



CONNECT AND PROTECT

Networking and Communications Specifier's Guide


nvent

HOFFMAN

A Dynamic Industry Demands Innovative Solutions to Protect Critical Assets

nVent HOFFMAN is the first in the industry to offer:

- AC units mounted on Type 12, 4, 4X enclosures
- NEMA rated networking wall-mount and free-stand cabinets
- Stainless steel networking products

HOFFMAN's innovations help protect your investment. Whether you need highly engineered data center solutions or wall-mount cabinets with cooling, we have you covered.

SETTING NEW STANDARDS

Custom Products Cost Extra Money and Lead Time. Turn to HOFFMAN For These New, Innovative, Off-The-Shelf Offerings.

ACCESSPLUS DOUBLE-HINGE, TYPE 1

Versatile AccessPlus Wall-Wount 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.



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

MAXRACK OPEN FRAME SYSTEM

MaxRack is used for mounting and securing 19- or 23-in. rack equipment that is used in network, server, and telecommunication rooms. 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.



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

Featured Products



SEISMIC

Seismic enclosures are used in areas that are subject to vibration and other motion, as well as where earthquake activity is possible. Adequate frame strength and rigidity are crucial when choosing enclosures to be used in these conditions.

PROLINE MODULAR CABINETS

ProLine modular cabinets meet your current needs and adapt to future technology trends. These enclosures feature compatibility with common server systems, and are convenient and easy to service.

CABLE MANAGEMENT

HOFFMAN's vertical and horizontal cable management solutions provide flexibility for faster, easier MACs (moves, adds and changes) and protection from potential kinks, twists and bends that could negatively impact signal transmission



WALL-MOUNT CABINETS

Protect your electronics with space-saving HOFFMAN wall-mount cabinets. These cabinets are ideal for securing network wiring, hubs, concentrators, patch panels and audio/video equipment anywhere full-sized floor cabinets could block traffic or airflow.

POWER MANAGEMENT

To get power when you need it, select from a range of solutions including basic, monitored and switched power distribution units (PDUs) for rack- and panel-mount applications.



COOLING

Rely on the results of HOFFMAN's on-site test lab to provide a wide range of solutions including air conditioners, heat exchangers and fans.

OUTSIDE PLANT

From design and specification to project management, prototyping, fabrication, integration, testing and delivery, rely on HOFFMAN's start-to-finish capabilities. For outside plant applications, HOFFMAN offers sealed aluminum enclosures that can be tailored to meet the most unique requirements.





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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 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.

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Free-Stand Cabinets Product Selection Guide

FREE-STAND CABINETS PRODUCT SELECTION GUIDE



1

CABINET SERIES	NET SERIES	SEISMIC	PROLINE	PROLINE	PROLINE
Models	Server & Voice/Data	Seismic	Server	ConnecTek	Network Switch
Application	Versatile and economical solution for small network and server applications	Protecting LAN and WAN network equipment during seismic Zone 4 activity; also ideal for high vibration areas	Server equipment protection, which allows for cabinet mobility and repositioning	Network communications solution	Network and core switches with right to left airflows
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	2,500 lbs. static	2,500 lbs. static	2,500 lbs.
Certifications and Listings	RoHS compliant EIA (rack spacing)	RoHS compliant EIA (rack spacing) UL 2416 (static load rating) Telcordia GR-63-CORE, NEBS requirements	RoHS compliant EIA (rack spacing)	RoHS compliant EIA (rack spacing)	RoHS 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	Basic 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	19-in. or 23-in. rack spacing on 27.55 in. and 31.50 in. widths; adjustable L-shaped rack angles for equipment mounting; rack and panel mounting PDUs available; basic cable management offering. **	Heavy-gauge construction, extra welds, heavy-duty washers, 3-point vault-style latching. Zone 4, 1,100 lbs. Can be used as battery cabinet; robust cable management offering. **	Cabinet can be rolled into place, levelers positioned and anti-tip bracket attached. Anti-tip bracket, casters, levelers are standard. **	Front vertical cable managers with covers and rear vertical tie-down managers; CISCO versions available. **	Ideal for Cisco 6500, 9500, and 7000 Series network switch requirements. *

Free-Stand Cabinets Product Selection Guide



PROLINE	PROLINE	PROLINE	PROLINE
FloTek	FloTek- HCA (hot/cold aisle)	FloTek- FD (floor ducted)	Server and Voice/Data
Passive cooling within network and server equipment	Hot aisle/cold aisle layouts for network and server equipment	Raised floor applications; cabinet helps integrate raised floor cool air pathway to network equipment	Wet, dusty, or hot environments for server or network equipment storage
Low density	High density	High density	Application specific
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.)
23.62 in.	23.62 in.	23.62 in.	27.56 in. or 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.
2,500 lbs. static	2,500 lbs. static	2,500 lbs. static	2,500 lbs. static
RoHS compliant EIA (rack spacing)	RoHS compliant EIA (rack spacing)	RoHS compliant EIA (rack spacing)	RoHS compliant EIA (rack spacing) UL 508 Type 12 cUL Type 12 NEMA/EEMAC Type 12
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
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
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
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
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
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
Maximum cooling without added fans. **	Rear split doors access separately powered banks of fans for redundancy with easy equipment access **	Two independently powered fans in back of enclosure and front floor duct to direct air into server intakes **	Type 1, 12; optional filter fan and AC packages.

Free-Stand Cabinets - Net Series Communication and Server Cabinets

NET SERIES COMMUNICATION AND SERVER CABINET



- 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.

INDUSTRY STANDARDS

UL 2416 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.
- 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

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 2416 with load evenly distributed in enclosure

NOTE: UL 2416 requires that the cabinet be tested with a load four times the 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

Free-Stand Cabinets - Net Series

Communication and Server Cabinets

STANDARD PRODUCT

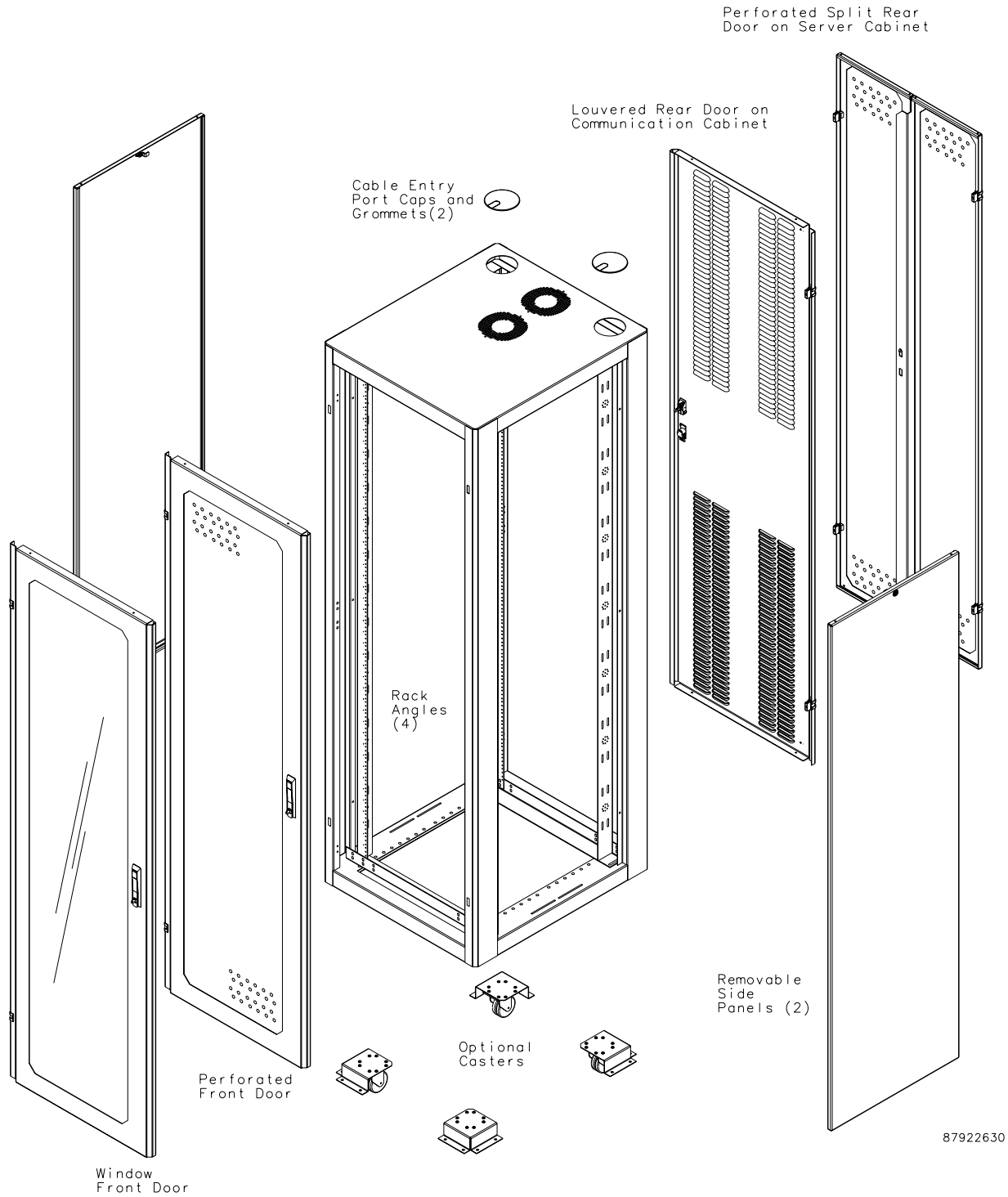
Catalog Number	AxBxC in./mm	Description	Rack Units	M in./mm	N in./mm	Rack Angle Holes	Additional Rack Angles
NC1268	49.00 x 23.62 x 33.99 1245 x 600 x 863	Communication Cabinet	23	42.00 1067	14.71 374	Tapped 10-32	NRAT126
NC2178	84.00 x 27.56 x 33.99 2134 x 700 x 863	Communication Cabinet	43	77.00 1956	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.

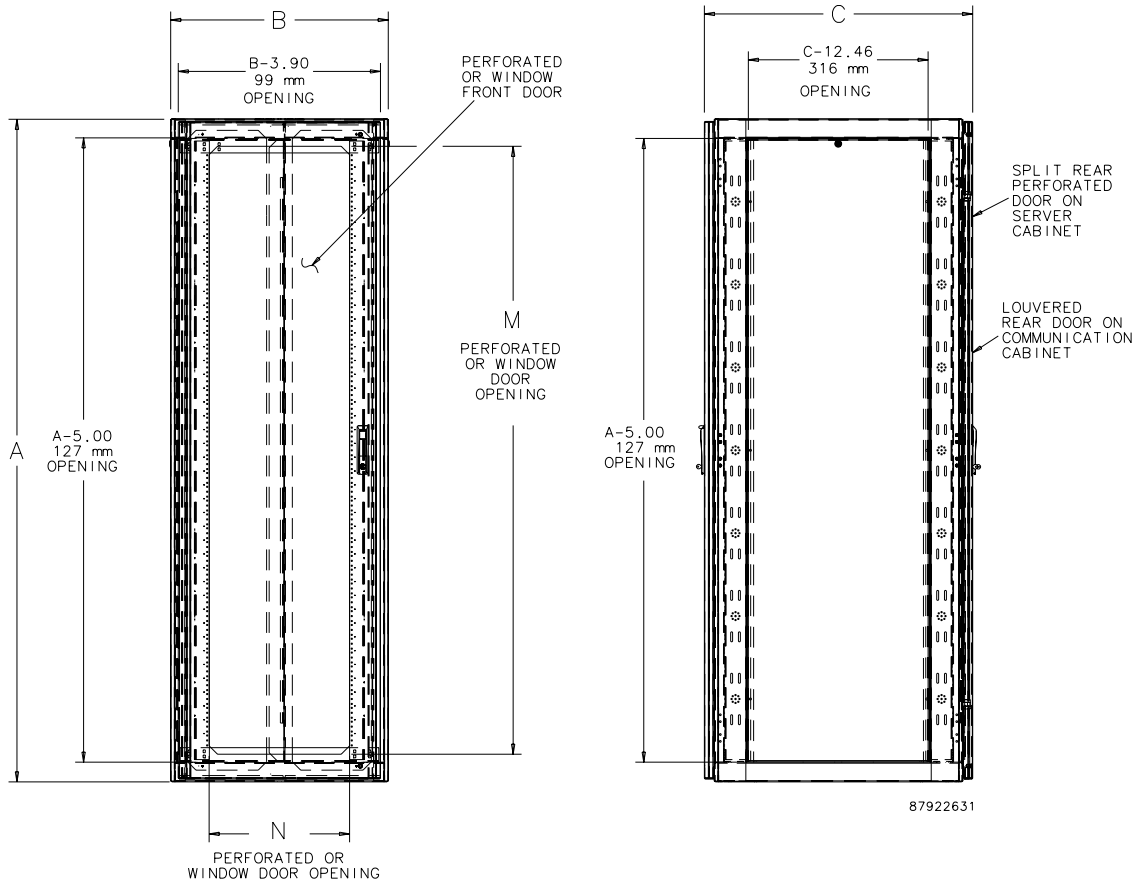
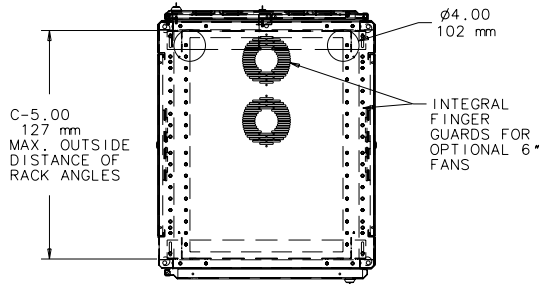
Free-Stand Cabinets - Net Series Communication and Server Cabinets

1



Free-Stand Cabinets - Net Series

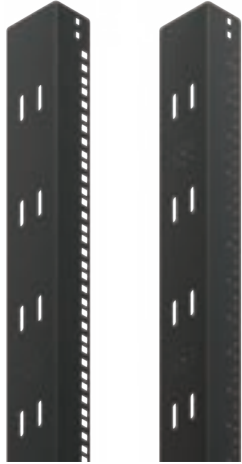
Communication and Server Cabinets



Free-Stand Cabinets - Net Series

Communication and Server Cabinets

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	Length in./mm	Hole Type	Use with Net Series Cabinet H x W
NRAT126	40.37 1025	Tapped	1245 x 600
NRAT216	78.87 2003	Tapped	2134 x 600
NRAT217	78.87 2003	Tapped	2134 x 700
NRAT218	78.87 2003	Tapped	2134 x 800
NRAS126	40.37 1025	Square	1245 x 600
NRAS216	78.87 2003	Square	2134 x 600
NRAS217	78.87 2003	Square	2134 x 700
NRAS218	78.87 2003	Square	2134 x 800

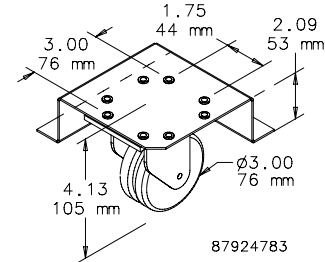
NET SERIES CASTER KIT



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

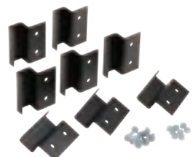


Leveler Kits allow adjustment of Net Series Cabinets for uneven floors. Can be used with casters to stabilize final installation.

BULLETIN: DCY

Catalog Number	Description
NLK	Set of four levelers

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

Free-Stand Cabinets - Net Series Communication and Server Cabinets

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 UL approved thermal plastic material with a low-gloss textured black finish. May 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

NET SERIES VERTICAL TIE-DOWN CABLE MANAGER

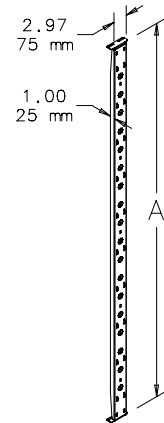


Hold larger cable bundles securely. VELCRO Cable Wraps provide convenient cable fastening and easy access to individual cables. One piece design. Holes provided for addition of cable transitions, spools, or D-Rings (order separately). Made of steel coated with RAL 9005 black polyester powder paint. Includes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

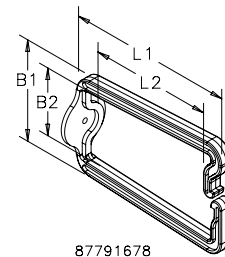
D-RING CABLE MANAGERS



D-Rings, made of black plastic, can be used to manage cables horizontally, vertically or as transition occurs. 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	B1 in./mm	B2 in./mm	L1 in./mm	L2 in./mm	Pkg. Qty.
ECM3DR10	1.72 44	1.22 31	3.50 89	2.88 73	10
ECM6DR10	3.00 76	2.22 56	5.33 135	4.42 112	10



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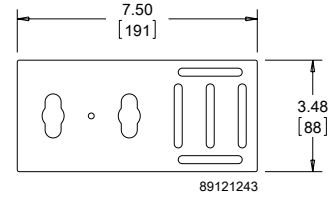
Free-Stand Cabinets - Net Series Communication and Server Cabinets

PDU BRACKET KIT



The PDU Bracket Kit includes two mounting plates and hardware to effectively mount power strips within enclosures.

BULLETIN: DCY



Catalog Number	Finish	Pkg. Qty
DPDU1	Painted black	2

NET SERIES COMBINATION L-HANDLE

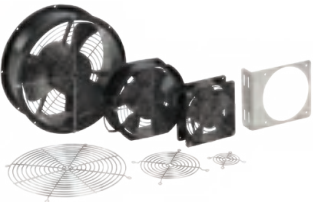


Combination L-Handle fits Net Series cabinet doors. The 4-digit combination lock with master key override can easily be changed. Install using existing cam from standard handle.

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

6-INCH COMPACT AXIAL FANS



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.

BULLETIN: D85

STANDARD PRODUCT AND CUTOUT DIMENSIONS

Catalog Number	Nominal Size	Voltage
A6AXFNGQ	6	115 VAC
A6AXFNPG	6	115 VAC

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

STANDARD PRODUCT

Catalog Number	Fits
AFLTR6LD	6-in. fans

Free-Stand Cabinets - Net Series Communication and Server Cabinets

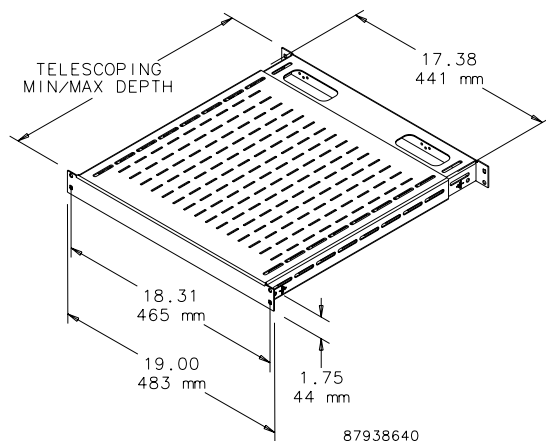
TOOL-LESS SHELF



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.

Note: For square-hole rack angles only!

BULLETIN: DACCY



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

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

ProLine Server Cabinets

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

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

- 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:

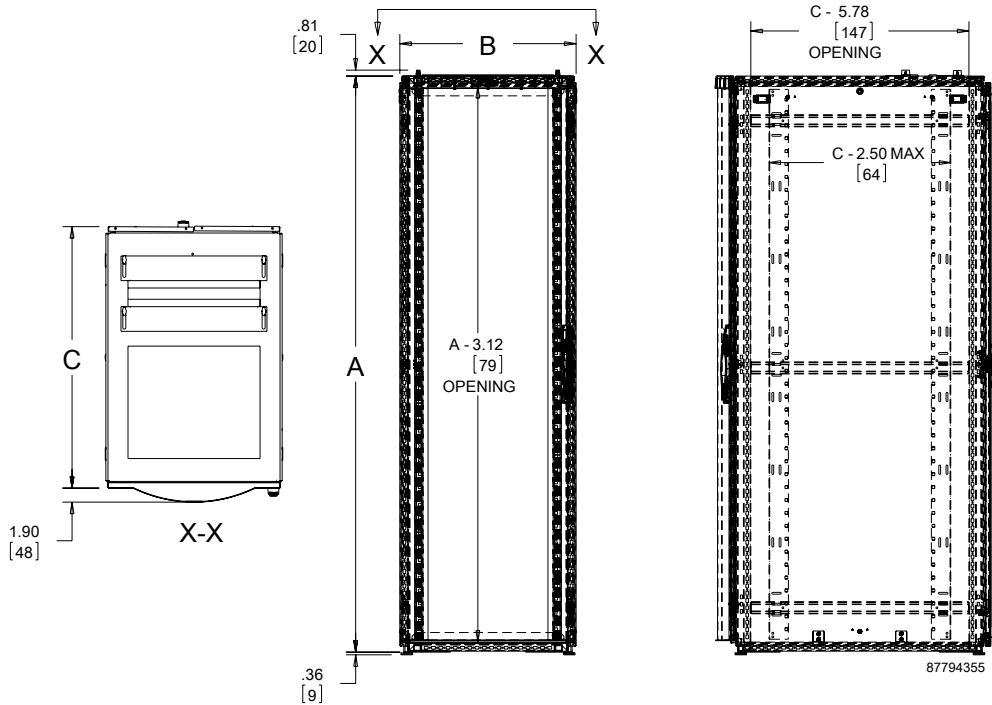
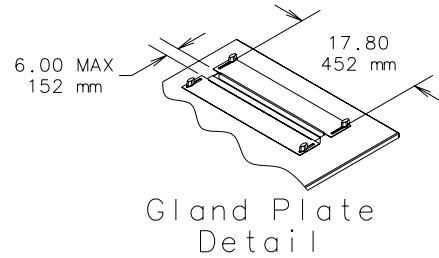
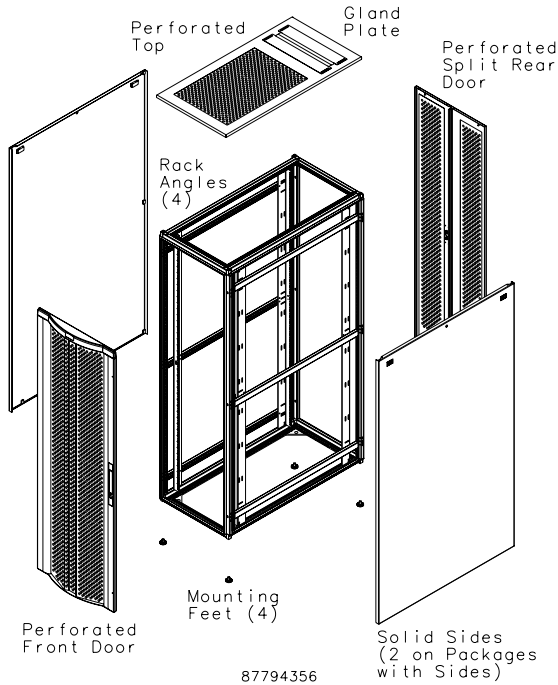
- it is in its final, permanent, fully secured location, and
- its load is uniformly applied to the two sets of rack-mounting angles

Never move a cabinet with its maximum static load applied.

Contact HOFFMAN if further information is needed.

BULLETIN: DPSR

ProLine Server Cabinets



ProLine Server Cabinets

PROLINE FLOTEK HCA (HOT/COLD AISLE) SERVER CABINET



Rear View

- 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.

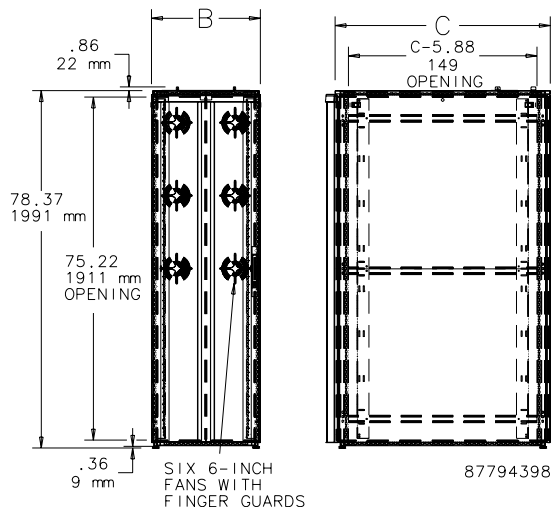
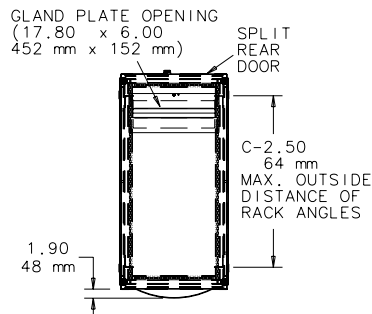
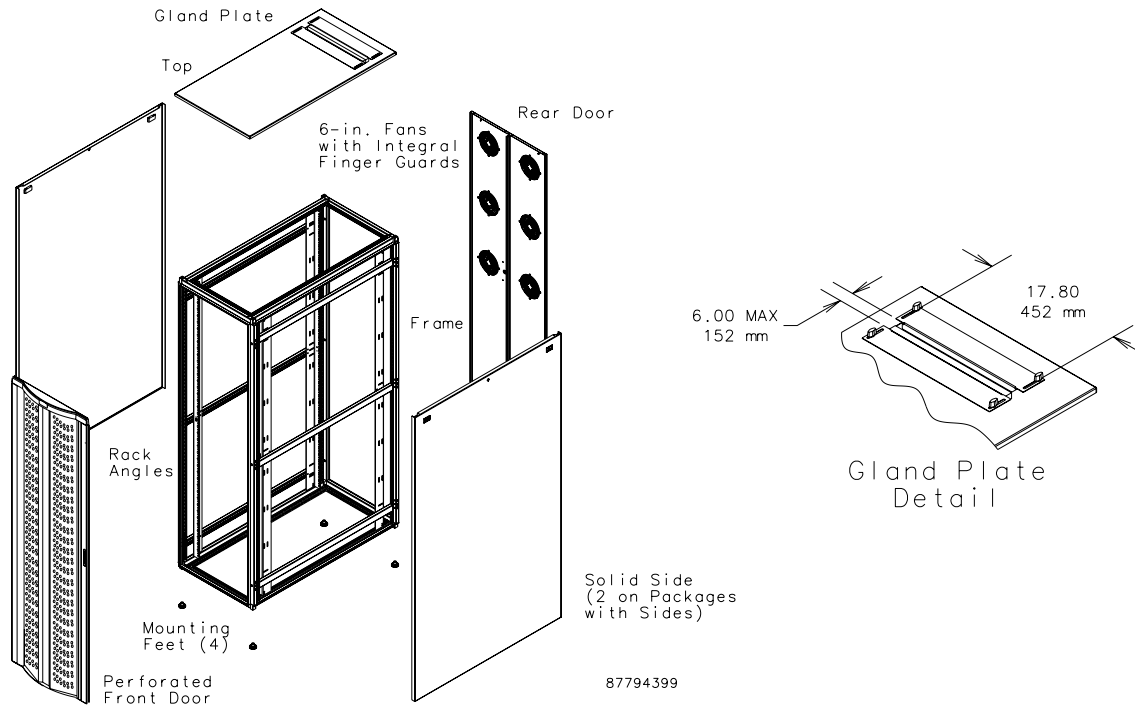
FEATURES

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

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 Server Cabinets



ProLine Server Cabinets

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

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

- 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:

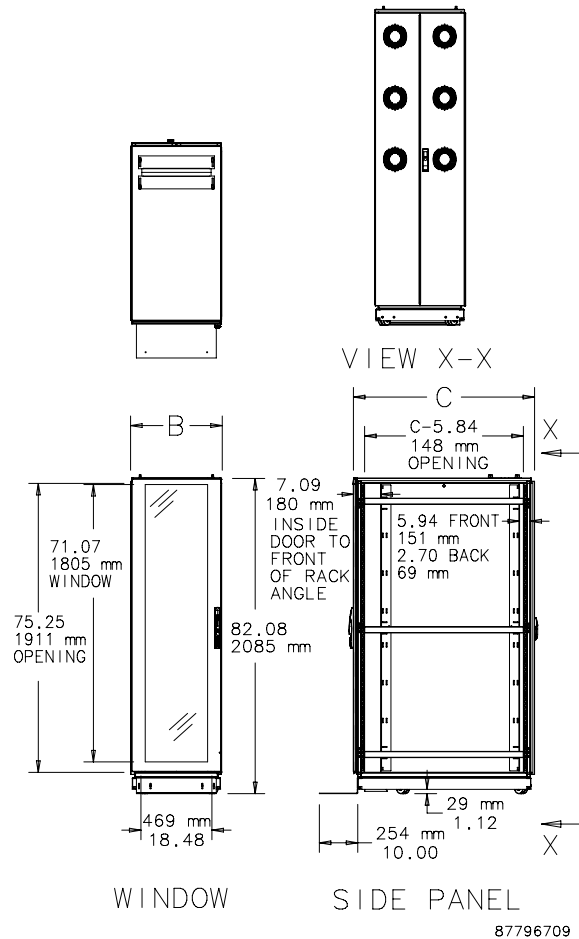
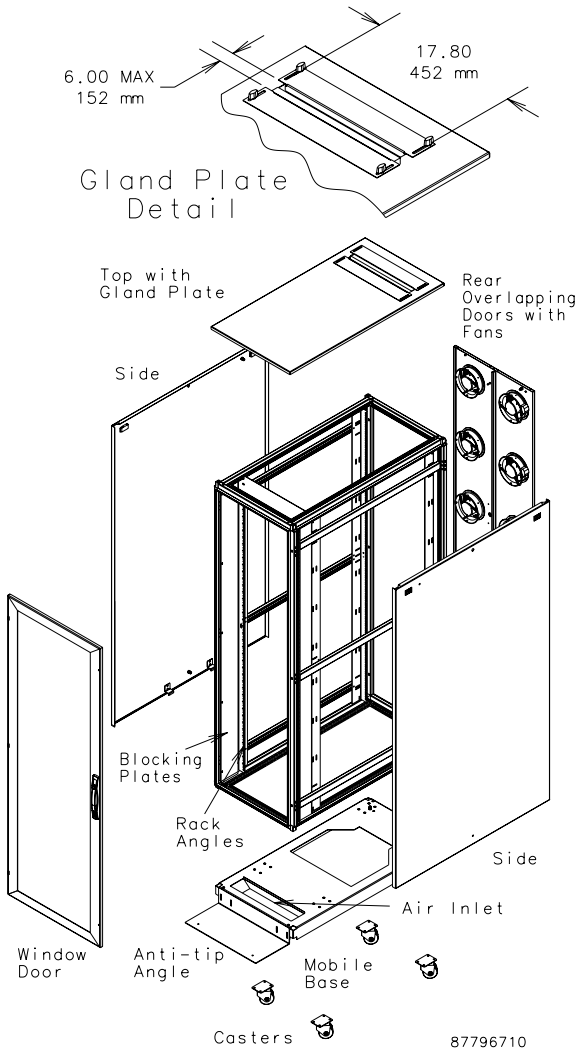
- large cracks
- floor displacement
- seams
- gravel

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

Contact HOFFMAN if further information is needed.

BULLETIN: DPSR

ProLine Server Cabinets



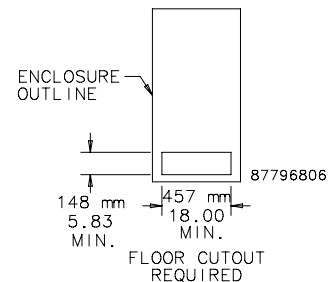
PROLINE FLOTEK FD (FLOOR DUCTED) SERVER CABINET REQUIRED FLOOR CUTOUT



Air Inlet

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; the blocking plates help direct cool air from the floor plenum across the fronts of the equipment.

Floor Cutout Dimensions



ProLine Server Cabinets

PROLINE FLOTEK TD (TOP DUCTED) SERVER CABINET



1

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 within various ceiling heights
- 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
- 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

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

- 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 powder 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.

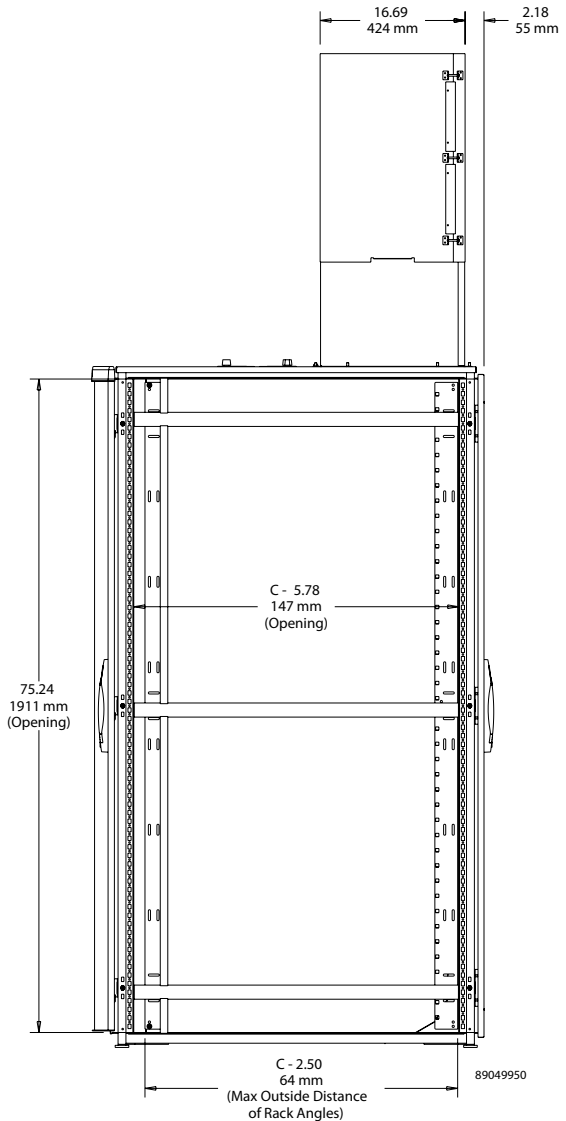
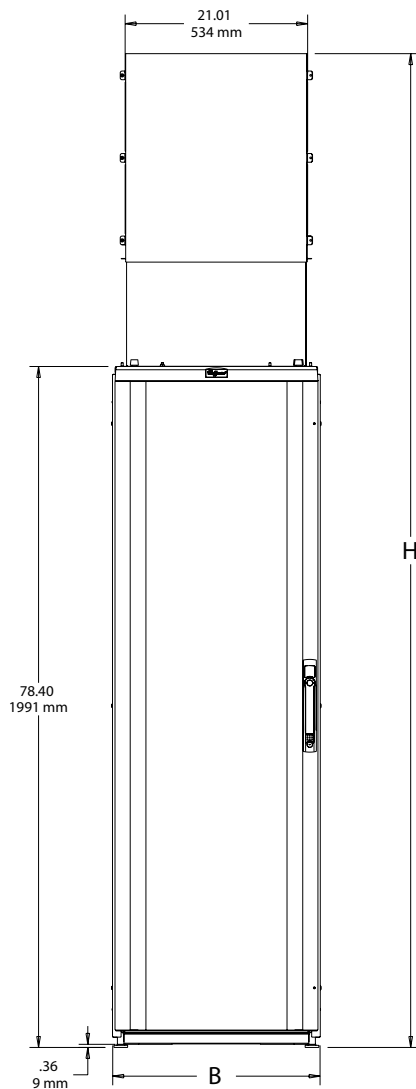
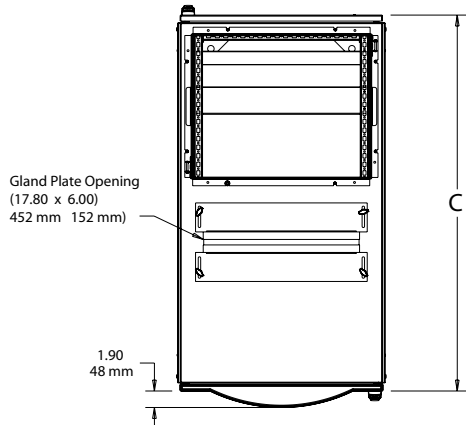
Contact HOFFMAN if further information is needed.

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

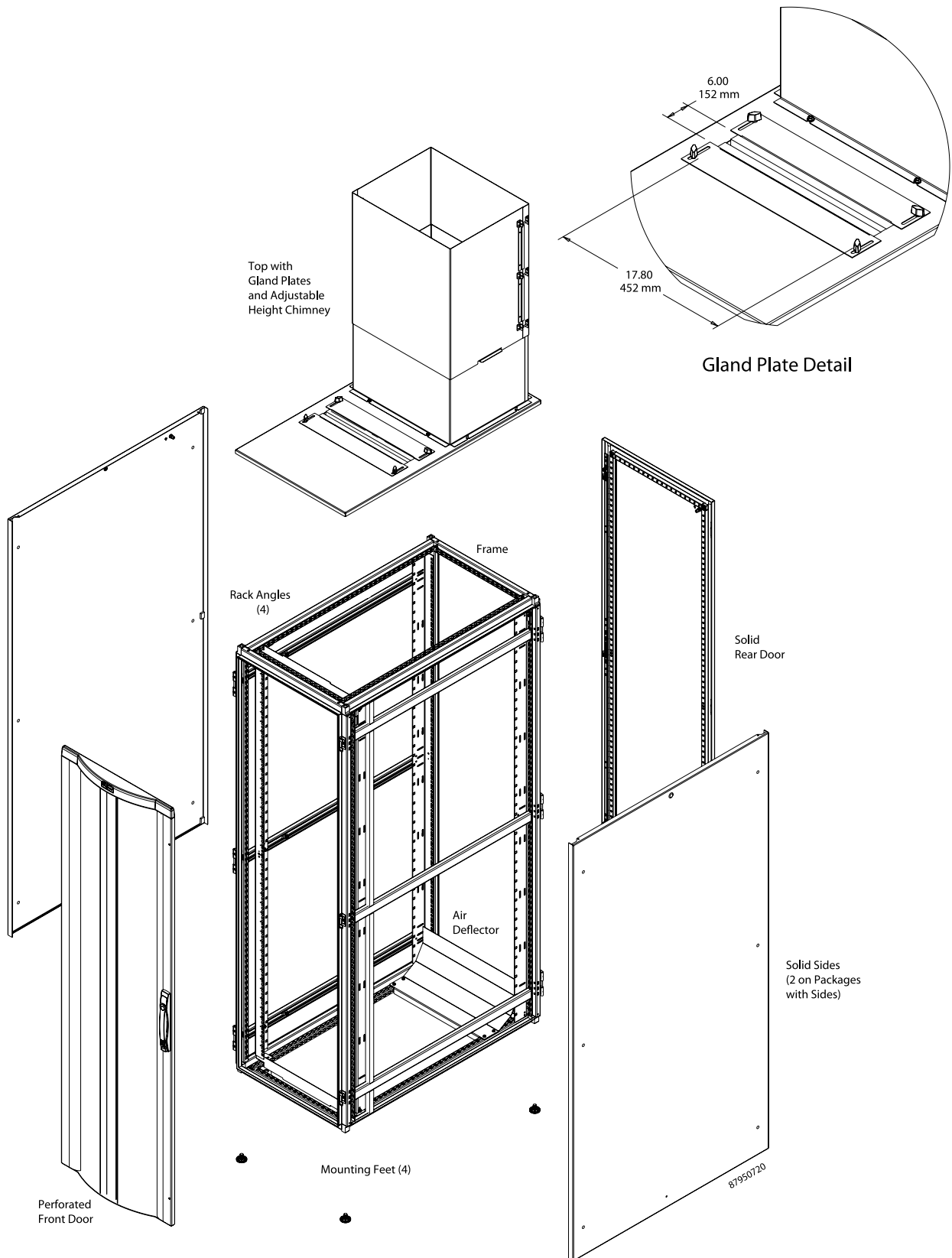
ProLine Server Cabinets



(SHOWN WITHOUT SIDES)

ProLine Server Cabinets

1



ProLine Server Cabinets



Rear View



HVAC S Connector



Gasket



Chimney up and down positions



Front View
(purchase blanking panels separately)



Air Deflector



ProLine Server Cabinets

PROLINE SERVER CABINETS



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.

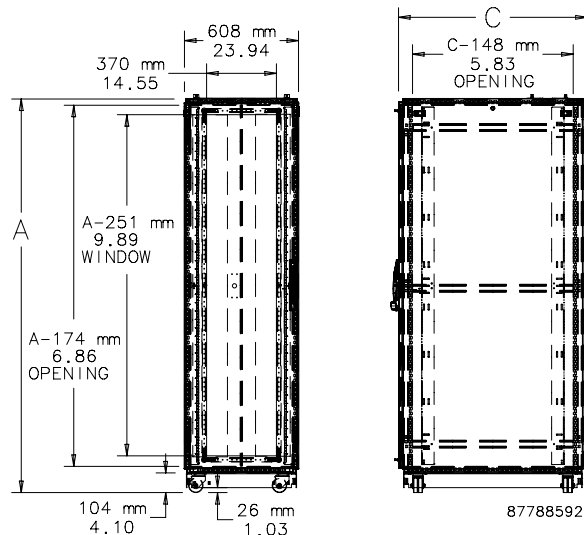
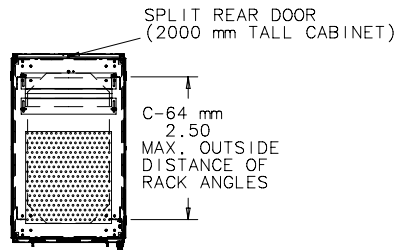
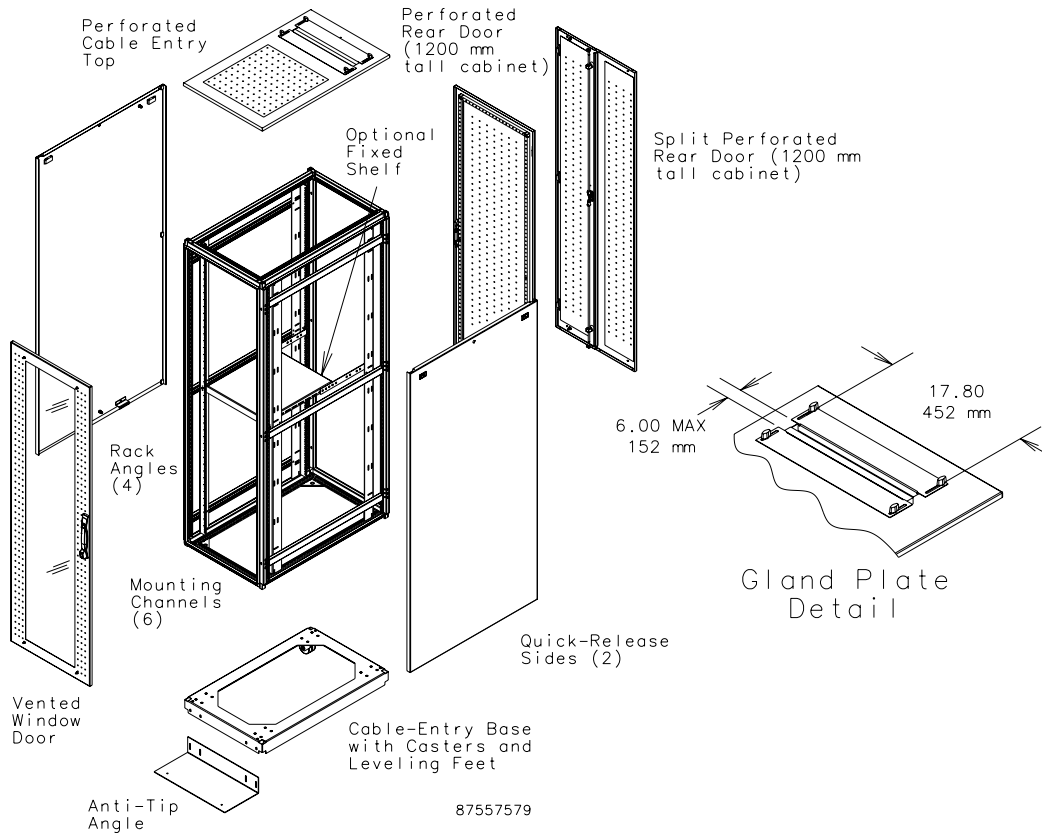
Contact HOFFMAN if further information is needed.

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 Server Cabinets



ProLine Communications Cabinets

PROLINE CONNECTEK COMMUNICATIONS (PATCH) CABINET



- 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

APPLICATION

The ProLine ConnectTek 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.
- Cable managers included with 700-mm wide cabinet: Front - PVF207; Rear - PRBD205
- Cable managers included with 800-mm wide cabinet: Front - PVF208; Rear - PRBD2010

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. ²	272	210	146
800 mm	34.48 in. ²	544	421	293

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:

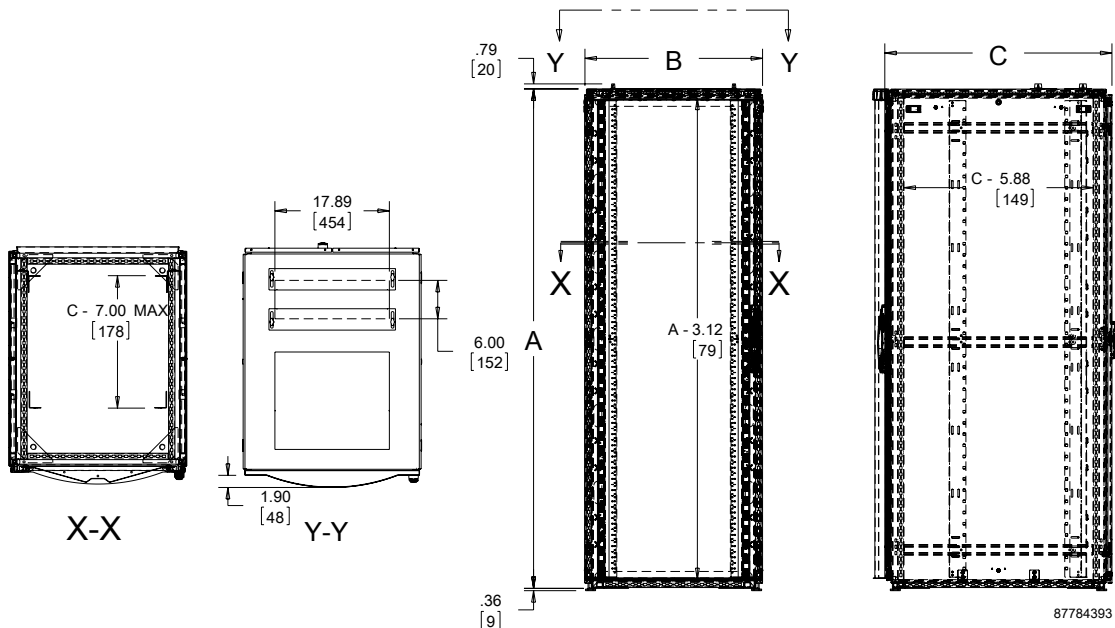
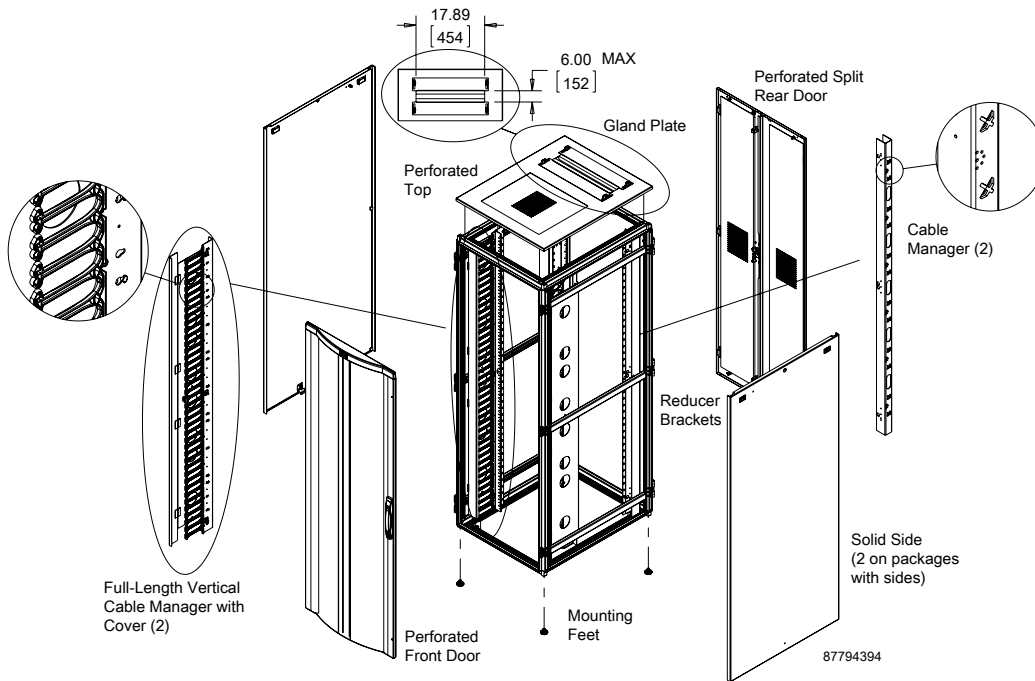
- it is in its final, permanent, fully secured location, and
- its load is uniformly applied to the two sets of rack-mounting angles

Never move a cabinet with its maximum static load applied.

Contact HOFFMAN if further information is needed.

BULLETIN: DPVD

ProLine Communications Cabinets



ProLine Network Switch Cabinets

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 network core switches. It is designed to meet Cisco 6509, 6513, 7009 and 7018 Series network switch requirements in server rooms 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

ProLine Network Switch Cabinets

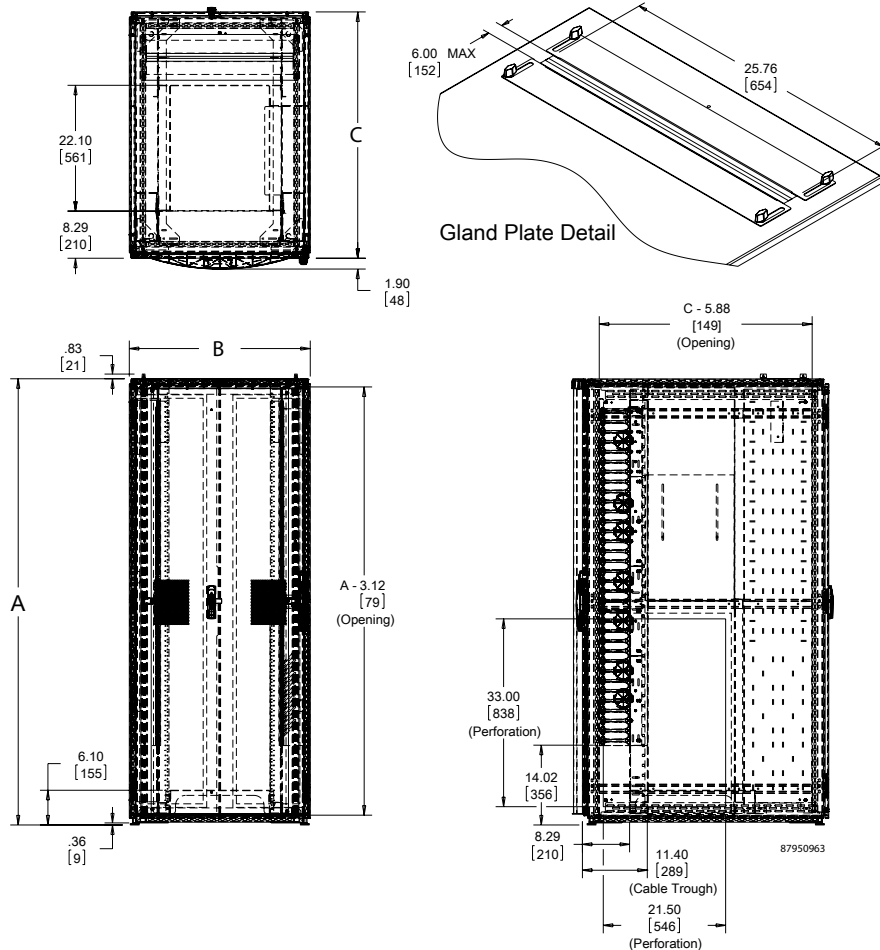
STANDARD PRODUCT 6509 AND 6513 SERIES

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. ²	631	488	339

6509/6513 Series



ProLine Network Switch Cabinets

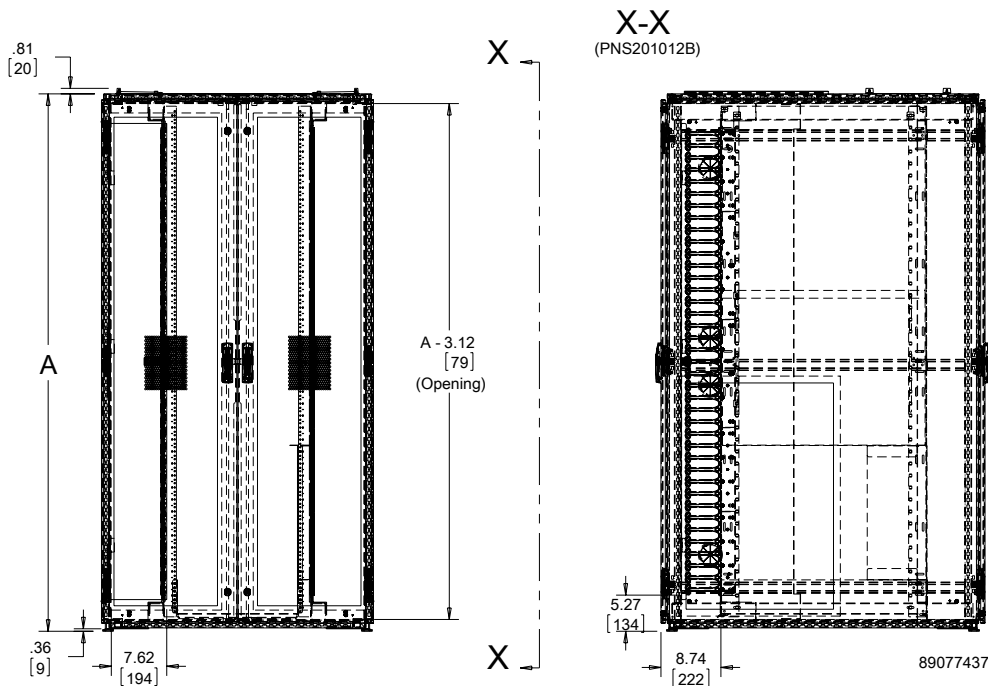
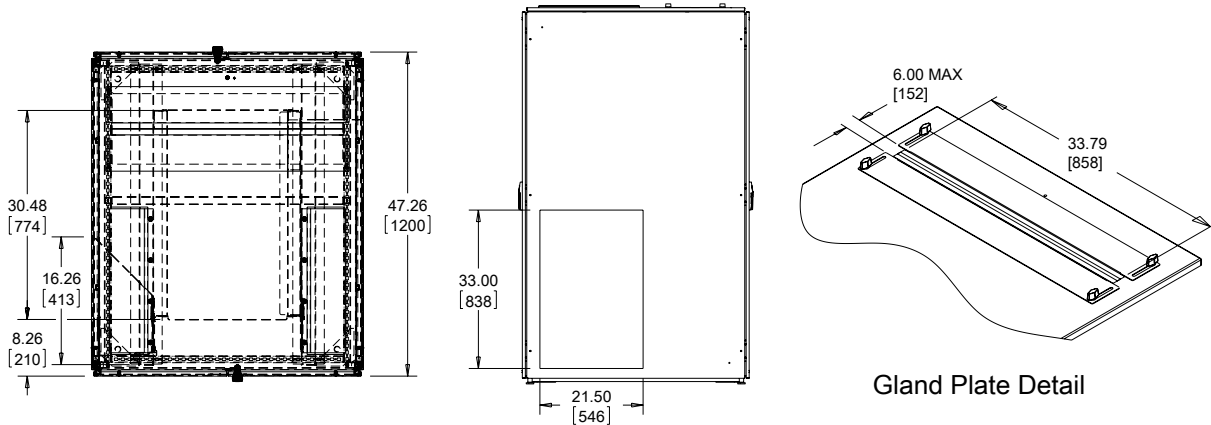
STANDARD PRODUCT 7009 AND 7018 SERIES

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

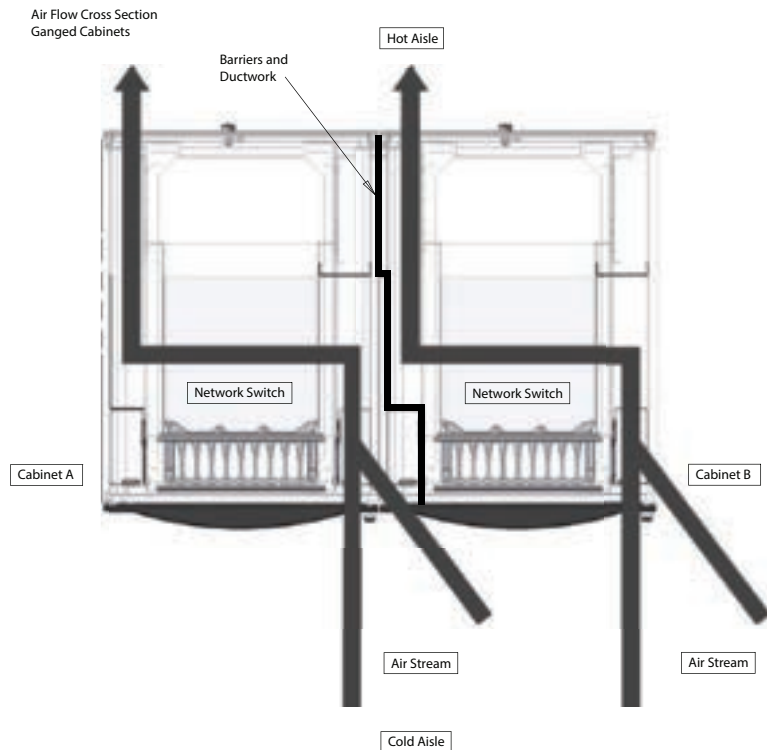
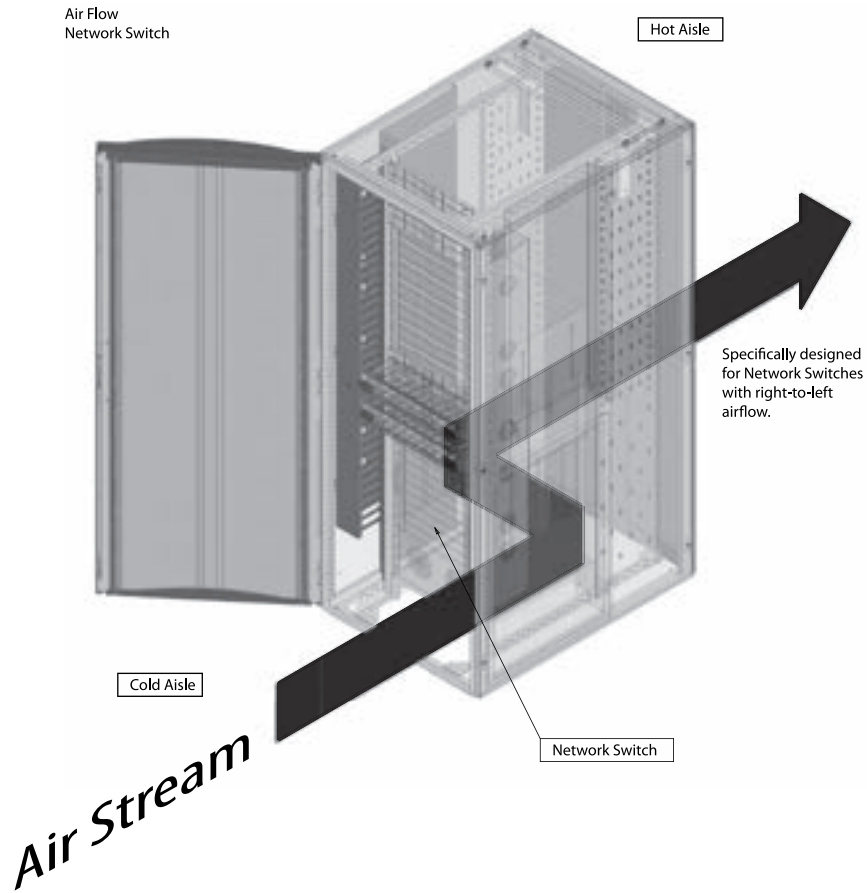
CABLE FILL RATE FOR FRONT VERTICAL CABLE MANAGER-EACH SIDE @ 60% FILL (7009 AND 7018 SERIES)

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

7009/7018 Series



ProLine Network Switch Cabinets



ProLine Network Switch Cabinets

6509 and 6513 Series

Front View

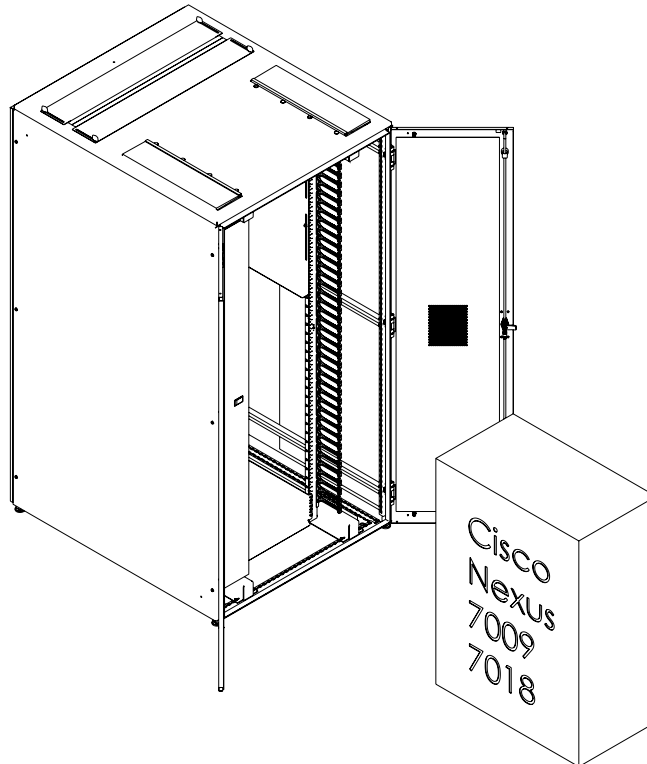
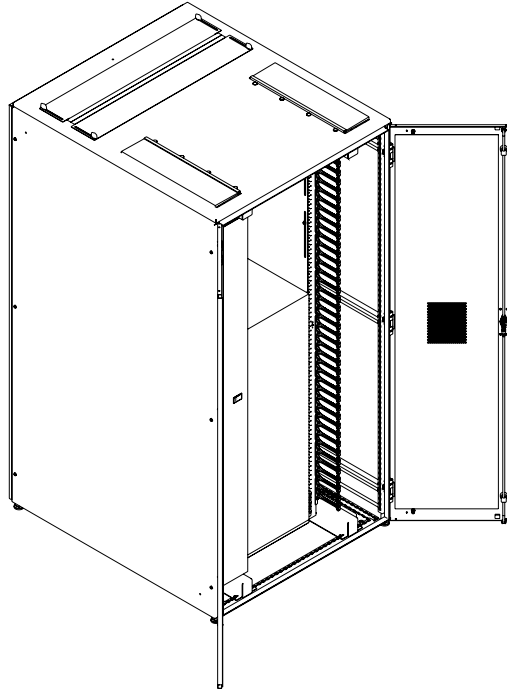


Rear View



ProLine Network Switch Cabinets

7009/7018 Series



89078595

ProLine Network Sealed Environmental Packages

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

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.

- 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 (ordered and 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

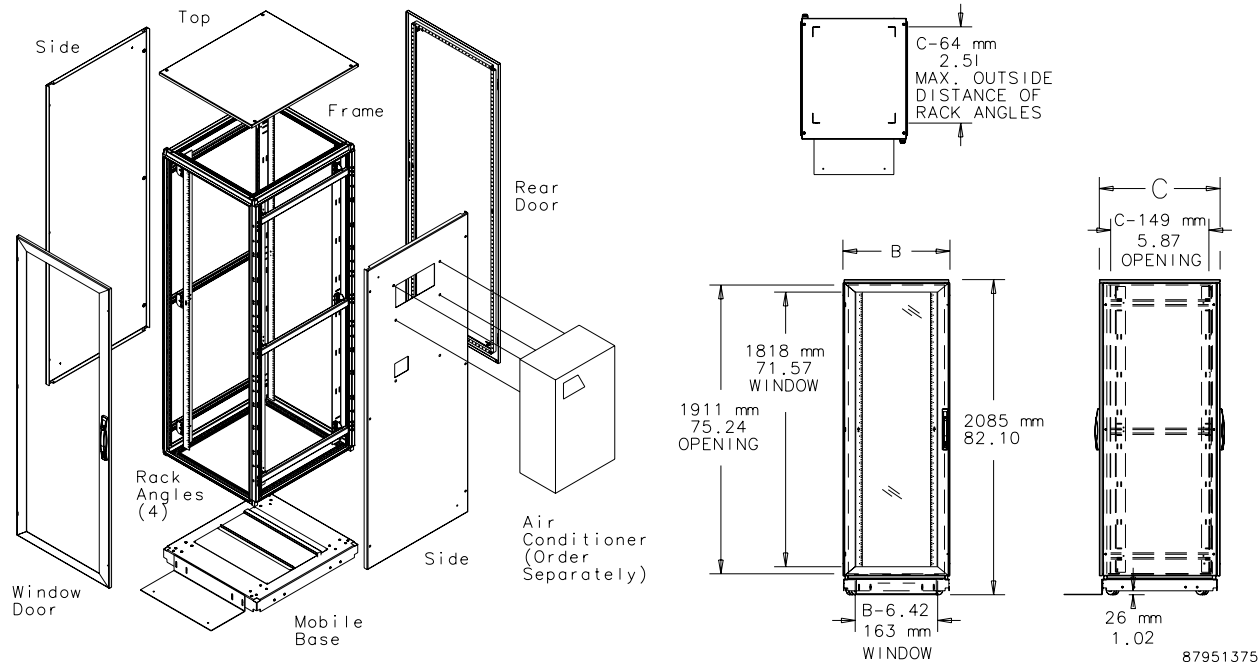
See the Package Components table and, for AC-Ready Cabinet, CR29 air conditioner specifications in the Thermal chapter. Air conditioner must be ordered and shipped separately. It cannot be factory installed.

BULLETIN: DPC, DPSR

ProLine Network Sealed Environmental Packages

PACKAGE COMPONENTS AND REPLACEMENT PARTS

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	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

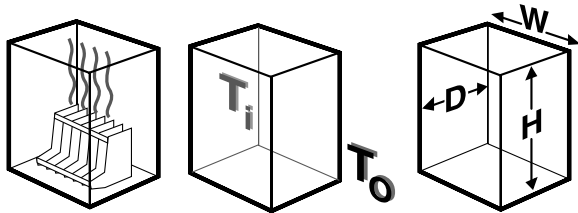


COOLING PRODUCT SELECTION APP

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 nVent.com/HOFFMAN

ProLine Network Sealed Environmental Packages

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 (ΔT) 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 ΔT = 1.8 F ΔT

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^2 to ft.^2

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.

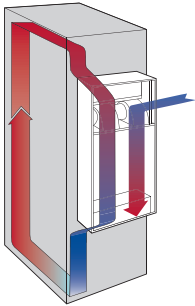
Use this formula to determine the required cooling capacity needed to maintain the desired operating temperature for your enclosure. This selection procedure applies to uninsulated, sealed, gasketed enclosures in indoor locations.

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.

ProLine Network Sealed Environmental Packages

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.

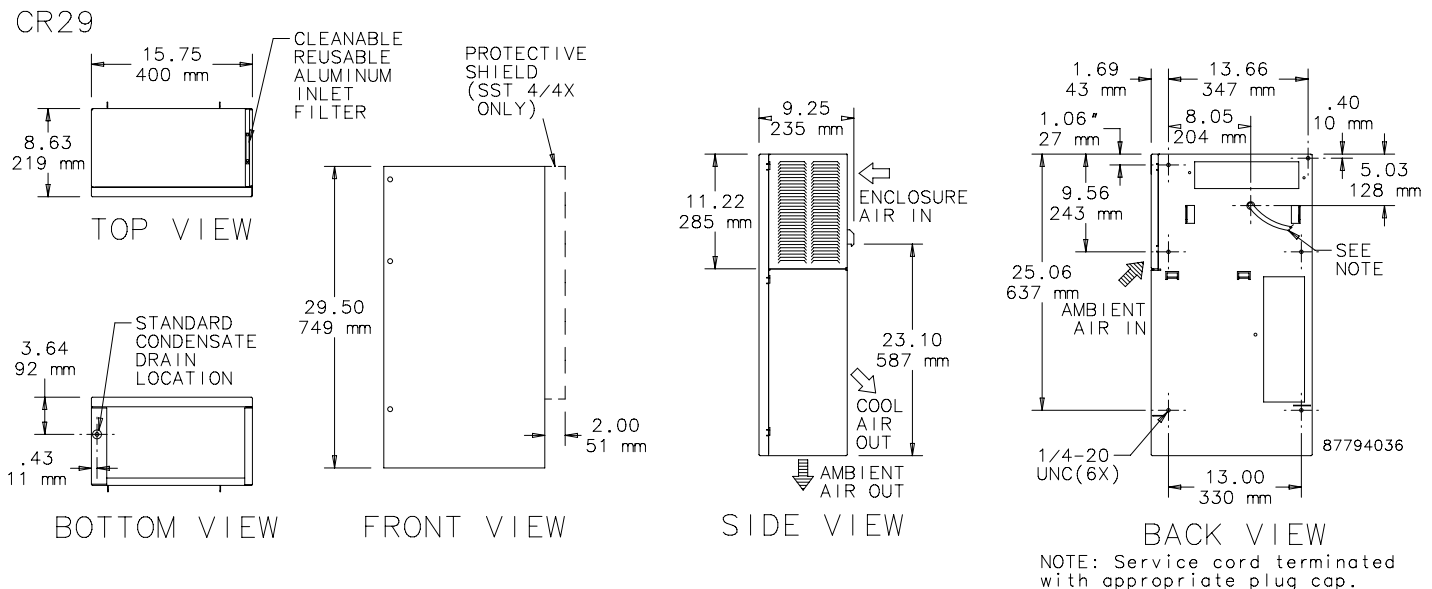
APPLICATION

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 and cannot be factory installed in the cabinets.

STANDARD PRODUCT

Catalog Number	AxBxC in./mm	Voltage	Hz	Phase	BTU/Hr. @ 131 F/ 131 F ^a	Amps @ 131 F/ 131 F	BTU/Hr. @ 95 F/ 95 F ^a	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

^a Because air conditioners provide less cooling at lower operating temperatures, two cooling capacity ratings are provided.



ProLine Network Sealed Environmental Packages

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



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.

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

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)

- 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

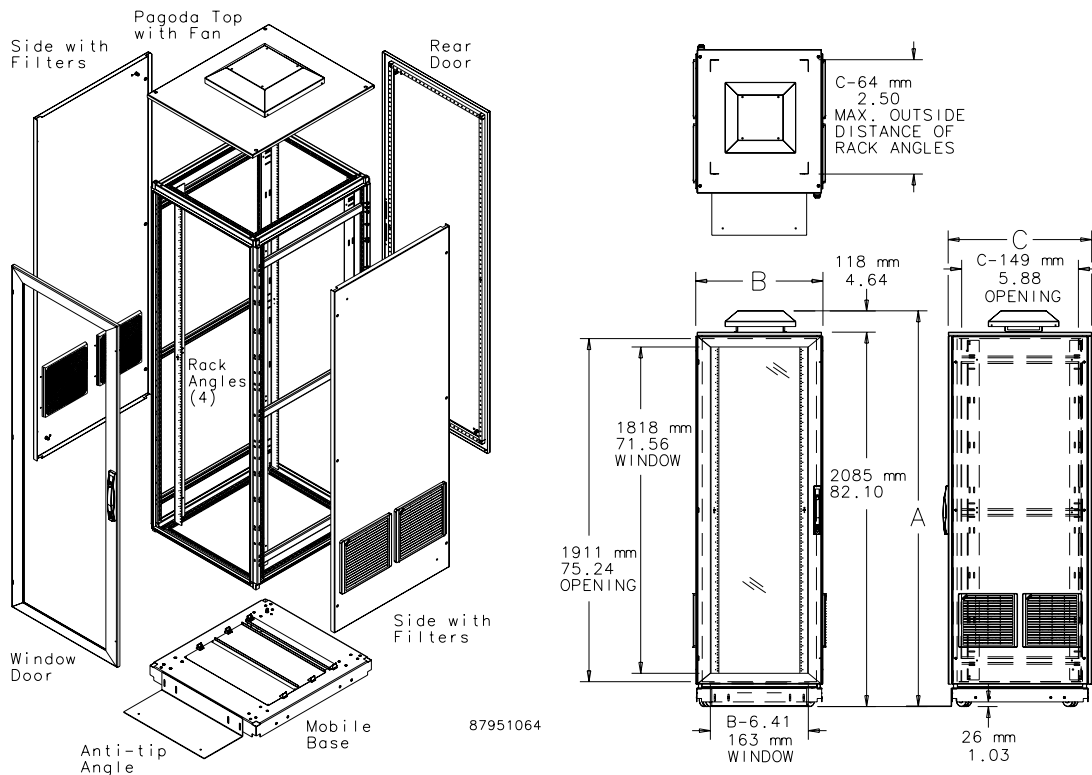
ProLine Network Sealed Environmental Packages

PACKAGE COMPONENTS AND REPLACEMENT PARTS

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



Heat Dissipation in Electrical Enclosures

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 server room applications.

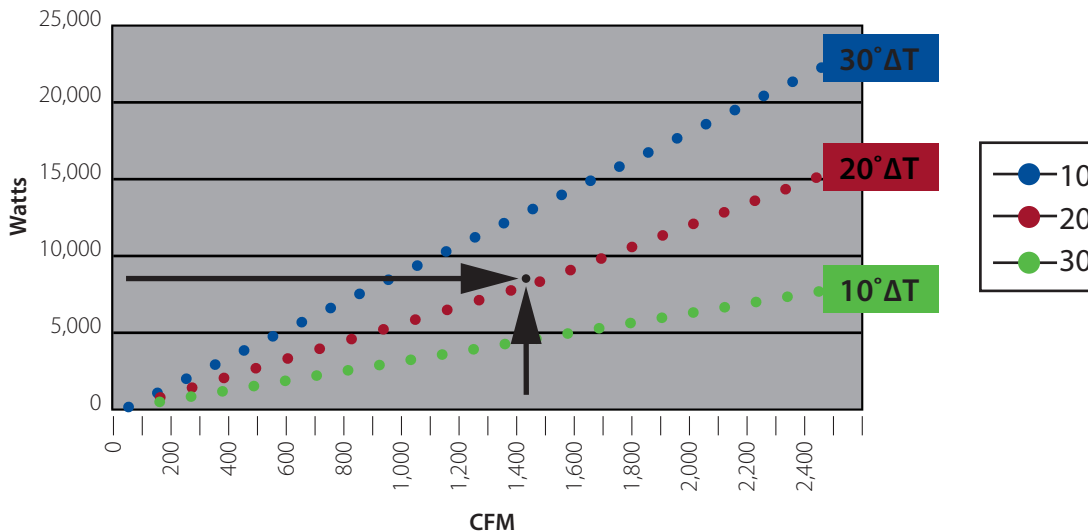
- By knowing any two factors, the other can easily be obtained.
- The Cold Aisle must always provide enough CFM to the intakes of the network equipment to avoid overheating.

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

Example:

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

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



ProLine Cabinet Cable Managers

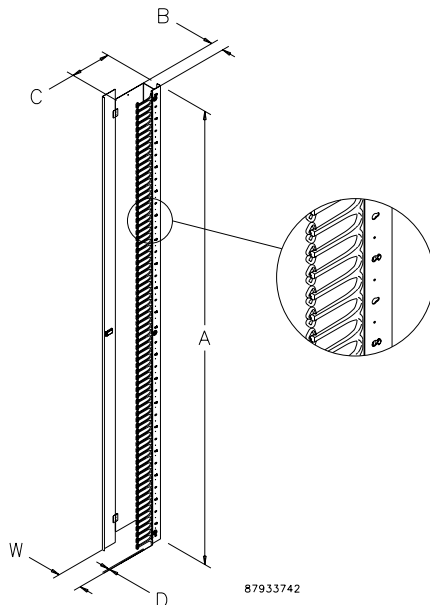
PROLINE CABLETEK VERTICAL CABLE MANAGER



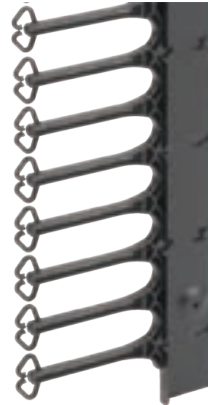
For routing and bundling cable inside 700- and 800-mm wide ProLine cabinets. Variety of sizes provide mounting flexibility. Mounts between frame and rack angle so equipment can be centered or aligned on one side. Replaces reducing brackets that bridge space between cabinet and equipment and allows front-to-back 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 42.02 x 1.97 x 8.75	13 .50	85 3.36	1200
PVF128	1067 x 100 x 222 42.02 x 3.94 x 8.75	13 .50	135 5.33	1200
PVF207	1867 x 50 x 222 73.52 x 1.97 x 8.75	13 .50	85 3.36	2000
PVF208	1867 x 100 x 222 73.52 x 3.94 x 8.75	13 .50	135 5.33	2000



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 42.97	50 1.91	1200
PRBF1210	1091 42.97	100 3.88	1200
PRBF205	1892 74.47	50 1.91	2000
PRBF2010	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 Reducing Brackets (19 in. equipment)	No. of Reducing Brackets (23 in. equipment)
50	2	— 700
50	—	2 800
100	1	— 700
100	2	1 800

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

ProLine Cabinet Cable Managers

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	—
50	—	2
100	1	—
100	—	1
100	—	800

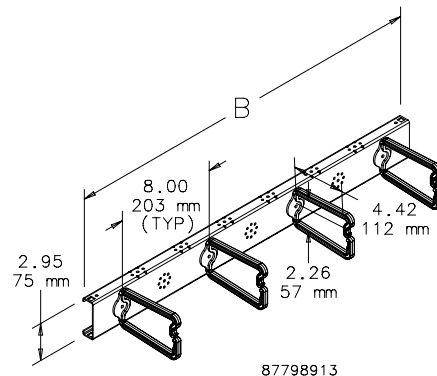
FRONT-TO-BACK D-RING BRACKET



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



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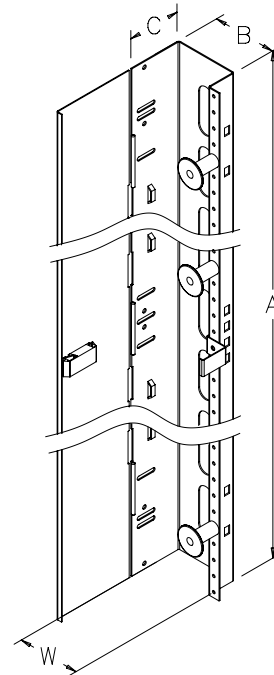
ProLine Cabinet Cable Managers

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



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



87565219

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

ProLine Cabinet Cable Managers

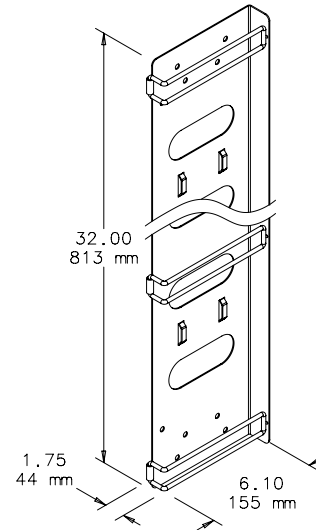
VERTICAL CABLE MANAGER 1



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



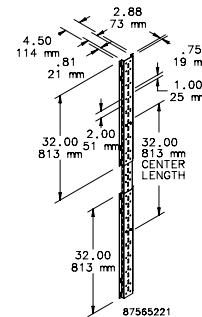
87565220

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



87565221

VERTICAL TIE-DOWN CABLE MANAGER

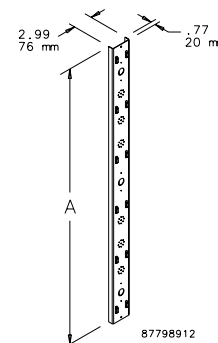


This one-piece cable manager provides mounting holes for D-Rings, spools, universal transition brackets and other accessories (order separately). RAL 9005 black polyester powder paint finish. Includes hardware for mounting to strut and 10 VELCRO® Cable Wraps for fastening cable.

VELCRO is a trademark of VELCRO Industries B.V.

BULLETIN: DPY

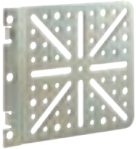
Catalog Number	A mm/in.	Fits Cabinet Height mm/in.
PVCMTD12	1091 42.97	1200
PVCMTD20	1892 74.47	2000



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ProLine Cabinet Cable Managers

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

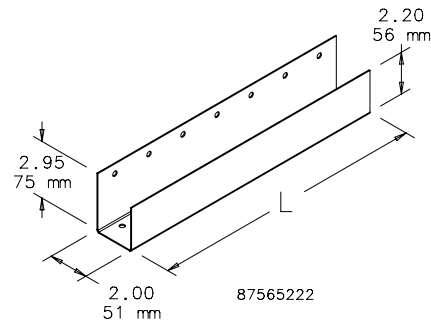


For routing cable front-to-back in a server or data cabinet. Mounts to side or top of 1- or 3-row grid strap. Can also mount directly to mounting channels with APSM6CN Mounting Kit. Multiple units can be used together. 16 gauge steel with RAL 9005 black polyester powder paint finish.

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.



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

ProLine Cabinet Cable Managers

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.

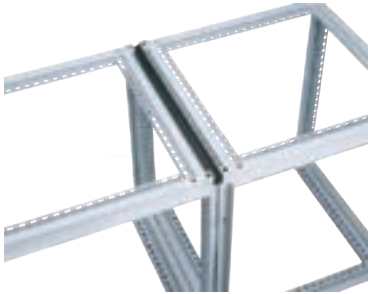
VELCRO is a trademark of Velcro Industries B.V.

BULLETIN: DPY

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

ProLine Accessories

FRAME JOINING KITS



Permits joining two enclosure frames while maintaining an environmental seal.

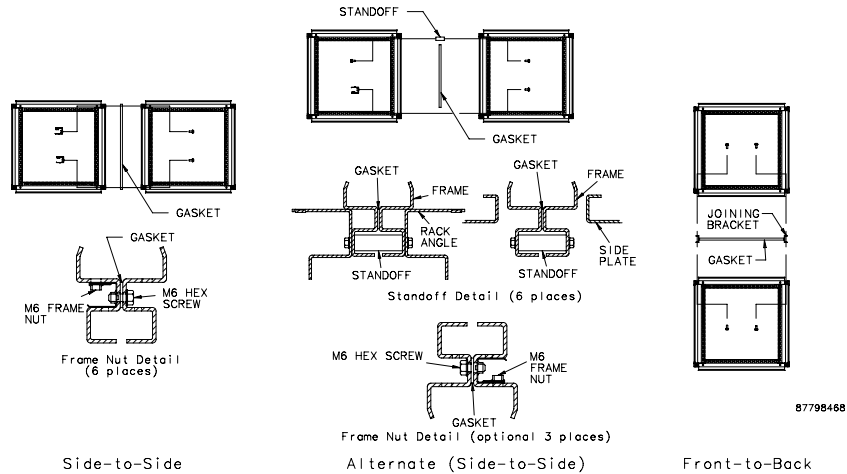
Side-to-Side Joining Kit consists of six frame nuts and screws, as well as gasket material to maintain a dust-tight and water-tight seal between ganged frames. Can be used if rack angles are not in the front or rearmost positions or if a subpanel is not in the rearmost position.

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



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

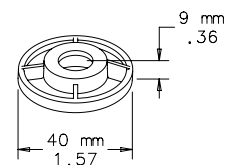
FRAME FEET



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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ProLine Accessories

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 UL approved thermal plastic material with a low-gloss textured black finish. May 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

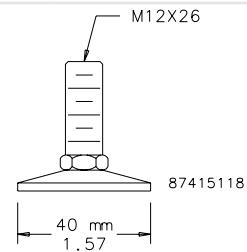
LEVELERS



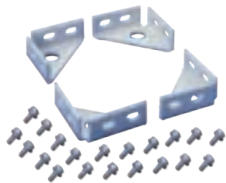
Four post-type levelers allow adjustment for uneven floors. Levelers can be attached to the bottom of a frame or to a 0-mm solid base. Levelers are plated and the leveler base is capped with plastic to provide resistance to marring. Adjustable for 17-mm to 35-mm height. Ball and socket construction.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

BULLETIN: P20

Catalog Number	Description
PLM12	Post-type Levelers



FRAME FLOOR-MOUNTING BRACKET

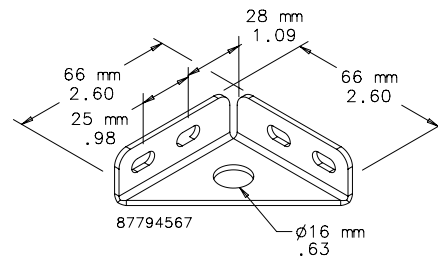


Provides a structural method of bolting a ProLine frame to the floor. Fits all frame sizes. Made of 12 gauge steel with plated finish. Kit includes four brackets and mounting hardware.

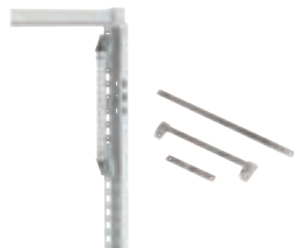
Not for use on colocation frames, which include welded-in floor mounting brackets.

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 Accessories

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:

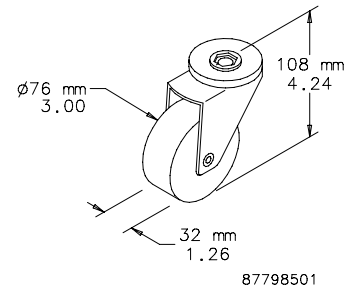
- large cracks
- floor displacement
- seams
- gravel
- any other obstruction

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



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

ProLine Accessories

MOUNTING CHANNEL



Side-to-Side

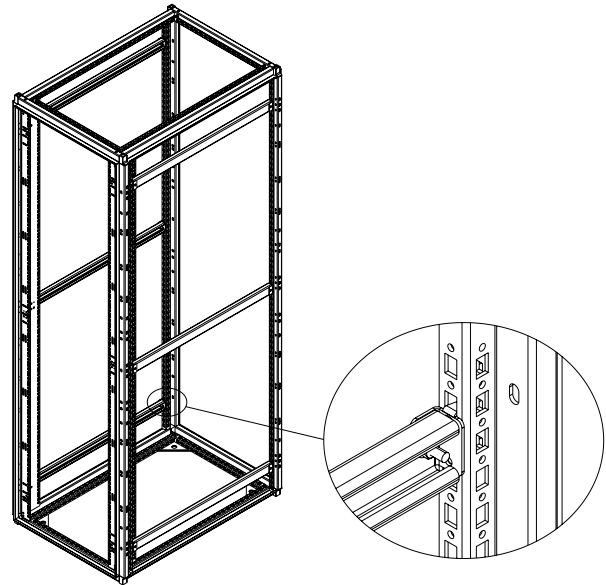
Vertical and Horizontal

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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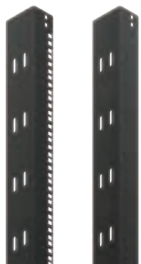
PROLINE SIDE BARRIER PANELS

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



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ProLine Accessories

Catalog Number	Hole Type	Description (in.)	Use With	Fits Frame/Cabinet Height (mm)	Rack Units	Length (mm)	Length (in.)
PRA1912THL1	Square	19	ProLine Networking Packages	1200	24	1091	42.97
PRA1916TPL1	Tapped	19	ProLine Networking Packages	1600	33	1491	58.72
PRA1918THL1	Square	19	ProLine Networking Packages	1800	38	1691	66.59
PRA1918TPL1	Tapped	19	ProLine Networking Packages	1800	38	1691	66.59
PRA1920THL1	Square	19	ProLine Networking Packages	2000	42	1892	74.47
PRA1920TPL1	Tapped	19	ProLine Networking Packages	2000	42	1892	74.47
PRA192320THL1	Square	19 & 23	ProLine Networking Packages	2000	42	1892	74.47
PRA1921TPL1	Tapped	19	ProLine Networking Packages	2100	45	2041	80.37
PRA1921THL1	Square	19	ProLine Networking Packages	2100	45	2041	80.37
PRA1922THL1	Square	19	ProLine Networking Packages	2200	47	2091	82.34
PRA1922TPL1	Tapped	19	ProLine Networking Packages	2200	47	2091	82.34
PRA192322THL1	Square	19 & 23	ProLine Networking Packages	2200	47	2091	82.34
PRA1924TPL1	Tapped	19	ProLine Networking Packages	2400	51	2291	90.21
PRA1924THL1	Square	19	ProLine Networking Packages	2400	51	2291	90.21



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.

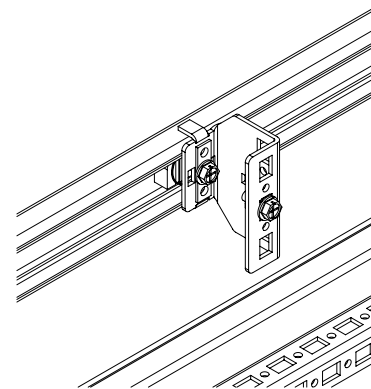
BULLETIN: DPY

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

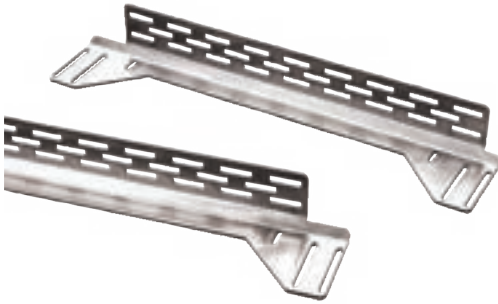
ProLine Frame Width	Setting 19 in. Centered	Setting 19 in. Left or Right	Setting 23 in. Centered
700 mm (27.60) with mounting channel	PMURB50	PMURB100	No reducing brackets
800 mm (31.50) with grid straps	PRB100	PRB200	PRB50
800 mm (31.50) with mounting channel	PMURB100	—	PMURB50



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ProLine Accessories

ADJUSTABLE RACK-MOUNTING RAILS

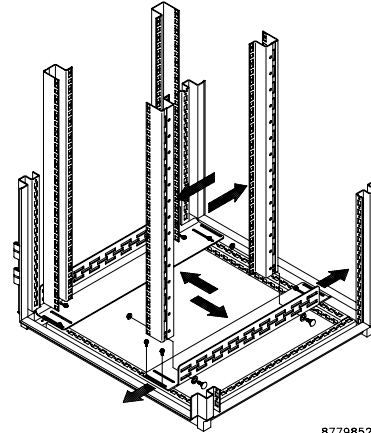


Mounting rails allow rack angles to be positioned anywhere within the ProLine frame. The left-to-right adjustment pertains only when the enclosure is wider than the minimum width required for rack angles. Includes two right-hand and two left-hand 12 gauge plated or painted steel mounting rails. Mounting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

Catalog Number	L (mm)	L (in.)	Fits Frame Depth	Finish
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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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

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.

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
PSCLO	Side Cover Lock	2233

ProLine Accessories

FLUSH SWING HANDLES



Flush Handles are optional for any solid, window or disconnect door greater than 600mm in height, 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.

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-in. padlock shackle. 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

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 G2 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

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
PKOBBK3FH	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).

L HANDLE



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

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

ProLine Accessories

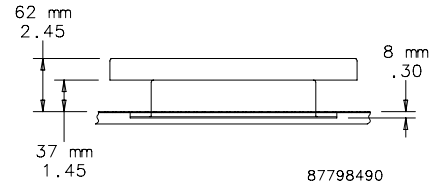
PAGODA EXHAUST VENTS



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.

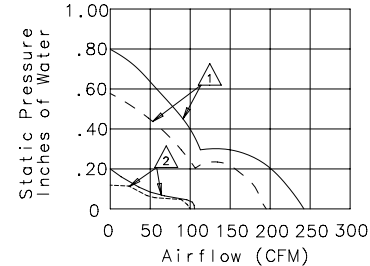
BULLETIN: DTHRM, P20

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



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Performance Curve: 6 in. Fans



(Curves represent fan performance only.)

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

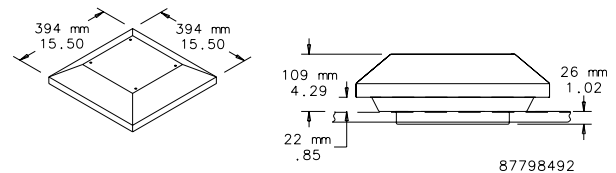
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HIGH-PERFORMANCE PAGODA EXHAUST VENT

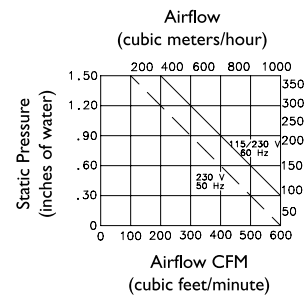


Vents fit on standard ProLine top with vent cutout or can be field-installed on any ProLine solid top. The Pagoda Vent features an integral centrifugal blower mounted in a housing that includes a drip-proof removable hood, wire mesh finger guard, perimeter gasket and terminal block. Electromagnetic-compatible (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



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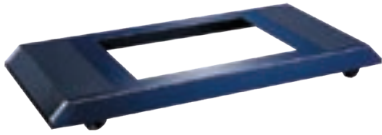


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Catalog Number	Description	Voltage	Full Load Amps	Use With
PPTHP1	Leadwires	115	1.7	Top with high-performance pagoda vent cutout
PPTHP1C	Power cord	115	1.7	Top with high-performance pagoda vent cutout
PPTHP1EMC	Power cord	115	1.7	Top with high-performance pagoda vent cutout on EMC enclosures
PPTHP2	Leadwires	230	.9	Top with high-performance pagoda vent cutout
PPTHP2EMC	Power cord	230	.9	Top with high-performance pagoda vent cutout

ProLine Accessories

MOBILE BASE



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.

Castors 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:

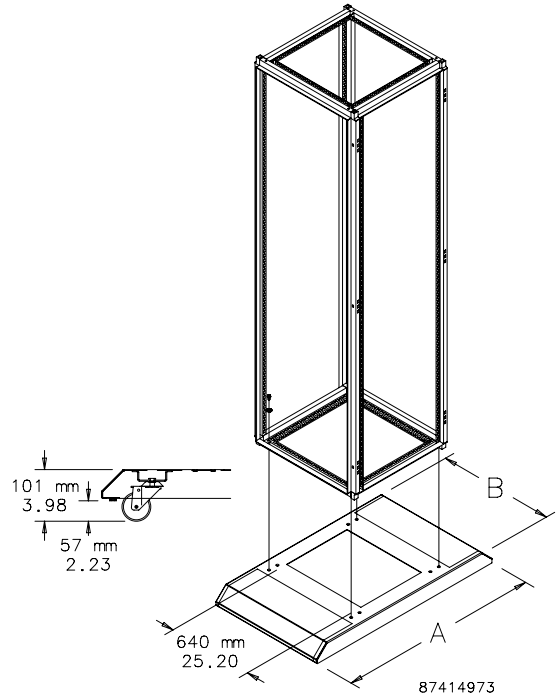
- large cracks
- floor displacement
- seams
- gravel
- any other obstruction

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
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



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

Networking SOHO Cabinet

SOHO CABINET FOR SMALL OFFICE AND HOME OFFICE



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.

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

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

• 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.

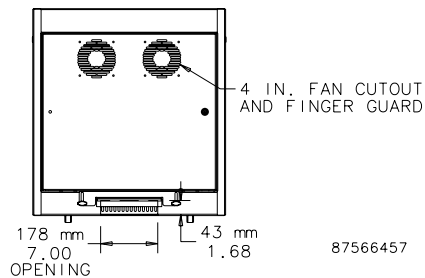
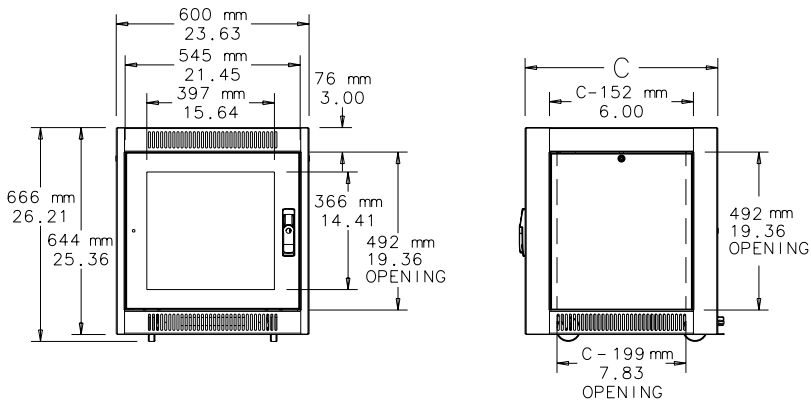
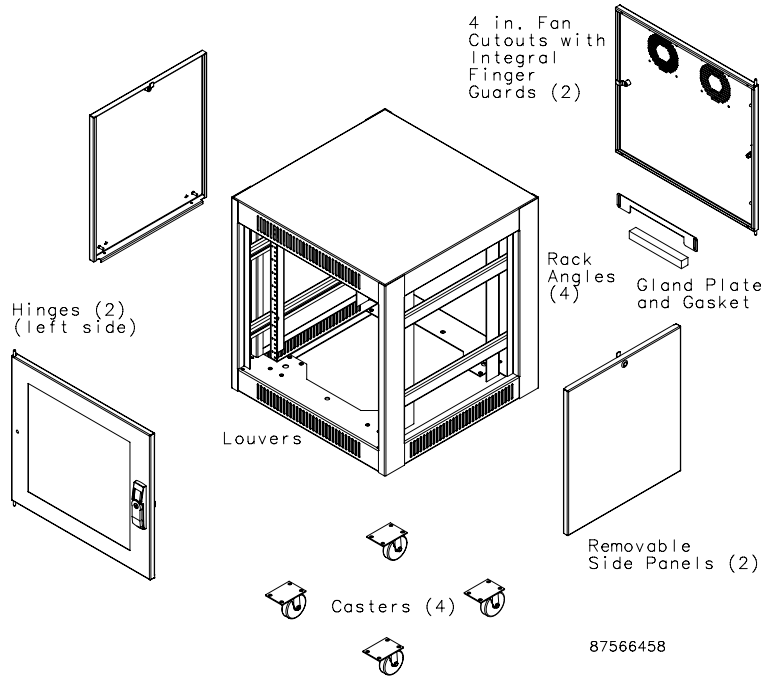
PATENTS

Low Profile Handle (Design) 391,143 (U.S.)

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

BULLETIN: DNCS

Networking SOHO Cabinet



GLAND PLATE DETAIL

Workstation and PC Cabinets

NETWORKING PC CABINET, TYPE 1



1

INDUSTRY STANDARDS

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

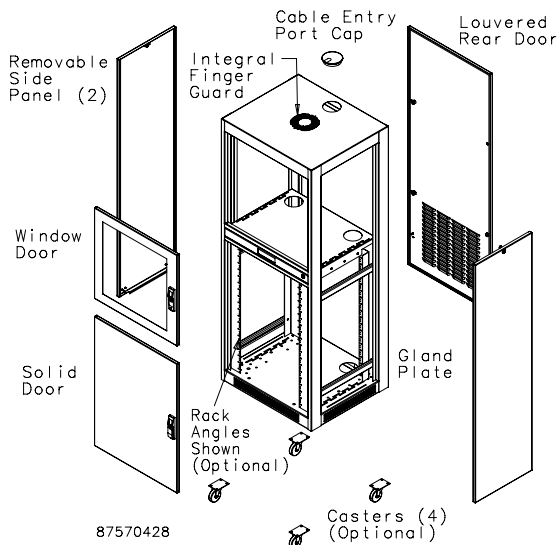
NEMA Type 1
EIA 310-D (when rack angle accessory is installed)

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.

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



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

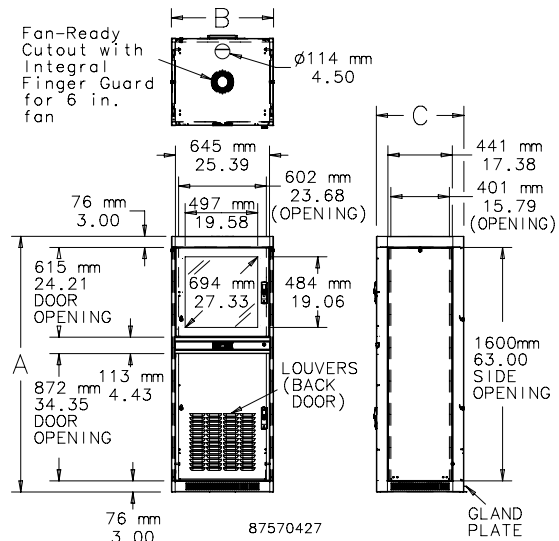
FINISH

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

ACCESSORIES

- Network Cabinet Caster Kit
- Networking PC Cabinet Rack Angle
- Networking PC Cabinet Shelf
- Rack Angle and Shelf cannot be used together.*

BULLETIN: DNCS

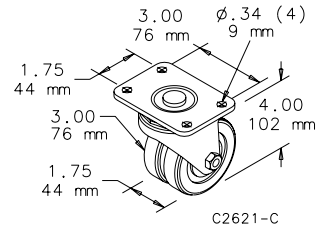


Workstation and PC Cabinets

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

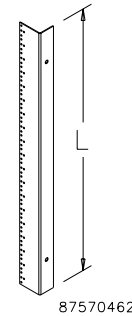
NETWORKING PC CABINET RACK ANGLE



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

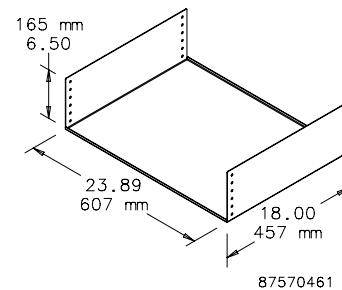
Catalog Number	Length (mm)	Length (in.)	Rack Units	Kit Qty.
ERA1910TPL	848	33.37	19	2



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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CABLE AND POWER MANAGEMENT

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POWER DISTRIBUTION UNITS (PDUS)

Power Distribution Units (PDUs) reliably adapt to changing power demands. Manage power with a wide range of solutions including basic, monitored and switched PDUs for rack- and panel-mount applications.

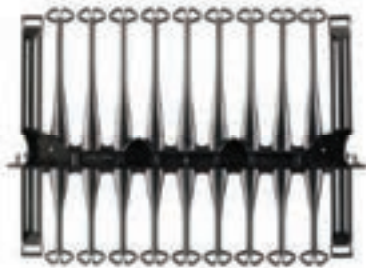


Open-Frame Rack Cable Managers

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

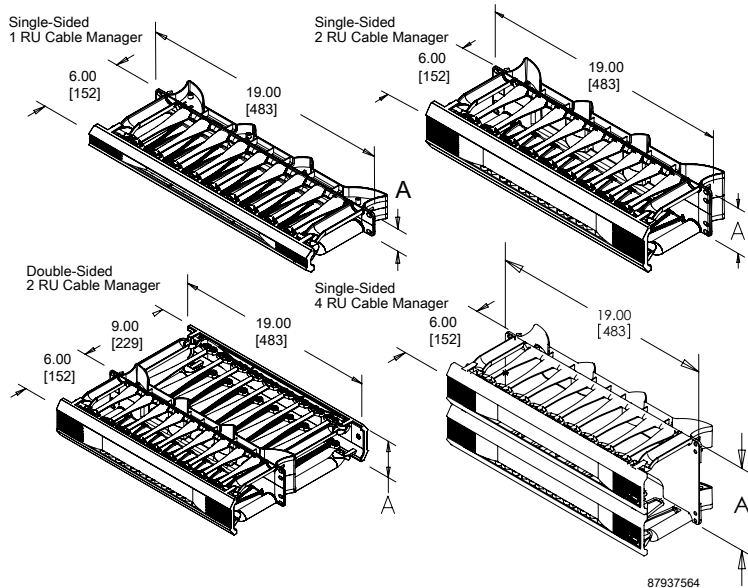
Low gloss, matches look of RAL 9005 textured paint

BULLETIN: DACCY

Open-Frame Rack Cable Managers

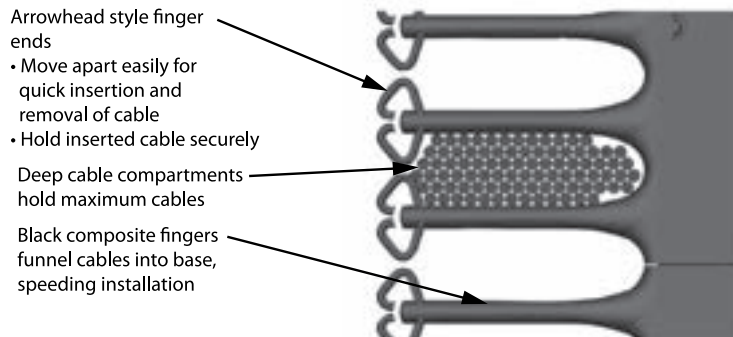
STANDARD PRODUCT CABLETEK HORIZONTAL CABLE MANAGERS; 60% CABLE MANAGER FILL RATE

Catalog Number	Description	Rack Units	A in./mm	Front Cross-Section Area (in. ²)	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. ²)	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	—	—	—	—



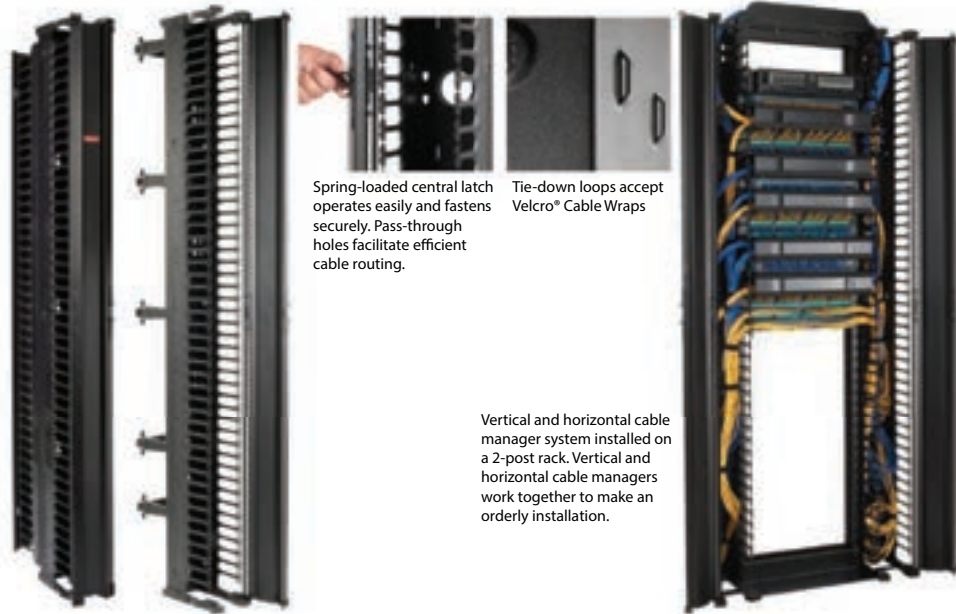
ARROWHEAD CABLE CAPACITY; 60% FILL RATE

Location	Cross-Section Area (in. ²)	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



Open-Frame Rack Cable Managers

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

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

2

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 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.
- Horizontal and vertical cable managers designed as a system for streamlined appearance and improved functionality

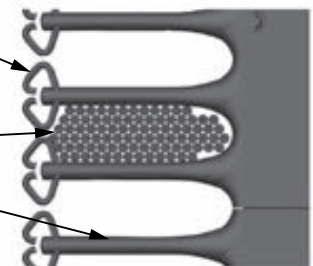
SPECIFICATIONS

- 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



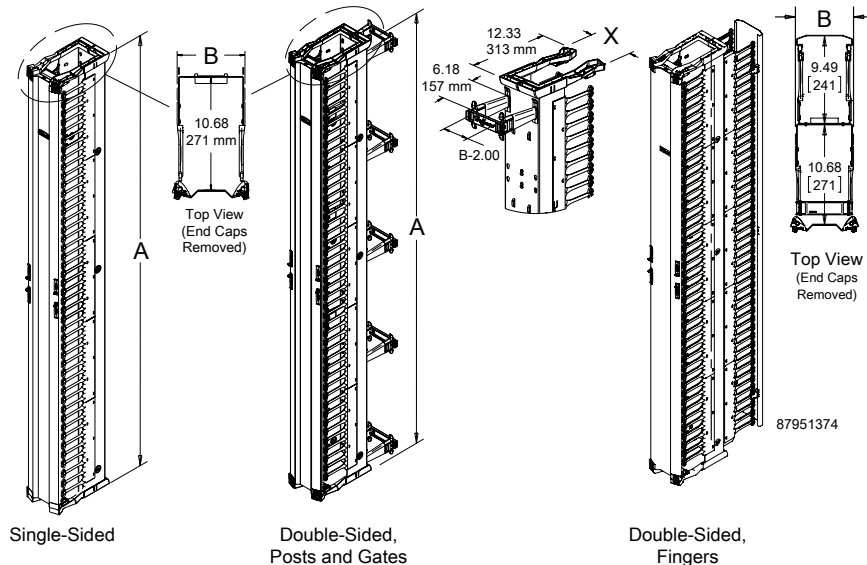
BULLETIN: DOFRY

Open-Frame Rack Cable Managers

STANDARD PRODUCT VERTICAL CABLE MANAGER

Catalog Number	Description	Fits Rack Height (ft.)	Rack Units	A (in.)	A (mm)	B (in.)	B (mm)	X (in.)	X (mm)
DV6S7	Single-Sided	7	45 U	84.00	2134	6.25	159	7.12	183
DV10S7	Single-Sided	7	45 U	84.00	2134	10.25	260	11.21	285
DV12S7	Single-Sided	7	45 U	84.00	2134	12.25	311	13.21	336
DV6D7	Double-Sided, Posts and Gates	7	45 U	84.00	2134	6.25	159	7.12	183
DV10D7	Double-Sided, Posts and Gates	7	45 U	84.00	2134	10.25	260	11.21	285
DV12D7	Double-Sided, Posts and Gates	7	45 U	84.00	2134	12.25	311	13.21	336
DV6DF7	Double-Sided, Fingers	7	45 U	84.00	2134	6.25	159	7.12	183
DV10DF7	Double-Sided, Fingers	7	45 U	84.00	2134	10.25	260	11.21	285
DV12DF7	Double-Sided, Fingers	7	45 U	84.00	2134	12.25	311	13.21	336
DV6S8	Single-Sided	8	51 U	96.00	2438	6.25	159	7.12	183
DV10S8	Single-Sided	8	51 U	96.00	2438	10.25	260	11.21	285
DV12S8	Single-Sided	8	51 U	96.00	2438	12.25	311	13.21	336
DV6D8	Double-Sided, Posts and Gates	8	51 U	96.00	2438	6.25	159	7.12	183
DV10D8	Double-Sided, Posts and Gates	8	51 U	96.00	2438	10.25	260	11.21	285
DV12D8	Double-Sided, Posts and Gates	8	51 U	96.00	2438	12.25	311	13.21	336
DV12DF8	Double-Sided, Fingers	8	51 U	96.00	2438	12.25	311	13.21	336
DV6DF8	Double-Sided, Fingers	8	51 U	96.00	2438	6.25	159	7.12	183
DV10DF8	Double-Sided, Fingers	8	51 U	96.00	2438	10.25	260	11.21	285
DV6S9	Single-Sided	9	58 U	108.00	2743	6.25	159	7.12	183
DV10S9	Single-Sided	9	58 U	108.00	2743	10.25	260	11.21	285
DV12S9	Single-Sided	9	58 U	108.00	2743	12.25	311	13.21	336
DV6D9	Double-Sided, Posts and Gates	9	58 U	108.00	2743	6.25	159	7.12	183
DV10D9	Double-Sided, Posts and Gates	9	58 U	108.00	2743	10.25	260	11.21	285
DV12D9	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. ²)	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. ²)	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

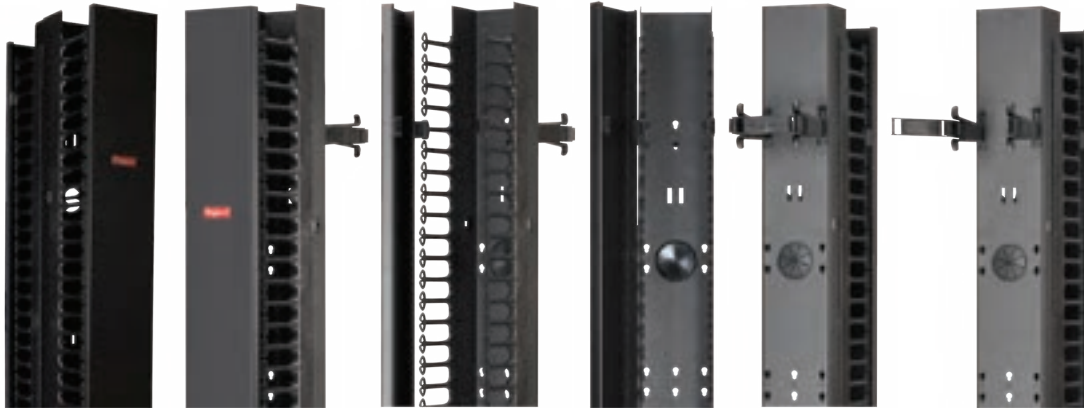
ARROWHEAD CABLE CAPACITY, 60% FILL RATE

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



Open-Frame Rack Cable Managers

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

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

- 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

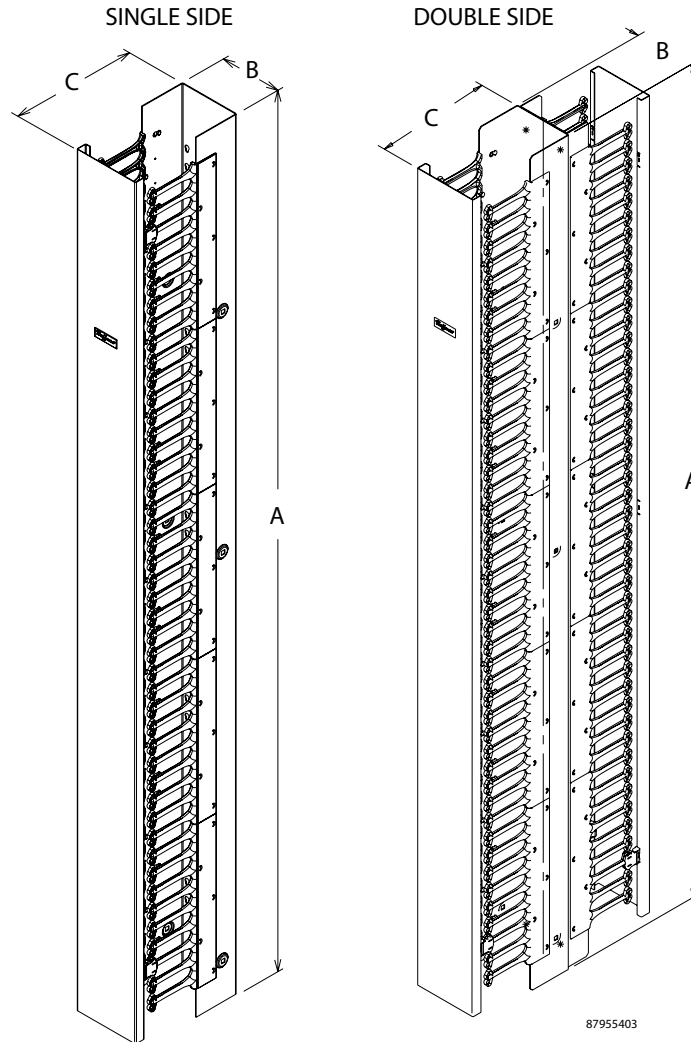
FINISH

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.

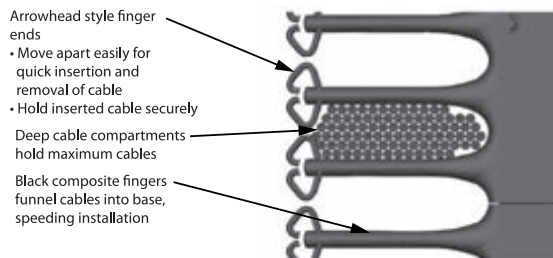
BULLETIN: DOFRY

Open-Frame Rack Cable Managers



CABLE FILL CHART

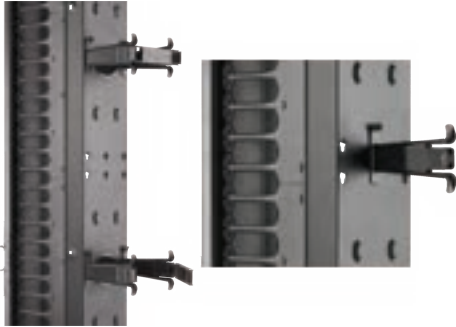
Catalog Numbers	Front Capacity @ 60 %	Front Capacity @ 60 %	Front Capacity @ 60 %	Rear Capacity @ 60 %	Rear Capacity @ 60 %	Rear Capacity @ 60 %
Cable Category	5e	6	5A	5e	6B	6A
EC3S7	534	414	287	—	—	—
EC3D7	534	414	287	195	151	105
EC6S7	917	710	493	—	—	—
EC6D7	917	710	493	414	341	236
EC6DF7	917	710	493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



- 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

Open-Frame Rack Cable Managers

CABLETEK POST AND GATE KITS

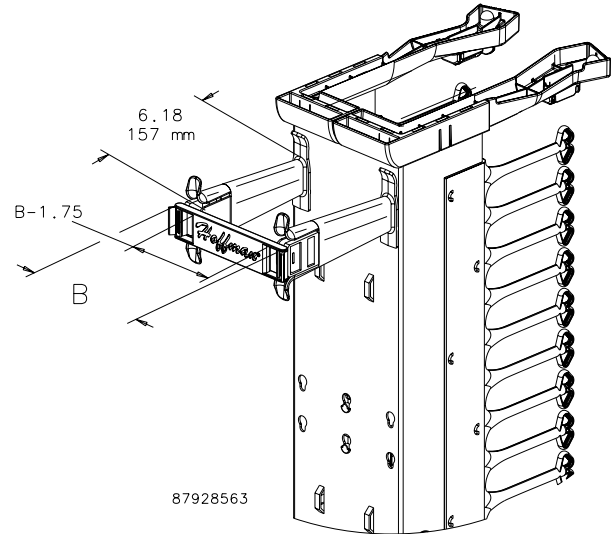


Post and Gate Kits snap together quickly without tools. Each set consists of two posts and one gate. Posts snap into prepunched holes on the backs of CableTek Vertical Cable Managers (single-sided and double-sided with posts and gates) and are easily repositionable without tools. Gates swivel open 280 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.

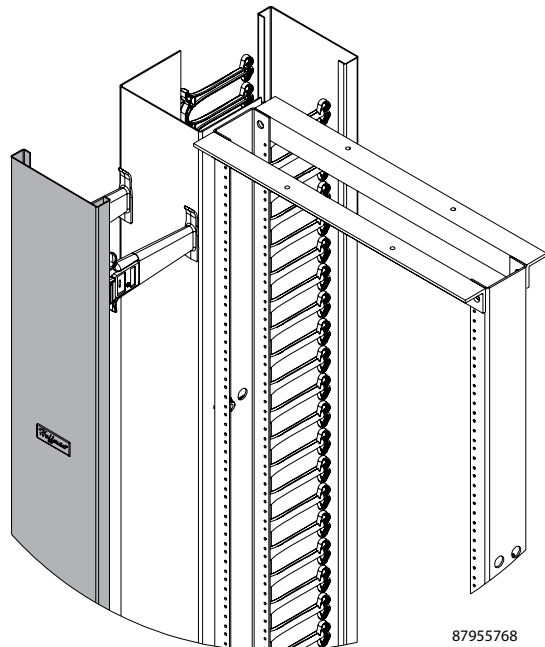
Single posts can be used alone as slack spools on the front side of the cable manager.

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



REAR COVER



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.

Open-Frame Rack Cable Managers

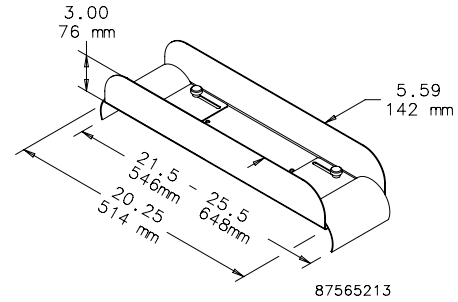
WATERFALL TOP



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.



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



TIE-DOWN PANEL

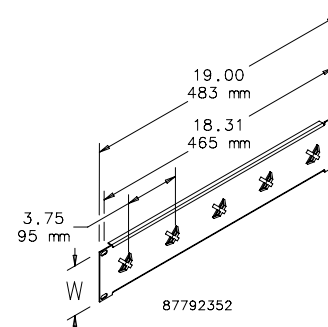


Tie-Down Panels mount horizontally on 19-in. racks. Steel panels with RAL 9005 black polyester powder paint finish have slots for VELCRO® cable wraps. Each panel includes 10 black 8-in. (203-mm) VELCRO cable wraps. Mounting hardware included.

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



Open-Frame Rack Cable Managers

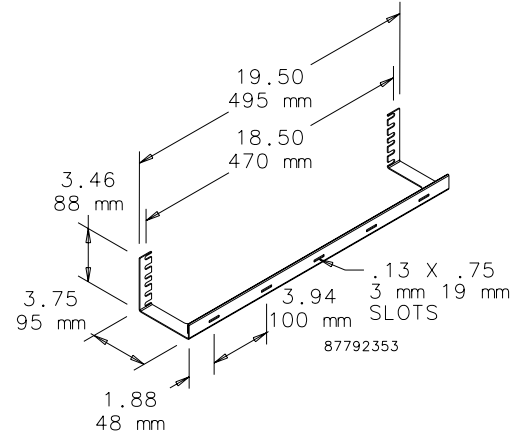
TIE-DOWN RACK



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
ECM19TD2U	19-in. Tie Down Rack



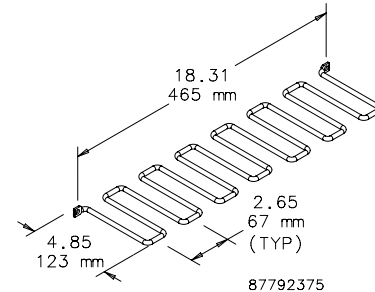
WIRE FORM CABLE MANAGER



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
EWVC19H	19-in. Wire Form Cable Manager	19-in. racks



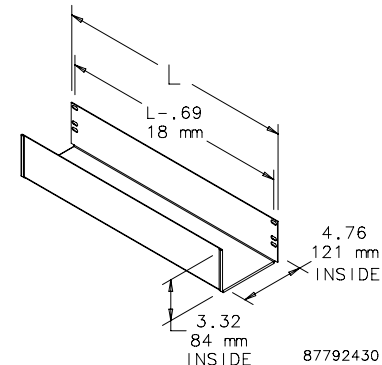
CABLE TROUGH



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



Open-Frame Rack Cable Managers

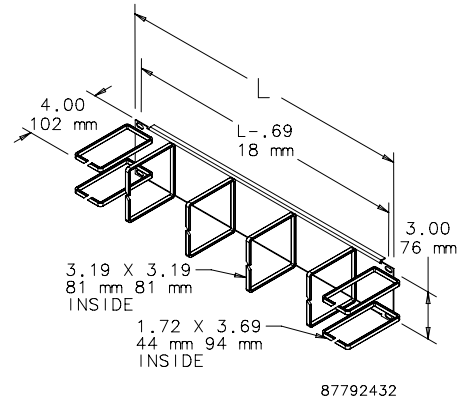
CABLE MANAGER



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

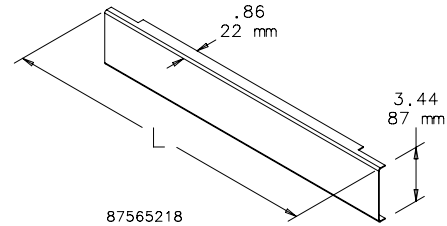


HORIZONTAL CABLE MANAGEMENT COVER

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

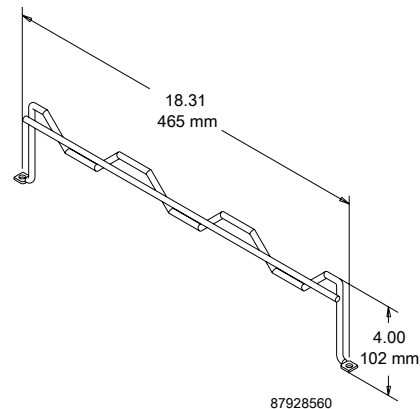


Supports cables between vertical and horizontal cable managers. Designed for use with VELCRO® cable ties. Angled tie-off surfaces allow cable to follow natural flow and maintain proper bend radius. Can be installed behind patch panels to support large permanent link cable bundles. Can also be installed 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



Cabinet and Rack Cable Managers

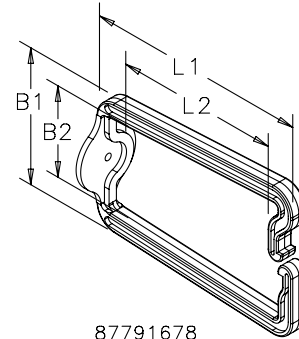
D-RING CABLE MANAGERS



D-Rings, made of black plastic, can be used to manage cables horizontally, vertically or as transition occurs. 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	B1 in./mm	B2 in./mm	L1 in./mm	L2 in./mm	Pkg. Qty.
ECM3DR10	1.72	1.22	3.50	2.88	10
	44	31	89	73	
ECM6DR10	3.00	2.22	5.33	4.42	10
	76	56	135	112	



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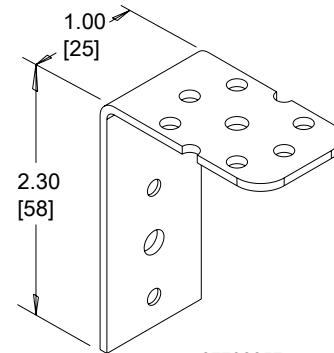
UNIVERSAL D-RING BRACKET



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



87798857

FIBER MANAGEMENT SPOOL

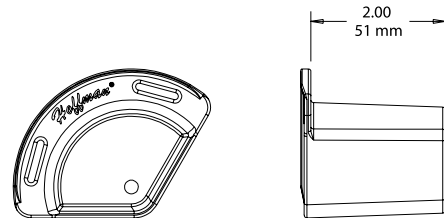


Fiber Management Spools mount inside the cabinet and help maintain proper bends when routing cable. Molded of black plastic. Includes thread-forming M5 mounting screws. Slots provided on flange for VELCRO® cable wrap.

VELCRO is a trademark of Velcro Industries B.V.

BULLETIN: DTX

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



87951339

Cabinet and Rack Cable Managers

UNIVERSAL TRANSITION BRACKET

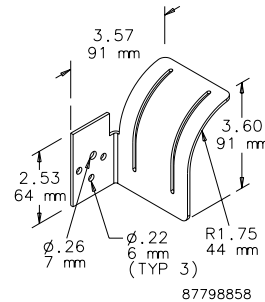


Provides support for cable in transitions between horizontal and vertical routing. Mounts to strut, grid strap or ProLine and Network Vertical Tie-Down Cable Managers. Can be used with VELCRO® Cable Wrap (order separately). Made of steel coated with RAL 9005 black polyester powder paint. Includes mounting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

VELCRO is a trademark of Velcro Industries B.V.

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.
PSPPOOL	1.44	37	ABS, UL-VO rated	10
P4SPOOL	3.81	97	ABS, UL-VO rated	10

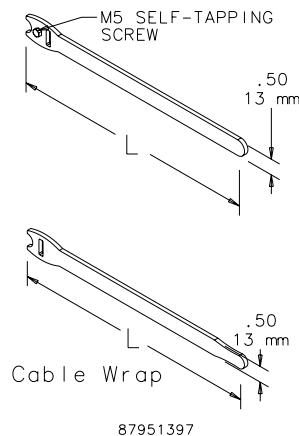
VELCRO® CABLE WRAP



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	12.00	305	Blue	10
ECW12Y	Wrap style	12.00	305	Yellow	10

Power Distribution Units (PDUs)

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

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)

Contact HOFFMAN for custom modifications and non-standard offerings.

FINISH

Black, low-gloss textured paint.

BULLETIN: DPS

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

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

87922518

Power Distribution Units (PDUs)

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
DP1N622420MT	62.00	1575	No	Yes	20A	120	—	24	NEMA 5-20R	NEMA L5-20P Twist Lock
DP1E2663030MT	66.00	1676	No	Yes	30A	208	—	36	24 IEC C-13, 6 IEC C-19	NEMA L6-30P Twist Lock

Isolate circuits on dual circuit models with separate circuit breakers.

DP1E2663030MT includes input power monitoring with breaker level current monitoring, daisy chain Ethernet connectivity.

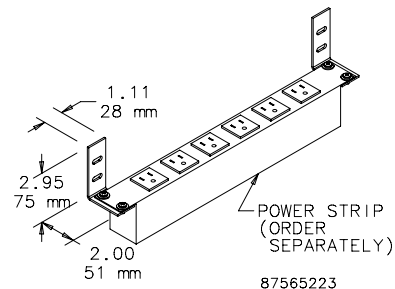


RACK-MOUNT PDU BRACKET

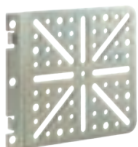
Allows rack-mount power strips to be mounted to cabinet sides without using up rack space. Made of plated steel. Includes two brackets and mounting hardware. Order power strip separately.

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

Power Distribution Units (PDUs)

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	1
DP10E	1-m (3.28-ft.) IEC patch cord, 18/3 SJT Black. C-14 to C-13	1

IEC C-13 RETAINING CLIP

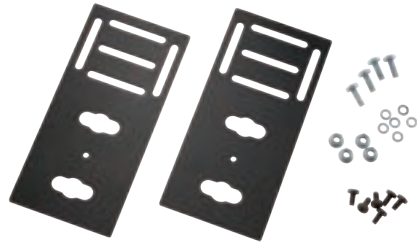


Secures the IEC C-14 inlet into the C-13 outlet. Helps to prevent inadvertently unplugging the cord set.

BULLETIN: DPS

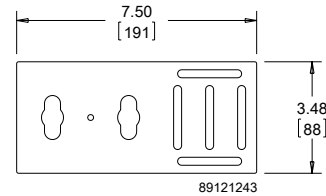
Catalog Number	Description	Pkg. Qty.
DPCLIP	IEC C-13 Retaining Clip	10

PDU BRACKET KIT



The PDU Bracket Kit includes two mounting plates and hardware to effectively mount power strips within enclosures.

BULLETIN: DCY



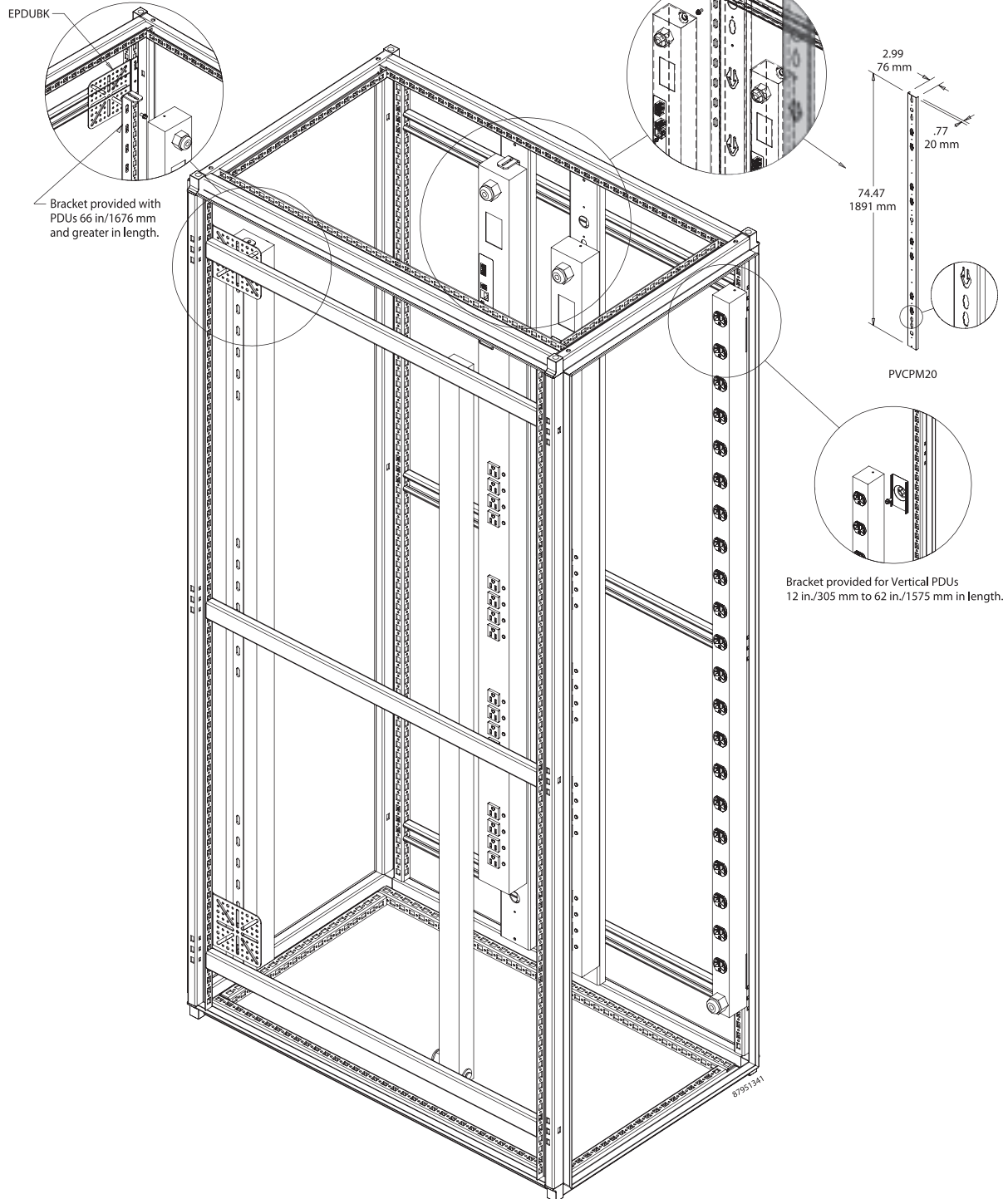
Catalog Number	Finish	Pkg. Qty
DPDU1	Painted black	2

Power Distribution Units (PDUs)

PDU COMPONENT APPLICATION

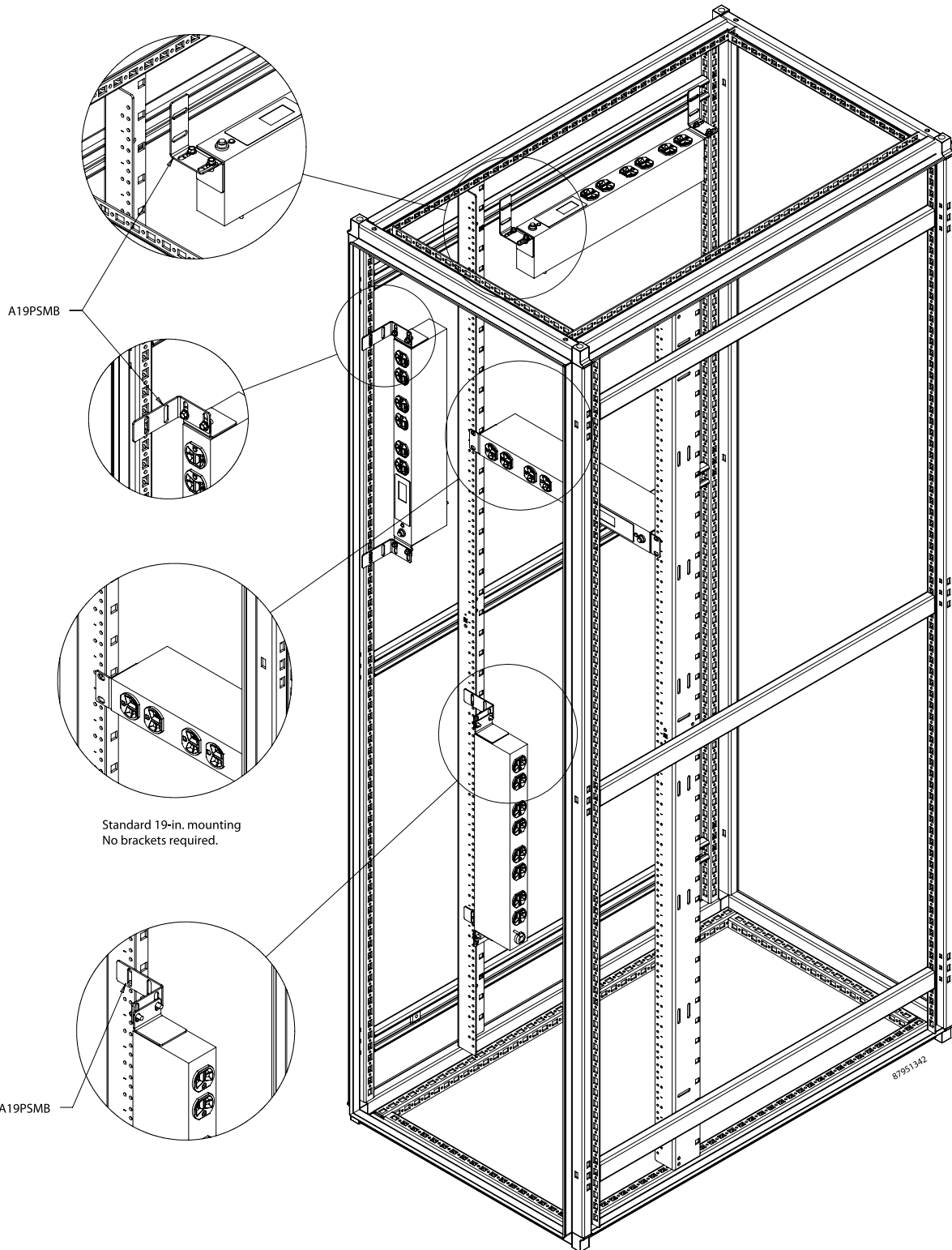
Remote sensors and displays, environmental monitors and smoke alarms help to build a system that fits the unique requirements of each individual installation.

Vertical PDU Mounting Options



Power Distribution Units (PDUs)

Horizontal PDU Mounting Options



Power Distribution Units (PDUs)

SMART POWER DISTRIBUTION UNIT AND ENVIRONMENTAL MONITOR

INDUSTRY STANDARDS

ANSI/UL 60950 Listed, File No. E214832
cUL Listed CAN/CSA-C22.2 No. 60950, File No. E214832

EIA 310-D

APPLICATION

Used in applications that require remote monitoring and control, Smart PDU monitors and accessories provide feedback and diagnostic information via a web browser to a remote location. System administrators can set remote displays, audible alarms, SNMP traps and/or e-mail notification options to monitor the system and generate alarm notifications.

FEATURES

- 10-ft. power cord with straight-blade plug (5-20P), software reset button and indicator lights standard on PDUs

- Multiple users can access simultaneously; access protected with multi-level passwords and view-only access privilege setting
- Supports DHCP, HTML, HTTPS, ICMP, SNMP, static IP, SMTP, SSL, TCP/IP, Telnet, TLS, UDP and XML protocols
- Accessory sensors can be added at any time
- Remote sensors include temperature, door position, water, and smoke alarm

SPECIFICATIONS

- Steel housing
- Includes mounting brackets

FINISH

Black, low-gloss textured paint

SWITCHED PDU OUTLET AND ENVIRONMENTAL MONITOR



Provides switched outlet monitoring and environmental monitoring.

- Switched PDU allows users to remotely disable specific outlets to neutralize or reboot problem equipment avoiding downtime

- Provides power monitoring for quick access to current, volts, power and kilowatt hours
- Provides environmental monitoring with two RJ12 ports for plug-and-play optional sensors (ordered separately)
- 19-in. rack-mount horizontal model has 15A, 120V, (8) NEMA 5-15R outlets
- 10-ft. power cord with 5-15P
- Ethernet connectivity
- Local LCD display, includes port for optional remote display

BULLETIN: DPS

Catalog Number	Type	Voltage (VAC)	Load Rating (A)	Height in./mm	Width in./mm	Depth in./mm	No. of Receptacles	Receptacle Style
DPC1N119820	Switched PDU, Outlet and Environmental Monitor	120	20	1.72 44	17.00 432	8.50 216	8	5-15R

ENVIRONMENTAL MONITOR, WATCHDOG



The Environmental Monitor product allows users to strategically monitor and receive notifications when sensors detect problems that threaten mission critical infrastructure in data centers, server rooms and network closets.

- On-board environmental sensors include temperature, humidity, airflow, sound and light

- Includes 5 digital sensor ports; capacity can be increased to 16 with the use of splitters and 3 analog ports
- LCD Display
- Audible Alarm
- 6VDC Power Supply
- Ethernet Connection

BULLETIN: DTHRM

STANDARD SIZES

Catalog Number	Type	Voltage (VDC)	Height in./mm	Width in./mm	Depth in./mm
DE19B	Environmental Monitor, Watchdog	6	1.61 41	17.00 432	1.61 41

Power Distribution Units (PDUs)

TEMPERATURE SENSOR



Monitors temperature at the selected location. Standard temperature probe measures 1.25 in.

Temperature Range:
-67 F to +275 F, ±0.9 F
(-55 C to +125 C, ±0.5 C)

BULLETIN: DTHRM

Catalog Number	Cable Length (ft.)	Cable Length (m)	Terminal Connection
DST	12.00	3.7	RJ11/RJ12

DOOR POSITION SENSOR



Magnetic sensor monitors cabinet door position. Can turn on alarm when the monitored cabinet has been opened.

Range: Unitless readings 0-99. Low reading means door is closed; high reading means it is open.

BULLETIN: DTHRM

Catalog Number	Cable Length (ft.)	Cable Length (m)	Terminal Connection
DSD	30.00	9.1	I/O port

FLOOD SENSOR

Detects leaks at the sensor location. Measures conductivity and indicates whether the sensor is dry, damp or completely immersed in water. The more liquid, the higher the current.

BULLETIN: DTHRM

Catalog Number	Cable Length (ft.)	Cable Length (m)	Terminal Connection
DSW	15.00	6.1	I/O port

REMOTE DISPLAY



Connects to PDU and mounts outside the cabinet to provide at-a-glance viewing of user-selected readouts. Built-in audible alarm.

BULLETIN: DTHRM

Catalog Number	Cable Length (ft.)	Cable Length (m)	Terminal Connection
DRD	10.00	3.0	RJ11/RJ12

5-WAY SPLITTER



Allows 5 remote sensors to connect to one RJ11/RJ12 receptacle on a PDU, Control Unit or Environmental Monitor.

BULLETIN: DTHRM

Catalog Number	Description	Terminal Connection
DSPLIT	5-Way Splitter	RJ11/RJ12



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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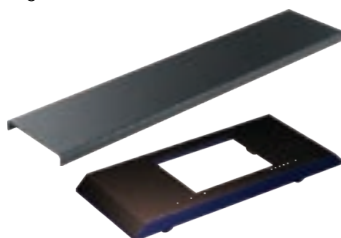
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OPEN FRAME RACK ACCESSORIES

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 Racks

2-POST OPEN FRAME RACK



Two-Post Rack with shelves

Populated Two-Post Rack with vertical cable management

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
- 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 2416 Listed; File No. E230874
cUL Listed per CSA C22.2 No. 182.4; File No. E230874

EIA 310-D

APPLICATION

Designed for use in network, server, 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.

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.

2-Post Open Frame Racks

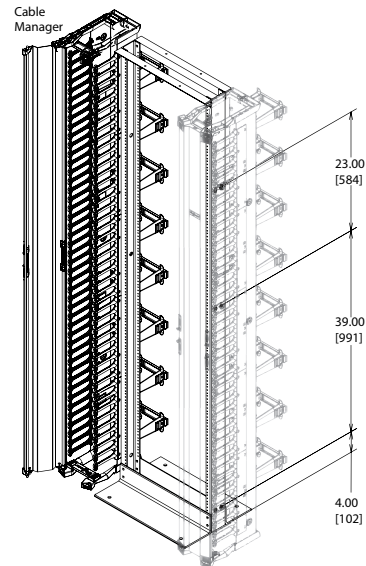
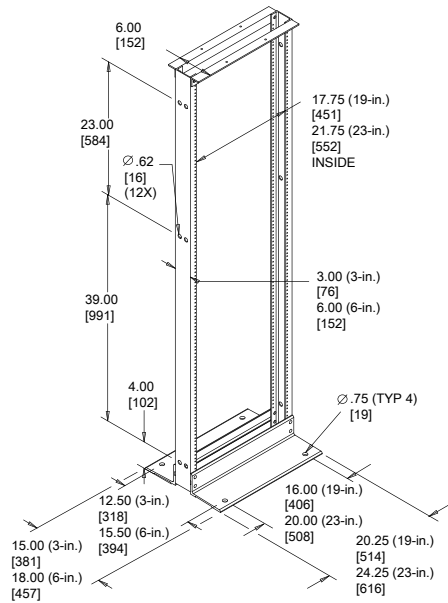
STANDARD PRODUCT 3-IN. COLUMN WITH CABLE MANAGER

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.

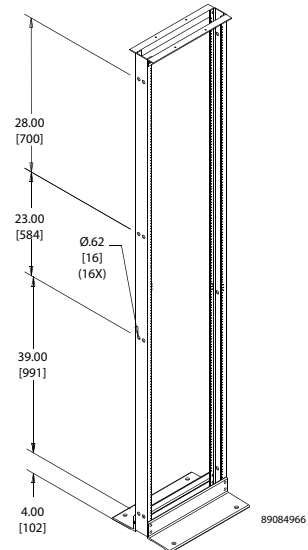
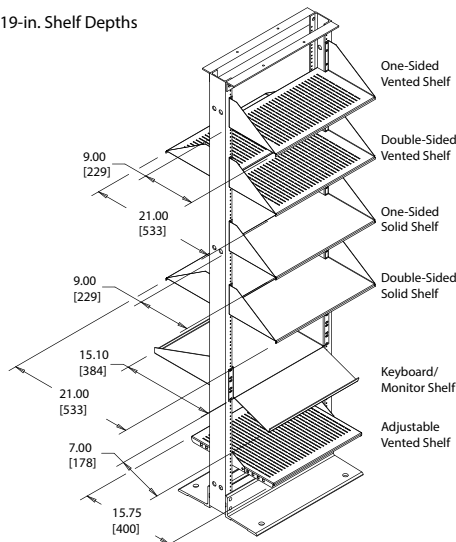
STANDARD PRODUCT 6-IN. COLUMN

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 Racks

4-POST OPEN FRAME RACK



INDUSTRY STANDARDS

UL 2416 Listed; File No. E230874
 cUL Listed per CSA C22.2 No. 182.4; File No. E230874

EIA 310-D

APPLICATION

4-Post Open Frame Racks combine the mounting security of a cabinet with the accessibility of a rack. Used in communication, server, 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.

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.

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

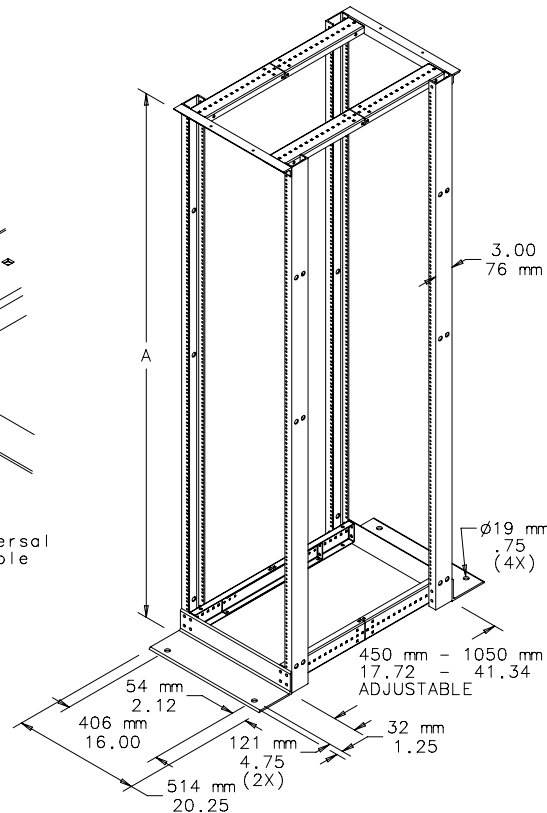
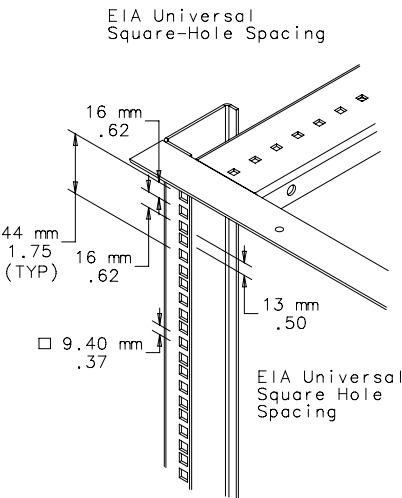
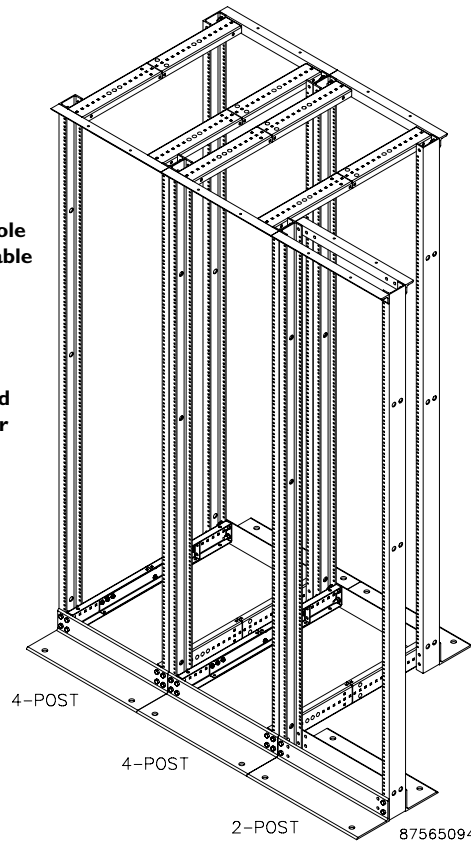
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BULLETIN: DOFR4

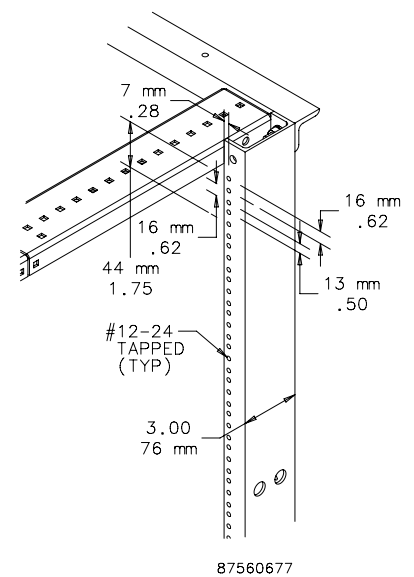
4-Post Open Frame Racks

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



2-Post Open Frame Racks

2-POST OPEN FRAME RACK HARDWARE KIT

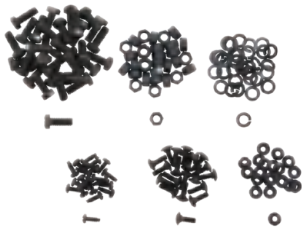


Kit consists of (12) 3/8-16x1.00 hex head screws; (12) 3/8 split washers; and (12) 3/8-16 hex nuts.

BULLETIN: DOFRY
STANDARD PRODUCT

Catalog Number	Description
E2PKIT	2-Post Open Frame Rack hardware kit

4-POST OPEN FRAME RACK HARDWARE KIT

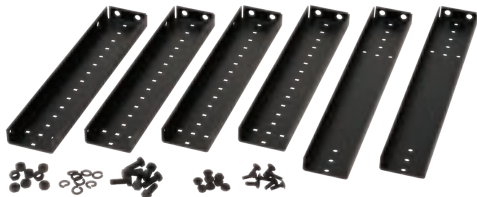


Kit consists of (20) .375-16x1.75 carriage bolts; (20) 1/4-20 hex flange nuts; (32) 3/8-16x1.00 hex head screws; (32) 3/8-16 hex nuts; and (32) 3/8 split washers.

BULLETIN: DOFRY
STANDARD PRODUCT

Catalog Number	Description
E4PKIT	4-Post Open Frame Rack hardware kit

4-POST OPEN FRAME RACK FRONT-TO-BACK KIT



Kit consists of (4) depth brackets; (2) adjustable depth brackets; (8) 1/4-20 hex flange nuts; (8) .375-16x1.75 carriage bolts; (8) 3/8-16x1.00 hex head screws; (8) 3/8-16 hex nuts; and (8) 3/8 split washers.

BULLETIN: DOFRY
STANDARD PRODUCT

Catalog Number	Description
E4FBKIT	4-Post Open Frame Rack front-to-back kit

4-POST OPEN FRAME RACK ISOLATION KIT

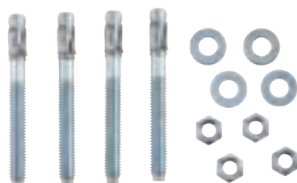


Kit consists of (2) isolator bases and (4) nylon bushings.

BULLETIN: DOFRY
STANDARD PRODUCT

Catalog Number	Description
A19ESOK4	4-Post Open Frame Rack isolation kit

CONCRETE EXPANSION BOLT ANCHOR KIT



BULLETIN: DACCY
STANDARD PRODUCT

Catalog Number	Description
ESBDK	(4) 3/8x3.75 expansion bolt kit

Open Frame Systems

MAXRACK OPEN FRAME SYSTEM



INDUSTRY STANDARDS

UL 2416 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 network, server, and telecommunication rooms. 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.

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

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

- 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

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

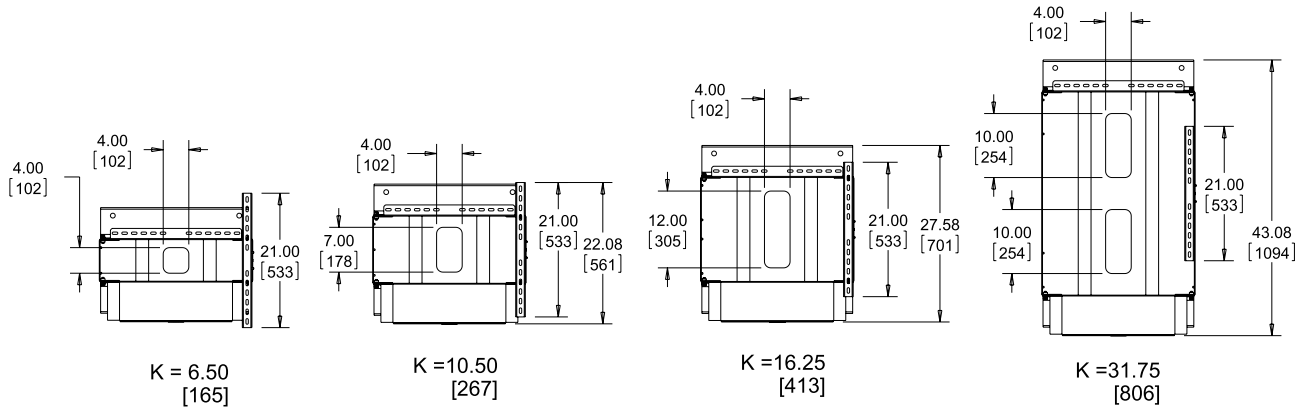
Static maximum load is 2500 lbs/1134 kg.

ACCESSORIES

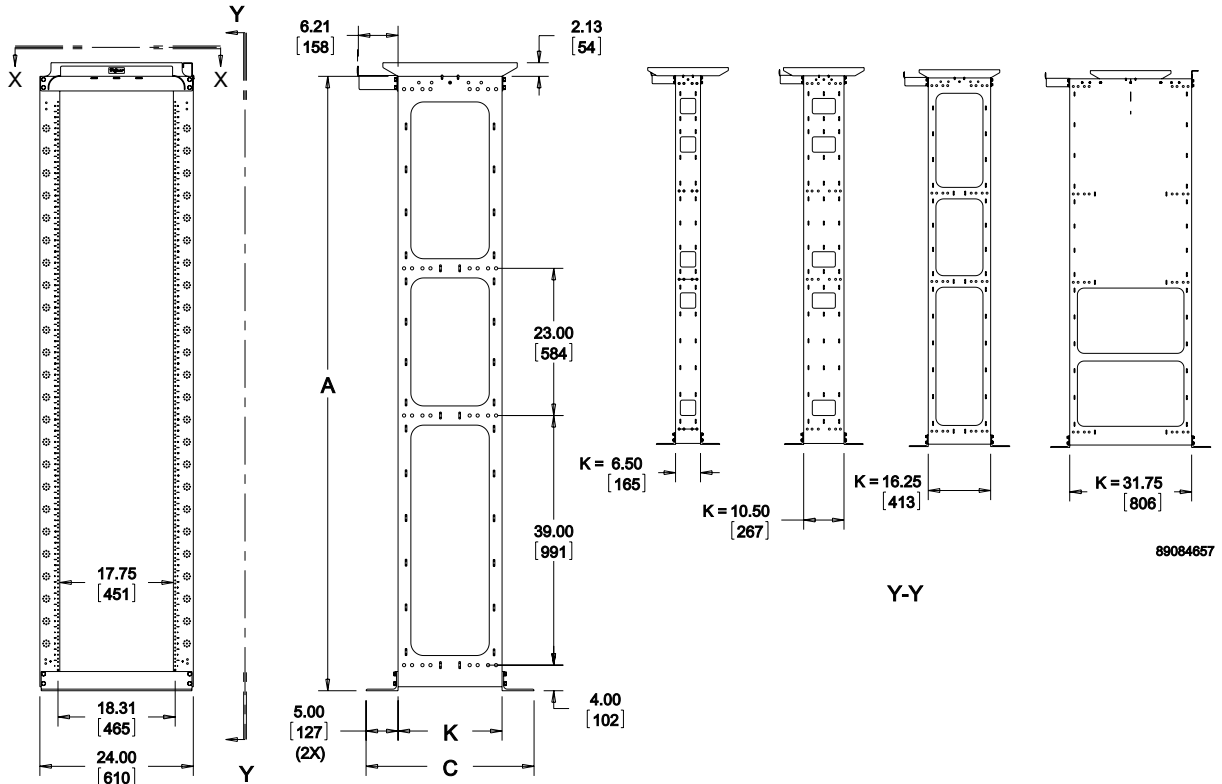
Vertical Cable Managers
Blanking Panels
Grounding kits
PDUs
Shelves

BULLETIN: DMAX

Open Frame Systems

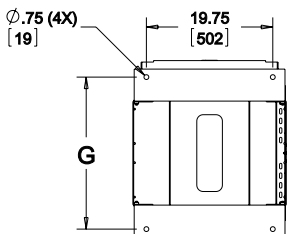


X-X



89084657

Y-Y



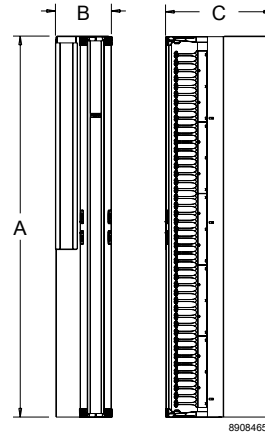
Open Frame Systems

MAXRACK AIR BAFFLE AND CABLE MANAGERS FOR CISCO SWITCH



MaxRack Air baffle and Vertical Cable Manager accessory kits ensure CISCO switch compliance. Managers 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	M9616B51
M96D18	96.13 x 18.00 x 39.37 2442 x 457 x 1000	NEXUS 7018	M9632B51

MAXRACK DUST COVER



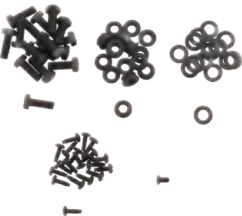
Dust Cover fits over the top of the base angles, inside the uprights. Covers are made of aluminum with matching RAL 9005 black light-textured, low-gloss polyester powder paint.

BULLETIN: DMAX

STANDARD PRODUCT

Catalog Number	AxBxC in./mm	MaxRack C dimension
MDC6	1.00 x 17.95 x 7.33 25 x 456 x 186	16.50 (419 mm)
MDC10	1.00 x 17.95 x 11.33 25 x 456 x 288	20.50 (521 mm)
MDC16	1.00 x 17.95 x 17.08 25 x 456 x 434	26.25 (667 mm)
MDC32	1.00 x 17.95 x 32.58 25 x 456 x 828	41.75 (1060 mm)

MAXRACK HARDWARE KIT



Kit consists of (20) 12-24 x .625 pilot point screws; (16) 3/8-16 x .88 hex head bolts; (16) M10 grounding washers; (16) 3/8 flanged nuts; and (1) Mx12 flat head screw.

BULLETIN: DMAX

STANDARD PRODUCT

Catalog Number	Description
MAXKIT	MaxRack hardware kit

MAXRACK ISOLATION KIT



Kit consists of (2) isolator bases and (4) nylon bushings.

BULLETIN: DMAX

STANDARD PRODUCT

Catalog Number	Description
MSOK	MaxRack Isolation Kit

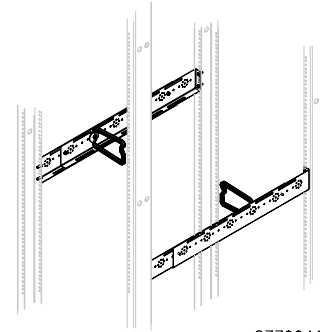
Open Frame Rack Accessories

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



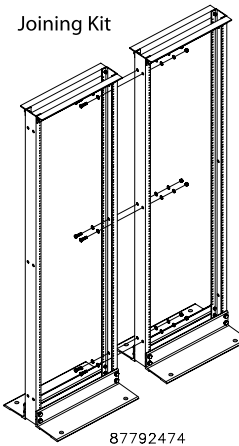
87799410

JOINING KIT

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

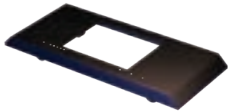
BULLETIN: DOFRY

Catalog Number	Description
EJ2DR	Joining Kit, Side-to-Side



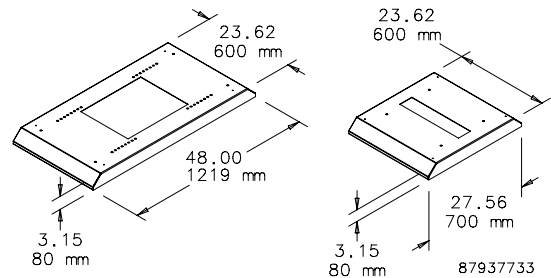
87792474

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



87937733

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

Open Frame Rack Accessories

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.

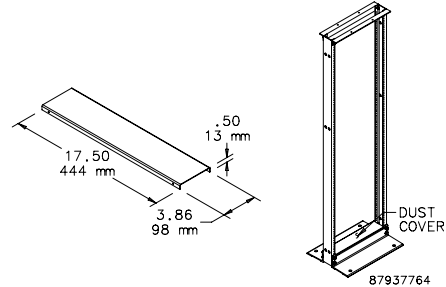
BULLETIN: DOFRY

Catalog Number

Use with

EDUSTCVR

DataCom 2-post rack



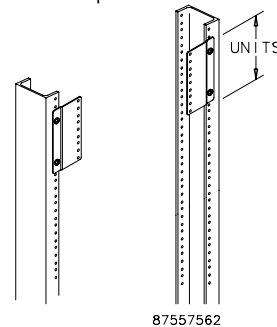
PANEL ADAPTER

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

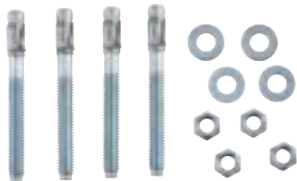
BULLETIN: DACCY

Catalog Number	Rack Units
ERB1U2319	1
ERB3U2319	3
ERB5U2319	5

Panel Adapter



CONCRETE EXPANSION BOLT ANCHOR KIT



BULLETIN: DACCY

STANDARD PRODUCT

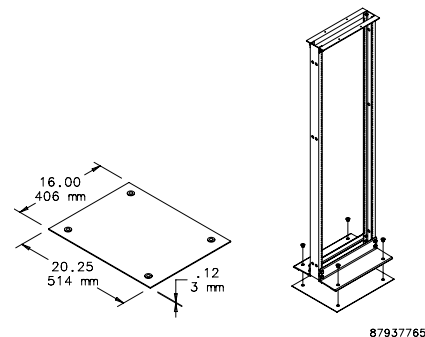
Catalog Number	Description
ESBDK	(4) 3/8x3.75 expansion bolt kit

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





HOFFMAN

CHAPTER 4 WALL-MOUNT CABINETS

FEATURED PRODUCTS

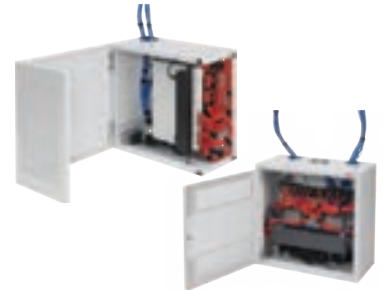
ACCESSPLUS DOUBLE-HINGE, TYPE 1 WALL-MOUNT CABINETS

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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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 CABINETS PRODUCT SELECTION GUIDE



WALL-MOUNT FAMILY	ACCESSPLUS	PROTEK	PROTEK DOUBLE-HINGED
Description	<p>AccessPlus 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.</p> <ul style="list-style-type: none"> • Double-hinged wall mount • Ideal for RFID, Inventory, and POS project roll-outs 	<p>ProTek Wall-Mount Cabinets are ideal for protecting network equipment beyond typical Type 1 enclosures.</p> <ul style="list-style-type: none"> • Harsh environments • Models with A/C units • Single-hinged wall-mount 	<p>Offers the flexibility and accessibility of a double-hinged wall-mount and the environmental protection of the ProTek Type 4/12 ratings.</p> <ul style="list-style-type: none"> • Double-hinged wall-mount • Harsh environments • Models with A/C units
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.
DIMENSIONS			
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.
RATINGS			
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
STRUCTURE			
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
APPLICATIONS			
	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"> • One person install • Latch-free sides permit flush-mounting to adjacent equipment, enclosures and walls • Safety glass window units • Pole mounting kit available • Reversible hinges (left/right) • Grounding and bonding provisions 	<ul style="list-style-type: none"> • Available with T4 A/C units • Extra-deep sizes • Fully vented with foam-in-place gasket • Safety Glass • Rack angle standard • Grounding and bonding provisions • Stainless options available • Fan packages 	<ul style="list-style-type: none"> • Available with T4 A/C units • Extra deep sizes • Fully vented with foam-in-place gasket • Safety Glass • Rack Angle Standard • Front and Rear Access • Grounding and bonding provisions

Wall-Mount Cabinets Product Selection Guide



L-BOX	D-BOX	WiFi ENCLOSURE—2 MODELS	COMLINE
<p>L-Box provides convenient mounting and storage for patch panels in a space-saving design.</p> <ul style="list-style-type: none"> • Horizontal cable distribution • Copper to fiber • Consolidation points • Vertical rack angles 	<p>D-Box provides convenient mounting and storage for patch panels.</p> <ul style="list-style-type: none"> • Horizontal cable distribution • Copper to fiber • Consolidation points • Fixed and rotating rack angles 	<p>Provides a secure enclosure for WiFi and other network equipment. Fiberglass does not impede WiFi/WLAN signals.</p> <ul style="list-style-type: none"> • Corrosion resistant • Plenum rated • Plywood back panel provided 	<p>Lightweight, corrosion-resistant aluminum enclosure provides long-lasting protection for electrical and network components for both indoor and outdoor environments.</p> <ul style="list-style-type: none"> • Corrosion-resistant • Outdoor applications (OSP)
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 2416/508A/60905, CSA NEMA, IEC, EIA 310-D	UL 2416/508A/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"> • 1 set fixed tapped 10-32, plated • 1 set tapped 10-32, fully adjustable 	Optional on largest size	<ul style="list-style-type: none"> • Optional based on size • 1 set tapped 10-32, fully adjustable
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"> • Removable door • Quarter-turn latches with keyed lock • Cable tie-down points • Mounting screws provided • Top and bottom knockouts • Cable spool mounting • Complete accessories—fans, shelves and others • Grounding and bonding provisions 	<ul style="list-style-type: none"> • Removable and reversible door • Quarter-turn latches with keyed lock • Cable tie-down points • Mounting screws provided • Grounding and bonding provisions • Top and bottom knockouts • Cable spool mounting • Complete accessories—fans, shelves and others 	<ul style="list-style-type: none"> • Fiberglass is easily punched or drilled • Foam-in-place gasketing • Removable door with stainless steel hinge pins • Window models are scratch resistant GE Lexan Margard • Small model—screw cover • Large model—key lock knob 	<ul style="list-style-type: none"> • Solar shield provides cooler interior for outdoor applications • Foam-in-place gasketing • Latching—one- and three-point options • Door stop • Door options—removable and heavy-duty continuous • Grounding and bonding provisions

AccessPlus Double-Hinge

ACCESSPLUS 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 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.

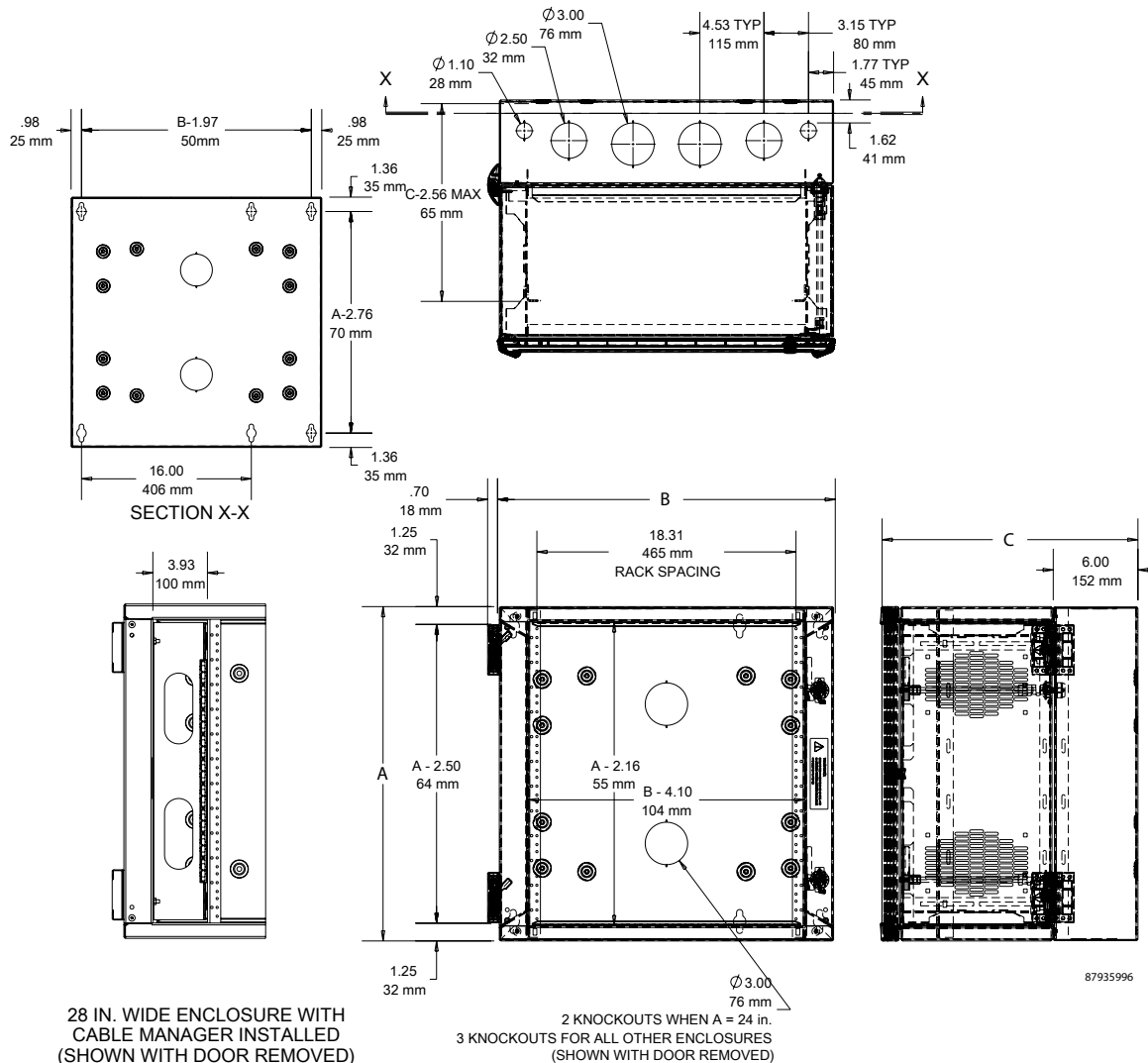
BULLETIN: DWDH1

AccessPlus Double-Hinge

STANDARD PRODUCT WINDOW DOOR

Catalog Number	AxBxC in.	AxBxC mm	Rack Units	Additional Rack Angles (S=Square Hole) (T=Tapped Hole)
EWMW162418	16.75 x 24.41 x 18.20	425 x 620 x 462	8	EWMR16T or EWMR16S
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
EWMW162425	16.75 x 24.41 x 25.10	425 x 620 x 638	8	EWMR16T or EWMR16S
EWMW362425	36.02 x 23.62 x 25.09	915 x 600 x 637	19	EWMR36T or EWMR36S
EWMW242425	23.62 x 23.62 x 25.09	600 x 600 x 637	12	EWMR24T or EWMR24S
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
EWMW242436	23.60 x 24.41 x 37.50	599 x 620 x 953	12	EWMR24T or EWMR24S
EWMW362436	36.00 x 24.41 x 37.50	914 x 620 x 953	19	EWMR36T or EWMR36S
EWMW482436	48.00 x 24.41 x 37.50	1219 x 620 x 953	26	EWMR48T or EWMR48S

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



AccessPlus Double-Hinge

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
EWMS242430	23.60 x 24.41 x 30.00	599 x 620 x 762	12	EWMR24T or EWMR24S
EWMS242436	23.60 x 24.41 x 37.50	599 x 620 x 953	12	EWMR24T or EWMR24S
EWMS362430	36.00 x 24.41 x 30.00	914 x 620 x 762	19	EWMR36T or EWMR36S
EWMS362436	36.00 x 24.41 x 37.50	914 x 620 x 953	19	EWMR36T or EWMR36S
EWMS482436	48.00 x 24.41 x 37.50	1219 x 620 x 953	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 ^a
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.

^a For additional rack angles, also order vertical cable manager.



AccessPlus Double-Hinge

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
EWMWG242436	23.60 x 24.41 x 37.50	599 x 620 x 953	12	EWMR24T or EWMR24S
EWMWG362436	36.00 x 24.41 x 37.50	914 x 620 x 953	19	EWMR36T or EWMR36S

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



STANDARD PRODUCT WINDOW DOOR WITH CABLE MANAGER AND GLAND PLATE

Catalog Number	AxBxC in.	AxBxC mm	Rack	Additional	Vertical
EWMWG242825	23.60 x 28.31 x 25.10	599 x 719 x 638	12	EWMR24T or EWMR24S	EWMC24
EWMWG362825	36.00 x 28.31 x 25.10	914 x 719 x 638	19	EWMR36T or EWMR36S	EWMC36
EWMWG482825	48.00 x 28.31 x 25.10	1219 x 719 x 638	26	EWMR48T or EWMR48S	EWMC48

LOAD RATING

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

Cabinets were tested to 2X the above load capacities without failure. Contact HOFFMAN if other loading specifications are required.

AccessPlus Double-Hinge

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. ²	380	300	208

RACK ANGLES



BULLETIN: DWDH1

Catalog Number	Description	Rack Units	Fits Cabinet
EWMR16T	Fits 16-in. tapped	8	A = 16.00
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
EWMR16S	Fits 16-in. square	8	A = 16.00
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

FAN FILTER AND FINGER GUARD KIT



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

BULLETIN: DWS1

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

AccessPlus Double-Hinge

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 and Double-Hinged Cabinets

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, IK 10

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, while also ensuring 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

PROTEK Single-Door and Double-Hinged Cabinets

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 ^a
PTRS242412G4	24.09 x 23.62 x 11.81 612 x 600 x 300	12	9.51 242	---	---	1.11 28	CP2020	CP2020W	PTRA24T or PTRA24S
PTRS242424G4	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
PTRS362412G4	36.30 x 23.62 x 11.81 922 x 600 x 300	19	9.51 242	---	---	1.11 28	CP3220	CP3220W	PTRA36T or PTRA36S
PTRS362424G4	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
PTRS482412G4	48.54 x 23.62 x 11.81 1233 x 600 x 300	26	9.51 242	---	---	1.11 28	CP4420	CP4420W	PTRA48T or PTRA48S
PTRS482424G4	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

^aT = 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 ^a
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

^aT = tapped 10-32, S = square hole (.375 in. x .375 in.)



PROTEK Single-Door and Double-Hinged Cabinets

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	Optional Steel Panel	Optional Wood Panel	Additional Rack Angles ^a
PTRS242412X	24.09 x 23.62 x 11.81 612 x 600 x 300	12	9.51 242	---	---	.80 20	CP2020	CP2020W	PTRA24T or PTRA24S
PTRS242424X	24.09 x 23.62 x 24.02 612 x 600 x 610	12	21.72 552	---	---	.80 20	CP2020	CP2020W	PTRA24T or PTRA24S
PTRS362412X	36.30 x 23.62 x 11.81 922 x 600 x 300	19	9.51 242	---	---	.80 20	CP3220	CP3220W	PTRA36T or PTRA36S
PTRS362424X	36.30 x 23.62 x 24.02 922 x 600 x 610	19	21.72 552	---	---	.80 20	CP3220	CP3220W	PTRA36T or PTRA36S
PTRS482412X	48.62 x 23.62 x 11.81 1235 x 600 x 300	26	9.51 242	---	---	.80 20	CP4420	CP4420W	PTRA48T or PTRA48S
PTRS482424X	48.62 x 23.62 x 24.02 1235 x 600 x 610	26	21.72 552	---	---	.80 20	CP4420	CP4420W	PTRA48T or PTRA48S

^aT = 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 ^a
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	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
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

^aT = tapped 10-32, S = square hole (.375 in. x .375 in.)

T150116G100 Air Conditioner included: 115V, 50/60 Hz, 800 BTU.



PROTEK Single-Door and Double-Hinged Cabinets

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 ^a
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

^aT = tapped 10-32, S = square hole (.375 in. x .375 in.)

T150116G100 Air Conditioner included: 115V, 50/60 Hz, 800 BTU.



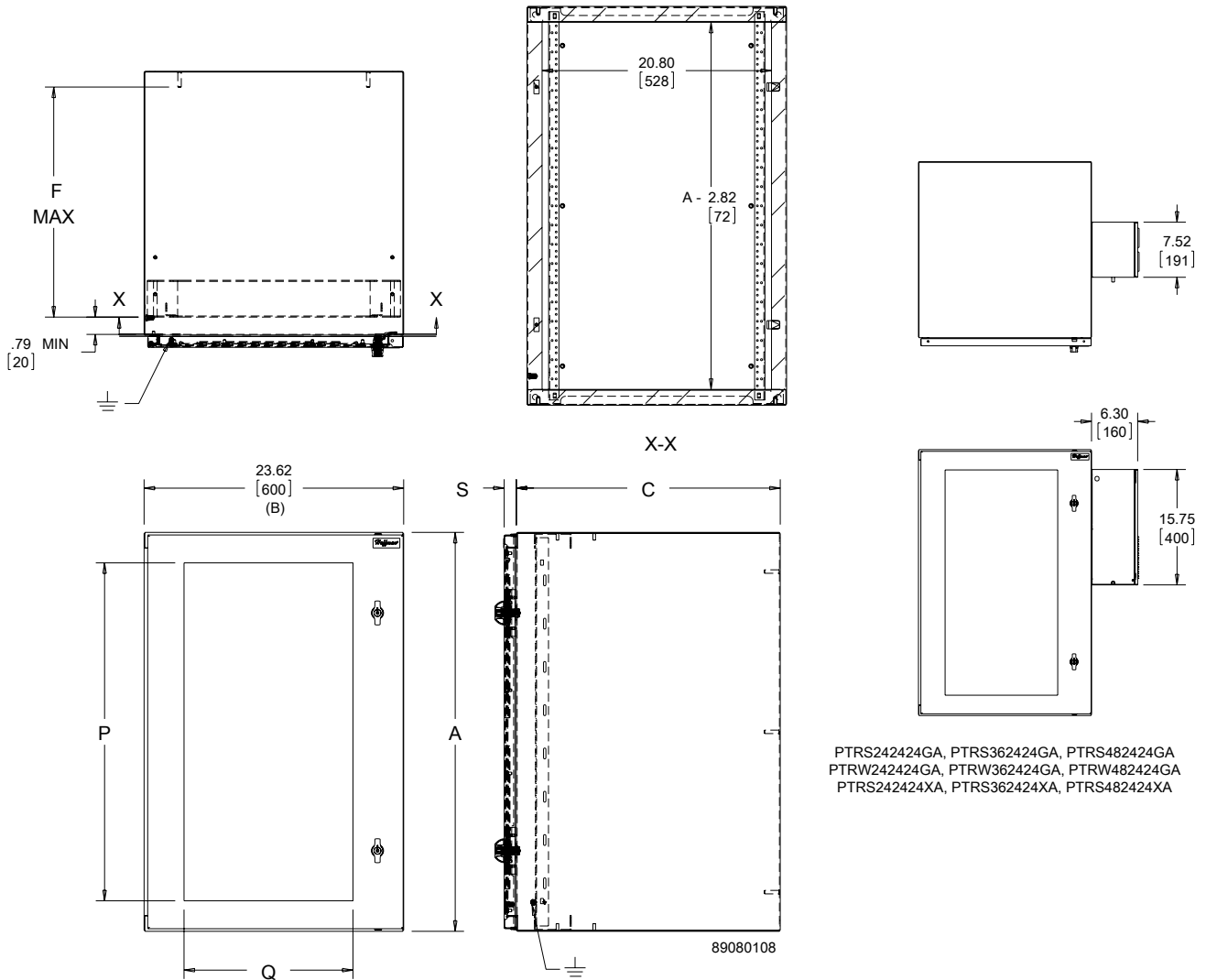
STANDARD PRODUCT SOLID DOOR STAINLESS STEEL AC, NEMA TYPE 4,4X, 12

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 ^a
PTRS242424XA	24.09 x 23.62 x 24.02 612 x 600 x 610	12	21.32 541	---	---	.80 20	CP2020	CP2020W	PTRA24T or PTRA24S
PTRS362424XA	36.30 x 23.62 x 24.02 922 x 600 x 610	19	21.32 541	---	---	.80 20	CP3220	CP3220W	PTRA36T or PTRA36S
PTRS482424XA	48.62 x 23.62 x 24.02 1235 x 600 x 610	26	21.32 541	---	---	.80 20	CP4420	CP4420W	PTRA48T or PTRA48S

^aT = tapped 10-32, S = square hole (.375 in. x .375 in.)



PROTEK Single-Door and Double-Hinged Cabinets



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

PROTEK Single-Door and Double-Hinged Cabinets

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, IK 10

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

PROTEK Single-Door and Double-Hinged Cabinets

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 ^a
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
PTHS242436G4	24.09 x 23.62 x 36.02 612 x 600 x 915	12	33.72 856	---	---	1.11 28	CP2020	CP2020W	PTRA24T or PTRA24S
PTHS242836G4	24.09 x 27.56 x 36.02 612 x 700 x 915	12	33.72 856	---	---	1.11 28	CP2020	CP2020W	PTRA24T or PTRA24S
PTHS362436G4	36.30 x 23.62 x 36.02 922 x 600 x 915	19	33.72 856	---	---	1.11 28	CP3220	CP3220W	PTRA36T or PTRA36S
PTHS362836G4	36.30 x 27.56 x 36.02 922 x 600 x 915	19	33.72 856	---	---	1.11 28	CP3220	CP3220W	PTRA36T or PTRA36S
PTHS482436G4	48.54 x 23.62 x 36.02 1233 x 600 x 915	26	33.72 856	---	---	1.11 28	CP4420	CP4420W	PTRA48T or PTRA48S

^aT = tapped 10-32, S = square hole (.375 in. x .375 in.)



PROTEK Single-Door and Double-Hinged Cabinets

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 ^a
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	19.38 492	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
PTHW242436G2	24.09 x 23.62 x 36.02 612 x 600 x 915	12	33.72 856	18.25 464	15.38 391	1.11 28	CP2020	CP2020W	PTRA24T or PTRA24S
PTHW242836G2	24.09 x 27.56 x 36.02 612 x 700 x 915	12	33.72 856	18.25 464	19.38 492	1.11 28	CP2020	CP2020W	PTRA24T or PTRA24S
PTHW362436G2	36.30 x 23.62 x 36.02 922 x 600 x 915	19	33.72 856	30.75 781	15.38 391	1.11 28	CP3220	CP3220W	PTRA36T or PTRA36S
PTHW362836G2	36.30 x 27.56 x 36.02 922 x 700 x 915	19	33.72 856	30.75 781	19.38 492	1.11 28	CP3220	CP3220W	PTRA36T or PTRA36S
PTHW482436G2	48.54 x 23.62 x 36.02 1233 x 600 x 915	26	33.72 856	42.70 1085	15.38 391	1.11 28	CP4420	CP4420W	PTRA48T or PTRA48S
PTHW482836G2	48.54 x 27.56 x 36.02 1233 x 700 x 915	26	33.72 856	42.70 1085	19.38 492	1.11 28	CP4420	CP4420W	PTRA48T or PTRA48S

^aT = tapped 10-32, S = square hole (.375 in. x .375 in.)
Cable manager supplied with 700 mm wide enclosures



PROTEK Single-Door and Double-Hinged Cabinets

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 ^a
PTHS242415X	24.09 x 23.62 x 14.96 612 x 600 x 380	12	12.65 321	---	---	.80 20	CP2020	CP2020W	PTRA24T or PTRA24S
PTHS242424X	24.09 x 23.62 x 24.02 612 x 600 x 610	12	21.71 551	---	---	.80 20	CP2020	CP2020W	PTRA24T or PTRA24S
PTHS362415X	36.30 x 23.62 x 14.96 922 x 600 x 380	19	12.65 321	---	---	.80 20	CP3220	CP3220W	PTRA36T or PTRA36S
PTHS362424X	36.30 x 23.62 x 24.02 922 x 600 x 610	19	21.71 551	---	---	.80 20	CP3220	CP3220W	PTRA36T or PTRA36S
PTHS482415X	48.62 x 23.62 x 14.96 1235 x 600 x 380	26	12.65 321	---	---	.80 20	CP4420	CP4420W	PTRA48T or PTRA48S
PTHS482424X	48.62 x 23.62 x 24.02 1235 x 600 x 610	26	21.71 551	---	---	.80 20	CP4420	CP4420W	PTRA48T or PTRA48S
PTHS242436X	24.09 x 23.62 x 36.02 612 x 600 x 915	12	33.72 856	---	---	.80 20	CP2020	CP2020W	PTRA24T or PTRA24S
PTHS362436X	36.30 x 23.62 x 36.02 922 x 600 x 915	19	33.72 856	---	---	.80 20	CP3220	CP3220W	PTRA36T or PTRA36S

^aT = 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 ^a
PTHS242428G4A	24.09 x 23.62 x 27.95 612 x 600 x 710	12	25.65 652	---	---	1.11 28	CP2020	CP2020W	PTRA24T or PTRA24S
PTHS362428G4A	36.30 x 23.62 x 27.95 922 x 600 x 710	19	25.65 652	---	---	1.11 28	CP3220	CP3220W	PTRA36T or PTRA36S
PTHS482428G4A	48.54 x 23.62 x 27.95 1233 x 600 x 710	26	25.65 652	---	---	1.11 28	CP4420	CP4420W	PTRA48T or PTRA48S

^aT = tapped 10-32, S = square hole (.375 in. x .375 in.)



PROTEK Single-Door and Double-Hinged Cabinets

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 ^a
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

^aT = tapped 10-32, S = square hole (.375 in. x .375 in.)



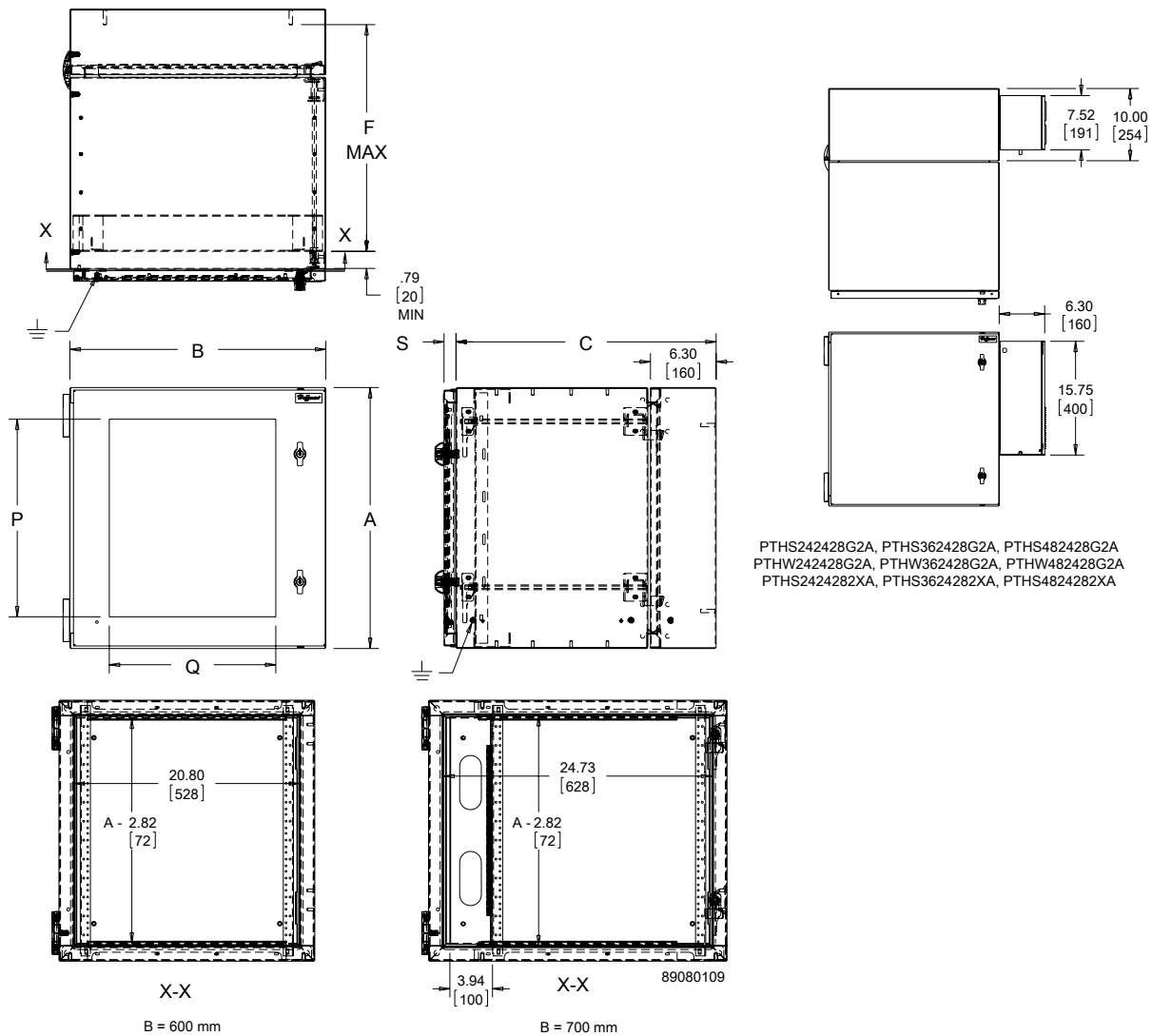
STANDARD PRODUCT SOLID DOOR STAINLESS STEEL AC, NEMA TYPE 4, 4X, 12

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 ^a
PTHS242428XA	24.45 x 23.62 x 27.95 621 x 600 x 710	12	25.65 652	---	---	.80 20	CP2020	CP2020W	PTRA24T or PTRA24S
PTHS362428XA	36.30 x 23.62 x 27.95 922 x 600 x 710	19	25.65 652	---	---	.80 20	CP3220	CP3220W	PTRA36T or PTRA36S
PTHS482428XA	48.62 x 23.62 x 27.95 1235 x 600 x 710	23	25.65 652	---	---	.80 20	CP4420	CP4420W	PTRA48T or PTRA48S

^aT = tapped 10-32, S = square hole (.375 in. x .375 in.)



PROTEK Single-Door and Double-Hinged Cabinets



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 Single-Door and Double-Hinged Cabinets

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, IK 10

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 ΔT (Ambient Temperature – Maximum in-cabinet Temperature)
 - Ambient air must be cooler than maximum in-cabinet temperature
 - For applications that have less than a ΔT 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

PROTEK Single-Door and Double-Hinged Cabinets

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 ^a
PTRS242412G3	24.09 x 23.62 x 11.81 612 x 600 x 300	12	9.51 242	13.38 400	---	---	9.48 241	CP2020	CP2020W	PTRA24T or PTRA24S
PTRS242424G3	24.09 x 23.62 x 24.02 612 x 600 x 610	12	21.72 552	26.75 679	---	---	14.28 363	CP2020	CP2020W	PTRA24T or PTRA24S
PTRS362412G3	36.30 x 23.62 x 11.81 922 x 600 x 300	19	9.51 242	13.38 400	---	---	9.48 241	CP3220	CP3220W	PTRA36T or PTRA36S
PTRS362424G3	36.30 x 23.62 x 24.02 922 x 600 x 610	19	21.72 552	26.75 679	---	---	14.28 363	CP3220	CP3220W	PTRA36T or PTRA36S
PTRS482412G3	48.54 x 23.62 x 11.81 1233 x 600 x 300	26	9.51 242	13.38 400	---	---	9.48 241	CP4420	CP4420W	PTRA48T or PTRA48S
PTRS482424G3	48.54 x 23.62 x 24.02 1233 x 600 x 610	26	21.72 552	26.75 679	---	---	14.28 363	CP4420	CP4420W	PTRA48T or PTRA48S

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

^aT=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



PROTEK Single-Door and Double-Hinged Cabinets

STANDARD PRODUCT PROTEK SINGLE WINDOW DOOR FAN PACKAGE, TYPE 1 (INDOOR ONLY)

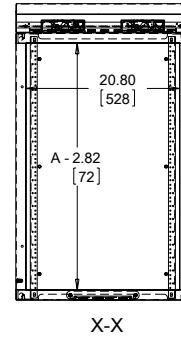
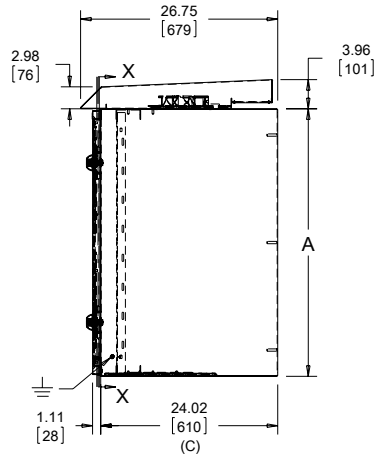
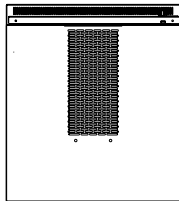
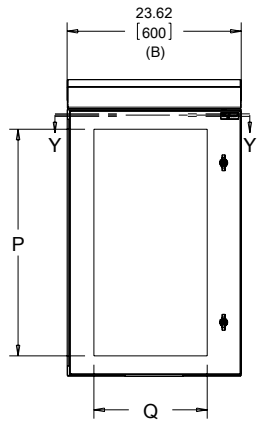
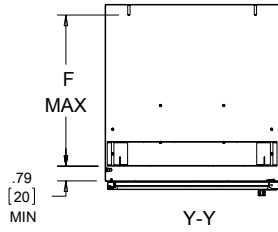
Catalog Number	AxBxC in./mm	Rack Units	F in./mm	G in./mm	P in./mm	Q in./mm	R in./mm	Optional Steel Panel	Optional Wood Panel	Additional Rack Angles ^a
PTRW242424GF	24.09 x 23.62 x 24.02 612 x 600 x 610	12	21.72 552	26.75 679	18.25 464	15.38 391	14.28 363	CP2020	CP2020W	PTRA24T or PTRA24S
PTRW362424GF	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.

^aT=Tapped 10-32, S=Square hole (.375 in. x .375 in.)



PROTEK Single-Door and Double-Hinged Cabinets



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PROTEK Single-Door and Double-Hinged Cabinets

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, IK 10

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, while ensuring 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 ΔT (Ambient Temperature – Maximum in-cabinet Temperature)
 - Ambient air must be cooler than maximum in-cabinet temperature
 - For applications that have less than a ΔT 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

PROTEK Single-Door and Double-Hinged Cabinets

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 ^a
PTHS242424G3	24.09 x 23.62 x 24.02 612 x 600 x 610	12	---	---	CP2020	CP2020W	PTRA24T or PTR24S
PTHS362424G3	36.30 x 23.62 x 24.02 922 x 600 x 610	19	---	---	CP3220	CP3220W	PTRA36T or PTR36S
PTHS482424G3	48.62 x 23.62 x 24.02 1235 x 600 x 610	26	---	---	CP4420	CP4420W	PTRA48T or PTR48S

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

^aT=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 ^a
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 PTR24S
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 PTR36S
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 PTR48S

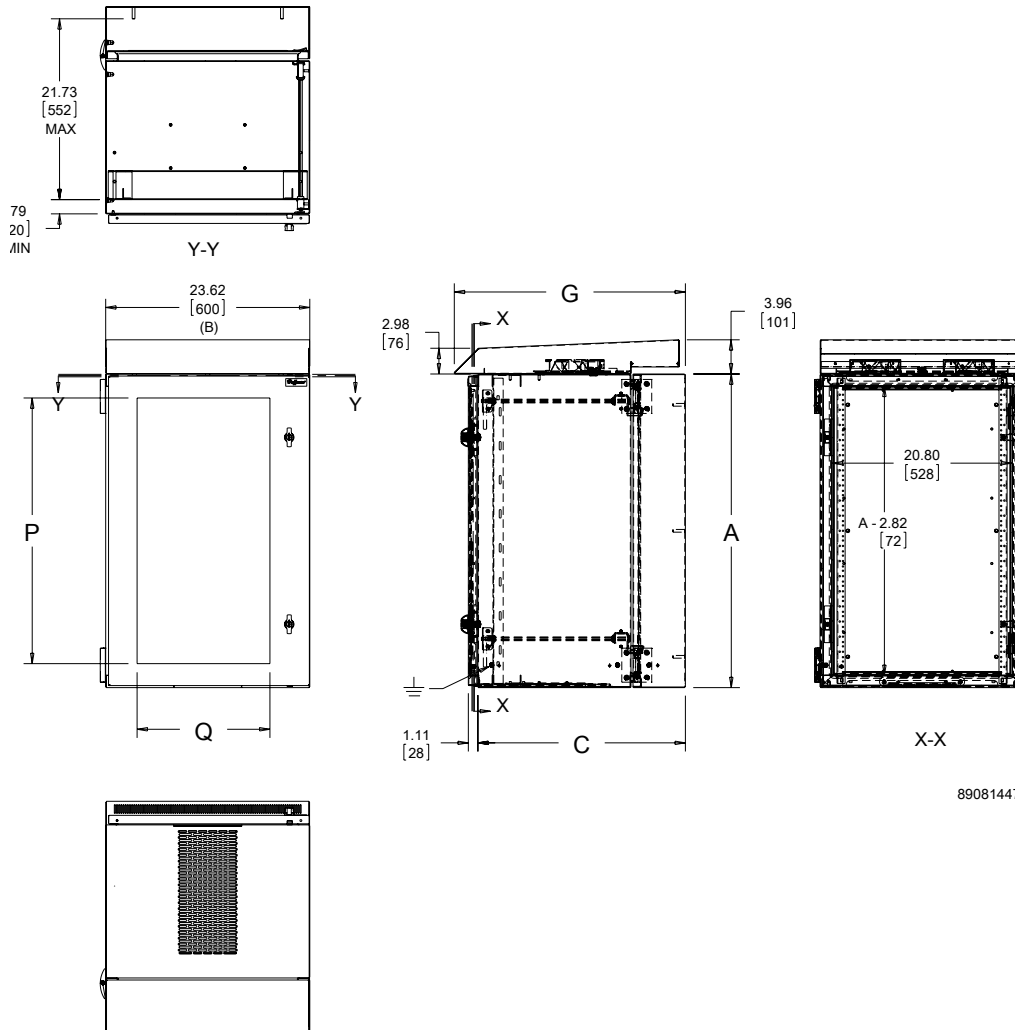
Cabinet dimensions do not include integral solar/drip shield and fan top. See dimensional drawing.

^aT=tapped 10-32; S=Square hole (.375 in. x .375 in./10 mm x 10 mm)

Replacement filter part number 10100038



PROTEK Single-Door and Double-Hinged Cabinets



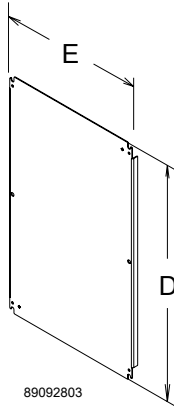
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ProTek Accessories

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.

BULLETIN: CWP, DWDH2



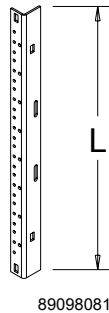
STANDARD PRODUCT

Catalog Number	Panel Size D x E mm/in.	Gauge
CP2014	462 x 310	14
CP2020	462 x 462	12
CP2442	564 x 1021	12
CP3220	762 x 462	12
CP4420	1072 x 462	12
CP5620	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

L-Box Wall-Mount Cabinet and Accessories

L-BOX, TYPE 1



INDUSTRY STANDARDS

UL 2416 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

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

- 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

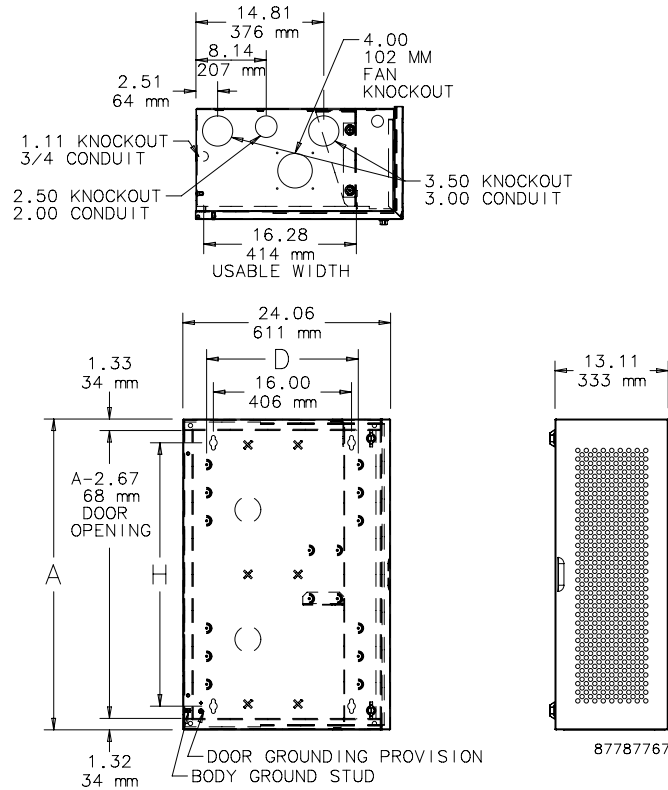
Pretreated steel coated with RAL 7035 light-gray textured, low-gloss polyester powder paint. Other finishes available—contact HOFFMAN Customer Service.

LOAD RATING

75 lb. (34.0 kg)

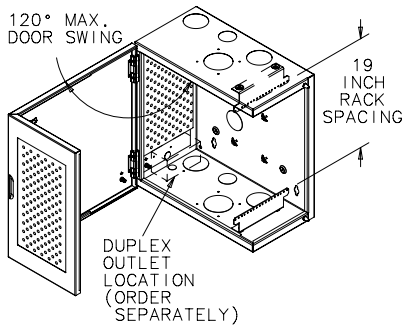
BULLETIN: DWS1

L-Box Wall-Mount Cabinet and Accessories

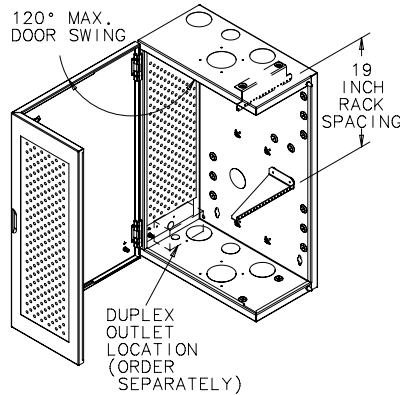


L-BOX RACK ANGLE LOCATIONS

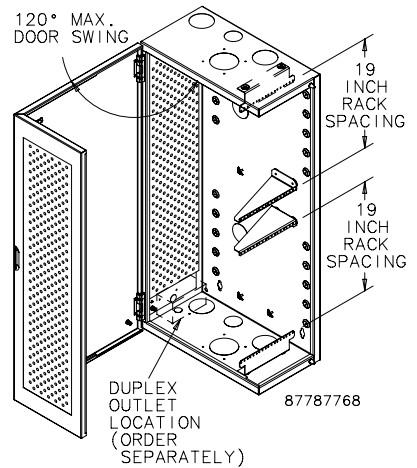
DBL242412G



DBL362412G

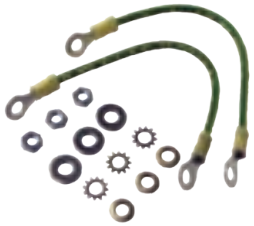


DBL482412G



L-Box Wall-Mount Cabinet and Accessories

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

4-INCH COMPACT AXIAL FANS



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.

BULLETIN: D85

STANDARD PRODUCT

Catalog Number	Description
A4AXFNPG	4-in. fan, 115VAC, 46/49CFM
A4AXFNGQ	4-in. fan, Quiet, 115VAC, 85/100CFM

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

L-Box Wall-Mount Cabinet and Accessories

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	Description	Length in./mm	Depth in./mm	Fits Cabinet Depth
DBSHELF8	Steel Shelf	19.05 484	7.25 184	8 in.
DBSHELF12	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

D-Box Wall-Mount Enclosure and Accessories

D-BOX, TYPE 1



INDUSTRY STANDARDS

UL 2416 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 4U 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

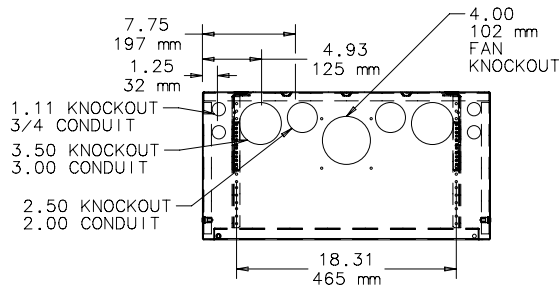
100 lb. (45.4 kg)

BULLETIN: DWS1

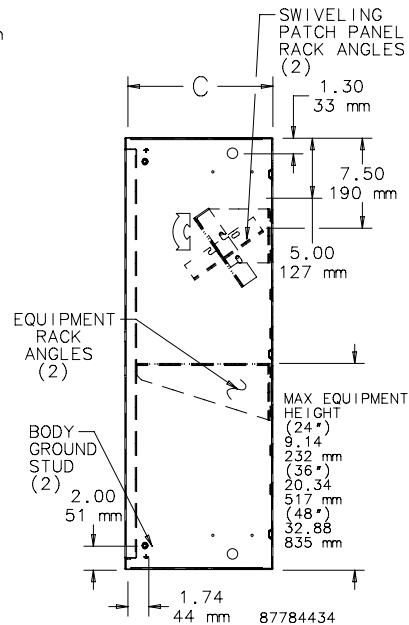
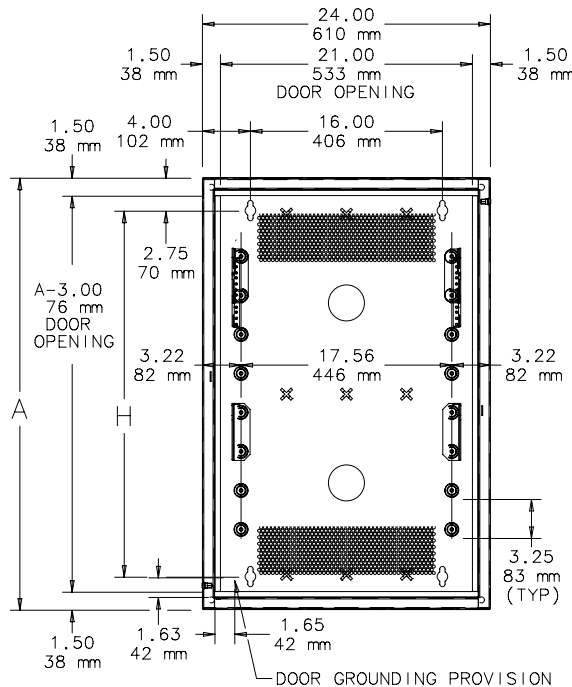
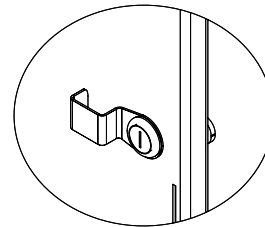
D-Box Wall-Mount Enclosure and Accessories

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

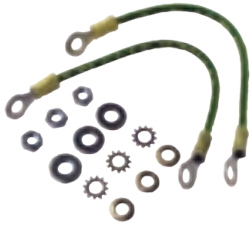


Field Installable Handle (Included)



D-Box Wall-Mount Enclosure and Accessories

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

EQUIPMENT RACK ANGLES

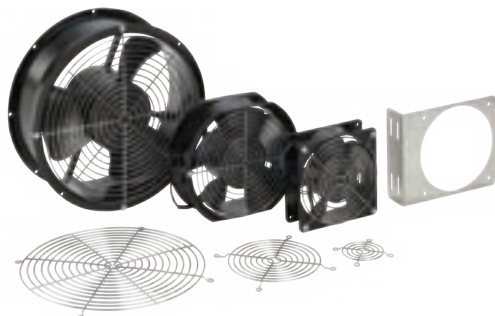


Fixed rack angles can be added to 36-in. and 48-in. tall cabinets for extra 19-in rack equipment mounting. Made of steel with clear zinc plating. EIA spaced holes are tapped 10-32. Mounts to raised pads on cabinet inside back with provided hardware.

BULLETIN: DWS1

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

4-INCH COMPACT AXIAL FANS



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.

BULLETIN: D85

STANDARD PRODUCT

Catalog Number	Description
A4AXFNPG	4-in. fan, 115VAC, 46/49CFM
A4AXFNQG	4-in. fan, Quiet, 115VAC, 85/100CFM

D-Box Wall-Mount Enclosure and Accessories

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

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	Description	Length in./mm	Depth in./mm	Fits Cabinet Depth
DBSHELF8	Steel Shelf	19.05 484	7.25 184	8 in.
DBSHELF12	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

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. PolyPro performs 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

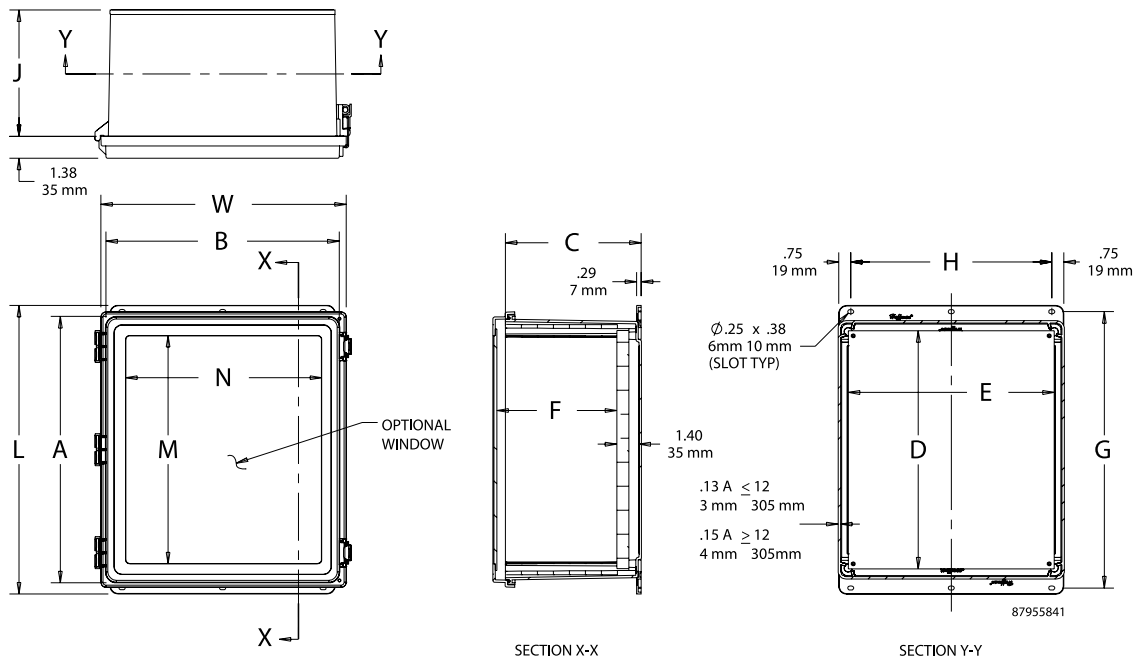
Polyester material is RAL 7035 light-gray textured finish inside and out

BULLETIN: DWS12

PolyPro WiFi, Type 4X

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 4.88 124 x 124	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 4.88 124 x 124	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



PolyPro WiFi, Type 4X

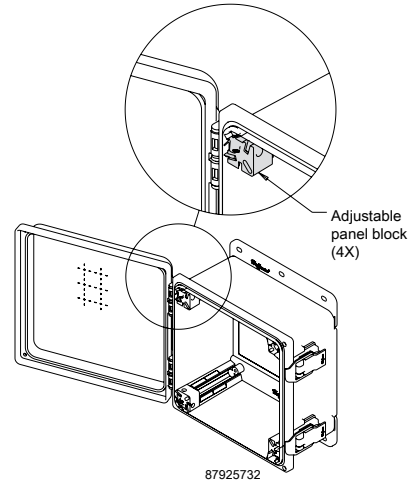
ADJUSTABLE PANEL BLOCK KIT

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



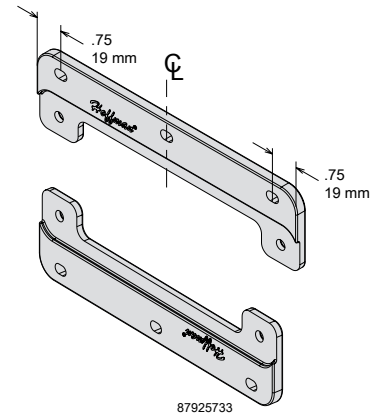
POLYESTER MOUNTING BRACKET KITS

Replacement PolyPro mounting brackets are sold in sets of two and include hardware for mounting to enclosure.

Included with standard PolyPro models.

BULLETIN: PCRY

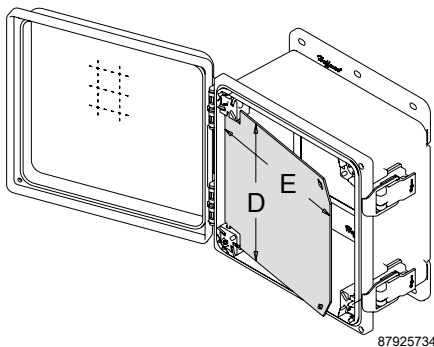
Catalog Number	Description (in.)	Qty.
APOLYFT4	4.00	2
APOLYFT6	6.00	2
APOLYFT8	8.00	2
APOLYFT10	10.00	2
APOLYFT12	12.00	2
APOLYFT14	14.00	2
APOLYFT16	16.00	2



ALUMINUM SWING-OUT PANELS

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

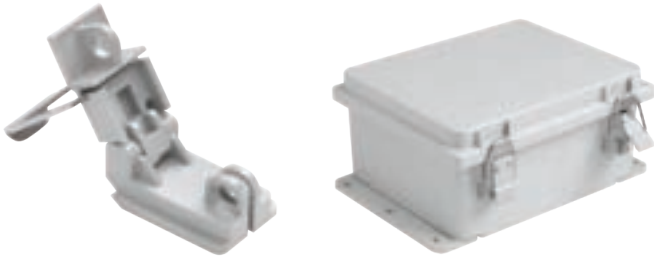
BULLETIN: PCRY



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

PolyPro WiFi, Type 4X

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.
AQLSS6	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

Fiberglass Hinge-Cover Type 4X WiFi Cabinet and Accessories

HINGE-COVER 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

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

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

STANDARD PRODUCT WINDOW DOOR

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

FEATURES

- Fiberglass is easily punched, drilled, filed or sawed
- 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
- Material is halogen free

SPECIFICATIONS

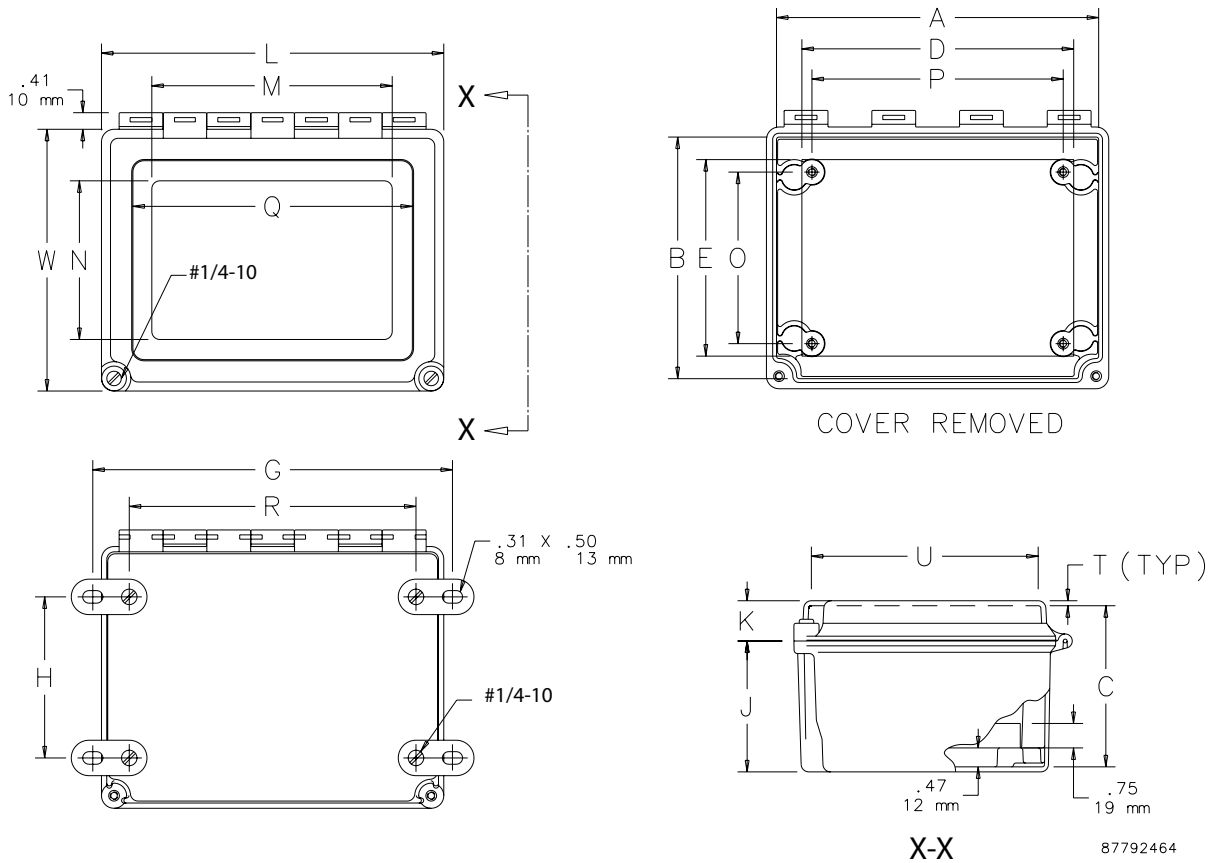
- Enclosure and door made of molded fiberglass polyester that resists chemicals and temperature change
 - Scratch-resistant GE Lexan Margard® windows are permanently bonded in place
 - Polyester mounting brackets and stainless steel attachment screws are provided with each enclosure
 - Hinge pin and 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

Fiberglass Hinge-Cover Type 4X WiFi Cabinet and Accessories



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

Fiberglass Hinge-Cover Type 4X WiFi Cabinet and Accessories

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

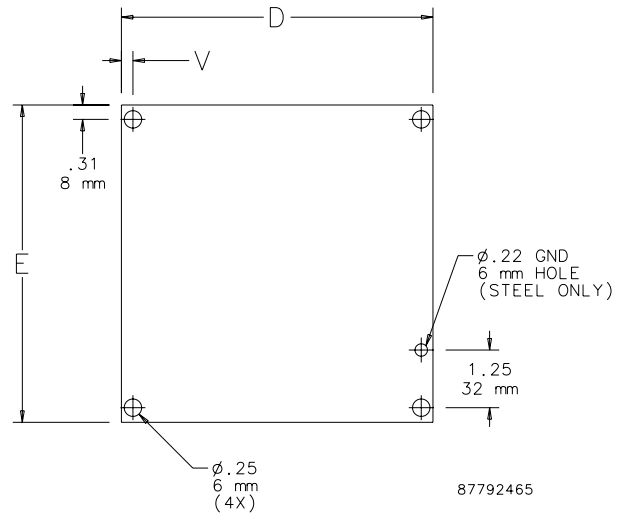
PANELS FOR WIFI CABINETS AND SMALL WALL-MOUNT ENCLOSURES



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	Material	Panel Size D x E (in.)	Panel Size D x E (mm)	V (in.)	V (mm)
A6P6	Steel	4.88 x 4.88	124 x 124	0.31	8
A6P6WD	Wood	4.88 x 4.88	124 x 124	0.31	8
A16P14	Steel	14.75 x 12.88	375 x 327	0.25	6
A16P14WD	Wood	14.75 x 12.88	375 x 327	0.25	6
A18P16	Steel	16.75 x 14.88	425 x 378	0.25	6
A18P16WD	Wood	16.75 x 14.88	425 x 378	0.25	6



4

FIBERGLASS ENCLOSURE MOUNTING FOOT



One-piece mounting foot kit consists of the necessary hardware to attach two fiberglass feet, molded from the same material as our A48 enclosure. This compression-molded fiberglass material has excellent chemical

and temperature resistance and provides outstanding performance and durability in harsh environments. The mounting feet can be field installed on either the 18x16 or the 20x16 enclosure.

BULLETIN: A48Y

Catalog Number	Description
A48MFTHDWK	

UltrX Fiberglass Type 4X WiFi Cabinet and Accessories

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.

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	J	K	P	Q	R	S	T
								mm/in.	mm/in.	mm/in.	mm/in.	mm/in.	mm/in.	mm/in.	mm/in.
DU606030P	608 x 595 x 321	Solid	608 x 595 x 321	A24P24WD	533 x 533	555 x 568	498 x	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	486									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	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	486									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.

FEATURES

- Fiberglass is easily punched, drilled, filed or sawed
- 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
- Material is halogen free

SPECIFICATIONS

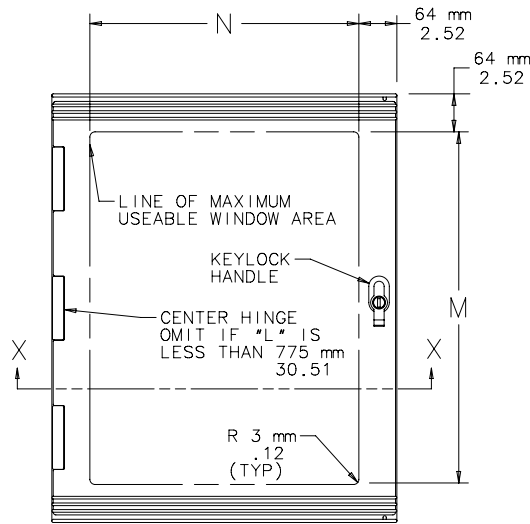
- Enclosure and door made of molded fiberglass polyester that resists chemicals and temperature change
- Impact-resistant polycarbonate window is permanently bonded in place
- Fiberglass mounting brackets and stainless steel attachment screws are provided with each enclosure
- Includes a 3/4-in. plywood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

FINISH

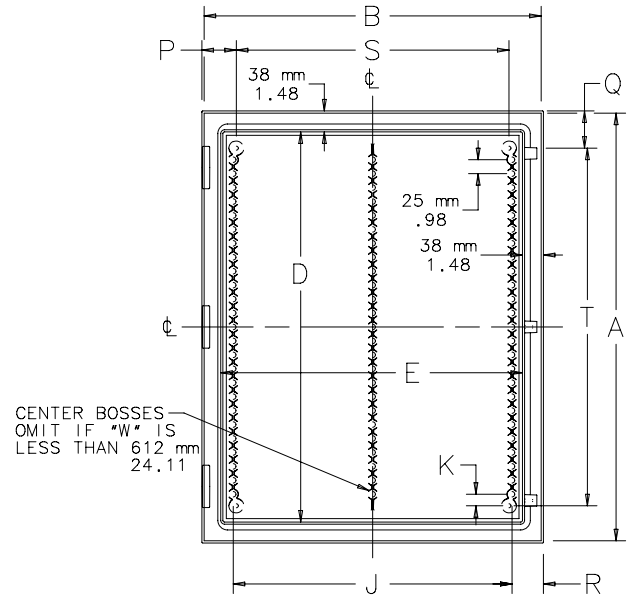
Standard exterior surface painted light-gray acrylic enamel for enhanced UV protection.

BULLETIN: DWS12

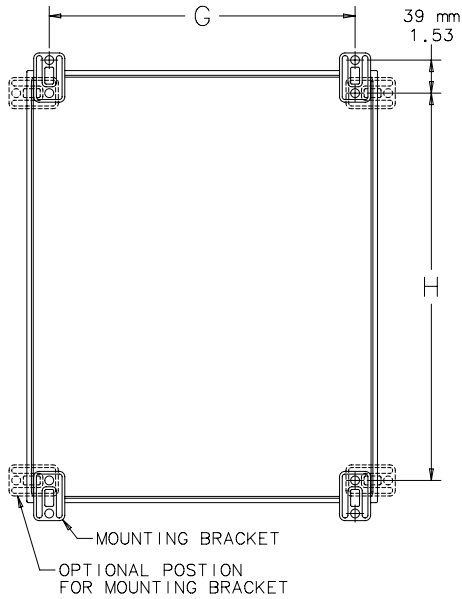
UltrX Fiberglass Type 4X WiFi Cabinet and Accessories



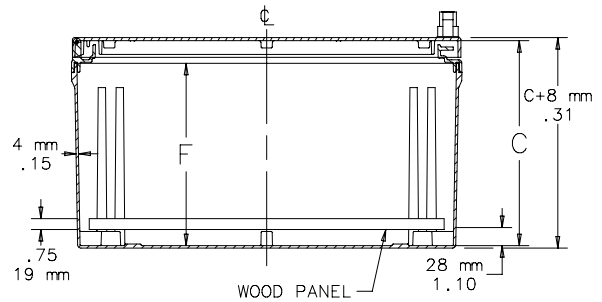
FRONT VIEW



FRONT VIEW WITH DOOR REMOVED



BACK VIEW

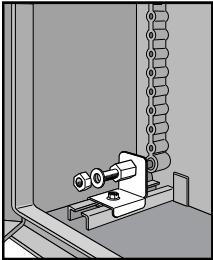


SECTION X-X

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UltrX Fiberglass Type 4X WiFi Cabinet and Accessories

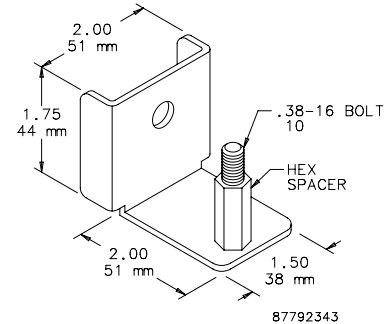
PANEL BRACKET KIT



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



ULTRX PANEL

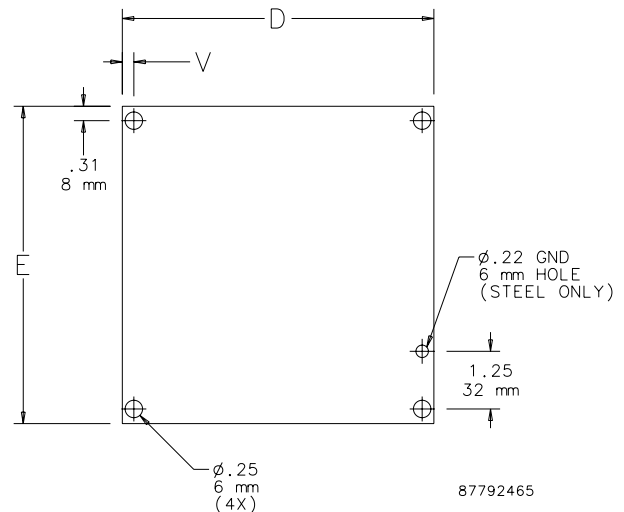


Panels are available in both steel and wood. Steel panels are 14 gauge steel and have a white finish. Panels have two .75-in. (19-mm) high edge flanges and require the Panel Bracket Kit, catalog number UUPB, to mount in the enclosure. Wood panels are 3/4-in. plywood and are unfinished. Wood panels are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

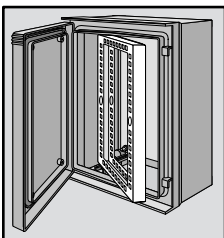
BULLETIN: DWS12, PNLWM

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

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



SWING FRAME



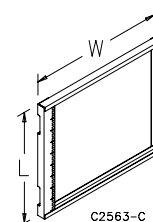
Swing Frame provides 19-in. rack-mounting capabilities with U-Style (Type RA) mounting hole pattern. Quarter-turn latch has 100-degree swing. Adjustable mounting provision. 14 gauge plated steel. Includes mounting hardware. Swing frame maintains enclosure rating if properly installed in a HOFFMAN enclosure.

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

BULLETIN: UX1Y

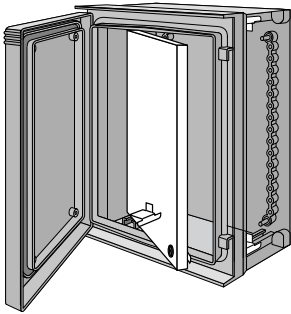
Catalog Number	Fits A x B mm/in.	L mm/in.	W mm/in.	Rack Units
UU6060SF	610 x 610 24.00 x 24.00	540 21.25	535 21.08	11
UU7560SF	762 x 610 30.00 x 24.00	687 27.05	535 21.08	14

Use UU6060SF with Datacom UltrX Fiberglass Type 4X WiFi Cabinet.



UltrX Fiberglass Type 4X WiFi Cabinet and Accessories

SWING-OUT PANEL



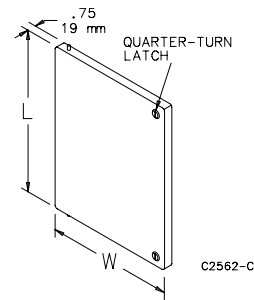
Installs front-mounted panels in UltrX fiberglass enclosures. The front-mounted swing panel complements window-door units and is suited for any application requiring a display of gauges, dials or any type of control equipment monitor. Made of 14 gauge plated steel. Easy installation; no drilling required.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

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

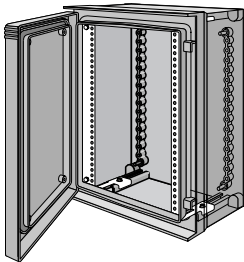
BULLETIN: UX1Y

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)

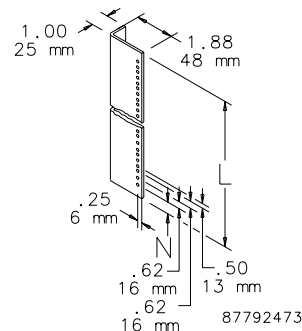


Pairs of full-length rack-mounting angles are available for mounting 1-in. (483-mm) rack-mounted equipment. Type RA angles are 14 gauge steel with .281-in. (7-mm) diameter mounting holes, spaced per EIA standard RS-310-D (universal spacing). Use Clip Nut Package (AN1032) to provide tapped holes at desired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

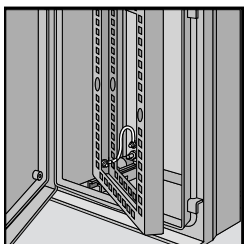
BULLETIN: UX1Y

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



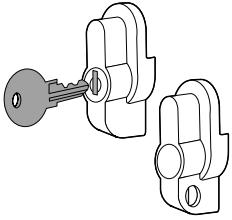
Grounding Device provides a means to attach a grounding conductor to an UltrX Swing-Out Panel or Swing-Out Frame. Includes all installation hardware and instructions.

BULLETIN: UX1Y

Catalog Number	Description
UUGK	UltrX Grounding Device

UltrX Fiberglass Type 4X WiFi Cabinet and Accessories

KEYLOCK KIT AND PADLOCK KIT



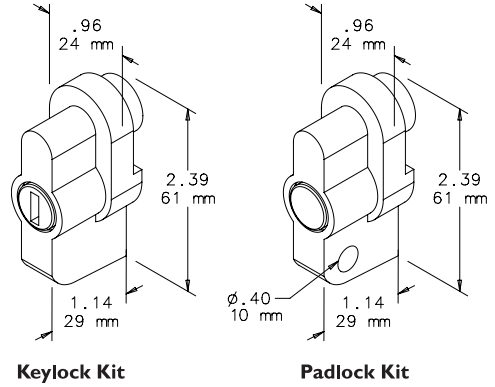
Keylock Kit or pushbutton-style Padlock Kit is easily inserted in latch hole to prevent unauthorized personnel from gaining access to enclosure contents. Each kit is fully assembled for easy installation in the field. Type 316 stainless steel construction.

BULLETIN: UX1Y

Catalog Number	Description
UUHKL	Keylock Kit
UUHPL	Padlock Kit

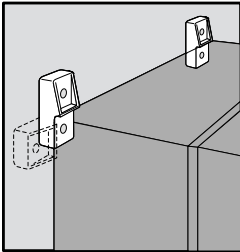
UUHKL: Internal key components are not stainless steel.

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.



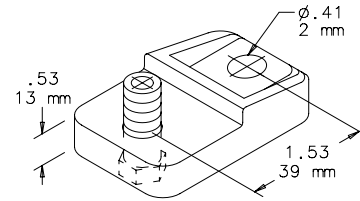
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ULTRX MOUNTING BRACKET KIT



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

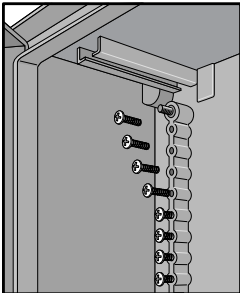
BULLETIN: UX1Y



11C59177

Catalog Number	Description	Kit Qty.
UUMF	Mounting Bracket Kit	4

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

Security Wall-Mount and Accessories

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)

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 4U and 6U 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

STANDARD PRODUCT

Catalog Number	AxBxC in./mm	Rack Units (RU)
DVR4U	9.45 x 21.65 x 18.35 240 x 550 x 466	4
DVR6U	12.99 x 21.65 x 18.35 330 x 550 x 466	6

GENERAL ACCESSORIES

Catalog Number	Description	Key Code
E333KEY	2 replacement keys (fits all locks)	333
A4AXFNGQ	Fan, 115 VAC, quiet	---
A4AXFNPG	Fan, 115VAC	---
AFLTR4LD	Filter, 4-in fans	---

- 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

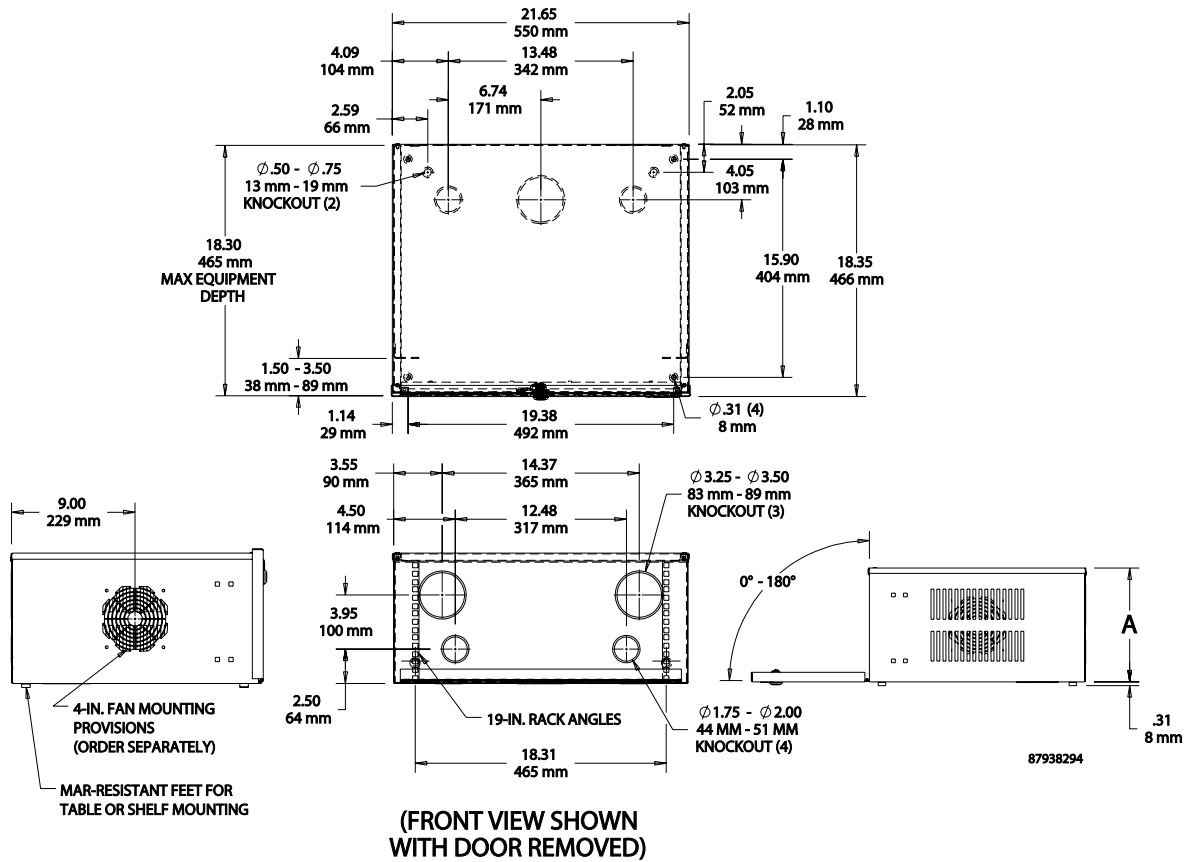
Pretreated steel coated with RAL 9005 black, light-textured, low-gloss polyester powder paint

ACCESSORIES

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

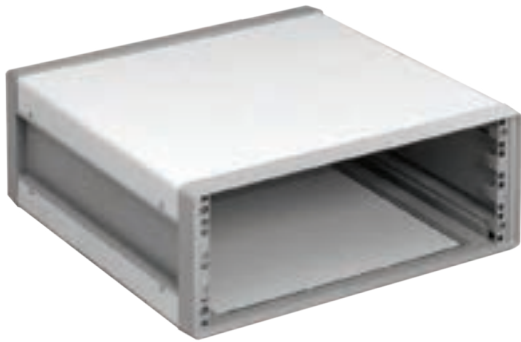
BULLETIN: D85, DACCY, DWS1

Security Wall-Mount and Accessories



Security Wall-Mount and Accessories

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

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

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

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

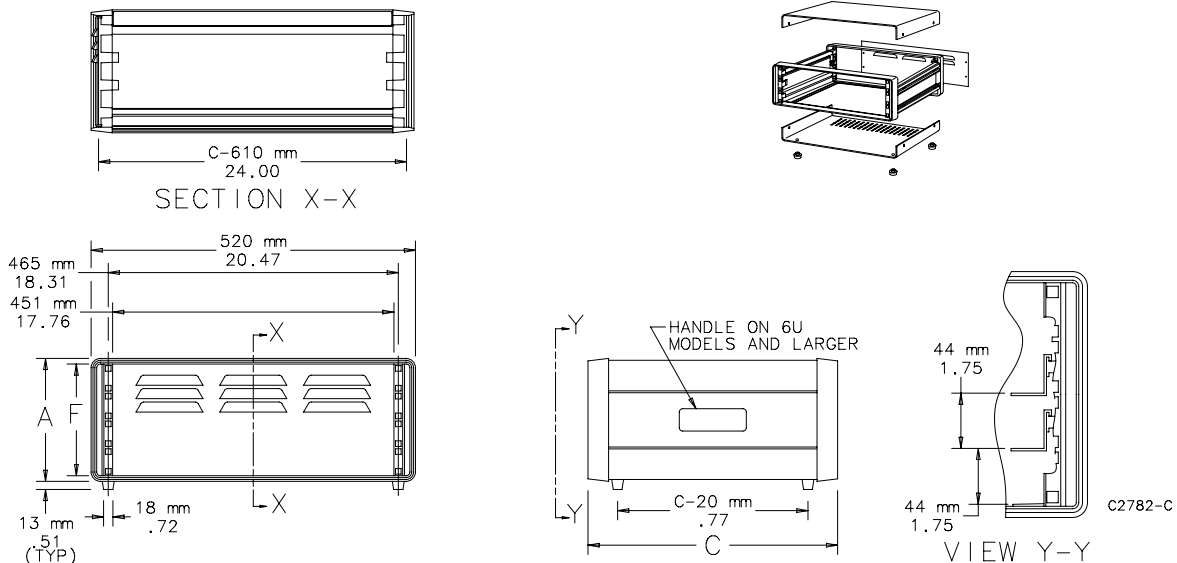
FINISH

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

BULLETIN: DEC1



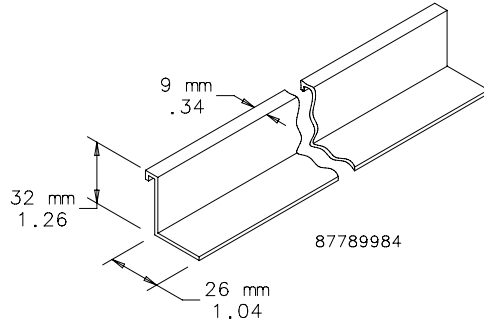
Security Wall-Mount and Accessories

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, which 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 and Accessories

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

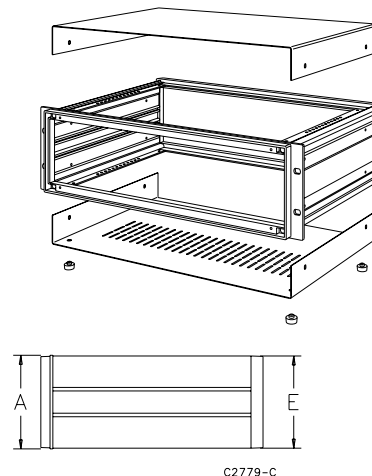
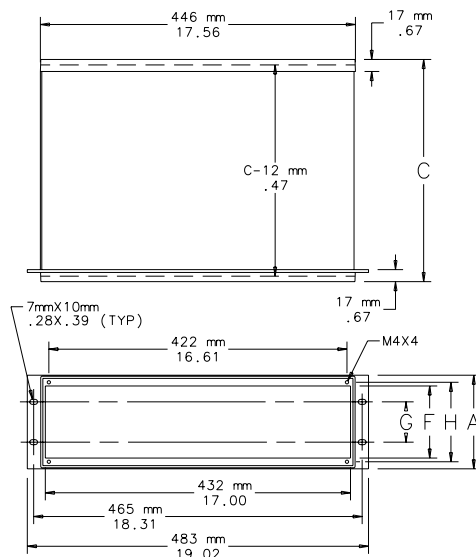
FINISH

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



C2779-C

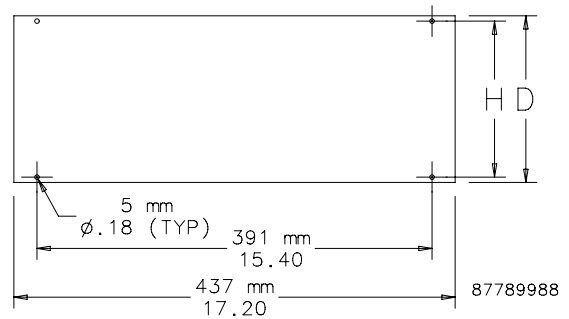
19-in. Rack-Mount/Desktop Case and Accessories

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)	D (in.)	H (mm)	H (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

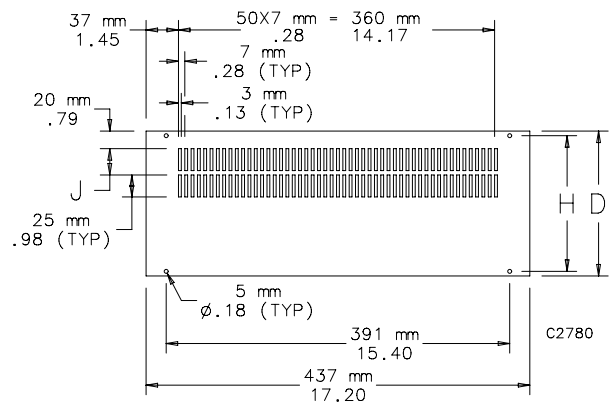


REAR PANELS

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

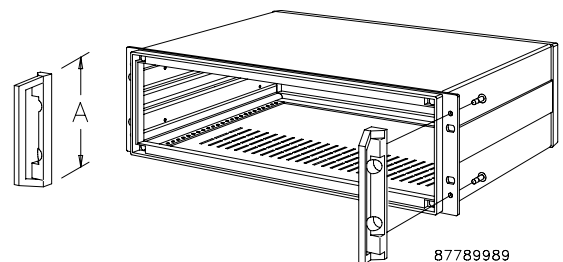


FRONT HANDLES

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	A (mm)	A (in.)
ERCFH3U	133	5.20
ERCFH4U	177	7.00
ERCFH6U	266	10.50



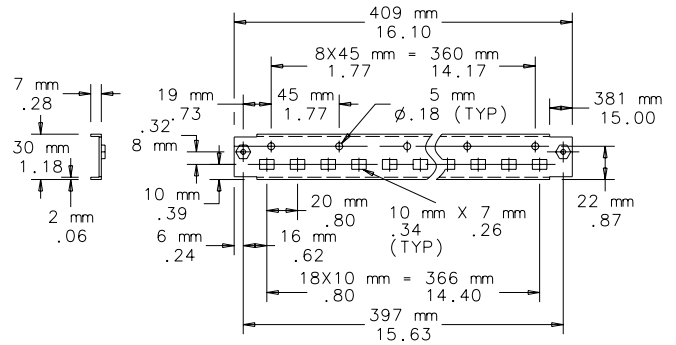
19-in. Rack -Mount/Desktop Case and Accessories

SUPPORT RAIL KIT

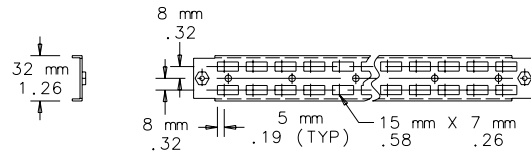
Support rails are recommended for mounting and supporting the weight of bulky components inside a desktop case. Support rails have mounting holes and rectangular slots for mounting components. Rails are 1.5-mm steel with a plated finish. M4 nuts are welded to the rail ends for easy attachment to the 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

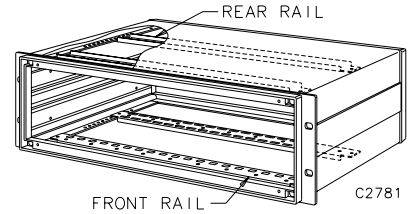
Catalog Number	Kit Includes
ERCRF48	1 front rail, 1 rear rail and mounting hardware



FRONT RAIL



REAR RAIL





HOFFMAN

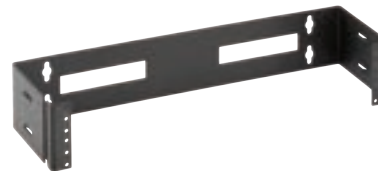
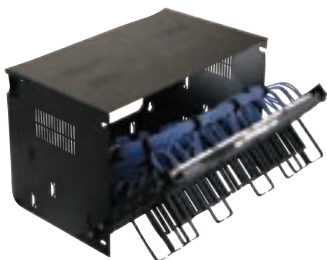
CHAPTER 5

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.



Chapter Contents

WALL-MOUNT RACKS

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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.



19-in. Wall-Mount Cabinets, Racks and Panels

VERSARACK



INDUSTRY STANDARDS

UL 2416 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.

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
- Preassembled 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

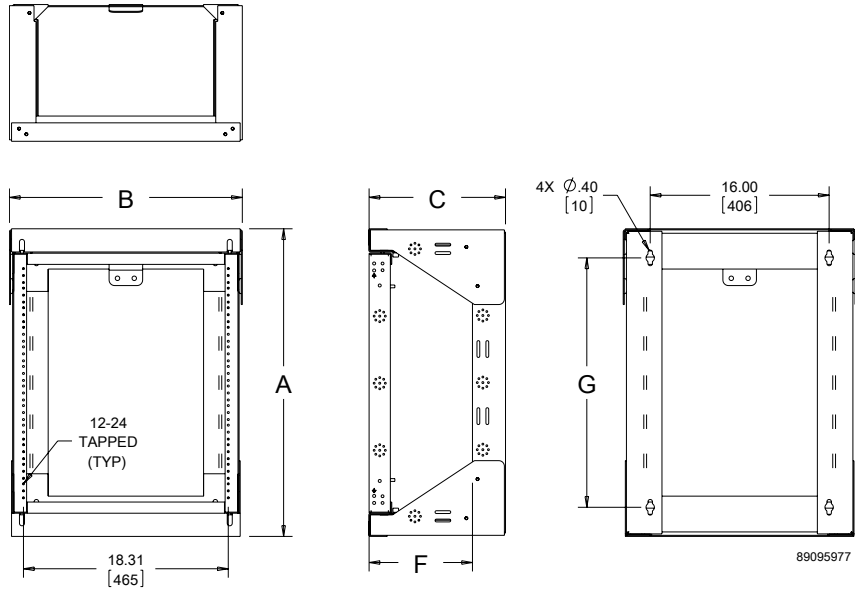
- Vertical Cable Managers
- D-Ring Cable Manager
- Blanking Panels
- Grounding kits
- PDU's
- Shelves

BULLETIN: DOFRW

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 12.28 706 x 531 x 312	9.24 235	22.30 566	12	E19C12U
E19SWM12U24	27.80 x 20.91 x 24.29 706 x 531 x 617	21.24 540	22.30 22.30	12	E19C12U
E19SWM20U12	41.81 x 20.91 x 12.28 1062 x 531 x 312	9.24 235	36.31 922	20	E19C20U
E19SWM20U24	41.81 x 20.91 x 24.29 1062 x 531 x 617	21.24 540	36.31 922	20	E19C20U
E19SWM25U12	50.59 x 20.91 x 12.28 1285 x 531 x 312	9.24 235	45.09 1145	25	E19C25U
E19SWM25U24	50.59 x 20.91 x 24.29 1285 x 531 x 617	21.24 540	45.09 1145	25	E19C25U

19-in. Wall-Mount Cabinets, Racks and Panels

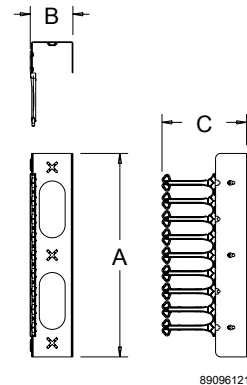


VERSARACK VERTICAL CABLE MANAGER



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

VERSARACK HARDWARE KIT



Kit consists of (8) 1/4-20x.625 hex head cap screws; (4) grounding lock washers; (1) mounting bracket; (20) 12-24x.625 pilot point screws; and installation instructions.

BULLETIN: DOFRW

STANDARD PRODUCT

Catalog Number	Description
EVKIT	VersaRack hardware kit

19-in. Wall-Mount Cabinets, Racks and Panels

PIVOTRACK



INDUSTRY STANDARDS

UL 2416 Listed; File Number E230874
Rated to 100 lbs. with a 4X safety factor

EIC 310-D

APPLICATION

PivotTrack 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. PivotTrack 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

PIVOTRACK HARDWARE KIT



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.

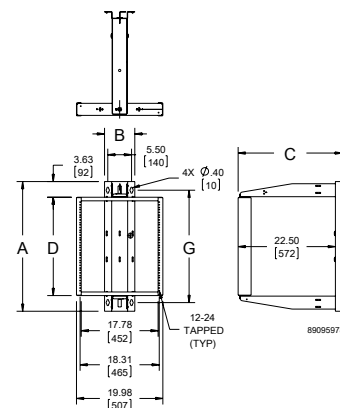
ACCESSORIES

Horizontal Cable Managers
Blanking Panels
Grounding kits
Velcro Tie down straps
PDUs
Shelves

BULLETIN: DOFRW

STANDARD PRODUCT

Catalog Number	AxBxC in./mm	D in./mm	G in./mm	Rack Units
E19SWMC12U24	30.00 x 7.00 x 24.10 762 x 178 x 612	22.78 578	26 660	12
E19SWMC20U24	44.00 x 7.00 x 24.10 1118 x 178 x 612	36.75 933	40 1016	20



Kit consists of (20) 12-24x.625 pilot point screws; (1) wall clip; and installation instructions.

BULLETIN: DOFRW

STANDARD PRODUCT

Catalog Number	Description
EPKIT	PivotTrack hardware kit

19-in. Wall-Mount Cabinets, Racks and Panels

CABLERACK



INDUSTRY STANDARDS

UL 2416 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 network, server, and 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. In applications where equipment expands above the cabinet, CableRack provides ideal management with 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.

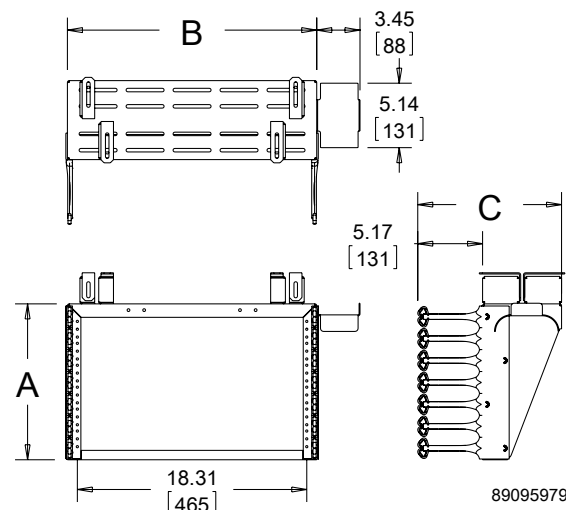
ACCESSORIES

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



89095979

19-in. Wall-Mount Cabinets, Racks and Panels

CABLERACK CABLE BEND RADIUS ACCESSORY



Cable Bend Radius Accessory complements the CableRack and easily attaches at multiple locations on the rack. Accessory 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

CABLERACK HARDWARE KIT



Kit consists of (4) 1/4-20x1.5 carriage bolts; (12) 1/4-20x.75 carriage bolts; (16) 1/4-20 keps nuts; and installation instructions.

BULLETIN: DOFRW

STANDARD PRODUCTS

Catalog Number	Description
ECKIT	CableRack hardware kit

19-IN. HINGED WALL-MOUNT PANEL



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 2416 Listed; File No. E230874
cUL Listed per CSA C22.2 No. 182.4; File No. E230874

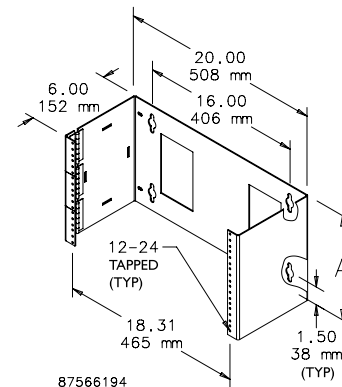
EIA 310-D

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.

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



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. Wall-Mount Cabinets, Racks and Panels

19-IN. BOTTOM-HINGED PANEL



INDUSTRY STANDARDS

UL 2416 Listed; File No. E230874
cUL Listed per CSA C22.2 No. 182.4; File No. E230874

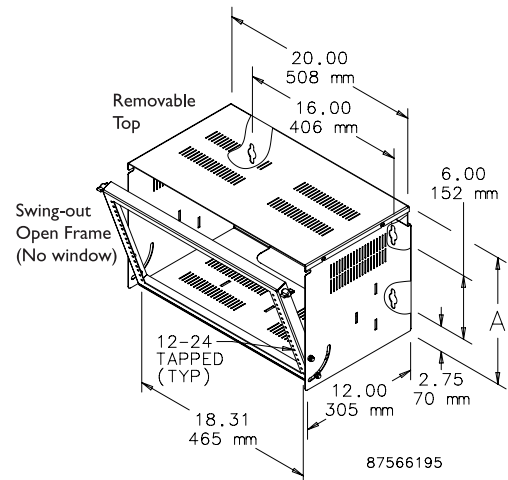
EIA 310-D

APPLICATION

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



INDUSTRY STANDARDS

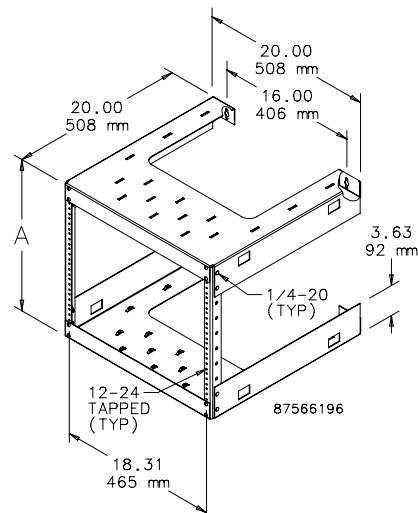
UL 2416 Listed; File No. E230874
cUL Listed per CSA C22.2 No. 182.4; File No. E230874

EIA 310-D

APPLICATION

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.

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. Wall-Mount Cabinets, Racks and Panels

19-IN. SIDE-MOUNT CABINET



INDUSTRY STANDARDS

UL 2416 Listed; File No. E230874
 cUL Listed per CSA C22.2 No. 182.4; File No. E230874

EIA 310-D

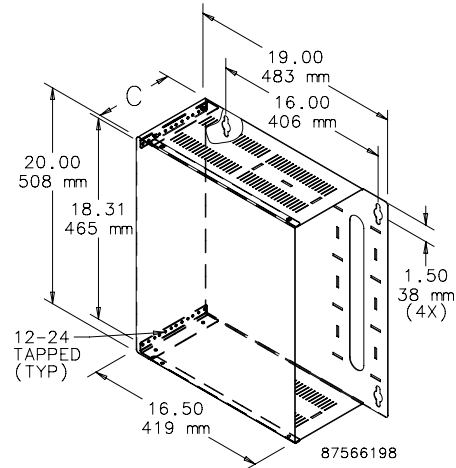
APPLICATION

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





HOFFMAN

CHAPTER 6

CABLE PATHWAY

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.





Chapter Contents

CABLE PATHWAY

CABLE RUNWAY AND ACCESSORIES

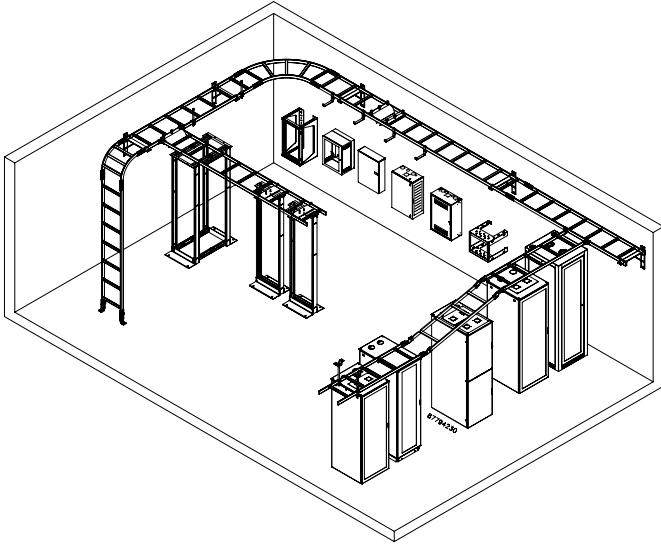
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Cable Runway and Accessories

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-, 15-, 18- and 24-in. (152-, 305-, 381-, 457- and 610-mm) widths
- Steel connecting and mounting hardware

FINISH

Available in four finishes:

- ANSI 61 gray polyester powder paint
- RAL 9005 black polyester powder paint
- White powder paint
- Plated

ACCESSORIES

Touch-up Paint

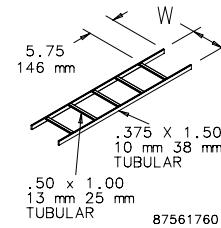
Cable Runway and Accessories

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, DOFR



Catalog Number	Finish	W (in.)	W (mm)
LSS6G	Gray	6.00	152
LSS6BLK	Black	6.00	152
LSS6GZ	Plated	6.00	152
LSS6W	White	6.00	152
LSS12G	Gray	12.00	305
LSS12BLK	Black	12.00	305
LSS12GZ	Plated	12.00	305
LSS12W	White	12.00	305
LSS15W	White	15.00	381
LSS15BLK	Black	15.00	381
LSS18G	Gray	18.00	457
LSS18BLK	Black	18.00	457
LSS18W	White	18.00	457
LSS18GZ	Plated	18.00	457
LSS24BLK	Black	24.00	610
LSS24W	White	24.00	610

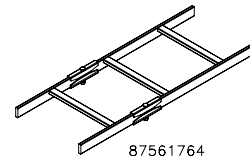
BUTT-SPLICE KIT



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
LBSKW	White	2



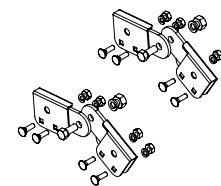
ADJUSTABLE BUTT-SPLICE KIT



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
LABSKW	White	2



Cable Runway and Accessories

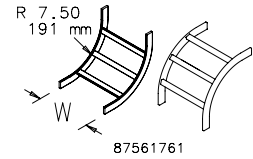
LADDER RACK CURVED SECTIONS



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, DOFRC



87561761

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
LIB6W	White	Inside	6.00	152
LIB12G	Gray	Inside	12.00	305
LIB12BLK	Black	Inside	12.00	305
LIB12GZ	Plated	Inside	12.00	305
LIB12W	White	Inside	12.00	305
LIB15BLK	Black	Inside	15.00	381
LIB15W	White	Inside	15.00	381
LIB18G	Gray	Inside	18.00	457
LIB18BLK	Black	Inside	18.00	457
LIB18W	White	Inside	18.00	457
LIB18GZ	Plated	Inside	18.00	457
LIB24BLK	Black	Inside	24.00	610
LIB24W	White	Inside	24.00	610
LOB6G	Gray	Outside	6.00	152
LOB6BLK	Black	Outside	6.00	152
LOB6GZ	Plated	Outside	6.00	152
LOB6W	White	Outside	6.00	152
LOB12G	Gray	Outside	12.00	305
LOB12BLK	Black	Outside	12.00	305
LOB12GZ	Plated	Outside	12.00	305
LOB12W	White	Outside	12.00	305
LOB15BLK	Black	Outside	15.00	381
LOB15W	White	Outside	15.00	381
LOB18G	Gray	Outside	18.00	457
LOB18BLK	Black	Outside	18.00	457
LOB18GZ	Plated	Outside	18.00	457
LOB18W	White	Outside	18.00	457
LOB24BLK	Black	Outside	24.00	610
LOB24W	White	Outside	24.00	610

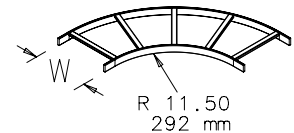
90-DEGREE HORIZONTAL E-BEND SECTION



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, DOFRC



87561762

Catalog Number	Finish	W (in.)	W (mm)
L90HB12G	Gray	12.00	305
L90HB12BLK	Black	12.00	305
L90HB12GZ	Plated	12.00	305
L90HB12W	White	12.00	305
L90HB15BLK	Black	15.00	381
L90HB15W	White	15.00	381
L90HB18G	Gray	18.00	457
L90HB18BLK	Black	18.00	457
L90HB18GZ	Plated	18.00	457
L90HB18W	White	18.00	457
L90HB24BLK	Black	24.00	610
L90HB24W	White	24.00	610

Cable Runway and Accessories

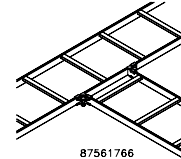
JUNCTION SPLICE KIT



cULus Classified
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
LJSKW	White	2



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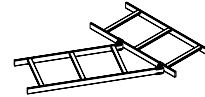
ADJUSTABLE JUNCTION SPLICE KIT



cULus Classified
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.
LAJSKG	Gray	2
LAJSKB	Black	2
LAJSK	Plated	2
LAJSKW	White	2



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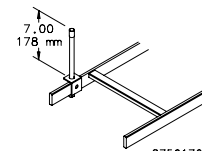
RETAINING POST KIT



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
LRPW	White	1



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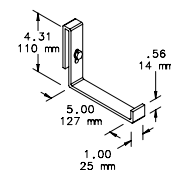
L-BRACKET KIT



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
LLBW	White	1



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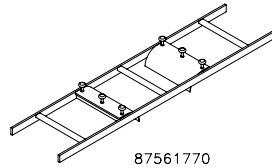
Cable Runway and Accessories

RADIUS DROP KIT



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



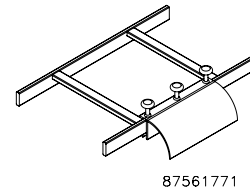
Catalog Number	Finish	Cable Runway Width (in.)	Cable Runway Width (mm)	Kit Qty.
LRD6G	Gray	6.00	152	1
LRD6BLK	Black	6.00	152	1
LRD6GZ	Aluminum	6.00	152	1
LRD6W	White	6.00	152	1
LRD12G	Gray	12.00	305	1
LRD12BLK	Black	12.00	305	1
LRD12GZ	Aluminum	12.00	305	1
LRD12W	White	12.00	305	1
LRD15BLK	Black	15.00	381	1
LRD15W	White	15.00	381	1
LRD18G	Gray	18.00	457	1
LRD18BLK	Black	18.00	457	1
LRD18GZ	Aluminum	18.00	457	1
LRD18W	White	18.00	457	1
LRD24BLK	Black	24.00	610	1
LRD24W	White	24.00	610	1

STRINGER RADIUS DROP KIT



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
LSRDW	White	1

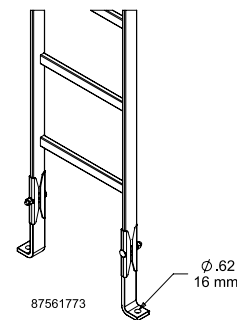
FOOT KIT



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
LFKW	White	2



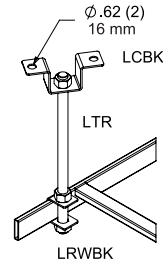
Cable Runway and Accessories

CEILING SUPPORT KIT

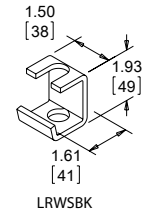


Supports ladder rack from ceiling. Components available separately or as a kit. Six-foot-long, 5/8-in. diameter rod is threaded for easy tension adjustment. Made of plated steel. Requires surface mounting hardware (not included).

BULLETIN: DCR



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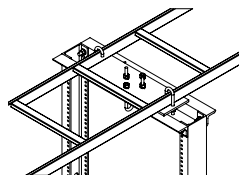
Catalog Number	Finish	Description	Kit Qty.
LCK	Plated	Kit includes one each: - LTR Threaded Rod - 5/8-in. nuts (4) - LRWBK Rack Runway Bracket - LCBK Ceiling Bracket	1
LTR	Plated	5/8-in. x 6-ft. Threaded Rod	1
LRWBK	Plated	Rack Runway Brackets (10) 5/8-in. nuts (20)	1
LRWBKB	Black	Rack Runway Brackets (10) 5/8-in. nuts (20)	1
LRWBKW	White	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
LCBKW	White	Ceiling Brackets (10) 5/8-in nuts (20)	1
LRWSBK	Plated	Rack-to-Runway Brackets (10) Slip-On 5/8 in. nuts (20)	1
LRWSBKB	Black	Rack-to-Runway Brackets (20) Slip-On 5/8 in. nuts (40)	1
LRWSBKW	White	Rack-to-Runway Brackets (20) Slip-On 5/8 in. nuts (40)	1

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



87561774

Catalog Number	Fits Ladder Width	Finish	Kit Qty.
LRRMPG	6, 12	Gray	1
LRRMPBLK	6, 12	Black	1
LRRMPGZ	6, 12	Plated	1
LRRMPW	6, 12	White	1
LRRMPW15	12, 15	White	1
LRRMPBLK15	12, 15	Black	1
LRRMPG18	12, 18	Gray	1
LRRMPBLK18	12, 18	Black	1
LRRMPGZ18	12, 18	Plated	1
LRRMPW18	12, 18	White	1
LRRMPBLK24	18, 24	Black	1
LRRMPW24	18, 24	White	1

Cable Runway and Accessories

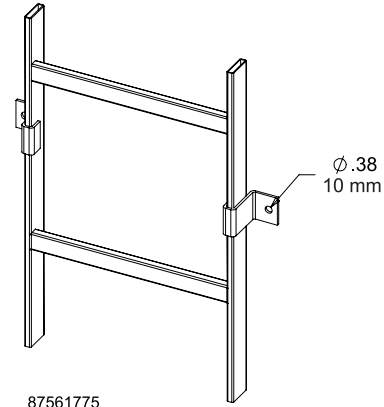
VERTICAL WALL BRACKET



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
LVWW	White	2



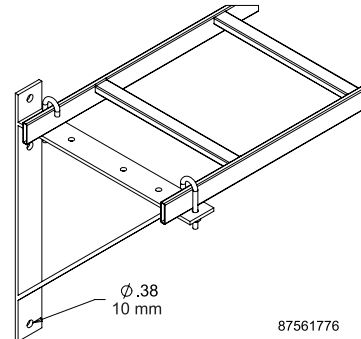
TRIANGLE SUPPORT BRACKET KIT



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	Finish	Fits Cable Runway	Kit Qty.
LTSB12G	Gray	6, 12	1
LTSB12BLK	Black	6, 12	1
LTSB12GZ	Plated	6, 12	1
LTSB12W	White	6, 12	1
LTSB181524W	White	15, 18, 24	1
LTSB151824BLK	Black	15, 18, 24	1
LTSB18G	Gray	12, 18	1
LTSB18BLK	Black	12, 18	1
LTSB18GZ	Plated	12, 18	1
LTSB24BLK	Black	12, 18, 24	1



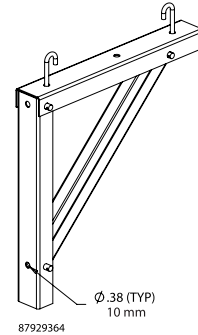
Cable Runway and Accessories

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



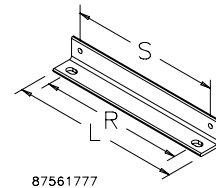
Catalog Number	Finish	Fits Cable Runway	Kit Qty.
LMTSB12B	Black	6, 12	1
LMTSB12W	White	6, 12	1
LMTSB18B	Black	12, 18	1
LMTSB18W	White	12, 18	1
LMTSB24B	Black	18, 24	1
LMTSB24W	White	18, 24	1

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 in./mm	R in./mm	S in./mm	Kit Qty.
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	
LWASK12W	White	14.00	12.00	12.38	1
		356	305	314	
LWASK15W	White	17.00	15.00	15.38	1
		432	381	391	
LWASK15BLK	Black	17.00	15.00	15.38	1
		432	381	391	
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	
LWASK18W	White	20.00	18.00	18.38	1
		508	457	467	
LWASK24BLK	Black	26.00	24.00	24.38	1
		660	610	619	
LWASK24W	White	26.00	24.00	24.38	1
		660	610	619	

Cable Runway and Accessories

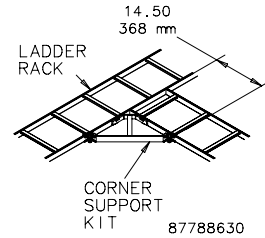
CORNER SUPPORT BRACKET KIT



Provides additional support for 90-degree ladder rack junction. Made of steel with a painted or plated finish.

BULLETIN: DCR

Catalog Number	Kit Qty.	Finish
LCSKG	1	Gray
LCSKB	1	Black
LCSK	1	Plated
LCSKW	1	White



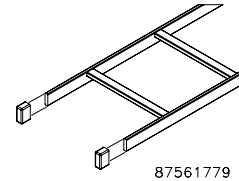
END CAP KIT



Provides protective covering for ends of ladder rack. Made of black vinyl.

BULLETIN: DCR

Catalog Number	Kit Qty.
LEC	2

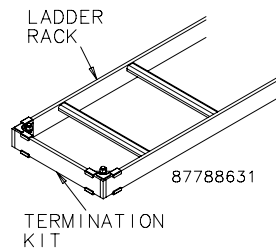


RUNWAY TERMINATION KIT



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
LRTK12W	White	12	1
LRTK18G	Gray	18	1
LRTK18B	Black	18	1
LRTK18	Plated	18	1
LRTK18W	White	18	1
LRTK24B	Black	24	1
LRTK24W	White	24	1

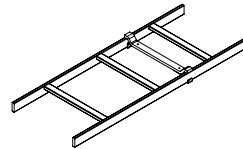
Cable Runway and Accessories

MOVABLE CROSS MEMBER



Supports cable at drop locations between welded cross members. Made of steel with a painted or plated finish. Includes hardware for secure mounting to ladder rack stringers.

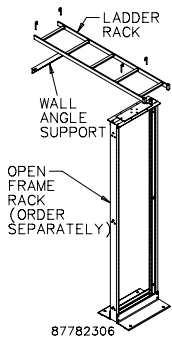
BULLETIN: DCR



87561763

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
LMCM12W	White	12.00	305	1
LMCM18G	Gray	18.00	457	1
LMCM18BLK	Black	18.00	457	1
LMCM18GZ	Plated	18.00	457	1
LMCM18W	White	18.00	457	1
LMCM24BLK	Black	24.00	610	1
LMCM24W	White	24.00	610	1

RACK-TO-WALL KIT



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

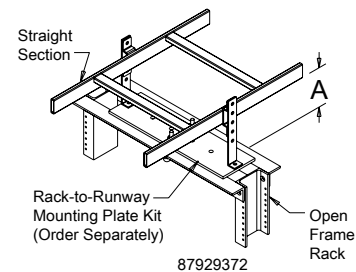
* Ladder Rack is cULus Classified

RUNWAY ELEVATION KIT



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



87929372

Catalog Number	A (in.)	A (mm)	Finish	Kit Qty.
LEK3	3.00	76	Plated	1
LEK3B	3.00	76	Black	1
LEK3W	3.00	76	White	1
LEK6	6.00	152	Plated	1
LEK6B	6.00	152	Black	1
LEK6W	6.00	152	White	1
LEK12	12.00	305	Plated	1
LEK12B	12.00	305	Black	1
LEK12W	12.00	305	White	1

Cable Runway and Accessories

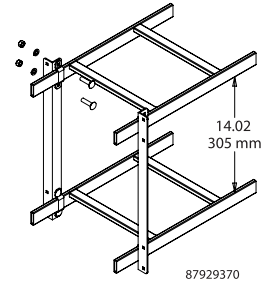
RUNWAY OVERHEAD 12-IN. STACK KIT



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
LST12W	White	2 brackets and hardware	1



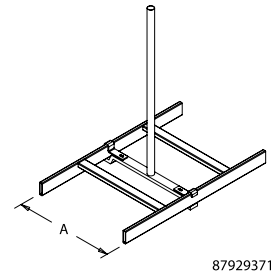
RUNWAY CENTER SUPPORT KIT



Threaded rod and bracket supports center of ladder rack from ceiling. Kit includes heavy-duty ladder rack cross member, two mounting brackets, two #12-24 screws, 5/8-in. threaded rod, protected sleeve and four 5/8-in. nuts. 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



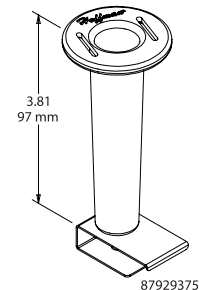
SPOOL DIVIDER KIT



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.

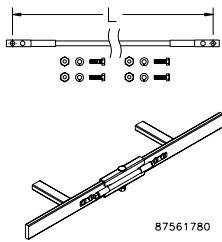
BULLETIN: DCR

Catalog Number	Finish	Kit Includes
LCRDSK	Black plastic spool; plated steel bracket	10 spools, 10 brackets and mounting hardware



Cable Runway and Accessories

INSULATED GROUND JUMPER KIT



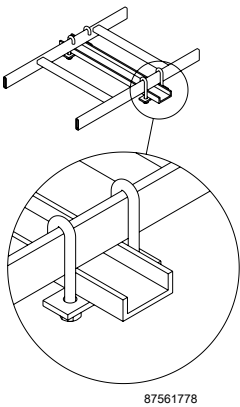
Fastens across splices to provide a secure ground between sections of ladder rack. Made of #6 AWG x 7 strand wire with green THW insulation and two-hole compression lugs mounted on each end. Includes fasteners.

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



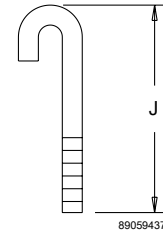
Connects ladder rack to top of cabinet or to auxiliary support channel. Each kit includes two J-bolts and makes one support connection. Kit components are plated steel. Includes mounting hardware.

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



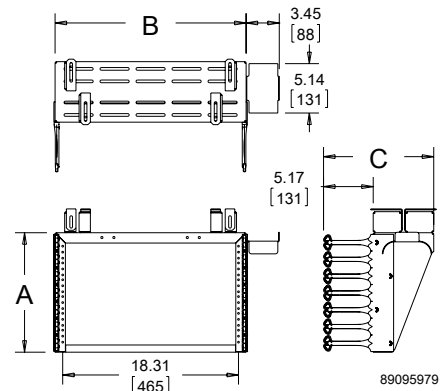
CABLERACK



CableRack is used for ladder or basket tray mounting and securing 19-inch rack equipment for server rooms, telecommunication rooms, and other applications. 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. In applications where equipment expands above the cabinet, CableRack provides ideal management with increased equipment and cable densities.

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



Quick Tray Pro

QUICK TRAY PRO 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

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
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

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.

NOTE: All 10-ft. sections are packaged and sold in quantities of 4.

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

Quick Tray Pro

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
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.

All straight 10-ft. sections are packaged and sold in quantities of 4.

Quick Tray Pro

QUICK TRAY WEIGHT GUIDE

Catalog Number (Plated)	Catalog Number (Black)	Nominal Width (inch)	Weight per section (lbs)	Cable qty @ 75% fill (CAT 6)	Load (lbs./ft.)	Splice qty. per joint
QTP2X12	QTP2X12BLK	12	12	326	58	4
QTP2X16	QTP2X16BLK	16	15	439	70	4
QTP2X18	QTP2X18	18	23	495	70	4
QTP2X20	QTP2X20BLK	20	25	550	73	5
QTP2X22	QTP2X22BLK	22	27	600	73	5
QTP2X24	QTP2X24BLK	24	31	660	75	5
QTP2X4	QTP2X4BLK	4	7	108	45	2
QTP2X6	QTP2X6BLK	6	9	163	50	4
QTP2X8	QTP2X8BLK	8	10.5	218	52	4
QTP4X12	QTP4X12BLK	12	23	621	78	6
QTP4X16	QTP4X16BLK	16	27	837	108	7
QTP4X18	QTP4X18BLK	18	29	942	116	7
QTP4X20	QTP4X20BLK	20	31	1047	116	7
QTP4X22	QTP4X22BLK	22	33	1152	116	8
QTP4X24	QTP4X24BLK	24	35	1257	116	8
QTP4X4	QTP4X4BLK	4	12	205	44	4
QTP4X6	QTP4X6BLK	6	13	310	49	5
QTP4X8	QTP4X8BLK	8	15	416	78	6
QTP6X12	QTP6X12BLK	12	27	931	23	6
QTP6X16	QTP6X16BLK	16	31	1255	123	7
QTP6X18	QTP6X18BLK	18	33	1413	127	7
QTP6X20	QTP6X20BLK	20	35	1571	127	7
QTP6X22	QTP6X22BLK	22	37	1728	127	8
QTP6X24	QTP6X24BLK	24	39	1886	150	8
QTP6X8	QTP6X8BLK	8	23	623	116	6

Quick Tray Pro

SPLICE KIT

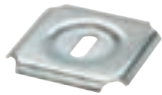


Splice Kits are used for bolting turns, bends and tees; connecting Quick Tray Pro sections; and fastening splice bars. Kit includes three-piece staked bolt, washer and nut.

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

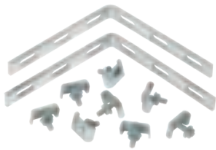


Quick Tray Pro Splice Washers are used with QTPBNWK/QTPBNWKBLK Splice Kits for bolting turns, bends, and tees; connecting tray sections; and fastening splice bars.

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

Quick Tray Pro

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

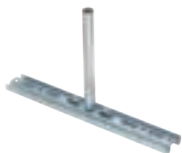


For Quick Tray Pro installations under ceiling or overhangs. Use with tray widths up to 12 in. (305 mm). To secure tray to bracket, use one QTPSSW3/QTPSSW3BLK Splice Washer and one QTPBNWK/QTPBNWKBLK Splice Kit on sizes up to 8 in. (203 mm); use two on 12-in. (305-mm) trays. Can be stacked for multi-level 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

Quick Tray Pro

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

Quick Tray Pro

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

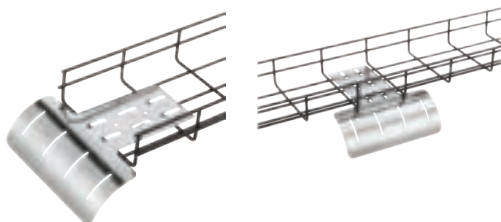


The Quick Tray Pro Side-Action Bolt Cutter insures a flush cut and helps create a protective coating for the new cut.

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



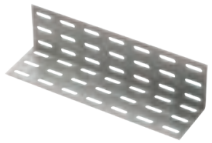
The Quick Tray Pro Vertical Down protects cables when exiting and entering tray. Built-in hold down method for side mount. Attached with 1/4 in. hardware for center mount.

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

Quick Tray Pro

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.

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



HOFFMAN

CHAPTER 7 FREE-STAND CABINETS

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 Free-Standing, Dual-Access Cabinet,
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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 Overview

SEISMIC ENCLOSURES PROVIDE AN EXTRA MEASURE OF PROTECTION

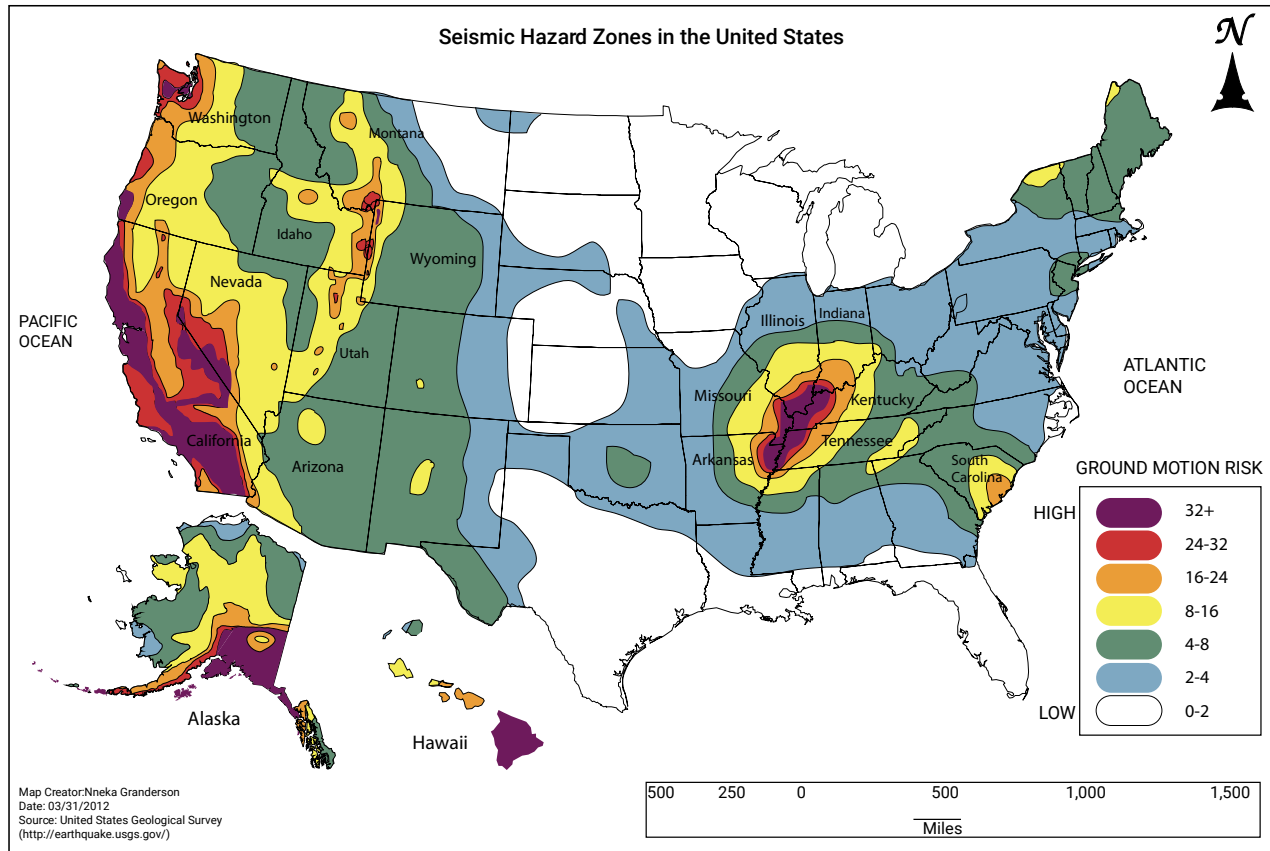
The use of seismic-rated enclosures is recommended in areas where earthquake activity is possible. In addition, power plants, railroads, airports and other installations use rack-mounted electrical and electronic equipment that is subjected to vibration and other motion which may over-stress equipment 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 map below, ground motion risks are numbered from 0 to 32+ with 32+ corresponding to the highest risk areas. Geographic areas designated as 0-2 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.



Seismic Enclosures Overview

HOFFMAN Seismic Products

HOFFMAN performance-tests its seismic products according to Telcordia 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 California Building Code (CBC) and International Building Code (IBC).

Seismic Compliance

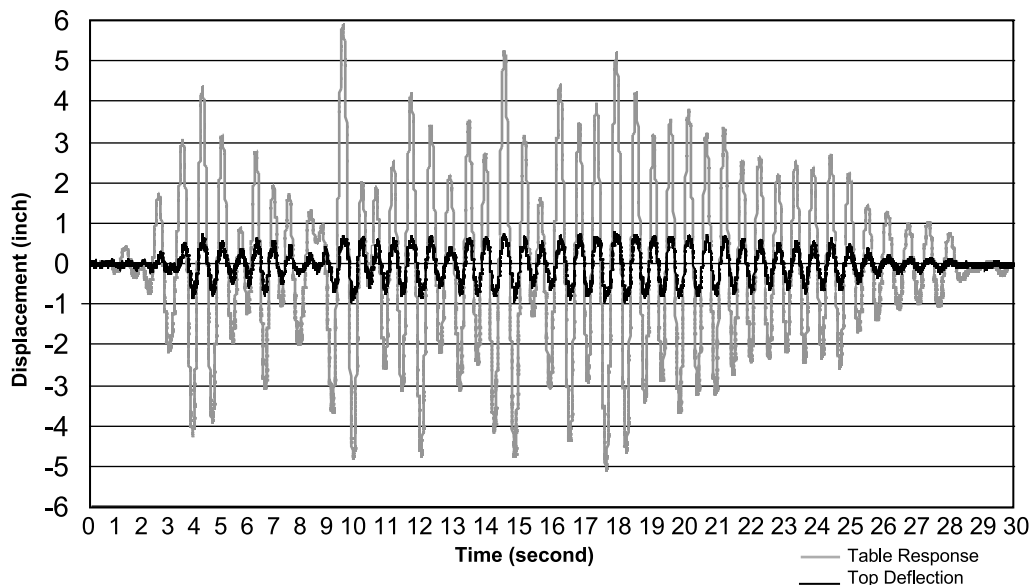
A Telcordia GR-63-CORE compliant test must be conducted by a Nationally Recognized Testing Laboratory (NRTL) or other recognized independent laboratory before compliance will be issued. This test is conducted on an installation-specific basis with customer-installed equipment and cabling mounted inside the enclosure. In other cases or in addition to, a licensed structural engineer must certify the installation.

HOFFMAN helps facilitate the Office of Statewide Health Planning and Development (OSHPD) building approval with pre-approval of Manufacturer's Certification (OMP).

The OPM program is a voluntary program for review and pre-approval of seismic design of nonstructural components used in health facilities construction in California, per California Building Code, CBC 2013.



Enclosure mounted on shaker table



Time-motion history generated in front to back seismic enclosure test

NEBS™ IS A TRADEMARK OF TELCORDIA.

PH 763.422.2661 • FAX 763.422.2588

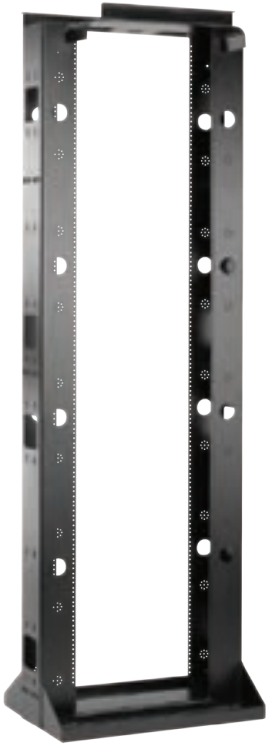
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Seismic Racks

SEISMIC 2-POST OPEN FRAME RACK

7



INDUSTRY STANDARDS

UL 2416 Listed; File No. E230874,
2500 lb. (1134 kg) rated load
cUL Listed per CSA C22.2 No. 182.4; File No. E230874

NEBS -Telcordia GR-63-CORE Zone 4: Tested with 500 lb.
(226.8 kg) of equipment installed
EIA 310-D
OSHDP Pre-Approval OPM-0197-13
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

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 network, server, and telecommunication room applications that may be subject to seismic activity or vibration. 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

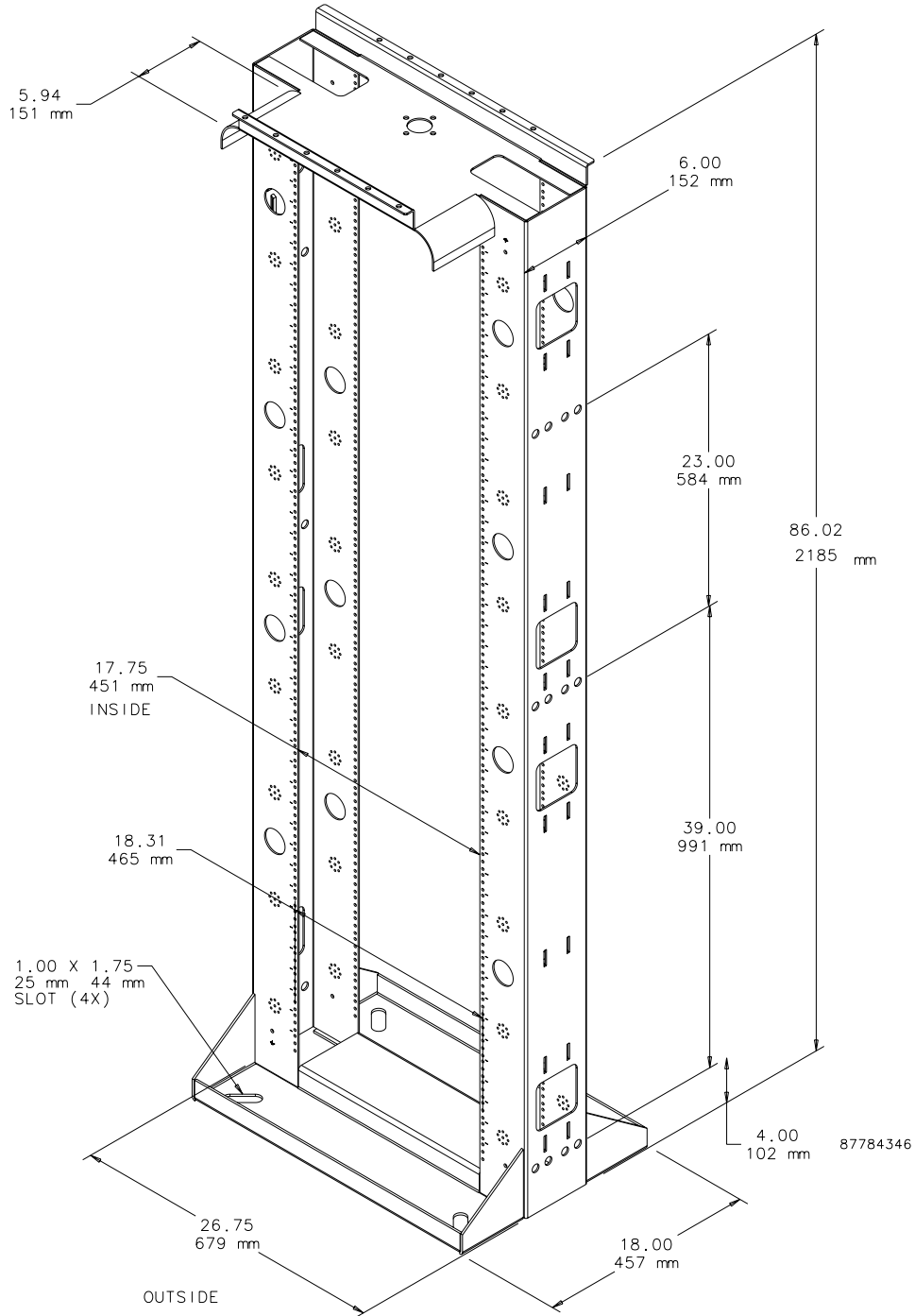
Pre-treated steel coated with RAL 9005 black textured, low-gloss polyester powder paint. Other finishes available; contact HOFFMAN Customer Service.

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.

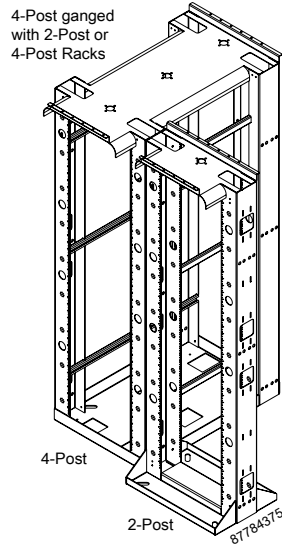
BULLETIN: DOFRS

Seismic Racks



Seismic Racks

SEISMIC 4-POST OPEN-FRAME RACK



7

INDUSTRY STANDARDS

UL 2416 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

EIA 310-D

OSHPD Pre-Approval OPM-0199-13

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 network, server, 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)

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

- 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

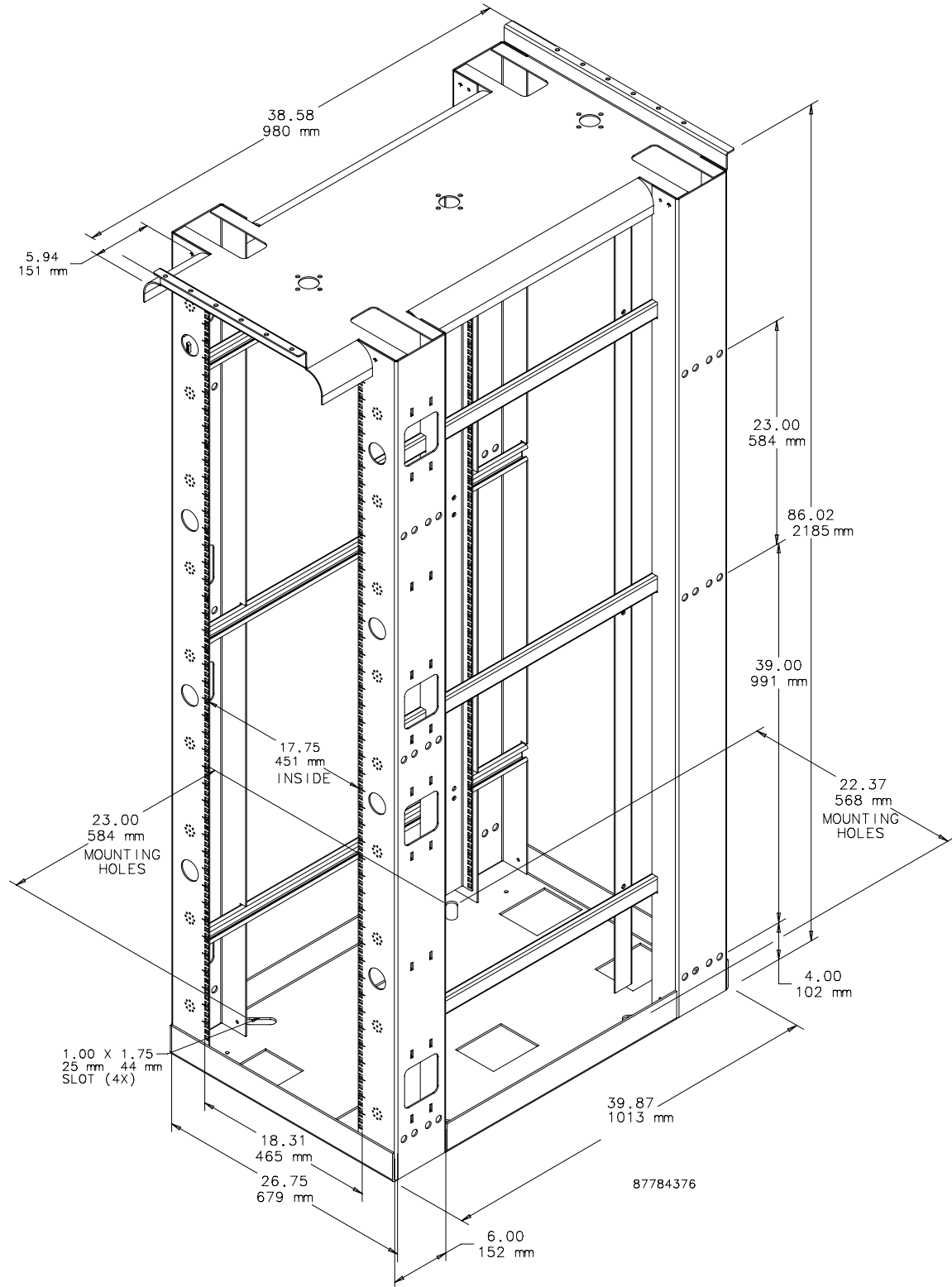
Pre-treated steel coated with RAL 9005 black textured, low-gloss polyester powder paint. Other finishes available; contact HOFFMAN Customer Service.

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

Seismic Racks



Seismic Cabinet

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.

EIA 310-D
OSHPD Pre-Approval OPM-0200-13
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
- Three-point locking pushbutton swing handle on front door provides easy but controlled access; two keys included
- 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

Pre-treated steel coated with RAL 9005 black textured, low-gloss polyester powder paint. Other finishes available; contact HOFFMAN Customer Service.

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

- ESBKD 3/8-in. Concrete Expansion Bolt Anchor Kit, package of four
- Most 19- and 23-in. rack accessories can be used with the seismic cabinets.

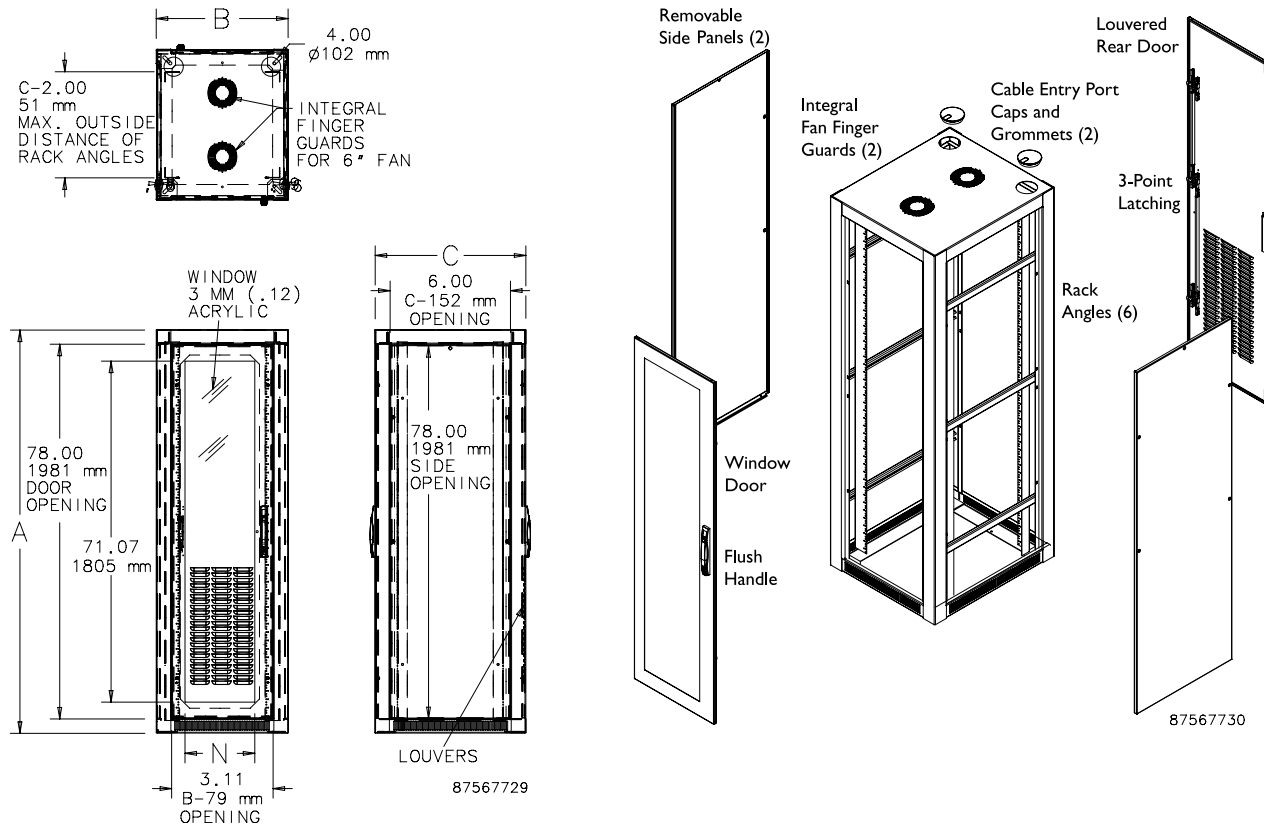
BULLETIN: DNCS

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	84.00 x 27.57 x 39.37	2134 x 700 x 1000	19-in. cabinet	45	16.40	417	Square	--
ENC21712S	84.00 x 27.57 x 47.24	2134 x 700 x 1200	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

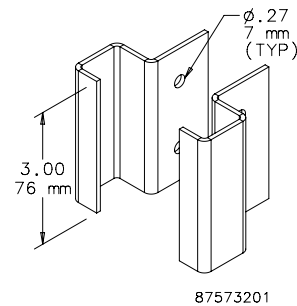


SEISMIC CABINET JOINING KIT

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

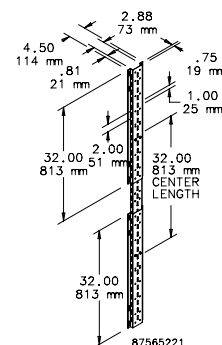


VERTICAL CABLE MANAGER 2

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 Cabinet

SEISMIC FREE-STANDING, DUAL-ACCESS CABINET, TYPE 12



INDUSTRY STANDARDS

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

NEMA/EEMAC Type 12
E.I.A. RS310-D
CSA, File No. 42186, Type 12
IEC 60529, IP55
OSPHD Pre Approved OPM-0248-13, OPM-0247-13
NEBS-Telecordia GR-63-CORE Zone 4: Tested with 1000 lb. of equipment installed
Meets California Building Code (CBC) requirements

APPLICATION

Ideal where front or front and rear access is required. These Type 12 enclosures have sturdy unibody construction with 19-in. rack angles to support equipment. These enclosures are ideal for housing and protecting networking and communications from dust, liquid, and seismic events. Front rack angles on 36-in. wide models include integral, vertical cable management that supports networking (copper and fiber) and power cables.

SPECIFICATIONS

- 12 gauge steel construction
- Seams continuously welded and ground smooth; no holes or knockouts
- Lifting eyes for easy handling
- Welded front-to-rear mounting struts, 3 on each side
- Vault style 3-point latches operated by oil-tight, key-locking handle
- Concealed and removable hinges
- Seismic bottom mounting plates (qty. 4) made of painted plate steel for 5/8-in. diameter anchors
- Data pockets are high-impact thermoplastic
- Internal mounting channels welded horizontally to sides at top, bottom and center
- 2 sets of EIA 310 specified square-hole (.375 x .375) rack angles that are infinitely adjustable front to rear
- Rear set of integral 19-in. rack angles and reducing bracket, fully adjustable front to rear
- On 36-in. wide models, front rack angles are provided which include integral, vertical, RU-aligned fingers for supporting networking (copper and fiber) power cables
- Oil-resistant door gasket
- Bonding provision on door
- Provision for mounting enclosure light kits

FINISH

Polyester powder paint

ACCESSORIES

See also Accessories
19-in. Rack-Mounted Shelves
Seismic Expansion anchor kits
Bonding and Grounding Kits
Full and partial Panels (Painted and Plated)
PDUs: 19-in. Rack- and Vertical-Mounted
Electric Heater
Door Stop Kit
Cooling Products (Air Conditioners, Heaters, Fan kits)
Enclosure Light Kits

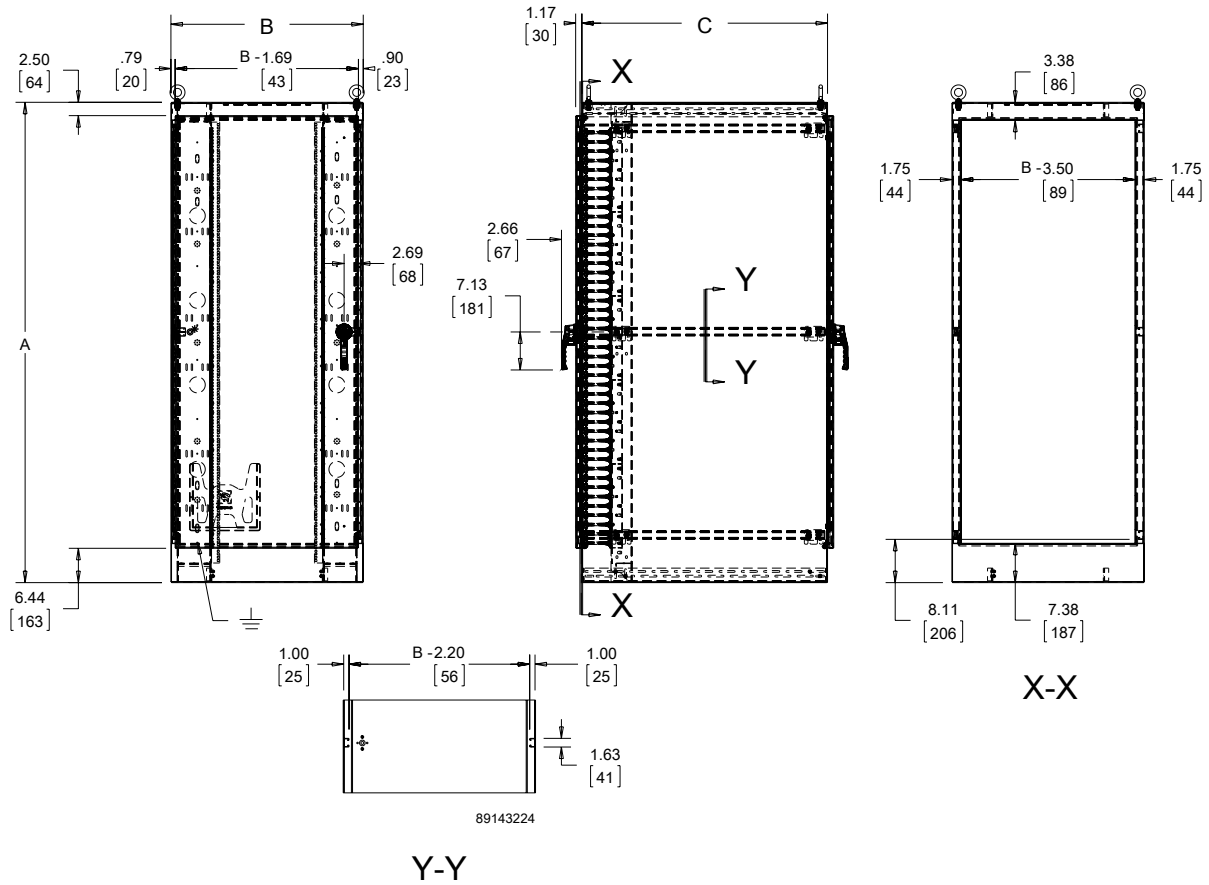
NOTES

Contact your local sales representative for product sizes and quotes.

MODIFICATION AND CUSTOMIZATION

HOFFMAN excels at modifying and customizing products to your specifications. Contact your local HOFFMAN sales office or distributor for complete information.

Seismic Cabinet



Seismic Cabinet

SEISMIC FREE-STANDING, DUAL-ACCESS CABINET, TYPE 3R, 4, 4X, 12



7

INDUSTRY STANDARDS

UL 508A Listed; Type 3R, 4, 4X, 12; File No. E61997
cUL Listed per CSA C22.2 No. 94; Type 3R, 4, 4X, 12; File No. E61997

NEMA/EEMAC Type 3R, 4, 4X, 12
E.I.A. RS310-D
CSA, File No. 42186, Type
IEC 60529, IP66
OSPHD Approved OPM-0248-13, add: OPM-0247-13
NEBS-Telecordia GR-63-CORE Zone 4: Tested with 1000 lb. of equipment installed
Meets California Building Code (CBC) requirements

APPLICATION

Ideal where front or front and rear access is required. These Type 3R, 4, 4X, and 12 stainless steel enclosures have sturdy unibody construction and include 19-in. rack angles to support equipment. These enclosures are ideal for housing and protecting networking and communications equipment from corrosion, liquid, and seismic events. Front rack angles on 36-in. wide models include integral, vertical cable management that supports networking (copper and fiber) and power cables.

SPECIFICATIONS

- 12 gauge steel construction
- Seams continuously welded and ground smooth; no holes or knockouts
- Lifting eyes for easy handling
- Welded front-to-rear mounting struts, 3 on each side
- Vault style 3-point latches operated by oil-tight, key-locking handle
- Concealed, removable hinges
- Seismic bottom-mounting plates (qty. 4) made of painted plate steel for 5/8-in. diameter anchors
- Data pockets are high-impact thermoplastic
- Internal mounting channels welded horizontally to sides at top, bottom and center
- 2 sets of EIA 310 specified square-hole (.375 x .375) rack angles that are infinitely adjustable front to rear
- Rear set of integral 19-in. rack angles and reducing bracket, fully adjustable front to rear
- On 36-in. wide models, front rack angles are provided which include integral, vertical, RU-aligned fingers for supporting networking (copper and fiber) power cables
- Oil-resistant door gasket
- Bonding provision on door
- Provision for mounting enclosure light kits

FINISH

Enclosures are unpainted. Covers, sides, top and bottom have smooth #3 brushed finish.

ACCESSORIES

See also Accessories
19-in. Rack Mounted Shelves
Seismic Expansion anchor kits
Bonding and Grounding Kits
Full and Partial Panels (Painted and Plated)
PDUs: 19-in. Rack- and Vertical-Mounted
Electric Heater
Door Stop Kit
Cooling Products (Air Conditioners, Heaters, Fan kits)
Enclosure Light Kits

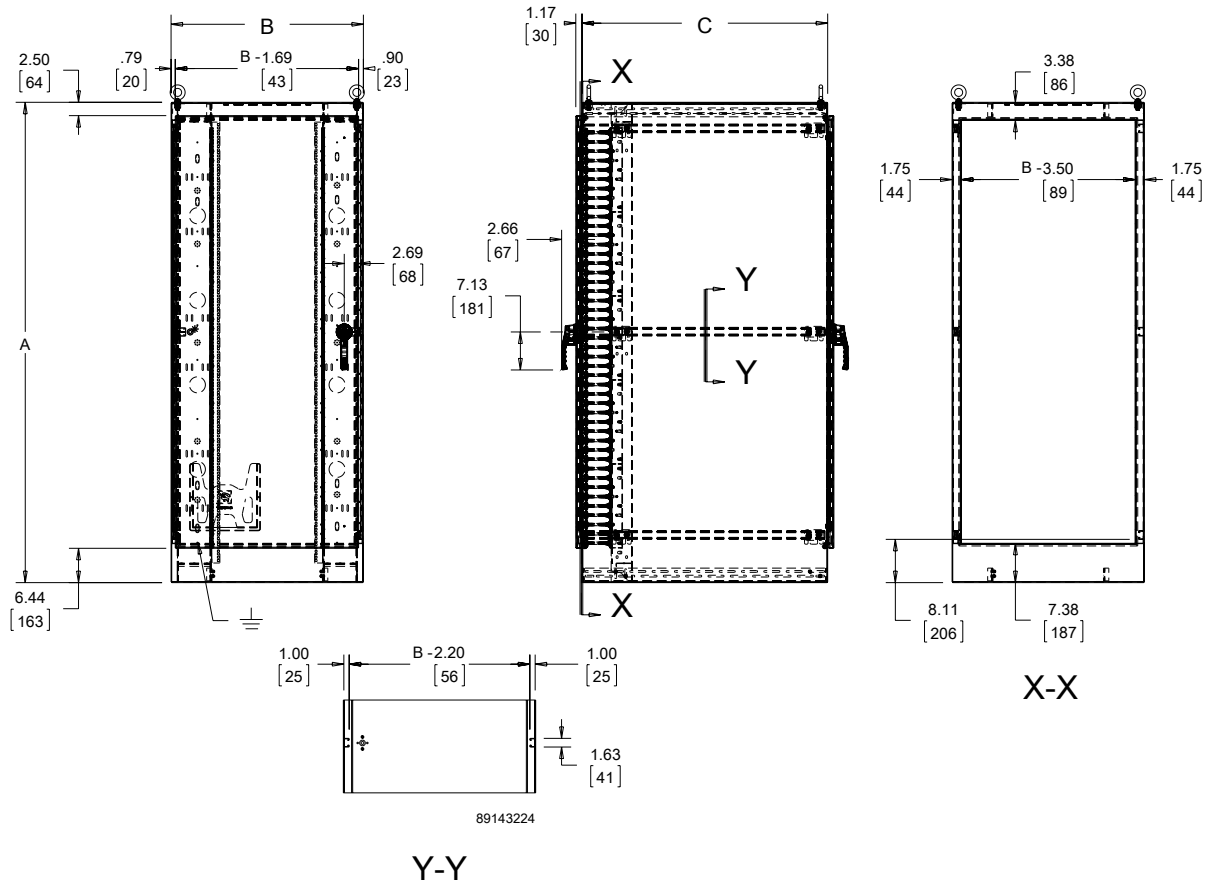
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MODIFICATION AND CUSTOMIZATION

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Seismic Cabinet



Seismic Accessories

SEISMIC ACCESSORIES



To meet GR-63-CORE Zone 4 seismic standards, Free-Stand enclosures must include the following accessories (purchased separately):

For Seismic Free-Stand with Panel

- Seismic Mounting Plate Kit
- Seismic Panel Mounting Kit
- Panel, Full-Length

For Seismic Free-Stand with Rack Angles

- Seismic Mounting Plate Kit
- Rack Mounting Angles - L-Style (Type RP), Full

SEISMIC MOUNTING PLATE KITS



Kit of four (4) stainless steel mounting plates install in the corners at the base of the enclosure. The mounting plates come pre-drilled to accept 1/2-in., 5/8-in. or 3/4-in. diameter mounting hardware (not included).

BULLETIN: DCY

STANDARD PRODUCT

Catalog Number	Description	Anchor Size
ASMP12SS	Seismic Mounting Plate, 1/2-in.	1/2 in.
ASMP58SS	Seismic Mounting Plate, 5/8-in.	5/8 in.
ASMP34SS	Seismic Mounting Plate, 3/4-in.	3/4 in.

SEISMIC PANEL MOUNTING KITS



Kit of two(2) panel supports install within the enclosure. Use mounting hardware furnished within these kits along with panel hardware to mount full panels.

BULLETIN: DCY

STANDARD PRODUCT

Catalog Number	Description	Fits Enclosure A in./mm
ASPANKIT60	Seismic Panel Mounting Kit, 60-in.	60 1524
ASPANKIT72	Seismic Panel Mounting Kit, 72-in.	72 1829
ASPANKIT90	Seismic Panel Mounting Kit, 90-in.	90 2286

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.

Seismic Accessories

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

PANELS



Full panels mount within the enclosure using seismic panel mounting kits. Panels are 12 gauge steel and are finished with white polyester power paint or a conductive, corrosion resistant coating.

BULLETIN: PNL30, PNLFS

STANDARD PRODUCT

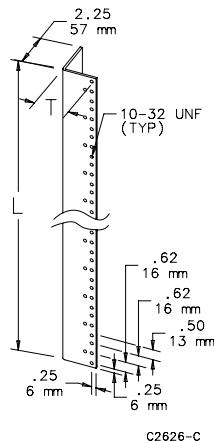
Catalog Number	Description	Panel Size in./mm	Fits Enclosure A x B in./mm
A60P24F1	Steel	48.00 x 20.00 1219 x 508	60.00 x 24.00 1524 x 610
A60P24F1G	Conductive	48.00 x 20.00 1219 x 508	60.00 x 24.00 1524 x 610
A72P24F1	Steel	60.00 x 20.00 1524 x 508	72.00 x 24.00 1829 x 610
A72P24F1G	Conductive	60.00 x 20.00 1524 x 508	72.00 x 24.00 1829 x 610
A90P24F1	Steel	82.00 x 20.00 1981 x 508	90.00 x 24.00 2286 x 610
A90P24F1G	Conductive	82.00 x 20.00 1981 x 508	90.00 x 24.00 2286 x 610
A72P30F1	Steel	60.00 x 26.00 1524 x 660	72.00 x 36.00 1829 x 914
A72P30F1G	Conductive	60.00 x 26.00 1524 x 660	72.00 x 36.00 1829 x 914
A60P36F1	Steel	48.00 x 32.00 1219 x 813	60.00 x 36.00 1524 x 914
A60P36F1G	Conductive	48.00 x 32.00 1219 x 813	60.00 x 36.00 1524 x 914
A72P36F1	Steel	60.00 x 32.00 1524 x 813	72.00 x 36.00 1829 x 914
A72P36F1G	Conductive	60.00 x 32.00 1524 x 813	72.00 x 36.00 1829 x 914
A90P36F1	Steel	78.00 x 32.00 1981 x 813	90.00 x 36.00 2286 x 914
A90P36F1G	Conductive	78.00 x 32.00 1981 x 813	90.00 x 36.00 2286 x 914

RACK MOUNTING ANGLES - L-STYLE (TYPE RP)



Pairs of full-length rack mounting angles are available for mounting 19-in. and 24-in. rack-mounted equipment. Type RP rack mounting angles are 10 gauge steel with mounting holes tapped #10-32 thread and spaced per EIA standard RS-310-D universal spacing. Angles and mounting hardware are plated. All mounting hardware is furnished.

BULLETIN: A80



Catalog Number	Fits Enclosure A x B in./mm	For Rack Size in./mm	K in./mm	L in./mm	M in./mm	T in./mm	Number of Units
A60RP24F5	60.00 x 24.00 1524 x 610	19.00 483	3.78 96	49.00 1245	7.78 198	1.94 49	28
A72RP24F5	72.00 x 24.00 1829 x 610	19.00 483	3.66 93	61.25 1556	7.66 195	1.94 49	35
A72RP30F5	72.00 x 30.00 1829 x 762	24.00 610	3.66 93	61.25 1556	7.66 195	2.44 62	35
A90RP24F5	90.00 x 24.00 2286 x 610	19.00 483	3.91 99	78.75 2000	7.91 201	1.94 49	45

One unit equals 1.75 inches (44 mm).

Seismic Accessories

TYPE 12 MILD STEEL SEISMIC ACCESSORIES SELECTION GUIDE

(For single-door enclosures only)

Catalog No.	Description	Anchor Size	Single-Door, Single Access Enclosures										Single-Door, Dual Access Enclosures											
			A602418SSFS	A722418SSFS	A723018SSFS	A723618SSFS	A902420SSFS	A903620SSFS	A603624SSFS	A722424SSFS	A723024SSFS	A723624SSFS	A903624SSFS	A723630SSFS	A723636SSFS	A903636SSFS	A722424SSFSDA	A723024SSFSDA	A723624SSFSDA	A903624SSFSDA	A722430SSFSDA	A722426SSFSDA	A723636SSFSDA	A903636SSFSDA
ASMP12SS	Seismic Mounting Plate, SS, 1/2 in.	1/2 in.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ASMP58SS	Seismic Mounting Plate, SS, 5/8 in.	5/8 in.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ASMP34SS	Seismic Mounting Plate, SS, 3/4 in.	3/4 in.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

SEISMIC MOUNTING PLATE KITS

Catalog No.	Description	Fits Enclosure A in. (mm)																																											
ASPANKIT60	Seismic Panel Mounting Kit, 60 in.	60.00 (1524)	.																					.																					
ASPANKIT72	Seismic Panel Mounting Kit, 72 in.	72.00 (1829)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ASPANKIT90	Seismic Panel Mounting Kit, 90 in.	90.00 (2286)																													

PANELS, FULL

Catalog Number	Steel	Conductive	Panel Size in. (mm)	Fits Enclosure A x B in. (mm)																																											
A60P24F1	A60P24F1G		48.00 x 20.00 (1219 x 508)	60.00 x 24.00 (1524 x 610)	.																																										
A72P24F1	A72P24F1G		60.00 x 20.00 (1524 x 508)	72.00 x 24.00 (1829 x 610)																							
A90P24F1	A90P24F1G		78.00 x 20.00 (1981 x 508)	90.00 x 24.00 (2286 x 610)																													
A72P30F1	A72P30F1G		60.00 x 26.00 (1524 x 660)	72.00 x 30.00 (1829 x 762)	.																					.																					
A60P36F1	A60P36F1G		48.00 x 32.00 (1219 x 813)	60.00 x 36.00 (1524 x 914)					.											.	.																										
A72P36F1	A72P36F1G		60.00 x 32.00 (1524 x 813)	72.00 x 36.00 (1829 x 914)																							
A90P36F1	A90P36F1G		78.00 x 32.00 (1981 x 813)	90.00 x 36.00 (2286 x 914)																											

RACK MOUNTING ANGLES, L-STYLE (TYPE RP), FULL LENGTH

Catalog No.	Fits Enclosure A x B in. (mm)	For Rack Size in. (mm)																							
A60RP24F5	60.00 x 24.00 (1524 x 610)	19.00 (483)	.																						
A72RP24F5	72.00 x 24.00 (1829 x 610)	19.00 (483)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
A72RP30F5	72.00 x 30.00 (1829 x 762)	24.00 (610)	.											.	.										
A90RP24F5	90.00 x 24.00 (2286 x 610)	19.00 (483)									



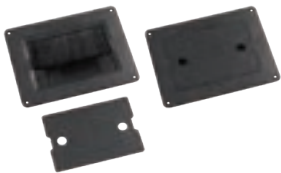


HOFFMAN

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

COOLING

FLOOR BRUSH KITS

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FAN TRAY

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COMPACT COOLING FANS AND ACCESSORIES

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- Fan Filter and Finger Guard Kit 213
- Finger Guards..... 213
- Fan Brackets 213
- Temperature Control Switches..... 214

COOLING FAN AND EXHAUST PACKAGES WITH ACCESSORIES

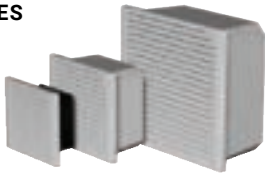
- TFP Side-Mount 215
- TFP Optional Grilles and Replacement Filters 218
- TFP EMC Upgrade Kit 218

FAN SHROUD KIT

- Fan Shroud Kit, Type 3R 219

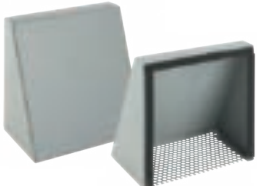
COOLING FAN AND EXHAUST PACKAGES

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.



Floor Brush Kits

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

APPLICATION

These Floor Brush Kits provide convenient, safe passage of cables from under a raised floor application into a cabinet or rack. The overlapping brushes conform around the cables and block the flow of cold air. This improves equipment and energy efficiency, reducing 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

CABLE AREA AND FILL

Catalog Number	Usable Cable Area D x E (in.)	Area (in. ²)	No. Cables at 60% Fill 5e	No. Cables at 60% Fill 6	No. Cables at 60% Fill 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.

CABLE FILL FOR FLOOR BRUSH KITS

Cable Category	5e	6	6A
Diameter (in.)	.22	.25	.30
Area (in. ²)	.0380	.0491	.0707

- 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 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

BULLETIN: DACCY

Floor Brush Kits

2-PIECE FLUSH-MOUNT FLOOR BRUSH KIT WITH COVER



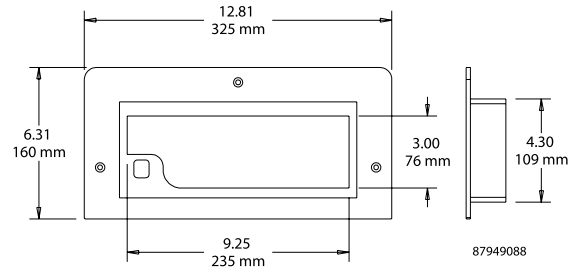
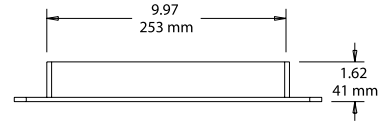
Use Flush-Mount Floor Brush Kit with removable brush and solid cover for new installations. Install two kits when large bundles of cables are needed. Removable back brush allows floor tile removal without disconnecting cables. There's no need for an oversized cutout because the removable back brush allows 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.

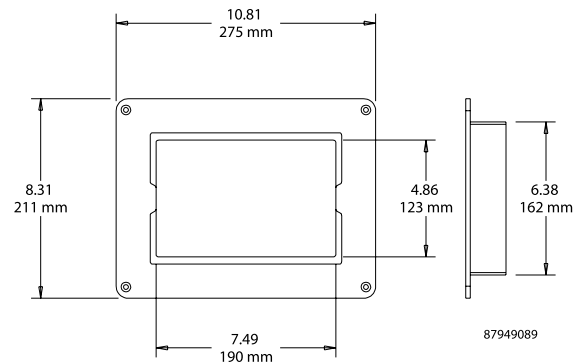
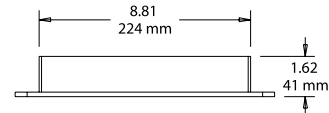
Heavy-duty, integrated safety cover allows installation of the grommet during the construction phase and eliminates the risk of injury by stepping through the grommet opening. OSHA jobsite standards require open holes in floor panels to be covered.

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	Description	Cable Egress in./mm
DFB57F	Flush-Mount Floor Brush Kit with Cover	7.49 x 4.86 190 x 123



Floor Brush Kits

2-PIECE SURFACE-MOUNT RETROFIT FLOOR BRUSH KITS

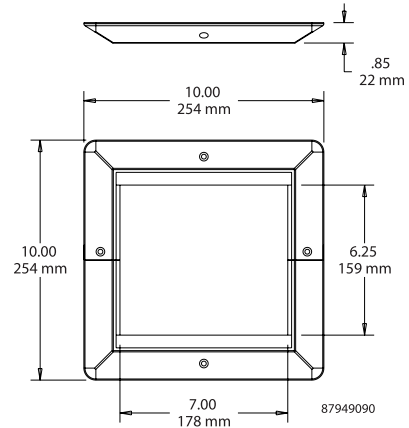


Use Surface-Mount Floor Brush Kits to cover existing floor cutouts. Two-piece assembly retrofits around existing cables without disconnecting the cables. Mounting hardware and adhesive included.

NEC, UL and NEMA require safety covers and cable protection against sharp edges.

BULLETIN: DACCY

Catalog Number	Description	Cable Egress in./mm
DFB66S	Surface-Mount Floor Brush Kit	6.50 x 6.50 165 x 165



ADJUSTABLE FLOOR BRUSH KITS

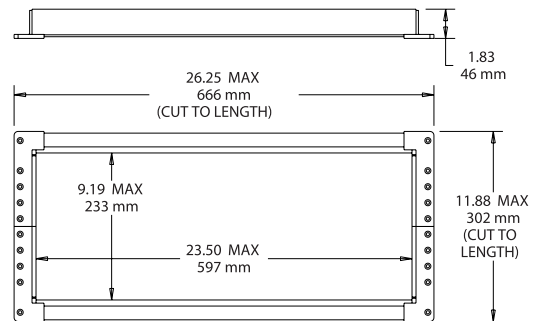


Use Floor Brush Kits to seal odd-sized cutouts. Cut-to-fit design is easy to install with factory-applied adhesive strips. Engineered side rail clips provide cable protection per NFPA 75, Section S-4.4.

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



Fan Tray

RACK-MOUNTABLE 19-IN. FAN TRAY



APPLICATION

Fan trays enhance the natural convection airflow within a cabinet when installed with other 19-in. rack-mount equipment.

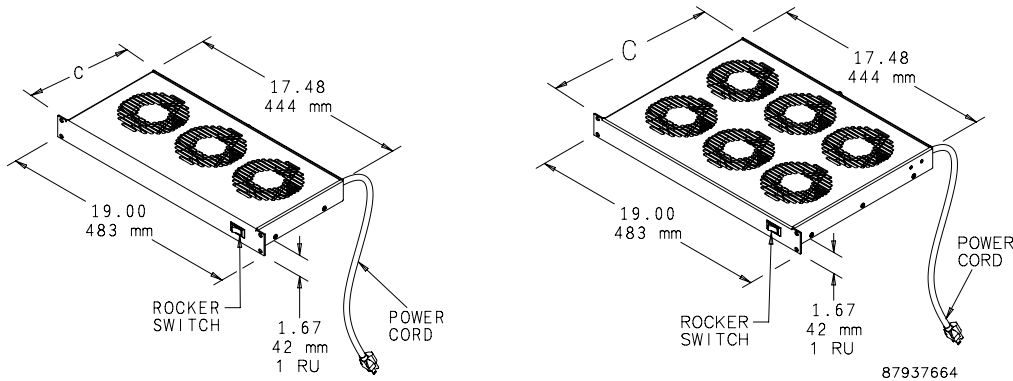
STANDARD PRODUCTS

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.



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

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)

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

- 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

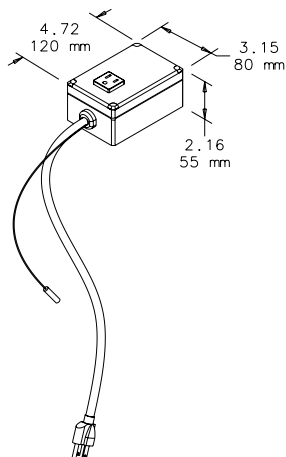
- Continuously variable fan speed control knob with minimum speed adjustment
- Uses 1 RU rack space
- Steel construction
- Two NEMA 5-15R outlets provide power to fan
- Six-foot (1.83-m) power cord plugs into standard 120 V 60 Hz outlet

FINISH

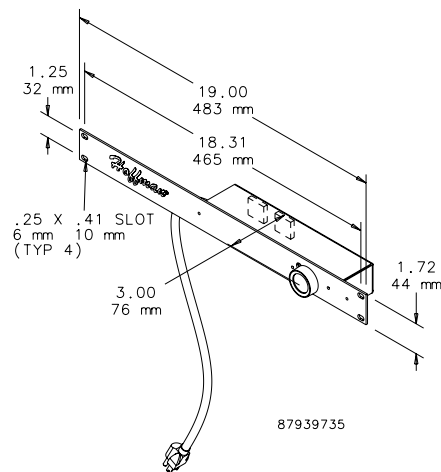
- AFANTSC: Light-gray polycarbonate control housing
- A19FANSC: RAL 9005 black polyester powder paint

BULLETIN: DTHRM

Panel Mount Fan Speed Control



19 inch Rack Mount Fan Speed Control



Compact Cooling Fans and Accessories

COMPACT AXIAL FANS



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

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

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	—	—
A4AXFNGQ	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	—	—
A6AXFNGQ	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	3.44 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

- 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

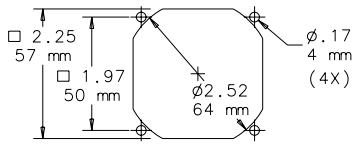
Fan housing is black.

ACCESSORIES

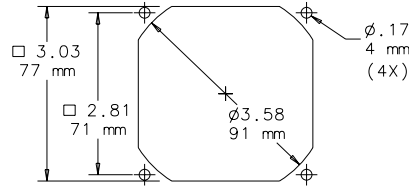
- Fan Brackets
- Finger Guards
- Temperature Control Switch

BULLETIN: D85

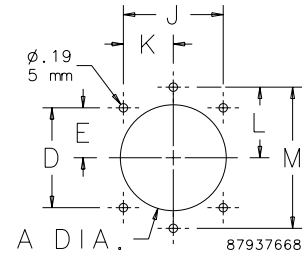
Compact Cooling Fans and Accessories



MOUNTING CUTOUT DIMENSIONS 2 INCH



MOUNTING CUTOUT DIMENSIONS 3 INCH

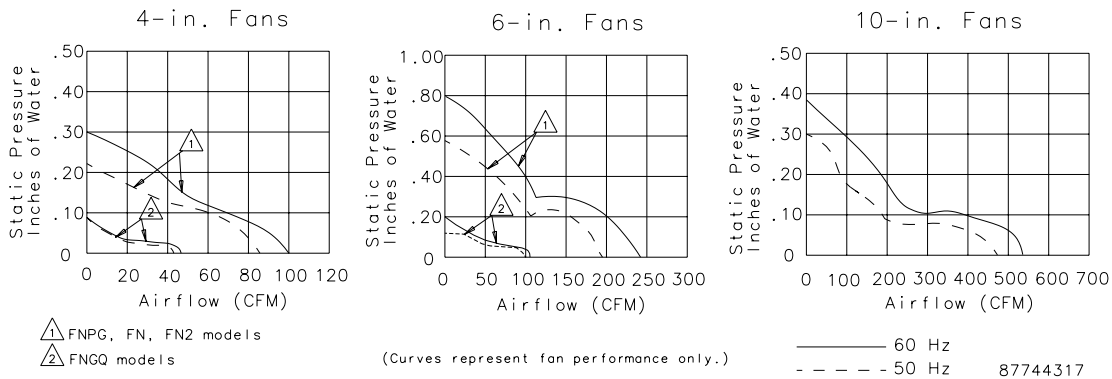


MOUNTING CUTOUT DIMENSIONS 4, 6, 10 INCH

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. ²)	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



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

Compact Cooling Fans and Accessories

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

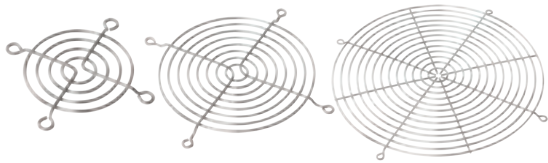


Low-density filter kit for 4-in. (102-mm) and 6-in. (152-mm) fans. Can also be used as vent. Filter is removable and can be cleaned and reused. Mounting hardware included.

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

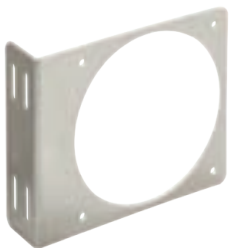


One finger guard is included with each Compact Cooling Fan and Cooling Fan Package. Additional Finger Guards can be mounted on either side of the fan for maximum safety. All guards are chrome-plated and meet UL 507 .25-in. plug gauge test.

BULLETIN: D85

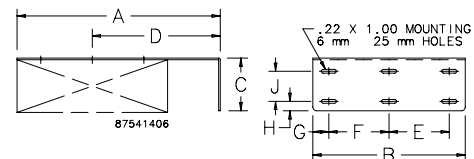
Catalog Number	Use on Compact Cooling Fan Catalog Numbers
AGARD2	A2AXFN24
AGARD3	A3AXFN, A3AXFN24
AGARD4	A4AXFNPG, A4XFNGQ, A4AXFN, A4AXFN2
AGARD6	A6AXFNPG, A6AXFNGQ, A6AXFN, A6AXFN2
AGARD10	A10AXFNPG, A10AXFNQR, A10AXFN, A10AXFN2

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

Compact Cooling Fans and Accessories

TEMPERATURE CONTROL SWITCHES



8

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.

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
	DC 30 W
Minimum load	20 mA (all voltages)

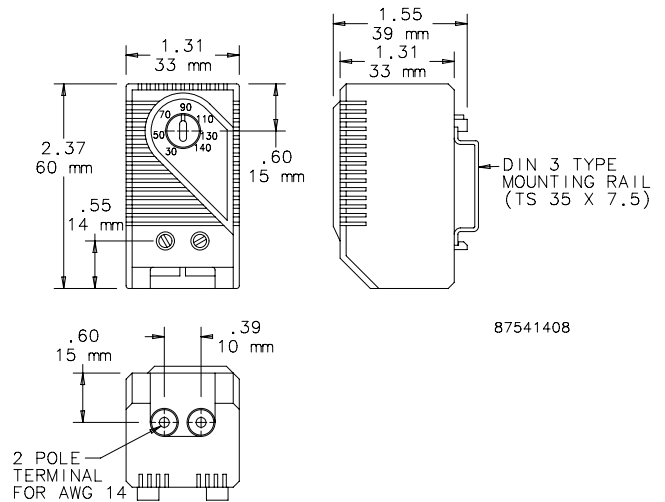
FEATURES

- 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

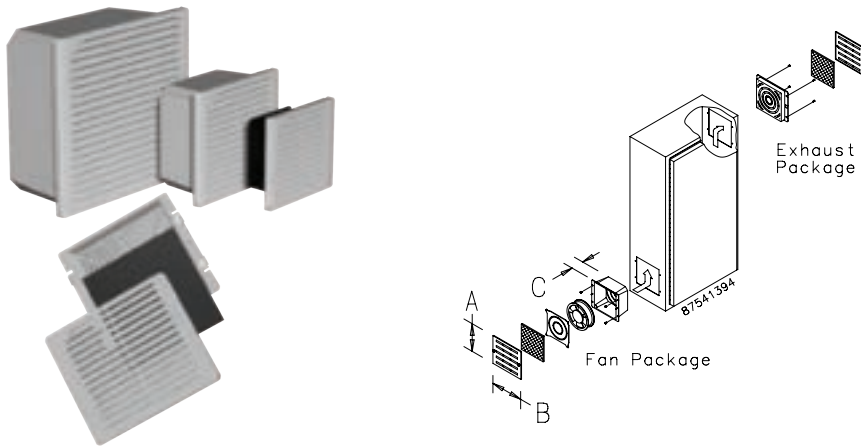
Molded plastic housing is black

BULLETIN: D85



Cooling Fan and Exhaust Packages with Accessories

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

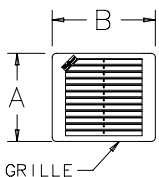
Cooling Fan and Exhaust Packages with Accessories

STANDARD PRODUCT AND CUTOUT DIMENSIONS COOLING FAN AND EXHAUST PACKAGES

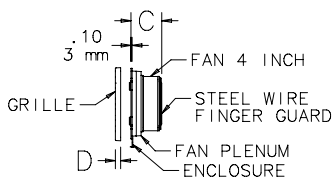
Catalog Number	AxBxC in./mm	Material and Type	Use with Exhaust Grille	Nominal Fan Size	D in./mm	F in./mm	H in./mm	T in./mm	W in./mm
TFP424	6.29 x 7.37 x 2.35 160 x 187 x 67	Composite Grille UL 508 Type 1	TEP4	4	0.45 11	5.66 144	0.77 20	4.12 105	6.39 162
TFP41	6.29 x 7.37 x 2.65 160 x 187 x 67	Composite 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.

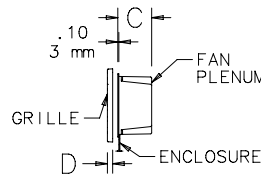
Fan and Exhaust Grille



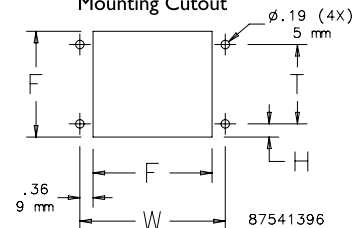
4" Fan (Fan Mounted to Back of Plenum)



6" and 10" Fan (Box Style Plenum)



Fan and Exhaust Package Mounting Cutout



Cooling Fan and Exhaust Packages with Accessories

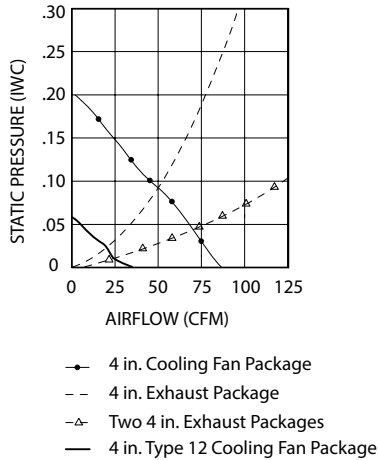
TECHNICAL PERFORMANCE DATA FOR COOLING FAN PACKAGES

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	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	158	70	65	4.2	1.90
TFP41	TFP41SS	46/55	TFP41UL12	21/25	17/15	115 VAC	158	70	37/41	4.2	1.90
TFP42	TFP42SS	46/55	TFP42UL12	21/25	16/14	230 VAC	158	70	37/41	4.3	1.95
TFP624	—	140	—	—	21.1	24 VDC	158	70	62.5	5.3	2.40
TFP61	TFP61SS	117/140	TFP61UL12	50/60	36/32	115 VAC	158	70	50/56	5.3	2.40
TFP62	TFP62SS	117/140	TFP62UL12	50/60	39/35	230 VAC	158	70	50/56	5.4	2.45
TFP101	TFP101SS	180/215	TFP101UL12	63/75	64/80	115 VAC	167	75	54/61	12.0	2.45
TFP102	TFP102SS	180/215	TFP102UL12	63/75	64/80	230 VAC	167	75	54/61	11.4	5.17

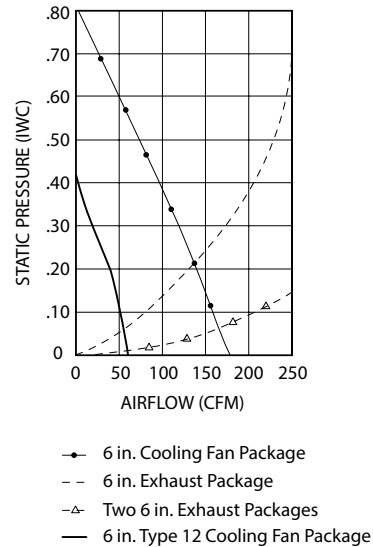
CFM with single exhaust grille installed.

Performance Curves for TFP Filter Fans

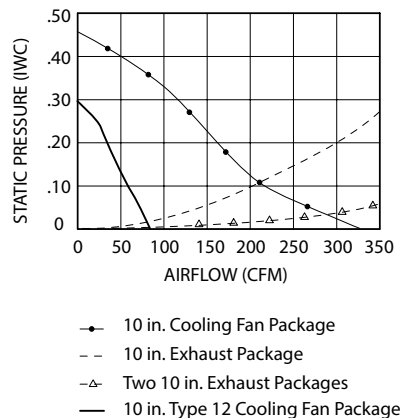
Performance Curve for a 4 inch Cooling Fan Package @ 60 Hz



Performance Curve for a 6 inch Cooling Fan Package @ 60 Hz

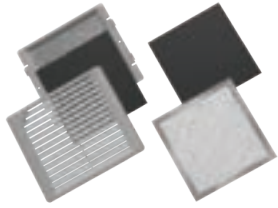


Performance Curve for a 10 inch Cooling Fan Package @ 60 Hz



Cooling Fan and Exhaust Packages with Accessories

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	60 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)a	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.

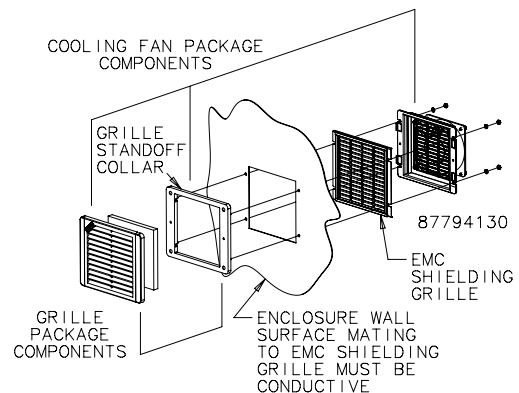
TFP EMC UPGRADE KIT

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.

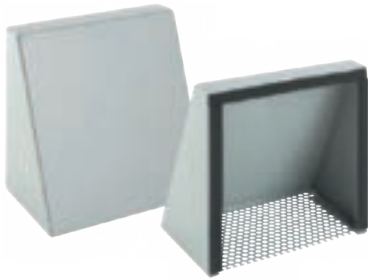
BULLETIN: D85

Catalog Number	Fits Cooling Fan Package	Fits Exhaust Grille
T4EMC	TFP41/TFP42	TEP4
T6EMC	TFP61/TFP62	TEP6
T10EMC	TFP101/TFP102	TEP10



Fan Shroud Kit

FAN SHROUD KIT, TYPE 3R



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.

FEATURES

- Two fan shrouds per package
- Perforated ventilation screen
- Pressure-sensitive adhesive-backed gasket and mounting hardware

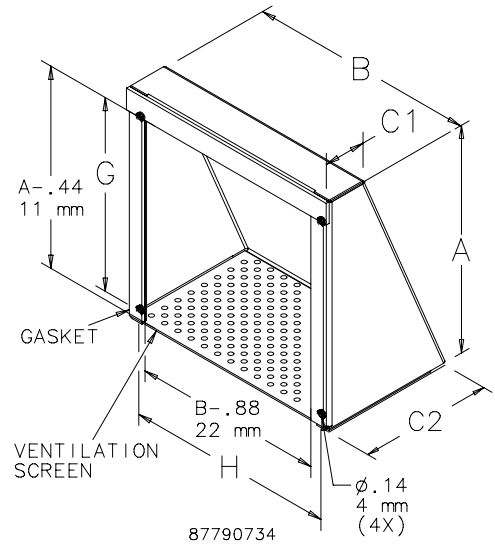
SPECIFICATIONS

- 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



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.





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Clip Nut Package.....	225
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Pole-Mount Kit.....	225

COMLINE OSP WALL-MOUNT CABINET PACKAGE AND ACCESSORIES

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COMLINE OSP VERTICAL MOUNT CABINET PACKAGE AND ACCESSORIES

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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.



ComLine Wall-Mount Enclosures and Accessories

COMLINE, TYPE 4X



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

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 light textured low gloss polyester powder paint over pre-treated surfaces. Custom finishes available; please contact your local HOFFMAN sales office.

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

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

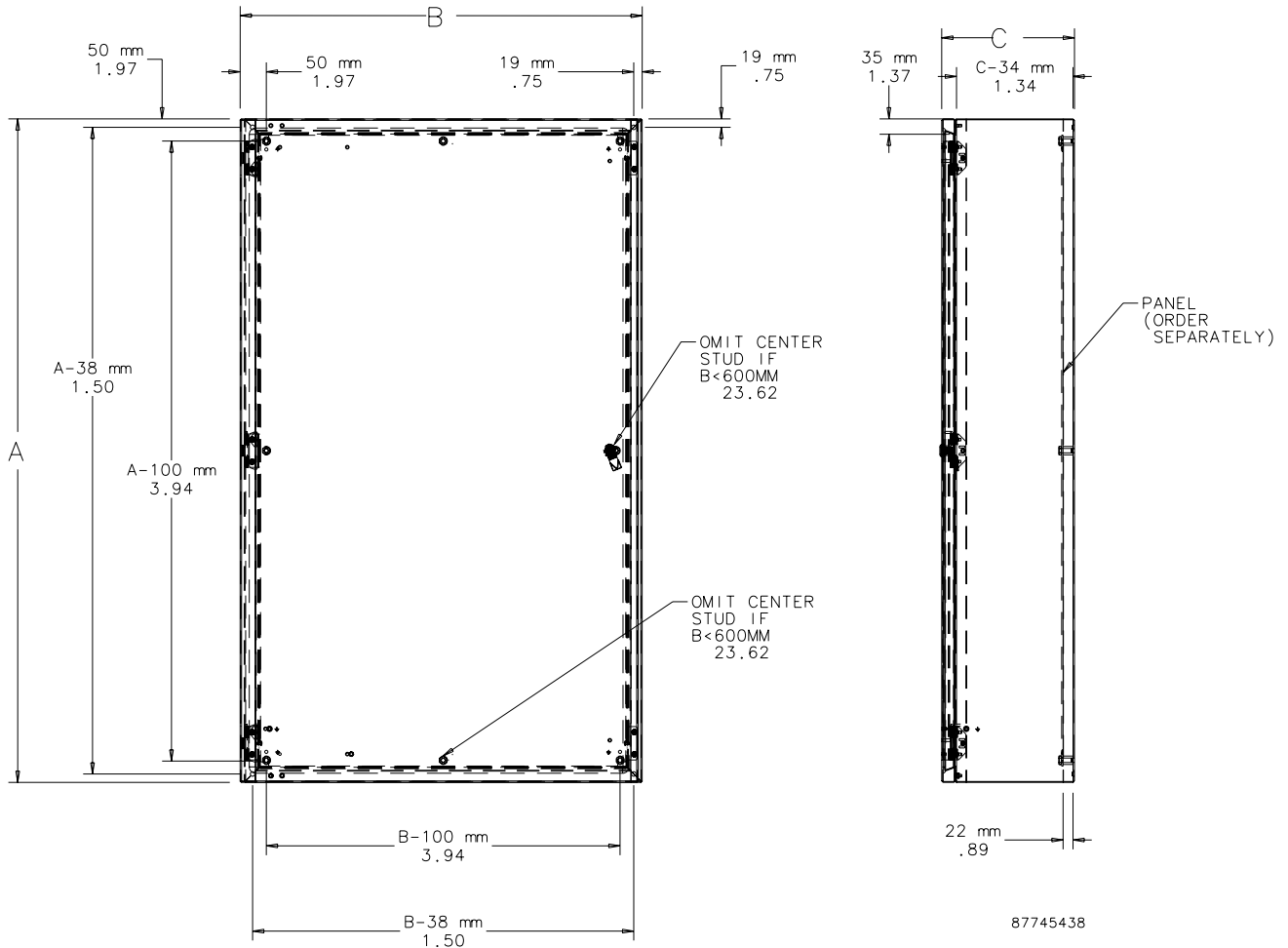
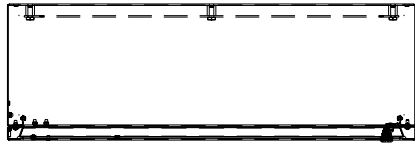
ECL1209030, ECL1209030CH, ECL1509030 and ECL1509030CH include vertical door stiffener. Additional door stop required to meet NEBS-Telcordia 487 door restrainer requirements.

All the above enclosures must have mounting feet installed to meet UL Type 3, UL Type 4 and UL Type 4X ratings.

ComLine Wall-Mount Enclosures and Accessories

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



ComLine Wall-Mount Enclosures and Accessories

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

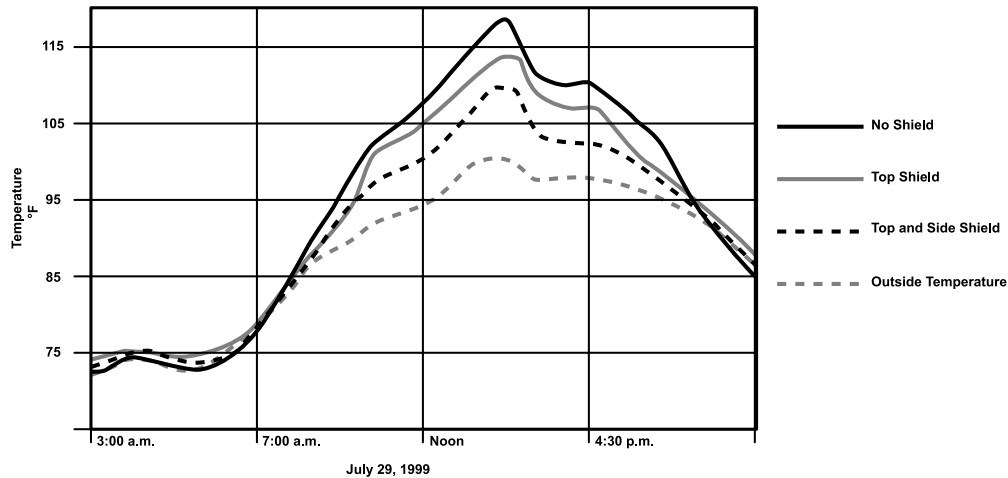
Catalog Number	Fits B x C
ESSH3015	300 x 150
ESSH4015	400 x 150
ESSH4020	400 x 200
ESSH5020	500 x 200
ESSH6020	600 x 200
ESSH6030	600 x 300
ESSH9030	900 x 300

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

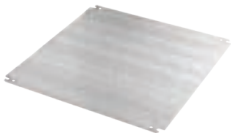
Air Temperature = 100.2 F

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

ComLine Wall-Mount Enclosures and Accessories

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



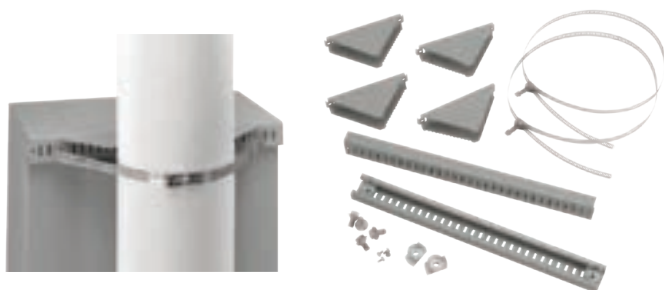
Screws attach rack panels and rack-mounted equipment to rack-mounting angles.

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



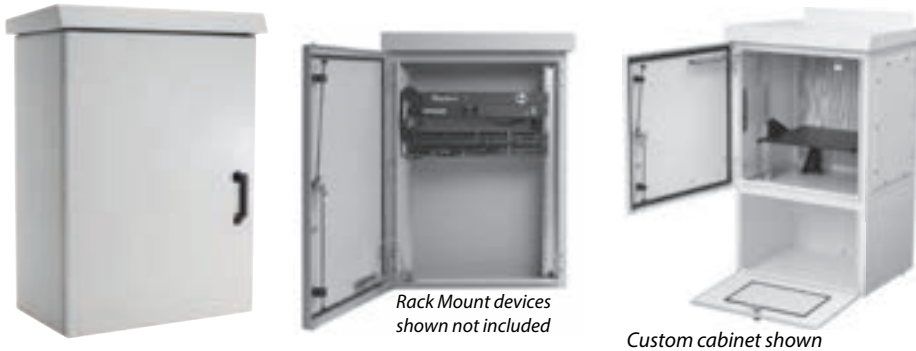
Use to mount Concept, Networking and wall-mount enclosures to poles of various sizes and shapes. Simply attach the plated steel channel bar to the mounting holes at the back of the enclosure and wrap the stainless steel strap around the pole and through the bar. Kit includes two mounting channels, two 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 Wall-Mount Cabinet Package and Accessories

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

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

- 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.

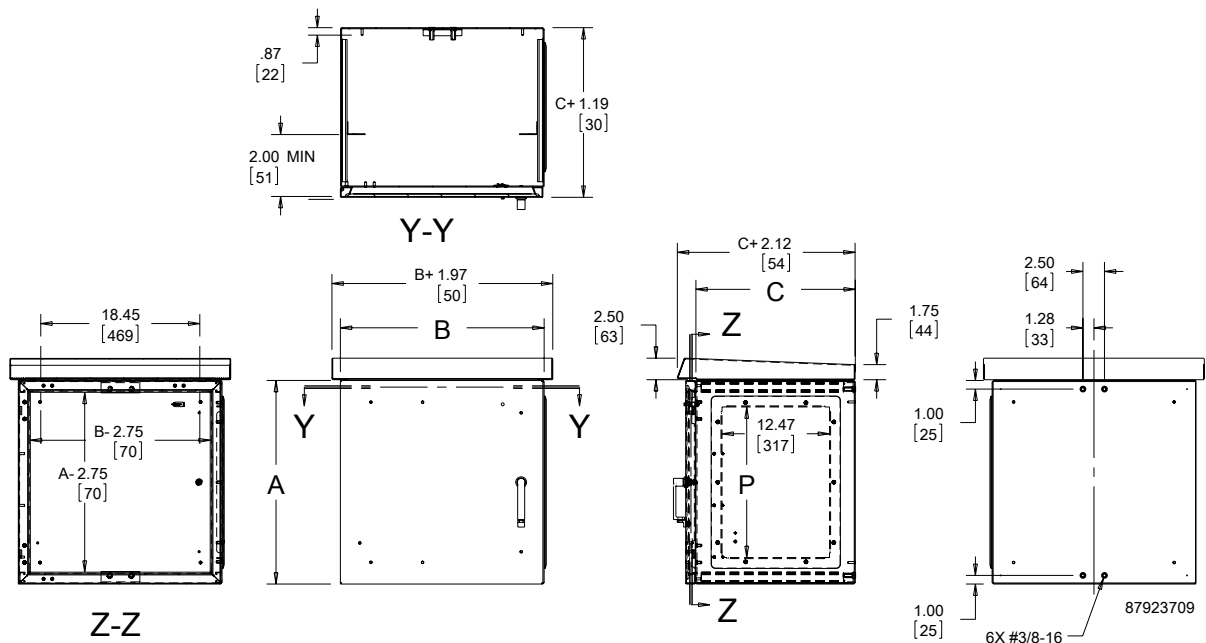
BULLETIN: DCOM

ComLine OSP Wall-Mount Cabinet Package and Accessories

ACCESSORY COMPATIBILITY

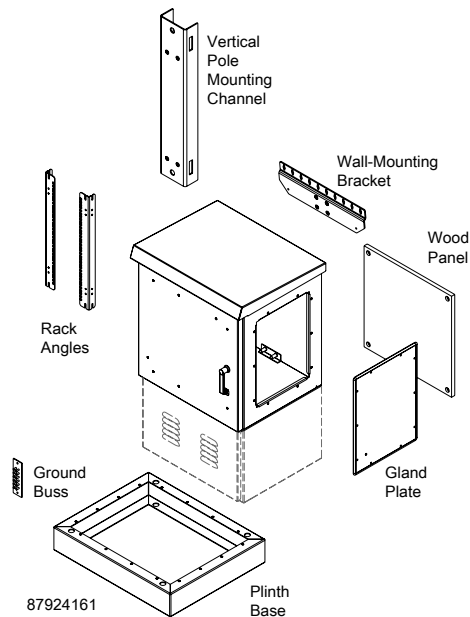
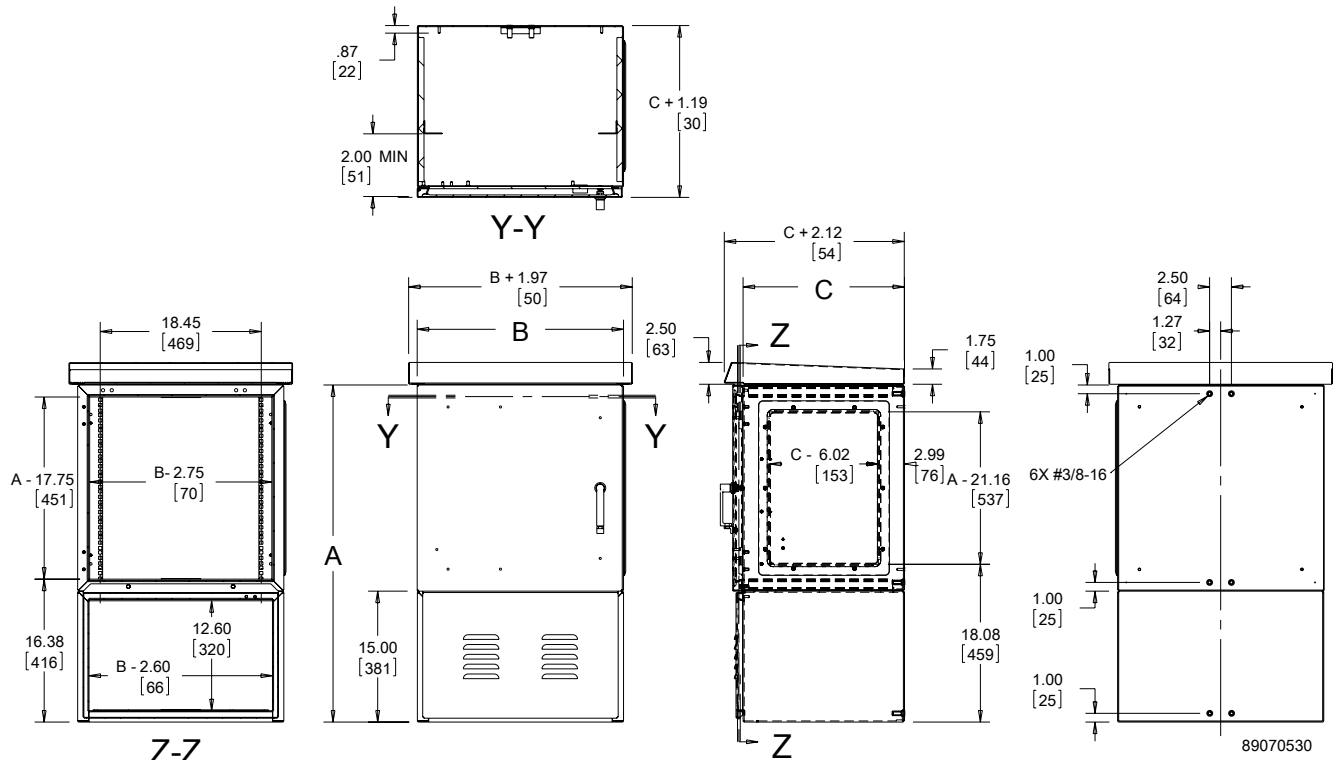
Catalog Numbers	ECL606050P/B	ECL906050P/B	ECL907060P/B	ECL1207060P/B
GLAND PLATES				
EGPS1	•			
EGPS2		•	•	•
EGPACT15	•			
EGPACT20		•	•	•
EGPACCR15		•	•	•
EGPHX20		•	•	•
EGPHX29		•	•	•
POLE MOUNT CHANNELS				
EPMC6	•			
EPMC9		•	•	
EPMC12				•
PLINTH BASE				
EPL7060			•	•
WOOD PANELS				
E60P60W	•			
E90P60W		•		
E90P7W			•	
E120P70W				•
RACK ANGLES				
ERA196S	•			
ERA199S		•		
ERA19239S			•	
ERA192312S				•

ComLine OSP Package Without Battery Compartment



ComLine OSP Wall-Mount Cabinet Package and Accessories

ComLine OSP Package With Battery Compartment



ComLine OSP Wall-Mount Cabinet Package and Accessories

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 two rack angles.

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	Height x Width	Use with Cabinet (Height x Width)
E60P60W	524 x 524	600 x 600
E90P60W	824 x 524	900 x 600
E90P70W	824 x 624	900 x 700
E120P70W	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	Description	Use with Cabinet (Width x Depth)
EPL7060	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

ComLine OSP Wall-Mount Cabinet Package and Accessories

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 OSP Vertical Mount Cabinet Package and Accessories

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

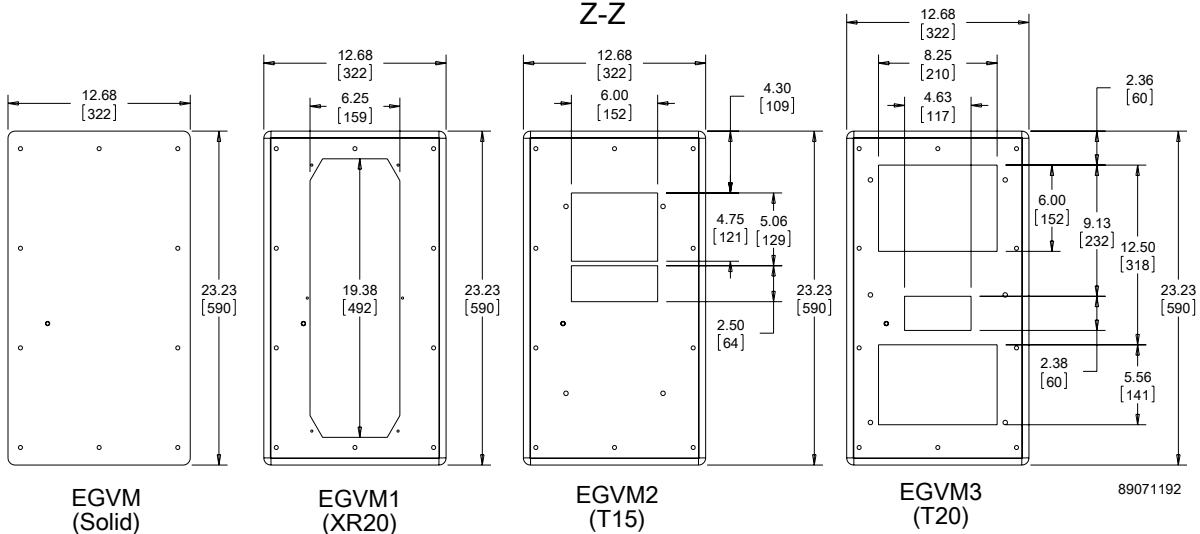
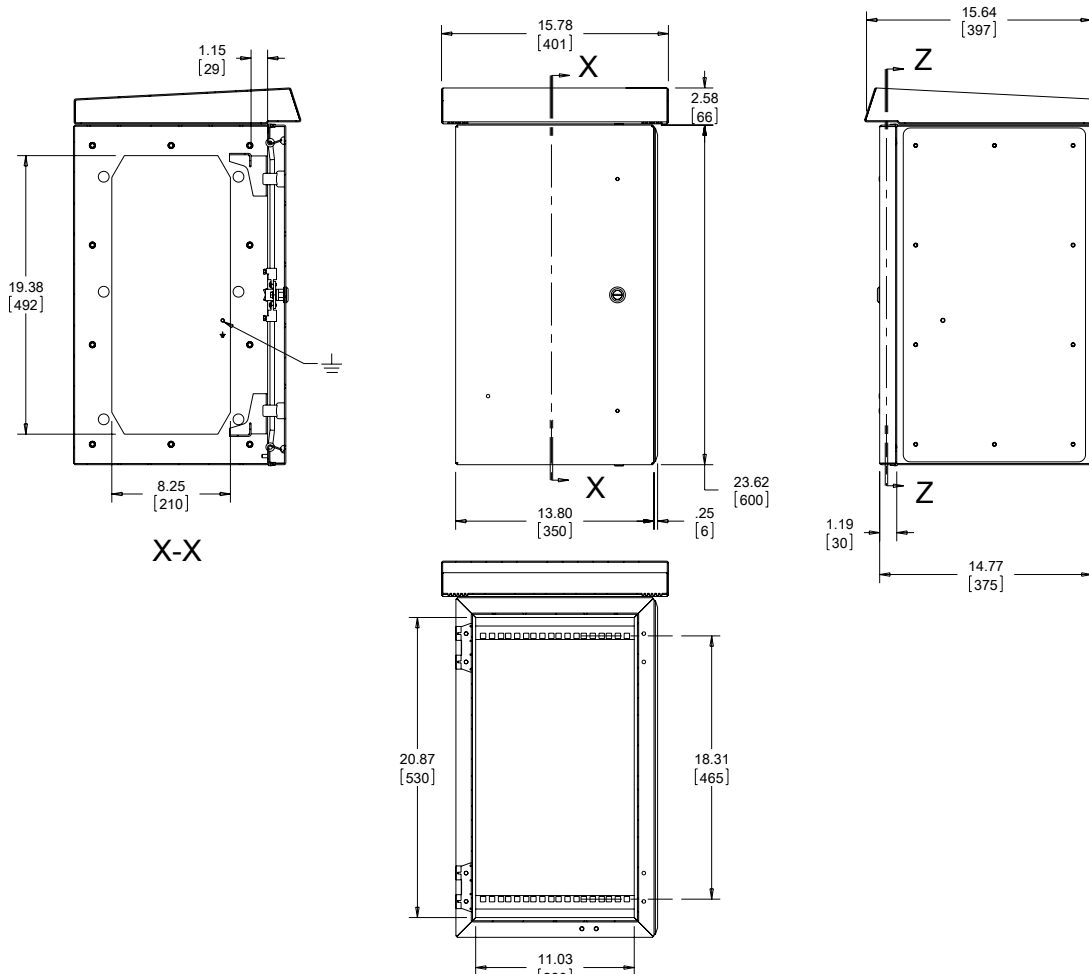
Catalog Number	AxBxC in./mm	Rack Units Vertical
ECL603537VP	23.62 x 13.78 x 14.76 600 x 350 x 375	5

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.

ComLine OSP Vertical Mount Cabinet Package and Accessories



ComLine OSP Vertical Mount Cabinet Package and Accessories

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

Fiber Optic Cabinets

FTTX FIBER OPTIC CABINET PACKAGE, TYPE 4X



INDUSTRY STANDARDS

UL 508A Listed; Type 4, 4X, 12; File No. E61997

CSA: Type 4, 4X, 12
NEMA/EEMAC Type 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 cage nuts to mount equipment

- Cabinet top insulation helps prevent the formation of condensation and reduces 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

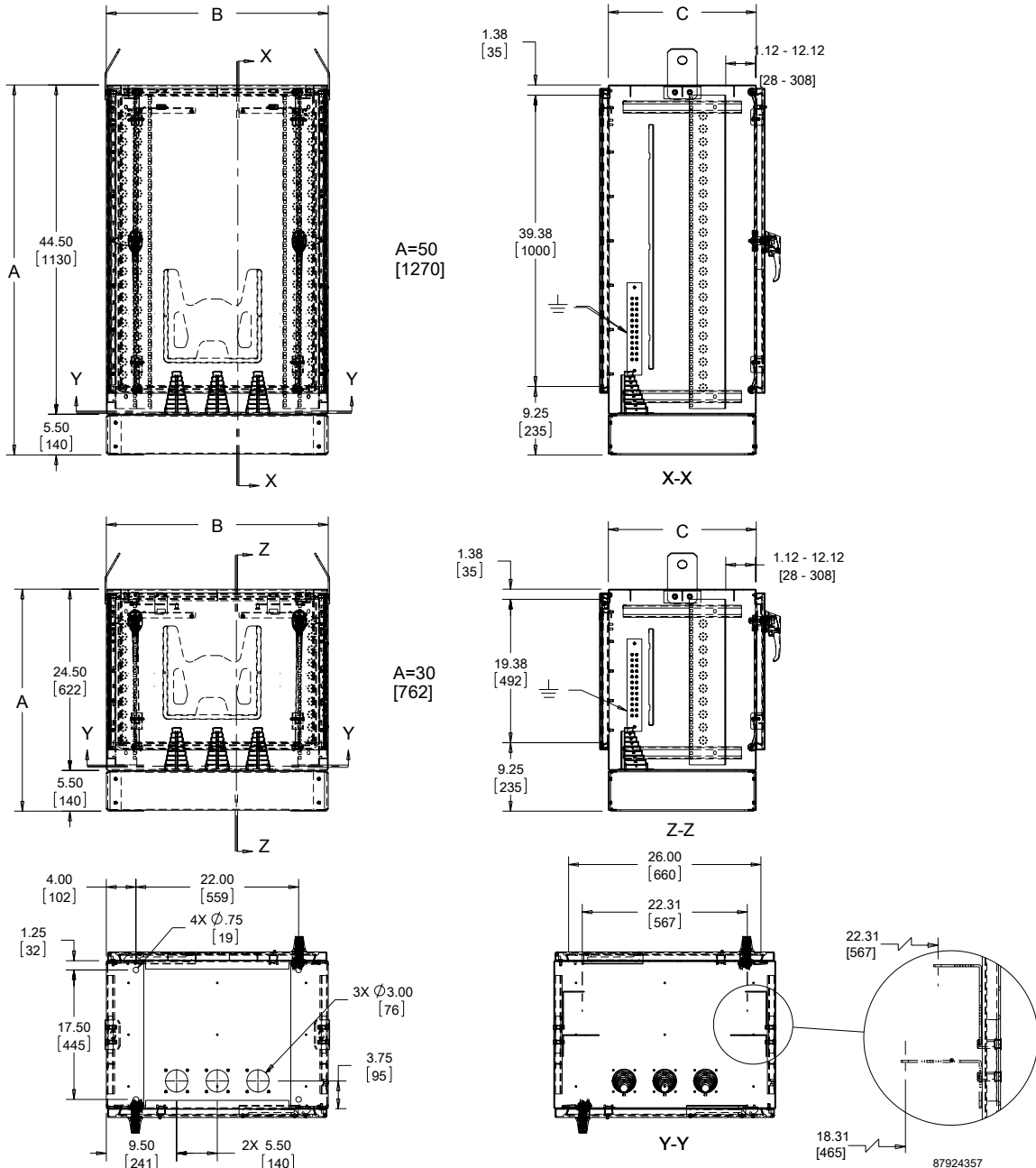
BULLETIN: DTX

Fiber Optic Cabinets

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
T303044FTTXDA	30.00 x 30.00 x 44.00	762 x 762 x 1118	10	Dual-Access
T503044FTTXDA	50.00 x 30.00 x 44.00	1270 x 762 x 1118	22	Dual-Access
T843044FTTXDA	84.00 x 30.00 x 44.00	2134 x 762 x 1118	43	Dual-Access

FTTX Fiber Optic Cabinet Without Battery Compartment

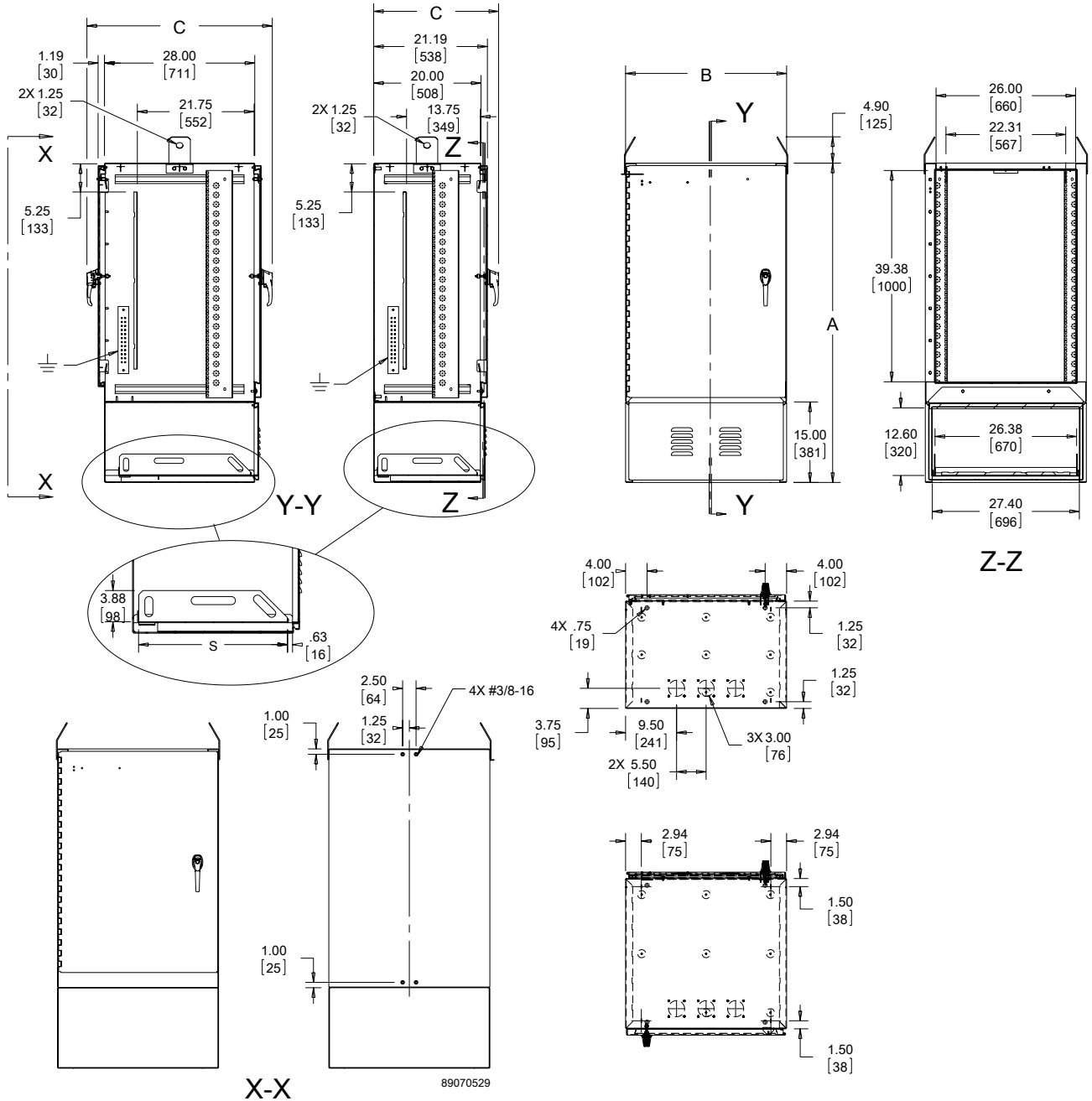


Fiber Optic Cabinets

STANDARD PRODUCT FTTX WITH BATTERY COMPARTMENT

Catalog Number	AxBxC in.	AxBxC mm	Rack Units	Description	S (in.)	S (mm)
T503020FTTXB	59.49 x 30.00 x 23.27	1511 x 762 x 591	22	Single-Access	18.75	476
T503028FTTXDAB	59.49 x 30.00 x 34.53	1511 x 762 x 877	22	Dual-Access	24.75	629
T503044FTTXDAB	59.49 x 30.00 x 50.53	1511 x 762 x 12834	22	Dual-Access	40.75	1035
T843044FTTXDAB	93.49 x 30.00 x 50.53	2375 x 762 x 1284	43	Dual-Access	40.75	1035

FTTX Fiber Optic Cabinet With Battery Compartment

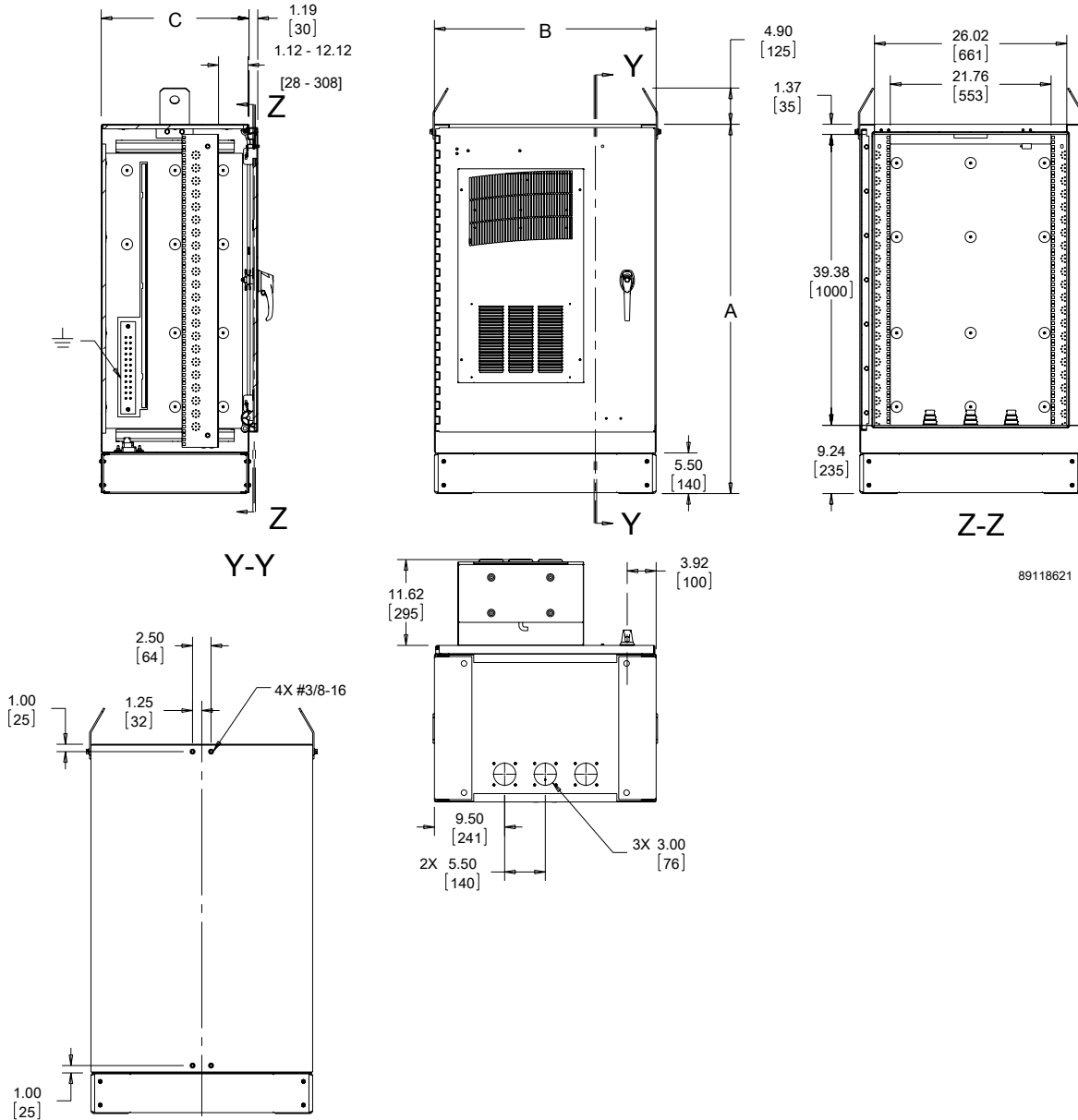


Fiber Optic Cabinets

STANDARD PRODUCT WITH AC, WITHOUT BATTERY COMPARTMENT

Catalog Number	AxBxC in.	AxBxC mm	Rack Units	Description	AC Model
T503020FTTXSA	50.00 x 30.00 x 20.00	1270 x 762 x 508	22	Single-Access	T290426G161
T503044FTTXDASA	50.00 x 30.00 x 44.00	1270 x 762 x 1118	22	Dual-Access	T290426G161
T843044FTTXDASA	84.00 x 30.00 x 44.00	2134 x 762 x 1118	43	Dual-Access	T430626G159

FTTX Fiber Optic Cabinet Without Battery Compartment, With AC



Fiber Optic Cabinets

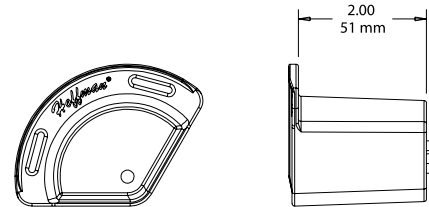
FIBER MANAGEMENT SPOOL



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



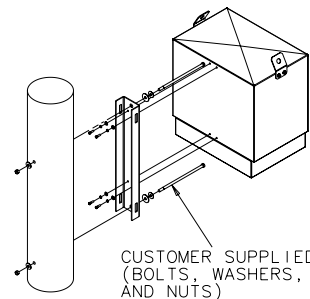
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FIBER OPTIC CABINET POLE-MOUNT KIT

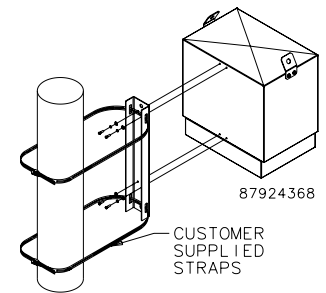
The Pole-Mount Kit installs on the rear of the single-access cabinets using the hardware provided. No drilling or tapping of the cabinet is required. Installation instructions are provided for mounting to various types of poles.

BULLETIN: DTX

Catalog Number	Kit Includes	Use With
T11FTTXPMK	Channel and hardware for attaching to cabinet	10U Cabinet
T23FTTXPMK	Channel and hardware for attaching to cabinet	22U Cabinet



INSTALLATION ON WOOD POLE



INSTALLATION ON CONCRETE OR STEEL POLE

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

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.

OSP Cabinets

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

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

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

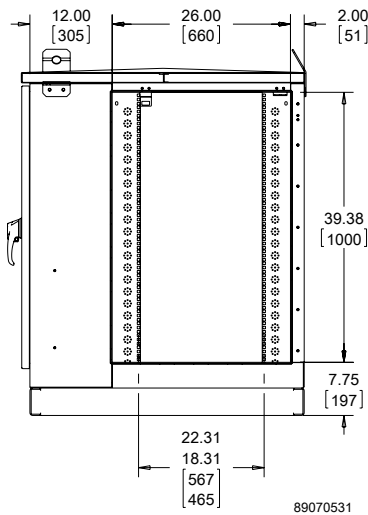
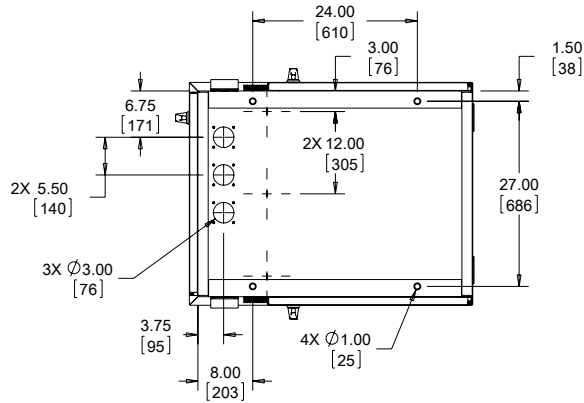
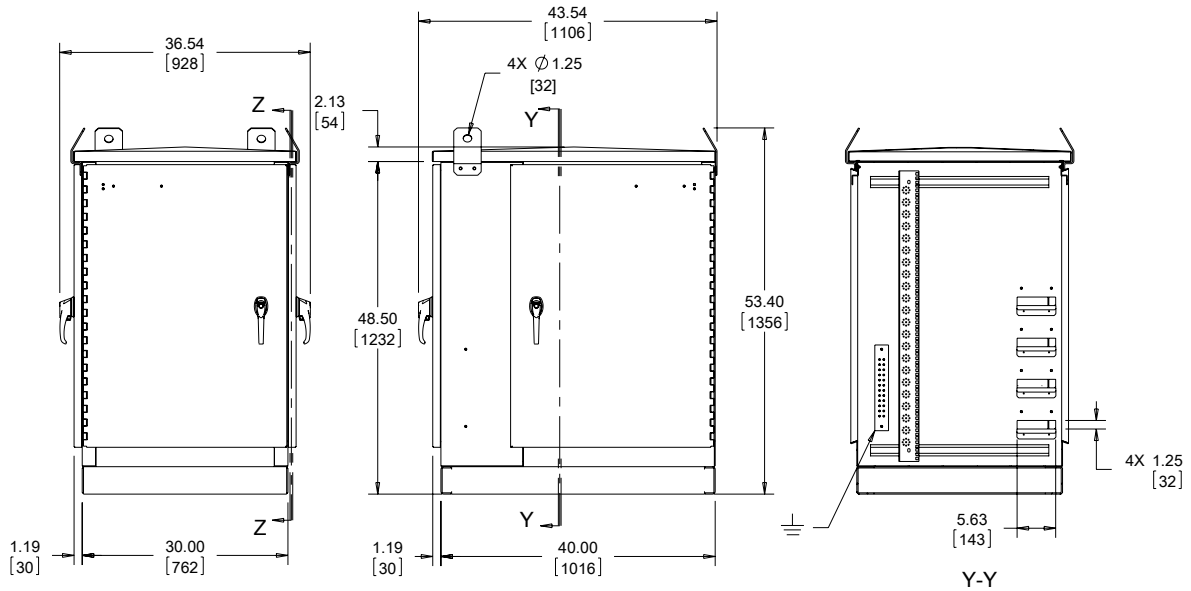
MODIFICATION AND CUSTOMIZATION

- Thermal management analysis
 - Finish (graffiti resistant, local and 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

OSP Cabinets

OPAL 3-Door Enclosure

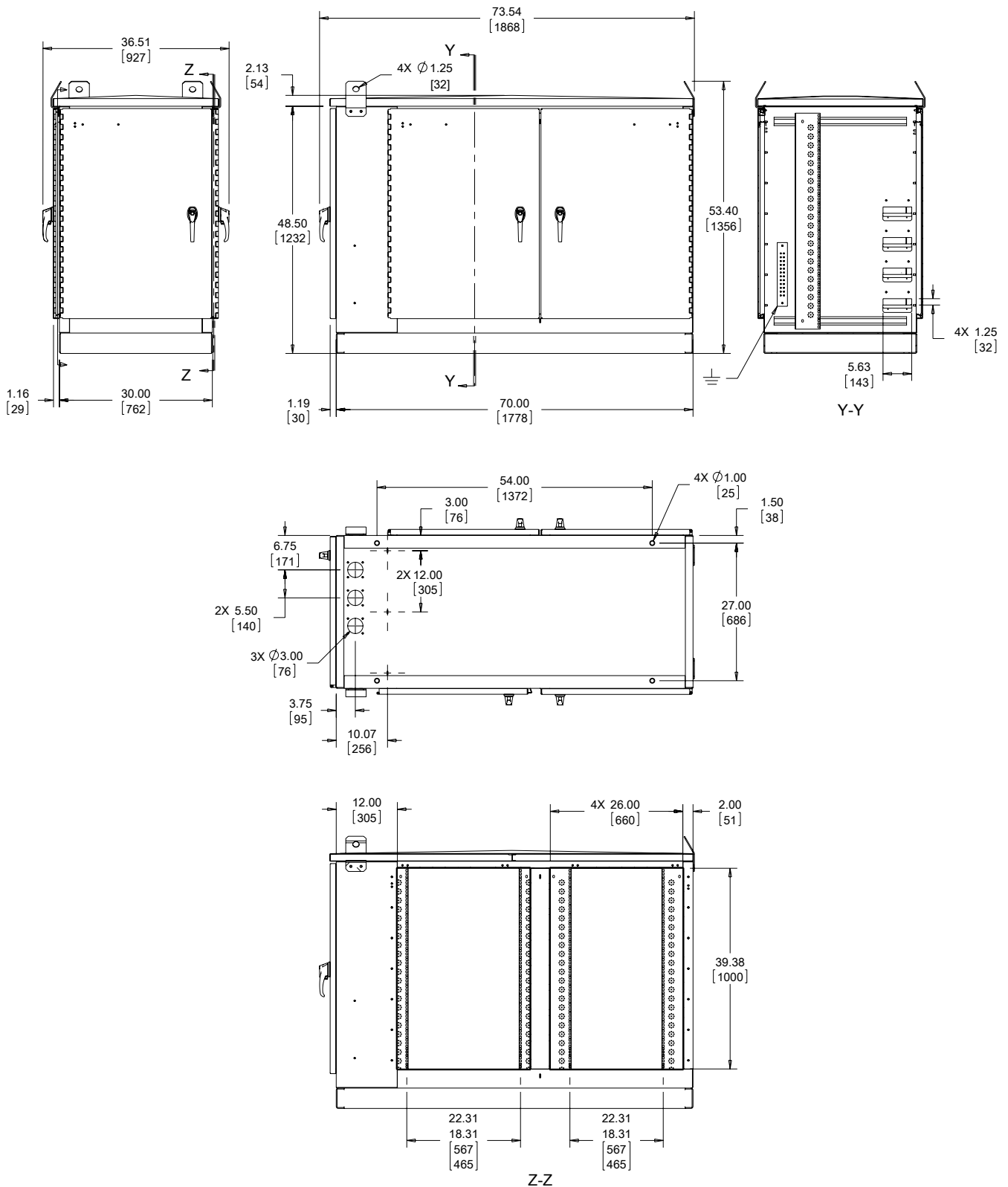


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Z-Z

OSP Cabinets

OPAL 5-Door Enclosure



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HOFFMAN

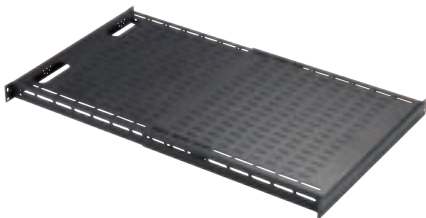
CHAPTER 10

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.



Chapter Contents

ACCESSORIES

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HANDLES, LATCHES AND LOCKS

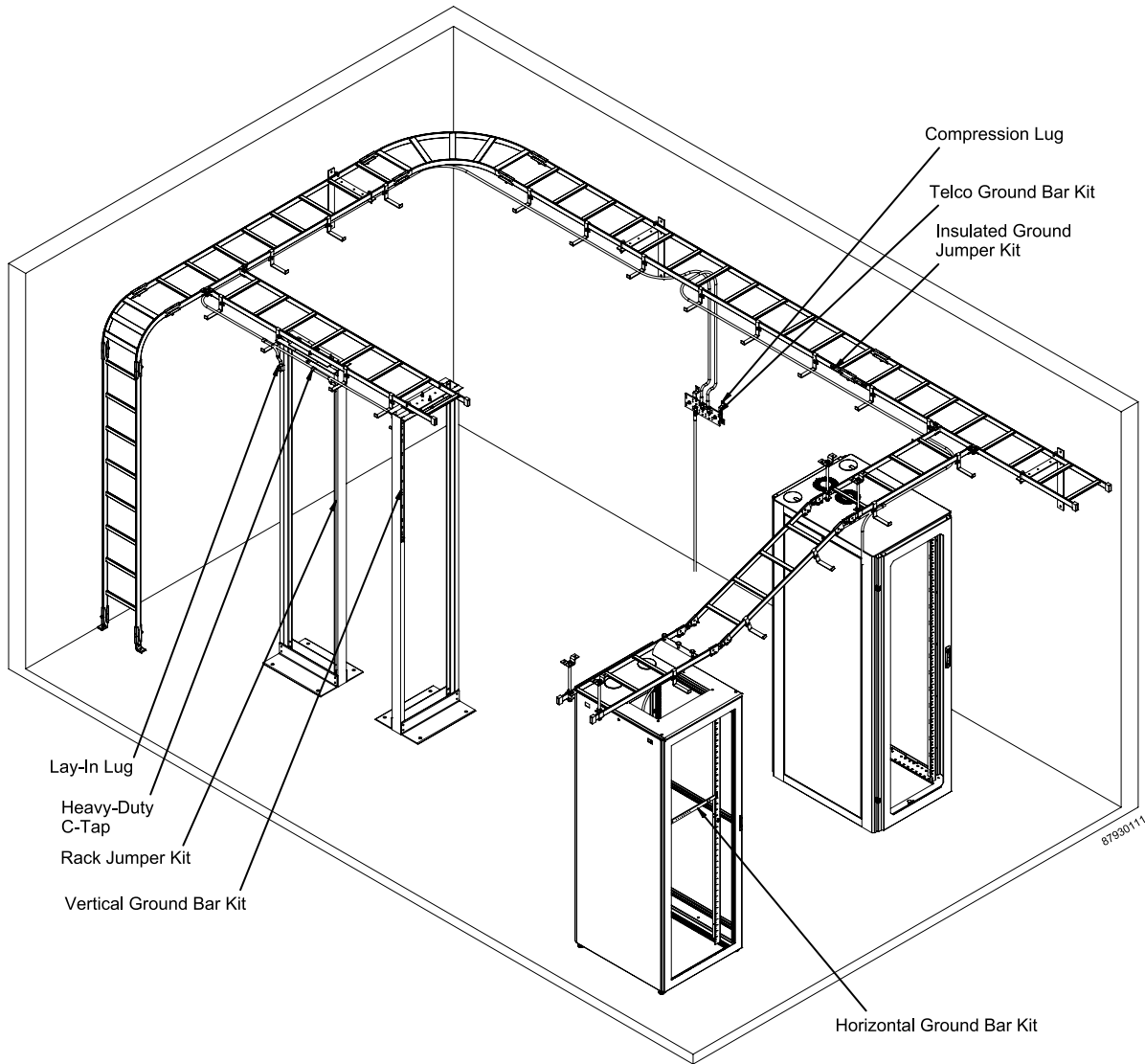
A wide range of handles, latches and locks ensure a secure, yet easy-to-use, cabinet.

LIGHTING PACKAGES

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Bonding and Grounding Accessories

BONDING AND GROUNDING OVERVIEW



10

INDUSTRY STANDARDS

Ground Bar Kits:

UL 467 Listed
cUL Listed per CSA C22.2 No. 41
File No. E319377

APPLICATION

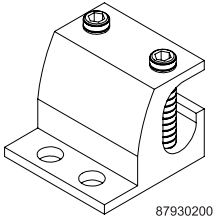
These components meet open frame rack and cabinet bonding and grounding requirements for telecommunication room and server room applications.

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

Bonding and Grounding Accessories

LAY-IN LUG

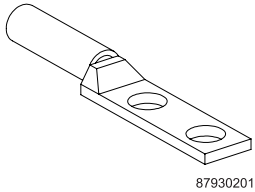


Dual-rated, UL486B listed lay-in lug bonds end of cable securely to rack. Made of electroplated 6061-T6 aluminum. Requires 3/16-in. hex key (not included).

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

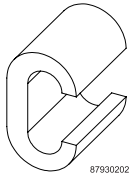


Compression lugs terminate copper or tinned-copper conductors for connection to busbars, cabinets, racks, and cable runway. Color-coded by conductor size. Made of electroplated, tinned copper. Require two screws (not included).

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

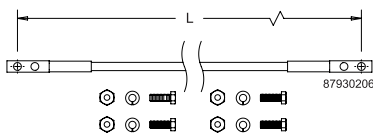


C-Taps splice two stranded or solid connectors together. Made of copper. Require a crimping tool (not included) to correctly tighten C-Taps around connectors.

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

INSULATED GROUND JUMPER KIT



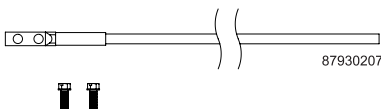
Fastens across splices to provide a secure ground between sections of ladder rack. Made of #6 AWG x 7 strand wire with green THW insulation and two-hole compression lugs mounted on each end. Includes fasteners.

BULLETIN: DBG

Catalog Number	L (in.)	L (mm)
DGJ	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

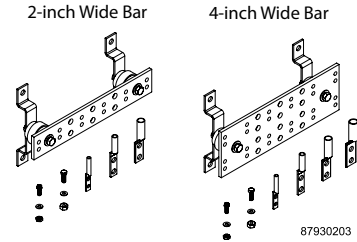
Catalog Number	Conductor Type	Length (ft.)	Length (m)
DGRJ	#6-7 stranded	9	2.7

Bonding and Grounding Accessories

TELECOMMUNICATIONS GROUND BAR KITS

Provide a convenient central location for connecting grounds from telecommunications equipment, computers, and other network equipment. Made of copper. Kits include ground bar with two mounting brackets, an assortment of connectors, and a tube of antioxidant.

BULLETIN: DBG

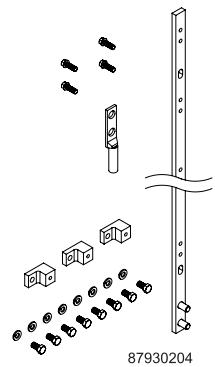


STANDARD PRODUCT

Catalog Number	Bar Size in./mm	No. of 5/16-in. Hole Sets	No. of 7/16-in. Hole Sets	#6 Wire Size (DGCL61)*	#2 Wire Size (DGCL22)*	#2/0 Wire Size (DGCL201)*	#4/0 Wire Size (DGCL402)*
DGTB212	2.00 x 12.00 x .25 51 x 305 x 6	6	3	6 lugs	3 lugs	1 lug	0 lugs
DGTB216	2.00 x 16.00 x .25 51 x 406 x 6	8	3	6 lugs	3 lugs	1 lug	0 lugs
DGTB412	4.00 x 12.00 x .25 102 x 305 x 6	12	6	6 lugs	3 lugs	1 lug	1 lug
DGTB420	4.00 x 20.00 x .25 102 x 508 x 6	24	6	6 lugs	3 lugs	1 lug	1 lug

* Number of compression lugs included with Ground Bar Kits

VERTICAL GROUND BAR KITS

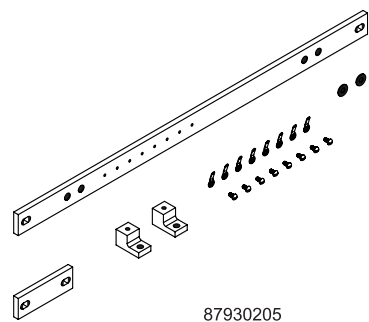


Mount vertically on rack, providing a convenient place to connect equipment grounds. Made of electrolytic tough-pitch 110 copper alloy. Kits include ground bar with compression lug for #2 wire, connection hardware, and mounting hardware.

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



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

Shelves for Open Frame Racks and Cabinets

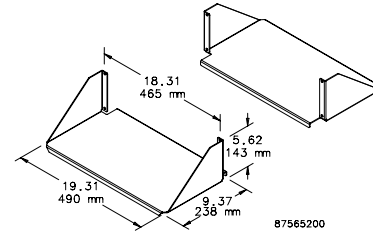
DOUBLE-SIDED SOLID ALUMINUM SHELF

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



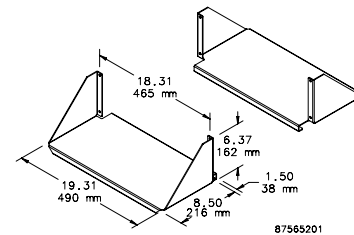
DOUBLE-SIDED, SOLID ALUMINUM, HEAVY DUTY SHELF

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
ESHDDHA19	6.37 x 19.31 x 10.00 162 x 490 x 254	19 in.	2 shelves	4



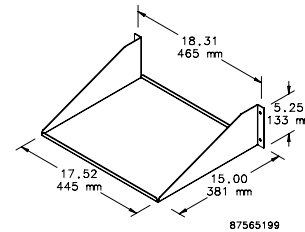
SINGLE-SIDED SOLID ALUMINUM SHELF

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



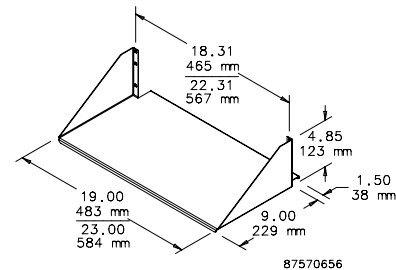
SINGLE-SIDED SOLID-STEEL SHELF

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



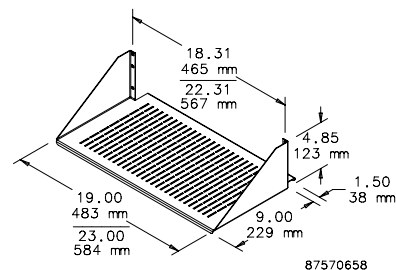
SINGLE-SIDED STEEL VENTED SHELF

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



Shelves for Open Frame Racks and Cabinets

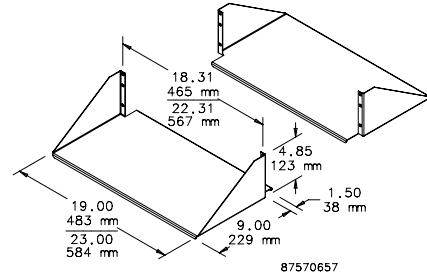
DOUBLE-SIDED SOLID-STEEL SHELF

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)

BULLETIN: DACCY

Catalog Number	H x W x D in./mm	Fits Rack	Rack Units
ESHD19	4.85 x 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



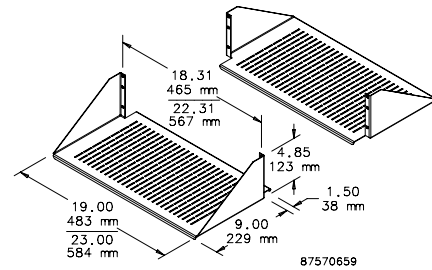
DOUBLE-SIDED STEEL VENTED SHELF

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)

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



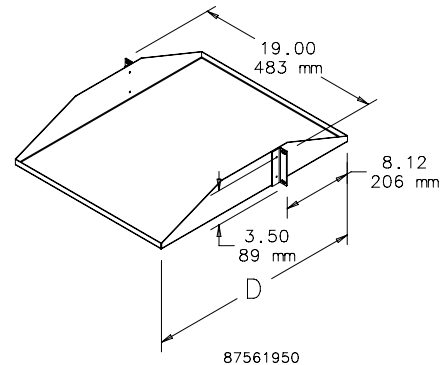
CENTER-MOUNT STEEL SHELVES

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



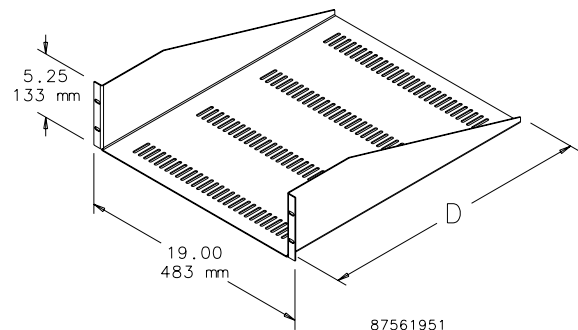
RACK-MOUNT STEEL SHELF

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



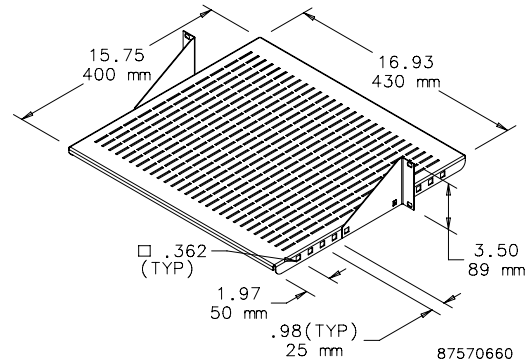
Shelves for Open Frame Racks and Cabinets

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.	



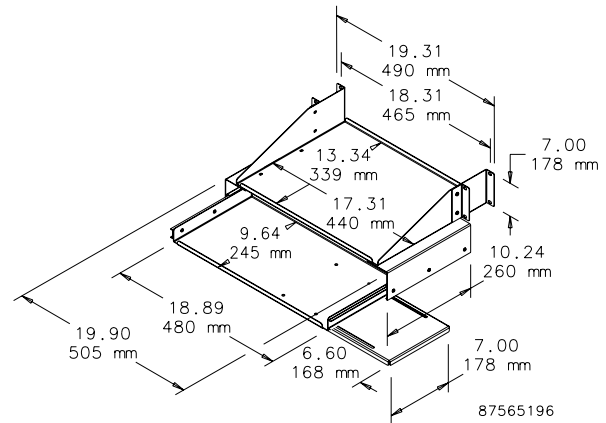
PULLOUT KEYBOARD TRAY WITH MONITOR SHELF

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

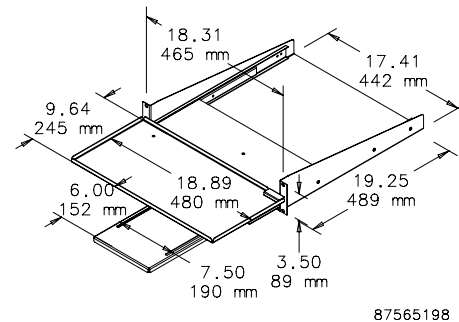


PIVOTING KEYBOARD SHELF WITH MOUSE TRAY

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



Shelves for Open Frame Racks and Cabinets

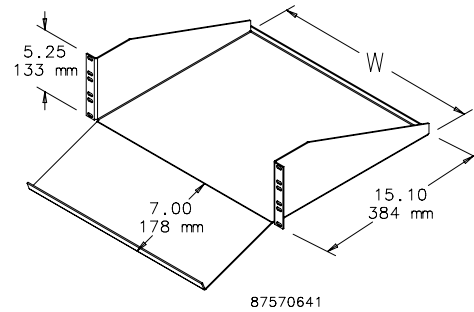
STEEL KEYBOARD/MONITOR SHELF

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

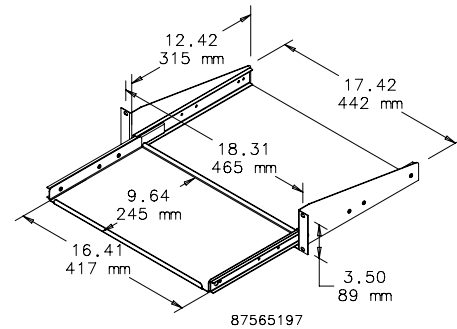


PULL-OUT SHELF FOR MINI KEYBOARD

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



10

TOOL-LESS SHELF



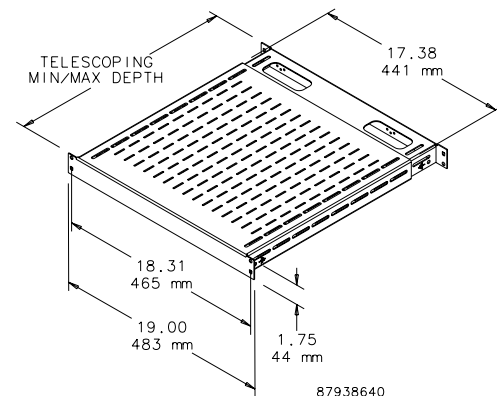
An easy-to-install tool-less vented 19-in. shelf. Mounts onto rack angles that have EIA-spaced square holes (.375 in.). Shelf slides open and provides a variable-sized, continuous surface for equipment. Back of shelf has oval cutouts for power and data cables. Accessory hole patterns at back of shelf 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.

Note: For square-hole rack angles only!

BULLETIN: DACCY

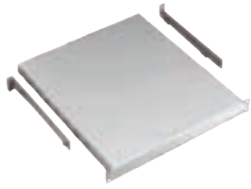
Catalog Number	Description	Finish	Minimum Depth mm/in.	Maximum Depth mm/in.	Rack Angle Type
D19FVT69B	Shelf, vented, 19 in. tool-less	Black	495 19.50	851 33.50	Square hole only
D19FVT69G	Shelf, vented, 19 in. tool-less	Gray	495 19.50	851 33.50	Square hole only
D19FVT912B	Shelf, vented, 19 in. tool-less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

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



Shelves for Open Frame Racks and Cabinets

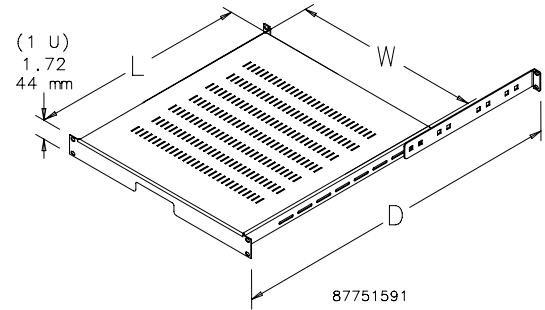
RACK-MOUNT ADJUSTABLE SHELF



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

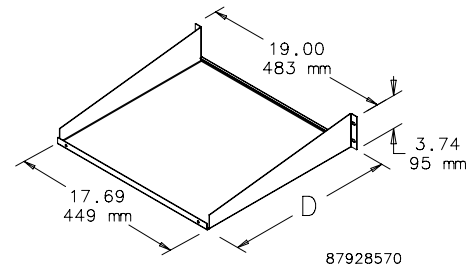


Mounts to 19-in. rack angles to house voice/data networking equipment. RAL 9005 black finish.

Load rating: 75 lb. (34 kg)

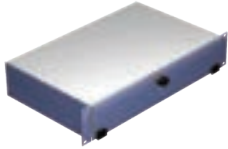
BULLETIN: DACCY

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



Shelves for Open Frame Racks and Cabinets

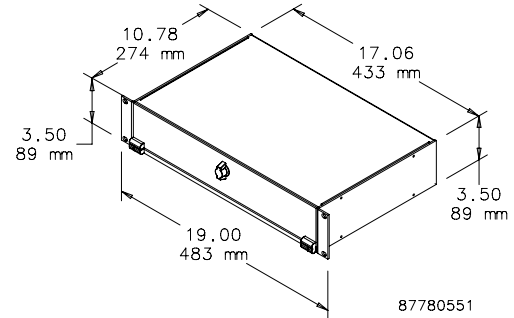
KEYBOARD COMPARTMENT FOR 19-IN. RACKS



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

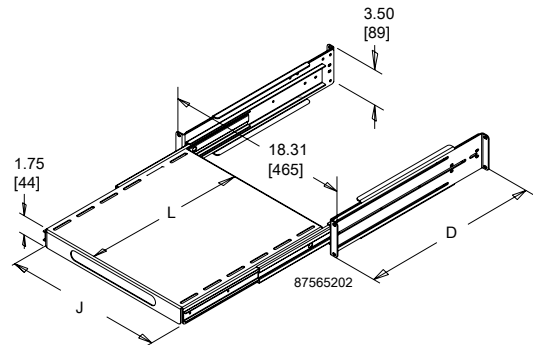


SLIDING EQUIPMENT SHELF

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 and RAL 9005 black or RAL 7035 gray 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, P20



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	Color
P19SHP68B	37.40	950	16.72	425	16.20	412	17.00	432	19 in.	2	Black
P19SHP68	37.40	950	16.72	425	16.20	412	17.00	432	19 in.	2	Gray
P19SHP810B	41.30	1050	24.59	625	16.20	412	17.00	432	19 in.	2	Black
P19SHP810	41.30	1050	24.59	625	16.20	412	17.00	432	19 in.	2	Gray
P23SHP68B	37.40	950	16.72	425	20.20	513	17.00	432	23 in.	2	Black
P23SHP68	37.40	950	16.72	425	20.20	513	17.00	432	23 in.	2	Gray
P23SHP810B	41.30	1050	24.59	625	20.20	513	17.00	432	23 in.	2	Black
P23SHP810	41.30	1050	24.59	625	20.20	513	17.00	432	23 in.	2	Gray

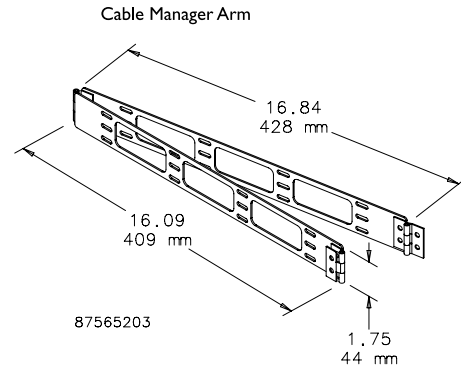
Shelves for Open Frame Racks and Cabinets

CABLE MANAGER ARM FOR SLIDING EQUIPMENT SHELF

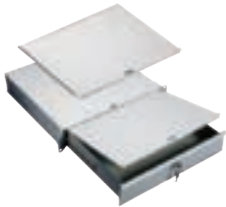
Cable Manager Arm mounts to back of sliding equipment shelf on right or left side. Controls cable movement as shelf slides in and out. 14 gauge steel with RAL 9005 black polyester powder paint finish.

BULLETIN: DACCY

Catalog Number	Description	Use With
PHCB	Cable Manager Arm	Sliding Equipment Shelf



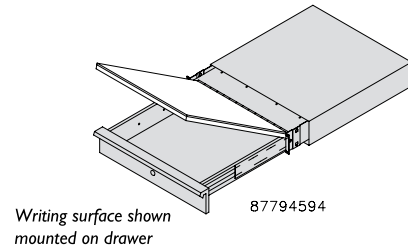
WRITING SURFACE FOR RACK-ANGLE-MOUNTED DRAWER



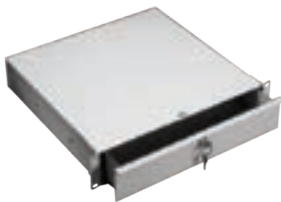
Steel cover mounts on top of the drawer and serves as a writing surface and drawer cover. Finish is RAL 7035 light-gray textured polyester powder paint. Drawer shown in illustration and photo must be ordered separately.

BULLETIN: P20

Catalog Number	Description	Fits
P19WS	Steel writing surface and cover	Drawer (order separately)



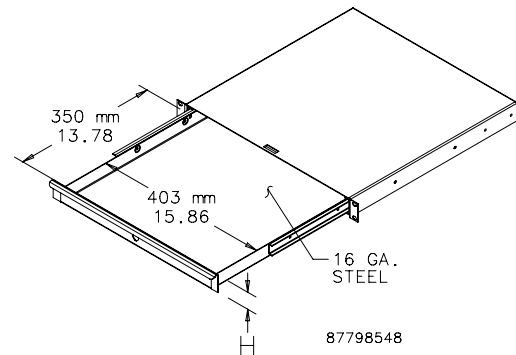
RACK-ANGLE MOUNTED DRAWER



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.

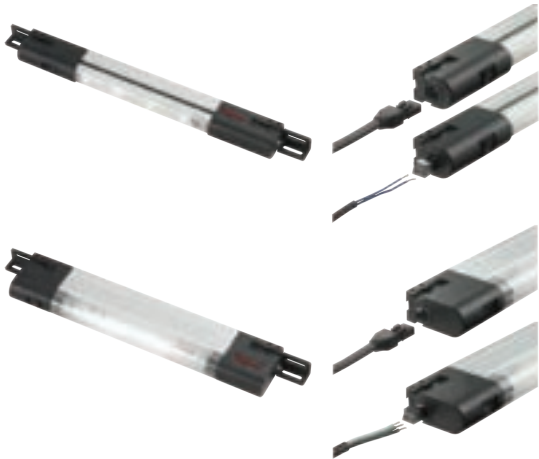
BULLETIN: P20

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



Lighting Packages

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. E61997

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 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 their 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 400 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-O 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

Lighting Packages

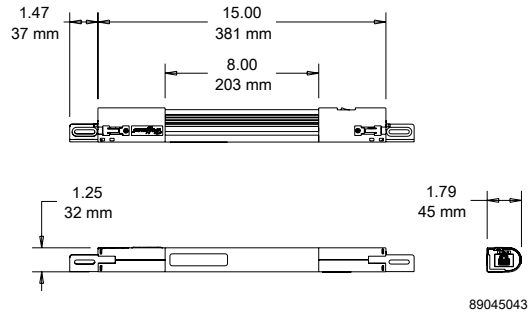
PANELITE LED ENCLOSURE LIGHT



- 24 VDC operation for superior lighting performance with minimal power consumption
- 140-degree cone angle casts a broad covering of neutral light between 3500 and 4500K color temperature
- 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
- Can be wired using optional PanelLie 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

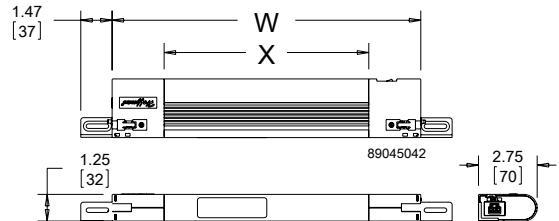


PANELITE FLUORESCENT ENCLOSURE LIGHT



- 120 VAC, 50/60 Hz operation
- Can be wired using optional PanelLie 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

Lighting Packages

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.

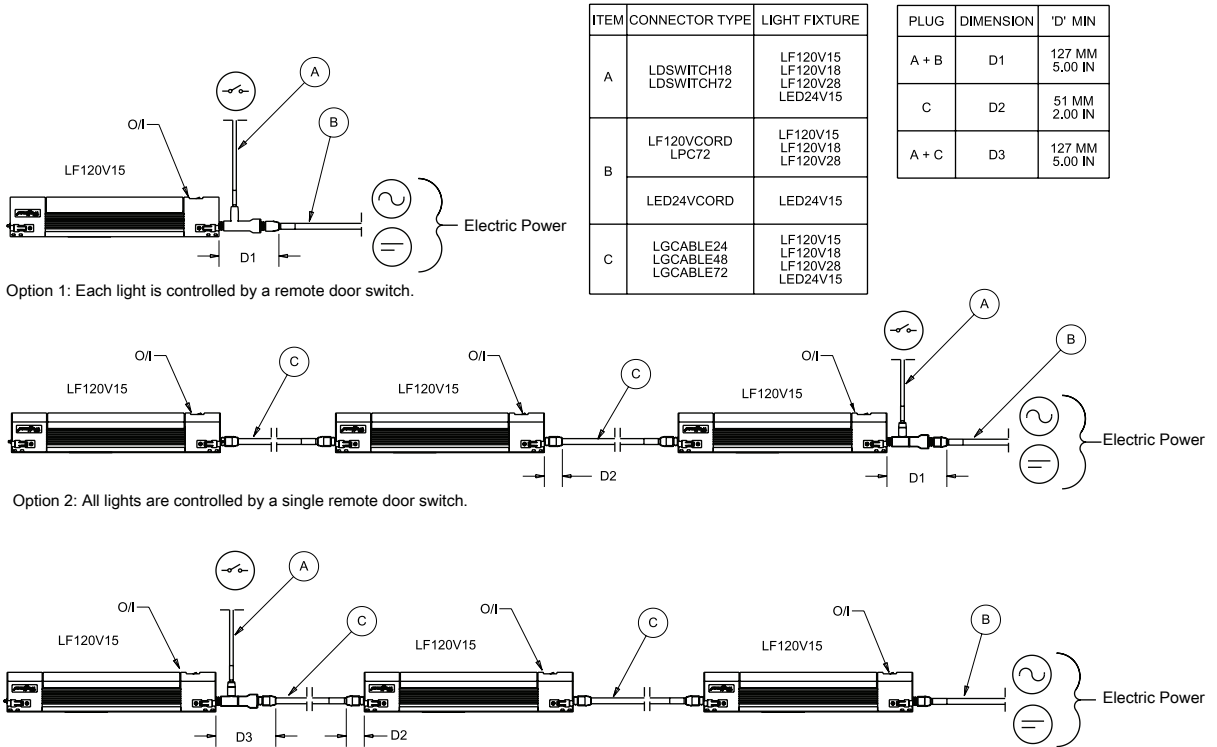
BULLETIN: A80LT

Catalog Number	Length
LDSWITCH18	18 in.
LDSWITCH72	72 in.

Lighting Packages

PANELITE WIRING OPTIONS

See the table on the drawing for cable clearance dimensions.



ITEM	CONNECTOR TYPE	LIGHT FIXTURE
A	LDSWITCH18 LDSWITCH72	LF120V15 LF120V18 LF120V28 LED24V15
	LF120VCORD LPC72	LF120V15 LF120V18 LF120V28
B	LED24VCORD	LED24V15
C	LGCABLE24	LF120V15
	LGCABLE48	LF120V18
	LGCABLE72	LF120V28 LED24V15

PLUG	DIMENSION	'D' MIN
A + B	D1	127 MM 5.00 IN
C	D2	51 MM 2.00 IN
A + C	D3	127 MM 5.00 IN

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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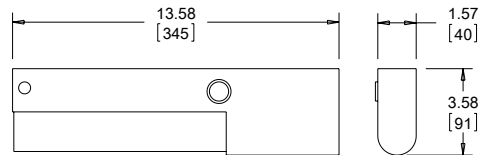
230 VAC FLUORESCENT ENCLOSURE LIGHT



- 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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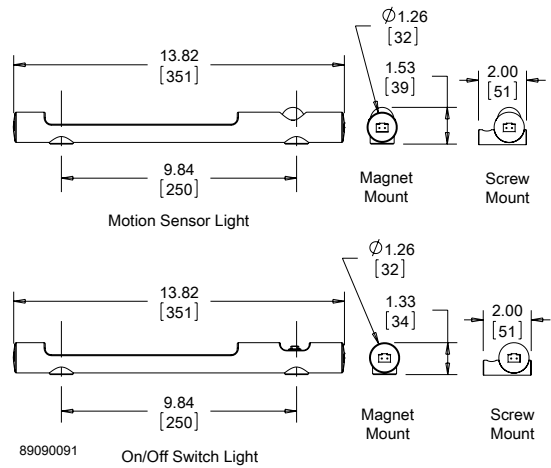
Lighting Packages

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 400 LM of 6000-7000K 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



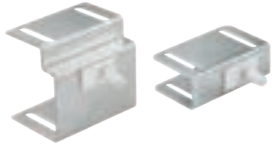
The extension connector/cable assembly is used to connect adjacent LED lights (daisy chain). Up to 10 LED lights can be ganged or connected in series. Pre-assembled connector/cable assembly with 39.4-in. (1000 mm) long cable between input and output connectors. Cables are constructed of 16 AWG copper 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

Lighting Packages

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 PanelLie LED or Fluorescent light or connected via the PanelLie Door Switch Cable

BULLETIN: A80LT, P20

STANDARD PRODUCT

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 (0.5-2.5mm²)
- 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

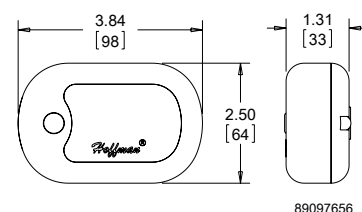
LED PUCK LIGHT



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.



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Mounting Hardware

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

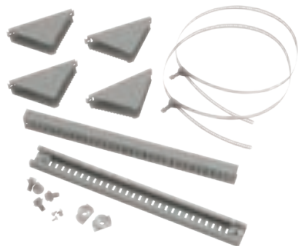


Cage Nut Packages are for use with square-hole rack angles. Cage nuts are plated steel.

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)

Mounting Hardware

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

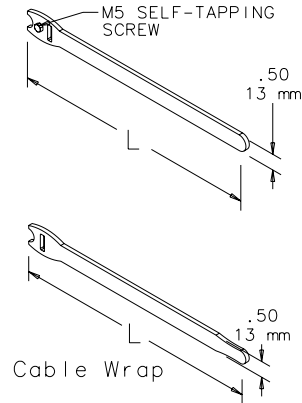
VELCRO® CABLE WRAP



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	12.00	305	Blue	10
ECW12Y	Wrap style	12.00	305	Yellow	10

Handles, Latches and Locks

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 ^a (PTLCMB3B)	Quarter-Turn Lock (PSCLO)	Quarter-Turn Lock (DKL2233)	Net Series Combination L-Handle
ComLine		•	•	•	•			
AccessPlus	333	•	•	•	•		• b	
D-Box	333	•	•	•	•			
L-Box	333	•	•	•	•		• b	
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					•		

^aDo not use 3-Digit Combination Lock in severe environments such as corrosive, very wet, salt spray or mist.

^b2233 Key Code

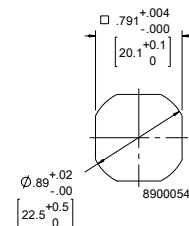
PADLOCKING L HANDLE



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, 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

Handles, Latches and Locks

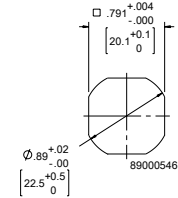
PADLOCKING QUARTER-TURN LATCH



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, L-Box, D-Box, ComLine, ProTek



3-DIGIT COMBINATION LOCK

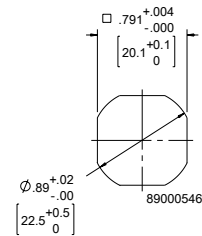


3-Digit Combination Lock in handle eliminates the need to carry around a key. Combination can easily be changed. A quarter turn of the handle opens and closes the cabinet. Lock has silver and black finish. Install using existing enclosure cam. Maintains cabinet rating Type 12.

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, L-Box, D-Box, ComLine, ProTek



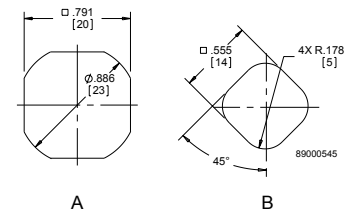
QUARTER-TURN LOCK



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
PSCLO	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, L-Box, D-Box	A (see dimension drawing)	2233



Handles, Latches and Locks

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, L-Box, D-Box

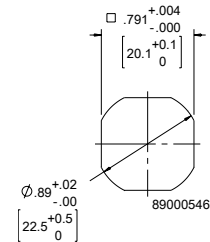
KEYLOCKING WING KNOB



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, L-Box, D-Box, ComLine, ProTek



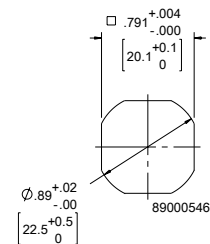
KEYLOCKING QUARTER-TURN WING KNOB



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



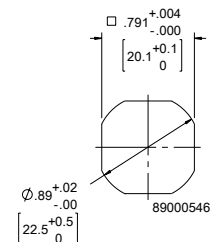
PADLOCKING WING KNOB, STAINLESS STEEL



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.

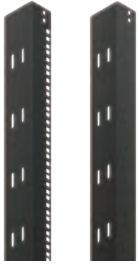
BULLETIN: DWS12

Catalog Number	Description	Use with
PTWPSS	Padlocking wing knob, quarter-turn	AccessPlus, ComLine, ProTek, L-Box, D-Box



General Accessories

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 and 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 2578	.50 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 UL approved thermal plastic material with a low-gloss textured black finish. May 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

General Accessories

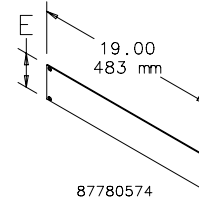
RACK PANEL FOR 19-IN. RACKS



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



TOUCH-UP PAINT



For repairing the finish of any painted parts.

BULLETIN: DACCY, P20

Catalog Number	Description
ATPG7035	RAL 7035 Gray
ATPB9005	RAL 9005 Black



HOFFMAN

CHAPTER 11

TECHNICAL INFORMATION

OVERVIEW

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.





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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.

Cooling

HOW TO DISSIPATE EXCESS HEAT - UNDERSTANDING ΔT AND CFM

$$\begin{aligned} \text{Watts} &= .316 \times \text{CFM} \times \Delta T \\ \text{or} \\ \text{CFM} &= \text{Watts} / (.316 \times \Delta T) \\ \text{or} \\ \Delta T &= (.315 \times \text{CFM}) / \text{Watts} \end{aligned}$$

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

When it comes to cooling, 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

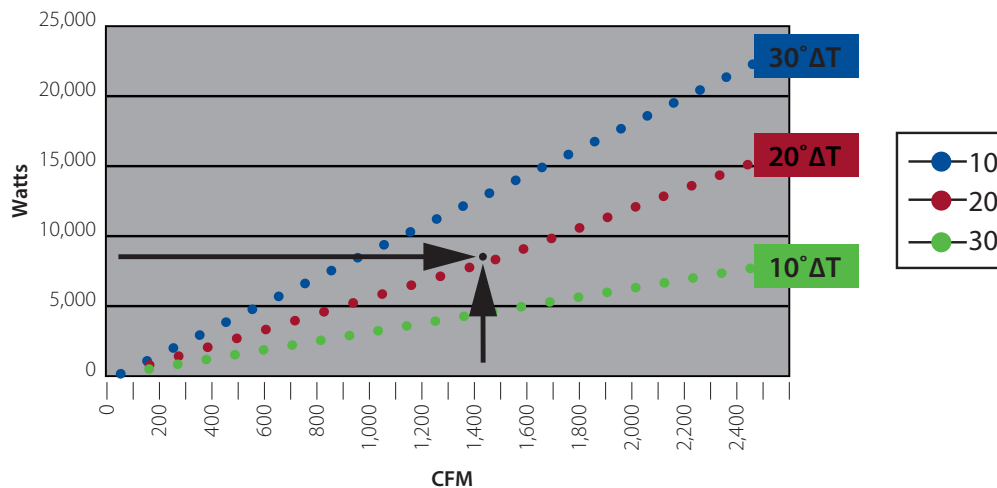
In the above equations, ΔT, measured in degrees Fahrenheit, refers to the difference between the intake air and exhaust air, or the amount of heat that is carried away by the stream of air exiting the heat load. A greater temperature difference signifies more heat being removed. While it is difficult to constantly deliver the coldest air to all equipment—in particular, equipment installed in upper rack units—environments 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.

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



Cooling

CFM

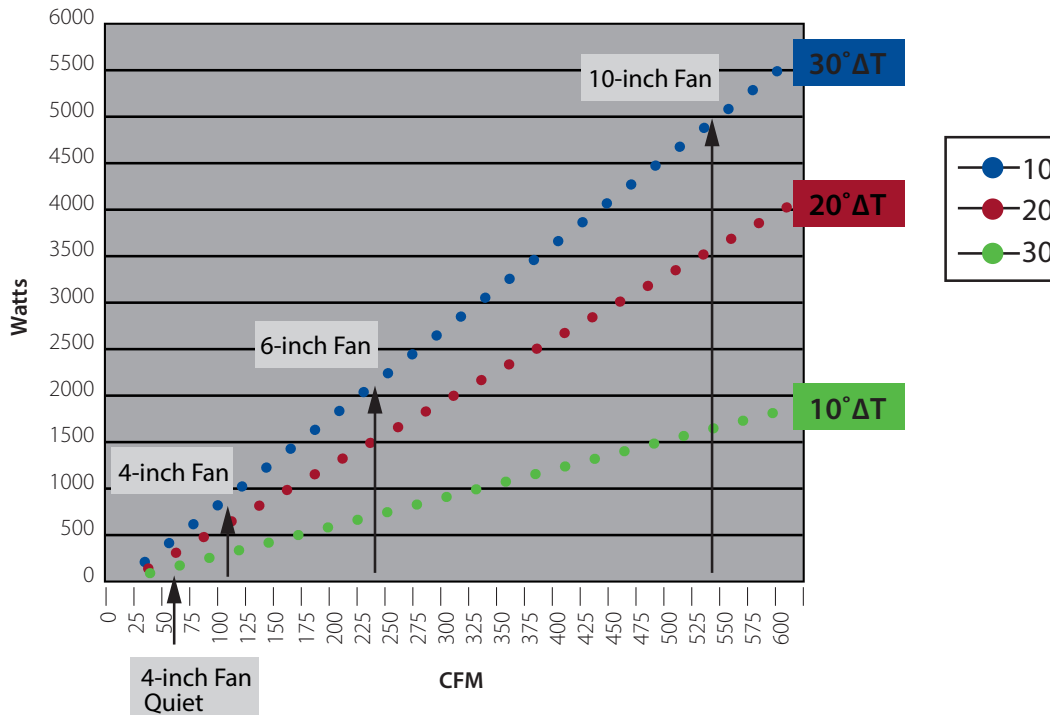
Another way to increase the amount of heat dissipated or removed from network equipment is by increasing the airflow, expressed in cubic feet per minute (CFM). An increase of CFM—the amount of airflow across a given area in a given time—results in increased heat removal.

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 equipment. 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 applications 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-, and 10-inch Cooling Fan Performance



Solar Heat Gain

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.² 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.² 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.² 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

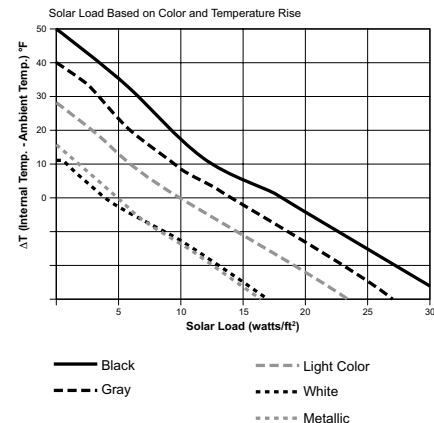
To evaluate the heat load on an enclosure, you must take into account:

- 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.²) 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.² (14 ft.² x 14 W/ft.² = 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.² (14 ft.² x 6 W/ft.² = 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.



Solar Heat Gain

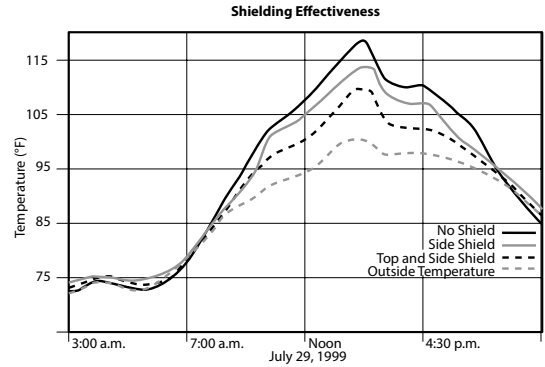
THE BENEFITS OF SHIELDING ENCLOSURES



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

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. These organizations 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. ²)	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	1.000 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

Standards

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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Standards

IP RATING DESCRIPTIONS

EXAMPLE RATING

If 1st IP number is...	and the 2nd ip number is...	Then the IP rating is
2	3	IP 23
(protection against solid objects)	(protection against liquids)	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

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