



VERTIV VR Rack High Power Density Racking Systems User Manual

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*VERTIV VR Rack High Power Density Racking Systems
User Manual*

**Rapid Deployments Everywhere You Operate**

Standardize your deployments around the world and bring them online faster with the Vertiv™ VR rack. The Vertiv VR Rack supports a wide variety of equipment, including: servers, storage, switches, routers, PDUs, UPSs, console port servers and KVM switches.

The Vertiv VR Rack is delivered ready for high density environments to serve your mission critical needs — even as they evolve and change. This rack gives you the flexibility you need with easy installation.

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The Vertiv™ VR Rack offers these advantages:

- Available in 10 standard sizes.
- Full depth adjustability of the 19" rails.
- Frame design allow for more than 2.5" more usable depth than similar sized racks.
- Doors that have 77% perforation and can be hinged on either side.
- Tool-less removable top panel has four cable entry holes allowing for up to 2000 Cat6 cables, or 60A PDU plugs.
- Two dual purpose full height depth adjustable PDU / cable management brackets mounted in the zero U space with tool-less button mounting of rack PDUs, accessory mounting holes for tool-less cable management accessories, and integrated cable tie off positions.
- 42U frame height that allows for the rack to pass through standard doors on casters.
- Simple external baying, allows for metric baying or on 24" centers.
- Split side panels with single locking slam latch allows for easy single person removal / installation.

Pre-Integrated Rack PDUs

Save time and money by pre-integrating Vertiv™ Geist™ rPDUs with the Vertiv™ VR Rack. Contact your local sales representative to get started.



High Density Cable Entry Top Panel

Removable openings for cable entry — ready for front / rear cabling. Can accommodate over 2000 Cat 6 cables.



Doors

Single and split 77% perforated doors providing maximum airflow. Lift off hinges for easy removal, and field reversibility.

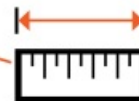
Frame

More usable depth compared to similar sized rack.



Tool-less Cable Management

Requires just inserting and twisting the tool-less accessories on 19" vertical mounting rail, or the PDU / cable management brackets.



Integrated 19" Rail Alignment

Ensures 19" rails are positioned correctly without measuring.



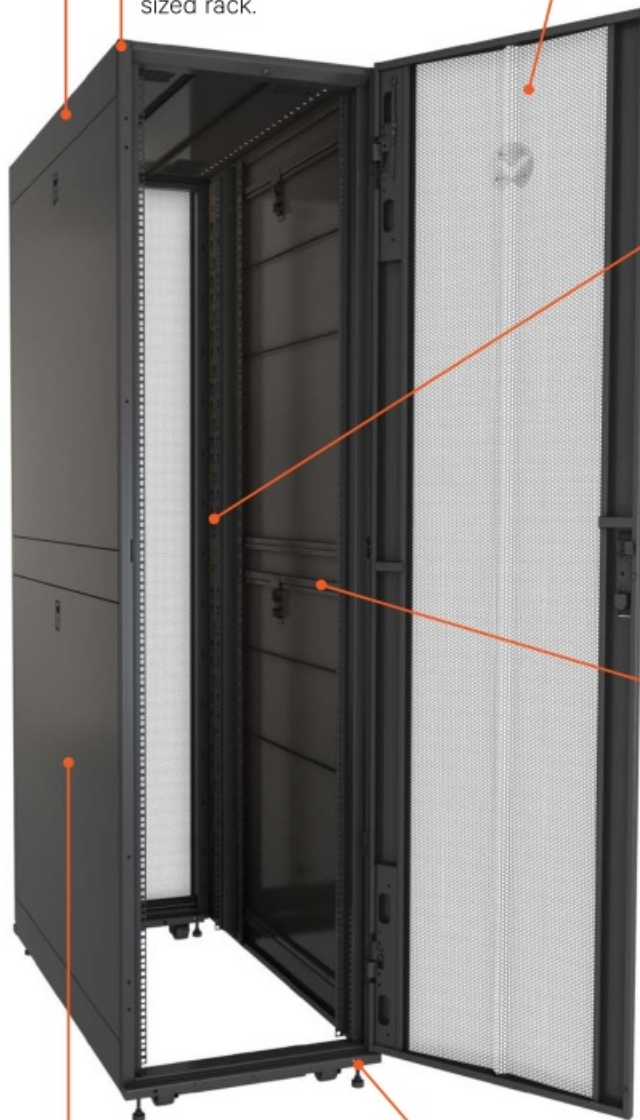
Split Locking Side Panels

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



Leveling Feet

Accessible from the top of the frame for easy adjustment.



Vertiv™ VR Rack Complete Rack

Part Number	U	Height Mm (Inches)*	Width Mm (Inches)*	Depth Mm (Inches)*
VR3100	42	2000 (78.6")	600 (23.6")	1100 (43.3")
VR3100SP	42	2000 (78.6")	600 (23.6")	1100 (43.3")
VR3100TAA	42	2000 (78.6")	600 (23.6")	1100 (43.3")
VR3300	42	2000 (78.6")	600 (23.6")	1200 (47.8")
VR3300SP	42	2000 (78.6")	600 (23.6")	1200 (47.8")
VR3300TAA	42	2000 (78.6")	600 (23.6")	1200 (47.8")
VR3150	42	2000 (78.6")	800 (31.5")	1100 (43.3")
VR3150SP	42	2000 (78.6")	800 (31.5")	1100 (43.3")
VR3150TAA	42	2000 (78.6")	800 (31.5")	1100 (43.3")
VR3350	42	2000 (78.6")	800 (31.5")	1200 (47.8")
VR3350SP	42	2000 (78.6")	800 (31.5")	1200 (47.8")
VR3350TAA	42	2000 (78.6")	800 (31.5")	1200 (47.8")
VR3105	45	2132 (83.9")	600 (23.6")	1100 (43.3")
VR3107	48	2265 (89.2")	600 (23.6")	1100 (43.3")
VR3107SP	48	2265 (89.2")	600 (23.6")	1100 (43.3")
VR3107TAA	48	2265 (89.2")	600 (23.6")	1100 (43.3")
VR3305	45	2132 (83.9")	600 (23.6")	1200 (47.8")
VR3307	48	2265 (89.2")	600 (23.6")	1200 (47.8")
VR3307SP	48	2265 (89.2")	600 (23.6")	1200 (47.8")
VR3307TAA	48	2265 (89.2")	600 (23.6")	1200 (47.8")
VR3157	48	2265 (89.2")	800 (31.5")	1100 (43.3")
VR3157SP	48	2265 (89.2")	800 (31.5")	1100 (43.3")
VR3157TAA	48	2265 (89.2")	800 (31.5")	1100 (43.3")
VR3357	48	2265 (89.2")	800 (31.5")	1200 (47.8")
VR3357SP	48	2265 (89.2")	800 (31.5")	1200 (47.8")
VR3357TAA	48	2265 (89.2")	800 (31.5")	1200 (47.8")

**Nominal dimensions, reference submittal drawings for exact dimensions
VRXXXXSP ship with 2000 lb. rated shock packaging
VRXXXXTAA are TAA Compliant*

Features

Complete rack includes:

- Single 77% perforated locking front door.
- Split 77% perforated locking rear doors.
- 2 pair split locking side panels.
- High density cable entry top cover (2000 Cat 6 cables).
- 2 sets of 19" EIA Rails. y 2 full height rack PDU Mounting / cable management brackets (one per side).
- Low profile casters and leveling feet.
- Baying brackets.
- Bolt down brackets.
- Hardware includes (50 each M6 cage nuts and screws), Cage nut installation tool, edge protection for top panel cable entry, T30 / Phillips L key, T30 extension driver.
- Keys.

Features

Frame

Frame capable of supporting up to 3000 lbs (1360kg) Static, 2250 lbs (1022kg) Dynamic, 2000 lbs (907kg) Transport (with Shock Package).

Simple external baying, allows for metric or on 24" centers and leveling feet incorporated into the frame for easy

adjustment.

42U frame height that will allow access through standard doors on four swivel casters.

Door & Side Panels

Single perforated front door and split rear doors with tool-less lift off hinges.

Locking handles.

Field reversible doors.

77% perforation exceeds IT manufacturers specifications.

Split side panels with single locking slam latch.

Top Panel

Tool-less removeable top panel.

Integrated hole pattern for easy installation of top panel accessories (cable management, modular busway support brackets, ladder / cable tray support brackets).

Four cable entry holes allowing for up to 2000 Cat6 cables, or 60A PDU plugs.

Top Panel load capacity of 150 lbs.

19" Mounting Rails

(2) Pair of full height 19" EIA mounting rails, accepts cage nuts, U markings on front and rear of each rail.

Depth markings included on frame for easy alignment.

Accessory mounting holes along rails allow for mounting of cable management fingers and tool-less accessories.

Rectangular cutouts for routing cables through 800mm (31.5") wide 19" EIA rails from front to rear or for airflow for side breathing equipment.

Full depth adjustability within the usable space.

PDU / Cable Management Brackets

Two dual purpose full height depth adjustable PDU / Cable Management brackets mounted in the zero U space.

Button mount keyholes throughout to accommodate tool-less button mounting of rack PDUs of various heights.

Accessory mounting holes allow for mounting of tool-less cable management accessories. Integrated cable tie off positions. Depth adjustable.

Color

Frame, doors, side panels, top panel, rails and PDU brackets are powder coated RAL 7021 (Black).

Certifications

EIA 310E

UL2416

RoHS

REACH

The Vertiv™ VR Rack is prepared for high density environments to serve your mission critical needs — even as they evolve and change. The following common dash options give you increased flexibility and allow for customization of the rack to better equip your edge and enterprise locations.

Suffix	Description
Standard Product	
-001	No Front Door, No Rear Door, No Right Side Panels, No Left Side Panels
-002	No Front Door, No Rear Door
-003	No Front Door
-004	No Rear Door
-005	No Right Side Panels
-006	No Left Side Panels
-007	No Right Side Panels, No Left Side Panels
-013	No Front Door, No Rear Doors, No Roof, No Side Panels



Rack Weight by Base Model and Option (KG [LB])									
Suffix	Standard	-001	-002	-003	-004	-005	-006	-007	-013
VR3100	126.7 [279.3]	78.2 [172.4]	105.8 [233.2]	116.3 [256.4]	116.2 [256.1]	112.9 [248.9]	112.9 [248.9]	99.1 [218.6]	72.5 [159.8]
VR3300	136.9 [301.8]	86.0 [189.5]	116.0 [255.6]	126.5 [278.9]	126.4 [278.6]	121.9 [268.7]	121.9 [268.7]	106.9 [235.7]	79.7 [175.6]
VR3150	161.8 [356.7]	110.8 [244.4]	138.4 [305.1]	150.8 [332.5]	149.4 [329.4]	148.0 [329.3]	148.0 [326.3]	134.2 [295.9]	103.8 [228.9]
VR3350	165.7 [365.3]	112.3 [247.6]	142.3 [313.7]	154.7 [341.1]	153.3 [338.0]	150.7 [332.2]	150.7 [332.2]	135.7 [299.2]	103.8 [228.8]
VR3105	161.8 [356.7]	110.8 [244.4]	138.4 [305.1]	150.8 [332.5]	149.4 [329.4]	148.0 [326.3]	148.0 [326.3]	134.2 [295.9]	103.8 [228.9]
VR3107	162.3 [357.8]	104.2 [229.7]	137.0 [302.0]	149.3 [329.2]	150.0 [330.7]	145.9 [321.7]	145.9 [321.7]	129.5 [285.5]	98.5 [217.2]
VR3305	154.0 [339.5]	103.1 [227.2]	133.1 [293.3]	142.3 [313.7]	143.5 [316.3]	139.0 [306.4]	139.0 [306.4]	124.0 [273.4]	96.8 [213.3]
VR3307	166.0 [366.0]	105.5 [232.6]	140.7 [310.2]	153.0 [337.3]	1537.7 [338.9]	148.4 [327.2]	148.4 [327.2]	130.8 [288.4]	99.2 [218.7]
VR3157	175.7 [387.4]	114.3 [251.9]	147.1 [324.3]	160.7 [354.3]	162.1 [357.3]	159.3 [351.2]	159.3 [351.2]	142.9 [315.0]	107.3 [236.5]
VR3357	179.6 [396.0]	115.8 [255.3]	151.0 [332.9]	164.6 [362.9]	166.0 [365.9]	162.0 [357.1]	162.0 [357.1]	144.4 [318.3]	107.3 [236.5]

Cable Management

Horizontal Cable Organizers with Metal D Rings

19" rack mounted cable routing panels with D rings provide the solution for loose cables in the front or rear of your rack. Panels available in 1U and 2U heights. Color: black.

Part Number	Description
VRA1000	1U Horizontal Cable Organizer with Metal D Rings (Qty. 1)
VRA1001	2U Horizontal Cable Organizer 2U with Metal D Rings (Qty. 1)



VRA1000



VRA1001

Horizontal Cable Managers with Covers

19" Horizontal Cable Manager with cover. Mounts on the EIA rails to easily manage cables. Available with 4" deep or 6" deep finger sections. Color: black.

Part Number	Description
VRA1002	Horizontal Cable Manager, 1U x 4" Deep, Single-Sided with Cover (Qty. 1)
VRA1003	2U x 4" Deep Horizontal Cable Manager, Single-Sided with Cover (Qty. 1)
VRA1022	2U x 6" Deep Horizontal Cable Manager, Single-Sided with Cover (Qty. 1)
VRA1023	1U x 6" Deep Horizontal Cable Manager, Single-Sided with Cover (Qty. 1)



VRA1002

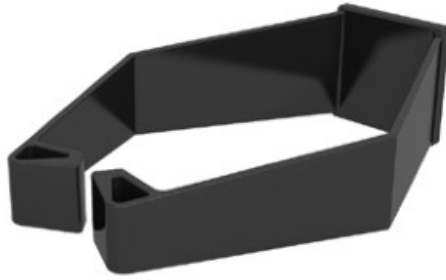


VRA1022

Tool-Less Cable Management: Lobster Claw

1/4 Turn Tool-less Cable Management Lobster Claw offers the ultimate in flexibility in cable management for moves, adds, and changes. Lobster claws install on 19" vertical mounting rails. Claw can also be installed on PDU/cable management rails. Color: black.

Part Number	Description
VRA1004	Tool-Less Cable Management -Lobster Claw (Qty. 10)
VRA1006	Tool -Less Cable Management -Lobster Claw (Qty. 100)



VRA1004

Tool-Less Cable Management: Velcro Strap

1/4 turn tool-less cable management Velcro Straps 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. Color: black.

Part Number	Description
VRA1005	Tool Less Cable Management - Velcro Strap (Qty. 10)
VRA1007	Tool Less Cable Management - Velcro Strap (Qty. 100)



VRA1005

1/4 Turn Tool-Less Cable Management: D Rings

1/4 Turn Tool-less Cable Management D Rings offer the ultimate in flexibility in cable management. These can be installed on the 19" rail or on the PDU/ Cable Management rail. Color: black.

Part Number	Description
VRA1008	Tool-less D Rings Small (Qty. 10)
VRA1009	Tool-less D Rings Small (Qty. 100)
VRA1010	Tool-less D Rings Large (Qty. 10)
VRA1011	Tool-less D Rings Large (Qty. 100)



VRA1008 and VRA1009



VRA1010 and VRA1011

Horizontal Cable Manager Side Channel

The Horizontal Cable Manager Side Channel manages cables from the front to rear of 800 wide racks. Depth adjustability allows for installation in racks with different rail spacing. Color: black.

Part Number	Description
VRA1013	Horizontal Cable Organizer Side Channel 20 to 33 inch adjustment (Qty. 1)
VRA1024	Horizontal Cable Organizer Side Channel 22 to 38 inch adjustment (Qty. 1)



VRA1013

Vertical Cable Management Kit

Vertical Cable Finger Sections can be installed on front or rear 19" rails; Fingers align with "U" marking to create clean cable pathways, providing a vertical row of cable management fingers. The 600 mm wide version has a single row of vertical fingers, the 800mm wide version as two rows. Color: black.

Part Number	Description
VRA1014	Vertical Cable Manager 600mm Wide 42U (Qty. 2)
VRA1015	Vertical Cable Manager for 600mm Wide 48U (Qty. 2)
VRA1016	Vertical Cable Manager for 800mm Wide 42U (Qty. 2)
VRA1017	Vertical Cable Manager for 800mm Wide 48U (Qty. 2)



VRA1014



VRA1016

Cable Trough

Part Number	Description
VRA8581	Cable Trough, 300mm
VRA8561	Cable Trough, 600mm
VRA8571	Cable Trough, 800mm
VRA8567	Cable Trough, End Caps (Set of 2)
VRA8573	Cable Trough Cover, 300mm
VRA8574	Cable Trough Cover, 600mm
VRA8575	Cable Trough Cover, 800mm
VRA8501	Cable Trough, Cable Alignment Kit (Set of 2)
VRA8502	Cable Trough, Connector Kit (Set of 2)
VRA8503	Cable Trough, Cable Separation Kit (Set of 12)
VRA8504	Cable Trough Grounding Wire, 750mm (Set of 10)
VRA8505	Cable Trough, 300mm Height Extension
VRA8506	Cable Trough, 600mm Height Extension



VRA8561 Cable Trough 600mm

Hinged Covers

Snap-on hinge covers for the Vertical Cable Managers conceal cables for a clean, professional look and easy

access.

Part Number	Description
VRA1018	Hinged Covers 800mm Wide 42U Vertical Cable Manager (Qty. 2)
VRA1020	Hinged Covers 800mm Wide 48U Vertical Cable Manager (Qty. 2)



VRA1018

Vertical Cable Organizer

Vertical Cable Organizers provide easy cable management solutions for a single rack. Tool-lessly attaches to the PDU/Cable management brackets providing a vertical cable pathway. Color: black.

Part Number	Description
VRA1021	Vertical Cable Organizer, 8 Cable Rings, Zero U (Qty. 2)



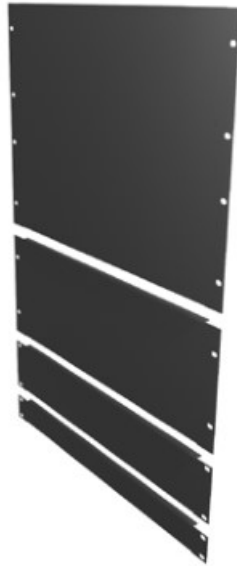
VRA1021

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 within the rack. Promoting proper airflow, and minimizing bypass air. Color: black.

Part Number	Description
VRA2000	1U 19" Black Plastic Tool Less Airflow Blanking Panel (Qty. 10)
VRA2001	1U 19" Black Plastic Tool Less Airflow Blanking Panel (Qty. 200)
VRA2002	19" Sheet Metal Airflow Blanking Panel Kit (1U, 2U, 4U, 8U) Black (Qty. 1 ea. Size)
VRA2003	1U 19" Sheet Metal Airflow Blanking Panel Kit Black (Qty. 2) Black
VRA2013	2U Blanking Panel, QTY 10
VRA2014	2U Blanking Panel, QTY 200



VRA2002

Air Recirculation Prevention Kit

Prevent air recirculation within the rack by filling the space between the 19" rails and side panels on 600 mm and 800 mm wide racks. Color: black.

Part Number	Description
VRA2004	Air Recirculation Prevention Kit



VRA2004

19" Rail Brush Strips

The 19" Rail Brush Strips prevent air recirculation within the rack by sealing the cable pass through holes on 800 mm wide 19" rails. Color: black.

Part Number	Description
VRA2005	19" Rail Brush Strips, 800mm Wide (Qty. 12)



VRA2005

Cable Pass Through Brush Kit for Top Panel

The Cable Pass Through Brush Kit for Top Panels allow cabling to enter the rack while restricting by pass air. Color: black.

Part Number	Description
VRA2006	Cable Pass Through Brush Kit for Top Panel (Qty. 8)



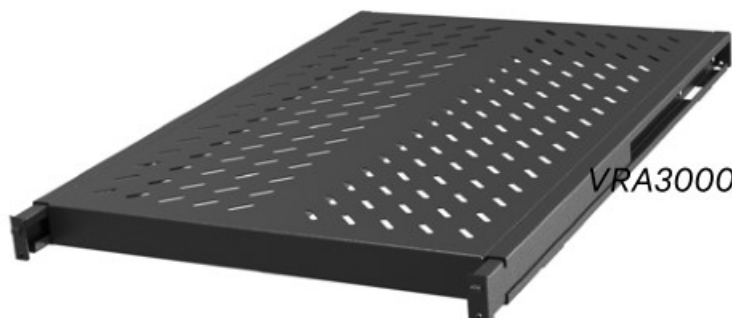
VRA2006

Shelves and Support Brackets

19" Depth Adjustable Fixed Shelf 250lbs Black

The 19" Fixed Tool-less Shelf can be used for non 19" rack mount equipment or as additional support for 19" rack mount equipment. The shelves have an adjustable installation depth from 27.6"(700mm) to 33.6"(854mm)D, Color: black

Part Number	Description
VRA3000	1U Depth Adjustable Fixed shelf 250lbs Black (Qty. 1)

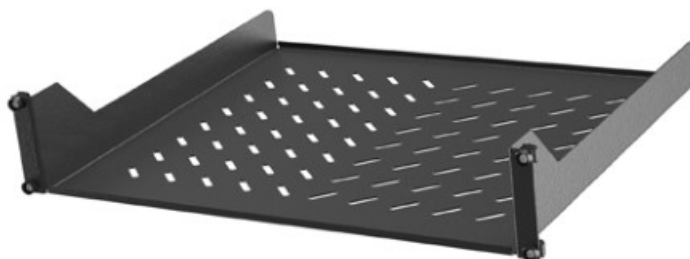


VRA3000

2U 19" Cantilever Fixed Shelf 50Lbs Black

Enables the mounting of a monitor or other equipment into the rack environment. Color: black.

Part Number	Description
VRA3001	2U 19" Cantilever Fixed Shelf 50lbs Black (Qty. 1)



VRA3001

1U Depth Adjustable Sliding Shelf 200lbs Black

The 19" Telescopic Shelf utilizes high quality bearing slide rails to provide smooth and convenient action. Depth adjustability range from 21.7"(550mm) to 33.6"(854mm)D, Color: black

Part Number	Description
VRA3002	1U Depth Adjustable Sliding Shelf 100lbs Black (Qty. 1)
VRA3003	1U Depth Adjustable Sliding Shelf 200lbs Black (Qty. 1)



VRA3003

1U Depth Adjustable Equipment Support Rails 100lbs

When additional support is needed for heavy loads, our support rails provide a suitable option. Depth Adjustable from 28.5"(724mm) to 31.6"(803mm), the rails mount into the 19" rail side flanges and can support loads up to 100lbs (45kg).

Part Number	Description
VRA3004	1U Depth Adjustable Equipment Support Rails 100lbs (Qty. 2)



VRA3004

Bolt Down Brackets

Bolt Down Brackets are used to secure rack to data center floor when anti-tip is required. Brackets are included with shipment of rack. Additional brackets can be ordered. Color: black.

Part Number	Description
VRA4001	VR Anti Tip Stabilizer Plate for 600mm/800mm Wide cabinets (Qty. 2)

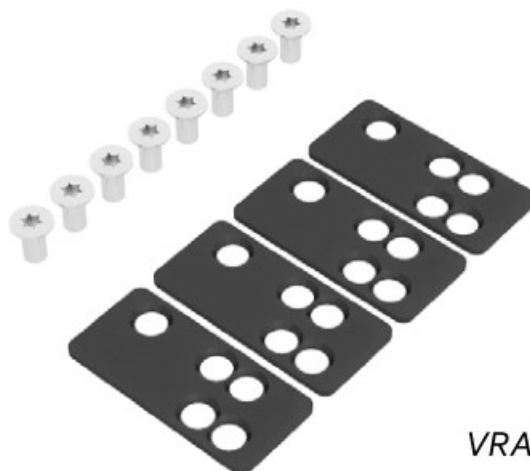


VRA4001

Baying and Hardware

Baying Hardware Kits come standard with every Vertiv™ VR Rack. Additional kits may be purchased if the original brackets have been misplaced. When baying racks together on 24-in. centers, use a Baying Gasket Kit to seal the gap between the racks to maintain proper air circulation.

Part Number	Description
VRA5002	Baying Kit: Baying Hardware Kit (1 Kit)
VRA5003	Baying Gasket kit for use when baying racks on 24" centers

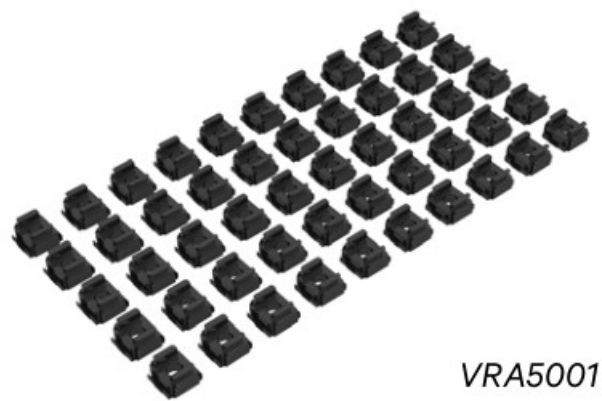


VRA5002

Mounting Hardware

One set included with each rack. Includes 50 each M6 cage nuts and plastic cup washers with matching screws. Includes one cage nut installation/removal tool. Additional packs of hardware can be ordered if needed.

Part Number	Description
VRA5001	10-32 Cage Nuts (Qty. 50)
VRA5000	Mounting Hardware (Qty. 50 M6 cage nuts, screws, washers)

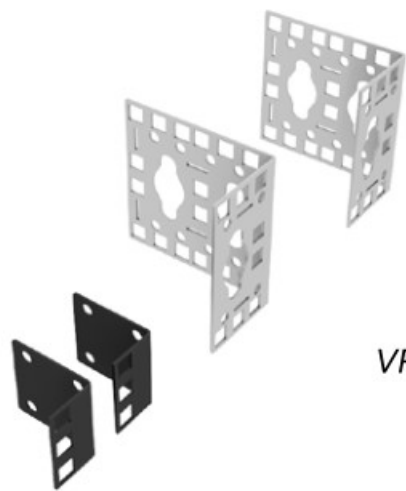


VRA5001

Zero U Accessory Mounting Bracket (Qty. 2)

Installs in various locations within the rack, providing mounting options for rack PDUs and other small accessories.

Part Number	Description
VRA5004	Zero U Accessory Mounting Bracket (Qty. 2)



VRA5004

Doors and Security

Handle Options

Interchange rack handles for various degrees of security.

Part Number	Description
VRA6023	Combination Lock Handle (Qty. 2)



VRA6023



Vertiv™ VR RACK
42U 600W 1100 D
Part #: VR3100



Vertiv™ VR RACK
42U 600W 1100 D
Part #: VR3105



Vertiv™ VR RACK
48U 600W 1100 D
Part #: VR3107



Vertiv™ VR RACK
42U 800W 1100 D
Part #: VR3150



Vertiv™ VR RACK
48U 800W 1100 D
Part #: VR3157



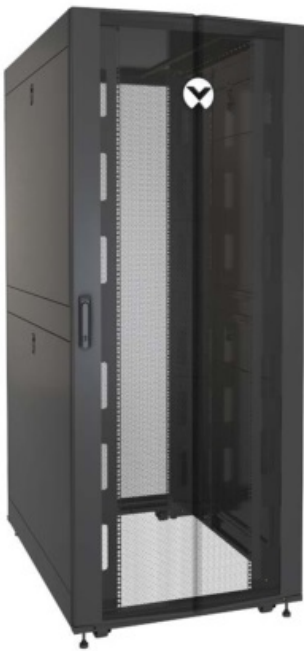
Vertiv™ VR RACK
42U 600W 1200 D
Part #: VR3300



*Vertiv™ VR RACK
45U 600W 1200 D
Part #: VR3305*



*Vertiv™ VR RACK
48U 600W 1200 D
Part #: VR3307*



*Vertiv™ VR RACK
42U 800W 1200 D
Part #: VR3350*




*Vertiv™ VR RACK
48U 800W 1200 D
Part #: VR3357*



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Documents / Resources

	<p>VERTIV VR Rack High Power Density Racking Systems [pdf] User Manual VR Rack High Power Density Racking Systems, VR Rack, High Power Density Racking Systems, Power Density Racking Systems, Density Racking Systems, Racking Systems</p>
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References

-  [Vertiv - Official Web Site](https://www.vertiv.com)