleway
- Tool-less Ceiling Panels are easy to install and remove for cleaning and provide above-the-cabinet access to cables, equipment and systems
- Window Ceiling Panels have easily modified .22-in. polycarbonate panels to accommodate local fire-suppression codes (sprinkler heads)
- Chimney Ceiling Panels are used with chimney to direct hot exhaust air into drop ceiling, duct work or other means back to the computer room cooling devices
- Chimney comes in two heights to fit a wide range of applications

### SPECIFICATIONS

#### Aisle Doors

- Composite construction of 16, 14 and 12 gauge steel
- Aluminum track and steel trolley with composite wheels
- Safety glass door is mechanically fastened to steel frame

#### Window Ceiling Panels

- Frame made of 16 gauge steel
- Overhead panel made of .22-in. polycarbonate

#### Chimney Ceiling Panels

- Frame made of 16 gauge steel
- Purchase Chimney separately

#### Chimney

- Made of 18 gauge steel
- Two sizes to fit various ceiling heights
- Infinite adjustment between minimum and maximum extension
- Bulb gasket seals against flat surfaces and ceilings
- S-connectors provided for duct work connection
- Purchase Chimney Ceiling Panel separately

#### FINISH

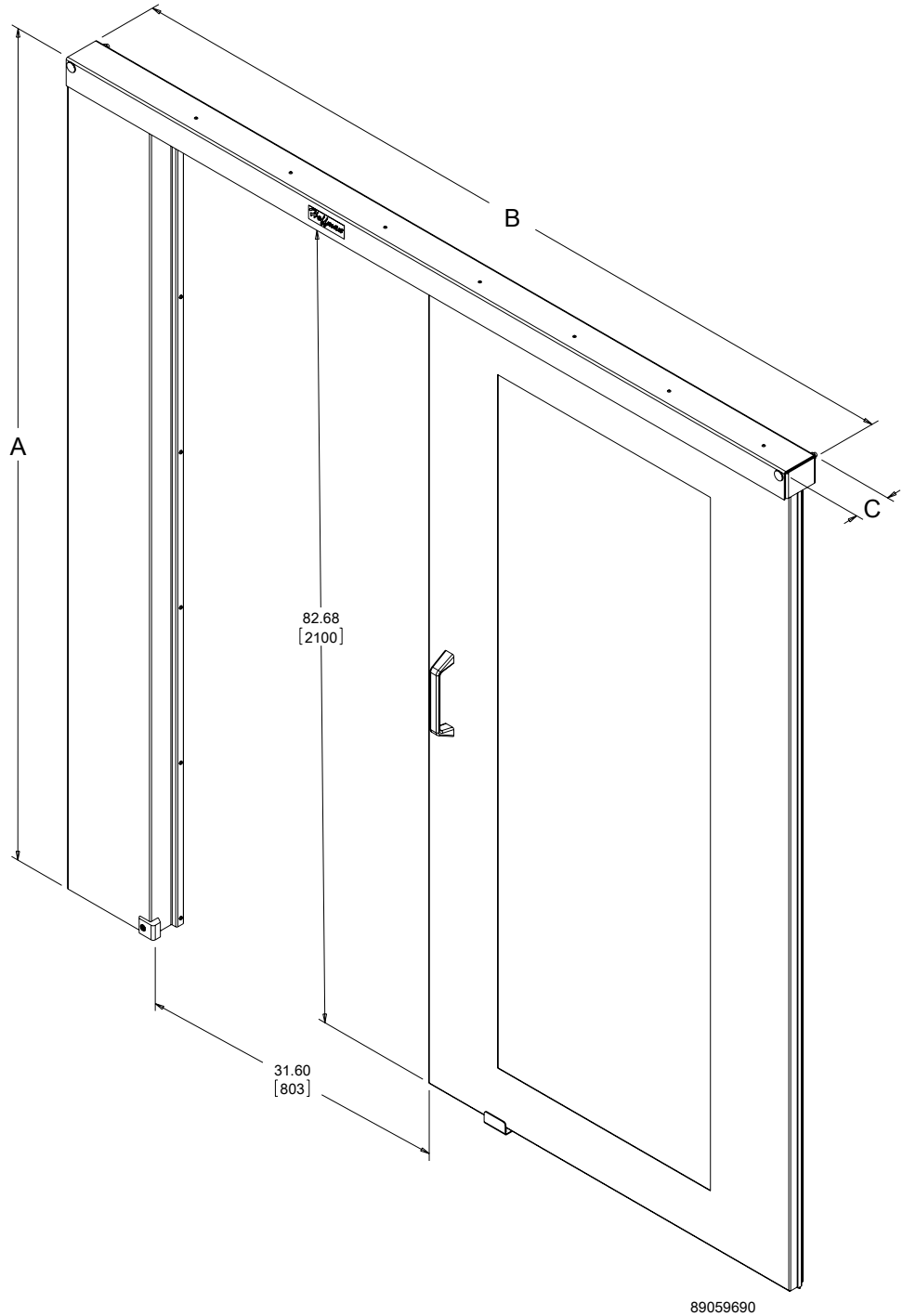
Prepared surface coated in polyester powder low-gloss, lightly textured RAL 9005 black

#### BULLETIN: DPY



Standard Product **Aisle Doors**

Catalog Number	AxBxC mm/in.	Aisle Width mm/in.
PCAD2	2175 x 2175 x 93 85.63 x 85.63 x 3.68	914 or 1219 36.00 or 48.00

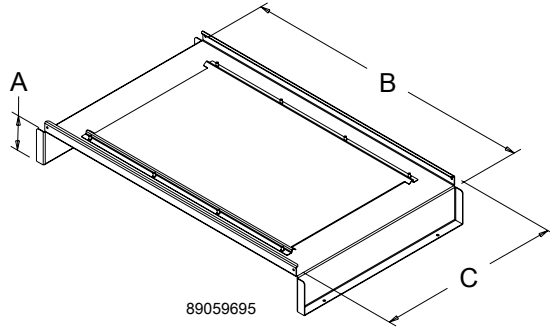


### WINDOW CEILING PANEL



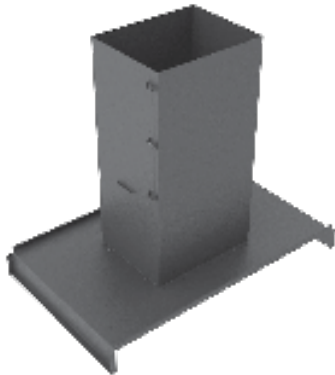
- Frame made of 16 gauge steel
- Overhead panel made of .22-in. polycarbonate

BULLETIN: DPY



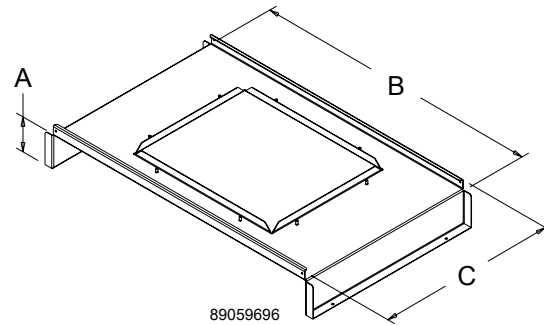
Catalog Number	AxBxC mm/in.	Aisle Width mm/in.	Use With Cabinet Width
PCP69	143 x 1309 x 597	914	600 mm
	5.63 x 51.52 x 23.50	36	
PCP79	143 x 1309 x 697	914	700 mm
	5.63 x 51.52 x 27.44	36	
PCP89	143 x 1309 x 797	914	800 mm
	5.63 x 51.52 x 31.38	36	
PCP612	143 x 1309 x 597	1219	600 mm
	5.63 x 51.52 x 23.50	48	
PCP712	143 x 1309 x 697	1219	700 mm
	5.63 x 51.52 x 27.44	48	
PCP812	143 x 1309 x 797	1219	800 mm
	5.63 x 51.52 x 31.38	48	

### CHIMNEY CEILING PANEL



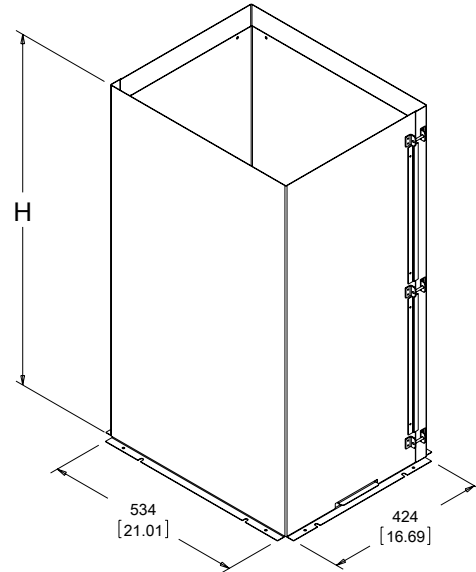
- Frame made of 16 gauge steel
- Image shows Chimney attached to the Chimney Ceiling Panel; purchase Chimney separately

BULLETIN: DPY



Catalog Number	AxBxC mm/in.	Fits Aisle Width mm/in.	Use With Cabinet Width
PCPC69	143 x 1009 x 597	914	600 mm
	5.63 x 39.71 x 23.50	36	
PCPC79	143 x 1009 x 697	914	700 mm
	5.63 x 39.71 x 27.44	36	
PCPC89	143 x 1009 x 797	914	800 mm
	5.63 x 39.71 x 31.38	36	
PCPC612	143 x 1009 x 597	1219	600 mm
	5.63 x 39.71 x 23.50	48	
PCPC712	143 x 1009 x 697	1219	700 mm
	5.63 x 39.71 x 27.44	48	
PCPC812	143 x 1009 x 797	1219	800 mm
	5.63 x 39.71 x 31.38	48	

**CONTAINMENT SYSTEM CHIMNEY**



89059771

- Made of 18 gauge steel
- Two sizes to fit various ceiling heights
- Infinite adjustment between minimum and maximum extension
- Bulb gasket seals against flat surfaces and ceilings
- S-connectors provided for duct work connection
- Purchase Chimney Ceiling Panel separately

**BULLETIN: DPY**

Catalog Number	AxBxC mm/in.	Ceiling Height mm/in.	H min mm/in.	H max mm/in.
PCM1	457 x 534 x 424 18.00 x 21.01 x 16.69	2600 to 3057 102.36 to 120.36	613 24.13	1067 42.00
PCM2	762 x 534 x 424 30.00 x 21.01 x 16.69	2905 to 3667 114.36 to 144.36	918 36.13	1676 66.00



**PROLINE™ FLOTEK™ PC (PASSIVE COOLING) SERVER CABINET**


Rear View

**APPLICATION**

Designed deeper to house servers and manage power cables, PROLINE™ FLOTEK™ Cabinets rely on optimized passive airflow for cooling. The cabinets may be placed in data rooms randomly or in hot/cold aisle configurations.

**FEATURES**

- Rigid front door made of aluminum extrusions and formed perforated steel offers highly attractive appearance and durability
- Fully perforated front and rear doors and fully perforated top allow maximum air movement around equipment; conforms to server manufacturer open space requirements
- Models without sides fit together quickly for easy installation in ganged applications
- Three-point locking pushbutton swing handle on front door provides easy but controlled access; two keys included
- Rear doors are split for easy access and include 3-point, low-profile, locking swing handle
- Two sets of 19-in. square-hole rack angles support both front and rear of equipment
- Rack angles are infinitely adjustable from front to rear for positioning flexibility
- Large gland plate in top allows easy routing of cable, pre-terminated cables and patch panels
- Mounting hardware (20 each of 10-32 screws and cage nuts) is included

**SPECIFICATIONS**

- 16 or 14 gauge steel doors, sides and cover
- Welded 12 gauge steel frame
- Rack angles have square holes with EIA 310-D spacing
- Open bottom with integral bolt-down brackets

**FINISH**

Pretreated steel coated with RAL 9005 black textured, low-gloss polyester powder paint. Other finishes available—contact Hoffman Customer Service.

**LOAD RATING**
**Static Load Rating: 2500 lb. (1134 kg)**

A cabinet has a static load when:

- it is in its final, permanent, fully secured location, and
- its load is uniformly applied to the two sets of rack-mounting angles

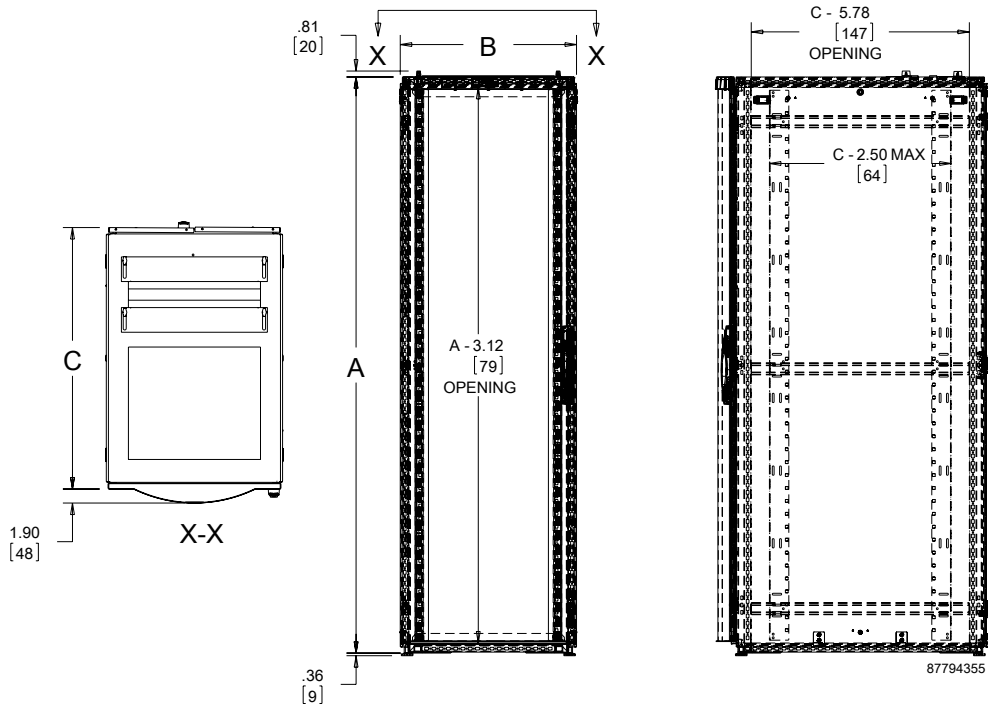
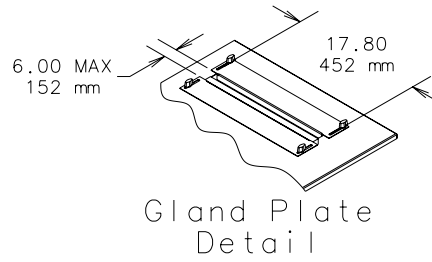
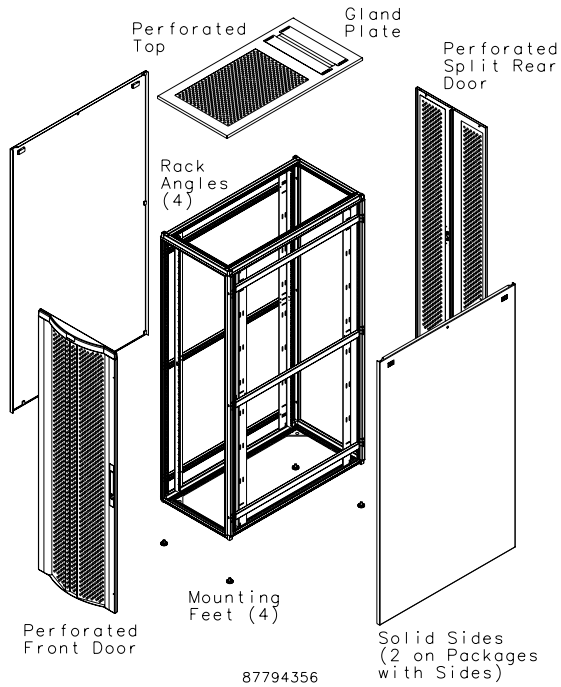
**Never move a cabinet with its maximum static load applied.**

Contact Hoffman if further information is needed.

**BULLETIN: DPSR**

## Standard Product

Catalog Number	AxBxC mm	AxBxC in.	Sides	Rack Units	Additional Square Hole Rack Angle
PSCPC2069B	1991 x 608 x 899	78.37 x 23.94 x 35.40	With sides	42	PRA1920THL1
PSCPC2069BNS	1991 x 599 x 899	78.37 x 23.58 x 35.40	Without sides	42	PRA1920THL1
PSCPC20610B	1991 x 608 x 999	78.37 x 23.94 x 39.34	With sides	42	PRA1920THL1
PSCPC20610BNS	1991 x 599 x 999	78.37 x 23.58 x 39.34	Without sides	42	PRA1920THL1
PSCPC20611B	1991 x 608 x 1099	78.37 x 23.94 x 43.28	With sides	42	PRA1920THL1
PSCPC20611BNS	1991 x 599 x 1099	78.37 x 23.58 x 43.28	Without sides	42	PRA1920THL1
PSCPC20612B	1991 x 608 x 1199	78.37 x 23.94 x 47.22	With sides	42	PRA1920THL1
PSCPC20612BNS	1991 x 599 x 1199	78.37 x 23.58 x 47.22	Without sides	42	PRA1920THL1
PSCPC2169B	2161 x 606 x 899	85.08 x 23.87 x 35.39	With sides	45	PRA1921THL1
PSCPC21610B	2161 x 606 x 999	85.08 x 23.87 x 39.33	With sides	45	PRA1921THL1
PSCPC21611B	2161 x 606 x 1099	85.08 x 23.87 x 43.27	With sides	45	PRA1921THL1
PSCPC21612B	2161 x 606 x 1199	85.08 x 23.87 x 47.20	With sides	45	PRA1921THL1
PSCPC2469B	2411 x 606 x 899	94.92 x 23.87 x 35.39	With sides	51	PRA1924THL1
PSCPC24610B	2411 x 606 x 999	94.92 x 23.87 x 39.33	With sides	51	PRA1924THL1
PSCPC24611B	2411 x 606 x 1099	94.92 x 23.87 x 43.27	With sides	51	PRA1924THL1
PSCPC24612B	2411 x 606 x 1199	94.92 x 23.87 x 47.20	With sides	51	PRA1924THL1



**PROLINE™ FLOTEK™ HCA (HOT/COLD AISLE) SERVER CABINET**



Rear View

- Fully perforated front door offers maximum airflow from cold aisle and conforms to server manufacturer open space requirements
- Six 6-in. fans with integral finger guards in the rear doors pull cold-aisle air through cabinet and exhaust it to hot aisle
- Fans provide up to 1440 CFM airflow
- Fans on each door can be independently powered to provide redundant cooling
- Solid top helps direct airflow across equipment
- Models without sides fit together quickly for easy installation in ganged applications
- Three-point locking pushbutton swing handle on front door provides easy but controlled access; two keys included
- Rear doors are split for easy access and include 3-point, low-profile, locking swing handle
- Two sets of 19-in. square-hole rack angles support both front and rear of equipment
- Rack angles are infinitely adjustable from front to rear for positioning flexibility
- Large gland plate in top allows easy routing of cable, pre-terminated cables and patch panels
- Mounting hardware (20 each of 10-32 screws and cage nuts) is included

**SPECIFICATIONS**

- 16 or 14 gauge steel doors, sides and cover
- Welded 12 gauge steel frame
- Rack angles have square holes with EIA 310-D spacing
- Open bottom with integral bolt-down brackets

**FINISH**

Pretreated steel coated with RAL 9005 black textured, low-gloss polyester powder paint. Other finishes available—contact Hoffman Customer Service

**LOAD RATING**

**Static Load Rating: 2500 lb. (1134 kg)**

- A cabinet has a static load when:
- it is in its final, permanent, fully secured location, and
  - its load is uniformly applied to the two sets of rack-mounting angles

**Never move a cabinet with its maximum static load applied.**  
Contact Hoffman if further information is needed.

**BULLETIN: DPSR**

**INDUSTRY STANDARDS**

EIA 310-D

**APPLICATION**

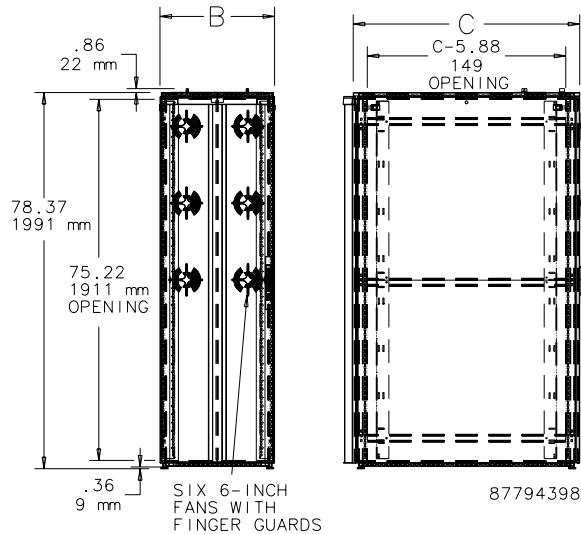
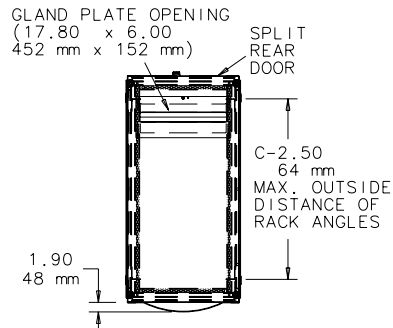
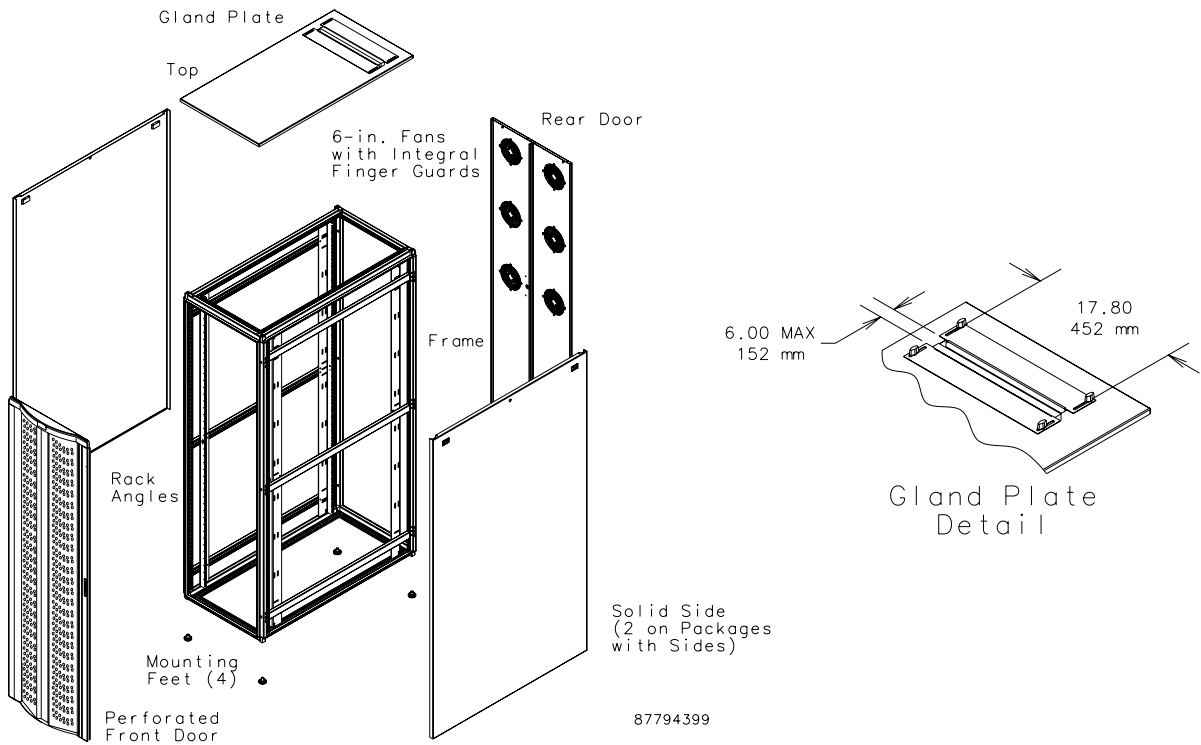
Two independently-powered, redundant fan banks in the rear of the PROLINE™ FLOTEK™ HCA Server Cabinet maximize cooling power for high-density applications that generate high amounts of heat.

**FEATURES**

- Rigid front door made of aluminum extrusions and formed perforated steel offers highly attractive appearance and durability

Standard Product

Catalog Number	AxBxC mm/in.	Sides	Rack Units	Rack Angle
PSCHCA2069B	1991 x 608 x 899 78.37 x 23.94 x 35.40	With sides	42	PRA1920THL1
PSCHCA2069BNS	1991 x 599 x 899 78.37 x 23.58 x 35.40	Without sides	42	PRA1920THL1
PSCHCA20610B	1991 x 608 x 999 78.37 x 23.94 x 39.34	With sides	42	PRA1920THL1
PSCHCA20610BNS	1991 x 599 x 999 78.37 x 23.58 x 39.34	Without sides	42	PRA1920THL1
PSCHCA20611B	1991 x 608 x 1099 78.37 x 23.94 x 43.28	With sides	42	PRA1920THL1
PSCHCA20611BNS	1991 x 599 x 1099 78.37 x 23.58 x 43.28	Without sides	42	PRA1920THL1
PSCHCA20612B	1991 x 608 x 1199 78.37 x 23.94 x 47.22	With sides	42	PRA1920THL1
PSCHCA20612BNS	1991 x 599 x 1199 78.37 x 23.58 x 47.22	Without sides	42	PRA1920THL1



## PROLINE™ FLOTEK™ FD (FLOOR DUCTED) SERVER CABINET



Rear View

### INDUSTRY STANDARDS

EIA 310-D

### APPLICATION

The PROLINE™ FLOTEK™ FD Server Cabinet uses the cooling power of two banks of independently-powered fans in the back of the cabinet and an integral front floor duct to direct air into server intakes when positioned over a cutout in a raised data center floor. The cabinet air inlet requires alignment with a floor cutout so blocking plates can direct cool air from the floor plenum across the front of the equipment.

### FEATURES

- Front window door provides a view of equipment inside the enclosure without opening the door
- Six 6-in. fans with integral finger guards in the rear doors pull floor-ducted air through cabinet and exhaust it to hot aisle
- Fans provide up to 1400 CFM airflow
- Fans on each door can be independently powered to provide redundant cooling
- Blocking plates inside the cabinet on both sides and the top prevent recirculation of hot exhaust air

- Solid top helps direct airflow across equipment
- Sliding gland plate in top covers large opening that allows easy routing of network cables, pre-terminated cables and patch panels
- Models without sides fit together quickly for easy installation in ganged applications
- Three-point locking pushbutton swing handle on front door provides easy but controlled access; two keys included.
- Rear doors are split for easy access and include a low-profile, locking swing handle
- Two sets of 19-in. square-hole rack angles with EIA universal spacing support both front and rear of equipment
- Includes mobile base with casters and anti-tip bracket to facilitate moving cabinet into position
- Mounting hardware (20 each of 10-32 screws and cage nuts) is included

### SPECIFICATIONS

- 16 or 14 gauge steel front door frame, rear door, sides and cover
- Welded 12 gauge steel frame
- Window is made of .125-in. thick acrylic
- Rack angles have square holes with EIA 310-D spacing
- Duct flange in base for connecting to floor duct

### FINISH

Pretreated steel coated with RAL 9005 black textured, low-gloss polyester powder paint. Rack angles are coated with RAL 9005 black polyester powder paint. Other finishes available—contact Hoffman Customer Service.

### LOAD RATING

#### Static Load Rating: 2500 lb. (1134 kg)

A cabinet has a static load when:

- it is in its final, permanent, fully secured location
- its levelers are fully extended
- the anti-tip bracket is installed
- its load is uniformly applied to the two sets of rack-mounting angles, and
- the casters are not supporting any load (use the casters only to move the cabinet to its final location before loading)

#### Never move a cabinet with its maximum static load applied.

Contact Hoffman if further information is needed.

#### Casters Maximum Load: 1000 lb. (453 kg)

Exercise care when using casters to move the cabinet. Do not use casters to move a cabinet with more than 1000 lb. (453 kg) load.

Avoid tipping and damage to the cabinet and its contents by slowly moving the cabinet on its casters across smooth, flat flooring. Avoid obstructions such as:

- large cracks
- floor displacement
- seams
- gravel

#### Never use casters while transporting a cabinet by truck on roadways.

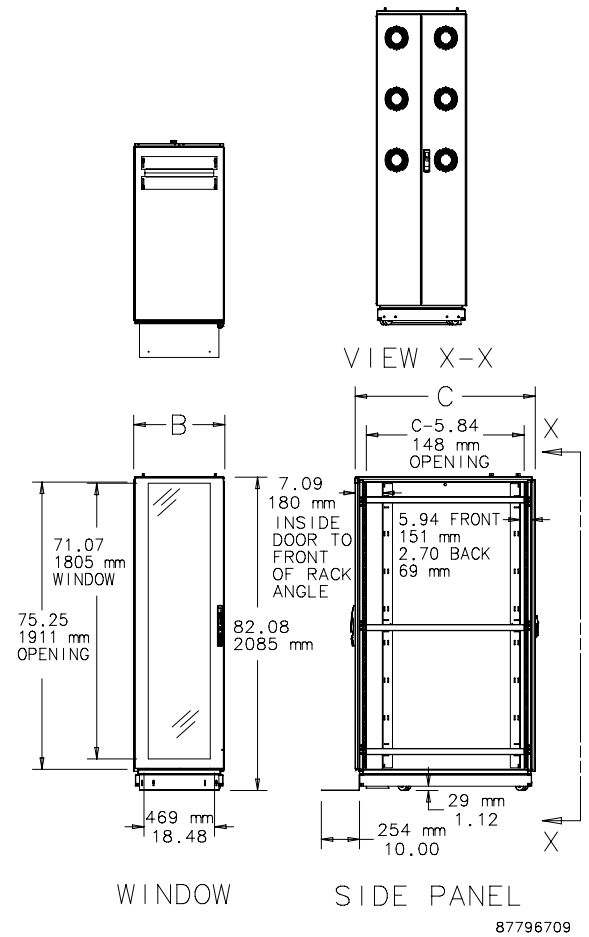
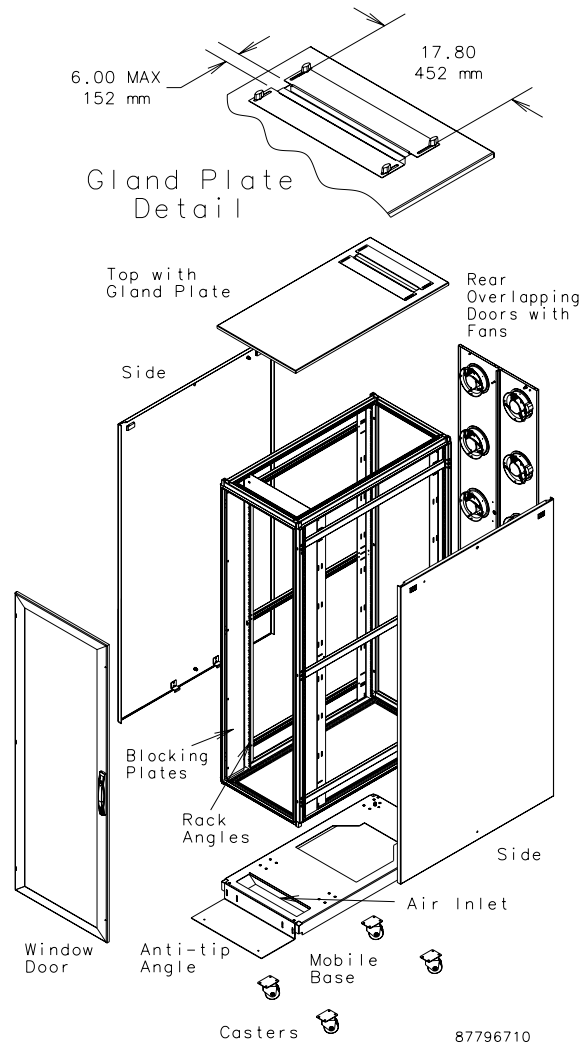
Contact Hoffman if further information is needed.

### BULLETIN: DPSR

### Standard Product

Catalog Number	AxBxC mm	AxBxC in.	Sides	Rack Units	Rack Angle
PSFD2069B	2085 x 599 x 899	82.08 x 23.58 x 35.40	With sides	42	PRA1920THL1
PSFD2069BNS	2085 x 599 x 899	82.08 x 23.58 x 35.40	Without sides	42	PRA1920THL1
PSFD20610B	2085 x 599 x 999	82.08 x 23.58 x 39.34	With sides	42	PRA1920THL1
PSFD20610BNS	2085 x 599 x 999	82.08 x 23.58 x 39.34	Without sides	42	PRA1920THL1
PSFD20611B	2085 x 599 x 1099	82.08 x 23.58 x 43.28	With sides	42	PRA1920THL1
PSFD20611BNS	2085 x 599 x 1099	82.08 x 23.58 x 43.28	Without sides	42	PRA1920THL1
PSFD20612B	2085 x 599 x 1199	82.08 x 23.58 x 47.22	With sides	42	PRA1920THL1
PSFD20612BNS	2085 x 599 x 1199	82.08 x 23.58 x 47.22	Without sides	42	PRA1920THL1

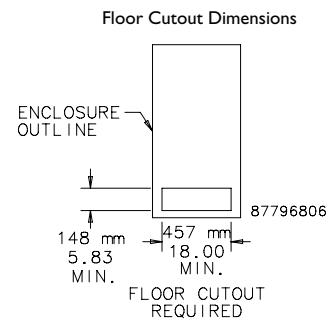




**PROLINE™ FLOTEK™ FD (FLOOR DUCTED) SERVER CABINET REQUIRED FLOOR CUTOUT**



A cutout that matches the air inlet in the floor of the cabinet must be cut in the raised floor. When installed the cabinet air inlet is aligned with the floor cutout, and the blocking plates help direct cool air from the floor plenum across the fronts of the equipment.



**PROLINE™ FLOTEK™ TD (TOP DUCTED) SERVER CABINET**



- Open base allows under-floor cable entry
- Fully perforated front door provides unrestricted cold airflow to equipment
- Front sealed 19-in. mounting rails and top/bottom air blocking plates prevent cold air bypass
- Solid rear door directs hot exhaust into chimney to prevent mixing with cold airflow
- Data center efficiency increases when cold and hot airflows are kept separate resulting in higher CRAC temperatures (cold airflow to the equipment)
- Reduces overall energy needs with more efficient cold air delivery to equipment
- Allows increased thermal loads and higher server densities inside cabinet
- Can be used on raised and non-raised floors

**SPECIFICATIONS**

- Top sliding gland plate accommodates cables, cable bundles and pre-terminated patch panels
- Exhaust air deflector routes airflow to chimney to avoid hot spots
- Chimney provided with edge gasket and S-connectors
- Attractive, rigid front door made of aluminum extrusions and formed perforated steel, with more than 60 percent open space for free flow of cool air to equipment
- Front door is left-hinged and reversible
- Front and rear doors have keyed multi-point vault-style latch system and central key lock to ensure security
- Solid rear door is fully gasketed to ensure all hot exhaust is directed to top duct
- Front air dam surrounds mounting rack angles to prevent cold air bypass
- Top and sides are formed steel
- Rack angles have .375-in. spaced square holes per EIA standards

**FINISH**

RAL 9005 black textured, low-gloss polyester powder paint over pretreated steel.  
Front door extrusion has a smooth, low-gloss, silver polyester power paint finish.

**LOAD RATING**

**Static Load Rating: 2500 lb. (1134 kg)**

A cabinet has a static load when:

- it is in its final, permanent, fully secured location, and
- its load is uniformly applied to the two sets of rack-mounting angles

**Never move a cabinet with its maximum static load applied.**

Contact Hoffman if further information is needed.

**ACCESSORIES**

- 19-in. Rack-Mount Environmental Monitor
- Cable and PDU Manager
- Rack- and Panel-Mount Power Distribution Units (PDUs)
- Screw Packages
- Tool-less (Snap-in) Blanking Panels for 19-in. Racks
- Tool-less Shelf
- Vertical Cable Manager 1

**BULLETIN: DPVD**

**INDUSTRY STANDARDS**

EIA 310-D

**APPLICATION**

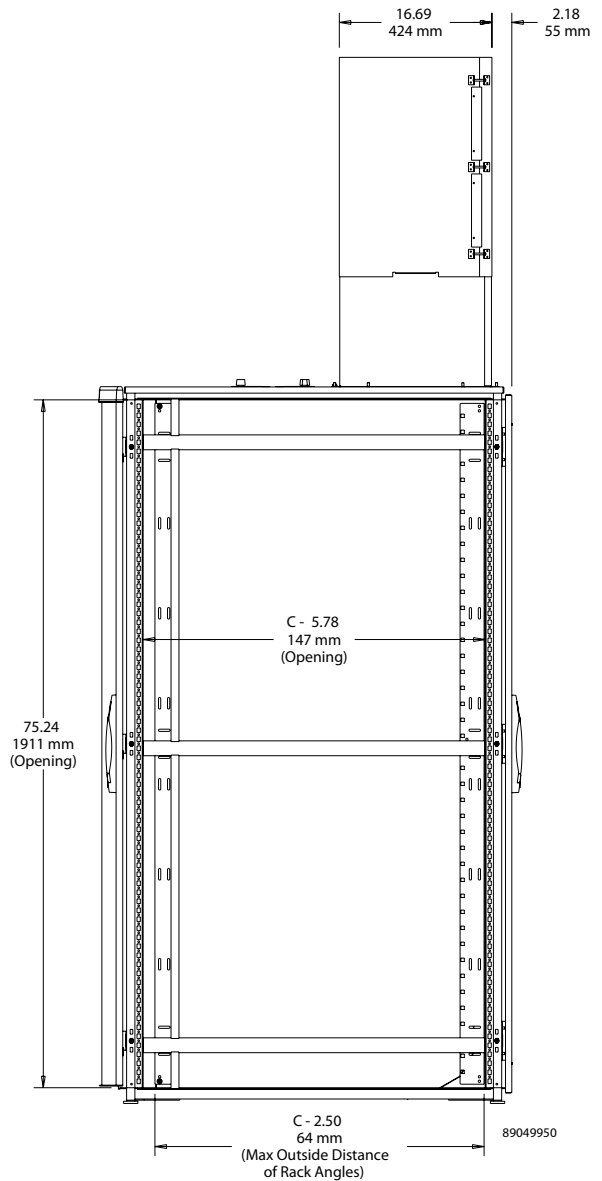
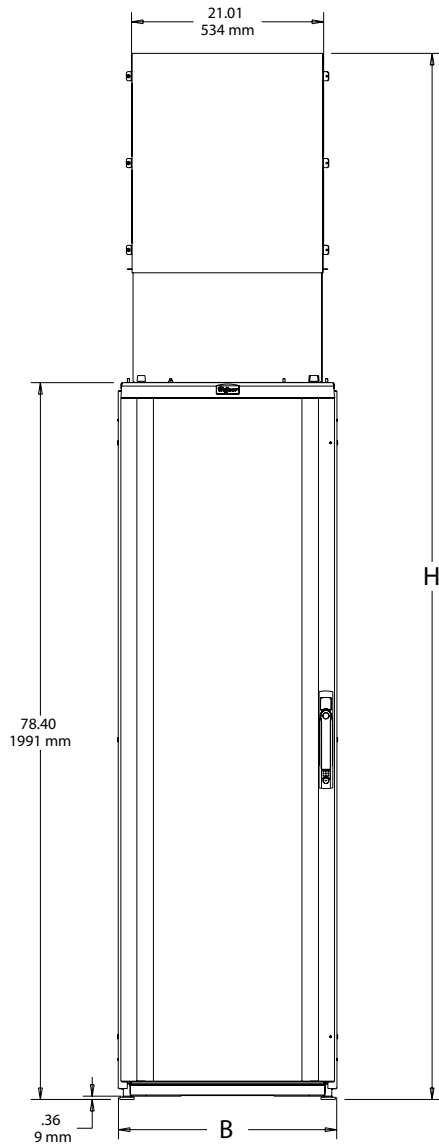
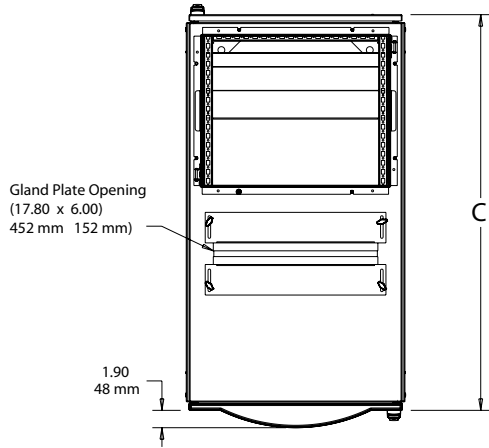
PROLINE™ FLOTEK™ TD improves equipment efficiency and lowers energy costs by directing hot exhaust from the cabinet up above the plenum or drop ceiling and away from the cold room air. Photo shown with Tool-less (Snap-in) Blanking Panels installed. Order separately.

**FEATURES**

- Designed for use with 19-in. rack-mounted servers, blade servers and other equipment
- Adjustable top duct (chimney) is provided in two different standard heights to fit various Data Center ceilings
- Chimney is pre-assembled and shipped inside the cabinet to ease assembly and avoid extra parcels and shipping damage
- S-connectors provided with chimney to facilitate connection to HVAC duct work
- Edge gasket provided with chimney to prevent hot exhaust gas from mixing with cold airflow
- Cabinet is provided with seals and blocking panels to eliminate cold air bypass
- Includes two sets of fully adjustable mounting angles which are RU marked front and back to facilitate assembly

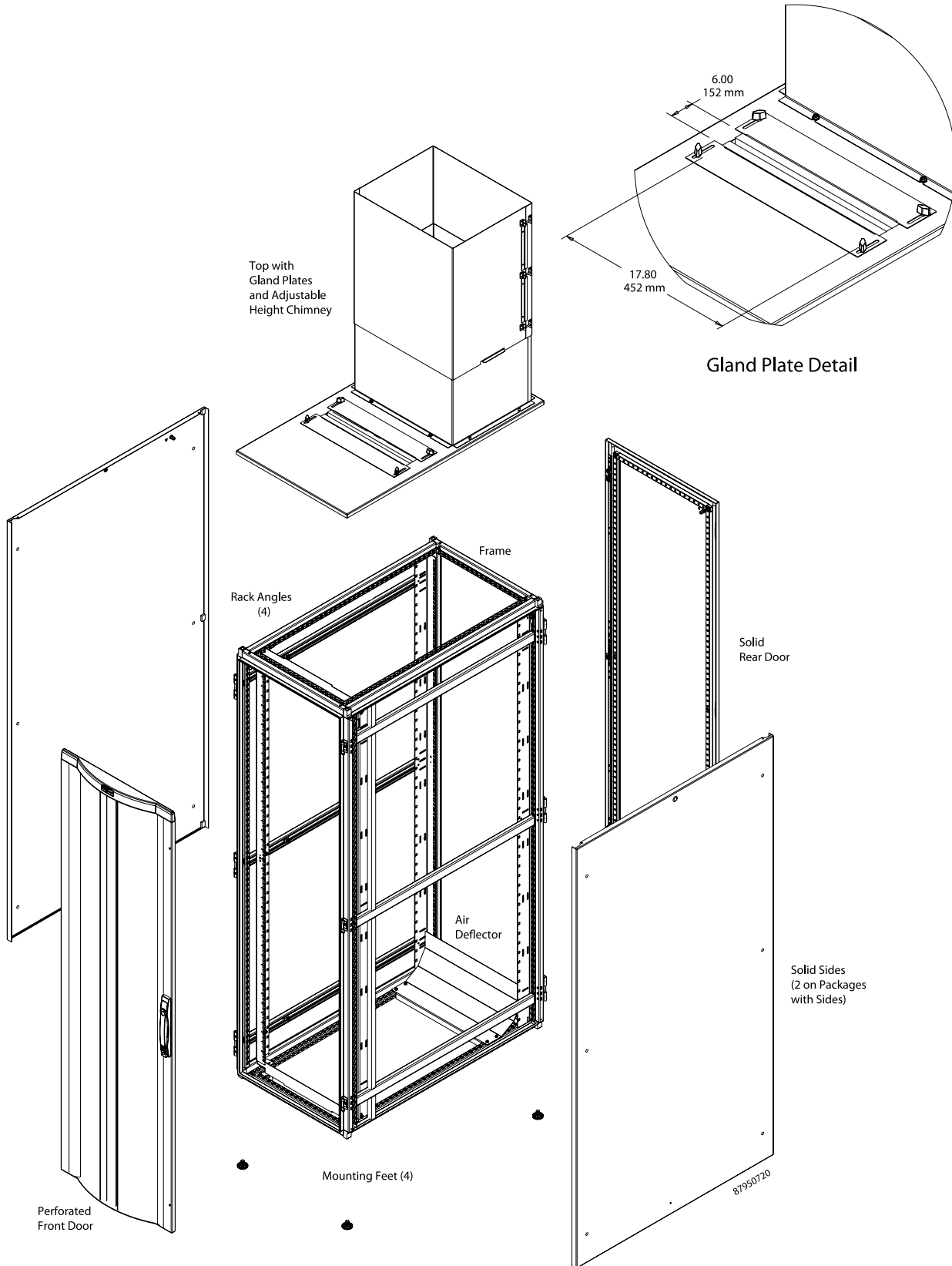
Standard Product

Catalog Number	AxBxC mm	AxBxC in.	H Minimum (mm)	H Minimum (in.)	H Maximum (mm)	H Maximum (in.)	Rack Units
PSTD20610BM	1991 x 608 x 999	78.37 x 23.94 x 39.34	2600	102.36	3057	120.36	42
PSTD20610BT	1991 x 608 x 999	78.37 x 23.94 x 39.34	2905	114.36	3667	144.36	42
PSTD20611BM	1991 x 608 x 1099	78.37 x 23.94 x 43.28	2600	102.36	3057	120.36	42
PSTD20611BT	1991 x 608 x 1099	78.37 x 23.94 x 43.28	2905	114.36	3667	144.36	42
PSTD20612BM	1991 x 608 x 1199	78.37 x 23.94 x 47.22	2600	102.36	3057	120.36	42
PSTD20612BT	1991 x 608 x 1199	78.37 x 23.94 x 47.22	2905	114.36	3667	144.36	42



(SHOWN WITHOUT SIDES)







Rear View



HVAC S Connector



Gasket



Chimney up and down positions



Front View  
(purchase blanking panels separately)



Air Deflector



## PROLINE™ SERVER CABINET



1

### INDUSTRY STANDARDS

EIA 310-D

### APPLICATION

The passively cooled PROLINE™ Server Cabinet has a front viewing window and a wheeled base for application mobility and repositioning.

### FEATURES

- Front window door with key lock and vents offers visibility and ventilation
- Open base with casters and levelers
- Fully perforated rear door provides excellent ventilation, keeping equipment cool and extending its life
- 2000-mm tall cabinets have split rear perforated doors
- Both front and rear doors have lockable handles

- Quick-release latches on side panels provide easy service access
- Fully perforated top cover with two cable entry ports for easy access and service
- Mounting channels (6) provide infinite front-to-back adjustment of rack angles
- Rack angles are coated with black polyester powder paint
- Meets industry testing standards criteria
- Mounting hardware (20 each of screws and cage nuts) is included

### SPECIFICATIONS

- 16 or 14 gauge steel doors, sides and cover
- Fully welded 12 gauge steel frame
- L-shaped rack angles (4) have square holes with EIA 310-D spacing
- Anti-tip angle made of heavy-gauge steel included

### FINISH

Pretreated steel coated with RAL 7035 light-gray or RAL 9005 black textured, low-gloss polyester powder paint. Other finishes available—contact Hoffman Customer Service.

### LOAD RATING

#### Static Load Rating: 2500 lb. (1134 kg)

A cabinet has a static load when:

- it is in its final, permanent, fully secured location
- its levelers are fully extended
- the anti-tip bracket is installed
- its load is uniformly applied to the two sets of rack-mounting angles, and
- the casters are not supporting any load (use the casters only to move the cabinet to its final location before loading)

#### Never move a cabinet with its maximum static load applied.

Contact Hoffman if further information is needed.

#### Casters Maximum Load: 1000 lb. (453 kg)

Exercise care when using casters to move the cabinet. Do not use casters to move a cabinet with more than 1000 lb. (453 kg) load. Avoid tipping and damage to the cabinet and its contents by slowly moving the cabinet on its casters across smooth, flat flooring. Avoid obstructions such as:

- large cracks
- floor displacement
- seams
- gravel

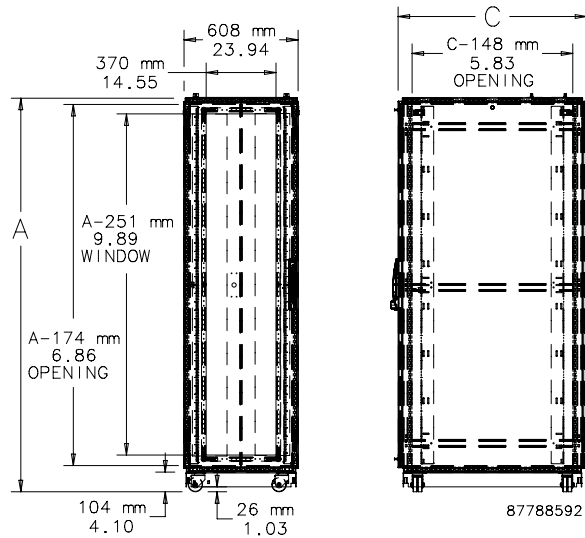
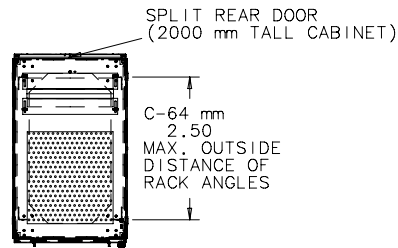
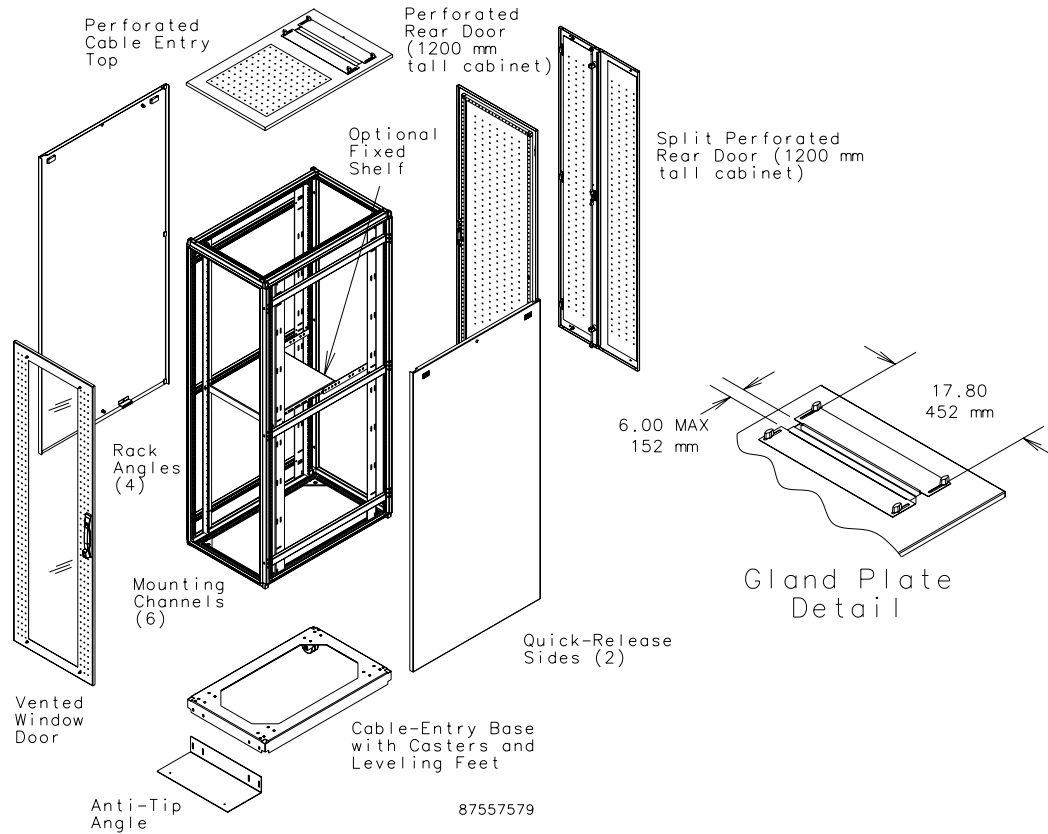
#### Never use casters while transporting a cabinet by truck on roadways.

Contact Hoffman if further information is needed.

### BULLETIN: DPSR

### Standard Product

Catalog Number	AxBxC mm/in.	Finish	Rack Units	Additional Rack Angles
PSC1269B	1285 x 608 x 899 50.59 x 23.94 x 35.40	Black RAL 9005	24	PRA1912THL1
PSC1269	1285 x 608 x 899 50.59 x 23.94 x 35.40	Light-Gray RAL 7035	24	PRA1912THL1
PSC12610B	1285 x 608 x 999 50.59 x 23.94 x 39.34	Black RAL 9005	24	PRA1912THL1
PSC12610	1285 x 608 x 999 50.59 x 23.94 x 39.34	Light-Gray RAL 7035	24	PRA1912THL1
PSC2069B	2085 x 608 x 899 82.08 x 23.94 x 35.40	Black RAL 9005	42	PRA1920THL1
PSC2069	2085 x 608 x 899 82.08 x 23.94 x 35.40	Light-Gray RAL 7035	42	PRA1920THL1
PSC20610B	2085 x 608 x 999 82.08 x 23.94 x 39.34	Black RAL 9005	42	PRA1920THL1
PSC20610	2085 x 608 x 999 82.08 x 23.94 x 39.34	Light-Gray RAL 7035	42	PRA1920THL1
PSC20611B	2085 x 608 x 1099 82.08 x 23.94 x 43.28	Black RAL 9005	42	PRA1920THL1
PSC20611	2085 x 608 x 1099 82.08 x 23.94 x 43.28	Light-Gray RAL 7035	42	PRA1920THL1
PSC20612B	2085 x 608 x 1199 82.08 x 23.94 x 47.22	Black RAL 9005	42	PRA1920THL1
PSC20612	2085 x 608 x 1199 82.08 x 23.94 x 47.22	Light-Gray RAL 7035	42	PRA1920THL1



## PROLINE™ CONNECTEK™ COMMUNICATIONS (PATCH) CABINET



- Cable managers included with 700-mm wide cabinet: Front - PVF207; Rear - PRBTD205
- Cable managers included with 800-mm wide cabinet: Front - PVF208; Rear - PRBTD2010
- Models without sides fit together quickly for easy installation in ganged applications; can be ganged with server cabinets or with additional Hoffman patch cabinets
- Three-point locking pushbutton swing handle on front door provides easy but controlled access. Two keys included.
- Rear doors are split for easy access and include 3-point, low-profile, locking swing handle
- Two sets of tapped 19-in. rack angles support both front and rear of equipment
- Rack angles are infinitely adjustable from front to rear for positioning flexibility
- Large gland plate in top allows easy routing of cable, pre-terminated cables and patch panels
- Twenty 10-32 screws are included

### SPECIFICATIONS

- 16 or 14 gauge steel doors, sides and cover
- Welded 12 gauge steel frame
- Rack angles have tapped holes with EIA 310-D spacing
- Open bottom with integral bolt-down brackets

### FINISH

Pretreated steel coated with RAL 9005 black textured, low gloss polyester powder paint. Other finishes available - contact Hoffman Customer Service.

### LOAD RATING

#### Static Load Rating: 2500 lb. (1134 kg)

A cabinet has a static load when:

- it is in its final, permanent, fully secured location, and
- its load is uniformly applied to the two sets of rack-mounting angles

**Never move a cabinet with its maximum static load applied.**

Contact Hoffman if further information is needed.

**BULLETIN: DPVD**

### APPLICATION

The PROLINE™ CONNECTEK™ Network Communication/Patch Cabinets feature two vertical cable managers in the front of the cabinet and two rear cable managers for maximum cable routing and support. Cabinets are available in two widths to accommodate high-density cables, patch cords and networking equipment.

### FEATURES

- Rigid front door made of aluminum extrusions and formed perforated steel offers highly attractive appearance and durability
- Fully perforated top, front door and rear doors allow maximum air movement around cables, patch panels and other network equipment; conforms to server manufacturer open space requirements
- Includes front cable manager with covers and rear open cable managers to support and route cable. See Cable/Power Management for cable manager specifications.

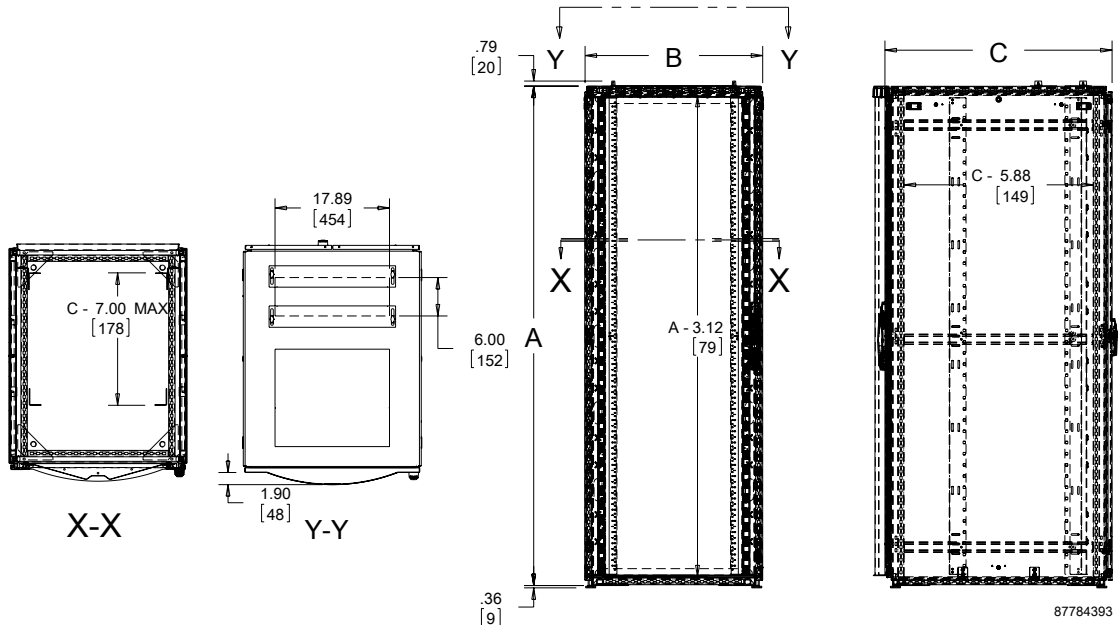
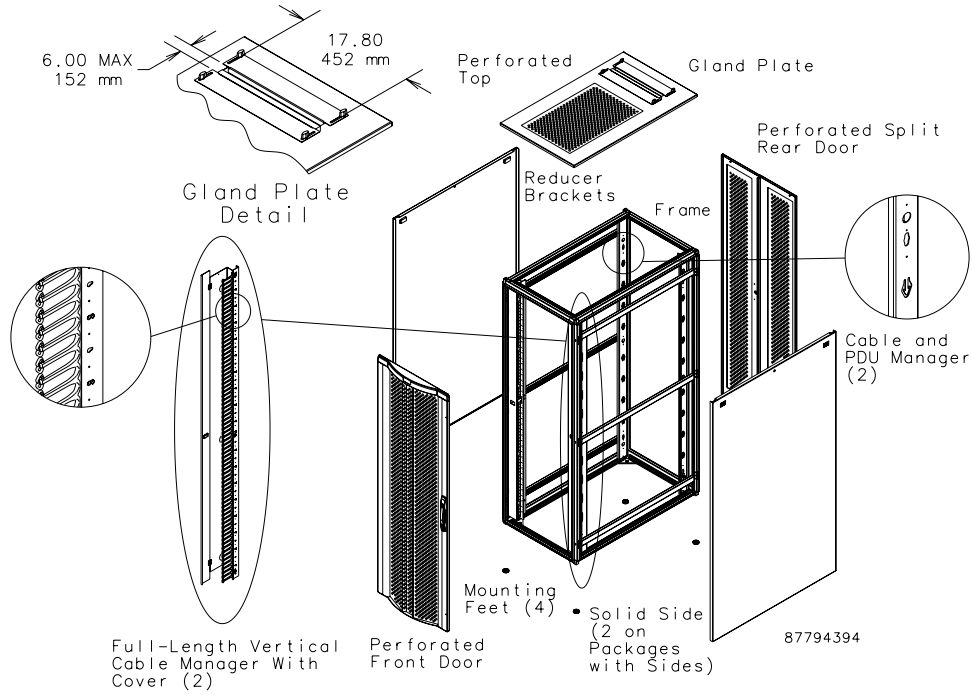
### Standard Product

Catalog Number	AxBxC mm	AxBxC in.	Sides	Rack Units	Additional Tapped Hole Rack Angle	Additional Square Hole Rack Angle
PNC2079B	1991 x 708 x 899	78.37 x 27.85 x 35.40	With sides	42	PRA1920TPL1	PRA1920THL1
PNC2079BNS	1991 x 699 x 899	78.37 x 27.52 x 35.40	Without sides	42	PRA1920TPL1	PRA1920THL1
PNC20710B	1991 x 708 x 999	78.37 x 27.85 x 39.34	With sides	42	PRA1920TPL1	PRA1920THL1
PNC20710BNS	1991 x 699 x 999	78.37 x 27.52 x 39.34	Without sides	42	PRA1920TPL1	PRA1920THL1
PNC20711B	1991 x 708 x 1099	78.37 x 27.85 x 43.28	With sides	42	PRA1920TPL1	PRA1920THL1
PNC20711BNS	1991 x 699 x 1099	78.37 x 27.52 x 43.28	Without sides	42	PRA1920TPL1	PRA1920THL1
PNC20712B	1991 x 708 x 1199	78.37 x 27.85 x 47.22	With sides	42	PRA1920TPL1	PRA1920THL1
PNC20712BNS	1991 x 699 x 1199	78.37 x 27.52 x 47.22	Without sides	42	PRA1920TPL1	PRA1920THL1
PNC2089B	1991 x 808 x 899	78.37 x 31.80 x 34.40	With sides	42	PRA1920TPL1	PRA1920THL1
PNC2089BNS	1991 x 799 x 899	78.37 x 31.46 x 35.40	Without sides	42	PRA1920TPL1	PRA1920THL1
PNC20810B	1991 x 808 x 999	78.37 x 31.80 x 39.34	With sides	42	PRA1920TPL1	PRA1920THL1
PNC20810BNS	1991 x 799 x 999	78.37 x 31.46 x 39.34	Without sides	42	PRA1920TPL1	PRA1920THL1
PNC20811B	1991 x 808 x 1099	78.37 x 31.80 x 43.28	With sides	42	PRA1920TPL1	PRA1920THL1
PNC20811BNS	1991 x 799 x 1099	78.37 x 31.46 x 43.28	Without sides	42	PRA1920TPL1	PRA1920THL1
PNC20812B	1991 x 808 x 1199	78.37 x 31.80 x 47.22	With sides	42	PRA1920TPL1	PRA1920THL1
PNC20812BNS	1991 x 799 x 1199	78.37 x 31.46 x 47.22	Without sides	42	PRA1920TPL1	PRA1920THL1
PNC2189B	2161 x 806 x 899	85.08 x 31.74 x 35.39	With sides	45	PRA1921TPL1	PRA1921THL1
PNC21810B	2161 x 806 x 999	85.08 x 31.74 x 39.33	With sides	45	PRA1921TPL1	PRA1921THL1
PNC21811B	2161 x 806 x 1099	85.08 x 31.74 x 43.27	With sides	45	PRA1921TPL1	PRA1921THL1
PNC21812B	2161 x 806 x 1199	85.08 x 31.74 x 47.20	With sides	45	PRA1921TPL1	PRA1921THL1
PNC2489B	2411 x 806 x 899	94.92 x 31.74 x 35.39	With sides	51	PRA1924TPL1	PRA1924THL1
PNC24810B	2411 x 806 x 999	94.92 x 31.74 x 39.33	With sides	51	PRA1924TPL1	PRA1924THL1
PNC24811B	2411 x 806 x 1099	94.92 x 31.74 x 43.27	With sides	51	PRA1924TPL1	PRA1924THL1
PNC24812B	2411 x 806 x 1199	94.92 x 31.74 x 47.20	With sides	51	PRA1924TPL1	PRA1924THL1



Cable Fill Rate for Front Vertical Cable Manager-Each Side @ 60% Fill

Cabinet Width	Cross Section Area	5E [.22-in. Diameter]	6 [.25-in. Diameter]	6A [.30-in. Diameter]
700 mm	17.24 in. <sup>2</sup>	272	210	146
800 mm	34.48 in. <sup>2</sup>	544	421	293



## PROLINE™ NETWORK SWITCH CABINET



### INDUSTRY STANDARDS

EIA 310-D

### APPLICATION

PROLINE™ Network Switch cabinet is a pre-engineered solution for the thermal and cable management needs of large data center network core switches. It is designed to meet Cisco 6509, 6513, 7009 and 7018 Series network switch requirements in data centers with a hot aisle/cold aisle cabinet layout. (For other Cisco switch models, contact Hoffman for cabinet applications.) Cabinet provides for both patch cords and permanent link cables with support from vertical to horizontal transitions.

### FEATURES

- **Meets all CISCO 6509, 6513, 7009 and 7018 Series network switch installation and operational requirements**
- Integrated right-to-left airflow ducting ensures core switch is supplied with air from cold aisle
- Front door has keyed multi-point vault-style latch system and central key lock to ensure security
- Split overlapping rear doors provide quick access to equipment without blocking aisles ( 7009 and 7018 Series have split front and rear doors)
- Front vertical cable manager has integral hinged doors to house, protect and provide attractive appearance

- Front cable manager uses arrowhead support fingers to support and ensure proper bend radius, provide increased cable capacity and facilitate assembly
- Available standard with sides or without for use in ganged applications
- Top-mount sliding gland plate provides large opening for cables, pre-terminated cable bundles and patch panels
- Open base allows under floor cable entry
- Network core switch shelf located at bottom of cabinet (2 RU on 65089/6513 Series; 0 RU on 7018 Series)

#### **6509 and 6513 Series only:**

- Attractive, rigid front door made of aluminum extrusions and formed perforated steel, with more than 70 percent open space for free flow of cool air to equipment
- Rear upper-mounted 4 RU equipment mounting angles provide for PDUs, fiber-to-copper transition, splitter equipment and other 19-in. rack-mounted equipment
- Rear horizontal and vertical cable management provide support and transition of permanent link cables

### SPECIFICATIONS

- Switch shelf is included with cabinet
- Front set of 19-in. mounting rails are tapped (10-32) per EIA standards
- Top and sides are formed steel
- Sides secured with fasteners

### FINISH

RAL 9005 black textured, low-gloss polyester powder paint over pretreated steel.

### LOAD RATING

**6509 and 6513 Series switch shelf static load rating 500 lb. (227 kg).**

**7009 and 7018 Series switch shelf static load rating 1000 lb. (454 kg).**

**Static Load Rating: 2500 lb. (1134 kg)**

A cabinet has a static load when:

- it is in its final, permanent, fully secured location, and
- its load is uniformly applied to the two sets of rack-mounting angles

**Never move a cabinet with its maximum static load applied.**

Contact Hoffman if further information is needed.

### BULLETIN: DPVD



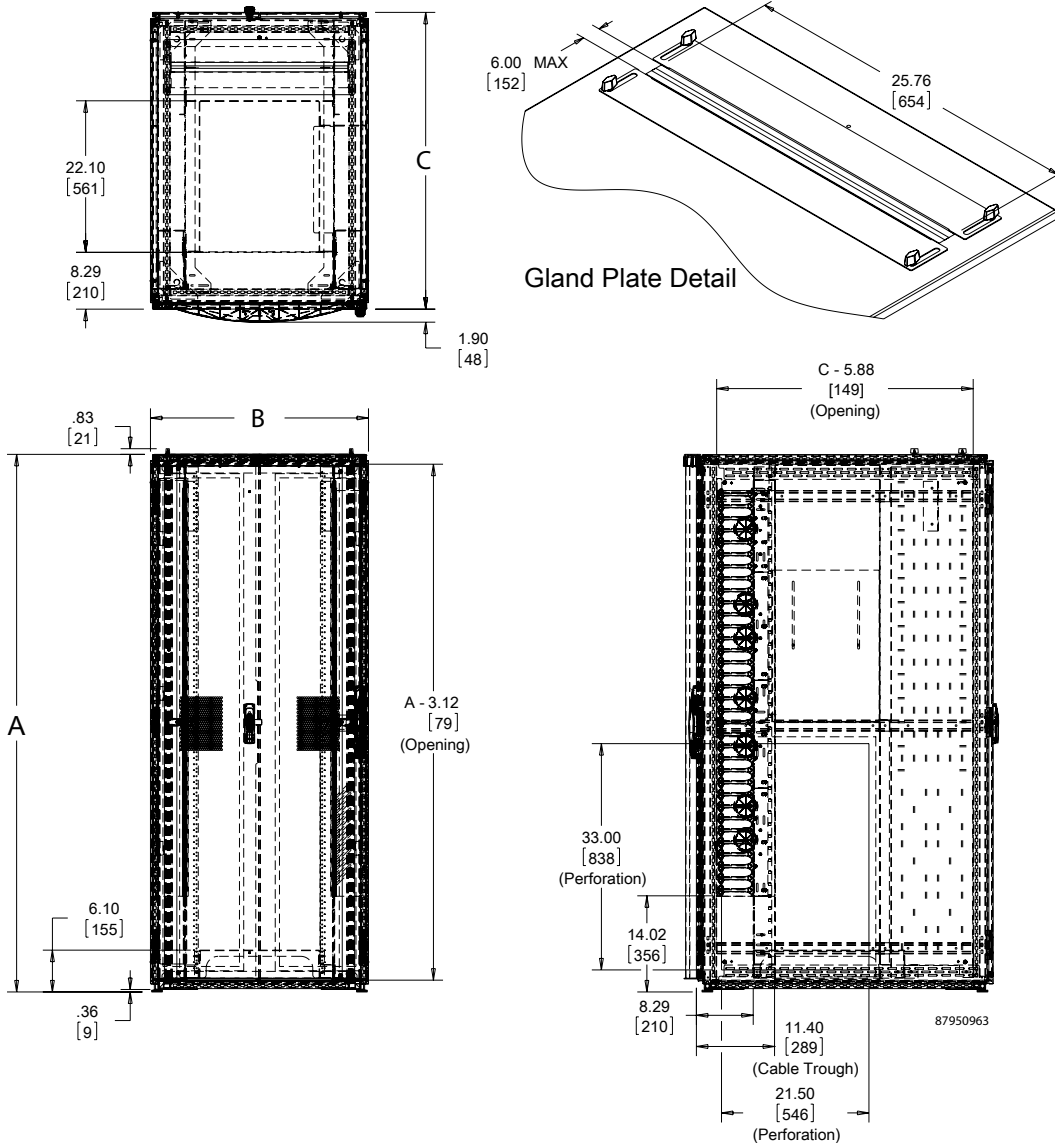
Standard Product **6509** and **6513** Series

Catalog Number	AxBxC mm	AxBxC in.	Description
PNS20810B	1991 x 808 x 999	78.37 x 31.80 x 39.34	Switch Cabinet
PNS20810BNS	1991 x 799 x 999	78.37 x 31.46 x 39.34	Switch Cabinet, no sides
PNS20811B	1991 x 808 x 1099	78.37 x 31.80 x 43.28	Switch Cabinet
PNS20811BNS	1991 x 799 x 1099	78.37 x 31.46 x 43.28	Switch Cabinet, no sides
PNS20812B	1991 x 808 x 1199	78.37 x 31.80 x 47.22	Switch Cabinet
PNS20812BNS	1991 x 799 x 1199	78.37 x 31.46 x 47.22	Switch Cabinet, no sides
PNS21810B	2161 x 806 x 999	85.08 x 31.74 x 39.33	Switch Cabinet
PNS21811B	2161 x 806 x 1099	85.08 x 31.74 x 43.27	Switch Cabinet
PNS21812B	2161 x 806 x 1199	85.08 x 31.74 x 47.20	Switch Cabinet
PNS24810B	2411 x 806 x 999	94.92 x 31.74 x 39.33	Switch Cabinet
PNS24811B	2411 x 806 x 1099	94.92 x 31.74 x 43.27	Switch Cabinet
PNS24812B	2411 x 806 x 1199	94.92 x 31.74 x 47.20	Switch Cabinet

Cable Fill Rate for Front Vertical Cable Manager-Each Side @ 60% Fill (6509 and 6513 Series)

Cabinet Width	Cross Section Area	5E .22-in. Diameter	6 .25-in. Diameter	6A .30-in. Diameter
800 mm	34.48 in. <sup>2</sup>	631	488	339

6509/6513 Series



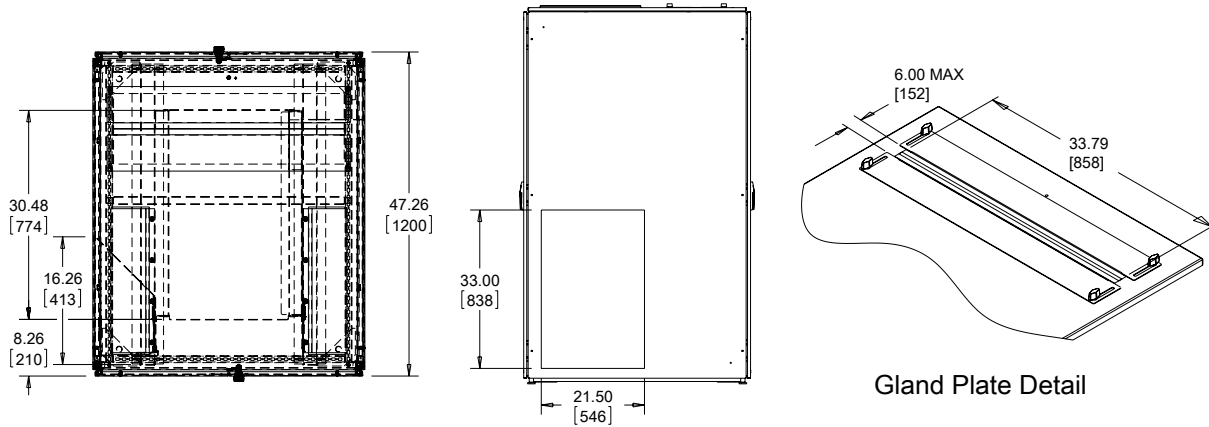
## Standard Product 7009 and 7018 Series

Catalog Number	mm	in.	Description
PNS201012B	1991 x 1008 x 1199	78.39 x 39.69 x 47.20	Switch Cabinet
PNS201012BNS	1991 x 999 x 1199	78.39 x 39.33 x 47.20	Switch Cabinet, no sides
PNS211012B	2161 x 1006 x 1199	85.08 x 39.62 x 47.20	Switch Cabinet
PNS241012B	2411 x 1006 x 1199	94.92 x 39.62 x 47.20	Switch Cabinet

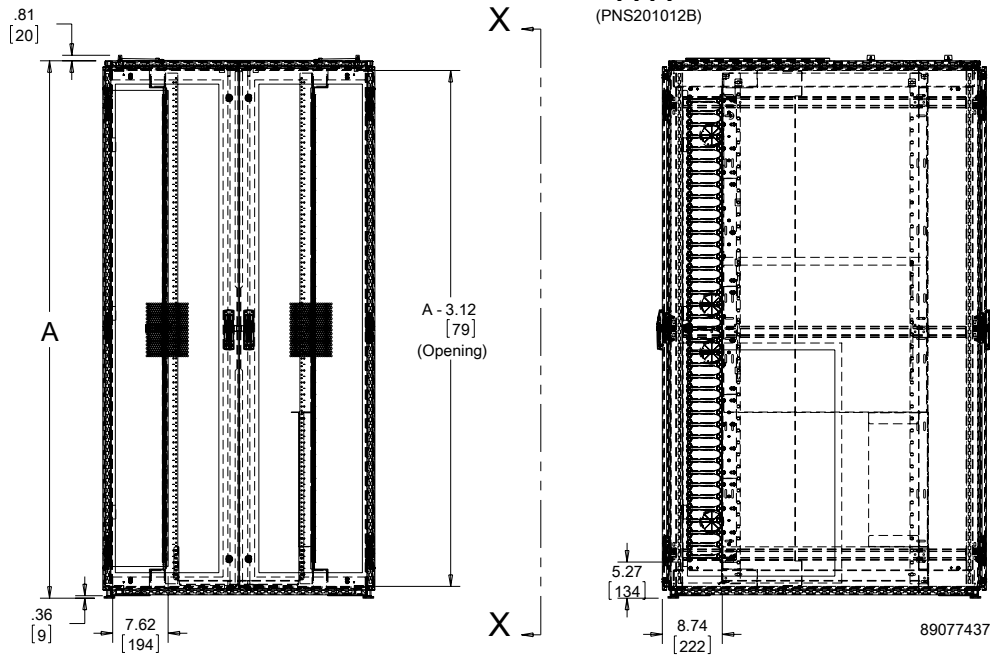
## Cable Fill Rate for Front Vertical Cable Manager-Each Side @ 60% Fill (7009 and 7018 Series)

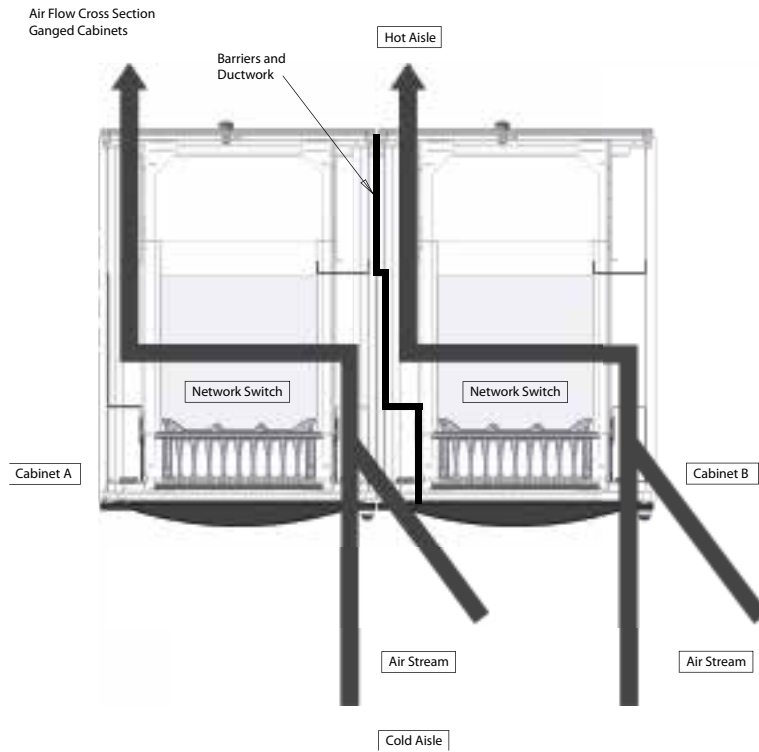
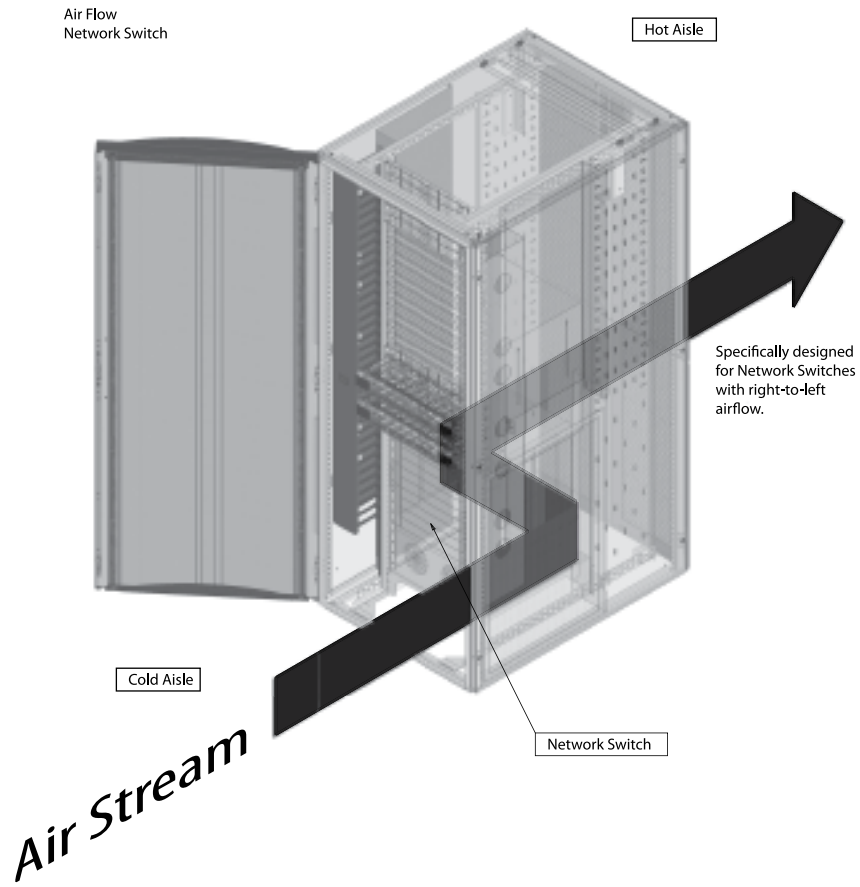
Cabinet Width	Cross Section Area	5E .22-in. Diameter	6 .25-in. Diameter	6A .30-in. Diameter
1000 mm	34.48 in. <sup>2</sup>	1736	1344	933

## 7009/7018 Series



Gland Plate Detail





## 6509 and 6513 Series

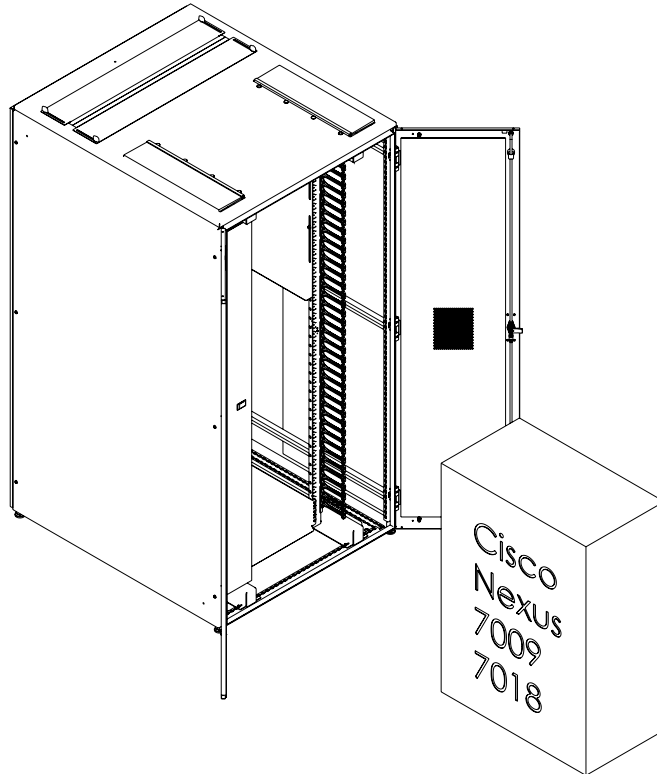
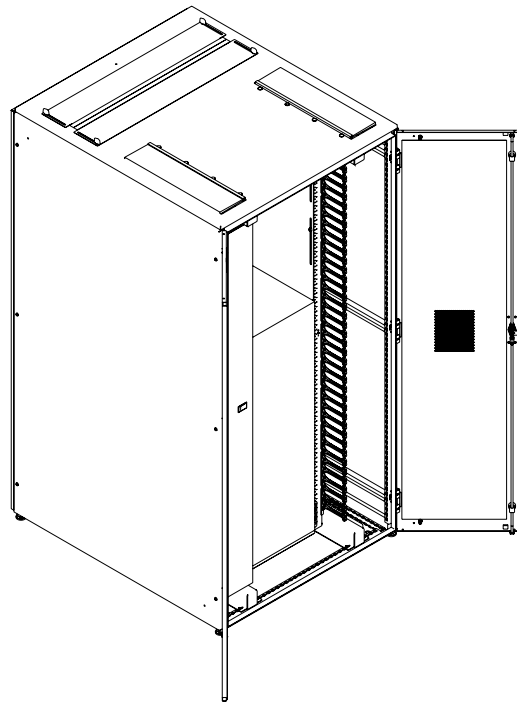
Front View



Rear View



7009/7018 Series



89078595

**PROLINE™ VOICE/DATA AND SERVER CABINET, TYPE 12**



**INDUSTRY STANDARDS**

EIA RS-310-D

UL 508A Listed; Type 12; File Number E61997  
 cUL Listed per CSA C22.2 No 94; Type 12; File Number E61997

NEMA/EEMAC, Type 12

**APPLICATION**

Robustly built and sealed for use in wet, dusty or hot environments, PROLINE™ Type 12 Cabinets have optional cutouts to air condition voice/data equipment and servers.

**FEATURES**

- Three-point locking handles on all doors provide easy but controlled access; two keys included
- Fully welded frame safely supports sensitive equipment
- Fully gasketed to keep contaminants away from equipment, reducing maintenance costs
- Two sets of 19-in. rack angles support both front and rear of equipment
- Rack angles are infinitely adjustable from front to rear for positioning flexibility
- Mobile base provides easy placement of cabinet
- Levelers and anti-tip bracket secure cabinet to the floor

**SPECIFICATIONS**

- Welded 12 gauge steel frame with integral struts
- Front window door made of 16 or 14 gauge steel with safety glass window
- Solid 16 or 14 gauge steel back door
- Standard package has solid 16 or 14 gauge steel sides
- AC package has cutout for easy in-the-field installation of any CR29 Series Air Conditioner (shipped separately)
- Models available with EIA Universal standard 3/8-in. square or 10-32 tapped holes
- Mobile base includes casters, levelers and gland plate
- Gland plate allows easy routing of cable

**FINISH**

Pretreated steel coated with RAL 9005 black or RAL 7035 light-gray textured, low-gloss polyester powder paint. Other finishes available—contact Hoffman Customer Service.

**LOAD RATING**

**Static Load Rating: 2500 lb. (1134 kg)**

A cabinet has a static load when:

- it is in its final, permanent, fully secured location
- its levelers are fully extended
- the anti-tip bracket is installed
- its load is uniformly applied to the two sets of rack-mounting angles, and
- the casters are not supporting any load (use the casters only to move the cabinet to its final location before loading)

**Never move a cabinet with its maximum static load applied.**

Contact Hoffman if further information is needed.

**Casters Maximum Load: 1000 lb. (453 kg)**

Exercise care when using casters to move the cabinet. Do not use casters to move a cabinet with more than 1000 lb. (453 kg) load.

Avoid tipping and damage to the cabinet and its contents by slowly moving the cabinet on its casters across smooth, flat flooring. Avoid obstructions such as:

- large cracks
- floor displacement
- seams
- gravel

**Never use casters while transporting a cabinet by truck on roadways.**

Contact Hoffman if further information is needed.

**ACCESSORIES**

See the Package Components table and, for AC-Ready Cabinet, CR29 air conditioner specifications in the Thermal chapter. Air conditioner will be shipped separately. It cannot be factory installed.

**BULLETIN: DPC, DPSR**

Standard Product

Catalog Number	AxBxC mm	AxBxC in.	Cabinet, Package Type	Finish	Rack Units	Hole Type	Rack Angle
PDCP2078B12	2085 x 708 x 799	82.10 x 27.87 x 31.46	Voice Data, Standard	DataCom Black	42	Tapped	PRA1920TPL1
PDCP2078G12	2085 x 708 x 799	82.10 x 27.87 x 31.46	Voice Data, Standard	PROLINE Gray	42	Tapped	PRA1920TPL1
PSC20610B12	2085 x 608 x 999	82.10 x 23.94 x 39.34	Server, Standard	DataCom Black	42	Square	PRA1920THL1
PSC20610G12	2085 x 608 x 999	82.10 x 23.94 x 39.34	Server, Standard	PROLINE Gray	42	Square	PRA1920THL1
PDCP2078BAC	2085 x 708 x 799	82.10 x 27.87 x 31.46	Voice Data, AC Ready	DataCom Black	42	Tapped	PRA1920TPL1
PDCP2078GAC	2085 x 708 x 799	82.10 x 27.87 x 31.46	Voice Data, AC Ready	PROLINE Gray	42	Tapped	PRA1920TPL1
PSC20610BAC	2085 x 608 x 999	82.10 x 23.94 x 39.34	Server, AC Ready	DataCom Black	42	Square	PRA1920THL1
PSC20610GAC	2085 x 608 x 999	82.10 x 23.94 x 39.34	Server, AC Ready	PROLINE Gray	42	Square	PRA1920THL1

**AC Ready PROLINE Cabinet**

	BTUs	Watts
AC-Ready PROLINE Cabinet	2200/4000	650/1172

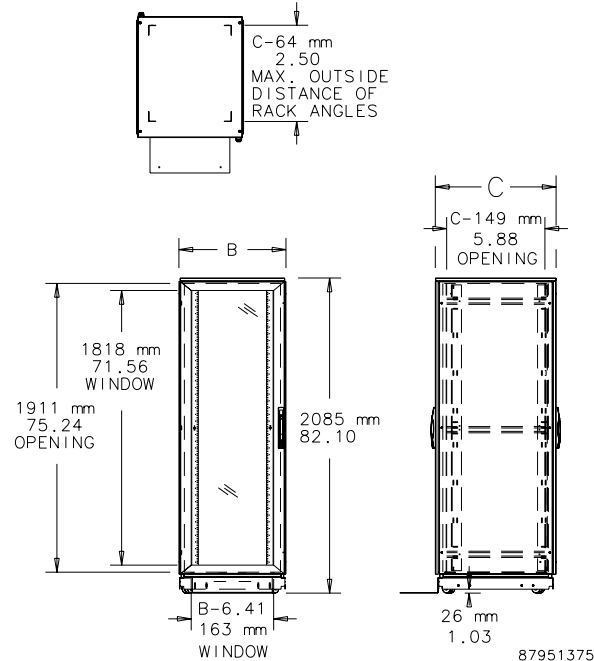
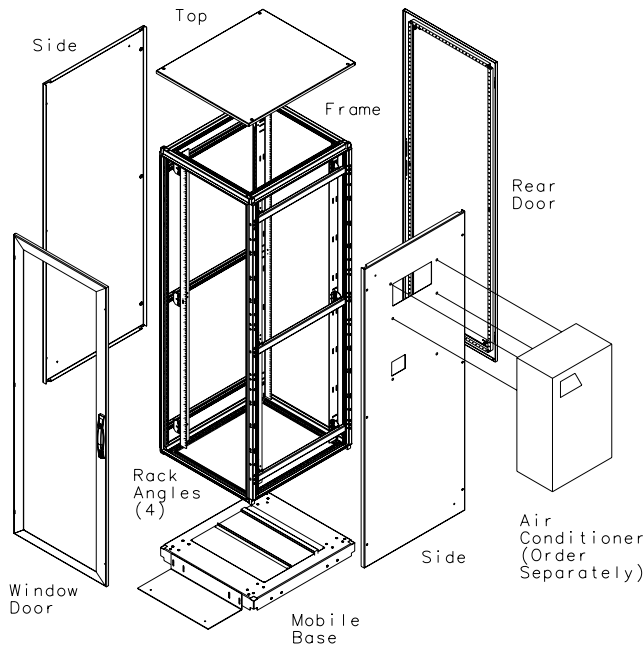
For other AC sizes, contact Hoffman.

See Air Conditioner Sizing and CR Mid-Size Air Conditioners for details.



Package Components

Catalog Number	mm	in.	Description	Finish
PFD2078B	2000 x 700 x 800	78.70 x 27.60 x 31.50	Frame	Black
PFD2078G	2000 x 700 x 800	78.70 x 27.60 x 31.50	Frame	Gray
PFD20610B	2000 x 600 x 1000	78.70 x 23.60 x 39.40	Frame	Black
PFD20610G	2000 x 600 x 1000	78.70 x 23.60 x 39.40	Frame	Gray
PDWG206B	2000 x 600	78.70 x 23.60	Window Doors	Black
PDWG206G	2000 x 600	78.70 x 23.60	Window Doors	Gray
PDWG207B	2000 x 700	78.70 x 27.60	Window Doors	Black
PDWG207G	2000 x 700	78.70 x 27.60	Window Doors </td <td>Gray</td>	Gray
PDS206B	2000 x 600	78.70 x 23.60	Solid Doors	Black
PDS206G	2000 x 600	78.70 x 23.60	Solid Doors	Gray
PDS207B	2000 x 700	78.70 x 27.60	Solid Doors	Black
PDS207G	2000 x 700	78.70 x 27.60	Solid Doors	Gray
PSS208B	2000 x 800	78.74 x 31.50	Solid Sides	Black
PSS208G	2000 x 800	78.74 x 31.50	Solid Sides	Gray
PSS2010B	2000 x 1000	78.74 x 39.37	Solid Sides	Black
PSS2010G	2000 x 1000	78.74 x 39.37	Solid Sides	Gray
PSS208ACB	2000 x 800	78.74 x 31.50	Sides with AC Cutout	Black
PSS208ACG	2000 x 800	78.74 x 31.50	Sides with AC Cutout	Gray
PSS2010ACB	2000 x 1000	78.74 x 39.37	Sides with AC Cutout	Black
PSS2010ACG	2000 x 1000	78.74 x 39.37	Sides with AC Cutout	Gray
PT78B	700 x 800	27.56 x 31.50	Top	Black
PT78G	700 x 800	27.56 x 31.50	Top	Gray
PT610B	600 x 1000	23.62 x 39.37	Top	Black
PT610G	600 x 1000	23.62 x 39.37	Top	Gray
PBMG78B	700 x 800	27.60 x 31.50	Mobile Base	Black
PBMG610B	600 x 1000	23.60 x 39.37	Mobile Base	Black



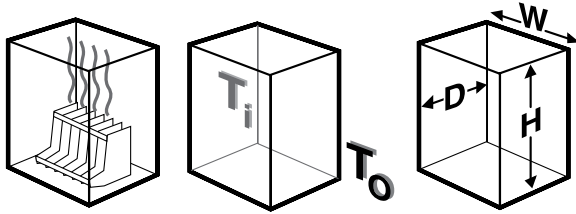
COOLING PRODUCT SELECTION APP



Prod. Select

Designed to assist you in determining the most suitable choices of air conditioners, heat exchangers or fans for your application. Download a free copy of our selection software by visiting our web site: [pentairprotect.com](http://pentairprotect.com).

## AIR CONDITIONER SIZING



Air conditioners are appropriate for applications in which:

- The temperature inside the enclosure must be maintained at or below ambient temperature.
- Humidity must be removed from the enclosure.
- Ambient air contaminants must be kept out of the enclosure.

The following air conditioner sizing procedure applies to uninsulated, sealed and gasketed enclosures in indoor locations.

### Step 1. Determine the internal heat load in watts (W)

Add the maximum heat output specifications for all equipment to be installed in cabinet.

Conversion: 1 W = 3.413 BTU/hr.

### Step 2. Determine the desired temperature difference ( $\Delta T$ ) between the ambient temperature and the temperature inside the cabinet

Subtract the desired maximum temperature inside the cabinet ( $T_i$ ) from the maximum expected temperature ( $T_o$ ) outside the cabinet.

$$T_o - T_i = \Delta T$$

Conversion: 1 K or C  $\Delta T$  = 1.8 F  $\Delta T$

### Step 3. Determine the exposed surface area of the cabinet in square feet.

Use the following formula to determine area when H, W and D are the cabinet dimensions in inches.

$$2[(H \times W) + (H \times D) + (W \times D)] \div 144 = \text{Area (ft.}^2\text{)}$$

Conversion: If dimensions are in millimeters, substitute 1,000,000 for 144. Then multiply the result by 10.76 to convert from m<sup>2</sup> to ft.<sup>2</sup>

### Step 4. Determine the air conditioner capacity required

Use the following formula:

$$(\text{Watts} \times 3.413) + [(1.25 \times \text{Area in ft.}^2) \times \Delta T \text{ in F}] = \text{BTU/hr.}$$

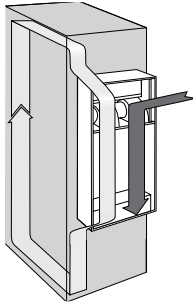
Required air conditioner capacity in BTU/hr.

Use this formula to determine the required cooling capacity needed to maintain the desired operating temperature for your enclosure. This selection procedure applies to uninsulated, sealed, gasketed enclosures in indoor locations.

All industrial air conditioners are rated at their maximum operating point. Operating an air conditioner at temperatures below maximum conditions will result in reduced cooling capacity. In other words, operating 95 F ambient and 95 F enclosure temperature results in a 10 percent to 20 percent reduction in the rated capacity.

*Full cooling capacity is probably not necessary at lower ambient temperatures.*

**CR MID-SIZE AIR CONDITIONERS**



**⚠ WARNING**

Secure cabinet to the floor prior to installing air conditioner. Otherwise, the cabinet will tip over when air conditioner is installed.

**INDUSTRY STANDARDS**

UL/cUL Listed; File No. SA6453

CE  
Maintains UL/cUL Type 12 rating when properly installed on a UL/cUL Type 12 rated enclosure.

**APPLICATION**

These air conditioners fit in the AC cutout provided in the AC-ready Voice/Data and Server Cabinet Packages. The air conditioners are shipped separately; they cannot be factory installed in the cabinets.

**Closed Loop Cooling**

Recirculated air inside the air conditioner is kept separate from the ambient airflow system. This protects the electronic controls and prevents shutdowns caused by heat, humidity, dust and other contaminants.

**FEATURES**

- Thermostat control and EMI/RFI noise suppressor included
- Closed-loop cooling separates clean, recirculated air from ambient airflow system
- Front cover hinges open for quick access to all components
- Filter can be inverted to double operating time between cleanings and/or filter replacement
- Filterless operation possible in many applications
- For a typical application, unique condensate management system evaporates moisture from enclosure
- High performance fans and blowers are ideal for densely packed enclosures
- All units use a universally accepted CFC-free or environmentally safe refrigerant
- Mounting hardware, gasket kit, mounting template and instruction manual furnished

**FINISH**

RAL 7035 light-gray polyester powder paint

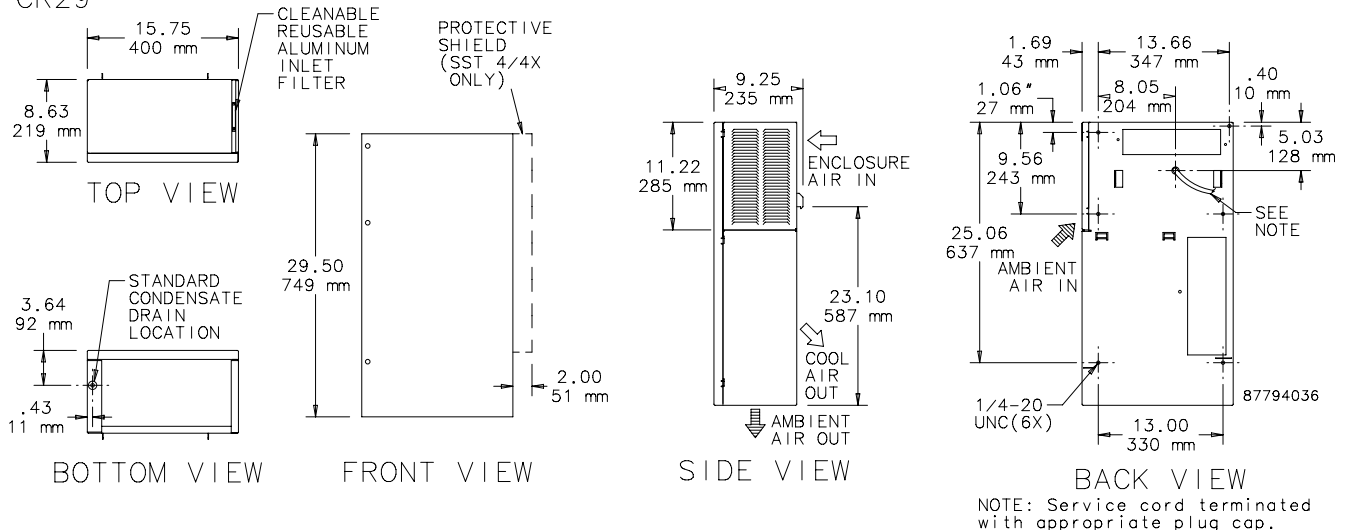
**BULLETIN: MCL**

Standard Product

Catalog Number	AxBxC in./mm	Voltage	Hz	Phase	BTU/Hr. @ 131 F/131 F <sup>a</sup>	Amps @ 131 F/131 F	BTU/Hr. @ 95 F/95 F <sup>a</sup>	Amps @ 95 F/95 F	Max Amb. Temp. (F/C)	Ship Wt. (lb./kg)
CR290216G002	29.50 x 15.75 x 8.63 749 x 400 x 219	115	50/60	1	2000/2200	7.4/7.4	1700/2000	7.0/6.0	131/55	98/44
CR290226G002	29.50 x 15.75 x 8.63 749 x 400 x 219	230	50/60	1	2500/2700	4.6/3.9	1900/2300	4.4/3.3	131/55	98/44
CR290416G002	29.50 x 15.75 x 8.63 749 x 400 x 219	115	50/60	1	3500/4000	13.5/13.5	2400/2800	10.7/9.6	131/55	118/54
CR290426G002	29.50 x 15.75 x 8.63 749 x 400 x 219	230	50/60	1	3500/4000	6.7/6.6	2400/2800	5.9/5.3	131/55	118/54

<sup>a</sup> Because air conditioners provide less cooling at lower operating temperatures, two cooling capacity ratings are provided.

CR29



**PROLINE™ VOICE/DATA AND SERVER CABINETS WITH FAN AND FILTER PACKAGE, TYPE 1**



**FEATURES**

- Three-point locking handles on all doors provide easy but controlled access; two keys included
- Fully welded frame safely supports sensitive equipment
- Gasketed covers and air intake filters keep contaminants away from equipment, reducing maintenance cost
- Two sets of 19-in. rack angles support both front and rear of equipment
- Rack angles are infinitely adjustable from front to rear for positioning flexibility
- Fan and filter package provides up to 600 CFM of filtered air to help keep equipment cool
- Removable filters can be cleaned to maintain optimal performance
- Mobile base provides easy placement of cabinet
- Levelers and anti-tip bracket secure cabinet to the floor

**SPECIFICATIONS**

- Welded 12 gauge steel frame with integral struts
- Front window door made of 16 or 14 gauge steel with safety glass window
- Solid 16 or 14 gauge steel back door
- Solid 16 or 14 gauge steel sides with factory-installed intake filters
- Pagoda top has 115 V fan with 6 ft. (1.8 m) cord. Fan capacity is 600 CFM (16.99 cubic meters/minute).
- Models available with EIA Universal standard 3/8-in. square or 10-32 tapped holes
- Mobile base includes casters, levelers and gland plate
- Gland plate allows easy routing of cable

**FINISH**

Pretreated steel coated with RAL 9005 black or RAL 7035 light gray textured, low-gloss polyester powder paint. Other finishes available—contact Hoffman Customer Service.

**LOAD RATING**

**Static Load Rating: 2500 lb. (1134 kg)**

A cabinet has a static load when:

- it is in its final, permanent, fully secured location
- its levelers are fully extended
- the anti-tip bracket is installed
- its load is uniformly applied to the two sets of rack-mounting angles, and
- the casters are not supporting any load (use the casters only to move the cabinet to its final location before loading)

**Never move a cabinet with its maximum static load applied.** Contact Hoffman if further information is needed.

**Casters Maximum Load: 1000 lb. (453 kg)**

Exercise care when using casters to move the cabinet. Do not use casters to move a cabinet with more than 1000 lb. (453 kg) load.

Avoid tipping and damage to the cabinet and its contents by slowly moving the cabinet on its casters across smooth, flat flooring. Avoid obstructions such as:

- large cracks
- floor displacement
- seams
- gravel

**Never use casters while transporting a cabinet by truck on roadways.**

Contact Hoffman if further information is needed.

**BULLETIN: DPC, DPSR**

**INDUSTRY STANDARDS**

EIA RS-310-D

UL508A Listed; Type 1; File No. E61997  
cUL Listed per CSA C22.2 No 94; Type 1; File No. E61997

**APPLICATION**

PROLINE™ Voice/Data Server Cabinets are ideal for factory floors, warehouses and other remote locations that require filtration of ambient air to protect network equipment.

**THERMAL PERFORMANCE**

The thermal performance table is based on:

- Clean intake filters
- Pagoda top fan running at 600 CFM (17 cubic meters/minute)
- Equipment spaced to allow airflow (reduces “hot spot” potential)

*Actual performance may vary depending on equipment layout.*

Standard Product

Catalog Number	AxBxC mm	AxBxC in.	Cabinet Type	Finish	Rack Units	Rack Angle	Hole Type
PDCP2078BFP	2203 x 708 x 799	86.74 x 27.87 x 31.46	Voice/Data	Black	42	PRA1920TPL1	Tapped
PDCP2078GFP	2203 x 708 x 799	86.74 x 27.87 x 31.46	Voice/Data	Light Gray	42	PRA1920TPL1	Tapped
PSC20610BFP	2203 x 608 x 999	86.74 x 23.94 x 39.34	Server	Black	42	PRA1920THL1	Square
PSC20610GFP	2203 x 608 x 999	86.74 x 23.94 x 39.34	Server	Light Gray	42	PRA1920THL1	Square

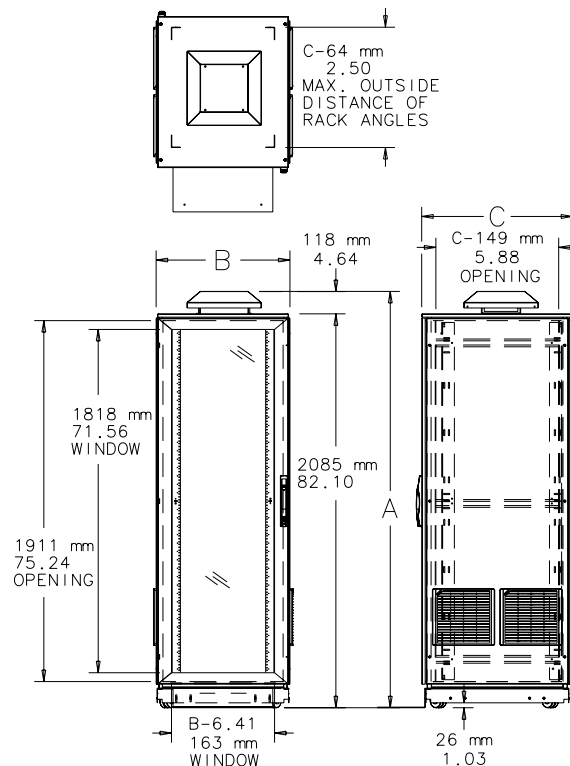
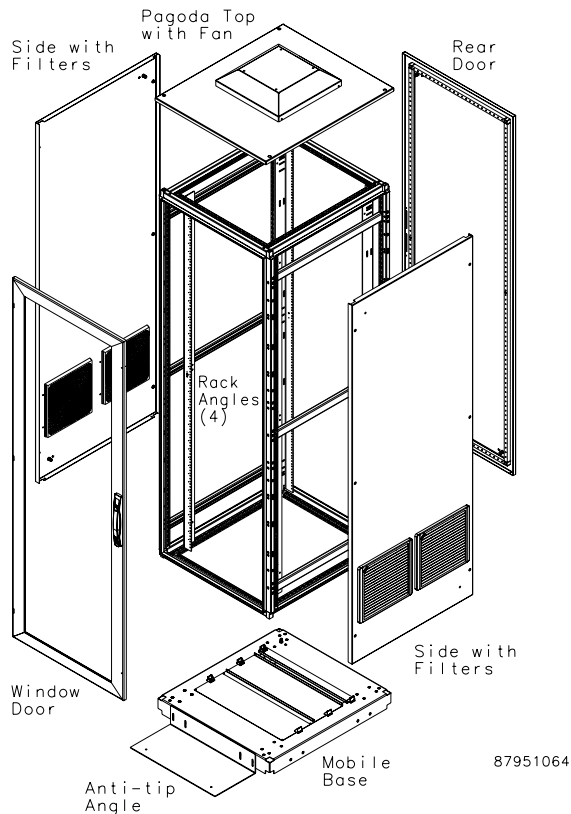
Replacement filters AFLTR10 (5 filters)

Package Components

Catalog Number	AxBxC mm	AxBxC in.	Description	Finish
PFD2078B	2000 x 700 x 800	78.70 x 27.60 x 31.50	Frame	Black
PFD2078G	2000 x 700 x 800	78.70 x 27.60 x 31.50	Frame	Gray
PFD20610B	2000 x 600 x 1000	78.70 x 23.60 x 39.40	Frame	Black
PFD20610G	2000 x 600 x 1000	78.70 x 23.60 x 39.40	Frame	Gray
PDWG206B	2000 x 600	78.70 x 23.60	Window Door	Black
PDWG206G	2000 x 600	78.70 x 23.60	Window Door	Gray
PDWG207B	2000 x 700	78.70 x 27.60	Window Door	Black
PDWG207G	2000 x 700	78.70 x 27.60	Window Door	Gray
PDS206B	2000 x 600	78.70 x 23.60	Solid Door	Black
PDS206G	2000 x 600	78.70 x 23.60	Solid Door	Gray
PDS207B	2000 x 700	78.70 x 27.60	Solid Door	Black
PDS207G	2000 x 700	78.70 x 27.60	Solid Door	Gray
PSS208FPB	2000 x 800	78.70 x 31.50	Sides	Black
PSS208FPG	2000 x 800	78.70 x 31.50	Sides	Gray
PSS2010FPB	2000 x 1000	78.70 x 39.37	Sides	Black
PSS2010FPG	2000 x 1000	78.70 x 39.37	Sides	Gray
PPTHP78B	700 x 800	27.60 x 31.50	Top	Black
PPTHP78G	700 x 800	27.60 x 31.50	Top	Gray
PPTHP610B	600 x 1000	23.60 x 39.37	Top	Black
PPTHP610G	600 x 1000	23.60 x 39.37	Top	Gray
PBMG78B	700 x 800	27.60 x 31.50	Mobile Base	Black
PBMG610B	600 x 1000	23.60 x 39.37	Mobile Base	Black

Cooling Capacity vs. Intake Temperature

Intake Air Temperature (°F)	Intake Air Temperature (°C)	Cooling Capacity (W)
70	21	3,500
76	24	3,000
80	27	2,000
85	29	1,500
Above 85	Above 29	Not recommended



**HOW TO DISSIPATE EXCESS HEAT (WATTS) - UNDERSTANDING ΔT AND CFM**

$$\text{Watts} = .316 \times \text{CFM} \times \Delta T \quad \text{or} \quad \text{CFM} = \text{Watts} / (.316 \times \Delta T)$$

*Factors in this equation will need to be de-rated for high elevations.*

**Watts:** The heat load that network equipment needs to dissipate. Power coming into the cabinet equals the amount of heat load produced. "Power In = Heat Load Out." Alternatively, the heat load of a cabinet can be derived by measuring the Power being delivered to the network equipment directly via a Watt meter or by measuring the current in amps and multiplying by applied voltage.

**CFM:** The amount of airflow that is used to dissipate the heat produced by the network equipment. It is measured in CFM or "Cubic Feet per Minute." The more CFM the greater amount of heat that is removed or dissipated. On passive systems, the amount of CFM needed at the cold aisle for the intakes is the sum of all the network equipment (servers) installed in the cabinet and equals the total amount of CFM that is exhausted. "CFM in = CFM Out"

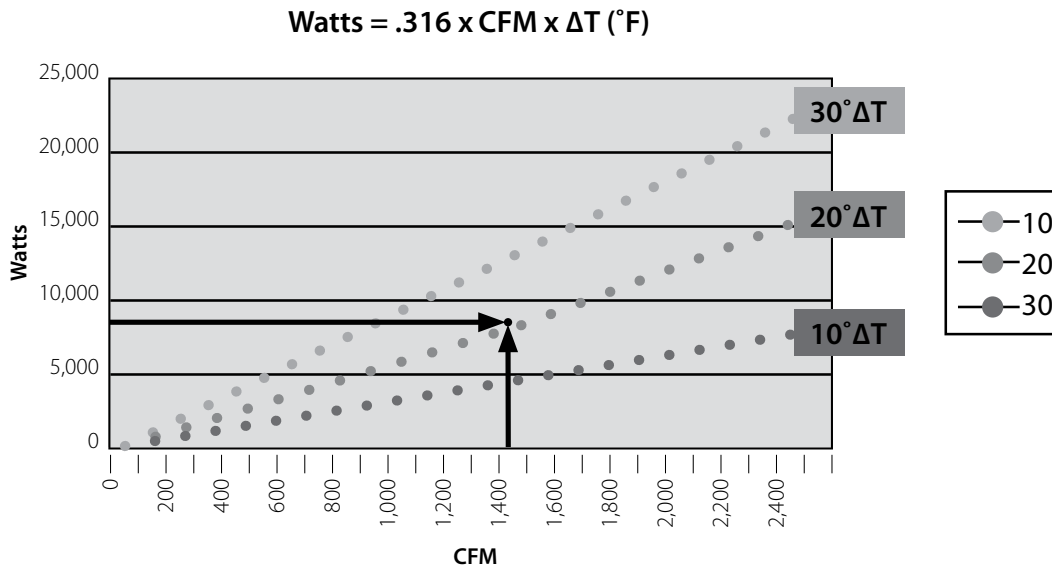
**ΔT:** Delta T is the air temperature difference between the network intakes and the exhaust or the difference between the temperatures of the Cold Aisle and the Hot Aisle. It represents the amount of heat that is carried away by the airstream (CFM). It is measured in °F for the equation stated above. A ΔT between 10 F and 30 F is typical for network equipment and data centers.

- By knowing any two factors, the other can easily be obtained.
- The Cold Aisle must always provide enough CFM to the intakes of the network equipment to avoid overheating.

Graphic Representation:  $\text{Watts} = .316 \times \text{CFM} \times \Delta T$  (°F)

**Example:**

9164 Watts will need 1450 CFM at 20 F ΔT:  $9164 = .316 \times 1450 \times 20$



## Notes



**PROLINE™-CL COLOCATION SERVER CABINET**



**INDUSTRY STANDARDS**  
EIA 310-D

Standard Product

Catalog Number	AxBxC mm/in.	No. of Compartments	Rack Units
PCLC2069B	1991 x 608 x 898 78.39 x 23.94 x 35.34	1	42
PCL2C2069B	1991 x 608 x 898 78.39 x 23.94 x 35.34	2	20

**APPLICATION**

PROLINE™ -CL Colocation Cabinets are designed for secure data centers that store computer equipment for multiple customers. Standard components allow cabinets to be configured with up to four separate, secure compartments that can be reconfigured on-site as needs change. Each compartment has its own front and back access and is passively cooled by virtue of the overall cabinet design.

**FEATURES**

- Doors have locking trigger latch for easy access plus security
- Integral floor bolt-down brackets provide quick, secure installation
- Cable entry and fan mounting provision on top and two access panels on right side facilitate mounting and wiring equipment
- Usable cabinet depth is 660 mm ( 26 in.)

**Dual compartment pre-assembled package also includes:**

- Colocation frame shelf to divide the frame into two secure compartments
- Cable management system to isolate the wiring to each compartment
- Optional compact cooling fan

**SPECIFICATIONS**

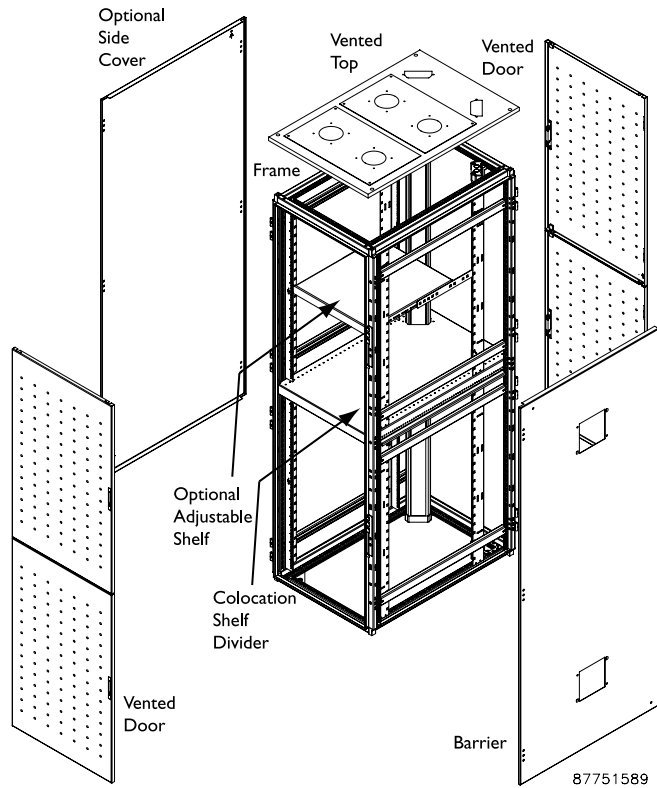
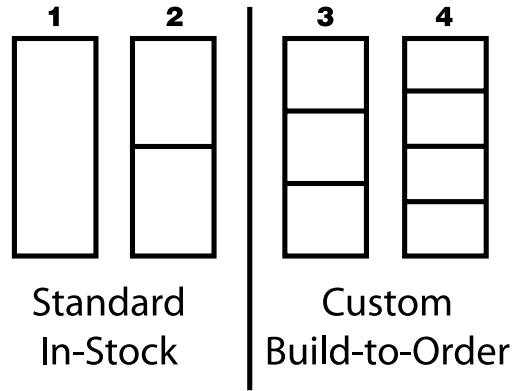
- Welded 12 gauge steel frame
- 19-in. adjustable square hole, L-shaped rack angles front and rear
- Square holes spaced per EIA 310-D standards
- Front and rear vented 16 gauge steel door
- Optional 16 gauge vented window door with acrylic window
- Vented 16 gauge steel top
- 16 gauge right side barrier with two access plates

**FINISH**

Pretreated steel coated with RAL 9005 black textured, low-gloss polyester powder paint. Other finishes available—contact Hoffman Customer Service.

**BULLETIN: DPSR**





**SIDES FOR COLOCATION CABINET PACKAGES**

Order two sides for each row of cabinets for a secure, finished appearance. Order barriers to go between cabinets. Sides are finished with RAL 9005 fine-textured black polyester powder paint.

**BULLETIN: DPC**

Catalog Number	AxB in./mm	Type	Fits Frame H x D	Nominal Height x Depth	Nominal H x W in./mm
PS209VB	78.74 x 35.43 2000 x 900	Vented	2000 x 900	1939 x 853	76.34 x 33.60
PS2010VB	78.74 x 39.37 2000 x 1000	Vented	2000 x 1000	1939 x 953	76.34 x 37.54
PBCL209B	78.74 x 35.43 2000 x 900	Barrier	2000 x 900	1939 x 853	76.34 x 33.60
PBCL2010B	78.74 x 39.37 2000 x 1000	Barrier	2000 x 1000	1939 x 953	76.34 x 37.54

### COLOCATION CABINET FRAMES

Colocation cabinet frames are available in two sizes.

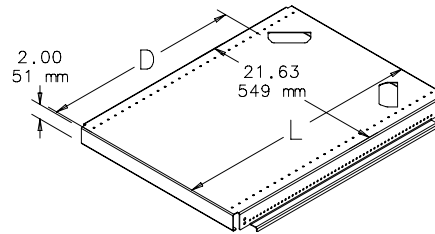
BULLETIN: DPC

Catalog Number	AxBxC in./mm
PF2069CLB	78.74 x 23.62 x 35.43 2000 x 600 x 900
PF20610CLB	78.74 x 23.62 x 39.37 2000 x 600 x 1000

### COLOCATION DIVIDER SHELF

Provides a barrier that maintains security between compartments in colocation applications. Made of 14 gauge steel. Provides mounting surface for adjustable L-shaped rack angles. RAL 9005 black textured polyester paint finish. Load rating is 150 lb. (68 kg).

BULLETIN: DPC



87793590

Catalog Number	AxB in./mm	L mm/in.	D mm/in.	Fits PROLINE Enclosure Size mm/in.
PFSHCL69B	23.62 x 35.43 600 x 900	842 33.14	680 26.77	600 x 900 (23.62 x 36.43)
PFSHCL610B	23.62 x 39.37 600 x 1000	942 37.08	780 30.75	600 x 1000 (23.62 x 39.37)

### COLOCATION POWER CABLE AND DATA CABLE WAY



Cable ways provide a means for distributing power or data connections to each compartment in an isolated fashion. Non-metallic light-gray composite material. Both kits include cable runway with cover and two end caps with cable knockouts. Power Cable Way Kit also includes four dual category 5 RJ45 connectors and cover plates.

BULLETIN: DPC

Catalog Number	Type	Connectors	Length
PCLCMP	Power	6 duplex outlet boxes with covers	2000
PCLCMD	Data	4 dual category 5 RJ45 connectors and cover plates	2000

## COLOCATION CABINET EXTERNAL COMPONENTS

Colocation cabinet external options include vented doors, with and without a window, vented tops and sides, a barrier side, a locking latch kit, a cooling fan and a fan finger guard.

BULLETIN: D85, DPC

### PROLINE-CL Colocation Cabinet Vented Doors

Catalog Number	AxB in./mm	Door Type	Fits Frame H x W	Nominal H x W mm/in.
PD206VB	78.74 x 23.62 2000 x 600	Full	2000 x 600	1939 x 592 76.34 x 23.30
PD206V2B	78.74 x 23.62 2000 x 600	1/2	2000 x 600	967 x 592 38.08 x 23.30
PD206V3B	78.74 x 23.62 2000 x 600	1/3	2000 x 600	643 x 592 25.32 x 23.30
PD206V4B	78.74 x 23.62 2000 x 600	1/4	2000 x 600	481 x 592 18.94 x 23.30

## COLOCATION CABINET INTERNAL COMPONENTS

Available colocation cabinet internal components customize the enclosure.

BULLETIN: DPC

### PROLINE-CL Colocation Cabinet Vented Window Doors

Catalog Number	AxB in./mm	Door Type	Fits Frame H x W	Nominal H x W mm/in.	Window H x W mm/in.
PDW206VB	78.74 x 23.62 2000 x 600	Full	2000 x 600	1939 x 592 76.34 x 23.30	1805 x 370 71.08 x 14.55
PDW206V2B	78.74 x 23.62 2000 x 600	1/2	2000 x 600	967 x 592 38.08 x 23.30	833 x 370 32.81 x 14.55
PDW206V3B	78.74 x 23.62 2000 x 600	1/3	2000 x 600	643 x 592 25.32 x 23.30	509 x 370 20.06 x 14.55
PDW206V4B	78.74 x 23.62 2000 x 600	1/4	2000 x 600	481 x 592 18.94 x 23.30	347 x 370 13.68 x 14.55

### PROLINE-CL Colocation Cabinet Vented Top

Catalog Number	AxB in./mm	Fits Frame Top W x D	Nominal W x D mm/in.
PTCL69B	23.62 x 35.43 600 x 900	600 x 900	592 x 899 23.30 x 35.39
PTCL610B	23.62 x 39.37 600 x 1000	600 x 1000	592 x 999 23.30 x 39.32

### Locking Latch, Fan and Finger Guard

Catalog Number	AxB in./mm	Description	Includes
PTKLDC	0.00	Individually Keyed Locking Latch Set, fits all DataCom doors	Two latches and two keys
A4AXFNPG	0.00	4-in. Compact Cooling Fan, 115V, 50/60 Hz	One finger guard and power cord
AGARD4	0.00	Finger Guard	Use on 4-in. Compact Cooling Fan

### L-Shaped, Square Hole Rack Angles

Catalog Number	Door Style	Height mm/in.	Fits Frame Height mm/in.	Rack Units
PRA1920THL1	Full	1905 75.00	2000 78.74	42
PRA1920THL2	1/2	914 36.00	2000 78.74	20
PRA1920THL3	1/3	594 23.38	2000 78.74	13
PRA1920THL4	1/4	419 16.50	2000 78.74	9



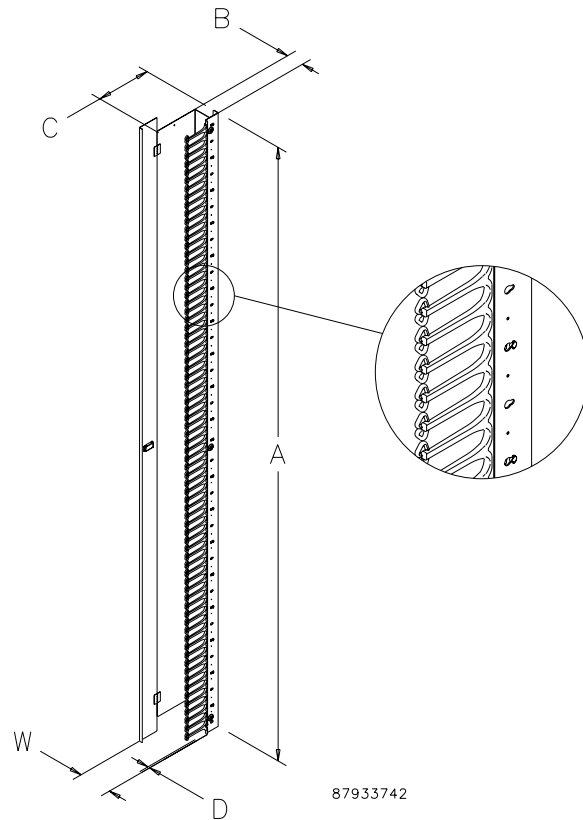
## PROLINE™ CABLETEK™ VERTICAL CABLE MANAGER



For routing and bundling cable inside 700- and 800-mm wide PROLINE™ cabinets. Variety of sizes provide mounting flexibility. Mounts between frame and rack angle so equipment can be centered or aligned on one side. Replaces reducing brackets that bridge space between cabinet and equipment and allows front-to-back adjustment of rack angles. Latching hinged door on front conceals wiring yet allows easy access. Movable plastic spools or fingers help manage cables. 14 and 16 gauge steel with RAL 9005 black polyester powder paint finish.

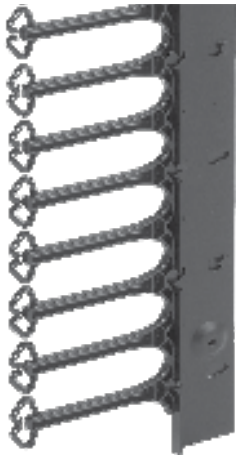
BULLETIN: DPY

Catalog Number	AxBxC mm/in.	D mm/in.	W mm/in.	Fits Cabinet Height
PVF127	1067 x 50 x 222	13	85	1200
	42.02 x 1.97 x 8.75	.50	3.36	
PVF128	1067 x 100 x 222	13	135	1200
	42.02 x 3.94 x 8.75	.50	5.33	
PVF207	1867 x 50 x 222	13	85	2000
	73.52 x 1.97 x 8.75	.50	3.36	
PVF208	1867 x 100 x 222	13	135	2000
	73.52 x 3.94 x 8.75	.50	5.33	



87933742

## PROLINE™ CABLETEK™ REDUCING BRACKETS



Fingers separate, support and manage cable. Bracket mounts on either left or right side of 700- and 800-mm cabinets between the frame and the rack angle to create vertical wiring space. Bracket has RAL 9005 black polyester powder paint finish. Fingers are molded black plastic. Mounting hardware included.

*NOTE: Refer to the table to calculate the number of reducing brackets required.*

BULLETIN: DPY

Catalog Number	Height mm/in.	Width mm/in.	Fits Cabinet Height mm/in.
PRBF125	1091	50	1200
	42.97	1.91	
PRBF1210	1091	100	1200
	42.97	3.88	
PRBF205	1892	50	2000
	74.47	1.91	
PRBF2010	1892	100	2000
	74.47	3.88	

### Number of reducing brackets required to accommodate 19- and 23-in. equipment in different cabinet widths

Nominal Bracket Width	No. of Reducing Brackets (19 in. equipment)	No. of Reducing Brackets (23 in. equipment)
50	2	—
50	—	700
	—	800
100	1	—
100	2	700
	2	800

Support finger reducing brackets required to accommodate 19-in. and 23-in. equipment in different cabinet widths.

### PROLINE™ TIE-DOWN REDUCING BRACKET



Provides convenient tie down for vertical or horizontal cable management. Allows front-to-back cable pass through. Supports optional D-Rings and wire management spools. Bracket mounts on either left or right side of 700- and 800-mm cabinets between the frame and the rack angle to create vertical wiring space. Bracket

has RAL 9005 black polyester powder paint finish. Mounting hardware and 10 VELCRO® Cable Wraps included.  
*NOTE: Refer to the table to calculate the number of reducing brackets required.*

VELCRO is a trademark of VELCRO Industries B.V.

**BULLETIN: DPY**

Catalog Number	Height mm/in.	Width mm/in.	Fits Cabinet Height mm/in.
PRBTD125	1091 42.97	50 1.91	1200
PRBTD1210	1091 42.97	100 3.88	1200
PRBTD205	1892 74.47	50 1.91	2000
PRBTD2010	1892 74.47	100 3.88	2000

Number of reducing brackets required to accommodate 19- and 23-in. equipment in different cabinet widths

Nominal Bracket Width	No. of Brackets (19 in. equipment)	No. of Brackets (23 in. equipment)
50	2	—
700	—	2
800	—	2
100	1	—
700	—	1
800	—	1

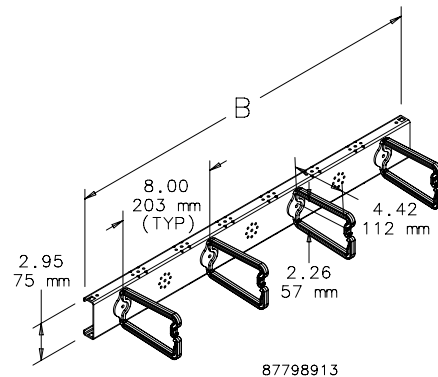
### FRONT-TO-BACK D-RING BRACKET

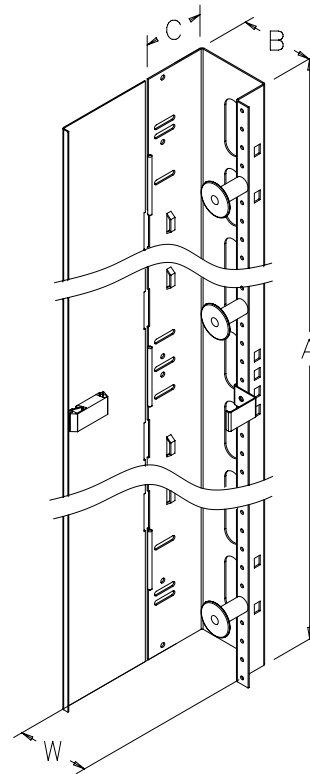


Manages cable routed between front and back of cabinet. Can be used with optional Universal D-Ring Brackets or Transition Brackets for increased flexibility in managing cables. Mounts to PROLINE frame. Secures cable with D-Rings that snap open and closed for secure routing with easy access for wiring changes. D-Rings can be oriented for vertical, front-to-back or side-to-side cable management. RAL 9005 black polyester paint finish. Includes D-Rings and mounting hardware.

**BULLETIN: DPY**

Catalog Number	Number of D-Rings	B mm/in.	Fits Enclosure Depth mm/in.
PFBDR8	3	640 25.20	800 31.50
PFBDR9	3	740 29.13	900 35.43
PFBDR10	4	840 33.07	1000 39.37
PFBDR11	5	940 37.01	1100 43.31
PFBDR12	5	1040 40.95	1200 47.24



**VERTICAL CABLE MANAGER FOR 700- AND 800-MM WIDE CABINETS**


87565219

For routing and bundling cable inside 700- and 800-mm wide PROLINE™ cabinets. Variety of sizes provides mounting flexibility. Mounts between frame and rack angle so equipment can be centered or aligned on one side. Replaces reducing brackets that bridge space between cabinet and equipment and allows front-to-back adjustment of rack angles. Latching hinged door on front conceals wiring yet allows easy access. Movable plastic spools help manage cables. 14 and 16 gauge steel with RAL 9005 black polyester powder paint finish.

**BULLETIN: DPY**
**Standard Product**

Catalog Number	AxBxC mm	AxBxC in.	W (mm)	W (in.)	Fits Cabinet Height (mm)
PVCM167	1467 x 50 x 98	57.77 x 1.97 x 3.87	85	3.36	1600
PVCM168	1467 x 100 x 98	57.77 x 3.94 x 3.87	135	5.33	1600
PVCM187	1690 x 50 x 98	66.52 x 1.97 x 3.87	85	3.36	1800
PVCM188	1690 x 100 x 98	66.52 x 3.94 x 3.87	135	5.33	1800
PVCM207	1867 x 50 x 98	73.52 x 1.97 x 3.87	85	3.36	2000
PVCM208	1867 x 100 x 98	73.52 x 3.94 x 3.87	135	5.33	2000
PVCM227	2090 x 50 x 98	82.27 x 1.97 x 3.87	85	3.36	2200
PVCM228	2090 x 100 x 98	82.27 x 3.94 x 3.87	135	5.33	2200
PVCMX127	1067 x 50 x 159	42.02 x 1.97 x 6.27	85	3.36	1200/2200
PVCMX128	1067 x 100 x 159	42.02 x 3.94 x 6.27	135	5.33	1200/2200
PVCMX207	1867 x 50 x 159	73.52 x 1.97 x 6.27	85	3.36	2000
PVCMX208	1867 x 100 x 159	73.52 x 3.94 x 6.27	135	5.33	2000

Use the "Cable Managers by Width" table to determine the number of cable managers required for different combinations of cable manager, cabinet and equipment widths.

**Cable Manager by Width**

Cable Manager Width (B) (mm)	Cabinet Width (mm)	No. of Cable Managers (19 in. equipment)	No. of Cable Managers (23 in. equipment)
50	700	2	—
50	800	—	2
100	700	1	—
100	800	2	1

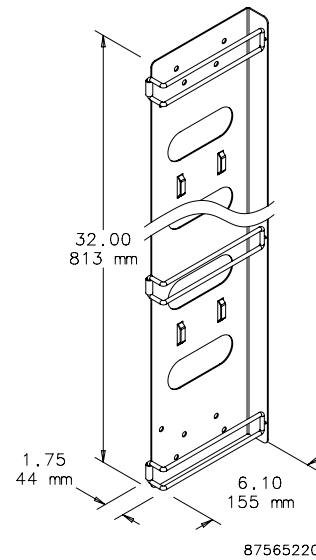
### VERTICAL CABLE MANAGER I



For routing and bundling cable inside cabinets. Stack two units for full vertical runway on 1800-mm or taller enclosures. Wireform gate hinges open to ease wire routing. Mounts to grid strap or frame in front of rack angles. Narrow profile does not interfere with 19-in. equipment in 600-mm wide enclosures. 16 gauge steel with RAL 9005 black polyester powder paint finish.

BULLETIN: DPY

Catalog Number	Description
PVCM1	Vertical Cable Manager 1



### VERTICAL TIE-DOWN CABLE MANAGER

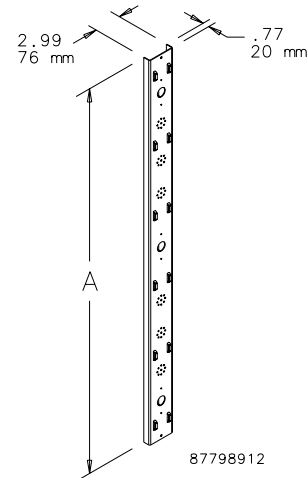


This one-piece cable manager provides mounting holes for D-Rings, spools, universal transition brackets and other accessories (order separately). RAL 9005 black polyester powder paint finish. Includes hardware for mounting to strut and 10 VELCRO® Cable Wraps for fastening cable.

VELCRO is a trademark of VELCRO Industries B.V.

BULLETIN: DPY

Catalog Number	A mm/in.	Fits Cabinet Height mm/in.
PVCMTD12	1091 42.97	1200
PVCMTD20	1892 74.47	2000



### UNIVERSAL POWER STRIP BRACKET

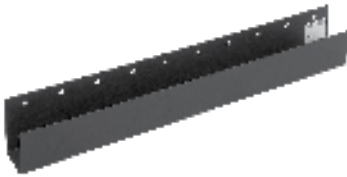


This bracket fits in the corner of the frame of all PROLINE™ cabinets and facilitates mounting a variety of power strips.

BULLETIN: DPY

Catalog Number	Description
EPDUBK	Universal Power Strip Bracket fits all PROLINE cabinets

## HORIZONTAL CABLE TROUGH

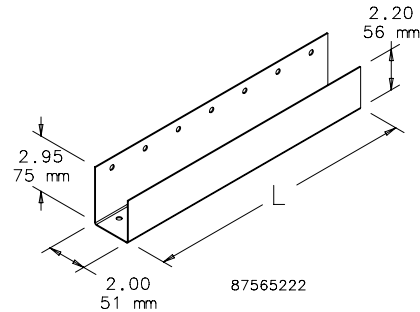


For routing cable front-to-back in a server or data cabinet. Mounts to side or top of 1- or 3-row grid strap. Can also mount directly to mounting channels with APSM6CN Mounting Kit. Multiple units can be used together. 16 gauge steel with RAL 9005 black polyester powder paint finish.

**BULLETIN:** DPY

Catalog Number	Description	L (mm)	L (in.)
PHCT1	Horizontal Cable Trough	200	7.87
PHCT2	Horizontal Cable Trough	350	13.78
PHCT3	Horizontal Cable Trough	500	19.69
PHCT4	Horizontal Cable Trough	650	25.59

Order APSM6CN Mounting Kit separately for channel mounting.



## STRUT CABLE RINGS

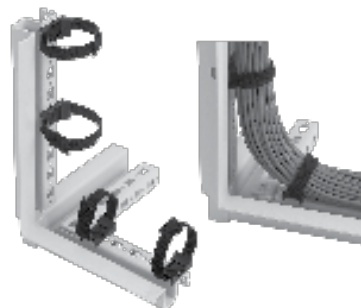


Cable Ring snaps into the strut for easy installation. Can be positioned vertically or horizontally. Ring snaps open and closed to easily position cables. It can be drawn down to snugly bundle cables. Made of durable black plastic. Easy to install and add cable at any time.

**BULLETIN:** DACCY

Catalog Number	Description	Adj. Range mm/in.	Capacity at Max. Size	Pkg. Qty.
ECM2S10	2-in. Strut Cable Ring	44-25 1.75-1.00	26 CAT 6 cables	10
ECM4S10	4-in. Strut Cable Ring	1224-64 3.75-2.50	120 CAT 6 cables	10

## FRAME TIE-DOWN BRACKET



The PROLINE™ Frame VELCRO® Tie-Down Bracket provides an easy means to secure and bundle cables using any of the frame's rectangular holes. The bracket can be positioned parallel or perpendicular to the frame and needs no tools to install—just push into any hole and twist to fasten. Proper bend radius is easily maintained with the flexible Velcro tie-down, plus it provides easy initial and future cable installations. Bracket is made of a durable plastic. Both tie-down and bracket are black.

*VELCRO is a trademark of VELCRO Industries B.V.*

**BULLETIN:** DPY

Catalog Number	Description	Capacity at Max. Size	Pkg. Qty.
PCMFTD10	10-in. Velcro™ tie downs	55 CAT 6 cables	10



**CABLE AND PDU MANAGER**



PROLINE™ combination vertical cable manager provides increased versatility for power and cable management for 2000-mm tall frames. Tool-less mounting with key hole slots accept many vertical PDUs (APC, Geist, etc.). Flush arrowhead cutouts provide convenient cable manager tie-down points. Hardware and ten VELCRO® cable wraps included. Finished with RAL 9005 black polyester powder finish.

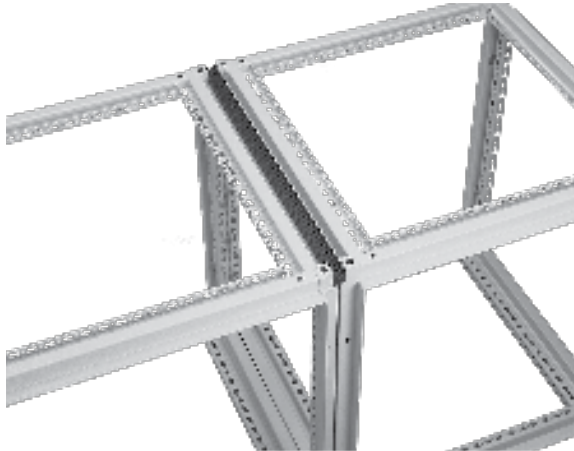
*VELCRO is a trademark of Velcro Industries B.V.*

**BULLETIN: DPY**

Catalog Number	AxBxC mm/in.	Fits Height
PVCPM20	1892 x 76 x 19	2000 mm
	74.47 x 3.00 x 0.75	



**FRAME JOINING KITS** **AUTO**



Permits joining two enclosure frames while maintaining an environmental seal.

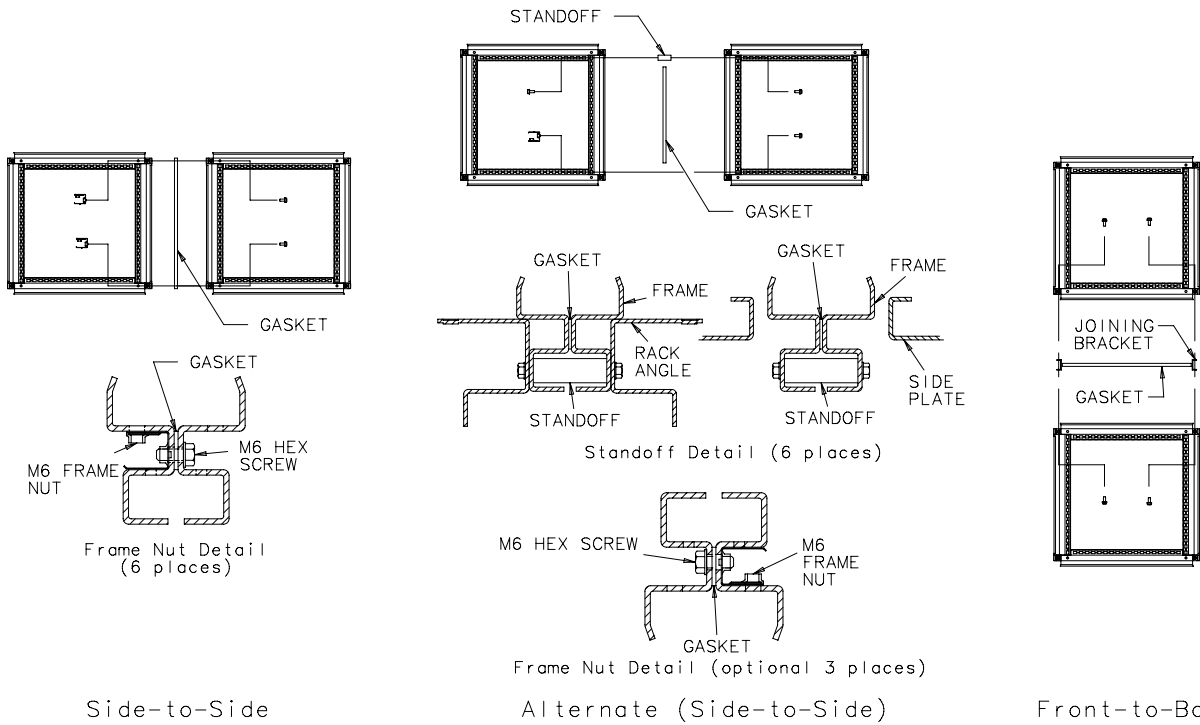
**Side-to-Side Joining Kit** consists of six frame nuts and screws, as well as gasket material to maintain a dust-tight and water-tight seal between ganged frames. Can be used if rack angles are not in the front or rearmost positions or if a subpanel is not in the rearmost position.

**Alternate Joining Kit** consists of three standoffs, six frame nuts and screws, as well as gasket material. This kit facilitates frame joining when rack angles are in the front or rearmost position, or if a subpanel is in the rearmost position.

**Front-to-Back Joining Kit** permits front-to-back joining of two single-bay enclosures. This kit does not fit 1200-mm or 1600-mm wide frames.

**BULLETIN: P20, P20EM**

Catalog Number	Description
PJ2F	Standard Frame Joining, Side-to-Side
PJ2FD	Standard Frame Joining, Side-to-Side, Non-gasketed
PJ2FHF2	EMC Standard Frame Joining, Side-to-Side
PJ2FF	Alternate Frame Joining, Side-to-Side
PJ2FBF	Frame Joining, Front-to-Back



**L JOINING BRACKET** **AUTO**



The L Joining Bracket, made of 10 gauge steel, is used in conjunction with the standard joining kit as additional support. Pictured hardware is included.

**BULLETIN: P20**

Catalog Number	Description
PJB2F	L Joining Bracket

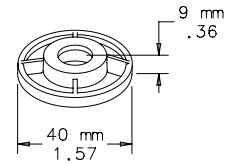
**FRAME FEET** **A-T-O**



Four die-cast feet for use on the bottom of PROLINE™ frames that raise the frame 9 mm.

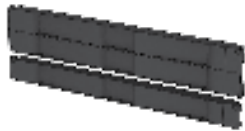
BULLETIN: P20

Catalog Number	Description
PFFM12	Frame Feet



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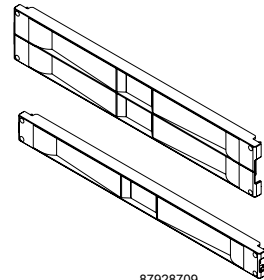
**TOOL-LESS (SNAP-IN) BLANKING PANELS FOR 19-IN. RACKS**



These Tool-less 19-in. Blanking Panels provide easy tool-less installation and ensure proper airflow to equipment. Made of black composite material and can be used with tapped or square EIA universal spaced rack mounting angles.

BULLETIN: DACCY

Catalog Number	Description	Rack Units	Fits	Pkg. Qty.
D19BPT1RU	Blanking Panel, 19 in.	1	19 in., universal rack spacing, tapped or square holes	10
D19BPT2RU	Blanking Panel, 19 in.	2	19 in., universal rack spacing, tapped or square holes	10



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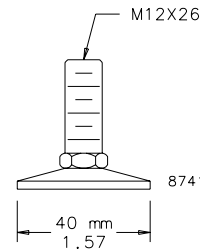
**LEVELERS** **A-T-O**



Four post-type levelers allow adjustment for uneven floors. Levelers can be attached to the bottom of a frame or to a 0-mm solid base. Levelers are plated and the leveler base is capped with plastic to provide resistance to marring. Adjustable for 17-mm to 35-mm height. Ball and socket construction. Four levelers will support a maximum of 453.6 kg (1000 lb.).

BULLETIN: P20

Catalog Number	Description
PLM12	Post-type Levelers



87415118

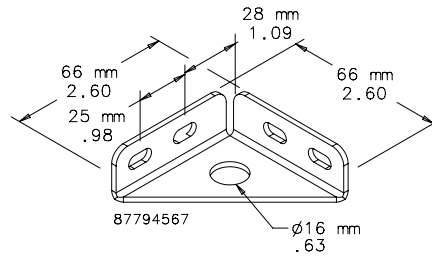
## PROLINE™ FRAME FLOOR-MOUNTING BRACKET



Provides a structural method of bolting a PROLINE™ frame to the floor. Fits all frame sizes. Made of 12 gauge steel with plated finish. Kit includes four brackets and mounting hardware. *Not for use on colocation frames, which include welded-in floor mounting brackets.*

BULLETIN: DPY

Catalog Number	Description
PFBK	PROLINE Frame Floor-Mounting Bracket



## GROUNDING BAR SYSTEM



### INDUSTRY STANDARDS

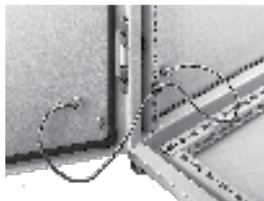
UL Component Recognized; File No. E61997

Three sizes of grounding bars and insulated mounting brackets are available. Bars are plated copper with M6 and M5 tapped holes to provide a common point for grounding equipment. Fits all enclosures if mounted vertically. See table for horizontal mounting.

BULLETIN: P20

Catalog Number	Description	Length mm/in.	Number of Holes and Screws M6	Number of Holes and Screws M5
PGS2K	Fits 400-mm deep frame front to back horizontally	200 / 7.87	3/5	10/10
PGS4K	Fits 600-mm deep frame front to back horizontally	400 / 15.75	9/11	20/20
PGS6K	Fits 800-mm deep frame front to back horizontally	600 / 23.62	15/17	30/31

## PROLINE™ GROUNDING KIT



The Grounding Kit allows a PROLINE™ enclosure to be grounded to VDE specifications. Includes six 12 gauge wires 411-mm (16.19-in.) long with ring terminations and M6 mounting hardware.

BULLETIN: P9

Catalog Number	Wire Size	Length Between Ring Terminals mm/in.	Ring Terminal Hole Diameter mm/in.
PGK	12 ga.	411 / 16.19	7 / .29

**CASTER KIT**



A set of four casters (two locking, two non-locking) that mount directly to the bottom of a PROLINE™ frame, 0-mm, or 100-mm Solid Base or a Console. **(Do not use on plinth bases.)** Casters elevate the enclosure 110 mm (4.33 in.) when installed. Caster frames are plated steel with ball-bearing pivots. Caster wheels are made of a black polyamide material. Kit includes M12 mounting hardware. Order separately.

**Casters Maximum Load: 1000 lb. (453 kg)**

Exercise care when using casters to move the cabinet. Avoid tipping and damage to the cabinet and its contents by slowly moving the cabinet on its casters across smooth, flat flooring. Avoid:

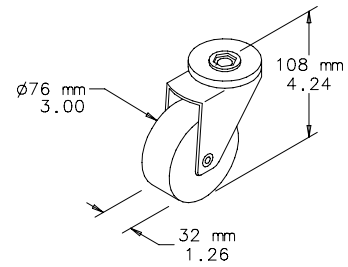
- large cracks
- floor displacement
- seams
- gravel
- any other obstruction

**Never use casters while transporting a cabinet by truck on roadways.**

Contact Hoffman if further information is needed.

BULLETIN: P20

Catalog Number	Description
PC1M12	Set of 4 Casters



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**SCREW PACKAGES**



Screw Packages are for mounting rack panels and equipment to rack angles.

BULLETIN: A80, DACCY, X20

Catalog Number	Color	Description	Pkg. Qty.
ES1224	Silver	12-24 x 5/8 in. combo head	20
ES1224250	Silver	12-24 x 5/8 in. combo head	250
ES1224B	Black	12-24 x 5/8in. combo head	20
ES1224B250	Black	12-24 x 5/8 in. combo head	250
ASM5	Silver	M5 x 20 mm Combo Head	20
ASM6	Silver	M6 x 16 mm combo head	20
ASM5T	Silver	M5 x 12 mm thread-forming Phillips hex head screws	20
ASM6250	Silver	M6 x 16 mm combo head	250
AS1032	Silver	10-32 x 5/8 in. combo head	20
AS1032250	Silver	10-32 x 5/8 in. combo head	250
AS1032B	Black	10-32 x 5/8 in. combo head	20

Use ASM5T on PROLINE™ frame or Net Series extruded holes.

**CAGE NUT PACKAGE**



Cage Nut Packages are for use with square-hole rack angles. Cage nuts are plated steel.

BULLETIN: DACCY

Catalog Number	Color	Description	Pkg. Qty.
PM5CN	Silver	M5 cage nut	20
PM6CN	Silver	M6 cage nut	20
PM6CN250	Silver	M6 cage nut	250
P1032CN	Silver	10-32 cage nut	20
P1032CN250	Silver	10-32 cage nut	250
P1224CN	Silver	12-24 cage nut	20
P1224CN250	Silver	12-24 cage nut	250

## MOUNTING CHANNEL



Side-to-Side

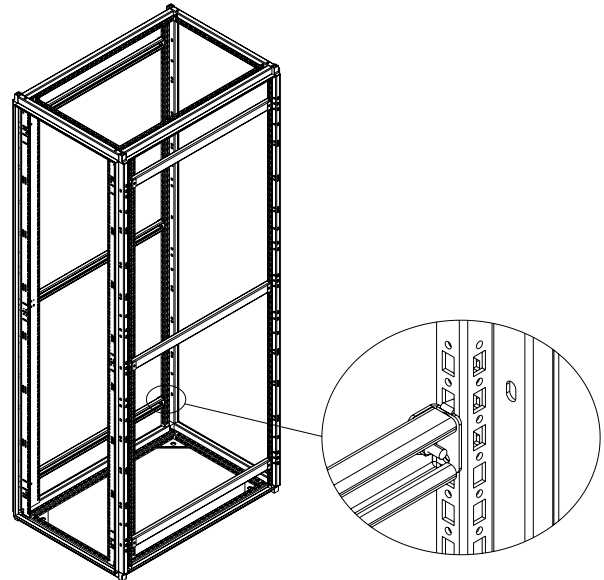
Vertical and Horizontal

Full Height

Allows rack angles and other accessories to be positioned at any depth within the cabinet. Rails mount front to back in PROLINE™ frame. 14 gauge steel with RAL 9005 black polyester powder paint finish. Includes two rails, mounting hardware and four M6 spring nuts for mounting accessories. Use hardware kit APSM6CN (package of 20 screws, washers and spring nuts) for mounting additional rack angles or other accessories to the mounting channels.

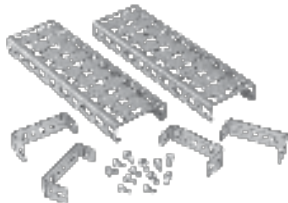
BULLETIN: DPY

Catalog Number	Description	Fits Frame Depth
PMU8B	Mounting Channel	800
PMU9B	Mounting Channel	900
PMU10B	Mounting Channel	1000
PMU11B	Mounting Channel	1100
PMU12B	Mounting Channel	1200
APSM6CN	Mounting Channel Hardware Kit	—



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## GRID STRAPS

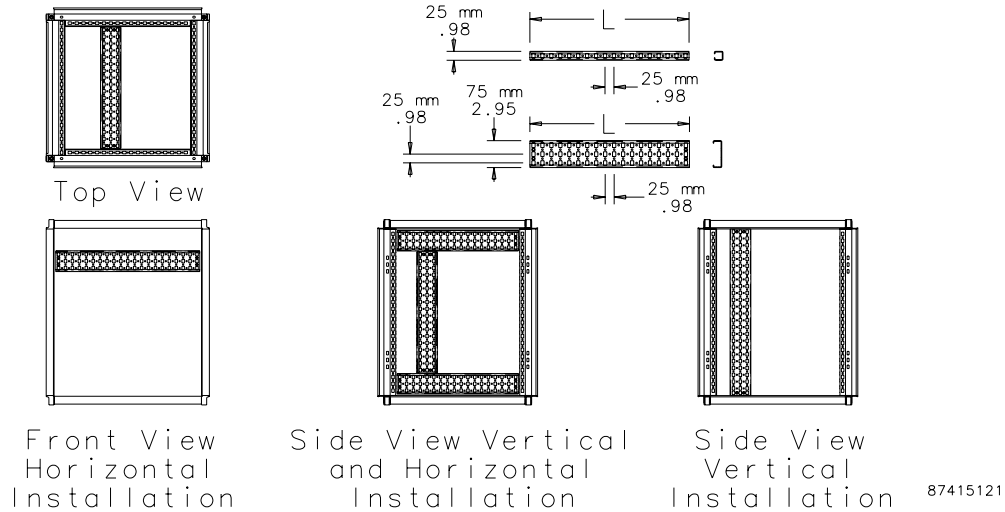


Grid Straps are 14 gauge plated steel. They are provided with specially designed rectangular holes to allow the use of cage nuts or front-loading cage nuts. Mounting holes are provided on 25-mm centers. Grid Straps are available with either 1 row or 3 rows of holes and are furnished in pairs. Mounting hardware to attach Grid Straps to the frame or to other Grid Straps is included.

- Can be mounted front-to-back horizontally across the bottom or sides of the PROLINE™ frame
- Can be mounted left-to-right horizontally between front-to-back pairs or from the sides of the PROLINE frame
- Can be mounted vertically between horizontally mounted Grid Straps

BULLETIN: DPY, P20

Catalog Number	AxB in.	AxB mm	Hole Pattern	L (mm)	L (in.)	Fits Frame Depth	Fits Frame Width
PGH1S5	13.46 x 0.98	342 x 25	One Row	342	13.46	500	—
PGH1S6	17.40 x 0.98	442 x 25	One Row	442	17.40	600	—
PGH1S7	21.34 x 0.98	542 x 25	One Row	542	21.34	700	600
PGH1S8	25.28 x 0.98	642 x 25	One Row	642	25.28	800	700
PGH1S9	29.21 x 0.98	742 x 25	One Row	742	29.21	900	800
PGH1S10	0.00	—	One Row	842	33.15	1000	900
PGH1S11	37.09 x 0.98	942 x 25	One Row	942	37.08	—	1000
PGH1S13	44.96 x 0.98	1142 x 25	One Row	1142	44.96	—	1200
PGH1S17	60.71 x 0.98	1542 x 25	One Row	1542	60.71	—	1600
PGH3S4	9.53 x 2.95	242 x 75	Three Row	242	9.53	400	—
PGH3S5	13.46 x 2.95	342 x 75	Three Row	342	13.46	500	—
PGH3S6	0.00	—	Three Row	442	17.40	600	—
PGH3S7	0.00	—	Three Row	542	21.34	700	600
PGH3S8	25.28 x 2.95	642 x 75	Three Row	642	25.28	800	700
PGH3S9	29.21 x 2.95	742 x 75	Three Row	742	29.21	900	800
PGH3S10	0.00	—	Three Row	842	33.15	1000	300
PGH3S11	37.09 x 2.95	942 x 75	Three Row	942	37.08	1100	1000
PGH3S12	0.00	—	Three Row	1242	48.89	1200	—
PGH3S13	44.96 x 2.95	1142 x 75	Three Row	1142	44.96	—	1200
PGH3S17	60.71 x 2.95	1542 x 75	Three Row	1542	60.71	—	1600



**FULL-HEIGHT VERTICAL GRID STRAPS**



Provide expanded vertical mounting positions. Made of plated steel. 25-mm spacing between mounting positions. Use cage nuts or front-loading cage nuts. Sold in pairs. Mounting hardware included.

**BULLETIN: P20**

Catalog Number	AxB in.	AxB mm	L (mm)	L (in.)	Fits Frame Height
PGH3S14V	50.98 x 2.95	1295 x 75	1295	50.98	1400
PGH3S16V	58.86 x 2.95	1495 x 75	1495	58.86	1600
PGH3S18V	66.73 x 2.95	1695 x 75	1695	66.73	1800
PGH3S20V	74.61 x 2.95	1895 x 75	1895	74.61	2000
PGH3S22V	82.48 x 2.95	2095 x 75	2095	82.48	2200

**PROLINE™ FASTENER PACKAGES**



Use to fasten components to the grid system. PGF Packages include 20 front-loading clip nuts (M6) and 20 combination-drive washer-head bolts (M6). Grounding Package is used with the rectangular holes in the PROLINE™ frame to provide electrical continuity between the frame and the grid system. ASM5T Package is used with PROLINE frames having round holes. Package includes 20 M5 self-tapping screws.

**BULLETIN: DACCY, P20**

Catalog Number	Description	Use in	Pkg. Qty.
ASM5T	M5 x 12 mm thread-forming Phillips hex head screws	Round holes	20
PGFM6	Standard Package - M6 cage nuts and bolts	Rectangular holes	20
PGFGM6	Grounding Package - M6 grounding cage nuts and bolts	Tapped holes	20

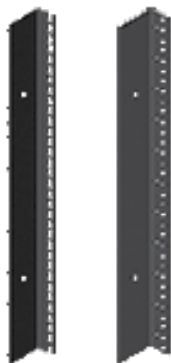
**PROLINE™ SIDE BARRIER PANELS**

Side barriers are used between frames to block airflow and provide security between ganged PROLINE™ cabinets. Barriers fasten to one frame and allow fasteners to secure adjoining frames. All hardware is provided. Finished with RAL 9005 black polyester powder paint.

**BULLETIN: DPY**

Catalog Number	AxBxC in./mm	Fits Frame Depth
PB209B	76.34 x 33.59 x 1.00 1939 x 853 x 25	900
PB2010B	76.34 x 37.52 x 1.00 1939 x 953 x 25	1000
PB2011B	76.34 x 41.46 x 1.00 1939 x 1053 x 25	1100
PB2012B	76.34 x 45.40 x 1.00 1939 x 1153 x 25	1200

## 19-IN. AND 23-IN. RACK ANGLES

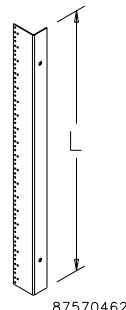


Made of 14 gauge steel with square holes or 12 gauge steel with 10-32 tapped holes. Provides 19-in. rack spacing when mounted in 600-mm wide frames, and 23-in. rack spacing when mounted in 700-mm wide frames. Use with frame reducing brackets to provide 19-in. or 23-in. spacing in 700-mm or 800-mm wide frames. Sizes available for multi-compartment colocation applications. Finish is black RAL 9005 polyester powder paint with flat finish. Furnished in pairs. The standard rack angle position is 44 mm behind the door opening.

Rack angles can be moved forward if desired. Deeper positions require the use of grid straps or mounting channels. For joining cabinets with rack angles in the full forward position, use Joining Kit PJ2FF. Shelves, drawer, guides and pull-out shelves require two sets of rack angles or frame accessory brackets installed in the frame.

For 700- and 800-mm wide cabinets, reducer or cable manager must be ordered.

**BULLETIN: DPC**



Catalog Number	AxBxC in.	AxBxC mm	Hole Type	Description (in.)	Use With	Fits Frame/Cabinet Height (mm)	Rack Units	Length (mm)	Length (in.)
PRA1912THL1	0.00		Square	19	PROLINE™ DataCom Packages	1200	24	1091	42.97
PRA1916TPL1	0.00		Tapped	19	PROLINE™ DataCom Packages	1600	33	1491	58.72
PRA1918THL1	0.00		Square	19	PROLINE™ DataCom Packages	1800	38	1691	66.59
PRA1918TPL1	0.00		Tapped	19	PROLINE™ DataCom Packages	1800	38	1691	66.59
PRA1920THL1	0.00		Square	19	PROLINE™ DataCom Packages	2000	42	1892	74.47
PRA1920TPL1	0.00		Tapped	19	PROLINE™ DataCom Packages	2000	42	1892	74.47
PRA192320THL1	0.00		Square	19 & 23	PROLINE™ DataCom Packages	2000	42	1892	74.47
PRA1921TPL1	80.37 x 2.63 x 1.89	2041 x 67 x 48	Tapped	19	PROLINE™ DataCom Packages	2100	45	2041	80.37
PRA1921THL1	80.37 x 2.63 x 1.89	2041 x 67 x 48	Square	19	PROLINE™ DataCom Packages	2100	45	2041	80.37
PRA1922THL1	0.00		Square	19	PROLINE™ DataCom Packages	2200	47	2091	82.34
PRA1922TPL1	0.00		Tapped	19	PROLINE™ DataCom Packages	2200	47	2091	82.34
PRA192322THL1	0.00		Square	19 & 23	PROLINE™ DataCom Packages	2200	47	2091	82.34
PRA1924TPL1	90.21 x 2.63 x 1.89	2291 x 67 x 48	Tapped	19	PROLINE™ DataCom Packages	2400	51	2291	90.21

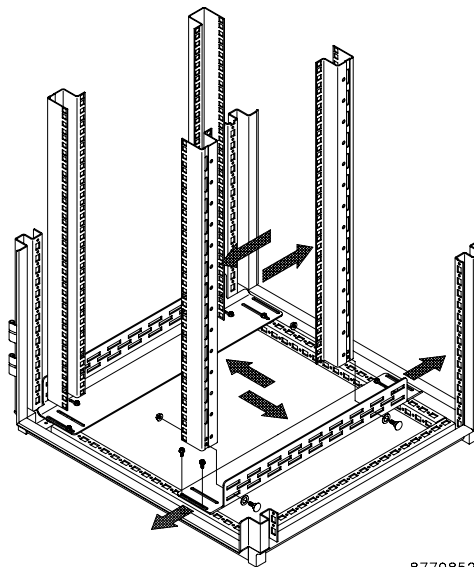
## ADJUSTABLE RACK-MOUNTING RAILS



Mounting rails allow rack angles to be positioned anywhere within the PROLINE™ frame. The left-to-right adjustment pertains only when the enclosure is wider than the minimum width required for rack angles. Includes two right-hand and two left-hand 12 gauge plated or painted steel mounting rails. Mounting hardware is included.

**BULLETIN: DPY, P20**

Catalog Number	L (mm)	L (in.)	Fits Frame Depth	Finish
PBARA6	511	20.11	600	Plated
PBARA8	711	27.98	800	Plated
PBARA9	811	31.92	900	Plated
PBARA9B	811	31.92	900	Painted RAL 9005 Black
PBARA10B	911	35.86	1000	Painted RAL 9005 Black
PBARA11B	1011	39.79	1100	Painted RAL 9005 Black
PBARA12B	1111	43.73	1200	Painted RAL 9005 Black



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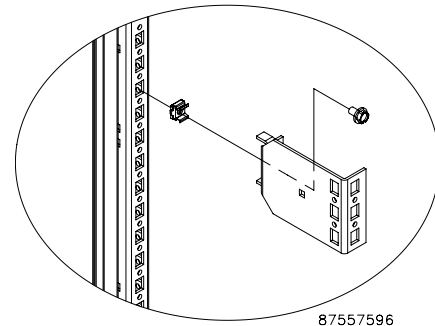


### FRAME-REDUCING BRACKETS FOR FRAMES OR GRID STRAPS

Frame-Reducing Brackets mount directly to 700- or 800-mm wide PROLINE™ frames or to grid straps. Converts wider frames to 600-mm wide, allowing 19-in. rack angles to fit, or to 700-mm wide, allowing 23-in. rack angles to fit. Can be used to left- or right-justify the rack-mounted equipment. Furnished in sets of four. 14 gauge plated steel. Mounting hardware is included.

BULLETIN: P20

Catalog Number	Reduces Frame Width	W (mm)	W (in.)	Converts Frame Width
PRB50	50	50	1.97	From 700 to 600 From 800 to 700 mm
PRB100	100	100	3.94	From 800 to 600 From 800 to 700 From 700 to 600 mm
PRB200	200	200	7.87	From 1000 to 600 From 1000 to 800 From 800 to 600 mm



### FRAME-REDUCING BRACKETS FOR FRAMES OR MOUNTING CHANNEL

Frame-reducing brackets mount directly to 700-mm or 800-mm wide PROLINE™ frames or to mounting channel. Convert wider frames to 600-mm wide, allowing 19-in. rack angles to fit, or to 700-mm wide, allowing 23-in. rack angles to fit. Can be used to left- or right-justify the rack-mounted equipment. Made of 14 gauge steel painted with flat-black RAL 9005 polyester powder. Furnished in sets of four. Mounting hardware is included.

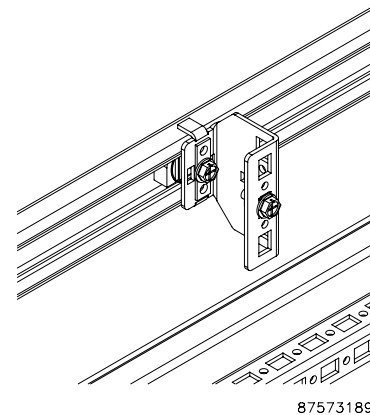
BULLETIN: DPY

Catalog Number	Reduces Frame Width	W (mm)	W (in.)	Converts Frame Width
PMURB50	50	50	1.97	From 700 to 600, From 800 to 700
PMURB100	100	100	3.94	From 800 to 600, From 800 to 700, From 700 to 600

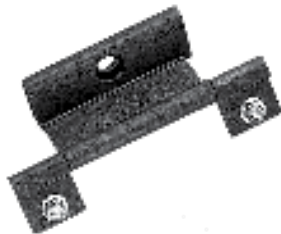
#### Frame Reducing Bracket Selection Guide

PROLINE Frame Width	Setting 19 in. Centered	Setting 19 in. Left or Right	Setting 23 in. Centered
600 mm (23.60)	No reducing brackets	No reducing brackets	—
700 mm (27.60) with grid straps	PRB50	PRB 100	No reducing brackets

PROLINE Frame Width	Setting 19 in. Centered	Setting 19 in. Left or Right	Setting 23 in. Centered
700 mm (27.60) with mounting channel	PMURB50	PMURB100	No reducing brackets
800 mm (31.50) with grid straps	PRB100	PRB200	PRB50
800 mm (31.50) with mounting channel	PMURB100	—	PMURB50



### 180-DEGREE HINGE KIT



Optional hinging for steel solid, window or disconnect doors. The 180-degree hinges provide a door opening up to 260-degrees on single-bay enclosures. These hinges mount to the door flange and have a low-profile appearance. The kit includes three hinges with textured black polyester powder paint and all necessary mounting hardware. Cannot be used on PROLINE™ FLOTEK™ or CONNECTEK™ front doors.

BULLETIN: P20

Catalog Number	Description
PH180	180-Degree Hinge Kit

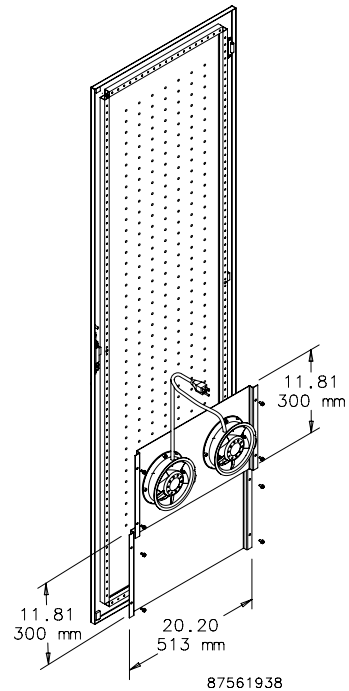
### DOOR-MOUNT FAN TRAY AND BLOCKING PLATE

The Door-Mount Fan Tray is used with perforated PROLINE™ doors to blow air through the perforations. Mounts to door bars. Use Blocking Plates to prevent short cycling of fans. Includes two 6-in. fans and mounting plate, two finger guards, power cord and mounting hardware.

The Blocking Plate is used with the Door-Mount Fan Tray to direct airflow and prevent short cycling. Multiple plates can be used to fill door opening and achieve desired airflow. Mounts to door bars. Includes one blocking plate and mounting hardware.

BULLETIN: DPY, DTHRM

Catalog Number	Description	Fits Door Width mm/in.	Voltage
PFO6021DR6	Door-Mount Fan Tray	600	115 VAC
PBLNKDR6	Blocking Plate	600	—



### FLUSH KEYLOCKING TRIGGER LATCH WITH RANDOM KEY CODES



Flush design. Over 100 random key codes with available master. Black textured polyester powder paint finish. Includes two trigger latches with matching key code and two keys. Designed to replace locking trigger latch. For use on PROLINE™ Voice/Data and Colocation doors only.

BULLETIN: DPC

Catalog Number	Description
PTKLDC	Flush keylocking Trigger Latch with random key codes

### SIDE COVER LOCK



Fits in pre-punched hole to secure DataCom solid side from unauthorized entry.

BULLETIN: DPC

Catalog Number	Description	Key Code
PSOLO	Side Cover Lock	2233

**FLUSH SWING HANDLES** **AETC**



Flush Handles are optional for any solid, window or disconnect door that includes 3-point latching, except Voice/Data and Colocation cabinets. They are ergonomically designed to provide style and function in a low profile. The handle is die-cast zinc finished with RAL 9005 textured black polyester powder paint. Provision to add your logo is included. Handle can be installed to rotate either clockwise or counterclockwise.

**DIN LOCK INSERTS (FOR DIN PROFILE HANDLE ONLY)**



The DIN profile keylock provides keylocking security for the Flush Swing Handle with DIN provision. Includes profile lock and two keys. Order one profile lock for each handle.  
 DIN Lock Kit for PROLINE™ DataCom doors includes two locks keyed alike with one of 100 different key codes and two keys (master key available).  
 All DIN Lock Inserts are zinc die-cast.

**BULLETIN: DPY, P20**

**L HANDLE** **AETC**



The L Handle is a stylish option for any solid, window or disconnect door, except Voice/Data or Colocation cabinets. It can be installed to rotate either clockwise or counterclockwise. Handle comes with a bezel, includes keylocking provision and is finished with RAL 9005 textured black polyester powder paint. Two keys are included. The bezel permits your logo to be inserted.

**BULLETIN: P20**

**Handle with Screwdriver Defeater**

Enclosure security is provided by the integrated tool-to-open feature that releases the handle when rotated, allowing access to the enclosure.

**Handle with Keylock**

Keylock feature locks the handle to provide security for the enclosure. When the key is in the unlocked position, the pushbutton releases the handle to provide access to the enclosure. Two keys are furnished.

**Handle for Padlock**

Padlocking Handle provides security when using up to a 5/16 padlock. Pushbutton releases the handle to provide access to the enclosure.

**Handle with DIN Profile Provision**

DIN Flush Handle is provided with the option to add your DIN profile lock or to accept Hoffman DIN profile lock PDKL (order separately).

**BULLETIN: P20**

Catalog Number	Description
PFHDF	Flush Handle with Defeater
PFHKBL	Keylocking Flush Handle
PFHPBL	Padlocking Flush Handle
PFHDBL	DIN Profile Flush Handle

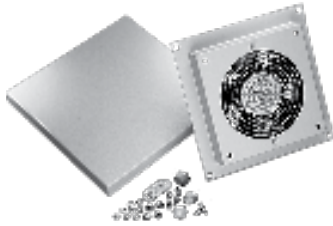
Catalog Number	Description
PKOSLFH	Slotted insert profile cylinder
PKOTM7FH	7-mm triangle insert profile cylinder
PKOSM7FH	7-mm square insert profile cylinder
PKOTM8FH	8-mm triangle insert profile cylinder
PKOGBK3FH	Double-bit 3-mm insert profile cylinder
PDKL	DIN keylock, 2 keys included, key code 333
PDKLRKPR	DIN Lock Kit for PROLINE DataCom doors

DIN profile inserts are used with DIN flush swing handles. One key is included (except for slotted insert).

Catalog Number	Description
PLHK	L Handle with 2 keys and logo slot, key code 333



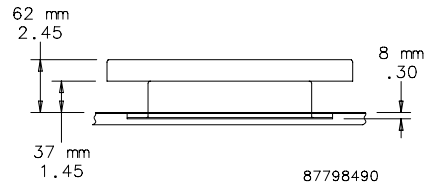
## PAGODA EXHAUST VENTS



Pagoda Exhaust Vents can be field-installed on any PROLINE™ solid top. An axial fan and finger guard are mounted in a housing. A drip-proof raised cover is removable from inside the enclosure. Gasket and mounting hardware are included. Vent housing and raised cover are 14 gauge steel finished with RAL 7035 textured light-gray polyester powder paint.

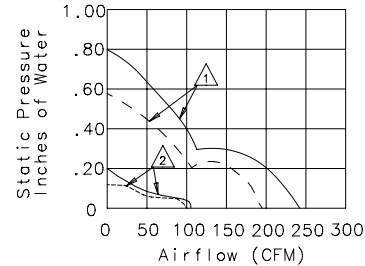
BULLETIN: DTHRM, P20

Catalog Number	Description	Volts
PPT1	Leadwires	115
PPT1C	Power cord	115
PPT2	Leadwires	230



87798490

### Performance Curve: 6 in. Fans

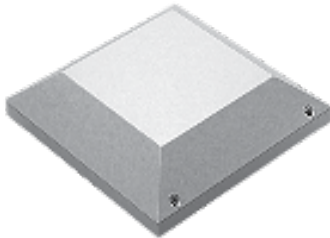


(Curves represent fan performance only.)

△ FNPG, FN, FN2 models ——— 60 Hz  
 △ FNGQ models - - - - - 50 Hz

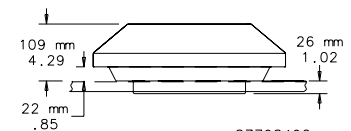
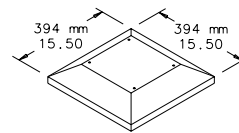
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## HIGH-PERFORMANCE PAGODA EXHAUST VENT

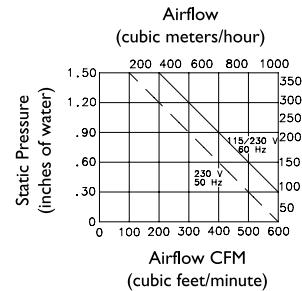


Vents fit on standard PROLINE™ top with vent cutout or can be field-installed on any PROLINE solid top. The Pagoda Vent features an integral centrifugal blower mounted in a housing that includes a drip-proof removable hood, wire mesh finger guard, perimeter gasket and terminal block. Electromagnetic-compatible (EMC) Pagoda Vents include a conductive screen, conductive gasket, line filter and 6-ft. power cord with stripped leads. Pagoda Vent housing and hood are rugged 16 gauge steel finished with RAL 7035 textured light-gray polyester powder paint. EMC vents are finished with paint over plated surfaces. Installation hardware is included.

BULLETIN: DTHRM, P20, P20EM



87798492



87798491

Catalog Number	Description	Voltage	Full Load Amps	Use With
PPTH1	Leadwires	115	1.7	Top with high-performance pagoda vent cutout
PPTH1C	Power cord	115	1.7	Top with high-performance pagoda vent cutout
PPTH1EMC	Power cord	115	1.7	Top with high-performance pagoda vent cutout on EMC enclosures
PPTH2	Leadwires	230	.9	Top with high-performance pagoda vent cutout
PPTH2EMC	Power cord	230	.9	Top with high-performance pagoda vent cutout

**MOBILE BASE** **AETC**



Mobile Bases fit 600- and 800-mm wide frames. They extend beyond the front and rear of 600-mm cabinets to provide enhanced stability. Provides front extension only on 800-mm cabinets. Constructed of steel finished in RAL 9005 textured black polyester powder paint. The base fastens to the underside of the frame and provides integral mounting of furnished casters. The front and rear top surfaces of the base are trimmed with black rubber mats 3-mm thick. Casters and mounting hardware are furnished.

**Four non-locking casters provide a maximum load-bearing capacity of 1000 lb. (453.6 kg).**

Exercise care when using casters to move the cabinet. Avoid tipping and damage to the cabinet and its contents by slowly moving the cabinet on its casters across smooth, flat flooring. Avoid:

- large cracks
- floor displacement
- seams
- gravel
- any other obstruction

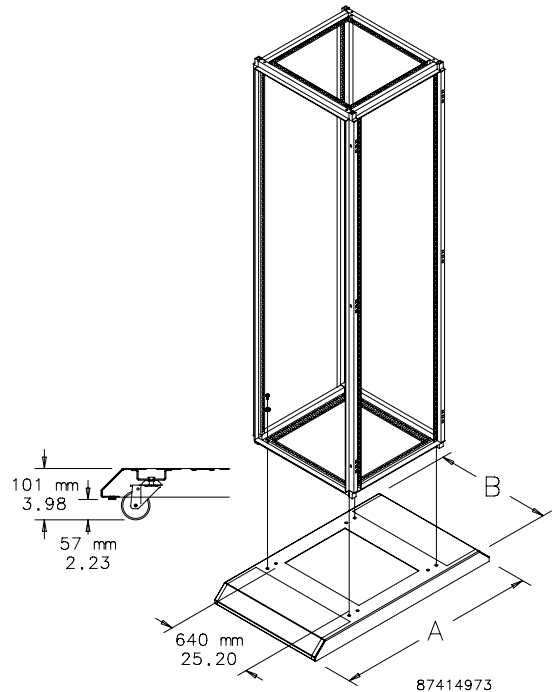
**Never use casters while transporting a cabinet by truck on roadways.**

Contact Hoffman if further information is needed.

**BULLETIN: P20**

Catalog Number	AxB in.	AxB mm	Fits Frame B x C (mm)
PMB66	40.91 x 23.62	1039 x 600	600 x 500 and 600 x 600
PMB69	52.72 x 23.62	1339 x 600	600 x 800 and 600 x 900

Catalog Number	AxB in.	AxB mm	Fits Frame B x C (mm)
PMB86	40.91 x 31.50	1039 x 800	800 x 500 and 800 x 600
PMB89	52.72 x 31.50	1339 x 800	800 x 800 and 800 x 900



**MOBILE BASE LEVELING KIT** **AETC**

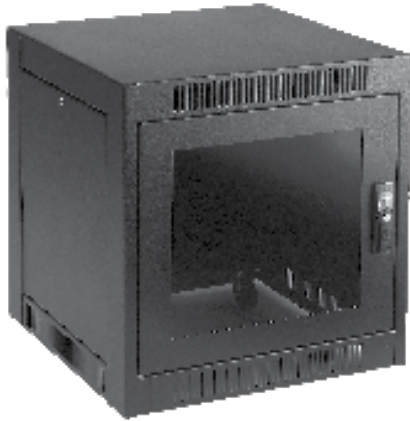


Levelers mount in the outer corners of the Mobile Base, providing load-bearing capacity of 1000 lb. (453.6 kg).

**BULLETIN: P20**

Catalog Number	Description	Use with
PMBLM12	Mobile Base Leveling Kit	Mobile Base

**SOHO CABINET FOR SMALL OFFICE AND HOME OFFICE**



**FEATURES**

- Adjustable gland plate with strain relief at bottom rear of cabinet provides easy and secure cable entry
- Rear door and side panels have quarter-turn key-locking latches
- Doors are hinged left and removable
- Front door has locking handle
- Same key provides access to all doors and side panels
- Fan cutouts with finger guards on upper half of rear door
- Doors and side panels inset flush with frame
- Open base with slotted vents includes casters

**SPECIFICATIONS**

- Welded steel frame with 4 rack angle mounting struts
- Includes 2 sets of painted L-shaped rack angles with holes per EIA spacing (5/8 in. x 5/8 in. x 1/2 in.)
- Rack angles on 600-mm deep cabinet have 10-32 tapped holes, and on 900-mm deep cabinet have square holes
- Both sizes provide 11 rack units
- Smoke-gray acrylic window in front door
- Solid top

**FINISH**

Pretreated steel coated with RAL 9005 black textured, low-gloss polyester powder paint. Other finishes available—contact Hoffman Customer Service.

**ACCESSORIES**

Most 19-in. rack accessories can be used with the SOHO cabinet.

**PATENTS**

Low Profile Handle (Design) 391,143 (U.S.)  
 Low Profile Handle (Utility) 5,862,690 (U.S.)

**BULLETIN: DNCS**

**INDUSTRY STANDARDS**

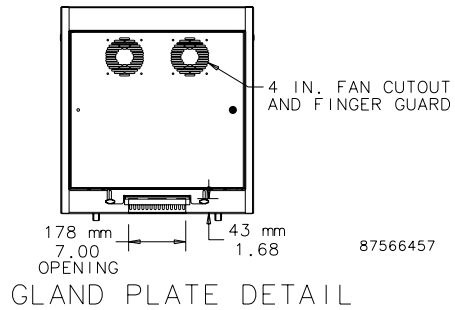
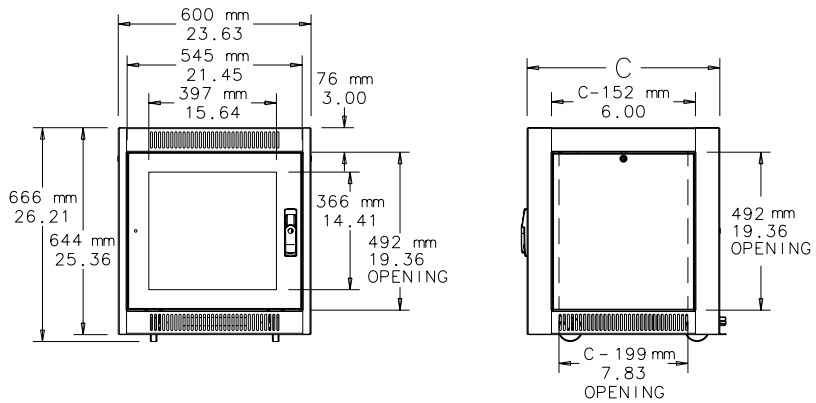
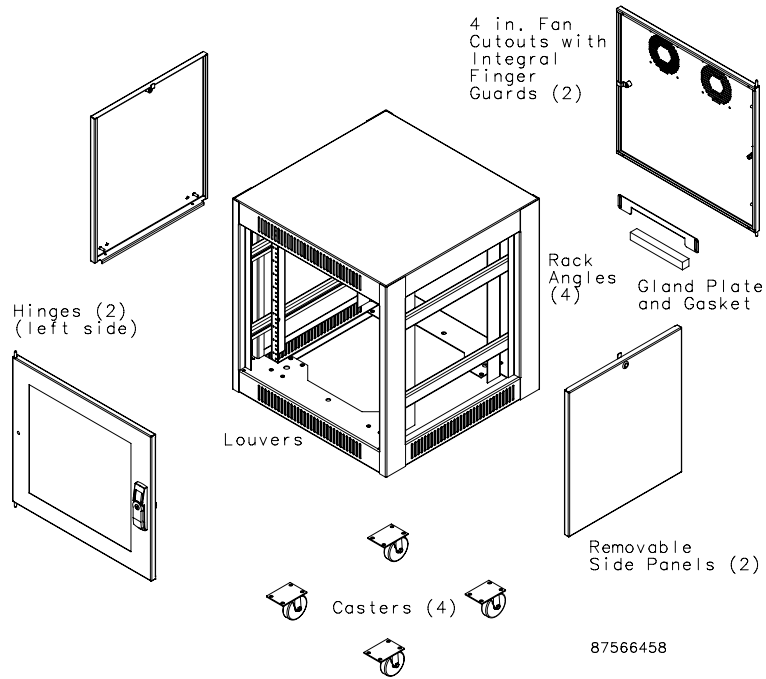
EIA 310-D

**APPLICATION**

SOHO Cabinets are designed to house servers, networking equipment and phone and voice mail equipment under a desktop. Casters allow the cabinet to be easily moved for access. Equipment is passively cooled by air taken in from the front of the cabinet and expelled through fan cutouts in the rear, which can accept optional fans for warmer applications.

Standard Product

Catalog Number	AxBxC in./mm	Description	Rack Units	Additional Rack Angles	Hole Type
ENC766SH	26.21 x 23.63 x 23.60 666 x 600 x 600	600-mm deep cabinet	11	ERA197TPLN	Tapped
ENC769SH	26.21 x 23.63 x 35.40 666 x 600 x 900	900-mm deep cabinet	11	ERA197THLN	Square



## NETWORKING PC CABINET, TYPE 1



### INDUSTRY STANDARDS

UL 508A Listed; Type 1; File Number E61997  
 cUL Listed per CSA C22.2 No 94; Type 1; File No. E61997

NEMA Type 1  
 EIA 310-D (when rack angle accessory is installed)

### APPLICATION

Used for remote network access from a factory floor or warehouse, the Networking PC Cabinet is built to house PCs, keyboards and printers for data entry as well as LAN and WAN equipment. Key-lock doors provide security and physical protection for equipment that is passively cooled by air taken in from the front of the cabinet and expelled through fan cutouts in the rear. Optional fans may be installed for added cooling.

### FEATURES

- Keylocking flush door handles on both upper and lower front doors
- Quarter-turn keylocks on rear door, side panels and keyboard door
- All locks keyed alike; two keys supplied with cabinet
- Front doors hinged on left; rear door can be hinged right or left
- Side panels easily removable
- Base is pre-punched for casters which are recessed when installed. Caster kit available as an accessory.
- Adjustable gland plate with strain relief at bottom rear of cabinet provides easy, secure cable entry

### SPECIFICATIONS

- Welded steel frame with accessory mounting struts
- Steel keyboard with ball-bearing pull-out slides and keylock
- Clear safety-glass window in upper front door
- Louvers on lower quarter of rear door
- Top has one 4-in. cable entry port knockout with cap included and one 6-in. fan-ready cutout with integral finger guard
- Doors and side panels inset flush with frame

### FINISH

Pretreated steel coated with RAL 9005 black textured, low-gloss polyester powder paint. Other finishes available—contact Hoffman Customer Service.

### ACCESSORIES

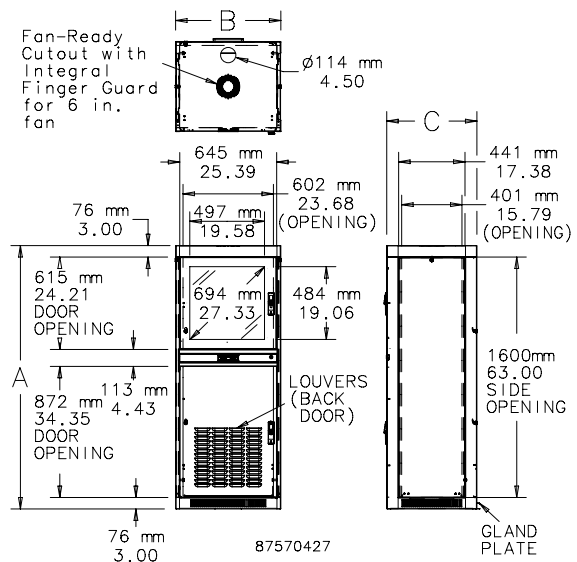
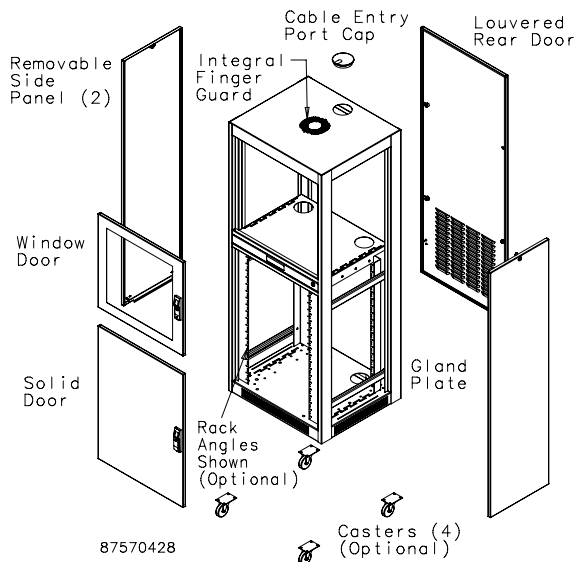
See also *Accessories*.  
 Network Cabinet Caster Kit  
 Networking PC Cabinet Rack Angle  
 Networking PC Cabinet Shelf

*Rack Angle and Shelf cannot be used together.*

### BULLETIN: DNCS

### Standard Product

Catalog Number	AxBxC in.	AxBxC mm	Description
ENC1776PC	66.93 x 27.56 x 23.62	1700 x 700 x 600	19-in. Networking PC Cabinet



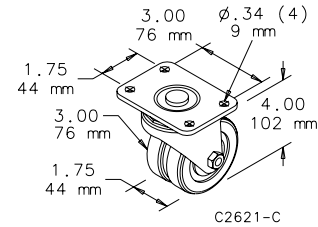


### NETWORK CABINET CASTER KIT

Package of four. Fits Network Cabinet and Networking PC Cabinet. Mounts to predrilled holes in base. Recessed when installed. Load rating: 350 lb. (159 kg) per caster.

BULLETIN: DNC

Catalog Number	Description
DLCASTERS	Set of four double casters



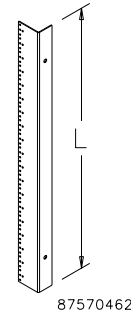
### NETWORKING PC CABINET RACK ANGLE



Provides 19 RU. Allows use of most 19-in. rack-mount accessories. See Selected Networking PC Cabinet Accessories. Package includes two rack angles and mounting hardware. Required for accessories noted in Selected Networking PC Cabinet Accessories table; not compatible with EPCEQS Shelf.

BULLETIN: DNCY

Catalog Number	Length (mm)	Length (in.)	Rack Units	Kit Qty.
ERA1910TPL	848	33.37	19	2

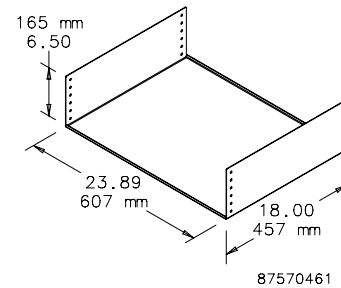


### NETWORKING PC CABINET SHELF

Steel shelf for use in the lower compartment of the Networking PC Cabinet. Compartment accommodates up to two shelves. Shelf mounts to accessory mounting struts and can be adjusted in 1-in. (25-mm) intervals inside cabinet. Shelf installs without rack angles. Not compatible with ERA1910TPL.

BULLETIN: DNCS

Catalog Number	Description
EPCEQS	Shelf for lower compartment



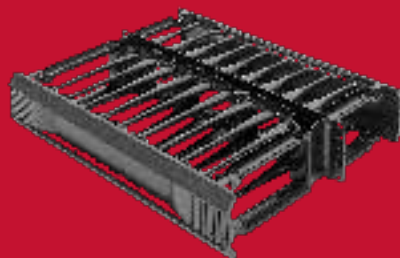
*Hoffman*

# CHAPTER 2 CABLE AND POWER MANAGEMENT

## FEATURED PRODUCTS

### **OPEN-FRAME RACK CABLE MANAGERS**

Define cable pathways with CABLETEK™ Open-Frame Rack Cable Managers. An organized environment is safer, functions better and supports faster, easier MACs (moves, adds, changes). For enhanced application flexibility and protection, customizable vertical and horizontal cable management solutions are available.





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### POWER DISTRIBUTION UNITS (PDUS)

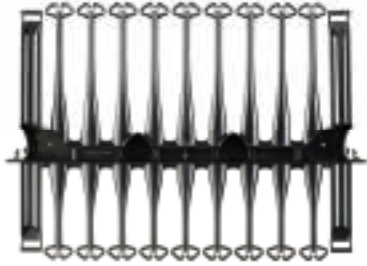
Power Distribution Units (PDUs) reliably adapt to changing power demands. With a wide range of solutions that provide various surge protection, outlet configuration, dual circuit and embedded intelligence options, PDUs meet flexible application challenges.



## CABLETEK™ HORIZONTAL CABLE MANAGER



DCHD2 shown



Arrowhead fingers funnel cable into base and hold it securely



DCHS4 shown

Vertical and horizontal cable manager system installed on a 2-post rack. Vertical and horizontal cable managers work together to make an orderly installation.



### INDUSTRY STANDARDS

EIA 310-D

### APPLICATION

This cable manager features heavy-duty endposts, arrowhead fingers and tool-less mounting to easily route Cat 5e, 6 and 6A cable horizontally in standard 19-in. cabinets or on 2- or 4-post open frame racks.

### FEATURES

- Snap-in mounting provision holds cable manager in place while mounting screws are installed
- Robust arrowhead fingers are shaped to funnel cables into base and are made of black composite material
- Robust rounded end posts support cable as it enters and leaves cable manager and maintains proper cable bend radius
- Deep cable compartments allow maximum cable density
- Rounded edges throughout protect cable jackets from damage
- Pass-through holes on double-sided models protect cable while facilitating routing between front and back sides

- Single- and double-sided units provide high cable capacity, including 5e, 6 and 6A cables
- 1 RU and 2 RU heights allow greater flexibility in optimizing rack capacity
- Removable hinged cover opens top or bottom, snaps closed for assured cable protection and professional appearance
- Double-sided model has covers on both front and back
- Covers stay open during installation and maintenance procedures
- Horizontal and vertical cable managers designed as a system for streamlined appearance and improved functionality
- Combination head 10-32 and 12-24 screws included for mounting

### SPECIFICATIONS

- Made of UL listed black composite material

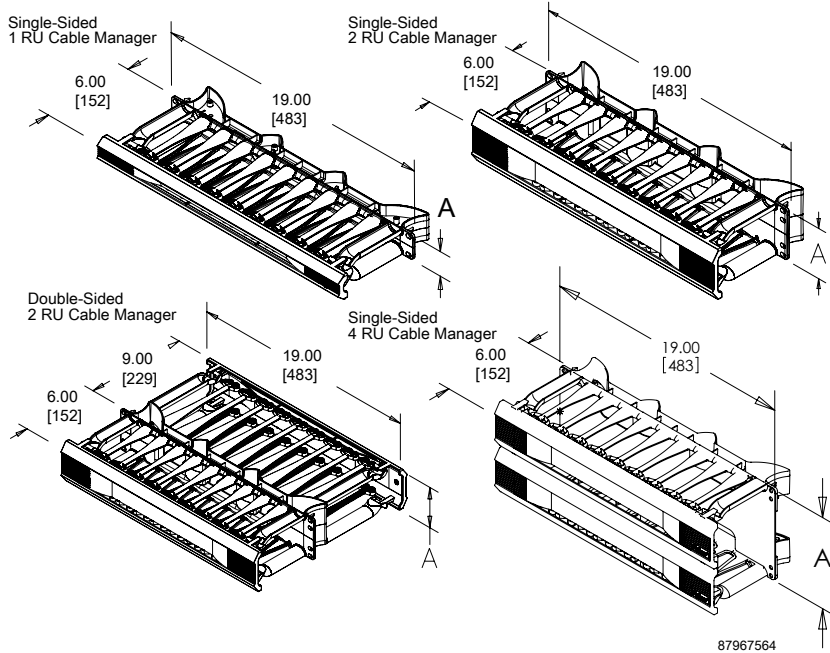
### FINISH

Low gloss, matches look of RAL 9005 textured paint

### BULLETIN: DACCY

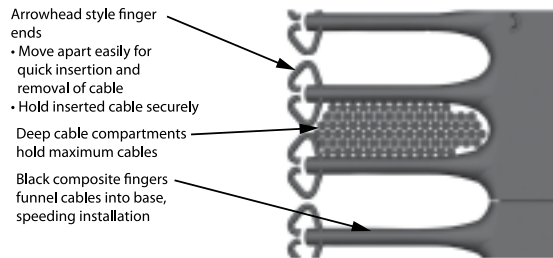
Standard Product **CABLETEK™ Horizontal Cable Managers; 60% Cable Manager Fill Rate**

Catalog Number	Description	Rack Units	A in./mm	Front Cross-Section Area (in. <sup>2</sup> )	Front Cable Fill Rate 60% 5e Cable (0.22-in. dia.)	Front Cable Fill Rate 60% 6 Cable (0.25-in. dia.)	Front Cable Fill Rate 60% 6A Cable (0.30-in. dia.)	Back Cross-Section Area (in. <sup>2</sup> )	Back Cable Fill Rate 60% 5e Cable (0.22-in. dia.)	Back Cable Fill Rate 60% 6 Cable (0.25-in. dia.)	Back Cable Fill Rate 60% 6A Cable (0.30-in. dia.)
DCHS1	Single-Sided	1	1.75 44	4.2	66	57	35	—	—	—	—
DCHS2	Single-Sided	2	3.50 89	13.2	208	161	112	—	—	—	—
DCHD2	Double-Sided	2	3.50 89	13.2	208	161	112	14.1	223	172	119
DCHS4	Single-Sided	4	7.0 178	26.9	416	322	224	—	—	—	—

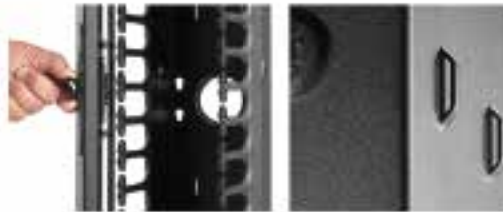


**Arrowhead Cable Capacity; 60% Fill Rate**

Location	Cross-Section Area (in. <sup>2</sup> )	5e Cable (0.22-in. dia.)	6 Cable (0.25-in. dia.)	6A Cable (0.30-in. dia.)
Front	5.52	90	67	46
Back	9.27	145	113	78



## CABLETEK™ VERTICAL CABLE MANAGER



Spring loaded central latch operates easily and fastens securely. Pass-through holes facilitate efficient cable routing.

Tie-down loops accept Velcro® Cable Wraps securely.



Vertical and horizontal cable manager system installed on a 2-post rack. Vertical and horizontal cable managers work together to make an orderly installation.

### INDUSTRY STANDARDS

EIA 310-D

### APPLICATION

Available in single- and double-sided models, this vertical cable manager mounts on the sides of or between 2- and 4-post open frame racks. The front side of the manager provides support, management and high capacity for patch cords, while the back supports Cat 5e, 6, 6A and fiber optic cables.

### FEATURES

- Easily removable one-piece front cover with access from right or left as needed opens 180° to allow full access to cables
- Self-aligning bolt locations minimize lifting and speed installation
- Self-captivating fasteners; bolt doesn't turn while tightening nut
- Generous finger depth allows for maximum cable density and allows smooth transitions from vertical to horizontal positions
- Unobstructed cable access to rack equipment—no keep-out areas
- Rounded edges on composite material and grommets protect cable jackets from damage
- Robust arrowhead fingers are shaped to funnel cables into base and are made of black composite material
- Cable tiedown points provided on back
- Pass-through holes protect cable while facilitating routing between front and back
- Single central door latch allows quick and easy access to cables
- Double-sided cable manager with front and rear supporting fingers includes snap-on cover
- Double-sided cable manager with posts and gates support and contain cables. Three sets of posts and gates are included; additional sets are available as accessories
- Posts snap into pre-punched holes in the back of the cable manager

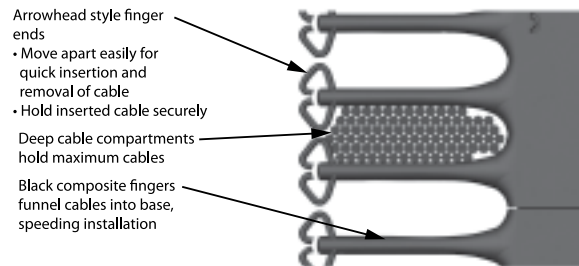
- Gates snap onto posts, open from left or right as needed and swing 280° for cable access. Posts can be used alone as slack spools to control long patch cords.
- Horizontal and vertical cable managers designed as a system for streamlined appearance and improved functionality

### SPECIFICATIONS

- Front door and cable channel made of multi-formed lightweight aluminum
- Hinge points and supporting fingers made of high-strength composite material

### FINISH

Aluminum components are coated with RAL 9005 black low-gloss lightly-textured polyester powder paint. Composite parts have a low-gloss finish that matches look of RAL 9005 textured paint.



Arrowhead style finger ends

- Move apart easily for quick insertion and removal of cable
- Hold inserted cable securely

Deep cable compartments hold maximum cables

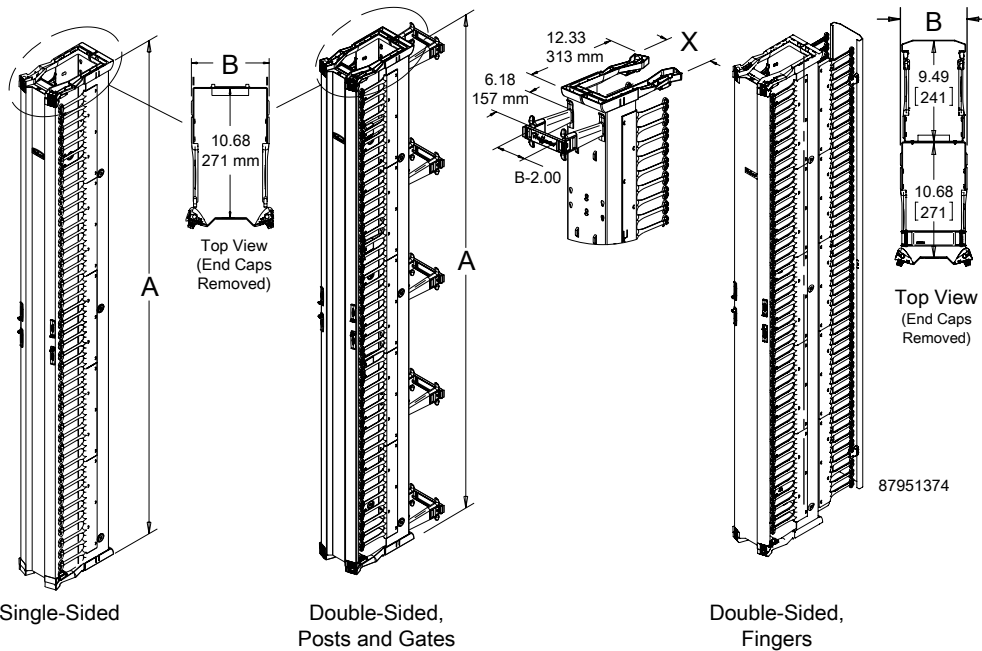
Black composite fingers funnel cables into base, speeding installation

BULLETIN: DOFRY

Standard Product **Vertical Cable Manager**

Catalog Number	AxB in.	AxB mm	Description	Fits Rack Height (ft.)	Rack Units	A (in.)	A (mm)	B (in.)	B (mm)	X (in.)	X (mm)
DV6S7	6.00 x 84.00	152 x 2134	Single-Sided	7	45 U	84.00	2134	6.25	159	7.12	183
DV10S7	10.00 x 84.00	254 x 2134	Single-Sided	7	45 U	84.00	2134	10.25	260	11.21	285
DV12S7	12.00 x 84.00	305 x 2134	Single-Sided	7	45 U	84.00	2134	12.25	311	13.21	336
DV6D7	6.00 x 84.00	152 x 2134	Double-Sided, Posts and Gates	7	45 U	84.00	2134	6.25	159	7.12	183
DV10D7	10.00 x 84.00	254 x 2134	Double-Sided, Posts and Gates	7	45 U	84.00	2134	10.25	260	11.21	285
DV12D7	12.00 x 84.00	305 x 2134	Double-Sided, Posts and Gates	7	45 U	84.00	2134	12.25	311	13.21	336
DV6DF7	0.00		Double-Sided, Fingers	7	45 U	84.00	2134	6.25	159	7.12	183
DV10DF7	0.00		Double-Sided, Fingers	7	45 U	84.00	2134	10.25	260	11.21	285
DV12DF7	0.00		Double-Sided, Fingers	7	45 U	84.00	2134	12.25	311	13.21	336
DV6S8	6.00 x 96.00	152 x 2438	Single-Sided	8	51 U	96.00	2438	6.25	159	7.12	183
DV10S8	10.00 x 96.00	254 x 2438	Single-Sided	8	51 U	96.00	2438	10.25	260	11.21	285
DV12S8	12.00 x 96.00	305 x 2438	Single-Sided	8	51 U	96.00	2438	12.25	311	13.21	336
DV6D8	6.00 x 96.00	152 x 2438	Double-Sided, Posts and Gates	8	51 U	96.00	2438	6.25	159	7.12	183
DV10D8	10.00 x 96.00	254 x 2438	Double-Sided, Posts and Gates	8	51 U	96.00	2438	10.25	260	11.21	285
DV12D8	12.00 x 96.00	305 x 2438	Double-Sided, Posts and Gates	8	51 U	96.00	2438	12.25	311	13.21	336
DV12DF8	0.00		Double-Sided, Fingers	8	51 U	96.00	2438	12.25	311	13.21	336
DV6DF8	0.00		Double-Sided, Fingers	8	51 U	96.00	2438	6.25	159	7.12	183
DV10DF8	0.00		Double-Sided, Fingers	8	51 U	96.00	2438	10.25	260	11.21	285
DV6S9	6.00 x 108.00	152 x 2743	Single-Sided	9	58 U	108.00	2743	6.25	159	7.12	183
DV10S9	10.00 x 108.00	254 x 2743	Single-Sided	9	58 U	108.00	2743	10.25	260	11.21	285
DV12S9	12.00 x 108.00	305 x 2743	Single-Sided	9	58 U	108.00	2743	12.25	311	13.21	336
DV6D9	6.00 x 108.00	152 x 2743	Double-Sided, Posts and Gates	9	58 U	108.00	2743	6.25	159	7.12	183
DV10D9	10.00 x 108.00	254 x 2743	Double-Sided, Posts and Gates	9	58 U	108.00	2743	10.25	260	11.21	285
DV12D9	12.00 x 108.00	305 x 2743	Double-Sided, Posts and Gates	9	58 U	108.00	2743	12.25	311	13.21	336

B dimension represents the mounting space between ganged open-frame racks.



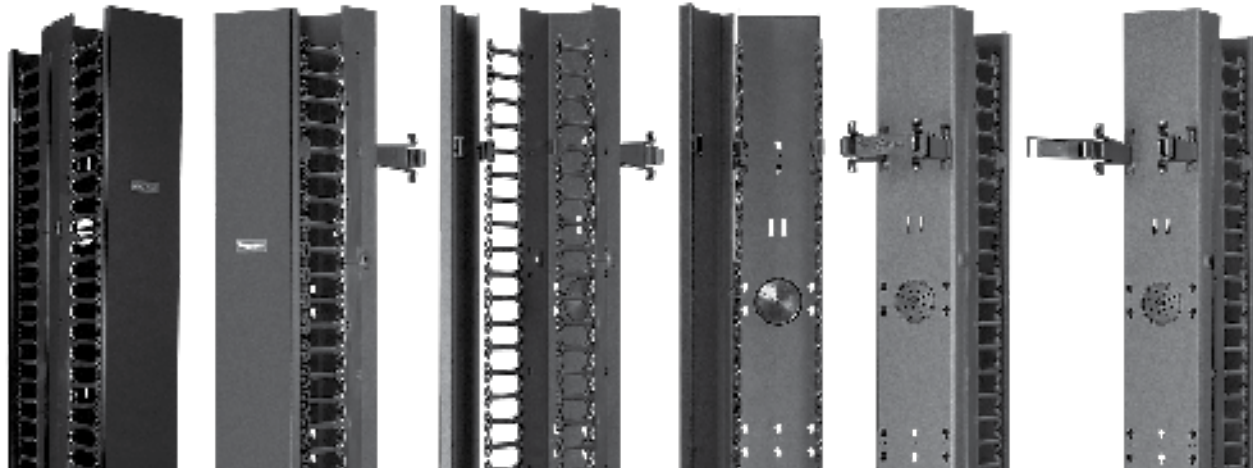
**Cable Manager Cable Capacity; 60% Fill Rate**

Cable Manager Width (inch)	Front Cross-Section Area (in. <sup>2</sup> )	Front Cable Fill Rate 60% 5e Cable (0.22-in. dia.)	Front Cable Fill Rate 60% 6 Cable (0.25-in. dia.)	Front Cable Fill Rate 60% 6A Cable (0.30-in. dia.)	Back Cross-Section Area (in. <sup>2</sup> )	Back Cable Fill Rate 60% 5e Cable (0.22-in. dia.)	Back Cable Fill Rate 60% 6 Cable (0.25-in. dia.)	Back Cable Fill Rate 60% 6A Cable (0.30-in. dia.)
6.00	58.1	917	710	493	27.9	441	341	236
10.00	100.8	1592	1232	855	51.7	816	631	439
12.00	122.1	1928	1492	1036	64.0	1011	782	543

**Arrowhead Cable Capacity, 60% Fill Rate**

Cross-Section Area (in. <sup>2</sup> )	5e Cable (0.22-in. dia.)	6 Cable (0.25-in. dia.)	6A Cable (0.30-in. dia.)
5.44	85	66	46

## CABLETEK™-EC VERTICAL CABLE MANAGER



2

### APPLICATION

Attach CABLETEK™ -EC Vertical Cable Managers to the sides and/or in between open-frame racks to economically provide support, easy access and proper cable management with easy cable installation for Network rack-mount equipment. The front side provides support, management and high cable capacity for patch cords with easy-to-remove front covers standard. The rear of the manager provides the same support for horizontal cabling (Cat 5e, 6, 6A and fiber). CABLETEK-EC Vertical Cable Managers are available in single- and double-sided versions.

### FEATURES

- Universal mounting pattern for 2- and 4-post open-frame racks
- Easy-to-install with self-aligning, self-captivating carriage bolts for single-sided attachment
- Arrowhead supporting fingers provide easy insertion, removal and alignment of Cat 5e, 6, 6A and other cable types
- Deep cable depth provides smooth transition of cables from vertical to horizontal positions
- Large feed-through holes and pre-scored grommets provide cable feed from front to back of cable manager
- Unobstructed cable access for all rack unit locations
- Extra deep cable channel for maximum cable density has multiple cable tie-down points
- Standard front cover, with field installed snap hinges, provides cable access from right, left or neutral
- Double-sided models with supporting fingers include front central latching cover and rear snap-on cover

- Double-sided models with posts and gates support and contain cables. Five posts and gates are included; additional sets are available as accessories
- Posts snap into prepunched holes in the back of the cable manager
- Gates snap onto posts, open from left or right as needed and swing 280° for cable access. Posts can be used alone as slack spools to control long patch cords.
- The single-sided cable manager can be upgraded with CABLETEK Post and Gates Kits
- CABLETEK Rear Cover is sold separately as an accessory for vertical cable managers with posts and gates, and is fully field-installable; no tools needed

### SPECIFICATIONS

- Easy-to-remove front cover is multi-formed, light-weight aluminum with high-strength, black composite snap-on hinge points and hinges right, left or neutral
- Cable channel constructed of multi-formed 14 gauge steel
- Arrowhead supporting fingers are high-strength, black composite with all edges rounded
- Rear posts and gates on double-sided models are high-strength, black composite with all edges rounded

### FINISH

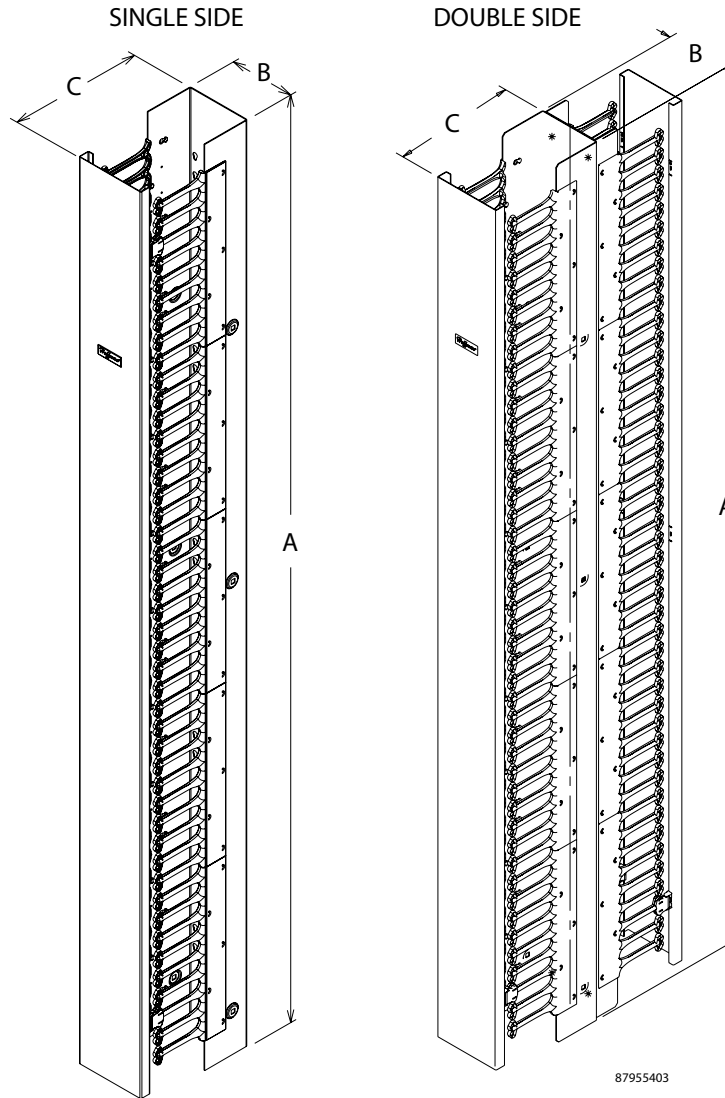
All aluminum and steel components have a black, low-gloss, light-textured RAL 9005 powder-coated finish. All composite parts are provided in matching black.

### BULLETIN: DOFRY

### Standard Product

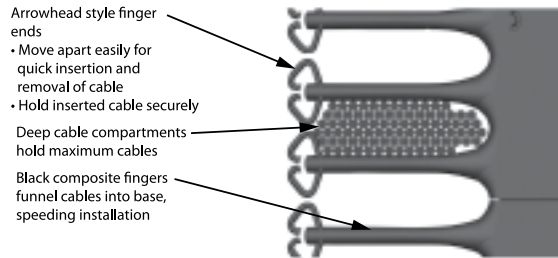
Catalog Number	AxBxC in./mm	Description	Width	Height	RU
EC3S7	84.00 x 3.50 x 11.50 2134 x 89 x 292	Single-Sided	3.5 in.	7 ft.	45
EC3D7	84.00 x 3.50 x 18.00 2134 x 89 x 457	Double-Sided, Post/Gates	3.5 in.	7 ft.	45
EC6S7	84.00 x 6.00 x 11.50 2134 x 152 x 292	Single-Sided	6 in.	7 ft.	45
EC6D7	84.00 x 6.00 x 18.00 2134 x 152 x 457	Double-Sided, Post/Gates	6 in.	7 ft.	45
EC6DF7	84.00 x 6.50 x 20.85 2134 x 165 x 530	Double-Sided, Fingers	6 in.	7 ft.	45



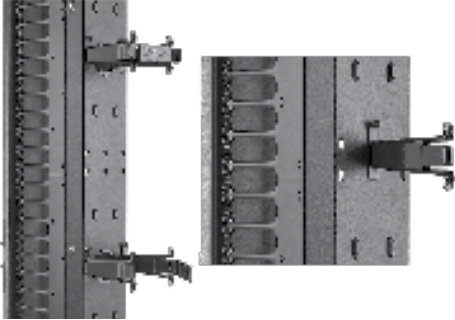


Cable Fill Chart

Catalog Numbers	Front Capacity @ 60 %	Front Capacity @ 60 %	Front Capacity @ 60 %	Rear Capacity @ 60 %	Rear Capacity @ 60 %	Rear Capacity @ 60 %
Cable Category	5e	6	5A	5e	6B	6A
EC3S7	534	414	287	—	—	—
EC3D7	534	414	287	195	151	105
EC6S7	917	710	493	—	—	—
EC6D7	917	710	493	414	341	236
EC6DF7	917	710	493	414	341	236
Arrowhead	85	66	66	—	—	—



## CABLETEK™ POST AND GATE KITS

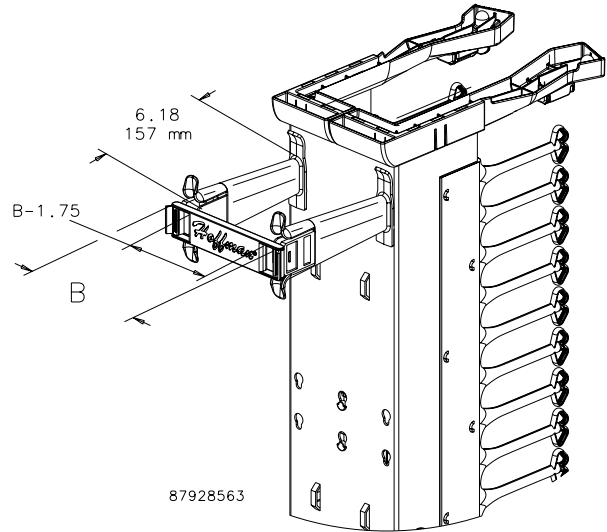


Post and Gate Kits snap together quickly without tools. Each set consists of two posts and one gate. Posts snap into prepunched holes on the backs of CABLETEK™ Vertical Cable Managers (single-sided and double-sided with posts and gates) and are easily repositionable without tools. Gates swivel open 280 degrees left or right to allow convenient cable access. When closed, posts and gates contain, support and secure large volumes of cables and cable bundles. Molded from black composite material with large radius, these posts and gates smoothly transition cables from vertical to horizontal positions. Order additional Post and Gate Kits to add to single- and double-sided cable managers.

Single posts can be used alone as slack spools on the front side of the cable manager.

**BULLETIN: DOFRY**

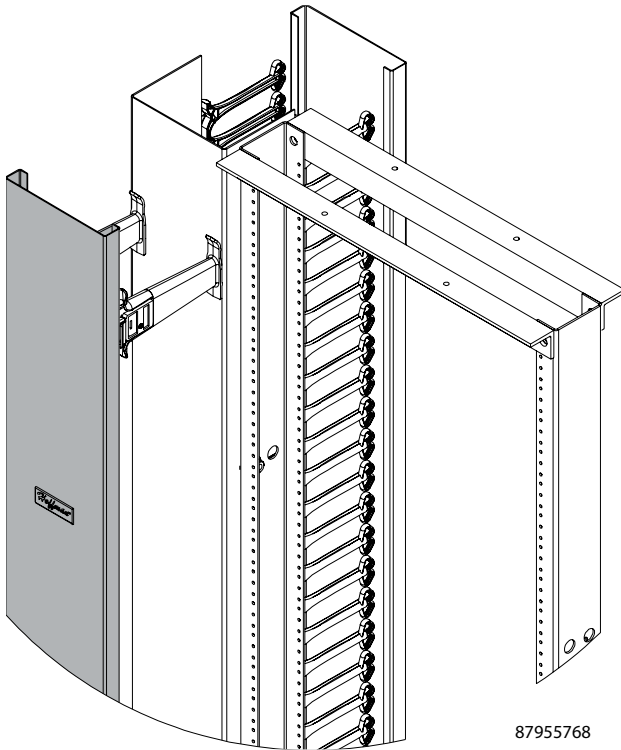
Catalog Number	Description	B (in.)	B (mm)	Pkg. Qty.
DGP3	Posts and Gates	3.00	76	10 sets
DGP6	Posts and Gates	6.00	152	10 sets
DGP10	Posts and Gates	10.00	254	10 sets
DGP12	Posts and Gates	12.00	305	10 sets



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2

## REAR COVER



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Rear cover is an accessory for all CABLETEK™ Vertical Cable Managers with post and gates. For double-sided managers, covers attach to included post and gates. For single-sided managers, appropriate Post and Gates Kit must be ordered.

**BULLETIN: DOFRY**

Catalog Number	AxBxC in./mm	Fits
EC3C7	84.00 x 3.50 x 1.00 2134 x 89 x 25	3.50 x 7.00 in.
EC6C7	84.00 x 6.00 x 1.00 2134 x 152 x 25	6.00 x 7.00 in.
EC10C7	84.00 x 10.00 x 1.00 2134 x 254 x 25	10.00 x 7.00 in.
EC12C7	84.00 x 12.00 x 1.00 2134 x 305 x 25	12.00 x 7.00 in.

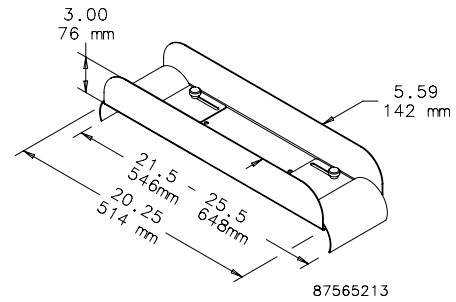
Posts and Gates are required for assembly and to support the rear cover. For single-sided cable managers, order the appropriate Post and Gate accessory kit.

### WATERFALL TOP

For routing cable across the top of an open-frame rack. Provides horizontal-to-vertical transition bend radius for compliant installation of Category 5, 6, 6A and fiber optic cable. Makes a complete cable management system when used with vertical and horizontal cable managers. Mounts on 2- and 4-post open-frame racks. Material is steel with RAL 9005 black polyester powder paint finish.

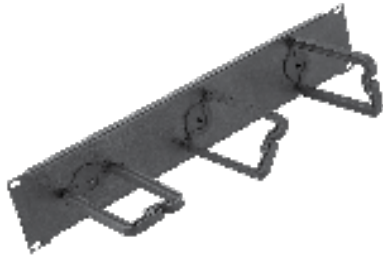
BULLETIN: DOFRY

Catalog Number	Description	Fits Open Frame Rack
EWFT	Waterfall Top	19 in.



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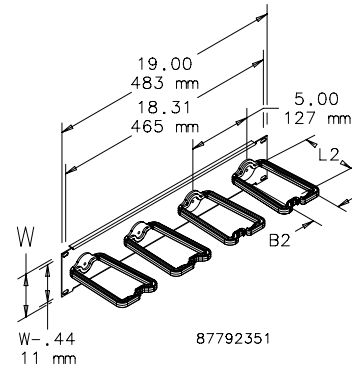
### D-RING ASSEMBLY



Mounts horizontally on 19-in. racks. Allows grouping vertical cable runs. D-Rings rotate on bracket for easy cable positioning; snap open for easy access for cable updates, yet latch securely. Back plate made of steel with RAL 9005 black polyester powder paint finish; D-Rings are black plastic. Mounting hardware included.

BULLETIN: DACCY

Catalog Number	Description	B2 in./mm	L2 in./mm	W in./mm	Rack Units
ECM19DR1U	19-in. D-Ring Assembly	1.22 31	2.88 73	1.75 44	1
ECM19DR2U	19-in. D-Ring Assembly	2.22 56	4.42 112	3.50 89	2



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### TIE-DOWN PANEL

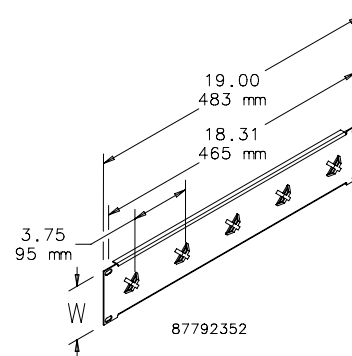


Tie-Down Panels mount horizontally on 19-in. racks. Steel panels with RAL 9005 black polyester powder paint finish have slots for VELCRO® cable wraps. Each panel includes 10 black 8-in. (203-mm) VELCRO cable wraps. Mounting hardware included.

VELCRO is a trademark of Velcro Industries B.V

BULLETIN: DACCY

Catalog Number	Description	W in./mm	Rack Units
ECM19TP1U	19-in. Tie-Down Panel	1.75 44	1
ECM19TP2U	19-in. Tie-Down Panel	3.50 89	2



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## TIE-DOWN RACK

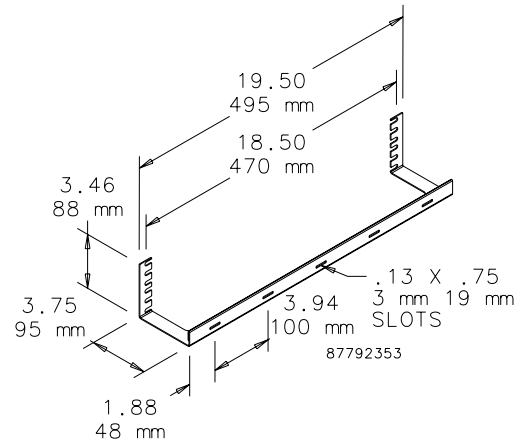


This zero-rack-unit Tie-Down Rack mounts horizontally on 19-in. racks. It takes up minimum space yet effectively controls and separates cable runs. Made of steel with RAL 9005 black polyester powder paint finish. Includes slots for cable wraps. Each rack includes 10 black 8-in. (203-mm) VELCRO® cable wraps. Mounting hardware included.

VELCRO is a trademark of VELCRO Industries B.V.

### BULLETIN: DACCY

Catalog Number	Description	Rack Units
ECM19TD2U	19-in. Tie Down Rack	0



2

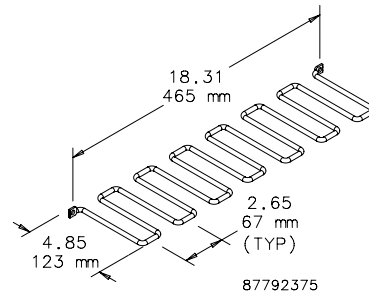
## WIRE FORM CABLE MANAGER



This cable manager takes up minimum space, but provides excellent cable sorting capability. Designed to mount on top of patch panels, this zero-rack-unit cable manager provides support and control of cables. Made of plated steel. Mounting hardware included.

### BULLETIN: DACCY

Catalog Number	Description	Use With	Rack Units
EWVC19H	19-in. Wire Form Cable Manager	19-in. racks	0



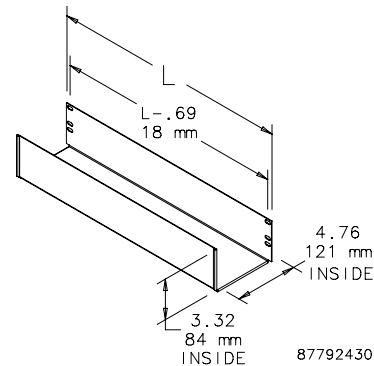
## CABLE TROUGH



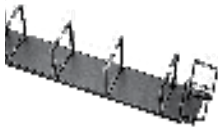
Mounts horizontally on 19-in. or 23-in. rack angles to support cables and power cords. Made of steel with RAL 9005 black polyester powder paint finish.

### BULLETIN: DOFRY

Catalog Number	Description	L in./mm	Rack Units
ECT19	19-in. Cable Trough	19.00 483	2
ECT23	23-in. Cable Trough	23.00 584	2



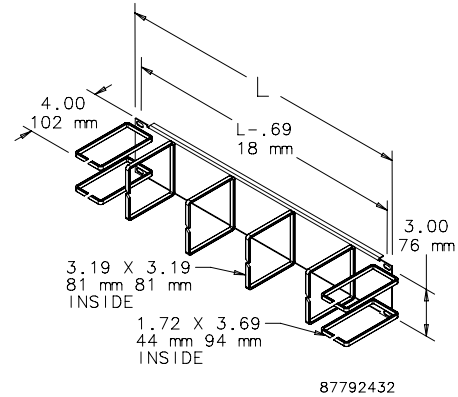
### CABLE MANAGER



Mounts horizontally. For routing and bundling cable on 19-in. or 23-in. racks. Material is steel with RAL 9005 black polyester powder paint finish. Horizontal-Vertical Cable Manager shown.

**BULLETIN: DACCY, DOFRY**

Catalog Number	Description	L in./mm	Rack Units
ECK19H	19-in. Horizontal Cable Manager	19.00 483	2
ECK19HV	19-in. Horizontal-Vertical Cable Manager	19.00 483	2
ECK23HV	23-in. Horizontal-Vertical Cable Manager	23.00 584	2

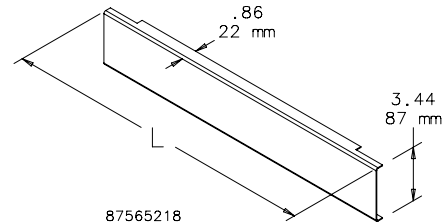


### HORIZONTAL CABLE MANAGEMENT COVER

Provides a finished appearance to a 19-in. or 23-in. open-frame rack cable management system. Models snap onto ECK19H, ECK19HV and ECK23HV Cable Managers. Material is steel with RAL 9005 black polyester powder paint finish.

**BULLETIN: DACCY**

Catalog Number	Description	Fits Horizontal Cable Manager	L in./mm
ECKCVR19	19-in. Cable Manager Cover	ECK19H, ECK19HV	19.00 483
ECKCVR23	23-in. Cable Manager Cover	ECK23HV	23.00 594



### HORIZONTAL CABLE MANAGER BAR

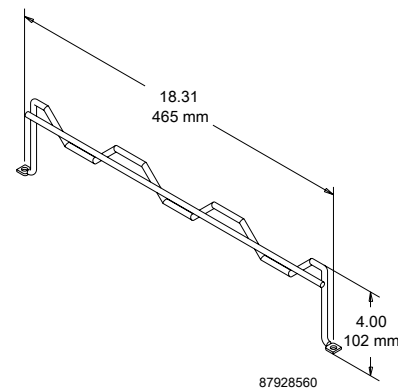


Supports cables between vertical and horizontal cable managers. Designed for use with VELCRO® cable ties. Angled tie-off surfaces allow cable to follow natural flow and maintain proper bend radius. Can be installed behind patch panels to support large permanent link cable bundles. Can also be installed on top of patch panels as a zero-RU manager to separate and control patch cables. Made of steel with a black finish. Secures standard cables, including CAT 5e, 6 and 6A cables. Meets EIA 310-D standard. Includes mounting fasteners.

*VELCRO is a trademark of VELCRO Industries B.V.*

**BULLETIN: DACCY**

Catalog Number	Description	Rack Units
DCHB1	Horizontal Cable Manager Bar	1



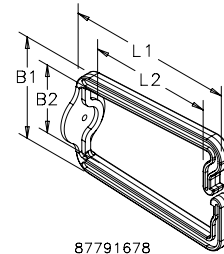
### D-RING CABLE MANAGERS



D-Rings, made of black plastic, can be used to manage cables horizontally, vertically or as they transition. Snap feature allows easy cable access as well as forming a tightly closed connection. Package includes 10 rings and 10 mounting screws.

**BULLETIN: DACCY**

Catalog Number	AxB in./mm	B1 in./mm	B2 in./mm	L1 in./mm	L2 in./mm	Pkg. Qty.
ECM3DR10	1.72 x 3.50 44 x 89	1.72 44	1.22 31	3.50 89	2.88 73	10
ECM6DR10	3.00 x 5.33 76 x 135	3.00 76	2.22 56	5.33 135	4.42 112	10



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2

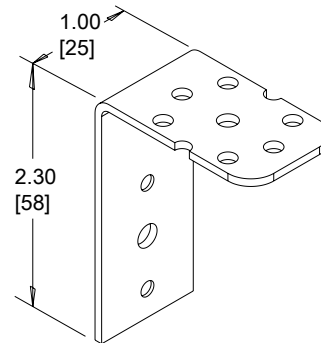
### UNIVERSAL D-RING BRACKET



Mounts D-Ring (order separately) on PROLINE™ or Network Vertical Tie-Down Cable Manager, PROLINE Front-to-Back D-Ring Bracket or grid strap. D-Ring locks into hole provided. Made of steel coated with RAL 9005 black polyester powder paint. Includes mounting hardware.

**BULLETIN: DACCY**

Catalog Number	Description	Pkg. Qty.
EDRBK10	D-Ring mounting bracket	10



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### FIBER MANAGEMENT SPOOL

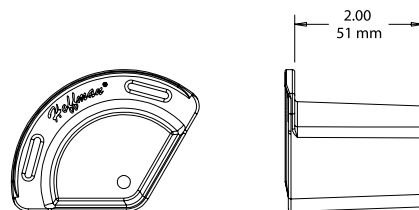


Fiber Management Spools mount inside the cabinet and help maintain proper bends when routing cable. Molded of black plastic. Includes thread-forming M5 mounting screws. Slots provided on flange for VELCRO® cable wrap.

*VELCRO is a trademark of Velcro Industries B.V.*

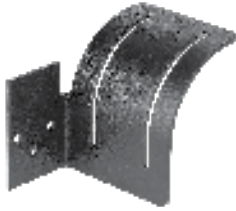
**BULLETIN: DTX**

Catalog Number	Radius (in.)	Radius (mm)	Pkg. Qty.
TOPTKSPL	1.18	30	4



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### UNIVERSAL TRANSITION BRACKET

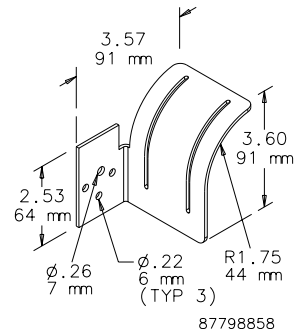


Provides support for cable in transitions between horizontal and vertical routing. Mounts to strut, grid strap or PROLINE™ and Network Vertical Tie-Down Cable Managers. Can be used with VELCRO® Cable Wrap (order separately). Made of steel coated with RAL 9005 black polyester powder paint. Includes mounting hardware.

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BULLETIN: DACCY

Catalog Number	Description	Pkg. Qty.
ETRB8	Horizontal or vertical transition	8



### CABLE SPOOLS



Spools maintain minimum cable radius and direct cable. Fasten easily to Heavy Duty or Seismic racks with a single screw. Can also be used with patch panels, grid straps or plywood walls for general cable management. Mounting screws included.

BULLETIN: DACCY

Catalog Number	Height (in.)	Usable Height (mm)	Material	Pkg. Qty.
PSP00L	1.44	37	ABS, UL-V0 rated	10
P4SP00L	3.81	97	ABS, UL-V0 rated	10

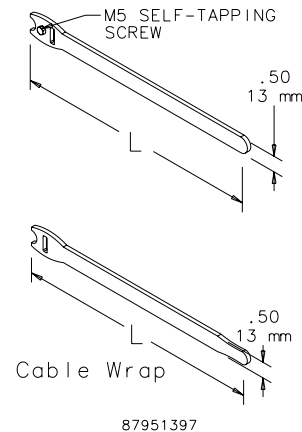
### VELCRO® CABLE WRAP



Securely holds cable to cable manager and unfastens easily for cable maintenance. VELCRO® is 0.5-in. (12.7-mm) wide. Available in 8- and 12-in. (203- and 305-mm) lengths in both screw fastener and wrap styles. M5 self-tapping screw is used on Net Series or PROLINE™ frames.

VELCRO is a trademark of Velcro Industries B.V.

BULLETIN: DACCY



Catalog Number	Description	L (in.)	L (mm)	Color	Pkg. Qty.
ECWTD8B	Screw fastener style. Includes M5 mounting screw.	8.00	203	Black	10
ECWTD12B	Screw fastener style. Includes M5 mounting screw.	12.00	305	Black	10
ECW8B	Wrap style	8.00	203	Black	10
ECW8R	Wrap style	8.00	203	Red	10
ECW8BL	Wrap style	8.00	203	Blue	10
ECW8Y	Wrap style	8.00	203	Yellow	10
ECW12B	Wrap style	12.00	305	Black	10
ECW12R	Wrap style	12.00	305	Red	10
ECW12BL	Wrap style	12	305	Blue	10
ECW12Y	Wrap style	12	305	Yellow	10

## RACK- AND PANEL-MOUNT POWER DISTRIBUTION UNITS (PDUS)



### FEATURES

- Power on/off LED indicates whether power is available at the PDU
- External ground stud provided on single-phase models for secure grounding
- Circuit breakers provide additional equipment protection
- Circuits are isolated on dual circuit model; each has its own circuit breaker
- Reset button provides easy access to circuit breaker reset
- Surge protector models have an indicator LED to verify surge circuitry protection
- Rack-mount models mount directly to rack or with adapter bracket
- Rack-mount models designed for single-phase applications
- Panel-mount models can be mounted flush or with hanging bracket
- Panel-mount models available for both one- and three-phase applications
- Three-phase models have three 20 A, double-pole magnetic breaker/switches with an integral switch guard

### SPECIFICATIONS

- Steel housing
- Power cord with molded-on plug:
  - 12-in. (305-mm) long single-phase model: 6 ft. (1.8 m)
  - Other single-phase models: 15 ft. (4.6 m)
  - Three-phase models: 10 ft. (3 m)

**Contact Hoffman for custom modifications and non-standard offerings.**

### FINISH

Black, low-gloss textured paint.

**BULLETIN: DPS**

2

### INDUSTRY STANDARDS

UL/cUL 60950 listed  
UL 1449 (Surge protector models only)

EIA 310-D (19-in. rack-mount models only)

### APPLICATION

Rack- and Panel-Mount PDUs not only provide convenient, reliable power to equipment mounted in cabinets or on open frame racks, they can also be configured to meet a wide range of design specifications.

### Standard Product Single-Phase Rack-Mount

Catalog Number	Surge Protection	Amp Meter	Load Rating	Voltage (VAC)	Joule Rating	Receptacle Location	No. of Receptacles	Receptacle Style	Power Cord Plug	Rack Units
DP1N190615	No	No	15A	120	—	Front	6	NEMA 5-15R	NEMA 5-15P	1
DP1N191415	No	No	15A	120	—	6 front, 8 back	14	NEMA 5-15R	NEMA 5-15P	1
DP1N191415M	No	Yes	15A	120	—	6 front, 8 back	14	NEMA 5-15R	NEMA 5-15P	1
DP1N191015S	Yes	No	15A	120	2000	2 front, 8 back	10	NEMA 5-15R	NEMA 5-15P	1
DP1N191020	No	No	20A	120	—	2 front, 8 back	10	NEMA 5-20R	NEMA 5-20P	1
DP1N191020S	Yes	No	20A	120	2000	2 front, 8 back	10	NEMA 5-20R	NEMA 5-20P	1
DP1N191020ST	Yes	No	20A	120	2000	2 front, 8 back	10	NEMA 5-20R	NEMA L5-20P Twist Lock	1
DP1N191420	No	No	20A	120	—	6 front, 8 back	14	NEMA 5-20R	NEMA 5-20P	1

Isolated circuits on dual-circuit models with separate circuit breakers.

### Plugs and Receptacles

NEMA Type	Plug	Receptacle
NEMA 15 Amp, 120V, Duplex	5-15P 	5-15R 
NEMA 20 Amp, 120V, Duplex	5-20P 	5-20R 
NEMA 20 Amp, 120V, Twist Lock	L5-20P 	L5-20R 
30 Amp, 120/208V Wye, Twist Lock	L21-30P 	L21-30R 

IEC Type	Inlet	Outlet
IEC 15 Amp, 125/250V	C-14 	C-13 
IEC 20 Amp, 125/250V	C-20 	C-19 

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Standard Product **Single-Phase Vertical-Mount**

Catalog Number	Length (in.)	Length (mm)	Surge Protection	Amp Meter	Load Rating	Voltage (VAC)	Joule Rating	No. of Receptacles	Receptacle Style	Power Cord Plug
DP1N120615	12.00	305	No	No	15A	120	—	6	NEMA 5-15R	NEMA 5-15P
DP1N160620S	16.00	406	Yes	No	20A	120	2000	6	NEMA 5-20R	NEMA 5-20P
DP1N481815	48.00	1219	No	No	15A	120	—	18	NEMA 5-15R	NEMA 5-15P
DP1N622415	62.00	1575	No	No	15A	120	—	24	NEMA 5-15R	NEMA 5-15P
DP1N622420	62.00	1575	No	No	20A	120	—	24	NEMA 5-20R	NEMA 5-20P
DP1N622420T	62.00	1575	No	No	20A	120	—	24	NEMA 5-20R	NEMA L5-20P Twist Lock
DP1N622420M	62.00	1575	No	Yes	20A	120	—	24	NEMA 5-20R	NEMA 5-20P
DP1N622420MT	62.00	1575	No	Yes	20A	120	—	24	NEMA 5-20R	NEMA L5-20P Twist Lock
DP1N622040DT	62.00	1575	No	No	20A per circuit	120	—	20, 10 per circuit, dual circuit	NEMA 5-20R	NEMA L5-20P Twist Lock
DP1E2663030MT	66.00	1676	No	Yes	30A	250	—	30	24 IEC C-13, 6 IEC C-19	NEMA L6-30P Twist Lock

Isolate circuits on dual circuit models with separate circuit breakers.

DP1E2663030MT is Ethernet metered; SNMP trap provides remote current monitoring via Ethernet.

Standard Product **Three-Phase Vertical-Mount**

Catalog Number	Length (in.)	Length (mm)	Amp Meter	Load Rating	Voltage (VAC)	No. of Outlets per Phase	Total Outlets per PDU	Required Inlet Style	Power Cord Plug
DP3E2663635MT	66.00	1676	Yes	35A	250	10 IEC C-13, 2 IEC C-19	30 IEC C-13, 6 IEC C-19	IEC C-14 and C-20	CA style 50A 250 Vac Twist Lock

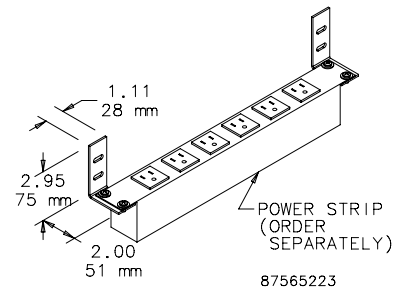
DP3E2663635MT is Ethernet metered; SNMP trap provides remote current monitoring via Ethernet.

**RACK-MOUNT PDU BRACKET**

Allows rack-mount power strips to be mounted to cabinet sides without using up rack space. Made of plated steel. Includes two brackets and mounting hardware. Order power strip separately.

BULLETIN: DPS

Catalog Number	Finish	Pkg. Qty.
A19PSMB	Plated	2 brackets



**UNIVERSAL POWER STRIP BRACKET**



This bracket fits in the corner of the frame of all PROLINE™ cabinets and facilitates mounting a variety of power strips.

BULLETIN: DPY

Catalog Number	Description
EPDUBK	Universal Power Strip Bracket fits all PROLINE cabinets

**IEC CORD SETS**



Cord sets help minimize cord tangle, increasing airflow to equipment.

BULLETIN: DPS

Catalog Number	Description	Pkg. Qty.
DP5E	0.5-m (1.64-ft.) IEC patch cord, 18/3 SJT Black, C-14 to C-13	10
DP10E	1-m (3.28-ft.) IEC patch cord, 18/3 SJT Black, C-14 to C-13	10

**IEC C-13 RETAINING CLIP**



Secures the IEC C-14 inlet into the C-13 outlet. Helps to prevent inadvertently unplugging the cord set.

BULLETIN: DPS

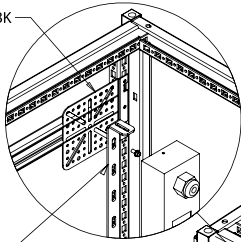
Catalog Number	Description	Pkg. Qty.
DPCLIP	IEC C-13 Retaining Clip	10

**SMART PDU COMPONENT APPLICATION**

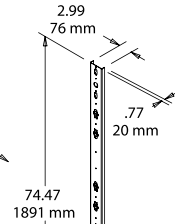
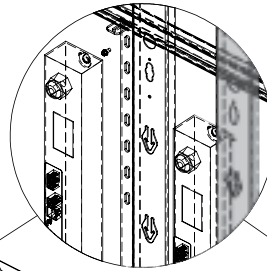
Remote sensors and displays, environmental monitors and smoke alarms help to build a system that fits the unique requirements of each individual installation.

**Vertical PDU Mounting Options**

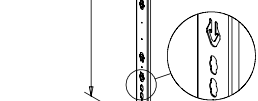
EPDUBK



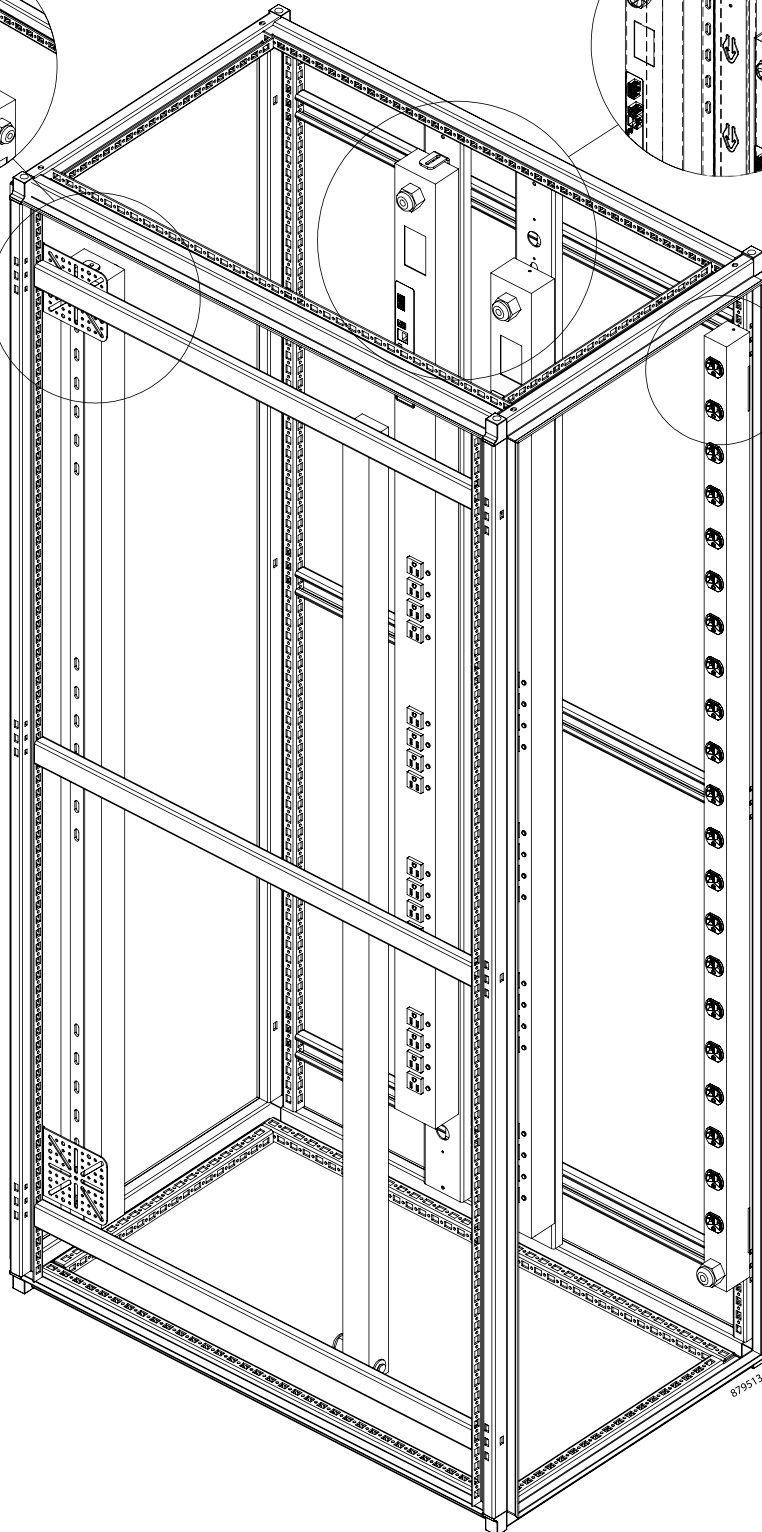
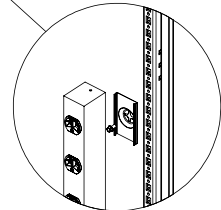
Bracket provided with PDUs 66 in./1676 mm and greater in length.



PVCPM20



Bracket provided for Vertical PDUs 12 in./305 mm to 62 in./1575 mm in length.

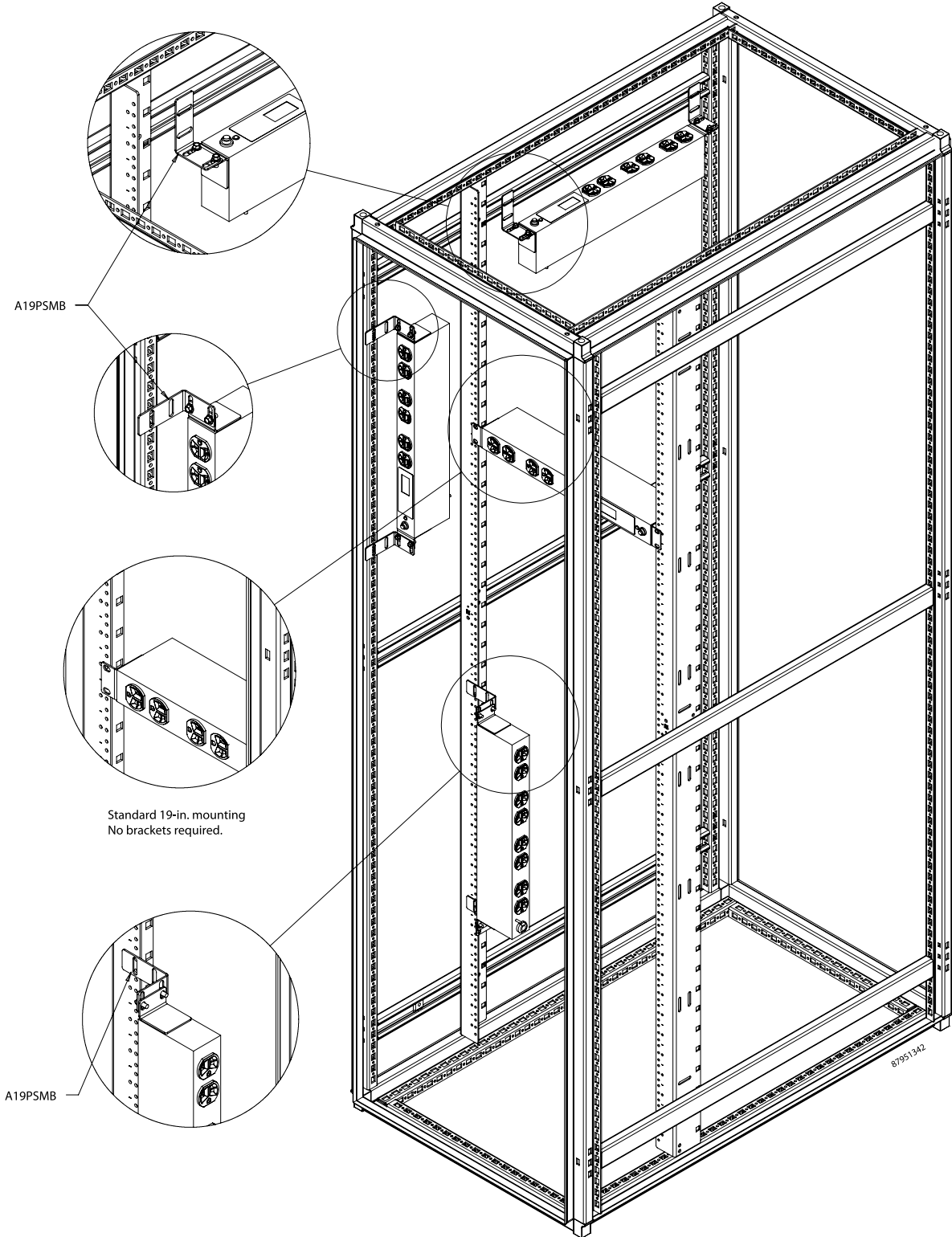


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### Horizontal PDU Mounting Options



*Hoffman*

# CHAPTER 3 OPEN FRAME RACKS

## FEATURED PRODUCTS

### 2-POST OPEN FRAME RACKS

2-Post Open Frame Racks satisfy basic functional requirements for structuring cable. Visible, permanent RU marking on rack uprights enable easy equipment alignment without measuring for communication data centers and telecommunication rooms. Available in standard and heavy-duty models.



### 4-POST OPEN FRAME RACKS

Support deeper, heavier network equipment with 4-Post Open Frame Racks. These adjustable racks combine the mounting security of a cabinet with the accessibility of a rack. To expand existing systems, 4-post racks can be ganged with standard 2-post or other 4-post racks.





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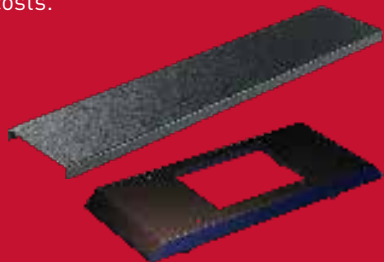
### OPEN FRAME RACK ACCESSORIES

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4-Post Open Frame Rack Front-to-Back Cable Manager .....	99
Joining Kit .....	99
Dust Cover .....	100
Panel Adapter .....	100
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Electrical Isolation Kit .....	100



### OPEN FRAME RACK ACCESSORIES

Streamline cable management with a broad selection of open frame rack accessories. From cable managers to adapters, available accessories facilitate fast cable installation and organization, reducing installation and maintenance costs.



## 2-POST OPEN FRAME RACK



Two-Post Rack with shelves

Populated Two-Post Rack with vertical cable management

### APPLICATION

Designed for use in communication data centers and telecommunication rooms, 2-Post Open Frame Racks satisfy basic functional requirements for structuring cable. Racks are available in 3-in. or 6-in. column widths.

### FEATURES

- Range of heights from 4 ft. to 9 ft. (24U to 58U) to match capacity requirements; 19-in. Rack Packages are 7-ft. high
- Side rails are tapped on both sides with 12-24UNC threads for quick installation
- EIA Universal 5/8 in. - 5/8 in. - 1/2 in. vertical mounting hole pattern matches industry standards
- RU markings on both front and back of uprights make it easier to mount equipment
- Packed unassembled in individual cartons; assembly hardware (including twenty 12-24 mounting screws) is furnished for convenient storage and installation
- Can be shipped via FedEx or UPS
- Convenient rack and cable manager packages offered with either one or two 6-in. cable managers; includes one-piece hinged cover

### SPECIFICATIONS

- Frame is a strong and lightweight aluminum (6063-T6 alloy), extruded or formed, with RU markings on both front and back of uprights

### FINISH

RAL 9005 black polyester powder paint or milled aluminum

### LOAD RATING

Do not exceed the following recommended load ratings.

- Floor Mount Rack - 1000 lb. (453.6 kg)
- One-Sided Solid Shelf - 150 lb. (68.0 kg)
- Double-Sided Shelf - 300 lb. (136.1 kg)
- One-Sided Vented Shelf - 150 lb. (68.0 kg)
- Double-Sided Vented Shelf - 300 lb. (136.1 kg)
- Adjustable Vented Shelf - 60 lb. (27.2 kg)
- Keyboard/Monitor Shelf - 200 lb. (90.7 kg)

### BULLETIN: DMAX, DOFR2

### INDUSTRY STANDARDS

UL 1863 Listed; File No. E230874  
cUL Listed per CSA C22.2 No. 182.4; File No. E230874

EIA 310-D

### Standard Product 3-in. Column

Catalog Number	AxBxC in.	AxBxC mm	Description	Finish	Rack Units	Nominal Frame Height
EDR19FM24U	48.00 x 20.25 x 15.00	1219 x 514 x 381	19-in. rack	Black	24	4 ft.
EDR19FM38U	72.00 x 20.25 x 15.00	1829 x 514 x 381	19-in. rack	Black	38	6 ft.
EDR19FM45U	84.00 x 20.25 x 15.00	2134 x 514 x 381	19-in. rack	Black	45	7 ft.
EVR19FM45U	84.00 x 20.25 x 15.00	2134 x 514 x 381	19-in. rack	Mill	45	7 ft.
EDR19FM51U	96.00 x 20.25 x 15.00	2438 x 514 x 381	19-in. rack	Black	51	8 ft.
EVR19FM51U	96.00 x 20.25 x 15.00	2438 x 514 x 381	19-in. rack	Mill	51	8 ft.
EDR19FM58U	108.00 x 20.25 x 15.00	2743 x 514 x 381	19-in. rack	Black	58	9 ft.
EVR19FM58U	108.00 x 20.25 x 15.00	2743 x 514 x 381	19-in. rack	Mill	58	9 ft.
EDR23FM24U	48.00 x 24.25 x 15.00	1219 x 616 x 381	23-in. rack	Black	24	4 ft.
EDR23FM38U	72.00 x 24.25 x 15.00	1829 x 616 x 381	23-in. rack	Black	38	6 ft.
EDR23FM45U	84.00 x 24.25 x 15.00	2134 x 616 x 381	23-in. rack	Black	45	7 ft.
EVR23FM45U	84.00 x 24.25 x 15.00	2134 x 616 x 381	23-in. rack	Mill	45	7 ft.
EDR23FM51U	96.00 x 24.25 x 15.00	2438 x 616 x 381	23-in. rack	Black	51	8 ft.
EVR23FM51U	96.00 x 24.25 x 15.00	2438 x 616 x 381	23-in. rack	Mill	51	8 ft.

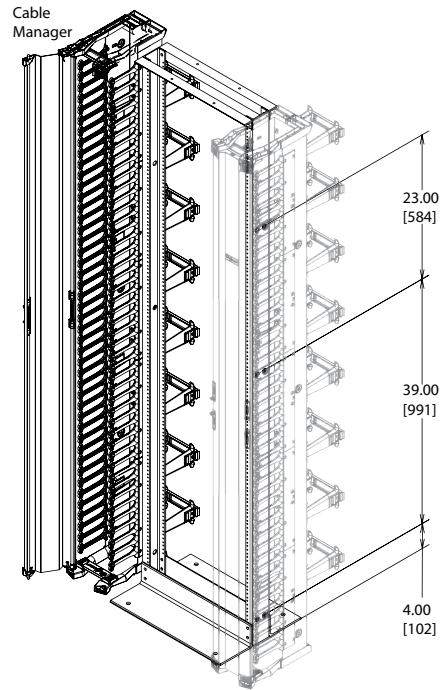
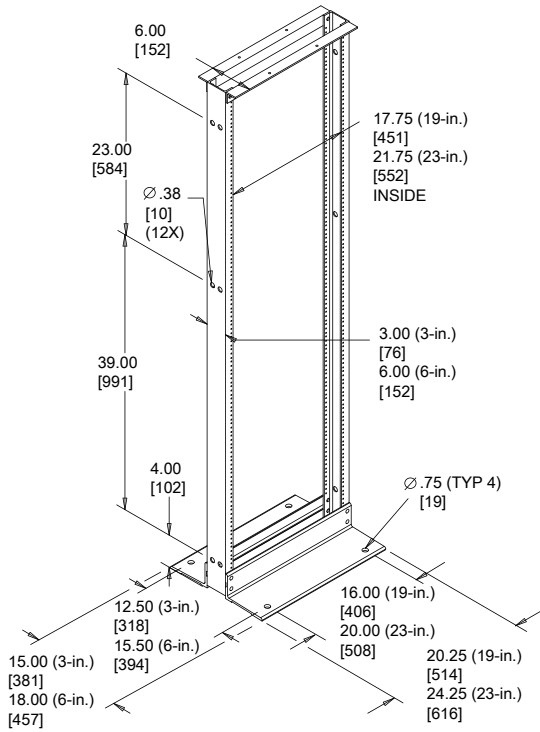
### Standard Product 3-in. Column with Cable Manager

Catalog Number	AxBxC in.	AxBxC mm	Description	Finish	Rack Units	Nominal Frame Height
EDR19FM45UCM1	84.00 x 27.50 x 18.00	2134 x 699 x 457	19-in. rack package, 1 cable manager, DV6D7	Black	45	7 ft.
EDR19FM45UCM2	84.00 x 34.75 x 18.00	2134 x 883 x 457	19-in. rack package, 2 cable managers, DV6D7	Black	45	7 ft.

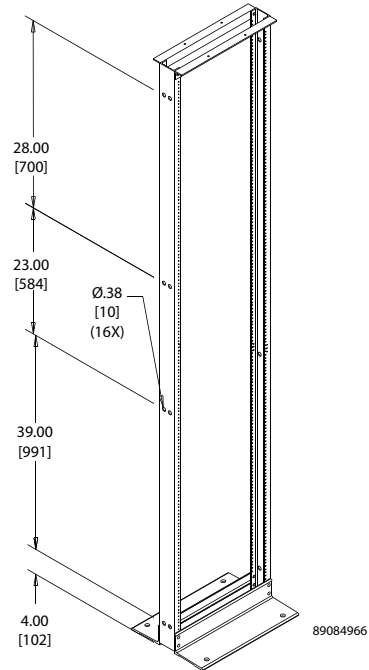
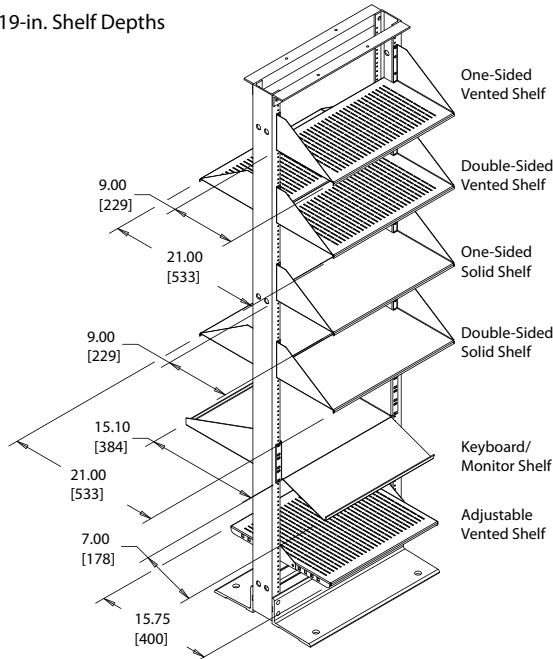
### Standard Product 6-in. Column

Catalog Number	AxBxC in.	AxBxC mm	Description	Finish	Rack Units	Nominal Frame Height
EDR19FM45U6	84.00 x 20.28 x 18.00	2134 x 515 x 457	19-in. rack	Black	45	7 ft.
EDR19FM51U6	96.00 x 20.28 x 18.00	2438 x 515 x 457	19-in. rack	Black	51	8 ft.

2-Post Rack Package  
(CABLETEK Vertical Cable Managers shown with alternate mounting location)



19-in. Shelf Depths



8-Foot and 9-Foot Racks Only  
(Width and Depth dimensions identical to 7-foot rack)



### 4-POST OPEN FRAME RACK

Rack depth fully adjustable



#### INDUSTRY STANDARDS

UL 1863 Listed; File No. E230874  
 cUL Listed per CSA C22.2 No. 182.4; File No. E230874

EIA 310-D

#### Standard Product

Catalog Number	AxB mm	AxB in.	Mounting Hole Type	Rack Units	Nominal Frame Height A
E4DR19FM38U	1826 x 514	71.88 x 20.25	Tapped	38	6 ft.
E4DR19FM45U	2131 x 514	83.88 x 20.25	Tapped	45	7 ft.
E4DR19FM51U	2438 x 514	96.00 x 20.25	Tapped	51	8 ft.
E4DRS19FM45U	2131 x 514	83.88 x 20.25	Square	45	7 ft.
E4DRS19FM51U	2438 x 514	96.00 x 20.25	Square	51	8 ft.

#### APPLICATION

4-Post Open Frame Racks combine the mounting security of a cabinet with the accessibility of a rack. Used in communication data center and telecommunication room applications, these adjustable-depth racks support deeper, heavier network equipment and can be ganged with standard 2-post or other 4-post racks to expand existing systems.

#### FEATURES

- Depth adjustable 450 mm to 1050 mm (17.7 in. to 41.3 in.) in 25-mm (.98-in.) increments
- EIA universal 5/8 - 5/8 - 1/2 in. spaced 12-24 tapped holes or .375-in. square holes fit 19-in. rack equipment
- Compatible with 19-in. rack accessories
- Available with nominal frame height of 6, 7 and 8 ft.
- RU markings on both front and back of tapped-hole uprights make it easier to mount equipment
- Floor mounting holes predrilled at .750-in. diameter
- 12-24 rack mounting screws (pkg. of 20) included with tapped-hole model
- For square hole model, order screws and cage nuts separately
- Can be ganged with both 2- and 4-Post Open Frame racks
- Includes complete assembly instructions
- Shipped unassembled for convenient transport to job site

#### SPECIFICATIONS

- Uprights on the tapped-hole model are made of lightweight extruded aluminum (6063-T6 alloy) and include RU markings on both front and back of uprights
- Uprights on the square-hole model are made from 12 gauge steel
- Top and bottom angles made of extruded aluminum (6063-T6 alloy)

#### FINISH

Smooth RAL 9005 black polyester powder paint finish.

#### LOAD RATING

2500 lb. (1134 kg)

#### PATENTS

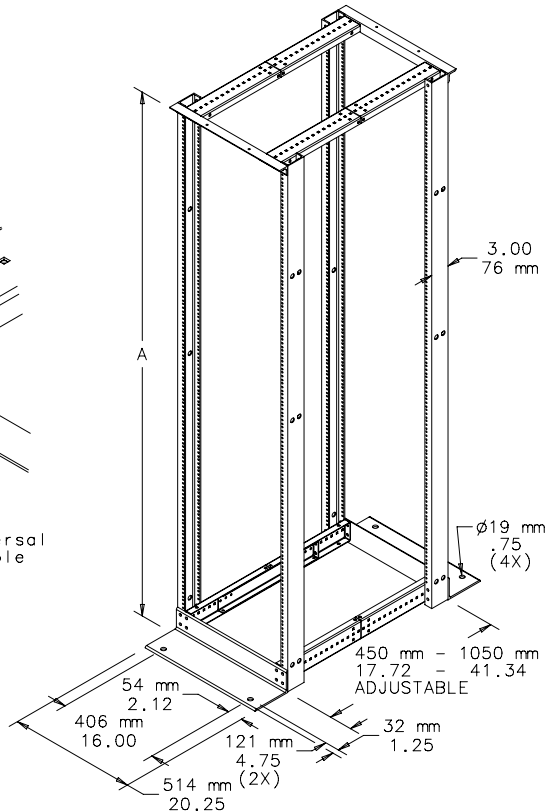
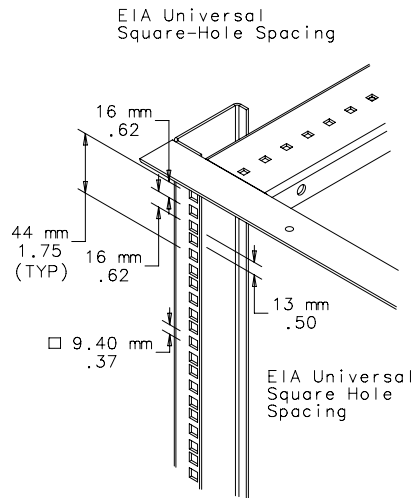
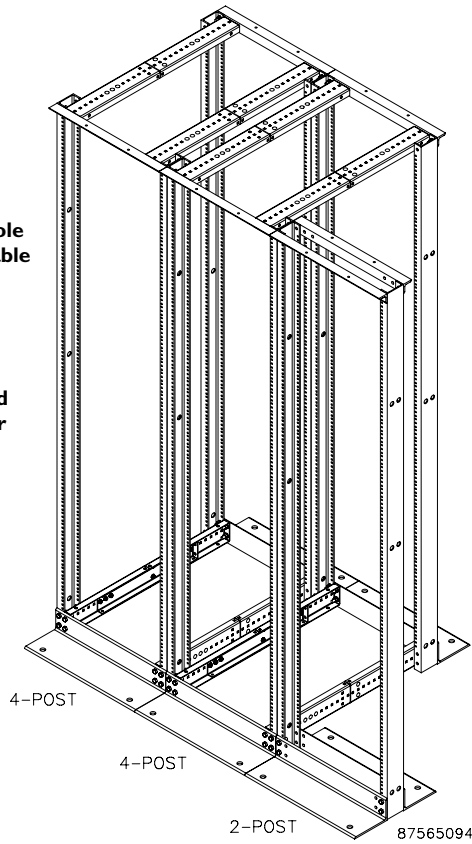
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#### BULLETIN: DOFR4

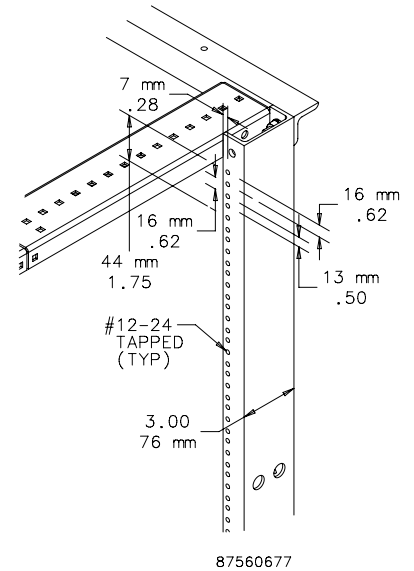


Both tapped and square hole models available (tapped hole model shown)

4-post racks can be ganged with 2-post or other 4-post racks



EIA Universal Tapped-Hole Spacing



## MAXRACK™ OPEN FRAME SYSTEM



### FEATURES

- Rack can be assembled to accommodate either 19- or 23-in. rack equipment
- Racks can be ganged to create rows for high density applications
- 19-in. configuration equals typical tile width of 24 in.
- Flat package to allow easy shipping and handling to job site
- Press-in nuts enable single-side easy assembly
- All structural members are grounded by special grounding and bonding washers
- Top has integrated waterfall, which ensures proper cable radius is achieved
- Top and top bracket support accommodate parallel or perpendicular ladder or basket tray mounting applications
- Channel uprights provided with hole patterns to support various cable management devices
- All RU positions marked with white lettering on front and rear column members
- Easy-to-follow complete installation instructions included
- Upright channels tapped 12-24 holes per EIA Universal pattern standards
- Multiple paint-free grounding points per UL double-lugged standards
- Rack accommodates vertical cable manager accessories

### INDUSTRY STANDARDS

UL 1863 Listed; File Number E230874  
cUL Listed per CSA C22.2 No. 182.4; File No. E230874

Cisco developer registered  
EIA 310-D

### APPLICATION

MAXRACK™ is used for mounting and securing 19- or 23-in. rack equipment that is used in data centers, telecommunication rooms and other locations. These open frame racks are ideal for high-density cabling applications. MAXRACK also supports the cabling and cooling needs of large core switches (CISCO Catalyst 6509 / 6513, NEXUS 7010 and NEXUS 7018) by using the combination air baffle/vertical cable manager accessory. MAXRACK, with its vast features, supports many diverse applications.

### SPECIFICATIONS

- Top and uprights made of multi-formed .125-in. aluminum
- Base angles made of extruded aluminum
- White RU-marked uprights per EIA standards
- Tapped 12-24 holes per EIA Universal pattern standards

### LOAD RATING

Static maximum load is 2500 lbs/1134 kg.

### ACCESSORIES

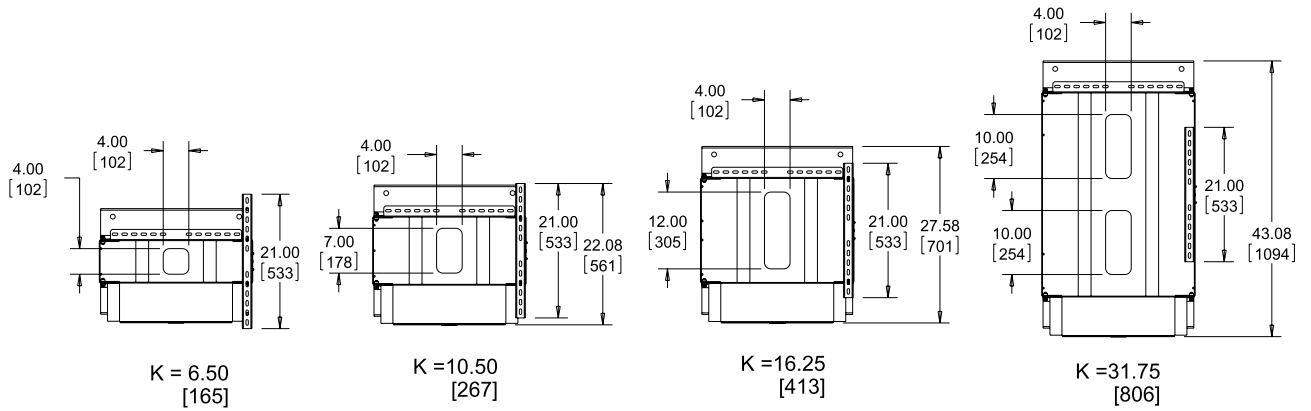
Vertical Cable Managers  
Blanking Panels  
Grounding kits  
PDUs  
Shelves

### BULLETIN: DMAX

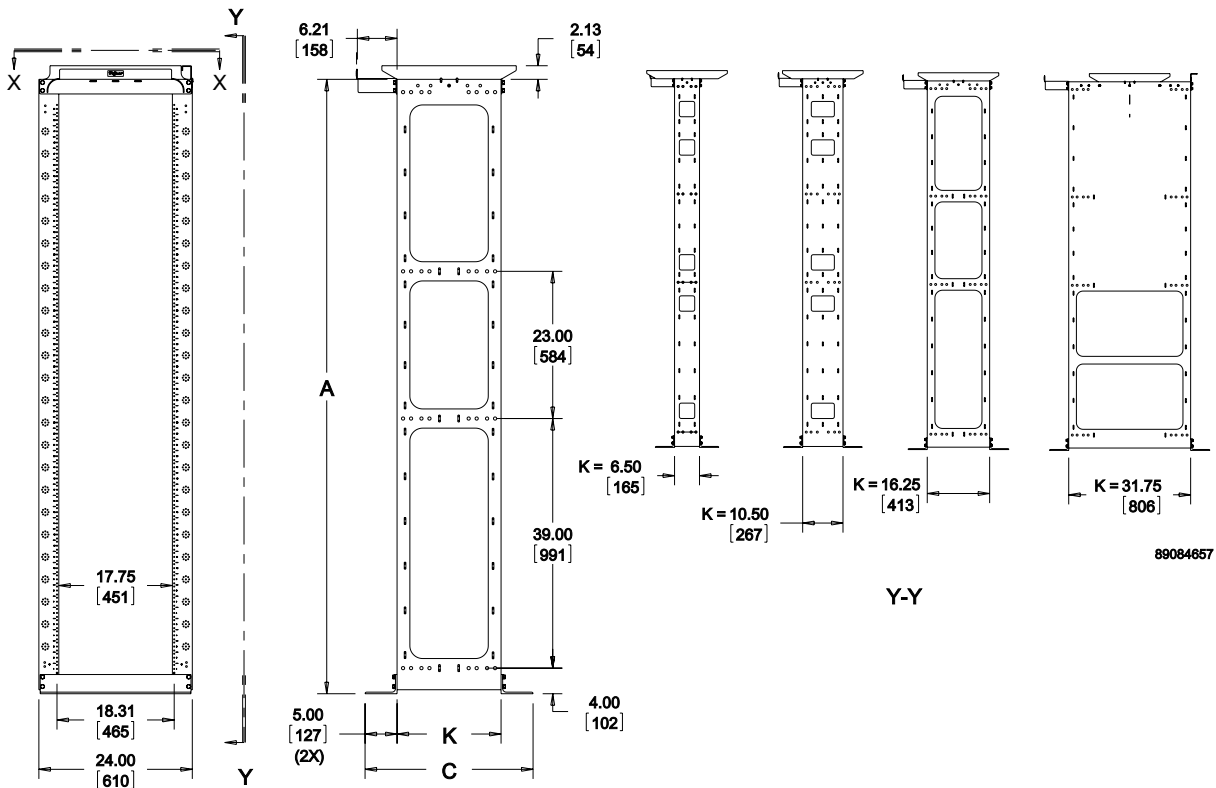
### Standard Product MAXRACK Open Frame System

Catalog Number	AxBxC in.	AxBxC mm	Rack Units	G (in.)	G (mm)	K (in.)	K (mm)
M846B45	86.13 x 24.00 x 16.50	2188 x 610 x 419	45	14.00	356	6.50	165
M8410B45	86.13 x 24.00 x 20.50	2188 x 610 x 521	45	18.00	457	10.50	267
M8416B45	86.13 x 24.00 x 26.25	2188 x 610 x 667	45	23.75	603	16.25	413
M8432B45	86.13 x 24.00 x 41.75	2188 x 610 x 1060	45	39.25	997	31.75	806
M966B51	98.13 x 24.00 x 16.50	2493 x 610 x 419	51	14.00	356	6.50	165
M9610B51	98.13 x 24.00 x 20.50	2493 x 610 x 521	51	18.00	457	10.50	267
M9616B51	98.13 x 24.00 x 26.25	2493 x 610 x 667	51	23.75	603	16.25	413
M9632B51	98.13 x 24.00 x 41.75	2493 x 610 x 1060	51	39.25	997	31.75	806

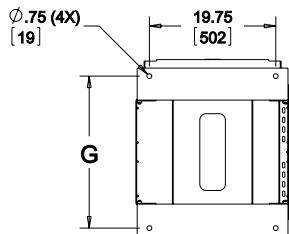




X-X



Y-Y



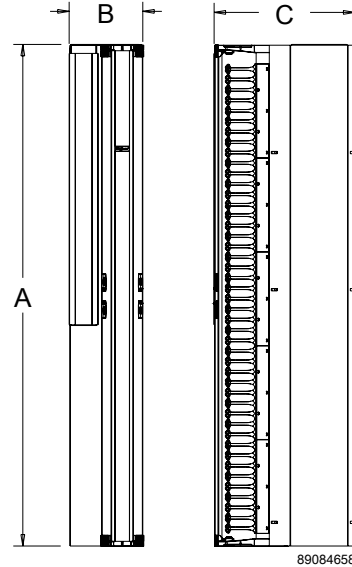
### MAXRACK™ AIR BAFFLE AND CABLE MANAGERS FOR CISCO SWITCH



MAXRACK™ Air baffle and Vertical Cable Manager accessory kits ensure CISCO switch compliance. They provide the required cold air access and provisions for high-density cabling. Baffles and cable manager uprights made of aluminum; supporting fingers made of composite. Finish is RAL 9005 black light-textured, low-gloss polyester powder paint.

Cisco developer registered.

BULLETIN: DMAX



#### Standard Product MAXRACK Air Baffle and Cable Managers for CISCO Switch

Catalog Number	AxBxC in./mm	Use with CISCO Switch	Use with MAXRACK
M84D12	84.13 x 12.00 x 23.68 2137 x 305 x 601	Catalyst 6509/6513	M8416B45
M84D18	84.13 x 18.00 x 39.37 2137 x 457 x 1000	NEXUS 7018	M8432B45
M96D12	96.13 x 12.00 x 23.68 2442 x 305 x 601	Catalyst 6509/6513	M9616B45
M96D18	96.13 x 18.00 x 39.37 2442 x 457 x 1000	NEXUS 7018	M9632B45

### MAXRACK™ DUST COVER



Dust Cover fits over the top of the base angles, inside the uprights. Covers are made of aluminum with matching RAL 9005 black light-textured, low-gloss polyester powder paint.

BULLETIN: DMAX

#### Standard Product MAXRACK Dust Cover

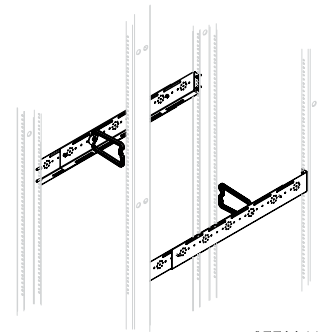
Catalog Number	AxBxC in./mm	Fits MAXRACK Depth
MDC6	1.00 x 17.95 x 7.33 25 x 456 x 186	6-in.
MDC10	1.00 x 17.95 x 11.33 25 x 456 x 288	10-in.
MDC16	1.00 x 17.95 x 17.08 25 x 456 x 434	16-in.
MDC32	1.00 x 17.95 x 32.58 25 x 456 x 828	32-in.

### 4-POST OPEN FRAME RACK FRONT-TO-BACK CABLE MANAGER

Cable Manager provides holes for mounting D-Rings and Spools to facilitate routing and managing cable in a 4-Post Open Frame Rack. Mounts to rack uprights. Made of steel with RAL 9005 black polyester paint finish. Includes six large D-Rings.

BULLETIN: DOFRY

Catalog Number	Height mm/in.	Width mm/in.	Adjusts to Fit 4-Post Depth	Pkg. Qty.
E4FBCM	74 2.90	22 .85	750-1050	1



87799410

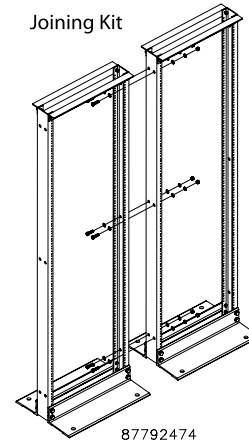
### JOINING KIT

Hardware kit to join two open-frame racks. Made of steel with plated finish.

BULLETIN: DOFRY

Catalog Number	Description
EJZDR	Joining Kit, Side-to-Side

Joining Kit



87792474

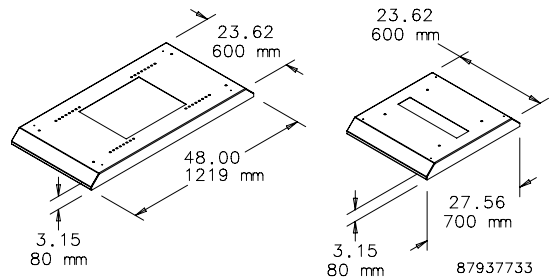
### MOBILE BASE FOR OPEN FRAME RACKS



Models for 19-in. 2- and 4-Post Open Frame Racks. Includes four non-locking casters. Will also accept standard levelers. Order catalog number PMBLM12 separately. The rack mounts on the base to provide greater stability with mobility. Made of steel with RAL 9005 black polyester powder paint finish. Mounting hardware included.

BULLETIN: DOFRY

Catalog Number	Fits
A19MB600	2-post open-frame racks
A19MB1000	4-post open-frame racks with depth adjustable between 17.7- and 29.5-in. (450- and 750-mm) in 0.98-in. (25-mm) increments



87937733

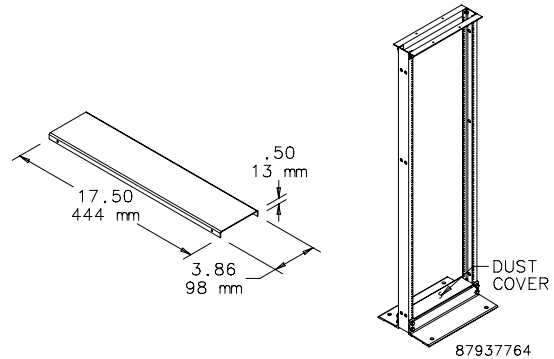


### DUST COVER



Provides a finished appearance to the base of a two-post rack. Made of steel with RAL 9005 black polyester powder paint finish.  
**BULLETIN: DOFRY**

Catalog Number	Use with
EDUSTCVR	DataCom 2-post rack



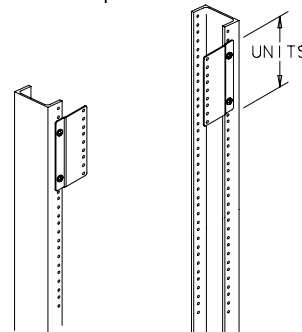
### PANEL ADAPTER

Adapts 23-in. open frame rack to accept 19-in. equipment. Offset provides flush mounting surface. Steel with plated finish. Furnished in pairs.

**BULLETIN: DACCY**

Catalog Number	Rack Units
ERB1U2319	1
ERB3U2319	3
ERB5U2319	5

Panel Adapter



### CONCRETE EXPANSION BOLT ANCHOR KIT

For use with seismic and non-seismic open frame racks.  
**BULLETIN: DACCY**

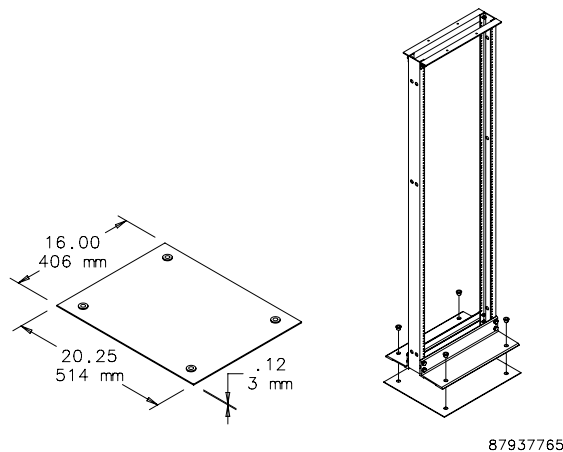
Catalog Number	Size	Qty.
ESBDK	3/8 in.	4

### ELECTRICAL ISOLATION KIT

Provides electrical isolation between the 2-Post Open Frame Rack and the floor. Includes isolation plate and plastic bushings. Made of 0.125-in. fiberglass. Rack and floor fastening hardware not included.

**BULLETIN: DOFRY**

Catalog Number	Description
A19ESOK	Electrical Isolation Kit



## Notes



*Hoffman*  
**CHAPTER 4**  
**WALL-MOUNT CABINETS**

## FEATURED PRODUCTS



### **ACCESSPLUS™ II WALL-MOUNT CABINETS**

Versatile ACCESSPLUS™ Wall-Mount Cabinets provide a secure, practical and accessible solution for 19-in. rack-mounted equipment applications. The double-hinged cabinet design ensures rugged security, maximum cooling and rack unit containment.

### **PROTEK™ WALL-MOUNT CABINETS**

PROTEK™ Wall-Mount Cabinets provide protection and cooling to 19-in. rack-mounted equipment in wet or dirty environments where floor space is minimal. Available in a wide selection of sizes, materials and configurations, PROTEK is an optimal solution for intermediate distribution frame (IDF) networks and point-of-operation industrial component applications.



### **L-BOX™ AND D-BOX™ WALL-MOUNT CABINETS**

Low-profile, vertically-oriented L-BOX™ and D-BOX™ Wall-Mount Cabinets offer a versatile solution for mounting, storing and protecting network equipment, patch panels and connections in public settings.





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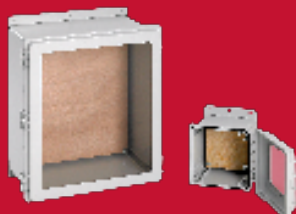
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## POLYPRO™ WIFI WALL-MOUNT CABINETS

POLYPRO™ Enclosures provide superior protection for wireless equipment in indoor and outdoor environments, including applications that present harsh chemicals, weather extremes, corrosive elements or flames.



**WALL-MOUNT CABINETS PRODUCT SELECTION GUIDE**

			
WALL-MOUNT FAMILY	ACCESSPLUS™ II	PROTEK™	PROTEK™ DOUBLE-HINGED
Description	ACCESSPLUS II Double-Hinged Wall-Mount provides both security and accessibility. Designed to hold multiple pieces of voice data equipment. Perfect where space is at a premium. <ul style="list-style-type: none"> <li>• Double-hinged wall mount</li> </ul>	PROTEK Wall-Mount Cabinets are ideal for protecting network equipment beyond typical Type 1 enclosures. <ul style="list-style-type: none"> <li>• Harsh environments</li> <li>• Models with A/C units</li> </ul>	Offers the flexibility and accessibility of a double-hinged wall-mount and the environmental protection of the PROTEK Type 4/12 ratings. <ul style="list-style-type: none"> <li>• Double-hinged wall-mount</li> <li>• Harsh environments</li> <li>• Models with A/C units</li> </ul>
Construction	Mild steel	Mild steel	Mild steel
Application Rating	Indoors with built-in ventilation areas	Indoors and outdoors. Protects from dust, dirt and splashing water.	Protects from dust, dirt and splashing water.
<b>DIMENSIONS</b>			
Rack Units (RU) Range	12–39 RUs	12–26 RUs	7–26 RUs
Height	25.00–72.00 in.	24.00–48.00 in.	16.00–48.00 in.
Width	24.00 in., 28.00 in.	24.00 in.	24.00 in.
Depth	18.00–25.00 in.	12.00–24.00 in.	15.00–25.00 in.
<b>RATINGS</b>			
Loading - Static	250–500 lbs.	100–200 lbs.	100–175 lbs.
Certifications and Listings	UL 508A, CSA, NEMA, IEC	UL 508A, CSA, NEMA, IEC	UL 508A, CSA, NEMA, IEC
Type / NEMA / IP Rating	Type 1, IP40	Type 1, 4, 12, IP55/IP66	Type 1, 4, 12, IP55/IP66
Plenum Rated	Yes	Yes	Yes
<b>STRUCTURE</b>			
Front Door	Window or solid	Window or solid	Window or solid
Back	Keyhole mounting slots, accessory raised pads, cable tie-down points, large cable knock-out	Rear mounting studs, panel-ready and wall-mounting provisions	Rear mounting studs, panel-ready and wall-mounting provisions
Top / Bottom	Gland Plate/Cable knock-outs, fan-ready	Solid sheet steel construction	Solid sheet steel construction
Sides	Cable knock-outs, fan-ready	Solid sheet steel construction	Solid sheet steel construction
Rack Angles	1 set tapped 10-32 fully adjustable, plated	1 set tapped 10-32 fully adjustable, plated	1 set tapped 10-32 fully adjustable, plated
<b>APPLICATIONS</b>			
	Most frequently utilized model for mounting network equipment. Gland-plate offering great for retrofit applications.	Ideal for remote areas with harsh environments for network equipment. Extra-deep to accommodate rack equipment.	Ideal for remote areas with harsh environments for network equipment. Extra-deep to accommodate rack equipment.
Unique Features	<ul style="list-style-type: none"> <li>• Single person mounting</li> <li>• Latch-free sides permit flush-mounting to adjacent equipment, enclosures and walls</li> <li>• Safety glass window units</li> <li>• Pole mounting kit available</li> <li>• Reversible hinges (left/right)</li> <li>• Grounding and bonding provisions</li> </ul>	<ul style="list-style-type: none"> <li>• Available with T4 A/C units</li> <li>• Extra-deep sizes</li> <li>• Fully vented with foam-in-place gasket</li> <li>• Safety Glass</li> <li>• Rack angle standard</li> <li>• Grounding and bonding provisions</li> </ul>	<ul style="list-style-type: none"> <li>• Available with T4 A/C units</li> <li>• Extra deep sizes</li> <li>• Fully vented with foam-in-place gasket</li> <li>• Safety Glass</li> <li>• Rack Angle Standard</li> <li>• Front and Rear Access</li> <li>• Grounding and bonding provisions</li> </ul>

			
L-BOX™	D-BOX™	WiFi ENCLOSURE—2 MODELS	COMLINE™
L-BOX provides convenient mounting and storage for patch panels in a space-saving design. <ul style="list-style-type: none"> <li>• Horizontal cable distribution</li> <li>• Copper to fiber</li> <li>• Consolidation points</li> <li>• Vertical rack angles</li> </ul>	D-BOX provides convenient mounting and storage for patch panels. <ul style="list-style-type: none"> <li>• Horizontal cable distribution</li> <li>• Copper to fiber</li> <li>• Consolidation points</li> <li>• Fixed and rotating rack angles</li> </ul>	Provides a secure enclosure for WiFi and other network equipment. Fiberglass does not impede WiFi/WLAN signals. <ul style="list-style-type: none"> <li>• Corrosion resistant</li> <li>• Plenum rated</li> <li>• Plywood back panel provided</li> </ul>	Lightweight, corrosion-resistant aluminum enclosure provides long-lasting protection for electrical and network components for both indoor and outdoor environments. <ul style="list-style-type: none"> <li>• Corrosion-resistant</li> <li>• Outdoor applications (OSP)</li> </ul>
Mild steel	Mild steel	Fiberglass	Aluminum
Indoors with built-in ventilation areas.	Indoors with built-in ventilation areas.	Indoors and outdoors plus hazardous areas. Protects from dust, dirt and splashing water.	Indoors and outdoors plus hazardous areas. Protects from dust, dirt and splashing water.
6–12 RUs	4–6 RUs	Not applicable for smaller model. Optional RU for large model.	Not supplied as standard. Optional 12–26 RUs
24.00–48.00 in.	24.00–48.00 in.	6.00–24.61 in.	11.80–59.10 in.
24.00 in.	24.00 in.	6.00–24.11 in.	11.80–35.40 in.
12.34 in.	8.34–12.34 in.	4.00–12.64 in.	5.90–11.80 in.
75 lbs.	100 lbs.	50–200 lbs.	50–200 lbs.
UL 1863/508A/60905, CSA NEMA, IEC, EIA 310-D	UL 1863/508A/60905, CSA, NEMA, IEC, EIA 310-D	UL 508A, CSA, NEMA, IEC	UL 508A, CSA, NEMA, IEC
Type 1, IP40	Type 1, IP40	Type 4, 4X, 12, 13 IP66	Type 3, 3R, 4, 4X, 12, IP66
Yes	Yes	Yes—Solid door only	Not applicable
Vented wrap-around door	Solid with vents	Solid or window	Solid
Keyhole mounting slots, accessory raised pads, cable tie-down points, large cable knock-out	Keyhole mounting slots, accessory raised pads, cable tie-down points, large cable knock-out	Wood panel standard	Rear mounting studs, panel-ready and wall-mounting provisions
Cable knock-outs, fan-ready	Cable knock-outs, fan-ready	Solid fiberglass construction	Solid aluminum construction
Cable knock-outs, fan-ready	Cable knock-outs, fan-ready	Solid fiberglass construction	Solid aluminum construction
1 set tapped 10-32, plated	<ul style="list-style-type: none"> <li>• 1 set fixed tapped 10-32, plated</li> <li>• 1 set tapped 10-32, fully adjustable</li> </ul>	Optional on largest size	<ul style="list-style-type: none"> <li>• Optional based on size</li> <li>• 1 set tapped 10-32, fully adjustable</li> </ul>
Vertical equipment mounting provides horizontal cable distribution. Offers a lower-profile installation.	Fixed and rotating rack angles for easy equipment mounting. Offers a lower-profile installation.	Indoors and outdoors: Great for tunnels, marinas, outside walls and rooftops. Ideal for wireless applications; signals pass unimpeded through fiberglass.	Indoors and outdoors: Great for rooftop, pole mount and tower mounting. Lightweight with corrosion resistance.
<ul style="list-style-type: none"> <li>• Removable door</li> <li>• Quarter-turn latches with keyed lock</li> <li>• Cable tie-down points</li> <li>• Mounting screws provided</li> <li>• Top and bottom knockouts</li> <li>• Cable spool mounting</li> <li>• Complete accessories—fans, shelves and others</li> <li>• Grounding and bonding provisions</li> </ul>	<ul style="list-style-type: none"> <li>• Removable and reversible door</li> <li>• Quarter-turn latches with keyed lock</li> <li>• Cable tie-down points</li> <li>• Mounting screws provided</li> <li>• Grounding and bonding provisions</li> <li>• Top and bottom knockouts</li> <li>• Cable spool mounting</li> <li>• Complete accessories—fans, shelves and others</li> </ul>	<ul style="list-style-type: none"> <li>• Fiberglass is easily punched or drilled</li> <li>• Foam-in-place gasketing</li> <li>• Removable door with stainless steel hinge pins</li> <li>• Window models are scratch resistant GE Lexan Margard</li> <li>• Small model—screw cover</li> <li>• Large model—key lock knob</li> </ul>	<ul style="list-style-type: none"> <li>• Solar shield provides cooler interior for outdoor applications</li> <li>• Foam-in-place gasketing</li> <li>• Latching—one- and three-point options</li> <li>• Door stop</li> <li>• Door options—removable and heavy-duty continuous</li> <li>• Grounding and bonding provisions</li> </ul>



**ACCESSPLUS™ II DOUBLE-HINGE, TYPE 1**

**INDUSTRY STANDARDS**

UL 508A; Type 1; File No. E61997  
 cUL Listed per CSA C22.2 No. 182.4; File No. E230874

EIA 310-D  
 NEMA/EEMAC Type 1  
 EIC 60529 IP20  
 Per BICSI TDMM Tenth edition, Chapter 7,  
 Telecommunication Enclosures (TE)

**APPLICATION**

ACCESSPLUS™ II Cabinets provide security, equipment access, cooling and support for network and other 19-in. rack-mount equipment. The cabinet has three components: front door, center section and wall section.

**FEATURES**

- Double-hinged for easy equipment access; center section provides 19-in. rack mounting per EIA universal spacing and is accessed through the front door or swing the center section away from the wall section for rear access
- Round corners; no sharp edges
- Front door has either a solid steel or hardened, tinted safety-glass window door for superior scratch resistance
- Center section easily removed from rear section; tool-less one-person installation possible
- Self-grounding, plated steel rack angles fully adjustable within center section
- Wall section provides cable entry and cable management with knockouts or gland plates
- Gland plate model provides easy retrofit and fast installation and allows for pre-terminated cables or pre-wired patch panels; no need to re-terminate and test
- Self-locking center-to-wall section latches in two locations
- Front access to all latches (no exposed side latches); cabinet can be installed tightly in corners
- Vented sides provide cross flow ventilation to improve heat dissipation
- Vertical cable manager included in 28-in.-wide models
- A full line of accessories is available

**SPECIFICATIONS**
**Front Door (window or solid steel)**

- Composite frame (injection molded top and bottom with extruded composite sides)
- 140-degree opening door
- Field-reversible (left or right) hinge
- Quarter-turn key lock, two keys included
- Window door is scratch-resistant 1/4-in. tinted safety glass
- Solid door has 16 gauge steel insert with matching black finish

**Center Section**

- Welded 14 gauge steel
- Solid top of center sections provides protection against falling debris
- Ventilated sides (to which fans can be added)
- Self-latching closure connects center section to wall section
- Self-alignment ramp supports center section to wall section
- Heavy duty center-to-rear section hinge with quick-release self-retained hinge pin eases wall installation

**Rack-Mounting Angles**

- 12 gauge, plated steel
- EIA universal spaced 19-in. rack-mounting holes
- RU marked from bottom to top
- Tapped 10-32 holes, 20 mounting screws included

**Rear Wall Section**

- Welded 14 gauge steel
- Radius corners; no sharp edges
- Available with knockouts or gland plates
- Raised pads for accessory mounting
- Cable tie-down points for cable management
- Keyhole mounting holes allow wall section to be mounted over fasteners and eases installation
- Three cable-entry grommets

**FINISH**

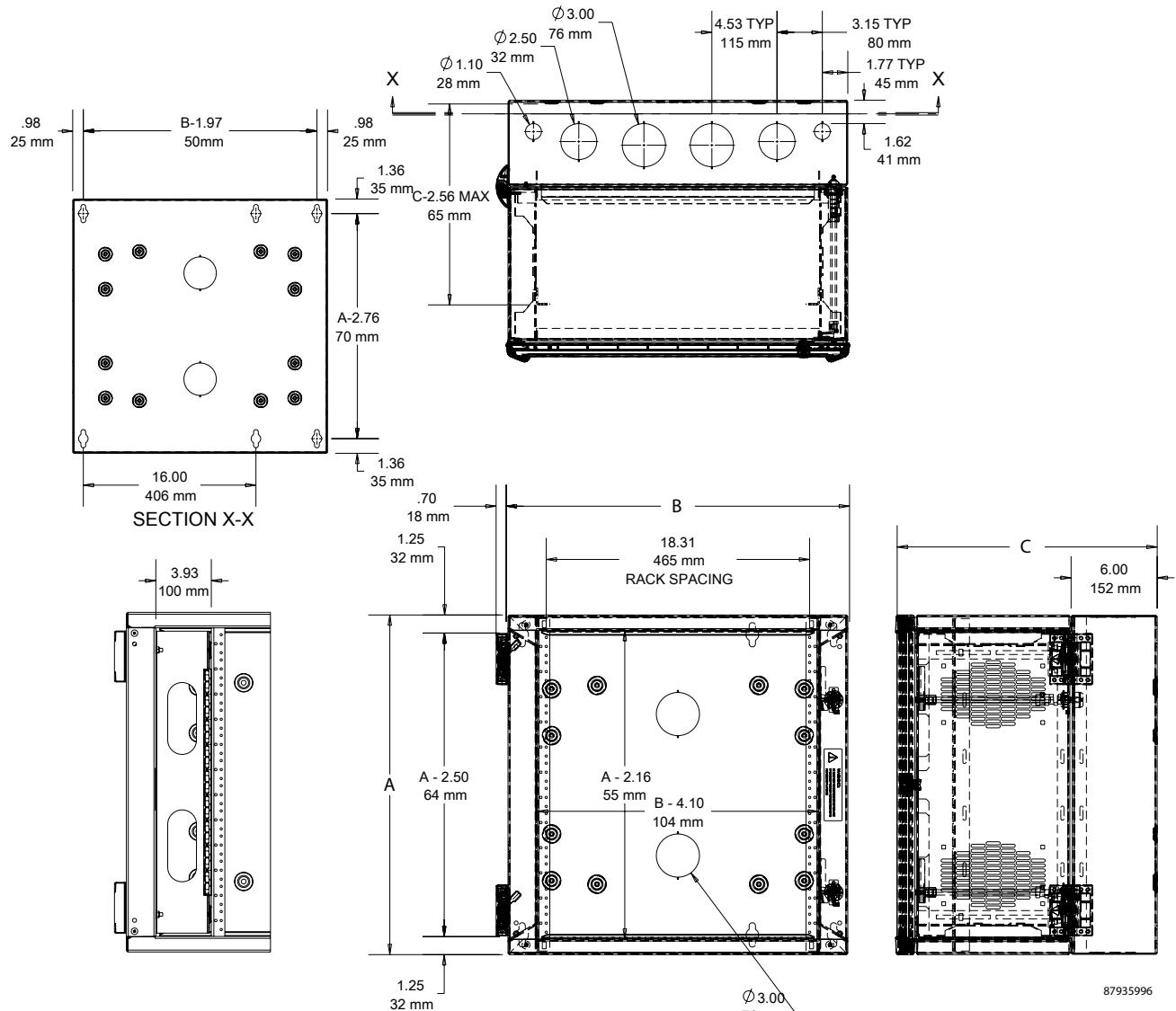
Pretreated steel coated with RAL 9005 black light-textured, low-gloss polyester powder paint. Other finishes available—contact Hoffman Customer Service.

**BULLETIN: DWDH1**

Standard Product **Window Door**

Catalog Number	AxBxC in.	AxBxC mm	Rack Units	Additional Rack Angles (S=Square Hole) (T=Tapped Hole)
EWMW242418	23.60 x 23.62 x 18.20	600 x 600 x 462	12	EWMR24T or EWMR24S
EWMW362418	36.02 x 23.62 x 18.20	915 x 600 x 462	19	EWMR36T or EWMR36S
EWMW482418	48.03 x 23.62 x 18.20	1220 x 600 x 462	26	EWMR48T or EWMR48S
EWMW602418	60.04 x 23.62 x 18.20	1525 x 600 x 462	32	EWMR60T or EWMR60S
EWMW722418	72.05 x 23.62 x 18.20	1830 x 600 x 462	39	EWMR72T or EWMR72S
EWMW242425	23.62 x 23.62 x 25.09	600 x 600 x 637	12	EWMR24T or EWMR24S
EWMW362425	36.02 x 23.62 x 25.09	915 x 600 x 637	19	EWMR36T or EWMR36S
EWMW482425	48.03 x 23.62 x 25.09	1220 x 600 x 637	26	EWMR48T or EWMR48S
EWMW602425	60.04 x 23.62 x 25.09	1525 x 600 x 637	32	EWMR60T or EWMR60S
EWMW722425	72.05 x 23.62 x 25.09	1830 x 600 x 637	39	EWMR72T or EWMR72S
EWMW242430	23.62 x 23.62 x 30.01	600 x 600 x 762	12	EWMR24T or EWMR24S
EWMW362430	36.02 x 23.62 x 30.01	915 x 600 x 762	19	EWMR36T or EWMR36S
EWMW482430	48.03 x 23.62 x 30.01	1220 x 600 x 762	26	EWMR48T or EWMR48S

B dimension does not include wall-to-center section hinge.



28 IN. WIDE ENCLOSURE WITH CABLE MANAGER INSTALLED (SHOWN WITH DOOR REMOVED)

2 KNOCKOUTS WHEN A = 24 in.  
3 KNOCKOUTS FOR ALL OTHER ENCLOSURES (SHOWN WITH DOOR REMOVED)



87935996

**Standard Product Solid Door**

Catalog Number	AxBxC in.	AxBxC mm	Rack Units	Additional Rack Angles (S=SquareHole) (T=Tapped Hole)
EWMS242418	23.62 x 23.62 x 18.20	600 x 600 x 462	12	EWMR24T or EWMR24S
EWMS362418	36.02 x 23.62 x 18.20	915 x 600 x 462	19	EWMR36T or EWMR36S
EWMS482418	48.03 x 23.62 x 18.20	1220 x 600 x 462	26	EWMR48T or EWMR48S
EWMS242425	23.62 x 23.62 x 25.09	600 x 600 x 637	12	EWMR24T or EWMR24S
EWMS362425	36.02 x 23.62 x 25.09	915 x 600 x 637	19	EWMR36T or EWMR36S
EWMS482425	48.03 x 23.62 x 25.09	1220 x 600 x 637	26	EWMR48T or EWMR48S

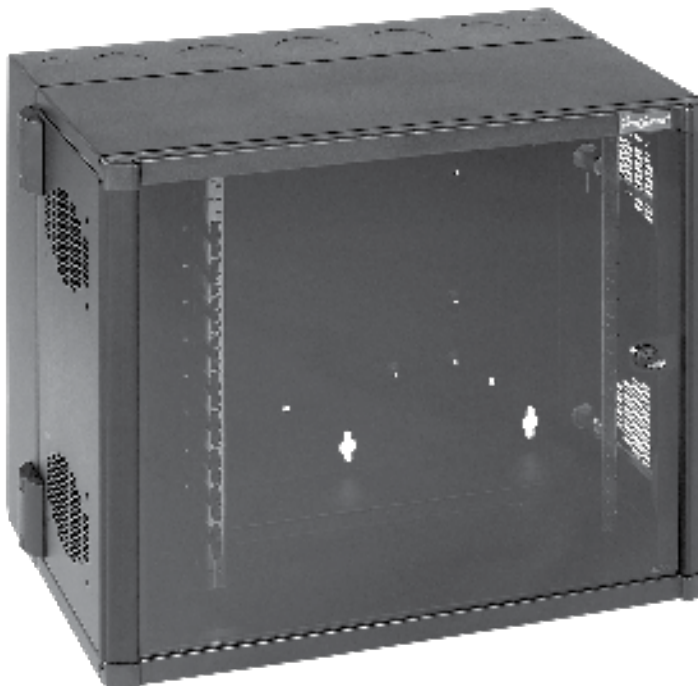
B dimension does not include wall-to-center section hinge.


**Standard Product Window Door with Cable Manager**

Catalog Number	AxBxC in.	AxBxC mm	Rack Units	Additional Rack Angles (S=Square Hole) (T=Tapped Hole)	Vertical Cable Mgr. Catalog Number <sup>a</sup>
EWMW242825	23.62 x 27.56 x 25.09	600 x 700 x 637	12	EWMR24T or EWMR24S	EWMC24
EWMW362825	36.02 x 27.56 x 25.09	915 x 700 x 637	19	EWMR36T or EWMR36S	EWMC36
EWMW482825	48.03 x 27.56 x 25.09	1220 x 700 x 637	26	EWMR48T or EWMR48S	EWMC48

B dimension does not include wall-to-center section hinge.

<sup>a</sup> For additional rack angles, also order vertical cable manager.



Standard Product **Window Door with Gland Plate**

Catalog Number	AxBxC in.	AxBxC mm	Rack Units	Additional Rack Angles (S=Square Hole) (T=Tapped Hole)
EWMWG242418	23.62 x 23.62 x 18.20	600 x 600 x 462	12	EWMR24T or EWMR24S
EWMWG362418	36.02 x 23.62 x 18.20	915 x 600 x 462	19	EWMR36T or EWMR36S
EWMWG482418	48.03 x 23.62 x 18.20	1220 x 600 x 462	26	EWMR48T or EWMR48S
EWMWG242425	23.62 x 23.62 x 25.09	600 x 600 x 637	12	EWMR24T or EWMR24S
EWMWG362425	36.02 x 23.62 x 25.09	915 x 600 x 637	19	EWMR36T or EWMR36S
EWMWG482425	48.03 x 23.62 x 25.09	1220 x 600 x 637	26	EWMR48T or EWMR48S

B dimension does not include wall-to-center section hinge.



Load Rating

Height	Load Capacity
24 in.	250 lb.
36 in.	300 lb.
48 in.	350 lb.
60 in.	400 lb.
72 in.	500 lb.

## VERTICAL CABLE MANAGERS FOR 28-IN.-WIDE CABINET



Use ACCESSPLUS Cable Managers when ordering additional rack angles for 28-in.-wide cabinet.

**BULLETIN: DWDH1**

Catalog Number	Description	Fits Cabinet
EWMC24	ACCESSPLUS Vertical Cable Manager 24.00 in.	A = 24.00; B = 28.00
EWMC36	ACCESSPLUS Vertical Cable Manager 36.00 in.	A = 36.00; B = 28.00
EWMC48	ACCESSPLUS Vertical Cable Manager 48.00 in.	A = 48.00; B = 28.00

### Vertical Cable Manager Capacity **Number of cables at 60 percent filled**

Cross Section (Area)	5e (0.22 in. dia.)	6 (0.28 in. dia.)	6A (0.35 in. dia.)
24.5 in. <sup>2</sup>	380	300	208

## RACK ANGLES



**BULLETIN: DWDH1**

Catalog Number	Description	Rack Units	Fits Cabinet
EWMR24T	Fits 24-in. tapped	12	A = 24.00
EWMR36T	Fits 36-in. tapped	19	A = 36.00
EWMR48T	Fits 48-in. tapped	26	A = 48.00
EWMR60T	Fits 60-in. tapped	32	A = 60.00
EWMR72T	Fits 72-in. tapped	39	A = 72.00
EWMR24S	Fits 24-in. square	12	A = 24.00
EWMR36S	Fits 36-in. square	19	A = 36.00
EWMR48S	Fits 48-in. square	26	A = 48.00
EWMR60S	Fits 60-in. square	32	A = 60.00
EWMR72S	Fits 72-in. square	39	A = 72.00

## FAN KITS



**BULLETIN: DWDH1**

Catalog Number	Description	Fits Cabinet
EWMF1	4-in. fan with plug and blocking plates, 115 VAC, 100 CFM small	Fits all C = 18.00
EWMF2	4-in. fan with plug and blocking plates, 115 VAC, 100 CFM, large	Fits all C = 25.00 or 30.00



**DATACOM WALL-MOUNT CABINET WITH GLAND PLATE APPLICATION**

This cabinet offers significant advantages in retrofit applications. The gland plate is mounted at the top and the bottom to accommodate cable runs from above, below or both. The gland plate casing can be removed while patch panels and associated wiring are brought to the cabinet.

1. Once the wall section is installed on the wall, lay in the patch panel.
4. Install the center section, then mount patch panels on rack angles.



2. Install the cable gland plate onto the wall section.



5. Close and lock the door.



3. Use wire ties or cable wraps to secure the cable to the cabinet.



**PROTEK™ SINGLE-DOOR, UL AND NEMA TYPE 4, 12**



**INDUSTRY STANDARDS**

UL 508A Listed; File Number E61997  
 cUL Listed per CSA C22.2 No. 94; File Number E61997  
 Solid Door: Type 4 and 12  
 Window Door: Type 12  
 Solid Door, Stainless Steel: Type 4, 4X and 12

NEMA / EEMAC: Type 4, 4X or 12  
 IEC 60529, IP66 or IP55

**APPLICATION**

PROTEK Single-Door cabinets are an excellent, off-the-shelf choice for mounting 19-in. rack, panel-mounted devices or other electronic equipment. The cabinets are designed to provide both front and rear access to 19-in. rack-mounted equipment. They provide protection against water, dirt, corrosive agents and other contaminants. PROTEK is an excellent choice for applications where space is at a premium and the only option is wall mounting. PROTEK comes in a broad range of sizes, materials and configurations to meet many demanding applications.

**FEATURES**

- Solid-door cabinet provides complete physical and visual protection
- Window door, made of scratch-resistant safety glass, provides visual monitoring of internal equipment while maintaining equipment protection
- All seams are fully welded and ground smooth
- Doors are provided with ground studs to facilitate proper bonding and grounding of the cabinet
- Premium seamless, foam-in-place gasket prevents contaminants from entering the cabinet
- Keylocking wing knob is included on painted steel offering, providing access control to the cabinet; two keys are included with each cabinet
- Stainless steel cabinet is provided with a quarter-turn slotted latch
- One set of plated, self-grounding, tapped 10-32 rack angles per EIA universal spacing standards, which can be adjusted front-to-back, is provided with each center section of the cabinet; additional tapped- or square-hole rack angles can be added to the cabinet to provide additional mounting
- Wall section welded panel studs which accommodate standard panels (steel and wood available), can be ordered separately

**SPECIFICATIONS**

- Doors and body made of 14 gauge steel
- Stainless steel enclosures made from Type 304 stainless steel
- Window made of .25-in. thick, scratch- and impact-resistant safety glass
- Rack angles made of plated 12 gauge steel
- M6 ground studs on the door and body are masked from paint
- Twenty 10-32 screws included with cabinet
- Foam-in-place gasket made of durable polyurethane

**FINISH**

- Pretreated steel coated with RAL 7035 light-gray, low-gloss, lightly textured polyester powder paint
- Stainless steel is provided with a smooth-grain finish

**LOAD RATING**

Height	Maximum Load Rating
24 in.	200 lb./90.7 kg
36 in.	300 lb./136.1 kg
48 in.	400 lb./181.4 kg

**ACCESSORIES**

- Locks and handles
- Panels (steel and wood)
- Grounding kits
- Power Distribution Units (PDUs)
- Rack angles

**BULLETIN: DWS12**

Technical Operating Information AC Unit (T150116G100) **Replacement Filter No. 10100091**

Hz	Voltage VAC	Phase	BTU/Hr @ Max. Ambient Temp. (watts)	Full Load Amp	Max. Ambient Temp. (°F)	Max. Ambient Temp. (°C)	Cord and Plug
60 (50)	115	1	800 (325 watts)	3.6 (3.8)	131 (125)	52 (52)	25-in. cord length 5-15 plug



Standard Product **Solid Door, NEMA Type 4, 12**

Catalog Number	in./mm	Rack Units	F in./mm	P in./mm	Q in./mm	S in./mm	Optional Steel Panel	Optional Wood Panel	Additional Rack Angles <sup>a</sup>
PTRS242412G4	24.09 x 23.62 x 11.81	12	9.51	---	---	1.11	CP2020	CP2020W	PTRA24T or PTRA24S
	612 x 600 x 300		242	---	---	28			
PTRS242424G4	24.09 x 23.62 x 24.02	12	21.72	---	---	1.11	CP2020	CP2020W	PTRA24T or PTRA24S
	612 x 600 x 610		552	---	---	28			
PTRS362412G4	36.30 x 23.62 x 11.81	19	9.51	---	---	1.11	CP3220	CP3220W	PTRA36T or PTRA36S
	922 x 600 x 300		242	---	---	28			
PTRS362424G4	36.30 x 23.62 x 24.02	19	21.72	---	---	1.11	CP3220	CP3220W	PTRA36T or PTRA36S
	922 x 600 x 610		552	---	---	28			
PTRS482412G4	48.54 x 23.62 x 11.81	26	9.51	---	---	1.11	CP4420	CP4420W	PTRA48T or PTRA48S
	1233 x 600 x 300		242	---	---	28			
PTRS482424G4	48.54 x 23.62 x 24.02	26	21.72	---	---	1.11	CP4420	CP4420W	PTRA48T or PTRA48S
	1233 x 600 x 610		552	---	---	28			

<sup>a</sup>T = tapped 10-32, S = square hole (.375 in. x .375 in.)



**Standard Product Window Door, NEMA Type 12**

Catalog Number	AxBxC in./mm	Rack Units	F in./mm	P in./mm	Q in./mm	S in./mm	Optional Steel Panel	Optional Wood Panel	Additional Rack Angles <sup>a</sup>
PTRW242412G2	24.09 x 23.62 x 11.81 612 x 600 x 300	12	9.51 242	18.25 464	15.38 391	1.11 28	CP2020	CP2020W	PTRA24T or PTRA24S
PTRW242424G2	24.09 x 23.62 x 24.02 612 x 600 x 610	12	21.72 552	18.25 464	15.38 391	1.11 28	CP2020	CP2020W	PTRA24T or PTRA24S
PTRW362412G2	36.30 x 23.62 x 11.81 922 x 600 x 300	19	9.51 242	30.75 781	15.38 391	1.11 28	CP3220	CP3220W	PTRA36T or PTRA36S
PTRW362424G2	36.30 x 23.62 x 24.02 922 x 600 x 610	19	21.72 552	30.75 781	15.38 391	1.11 28	CP3220	CP3220W	PTRA36T or PTRA36S
PTRW482412G2	48.54 x 23.62 x 11.81 1233 x 600 x 300	26	9.51 242	42.70 1085	15.38 391	1.11 28	CP4420	CP4420W	PTRA48T or PTRA48S
PTRW482424G2	48.54 x 23.62 x 24.02 1233 x 600 x 610	26	21.72 552	42.70 1085	15.38 391	1.11 28	CP4420	CP4420W	PTRA48T or PTRA48S

<sup>a</sup>T = tapped 10-32, S = square hole (.375 in. x .375 in.)



Standard Product **Solid Stainless Steel Door, NEMA Type 4, 4X, 12**

Catalog Number	AxBxC in./mm	Rack Units	F in./mm	P in./mm	Q in./mm	S in./mm	Q mm/in.	Optional Steel Panel	Optional Wood Panel	Additional Rack Angles <sup>a</sup>
PTRS242412X	24.09 x 23.62 x 11.81	12	9.51	---	---	.80	---	CP2020	CP2020W	PTRA24T or PTRA24S
	612 x 600 x 300		242	---	---	20				
PTRS242424X	24.09 x 23.62 x 24.02	12	21.72	---	---	.80	---	CP2020	CP2020W	PTRA24T or PTRA24S
	612 x 600 x 610		552	---	---	20				
PTRS362412X	36.30 x 23.62 x 11.81	19	9.51	---	---	.80	---	CP3220	CP3220W	PTRA36T or PTRA36S
	922 x 600 x 300		242	---	---	20				
PTRS362424X	36.30 x 23.62 x 24.02	19	21.72	---	---	.80	---	CP3220	CP3220W	PTRA36T or PTRA36S
	922 x 600 x 610		552	---	---	20				
PTRS482412X	48.62 x 23.62 x 11.81	26	9.51	---	---	.80	---	CP4420	CP4420W	PTRA48T or PTRA48S
	1235 x 600 x 300		242	---	---	20				
PTRS482424X	48.62 x 23.62 x 24.02	26	21.72	---	---	.80	---	CP4420	CP4420W	PTRA48T or PTRA48S
	1235 x 600 x 610		552	---	---	20				

<sup>a</sup>T = tapped 10-32, S = square hole (.375 in. x .375 in.)



Standard Product **Solid Door AC, NEMA Type 4, 12**

Catalog Number	AxBxC in./mm	Rack Units	F in./mm	P in./mm	Q in./mm	S in./mm	Optional Steel Panel	Optional Wood Panel	Additional Rack Angles <sup>a</sup>
PTRS242424G4A	24.09 x 23.62 x 24.02 612 x 600 x 610	12	21.72 552	---	---	1.11 28	CP2020	CP2020W	PTRA24T or PTRA24S
PTRS362424G4A	48.54 x 23.62 x 24.02 1233 x 600 x 610	19	21.72 552	---	---	1.11 28	CP3220	CP3220W	PTRA36T or PTRA36S
PTRS482424G4A	48.62 x 23.62 x 24.02 1235 x 600 x 610	26	21.72 552	---	---	1.11 28	CP4420	CP4420W	PTRA48T or PTRA48S

<sup>a</sup>T = tapped 10-32, S = square hole (.375 in. x .375 in.)



Standard Product **Window Door AC, NEMA Type 12**

Catalog Number	AxBxC in./mm	Rack Units	F in./mm	P in./mm	Q in./mm	S in./mm	Optional Steel Panel	Optional Wood Panel	Additional Rack Angles <sup>a</sup>
PTRW242424G2A	24.09 x 23.62 x 2.40 612 x 600 x 61	12	21.72 552	18.25 464	15.38 391	1.11 28	CP2020	CP2020W	PTRA24T or PTRA24S
PTRW362424G2A	36.30 x 23.62 x 24.02 922 x 600 x 610	19	21.72 552	30.75 781	15.38 391	1.11 28	CP3220	CP3220W	PTRA36T or PTRA36S
PTRW482424G2A	48.54 x 23.62 x 24.02 1233 x 600 x 610	26	21.72 552	42.70 1085	15.38 391	1.11 28	CP4420	CP4420W	PTRA48T or PTRA48S

<sup>a</sup>T = tapped 10-32, S = square hole (.375 in. x .375 in.)

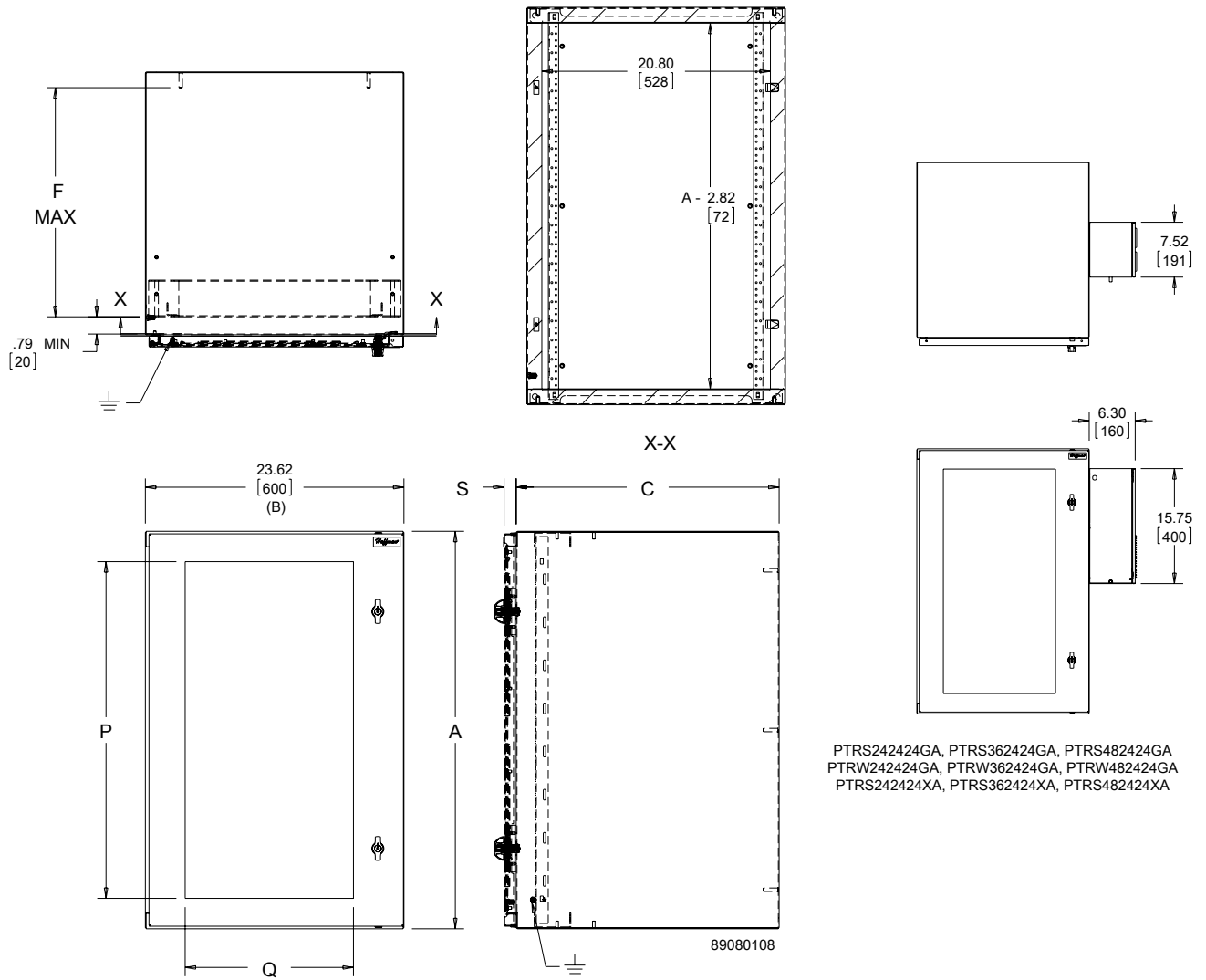


**Standard Product Solid Door Stainless Steel AC, NEMA Type 4,4X, 12**

Catalog Number	AxBxC in./mm	Rack Units	F in./mm	P in./mm	Q in./mm	S in./mm	Optional Steel Panel	Optional Wood Panel	Additional Rack Angles <sup>a</sup>
PTRS242424XA	24.09 x 23.62 x 24.02	12	21.32	---	---	.80	CP2020	CP2020W	PTRA24T or PTRA24S
	612 x 600 x 610		541	---	---	20			
PTRS362424XA	36.30 x 23.62 x 24.02	19	21.32	---	---	.80	CP3220	CP3220W	PTRA36T or PTRA36S
	922 x 600 x 610		541	---	---	20			
PTRS482424XA	48.62 x 23.62 x 24.02	26	21.32	---	---	.80	CP4420	CP4420W	PTRA48T or PTRA48S
	1235 x 600 x 610		541	---	---	20			

<sup>a</sup>T = tapped 10-32, S = square hole (.375 in. x .375 in.)



PTRS242424GA, PTRS362424GA, PTRS482424GA  
 PTRW242424GA, PTRW362424GA, PTRW482424GA  
 PTRS242424XA, PTRS362424XA, PTRS482424XA



## PROTEK™ DOUBLE-HINGED, UL AND NEMA TYPE 4, 4X OR 12



### INDUSTRY STANDARDS

UL 508A Listed; File Number E61997  
 cUL Listed per CSA C22.2 No. 94; File Number E619967  
 Solid Door: Type 4 and 12  
 Window Door: Type 12  
 Solid Door, Stainless Steel: Type 4, 4X and 12

NEMA / EEMAC: Type 4, 4X or 12  
 IEC 60529, IP66 or IP55

### APPLICATION

PROTEK Double-Hinged cabinets are an excellent, off-the-shelf choice for mounting 19-in. rack, panel-mounted devices or other electronic equipment. The cabinets are designed to provide both front and rear access to 19-in. rack-mounted equipment. They provide protection against water, dirt, corrosive agents and other contaminants. PROTEK is an excellent choice for applications where space is at a premium and the only option is wall mounting. PROTEK comes in a broad range of sizes, materials and configurations to meet many demanding applications.

### FEATURES

- Front and rear access to 19-in. rack equipment provided by three-part design: door, center section and wall section
- Solid door provides complete physical and visual protection
- Window door, made of scratch-resistant safety glass, provides visual monitoring of internal equipment while maintaining equipment protection
- All seams are fully welded and ground smooth
- Doors, center section and wall section are provided with ground studs to facilitate proper bonding and grounding of the cabinet
- Premium seamless, foam-in-place gasket prevents contaminants from entering the cabinet
- Keylocking wing knob is included on painted steel cabinet, providing access control to the cabinet; two keys are included with each cabinet
- Stainless steel cabinet is provided with a quarter-turn slotted latch
- One set of plated, self-grounding, tapped 10-32 rack angles per EIA universal spacing standards, which can be adjusted front-to-back, is provided with each center section of the cabinet; additional tapped- or square-hole rack angles can be added to the cabinet to provide additional mounting
- Wall section welded panel studs which accommodate standard panels (steel and wood available), can be ordered separately
- On 28-in. (700 mm) wide enclosures, a 4-in. vertical cable manager with composite fingers is provided on hinge side of cabinet

### SPECIFICATIONS

- Doors made of 16 gauge; center and wall sections made of 14 gauge steel. Stainless steel enclosures made from Type 304 stainless steel
- Window made of .25-in. thick, scratch- and impact-resistant safety glass
- Rack angles made of plated 12 gauge steel
- M6 ground studs on door, center and wall sections are masked from paint
- Twenty 10-32 screws included with cabinet
- Foam-in-place gasket made of durable polyurethane

### FINISH

- Pretreated steel coated with RAL 7035 light-gray, low-gloss, lightly textured polyester powder paint
- Stainless steel is provided with a smooth-grain finish

### LOAD RATING

Center hinged section:

Height	Maximum Load Rating
16 in.	175 lb./79.4 kg
24 in.	250 lb./113.4 kg
36 in.	300 lb./136.1 kg
48 in.	350 lb./158.8 kg
60 in.	400 lb./181.4 kg

### ACCESSORIES

Locks and handles  
 Panels (steel and wood)  
 Grounding kits  
 Power Distribution Units (PDUs)  
 Rack angles

### BULLETIN: DWDH2

### Technical Operating Information AC Unit (T150116G100) Replacement Filter No. 10100091

Hz	Voltage VAC	Phase	BTU/hr @ Max. Ambient Temp. (watts)	Full Load Amp	Max. Ambient Temp. (°F)	Max. Ambient Temp. (°C)	Cord and Plug
60 (50)	115	1	800 (235 watts)	3.6 (3.8)	131 (125)	52 (52)	24-in. cord length 5-15P Plug

Standard Product **Solid Door, NEMA Type 4, 12**

Catalog Number	in./mm	Rack Units	F in./mm	P in./mm	Q in./mm	S in./mm	Optional Steel Panel	Optional Wood Panel	Additional Rack Angles <sup>a</sup>
PTHS162415G4	17.09 x 23.62 x 14.96 434 x 600 x 380	8	12.66 322	---	---	1.11 28	CP2014	---	PTRA16T or PTRA16S
PTHS242415G4	24.09 x 23.62 x 14.96 612 x 600 x 380	12	12.66 322	---	---	1.11 28	CP2020	CP2020W	PTRA24T or PTRA24S
PTHS242424G4	24.09 x 23.62 x 24.02 612 x 600 x 610	12	21.72 552	---	---	1.11 28	CP2020	CP2020W	PTRA24T or PTRA24S
PTHS242430G4	24.09 x 23.62 x 29.92 612 x 600 x 760	12	27.64 702	---	---	1.11 28	CP2020	CP2020W	PTRA24T or PTRA24S
PTHS242824G4	24.09 x 27.56 x 24.02 612 x 700 x 610	12	21.72 552	---	---	1.11 28	CP2420	---	PTRA24T or PTRA24S
PTHS362415G4	36.30 x 23.62 x 14.96 922 x 600 x 380	19	12.66 322	---	---	1.11 28	CP3220	CP3220W	PTRA36T or PTRA36S
PTHS362424G4	36.30 x 23.62 x 24.02 922 x 600 x 610	19	21.72 552	---	---	1.11 28	CP3220	CP3220W	PTRA36T or PTRA36S
PTHS362824G4	36.30 x 27.56 x 24.02 922 x 700 x 610	19	21.72 552	---	---	1.11 28	CP3024	---	PTRA36T or PTRA36S
PTHS482415G4	48.54 x 23.62 x 14.96 1233 x 600 x 380	26	12.66 322	---	---	1.11 28	CP4420	CP4420W	PTRA48T or PTRA48S
PTHS482424G4	48.54 x 23.62 x 24.02 1233 x 600 x 610	26	21.72 552	---	---	1.11 28	CP4420	CP4420W	PTRA48T or PTRA48S
PTHS482824G4	48.54 x 27.56 x 24.02 1233 x 700 x 610	26	21.72 552	---	---	1.11 28	CP2442	---	PTRA48T or PTRA48S
PTHS602415G4	60.04 x 23.62 x 14.96 1525 x 600 x 380	32	12.66 322	---	---	1.11 28	CP5620	---	PTRA60T or PTRA60S
PTHS602424G4	60.04 x 23.62 x 24.02 1525 x 600 x 610	32	21.72 552	---	---	1.11 28	CP5620	---	PTRA60T or PTRA60S

<sup>a</sup>T = tapped 10-32, S = square hole (.375 in. x .375 in.)



**Standard Product Window Door, NEMA Type 12**

Catalog Number	AxBxC in./mm	Rack Units	F in./mm	P in./mm	Q in./mm	S in./mm	Optional Steel Panel	Optional Wood Panel	Additional Rack Angles <sup>a</sup>
PTHW162415G2	17.09 x 23.62 x 14.96 434 x 600 x 380	8	12.66 322	11.87 301	15.38 391	1.11 28	CP2014	---	PTRA16T or PTRA16S
PTHW242415G2	24.09 x 23.62 x 14.96 612 x 600 x 380	12	12.66 322	18.25 464	15.38 391	1.11 28	CP2020	CP2020W	PTRA24T or PTRA24S
PTHW242424G2	24.09 x 23.62 x 24.02 612 x 600 x 610	12	21.72 552	18.25 464	15.38 391	1.11 28	CP2020	CP2020W	PTRA24T or PTRA24S
PTHW242430G2	24.09 x 23.62 x 29.92 612 x 600 x 760	12	27.64 702	18.25 464	15.38 391	1.11 28	CP2020	CP2020W	PTRA24T or PTRA24S
PTHW242824G2	24.09 x 27.56 x 24.02 612 x 700 x 610	12	21.72 552	18.25 464	19.38 492	1.11 28	CP2420	---	PTRA24T or PTRA24S
PTHW362415G2	36.30 x 23.62 x 14.96 922 x 600 x 380	19	12.66 322	30.75 781	15.38 391	1.11 28	CP3220	CP3220W	PTRA36T or PTRA36S
PTHW362424G2	36.30 x 23.62 x 24.02 922 x 600 x 610	19	21.72 552	30.75 781	15.38 391	1.11 28	CP3220	CP3220W	PTRA36T or PTRA36S
PTHW362430G2	36.30 x 23.62 x 29.92 922 x 600 x 760	19	27.64 702	30.75 781	15.38 391	1.11 28	CP3220	CP3220W	PTRA36T or PTRA36S
PTHW362824G2	36.30 x 27.56 x 24.02 922 x 700 x 610	19	21.72 552	30.75 781	19.38 492	1.11 28	CP3024	---	PTRA36T or PTRA36S
PTHW482415G2	48.54 x 23.62 x 14.96 1233 x 600 x 380	26	12.66 322	42.70 1085	15.38 391	1.11 28	CP4420	CP4420W	PTRA48T or PTRA48S
PTHW482424G2	48.54 x 23.62 x 24.02 1233 x 600 x 610	26	21.72 552	42.70 1085	15.38 391	1.11 28	CP4420	CP4420W	PTRA48T or PTRA48S
PTHW482430G2	48.54 x 23.62 x 29.92 1233 x 600 x 760	26	27.64 702	42.70 1085	15.38 391	1.11 28	CP4420	CP4420W	PTRA48T or PTRA48S
PTHW482824G2	48.54 x 27.56 x 24.02 1233 x 700 x 610	26	21.72 552	42.70 1085.19	19.38 492	1.11 28	CP2442	---	PTRA48T or PTRA48S
PTHW602415G2	60.04 x 23.62 x 14.96 1525 x 600 x 380	32	12.66 322	54.39 1377	15.38 391	1.11 28	CP5620	---	PTRA60T or PTRA60S
PTHW602424G2	60.04 x 23.62 x 24.02 1525 x 600 x 610	32	21.72 552	54.39 1377	15.38 391	1.11 28	CP5620	---	PTRA60T or PTRA60S

<sup>a</sup>T = tapped 10-32, S = square hole (.375 in. x .375 in.)

Cable manager supplied with 700 mm wide enclosures



Standard Product **Solid Door Stainless Steel, NEMA Type 4, 4X, 12**

Catalog Number	AxBxC in./mm	Rack Units	F in./mm	P in./mm	Q in./mm	S in./mm	Optional Steel Panel	Optional Wood Panel	Additional Rack Angles <sup>a</sup>
PHTS242415X	24.09 x 23.62 x 14.96	12	12.65	---	---	.80	CP2020	CP2020W	PTRA24T or PTRA24S
	612 x 600 x 380		321	---	---	20			
PHTS242424X	24.09 x 23.62 x 24.02	12	21.71	---	---	.80	CP2020	CP2020W	PTRA24T or PTRA24S
	612 x 600 x 610		551	---	---	20			
PHTS362415X	36.30 x 23.62 x 14.96	19	12.65	---	---	.80	CP3220	CP3220W	PTRA36T or PTRA36S
	922 x 600 x 380		321	---	---	20			
PHTS362424X	36.30 x 23.62 x 24.02	19	21.71	---	---	.80	CP3220	CP3220W	PTRA36T or PTRA36S
	922 x 600 x 610		551	---	---	20			
PHTS482415X	48.62 x 23.62 x 14.96	26	12.65	---	---	.80	CP4420	CP4420W	PTRA48T or PTRA48S
	1235 x 600 x 380		321	---	---	20			
PHTS482424X	48.62 x 23.62 x 24.02	26	21.71	---	---	.80	CP4420	CP4420W	PTRA48T or PTRA48S
	1235 x 600 x 610		551	---	---	20			

<sup>a</sup>T = tapped 10-32, S = square hole (.375 in. x .375 in.)



**Standard Product Solid Door AC, NEMA Type 4, 12**

Catalog Number	AxBxC in./mm	Rack Units	F in./mm	P in./mm	Q in./mm	S in./mm	Optional Steel Panel	Optional Wood Panel	Additional Rack Angles <sup>a</sup>
PTHS242428G4A	24.09 x 23.62 x 27.95	12	25.65	---	---	1.11	CP2020	CP2020W	PTRA24T or PTRA24S
	612 x 600 x 710		652	---	---	28			
PTHS362428G4A	36.30 x 23.62 x 27.95	19	25.65	---	---	1.11	CP3220	CP3220W	PTRA36T or PTRA36S
	922 x 600 x 710		652	---	---	28			
PTHS482428G4A	48.54 x 23.62 x 27.95	26	25.65	---	---	1.11	CP4420	CP4420W	PTRA48T or PTRA48S
	1233 x 600 x 710		652	---	---	28			

<sup>a</sup>T = tapped 10-32, S = square hole (.375 in. x .375 in.)



Standard Product **Window Door AC, NEMA Type 12**

Catalog Number	AxBxC in./mm	Rack Units	F in./mm	P in./mm	Q in./mm	S in./mm	Optional Steel Panel	Optional Wood Panel	Additional Rack Angles <sup>a</sup>
PTHW242428G2A	24.09 x 23.62 x 27.95 612 x 600 x 710	12	25.65 652	18.25 464	12.38 391	1.11 28	CP2020	CP2020W	PTRA24T or PTRA24S
PTHW362428G2A	36.30 x 23.62 x 27.95 922 x 600 x 710	19	25.65 652	30.75 781	15.38 391	1.11 28	CP3220	CP3220W	PTRA36T or PTRA36S
PTHW482428G2A	48.54 x 23.62 x 27.95 1233 x 600 x 710	26	25.65 652	42.70 1085	15.38 391	1.11 28	CP4420	CP4420W	PTRA48T or PTRA48S

<sup>a</sup>T = tapped 10-32, S = square hole (.375 in. x .375 in.)



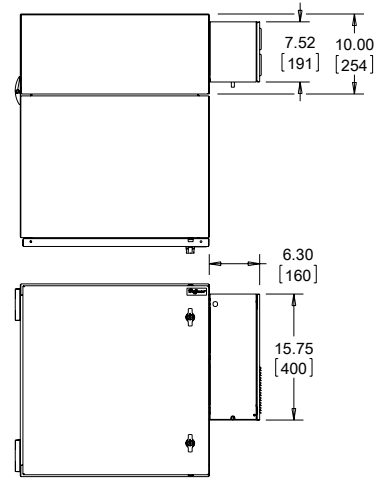
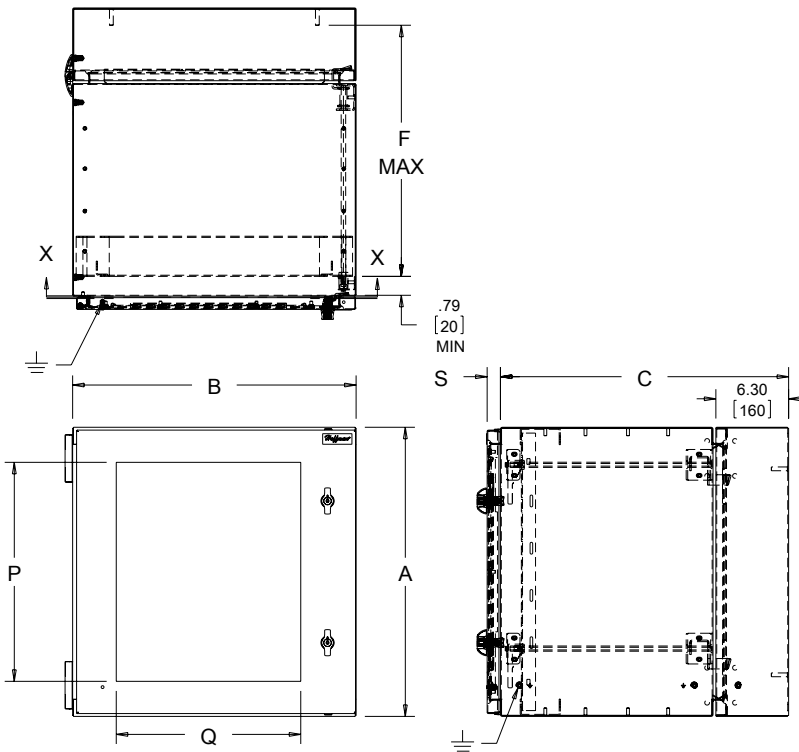
Standard Product **Solid Door Stainless Steel AC, NEMA Type 4, 4X, 12**

Catalog Number	AxBxC in./mm	Rack Units	F in./mm	P in./mm	Q in./mm	S in./mm	Optional Steel Panel	Optional Wood Panel	Additional Rack Angles <sup>a</sup>
PTHS242428XA	24.45 x 23.62 x 27.95	12	25.65	---	---	.80	CP2020	CP2020W	PTRA24T or PTRA24S
	621 x 600 x 710		652	---	---	20			
PTHS362428XA	36.30 x 23.62 x 27.95	19	25.65	---	---	.80	CP3220	CP3220W	PTRA36T or PTRA36S
	922 x 600 x 710		652	---	---	20			
PTHS482428XA	48.62 x 23.62 x 27.95	23	25.65	---	---	.80	CP4420	CP4420W	PTRA48T or PTRA48S
	1235 x 600 x 710		652	---	---	20			

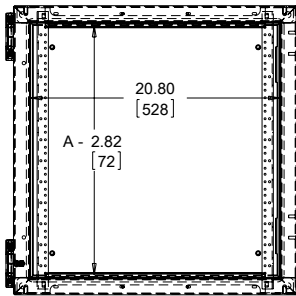
<sup>a</sup>T = tapped 10-32, S = square hole (.375 in. x .375 in.)



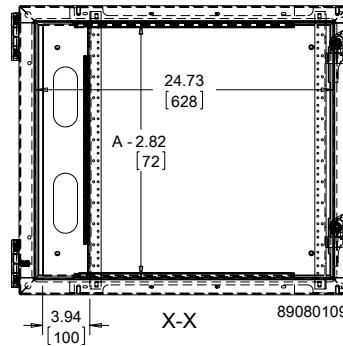




PTHS242428G2A, PTHS362428G2A, PTHS482428G2A  
 PTHW242428G2A, PTHW362428G2A, PTHW482428G2A  
 PTHS2424282XA, PTHS3624282XA, PTHS4824282XA



X-X  
 B = 600 mm



X-X  
 B = 700 mm  
 89080109



## PROTEK™ SINGLE-DOOR FAN PACKAGES



### INDUSTRY STANDARDS

UL 508A Listed; File Number E61997  
 cUL Listed per CSA C22.2 No. 94; File Number E61997  
 Solid Door: Type 3R  
 Window Door: Type 1

NEMA / EEMAC: Type 1 or 3R  
 IEC 60529, IP30 or IP 32

### APPLICATION

PROTEK Single-Door Fan Package cabinets are an excellent, off-the-shelf choice for mounting 19-in. rack, panel-mounted devices or other electronic equipment. An integral top solar/drip shield and thermostatically-controlled fans provide airflow to cool internal equipment. Cabinets are available in UL Type 3R for indoor/outdoor use. A UL Type 1 window-door version is available for indoor applications. The integral fans provide cooling for internally-mounted equipment. The enclosures provide protection against water, dirt and other contaminants. PROTEK is an excellent choice for applications where space is at a premium and the only option is wall mounting. PROTEK comes in a broad range of sizes, materials and configurations to meet many demanding applications.

### FEATURES

- Solid-door cabinet provides complete physical and visual protection
- Integral top solar/drip shield
- Two thermostatically-controlled, long-life, high-performance fans mounted into top
- Perforated, vented base with internal, expanded metal, serviceable filter
- Window door, made of scratch-resistant safety glass, provides visual monitoring of internal equipment while maintaining equipment protection
- All seams are fully welded and ground smooth
- Door and body are provided with ground studs to facilitate proper bonding and grounding of the cabinet
- Premium seamless, foam-in-place gasket prevents contaminants from entering the cabinet
- Keylocking wing knob provides access control to the cabinet; two keys are included with each cabinet
- One set of plated, self-grounding, tapped 10-32 rack angles per EIA universal spacing standards, which can be adjusted front-to-back, is provided with each cabinet
- Additional rack angles in tapped and square-hole versions can be added to the cabinet
- Wall section welded panel studs which accommodate standard panels (steel and wood available), can be ordered separately

### SPECIFICATIONS

- Doors made of 16 gauge and body made of 14 gauge steel
- Window made of .25-in. safety glass
- Integral top with two 6-in. [272 CFM] or 4-in. [113 CFM] fans powered by 120 VAC via cord with standard NEMA plug 5-15P
- Incoming air filter made of expanded aluminum
- Rack angles made of 12 gauge plated steel
- M6 door and body ground studs are masked from paint
- Twenty 10-32 rack angle equipment mounting screws included with cabinet
- Foam-in-place gasket made of durable polyurethane
- Inline thermostat turns fans on when temperature exceeds 85 F/30 C

### FINISH

Pretreated steel coated with light-gray, low-gloss, lightly textured RAL 7035 polyester powder

### LOAD RATING

Height	Rating
24 in.	250 lb./90.7 kg
36 in.	300 lb./136.1 kg
48 in.	400 lb./181.4 kg

### ACCESSORIES

Locks and handles  
 Panels (steel and wood)  
 Grounding kits  
 Power Distribution Units (PDUs)  
 Rack angles

### NOTES

- Performance data based on:
- Effective measured airflow provided by integral fans is 272 CFM (6-in.) or 113 CFM (4-in.)
  - Delta T or  $\Delta T$  (Ambient Temperature – Maximum in-cabinet Temperature)
    - Ambient air must be cooler than maximum in-cabinet temperature
    - For applications that have less than a  $\Delta T$  of 5 F, use PROTEK with AC unit
  - Total Cooling = [Air cooling + Cabinet cooling]
  - Air Cooling [Watts =  $.316 \times \text{CFM} \times \Delta T$ ] Cabinet cooling [Watts =  $[(.22 \times \text{Area}) / \Delta T]$ ]

**Example:** Cabinet height 24 in. x 24 in. deep with ambient temperature 110 F, with a maximum internal cabinet temperature 120 F ( $\Delta T = 10$  F). The cabinet and fans will provide a total cooling capability of 762 Watts or 1300 BTU.

[See Performance Charts]

**BULLETIN: DWS12**

Performance Chart 12-in. Deep Total Cooling in Watts (BTUs)

Delta T	A=24 in.	A=36 in.	A=48 in.
25F	948 (3235)	970 (33310)	992 (2385)
20F	758 (2587)	776 (2648)	793 (2708)
15F	569 (1941)	581 (1986)	595 (2031)
10F	379 (1294)	388 (1324)	397 (1354)
5F	190 (647)	194 (662)	198 (677)

See Notes on page 1.

Performance Chart 24-in. Deep Total Cooling in Watts (BTUs)

Delta T	A=24 in.	A=36 in.	A=48 in.
25F	2237 (7634)	2270 (7747)	2309 (7860)
20F	1789 (6107)	1816 (6197)	1842 (6288)
15F	1342 (4580)	1362 (4648)	1382 (4716)
10F	895 (3054)	908 (3099)	921 (3144)
5F	447 (1527)	454 (1550)	460 (1572)

See Notes on page 1.

Technical Fan Data

Depth	Nominal Size	Qty.	Voltage	Amperage 50/60 Hz	Plug	Effective CFM
12 in.	4 in.	2	120 VAC	.52/.42	Standard NEMA 5-15P	113 (Clean Filter)
24 in.	6 in.	2	120 VAC	.90/.72	Standard NEMA 5-15P	272 (Clean filter)

Standard Product PROTEK Single Solid Door Fan Package, Type 3R (indoor or outdoor)

Catalog Number	in./mm	Rack Units	F in./mm	G in./mm	P in./mm	Q in./mm	R in./mm	Optional Steel Panel	Optional Wood Panel	Additional Rack Angles <sup>3</sup>
PTRS242412G3	24.09 x 23.62 x 11.81	12	9.51	13.38	---	---	9.48	CP2020	CP2020W	PTRA24T or PTRA24S
	612 x 600 x 300		242	400	---	---	241			
PTRS242424G3	24.09 x 23.62 x 24.02	12	21.72	26.75	---	---	14.28	CP2020	CP2020W	PTRA24T or PTRA24S
	612 x 600 x 610		552	679	---	---	363			
PTRS362412G3	36.30 x 23.62 x 11.81	19	9.51	13.38	---	---	9.48	CP3220	CP3220W	PTRA36T or PTRA36S
	922 x 600 x 300		242	400	---	---	241			
PTRS362424G3	36.30 x 23.62 x 24.02	19	21.72	26.75	---	---	14.28	CP3220	CP3220W	PTRA36T or PTRA36S
	922 x 600 x 610		552	679	---	---	363			
PTRS482412G3	48.54 x 23.62 x 11.81	26	9.51	13.38	---	---	9.48	CP4420	CP4420W	PTRA48T or PTRA48S
	1233 x 600 x 300		242	400	---	---	241			
PTRS482424G3	48.54 x 23.62 x 24.02	26	21.72	26.75	---	---	14.28	CP4420	CP4420W	PTRA48T or PTRA48S
	1233 x 600 x 610		552	679	---	---	363			

Cabinet dimensions do not include integral solar/drip shield and fan top. See dimensional drawing.

<sup>3</sup>T=tapped 10-32; S=Square hole (.375 in. x .375 in./10 mm x 10 mm)

Replacement filters: for 12-inch deep part number 30189028, for 24-inch deep part number 10100038



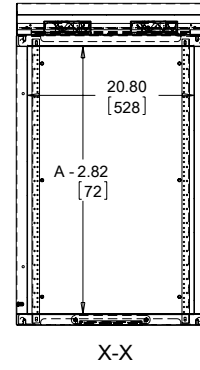
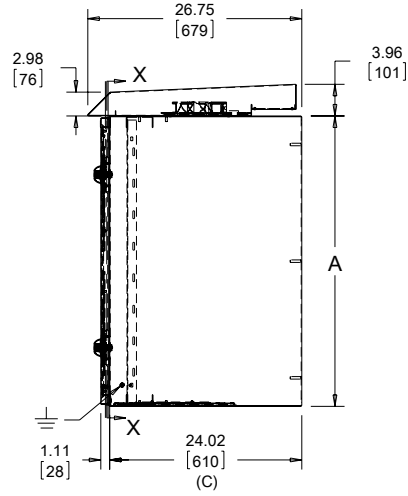
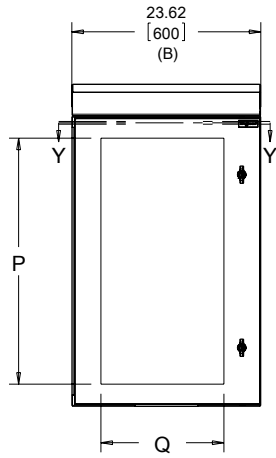
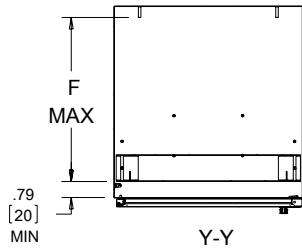
Standard Product **PROTEK Single Window Door Fan Package, Type 1 (indoor only)**

Catalog Number	AxBxC in./mm	Rack Units	F in./mm	G in./mm	P in./mm	Q in./mm	R in./mm	Optional Steel Panel	Optional Wood Panel	Additional Rack Angles <sup>a</sup>
PTRW242424GF	24.09 x 23.62 x 24.02 612 x 600 x 610	12	21.72 552	26.75 679	18.25 464	15.38 391	14.28 363	CP2020	CP2020W	PTRA24T or PTRA24S
PTRW362424GF	36.30 x 23.62 x 24.02 922 x 600 x 610	19	21.72 552	26.75 679	30.75 781	15.38 391	14.28 363	CP3220	CP3220W	PTRA36T or PTRA36S
PTRW482424GF	48.54 x 23.62 x 24.02 1233 x 600 x 610	26	21.72 552	26.75 679	42.20 1085	15.38 391	14.28 363	CP4420	CP4420W	PTRA48T or PTRA48S

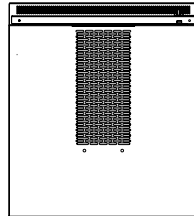
Cabinet dimensions do not include integral solar/drip shield and fan top. See dimensional drawing. Cabinet dimensions do not include integral solar/drip shield and fan top. See dimensional drawing.

<sup>a</sup> T=Tapped 10-32, S=Square hole (.375 in. x .375 in.)





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## PROTEK™ DOUBLE-HINGED FAN PACKAGES



### INDUSTRY STANDARDS

UL 508A Listed; File Number E61997  
 cUL Listed per CSA C22.2 No. 94; File Number E61997  
 Solid Door: Type 3R  
 Window Door: Type 1

NEMA / EEMAC: Type 1 or 3R  
 IEC 60529, IP30 or IP 32

### APPLICATION

PROTEK Double-Hinged Fan Package cabinets are an excellent, off-the-shelf choice for mounting 19-in. rack, panel-mounted devices or other electronic equipment. An integral top solar/drip shield and thermostatically-controlled fans provide airflow to cool internal equipment. Cabinets are available in UL Type 3R for outdoor use. A UL Type 1 window version is available for indoor applications. The cabinets are designed to provide both front and rear access to 19-in. rack-mounted equipment. They provide protection against water, dirt and other contaminants. PROTEK is an excellent choice for applications where space is at a premium and the only option is wall mounting. PROTEK comes in a broad range of sizes, materials and configurations to meet many demanding applications.

### FEATURES

- Front and rear access to 19-in. rack equipment provided by three-part design: door, center section and wall section
- Solid door provides complete physical and visual protection
- Integral top solar/drip shield
- Two thermostatically controlled, long-life, high-performance fans mounted into top
- Window door, made of .25-in. scratch-resistant safety glass and mechanically fastened, provides visual monitoring of internal equipment while maintaining equipment protection
- All seams are fully welded and ground smooth
- Perforated, vented base with internal, expanded metal, serviceable filter
- Door, center section and wall section are provided with ground studs to facilitate proper bonding and grounding of the cabinet
- Premium seamless, foam-in-place gasket prevents contaminants from entering the cabinet
- Keylocking wing knob provides access control to the cabinet; two keys are included with each cabinet
- One set of plated, self-grounding, tapped 10-32 rack angles per EIA universal spacing standards, adjustable front-to-back within the center section of the cabinet
- Additional rack angles in tapped- or square-hole versions can be added to the cabinet
- Wall section welded panel studs which accommodate standard panels (steel and wood available), can be ordered separately

### SPECIFICATIONS

- Doors made of 16 gauge; wall and center sections made of 14 gauge steel
- Integral top with two 6-in. fans powered by 120 VAC via cord with standard NEMA plug, provide 230 CFM of airflow
- Window made of .25-in. safety glass
- Rack angles with 10-32 tapped holes per EIA universal standards are made of 12 gauge plated steel
- Incoming air filter made of expanded aluminum
- M6 door and body ground studs are masked from paint
- Twenty 10-32 rack angle equipment mounting screws included with cabinet
- Foam-in-place gasket made of durable polyurethane
- Inline thermostat turns fans on when temperature exceeds 85 F/30 C

### FINISH

Pretreated steel coated with light-gray, low-gloss, lightly textured RAL 7035 polyester powder

### LOAD RATING

Height	Rating
24 in.	250 lb./113.4 kg
36 in.	300 lb./136.0 kg
48 in.	350 lb./158.7 kg

### ACCESSORIES

Locks and handles  
 Panels (steel and wood)  
 Grounding kits  
 Power Distribution Units (PDUs)  
 Rack angles

### NOTES

- Performance data based on:
- Effective measured airflow provided by integral fans is 272 CFM
  - Delta T or  $\Delta T$  (Ambient Temperature – Maximum in-cabinet Temperature)
    - Ambient air must be cooler than maximum in-cabinet temperature
    - For applications that have less than a  $\Delta T$  of 5 F, use PROTEK with AC unit
  - Total Cooling = (Air cooling + Cabinet cooling)
  - Air Cooling [Watts =  $.316 \times \text{CFM} \times \Delta T$ ] Cabinet cooling [Watts =  $(.22 \times \text{Area}) / \Delta T$ ]

**Example:** Cabinet height 24 in. x 24 in. deep with ambient temperature 110 F, with a maximum internal cabinet temperature 120 F ( $\Delta T = 10$  F). The cabinet and fans will provide a total cooling capability of 762 Watts or 1300 BTU.

(See Performance Chart)

**BULLETIN: DWDH2**



Performance Chart **Total Cooling in Watts (BTUs)**

Delta T	A=24 in.	A=36 in.	A=48 in.
25F	2237 (7634)	2270 (7747)	2309 (7860)
20F	1789 (6107)	1816 (6197)	1842 (6288)
15F	1342 (4580)	1362 (4648)	1382 (4716)
10F	895 (3054)	908 (3099)	921 (3144)
5F	447 (1527)	454 (1550)	460 (1572)

See Notes on page 1.

Technical Fan Data

Nominal Size	Qty.	Voltage	Amperage 50/60 Hz	Plug	Effective CFM
6 in.	2	120 VAC	.90/.72	Standard NEMA 5-15P	272 (Clean filter)

Standard Product **PROTEK Double-Hinged Solid Door, Type 3R (indoor or outdoor)**

Catalog Number	in./mm	Rack Units	P in./mm	Q in./mm	Optional Steel Panel	Optional Wood Panel	Additional Rack Angles <sup>a</sup>
PTHS242424G3	24.09 x 23.62 x 24.02	12	---	---	CP2020	CP2020W	PTRA24T or PTRA24S
	612 x 600 x 610						
PTHS362424G3	36.30 x 23.62 x 24.02	19	---	---	CP3220	CP3220W	PTRA36T or PTRA36S
	922 x 600 x 610						
PTHS482424G3	48.62 x 23.62 x 24.02	26	---	---	CP4420	CP4420W	PTRA48T or PTRA48S
	1235 x 600 x 610						

Cabinet dimensions do not include integral solar/drip shield and fan top. See dimensional drawing.

<sup>a</sup>T=tapped 10-32; S=Square hole (.375 in. x .375 in./10 mm x 10 mm)

Replacement filter part number 10100038



Standard Product **PROTEK Double-Hinged Window Door, Type 1 (indoor only)**

Catalog Number	AxBxC in./mm	Rack Units	P in./mm	Q in./mm	Optional Steel Panel	Optional Wood Panel	Additional Rack Angles <sup>a</sup>
PTHW242424GF	24.09 x 23.62 x 24.02 612 x 600 x 610	12	18.25 464	15.38 391	CP2020	CP2020W	PTRA24T or PTRA24S
PTHW362424GF	36.30 x 23.62 x 24.02 922 x 600 x 610	19	30.75 781	15.38 391	CP3220	CP3220W	PTRA36T or PTRA36S
PTHW482424GF	48.54 x 23.62 x 24.02 1233 x 600 x 610	26	42.70 1085	15.38 391	CP4420	CP4420W	PTRA48T or PTRA48S

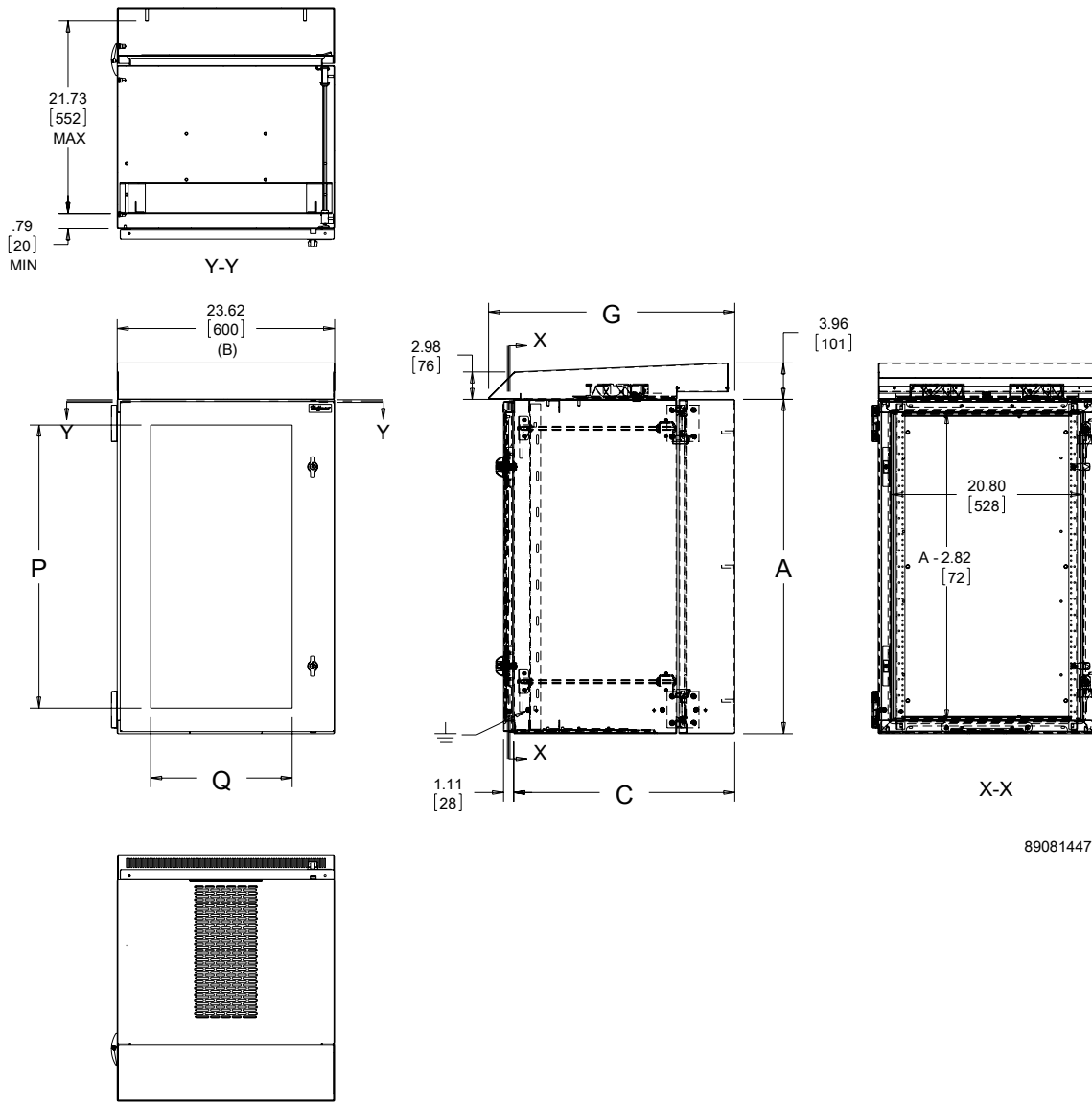
Cabinet dimensions do not include integral solar/drip shield and fan top. See dimensional drawing.

<sup>a</sup>T=tapped 10-32; S=Square hole (.375 in. x .375 in./10 mm x 10 mm)

Replacement filter part number 10100038







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**COOLING PERFORMANCE FOR AIR CONDITIONER PACKAGES**

**PROTEK Air Conditioner calculated cooling performance**

AC Performance: 800 BTU/hour or 235 watts  
 Voltage / Hertz: 115 VAC/60 Hz  
 Max. Ambient Temperature: 131 F  
 Min. Ambient Temperature: -40 F  
 Max. Internal Temperature: 100 F (Allowable)

**Cooling Performance PROTEK™ Air Conditioner Packages**

Ambient Temperature (°F)	Watts (Heat) Dissipated Cabinet Height: 24 in.	Watts (Heat) Dissipated Cabinet Height: 36 in.	Watts (Heat) Dissipated Cabinet Height: 48 in.
130	15	N/A	N/A
120	88	73	59
110	161	154	146
100	234	234	234
90	308	315	322
80	381	396	410
70	454	476	498
60	527	557	586
50	601	637	674
40	674	718	762

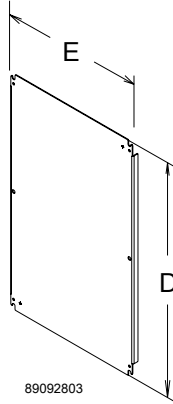
N/A = Not applicable and not recommended in these applications

1 BTU = 3.413 watts

### PROTEK™ WALL-MOUNT CABINET ACCESSORY PANELS

Where equipment mounting space is limited, Accessory Panels increase cabinet capacity by providing a mounting surface for 19-in. equipment and accessories at the back of the cabinet. The panels mount on collar studs provided in the cabinet. Available in painted mild steel or wood.

BULLETIN: CWP, DWDH2



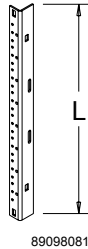
#### Standard Product

Catalog Number	Panel Type	Panel Size D x E in./mm	Gauge
CP2014	Painted Steel	18.20 x 12.20 462 x 310	14
CP2020	Painted Steel	18.20 x 18.20 462 x 462	12
CP2442	Painted Steel	22.20 x 40.20 564 x 1021	12
CP3220	Painted Steel	30.20 x 18.20 762 x 462	12
CP4420	Painted Steel	42.20 x 18.20 1072 x 462	12
CP5620	Painted Steel	53.20 x 18.20 1351 x 462	12

### PROTEK™ RACK ANGLES

Square- and tapped-hole rack angles fit into PROTEK™ single- and double-hinged cabinets.

BULLETIN: DWDH2



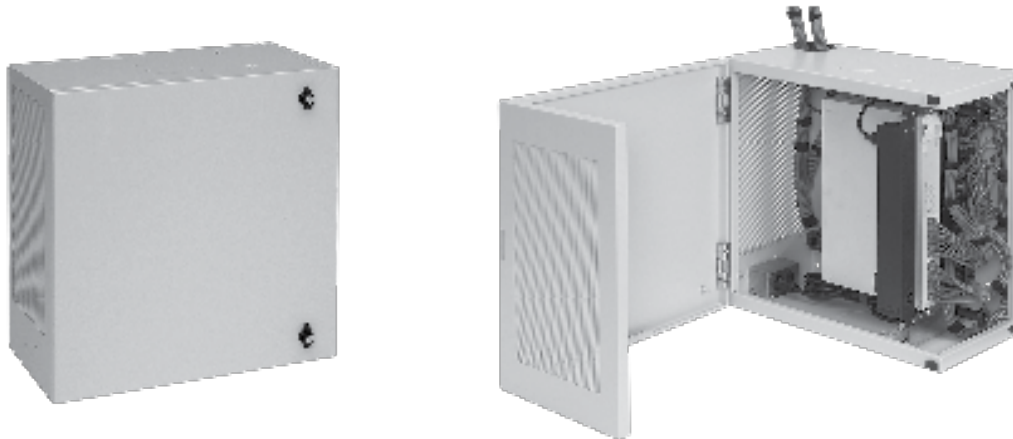
#### Standard Product

Catalog Number	L in./mm	Hole Type	Fits Cabinet Height in./mm	Rack Units
PTRA16T	16.12 409	Tapped	16.00	8
PTRA16S	16.12 409	Square	16.00	8
PTRA24T	23.12 587	Tapped	24.00	12
PTRA24S	23.12 587	Square	24.00	12
PTRA36T	35.32 897	Tapped	36.00	19
PTRA36S	35.32 897	Square	36.00	19
PTRA48T	45.57 1157	Tapped	48.00	26
PTRA48S	45.57 1157	Square	48.00	26
PTRA60T	59.07 1500	Tapped	60.00	32
PTRA60S	59.07 1500	Square	60.00	32

## Notes



**L-BOX™, TYPE 1**



**INDUSTRY STANDARDS**

UL 1863 Listed; File No. E230874  
 UL 508A Listed; Type 1; File Number E61997  
 cUL Listed per CSA C22.2 No. 182.4; File No. E230874  
 Ventilation complies with UL 60950

Designed in accordance with BICSI TDMM Tenth edition,  
 Chapter 7, Telecommunication Enclosures (TE)  
 EIA 310-D  
 IEC 60529, IP30

**APPLICATION**

The low-profile, vertically-oriented L-BOX™ wall-mount cabinet is extremely versatile and can be used in public settings to mount, store and protect network equipment, patch panels and connections. The hinged, L-shaped door provides full access on two sides to installed equipment while fixed rack angles accommodate varying equipment sizes.

**FEATURES**

- Spring-loaded, self-retained hinge pins allow door removal
- 120-degree door opening
- Quarter-turn latches with key lock (Code 333)
- One set of fixed rack angles is included on 24- and 36-in. (610- and 914-mm) tall models and two on 48-in. (1219-mm) tall models
- Rack angles on 36-in. (914-mm) models can be positioned either at the top or the bottom of the cabinet

- 36- and 48-in. (914- and 1219-mm) tall models have space for patch panel or shelf brackets
- Knockouts for 4-in. (102-mm) fan on top and bottom of cabinet
- Wiring knockouts (7/8 in., 1-3/8 in., and 3 in.) on top and bottom of cabinet. Two 3-in. cable entry knockouts on back.
- Multiple cable tie-down points on back of cabinet
- Keyhole mounting slots spaced 16.00 in. (406 mm) on center for easy cabinet mounting
- Includes package of twenty 10-32 mounting screws

**SPECIFICATIONS**

- Manufactured from 14 gauge mild steel
- Self-grounding mounting angles made of 12 gauge plated steel
- Bonding provision on door
- Ground stud on body
- EIA Universal 5/8 - 5/8 - 1/2 in. rack angle mounting hole pattern matches industry standards. Holes are tapped 10-32.

**FINISH**

Pretreated steel coated with RAL 7035 light-gray textured, low-gloss polyester powder paint. Other finishes available—contact Hoffman Customer Service.

**LOAD RATING**

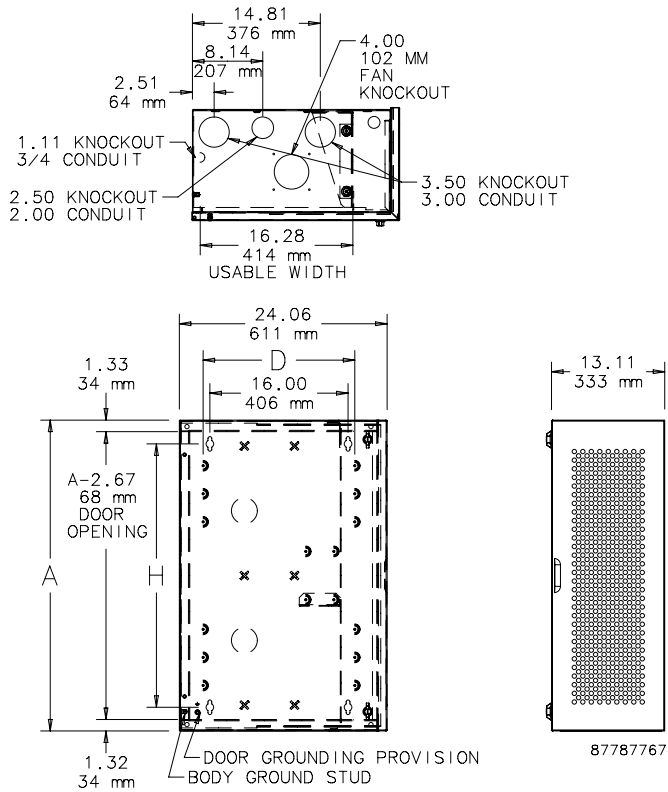
75 lb. (34.0 kg)

**BULLETIN: DWS1**

Standard Product

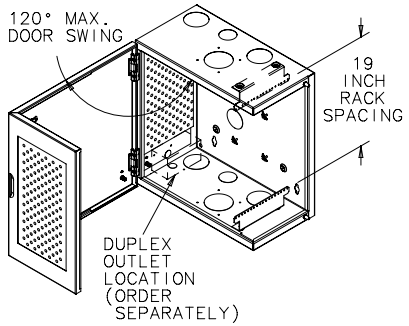
Catalog Number	AxBxC in.	AxBxC mm	H (in.)	H (mm)	Rack Units
DBL242412G	24.00 x 24.00 x 12.34	610 x 610 x 313	22.00	559	6
DBL362412G	36.00 x 24.00 x 12.34	915 x 610 x 313	34.00	864	6
DBL482412G	48.00 x 24.00 x 12.34	1220 x 610 x 313	46.00	1168	2 sets of 6



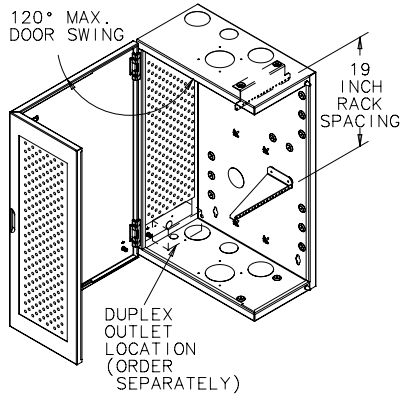


L-BOX RACK ANGLE LOCATIONS

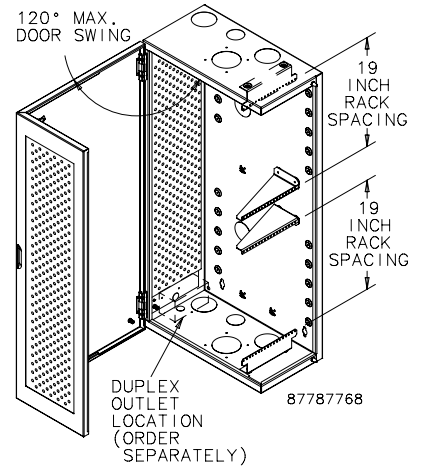
DBL242412G



DBL362412G



DBL482412G



### BONDING AND GROUNDING KIT



Provides the cable and mounting hardware required to ground equipment to the door and the body of the cabinet.

BULLETIN: DWS1

Catalog Number	Description
DBGRDK	Bonding and Grounding Kit

### DUPLEX OUTLET KIT



15 A duplex outlet is factory-mounted in three-sided, plated steel enclosure. Outlet enclosure mounts on hinge side of door in lower corner of cabinet. Mounting hardware provided.

BULLETIN: DWS1

Catalog Number	Description	Current Rating
DBDXK	Duplex Outlet Kit	15 A

### FAN FILTER AND FINGER GUARD KIT

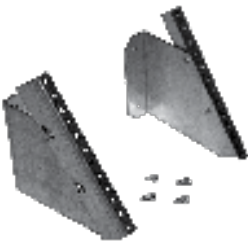


Low-density filter kit for 4-in. (102-mm) and 6-in. (152-mm) fans. Can also be used as vent. Filter is removable and can be cleaned and reused. Mounting hardware included.

BULLETIN: DTHRM, DWS1

Catalog Number	Description	Fits
AFLTR4LD	Fan Filter and Finger Guard Kit	4-in. fans
AFLTR6LD	Fan Filter and Finger Guard Kit	6-in. fans

### PATCH PANEL RACK ANGLES



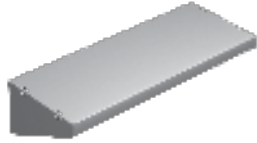
Swiveling rack angles drop 45 degrees to provide convenient access to equipment mounted on patch panels. Provide additional patch panel location in 36- and 48-in. (914- and 1219-mm) high cabinets. Made of self-grounding, plated 12 gauge steel. Mounting hardware included. Set of two.

BULLETIN: DWS1

Catalog Number	Description	Rack Units
DBPRA4U	Patch Panel Rack Angles	4



**SHELVES**



Shelves provide additional storage in 36- and 48-in. (914- and 1219-mm) tall cabinets. Made of self-grounding plated 16 gauge steel. 75 lb. (34.0 kg) load rating. RAL 7035 polyester powder coat finish.

BULLETIN: DWS1

Catalog Number	AxB in./mm	Description	Length in./mm	Depth in./mm	Fits Cabinet Depth
DBSHELF8	0.00	Steel Shelf	19.05 484	7.25 184	8 in.
DBSHELF12	24.00 x 12.00 610 x 305	Steel Shelf	19.05 484	11.08 281	8 or 12 in.

**STRUT WALL-MOUNTING KIT**



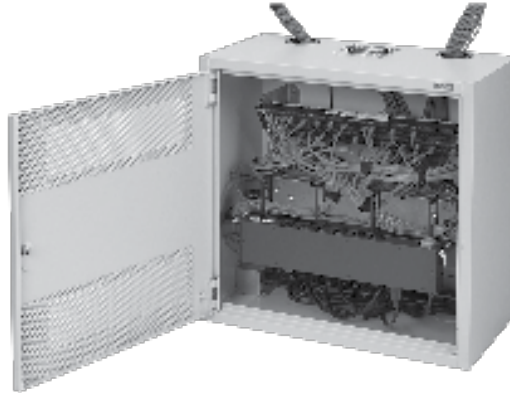
Provides secure mounting for cabinet. RAL 7035 polyester powder coat finish.

BULLETIN: DWS1

Catalog Number	Description	Length in./mm
DBZ4WMTK	Strut Wall-Mounting Kit	24.00 610



## D-BOX™, TYPE 1



### INDUSTRY STANDARDS

UL 1863 Listed; File No. E230874  
 UL 508A Listed; Type 1; File Number E61997  
 cUL Listed per CSA C22.2 No. 182.4; File No. E230874  
 Ventilation complies with UL 60950

Telcordia NEBS™ Requirements: Physical Protection, GR-63-CORE, Zone 4. Tested with 100 lb. (45.4 kg) of equipment installed. Designed in accordance with BICSI TDMM Tenth edition, Chapter 7, Telecommunication Enclosures (TE) EIA 310-D IEC 60529, IP40

### APPLICATION

Ideal for retail applications where it is necessary to house 19-in. network equipment in a public location, the horizontally-oriented D-BOX™ is a low-profile cabinet with a hinged door for convenient front access and a combination of fixed and rotating rack angles to accommodate varying equipment sizes.

### FEATURES

- Spring-loaded, self-retained hinge pins allow door removal
- Reversible door fits flush to body with no exposed corners
- Knockouts for 4-in. fan on top and bottom of enclosure
- Wiring knockouts (7/8 in., 1-3/8 in., and 3 in.) on top and bottom of enclosure. Two 3-in. cable entry knockouts on back.
- 120-degree door opening
- Multiple cable tie-down points on back of enclosure

- Quarter-turn latch with key lock
- Keyhole mounting slots spaced 16.00 in. (406 mm) on center for easy enclosure mounting
- Bosses provided for mounting accessories such as cable spools
- Self-grounding mounting angles made of 12 gauge galvanized steel
- Patch panel mounting angles rotate down for access
- Flange around door opening protects interior
- Bonding provision on door
- Ground stud on body
- EIA Universal 5/8 - 5/8 - 1/2 in. vertical mounting hole pattern matches industry standards. Holes are tapped 10-32.
- Includes package of twenty 10-32 mounting screws

### SPECIFICATIONS

- Door manufactured from 14 gauge mild steel
- Body manufactured from 16 gauge mild steel

### FINISH

Pretreated steel coated with RAL 7035 light-gray textured, low-gloss polyester powder paint. Other finishes available—contact Hoffman Customer Service.

### LOAD RATING

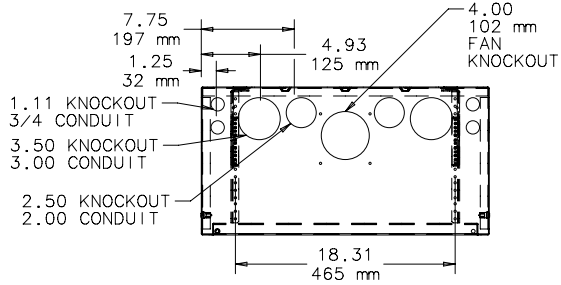
100 lb. (45.4 kg)

### BULLETIN: DWS1

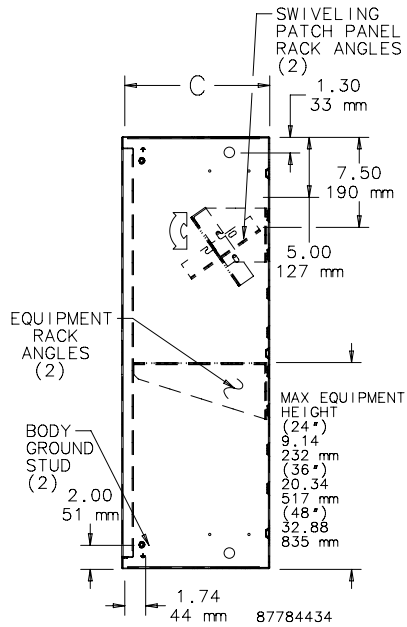
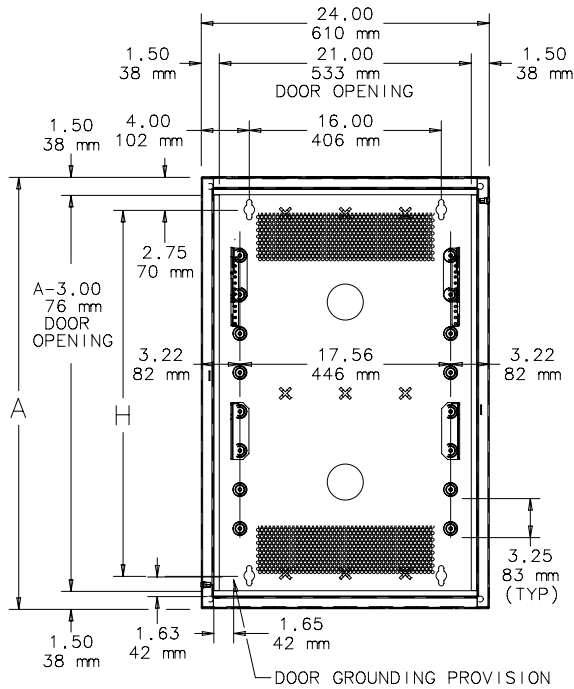
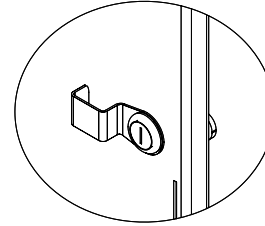


Standard Product

Catalog Number	AxBxC in.	AxBxC mm	H (in.)	H (mm)	Rack Units
DBS24248G	24.00 x 24.00 x 8.34	610 x 610 x 212	22.00	559	4
DBS36248G	36.00 x 24.00 x 8.34	915 x 610 x 212	34.00	864	4
DBS48248G	48.00 x 24.00 x 8.34	1220 x 610 x 212	46.00	1168	4
DBS242412G	24.00 x 24.00 x 12.34	610 x 610 x 313	22.00	559	6
DBS362412G	36.00 x 24.00 x 12.34	915 x 610 x 313	34.00	864	6
DBS482412G	48.00 x 24.00 x 12.34	1220 x 610 x 313	46.00	1168	6



Field Installable Handle (Included)



### BONDING AND GROUNDING KIT



Provides the cable and mounting hardware required to ground equipment to the door and the body of the cabinet.

BULLETIN: DWS1

Catalog Number	Description
DBGDK	Bonding and Grounding Kit

### DUPLEX OUTLET KIT



15 A duplex outlet is factory-mounted in three-sided, plated steel enclosure. Outlet enclosure mounts on hinge side of door in lower corner of cabinet. Mounting hardware provided.

BULLETIN: DWS1

Catalog Number	Description	Current Rating
DBDXK	Duplex Outlet Kit	15 A

### EQUIPMENT RACK ANGLES

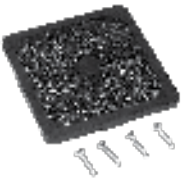


Fixed rack angles can be added to 36-in. and 48-in. tall cabinets for extra 19-in rack equipment mounting. Made of steel with clear zinc plating. EIA spaced holes are tapped 10-32. Mounts to raised pads on cabinet inside back with provided hardware.

BULLETIN: DWS1

Catalog Number	Description	Rack Units
DBERA4U	Equipment Rack Angles	4
DBERA6U	Equipment Rack Angles	6

### FAN FILTER AND FINGER GUARD KIT



Low-density filter kit for 4-in. (102-mm) and 6-in. (152-mm) fans. Can also be used as vent. Filter is removable and can be cleaned and reused. Mounting hardware included.

BULLETIN: DTHRM, DWS1

Catalog Number	Description	Fits
AFLTR4LD	Fan Filter and Finger Guard Kit	4-in. fans
AFLTR6LD	Fan Filter and Finger Guard Kit	6-in. fans

### PADLOCK KIT



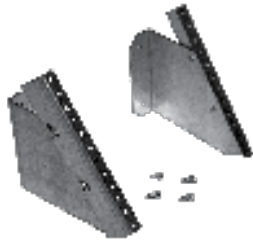
Kit includes field installable hasp and staple. Fits padlocks with maximum 5/16 in. (8mm) shackle diameter. No drilling or layout required. Includes mounting hardware.

BULLETIN: DWS1

Catalog Number	Description
DBPDLK	Padlocking Kit

4

### PATCH PANEL RACK ANGLES

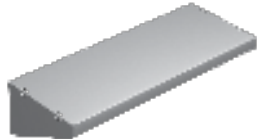


Swiveling rack angles drop 45 degrees to provide convenient access to equipment mounted on patch panels. Provide additional patch panel location in 36- and 48-in. (914- and 1219-mm) high cabinets. Made of self-grounding, plated 12 gauge steel. Mounting hardware included. Set of two.

BULLETIN: DWS1

Catalog Number	Description	Rack Units
DBPRA4U	Patch Panel Rack Angles	4

### SHELVES



Shelves provide additional storage in 36- and 48-in. (914- and 1219-mm) tall cabinets. Made of self-grounding plated 16 gauge steel. 75 lb. (34.0 kg) load rating. RAL 7035 polyester powder coat finish.

BULLETIN: DWS1

Catalog Number	AxB in./mm	Description	Length in./mm	Depth in./mm	Fits Cabinet Depth
DBSHELF8	0.00	Steel Shelf	19.05 484	7.25 184	8 in.
DBSHELF12	24.00 x 12.00 610 x 305	Steel Shelf	19.05 484	11.08 281	8 or 12 in.

### STRUT WALL-MOUNTING KIT



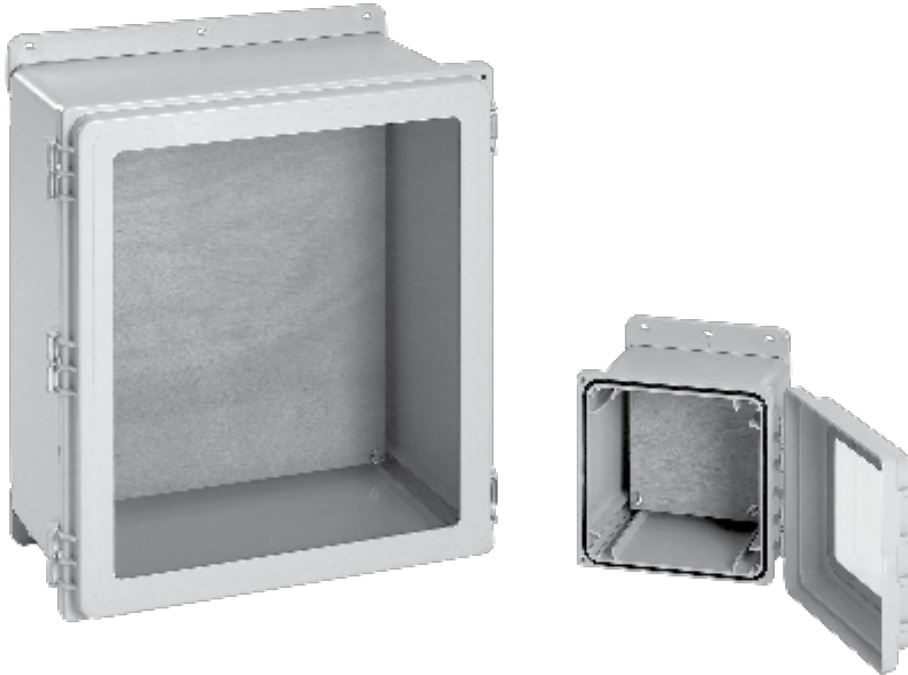
Provides secure mounting for cabinet. RAL 7035 polyester powder coat finish.

BULLETIN: DWS1

Catalog Number	Description	Length in./mm
DB24WMTK	Strut Wall-Mounting Kit	24.00 610



## POLYPRO™ WIFI, TYPE 4X



### INDUSTRY STANDARDS

UL 508A Listed; Type 4, 4X, 12, 13; File No. E61997  
 cUL Listed per CSA C22.2 No 94; Type 4, 4X, 12, 13; File No. E61997  
 Enclosure flammability evaluated per UL 508A  
 Window flammability evaluated per UL 508A

NEMA/EEMAC Type 4, 4X, 12, 13  
 CSA File No. 42186; Type 4, 4X, 12, 13 (solid covers only)  
 IEC 60529, IP66

### APPLICATION

POLYPRO™ WiFi enclosures provide protection for wireless equipment in both indoor and outdoor locations. The polyester construction and wood panel allow WiFi and WLAN signals to pass through the enclosure unimpeded. They perform exceptionally well in applications where harsh chemicals, weather extremes, a corrosive environment or flames demand toughness from a lightweight enclosure. Providing excellent ultraviolet protection and a tight environmental seal, these versatile, feature-rich enclosures are also recyclable.

### FEATURES

- Non-glass-filled polyester material offers superior UV resistance; eliminates fiberbloom associated with fiberglass
- Provides excellent chemical resistance to a broad range of solvents, alkalis and acids
- Resists cracking and provides excellent impact resistance
- Lighter-weight than fiberglass
- Recyclable
- Easy, dustless in-field modifications using standard tools
- Overlapping tongue-and-groove raised cover and gasket provide secure Type 4X seal
- Removable snap-hinge cover allows for easy access to cover and body for modifications
- Molded layout grid on inside of body and solid covers assists with component mounting
- Molded-in embosses for rear panel mounting
- Internal rail system and adjustable panel blocks allow for panel height adjustment and installation of multiple panels

### SPECIFICATIONS

- Scratch-resistant polycarbonate windows
- Standard models include body and cover, two mounting feet, two latch assemblies with optional cover screws and hardware, and 3/4-in. plywood panel

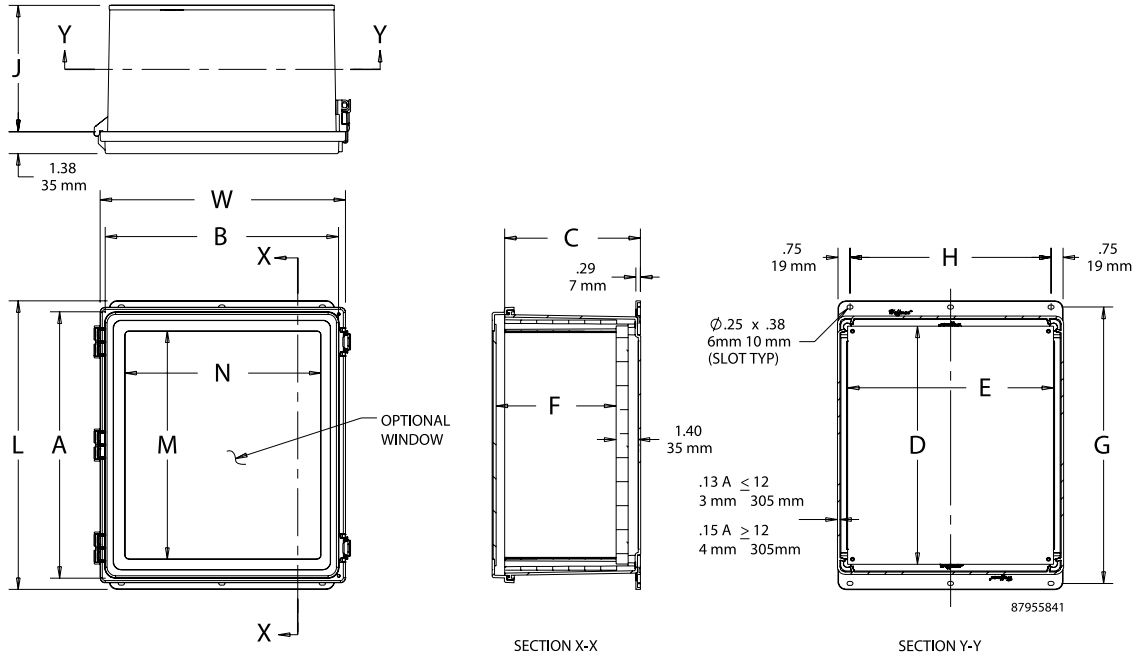
### FINISH

Polyester material is RAL 7035 light-gray textured finish inside and out

**BULLETIN: DWS12**

Standard Product

Catalog Number	AxBxC in./mm	Door Type	Panel Size D x E in./mm	F in./mm	G in./mm	H in./mm	J in./mm	L in./mm	M in./mm	N in./mm	W in./mm
D664WF	6.12 x 6.12 x 4.38 155 x 155 x 111	Solid	4.88 x 2.88 124 x 73	4.32 110	7.38 187	2.56 65	3.91 99	8.15 207	— —	— —	5.23 133
D664WFW	6.12 x 6.12 x 4.38 155 x 155 x 111	Window	4.88 x 2.88 124 x 73	4.32 110	7.38 187	2.56 65	3.91 99	8.15 207	4.25 108	2.25 57	5.23 133
D16148WF	16.12 x 14.01 x 8.35 409 x 356 x 212	Solid	14.75 x 12.88 375 x 327	8.27 210	17.27 439	12.56 319	7.91 201	18.04 458	— —	— —	15.32 389
D16148WFW	16.12 x 14.01 x 8.35 409 x 356 x 212	Window	14.75 x 12.88 375 x 327	8.27 210	17.27 439	12.56 319	7.91 201	18.04 458	14.25 362	12.25 311	15.32 389



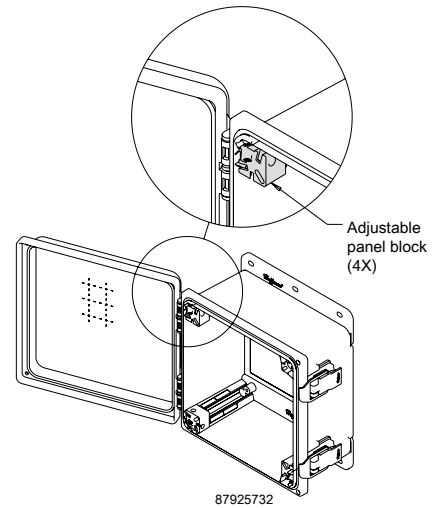
**ADJUSTABLE PANEL BLOCK KIT**

Panel blocks slide inside POLYPRO internal rail system for panel height adjustment within top 5 in. of enclosure. Allows for installation of multiple panels.

BULLETIN: PCRY

Catalog Number	Qty.
APNLBLK	4

Includes Allen wrench

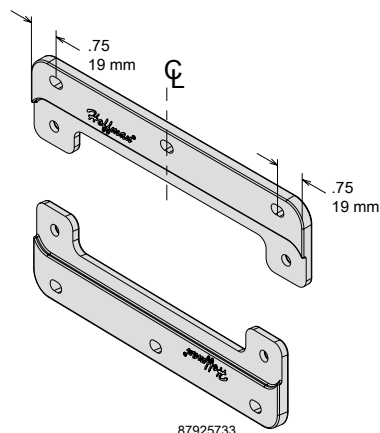


### POLYESTER MOUNTING BRACKET KITS

Replacement POLYPRO mounting brackets are sold in sets of two and include hardware for mounting to enclosure. Included with standard POLYPRO models.

BULLETIN: PCRY

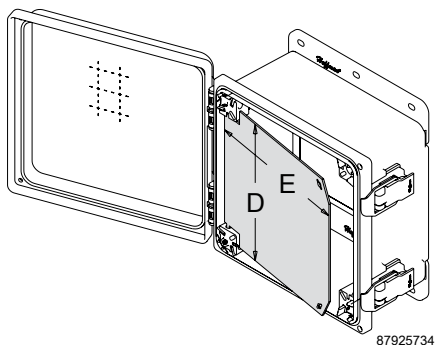
Catalog Number	Description (in.)	Qty.
APOLYFT4	4.00	2
APOLYFT6	6.00	2
APOLYFT8	8.00	2
APOLYFT10	10.00	2
APOLYFT12	12.00	2
APOLYFT14	14.00	2
APOLYFT16	16.00	2



### ALUMINUM SWING-OUT PANELS

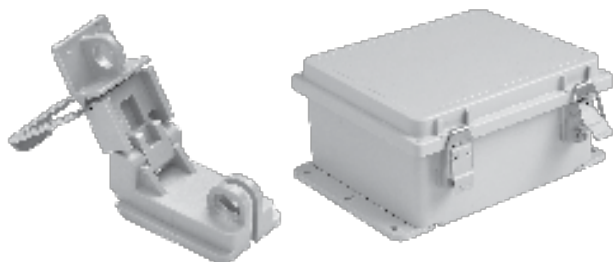
Includes four POLYPRO Adjustable Panel Blocks. No enclosure modification is required for installation.

BULLETIN: PCRY



Catalog Number	D x E (in.)	D x E (mm)
A64PSWPNL	5.00 x 3.62	127 x 92
A66PSWPNL	5.00 x 5.62	127 x 143
A86PSWPNL	7.00 x 5.62	178 x 143
A88PSWPNL	7.00 x 7.62	178 x 194
A108PSWPNL	9.00 x 7.62	229 x 194
A1010PSWPNL	9.00 x 9.62	229 x 244
A1210PSWPNL	11.00 x 9.62	279 x 244
A1412PSWPNL	13.00 x 11.62	330 x 295
A1614PSWPNL	15.00 x 13.62	381 x 346
A1816PSWPNL	17.00 x 15.62	432 x 397

### STAINLESS STEEL LATCHES (PADLOCKABLE)



Stainless Steel Latches can be retrofitted on all POLYPRO models with no modification or drilling required. Hinge/latch constructed of corrosion-resistant polyester with a Type 316L stainless steel bail. Included with standard POLYPRO models.

BULLETIN: PCRY

Catalog Number	Qty.
AQRLSS6	2

### HINGE RETAINERS



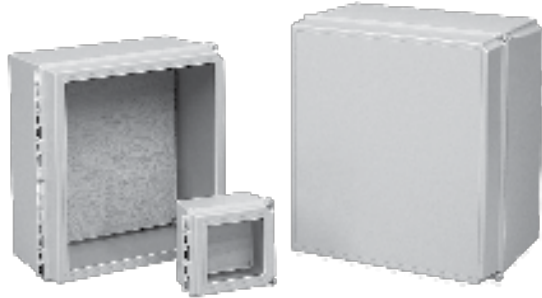
Hinge Retainers can be field-installed without modification to POLYPRO hinges for applications where easy cover removal is not desired. Two retainers per enclosure is recommended. Kit includes ten hinge retainers.

#### BULLETIN: PCRY

Catalog Number	Description	Pkg. Qty.
AHGCLP	POLYPRO Hinge Retainers	10



## HINGE-COVER WIFI, TYPE 4X



### FEATURES

- Fiberglass is easily punched, drilled, filed or sawed
- Seamless foam-in-place gasket assures watertight and dusttight seal
- Molded-in-place threaded brass inserts and plated steel screws are provided for mounting optional panels and terminal block kits
- Removable hinged cover attached to body with Type 316 stainless steel hinge pin
- Screw cover enclosures are secured with two captivated Type 316 stainless steel slotted cross-point cover screws
- Available quick-release latches are corrosion-resistant polyester located in corners to provide unobstructed access to enclosure
- Knockout padlock provisions included in each latch

### SPECIFICATIONS

- Enclosure and door made of molded fiberglass polyester that resists chemicals and temperature change
- Scratch-resistant GE Lexan Margard® windows are permanently bonded in place
- Polyester mounting brackets and stainless steel attachment screws are provided with each enclosure
- Hinge pin and bail are corrosion-resistant Type 316 stainless steel
- Includes a 3/4-in. plywood panel for mounting equipment

*Margard is a trademark of General Electric*

### FINISH

Fiberglass material is light gray inside and out.

### BULLETIN: DWS12

### INDUSTRY STANDARDS

UL 508A Listed; Type 4, 4X, 12, 13; File No. E61997  
 cUL Listed per CSA C22.2 No 94; Type 4, 4X, 12, 13; File No. E61997  
 Enclosure flammability rating per UL 508

NEMA/EEMAC Type 4, 4X, 12, and 13  
 Window flammability rating per UL 508  
 CSA File No. LR42186:Type 4, 4X, 12, and 13  
 IEC 60529, IP66  
 Cabinets with solid doors are plenum rated.

### APPLICATION

The fiberglass WiFi Cabinet is a secure, hinged enclosure that does not impede WiFi or WLAN signals. It is ideal for housing wireless equipment in locations such as tunnels, floor vaults, marinas, outside walls or rooftops.

### Standard Product **Solid Door**

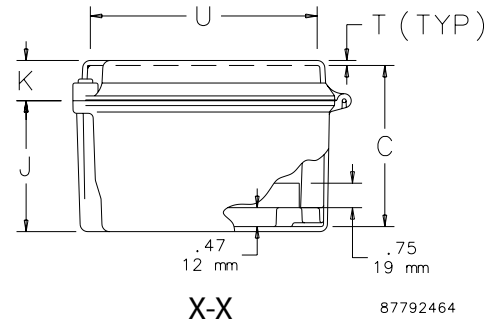
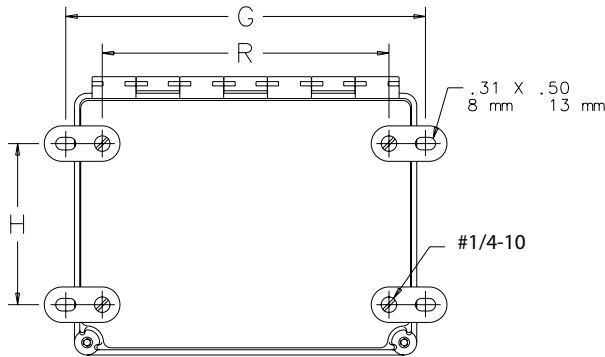
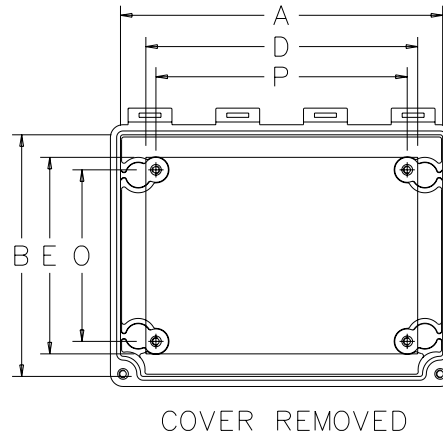
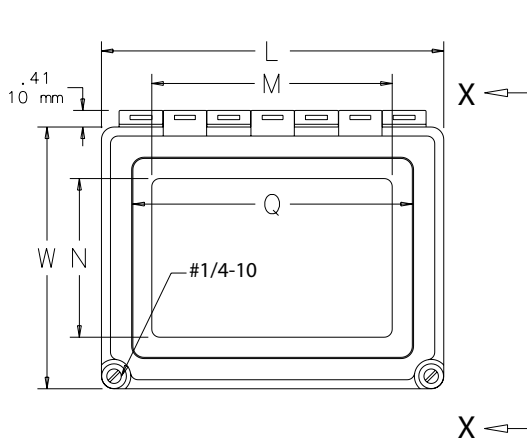
Catalog Number	AxBxC in./mm	Panel	Panel	Mounting	Overall Size	J	K	O	P	Q	R	T	U
			D X E in./mm	G x H in./mm	L x W in./mm								
D664CHSCFGP	6.00 x 6.00 x 4.00	A6P6WD	4.88 x 4.88	6.94 x 4.00	6.50 x 6.50	3.25	1.00	4.25	4.25	5.64	5.12	.12	5.64
	152 x 152 x 102		124 x 124	176 x 102	165 x 165	83	25	108	108	143	130	3	143
D16148CHSCFGP	16.00 x 14.00 x 8.00	A16P14WD	14.75 x 12.88	16.94 x 12.00	16.55 x 14.55	6.23	2.08	12.25	14.25	15.56	15.12	.15	13.56
	406 x 356 x 203		375 x 327	430 x 305	420 x 370	158	53	311	362	395	384	4	344
D181610CHSCFGP	18.00 x 16.00 x 10.00	A18P16WD	16.75 x 14.88	18.94 x 14.00	18.58 x 16.58	7.66	2.66	14.25	16.25	17.53	17.12	.16	15.53
	457 x 406 x 254		425 x 378	481 x 356	472 x 421	195	68	362	413	445	435	4	394

Wood panels included with enclosure. Optional steel panels must be ordered separately.

### Standard Product **Window Door**

Catalog Number	AxBxC in./mm	Panel	Panel	Mounting	Overall Size	J	K	O	P	Q	R	T	U
			D X E in./mm	G x H in./mm	L x W in./mm								
D664CHSCFGWP	6.00 x 6.00 x 4.00	A6P6WD	4.88 x 4.88	6.94 x 4.00	6.50 x 6.50	3.25	1.00	4.25	4.25	5.64	5.12	.12	5.64
	152 x 152 x 102		124 x 124	176 x 102	165 x 165	83	25	108	108	143	130	3	143
D16148CHSCFGWP	16.00 x 14.00 x 8.00	A16P14WD	14.75 x 12.88	16.94 x 12.00	16.55 x 14.55	6.23	2.08	12.25	14.25	15.56	15.12	.15	13.56
	406 x 356 x 203		375 x 327	430 x 305	420 x 370	158	53	311	362	395	384	4	344
D181610CHSCFGWP	18.00 x 16.00 x 10.00	A18P16WD	16.75 x 14.88	18.94 x 14.00	18.58 x 16.58	7.66	2.66	14.25	16.25	17.53	17.12	.16	15.53
	457 x 406 x 254		425 x 378	481 x 356	472 x 421	195	68	362	413	445	435	4	394





87792464

**THREADED PANEL EXTENDERS**



Threaded Panel Extenders are made of plated steel and designed to raise the panel mounting surface. Extenders attach to threaded internal pads. Male and female thread size is 10-32. Each kit contains 4 extenders.

**BULLETIN: A80**

Catalog Number	Length (in.)	Length (mm)
APE050	0.50	13
APE100	1.00	25

**QUICK-RELEASE LATCH KIT**



Two fiberglass-reinforced gray polyester latches with 316L stainless steel bail and screw-hole plugs are included in each package. Supplied with Continuous Hinge, Type 4X enclosures and available for Fiberglass Hinged Cover WiFi Cabinet, Type 4X. Kit converts screw-cover enclosures to quick-release without modification. No tools needed to install. Padlocking provision is included.

**BULLETIN: A48Y**

Catalog Number	Description	Kit Qty.
AL48	Quick-Release Latch Kit	2



### SWING-OUT PANEL KIT

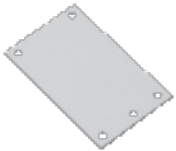


The Swing-Out Panel Kit provides an attractive, cost-effective solution for installing front-mounted panels in Continuous Hinge, Type 4X, and Overlapping Cover, Type 4X enclosures. No drilling required.

**BULLETIN: A48Y**

Catalog Number	Fits Enclosure A x B (in.)	Fits Enclosure A x B (mm)
A6SPK6C	6.00 x 6.00	152 x 152
A8SPK6C	8.00 x 6.00	203 x 152
A10SPK8C	10.00 x 8.00	254 x 203
A12SPK10C	12.00 x 10.00	305 x 254
A16SPK14C	16.00 x 14.00	406 x 356
A18SPK16C	18.00 x 16.00	457 x 406
A14SPK12C	14.00 x 12.00	356 x 305

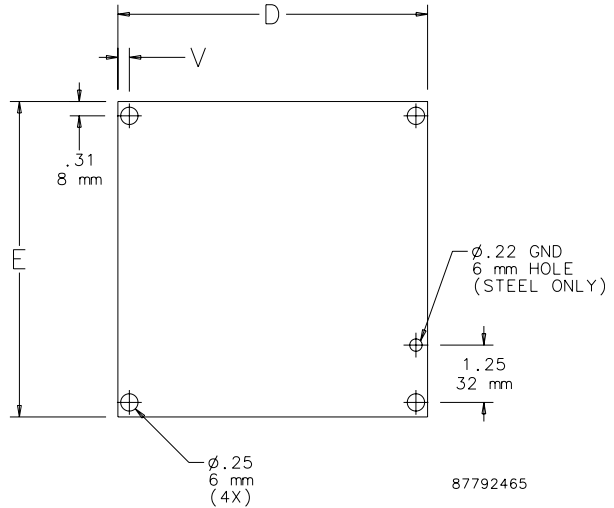
### PANELS FOR WIFI CABINETS AND SMALL WALL-MOUNT ENCLOSURES



Panels are available in both steel and wood. Steel panels are 14 gauge steel with a white polyester powder paint finish. Wood panels are 3/4-in. plywood and are unfinished. Wood panels are supplied with Fiberglass Hinged-Cover and POLYPRO™ Type 4X WiFi Cabinets.

**BULLETIN: DWS12, PNLJ, PNLWM**

Catalog Number	Ax B in.	Ax B mm	Material	Panel Size		V (in.)	V (mm)
				D x E (in.)	D x E (mm)		
A6P6	4.88 x 4.88	124 x 124	Steel	4.88 x 4.88	124 x 124	0.31	8
A6P6WD	6.00 x 6.00	152 x 152	Wood	4.88 x 4.88	124 x 124	0.31	8
A16P14	14.75 x 12.88	375 x 327	Steel	14.75 x 12.88	375 x 327	0.25	6
A16P14WD	16.00 x 14.00	406 x 356	Wood	14.75 x 12.88	375 x 327	0.25	6
A18P16	16.75 x 14.88	425 x 378	Steel	16.75 x 14.88	425 x 378	0.25	6
A18P16WD	18.00 x 16.00	457 x 406	Wood	16.75 x 14.88	425 x 378	0.25	6



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**ULTRX™ WIFI, TYPE 4X**



**INDUSTRY STANDARDS**

UL 508A Listed; Type 4, 4X, 12, 13; File No. E61997  
 cUL Listed per CSA C22.2 No 94; Type 4, 4X, 12, 13; File No. E61997  
 Enclosure flammability rating per UL 508  
 Window flammability rating per UL 508

NEMA/EEMAC Type 4, 4X, 12, 13  
 CSA File No. LR42186: Type 4,4X, 12, 13  
 IEC 60529, IP66  
 Cabinets with solid doors are plenum rated.

**APPLICATION**

Ideal for locations such as tunnels, floor vaults, marinas, outside walls or rooftops, the lightweight ULTRX™ fiberglass WiFi cabinet does not impede WiFi or WLAN signals and has optional rack angles that can be added to support 19-in. rack-mount equipment.

**FEATURES**

- Fiberglass is easily punched, drilled, filed or sawed
- Seamless foam-in-place gasket assures watertight and dusttight seal
- Enclosure may be rotated 180 degrees for left and right hinging
- Molded-in drip shields are standard with each enclosure
- Door opens 180 degrees
- Replaceable breakaway hinges
- Keylocking handle standard
- Molded-in DIN bosses
- Molded bosses on door provide additional mounting provisions
- Integral mounting rails provide infinite panel adjustment front to back
- Optional data pocket is high-impact thermoplastic

**SPECIFICATIONS**

- Enclosure and door made of molded fiberglass polyester that resists chemicals and temperature change
- Impact-resistant polycarbonate window is permanently bonded in place
- Fiberglass mounting brackets and stainless steel attachment screws are provided with each enclosure
- Includes a 3/4-in. plywood panel for mounting equipment

**FINISH**

Exterior surface painted light-gray acrylic enamel for enhanced UV protection.

**BULLETIN: DWS12**

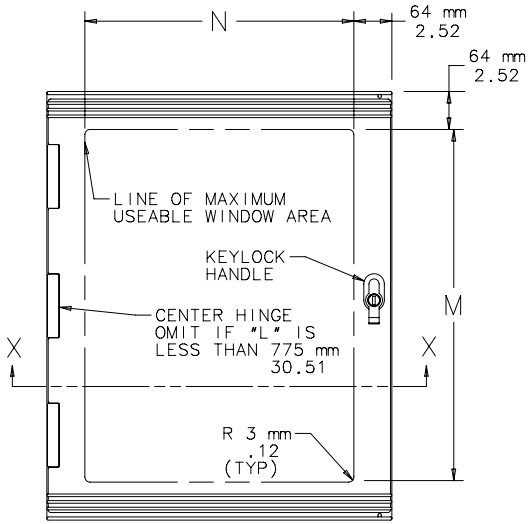
Standard Product

Catalog Number	AxBxC mm/in.	Door Type	Internal Dimensions A x B x C mm/in.	Panel	Panel Size D x E mm/in.	Mounting G x H mm/in.	Window Size									
							M x N mm/in.	F mm/in.	J mm/in.	K mm/in.	P mm/in.	Q mm/in.	R mm/in.	S mm/in.	T mm/in.	
DU606030P	608 x 595 x 321	Solid	608 x 595 x 321	A24P24WD	533 x 533	555 x 568	498 x 486	287	500	21	62	68	56	489	489	
	23.94 x 23.43 x 12.64		23.94 x 23.44 x 12.64		21.00 x 21.00	21.86 x 22.36	19.62 x 19.12	11.31	19.68	0.81	2.43	2.68	2.21	19.25	19.25	
DU606030WP	608 x 595 x 321	Window	608 x 595 x 321	A24P24WD	533 x 533	555 x 568	498 x 486	287	500	21	62	68	56	489	489	
	23.94 x 23.43 x 12.64		23.94 x 23.44 x 12.64		21.00 x 21.00	21.86 x 22.36	19.62 x 19.12	11.31	19.68	0.81	2.43	2.68	2.21	19.25	19.25	

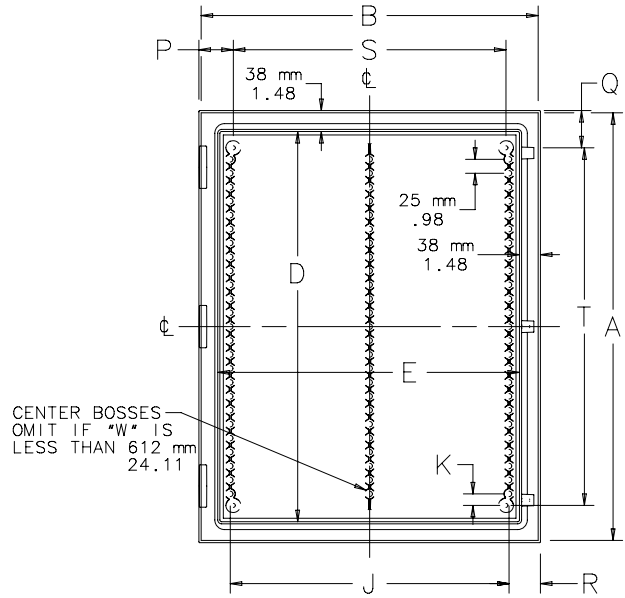
Wood panel included with enclosure. Optional steel panels must be ordered separately.

Window size applies to window door cabinets only.

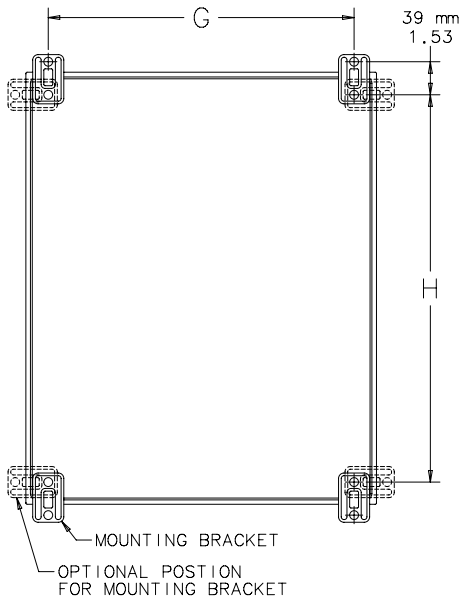




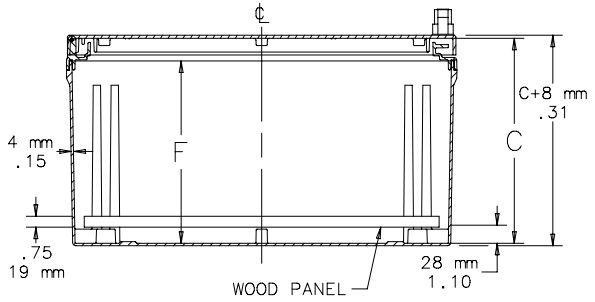
FRONT VIEW



FRONT VIEW WITH DOOR REMOVED



BACK VIEW

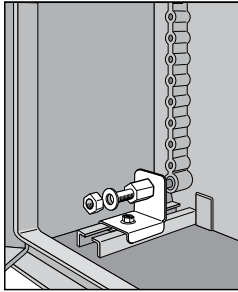


SECTION X-X

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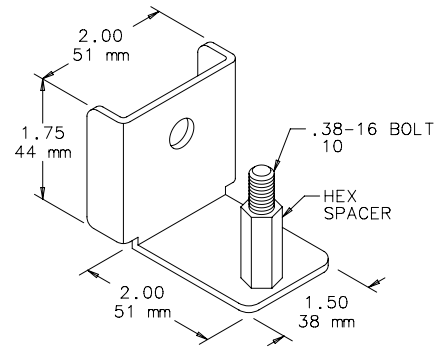
### PANEL BRACKET KIT



Panel Bracket Kit is used with steel panels and permits panel adjustment from front to rear. Fits all ULTRX sizes. Mounts on integrally molded body rail. Brackets are plated steel. All mounting hardware is included. *Note: Front mounting position is approximately 140mm/5.5 in. back on 400mm enclosures.*

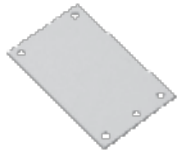
BULLETIN: UX1Y

Catalog Number	Description	Pkg. Qty.
UUPB	ULTRX Panel Bracket Kit	4



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### ULTRX™ PANEL

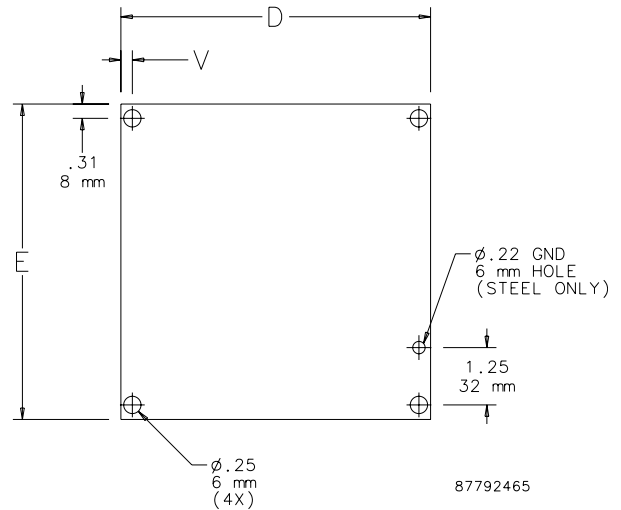


Panels are available in both steel and wood. Steel panels are 14 gauge steel and have a white finish. Panels have two .75-in. (19-mm) high edge flanges. They require the Panel Bracket Kit, catalog number UUPB, to mount in the enclosure. Wood panels are 3/4-in. plywood and are unfinished. Wood panels are supplied with the enclosures.

BULLETIN: DWS12, PNLWM

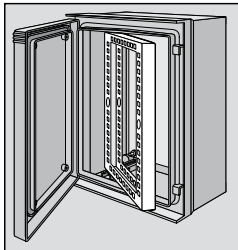
Catalog Number	AxB in./mm	Material	D mm/in.	E mm/in.	V mm/in.
A24P24	21.00 x 21.00 533 x 533	Steel	533 21.00	533 21.00	6 .25
A24P24WD	24.00 x 24.00 610 x 610	Wood	533 21.00	533 21.00	6 .25

Requires UUPB Panel Bracket Kit to mount steel panel in cabinet.



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### SWING FRAME

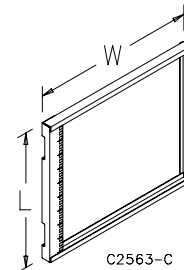


Swing Frame provides 19-in. rack-mounting capabilities with U-Style (Type RA) mounting hole pattern. Quarter-turn latch has 100-degree swing. Adjustable mounting provision. 14 gauge plated steel. Includes mounting hardware. Swing frame maintains enclosure rating if properly installed in a Hoffman enclosure. *Note: Front mounting position is approximately 140mm/5.5 in. back on 400mm enclosures.*

BULLETIN: UX1Y

Catalog Number	AxB in./mm	Fits A x B mm/in.	L mm/in.	W mm/in.	Rack Units
UU6060SF	24.61 x 24.09 625 x 612	610 x 610 24.00 x 24.00	540 21.25	535 21.08	11
UU7560SF	30.51 x 24.09 775 x 612	762 x 610 30.00 x 24.00	687 27.05	535 21.08	14

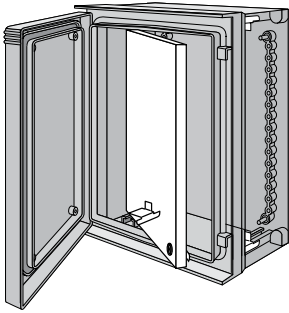
Use UU6060SF with DATACOM ULTRX Fiberglass Type 4X WiFi Cabinet.



C2563-C



### SWING-OUT PANEL



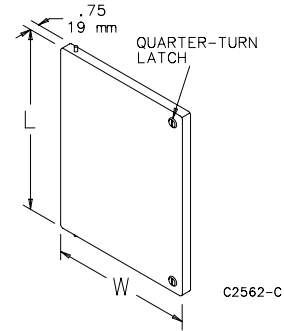
Installs front-mounted panels in ULTRX fiberglass enclosures. The front-mounted swing panel complements window-door units and is suited for any application requiring a display of gauges, dials or any type of control equipment monitor. Made of 14 gauge plated steel. Easy installation; no drilling required. Fully adjustable front to rear. Panel and mounting hardware included.

*Note: Front mounting position is approximately 140mm/5.5 in. back on 400mm enclosures.*

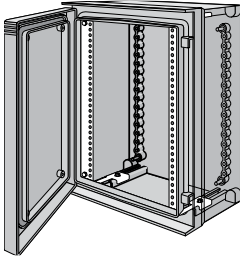
**BULLETIN: UX1Y**

Catalog Number	Fits A x B mm/in.	L mm/in.	W mm/in.
UU5040SP	513 x 413 20.20 x 16.26	432 17.00	330 12.99
UU6050SP	625 x 513 24.61 x 20.20	536 21.10	432 17.00
UU6060SP	625 x 612 24.61 x 24.09	540 21.25	535 21.08
UU7560SP	775 x 612 30.51 x 24.09	687 27.05	535 21.08
UU10080SP	1025 x 825 40.35 x 32.48	935 36.80	737 29.00

Use UU6060SP with DATACOM ULTRX Fiberglass Type 4X WiFi Cabinet.



### RACK ANGLES (TYPE RA)

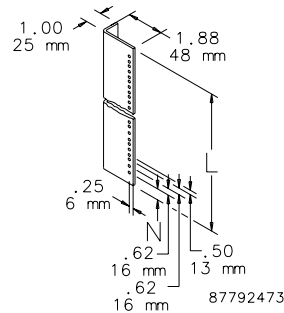


Pairs of full-length rack-mounting angles are available for mounting 1- in. (483-mm) rack-mounted equipment. Type RA angles are 14 gauge steel with .281-in. (7-mm) diameter mounting holes, spaced per EIA standard RS-310-D (universal spacing). Use Clip Nut Package (AN1032) to provide tapped holes at desired locations. Angles and mounting hardware are plated steel. Mounting hardware is furnished.

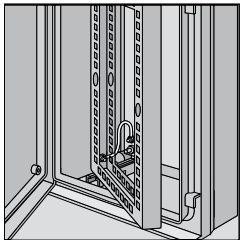
**BULLETIN: UX1Y**

Catalog Number	Fits A x B mm/in.	L mm/in.	N mm/in.	Rack Units	Pkg. Qty.
UURA6060	610 x 610 24.00 x 24.00	552 21.75	10 .38	12	2
UURA7560	762 x 610 30.00 x 24.00	705 27.75	19 .75	15	2

Use UURA6060 with DATACOM ULTRX Fiberglass Type 4X WiFi Cabinet.



### GROUNDING DEVICE

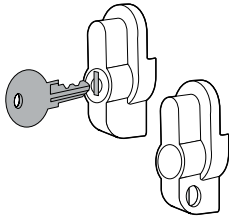


Grounding Device provides a means to attach a grounding conductor to an ULTRX Swing-Out Panel or Swing-Out Frame. Includes all installation hardware and instructions.

**BULLETIN: UX1Y**

Catalog Number	Description
UUGK	ULTRX Grounding Device

### KEYLOCK KIT AND PADLOCK KIT



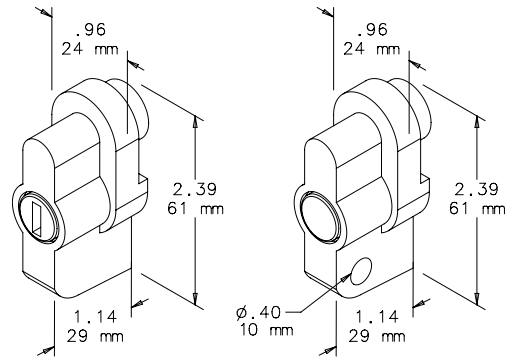
Keylock Kit or pushbutton-style Padlock Kit is easily inserted in latch hole to prevent unauthorized personnel from gaining access to enclosure contents. Each kit is fully assembled for easy installation in the field. Type 316 stainless steel construction.

**BULLETIN: UX1Y**

Catalog Number	Description
UUHKL	Keylock Kit
UUHPL	Padlock Kit

UUHKL: Internal key components are not stainless steel.

UUHPL: Handles maintain UL 508A, Type 3, 4, 4X and 12 when properly installed on a Hoffman enclosure. Set up for 1/4-in. or 3/8-in. padlock.

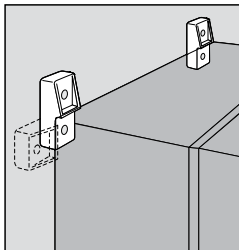


**Keylock Kit**

**Padlock Kit**

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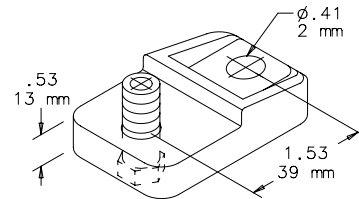
### ULTRX™ MOUNTING BRACKET KIT



Kit is field-installable. Corrosion-resistant fiberglass material. Type 316 stainless steel mounting hardware is included. Four mounting brackets per kit.

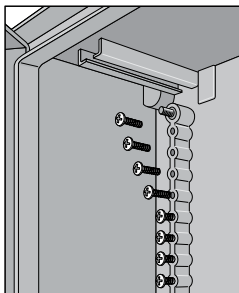
**BULLETIN: UX1Y**

Catalog Number	Description	Kit Qty.
UUMF	Mounting Bracket Kit	4



11C59177

### SELF-TAPPING SCREWS



Plated screws (1/4-15 x .88) mount panels and accessories to DIN bosses on back of enclosure.

**BULLETIN: UX1Y**

Catalog Number	Description	Pkg. Qty.
UUMH1	Self-Tapping Screws	10

### SCREW INSERT KIT



Brass threaded inserts (10-32) with plated screws. Used on door bosses and DIN bosses.

**BULLETIN: UX1Y**

Catalog Number	Description	Kit Qty.
UUMH2	Screw Insert Kit	4 inserts and 4 screws



## SECURITY DVR AND 19-IN. RACK EQUIPMENT CABINET, TYPE 1



### INDUSTRY STANDARDS

UL 508A Listed; Type 1

CSA; Type 1  
 NEMA/EEMAC; Type 1  
 IEC 60529 IP20  
 EIA 310-D (19-in. spacing for rack equipment)  
 Hoffman is an ISO 9001 company

### APPLICATION

These cabinets provide physical protection and access control to DVR, 19-in. equipment or other equipment. Mount the cabinet vertically or horizontally on any surface.

### FEATURES

- Houses 19-in. or shelf-mount equipment
- Top cover has tool-less removal, is captivated by door and secured by keylock, providing easy access and installation
- Solid top cover protects equipment from falling debris
- Two standard models are 4 and 6 RU high
- Radius corners give streamlined appearance and eliminate sharp edges
- Solid front door has 180-degree opening continuous hinge
- Quarter-turn keylock with two keys on door (code 333)
- Vented sides dissipate heat from equipment
- A fan-ready cutout is provided on left side

- 14 gauge steel rack angles are adjustable within the cabinet body
- Rack angle mounting square holes (.375 x .375 in.) with EIA universal hole spacing (1/4 x 5/8 x 5/8 x 1/4-in.)
- Knockouts on bottom and side for data and power cables
- Rubber feet provide secure placement and prevent scratches
- Fasteners and cage nuts included

### SPECIFICATIONS

- Doors and body made of 18 gauge steel; top cover is 16 gauge steel
- Welded steel construction
- One set of rack angles included per EIA standard
- Included installation instructions show optional accessories

### FINISH

Pretreated steel coated with RAL 9005 black, light-textured, low-gloss polyester powder paint

### ACCESSORIES

See also *Accessories*.  
 Rack- and Panel-Mount Power Distribution Unit (PDU)  
 Replacement Keys  
 Dual Thermostat  
 VELCRO® Cable Wrap  
 VELCRO is a trademark of Velcro Industries B.V.

**BULLETIN: D85, DACCY, DWS1**

4

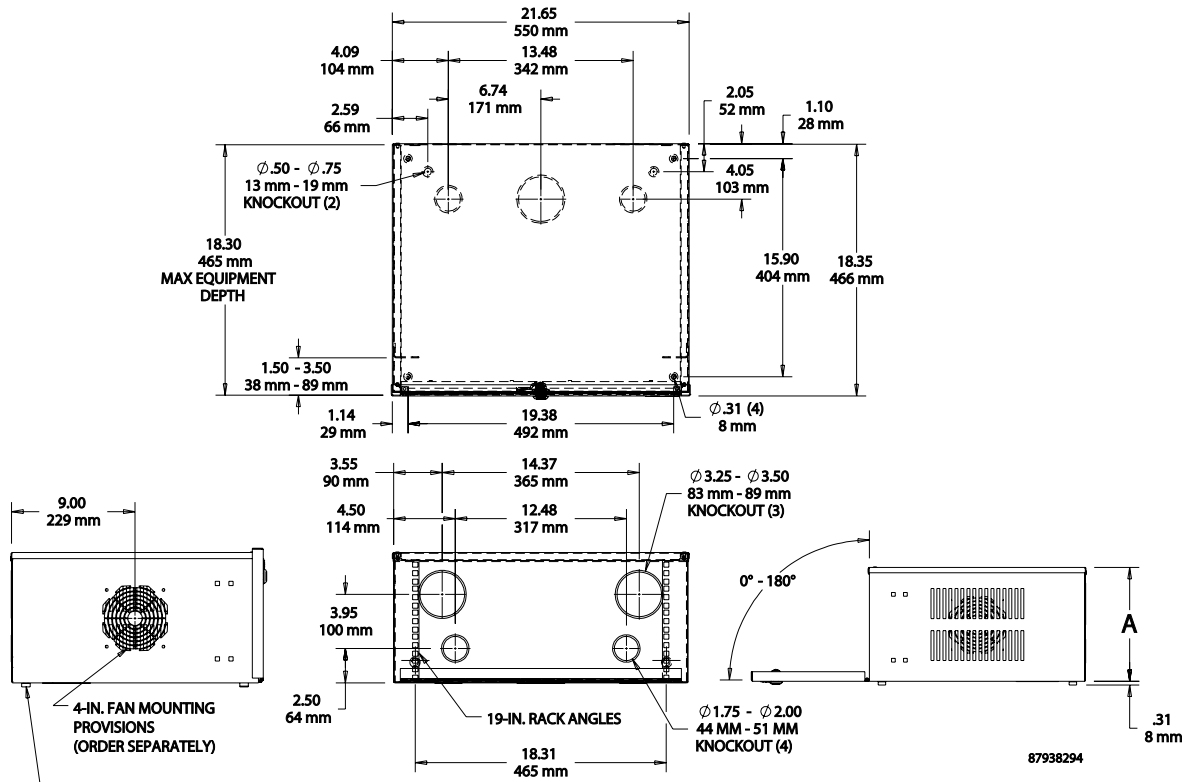
### Standard Product

Catalog Number	AxBxC in./mm	Rack Units (RU)
DVR4U	9.45x21.65x18.35 240x550x466	4
DVR6U	12.99x21.65x18.35 330x550x466	6

### General Accessories

Catalog Number	Description	Key Code
E333KEY	2 replacement keys (fits all locks)	333
A4AXFNGQ	Fan, 115 VAC, plus	

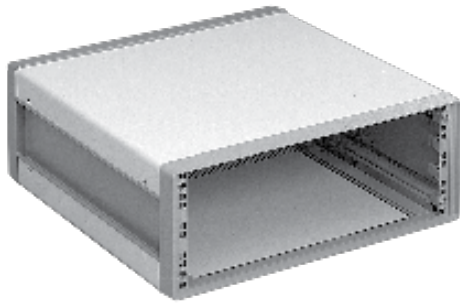




(FRONT VIEW SHOWN WITH DOOR REMOVED)



## 19-IN. ELECTRONIC CASE, TYPE 1



### INDUSTRY STANDARDS

NEMA Type 1  
EIA 310-D / IEC 297-1  
IEC 60529, IP20

### APPLICATION

Primarily used to house lab electronics, lightweight Electronic Cases accommodate 19-in. sub-racks, chassis and panels in a rigid ventilated case with integral handles.

### FEATURES

- Aluminum extrusions attach to front and rear frames to create a rigid supporting framework
- Sides on 3U and 4U tall cases are aluminum extrusions with integral carrying handle. 6U tall cases have steel (1.5-mm) sides with recessed handles. 9U and 12U tall cases have 1.5-mm aluminum sides with recessed handles.
- Removable top and bottom covers attach directly to the case framework
- Bottom cover has multiple rows of slots for ventilation
- Rear cover has ventilation louvers
- Covers are 1-mm steel on 3U, 4U, 6U tall cases and 1-mm aluminum on 9U and 12U tall cases. Covers include grounding provisions.
- Case framework is assembled with rear cover installed
- Top cover, bottom cover, anti-skid feet and mounting hardware are included
- Optional tip-up foot kit, equipment guides and cage nuts are available

### SPECIFICATIONS

- One piece aluminum die-cast frame on front and rear
- 19-in. rack-mounting provisions on both front and rear frame comply with EIA 310-D / IEC 297-1 wide spacing
- 9-mm square holes accommodate cage nuts for mounting

### FINISH

Framework and rear cover have a stone-gray textured finish (RAL 7030). Top and bottom covers and metal sides have a light-gray textured finish (RAL 7035).

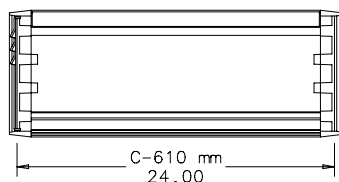
### ACCESSORIES

Hardware Kits  
Slide Rails  
Tip-Up Foot Kit

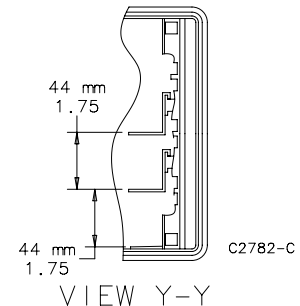
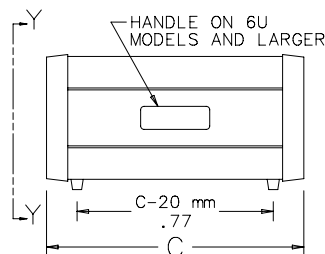
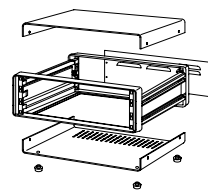
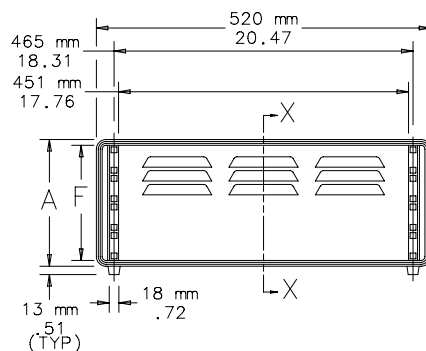
### BULLETIN: DEC1

### Standard Product

Catalog Number	AxBxC mm	AxBxC in.	F (mm)	F (in.)
EEC3U5250	166 x 520 x 500	6.54 x 20.47 x 19.69	133	5.24
EEC4U5250	210 x 520 x 500	8.27 x 20.47 x 19.69	178	7.01
EEC6U5260	299 x 520 x 600	11.77 x 20.47 x 23.62	267	10.51
EEC9U5260	433 x 520 x 600	17.05 x 20.47 x 23.62	400	15.75
EEC12U5260	566 x 520 x 600	22.28 x 20.47 x 23.62	533	20.98



SECTION X-X



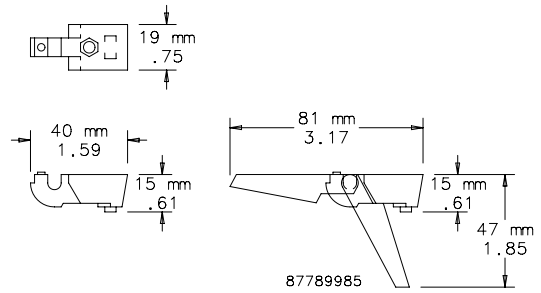
### TIP-UP FOOT KIT FOR ELECTRONIC CASE



Tip-up feet can be mounted on the bottom cover to provide an improved viewing angle for rack mounted equipment installed in an electronic case. In tip-up position, front of case is raised 1.38 in. (35 mm). Feet attach to holes provided in the bottom cover and include an anti-skid rubber insert. Feet are gray plastic.

**BULLETIN: DEC1**

Catalog Number	Description	Kit Includes
EECFTP	Tip-Up Foot Kit	2 tip-up feet, 2 standard feet and mounting hardware

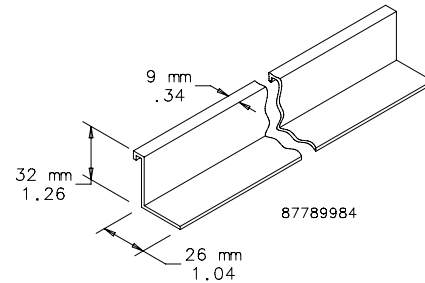


### SLIDE RAILS FOR ELECTRONIC CASE

Slide Rails support a 19-in. subrack or chassis when installed in an electronic case. Rails attach to protrusions on the inside front and back castings of the case framework. They are positionable in increments of 1.75 in. (44 mm) vertically. Slide rails are aluminum extrusions with a clear anodized finish. They snap into place; no mounting hardware is required.

**BULLETIN: DEC1**

Catalog Number	Fits Case	Package Includes
EECCR50	500-mm deep	1 rail
EECCR60	600-mm deep	1 rail



### HARDWARE KITS FOR ELECTRONIC CASE

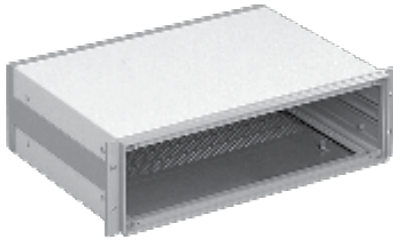
Use to mount Electronic Case on rack angles with 9-mm square holes.

**BULLETIN: DACCY, X20**

Catalog Number	Description	Package Includes	Package Qty.
ECNSM6	M6 fastener package	Pan head Posidrive plated M6 x 16 screws, ABS black plastic cup washers and plated cage nuts	8
PM5CN	M5 cage nut package	M5 plated cage nuts	50
ASM5	M5 screw package	Pan head combination screws	20



## 19-IN. RACK-MOUNT/DESKTOP CASE, TYPE 1



### INDUSTRY STANDARDS

NEMA Type 1  
IEC 60529, IP20  
**Exterior Dimensions**  
EIA 310-D / IEC 297-1  
DIN 41494 Part 1

### APPLICATION

Desktop cases house circuit boards and other electronic equipment in a rigid framework with easy front and rear access. Rack cases are 19-in. rack mountable with integral mounting provided in the front bezel.

### FEATURES

- Removable top and bottom covers attach directly to case framework for maintenance convenience
- Bottom cover has multiple rows of holes for ventilation
- Front bezel includes mounting provisions for 19-in. rack mounting as well as mounting for front panel options for application flexibility
- Top and bottom of framework have mounting provisions for optional support rails for application flexibility. Mounting holes are spaced on 10-mm centers front to back.
- Case framework is assembled for quick installation. Top cover, bottom cover, anti-skid feet and mounting hardware are included.
- Mounting hardware for optional front and rear panels are included with case for installation convenience

### SPECIFICATIONS

- One-piece aluminum die cast front bezel and rear bezel are connected front-to-back with aluminum extrusions to form a rigid structural framework
- Sides on 3U- and 4U-tall cases are the aluminum front-to-back extrusions. The 6U-tall case has two aluminum extrusions with a steel middle panel on each side.
- Covers are 1-mm steel and have grounding provisions

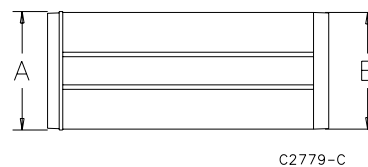
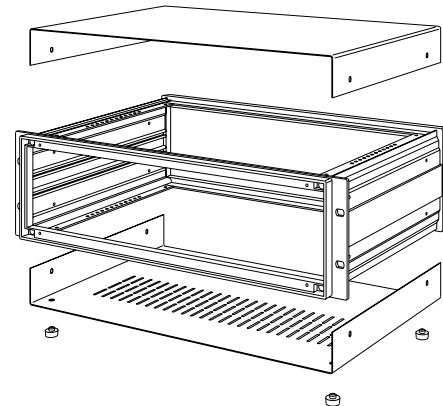
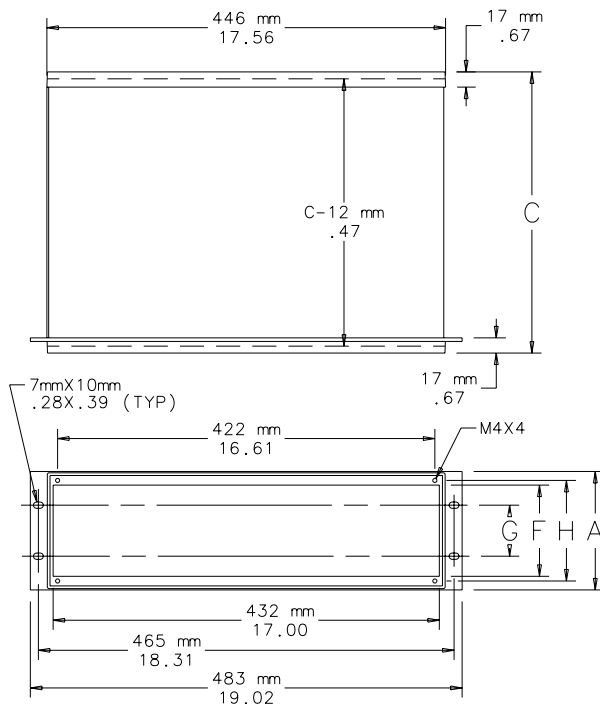
### FINISH

Framework has an RAL 7030 stone-gray textured finish. Top and bottom covers have an RAL 7035 light-gray textured finish on the outside and a plated finish on the inside.

### BULLETIN: DEC1

### Standard Product

Catalog Number	AxBxC mm/in.	E mm/in.	F mm/in.	G mm/in.	H mm/in.	Rack Units
ERC3U4837	133 x 483 x 375 5.20 x 19.00 x 14.80	131 5.14	103 4.04	57 2.25	110 4.33	3
ERC4U4843	177 x 483 x 435 7.00 x 19.00 x 17.10	175 6.89	147 5.77	102 4.00	155 6.08	4
ERC6U4843	266 x 483 x 435 10.50 x 19.00 x 17.10	264 10.39	235 9.27	190 7.50	243 9.58	6

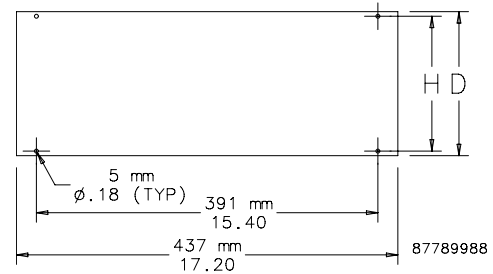


### FRONT PANELS

Blank front panel provides a means to close front or rear of a desktop case. The smooth anodized surface is ideal for mounting controls or meters, etc. The front panel is 2.5-mm thick and fits into the 6-mm (0.24-in.) recess on front (or rear) of the case. Hardware to mount front panel is furnished with case.

BULLETIN: DEC1

Catalog Number	D mm/in.	H mm/in.
ERCFP3U48	120.5 4.74	110.0 4.33
ERCFP4U48	165.0 6.50	154.5 6.08
ERCFP6U48	253.8 9.99	243.4 9.58

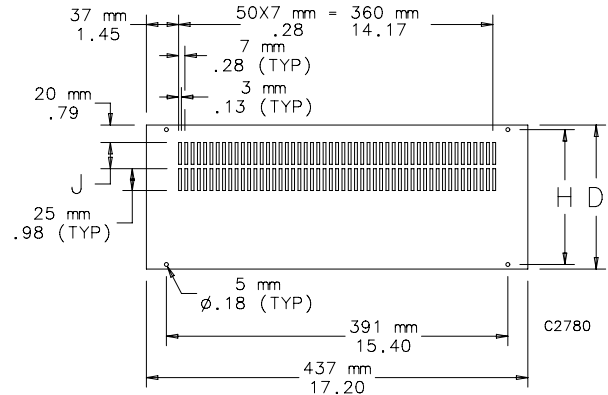


### REAR PANELS

Rear panels are 2.5-mm thick anodized aluminum. They include a row of ventilation slots (vertical) along the upper edge of panel. 6U covers have two rows of slots. Hardware to mount rear panel is furnished with case.

BULLETIN: DEC1

Catalog Number	D mm/in.	H mm/in.	J mm/in.
ERCRP3U48	121 4.74	110 4.33	25 .98
ERCRP4U48	165 6.50	155 6.08	25 .98
ERCRP6U48	254 9.99	243 9.58	25 .98

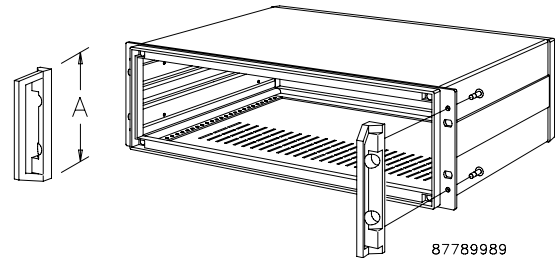


### FRONT HANDLES

Handles facilitate movement of the desktop case and installation of the case in a 19-in. rack. They are mounted to the rack-mounting flanges on the 19-in. front bezel. Front bezels have holes partially drilled and countersunk for location and must be drilled through before handle installation. Handles are die-cast aluminum and finished in light-gray (RAL 7030). Package includes two handles with necessary mounting hardware.

BULLETIN: DEC1

Catalog Number
ERCFH3U
ERCFH4U
ERCFH6U

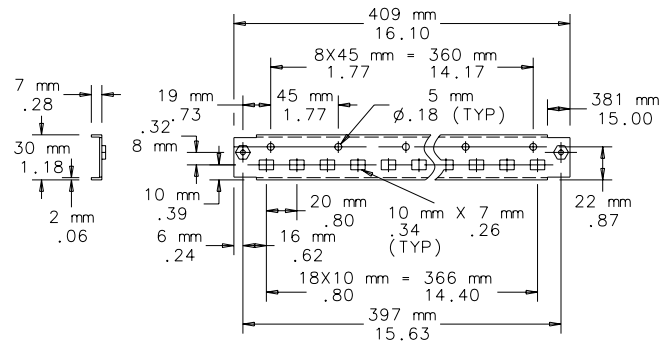


### SUPPORT RAIL KIT

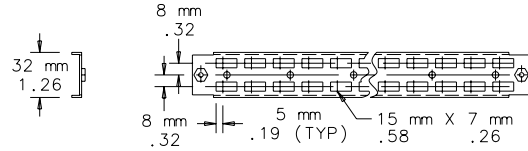
Support rails are recommended for mounting and supporting the weight of bulky components inside a desktop case. Support rails have mounting holes and rectangular slots for mounting components. Rails are 1.5-mm steel with a plated finish. M4 nuts are welded to the rail ends for easy attachment to the case. Mounting holes in the desktop case are spaced on 10-mm centers from front to back, allowing a variety of positions for support rails. Support rail kit includes front rail, rear rail and mounting hardware.

BULLETIN: DEC1

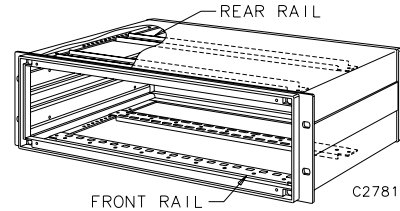
Catalog Number	Kit Includes
ERCRF48	1 front rail, 1 rear rail and mounting hardware



FRONT RAIL



REAR RAIL



## Notes

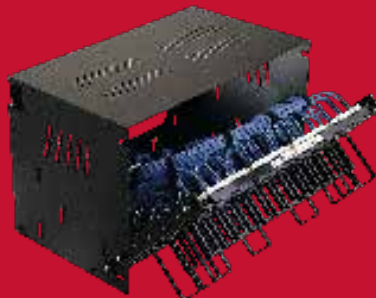


*Hoffman*  
**CHAPTER 5**  
**WALL-MOUNT RACKS**

**FEATURED PRODUCTS**

**WALL-MOUNT RACKS**

Protect sensitive electronics with space-saving wall-mount racks, cabinets and panels. Wall-mount solutions are ideal for securing networking wiring, hubs, concentrators, patch panels and audio/video equipment in areas that full-size cabinets could block traffic or airflow.



**HINGED WALL-MOUNT PANELS**

19-in. Hinged Wall-Mount Panels provide a solution for smaller networking equipment such as telephone, punch-down and patch panels. Easy access, combined with minimal assembly, facilitates component installation and future expansion without disturbing existing equipment or cabling.





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### SWING-OUT, WALL-MOUNT RACKS

19-in. Swing-Out, Wall-Mount Racks ensure superior protection for small networking equipment, including telephone and voicemail, routers, switches, punch-down panels and patch panels. Simple installation and easy access enables expansion or rack modifications.



**VERSARACK™**

**FEATURES**

- Designed to accommodate all standard 19-inch rack equipment
- Easy, single-tool assembly reduces installation time and cost
- Spring-load pivot pins provide for either left or right hinging; pins can be arranged in unlocked or locked position
- Preamsembled for fast, time-saving installation
- Temporary mounting bracket allows for rapid, single-person wall installation
- UL double lug ground holes provide easy adherence to local bonding and grounding codes
- Cable tie down points, sized for up to 1-inch Velcro® straps, provided in horizontal and vertical positions in multiple locations
- Standard 12- or 24-inch deep offering to accommodate various applications
- Open design provides for maximum access to cables and equipment
- 19-inch rack fasteners (Phillips head, pilot point, black) 12-24, quantity 20, included with rack
- Smart packaging with hand-carrying holes allows for easy transportation

**SPECIFICATIONS**

- Wall section made of heavy gauge, cold rolled steel construction
- Welded pivoting rack section constructed of steel
- Tapped 12-24 holes per EIA Universal pattern standards (1/4-5/8-5/8-1/4)

**FINISH**

- Pretreated steel coated with RAL 9005 black textured, low-gloss polyester powder paint
- Hardware is clear or plated black
- Rack 12-24 fasteners plated black

**LOAD RATING**

Static working load rating is 150 lbs. for all sizes

**ACCESSORIES**

Vertical Cable Managers  
 D-Ring Cable Manager  
 Blanking Panels  
 Grounding kits  
 PDUs  
 Shelves

**BULLETIN: DOFRW**
**INDUSTRY STANDARDS**

UL 1863 Listed; File Number E230874  
 Rated to 100 lbs. with a 4X safety factor

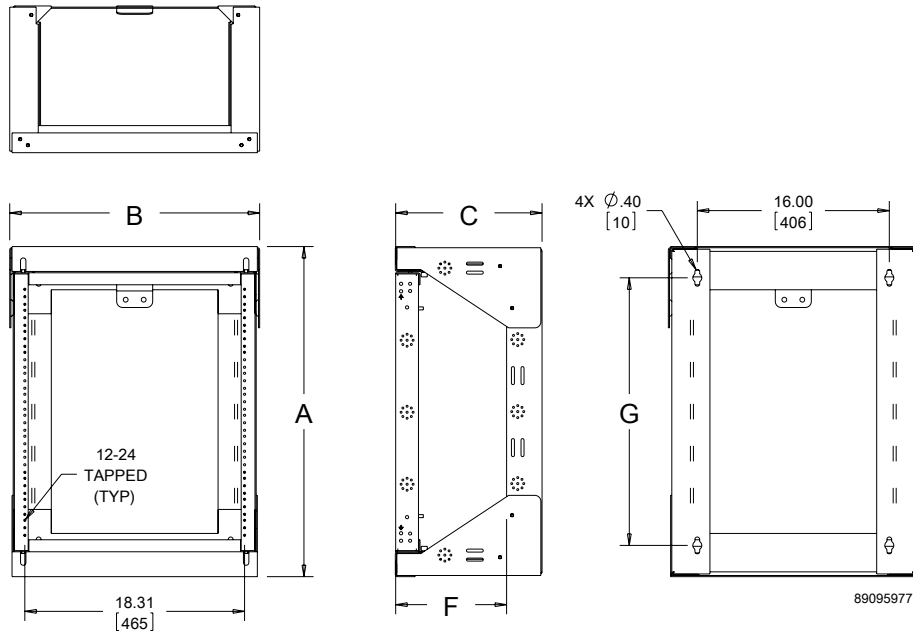
EIA 310-D

**APPLICATION**

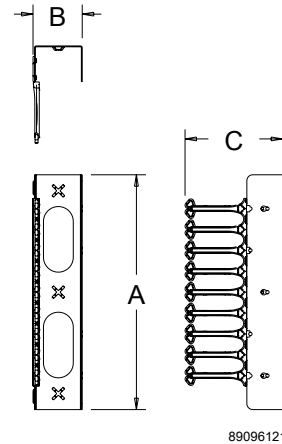
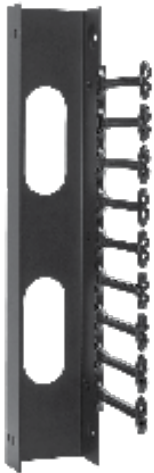
VERSARACK™ is used for wall mounting and securing 19-inch rack equipment for Telecommunication Rooms and other locations. The rack provides for either left or right hinging to accommodate a variety of applications. These open frame racks are ideal for high-density cabling application. VERSARACK is ideal for IDFs (Intermediate Distribution Frames), remote 19-inch rack equipment, building automation, security and many other applications.

**Standard Product**

Catalog Number	AxBxC in./mm	F in./mm	G in./mm	Rack Units	Vertical Cable Manager Accessory
E19SWM12U12	27.80 x 20.91 x 12.28	9.24	22.30	12	E19C12U
	706 x 531 x 312	235	566		
E19SWM12U24	27.80 x 20.91 x 24.29	21.24	22.30	12	E19C12U
	706 x 531 x 617	540	22.30		
E19SWM20U12	41.81 x 20.91 x 12.28	9.24	36.31	20	E19C20U
	1062 x 531 x 312	235	922		
E19SWM20U24	41.81 x 20.91 x 24.29	21.24	36.31	20	E19C20U
	1062 x 531 x 617	540	922		
E19SWM25U12	50.59 x 20.91 x 12.28	9.24	45.09	25	E19C25U
	1285 x 531 x 312	235	1145		
E19SWM25U24	50.59 x 20.91 x 24.29	21.24	45.09	25	E19C25U
	1285 x 531 x 617	540	1145		



**VERSARACK™ VERTICAL CABLE MANAGER**



89096121

VERSARACK™ offers a complimentary vertical cable manager that easily attaches to the right or left side of Swing-Out Rack. Each accessory includes one fully-assembled manager with retaining hardware and installation instructions. One or two can be attached to fit the application. The manager is made of formed steel with composite support fingers. The vertical cable managers provides for easy and convenient cable management for high-density applications.

**BULLETIN: DOFRW**

Standard Product

Catalog Number	AxBxC in./mm	Use With
E19C12U	19.69 x 4.13 x 8.19 500 x 105 x 208	E19SWM12U12 or E19SWM12U24
E19C20U	28.66 x 4.13 x 8.19 728 x 105 x 208	E19SWM20U12 or E19SWM20U24
E19C25U	40.51 x 4.13 x 8.19 1029 x 105 x 208	E19SWM25U12 or E19SWM25U24



**PIVOTRACK™**

**INDUSTRY STANDARDS**

UL 1863 Listed; File Number E230874  
Rated to 100 lbs. with a 4X safety factor

EIC 310-D

**APPLICATION**

PIVOTRACK™ is used for wall mounting and securing 19-inch rack equipment for Telecommunication rooms and other locations. It provides an economical means to support remote 19-inch rack equipment. These open frame racks are ideal for high-density cabling applications while providing maximum access to equipment and cables. PIVOTRACK is ideal for IDFs (Intermediate Distribution Frames), remote 19-inch rack equipment, building automation, security and many other applications.

**FEATURES**

- Designed to accommodate all standard 19-inch rack equipment
- Easy, single-tool assembly reduces installation time and cost
- Central pivot in two-position mounting provides maximum versatility
- UL double lug ground holes provide easy adherence to local bonding and grounding codes
- Lanyard pin locks rack in increments of 15°, providing a stable position for cable and equipment installs
- Preassembled for fast, time-saving installation
- Temporary mounting bracket allows for rapid, single-person wall installation
- Smart packaging with hand carrying holes allows for easy transportation
- Cable tie down points, sized for up to 1-inch Velcro® straps, provided in horizontal and vertical positions in multiple locations
- Standard 24-inch deep offering to accommodate various applications
- Open design provides for maximum access to cables and equipment
- 19-inch rack fasteners (Phillips head, pilot point, black) 12-24, quantity 20, included

**SPECIFICATIONS**

- Wall section made of heavy gauge, formed, cold rolled steel construction
- Welded pivoting rack section made of formed, cold rolled steel
- Tapped 12-24 holes per EIA Universal pattern standards (1/4-5/8-5/8-1/4)

**FINISH**

- Pretreated steel coated with RAL 9005 black textured, low-gloss polyester powder paint
- Mounting hardware is clear or black plate
- Rack 12-24 fasteners plated black

**LOAD RATING**

Static working load rating is 150 lbs. for all sizes.

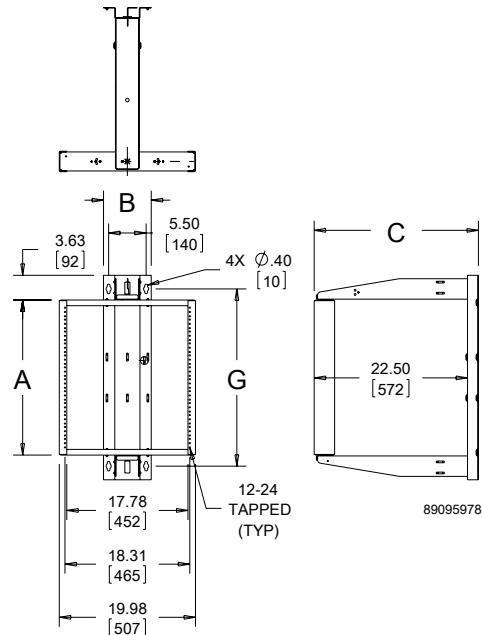
**ACCESSORIES**

Horizontal Cable Managers  
Blanking Panels  
Grounding kits  
Velcro Tie down straps  
PDUs  
Shelves

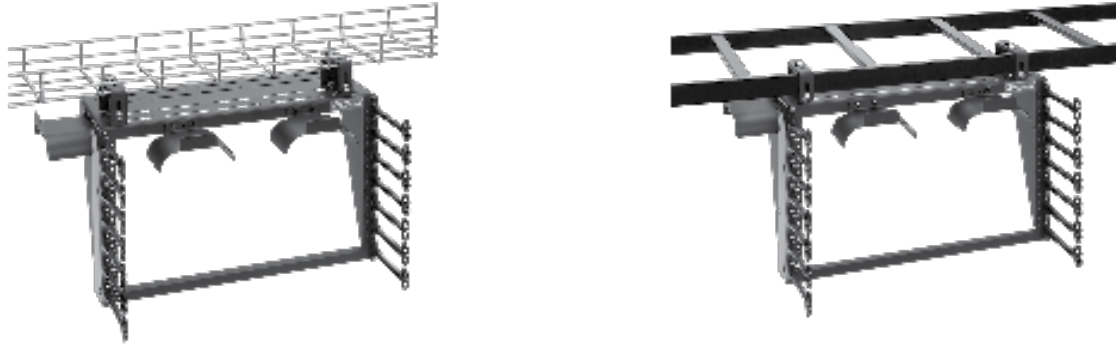
**BULLETIN: DOFRW**

Standard Product

Catalog Number	AxBxC in./mm	G in./mm	Rack Units
E19SWMC12U24	30.00 x 7.00 x 24.10 762 x 178 x 612	26.00 660	12
E19SWMC20U24	44.00 x 7.00 x 24.10 1118 x 178 x 612	40 1016	20



**CABLERACK™**



**INDUSTRY STANDARDS**

UL 1863 Listed; File Number E230874  
 Rated to 60 lbs. with a 4X safety factor

EIA 310-D

**APPLICATION**

CABLERACK™ is used for ladder or basket tray mounting and securing 19-inch rack equipment for Data centers, Telecommunication rooms and other locations. The fixed, open frame rack allows suspending 19-inch rack equipment from Ladder Rack or Basket Tray. The rack has universal tapped holes per industry standards to accommodate typical applications. These open frame racks are ideal for high-density cabling applications which require above-the-cabinet mounting of equipment, and provide maximum access to cables and equipment. CABLERACK is ideal for Data Center applications, expanding equipment to above-the-cabinet while providing increased equipment and cable densities.

**FEATURES**

- Designed to accommodate all standard 19-inch rack equipment
- Easy, single-tool assembly reduces installation time and cost
- Preassembled for fast, time-saving installation
- Securely mounts to either Cable Runway (Ladder Rack) or Basket Tray
- UL double lug ground holes provide easy adherence to local bonding and grounding codes
- Cable tie down points, sized for up to 1-inch Velcro® straps, provided in horizontal and vertical positions in multiple locations
- Parallel or perpendicular mounting to cable pathway

- Multi-point mounting provisions address various application needs
- Open design provides for maximum access to cables and equipment
- Smart packaging with hand-carrying holes allow for easy transportation

**SPECIFICATIONS**

- Wall section made of heavy gauge cold rolled steel welded construction
- Side supporting fingers made of composite material with black finish
- Tapped holes (12-24UNC) per EIA Universal pattern standard (1/4-5/8-5/8-1/4)

**FINISH**

- Pretreated steel coated with RAL 9005 black textured, low-gloss polyester powder paint
- Hardware is clear or plated black

**LOAD RATING**

Static load rating is 100 lbs.

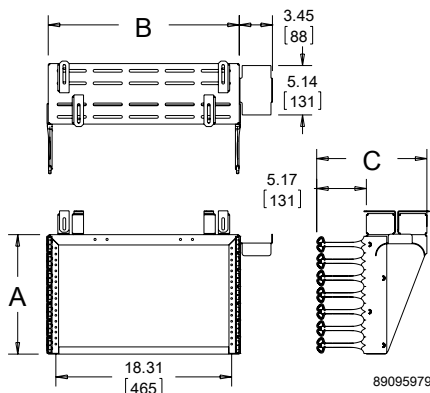
**ACCESSORIES**

- Cable Bend Radius Accessory
- Blanking Panels
- Grounding kits
- PDUs
- Shelves

**BULLETIN: DOFRW**

Standard Product

Catalog Number	AxBxC in./mm	Rack Units	Cable Bend Radius Accessory
E19T6U	12.44 x 20.16 x 11.50 316 x 512 x 292	6	ECMBA4



**CABLERACK™ CABLE BEND RADIUS ACCESSORY**



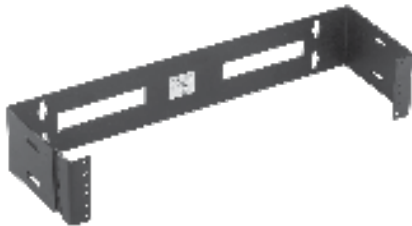
CABLERACK™ has a complimentary cable bend radius accessory which easily attaches to multiple locations on the rack. Each kit includes four bend radius brackets and mounting hardware.

**BULLETIN: DOFRW**

Standard Product

Catalog Number	AxBxC in./mm	Use With
ECMBA4	2.24 x 5.16 x 3.46 57 x 131 x 88	E19T6U

**19-IN. HINGED WALL-MOUNT PANEL**



**FEATURES**

- Open design offers unrestricted airflow
- Large cable exit holes on back surface
- Keyhole mounting slots on 16-in. centers accommodate up to 3/8-in. dia. mounting fasteners (not supplied)
- Heavy duty hinges are welded to frame
- Hinge provided for every two rack unit spacing
- One rack unit model has half-size hinge
- Provides access to rear of equipment
- 12-24 rack mounting screws (package of 20) included with assembly
- Wall mounting hardware not included

**SPECIFICATIONS**

- Made of 12 gauge steel
- EIA universal 5/8, 5/8, 1/2 in. spaced 12-24 tapped holes. EIA spacing provides 1.75 in. per rack unit.

**FINISH**

Finish is RAL 9005 black low-gloss polyester powder paint

**BULLETIN: DOFRW**

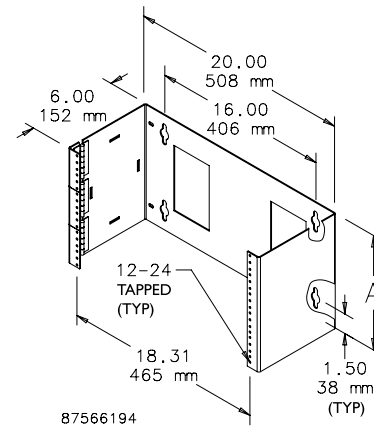
**INDUSTRY STANDARDS**

UL 1863 Listed; File No. E230874  
cUL Listed per CSA C22.2 No. 182.4; File No. E230874

EIA 310-D

**APPLICATION**

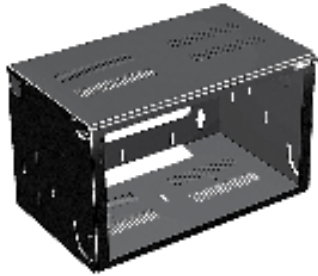
The 19-in. Hinged Panel provides a solution for smaller network equipment, punch-downs and patch panels in areas where floor space is at a premium. Easy access facilitates component installation and future expansion without disturbing existing equipment or cabling. Can be mounted with hinges on left or right side.



Standard Product

Catalog Number	A (in.)	A (mm)	Load Rating (lb.)	Load Rating (kg)	Rack Units
E19HPM1U	1.75	44	25	11.3	1
E19HPM2U	3.50	89	50	22.7	2
E19HPM4U	8.00	203	100	45.4	4
E19HPM6U	10.50	267	150	68.0	6
E19HPM8U	14.00	356	200	90.7	8

**19-IN. BOTTOM-HINGED PANEL**

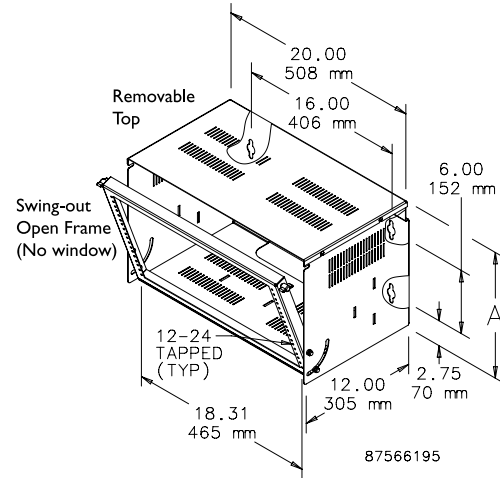


Hinged panel pivots to 90 degrees with positive stop, providing a stable platform for punch-down interconnects. Thumbscrews secure the panel in the upright position. Integral VELCRO® cable tiedown slots facilitate cable routing. Cover protects equipment and cables. Made of 12 gauge steel on hinged swing-out frame; 16 gauge on body. Finished with RAL 9005 low gloss black polyester powder paint. Shipped fully assembled.

VELCRO® is a trademark of Velcro Industries B.V.

BULLETIN: DOFRW

Catalog Number	A (in.)	A (mm)	Load Rating (lb.)	Load Rating (kgs)	Rack Units
E19BHPM4U12	8.00	203	25	11.3	4
E19BHPM6U12	10.50	267	50	22.7	6
E19BHPM8U12	14.00	356	50	22.7	8



**19-IN. FIXED WALL-MOUNT RACK**

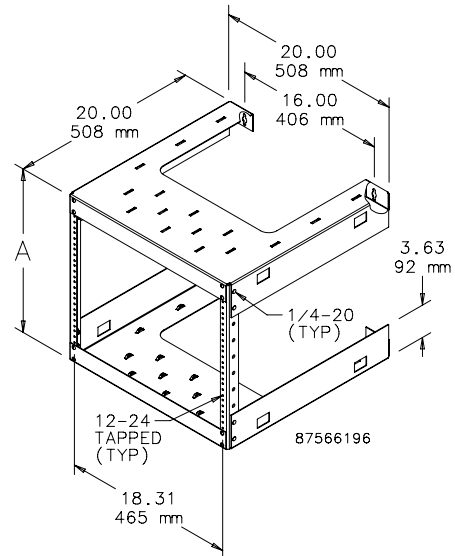


Economical solution for banks of small networking equipment. Integral VELCRO® cable tiedown slots facilitate cable routing. Made of 16 gauge steel, finished with RAL 9005 low gloss black polyester powder paint. Shipped in four easy-to-assemble sections.

VELCRO is a trademark of Velcro Industries B.V.

BULLETIN: DOFRW

Catalog Number	A (in.)	A (mm)	Load Rating (lb.)	Load Rating (kg)	Rack Units
E19FWM12U20	23.00	584	150	68.0	12
E19FWM20U20	37.00	940	150	68.0	20
E19FWM25U20	45.75	1162	150	68.0	25
E19FWM32U20	58.00	1473	150	68.0	32



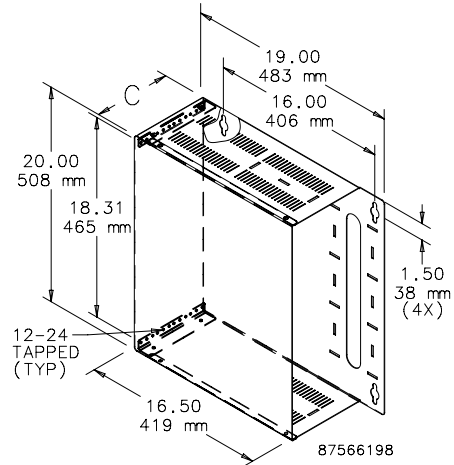
**19-IN. SIDE-MOUNT CABINET**


Equipment mounts sideways against the wall; ideal for applications where a low profile is required. Easily removable front cover protects equipment. Integral VELCRO® cable tiedown slots facilitate cable routing. Made of 16 gauge steel, finished with RAL 9005 low gloss black polyester powder paint. Shipped fully assembled.

*VELCRO is a trademark of Velcro Industries B.V.*

**BULLETIN: DOFRY**

Catalog Number	C (in.)	C (mm)	Load Rating (lb.)	Load Rating (kgs)	Rack Units
E19SM2U	3.50	89	50	22.7	2
E19SM4U	7.00	178	50	22.7	4





## Notes



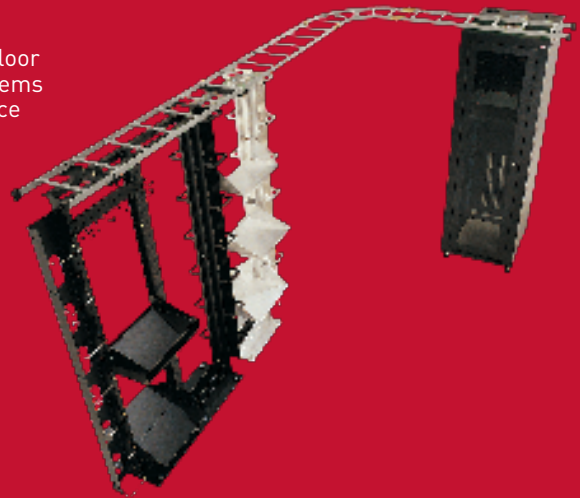
*Hoffman*

# CHAPTER 6 CABLE RUNWAY SYSTEM/ BONDING AND GROUNDING

## FEATURED PRODUCTS

### LADDER RACK SYSTEMS

From ceiling-mounted to under-floor configurations, Ladder Rack Systems route cables through unused space on the floor, wall or ceiling while keeping cables accessible for easy maintenance. A full line of components and accessories facilitates a flexible, easy-to-install cable runway system.





## BONDING AND GROUNDING

With a variety of bonding and grounding accessories available—including lugs, taps and bar kits—components meet open frame rack and cabinet bonding and grounding requirements for telecommunication room and data center applications.

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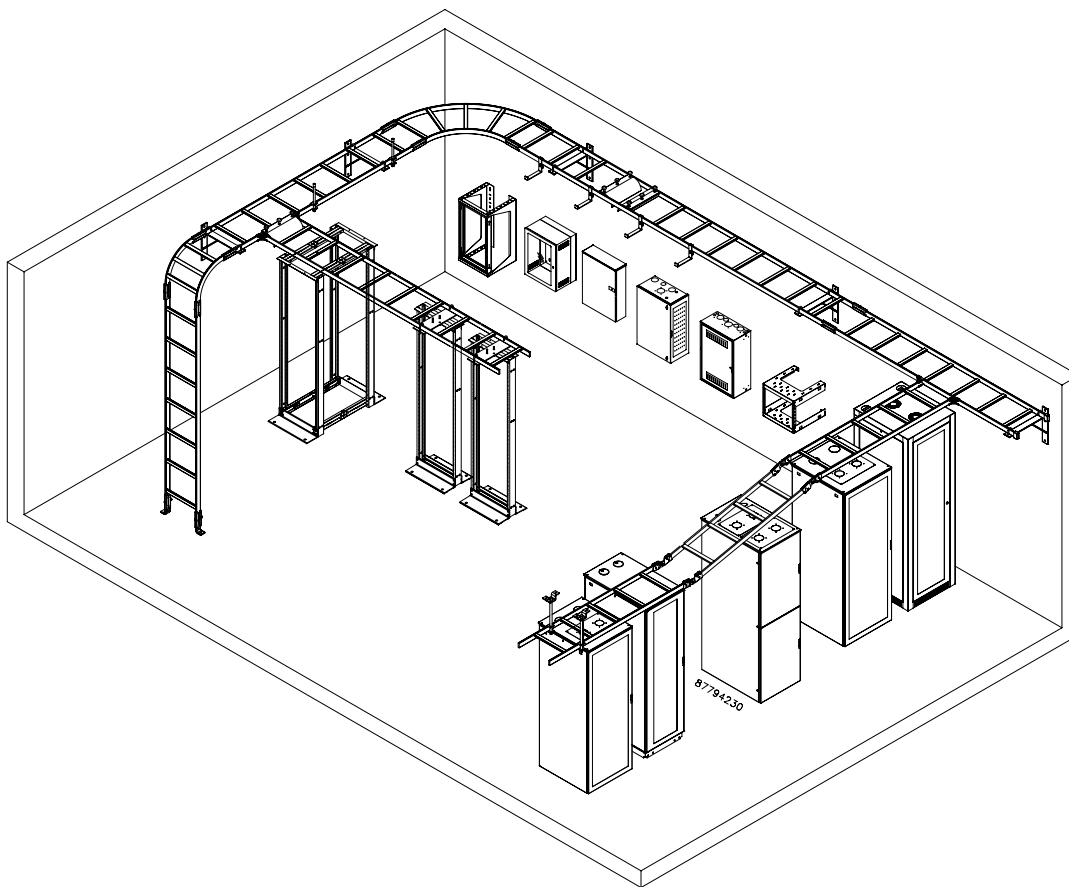
## QUICK TRAY PRO™

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## BONDING AND GROUNDING ACCESSORIES

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## LADDER RACK SYSTEM



### INDUSTRY STANDARDS

#### Painted and Plated Straight Sections:

UL/cULus Classified for Equipment Grounding and Load; File No. E236414

#### Curved Sections and Splice Kits:

UL/cULus Classified for Equipment Grounding; File No. E236414

#### cULus Bonding & Grounding

- Classified as suitable for an equipment ground conductor
  - CSA C22.2 No. 126.1-02 Section 5.2.8 Load Destruction Test
- Two grounding jumper kits required per each splice kit on painted ladder rack sections

#### cULus Load Testing

- Load capacity per 10 support lengths is 369.2 lb.; safety factor of 1.5X
  - CSA C22.2 No. 126.1-02 Section 5.1 Electrical Continuity Test

### APPLICATION

The Ladder Rack System conveniently routes cables via a modular pathway through unused space on the floor, wall or ceiling while keeping cables accessible for easy maintenance. A variety of straight and curved sections are highly adaptable and can accommodate virtually any room layout.

### FEATURES

- Section cross members welded on 9-in. (229-mm) centers
- Accessory adjustable cross members
- Butt-splice kits and junction-splice kits
- Each model is boxed or bagged

### SPECIFICATIONS

- Straight and curved sections made of 1-1/2-in. steel
- Sections available in 6-, 12-, 18- and 24-in. (152-, 305-, 457- and 610-mm) widths
- Steel connecting and mounting hardware

### FINISH

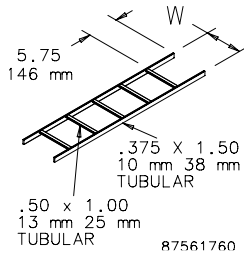
Available in three finishes:

- ANSI 61 gray polyester powder paint
- RAL 9005 black polyester powder paint
- Plated

### ACCESSORIES

Touch-up Paint

### LADDER RACK STRAIGHT SECTIONS (CULUS CLASSIFIED)

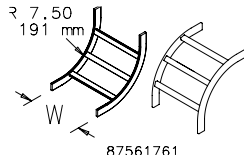


Supports cable on straight runs. Made of 1-1/2 in. x 3/8 in. (38 mm x 8 mm) 16 gauge tubular steel with a painted or plated finish. Nominal installed length is 10 ft. (3.05 m). Each section is 9 ft. 11-1/2 in. (3.03 m) long with cross members welded at 9-in. (229-mm) intervals.

BULLETIN: DCR

Catalog Number	AxB in.	AxB mm	Finish	W (in.)	W (mm)
LSS6G	6.00 x 120.00	152 x 3048	Gray	6.00	152
LSS6BLK	6.00 x 120.00	152 x 3048	Black	6.00	152
LSS6GZ	6.00 x 120.00	152 x 3048	Plated	6.00	152
LSS12G	12.00 x 120.00	305 x 3048	Gray	12.00	305
LSS12BLK	12.00 x 120.00	305 x 3048	Black	12.00	305
LSS12GZ	12.00 x 120.00	305 x 3048	Plated	12.00	305
LSS18G	18.00 x 120.00	457 x 3048	Gray	18.00	457
LSS18BLK	18.00 x 120.00	457 x 3048	Black	18.00	457
LSS18GZ	18.00 x 120.00	457 x 3048	Plated	18.00	457
LSS24BLK	24.00 x 120.00	610 x 3048	Black	24.00	610

### LADDER RACK CURVED SECTIONS (CULUS CLASSIFIED)

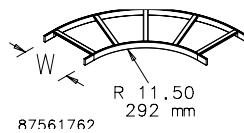


Provide a vertical change in direction. They are made of 1-1/2 in. x 3/8 in. (38 mm x 8 mm) tubular steel with a painted or plated finish. Cross members are welded on the inside (inside bends) or outside (outside bends) of the section. Connect to straight section with butt-splice kits. Designed for category 5e, 6, 6A and fiber optic cable.

BULLETIN: DCR

Catalog Number	Finish	Vertical Bend Type	W (in.)	W (mm)
LIB6G	Gray	Inside	6.00	152
LIB6BLK	Black	Inside	6.00	152
LIB6GZ	Plated	Inside	6.00	152
LIB12G	Gray	Inside	12.00	305
LIB12BLK	Black	Inside	12.00	305
LIB12GZ	Plated	Inside	12.00	305
LIB18G	Gray	Inside	18.00	457
LIB18BLK	Black	Inside	18.00	457
LIB18GZ	Plated	Inside	18.00	457
LIB24BLK	Black	Inside	24.00	610
LOB6G	Gray	Outside	6.00	152
LOB6BLK	Black	Outside	6.00	152
LOB6GZ	Plated	Outside	6.00	152
LOB12G	Gray	Outside	12.00	305
LOB12BLK	Black	Outside	12.00	305
LOB12GZ	Plated	Outside	12.00	305
LOB18G	Gray	Outside	18.00	457
LOB18BLK	Black	Outside	18.00	457
LOB18GZ	Plated	Outside	18.00	457
LOB24BLK	Black	Outside	24.00	610

### 90-DEGREE HORIZONTAL E-BEND SECTION (CULUS CLASSIFIED)

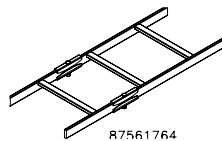


Provide a 90-degree horizontal change in cable runway direction. Made of 1-1/2 in. x 3/8 in. (38 mm x 8 mm) tubular steel with a painted or plated finish. Connect to straight sections with butt-splice kits. Designed for category 5e, 6, 6A and fiber optic cable.

BULLETIN: DCR

Catalog Number	Finish	W (in.)	W (mm)
L90HB12G	Gray	12.00	305
L90HB12BLK	Black	12.00	305
L90HB12GZ	Plated	12.00	305
L90HB18G	Gray	18.00	457
L90HB18BLK	Black	18.00	457
L90HB18GZ	Plated	18.00	457
L90HB24BLK	Black	24.00	610

### BUTT-SPLICE KIT (CULUS CLASSIFIED)

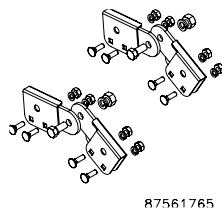


Joins straight ladder rack sections, inside and outside bends, and 90-degree horizontal e-bends. Each kit connects one section to another. Includes mounting hardware.

BULLETIN: DCR

Catalog Number	Finish	Kit Qty.
LBSKG	Gray	2
LBSKB	Black	2
LBSK	Plated	2

### ADJUSTABLE BUTT-SPLICE KIT (CULUS CLASSIFIED)



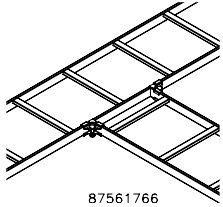
Provides a change in up-and-down direction of the cable runway. It can be adjusted to any angle from 0 to 90 degrees. Made of steel with a painted or plated finish. Each kit connects one ladder rack section to another. Includes mounting hardware.

BULLETIN: DCR

Catalog Number	Finish	Kit Qty.
LABSKG	Gray	2
LABSKB	Black	2
LABSK	Plated	2



### JUNCTION SPLICE KIT (CULUS CLASSIFIED)



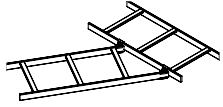
87561766

Connects two straight ladder rack sections at a 90-degree angle. Made of steel with a painted or plated finish. Each kit connects one section to another. Includes mounting hardware.

BULLETIN: DCR

Catalog Number	Finish	Kit Qty.
LJSKG	Gray	2
LJSKB	Black	2
LJSK	Plated	2

### ADJUSTABLE JUNCTION SPLICE KIT (CULUS CLASSIFIED)



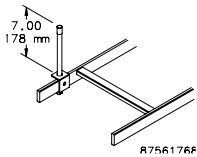
87561767

Connects two ladder rack sections at any junction angle. Made of steel with a painted or plated finish. Each kit connects one section to another. Includes mounting hardware.

BULLETIN: DCR

Catalog Number	Finish	Kit Qty.
LJASKG	Gray	2
LJASKB	Black	2
LJASK	Plated	2

### RETAINING POST KIT



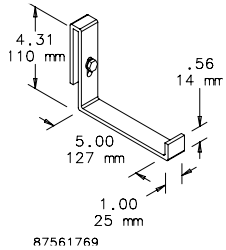
87561768

Provides extra ladder rack capacity. Mounts onto rack side stringer. Post is unthreaded 1/2-in. tube. Kit components are plated steel. Includes post cap and mounting hardware.

BULLETIN: DCR

Catalog Number	Finish	Kit Qty.
LRP	Plated	1
LRPB	Black	1

### L-BRACKET KIT



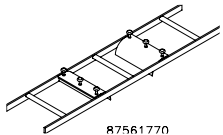
87561769

The L-Bracket Kit supports power or other cables that need to be separated from the main cable run. Made of steel with a painted or plated finish. Mounts onto ladder rack stringer. Includes mounting hardware.

BULLETIN: DCR

Catalog Number	Finish	Kit Qty.
LLBG	Gray	1
LLBB	Black	1
LLB	Plated	1

### RADIUS DROP KIT



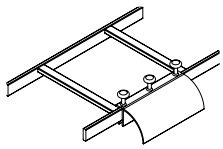
87561770

Mounts over ladder rack cross member to provide bending radius when dropping cable. Includes cable spools to separate cable and all mounting hardware. Made of extruded aluminum.

BULLETIN: DCR

Catalog Number	Finish	Cable Runway Width (in.)	Cable Runway Width (mm)	Kit Qty.
LRD6G	Gray	6.00	152	1
LRD6BLK	Black	6.00	152	1
LRD6GZ	Aluminum	6.00	152	1
LRD12G	Gray	12.00	305	1
LRD12BLK	Black	12.00	305	1
LRD12GZ	Aluminum	12.00	305	1
LRD18G	Gray	18.00	457	1
LRD18BLK	Black	18.00	457	1
LRD18GZ	Aluminum	18.00	457	1
LRD24BLK	Black	24.00	610	1

### STRINGER RADIUS DROP KIT



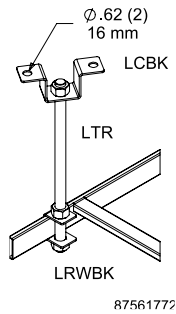
87561771

Mounts over ladder rack stringer to provide bending radius when dropping cable. Includes cable spools to separate cable and all mounting hardware. Made of extruded aluminum.

BULLETIN: DCR

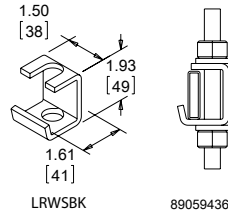
Catalog Number	Finish	Kit Qty.
LSRDG	Gray	1
LSRDBLK	Black	1
LSRDGZ	Aluminum	1

### CEILING SUPPORT KIT



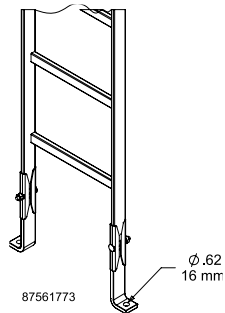
Supports ladder rack from ceiling. Components available separately or as a kit. Six-foot-long, 5/8-in. diameter rod is threaded for easy tension adjustment. Made of plated steel. Requires surface mounting hardware (not included).

#### BULLETIN: DCR



Catalog Number	Finish	Description	Kit Qty.
LCK	Plated	Kit includes one each: - LTR Threaded Rod - 5/8-in. nuts (4) - LRWBK Rack Runway Bracket - LCBK Ceiling Bracket	1
LTR	Plated	5/8-in. x 6-ft. Threaded Rod	1
LRWBK	Plated	Rack Runway Brackets (10) 5/8-in. nuts (20)	1
LRWBKB	Black	Rack Runway Brackets (10) 5/8-in. nuts (20)	1
LCBK	Plated	Ceiling Brackets (10) 5/8-in nuts (20)	1
LCBKB	Black	Ceiling Brackets (10) 5/8-in nuts (20)	1
LRWSBK	Plated	Rack-to-Runway Brackets (10) Slip-On 5/8 in. nuts (2)	1
LRWSBKB	Black	Rack-to-Runway Brackets (10) Slip-On 5/8 in. nuts (2)	1

### FOOT KIT

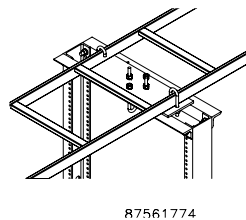


Secures ladder rack to floor, ceiling or wall. Made of steel with a painted or plated finish. One kit secures one ladder rack section. Requires surface mounting hardware (not included).

#### BULLETIN: DCR

Catalog Number	Finish	Kit Qty.
LFKG	Gray	2
LFKB	Black	2
LFK	Plated	2

### RACK-TO-RUNWAY MOUNTING PLATE KIT

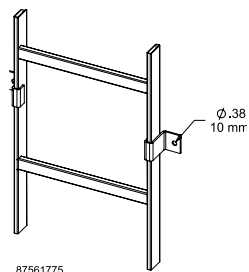


Secures ladder rack to the top of equipment racks. Made of steel with a painted or plated finish. The plate is designed for mounting either parallel or perpendicular to the rack. Includes mounting hardware.

#### BULLETIN: DCR

Catalog Number	Fits Ladder Width	Finish	Kit Qty.
LRRMPG	6, 12	Gray	1
LRRMPBLK	6, 12	Black	1
LRRMPGZ	6, 12	Plated	1
LRRMPG18	12, 18	Gray	1
LRRMPBLK18	12, 18	Black	1
LRRMPGZ18	12, 18	Plated	1
LRRMPBLK24	18, 24	Black	1

### VERTICAL WALL BRACKET



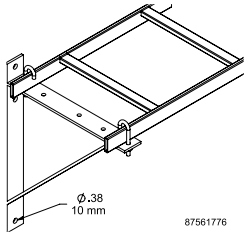
Secures ladder rack section to wall or other flat surface. Made of steel with a painted or plated finish. Requires surface mounting hardware (not included).

#### BULLETIN: DCR

Catalog Number	Finish	Kit Qty.
LVWBG	Gray	2
LVWBB	Black	2
LVWB	Plated	2



### TRIANGLE SUPPORT BRACKET KIT

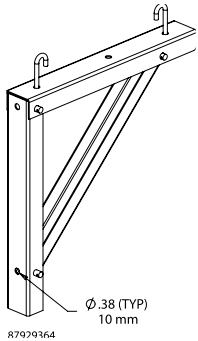


Supports ladder rack from wall. Bracket is made of steel with painted or plated finish. Brackets have predrilled mounting holes for two sizes of ladder rack. Includes one J-Bolt Kit.

**BULLETIN: DCR**

Catalog Number	A in.	A mm	Finish	Fits Cable	
				Runway	Kit Qty.
LTSB12G	0.00		Gray	6, 12	1
LTSB12BLK	0.00		Black	6, 12	1
LTSB12GZ	0.00		Plated	6, 12	1
LTSB18G	0.00		Gray	12, 18	1
LTSB18BLK	0.00		Black	12, 18	1
LTSB18GZ	0.00		Plated	12, 18	1
LTSB24BLK	24.00	610	Black	12, 18, 24	1

### MODULAR TRIANGLE SUPPORT BRACKET KIT

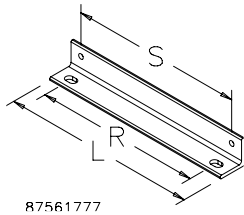


Secures and supports ladder rack to wall. Design features three bracket support arms that easily attach to each other with quick-release pins and fold down to ease assembly. Each model accommodates two ladder rack widths. Kit includes one modular bracket assembly, three quick-release pins and two J-bolts with washers and nuts. Bracket made of painted steel with plated hardware.

**BULLETIN: DCR**

Catalog Number	Finish	Fits Cable	
		Runway	Kit Qty.
LMTSB12B	Black	6, 12	1
LMTSB18B	Black	12, 18	1
LMTSB24B	Black	18, 24	1

### WALL ANGLE SUPPORT

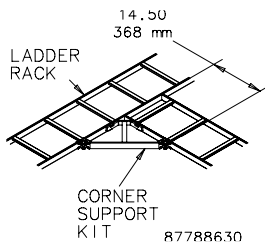


Supports ladder rack from wall or other flat surface. Made of 2-in. x 2-in. 10 gauge steel angle with painted or plated finish. Includes two J-bolts, nuts and screws.

**BULLETIN: DCR**

Catalog Number	Finish	L	R	S	Kit Qty.
		in./mm	in./mm	in./mm	
LWASK6G	Gray	8.00	6.00	6.38	1
		203	152	162	
LWASK6BLK	Black	8.00	6.00	6.38	1
		203	152	162	
LWASK6GZ	Plated	8.00	6.00	6.38	1
		203	152	162	
LWASK12G	Gray	14.00	12.00	12.38	1
		356	305	314	
LWASK12BLK	Black	14.00	12.00	12.38	1
		356	305	314	
LWASK12GZ	Plated	14.00	12.00	12.38	1
		356	305	314	
LWASK18G	Gray	20.00	18.00	18.38	1
		508	457	467	
LWASK18BLK	Black	20.00	18.00	18.38	1
		508	457	467	
LWASK18GZ	Plated	20.00	18.00	18.38	1
		508	457	467	
LWASK24BLK	Black	26.00	24.00	24.38	1
		660	610	619	

### CORNER SUPPORT BRACKET KIT



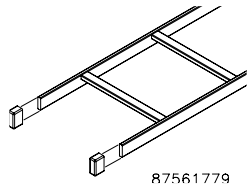
Provides additional support for 90-degree ladder rack junction. Made of steel with a painted or plated finish.

**BULLETIN: DCR**

Catalog Number	Finish	Kit Qty.
LCSKG	Gray	1
LCSKB	Black	1
LCSK	Plated	1



### END CAP KIT



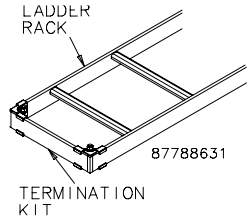
87561779

Provides protective covering for ends of ladder rack. Made of black vinyl.

BULLETIN: DCR

Catalog Number	Kit Qty.
LEC	2

### RUNWAY TERMINATION KIT



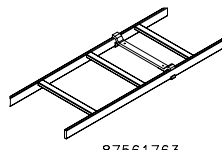
87788631

Provides a solid termination when the last section of ladder rack ends away from a wall. Made of steel with a painted or plated finish.

BULLETIN: DCR

Catalog Number	Finish	Fits Cable Runway	Kit Qty.
LRTK12G	Gray	12	1
LRTK12B	Black	12	1
LRTK12	Plated	12	1
LRTK18G	Gray	18	1
LRTK18B	Black	18	1
LRTK18	Plated	18	1
LRTK24B	Black	24	1

### MOVABLE CROSS MEMBER



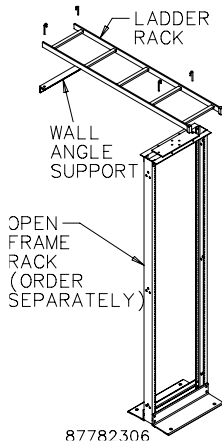
87561763

Supports cable at drop locations between welded cross members. Made of steel with a painted or plated finish. For maximum cable protection, use with radius drop kit. Includes hardware for secure mounting to ladder rack stringers.

BULLETIN: DCR

Catalog Number	Finish	W (in.)	W (mm)	Kit Qty.
LMCM12G	Gray	12.00	305	1
LMCM12BLK	Black	12.00	305	1
LMCM12GZ	Plated	12.00	305	1
LMCM18G	Gray	18.00	457	1
LMCM18BLK	Black	18.00	457	1
LMCM18GZ	Plated	18.00	457	1
LMCM24BLK	Black	24.00	610	1

### RACK-TO-WALL KIT



87782306

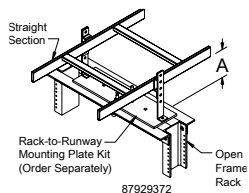
Includes one section of straight ladder rack and everything needed to fasten the ladder section to an open frame rack and to the wall. Ladder is 54-in. (1372-mm) long by 12-in. (305-mm) wide. All parts have a black painted finish. Order open frame rack separately.

BULLETIN: DOFR2

Catalog Number	Description
E45RUBKIT	Each Rack-to-Wall Kit includes one: - LSS12BLK [54-in. (1372-mm) long] Ladder Rack* - LWASK12BLK Wall Angle Support with j-bolts - LRRMPBLK Rack-to-Runway Mounting Kit - LEC End Cap Kit

\* Ladder Rack is cULus Classified

### RUNWAY ELEVATION KIT



87929372

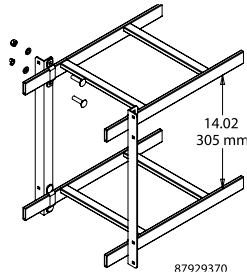
Elevates ladder rack 3 or 6 in. (76 or 152 mm) above rack-to-ladder mounting plate. Use on any width ladder rack. Kit includes two brackets and all mounting hardware. Made of heavy plated steel.

BULLETIN: DCR

Catalog Number	A (in.)	A (mm)	Finish	Kit Qty.
LEK3	3.00	76	Plated	1
LEK3B	3.00	76	Black	1
LEK6	6.00	152	Plated	1
LEK6B	6.00	152	Black	1
LEK12	12.00	305	Plated	1
LEK12B	12.00	305	Black	1



### RUNWAY OVERHEAD 12-IN. STACK KIT

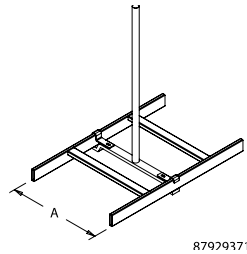


Allows stacking any width of ladder rack runways 12 in. (305 mm) above each other. Each kit contains two complete stacking brackets with all necessary hardware. Use one kit at least every 5 ft. (1.5 m). Brackets and fasteners made of plated steel.

**BULLETIN:** DCR

Catalog Number	Finish	Includes	Kit Qty.
LST12	Plated	2 brackets and hardware	1
LST12B	Black	2 brackets and hardware	1

### RUNWAY CENTER SUPPORT KIT

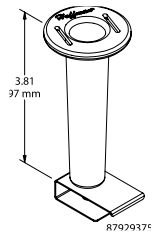


Threaded rod and bracket supports center of ladder rack from ceiling. Kit includes heavy-duty ladder rack cross member, 5/8-in. threaded rod, two J-bolts, protected sleeve and 5/8-in. nut. Use one kit at least every 5 ft. (1.5 m). Made of plated steel.

**BULLETIN:** DCR

Catalog Number	Finish	Fits Cable Runway	Kit Qty.
LCSK6	Plated	6	1
LCSK12	Plated	12	1
LCSK18	Plated	18	1
LCSK24	Plated	24	1

### SPOOL DIVIDER KIT

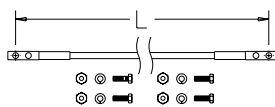


Spools separate cables to improve cable management and to control cable-to-cable distances. Spool and bracket attach to ladder rack cross member and can be located anywhere across the width. Kit includes ten 4-in.-tall spools, brackets and all necessary hardware. Spool made of black plastic and bracket made of plated steel.

**BULLETIN:** DCR

Catalog Number	Finish	Kit Includes
LCRDSK	Black plastic spool; plated steel bracket	10 spools, 10 brackets and mounting hardware

### INSULATED GROUND JUMPER KIT

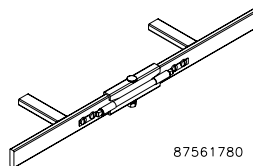


Fastens across splices to provide a secure ground between sections of ladder rack. Made of #6 AWG x 7 strand wire with green THW insulation and two-hole compression lugs mounted on each end. Includes fasteners.

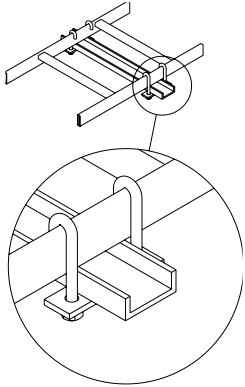
**BULLETIN:** DBG

Catalog Number	Conductor Type	L in./mm
DGJ	#6-7 Stranded	12.00 305

cULus requires 2 kits per splice on all painted ladder sections



**J-BOLT KIT**



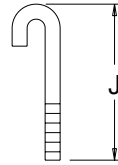
87561778

Connects ladder rack to top of cabinet or to auxiliary support channel. Each kit includes two J-bolts and makes one support connection. Kit components are plated steel. Includes mounting hardware.

- Each kit contains:
- (2) J-Bolts, 5/16 in.
- (2) Nuts, 5/16 in.
- (2) Washers, 5/16 in.
- (2) Lock Washers, 5/16 in.
- (1) Plate

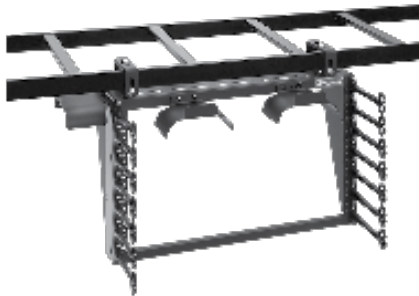
**BULLETIN: DCR**

Catalog Number	J (in.)	J (mm)	Finish
LJBK	3.5	89	Plated
LJBK5	5.00	127	Plated
LJBK6	6.00	152	Plated
LJBK7	7.00	178	Plated



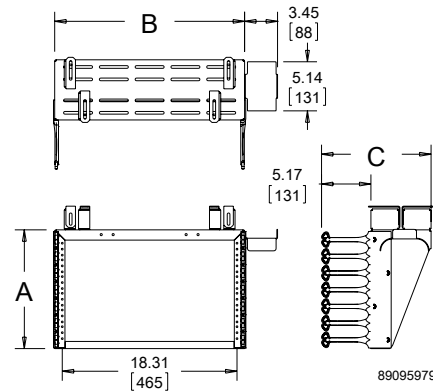
89059437

**CABLERACK™**



CABLERACK™ is used for ladder or basket tray mounting and securing 19-inch rack equipment for Data centers, Telecommunication rooms and other locations. The fixed, open frame rack allows suspending 19-inch rack equipment from Ladder Rack or Basket Tray. The rack has universal tapped holes per industry standards to accommodate typical applications. These open frame racks are ideal for high-density cabling applications which require above-the-cabinet mounting of equipment, and provide maximum access to cables and equipment. CABLERACK is ideal for Data Center applications, expanding equipment to above-the-cabinet while providing increased equipment and cable densities.

**BULLETIN: DOFRW**



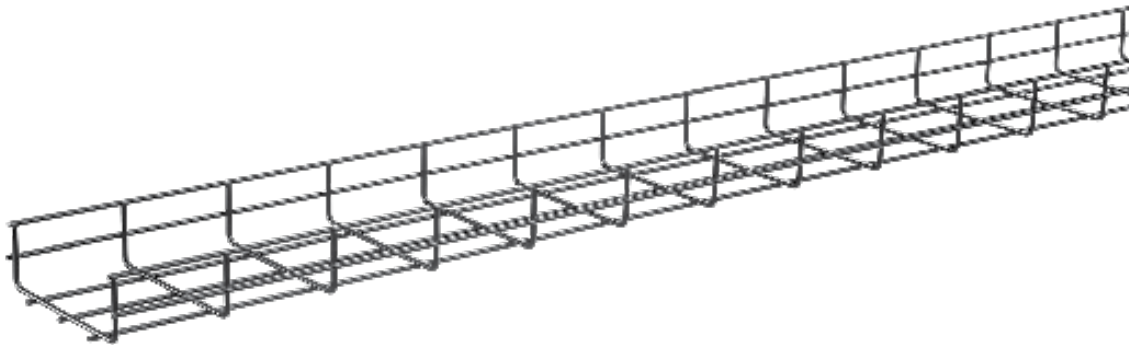
89095979

**Standard Product**

Catalog Number	AxBxC in./mm	Rack Units	Cable Bend Radius Accessory
E19T6U	12.44 x 20.16 x 11.50 316 x 512 x 292	6	ECMBA4



## STRAIGHT SECTION



### INDUSTRY STANDARDS

UL Classified for suitability as equipment ground conductor only.

NFPA 70, National Electrical Code, Article 392: Cable Trays;  
 provides UL Classification and labels  
 IEC 61537, Cable Tray Systems and Cable Ladder systems for Cable  
 Management  
 NEMA VE 1, Metal Cable Tray Systems, for materials, sizes and  
 configurations

### APPLICATION

The QUICK TRAY PRO™ cable tray routes cables through unused space while keeping them accessible for easy maintenance. Combine components to configure a system that meets application requirements.

### SPECIFICATIONS

- Made of high-strength 5-mm or higher gauge steel wire
- T-weld top wire

### FINISH

Pre-galvanized steel or black powder-coated finish.

BULLETIN: DQT

### Standard Product

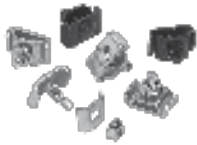
Catalog Number	AxBxC in./mm	Description	Finish	Load per 6-ft. span lbs./ft.	Cat6 Fill Rate* .19-in. dia. cable	Cat6A Fill Rate* .23-in. dia. cable	Splice Quantity
QTP2X4	2.00 x 4.00 x 120.00 51 x 102 x 3048	2 x 4-in. Straight Section	Pre-galvanized	43	108	99	2
QTP2X4BLK	2.00 x 4.00 x 120.00 51 x 102 x 3048	2 x 4-in. Straight Section	Black	43	108	99	2
QTP2X6	2.00 x 6.00 x 120.00 51 x 152 x 3048	2 x 6-in. Straight Section	Pre-galvanized	50	163	149	4
QTP2X6BLK	2.00 x 6.00 x 120.00 51 x 152 x 3048	2 x 6-in. Straight Section	Black	50	163	149	4
QTP2X8	2.00 x 8.00 x 120.00 51 x 203 x 3048	2 x 8-in. Straight Section	Pre-galvanized	52	218	200	4
QTP2X8BLK	2.00 x 8.00 x 120.00 51 x 203 x 3048	2 x 8-in. Straight Section	Black	52	218	200	4
QTP2X12	2.00 x 12.00 x 120.00 51 x 305 x 3048	2 x 12-in. Straight Section	Pre-galvanized	58	326	298	4
QTP2X12BLK	2.00 x 12.00 x 120.00 51 x 305 x 3048	2 x 12-in. Straight Section	Black	58	326	298	4
QTP2X16	2.00 x 16.00 x 120.00 51 x 406 x 3048	2 x 16-in. Straight Section	Pre-galvanized	70	439	402	4
QTP2X16BLK	2.00 x 16.00 x 120.00 51 x 406 x 3048	2 x 16-in. Straight Section	Black	70	439	402	4
QTP2X18	2.00 x 18.00 x 120.00 51 x 457 x 3048	2 x 18-in. Straight Section	Pre-galvanized	70	495	452	4
QTP2X18BLK	2.00 x 18.00 x 120.00 51 x 457 x 3048	2 x 18-in. Straight Section	Black	70	495	452	4
QTP2X20	2.00 x 20.00 x 120.00 51 x 508 x 3048	2 x 20-in. Straight Section	Pre-galvanized	73	550	503	5
QTP2X20BLK	2.00 x 20.00 x 120.00 51 x 508 x 3048	2 x 20-in. Straight Section	Black	73	550	503	5
QTP2X22	2.00 x 22.00 x 120.00 51 x 559 x 3048	2 x 22-in. Straight Section	Pre-galvanized	73	600	554	5
QTP2X22BLK	2.00 x 22.00 x 120.00 51 x 559 x 3048	2 x 22-in. Straight Section	Black	73	600	554	5
QTP2X24	2.00 x 24.00 x 120.00 51 x 610 x 3048	2 x 24-in. Straight Section	Pre-galvanized	75	660	604	5

Catalog Number	AxBxC in./mm	Description	Finish	Load per 6-ft. span lbs./ft.	Cat6 Fill Rate* .19-in. dia. cable	Cat6A Fill Rate* .23-in. dia. cable	Splice Quantity
QTP2X24BLK	2.00 x 24.00 x 120.00 51 x 610 x 3048	2 x 24-in. Straight Section	Black	75	660	604	5
QTP4X4	4.00 x 4.00 x 120.00 102 x 102 x 3048	4 x 4-in. Straight Section	Pre-galvanized	45	205	188	4
QTP4X4BLK	4.00 x 4.00 x 120.00 102 x 102 x 3048	4 x 4-in. Straight Section	Black	45	205	188	4
QTP4X6	4.00 x 6.00 x 120.00 102 x 152 x 3048	4 x 6-in. Straight Section	Pre-galvanized	49	310	285	5
QTP4X6BLK	4.00 x 6.00 x 120.00 102 x 152 x 3048	4 x 6-in. Straight Section	Black	49	310	285	5
QTP4X8	4.00 x 8.00 x 120.00 102 x 203 x 3048	4 x 8-in. Straight Section	Pre-galvanized	78	416	380	6
QTP4X8BLK	4.00 x 8.00 x 120.00 102 x 203 x 3048	4 x 8-in. Straight Section	Black	78	416	380	6
QTP4X12	4.00 x 12.00 x 120.00 102 x 305 x 3048	4 x 12-in. Straight Section	Pre-galvanized	78	621	568	6
QTP4X12BLK	4.00 x 12.00 x 120.00 102 x 305 x 3048	4 x 12-in. Straight Section	Black	78	621	568	6
QTP4X16	4.00 x 16.00 x 120.00 102 x 406 x 3048	4 x 16-in. Straight Section	Pre-galvanized	108	837	765	7
QTP4X16BLK	4.00 x 16.00 x 120.00 102 x 406 x 3048	4 x 16-in. Straight Section	Black	108	837	765	7
QTP4X18	4.00 x 18.00 x 120.00 102 x 457 x 3048	4 x 18-in. Straight Section	Pre-galvanized	116	942	862	7
QTP4X18BLK	4.00 x 18.00 x 120.00 102 x 457 x 3048	4 x 18-in. Straight Section	Black	116	942	862	7
QTP4X20	4.00 x 20.00 x 120.00 102 x 508 x 3048	4 x 20-in. Straight Section	Pre-galvanized	116	1047	958	7
QTP4X20BLK	4.00 x 20.00 x 120.00 102 x 508 x 3048	4 x 20-in. Straight Section	Black	116	1047	958	7
QTP4X22	4.00 x 22.00 x 120.00 102 x 559 x 3048	4 x 22-in. Straight Section	Pre-galvanized	116	1152	1054	8
QTP4X22BLK	4.00 x 22.00 x 120.00 102 x 559 x 3048	4 x 22-in. Straight Section	Black	116	1152	1054	8
QTP4X24	4.00 x 24.00 x 120.00 102 x 610 x 3048	4 x 24-in. Straight Section	Pre-galvanized	116	1257	1150	8
QTP4X24BLK	4.00 x 24.00 x 120.00 102 x 610 x 3048	4 x 24-in. Straight Section	Black	116	1257	1150	8
QTP6X8	6.00 x 8.00 x 120.00 152 x 203 x 3048	6 x 8-in. Straight Section	Pre-galvanized	116	623	570	6
QTP6X8BLK	6.00 x 8.00 x 120.00 152 x 203 x 3048	6 x 8-in. Straight Section	Black	116	623	570	6
QTP6X12	6.00 x 12.00 x 120.00 152 x 305 x 3048	6 x 12-in. Straight Section	Pre-galvanized	123	931	852	6
QTP6X12BLK	6.00 x 12.00 x 120.00 152 x 305 x 3048	6 x 12-in. Straight Section	Black	123	931	852	6
QTP6X16	6.00 x 16.00 x 120.00 152 x 406 x 3048	6 x 16-in. Straight Section	Pre-galvanized	123	1255	1148	7
QTP6X16BLK	6.00 x 16.00 x 120.00 152 x 406 x 3048	6 x 16-in. Straight Section	Black	123	1255	1148	7
QTP6X18	6.00 x 18.00 x 120.00 152 x 457 x 3048	6 x 18-in. Straight Section	Pre-galvanized	127	1413	1292	7
QTP6X18BLK	6.00 x 18.00 x 120.00 152 x 457 x 3048	6 x 18-in. Straight Section	Black	127	1413	1292	7
QTP6X20	6.00 x 20.00 x 120.00 152 x 508 x 3048	6 x 20-in. Straight Section	Pre-galvanized	127	1571	1437	7
QTP6X20BLK	6.00 x 20.00 x 120.00 152 x 508 x 3048	6 x 20-in. Straight Section	Black	127	1571	1437	7
QTP6X22	6.00 x 22.00 x 120.00 152 x 559 x 3048	6 x 22-in. Straight Section	Pre-galvanized	127	1728	1580	8
QTP6X22BLK	6.00 x 22.00 x 120.00 152 x 559 x 3048	6 x 22-in. Straight Section	Black	127	1728	1580	8
QTP6X24	6.00 x 24.00 x 120.00 152 x 610 x 3048	6 x 24-in. Straight Section	Pre-galvanized	150	1886	1726	8
QTP6X24BLK	6.00 x 24.00 x 120.00 152 x 610 x 3048	6 x 24-in. Straight Section	Black	150	1886	1726	8

\* Based on 50% fill rate.



### SPLICE KIT



Splice Kits are used for bolting turns, bends and tees; connecting QUICK TRAY PRO™ sections; and fastening splice bars. Kit includes three-piece staked bolt, washer and nut.

**BULLETIN: DQT**

Catalog Number	AxBxC in./mm	Description	Pkg. Qty.
QTPBNWK	2.00 x 4.00 x 2.00 51 x 102 x 51	Splice Kit (Zinc)	50
QTPBNWKBLK	2.00 x 4.00 x 2.00 51 x 102 x 51	Splice Kit (Black)	50

### SPLICE WASHER



QUICK TRAY PRO Splice Washers are used with QTPBNWK/ QTPBNWKBLK Splice Kits for bolting turns, bends, and tees; connecting tray sections; and fastening splice bars.

**BULLETIN: DQT**

Catalog Number	AxBxC in./mm	Description	Finish	Pkg. Qty.
QTPSSW3	4.00 x 4.00 x 8.00 102 x 102 x 203	Splice Washer	Pre-galvanized	50
QTPSSW3BLK	4.00 x 4.00 x 8.00 102 x 102 x 203	Splice Washer	Black	50

### SPLICE BARS



QUICK TRAY PRO Splice Bars provide extra support and stability to tray sides when connecting tray sections with splice washers. Universal bars can be cut to fit with bolt cutters and bent for use in tees and elbows. Made of plated steel. Requires QTPSSW3/ QTPSSW3BLK Splice Washers and QTPBNWK/QTPBNWKBLK Splice Kits to fasten to side of tray.

**BULLETIN: DQT**

Catalog Number	AxBxC in./mm	Description	Pkg. Qty.
QTPUS10	4.00 x 13.00 x 4.00 102 x 330 x 102	Splice Bar, 10 in. Universal (Zinc)	50
QTPUS10BLK	4.00 x 13.00 x 4.00 102 x 330 x 102	Splice Bar, 10 in. Universal (Black)	50
QTP90TKIT	1.00 x 5.00 x 5.00 25 x 127 x 127	Includes: (2) 90° bends; (8) washers, (8) nuts, (8) bolts (Zinc)	1
QTP90TKITBLK	1.00 x 5.00 x 5.00 25 x 127 x 127	Includes: (2) 90° bends; (8) washers, (8) nuts, (8) bolts (Black)	1

### TRAPEZE HANGING CLIP



For trapeze hung QUICK TRAY PRO™ installations. Use with 1/4- or 3/8-in. threaded rod; obtain locally. Poly grommet retains tray in slot-unsnap to detach one side of tray for loading cables. Corrosion-resistant pre-galvanized finish.

**BULLETIN: DQT**

Catalog Number	AxBxC in./mm	Description	Pkg. Qty.
QTPTH	3.00 x 6.00 x 14.00 76 x 152 x 356	Trapeze Hanging Clips, Pre-galvanized	50
QTPTHBLK	3.00 x 6.00 x 14.00 76 x 152 x 356	Trapeze Hanging Clips, Black	50

### C-BRACKET



For QUICK TRAY PRO installations under ceiling or overhangs. Use with tray widths up to 12 in. (305 mm). To secure tray to bracket, use one QTPSSW3/QTPSSW3BLK Splice Washer and one QTPBNWK/QTPBNWKBLK Splice Kit on sizes up to 8 in. (203 mm); use two on 12-in. (305-mm) trays. Can be stacked for multi-level tray installations. Corrosion resistant plated finish.

**BULLETIN: DQT**

Catalog Number	AxBxC in./mm	Description	Finish	Tray Width in./mm
QTPCB4	8.00 x 1.00 x 4.00 203 x 25 x 102	C-Bracket	Pre-galvanized	4 102
QTPCB4BLK	8.00 x 1.00 x 4.00 203 x 25 x 102	C-Bracket	Black	4 102
QTPCB8	8.00 x 1.00 x 8.00 203 x 25 x 203	C-Bracket	Pre-galvanized	8 203
QTPCB8BLK	8.00 x 1.00 x 8.00 203 x 25 x 203	C-Bracket	Black	8 203
QTPCB12	8.00 x 1.00 x 12.00 203 x 25 x 305	C-Bracket	Pre-galvanized	12 305
QTPCB12BLK	8.00 x 1.00 x 12.00 203 x 25 x 305	C-Bracket	Black	12 305

### CENTER HANGERS



Use with up to 1/2-in. threaded rod (obtain locally). Only one rod needed to suspend tray. Snap-on attachment holds QUICK TRAY PRO cable tray secure without nuts and bolts. For use with 4- to 24-in. (102- to 610-mm) tray widths. Can be used for multiple-level installations; 1/2-in. threaded rod recommended. Corrosion-resistant plated finish.

**BULLETIN: DQT**

Catalog Number	AxBxC in./mm	Description	Finish	Tray Width in./mm
QTPCH4	7.50 x 4.00 x 1.00 191 x 102 x 25	Center Hanger	Pre-galvanized	4 102
QTPCH4BLK	7.50 x 4.00 x 1.00 191 x 102 x 25	Center Hanger	Black	4 102
QTPCH12	7.50 x 12.00 x 1.00 191 x 305 x 25	Center Hanger	Pre-galvanized	12 305
QTPCH12BLK	7.50 x 12.00 x 1.00 191 x 305 x 25	Center Hanger	Black	12 305
QTPCH24	7.50 x 24.00 x 1.00 191 x 610 x 25	Center Hanger	Pre-galvanized	24 610
QTPCH24BLK	7.50 x 24.00 x 1.00 191 x 610 x 25	Center Hanger	Black	24 610



## L-BRACKETS



L-Brackets mount directly to wall for overhead mounting. Corrosion-resistant plated finish. Fasten QUICK TRAY PRO™ to bracket with one QTPSSW3/QTPSSW3BLK Splice Washer and one QTPBNWK/QTPBNWKBLK Splice Kit on sizes up to 8 in. (203 mm); use two on 12-in. (305-mm) trays.

**BULLETIN: DQT**

Catalog Number	AxBxC in./mm	Description	Finish
QTPLB4	6.00 x 1.00 x 4.00 152 x 25 x 102	4-in. L-Bracket	Pre-galvanized
QTPLB4BLK	6.00 x 1.00 x 4.00 152 x 25 x 102	4-in. L-Bracket	Black
QTPLB8	6.00 x 1.00 x 8.00 152 x 25 x 203	8-in. L-Bracket	Pre-galvanized
QTPLB8BLK	6.00 x 1.00 x 8.00 152 x 25 x 203	8-in. L-Bracket	Black
QTPLB12	6.00 x 1.00 x 12.00 152 x 25 x 305	12-in. L-Bracket	Pre-galvanized
QTPLB12BLK	6.00 x 1.00 x 12.00 152 x 25 x 305	12-in. L-Bracket	Black

## REINFORCED WALL BRACKET



For heavy-duty QUICK TRAY PRO applications. Mounts on 1-5/8-in. wide metal channel. To secure tray to bracket, use one QTPSSW3/QTPSSW3BLK Splice Washer and one QTPBNWK/QTPBNWKBLK Splice Kit on sizes up to 8 in. (203 mm); use two on 12-in. (305-mm) and wider trays. Made of plated steel for corrosion resistance.

**BULLETIN: DQT**

Catalog Number	AxBxC in./mm	Description	Finish	Width in./mm
QTPRWB4	3.00 x 1.00 x 4.00 76 x 25 x 102	Reinforced Wall Bracket	Pre-galvanized	4 102
QTPRWB4BLK	3.00 x 1.00 x 4.00 76 x 25 x 102	Reinforced Wall Bracket	Black	4 102
QTPRWB6	3.00 x 1.00 x 6.00 76 x 25 x 152	Reinforced Wall Bracket	Pre-galvanized	6 152
QTPRWB6BLK	3.00 x 1.00 x 6.00 76 x 25 x 152	Reinforced Wall Bracket	Black	6 152
QTPRWB8	4.00 x 1.00 x 8.00 102 x 25 x 203	Reinforced Wall Bracket	Pre-galvanized	8 203
QTPRWB8BLK	4.00 x 1.00 x 8.00 102 x 25 x 203	Reinforced Wall Bracket	Black	8 203
QTPRWB12	6.00 x 1.00 x 12.00 152 x 25 x 305	Reinforced Wall Bracket	Pre-galvanized	12 305
QTPRWB12BLK	6.00 x 1.00 x 12.00 152 x 25 x 305	Reinforced Wall Bracket	Black	12 305
QTPRWB16	9.00 x 1.00 x 16.00 229 x 25 x 406	Reinforced Wall Bracket	Pre-galvanized	16 406
QTPRWB16BLK	9.00 x 1.00 x 16.00 229 x 25 x 406	Reinforced Wall Bracket	Black	16 406
QTPRWB18	3.00 x 8.00 x 3.00 76 x 203 x 76	Reinforced Wall Bracket	Pre-galvanized	18 457
QTPRWB18BLK	3.00 x 8.00 x 3.00 76 x 203 x 76	Reinforced Wall Bracket	Black	18 457
QTPRWB20	9.00 x 1.00 x 20.00 229 x 25 x 508	Reinforced Wall Bracket	Pre-galvanized	20 508
QTPRWB20BLK	9.00 x 1.00 x 20.00 229 x 25 x 508	Reinforced Wall Bracket	Black	20 508
QTPRWB24	9.00 x 1.00 x 24.00 229 x 25 x 610	Reinforced Wall Bracket	Pre-galvanized	24 610
QTPRWB24BLK	9.00 x 1.00 x 24.00 229 x 25 x 610	Reinforced Wall Bracket	Black	24 610



### DIVIDER STRIP



For wire separation within a single QUICK TRAY PRO™ cable tray. 5-ft. (1.5-m) long strips are available in 2-, 4- and 6-in. (51-, 102- and 152-mm) heights. To secure divider strips to tray, use QTPSSW3/QTPSSW3BLK Splice Washer and QTPBNWK/QTPBNWKBLK Splice Kit for each strip.

**BULLETIN: DQT**

Catalog Number	AxBxC in./mm	Description	Finish	Tray Height in./mm
QTPDS2	2.00 x 1.00 x 60.00 51 x 25 x 1524	Divider Strip	Pre-galvanized	2 51
QTPDS2BLK	2.00 x 1.00 x 60.00 51 x 25 x 1524	Divider Strip	Black	2 51
QTPDS4	4.00 x 1.00 x 60.00 102 x 25 x 1524	Divider Strip	Pre-galvanized	4 102
QTPDS4BLK	4.00 x 1.00 x 60.00 102 x 25 x 1524	Divider Strip	Black	4 102
QTPDS6	6.00 x 1.00 x 60.00 152 x 25 x 1524	Divider Strip	Pre-galvanized	6 152
QTPDS6BLK	6.00 x 1.00 x 60.00 152 x 25 x 1524	Divider Strip	Black	6 152

### SIDE-ACTION BOLT CUTTER

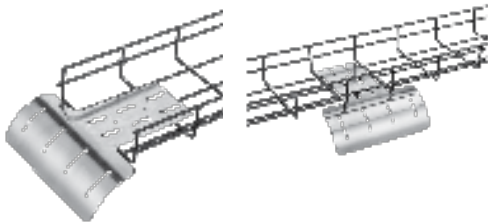


The QUICK TRAY PRO Side-Action Bolt Cutter insures a flush cut and helps create a protective coating for the new cut.

**BULLETIN: DQT**

Catalog Number	AxBxC in./mm	Description
QTPBC	12.00 x 1.00 x 0.50 305 x 25 x 13	Side Action Bolt Cutter

### VERTICAL DOWN



The QUICK TRAY PRO Vertical Down protects cables when exiting and entering tray. Built-in hold down method for side mount. Attached with 1/4 in. hardware for center mount.

**BULLETIN: DQT**

Catalog Number	AxBxC in./mm	Description	Finish
QTPVD	1.00 x 8.00 x 11.00 25 x 203 x 279	Vertical Down	Pre-galvanized
QTPVDBLK	1.00 x 8.00 x 11.00 25 x 203 x 279	Vertical Down	Black



### WALL-TERMINATION BRACKET



Fastens the end of QUICK TRAY PRO™ cable tray to a wall. Attach to tray with QTPSSW3/QTPSSW3BLK Splice Washers and QTPBNWK/QTPBNWKBLK Splice Kits.

**BULLETIN: DQT**

Catalog Number	AxBxC in./mm	Description	Finish
QTPWTB	3.00 x 12.00 x 3.00 76 x 305 x 76	Wall-Termination Bracket, 12 in. (305 mm)	Pre-galvanized
QTPWTBBLK	3.00 x 12.00 x 3.00 76 x 305 x 76	Wall-Termination Bracket, 12 in. (305 mm)	Black

### POLYMER INSERT



Polymer inserts provide continuous support for the cables when used as a tray liner. This flame retardant polymer material is prescored at the factory to fit in all standard width QUICK TRAY PRO cable trays. Easy to cut and sold in 40-foot (12 meters) roll.

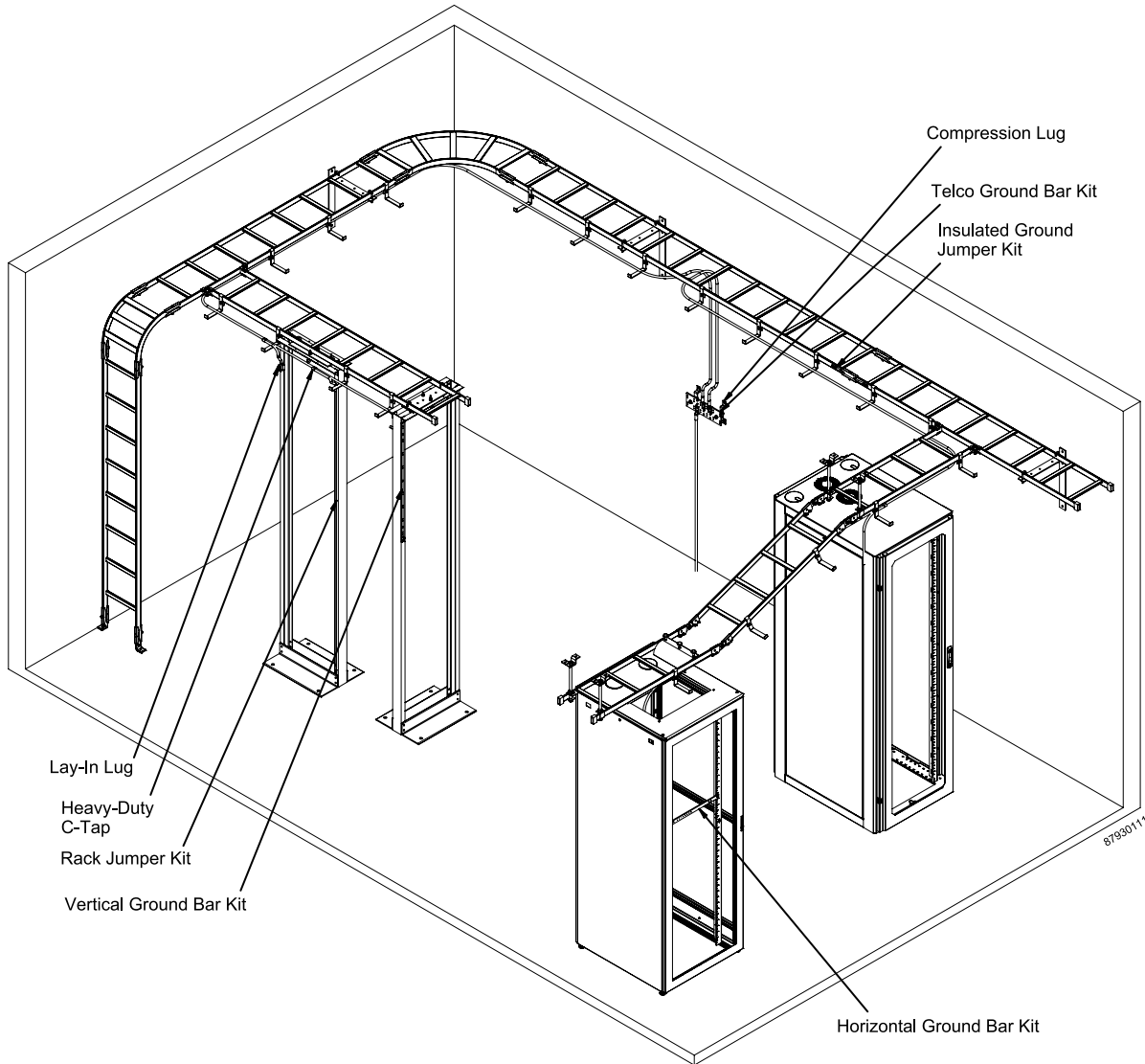
**BULLETIN: DQT**

Catalog Number	Description	Tray Width in./mm
QTP4INST	4 x 40-foot roll (102 x 12,197-mm) Polymer Insert	4 102
QTP6INST	6 x 40-foot roll (152 x 12,197-mm) Polymer Insert	6 152
QTP8INST	8 x 40-foot roll (203 x 12,197-mm) Polymer Insert	8 203
QTP12INST	12 x 40-foot roll (305 x 12,197-mm) Polymer Insert	12 305
QTP16INST	16 x 40-foot roll (406 x 12,197-mm) Polymer Insert	16 406
QTP18INST	18 x 40-foot roll (457 x 12,197-mm) Polymer Insert	18 457
QTP20INST	20 x 40-foot roll (508 x 12,197-mm) Polymer Insert	20 508
QTP24INST	24 x 40-foot roll (610 x 12,197-mm) Polymer Insert	24 610

## Notes



## BONDING AND GROUNDING OVERVIEW



### INDUSTRY STANDARDS

Ground Bar Kits:

UL 467 Listed  
 cUL Listed per CSA C22.2 No. 41  
 File No. E319377

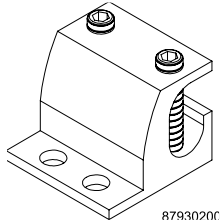
### APPLICATION

These components meet open frame rack and cabinet bonding and grounding requirements for telecommunication room and data center applications.

### FEATURES

- Components specially designed to efficiently facilitate reliable connections
- Enable system to meet equipment manufacturer grounding requirements
- Components fit EIA 310-D-rated open frame racks

**LAY-IN LUG**



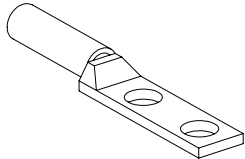
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Dual-rated, UL486B listed lay-in lug bonds end of cable securely to rack. Made of electroplated 6061-T6 aluminum. Requires 3/16-in. hex key (not included).

**BULLETIN: DBG**

Catalog Number	For Cable Size Range	Size (in.)	Size (mm)	Pkg. Qty.
DGLG	#14 AWG to 2/0	1.75 x 1.50	44 x 38	10

**COMPRESSION LUGS**



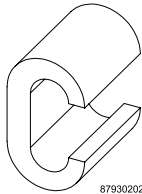
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Compression lugs terminate copper or tinned-copper conductors for connection to busbars, cabinets, racks, and cable runway. Color-coded by conductor size. Made of electroplated, tinned copper. Require two screws (not included).

**BULLETIN: DBG**

Catalog Number	Cable Size (#)	On-Center Dimension Between Holes	Required Screw Size	Color Code	Pkg. Qty.
DGCL61	6	.625	1/4	Blue	10
DGCL62	6	1.00	3/8	Blue	10
DGCL21	2	.625	1/4	Brown	10
DGCL22	2	1.00	3/8	Brown	10
DGCL201	2/0	1.00	3/8	Black	10
DGCL402	4/0	1.00	3/8	Purple	10

**HEAVY-DUTY C-TAPS**



87930202

C-Taps splice two stranded or solid connectors together. Made of copper. Require a crimping tool (not included) to correctly tighten C-Taps around connectors.

**BULLETIN: DBG**

Catalog Number	Conductor Run	Conductor Tap	Pkg. Qty.
DGT1	#2 stranded or solid	#4 stranded, #8 solid	10
DGT2	#2 stranded or solid	#2 stranded or solid	10



## TELECOMMUNICATIONS GROUND BAR KITS

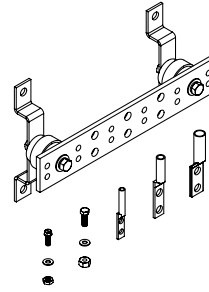
Provide a convenient central location for connecting grounds from telecommunications equipment, computers, and other data center equipment. Made of copper. Kits include ground bar with two mounting brackets, an assortment of connectors, and a tube of antioxidant.

### BULLETIN: DBG

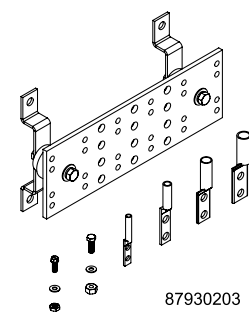
Standard Product

Catalog Number	Bar Size in./mm	No. of 5/16-in. Hole Sets	No. of 7/16-in. Hole Sets
DGTB212	2.00 x 12.00 x .25 51 x 305 x 6	6	3
DGTB216	2.00 x 16.00 x .25 51 x 406 x 6	8	3
DGTB412	4.00 x 12.00 x .25 102 x 305 x 6	12	6
DGTB420	4.00 x 20.00 x .25 102 x 508 x 6	24	6

2-inch Wide Bar



4-inch Wide Bar

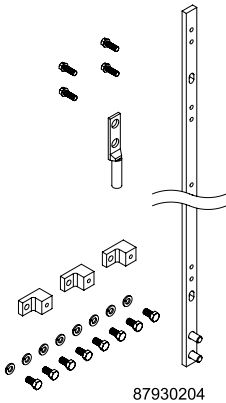


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### Compression Lugs Included with Ground Bar Kits

Catalog Number	#6 Wire Size (DGCL61)	#2 Wire Size (DGCL22)	#2/0 Wire Size (DGCL201)	#4/0 Wire Size (DGCL402)
DGTB212	6 lugs	3 lugs	1 lug	0
DGTB216	6 lugs	3 lugs	1 lug	0
DGTB412	6 lugs	3 lugs	1 lug	1 lug
DGTB420	6 lugs	3 lugs	1 lug	1 lug

## VERTICAL GROUND BAR KITS



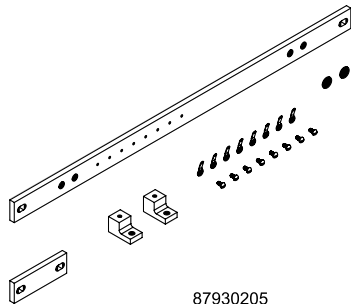
87930204

Mount vertically on rack, providing a convenient place to connect equipment grounds. Made of electrolytic tough-pitch 110 copper alloy. Kits include ground bar with compression lug for #2 wire, connection hardware, and mounting hardware.

### BULLETIN: DBG

Catalog Number	Bar Size (in.)	Bar Size (mm)
DG36	36.00 x .625 x .25	914 x 16 x 6
DG72	72.00 x .625 x .25	1829 x 16 x 6

## HORIZONTAL GROUND BAR KITS



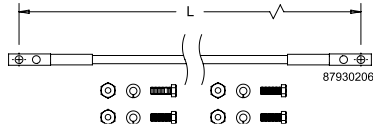
87930205

Mount horizontally on rack, providing a convenient place to connect equipment grounds. Made of electrolytic tough-pitch 110 copper alloy. Kits include ground bar with mounting hardware, eight #6-32 x 14 machine screws, and eight #6 ring terminals.

### BULLETIN: DBG

Catalog Number	Bar Size (in.)	Bar Size (mm)
DG19	1.00 x 19.25 x .25	25 x 489 x 6
DG23	1.00 x 23.25 x .25	25 x 591 x 6

**INSULATED GROUND JUMPER KIT**



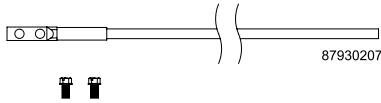
Fastens across splices to provide a secure ground between sections of ladder rack. Made of #6 AWG x 7 strand wire with green THW insulation and two-hole compression lugs mounted on each end. Includes fasteners.

**BULLETIN: DBG**

Catalog Number	Conductor Type	L (in.)	L (mm)
DGJ	#6-7 Stranded	12.00	305

cULus requires 2 kits per splice on all painted ladder sections

**RACK JUMPER KIT**



Grounds rack or cabinet to common bonding network under floor or overhead. Made of #6 AWG x 7 strand wire with green THW insulation and two-hole compression lug mounted on one end. Includes fasteners.

**BULLETIN: DBG**

Catalog Number	Conductor Type	Length (ft.)	Length (m)
DGRJ	#6-7 stranded	9	2.7



*Hoffman*

# CHAPTER 7 SEISMIC PRODUCTS



## FEATURED PRODUCTS

### SEISMIC ENCLOSURES

Seismic-rated enclosures provide the required frame strength and rigidity to withstand environments that are subject to vibration and other motion that can over-stress equipment framework, components and connections. Ideal applications include areas where earthquake activity is possible, power plants, railroads and airports.

### SEISMIC CABINETS

Seismic cabinets protect LAN and WAN network equipment, servers and phone/voicemail during Zone 4 seismic activity, or in areas with high vibration or high load capacities. Cabinets are Telcordia GR-63 CORE Zone 4 tested and meet California Building Code (CBC) requirements.







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### SEISMIC RACKS

Seismic 2-Post Open Frame Rack ..... 204

Seismic 4-Post Open-Frame Rack ..... 206



### SEISMIC RACKS

Seismic racks, available in 2- and 4-post open frame rack configurations, ensure reliable protection in environments that are subject to seismic activity or vibration, in addition to other applications that require increased strength due to static and dynamic loading.



## SEISMIC ENCLOSURES PROVIDE AN EXTRA MEASURE OF PROTECTION

The use of seismic-rated enclosures is recommended in areas where earthquake activity is possible. In addition, power plants, railroads, airports and other installations use rack-mounted electrical and electronic equipment that is subjected to vibration and other motion that can over-stress equipment framework, components and connections. Adequate enclosure frame strength and rigidity are necessary under these conditions.

### Seismic Enclosure Standards

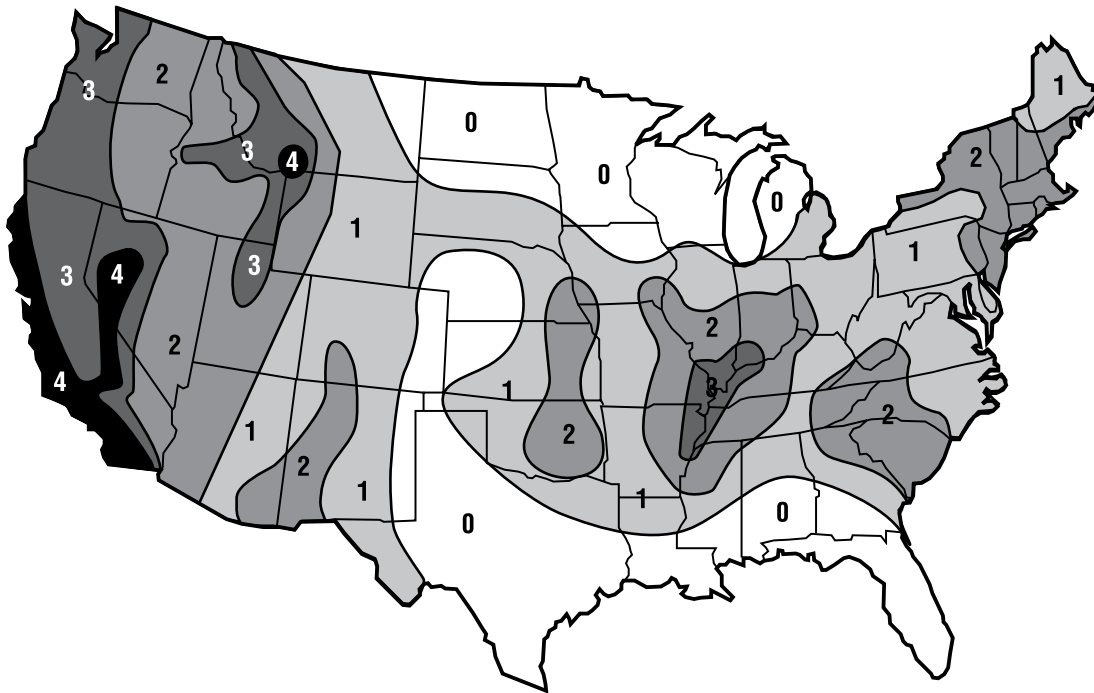
Industry standards define global geographical areas as earthquake-risk Zones. Referring to the seismic Zone map below, Zones are numbered from 0 to 4 with Zone 4 corresponding to the highest risk areas. Geographic areas designated as Zone 0 present no substantial earthquake risk.

### Conditions Other Than Earthquakes

Equipment may need to withstand the effects of movement or vibration in areas close to railways, airports, power plants and other areas subject to similar conditions.

7

Telcordia Seismic Zones (U.S.)



**Zone 4 is the highest risk area, Zone 3 the next highest, and so on. Zone 0 has no earthquake requirements.**

**Hoffman Seismic Products**

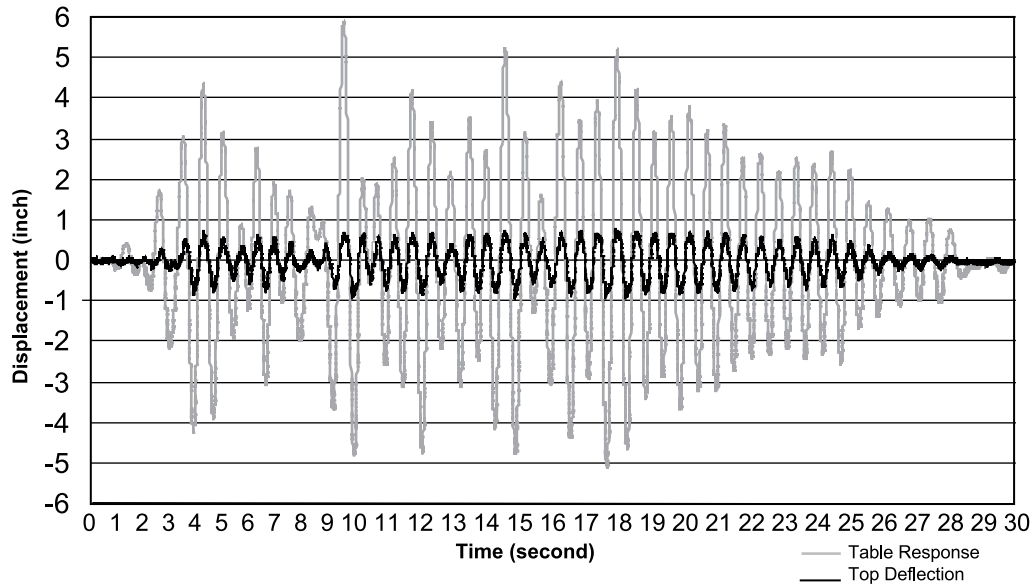
Hoffman performance-tests its seismic products according to Telcordia (formerly Bellcore) GR-63-CORE Network Equipment Building System (NEBS™) requirements for physical protection. These enclosures can also be manufactured to comply with all applicable national and international standards, such as the Uniform Building Code (UBC) and the International Electrotechnical Commission (IEC). Contact Telcordia, UBC and IEC for more information.

**Seismic Certification**

A Telcordia GR-63-CORE compliant test must be conducted by a Nationally Recognized Testing Laboratory (NRTL) or other recognized independent laboratory before certification will be issued. This test is conducted on an installation-specific basis with customer-installed equipment and cabling mounted inside the enclosure. In other cases or in addition to, a licensed structural engineer must certify the installation. Contact Hoffman for more information or for assistance in coordinating testing.



Enclosure mounted on shaker table



Time-motion history generated in front to back seismic enclosure test

NEBS™ IS A TRADEMARK OF TELCORDIA.

**SEISMIC CABINET**


7

**INDUSTRY STANDARDS**

NEBS™ -Telcordia GR-63-CORE Zone 4: Tested with 1000 lb. (453.6 kg) of equipment installed and 100 lb. (45.4 kg) of simulated cable weight on the top.  
 Meet California Building Code (CBC) requirements  
 EIA 310-D

*NEBS is a trademark of Telcordia*

**APPLICATION**

Seismic Cabinets protect LAN and WAN network equipment, servers and phone/voice mail equipment during Zone 4 seismic activity, and are also ideal for use in high vibration areas or areas with high load capacities. The cabinet's passive cooling design can be augmented with optional fans.

**FEATURES**

- ENC2189S can be configured for 19- or 23-in. rack mounting by reversing the rack angles
- Both front and rear doors are hinged left and equipped with keylock flush handle and 3-point latching
- Same key provides access to all doors and side panels
- Doors and side panels are removable for easier equipment installation and upgrades
- Doors and side panels inset flush with frame
- Vented, heavy gauge steel base is designed to bolt to floor with seismic-rated fasteners

**SPECIFICATIONS**

- Heavy gauge welded steel frame with six rack angle mounting struts
- Includes two sets of painted L-shaped rack angles with holes per EIA spacing (5/8 in. x 5/8 in. x 1/2 in.)
- Holes are either 10-32 tapped or square, depending on model
- Top has two cable entry ports with caps and grommets and two fan-ready cutouts with finger guards
- Smoke gray acrylic window in reinforced front door
- Louvers on lower 1/3 of rear door

**FINISH**

RAL 9005 textured low-gloss black polyester powder paint coating inside and out

**LOAD RATING**

Dynamic: 1100 lb. (499 kg)  
 Static: 2500 lb. (1134 kg)

For higher loads, contact Hoffman. Static load has a safety factor of 4 applied.

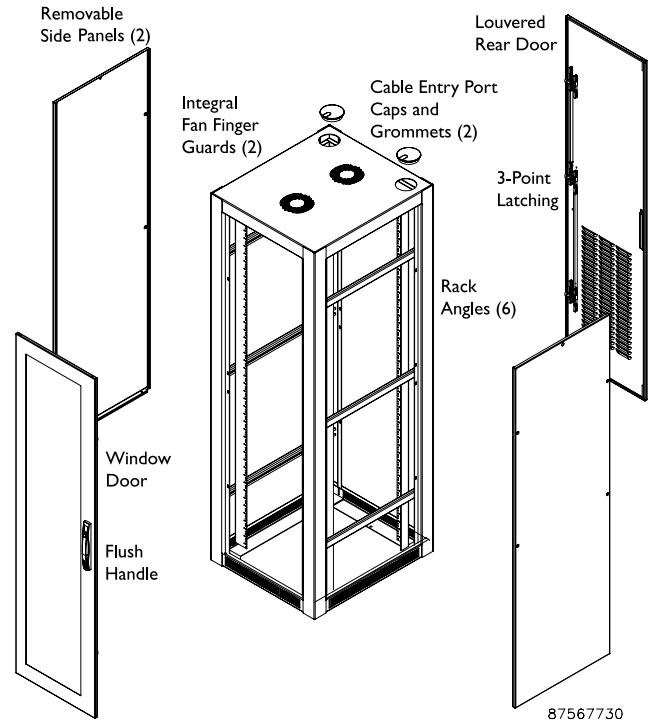
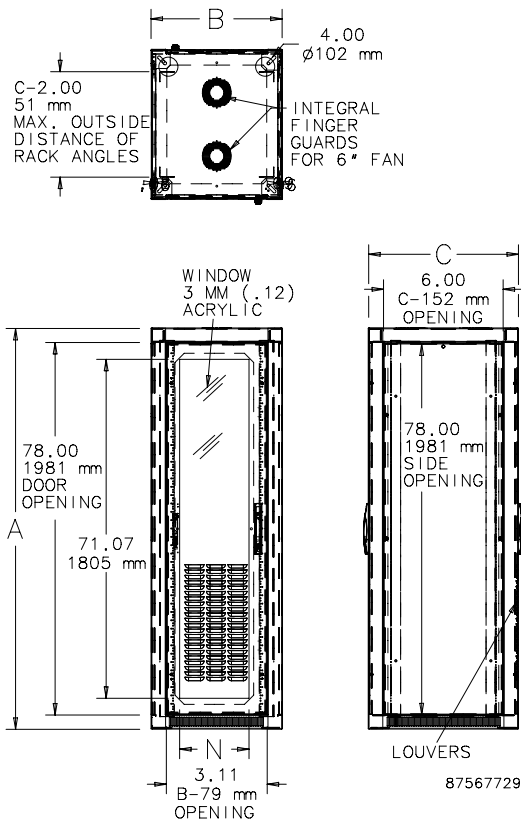
**ACCESSORIES**

ESBDK 3/8-in. Concrete Expansion bolt Anchor Kit, package of four Also, most 19- and 23-in. rack accessories can be used with the seismic cabinets.

**BULLETIN: DNCS**
**Standard Product Seismic Cabinets**

Catalog Number	AxBxC in.	AxBxC mm	Description	Rack Units	N (in.)	N (mm)	Rack Angle Hole Type	Additional Rack Angles
ENC2178S	84.02 x 27.56 x 31.50	2134 x 700 x 800	19-in. cabinet	45	16.40	417	Tapped	ERA1921TPL
ENC2189S	84.02 x 31.50 x 35.43	2134 x 800 x 900	19- or 23-in. cabinet	45	20.40	517	Tapped	ERA192321TPL
ENC21710S	2135.00 x 700.00 x 1000.00	54229 x 17780 x 25400	19-in. cabinet	45	16.40	417	Square	--
ENC21712S	2135.00 x 700.00 x 1200.00	54229 x 17780 x 30480	19-in. cabinet	45	16.40	417	Square	--

Rack angles on 23-in. cabinet can be reversed to accommodate 19- or 23-in. rack accessories.

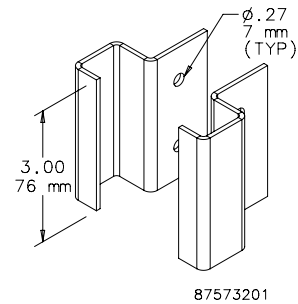


**SEISMIC CABINET JOINING KIT**

Allows two network cabinets to be joined together. Requires removal of side covers on both joined cabinets. Brackets are used in pairs. Includes eight brackets and mounting brackets.

BULLETIN: DNCY

Catalog Number	Description
ENCJK	Seismic Cabinet Joining Kit

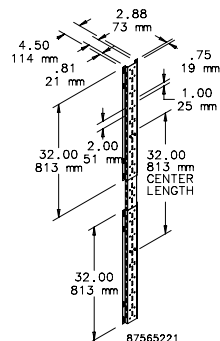


**VERTICAL CABLE MANAGER 2**

For routing and bundling cables. Mounts vertically to grid straps or to mounting channels. Three-piece kit adjusts to fit rack height and eliminates need for center grid strap. 16 gauge steel with RAL 9005 black polyester powder paint finish. Includes 10 black 8 in. (203mm) long Velcro™ cable wraps.

BULLETIN: DPY

Catalog Number	Description
PVCM2	Vertical Cable Manager 2



## SEISMIC 2-POST OPEN FRAME RACK



### APPLICATION

Designed for applications affected by vibrations and seismic activity, Seismic 2-Post Open Frame Racks integrate cable management into a fully welded, heavy gauge steel frame. Used in communication data center and telecommunication room applications, racks can be ganged with standard 2- or 4-post racks to expand existing systems.

### FEATURES

- Nominal height is 7 ft. (2.13 m) (45U)
- Fits 19-in. rack-mount equipment
- Side rails are tapped on both sides with 12-24 UNC threads for quick installation
- EIA Universal 5/8 - 5/8 - 1/2 in. vertical mounting-hole pattern matches industry standards and connects to most competitive racks
- Integral front waterfall top
- Pre-drilled holes on top to ease runway installation
- Top and bottom cable entry cutouts
- Ground provision with ground symbol
- Full complement of matching components for equipment and cable management

### SPECIFICATIONS

- Rack is 10-gauge steel, fully welded for maximum rigidity

### FINISH

RAL 9005 black low-gloss polyester powder paint

### LOAD RATING

Dynamic: 500 lb. (227 kg)

Static: 2500 lb. (1134 kg)

For higher loads, contact Hoffman. Static load has a safety factor of 4 applied.

**BULLETIN: DOFRS**

### INDUSTRY STANDARDS

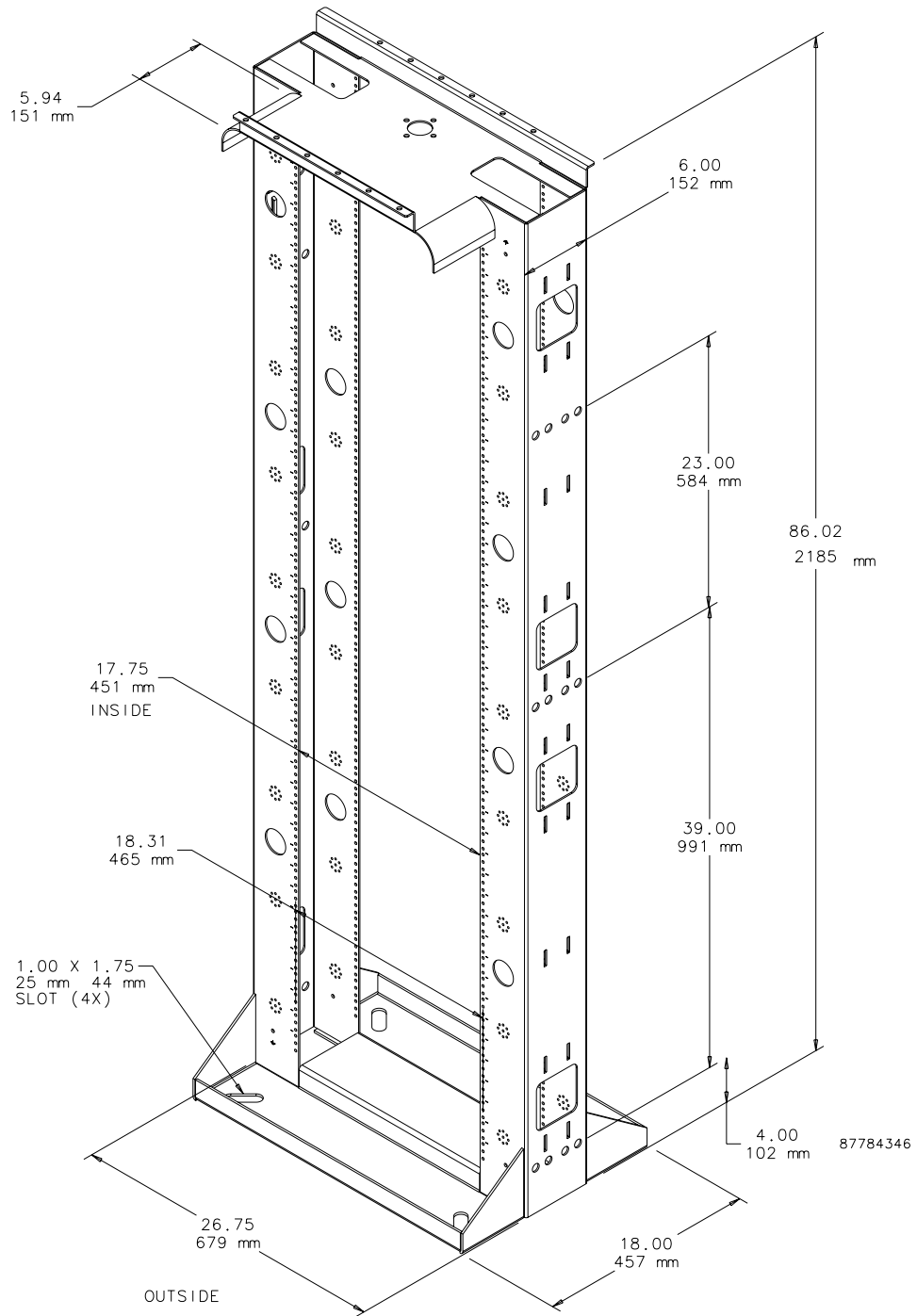
UL 1863 Listed; File No. E230874,  
2500 lb. (1134 kg) rated load  
cUL Listed per CSA C22.2 No. 182.4; File No. E230874

OSHDP Approved OPA-2435-07 (750 lb.)

NEBS™ -Telcordia GR-63-CORE Zone 4: Tested with 500 lb. (226.8 kg) of equipment installed  
Meets California Building Code (CBC) requirements  
EIA 310-D  
*NEBS is a trademark of Telcordia*

### Standard Products

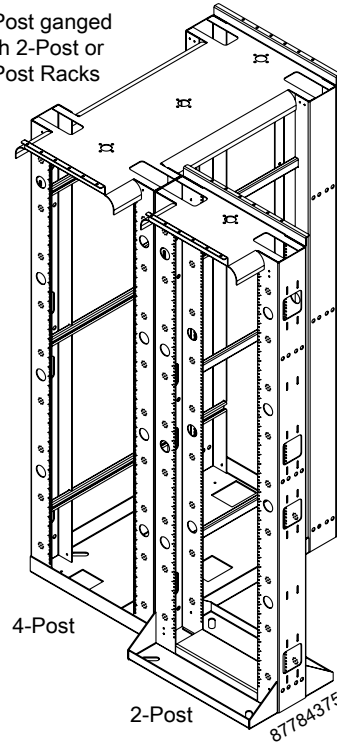
Catalog Number	AxBxC in.	AxBxC mm	Rack Units
ESDR19FM45U	86.02 x 26.75 x 18.00	2185 x 679 x 457	45



## SEISMIC 4-POST OPEN-FRAME RACK



4-Post ganged  
with 2-Post or  
4-Post Racks



7

### INDUSTRY STANDARDS

UL 1863 Listed; File No. E230874, 2500 lb. (1134 kg) rated load  
cUL C22.2 No. 182.4 Listed; File No. E230874

NEBS™ -Telcordia GR-63-CORE Zone 4: Tested with 1000 lb. (453.6 kg) of equipment installed  
Meet California Building Code (CBC) requirements  
EIA 310-D  
*NEBS is a trademark of Telcordia*

### APPLICATION

Seismic 4-Post Open Frame Racks combine the mounting security of a cabinet with the accessibility of a rack. Used in communication data center and telecommunication room applications that are subject to seismic activity or vibration, these adjustable-depth racks support deeper, heavier network equipment and can be ganged with standard 2-post or other 4-post racks to expand existing systems.

### FEATURES

- EIA universal 5/8 - 5/8 - 1/2 in. spaced square holes fit 19-in. rack equipment and accessories
- Rear rack angle adjustable 0 to 39.09 in. (0 to 993 mm)
- Nominal height is 7 ft. (2.1 m)
- Can be ganged with both 2- and 4- post open frame racks
- Integral front waterfall top
- Pre-drilled holes on top to ease runway installation
- Top and bottom cable entry cutouts
- Ground provision with ground symbol
- Full complement of matching components for equipment and cable management

### SPECIFICATIONS

- Rack is 10-gauge steel, fully welded for maximum rigidity

### FINISH

RAL 9005 smooth black low-gloss polyester powder paint

### LOAD RATING

Dynamic: 1000 lb. (454 kg)

Static: 2500 lb. (1134 kg)

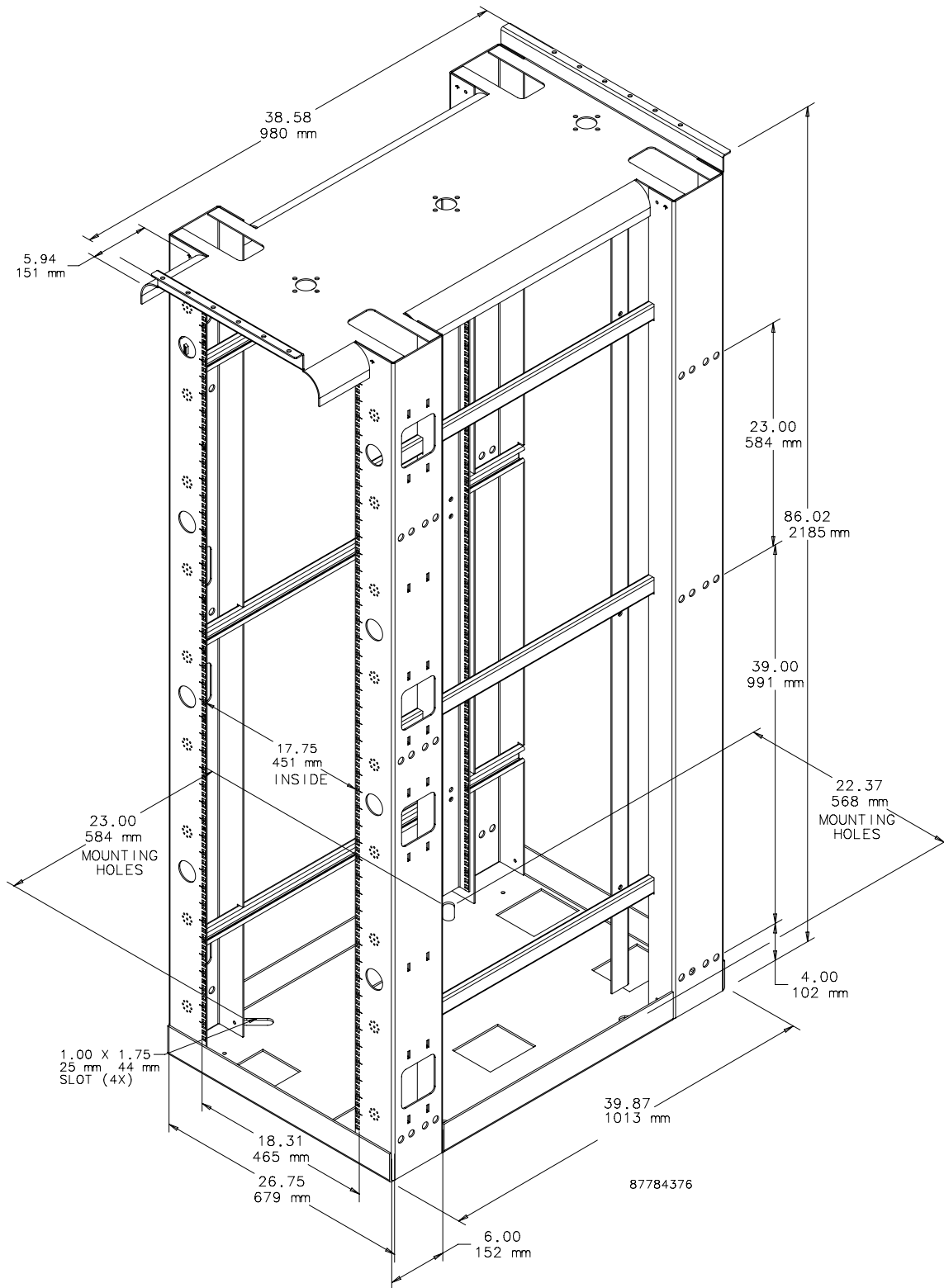
For higher loads, contact Hoffman. Static load has a safety factor of 4 applied.

### BULLETIN: DOFRS

Standard Product

Catalog Number	AxBxC in.	AxBxC mm	Rack Units
E4SDR19FM45U	86.02 x 26.75 x 39.87	2185 x 679 x 1013	45

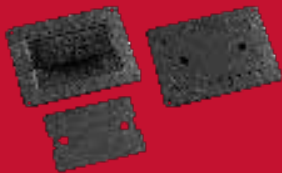




*Hoffman*

# CHAPTER 8 COOLING

## FEATURED PRODUCTS



### DATA CENTER FLOOR BRUSH KITS

Floor brush kits provide convenient, safe passage of cables from under a data center raised floor into a cabinet or rack. Overlapping brushes block cold air flow, improving data center efficiency and reducing operating costs. Available in 2- and 1-piece configurations.

### FAN TRAYS

Fan trays enhance the natural convection airflow within a cabinet when installed with other 19-in. rack-mounted equipment. Fan trays are available with quiet, 4-in. or 6-in. cooling fans with optional fan speed controls to adjust fan speed or airflow.



### COMPACT COOLING FANS

When enclosure space is limited and quiet, reliable cooling is required, compact cooling fans provide the ideal solution. Fans are engineered for 50,000 hours of continuous operation without lubrication or service.



## CHAPTER CONTENTS

### DATA CENTER FLOOR BRUSH KITS

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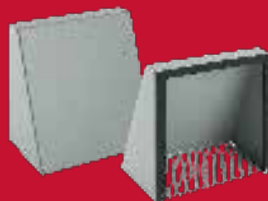
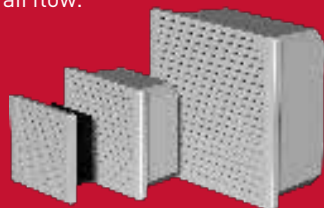
### FAN SHROUD KIT

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### COOLING FAN AND EXHAUST PACKAGES

Cooling fan and exhaust packages are designed for limited-space enclosures that require a reliable and filtered airflow.



### FAN SHROUD KITS

Fan shroud kits protect outdoor enclosure openings from rain, sleet and snow.

## DATA CENTER FLOOR BRUSH KITS



### INDUSTRY STANDARDS

Designed to meet the following standards:

- Flame resistant VO rating per ANSI/UL94 ("Tests for Flammability of Plastic Material for Parts in Devices and Appliances")
- RoHS compliant
- 2008 NEC code compliant with requirements of Article 645.5 (D) (5)
- NFPA 75 Section 5-4.4
- Hoffman is an ISO 9001 company

### APPLICATION

These Floor Brush Kits provide convenient, safe passage of cables from under a data center raised floor into a cabinet or rack. The overlapping brushes conform around the cables and block the flow of cold air. This improves data center efficiency and reduces operating costs by minimizing or eliminating up to 90 percent of cold air leakage through the raised floor cutout.

### FEATURES

- Blocks up to 90 percent of cold air leakage around power and data cables
- Flush mounts provide a low profile and grommet to raised-floor panel cutouts (required by NEC and NFPA)
- Surface mount provides an easy-to-use retrofit to existing raised-floor cutouts

- Adjustable flush mount provides an extra-large cable capacity and can be cut to size to fit the application
- Overlapping bristles conform around data and power cables to minimize air leakage through raised floor and improve overall data center cooling efficiency
- Reduction of cold air loss through raised-floor plenums helps to increase under floor static pressure
- Cover provides protection during build out
- Smooth, rounded low-profile flush mount edges protect cables from sharp raised-floor edges
- Two-piece surface mount and adjustable floor brush kits have self-sticking adhesive to expedite installation
- Raised-floor tiles need not be removed for installation
- Brush kits can also be used on cabinets or other locations that need to provide cable egress and prevent air leakage or contaminants from entering
- Self-tapping screws included

### SPECIFICATIONS

- ABS polycarbonate housing
- Nylon polymer bristles
- EPDM gasket

### FINISH

Black finish inside and out

### Cable Fill for Data Center Floor Brush Kits

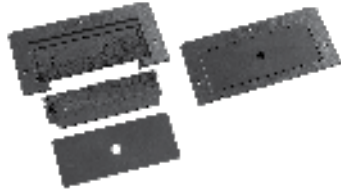
Cable Category	5e	6	6A
Diameter (in.)	.22	.25	.30
Area (in. <sup>2</sup> )	.0380	.0491	.0707

### Cable Area and Fill

Catalog Number	Usable Cable Area		No. Cables at 60% Fill		
	D x E (in.)	Area (in. <sup>2</sup> )	5e	6	6A
DFB410F	9.25 x 3.00	27.75	438	339	235
DFB57F	7.49 x 4.86	36.40	575	445	309
DFB66S	7.00 x 6.25	43.75	691	535	371
DFBA1024F	23.50 x 9.19	215.97	3409	2639	1833

DFBA1024F - at maximum size.

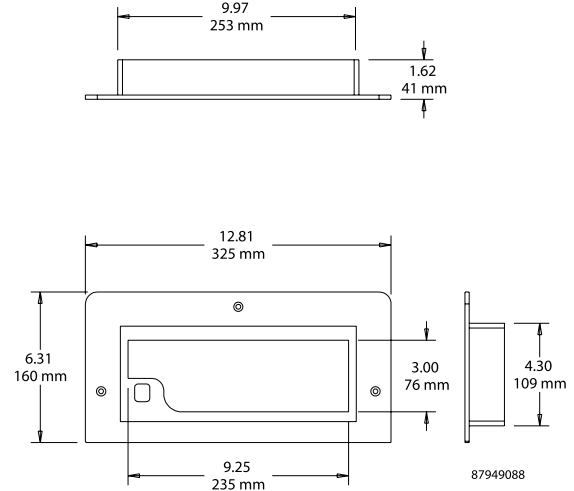
### 2-PIECE FLUSH-MOUNT FLOOR BRUSH KIT WITH COVER



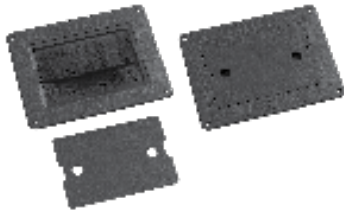
Use Flush-Mount Floor Brush Kit with removable brush and solid cover for new installations. Install two kits when large bundles of cables are needed. Removable back brush allows floor tile removal without disconnecting cables. There's no need for an oversized cutout because the removable back brush allows large connectors to pass through the grommet. Removable solid safety cover allows installation of the grommet during the construction phase and eliminates the risk of injury by stepping through the grommet opening. OSHA jobsite standards require open holes in floor panels to be covered. **NEC, UL and NEMA require safety covers and cable protection against sharp edges.**

BULLETIN: DACCY

Catalog Number	Description	Max. H x W x D in./mm	Cable Egress in./mm
DFB410F	Flush-Mount Floor Brush with cover and removable brush	6.31 x 12.81 x 1.62 160 x 325 x 41	3.50 x 9.50 89 x 241



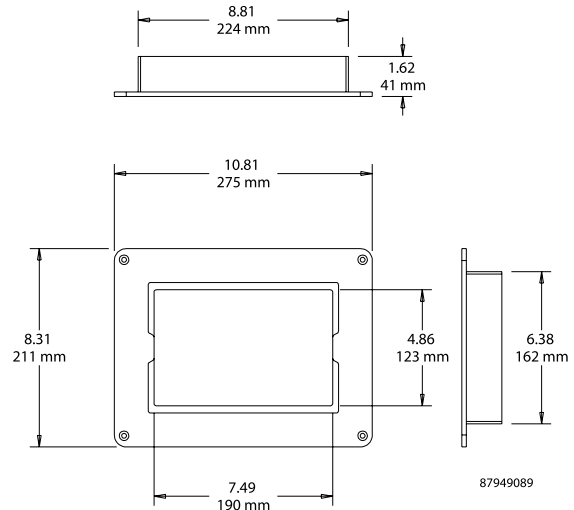
### 1-PIECE FLUSH-MOUNT FLOOR BRUSH KIT WITH COVER AND TWO-STAGE SEALING



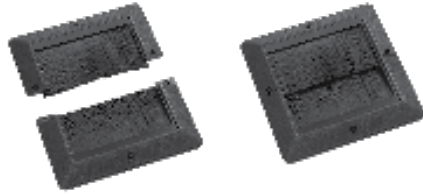
Flush-Mount Floor Brush Kit with Cover is a heavy-duty two-stage sealing system. Brush and EPDM gasket provide the most effective air seal. Heavy-duty, integrated safety cover allows installation of the grommet during the construction phase and eliminates the risk of injury by stepping through the grommet opening. OSHA jobsite standards require open holes in floor panels to be covered. Easy-to-install system integrates with the access floor static dissipative system. **NEC, UL and NEMA require safety covers and cable protection against sharp edges.**

BULLETIN: DACCY

Catalog Number	AxBxC in./mm	Description	Cable Egress in./mm
DFB57F	8.31 x 10.81 x 1.62 211 x 275 x 41	Flush-Mount Floor Brush Kit with Cover	7.49 x 4.86 190 x 123



### 2-PIECE SURFACE-MOUNT RETROFIT FLOOR BRUSH KITS

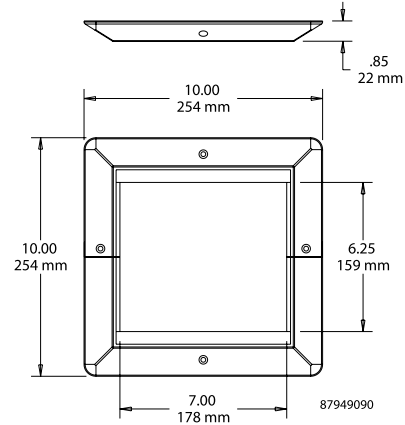


Use Surface-Mount Floor Brush Kits to cover existing floor cutouts. Two-piece assembly retrofits around existing cables without disconnecting the cables. Mounting hardware and adhesive included.

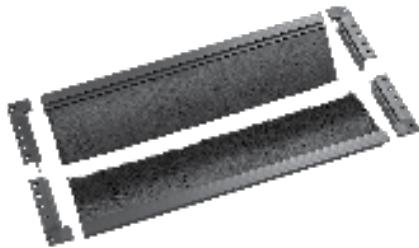
**NEC, UL and NEMA require safety covers and cable protection against sharp edges.**

BULLETIN: DACCY

Catalog Number	AxBxC in./mm	Description	Cable Egress in./mm
DFB66S	10.00 x 10.00 x 0.85 254 x 254 x 22	Surface-Mount Floor Brush Kit	6.50 x 6.50 165 x 165



### ADJUSTABLE FLOOR BRUSH KITS

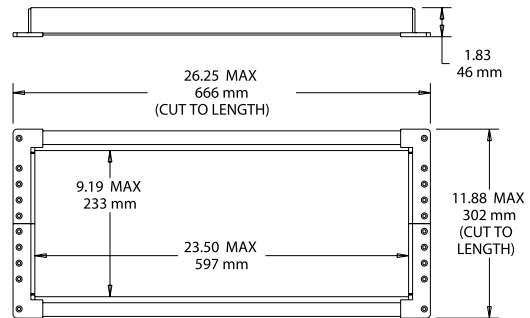


Use Floor Brush Kits to seal odd-sized cutouts. Cut-to-fit design is easy to install with factory-applied adhesive strips. Engineered side rail clips provide cable protection per NFPA 75, Section S-4.4.

**NEC, UL and NEMA require safety covers and cable protection against sharp edges.**

BULLETIN: DACCY

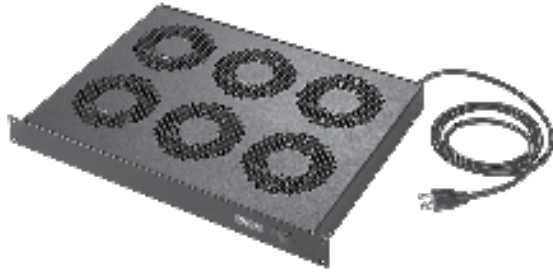
Catalog Number	Description	Max. H x W x D in./mm	Cable Egress in./mm
DFBA1024F	Adjustable Floor Brush Kit	11.88 x 26.25 x 1.83 302 x 667 x 46	9.75 x 24.00 248 x 610



87949091



**RACK-MOUNTABLE 19-IN. FAN TRAY**



**FEATURES**

- Fan trays available with either three or six 4-in. fans
- Includes 72-in. (1829-mm) power cord with IEC 320 standard power socket
- Power cord plugs into standard 115 VAC outlet
- Lighted rocker switch provides on-off control and indicates when fans are on

**FINISH**

RAL 9005 black, lightly textured polyester powder paint

**ACCESSORIES**

Rack mounting hardware

**BULLETIN: DTHRM**

**APPLICATION**

Fan trays enhance the natural convection airflow within a cabinet when installed with other 19-in. rack-mount equipment.

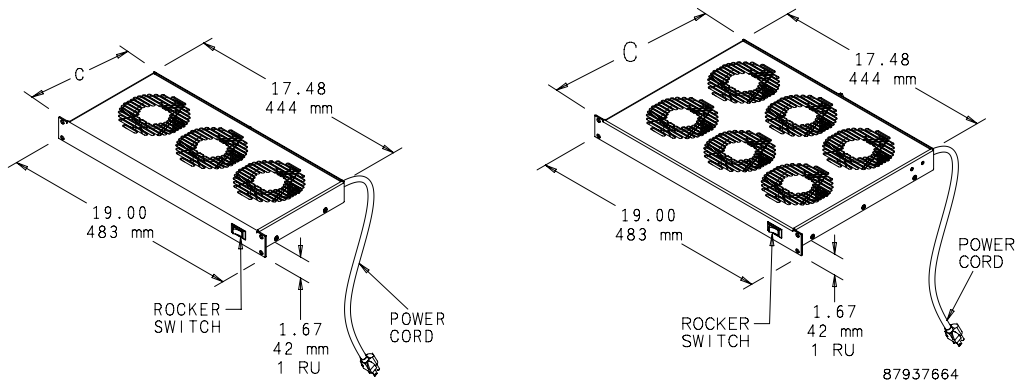
Standard Products

Catalog Number	Number of Fans	Power (W)	Max Airflow (CFM)	C (in.)	C (mm)
A19FT3B	3	45	253	8.10	206
A19FT6B	6	90	506	12.96	329

**Technical Performance per 4-Inch Fan**

Operating Voltage (VAC)	Operating Frequency (Hz)	Nominal Airflow Capacity (CFM)	Noise Level (dB)	Max. Static Pressure (in. WC)	Max. Operating Temperature (°F)	Max. Operating Temperature (°C)	Power Consumption (W)
115	60	102	41	0.27	158	70	15

Nominal Airflow capacity rating applies to fans before installation in fan tray.



**FAN SPEED CONTROLS**



**INDUSTRY STANDARDS**

(both controls)

UL 508 Listed; File No. E249700  
cUL Listed per CSA C22.2 No. 14; File No. E249700

**APPLICATION**

Perfect for offices, classrooms and other noise-sensitive areas, Fan Speed Controls optimize airflow in a cabinet or rack, balancing air volume requirements with noise level and power use.

**FEATURES**

**AFANTSC Panel-Mount Fan Speed Control**

- Automatically adjusts fan speed depending on remote temperature sensor input
- Temperature set point is field adjustable; preset at 35 C (95 F)
- Idle speed and temperature slope are field-adjustable
- Push-to-reset thermal circuit breaker inside control housing
- Compact polycarbonate control housing can be mounted in any position
- NEMA 5-15R outlet provides power to fan
- Six-foot (1.83-m) power cord plugs into standard 120 V, 50 or 60 Hz outlet
- Remote temperature sensor with 10-ft. (3.05-m) lead mounts in airflow
- Mounting brackets included

**A19FANSC 19-in. Rack-Mount Fan Speed Control**

- Continuously variable fan speed control knob with minimum speed adjustment
- Uses 1 RU rack space
- Steel construction
- Two NEMA 5-15R outlets provide power to fan
- Six-foot (1.83-m) power cord plugs into standard 120 V 60 Hz outlet

**FINISH**

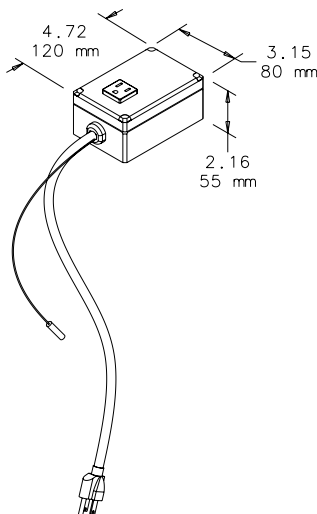
- AFANTSC: Light-gray polycarbonate control housing
- A19FANSC: RAL 9005 black polyester powder paint

**BULLETIN: DTHRM**

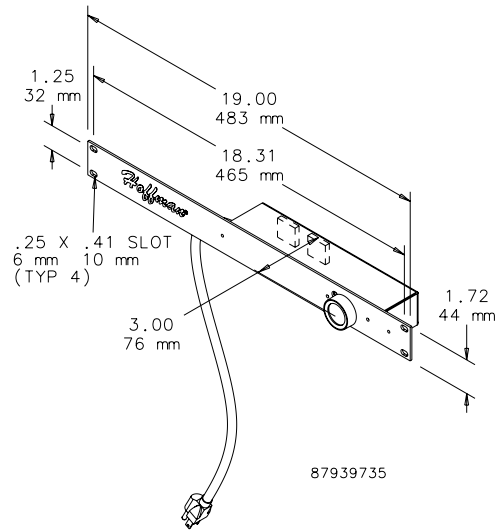
Standard Products

Catalog Number	Description	Application	Voltage and Frequency	Current Draw	Temperature Settings (°C)	Temperature Settings (°F)
AFANTSC	Panel-Mount Fan Speed Control	Fan speed controlled automatically with remote temperature sensor	120 VAC 50/60 Hz	2 A max.	30, 35, 40, 45	86, 95, 104, 113
A19FANSC	19-in. Rack-Mount Fan Speed Control	Fan speed adjusted manually	120 VAC 60 Hz	4 A max.	Continuously variable	Continuously variable

Panel Mount Fan Speed Control



19 inch Rack Mount Fan Speed Control





**COMPACT AXIAL FANS**



Can be installed on any surface of an enclosure. With the addition of accessory fan brackets, Compact Cooling Fans can also be installed in any position inside the enclosure for spot cooling or air circulation.

**FEATURES**

- Maximum operating temperature is 158 F (70 C)
- 4-in. fan is thermally protected and uses permanently lubricated ball bearings
- 6- and 10-in. fans have ball-bearing construction and split-capacitor motors
- Split-capacitor motors are thermally protected to avoid premature failure
- Dynamically balanced impellers molded from polycarbonate material
- One finger guard is furnished (additional finger guards are available)
- All mounting hardware is provided

*Fan bracket and additional finger guards must be purchased separately*

- 240 and 560 CFM fans have ball bearing construction and split capacitor motors
- Fans have leadwires with ends stripped 1/2-in. (12-mm) or 6-ft. (1.8-m) cord with polarized plug for power connections

*Consult your local Hoffman sales office for information on modifications to this product*

**FINISH**

Fan housing is black.

**ACCESSORIES**

- Fan Brackets
- Finger Guards
- Temperature Control Switch

**BULLETIN: D85**

**INDUSTRY STANDARDS**

UL Component Recognized

CSA certified

**APPLICATION**

Compact Cooling Fans are ideal for applications where enclosure space is limited and quiet, reliable cooling is required. Engineered for 50,000 hours of continuous operation without lubrication or service.

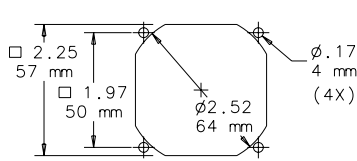
**Installation**

Standard Product and Cutout Dimensions

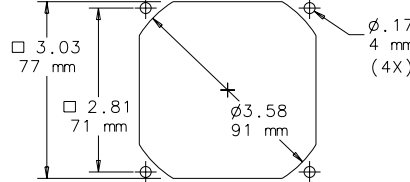
Catalog Number	Nominal Size	Voltage	A in./mm	D in./mm	E in./mm	J in./mm	K in./mm	L in./mm	M in./mm
A2AXFN24	2	24 VDC	—	1.97 50	.98 25	1.97 50	.98 25	—	—
A3AXFN	3	115 VAC	—	2.81 71	1.40 36	2.81 71	1.40 36	—	—
A3AXFN24	3	24 VDC	—	2.81 71	1.40 36	2.81 71	1.40 36	—	—
A4AXFNG0	4	115 VAC	4.62 117	4.12 105	2.06 52	4.12 105	2.06 52	—	—
A4AXFNPG	4	115 VAC	4.62 117	4.12 105	2.06 52	4.12 105	2.06 52	—	—
A4AXFN	4	115 VAC	4.62 117	4.12 105	2.06 52	4.12 105	2.06 52	—	—
A4AXFN2	4	230 VAC	4.62 117	4.12 105	2.06 52	4.12 105	2.06 52	—	—
A4AXFN24	4	24 VDC	4.62 117	4.12 105	2.06 52	4.12 105	2.06 52	—	—
A6AXFNG0	6	115 VAC	5.88 149	—	—	—	—	3.19 81	6.38 162
A6AXFNPG	6	115 VAC	5.88 149	—	—	—	—	3.19 81	6.38 162
A6AXFN	6	115 VAC	5.88 149	—	—	—	—	3.19 81	6.38 162
A6AXFN2	6	230 VAC	5.88 149	—	—	—	—	3.19 81	6.38 162
A6AXFN24	6	24 VDC	5.88 149	—	—	—	—	3.19 81	6.38 162
A10AXFNPG	10	115 VAC	9.00 229	6.88 175	3.44 87	6.88 175	3.4 87	—	—
A10AXFN	10	115 VAC	9.00 229	6.88 175	3.44 87	6.88 175	3.44 87	—	—
A10AXFN2	10	230 VAC	9.00 229	6.88 175	3.44 87	6.88 175	3.44 87	—	—

CFM without exhaust grille

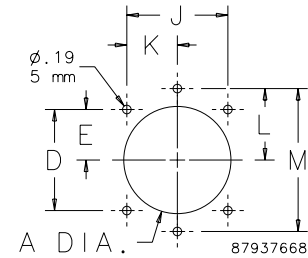




MOUNTING CUTOUT DIMENSIONS 2 INCH



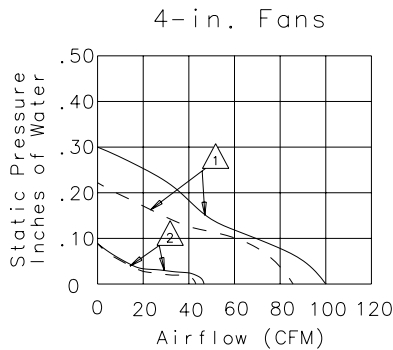
MOUNTING CUTOUT DIMENSIONS 3 INCH



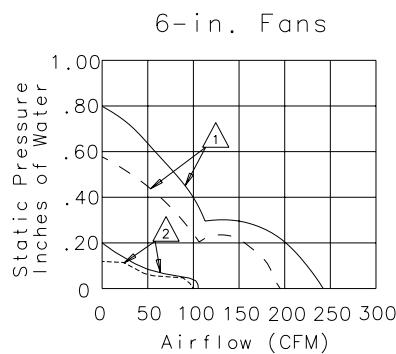
MOUNTING CUTOUT DIMENSIONS 4, 6, 10 INCH

**Technical/Performance Data for Compact Cooling Fans**

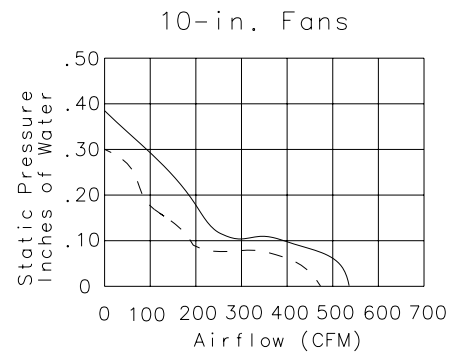
Catalog Number	Nominal Size	Power Connection	Voltage	A @ 50/60 Hz	W @ 50/60 Hz	CFM @ 50/60 Hz	Fan Size (in. <sup>2</sup> )	Fan Depth	Max. Motor Operating RPM @ 50/60 Hz	Noise SIL (dB)
A2AXFN24	2	Lead wires	24 VDC	.09	2.16	21.5	2.36	.98 in.	4550	65
A3AXFN	3	Lead wires	115 VAC	.09	7	27	3.15	1.50 in.	2700	40
A3AXFN24	3	Lead wires	24 VDC	.14	3.36	40	3.15	.98 in.	3400	35
A4AXFNGQ	4 (Quiet Fan)	Power cord	115 VAC	.09/.08	6/5	46/49	4.69	1.52 in.	1350/1450	27/28
A4AXFNPG	4	Power cord	115 VAC	.26/.21	17/15	85/100	4.69	1.52 in.	2415/2900	37/41
A4AXFN	4	Lead wires	115 VAC	.26/.21	17/15	85/100	4.69	1.52 in.	2415/2900	37/41
A4AXFN2	4	Lead wires	230 VAC	.14/.11	16/14	85/100	4.69	1.52 in.	2415/2900	37/41
A4AXFN24	4	Lead wires	24 VDC	.35	8.4	118	4.69	1.52 in.	3200	46.5
A6AXFNGQ	6 (Quiet Fan)	Power cord	115 VAC	.16/.19	16/18	85/102	6.77	1.50 in.	1400/1650	35/38
A6AXFNPG	6	Power cord	115 VAC	.45/36	36/32	200/240	6.77	1.50 in.	2670/3200	50/56
A6AXFN	6	Lead wires	115 VAC	.45/36	36/32	200/240	6.77	1.50 in.	2670/3200	50/56
A6AXFN2	6	Lead wires	230 VAC	.23/.18	39/35	200/240	6.77	1.50 in.	2670/3200	50/56
A6AXFN24	6	Lead wires	24 VDC	.88	21.1	280	6.77	2.00 in.	3750	62.5
A10AXFNPG	10	Power cord	115 VAC	1.0/.88	36/36	480/560	10.00	3.50 in.	1350/1650	45.8/49
A10AXFN	10	Lead wires	115 VAC	1.0/.88	36/36	480/560	10.00	3.50 in.	1350/1650	45.8/49
A10AXFN2	10	Lead wires	230 VAC	.47/.43	36/36	480/560	10.00	3.50 in.	1350/1650	45.8/49

**Performance Curves for Compact Axial Fans**


FNPG, FN, FN2 models  
 FNGQ models



(Curves represent fan performance only.)



————— 60 Hz  
 - - - - - 50 Hz

87744317

**FAN CORDS**


Used to power Compact Cooling Fans when positive ground of the cabinet case is required. Available with connectors for one or two fans. Five-foot [1.52-meter] cord with grounded three-prong plug. Fits A4AXFNPG, A6AXFNPG, A10AXFNPG, A4AXFNGQ and A10AXFNGQ.

**BULLETIN: DTHRM**

Catalog Number	Description
ACORD1	One connector
ACORD2	Two connectors

### FAN CORDS WITH INLINE THERMOSTAT



Use to power 110-120 VAC Compact Cooling Fans; replaces existing supplied power cord. Fan cord includes inline thermostat. The cord automatically activates up to two fans. Fan(s) will turn on when the inline thermostat reaches 85F (30C). Fan(s) will run only when temperature is above 85F (30C).

**BULLETIN: DTHRM**

Catalog Number	Description	Fan activation temperature	Voltage	Amps
ACORD2T	Two-connector fan power cord with inline thermostat	85 F (30 C)	110-120 VAC	10 amps max.

### FAN FILTER AND FINGER GUARD KIT

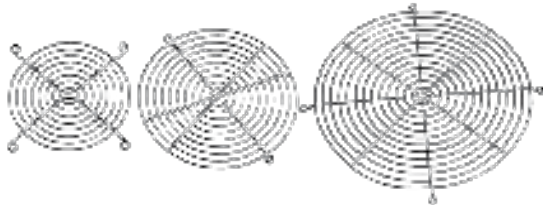


Low-density filter kit for 4-in. (102-mm) and 6-in. (152-mm) fans. Can also be used as vent. Filter is removable and can be cleaned and reused. Mounting hardware included.

**BULLETIN: DTHRM, DWS1**

Catalog Number	Description	Fits
AFLTR4LD	Fan Filter and Finger Guard Kit	4-in. fans
AFLTR6LD	Fan Filter and Finger Guard Kit	6-in. fans

### FINGER GUARDS

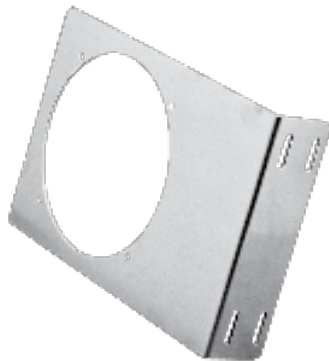


One finger guard is included with each Compact Cooling Fan and Cooling Fan Package. Additional Finger Guards can be mounted on either side of the fan for maximum safety. All guards are chrome-plated and meet UL 507 .25-in. plug gauge test.

**BULLETIN: D85**

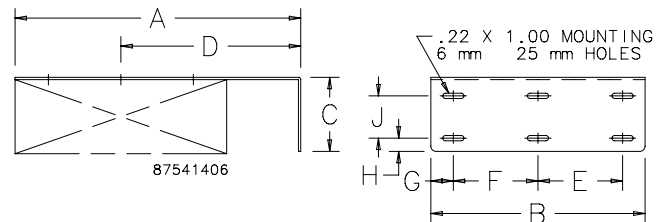
Catalog Number	Use on Compact Cooling Fan Catalog Numbers
AGARD2	A2AXFN24
AGARD3	A3AXFN, A3AXFN24
AGARD4	A4AXFNPG, A4AXFNGQ, A4AXFN, A4AXFN2
AGARD6	A6AXFNPG, A6AXFNGQ, A6AXFN, A6AXFN2
AGARD10	A10AXFNPG, A10AXFNQR, A10AXFN, A10AXFN2

### FAN BRACKETS



Designed to provide easy mounting of Hoffman cooling fans on enclosure panels. Brackets can be used for general air circulation or to direct air at problem areas. All sizes are .100-in. aluminum. Package quantity of 1 bracket. Fans must be ordered separately.

**BULLETIN: D85**



Catalog Number	AxBxC in./mm	Used with Fan Catalog Number	D in./mm	E in./mm	F in./mm	G in./mm	H in./mm	J in./mm
ABRKT2	3.75 x 2.75 x 1.50 95 x 70 x 38	A2AXFN24	2.38 60	—	1.75 44	.50 13	.37 9	.62 16
ABRKT3	4.50 x 3.50 x 1.50 114 x 89 x 38	A3AXFN, A3AXFN24	2.75 70	—	2.50 64	.50 13	.37 9	.62 16
ABRKT4	6.00 x 5.00 x 1.50 152 x 127 x 38	A4AXFNPG, A4AXFNGQ, A4AXFN, or A4AXFN2	3.50 89	—	3.00 76	1.00 25	.38 10	.62 16
ABRKT6	10.00 x 6.88 x 2.00 254 x 175 x 51	A6AXFNPG, A6AXFNGQ, A6AXFN, or A6AXFN2	6.50 51	—	5.00 127	.94 24	.38 10	1.00 25
ABRKT10	13.50 x 10.12 x 3.50 343 x 257 x 89	A10AXFNPG, A10AXFNGQ, A10AXFN, or A10AXFN2	8.50 216	4.00 102	4.00 102	1.06 27	.62 16	2.00 51



## TEMPERATURE CONTROL SWITCHES



### INDUSTRY STANDARDS

cURus; File No. E164102  
UL94-V0

Protection rating IEC IP30  
CSA Certified, File Number 215952  
CE

### APPLICATION

These easy-to-install thermostats regulate and monitor air temperature in enclosures that contain heat-emitting equipment. Thermostats prolong heater and fan life expectancy by controlling operation time and increase electrical component working efficiency by exposing them to fewer environmental contaminants.

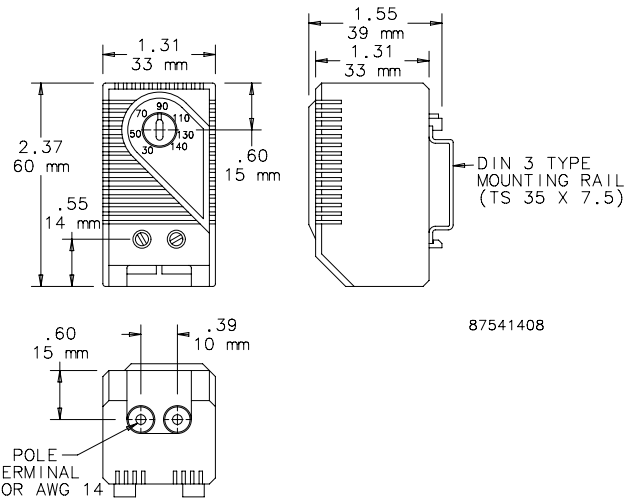
### FEATURES

- Additional label for conversion to Celsius scale and blank label to cover set point range label when adjustment after initial setting is not desired are included
- Bimetal temperature sensor
- Plastic housing
- Connections consist of tubular screw terminals for AWG 14 (.04 sq. in.)
- Provision for both panel mounting and DIN rail mounting

### FINISH

Molded plastic housing is black

### BULLETIN: D85



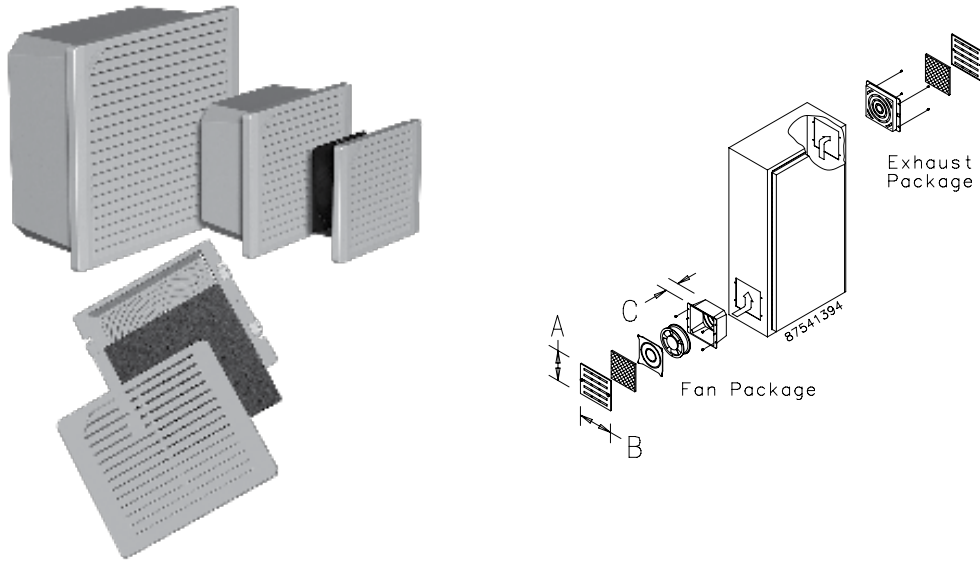
### Standard Product

Catalog Number	Contact Type	Control Application
ATEMNC	NC (normally closed), quick acting	Heater
ATEMNO	NO (normally open), quick acting	Fan

### Switching Capacity

Load	Amps
Maximum load	15 A resistive / 2 A inductive @ 120 VAC 10 A resistive / 2 A inductive @ 250 VAC
Minimum load	DC 30 W 20 mA (all voltages)

## TFP SIDE-MOUNT



## INDUSTRY STANDARDS

UL 508A Component Recognized, File Number E61997  
TFP# Models: Type 1  
TFP# UL 12 Models: Type 12

CSA certified (fan only)  
CE

## APPLICATION

Cooling Fan and Exhaust Packages are designed for limited-space enclosures that require a reliable and filtered airflow. Where positive airflow is not required, Exhaust Packages can be used on both the inlet and outlet. Engineered for 50,000 hours of continuous operation without lubrication or service. For both Type 1 and Type 12 systems a monthly maintenance schedule is recommended to ensure optimal cooling performance.

## FEATURES

- Cooling Fan Package includes fan, air filter, composite air plenum, finger guard and grille
- Exhaust Package includes air filter, filter retainer with integral finger guard and grille
- EMC Upgrade Kit includes a grille standoff collar and a special EMC shielding grille
- Washable foam (Type 1) or disposable (Type 12) filter in fan. Optional washable aluminum air filter is available for Type 1 applications.
- Dynamically-balanced fan impellers molded from polycarbonate material
- 4-in. fan is thermally protected and uses permanently-lubricated ball bearings
- 6- and 10-in. fans have ball bearing construction and split-capacitor motors that are thermally protected to avoid premature failure

- Fans have leadwires for power connection with ends stripped 1/2 in. (12 mm)
- All mounting hardware and installation instructions are furnished

## Filters

Standard Type 1 air filters are washable foam.  
*Type 12 air filters are not washable.*

## Installation

Fan and exhaust packages can be installed on any surface of an enclosure. They are most effective when the fan assembly is located on a lower panel of the enclosure and the exhaust grille is positioned near the top of the opposite side. This installation assists heat transfer by causing slightly more turbulence and also prolongs the working life of the fan since it is located in the path of the cooler air entering the enclosure.

The height and width of the cooling fans and exhaust grilles can be rotated 90 degrees for mounting on narrow enclosures. Allow adequate clearance for servicing the fan when equipment is installed inside the enclosure and for replacing filters on both the fan and the exhaust. Cutout dimensions for both the fan and the exhaust are shown in the order table. Order the fan and exhaust packages separately.

## FINISH

Stainless steel grilles have brushed finish.  
ABS composite grille is black.

## ACCESSORIES

Aluminum Type 1 and Hi-Density Type 12 Filters

EMC Upgrade Kit

Grille Options:

- Stainless Steel
- Black ABS Plastic

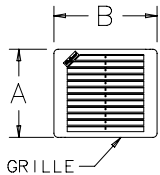
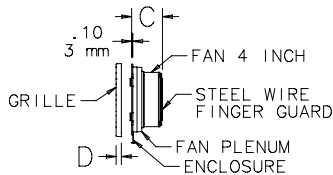
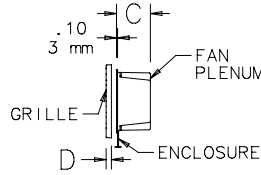
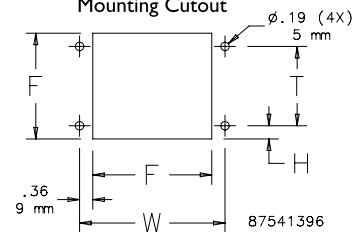
## BULLETIN: D85

**Standard Product and Cutout Dimensions Cooling Fan and Exhaust Packages**

Catalog Number	AxBxC in./mm	Material and Type	Use with Exhaust Grille	Nominal Fan Size	D in./mm	F in./mm	H in./mm	T in./mm	W in./mm
TFP424	6.29 x 7.37 x 2.35 160 x 187 x 67	Composite Grille UL 508 Type 1	TEP4	4	0.45 11	5.66 144	0.77 20	4.12 105	6.39 162
TFP41	6.29 x 7.37 x 2.65 160 x 187 x 67	Composite Grille UL 508 Type 1	TEP4	4	0.45 11	5.66 144	0.77 20	4.12 105	6.39 162
TFP41SS	6.29 x 7.37 x 2.65 160 x 187 x 67	Stainless Steel Grille UL 508 Type 1	TEP4SS	4	0.45 11	5.66 144	0.77 20	4.12 105	6.39 162
TFP41UL12	6.29 x 7.37 x 2.65 160 x 187 x 67	Composite Grille UL 508 Type 12	TEP4UL12	4	0.45 11	5.66 144	0.77 20	4.12 105	6.39 162
TFP42	6.29 x 7.37 x 2.65 160 x 187 x 67	Composite Grille UL 508 Type 1	TEP4	4	0.45 11	5.66 144	0.77 20	4.12 105	6.39 162
TFP42SS	6.29 x 7.37 x 2.65 160 x 187 x 67	Stainless Steel Grille UL 508 Type 1	TEP4SS	4	0.45 11	5.66 144	0.77 20	4.12 105	6.39 162
TFP42UL12	6.29 x 7.37 x 2.65 160 x 187 x 67	Composite Grille UL 508 Type 12	TEP4UL12	4	0.45 11	5.66 144	0.77 20	4.12 105	6.39 162
TFP624	7.80 x 8.87 x 3.75 198 x 225 x 95	Composite Grille UL 508 Type 1	TEP6	6	0.49 12	7.16 182	1.33 34	4.50 114	7.89 200
TFP61	7.80 x 8.87 x 3.75 198 x 225 x 95	Composite Grille UL 508 Type 1	TEP6	6	0.49 12	7.16 182	1.33 34	4.50 114	7.89 200
TFP61SS	7.80 x 8.87 x 3.75 198 x 225 x 95	Stainless Steel Grille UL 508 Type 1	TEP6SS	6	0.49 12	7.16 182	1.33 34	4.50 114	7.89 200
TFP61UL12	7.80 x 8.87 x 3.75 198 x 225 x 95	Composite Grille UL 508 Type 12	TEP6UL12	6	0.49 12	7.16 182	1.33 34	4.50 114	7.89 200
TFP62	7.80 x 8.87 x 3.75 198 x 225 x 95	Composite Grille UL 508 Type 1	TEP6	6	0.49 12	7.16 182	1.33 34	4.50 114	7.89 200
TFP62SS	7.80 x 8.87 x 3.75 198 x 225 x 95	Stainless Steel Grille UL 508 Type 1	TEP6SS	6	0.49 12	7.16 182	1.33 34	4.50 114	7.89 200
TFP62UL12	7.80 x 8.87 x 3.75 198 x 225 x 95	Composite Grille UL 508 Type 12	TEP6UL12	6	0.49 12	7.16 182	1.33 34	4.50 114	7.89 200
TFP101	11.81 x 12.99 x 5.25 300 x 330 x 133	Composite Grille UL 508 Type 1	TEP10	10	0.55 14	11.16 283	2.14 54	6.88 175	11.89 302
TFP101SS	11.81 x 12.99 x 5.25 300 x 330 x 133	Stainless Steel Grille UL 508 Type 1	TEP10SS	10	0.55 14	11.16 283	2.14 54	6.88 175	11.89 302
TFP101UL12	11.81 x 12.99 x 5.25 300 x 330 x 133	Composite Grille UL 508 Type 12	TEP10UL12	10	0.55 14	11.16 283	2.14 54	6.88 175	11.89 302
TFP102	11.81 x 12.99 x 5.25 300 x 330 x 133	Composite Grille UL 508 Type 1	TEP10	10	0.55 14	11.16 283	2.14 54	6.88 175	11.89 302
TFP102SS	11.81 x 12.99 x 5.25 300 x 330 x 133	Stainless Steel Grille UL 508 Type 1	TEP10SS	10	0.55 14	11.16 283	2.14 54	6.88 175	11.89 302
TFP102UL12	11.81 x 12.99 x 5.25 300 x 330 x 133	Composite Grille UL 508 Type 12	TEP10UL12	10	0.55 14	11.16 283	2.14 54	6.88 175	11.89 302

An intake grille and filter are included with each Cooling Fan Package. Order at least one Exhaust Package separately for each installation.

Order optional Exhaust Grilles as a separate accessory.

**Fan and Exhaust Grille**

**4" Fan  
(Fan Mounted to Back of Plenum)**

**6" and 10" Fan  
(Box Style Plenum)**

**Fan and Exhaust Package  
Mounting Cutout**


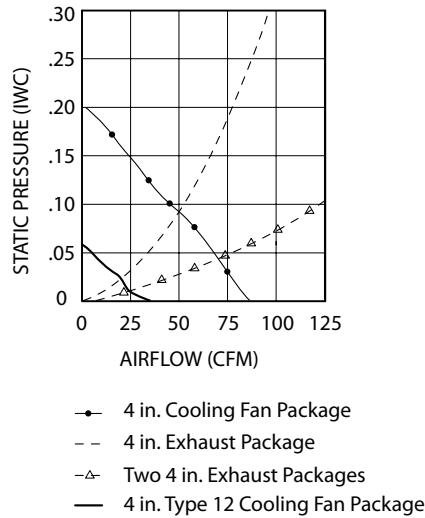
**Technical Performance Data for Cooling Fan Packages**

Composite Grille UL Type 1	Stainless Grille UL Type 1	Type 1 CFM @ 50/60 Hz	Composite Grille UL Type 12	Type 12 CFM @ 50/60 Hz	W @ 50/60 Hz	Voltage	A @ 50/60 Hz	Max. Operating Temperature (°F)	Max. Operating Temperature (°C)	Noise SIL (dB) @ 50/60 Hz	Weight (lb.)	Weight (kg)
TFP424	—	55	—	—	8.4	24 VDC	.35	158	70	65	4.2	1.90
TFP41	TFP41SS	46/55	TFP41UL12	21/25	17/15	115 VAC	.26/.21	158	70	37/41	4.2	1.90
TFP42	TFP42SS	46/55	TFP42UL12	21/25	16/14	230 VAC	.14/.11	158	70	37/41	4.3	1.95
TFP624	—	140	—	—	21.1	24 VDC	.88	158	70	62.5	5.3	2.40
TFP61	TFP61SS	117/140	TFP61UL12	50/60	36/32	115 VAC	.45/.36	158	70	50/56	5.3	2.40
TFP62	TFP62SS	117/140	TFP62UL12	50/60	39/35	230 VAC	.23/.18	158	70	50/56	5.4	2.45
TFP101	TFP101SS	180/215	TFP101UL12	63/75	64/80	115 VAC	.58/.70	167	75	54/61	12.0	2.45
TFP102	TFP102SS	180/215	TFP102UL12	63/75	64/80	230 VAC	.29/.35	167	75	54/61	11.4	5.17

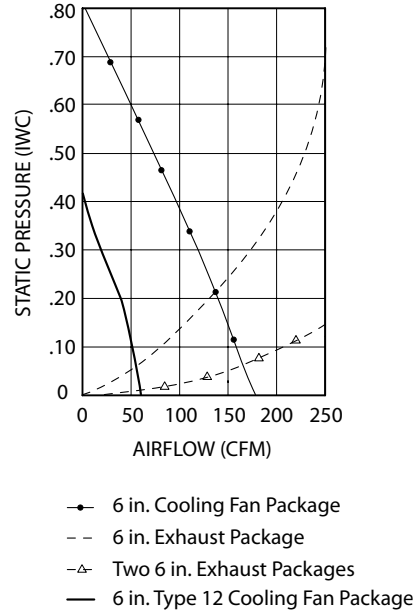
CFM with single exhaust grille installed.

**Performance Curves for TFP Filter Fans**

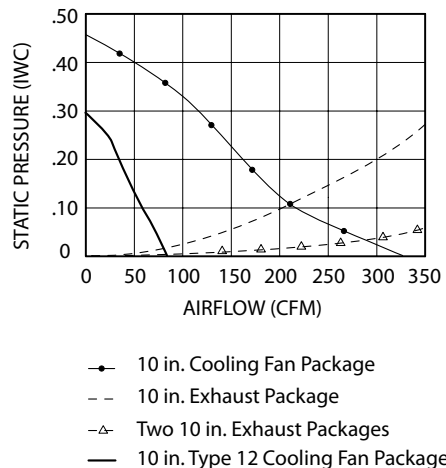
Performance Curve for a 4 inch Cooling Fan Package @ 60 Hz



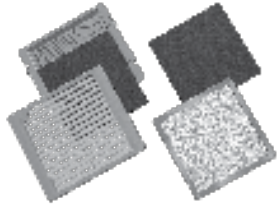
Performance Curve for a 6 inch Cooling Fan Package @ 60 Hz



Performance Curve for a 10 inch Cooling Fan Package @ 60 Hz



### TFP OPTIONAL GRILLES AND REPLACEMENT FILTERS



Optional grilles offer the choice of stainless steel or black ABS plastic. These grilles replace the standard RAL 7035 gray composite or stainless steel grilles on both fan and exhaust packages. Standard replacement filters are washable foam (Type 1) or disposable (Type 12). To maintain UL Type 12 rating on the enclosure, UL Type 12 filters must be used on the fan package inlet. Washable aluminum filters are also available. Aluminum filters are compatible with Type 1 systems only. *Type 12 air filters are not washable.*

BULLETIN: D85

Catalog Number	Description	Fits Fan and Exhaust Nominal Size	Fits Fan and Exhaust Grill Size (in.)	Fits Fan and Exhaust Grille Size (mm)
TG4SS	Brushed stainless steel grille	4	6.29 x 7.31 x .81	(160 x 186 x 21)
TG4B	Black ABS plastic grille	4	6.29 x 7.37 x .81	(160 x 187 x 21)
AFLTR4	Type 1 filter replacement (5/package)	4	—	—
AFLTR4AL	Aluminum filter replacement (5/package)	4	—	—
TFLT4UL12	Type 12 filter replacement (5/package)	4	—	—
TG6SS	Brushed stainless steel grille	6	7.80 x 8.81 x .75	(198 x 224 x 19)
TG6B	Black ABS plastic grille	6	7.80 x 8.87 x .49	(198 x 225 x 12)
AFLTR6	Foam filter replacement (5/package)	6	—	—
AFLTR6AL	Aluminum filter replacement (5/package)	6	—	—
TFLT6UL12	UL 12 filter replacement (5/package)	6	—	—
TG10SS	Brushed stainless steel grille	10	11.81 x 12.92 x .75	(300 x 328 x 19)
TG10B	Black ABS plastic grille	10	11.81 x 12.99 x .75	(300 x 330 x 19)
AFLTR10	Foam filter replacement (5/package)	10	—	—
AFLTR10AL	Aluminum filter replacement (5/package)	10	—	—
TFLT10UL12	UL 12 filter replacement (5/package)	10	—	—

Replacement filter for Type 12 fan package only (models TFF\_\_UL12). For Type 12 exhaust package use replacement filter AFLTRX.

Filters fit all fan and exhaust packages according to their size.

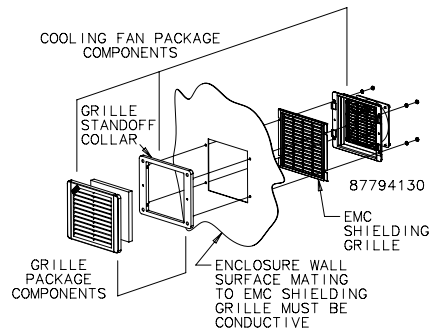
### TFP EMC UPGRADE KIT

With the addition of this kit, the cooling fan and exhaust packages are upgraded to provide EMC (electromagnetic compatibility) protection. Consult Hoffman for shielding effectiveness (dB attenuation vs. frequency).

*Separate kits must be installed on both the inlet and outlet. Cooling fan and exhaust package must be ordered separately. EMC upgrade kit will not work with stainless steel grille option.*

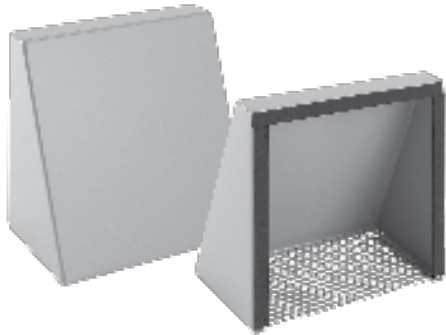
BULLETIN: D85

Catalog Number	Fits Cooling Fan Package	Fits Exhaust Grille
T4EMC	TFP41/TFP42	TEP4
T6EMC	TFP61/TFP62	TEP6
T10EMC	TFP101/TFP102	TEP10





### FAN SHROUD KIT, TYPE 3R



#### FEATURES

- Two fan shrouds per package
- Perforated ventilation screen
- Pressure-sensitive adhesive-backed gasket and mounting hardware

#### SPECIFICATIONS

- 16 gauge mild steel or Type 304 stainless steel

#### FINISH

ANSI 61 gray polyester powder coating over mild steel; smooth #4 brushed finish on stainless steel

BULLETIN: D85

#### INDUSTRY STANDARDS

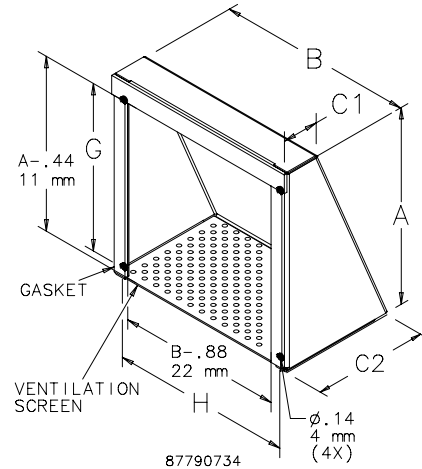
Maintains UL/cUL Type 3R rating when properly installed on a UL/cUL Type 3R enclosure.

UL 508A Listed; Type 3R; File No. E61997  
 cUL Listed per CSA C22.2 No. 94; Type 3R; File No. E61997

NEMA/EEMAC Type 3R  
 IEC 60529, IP22

#### APPLICATION

Fan Shroud Kits protect outdoor enclosure openings from rain, sleet and snow.



#### Standard Product

Catalog Number	Material	A (in.)	A (mm)	B (in.)	B (mm)	C1 (in.)	C1 (mm)	C2 (in.)	C2 (mm)	G (in.)	G (mm)	H (in.)	H (mm)
T4S3R	Steel	6.00	152	6.00	152	1.44	37	4.69	119	4.69	119	5.25	133
T6S3R	Steel	8.00	203	8.00	203	1.44	37	4.69	119	6.69	170	7.25	184
T10S3R	Steel	12.00	305	12.00	305	1.44	37	4.71	120	10.69	272	11.25	286
T4S3RSS	Stainless Steel	6.00	152	6.00	152	1.44	37	4.69	119	4.69	119	5.25	113
T6S3RSS	Stainless Steel	8.00	203	8.00	203	1.44	37	4.69	119	6.69	170	7.25	184
T10S3RSS	Stainless Steel	12.00	305	12.00	305	1.44	37	4.71	120	10.69	272	11.25	286

#### Usage Chart

Catalog Number	Compact Cooling (muffin) Fans (4 in.)	Compact Cooling (muffin) Fans (6 in.)	Compact Cooling (muffin) Fans (10 in.)	Cooling and Exhaust Fan Packages (TFP4-)	Cooling and Exhaust Fan Packages (TFP6-)	Filter Fan Packages (SF05-)	Filter Fan Packages (SF09-)	Filter Fan Packages (SF10-)
T4S3R	•							
T6S3R	•	•				•		
T10S3R	•	•	•	•	•	•	•	•
T4S3RSS	•							
T6S3RSS	•	•				•		
T10S3RSS	•	•	•	•	•	•	•	•

*Hoffman*

# CHAPTER 9 OUTSIDE PLANT PRODUCTS

## FEATURED PRODUCTS

### COMLINE™ ENCLOSURES

Enclosing critical telecommunications equipment in harsh outdoor environments can be a challenge. Lightweight, corrosion-resistant COMLINE™ Wall-Mount Enclosures provide long-lasting protection for housing electrical components in both indoor and extreme outdoor environments for rooftop or tower-mounted applications.



### FIBER OPTIC CABINETS

Protect and manage fiber optic cables for broadband delivery in outdoor applications with FTTX enclosures. Welded aluminum and polyester power paint safeguard components.



## OPAL PAD-MOUNT DSL ENCLOSURES

OPAL Cabinets are designed and built to the outside plant application at hand. Ideal for broadband voice, data and video service applications.



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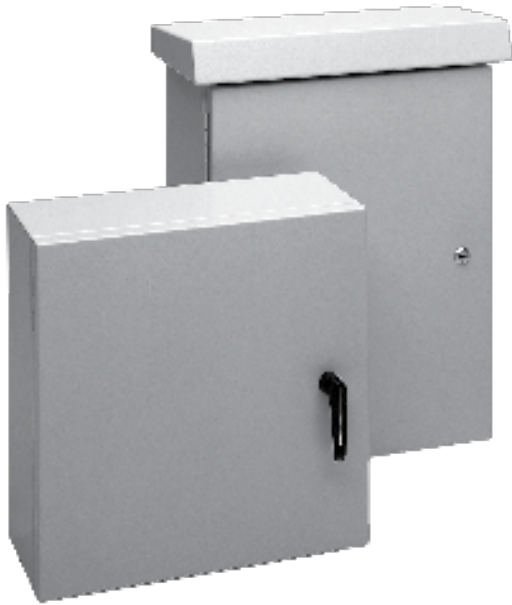
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## OSP CABINETS

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**COMLINE™, TYPE 4X**

**APPLICATION**

Lightweight, corrosion-resistant COMLINE™ aluminum wall-mount enclosures provide long-lasting protection for housing electrical components in extreme outdoor environments. These customizable enclosures employ a foam-in-place gasket for a tight seal and are ideal for rooftop or tower-mounted telecommunications applications.

**FEATURES**

- Foam-in-place gasket
- 1- or 3-point latching (screwdriver slot), depending on door size
- Optional door stop/wind latch holds door in place during service
- Two door/hinge styles available:
  - Easily removable door with hidden hinge and retained hinge pin. Maximum door load 50 lb. (22.7 kg)
  - Heavy-duty continuous hinge door. Maximum door load 150 lb. (68.0 kg)
- Optional solar shield top

**SPECIFICATIONS**

- Type 5052-H32 aluminum: covers are .080-in. or .100-in. thick depending on size; bodies are .080-in. thick
- Seams continuously welded and ground smooth for a finished appearance
- Bonding provision on door; ground stud on body

**FINISH**

RAL 7035 textured light-gray polyester powder finish inside and out.

**ACCESSORIES**

See also *Accessories* chapter.

Door Stop Kit  
 Handle Options  
 Mounting Panel  
 Pole Mounting Kit  
 Rack Angles  
 Solar Shield Top

**MODIFICATION AND CUSTOMIZATION**

Hoffman excels at modifying and customizing products to your specifications. Contact your local Hoffman sales office or distributor for complete information.

**BULLETIN: DCOM**
**INDUSTRY STANDARDS**

UL 508A Listed; Type 3, 3R, 4, 4X, 12; File No. E61997

CSA File No. 42186: Type 3, 3R, 4, 4X, 12  
 NEMA/EEMAC Type 3, 3R, 4, 4X, 12  
 IEC 60529, IP66  
 Designed to meet NEBS™ -Telcordia GR487, GR63, IEC 48D  
 Meets Type 3RX requirements  
 NEBS is a trademark of Telcordia

 Standard Product **Hidden Hinge**

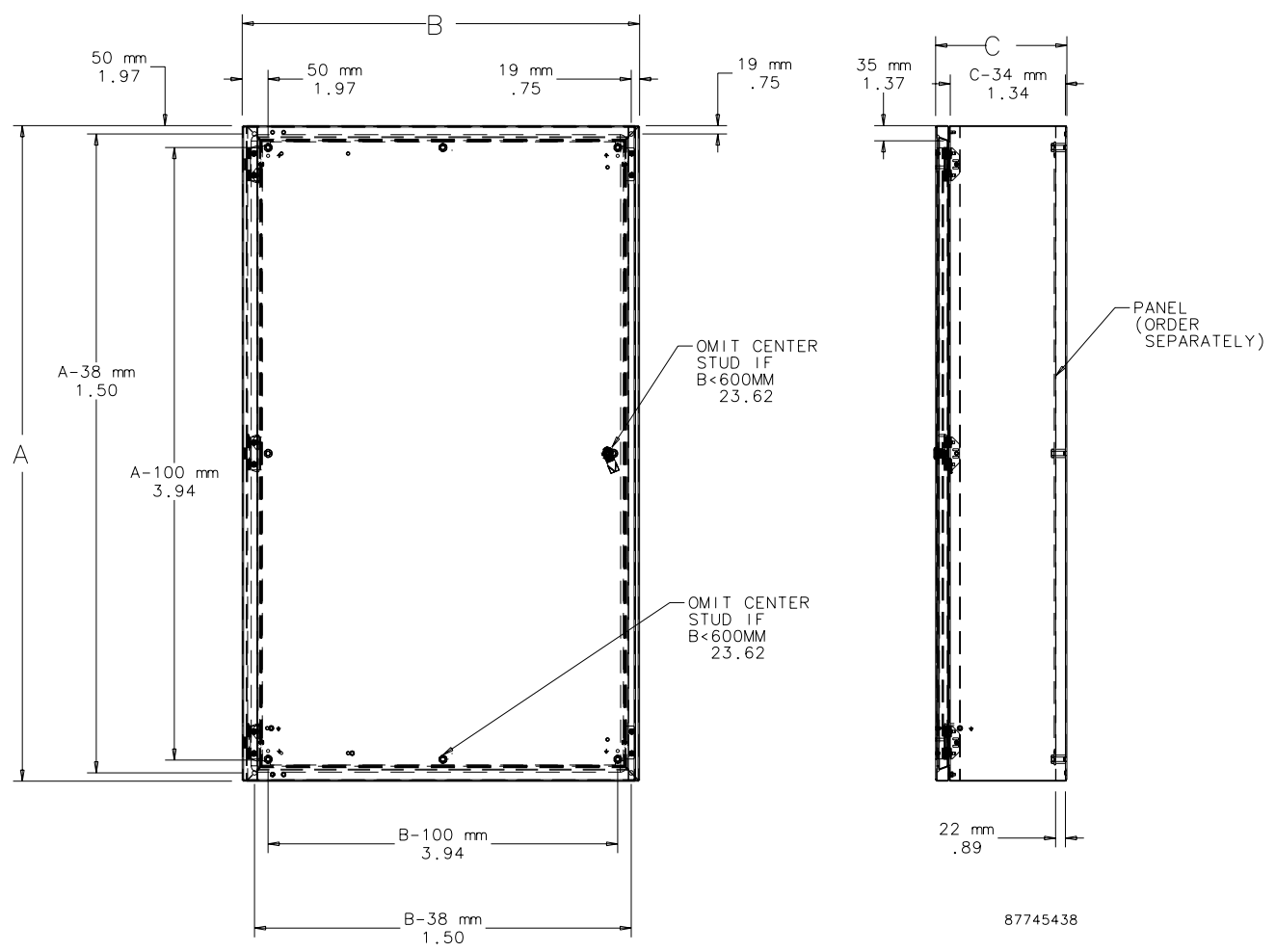
Catalog Number	AxBxC mm	AxBxC in.	Latch Points	Door Thickness (mm)	Door Thickness (in.)	Std. Pkg. (lb.)
ECL303015	300 x 300 x 150	11.81 x 11.81 x 5.91	1	2	.08	9.0
ECL403015	400 x 300 x 150	15.75 x 11.81 x 5.91	1	2	.08	10.0
ECL404015	400 x 400 x 150	15.75 x 15.75 x 5.91	1	2	.08	12.0
ECL404020	400 x 400 x 200	15.75 x 15.75 x 7.87	1	2	.08	13.0
ECL504020	500 x 400 x 200	19.69 x 15.75 x 7.87	1	2	.08	15.0
ECL505020	500 x 500 x 200	19.69 x 19.69 x 7.87	1	2	.08	17.0
ECL605020	600 x 500 x 200	23.62 x 19.69 x 7.87	3	2.5	.10	19.0
ECL606020	600 x 600 x 200	23.62 x 23.62 x 7.87	3	2.5	.10	23.0
ECL806020	800 x 600 x 200	31.50 x 23.62 x 7.87	3	2.5	.10	27.0
ECL1006030	1000 x 600 x 300	39.37 x 23.62 x 11.81	3	2.5	.10	35.0
ECL1209030	1200 x 900 x 300	47.24 x 35.43 x 11.81	3	2.5	.10	55.0
ECL1509030	1500 x 900 x 300	59.06 x 35.43 x 11.81	3	2.5	.10	78.0

ECL1209030, ECL1209030CH, ECL1509030 and ECL1509030CH include vertical door stiffener. Additional door stop required to meet NEBS-Telcordia 487 door restrainer requirements.

All the above enclosures must have mounting feet installed to meet UL Type 3, UL Type 4 and UL Type 4X ratings.

Standard Product **Continuous Hinge**

Catalog Number	AxBxC mm	AxBxC in.	Latch Points	Door Thickness (mm)	Door Thickness (in.)	Std. Pkg. (lb.)
ECL303015CH	300 x 300 x 150	11.81 x 11.81 x 5.91	1	2	.08	9.0
ECL403015CH	400 x 300 x 150	15.75 x 11.81 x 5.91	1	2	.08	10.0
ECL404015CH	400 x 400 x 150	15.75 x 15.75 x 5.91	1	2	.08	12.0
ECL404020CH	400 x 400 x 200	15.75 x 15.75 x 7.87	1	2	.08	13.0
ECL504020CH	500 x 400 x 200	19.69 x 15.75 x 7.87	1	2	.08	15.0
ECL505020CH	500 x 500 x 200	19.69 x 19.69 x 7.87	1	2	.08	17.0
ECL605020CH	600 x 500 x 200	23.62 x 19.69 x 7.87	3	2.5	.10	19.0
ECL606020CH	600 x 600 x 200	23.62 x 23.62 x 7.87	3	2.5	.10	23.0
ECL806020CH	800 x 600 x 200	31.50 x 23.62 x 7.87	3	2.5	.10	27.0
ECL1006030CH	1000 x 600 x 300	39.37 x 23.62 x 11.81	3	2.5	.10	35.0
ECL1209030CH	1200 x 900 x 300	47.24 x 35.43 x 11.81	3	2.5	.10	55.0
ECL1509030CH	1500 x 900 x 300	59.06 x 35.43 x 11.81	3	2.5	.10	78.0



## SOLAR SHIELD TOP



Solar Shield Top provides a vented area on top of the enclosure to absorb solar heating effects and help keep enclosure cool. Also provides a drip shield to keep liquids away from the door sealing surface. Aluminum with RAL 7035 textured light-gray finish inside and out. Maintains enclosure rating. Includes mounting hardware.

### Shielding Effectiveness

Hoffman's research of the effects of solar radiation on enclosures has shown the positive benefits of utilizing shielding to decrease

temperature rise. Shielding has been found to be an effective, low-cost method of reducing solar heat gain in outdoor electrical/electronic applications.

Test results indicate that a top-mounted solar shield provides a 25 percent reduction in temperature rise due to solar heat load.

### BULLETIN: DCOMY

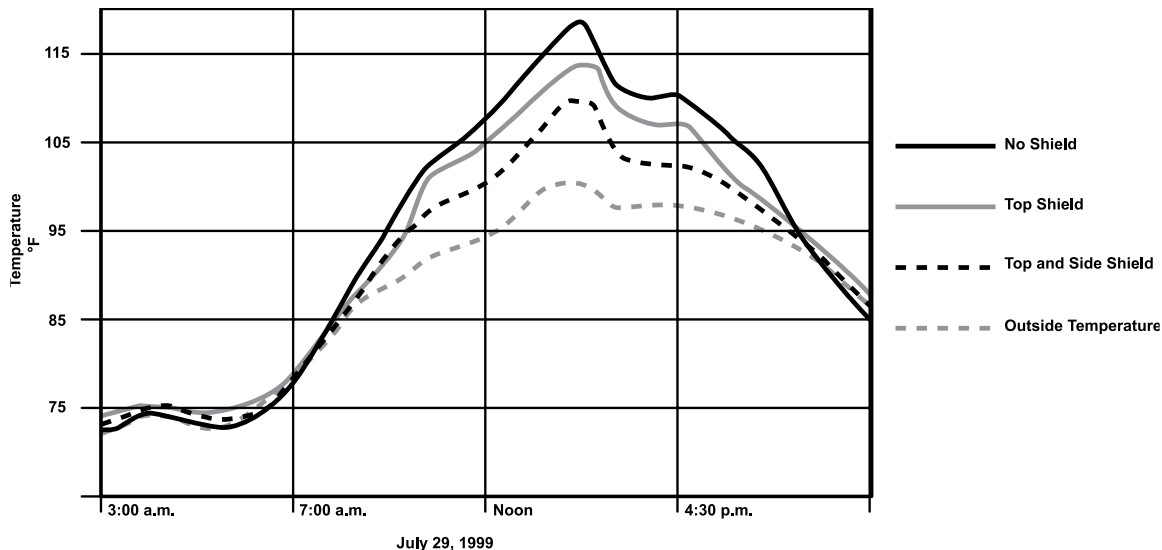
Catalog Number	AxB in./mm	Fits B x C
ESSH3015	0.00	300 x 150
ESSH4015	15.75 x 5.91 400 x 150	400 x 150
ESSH4020	15.75 x 7.87 400 x 200	400 x 200
ESSH5020	19.69 x 7.87 500 x 200	500 x 200
ESSH6020	23.62 x 7.87 600 x 200	600 x 200
ESSH6030	23.62 x 11.81 600 x 300	600 x 300
ESSH9030	35.43 x 11.81 900 x 300	900 x 300

### Unshielded vs. Shielded

Enclosure Type	Temperature (°F)	Temp. Reduction (%)
Unshielded	118.6	—
Top shield only	114.0	25
Top and side shields	110.1	46

Air Temperature = 100.2 F

Enclosure color is light-gray (RAL 7035)



The results of the test show the enclosure with top and side shields to have approximately a 46% reduction in temperature compared to the unshielded enclosure. Hoffman offers top shields as an accessory for Hoffman COMLINE™ Wall-Mount Enclosures. The reduction in temperature is approximately 25% with the solar shield top only.

## MOUNTING PANEL

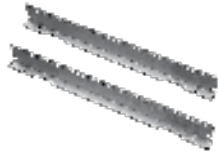


Provides a mounting surface in the back of the COMLINE™ Enclosure for surface mount components. Mill finish aluminum.

### BULLETIN: DCOMY

Catalog Number	Fits A x B	Height (mm)	Height (in.)	Width (mm)	Width (in.)
EP3030AL	300 x 300	226	8.90	226	8.90
EP4030AL	400 x 300	326	12.84	226	8.90
EP4040AL	400 x 400	326	12.84	326	12.94
EP5040AL	500 x 400	426	16.78	326	12.94
EP5050AL	500 x 500	426	16.78	426	16.78
EP6050AL	600 x 500	526	20.71	426	16.78
EP6060AL	600 x 600	526	20.71	526	20.71
EP8060AL	800 x 600	726	28.59	526	20.71
EP10060AL	1000 x 600	926	36.46	526	20.71
EP12090AL	1200 x 900	1126	44.33	826	32.52
EP15090AL	1500 x 900	1426	56.15	826	32.52

**RACK ANGLES**



Rack Angles allow for mounting 19-in. rack equipment in 600-mm wide enclosures. Plated 14 gauge steel with .281-in. (7-mm) diameter holes (through-hole type). Twenty M5 screws and 20 clip nuts included for mounting rack angles to enclosure and for mounting equipment to rack angles.

**BULLETIN: DCOMY**

Catalog Number	Description	Fits A (mm)	Fits A (in.)
ERA196TH	Rack Angles	600	23.62
ERA198TH	Rack Angles	800	31.50
ERA1910TH	Rack Angles	1000	39.37

**DOOR STOP KIT**



Self-actuating door stop kit secures doors in the open position. Mounts to top or bottom of door. Stainless steel and aluminum material. Mounting hardware included.

**BULLETIN: DCOMY**

Catalog Number	Description
EDSK	Door Stop Kit

**HANDLE OPTIONS**



Handle Options can be padlocked for added security. Kit includes handle and mounting hardware. Install using existing enclosure cam.

**BULLETIN: A80, DCOMY, DWS12**

Catalog Number	Description
ELHP	Padlocking L-Handle
EPL4	Padlocking quarter-turn with key
DL36	Locking wing nut with 2 keys, silver finish

**CLIP NUT PACKAGE**



Twenty plated clip nuts fit all rack-mounting angles with .281-in. (7-mm) diameter holes (through-hole type).

**BULLETIN: A80**

Catalog Number	Description	Pkg. Qty.	Fits
AN1032	Clip Nut 10-32	20	.281-diameter mounting holes
ANM5	Clip Nut M5 (Metric)	20	.281-diameter mounting holes

**SCREW PACKAGE**



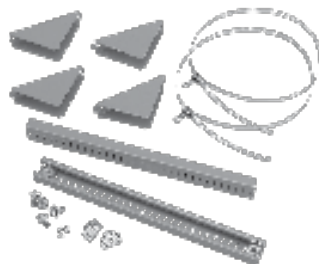
Screws attach rack panels and rack-mounted equipment to rack-mounting angles.

**BULLETIN: A80, DACCY, X20**

Catalog Number	Color	Description	Pkg. Qty.
ES1224	Silver	12-24 x 5/8 in. combo head	20
ES1224250	Silver	12-24 x 5/8 in. combo head	250
ES1224B	Black	12-24 x 5/8 in. combo head	20
ES1224B250	Black	12-24 x 5/8 in. combo head	250
ASM5	Silver	M5 x 20 mm Combo Head	20
ASM6	Silver	M6 x 16 mm combo head	20
ASM5T	Silver	M5 x 12 mm thread-forming Phillips hex head screws	20
ASM6250	Silver	M6 x 16 mm combo head	250
AS1032	Silver	10-32 x 5/8 in. combo head	20
AS1032250	Silver	10-32 x 5/8 in. combo head	250
AS1032B	Black	10-32 x 5/8 in. combo head	20

Use ASM5T on PROLINE™ frame or Net Series extruded holes.

**POLE-MOUNT KIT**



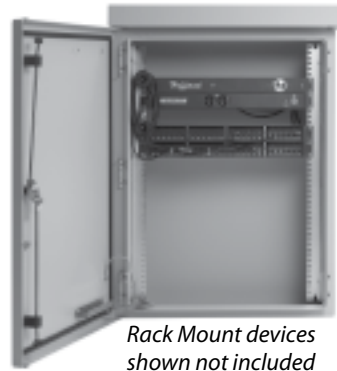
Use to mount CONCEPT™, Networking and wall-mount enclosures to poles of various sizes and shapes. Simply attach the plated steel channel bar to the mounting holes at the back of the enclosure and wrap the stainless steel strap around the pole and through the bar. Kit includes two mounting channels, two straps suitable for 3-in. (76-mm) to 12-in. (305-mm) diameter pole and mounting hardware.

**BULLETIN: CWY**

Catalog Number	Fits Enclosure (in.)	Fits Enclosure (mm)
CPMK12	when B = 12.00	when B = 305
CPMK16	when B = 16.00	when B = 406
CPMK20	when B = 20.00	when B = 508
CPMK24	when B = 24.00	when B = 610
CPMK30	when B = 30.00	when B = 762



**COMLINE™ OSP PACKAGE, TYPE 4X**



**INDUSTRY STANDARDS**

UL 508A Listed; Type 3, 3R, 4, 4X, 12; File No. E61997

CSA: Type 3, 3R, 4, 4X, 12  
 NEMA/EEMAC Type 3, 3R, 4, 4X, 12  
 EC60529, IP66

Designed to meet Telcordia NEBS™ GR-487, GR-63 and IEC 48D EIA 310-D with 19 in. spacing for rack equipment  
 Meets BICSI TDMM, Tenth Edition, Chapter 7, Telecommunication Enclosures (TE)  
 Cabinet is RoHS compliant  
 NEBS is a trademark of Telcordia

**APPLICATION**

A complete, off-the-shelf package for 19-in. rack equipment, lightweight COMLINE™ OSP Wall-Mount Cabinets are constructed of corrosion-resistant aluminum with a foam-in-place gasket that secures and protects sensitive equipment in outdoor applications. Available with or without back-up battery compartment.

**FEATURES**

- Solar shield helps keep enclosure interior cool when cabinet is installed outdoors and directs liquids away from cabinet opening; can be removed for indoor installations
- Foam-in-place gasket provides environmental seal
- Padlocking L-Handle provides a tight, secure door seal
- Doorstop holds door in place during service for easier and faster maintenance

- Heavy-duty hinged door is easily removed to facilitate equipment installation and removal. Maximum door load 50 lb. (22.7 kg)
- Rack angles adjustable front-to-rear of cabinet
- Gland plates available with cutouts that fit Hoffman T15, T20 and CR23 air conditioners and Hoffman XR20 and XR29 heat exchangers (Indoor use only)
- Radius corners on cabinet eliminate sharp edges
- Stainless steel fasteners resist corrosion to maintain professional appearance
- Pole mounting kits available for all sizes
- Pad mounting plinth available for 600mm deep cabinets
- Battery compartment has front vented captivated door.
- **Note – SR20 and SR29 are for indoor use only.**

**SPECIFICATIONS**

- Rack angles have EIA universal standard square hole spacing
- Eighth-inch thick, depending on cabinet size
- Seams continuously welded and ground smooth for a finished appearance
- Body includes studs for ground bar and rear mounting studs for wood panel

**FINISH**

RAL 7035 light-textured low-gloss polyester urethane powder coating over iron-phosphate-treated surface. Custom finishes available: consult your local Hoffman sales office.

**BULLETIN: DCOM**

Standard Product **COMLINE Wall-Mount Enclosure Packages**

Catalog Number	AxBxC in.	AxBxC mm	P (in.)	P (mm)	Rack Units
ECL606050P	23.62 x 23.62 x 19.68	600 x 600 x 500	17.47	444	12
ECL906050P	35.43 x 23.62 x 19.68	900 x 600 x 500	30.47	774	18
ECL907060P	35.43 x 27.56 x 23.62	900 x 700 x 600	30.47	774	18
ECL1207060P	47.24 x 27.56 x 23.62	1200 x 700 x 600	30.47	774	25

Standard Product **COMLINE with Battery Compartment**

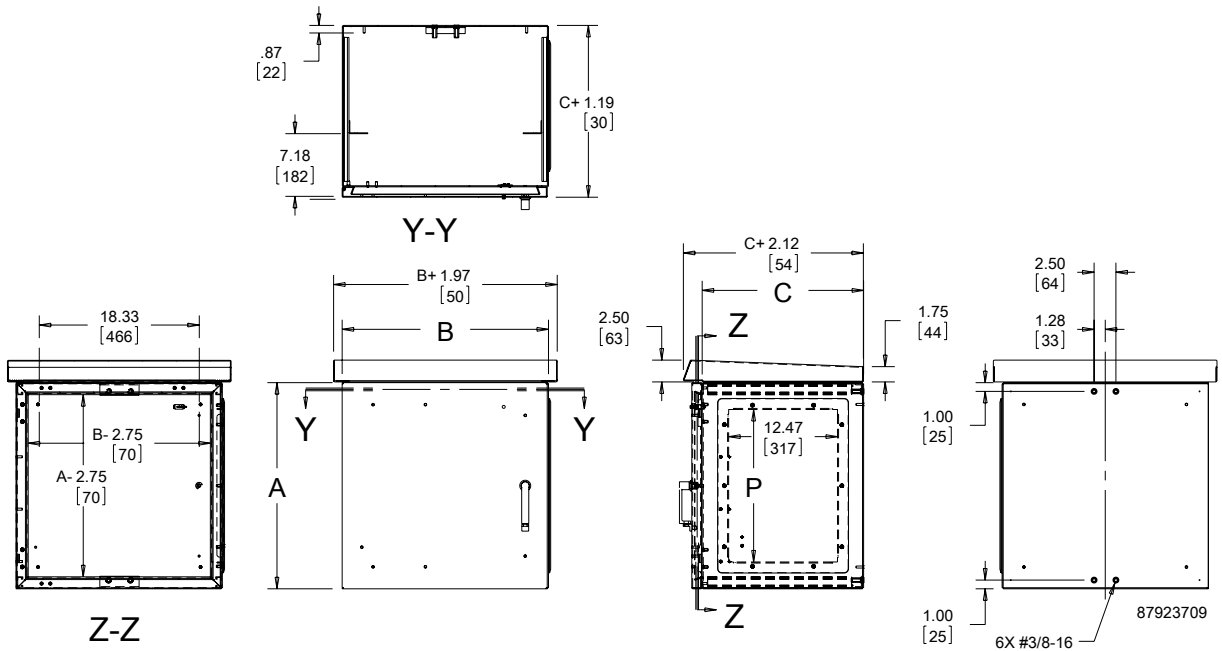
Catalog Number	AxBxC in.	AxBxC mm	Rack Units
ECL606050PB	38.62 x 23.62 x 19.69	981 x 600 x 500	12
ECL906050PB	50.43 x 23.62 x 19.69	1281 x 600 x 500	18
ECL907060PB	50.43 x 27.56 x 23.62	1281 x 700 x 600	18
ECL1207060PB	62.24 x 27.56 x 23.62	1581 x 700 x 600	25



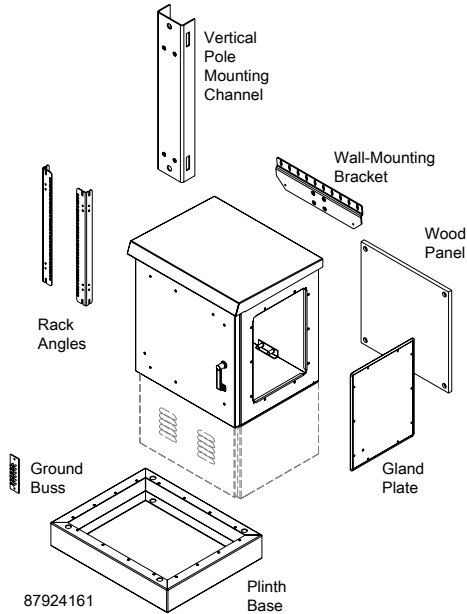
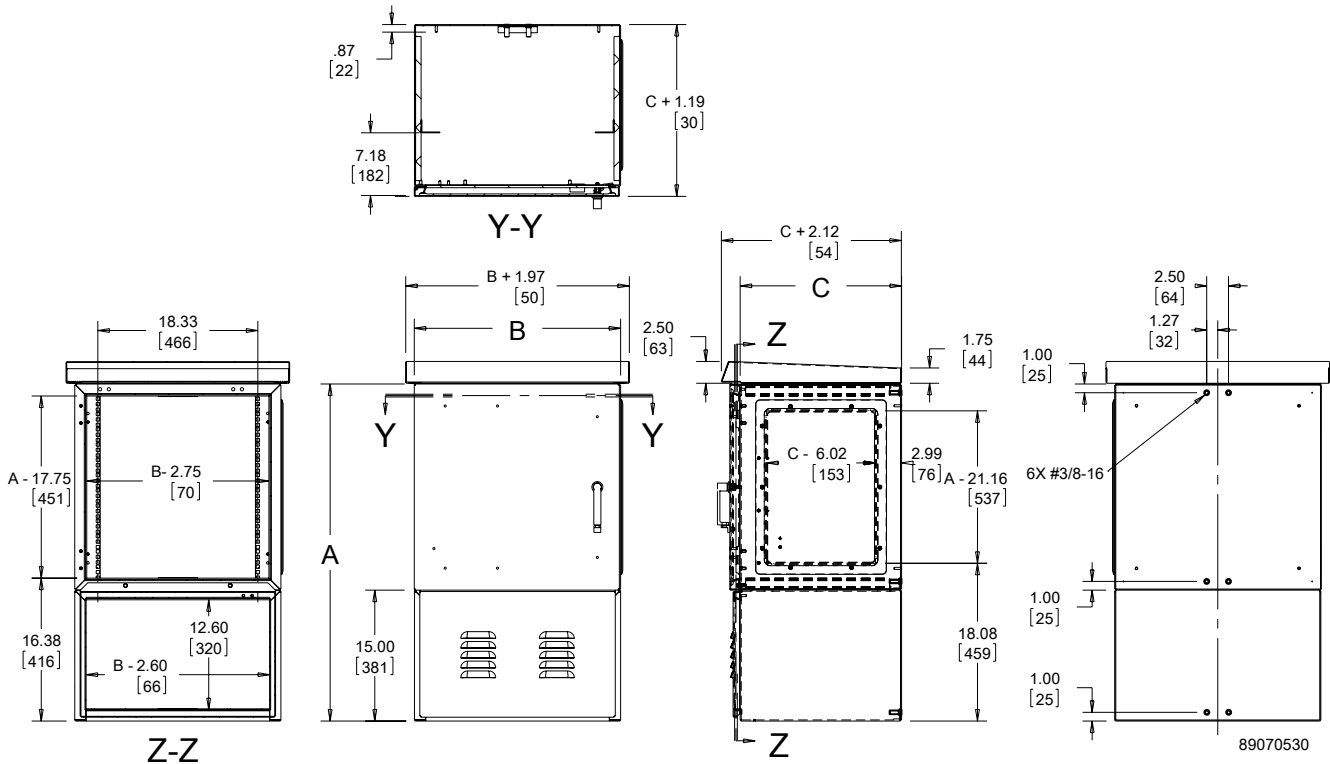
**Accessory Compatibility**

Catalog Numbers	ECL606050P/B	ECL906050P/B	ECL907060P/B	ECL1207060P/B
<b>GLAND PLATES</b>				
EGPS1	•			
EGPS2		•	•	•
EGPACT15	•			
EGPACT20		•	•	•
EGPACCR15		•	•	•
EGPHX20		•	•	•
EGPHX29		•	•	•
<b>POLE MOUNT CHANNELS</b>				
EPMC6	•			
EPMC9		•	•	
EPMC12				•
<b>PLINTH BASE</b>				
EPL7060			•	•
<b>WOOD PANELS</b>				
E60P60W	•			
E90P60W		•		
E90P7W			•	
E120P70W				•
<b>RACK ANGLES</b>				
ERA196S	•			
ERA199S		•		
ERA19239S			•	
ERA192312S				•

**COMLINE OSP Package Without Battery Compartment**



COMLINE OSP Package With Battery Compartment



### RACK ANGLES

Rack Angles are made of 12 gauge, self-grounding plated steel and are grounded to the cabinet body through the mounting bolts. Square mounting holes meet EIA standard.

*Package includes one pair.*

**BULLETIN: DCOMY**

Catalog Number	Rack Width	Rack Units	Use with Cabinet (Height x Width in mm)
ERA196S	19	12	600 x 600
ERA199S	19	18	900 x 600
ERA19239S	19 or 23	18	900 x 700
ERA192312S	19 or 23	25	1200 x 700

### VERTICAL POLE-MOUNT CHANNEL

Vertical Pole-Mount Channel facilitates pole-mounting the COMLINE™ package. It includes the bracket and hardware to mount the channel to the cabinet. No drilling into cabinet required to install.

**BULLETIN: DCOMY**

Catalog Number	Description	Use with Cabinet
EPMC6	Vertical Pole-Mount Channel 600	600-mm tall
EPMC9	Vertical Pole-Mount Channel 900	900-mm tall
EPMC12	Vertical Pole-Mount Channel 1200	1200-mm tall

### WOOD PANEL

Wood Panels are made of 3/4-in. plywood, pre-cut and pre-drilled to install on panel mounting studs in the rear of the cabinet.

**BULLETIN: DCOMY**

Catalog Number	AxB in./mm	Height x Width	Use with Cabinet (Height x Width)
E60P60W	23.62 x 23.62 600 x 600	524 x 524	600 x 600
E90P60W	35.43 x 23.62 900 x 600	824 x 524	900 x 600
E90P70W	35.43 x 27.56 900 x 700	824 x 624	900 x 700
E120P70W	47.24 x 27.56 1200 x 700	1124 x 624	1200 x 700

### GLAND PLATE

Gland Plates are made of .100-in.-thick aluminum, finished to match the cabinet. They include a factory-installed foam-in-place gasket, stainless steel hardware and grounding provision. The installed gland plate maintains the cabinet rating.

*Package includes solid gland plate.*

**BULLETIN: DCOMY**

Catalog Number	Description	Nominal Height x Width (P x Q)
EGPS1	Solid small	506 x 381
EGPS2	Solid large	838 x 381
EGPACT15	AC cutout for T15	506 x 381
EGPACT20	AC cutout for T20	838 x 381
EGPACCR23	AC cutout for CR23	838 x 381
EGPHX20	Heat exchanger cutout for XR20	838 x 381
EGPHX29	Heat exchanger cutout for XR29	838 x 381

XR20 and XR29 indoor use only.

### PLINTH BASE

The Plinth Base enables pad mounting and provides additional cable management space. It adds an additional 5.00-in. (127-mm) height to the cabinet. The base is made of aluminum painted RAL 7035 light gray.

**BULLETIN: DCOMY**

Catalog Number	AxB in./mm	Description	Use with Cabinet (Width x Depth)
EPL7060	27.56 x 23.62 700 x 600	Plinth base	700 x 600

### GROUND BUSS

This copper Ground Buss provides wiring tie points within the cabinet. Mounts on studs provided on cabinet side. Tie-point spacing is 3/4-in. pair-to-pair and 5/8-in. across each pair. Ground studs are 1/4-20 x .75-in. on 3/4-in. centers.

**BULLETIN: DCOMY**

Catalog Number	Description
EGBB1	6-position, double-lug buss
EGBB2	12-position, double-lug buss



### HANDLE OPTIONS



Handle Options can be padlocked for added security. Kit includes handle and mounting hardware. Install using existing enclosure cam.

BULLETIN: A80, DCOMY, DWS12

Catalog Number	Description
ELHP	Padlocking L-Handle
EPL4	Padlocking quarter-turn with key
DL36	Locking wing nut with 2 keys, silver finish

### CLIP NUT PACKAGE



Twenty plated clip nuts fit all rack-mounting angles with .281-in. (7-mm) diameter holes (through-hole type).

BULLETIN: A80

Catalog Number	Description	Pkg. Qty.	Fits
AN1032	Clip Nut 10-32	20	.281-diameter mounting holes
ANM5	Clip Nut M5 (Metric)	20	.281-diameter mounting holes

### SCREW PACKAGE



Screws attach rack panels and rack-mounted equipment to rack-mounting angles.

BULLETIN: A80, DACCY, X20

Catalog Number	Color	Description	Pkg. Qty.
ES1224	Silver	12-24 x 5/8 in. combo head	20
ES1224250	Silver	12-24 x 5/8 in. combo head	250
ES1224B	Black	12-24 x 5/8 in. combo head	20
ES1224B250	Black	12-24 x 5/8 in. combo head	250
ASM5	Silver	M5 x 20 mm Combo Head	20
ASM6	Silver	M6 x 16 mm combo head	20
ASM5T	Silver	M5 x 12 mm thread-forming Phillips hex head screws	20
ASM6250	Silver	M6 x 16 mm combo head	250
AS1032	Silver	10-32 x 5/8 in. combo head	20
AS1032250	Silver	10-32 x 5/8 in. combo head	250
AS1032B	Black	10-32 x 5/8 in. combo head	20

Use ASM5T on PROLINE™ frame or Net Series extruded holes.

### MOUNTING BRACKET KITS



Mounting Bracket Kits are available in stainless steel or composite material. Kit includes 4 brackets and mounting hardware.

BULLETIN: A80

Catalog Number	Description
CMFK	Steel
CMFKSS	Stainless Steel
CMTGFT	Composite

### WALL MOUNTING BRACKET



Wall Mounting Bracket bolts to enclosure back thread holes and facilitates easy mounting to walls. Made of 0.10 aluminum with cabinet matching RAL 7035 finish.

BULLETIN: DCOMY

Catalog Number	AxBxC in./mm	Description
EMB1	1.73 x 30.20 x 21.26 44 x 767 x 540	Aluminum



**COMLINE™ VERTICAL MOUNT CABINET**



Shown with heat exchanger installed



Shown with heat exchanger and customer rack-mount devices installed

**INDUSTRY STANDARDS**

UL 508A Listed; Type 3, 3R, 4, 4X, 12; File No. E61997

CSA: Type 3, 3R, 4, 4X, 12  
 NEMA/EEMAC Type 3, 3R, 4, 4X, 12  
 EC60529, IP66

Designed to meet Telcordia NEBS™ GR-487, GR-63 and IEC 48D EIA 310-D with 19-in. spacing for rack equipment  
 Cabinet is RoHS compliant  
 NEBS™ is a trademark of Telcordia

**APPLICATION**

COMLINE™ Vertical-Mount Cabinet is ideal for telecommunications industry applications. The unique vertical orientation of the 19-in. rack equipment makes this cabinet especially suitable for pole-mount applications. The narrow cabinet width also makes it very wind resistant. Vertical-Mount Cabinet is ideal for telecommunications industry applications. The unique vertical orientation of the 19-in. rack equipment makes this cabinet especially suitable for pole-mount applications. The narrow cabinet width also makes it very wind resistant.

**FEATURES**

- Vertically oriented 19-in. equipment mounting creates a compact, wind-resistant cabinet
- Integral solar shield reduces solar heat load
- Right-side, solid gland plate can be removed and modified as needed

- 6 RU Rack has square hole spacing per EIA universal standards; order cage nuts separately
- Quarter-turn, multi-point, vault-style latching system increases protection and security
- 160-degree door opening with quick-release, retained hinge pins
- Body and door ground studs for bonding and grounding
- Foam-in-place seamless gasket for superior protection against dust and liquid ingress
- Back is prepared with mounting provisions for standard panels
- Mounts to poles or walls

**Construction**

- One set of vertical-mounted 19-in. rack angles made of self-conducting plated steel have square holes per EIA universal spacing
- Made using Type 5052-H23 aluminum (door: 2.0 mm; body: 0.8 mm)
- Seams continuously welded and ground smooth
- Solid gland plate made of .125-mm aluminum included with perimeter flange, seamless gasket, fasteners and mounting holes. Order pre-cut heat exchanger and air conditioner gland plates separately.

**FINISH**

RAL 7035 light-textured, low-gloss polyester powder paint over pretreated surfaces. Custom finishes available; please contact your local Hoffman sales office.

**BULLETIN: DCOM, DCOMY**

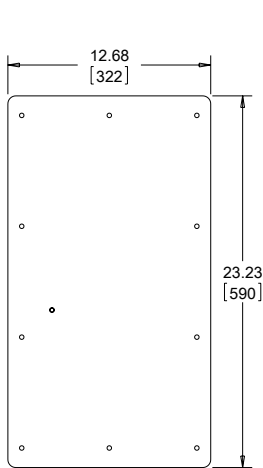
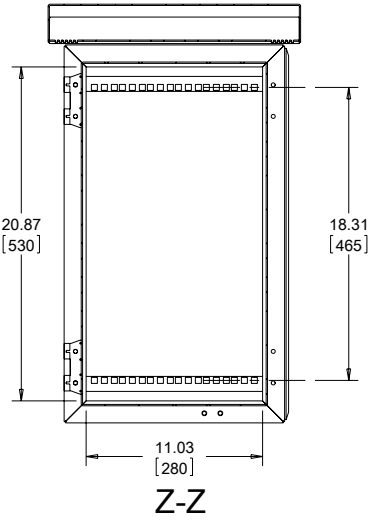
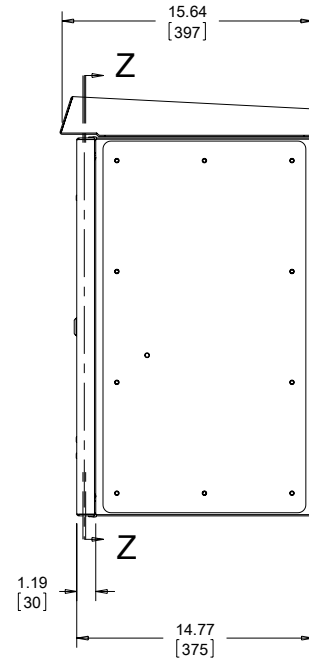
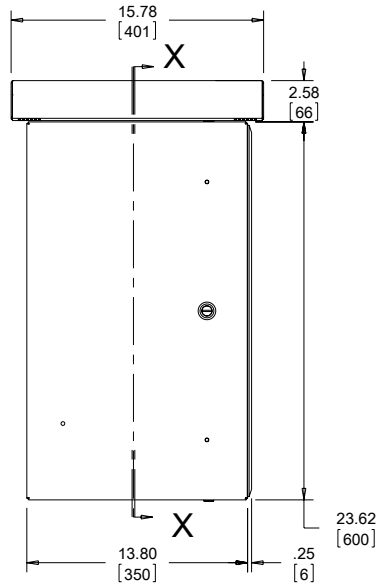
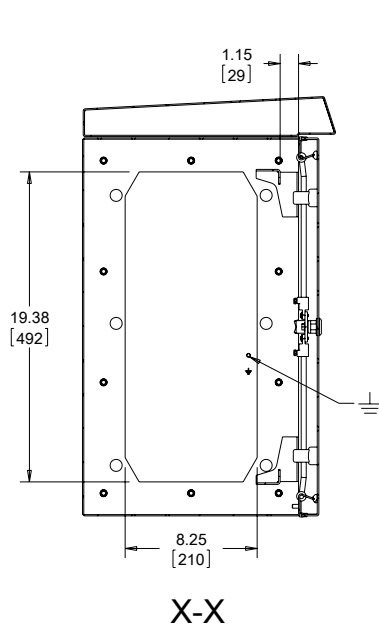
Standard Product COMLINE Vertical Mount Cabinet

Catalog Number	AxBxC in./mm	Rack Units Vertical
ECL603537VP	23.62 x 13.78 x 14.76 600 x 350 x 375	5

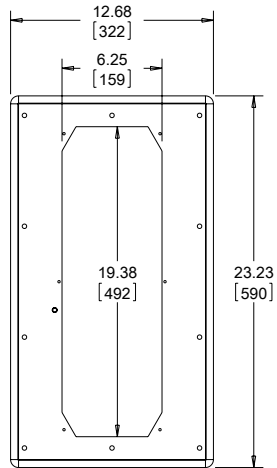
Standard Product Gland plates for COMLINE Vertical Mount Cabinet

Catalog Number	AxBxC in./mm	Use with
EGVM	23.23 x 12.68 x 0.35 590 x 322 x 9	Solid
EGVM1	23.23 x 12.68 x 0.35 590 x 322 x 9	XR20 Heat Exchanger
EGVM2	23.23 x 12.68 x 0.35 590 x 322 x 9	T15 AC Unit
EGVM3	23.23 x 12.68 x 0.35 590 x 322 x 9	T20 AC Unit

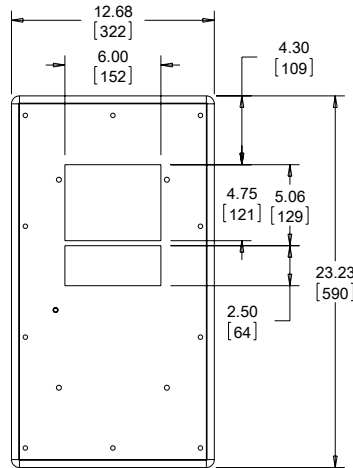
\*Order heat exchanger and air conditioner gland plates separately.



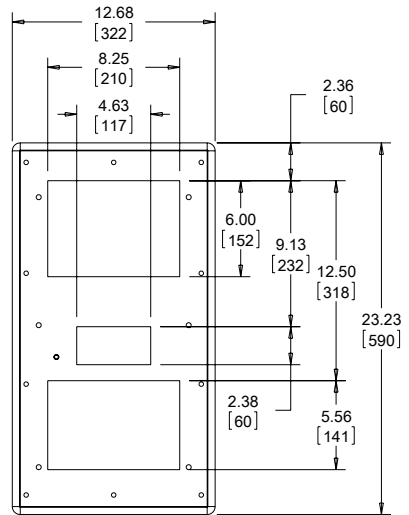
**EGVM  
(Solid)**



**EGVM1  
(XR20)**



**EGVM2  
(T15)**



**EGVM3  
(T20)**

89071192



### GROUND BUSS

This copper Ground Buss provides wiring tie points within the cabinet. Mounts on studs provided on cabinet side. Tie-point spacing is 3/4-in. pair-to-pair and 5/8-in. across each pair. Ground studs are 1/4-20 x .75-in. on 3/4-in. centers.

BULLETIN: DCOMY

Catalog Number	Description
EGBB1	6-position, double-lug buss
EGBB2	12-position, double-lug buss

### HANDLE OPTIONS



Handle Options can be padlocked for added security. Kit includes handle and mounting hardware. Install using existing enclosure cam.

BULLETIN: A80, DCOMY, DWS12

Catalog Number	Description
ELHP	Padlocking L-Handle
EPL4	Padlocking quarter-turn with key
DL36	Locking wing nut with 2 keys, silver finish

### CLIP NUT PACKAGE



Twenty plated clip nuts fit all rack-mounting angles with .281-in. (7-mm) diameter holes (through-hole type).

BULLETIN: A80

Catalog Number	Description	Pkg. Qty.	Fits
AN1032	Clip Nut 10-32	20	.281-diameter mounting holes
ANM5	Clip Nut M5 (Metric)	20	.281-diameter mounting holes

### SCREW PACKAGE



Screws attach rack panels and rack-mounted equipment to rack-mounting angles.

BULLETIN: A80, DACCY, X20

Catalog Number	Color	Description	Pkg. Qty.
ES1224	Silver	12-24 x 5/8 in. combo head	20
ES1224250	Silver	12-24 x 5/8 in. combo head	250
ES1224B	Black	12-24 x 5/8 in. combo head	20
ES1224B250	Black	12-24 x 5/8 in. combo head	250
ASM5	Silver	M5 x 20 mm Combo Head	20
ASM6	Silver	M6 x 16 mm combo head	20
ASM5T	Silver	M5 x 12 mm thread-forming Phillips hex head screws	20
ASM6250	Silver	M6 x 16 mm combo head	250
AS1032	Silver	10-32 x 5/8 in. combo head	20
AS1032250	Silver	10-32 x 5/8 in. combo head	250
AS1032B	Black	10-32 x 5/8 in. combo head	20

Use ASM5T on PROLINE™ frame or Net Series extruded holes.

### MOUNTING BRACKET KITS



Mounting Bracket Kits are available in stainless steel or composite material. Kit includes 4 brackets and mounting hardware.

BULLETIN: A80

Catalog Number	Description
CMFK	Steel
CMFKSS	Stainless Steel
CMTGFT	Composite

### WALL MOUNTING BRACKET

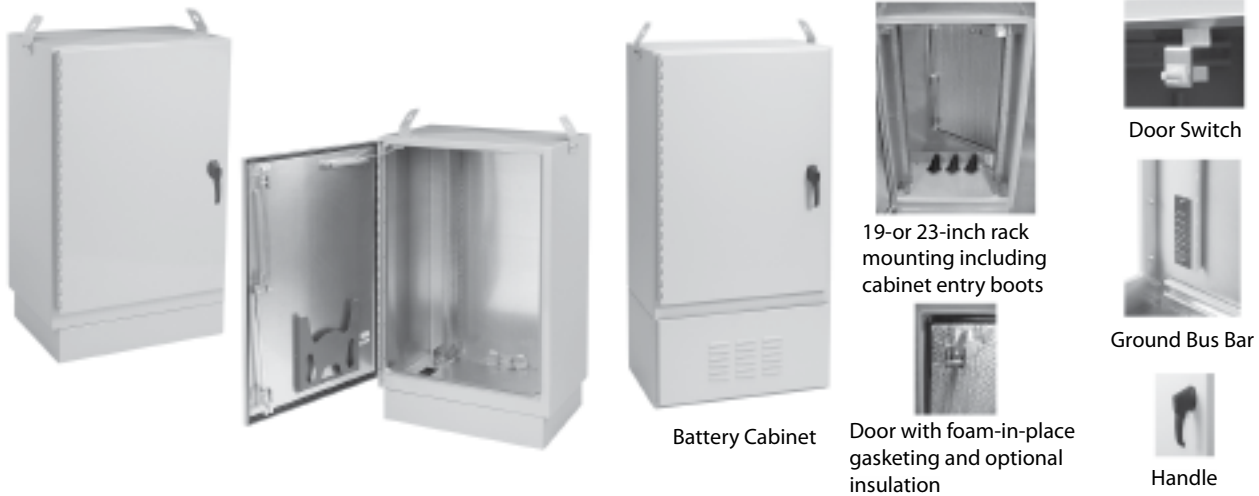


Wall Mounting Bracket bolts to enclosure back thread holes and facilitates easy mounting to walls. Made of 0.10 aluminum with cabinet matching RAL 7035 finish.

BULLETIN: DCOMY

Catalog Number	AxBxC in./mm	Description
EMB1	1.73 x 30.20 x 21.26 44 x 767 x 540	Aluminum



**FTTX FIBER OPTIC CABINET PACKAGE, TYPE 4X**


Door Switch

19-or 23-inch rack mounting including cabinet entry boots

Ground Bus Bar

Battery Cabinet

Door with foam-in-place gasketing and optional insulation

Handle

**INDUSTRY STANDARDS**

UL 508A Listed; Type 3, 3R, 4, 4X, 12; File No. E61997

CSA: Type 3, 3R, 4, 4X, 12

NEMA/EEMAC Type 3, 3R, 4, 4X, 12

EC60529, IP66

Designed to meet Telcordia NEBS™ GR-487, GR-63 and IEC 48D

EIA 310-D with 19-in. spacing for rack equipment

Cabinet is RoHS compliant

NEBS™ is a trademark of Telcordia

**APPLICATION**

Pad-mounted FTTX welded aluminum enclosures provide long-lasting protection and manage fiber optic cable for broadband delivery in outdoor applications. Provided with or without back-up battery compartment.

**FEATURES**

- Standard pitched roof promotes water runoff
- Available with either single- or dual-access doors on front and rear for convenient access
- Available with or without battery compartment
- 3-point latching mechanisms and padlocking handles on doors provide security
- Seamless foam-in-place gasket seals doors against moisture and dust
- Wind latch mechanisms on doors control door when open for equipment maintenance
- Removable lifting lugs (2) for easy installation
- Rack angles adjustable for 19-in. or 23-in. spacing without modifications
- Use clip nuts to mount equipment

- Cabinet top insulation helps prevent the formation of condensation and reduce solar gain inside cabinet. Cabinet side insulation is optional.
- Base of cabinet has a 5.00-in. (127-mm) high aluminum mounting plinth to allow for cable alignment
- Three pyramidal boots provided at base of cabinet for sealing various sizes of cables
- All fasteners are stainless steel to maintain professional appearance in severe outdoor climate conditions
- Grounding buss bar provided

**SPECIFICATIONS**

- Manufactured from Type 5052-H32 .125-in.-thick aluminum
- Seams continuously welded and ground smooth
- Heavy gauge continuous hinge

**FINISH**

RAL 7035 light textured low gloss polyester powder paint over pretreated surfaces. Custom finishes available please contact your local Hoffman sales office.

**ACCESSORIES**

Fiber Management Spool  
 Compact Cooling Fans  
 Temperature Control Switches  
 Light Package  
 Screw Packages  
 Fiber Optic Cabinet Pole-Mount Kit  
 Compact and Mid-Size Heat Exchangers  
 Type 3R, 12, 4 T4 Line Indoor/Outdoor Air Conditioners  
 Electric Heaters

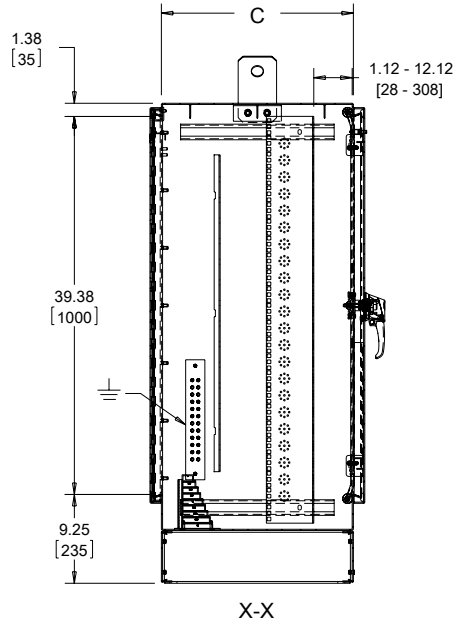
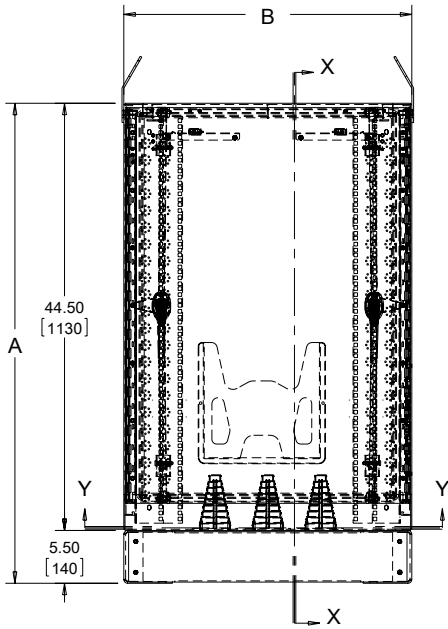
**BULLETIN: DTX**
**Standard Product FTTX Without Battery Compartment**

Catalog Number	AxBxC in.	AxBxC mm	Rack Units	Description
T303020FTTX	30.00 x 30.00 x 20.00	762 x 762 x 508	10	Single-Access
T503020FTTX	50.00 x 30.00 x 20.00	1270 x 762 x 508	22	Single-Access
T303020FTTXDA	30.00 x 30.00 x 20.00	762 x 762 x 508	10	Dual-Access
T503020FTTXDA	50.00 x 30.00 x 20.00	1270 x 762 x 508	22	Dual-Access

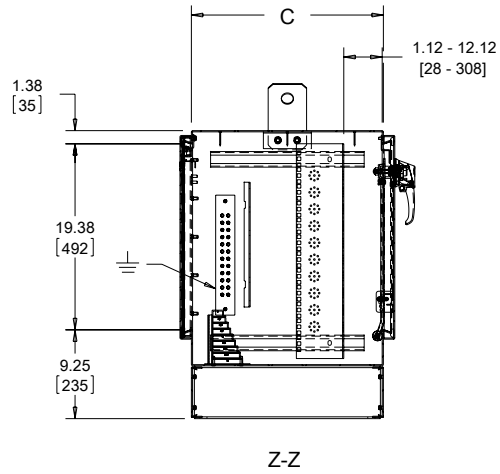
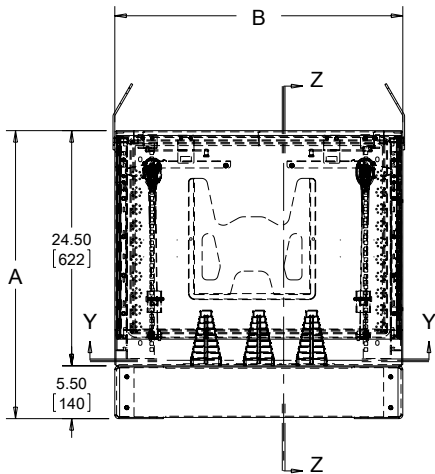
**Standard Product FTTX With Battery Compartment**

Catalog Number	AxBxC in.	AxBxC mm	Rack Units	Description
T503020FTTXB	59.49 x 30.00 x 23.27	1511 x 762 x 591	22	Single
T503020FTTXDAB	59.49 x 30.00 x 34.53	1511 x 762 x 877	22	Dual

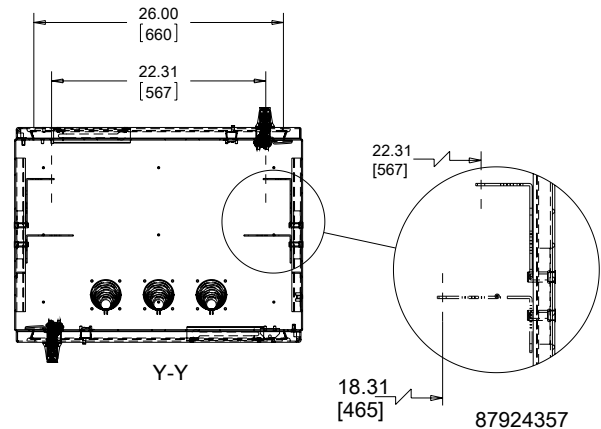
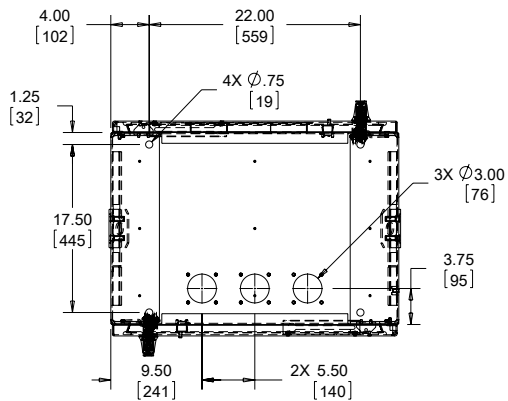




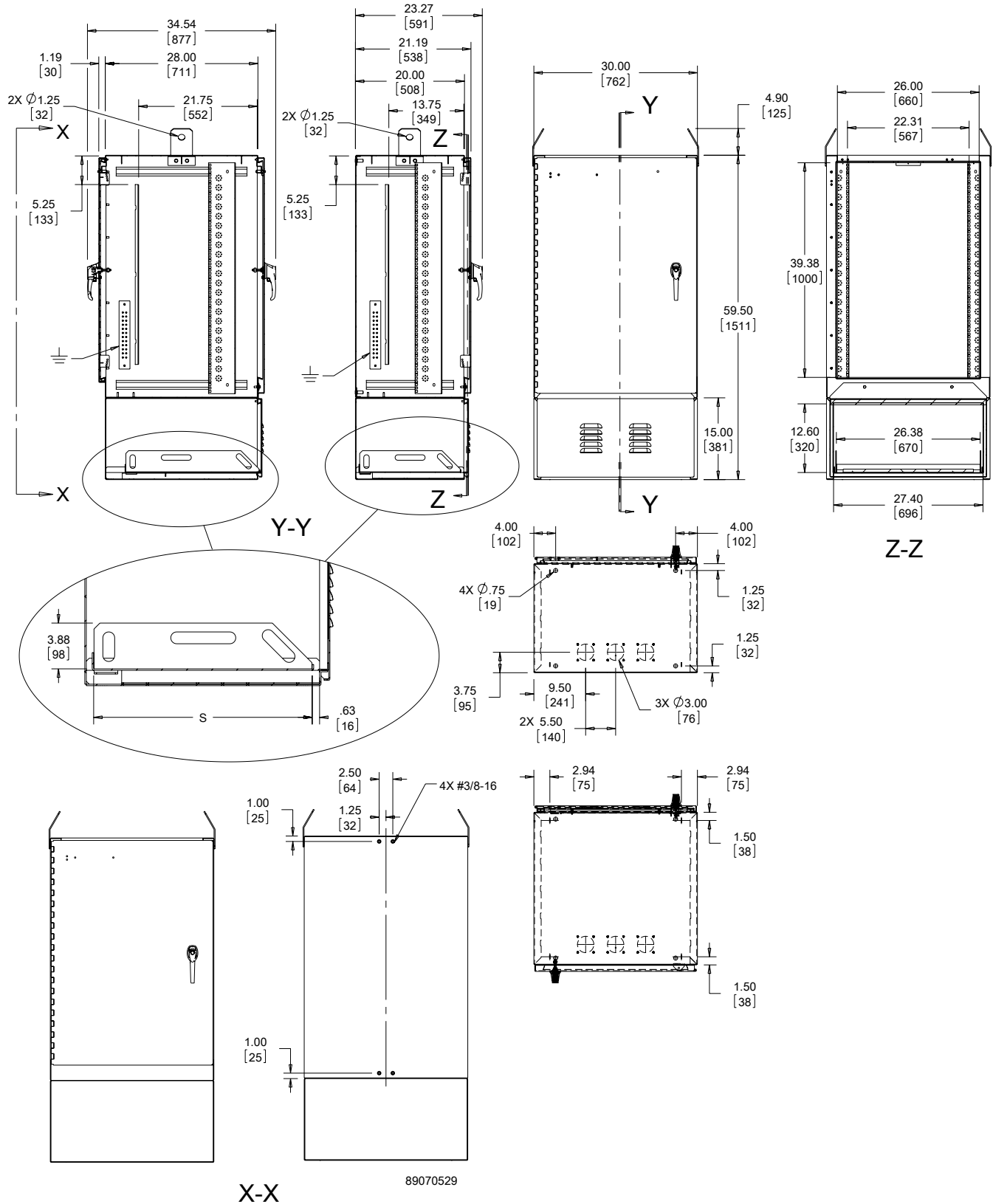
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FTTX Fiber Optic Cabinet With Battery Compartment



### FIBER MANAGEMENT SPOOL

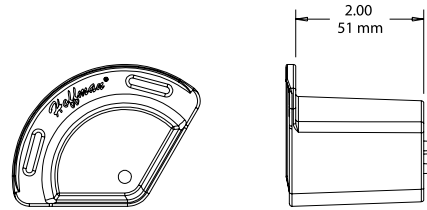


Fiber Management Spools mount inside the cabinet and help maintain proper bends when routing cable. Molded of black plastic. Includes thread-forming M5 mounting screws. Slots provided on flange for VELCRO® cable wrap.

VELCRO is a trademark of Velcro Industries B.V.

BULLETIN: DTX

Catalog Number	Radius (in.)	Radius (mm)	Pkg. Qty.
TOPTKSPL	1.18	30	4



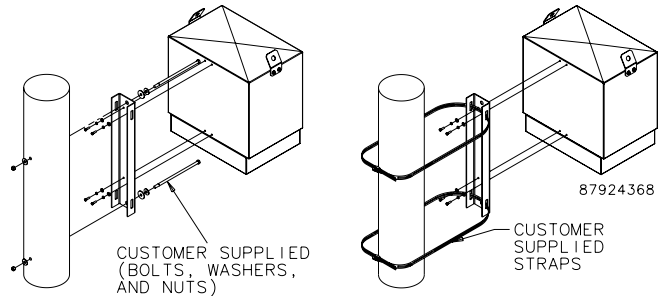
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### FIBER OPTIC CABINET POLE-MOUNT KIT

The Pole-Mount Kit installs on the rear of the single-access cabinets using the hardware provided. No drilling or tapping of the cabinet is required. Installation instructions are provided for mounting to various types of poles.

BULLETIN: DTX

Catalog Number	Kit Includes	Use With
T11FTXPMK	Channel and hardware for attaching to cabinet	11U Cabinet
T23FTXPMK	Channel and hardware for attaching to cabinet	23U Cabinet



87924368

INSTALLATION ON WOOD POLE

INSTALLATION ON CONCRETE OR STEEL POLE

### CLIP NUT PACKAGE



Twenty plated clip nuts fit all rack-mounting angles with .281-in. (7-mm) diameter holes (through-hole type).

BULLETIN: A80

Catalog Number	Description	Pkg. Qty.	Fits
AN1032	Clip Nut 10-32	20	.281-diameter mounting holes
ANM5	Clip Nut M5 (Metric)	20	.281-diameter mounting holes

### SCREW PACKAGE



Screws attach rack panels and rack-mounted equipment to rack-mounting angles.

BULLETIN: A80, DACCY, X20

Catalog Number	Color	Description	Pkg. Qty.
ES1224	Silver	12-24 x 5/8 in. combo head	20
ES1224250	Silver	12-24 x 5/8 in. combo head	250
ES1224B	Black	12-24 x 5/8 in. combo head	20
ES1224B250	Black	12-24 x 5/8 in. combo head	250
ASM5	Silver	M5 x 20 mm Combo Head	20
ASM6	Silver	M6 x 16 mm combo head	20
ASM5T	Silver	M5 x 12 mm thread-forming Phillips hex head screws	20
ASM6250	Silver	M6 x 16 mm combo head	250
AS1032	Silver	10-32 x 5/8 in. combo head	20
AS1032250	Silver	10-32 x 5/8 in. combo head	250
AS1032B	Black	10-32 x 5/8 in. combo head	20

Use ASM5T on PROLINE™ frame or Net Series extruded holes.

**OPAL PAD-MOUNT DSL CABINET**



5-Door Cabinet



Custom Cabinet Shown

**INDUSTRY STANDARDS**

UL 508A Listed; Type 3, 3R, 4, 4X, 12; File No. E61997

CSA: Type 3, 3R, 4, 4X, 12

NEMA/EEMAC Type 3, 3R, 4, 4X, 12

EC60529, IP66

Designed to meet Telcordia NEBS™ GR-487, GR-63 and IEC 48D

EIA 310-D with 19-in. spacing for rack equipment

Cabinet is RoHS compliant

NEBS™ is a trademark of Telcordia

**APPLICATION**

Protect communications equipment from the elements in various environments with OPAL, an aluminum pad-mounted cabinet. OPAL is offered in three- and five-door models and is designed to meet Telcoria NEBS GR-487-CORE requirements.

**FEATURES**

- Offered with three or five doors mounted for front, rear and side access to equipment
- Five-door model has two equal compartments and one side compartment
- Side compartment is ideal for cable entry, power distribution and load center
- Copper bonding bars included with cabinet
- Rack angles have EIA universal spaced square holes and are infinitely adjustable front-to-back in compartment
- Rack angles are predrilled for bend radius spools
- Each compartment is capable of either 19- or 23-in. rack angle positioning
- Top has integral solar shield with formed angles providing a peaked roof to deflect rain water to the sides of the cabinet
- L-handle is padlockable
- Bottom holes provided for bolting cabinet to concrete pad
- All doors have door switch, door (wind) stops and vault-style locking system
- Grounding and bonding studs provided on all doors and body
- Three cable entry boots provided in side compartment
- Four cable entry gland plates provided between side and central compartments

**SPECIFICATIONS**

- Manufactured from Type 5052-H32 0.125-in. thick aluminum
- Seams continuously welded and ground smooth
- Heavy duty continuous hinge with stainless steel hinge pin on all doors
- Rack angles made of 12 gauge plated steel
- All doors have with seamless gasket
- Door handles made of die-cast zinc with black polyester powder finish

**FINISH**

RAL 7035 light-gray, textured, low-gloss polyester powder paint over pretreated surfaces. Custom finishes available; please contact your local Hoffman sales office.

**ACCESSORIES**

See also Accessories.

- Shelves
- PDU's
- Cooling
- Cable Management Spools
- Switches
- Lights
- Cage Nuts and Screws

**MODIFICATION AND CUSTOMIZATION**

- Thermal management analysis
- Finish (Graffiti resistant, Local & Regional requirements, Telco green and beige)
- The addition of Fans, Heat exchangers and Air conditioners
- Cabinet insulation (Recommended for all Air conditioned applications)
- Holes, cut-outs, finish and size changes
- EMI/RFI shielding
- Level 1- 4 integration
- Additional Battery compartment
- Additional testing (UL, GR-487-CORE, Seismic, Vibration, Load, etc)

Contact your Hoffman Sales Office for details.

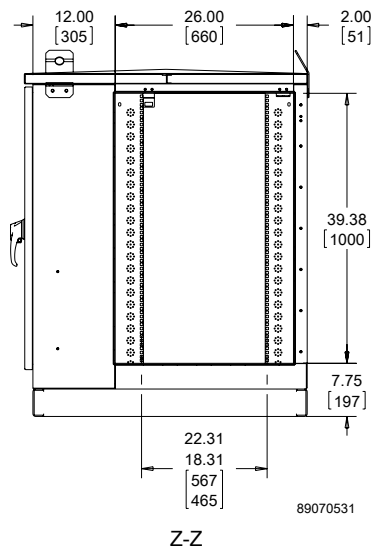
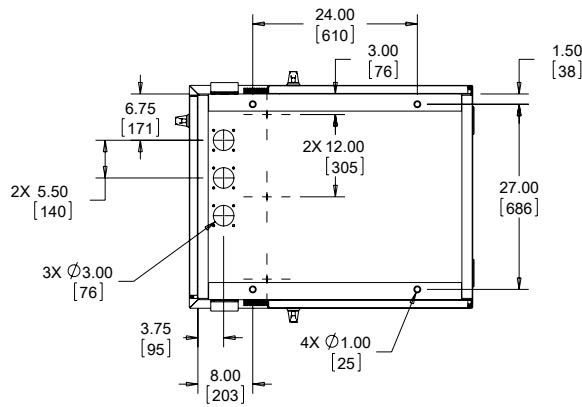
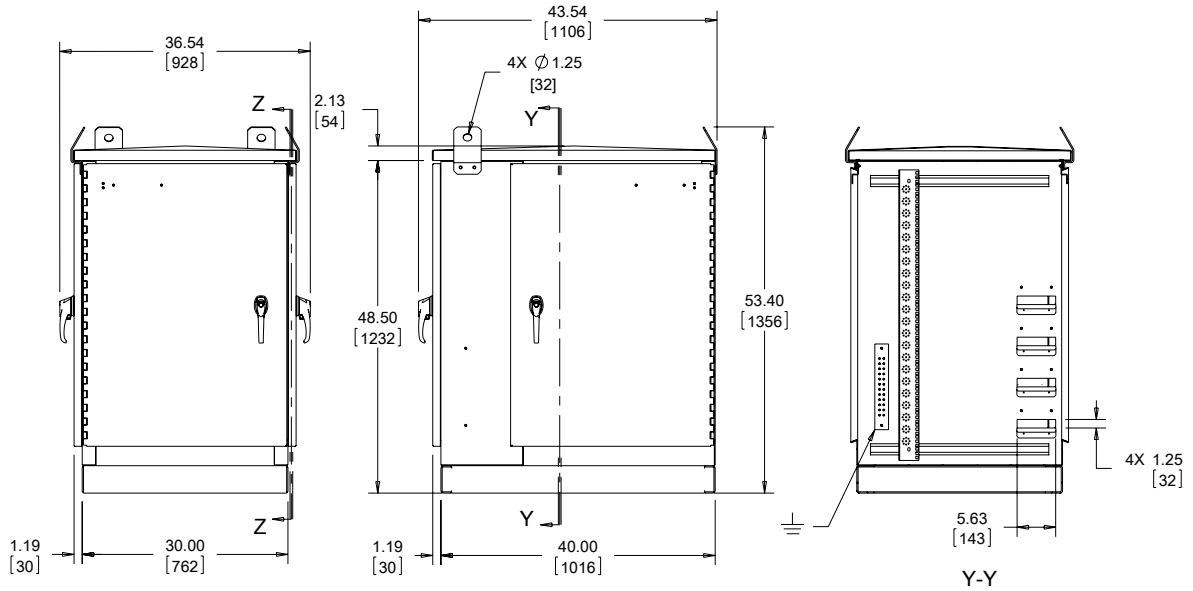
**BULLETIN: DPMC**

Standard Product **OPAL Outdoor Pad-Mounted Communications Cabinet**

Catalog Number	AxBxC in./mm	Rack Units Per Bay
T504030PM3	48.50 x 43.54 x 30.00 1232 x 1106 x 762	22
T507030PM5	48.50 x 73.54 x 30.00 1232 x 1868 x 762	22



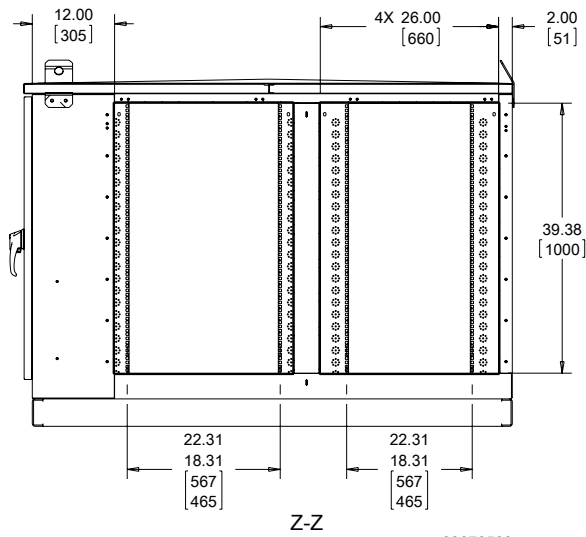
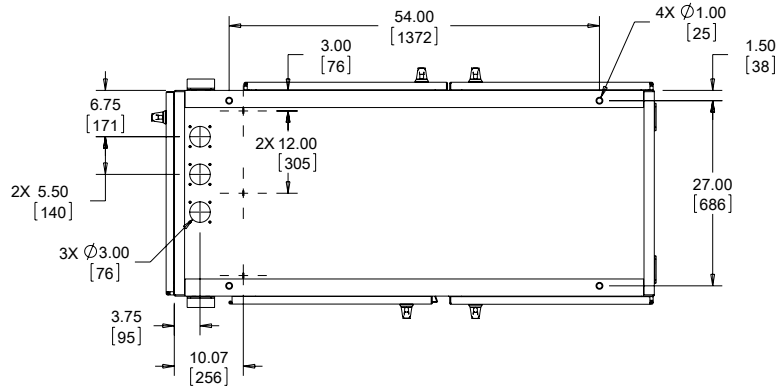
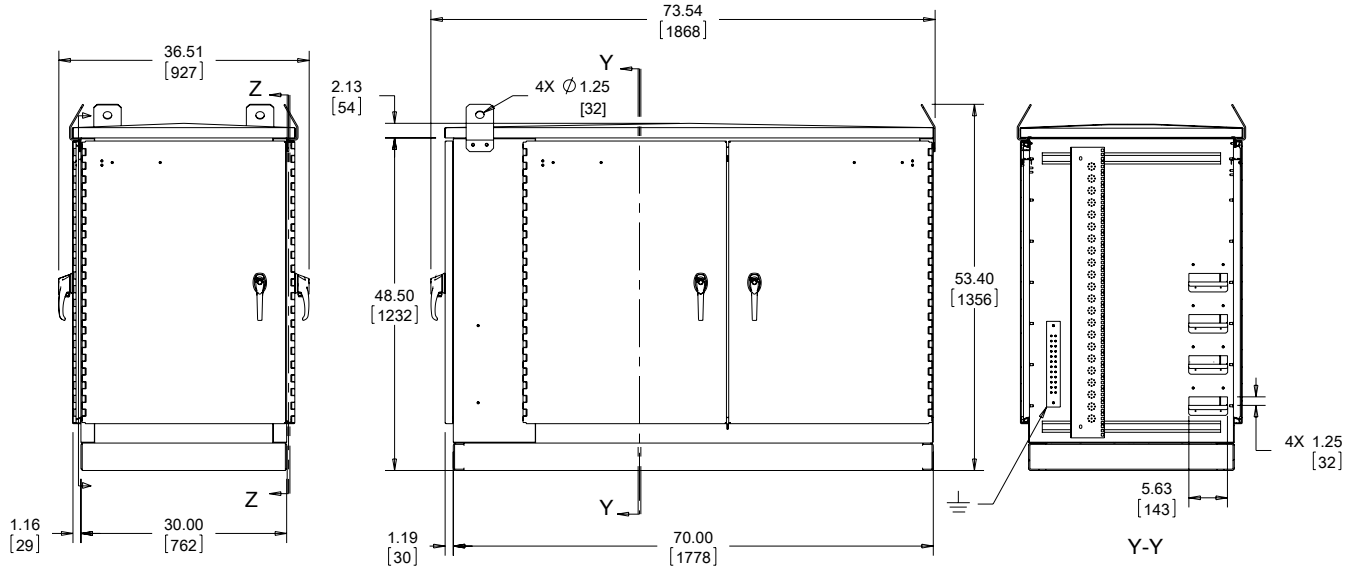
OPAL 3-Door Enclosure



89070531



OPAL 5-Door Enclosure



89070569



## Notes



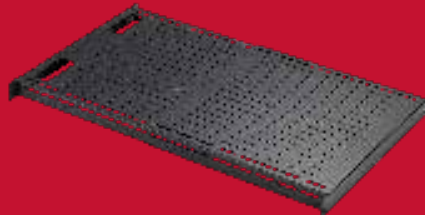
*Hoffman*

# CHAPTER 10 ACCESSORIES

## FEATURED PRODUCTS

### SHELVES

Ranging from double- and single-sided shelves to rack-mount and pull-out options, there are a variety of shelves available for open frame racks and cabinets.



### LIGHTING

LED light kits offer a compact, energy-efficient and flexible solution for enclosure-mounted task lighting. Available in AC and DC powered models.





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### HANDLES, LATCHES AND LOCKS

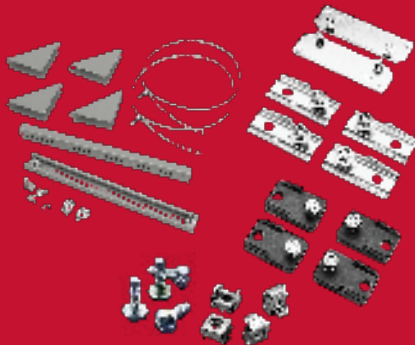
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### MOUNTING HARDWARE

Mounting hardware available for cabinets and rack panels facilitate easy installation.



### HANDLES, LATCHES AND LOCKS

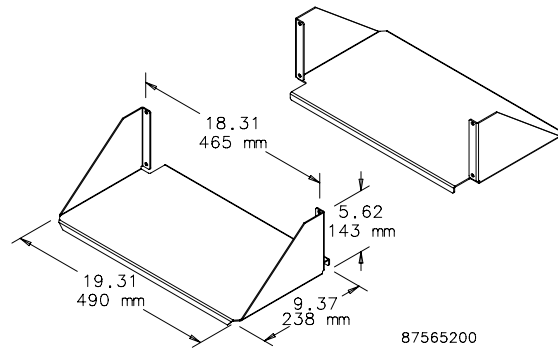
A wide range of handles, latches and locks ensure a secure, yet easy-to-use, cabinet.

### DOUBLE-SIDED SOLID ALUMINUM SHELF

Mounts on 19-in. open frame rack. Two shelves form double-sided shelf. Uses 4U rack space. Made of 0.090-in. thick aluminum with brushed finish. Maximum load rating: 100 lb. (45.4 kg) per side, 200 lb. (90.7 kg) total

BULLETIN: DACCY

Catalog Number	H x W x D in./mm	Fits Rack	Includes	Rack Units
ESHDA19	5.62 x 19.31 x 9.37 143 x 490 x 238	19 in.	2 shelves	4

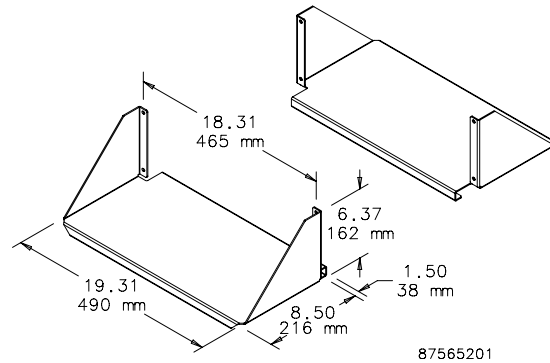


### DOUBLE-SIDED, SOLID ALUMINUM, HEAVY DUTY SHELF

Mounts on open frame rack. Two shelves form double-sided shelf. Uses 4U rack space. Made of 0.090-in. thick aluminum with brushed finish. Maximum Load Rating: 150 lb. (68.0 kg) per side, 300 lb. (136.1 kg) total

BULLETIN: DACCY

Catalog Number	H x W x D in./mm	Fits Rack	Includes	Rack Units
ESHDDA19	6.37 x 19.31 x 10.00 162 x 490 x 254	19 in.	2 shelves	4

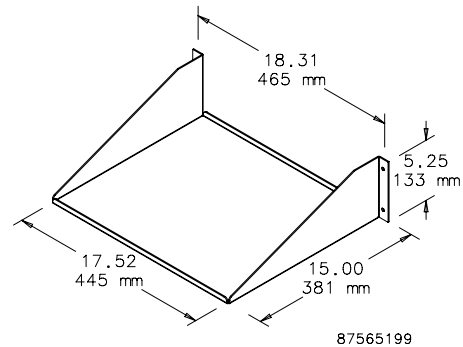


### SINGLE-SIDED SOLID ALUMINUM SHELF

Mounts in a cabinet or on a 19-in. open-frame rack and can be wall mounted. Made of 0.090-in. thick aluminum with brushed finish. Maximum load rating: 100 lb. (45.4 kg)

BULLETIN: DACCY

Catalog Number	H x W x D in./mm	Fits Rack	Rack Units
ESHA19	5.25 x 18.31 x 15.00 133 x 465 x 381	19 in.	3

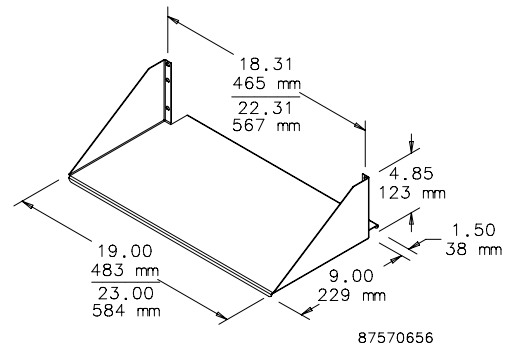


### SINGLE-SIDED SOLID-STEEL SHELF

Solid shelf mounts to either front or rear flange of open-frame rack. Uses 3U of rack space. Steel with textured black finish. Load rating: 150 lb. (68.0 kg)

BULLETIN: DACCY

Catalog Number	H x W x D in./mm	Fits Rack	Rack Units
ESH19S	4.85 x 19.00 x 10.50 123 x 483 x 267	19 in.	3
ESH23S	4.85 x 23.00 x 10.50 123 x 584 x 267	23 in.	3

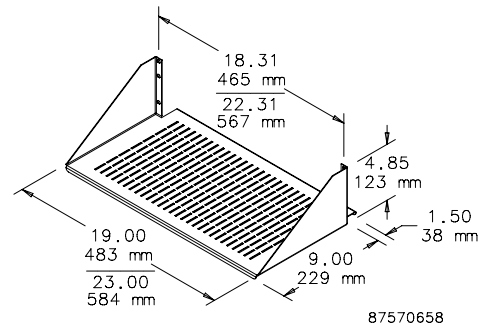


### SINGLE-SIDED STEEL VENTED SHELF

Vented shelf mounts to either front or rear flange of open-frame rack. Steel with textured black polyester powder paint finish. Load rating: 150 lb. (68.0 kg)

BULLETIN: DACCY

Catalog Number	H x W x D in./mm	Fits Rack	Rack Units
ESH19V	4.85 x 19.00 x 10.50 123 x 483 x 267	19 in.	3
ESH23V	4.85 x 23.00 x 10.50 123 x 584 x 267	23 in.	3



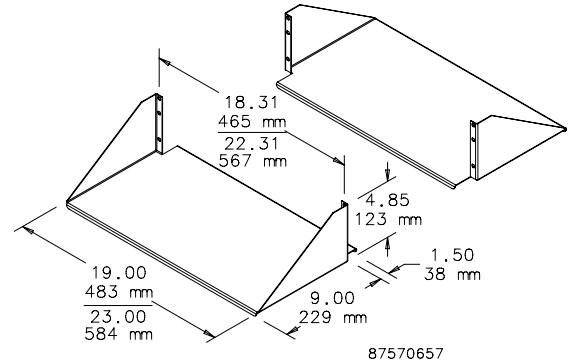
### DOUBLE-SIDED SOLID-STEEL SHELF

Solid double-deep shelf mounts to both front and rear flanges of open frame rack. Steel with textured black polyester powder paint finish. Load rating: 300 lb. (136.1 kg)

Load rating: 300 lb. (136.1 kg)

BULLETIN: DACCY

Catalog Number	H x W x D in./mm	Fits Rack	Rack Units
ESHD19	4.85x 19.00 x 10.50 123 x 483 x 267	19 in.	3
ESHD23	4.85 x 23.00 x 10.50 123 x 584 x 267	23 in.	3



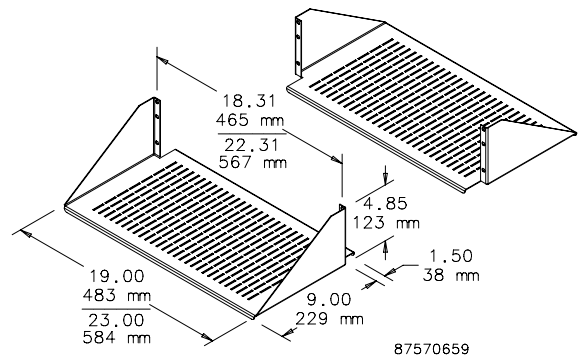
### DOUBLE-SIDED STEEL VENTED SHELF

Vented, double-deep shelf mounts to both front and rear flanges of open frame rack. Steel with textured black polyester powder paint finish. Load rating: 300 lb. (136.1 kg)

Load rating: 300 lb. (136.1 kg)

BULLETIN: DACCY

Catalog Number	H x W x D in./mm	Fits Rack	Rack Units
ESHDV19	4.85 x 19.00 x 10.50 123 x 483 x 267	19 in.	3
ESHDV23	4.85 x 23.00 x 10.50 123 x 584 x 267	23 in.	3

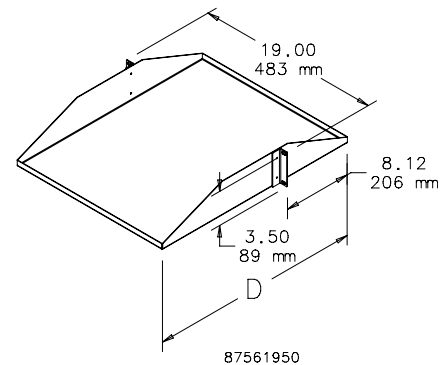


### CENTER-MOUNT STEEL SHELVES

19-in. shelf mounts to the front of the rack. Ideal for supporting monitors or computers. Designed to evenly distribute load across the rack. Manufactured from 16 gauge steel. Black, low-gloss, light-textured polyester powder paint finish on all surfaces. Load rating: 100 lb. (45.4 kg)

BULLETIN: DOFRC

Catalog Number	H x W x D in./mm	Style	Rack Units
ECMS1918	3.50 x 19.00 x 18.00 89 x 483 x 457	Solid	2
ECMS1922	3.50 x 19.00 x 22.00 89 x 483 x 559	Solid	2
ECMSV1918	3.50 x 19.00 x 18.00 89 x 483 x 457	Vented	2
ECMSV1922	3.50 x 19.00 x 22.00 89 x 483 x 559	Vented	2

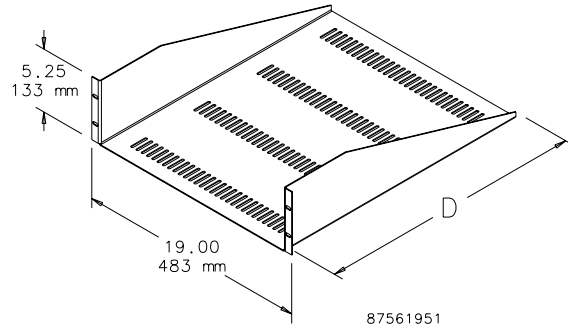


### RACK-MOUNT STEEL SHELF

19-in. Rack-Mount Shelf mounts to the front of the rack. Ideal for holding non-19-in. rack-mount equipment. Available with or without vents. Manufactured from 16 gauge steel. Black, low-gloss, lightly textured finish on all surfaces. Load rating: 100 lb. (45.4 kg)

BULLETIN: DOFRC

Catalog Number	H x W x D in./mm	Style	Rack Units
EMS1918	5.25 x 19.00 x 18.00 133 x 483 x 457	Solid	3
EMS1922	5.25 x 19.00 x 22.00 133 x 483 x 559	Solid	3
EMSV1918	5.25 x 19.00 x 18.00 133 x 483 x 457	Vented	3
EMSV1922	5.25 x 19.00 x 22.00 133 x 483 x 559	Vented	3

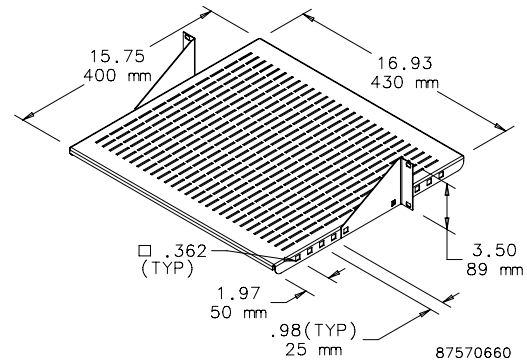


### ADJUSTABLE STEEL VENTED SHELF

Vented shelf adjustable front to back in 25-mm increments. Shelf mounts to either front or rear flange of open frame rack. Steel with textured black polyester powder paint finish. Load rating: 60 lb. (27.2 kg)

BULLETIN: DACCY

Catalog Number	H x W x D in./mm	Fits Rack	Rack Units
ESHVA19	3.50 x 16.93 x 15.75 89 x 430 x 400	19 in.	2
ESHVA23	3.50 x 19.93 x 15.75 89 x 506 x 400	23 in.	2

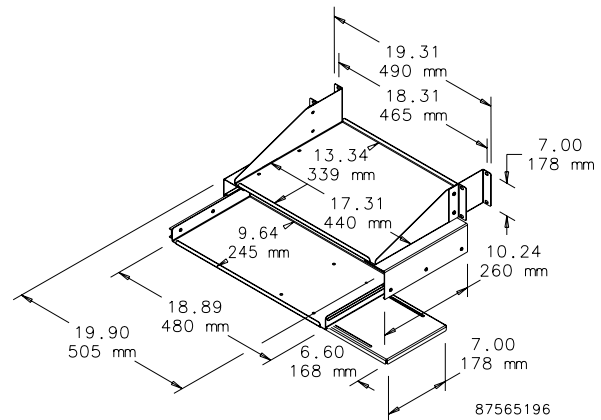


### PULLOUT KEYBOARD TRAY WITH MONITOR SHELF

Mounts to the front and back surfaces of a standard 3-in. open frame rack. Fits full-size keyboard. Includes mouse tray. Extends 10.5 in. (267 mm) beyond front of open frame rack. Keyboard tray slides out an additional 7 in. (178 mm). Uses 4U rack space. 16 gauge steel with RAL 9005 black polyester powder paint finish. Monitor shelf load rating: 100 lb. (45.4 kg)

BULLETIN: DACCY

Catalog Number	H x W x D in./mm	Fits Rack	Rack Units
E19SKBM	7.00 x 19.90 x 10.24 178 x 505 x 260	19 in.	4

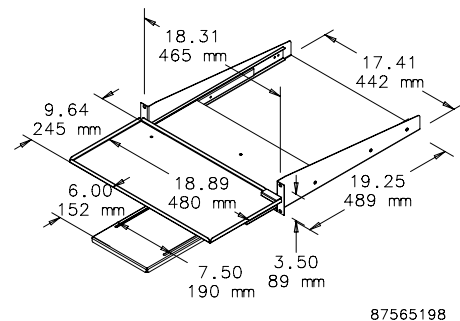


### PIVOTING KEYBOARD SHELF WITH MOUSE TRAY

Mounts either in a cabinet or on a 19-in. open-frame rack. Shelf pulls out and pivots 90 degrees to access full-size keyboard. Shelf allows keyboard to slide between standard rack angles and includes mouse tray. 16 gauge steel with RAL 9005 black polyester powder paint finish. Keyboard tray extends 9.75 in. (248 mm) beyond front of rack angles or open-frame rack.

BULLETIN: DACCY

Catalog Number	H x W x D in./mm	Fits Rack	Rack Units
P19KBPVT	3.50 x 18.89 x 19.25 89 x 480 x 489	19 in.	2

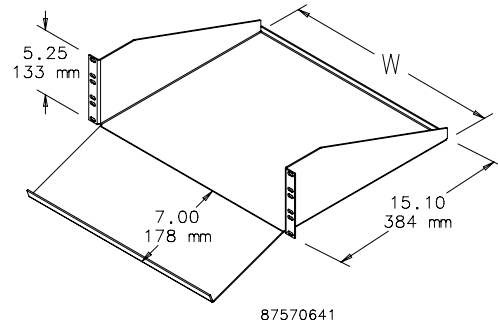


### STEEL KEYBOARD/MONITOR SHELF

Designed to accommodate a monitor and keyboard in an ergonomically engineered design. Shelf mounts to front flange of open-frame rack. Can mount in a cabinet if rack angles are adjusted back for door clearance. Uses 3U of rack space. 19-in. and 23-in. rack versions. Steel with textured black finish. Load rating: 200 lb. (91 kg)

BULLETIN: DACCY

Catalog Number	H x W x D in./mm	Fits Rack	Rack Units
ESH19KBM	5.25 x 17.38 x 15.10 133 x 441 x 384	19	3
ESH23KBM	5.25 x 21.38 x 15.10 133 x 543 x 384	23	3

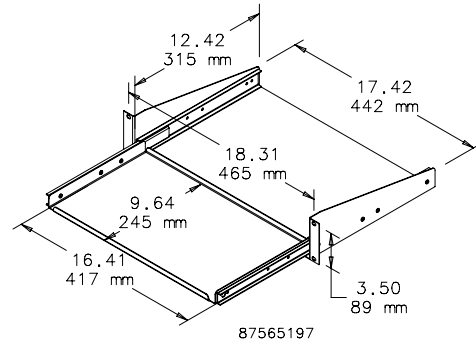


### PULL-OUT SHELF FOR MINI KEYBOARD

Pull-Out Shelf for Mini Keyboard mounts either in a cabinet or on a 19-in. open-frame rack and fits a 16.25-in. (413-mm) wide keyboard. When closed, all parts slide between rack angles. Keyboard tray slides out 8.94 in. (227 mm). 16 gauge steel with RAL 9005 black polyester powder paint finish.

BULLETIN: DACCY

Catalog Number	H x W x D in./mm	Fits Rack	Rack Units
P19KBSM	3.50 x 18.31 x 12.42 89 x 465 x 315	19 in.	2



### TOOL-LESS SHELF

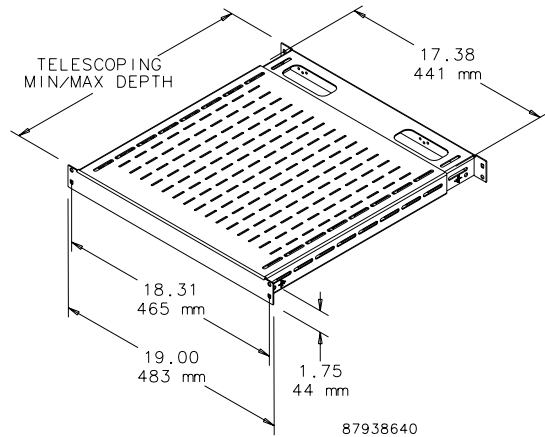


An easy-to-install tool-less vented 19-in. shelf. Mounts onto rack angles that have EIA-spaced square holes (.375 in.). Shelf slides open and provides a variable-sized, continuous surface for equipment. Back of shelf has oval cutouts for power and data cables. Accessory hole patterns at back of shelf fit small and large D-rings to help manage cable. Made of steel with a 150 lb. (68 kg) static load rating. Available with RAL 9005 black or RAL 7035 gray polyester powder coat finish.

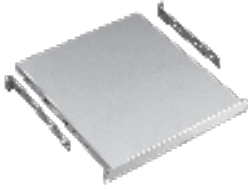
BULLETIN: DACCY

Catalog Number	Description	Finish	Minimum Depth mm/in.	Maximum Depth mm/in.
D19FVT69B	Shelf, vented, 19 in. tool-less	Black	495 19.50	851 33.50
D19FVT69G	Shelf, vented, 19 in. tool-less	Gray	495 19.50	851 33.50
D19FVT912B	Shelf, vented, 19 in. tool-less	Black	792 31.20	1151 45.30
D19FVT912G	Shelf, vented, 19 in. tool-less	Gray	792 31.20	1151 45.30

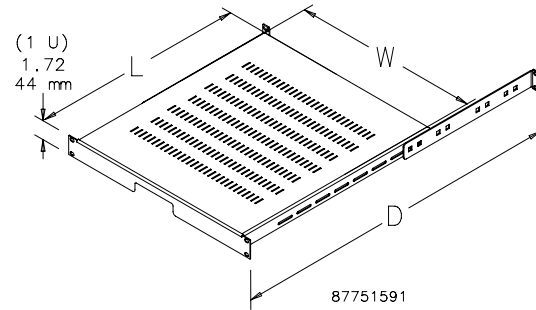
Minimum and maximum depth measured from rack angle to rack angle.



### RACK-MOUNT ADJUSTABLE SHELF



Mounts to front surface of front and back rack angles. Shelf is made of painted 14 gauge steel and the adjustable support brackets are clear-plated 12 gauge steel. Adjustable to fit multiple-depth enclosures or rack angle placement. Both solid and vented models available. Fits 19- or 23-in. rack spacing. Requires only 1U of rack space. Shelf has RAL 7035 light-gray textured or RAL 9005 black textured polyester powder paint finish. Load rating: 150 lb. (68 kg)



BULLETIN: DACCY

Catalog Number	Type	Size	Finish	L x W (in.)	L x W (mm)	D max. (in.)	D max. (mm)	Fits Enclosure Depth Up To (in.)	Fits Enclosure Depth Up To (mm)
P19SH68	Solid	19 in.	Gray	19.68 x 17.32	500 x 440	30.71	780	31.50	800
P19SH68B	Solid	19 in.	Black	19.68 x 17.32	500 x 440	30.71	780	31.50	800
P19VSH68B	Vented	19 in.	Black	19.68 x 17.32	500 x 440	30.71	780	31.50	800
P19SH810	Solid	19 in.	Gray	27.56 x 17.32	700 x 440	38.58	980	39.37	1000
P19SH810B	Solid	19 in.	Black	27.56 x 17.32	700 x 440	38.58	980	39.37	1000
P19VSH810B	Vented	19 in.	Black	27.56 x 17.32	700 x 440	38.58	980	39.37	1000
P23SH68B	Solid	23 in.	Black	19.68 x 21.32	500 x 542	30.71	780	31.50	800
P23VSH68B	Vented	23 in.	Black	19.68 x 21.32	500 x 542	30.71	780	31.50	800
P23SH810B	Solid	23 in.	Black	27.56 x 21.32	700 x 542	38.58	980	39.37	1000
P23VSH810B	Vented	23 in.	Black	27.56 x 21.32	700 x 542	38.58	980	39.37	1000

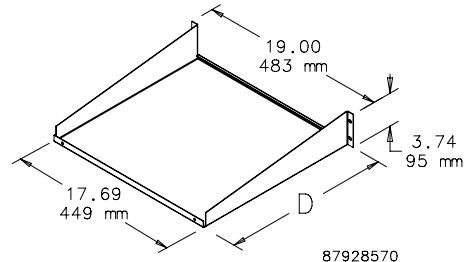
### SINGLE-SIDED SHELF



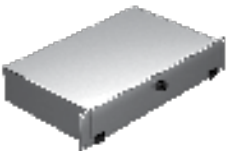
Mounts to 19-in. rack angles to house voice/data networking equipment. RAL 9005 black finish. Load rating: 75 lb. (34 kg)

BULLETIN: DACCY

Catalog Number	H x W x D (in.)	H x W x D (mm)	Style	Rack Units
ESH198	3.74 x 19.00 x 8.00	95 x 483 x 203	Solid	2
ESH1915	3.74 x 19.00 x 15.00	95 x 483 x 381	Solid	2
ESH1915V	3.74 x 19.00 x 15.00	95 x 483 x 381	Vented	2
ESH1917	3.74 x 19.00 x 17.00	95 x 483 x 432	Solid	2



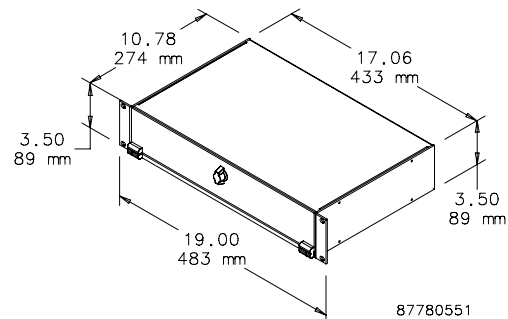
### KEYBOARD COMPARTMENT FOR 19-IN. RACKS



Provides a convenient way to incorporate a keyboard with other 19-in. rack-mounted equipment. Uses 2 RU of space. Made of light-weight aluminum with brushed finish. Accommodates keyboard up to 16.50-in. (419-mm) wide. Mounting hardware included.

BULLETIN: DACCY

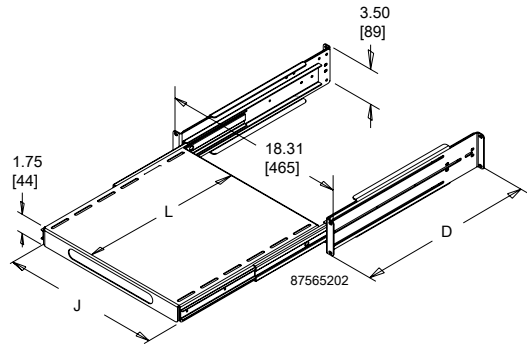
Catalog Number	Fits rack width	Rack Units
A19KBC2B	19	2



### SLIDING EQUIPMENT SHELF

Steel Sliding Equipment Shelf mounts to front surface of front and back rack angles. Models fit 19- or 23-in. rack spacing. Adjusts to fit multiple-depth enclosures and rack angle placements. Shelf can be used on 2-post rack or cabinet with front rack angles only by reversing support bracket. Optional cable manager arm available. 14 gauge steel with 12 gauge supports with RAL 9005 black polyester powder paint finish. Load rating: 150 lb. (68.0 kg) with four corner mounting; 75 lb. (34.0 kg) with two-post or front-rack-angle cabinet mounting. Optional Cable Manager Arm is recommended to help control cable movement as shelf slides in and out.

BULLETIN: DACCY



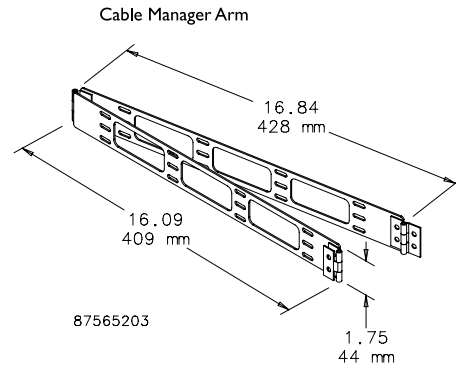
Catalog Number	D Max. (in.)	D Max. (mm)	L (in.)	L (mm)	J (in.)	J (mm)	Shelf Pullout (in.)	Shelf Pullout (mm)	Fits Rack	Rack Units
P19SHP68B	37.40	950	16.72	425	16.20	412	17.00	432	19 in.	2
P19SHP810B	41.30	1050	24.59	625	16.20	412	19.00	483	19 in.	2
P23SHP68B	37.40	950	16.72	425	20.20	513	17.00	432	23 in.	2
P23SHP810B	41.30	1050	24.59	625	20.20	513	19.00	483	23 in.	2

### CABLE MANAGER ARM FOR SLIDING EQUIPMENT SHELF

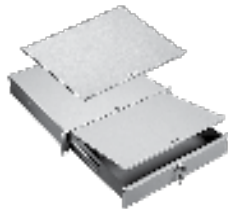
Cable Manager Arm mounts to back of sliding equipment shelf on right or left side. Controls cable movement as shelf slides in and out. 14 gauge steel with RAL 9005 black polyester powder paint finish.

BULLETIN: DACCY

Catalog Number	Description	Use With
PHCB	Cable Manager Arm	Sliding Equipment Shelf



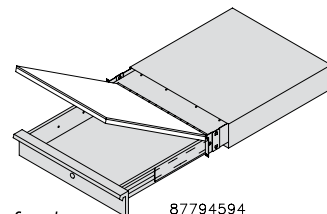
### WRITING SURFACE FOR RACK-ANGLE-MOUNTED DRAWER



Steel cover mounts on top of the drawer and serves as a writing surface and drawer cover. Finish is RAL 7035 light-gray textured polyester powder paint. Illustration and one photo show writing surface mounted on drawer. Order drawer separately.

BULLETIN: P20

Catalog Number	Description	Fits
P19WS	Steel writing surface and cover	Drawer (order separately)

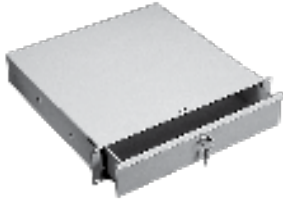


Writing surface shown mounted on drawer

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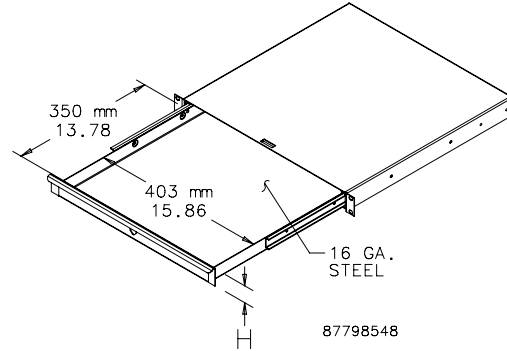
**RACK-ANGLE MOUNTED DRAWER**



Steel drawer for 19-in. rack-angle mounting mounts to the front surface of the rack angles. Integral steel box contains the drawer and protects surrounding internal equipment. Extends 13 in. (330 mm) on ball bearing slides. Front includes handle and key lock. Finish is RAL 7035 textured light-gray polyester powder paint. Mounting hardware is included.

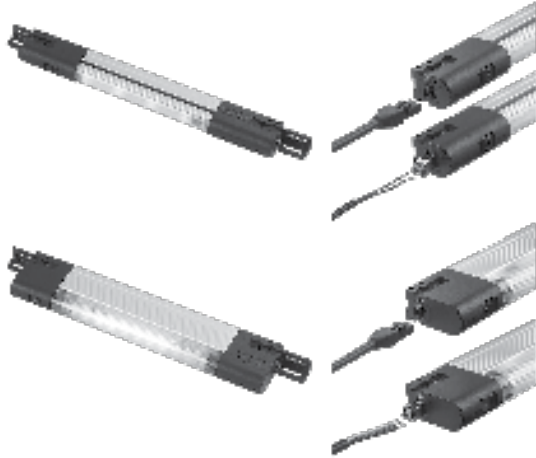
**BULLETIN: P20**

Catalog Number	H (mm)	H (in.)	Fits Rack Width	Rack Units
P19DR1US	43	1.69	19 in.	1
P19DR2US	88	3.47	19 in.	2
P19DR3US	132	5.20	19 in.	3





## PANELITE™ ENCLOSURE LIGHTS OVERVIEW



### INDUSTRY STANDARDS

#### PANELITE LED and Fluorescent Enclosure Lights

UL 508A Component Recognized; File No. E61997  
cUL Component Recognized per CSA C22.2 No 14; File No. E61997

CSA File No. 42186

Maintains UL/CSA Type 4, 4X and 12 enclosure rating when properly installed in a Hoffman enclosure.

#### 230 VAC Fluorescent Enclosure Light

UL 508A Component Recognized; File No. E234324  
cUL Component Recognized per CSA C22.2 No 14; File No. E234324

CE

#### LED Light

UL 508A Component Recognized; File No. E234324  
cUL Component Recognized per CSA C22.2 No 14; File No. E234324

CE

Ingress protection : IP 20

Maintains enclosure type rating up to 4X when installed per instructions

### APPLICATION

Versatile, slim-profile LED and fluorescent lights provide mounting flexibility and are easy to install in any enclosure. Terminal blocks allow for easy wiring. Accessories include ganging cables, power cords and door switches, all provided with plug-and-play connectors for easy connection to the terminal blocks with an innovative terminal connection system. LED version provides superior lighting performance with minimal power consumption.

### FEATURES

- Slim profile allows light to be tucked up out of the way for easy panel installation
- Versatile mounting allows the light to be positioned horizontally or vertically; two-way mounting provides for ideal orientation
- Includes mounting hardware for the following enclosure installations: PROLINE™ Frame, Enclosure Top, Panel Mount and Unistrut
- On/off switch incorporated in light; optional remote door switch accessory available to activate light when enclosure door is opened (230 VAC Fluorescent Enclosure Light has switch or door-activated sensor)

#### PANELITE Only:

- Mounting tabs provide easy access point for attachment hardware; light does not need to be disassembled for installation
- Up to five lights can be daisy-chained together
- Plug-and-play terminal connection system:
  - Pre-wired connection sockets on both ends of light allow use of Hoffman cable accessories
  - Optional terminal blocks snap into the connection sockets allowing customers to use own wiring methods; two terminal blocks provided with each light kit
  - Power supply can be wired manually with Hoffman PANELITE Power Cable with Leads or with Hoffman optional PANELITE Power Cord
  - Ganging cables are available in 2-, 4- and 6-ft. lengths to easily join up to five lights together using one power supply
  - Remote door switch for easy door activation eliminates need to mount light in the exact location required to activate the light

#### LED Light Only:

- Mechanical screw- or magnetic mount (non-slip rubberized)
- Protection Class II (double insulated)
- Operating temperature -22 F to 140 F (-30 C to 60 C)
- On / Off or motion-sensor activation
- LED lights with 900 LM illumination; 120° angle of illumination
- Low, 5-watt power requirement
- Light-weight, all-composite construction
- Input and output connectors included with light (16 AWG)

### SPECIFICATIONS

#### PANELITE:

- Extruded aluminum center support
- Black composite end caps
- Black composite mounting tabs
- Each light fixture includes two mounting tabs, two pre-wired connection sockets, two optional terminal blocks that snap into the connection sockets and enclosure attachment hardware (bulb not included with fluorescent light)

#### 230 VAC Fluorescent Enclosure Light:

- Light gray composite construction – UL 94V-0 material
- Hardware kit provides fasteners to mount to PROLINE, NEMA (4, 4X, 12, and 13), CONCEPT™, FUSION™ and other cabinets
- Easy-access terminal block that accommodates up to 16 AWG wires
- Fluorescent light bulb included (2G7 Base)

#### LED Light:

- LED (Light Emitting Diode) low-power light kit
- Screw mounting using included hardware kit (maintains enclosure rating up to UL Type 4X)
- No user-serviceable parts
- Life expectancy of 60,000 hours at 68 F (20 C) under specifications
- Operating temperature: -22 to +140 F (-30 to +60 C) under specifications
- 5-watt power consumption
- Transparent, composite construction

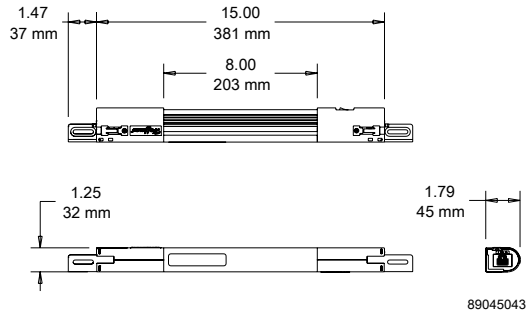
**PANELITE™ LED ENCLOSURE LIGHT**



- 24 VDC operation for superior lighting performance with minimal power consumption
- 140-degree cone angle casts a broad covering of neutral light
- Center section rotates 120 degrees to re-direct light where needed
- Long life; 70 percent of initial luminance at 50,000 hours (at 25 C)
- High power LED emitters produce 470 Lumens for superior lighting performance; provides up to 50 percent more usable light than comparable length fluorescent lights
- Can be wired using optional PANELITE Cable Accessories or can be hard-wired with terminal blocks included in hardware kit
- Up to five lights can be daisy-chained together using hard-wired connection to power supply or catalog number LPC72 power cable with leads

BULLETIN: A80LT

Catalog Number	Description	VDC	Amps	W in./mm	X in./mm
LED24V15	LED Light, 15 in.	24	.5	15.00 381	8.00 203

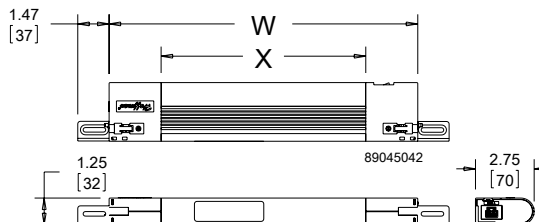


**PANELITE™ FLUORESCENT ENCLOSURE LIGHT**



- 120 VAC, 50/60 Hz operation
- Can be wired using optional PANELITE™ Cable Accessories or can be hard-wired with terminal blocks included in hardware kit
- Available in 15-, 18- and 28-in. lengths with ability to daisy chain up to five lights together using one power supply
- Fluorescent bulb not included

BULLETIN: A80LT



Catalog Number	Description	VAC	Hz	Amps	W in./mm	X in./mm	Bulb (purchase separately)	Replacement Lens Cover
LF120V15	Fluorescent Light, 15 in.	120	50/60	.13	14.50 368	9.63 245	F6T5	LFL15
LF120V18	Fluorescent Light, 18 in.	120	50/60	.13	17.50 445	12.63 321	F8T5	LFL18
LF120V28	Fluorescent Light, 28 in.	120	50/60	.26	27.75 705	22.88 581	F14T5	LFL28

### PANELITE™ POWER CORDS



- Connects light to standard North American wall socket
  - LF120VCORD is for 120 VAC Fluorescent lights (up to five lights can be daisy chained together using one power cord)
  - LED24VCORD is for 24 VDC LED lights and includes a transformer to convert 100-240 VAC power supply (capable of powering only one LED light)
  - Plugs directly into a connection socket on switch end of the light
  - Includes one cable
- Power cord not required. Terminal blocks are provided with each light for wired connection to electric supply.*

**BULLETIN: A80LT**

Catalog Number	Description	Length
LF120VCORD	Fluorescent Light Power Cord	72 in.
LED24VCORD	LED Light Power Cord	60 in.

### PANELITE™ POWER CABLE WITH LEADS



- 72-in. power cord provides convenient connection to an electrical supply
  - Eliminates need to run and tag individual wires into the light
  - Compatible with PANELITE™ LED and Fluorescent lights
  - Plugs directly into connection socket on switch end of the light
  - Includes one 16 AWG cable, black
- Power Cable not required. Terminal blocks are provided with each light for wired connection to electric supply.*

**BULLETIN: A80LT**

Catalog Number	Length
LPC72	72 in.

### PANELITE™ GANGING CABLES



- Ganging Cables provide convenient method for joining up to five lights together while utilizing one power supply
  - Available in 24-, 48- and 72-in. lengths
  - Plugs directly into connection socket on either end of the light
  - Compatible with PANELITE™ LED and Fluorescent lights
  - Includes one 16 AWG cable, black
- Ganging Cables not required. Terminal blocks are provided with each light for hard-wired connections.*

**BULLETIN: A80LT**

Catalog Number	Length
LGCABLE24	24 in.
LGCABLE48	48 in.
LGCABLE72	72 in.

### PANELITE™ DOOR SWITCH CABLE



- Easily connects PANELITE™ LED or Fluorescent Light to a Remote Door Switch
  - T-connector allows the Door Switch Cable to be connected with a ganging cable or power supply to the switch end of the light
  - Available in 18- and 72-in. lengths
  - Includes one 18 AWG cable, black
- Door Switch Cables not required. Terminal blocks are provided with each light for hard-wired connection to remote door switch.*

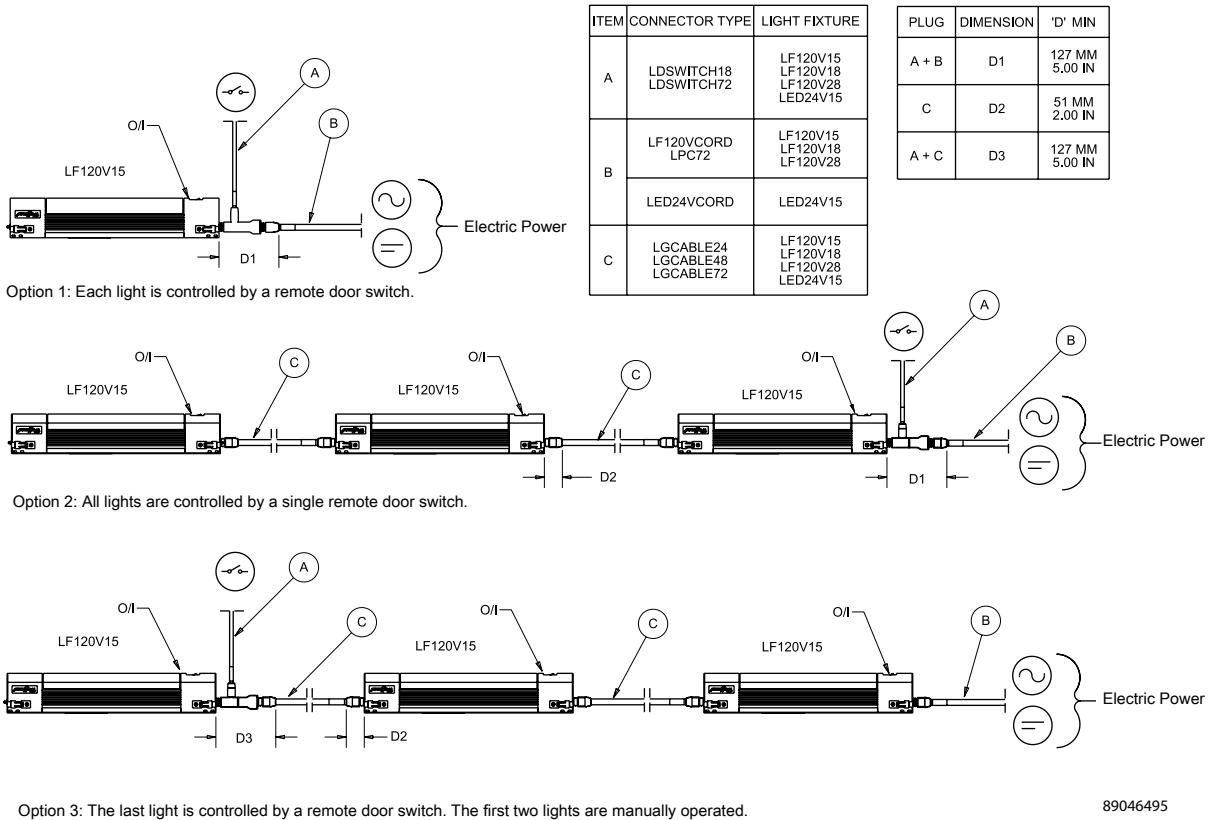
**BULLETIN: A80LT**

Catalog Number	Length
LDSWITCH18	18 in.
LDSWITCH72	72 in.



**PANELITE™ WIRING OPTIONS**

See the table on the drawing for cable clearance dimensions.



Option 1: Each light is controlled by a remote door switch.

Option 2: All lights are controlled by a single remote door switch.

Option 3: The last light is controlled by a remote door switch. The first two lights are manually operated.

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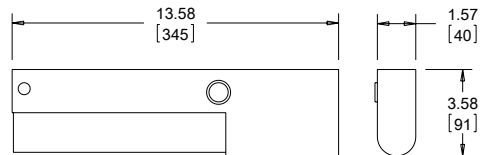
**230 VAC FLUORESCENT ENCLOSURE LIGHT**



- 230 VAC, 50/60 Hz operation with electronic ballast
- Compact light-gray plastic housing, UL 94V-0
- Easy access to wiring terminals, integral strain relief, 16 AWG max.
- Versatile mounting to many enclosure types
- Complete assembly, long-life fluorescent bulb included, Luminosity 900 LM
- Switch and Door motion sensor offering

BULLETIN: A80LT

Catalog Number	AxBxC in./mm	Description
LF230VM	1.57 x 13.58 x 3.58 40 x 345 x 91	Light Kit, 230VAC, Manual switch
LF230VD	1.57 x 13.58 x 3.58 40 x 345 x 91	Light Kit, 230VAC, IR Motion Sensor



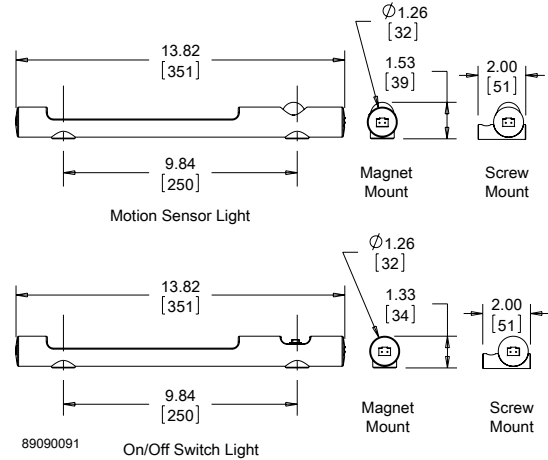
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**LED LIGHT KIT**



LED light kits provide interior enclosure lighting. These light kits are ideal for remote and darkened enclosure applications. The light can be mechanically fastened with included hardware to maintain enclosure UL listing (up to Type 4X), or can be magnetically attached to flat steel surfaces. The lights have auto-sensing circuitry (AC voltage 90 VAC to 260 VAC and DC voltage 20 VDC to 60 VDC). LED lights are light-weight and in a small form factor while providing 900 LM of 6500K light. Power consumption for all models is 5 watts.

**BULLETIN: A80LT**



Catalog Number	AxBxC in./mm	Weight (oz)	Weight (gm)	Mounting Style	Power Source	Activation	Voltage
LEDA1M35	1.34 x 1.26 x 13.82 34 x 32 x 351	4.8	135	Magnetic	AC	On/off switch	90 VAC-260 VAC
LEDA2M35	1.54 x 1.26 x 13.82 39 x 32 x 351	5.0	140	Magnetic	AC	IR Motion Sensor	90 VAC-260 VAC
LEDA1S35	1.42 x 2.05 x 13.82 36 x 52 x 351	4.8	135	Screw	AC	On/off switch	90 VAC-260 VAC
LEDA2S35	1.63 x 2.05 x 13.82 41 x 52 x 351	5.0	140	Screw	AC	IR Motion Sensor	90 VAC-260 VAC
LEDD1M35	1.34 x 1.26 x 13.82 34 x 32 x 351	4.8	135	Magnetic	DC	On/off switch	20 VDC-60 VDC
LEDD2M35	1.54 x 1.26 x 13.82 39 x 32 x 351	5.0	140	Magnetic	DC	IR Motion Sensor	20 VDC-60 VDC
LEDD1S35	1.42 x 2.05 x 13.82 36 x 52 x 351	4.8	135	Screw	DC	On/off switch	20 VDC-60 VDC
LEDD2S35	1.63 x 2.05 x 13.82 41 x 52 x 351	5.0	140	Screw	DC	IR Motion Sensor	20 VDC-60 VDC

**LED LIGHT INPUT CONNECTOR/CABLE ASSEMBLY**



The input connector/cable assembly is used to provide supply power to the LED light. Pre-assembled connector/cable assembly with

78.7-in. (2000 mm) long cable whip. Cables are constructed of 16 AWG copper wire.

**BULLETIN: A80LT**

Catalog Number	A in./mm	Power Source	Use with
LEDA20C	78.74 2000	AC	AC LED Lights
LEDD20C	78.74 2000	DC	DC LED Lights

**LED LIGHT EXTENSION CONNECTOR/CABLE ASSEMBLY**



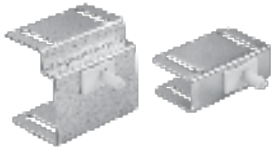
The extension connector/cable assembly is used to connect adjacent LED lights (daisy chain). Up to 10 LED lights can be ganged or connected in series. Pre-assembled connector/cable assembly with 39.4-in. (1000 mm) long cable between input and output connectors. Cables are constructed of 16 AWG copper wire.

**BULLETIN: A80LT**

Catalog Number	A in./mm	Power Source	Use with
LEDA10E	39.37 1000	AC	AC LED Lights
LEDD10E	39.37 1000	DC	DC LED Lights



## REMOTE DOOR SWITCHES



- Remote door switch activates the light when the enclosure door is opened
- Mounts on enclosure frame and includes mounting hardware
- Mounting plate is 14 gauge steel with a plated finish
- Can be hard-wired to the PANELITE LED or Fluorescent light or connected via the PANELITE Door Switch Cable

BULLETIN: A80LT, P20

Catalog Number	Description
ALFSWD	Door switch assembly (order connection cable separately)
PLFSWD	Door switch assembly for PROLINE™ (order connection cable separately)

## TOUCH-SAFE UL LIGHT SWITCH



### APPLICATION

The Touch-Safe light switch is designed to be used with Hoffman™ light kits (AC and DC). It provides a UL listed touch-safe switch that can be used on many enclosure types and includes hardware for most applications. The light switch maintains enclosure overall rating up to UL 508A Type 4X or 12.

### FEATURES

- UL listed for a touch-safe wire connection
- Easily mounted to various enclosure types; common bracket and hardware included for many enclosure types (NEMA, CONCEPT™/FUSION™ G7, PROLINE™, Freestanding Type 12)
- Cable PG compression hub
- Wide operating temperature range: -49°F to +158°F (-45°C to 70°C)
- Rugged die-cast anodized zinc construction
- Connection 3 cage clamps for solid and stranded wire AWG 20-14 (0.5-2.5mm<sup>2</sup>)
- Protection class I (grounded)

BULLETIN: A80LT

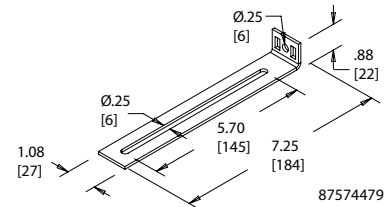
Catalog Number	Max. Cable Dia.	Max. Voltage
LDSWITCH	.375 in.	250 AC / 48 DC

## MOUNTING BRACKET KIT FOR LIGHT PACKAGE

Kit simplifies mounting light package in Hoffman PROLINE™ disconnect enclosures. Includes brackets, all mounting hardware and complete instructions.

BULLETIN: A80LT

Catalog Number	Description
PDLFBRKT	Mounting Bracket Kit



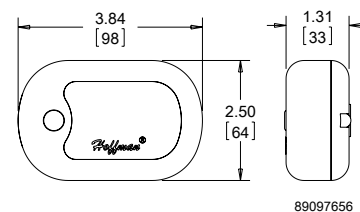
## LED PUCK LIGHT



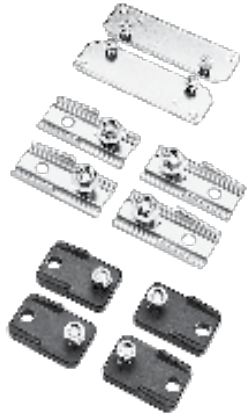
The LED Puck Light is ideal for remote and darkened applications. This versatile light provides mounting flexibility; it can be magnetically attached to flat steel surfaces or can be hung with a swivel hook. This small form factor, light-weight LED light provides superior lighting performance with minimal power consumption. It can be used as a three-LED flashlight or as a 24-LED work light with operating temperature of 40 F to 120 F (4 C to 48 C). An on/off switch is incorporated in the light and three AAA batteries are included.

BULLETIN: A80LT

Catalog Number	AxBxC in./mm	Product Weight
LEDPUCK	2.25 x 3.75 x 1.38 57 x 95 x 35	0.22 lbs.



### MOUNTING FOOT KITS



Available in stainless steel or composite material. Kit includes four feet and mounting hardware for all ACCESSPLUS™, D-BOX™, L-BOX™ and COMLINE™ cabinets.

BULLETIN: A80

Catalog Number	Material
CMFK	Steel
CMFKSS	Stainless Steel
CMTGFT	Composite

### SCREW PACKAGES



Screw Packages are for mounting rack panels and equipment to rack angles.

BULLETIN: A80, DACCY, X20

Catalog Number	Color	Description	Pkg. Qty.
ES1224	Silver	12-24 x 5/8 in. combo head	20
ES1224250	Silver	12-24 x 5/8 in. combo head	250
ES1224B	Black	12-24 x 5/8 in. combo head	20
ES1224B250	Black	12-24 x 5/8 in. combo head	250
ASM5	Silver	M5 x 20 mm Combo Head	20
ASM6	Silver	M6 x 16 mm combo head	20
ASM5T	Silver	M5 x 12 mm thread-forming Phillips hex head screws	20
ASM6250	Silver	M6 x 16 mm combo head	250
AS1032	Silver	10-32 x 5/8 in. combo head	20
AS1032250	Silver	10-32 x 5/8 in. combo head	250
AS1032B	Black	10-32 x 5/8 in. combo head	20

Use ASM5T on PROLINE™ frame or Net Series extruded holes.

### CAGE NUT PACKAGE

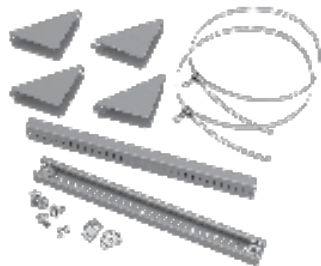


Cage Nut Packages are for use with square-hole rack angles. Cage nuts are plated steel.

BULLETIN: DACCY

Catalog Number	Color	Description	Pkg. Qty.
PM5CN	Silver	M5 cage nut	20
PM6CN	Silver	M6 cage nut	20
PM6CN250	Silver	M6 cage nut	250
P1032CN	Silver	10-32 cage nut	20
P1032CN250	Silver	10-32 cage nut	250
P1224CN	Silver	12-24 cage nut	20
P1224CN250	Silver	12-24 cage nut	250

### POLE MOUNTING KITS



Enable COMLINE™, CONCEPT™, ACCESSPLUS™, D-BOX™ and L-BOX™ enclosures to be mounted to poles of various sizes and shapes. Simply attach the galvanized steel channel bar to the mounting holes at the back of the enclosure, then wrap the stainless steel strap around the pole and through the bar. Kit includes two mounting channels, two straps suitable for up to 12-in. diameter pole, and mounting hardware.

BULLETIN: CWY

Catalog Number	Fits Enclosure
CPMK12	when B = 12.00 (305)
CPMK16	when B = 16.00 (406)
CPMK20	when B = 20.00 (508)
CPMK24	when B = 24.00 (610)
CPMK30	when B = 30.00 (762)



## PROLINE™ FASTENER PACKAGES



Use to fasten components to the grid system. PGF Packages include 20 front-loading clip nuts (M6) and 20 combination-drive washer-head bolts (M6).

Grounding Package is used with the rectangular holes in the PROLINE™ frame to provide electrical continuity between the frame and the grid system. ASM5T Package is used with PROLINE frames having round holes. Package includes 20 M5 self-tapping screws.

BULLETIN: DACCY, P20

Catalog Number	Description	Use in	Pkg. Qty.
ASM5T	M5 x 12 mm thread-forming Phillips hex head screws	Round holes	20
PGFM6	Standard Package - M6 cage nuts and bolts	Rectangular holes	20
PGFGM6	Grounding Package - M6 grounding cage nuts and bolts	Tapped holes	20

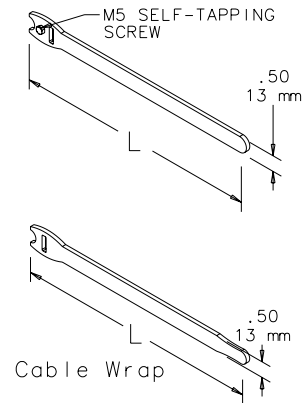
## VELCRO® CABLE WRAP



Securely holds cable to cable manager and unfastens easily for cable maintenance. VELCRO® is 0.5-in. (12.7-mm) wide. Available in 8- and 12-in. (203- and 305-mm) lengths in both screw fastener and wrap styles. M5 self-tapping screw is used on Net Series or PROLINE™ frames.

VELCRO is a trademark of Velcro Industries B.V.

BULLETIN: DACCY



87951397

Catalog Number	Description	L (in.)	L (mm)	Color	Pkg. Qty.
ECWTD8B	Screw fastener style. Includes M5 mounting screw.	8.00	203	Black	10
ECWTD12B	Screw fastener style. Includes M5 mounting screw.	12.00	305	Black	10
ECW8B	Wrap style	8.00	203	Black	10
ECW8R	Wrap style	8.00	203	Red	10
ECW8BL	Wrap style	8.00	203	Blue	10
ECW8Y	Wrap style	8.00	203	Yellow	10
ECW12B	Wrap style	12.00	305	Black	10
ECW12R	Wrap style	12.00	305	Red	10
ECW12BL	Wrap style	12	305	Blue	10
ECW12Y	Wrap style	12	305	Yellow	10



## QUICK REFERENCE GUIDE TO NETWORKING HANDLES, LATCHES AND LOCKS

Hoffman offers an array of handles, latches and locks to help make your cabinet application as secure yet easy to use as possible. Maintains cabinet rating Type 3R, 4, 12.



Cabinet	Std. Key Code	Keylocking Wing Knob (DL36, PTL36B, PTWK)	Padlocking L Handle (ELHP)	Padlocking Quarter-Turn Latch (EPL4)	3-Digit Combination Lock <sup>a</sup> (PTLCMB3B)	Quarter-Turn Lock (PSCLO)	Quarter-Turn Lock (DKL2233)	Net Series Combination L-Handle
COMLINE		•	•	•	•			
ACCESSPLUS	333	•	•	•	•		• <sup>b</sup>	
D-BOX	333	•	•	•	•			
L-BOX	333	•	•	•	•		• <sup>b</sup>	
Net Series side panels	2233					•		•
PC Cabinet side panels and keyboard	2233					•		
PROLINE side panels	2233					•		
PROTEK	333	•	•	•	•			
Seismic side panels	2233					•		
SOHO side panels	2233					•		

<sup>a</sup>Do not use 3-Digit Combination Lock in severe environments such as corrosive, very wet, salt spray or mist.

<sup>b</sup>2233 Key Code

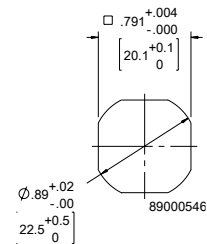
### PADLOCKING L HANDLE



L Handle easily turns to open and close cabinet. Padlock can be added for extra security. Handle has a black and silver finish. Install using existing enclosure cam. Maintains cabinet rating Type 3R, 4, 12.

BULLETIN: DCOMY

Catalog Number	Description	Use with
ELHP	Padlocking L Handle	ACCESSPLUS™ II, L-BOX™, COMLINE™, PROTEK™



### NET SERIES COMBINATION L-HANDLE



Combination L-Handle fits Net Series cabinet doors. The 4-digit combination lock with master key override can easily be changed. Install using existing cam from standard handle.

BULLETIN: DCY

Catalog Number	AxBxC in./mm	Description	Use With
NCLH	7.50 x 1.38 x 2.50 191 x 35 x 64	L-Handle with combination lock and master key override	Net Series doors



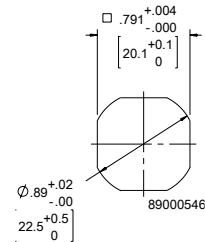
### PADLOCKING QUARTER-TURN LATCH



Quarter-Turn Latch requires Allen wrench, included with lock, to open or close cabinet. Padlock can be added for extra security. Install using existing enclosure cam. Maintains cabinet rating Type 3R, 4, 12.

BULLETIN: DCOMY

Catalog Number	Description	Use with
EPL4	Padlocking Quarter-Turn Latch	ACCESSPLUS™ II, L-BOX™, D-BOX™, COMLINE™, PROTEK™



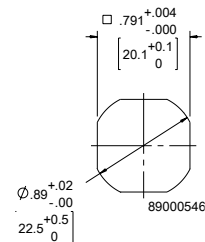
### 3-DIGIT COMBINATION LOCK



3-Digit Combination Lock in handle eliminates the need to carry around a key. Combination can easily be changed. A quarter turn of the handle opens and closes the cabinet. Lock has silver and black finish. Install using existing enclosure cam. Maintains cabinet rating Type 12. **Do not use in severe environments such as corrosive, very wet, salt spray or mist.**

BULLETIN: DWS12

Catalog Number	Description	Use with
PTLCMB3B	Combination Lock	ACCESSPLUS™ II, L-BOX™, D-BOX™, COMLINE™, PROTEK™



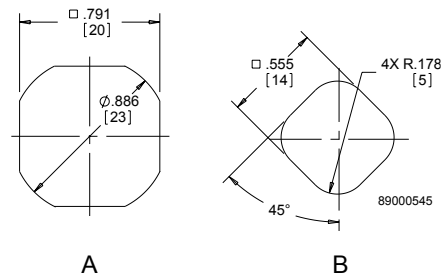
### QUARTER-TURN LOCK



Quarter-turn keylock includes one key. Install using existing enclosure cam on DKL2233.

BULLETIN: DACCY, DPC

Catalog Number	Description	Use with	Hole Size	Key Code
PSCL0	Quarter-turn keylock	Side panels on PROLINE™, Net Series, SOHO and Seismic cabinets; side panels and keyboard on PC cabinets	B (see dimension drawing)	2233
DKL2233	Quarter-turn keylock	ACCESSPLUS™ II, L-BOX™, D-BOX™	A (see dimension drawing)	2233



### REPLACEMENT KEYS



Fits PROLINE™ Network Cabinet and Networking Wall-Mount Cabinet.

BULLETIN: DACCY

Catalog Number	Key Code	Includes	Use with
E2233KEY	2233	2 Keys	PROLINE™, Net Series, PC Cabinet, SOHO
E333KEY	333	2 Keys	ACCESSPLUS™ II, L-BOX™, D-BOX™

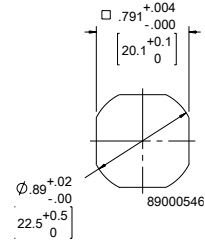
**KEYLOCKING WING KNOB**



Locking wing nut position shows whether door is locked. Wing nut has silver finish. Includes 2 keys with 333 key code. Install using existing enclosure cam. Maintains cabinet rating Type 12.

**BULLETIN: A80, DWS12**

Catalog Number	Description	Use with
DL36	Chrome Keylocking Wing Knob	ACCESSPLUS™ II, L-BOX™, D-BOX™, COMLINE™, PROTEK™



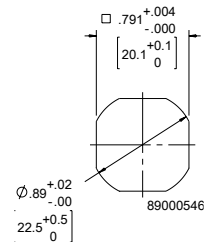
**KEYLOCKING QUARTER-TURN WING KNOB**



Keylocking quarter-turn wing knob latch. Black finish. Includes gasket, mounting nut and one key with 333 key code. Use existing cam for installation; cam is not included with wing knob. Can be locked in open or closed position. Maintains cabinet rating Type 4, 12.

**BULLETIN: DWS12**

Catalog Number	Description	Use with
PTWK	Keylocking wing knob, quarter-turn	ACCESSPLUS™, COMLINE™, PROTEK™, L-BOX™, D-BOX™



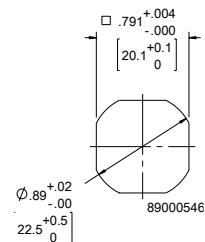
**PADLOCKING WING KNOB, STAINLESS STEEL**



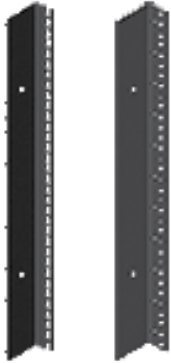
Padlocking quarter-turn wing knob is made of Type 304 stainless steel. When the padlock is in place, the wing knob cannot be rotated and the cabinet is secured. The wing knob has a brushed bright finish. Maximum padlock diameter is .31 (8mm). Use existing cam for installation; cam is not included with wing knob. It maintains the cabinet rating Type 3R, 4, 4X, 12.

**BULLETIN: DWS12**

Catalog Number	Description	Use with
PTWPS	Padlocking wing knob, quarter-turn	ACCESSPLUS™, COMLINE™, PROTEK™, L-BOX™, D-BOX™



**19-IN. AND 23-IN. RACK ANGLES**



Made of 14 gauge steel with square holes or 12 gauge steel with 10-32 tapped holes. Provides 19- or 23-in. rack spacing depending on frame width. Finished with flat black RAL 9005 polyester powder paint or plated. Furnished in pairs.

**BULLETIN:** DNCY, DWDH1



87570462

Catalog Number	Rack Spacing	Hole Type	Finish	Use With	Fits Frame Height	Fits Frame Width	Rack Units	L (mm)	L (in.)
ERA197THLN	19 in.	Square	Black	Networking Cabinet - SOHO	700mm	600mm	11	492	19.38
ERA197TPLN	19 in.	Tapped	Black	Networking Cabinet - SOHO	700mm	600mm	11	492	19.38
ERA1921TPL	19 in.	Tapped	Black	Seismic Cabinet	2100mm	700mm	45	2003	78.87
ERA192321TPL	19 & 23 in.	Tapped	Black	Seismic Cabinet	2100mm	800mm	45	2003	78.87
ERA1910TPL	19 in.	Tapped	Black	Network PC Cabinet	Bottom Section	—	19	848	33.37

**RACK UNIT LABEL**



Self-adhesive clear Mylar™ label with white numbers enables numbering along sides of open frame racks or rack angles. Numbers spaced one rack unit apart. Can be used for bottom-up or top-down numbering of rack units to simplify equipment installation. Each label provided in two pieces (numbers 1-29 and 30-58) for easier installation. Two labels per catalog number. Label shown mounted on rack angle.

*Mylar is a registered trademark of DuPont Tejin Films.*

**BULLETIN:** DOFRY

Catalog Number	Installed Length in./mm	Width in./mm
ARULABEL	101.50	.50
	2578	13

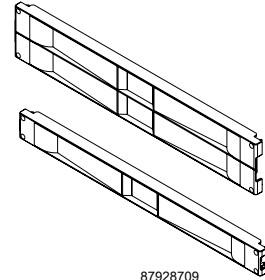
### TOOL-LESS (SNAP-IN) BLANKING PANELS FOR 19-IN. RACKS



These Tool-less 19-in. Blanking Panels provide easy tool-less installation and ensure proper airflow to equipment. Made of black composite material and can be used with tapped or square EIA universal spaced rack mounting angles.

BULLETIN: DACCY

Catalog Number	Description	Rack Units	Fits	Pkg. Qty.
D19BPT1RU	Blanking Panel, 19 in.	1	19 in., universal rack spacing, tapped or square holes	10
D19BPT2RU	Blanking Panel, 19 in.	2	19 in., universal rack spacing, tapped or square holes	10



87928709

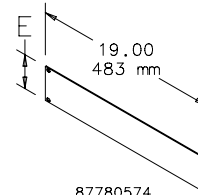
### RACK PANEL FOR 19-IN. RACKS



Used to cover unused rack space in cabinets or open frame racks for a finished appearance. Can also be used for surface mounting small devices. Panels are flat with mounting slots spaced at 19-in. EIA standard spacing. Made of 12 gauge steel with RAL 9005 black polyester powder paint finish. Mounting hardware sold separately.

BULLETIN: DOFRY

Catalog Number	Rack Units	E (in.)	E (mm)
P19RPP1UB	1	1.75	44
P19RPP2UB	2	3.50	89
P19RPP3UB	3	5.25	133
P19RPP4UB	4	7.00	178
P19RPP5UB	5	8.75	222
P19RPP6UB	6	10.50	267



87780574

### TOUCH-UP PAINT



For repairing the finish of any painted parts.

BULLETIN: DACCY, P20

Catalog Number	Description
ATP67035	RAL 7035 Gray
ATP89005	RAL 9005 Black



*Hoffman*

# CHAPTER 11 TECHNICAL INFORMATION

## OVERVIEW

### COOLING

Effective cooling maximizes the efficiency and lifecycle of electrical components. While it is critical to dissipate and manage heat build-up, it can also be necessary to add heat.

### SOLAR HEAT GAIN

Solar heat gain can affect the cooling needs of outdoor electrical enclosures. Factors such as solar exposure, enclosure color and material type can impact the enclosure's internal temperature.



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### SOLAR HEAT GAIN

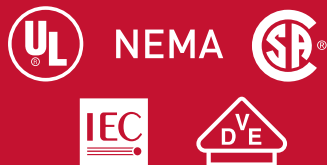
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### STANDARDS

It is important to select an enclosure that has the appropriate rating for the specified environment and application. Rating systems from UL, NEMA, CSA, IEC and VDE determine an enclosure's ability to withstand environmental conditions.



**HOW TO DISSIPATE EXCESS HEAT - UNDERSTANDING ΔT AND CFM**

$$\text{Watts} = .316 \times \text{CFM} \times \Delta T$$

or

$$\text{CFM} = \text{Watts} / (.316 \times \Delta T)$$

or

$$\Delta T = (.315 \times \text{CFM}) / \text{Watts}$$

*Factors in this equation will need to be de-rated for high elevations.*

**When it comes to cooling a data center, one equation is key**

Cooling network equipment requires both cold intake air and airflow (CFM). These two factors work directly to dissipate, or carry away, the heat that network equipment produces. While increasing either factor will increase the amount of heat that is dissipated, there are limits to both. Air that is too cold results in cooling expansion and condensation issues. Airflow that is too high results in acoustic and physical limitations. A cooling system that relies on too much of only one of these factors usually results in higher capital and operating costs. Finding an ideal balance between cold air and airflow allows optimal heat dissipation, protecting network equipment from the consequences of overheating.

**ΔT**

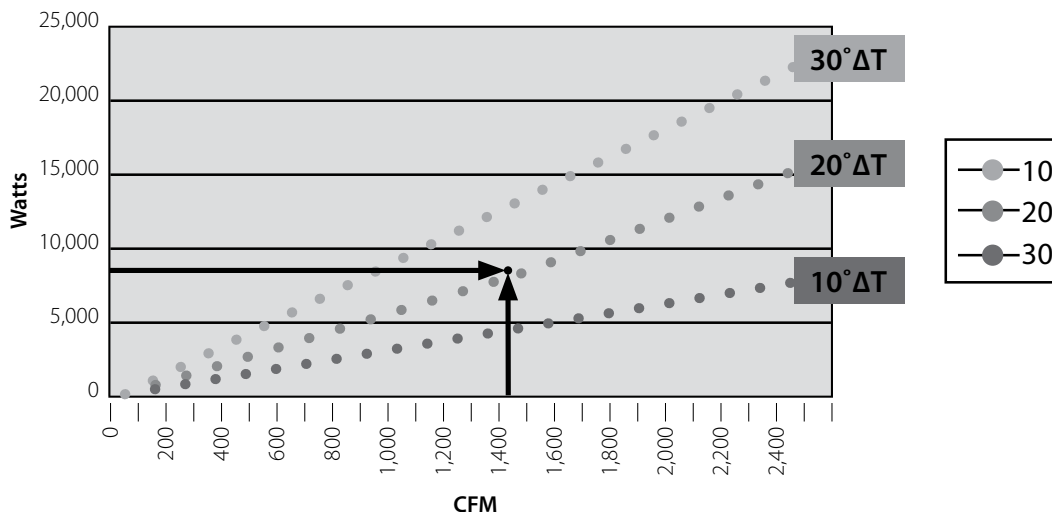
In the above equations, ΔT, measured in degrees Fahrenheit, refers to the difference between the intake air and exhaust air, or the amount of heat that is carried away by the stream of air exiting the heat load. A greater temperature difference signifies more heat being removed. While it is difficult to constantly deliver the coldest air to all equipment—in particular, equipment installed in upper rack units—data centers that maintain a range between 10 and 30 F ΔT carry a high level of confidence that equipment will dissipate the amount of heat that it produces, staying within its cooling limits.

- The area between 10 and 30 degrees ΔT represents capable cooling in a typical well-designed data center.
- Knowing two of the three quantities allows operators to solve for the third—in this equation, knowing either watts or CFM solves for ΔT.

For example, 9000 W in a data center with a ΔT of 20 degrees requires 1425 CFM.

*More than 30 degrees ΔT can cause humidity and condensation issues.*

$$\text{Watts} = .316 \times \text{CFM} \times \Delta T (^{\circ}\text{F})$$





**CFM**

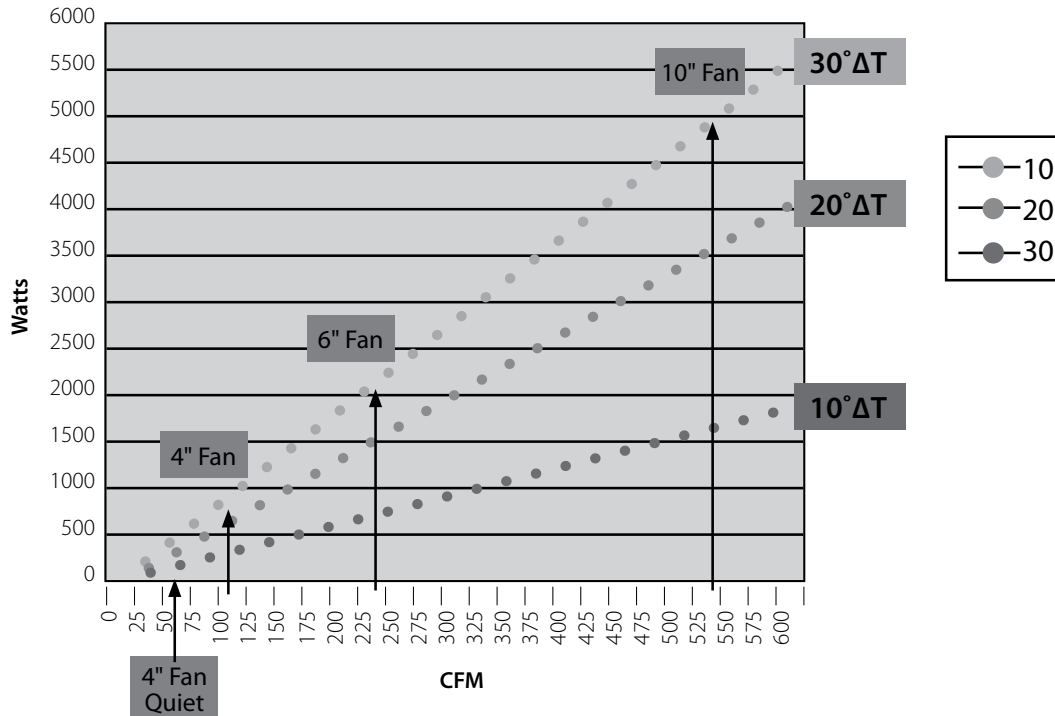
Another way to increase the amount of heat dissipated or removed from network equipment is by increasing the airflow, expressed in cubic feet per minute [CFM]. An increase of CFM—the amount of airflow across a given area in a given time—results in increased heat removal.

CFM can be achieved through the use of fans. The larger the fan, the more CFM it provides. An increase in RPM (the speed at which the fan circulates) as well as the size or quantity of fan blades results in a higher CFM, but as these factors increase, so do several others that can be detrimental to the equipment in data centers. For example, acoustic noise is one consequence of high levels of CFM. Additionally, at very high CFM, physical forces also come into play that can cause damage to electrical equipment. Plus the higher the CFM, the higher the upfront capital costs, as well as ongoing operational expenses.

- Most data centers operate between 10 and 20 ΔT. Using this and the CFM of the fan, the necessary quantity of cooling (watts) can be determined.
- The same equation also works for equipment outside the data center. Again, the intake air can only be so cold and at a certain CFM before other issues arise.
- The bigger the fan, the more airflow that moves across equipment. The amount of airflow and the temperature of the air determine the amount of heat dissipation that can occur.
- $CFM_{in} = CFM_{out}$  on all passive systems.
- Total  $CFM_{in}$  = the sum of all equipment (servers) mounted in the cabinet.

*An increase in fan size will increase acoustic noise at the same motor RPM.*

**4", 6", & 10" Cooling Fan Performance**



## SOLAR HEAT GAIN

When evaluating the cooling needs of outdoor electrical enclosures, solar heat gain must be considered. Variables that affect the enclosure's internal temperature rise include the amount of solar exposure, enclosure color and material type, highest sustained atmospheric temperature, heat build-up from internal components and heat reflectance from the surrounding environment.

## EXPOSURE TO SOLAR RADIATION

Over much of the United States, the approximate peak values of solar radiation striking the Earth's surface is 97 W/ft.<sup>2</sup> and the ambient air temperature can reach 104 F. Altitude, humidity and air pollution have an impact on these values, even more so than the location's latitude. In the high, dry climates of the southwest, solar radiation values of 111 W/ft.<sup>2</sup> and air temperatures greater than 104 F can be reached.

The extreme conditions the enclosure will be exposed to should be identified. If the internal enclosure temperature is greater than the outdoor (ambient) temperature, wind will provide greater heat transfer and thus cool the enclosure. But, because the presence of wind cannot be guaranteed, it is usually not taken into account when establishing a worst-case evaluation.

## EFFECT OF SURROUNDING LOCATION

Reflection of solar energy from the foreground and surrounding surfaces can impact the total amount of radiant exposure by as much as 30 percent.

## EFFECT OF ENCLOSURE COLOR AND FINISH

The percent of solar energy absorbed by the enclosure depends on surface color, finish and texture. Absorption values of the finish will increase with age.

## STANDARDIZED TEST EVALUATION

Telcordia NEBS™ GR-487 provides a test procedure for evaluating the solar load on electrical/electronic enclosures. The test is run with the internal electronics on, in an environmentally controlled room, and three sides of the enclosure are illuminated uniformly with controlled banks of lights to a measured surface radiant value of 70 W/ft.<sup>2</sup> The temperature rise inside the enclosure above ambient is added to 115 F (46 C). This temperature total must not exceed the lowest-rated component within the enclosure.

## EVALUATION OF SOLAR HEAT GAIN

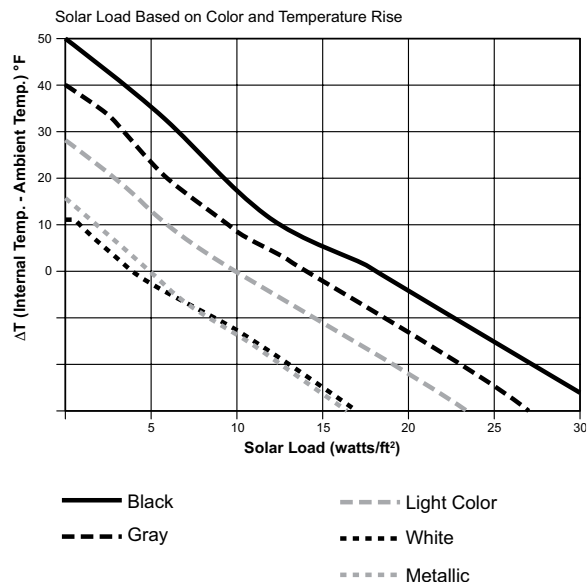
To evaluate the heat load on an enclosure, you must take into account:

- Total surface area of the enclosure
- Color of the enclosure
- Internal heat load
- Maximum allowable internal temperature
- Maximum ambient temperature
- Solar load

### Examples:

1. What amount of heat energy must be removed from a 24 x 20 x 12 (surface area = 14 ft.<sup>2</sup>) ANSI 61 gray enclosure located outdoors without any heat dissipated internally, to maintain the enclosure temperature equal to the ambient (temperature rise = 0 degrees)? From the chart below, at 0 F temperature rise we find the solar load is approximately 14 W/ft.<sup>2</sup> (14 ft.<sup>2</sup> x 14 W/ft.<sup>2</sup> = 196 W). This is the heat energy that must be removed to maintain the enclosure temperature at ambient.
2. If the same enclosure has internal equipment dissipating 200 W of heat, what is the amount of heat energy that must be removed to maintain the enclosure at a temperature rise of 20 F above the ambient temperature? From the chart below, at 20 F temperature rise we find the solar load is approximately 6 W/ft.<sup>2</sup> (14 ft.<sup>2</sup> x 6 W/ft.<sup>2</sup> = 84 W). All of the internally dissipated heat of 200 W must also be removed. 84 W + 200 W = 284 W. This is the total amount of heat energy that must be removed to maintain the enclosure at 20 F above the ambient temperature.

3. What is the expected temperature rise above the ambient temperature due to solar heat gain for an enclosure with ANSI 61 gray finish? From the chart below, the temperature rise due to solar heat load can be found by locating the intersection of the data curve for the given finish and the 0 Solar Generated Heat Load axis. For ANSI 61 Gray, the temperature rise due to solar heat is about 40 F.



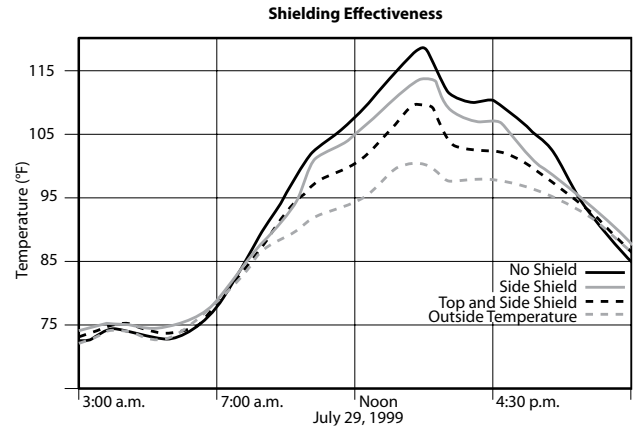
## THE BENEFITS OF SHIELDING ENCLOSURES



Hoffman's research on the effects of solar radiation on enclosures has shown the positive benefits of utilizing shielding to decrease temperature rise. Shielding has been found to be an effective, low-cost method of reducing solar heat gain in outdoor electrical/electronic applications.

A test to compare the shielding effect on internal temperature rise was performed on similar enclosures exposed to the sun. The enclosures are the same color (RAL 7035 light gray) and material. The enclosure on the left is unshielded; the enclosure on the right is shielded on top and applicable sides.

The results of the test show the enclosure with top and side shields to have approximately a 46 percent reduction in temperature compared to the unshielded enclosure. The reduction in temperature is approximately 25 percent with the solar top shield only. Hoffman offers top shields as an accessory for Hoffman COMLINE™ Wall-Mount Enclosures. Hoffman can provide side shields as a customer-ordered modification.



Enclosure Type	Temperature (F)	Temperature (C)	Percent Temperature Reduction
Unshielded	119	48	—
Top shield only	114	46	25
Top and side shields	110	43	46

## STANDARDS ORGANIZATION SUMMARY AND DIRECTORY OVERVIEW

### What's in a Rating?

As a way of standardizing enclosure performance, organizations like NEMA, UL, CSA, IEC and VDE use rating systems to identify an enclosure's ability to resist external environmental influences. Resistance to everything from dripping liquid to hose-down to total submersion is defined by the ratings systems. While these ratings are all intended to provide information to help you make a safer, more-informed product choice, there are differences among them.

### North American Standards Organizations

In North America, NEMA, UL and CSA are the commonly recognized standards organizations. Their ratings are based on similar application descriptions and expected performance. UL and CSA both require enclosure testing by qualified evaluators in their certified labs. They also send site inspectors to make sure a manufacturer adheres to prescribed manufacturing methods and material specifications. NEMA, on the other hand, does not require independent testing and leaves compliance completely up to the manufacturer.

North American enclosure rating systems also include a 4X rating that indicates corrosion resistance. This rating is based on the enclosure's ability to withstand prolonged exposure to salt water spray.

While a 4X rating is a good indicator that an enclosure can resist corrosion, it does not provide information on how a specific corrosive agent will affect a given enclosure material. It is best to conduct a full analysis of the specific application and environment to determine the best enclosure choice.

### International Standards Organizations

Like NEMA, IEC does not require independent testing and leaves compliance completely up to the manufacturer. Nevertheless, there are differences in how enclosure performance is interpreted. For example, UL and CSA test requirements specify that an enclosure fails the water-tight test if even a single drop of water enters the enclosure. In the IEC standards for each level of ingress protection (IP), a certain amount of water is allowed to enter the enclosure.

IEC 60529 IP ratings do not specify construction requirements or degrees of protection against corrosive atmospheres, risk of explosion or conditions such as moisture or corrosive vapors. NEMA Type ratings, on the other hand, do specify construction and performance requirements for most environmental conditions. For this reason, and because the tests and evaluations for other characteristics are not identical, the IEC enclosure classification designations cannot be exactly equated with NEMA enclosure Type numbers.

## CE

For industrial control equipment, the CE Mark is not intended to be applied to empty enclosures because such enclosures are inactive components of a final assembly. The responsibility of ensuring compliance with all applicable EU directives and harmonized standards belongs with the final equipment manufacturer.

## ENCLOSURE TYPE RATING VS. IP RATING

Electrical enclosures are rated by Type (NEMA 250 / UL 50, 50E), and/or IP rating (IEC 60529) based upon the degree of protection provided. Type ratings and IP ratings have only the following in common:

1. A degree of protection for persons from hazardous components inside the enclosure
2. A degree of protection for equipment inside the enclosure from ingress of solid foreign objects, including dust
3. A degree of protection for equipment inside the enclosure from ingress of water

NEMA 250 and UL 50, 50E Type rating documentation defines additional requirements that a Type-rated enclosure must meet. These include:

- Mechanical impact on enclosure walls
- Gasket aging and oil resistance
- Corrosion resistance
- Door and cover latching requirements
- Sheet metal gauge construction requirements (UL 50 only)

Electrical enclosures that carry only an IP rating have not been designed or tested to the additional Type-rating requirements. For this reason, and because the tests and evaluations for other characteristics are not identical, the IP ratings cannot be exactly equated with NEMA enclosure Types.

**Electrical enclosures manufactured by Hoffman are tested for and carry both Type and IP ratings.**

### Fluid Statics and Dynamic Comparison of Ingress Water Tests

Test Type	Flow Rate (gal./min.)	Flow Rate (l/min.)	Nozzle Diameter in./mm	Nozzle Area (in. <sup>2</sup> )	Nozzle Velocity (ft./sec.)	Equivalent Head (ft.)	Equivalent Pressure (psi)	Mass Flow (lb./sec.)	Power (hp)	Total Force on Vertical Plate (lb.)
Type 3	45.00	170	1.0000 25.4	0.7854	18.38	5.25	2.274	6.256	0.060	3.5716
Type 4	65.00	246	1.0000 25.4	0.7854	26.55	10.85	4.744	9.037	0.180	7.4516
IPX5	3.30	12.5	0.2480 6.3	0.0483	21.93	7.46	3.235	0.459	0.006	0.3126
IPX6	26.42	100	0.4921 12.5	0.1902	44.55	30.82	13.357	3.672	0.206	5.0815

## NEMA, UL AND CSA RATINGS

### Enclosure Type Descriptions for Non-Hazardous Locations

Enclosure Type	NEMA	UL	CSA
Indoor Type 1	Enclosures are intended for indoor use primarily to provide a degree of protection against contact with the enclosed equipment or locations where unusual service conditions do not exist.	Indoor use primarily to provide protection against contact with the enclosed equipment and against a limited amount of falling dirt.	General purpose enclosure. Protects against accidental contact with live parts.
Indoor Type 12	Enclosures are intended for indoor use primarily to provide a degree of protection against dust, falling dirt and dripping noncorrosive liquids.	Indoor use to provide a degree of protection against dust, dirt, fiber flyings, dripping water and external condensation of noncorrosive liquids.	Indoor use; provides a degree of protection against circulating dust, lint, fibers and flyings; dripping and light splashing of non-corrosive liquids; not provided with knockouts.
Indoor Type 12K	Enclosures with knockouts are intended for indoor use primarily to provide a degree of protection against dust, falling dirt and dripping noncorrosive liquids.	Indoor use to provide a degree of protection against dust, dirt, fiber flyings, dripping water and external condensation of noncorrosive liquids.	Indoor use; provides a degree of protection against circulating dust, lint, fibers and flyings; dripping and light splashing of noncorrosive liquids; not provided with knockouts.
Indoor Type 13	Enclosures are intended for indoor use primarily to provide a degree of protection against dust, spraying of water, oil and noncorrosive coolant.	Indoor use to provide a degree of protection against lint, dust seepage, external condensation and spraying of water, oil and noncorrosive liquids.	Indoor use; provides a degree of protection against circulating dust, lint, fibers and flyings; seepage and spraying of non-corrosive liquids, including oils and coolants.
Outdoor Type 3	Enclosures are intended for outdoor use primarily to provide a degree of protection against windblown dust, rain and sleet; undamaged by the formation of ice on the enclosure.	Outdoor use to provide a degree of protection against windblown dust and windblown rain; undamaged by the formation of ice on the enclosure.	Indoor or outdoor use; provides a degree of protection against rain, snow and windblown dust; undamaged by the external formation of ice on the enclosure.
Outdoor Type 3R	Enclosures are intended for outdoor use primarily to provide a degree of protection against falling rain and sleet; undamaged by the formation of ice on the enclosure.	Outdoor use to provide a degree of protection against falling rain; undamaged by the formation of ice on the enclosure.	Indoor or outdoor use; provides a degree of protection against rain and snow; undamaged by the external formation of ice on the enclosure.
Outdoor Type 3RX	Enclosures are intended for outdoor use primarily to provide a degree of protection against corrosion, falling rain and sleet; undamaged by the formation of ice on the enclosure.	Not specifically defined.	Not specifically defined.
Outdoor Type 4	Enclosures are intended for indoor or outdoor use primarily to provide a degree of protection against windblown dust and rain, splashing water and hose directed water; undamaged by the formation of ice on the enclosure.	Either indoor or outdoor use to provide a degree of protection against falling rain, splashing water and hose-directed water; undamaged by the formation of ice on the enclosure.	Indoor or outdoor use; provides a degree of protection against rain, snow, windblown dust, splashing and hose-directed water; undamaged by the external formation of ice on the enclosure.
Outdoor 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 and hose-directed water; undamaged by the formation of ice on the enclosure.	Either indoor or outdoor use to provide a degree of protection against falling rain, splashing water and hose-directed water; undamaged by the formation of ice on the enclosure; resists corrosion.	Indoor or outdoor use; provides a degree of protection against rain, snow, windblown dust, splashing and hose-directed water; undamaged by the external formation of ice on the enclosure; resists corrosion.
Outdoor Type 6	Enclosures are intended for use indoors or outdoors where occasional submersion is encountered; limited depth; undamaged by the formation of ice on the enclosure.	Indoor or outdoor use to provide a degree of protection against entry of water during temporary submersion at a limited depth; undamaged by the external formation of ice on the enclosure.	Indoor or outdoor use; provides a degree of protection against the entry of water during temporary submersion at a limited depth. Undamaged by the external formation of ice on the enclosure; resists corrosion.

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## IP RATING DESCRIPTIONS

### Example Rating

If 1st IP number is...	and the 2nd ip number is...	Then the IP rating is
2 (protection against solid objects)	3 (protection against liquids)	IP 2 3 An enclosure with this designation provides protection against touch with a finger, penetration of solid objects greater than 12mm, and spraying water.

### First Numeral (Solid Objects and Dust)

IP	Protection of Persons	Protection of Equipment
0	No Protection	No Protection
1	Protected against contact with large areas of the body (back of hand)	Protected against objects over 50 mm in diameter
2	Protected against contact with fingers	Protected against solid objects over 12 mm in diameter
3	Protected against tools and wires over 2.5 mm in diameter	Protected against solid objects over 2.5 mm in diameter
4	Protected against tools and wires over 1 mm in diameter	Protected against solid objects over 1 mm in diameter
5	Protected against tools and wires over 1 mm in diameter	Protected against dust (limited ingress, no harmful deposit)
6	Protected against tools and wires over 1 mm in diameter	Totally protected against dust

### Second Numeral (Liquid)

IP	Protection of Equipment
0	No Protection
1	Protected against vertically falling drops of water, e.g. condensation
2	Protected against direct sprays of water up to 15 degrees from vertical
3	Protected against sprays to 60 degrees from vertical
4	Protected against water sprayed from all directions (limited ingress permitted)
5	Protected against low-pressure jets of water from all directions (limited ingress permitted)
6	Protected against strong jets of water
7	Protected against the effects of immersion between 15 cm and 1 m
8	Protected against long periods of immersion under pressure



<b>Bulletin Number</b>	<b>Catalog Page</b>	<b>Bulletin Number</b>	<b>Catalog Page</b>	<b>Bulletin Number</b>	<b>Catalog Page</b>
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EWFT	10232	DOFRY	81	LABSKB	14588	DCR	179	LGCABLE24	19202	A80LT	257
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EWMF1	17907	DWDH1	110	LAJSKG	14595	DCR	180	LIB12G	10052	DCR	179
EWMF2	17908	DWDH1	110	LBSK	10075	DCR	179	LIB12GZ	10054	DCR	179
EWMR24S	17894	DWDH1	110	LBSKB	14586	DCR	179	LIB18BLK	10056	DCR	179
EWMR24T	17887	DWDH1	110	LBSKG	14587	DCR	179	LIB18G	10055	DCR	179
EWMR36S	17895	DWDH1	110	LCBK	17358	DCR	181	LIB18GZ	10057	DCR	179
EWMR36T	17888	DWDH1	110	LCBKB	19928	DCR	181	LIB24BLK	17337	DCR	179
EWMR48S	17896	DWDH1	110	LCK	10083	DCR	181	LIB6BLK	10047	DCR	179
EWMR48T	17891	DWDH1	110	LCRDSK	17362	DCR	184	LIB6G	10046	DCR	179
EWMR60S	17897	DWDH1	110	LCSK12	17353	DCR	184	LIB6GZ	10048	DCR	179
EWMR60T	17892	DWDH1	110	LCSK	14612	DCR	182	LJBK	10081	DCR	185
EWMR72S	17898	DWDH1	110	LCSK18	17354	DCR	184	LJBK5	19922	DCR	185
EWMR72T	17893	DWDH1	110	LCSK24	17355	DCR	184	LJBK6	19923	DCR	185
EWMS242418	17873	DWDH1	108	LCSK6	17352	DCR	184	LJBK7	19924	DCR	185
EWMS242425	17876	DWDH1	108	LCSKB	14613	DCR	182	LJSK	10077	DCR	180
EWMS362418	17874	DWDH1	108	LCSKG	14614	DCR	182	LJSKB	14592	DCR	180
EWMS362425	17877	DWDH1	108	LDSWITCH18	19198	A80LT	257	LJSKG	14593	DCR	180
EWMS482418	17875	DWDH1	108	LDSWITCH	19278	A80LT	260	LLB	10087	DCR	180
EWMS482425	17878	DWDH1	108	LDSWITCH72	19201	A80LT	257	LLBB	14596	DCR	180
EWMW242418	17853	DWDH1	107	LEC	10085	DCR	183	LLBG	14597	DCR	180
EWMW242425	17858	DWDH1	107	LED24V15	19194	A80LT	256	LMCM12BLK	10068	DCR	183
EWMW242430	17865	DWDH1	107	LED24VCORD	19197	A80LT	257	LMCM12G	10067	DCR	183
EWMW242825	17868	DWDH1	108	LEDA10E	26088	A80LT	259	LMCM12GZ	10071	DCR	183
EWMW362418	17854	DWDH1	107	LEDA1M35	26076	A80LT	259	LMCM18BLK	10073	DCR	183
EWMW362425	17861	DWDH1	107	LEDA1S35	26078	A80LT	259	LMCM18G	10072	DCR	183
EWMW362430	17866	DWDH1	107	LEDA20C	26086	A80LT	259	LMCM18GZ	10074	DCR	183
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EWMW482418	17855	DWDH1	107	LEDA2S35	26081	A80LT	259	LMTSB12B	17382	DCR	182
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LOB18BLK	10044	DCR	179	LTR	17342	DCR	181	NLK	16817	DCY	10
LOB18G	10043	DCR	179	LTSB12BLK	10106	DCR	182	NRAS126	16813	DCY	10
LOB18GZ	10045	DCR	179	LTSB12G	10105	DCR	182	NRAS216	16815	DCY	10
LOB24BLK	17336	DCR	179	LTSB12GZ	10107	DCR	182	NRAS217	16902	DCY	10
LOB6BLK	10035	DCR	179	LTSB18BLK	10112	DCR	182	NRAS218	16903	DCY	10
LOB6G	10034	DCR	179	LTSB18G	10108	DCR	182	NRAT126	16812	DCY	10
LOB6GZ	10036	DCR	179	LTSB18GZ	10113	DCR	182	NRAT216	16814	DCY	10
LPC72	19204	A80LT	257	LTSB24BLK	19925	DCR	182	NRAT217	16898	DCY	10
LRD12BLK	10095	DCR	180	LWVB	10084	DCR	181	NRAT218	16901	DCY	10
LRD12G	10094	DCR	180	LWVBB	14602	DCR	181	NS12610	16797	DC	7
LRD12GZ	10096	DCR	180	LWVBG	14603	DCR	181	NS21610	16801	DC	7
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LRD18GZ	10101	DCR	180	LWASK12GZ	10122	DCR	182	NS21612	16803	DC	7
LRD24BLK	17341	DCR	180	LWASK18BLK	10124	DCR	182	NS2169	16798	DC	7
LRD6BLK	10092	DCR	180	LWASK18G	10123	DCR	182	NS2169NS	19847	DC	7
LRD6G	10091	DCR	180	LWASK18GZ	10125	DCR	182	NS21711	16904	DC	7
LRD6GZ	10093	DCR	180	LWASK24BLK	17346	DCR	182	NS21811	16905	DC	7
LRP	10086	DCR	180	LWASK6BLK	10115	DCR	182	NVCMTD12	16821	DCY	11
LRPB	19926	DCR	180	LWASK6G	10114	DCR	182	NVCMTD21	16822	DCY	11
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LRRMPGZ	10128	DCR	181	M8432B45	24293	DMAX	96	P19DR2US	70090	P20	254
LRRMPGZ18	13472	DCR	181	M846B45	24287	DMAX	96	P19DR3US	70640	P20	254
LRTK12	14604	DCR	183	M96D12	25318	DMAX	98	P19KBVPT	10246	DACCY	250
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LRTK18B	14608	DCR	183	M9632B51	24297	DMAX	96	P19RPP3UB	13755	DOFRY	267
LRTK18G	14611	DCR	183	M966B51	24294	DMAX	96	P19RPP4UB	13756	DOFRY	267
LRTK24B	17347	DCR	183	MDC10	25368	DMAX	98	P19RPP5UB	13757	DOFRY	267
LRWBK	17343	DCR	181	MDC16	25371	DMAX	98	P19RPP6UB	13758	DOFRY	267
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LRWSBK	19931	DCR	181	MDC6	25367	DMAX	98	P19SH68B	47909	DACCY	252
LRWSBKB	19932	DCR	181	NC1268	16796	DC	7	P19SH810	47409	DACCY	252
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LSRDG	10102	DCR	180	NC2178	16804	DC	7	P19SHP68B	10013	DACCY	253
LSRDGZ	10104	DCR	180	NC2178NS	19844	DC	7	P19SHP810B	10014	DACCY	253
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LSS18BLK	10032	DCR	179	NC2189	16808	DC	7	P23SH68B	12955	DACCY	252
LSS18G	10028	DCR	179	NCK	16818	DCY	10	P23SH810B	12956	DACCY	252
LSS18GZ	10033	DCR	179	NCLH	19228	DCY	263	P23SHP68B	10015	DACCY	253
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PBCL209B	47259	DPC	47	PFBDR10	16013	DPY	51	PHCT4	10243	DPY	54
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