VERTIV™

DCF™ OPTIMIZED RACK SYSTEM

Selection Guide

Optimized Design, Optimized Delivery, Optimized Value

A Rack System Designed to Meet The Challenges Your Data Center Faces Today

Your mission-critical networks are carrying an ever-increasing amount of voice, data and video. Looming on the horizon is a critical mass of VoIP, high speed access, wireless applications and increasing demand for blade server deployment.

The DCF optimized rack system from Vertiv™ integrates your computing hardware, power management technologies and peripherals in your data center. It gives superior design and flexibility, allowing optimal data center equipment performance and easy installation.

DCF Rack is UL certified 2416

DCF Rack 24U

DCF Rack 42U

Flexibility:

- Available in nine standard sizes, to meet site needs

- Compatible with Vertiv Rack PDUs, Liebert® rackmount UPS, Aisle Containment and Liebert MB™ modular busway — all from a single source

- Factory installation of rack PDUs, for fast deployment

- Tool-less accessories simplify cable management, airflow management and component mounting

- Static load capacity up to 3000lbs/1,363kg

- Simple integration of power, cooling and monitoring equipment

Higher Availability:

- 75% front and rear door perforation provides maximum airflow to internal equipment

- Easy access to and management of equipment

- Front and rear locks for security

- Fast on-site deployment

- Ergonomic

- Airflow and perforation

- Cable Management

Lowest Total Cost of Ownership:

- Easy installation saves time and money: lift off hinges, dual side panels, 19" rail adjustment, U markings on 19" rails, low profile casters, tool-less accessories

- Excellent value for features, durability and price

- Integral part of the total data center solutions from Vertiv saves time and money on configuration and integration
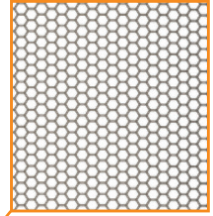
Improve Data Center Efficiency With A Solid Foundation

Welded Steel Construction

Roof Top Ready for Cabling

Removable opening for cable entry — ready for front/rear/side cabling. Can accomodate over 2500 Cat 5e cables.

75% Perforation On Doors

Optimal door perforation allows greater airflow through the cabinet, reducing heat buildup.

Tool-less Cable Management

Requires just inserting and twisting the tool-less accessories on 19" vertical mounting rail.

Integrated 19" rail alignment.

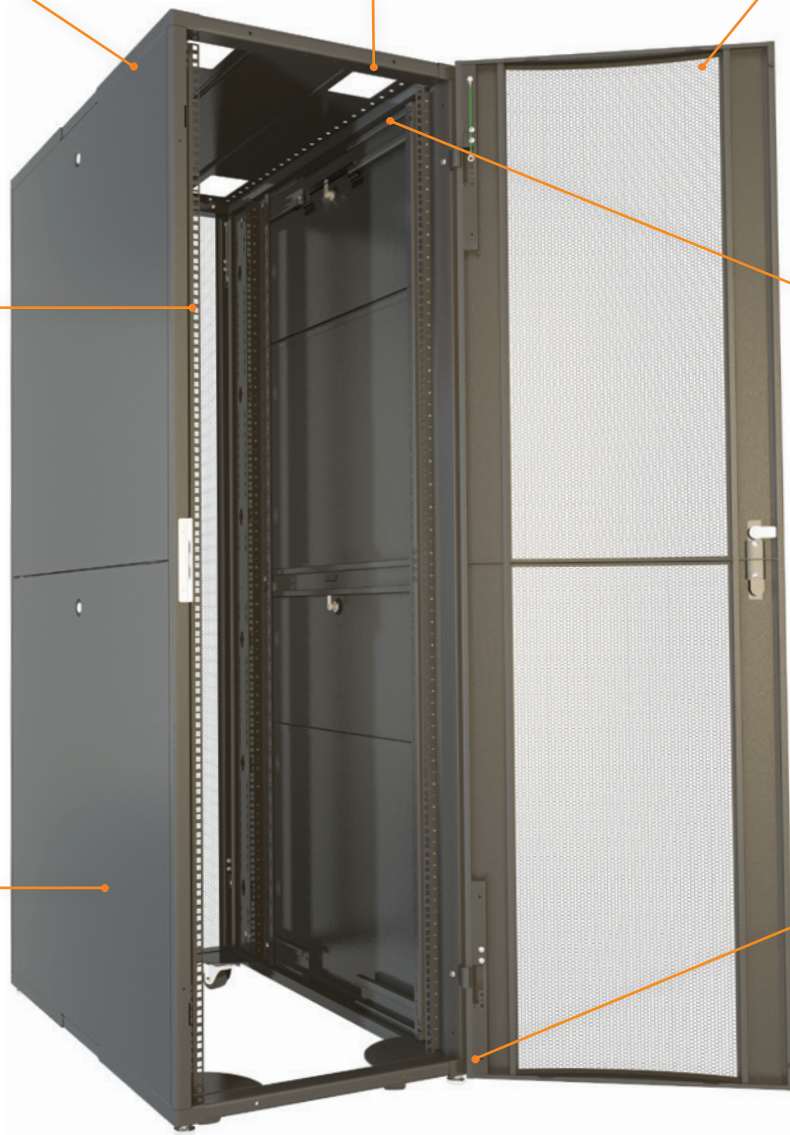Insures 19" rails are positioned correctly without measuring.

Split, Locking Side Panels

For quick and easy installation and maintenance. Locks provide security.

Low Profile casters

Low profile casters allow 42U racks access thru a standard doorway

Specifications – DCF™ Rack

PART NUMBER	U	HEIGHT MM (IN)	WIDTH MM (IN)	DEPTH MM (IN)
F4611	24	1200 (47.2")	600 (23.6")	1100 (43.3")
F2611	42	2000 (78.1")	600 (23.6")	1100 (43.3")
F2612	42	2000 (78.1")	600 (23.6")	1200 (47.3")
F2811	42	2000 (78.1")	800 (31.4")	1100 (43.3")
F2812	42	2000 (78.1")	800 (31.4")	1200 (47.3")
F8611	48	2250 (88.6")	600 (23.6")	1100 (43.3")
F8612	48	2250 (88.6")	600 (23.6")	1200 (47.3")
F8811	48	2250 (88.6")	800 (31.4")	1100 (43.3")
F8812	48	2250 (88.6")	800 (31.4")	1200 (47.3")

Standard Features

- Single perforated locking front door
- Split rear door, locking *
- Split side panels, locking
- High density cable entry roof (2500+ cat 5 cables)
- Low profile caster and leveling feet
- 2 Sets 19" EIA rails
- 2 Full height rack PDU/cable management brackets
- Hardware Kit (Qty 50 M6 Cage Nuts and Screws)

*F4611 is a single perforated rear door

- Bolt down brackets
- Keys
- Central grounding point
- Tool-less accessories available
- Liebert MB attachment option
- UL 2416 approval

AIR FLOW MANAGEMENT

Blank Panel
19" Tool Less Blanking Panel

A frequently over looked component in air flow management, blanking panels allow you to close unused U space. This forces incoming cool air to pass through active components with pull fans already installed in your cabinet. Available in 1U and 2U.

PART NUMBER	DESCRIPTION
010200087	1U Plastic Tool Less Blanking Panel; Box of 10
010200088	2U Plastic Tool Less Blanking Panel box of 5

Vertical Filler Panel Kit

Full height Vertical filler panels that mount to outside edge of the 19" rail and extend to the plane of the side panel. The vertical filler panels for the DCF Optimized rack utilize 2 half height panels per side. Each kit is enough for 1 cabinet. 42U panel has 1 1U cut out per panel with brush strip that can be used for cable pass through. 48U panel has 2 1U cut outs with brush strip in the top and 1 1U cut out with brush in the bottom.

PART NUMBER	DESCRIPTION
546074G1L	42U x 800mm wide
546281G1L	48U x 800mm wide

Air Diverter for IT Switch

Captures and directs all of the hot exhaust air out the rear of the rack and into the hot aisle when a side breathing switch is used. **Available in 4U, 12U, 15U, and 21U.** Consult your switch manufacturers airflow specifications before applying.

PART NUMBER	DESCRIPTION	PART NUMBER	DESCRIPTION
546659G1L	4U Air Diverter	546659G3L	15U Air Diverter
546659G2L	12U Air Diverter	546659G4L	21U Air Diverter

SHELVES AND SUPPORT BRACKETS
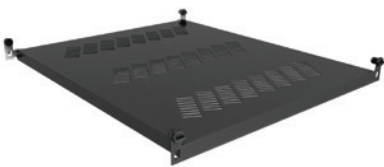
19" Fixed Tool less Shelf

19" adjustable vented shelves provides added versatility and accessibility with load rating of 275lbs (135kg).

Features

- Adjustable Depth for installation
- 23.5" (570mm) to 46" (1168mm)
- Surface Area 17.25" (438mm) W x 23.5" (570mm) D
- 1U Tool Less mounting shelf

Materials / Finish

- High grade cold rolled steel 1.5 mm thickness
- Powder coat finish
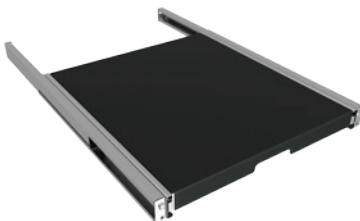- Standard color is RAL 7021 black grey

PART NUMBER	DESCRIPTION
002185000	19" Fixed Tool Less Shelf; 275lbs load rating

Telescopic Shelf
19" Telescopic Shelves

A high quality bearing slide mechanism provides smooth and convenient action for our shelves. The mounting kits are installed to the inside flange of the 19" rails. Depths range from 22.3" (566mm) to 46.0" (1168mm). Supports loads up to 110lbs (50kg)

PART NUMBER	DESCRIPTION
535809G1	Telescopic Shelf 110lb load rating

"L" Shaped depth adjustable support Rails

When additional support is needed for heavy loads, our support rails provide a suitable option. Depth Adjustable, the rails mount into the 19" rail side flanges and can support loads up to 110lbs (50kg)

PART NUMBER	DESCRIPTION
542777G1L	Support Rail Depth adjustable; load rating 110lbs

RPCBDM Bracket

Bracket attaches to the perf door and holds the RPCBDM display so it can be viewed without having to open the rack doors.

PART NUMBER	DESCRIPTION
538619G1L	RPCBDM bracket to mount BDM display to perforated door

XDV Mounting Bracket

Allows the XDV product line to be mounted properly on top of the rack.

PART NUMBER	DESCRIPTION
546080G1L	600W XDV mounting bracket
546079G1L	800W XDV mounting bracket

CABLE MANAGEMENT

19" Cable Routing Panel with D Rings

19" rack mounted cable routing panel with D rings provide the solution to those loose cables in the front or rear of your rack. Panels available in 1U height.

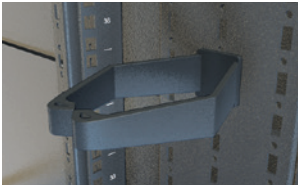| PART NUMBER	DESCRIPTION
011171448	19" Cable Routing Panel with D rings

1U Metal Blanking panel with Brush Strip

- Can be used as a blanking panel and allows for cable pass thru
- Color: RAL7021, Black
- Supplied in kit of 2pcs

PART NUMBER	DESCRIPTION
542190G1L	1U Metal Blanking Panel w/ Brush

Tool Less Cable Management –Lobster Claw

¼ Turn tool-less cable management piece offers the ultimate in flexibility in cable management. These can be installed on the outside edge of the 19" rail or on the PDU/Cable Management rail.

PART NUMBER	DESCRIPTION
002185050	Pack of 10 Lobster Claw
002185070	Pack of 100 Lobster Claw

Tool Less Cable Management – Velcro Strap

¼ Turn tool-less cable management piece offer the ultimate in flexibility in cable management. These can be installed on the outside edge of the 19" rail or on the PDU/Cable Management rail.

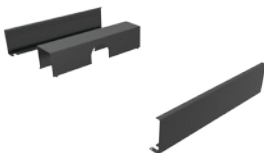| PART NUMBER	DESCRIPTION
002185060	Velcro Strap Pack of 10
002185080	Velcro Strap Pack of 100

19" Cable Trough

19" 1U rack mount cable trough that mounts on the 19" rails for effective horizontal routing of cables.

PART NUMBER	DESCRIPTION
ECT015	19" Cable Trough

Roof Mount Cable Management Kit

Roof mount cable management easily directs cables along the top of the row of racks. Includes front, center and rear piece.

PART NUMBER	DESCRIPTION
546273G1L	Roof mount cable management kit for 600W
546274G1L	Roof mount cable management kit for 800W

Roof Mount Horizontal Cable Management Kit

Roof mount cable management easily directs cables along the top of the racks. The horizontal cable management piece runs front to rear on each end of the row.

PART NUMBER	DESCRIPTION
546343G1L	Horizontal cable mgmt kit for 1100mm deep cabinet. Includes 2 pieces
546344G1L	Horizontal cable mgmt kit for 1200mm deep cabinet. Includes 2 pieces

CABLE MANAGEMENT / FANS / ADDITIONAL ACCESSORIES

Horizontal Cable Manager

Horizontal Cable Manager Mounts on the EIA rails to easily manager cables. Available in 1U and 2U.

PART NUMBER	DESCRIPTION
548784P1	1U Horizontal Cable Manager
548785P1	2U Horizontal Cable Manager

Vertical Cable Management Finger System - 18U

Allows for the passing of cables from rack to rack keeping the same U location.Comes in a Kit of 2 18U finger sections.

PART NUMBER	DESCRIPTION
010200078	Kit of (2) 18U Vertical Fingers includes mounting hardware

Cable Cover for Vertical Cable Fingers

Cover snaps on the cable fingers section to hide cables.

PART NUMBER	DESCRIPTION
546545P1	Cable cover for vertical cable manager 600 to 800 W rack configurations
546547P1	Cable cover for Vertical Cable Manager 800 to 8000W rack configurations

Back Plane for Vertical Cable Fingers

Back Planes install on the back side of the Vertical Cable Finger and allows for cable pass thru.

PART NUMBER	DESCRIPTION
546550P1	Cable Backplane for Vertical cable Manager 600 to 800W rack configurations
546553P1	Cable Backplane for Vertical cable Manager 800 to 800W rack configurations

Fans

Fans for Top Cover.

PART NUMBER	DESCRIPTION
163796G1L	1000L Low Noise Fan
163796G3L	1000H High Ambient Fan

Additional Accessories Handle options

PART NUMBER	DESCRIPTION
546058G1L	Door Handle (1ea)
546059G1L	Door Combo Lock (1ea)
546060G1L	Keys (Set of 4 keys)

Cluster Gasketing Kit

PART NUMBER	DESCRIPTION
546078G1L	Gasketing that seals space between suited racks.

23" EIA Rail Spacing Kit

Kit allows the EIA rails on an 800mm wide DCF rack to be adjusted to 23" spacing in lieu of the standard 19" rail placement.

PART NUMBER	DESCRIPTION
548649G1L	23" EIA Rail Spacing Kit for 800W rack

ADDITIONAL ACCESSORIES

DCF Bolt Down Brackets

*Included with shipment of rack. If you need additional brackets you can order under part # below. Can be used to secure rack to Data Center Floor.

PART NUMBER	DESCRIPTION
546268G1L	DCF Bolt Down Brackets (Set of 2)

Full Height PDU/Cable Mgmt Bracket

Each DCF rack ships with a qty 2 full height PDU/Cable mgmt bracket installed. You can order additional ship loose full height PDU/Cable mgmt brackets.

PART NUMBER	DESCRIPTION
546076G1L	42U 4" Full height PDU/Cable mgmt Bracket (1ea)
546077G1L	48U 4" full height PDU/Cable mgmt bracket (1ea)

DCF Casters

*All racks include swivel casters. If you need to order additional casters please use part number below.

PART NUMBER	DESCRIPTION
546269G1L	DCF Casters (Set of 4)

Mounting Hardware

One set included with each rack. Set includes 50 ea M6 cage nuts, plastic cup washers with matching screws. (1) cage nut installation/removal tool.
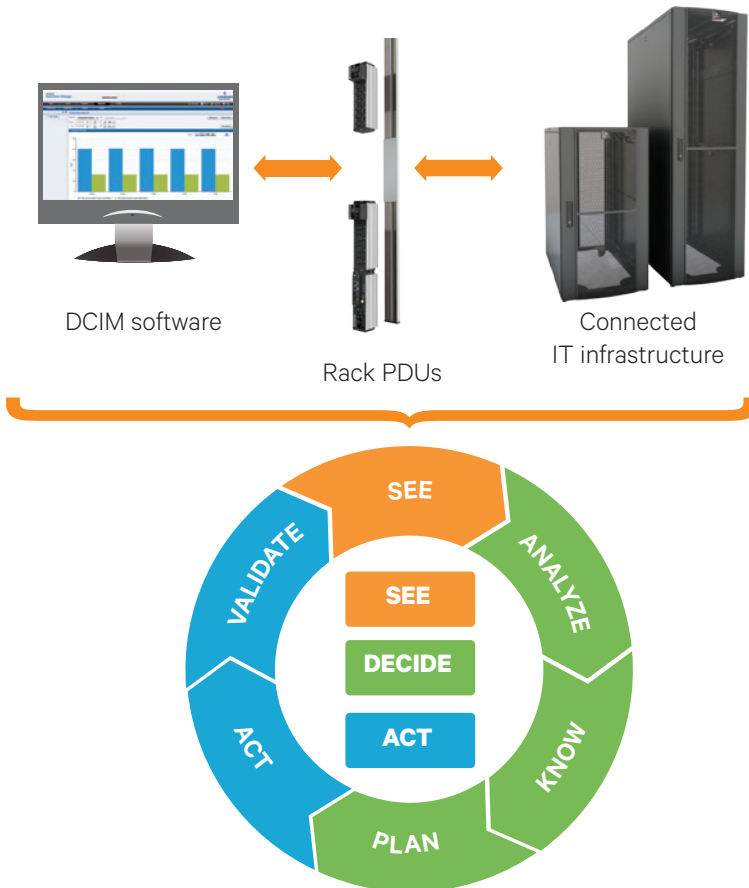If additional hardware is required order part number below.

PART NUMBER	DESCRIPTION
546189G1	DCF Mounting Hardware

Seismic Anchor Kit

PART NUMBER	DESCRIPTION
548233G1L	DCF Seismic Anchor Kit

Rack PDU (Power Distribution Units)

DCIM software

Rack PDUs

Connected
IT infrastructure

Enhance Business Agility, Efficiency and Availability with Vertiv™ Rack PDUs.

Data center investments are sizable, and each component of the power chain -from the building entrance to the rack power distribution - is crucial to enabling equipment availability. Enable your IT investment – and your business – to stay protected with Vertiv's family of rack PDU offerings.

Vertiv's next generation of rack PDUs provides the industry's highest availability and most intelligent power metering and distribution – complete with the simplified energy management, modular design and cost savings that ensure your data center – and your business – can operate at peak velocity and resiliency.

Our complete portfolio of rack PDUs offers value beyond power distribution. They easily integrate to your data center infrastructure management systems to make your organization more resilient, enhance your business velocity and provide the technological support you need to grow your company.

MPX™ and MPH2™ Rack PDUs

Intelligent, real-time infrastructure

- Communicate the status of rack-level power and environmental information to a centralized Data Center Infrastructure Management (DCIM)

- Allow monitoring and control to the receptacle level

Optimized level of visibility and control

- Provides the information needed to make informed decisions and enhance business agility

DCF™ OPTIMIZED RACK SYSTEM

MPX™:

Confidently take on the uncertain future of connected power requirements with MPX, the most responsive and adaptive rack PDU available. With MPX rack PDU technology, you can respond easily to rack equipment changes and dynamic capacity requirements.

MPH2™:

MPH2 is the most intelligent, high availability line of managed rack PDUs. It offers remote monitoring and control capabilities as well as environmental input options, with multiple power input selections and output configurations.

DI-STRIP:

DI-STRIP rack PDUs meet a broad range of power distribution requirements for IT and other applications. Designed especially to handle the growing number of electronic components that can be housed within network cabinets and server racks, the space saving product line is available in a range of configurations.

MPX™ — Adaptive Rack PDU

Confidently take on the uncertain future of connected power requirements with MPX, the most responsive and adaptive rack PDU available. With MPX rack PDU technology, you can respond to rack equipment changes and dynamic capacities by leveraging:

- Hot-swappable modular output power

- Hot-swappable modular communications

- Modular input power

MPX Benefits

- Adaptive capacity, distribution, monitoring, control and management of critical devices

- Flexibility to respond to constant change—redeploy modules to suit changing needs

- Buy only what you need and build on your investment

Designed for Critical Environments

- Critical rack space operating temperature—up to 55˚C / 131˚F to support hot internal rack environments

- Accurate power metering of +/-1% voltage & current for assured oversight

- Energy and power metering down to the individual receptacle

- Comprehensive alarming including notification of overloaded branch circuits

- Environmental sensing with threshold and alarm set-points

- Notification on the loss or removal of individual rack equipment loads

Reconfigurable Power Capacity & Distribution

The MPX rack PDU has a scalable design that allows onsite configuration to fit immediate IT equipment needs. It is the perfect choice to respond to the needs of a growing data center. Relocate or add IT equipment to support changing needs, by easily reconfiguring the power input and distribution.

Fits Needs Now And Later

The MPX rack PDU provides a wide selection of single phase and three-phase power input configurations— with the ability to field change while maintaining distribution infrastructure.

For a listing of available configurations, please visit the Vertiv PDU Selector at www.VertivCo.com

MPH2™

MPH2 is the most intelligent, high-availability line of managed rack PDUs. It offers remote monitoring and control capabilities as well as environmental input options, with multiple power input selections, output configurations, and form factors.

Models in 0U, 1U, and 2U form factors are available in the following versions:

- Outlet Level Metered and Switched

- Outlet Level Metered

- Rack PDU Metered and Outlet Switched

- Rack PDU Metered

MPH2 Benefits

- Monitors electrical and environmental parameters with user-configurable threshold and alarm tools

- Controls and manages individual receptacles and/or groups of loads and devices

- Allows you to predict failing conditions before they occur and proactively manage connected equipment for maximum uptime

- Energy and power metering to optimize the data center power and cooling infrastructure

- Lowest power consumption of all switched rack PDU designs ensures lower operating costs for datacenter

- Up to four MPH2 rack PDUs may be interconnected as a Rack PDU Array™, consolidating user IP connections and device monitoring.

Designed for Critical Environments

- Industry leading operating temperature— up to 60˚C / 140˚F to support hot Internal rack environments

- Bi-stable relays ensure basic power distribution in the event that intelligence is compromised

- Accurate power metering of +/-1% voltage & current for assured oversight

- Energy and power metering down to the individual receptacle

- Comprehensive alarming including notification of overloaded branch circuits

- Environmental sensing with threshold and alarm set-points

- Notification on the loss or removal of individual rack equipment loads

MPH2 Savings for a Typical Data Center

	TYPICAL 24 OUTLET RACK PDU	MPH2
Rack PDU power consumption (Watts)	23	7.5
Rack PDU annual energy consumption (kWh) —24x7x365	202	66
Overall contribution to datacenter energy consumption (kWh)*	383	125
Cost of energy consumption (based on average cost of 10¢/kWh)	$38	$13
Annual savings per PDU with MPH2		$26
Annual savings per rack with MPH2	$52	
Annual savings within the datacenter with MPH2	$5,160	

Based on a a comparison of switched rack PDU models for a typical 100 rack data center with a PUE of 1.9.
* per Energy Logic calculations

For a listing of available configurations, please visit the Vertiv PDU Selector at www.VertivCo.com

VertivCo.com | **Vertiv Headquarters,** 1050 Dearborn Drive, Columbus, OH, 43085, USA