



Vertiv™ VRC Self-Contained IT Rack Cooling System

Plug-and-Play Cooling
Solution for Small IT Spaces
and Edge Applications

**2020 AHR Expo Innovation
Award Finalist**



Vertiv™ VRC Self-Contained Rack Cooling System

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Efficiently Solve Your Small Space Thermal Management Challenges

The Vertiv™ VRC self-contained IT rack cooling system makes it easy and affordable to achieve reliable, efficient cooling for critical equipment in small server rooms, network closets, and edge computing spaces. Providing up to 3,500 watts of IT server cooling in an easy-to-install and space-saving design, the Vertiv VRC system is an all-in-one solution. Its integrated heat rejection system simplifies your thermal management challenges. The energy-efficient features and scalable capacity of the Vertiv VRC self-contained rack cooling system make it an obvious choice for protecting your dynamic IT space and your business.

As growth at the edge of networks continues to expand exponentially and businesses seek to maximize useful, revenue-generating space in their facilities, space for IT is shrinking. IT managers struggle with how to properly protect critical IT equipment without sacrificing valuable floor space. Until now, available cooling solutions either lacked the needed capacity, were difficult to manage, or were simply too large. The Vertiv VRC solves these problems with a rack-based solution that packs 3,500 watts of cooling capacity into an IT-grade system, saving you space, time and money.

Small but Mighty

The Vertiv VRC self-contained cooling system is designed to fit within standard Electronic Industries Alliance (EIA) 19-inch network racks. It works equally well with both open (perforated) and solid (or plexiglass) closed-rack systems, freeing up valuable floor space. With 3,500 watts of IT cooling for critical equipment and variable speed components to easily match heat loads in real time, small room cooler reduces energy consumption while reliably and efficiently meeting your changing needs.

Easy to Install for Rapid Deployment

Facility managers will appreciate the simple installation of the Vertiv VRC system. It comes with a power cord and plug for incredibly quick deployment. For small spaces, the system uses an easy-to-connect heat rejection duct to move hot air into the double ceiling where it can be handled by the building's air conditioning system. It can also be used in larger applications, such as manufacturing halls and warehouses, where heat can be discharged directly into the room. The Vertiv VRC units come pre-charged with refrigerant and a complete installation kit to make quick work of system deployment.

Keeping You on Top of Cooling Performance

IT managers can monitor the status and performance of the Vertiv VRC self-contained system on the unit's display or remotely using the plug-in SNMP communication card or Modbus RTU. If cooling ever falls outside of predefined thresholds, staff will receive instant notifications and can take action to protect valuable IT equipment.



Vertiv™ VRC Applications Examples

Vertiv VRC Applications

- Vertiv VRC can be installed on 2 post or 4 post racks
- Optional 2 post rack installation kit is available to enable easy installation into 2 post
- It can be installed in both - Open or closed racks



4 post rack installation in a thermally separated rack - Vertiv™ VRC-S solution

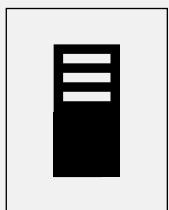


2 Post Rack Installation

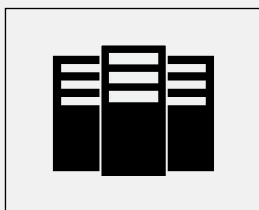
For best performance we recommend to install Vertiv VRC in a thermally separated rack. Vertiv is offering a complete solution Vertiv VRC-S which includes thermally separated Vertiv VR Rack and Vertiv VRC cooling module.

If you would like to learn more about the Vertiv VRC-S solution please refer to a dedicated Vertiv VRC-S brochure.

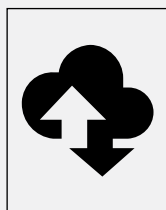
TARGET APPLICATIONS:



Network Closets



Small Server Rooms



Edge Spaces

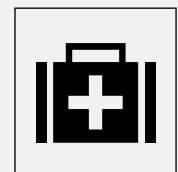
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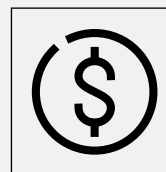
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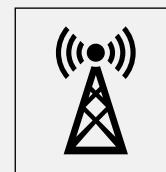
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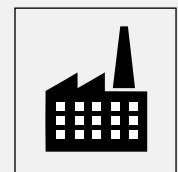
Healthcare



Finance



Telecom

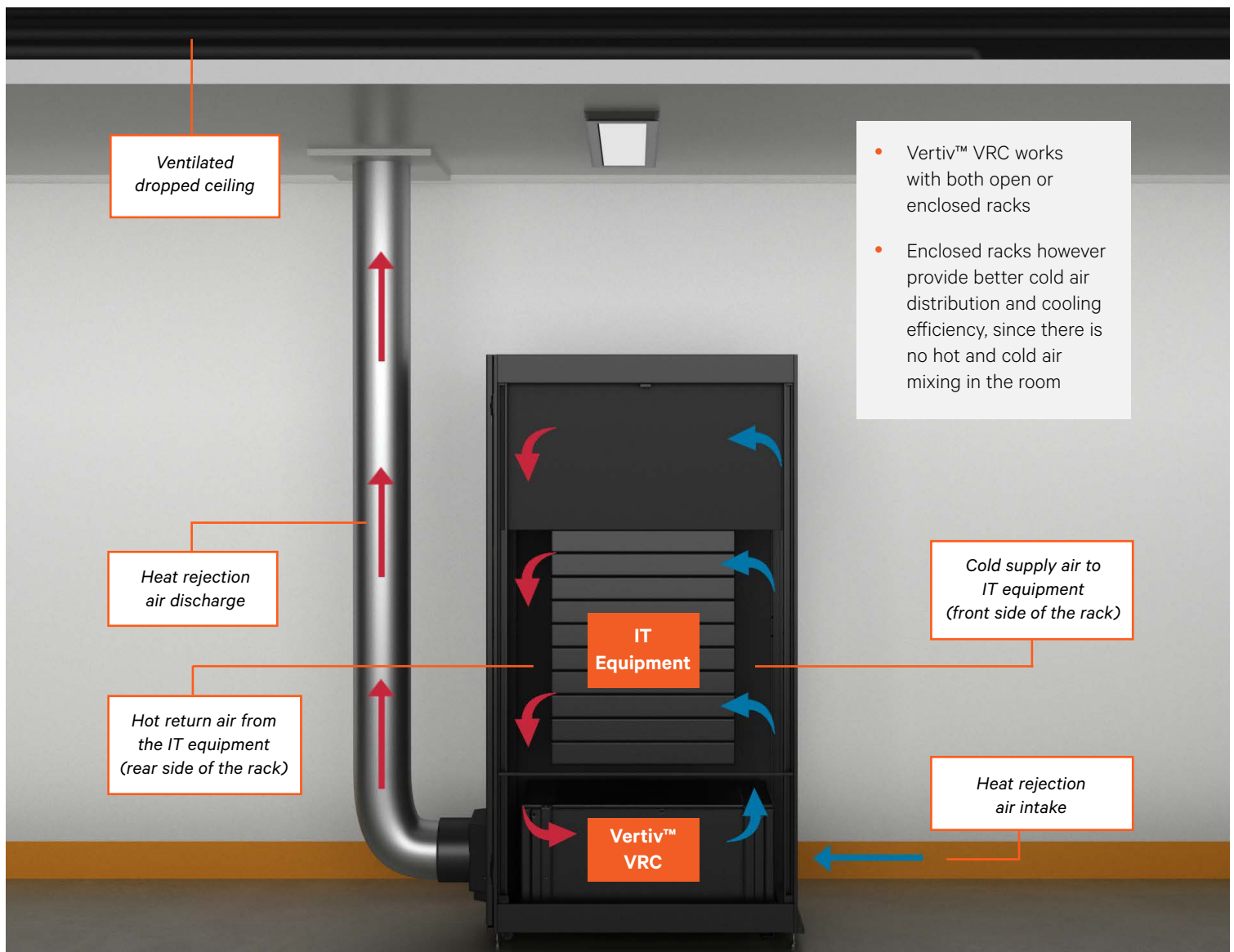


Industry

Vertiv™ VRC Self-Contained Rack Cooling System

Key Benefits

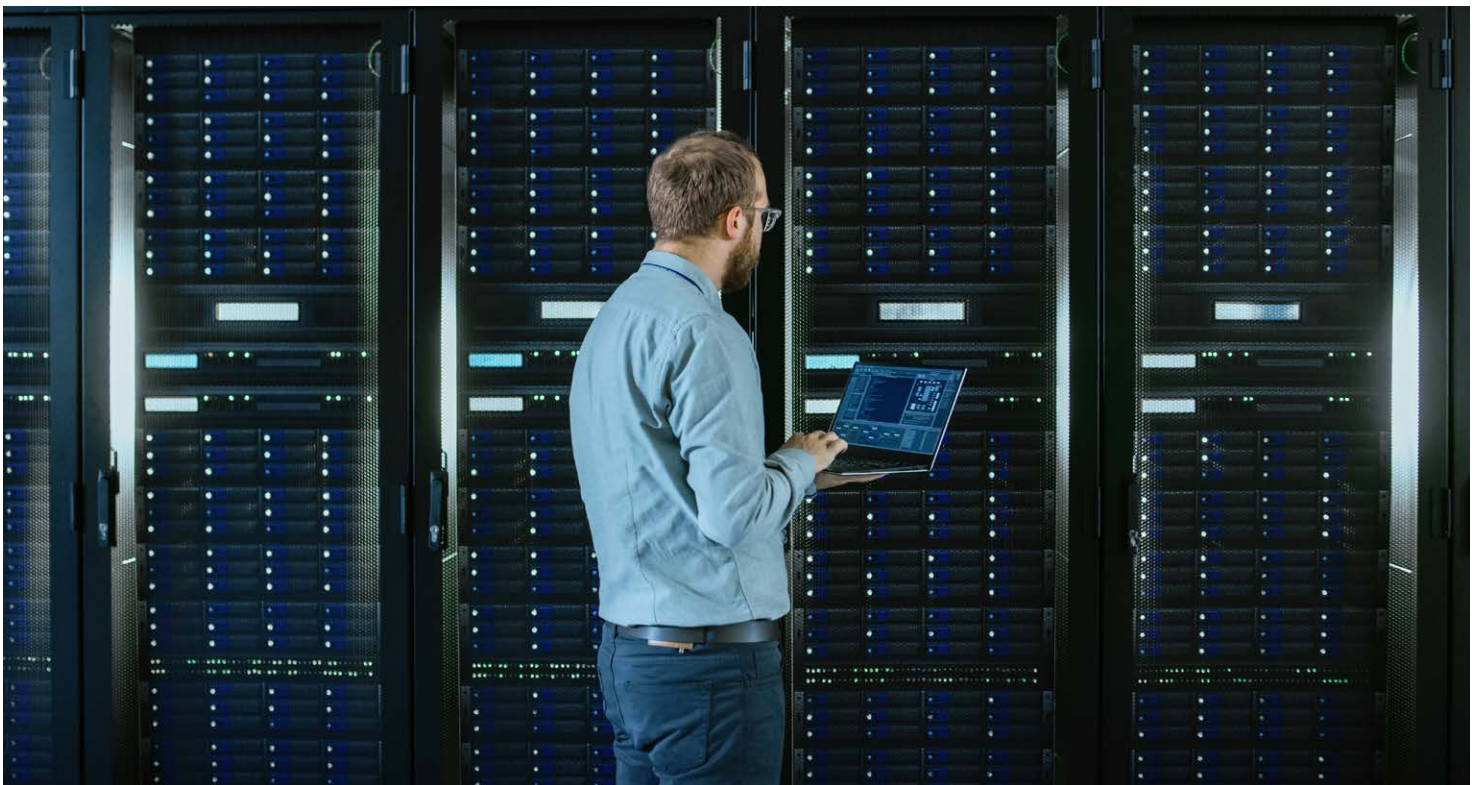
- Reliably and efficiently satisfies cooling requirements for small room and edge applications up to 3.5 kW per cabinet
- Fits into standard racks, leaving the valuable floor space free in small IT rooms
- Reduces capital expenses and deployment costs with simple installation and no need to run refrigerant piping between an outdoor and indoor unit
- Improves efficiency and reduces operating costs with real-time cooling and capacity adjustments
- Provides peace of mind and ease of management through remote monitoring capabilities
- 2 years standard warranty



Airflow Diagram Vertiv VRC











Vertiv™ VRC Self-Contained Cooling System Features

- **Rack-mounted unit** fits most standard 19-inch network racks; 1200mm deep rack is recommended.
- **Plug-and-play design** with multiple voltage options of 120V-1ph-60Hz, 208V-1ph-60Hz, 230V-1ph-50Hz (CE)
- **Variable speed compressor and fans** to match cooling with the load in the room
- **Integrated heat rejection system** with flexible duct that connects the cooling unit easily to the ceiling plenum
- **Pre-charged with refrigerant** from the factory for simplified installation
- **Add-on condensate pump** to help remove water and simplify condensate management
- **Multiple monitoring options** including an on-unit display, plug-in SNMP card for monitoring remotely over the network, and Modbus RTU for connection to the building management system
- **Alarm notifications** sent via email or SMS
- **Complete installation kit** shipped with every unit includes a flexible heat rejection duct, ceiling tile with adapter for duct connection, and make-up air filter with a ceiling grille
- **Available as part of a Vertiv VR Rack system bundle**, offering a comprehensive server room or edge application solution including UPS, rack power distribution unit (rPDU), rack, and KVM switch



Vertiv™ VRC Self-Contained Rack Cooling System

Included in the Packaging

Image	Description:
	<p>Transition Part for Heat Rejection Air Duct</p> <ul style="list-style-type: none">• Adapter which enables easy installation of the heat rejection air duct
	<p>Flexible Air Duct for Heat Rejection</p> <ul style="list-style-type: none">• Length: 12.5ft (3,8m)• With 2 installations clamps included
	<p>Heat Rejection Ceiling Tile</p> <ul style="list-style-type: none">• With circular collar for duct connection
	<p>Air Intake Ceiling Tile with Filter</p> <ul style="list-style-type: none">• For room make up air• With integrated air filter
	<p>Evaporator Air Filter</p> <ul style="list-style-type: none">• MERV 1 filtration class• Cleanable
	<p>L-shape Mounting Rail Kit</p> <ul style="list-style-type: none">• Enable Vertiv™ VRC unit installation into a 19" 4 post Rack
	<p>SIC Card Kit</p> <ul style="list-style-type: none">• Remote monitoring card with housing• SNMP, Web and Modbus protocols
	<p>Condensate Pump Kit</p> <ul style="list-style-type: none">• Automatically removes condensed water from the cooling unit.• 25 ft (7,5m) long drain pipe included in the packaging
	<p>Lifting Straps</p> <ul style="list-style-type: none">• Help to lift and position the unit into the rack
	<p>Remote Display</p> <ul style="list-style-type: none">• Change Setpoints and See alarms through user friendly interface• With magnetic holder can be attached to any metal surface• Cable included

Vertiv™ VRC100 Technical Specifications

SKU#	VRC100KIT	VRC101KIT	VRC102KIT
Region	Americas	Americas	Europe, Middle East and Africa
Input Voltage	120V/1Ph/60Hz	208V/1Ph/60Hz	230V/1Ph/50Hz
Net Sensible Cooling Capacity*	3500W (12000BTU/h)	3500W (12000BTU/h)	3500W (12000BTU/h)
Capacity Modulation	25 - 100%	25 - 100%	25 - 100%
Power Plug	5-20P	6-20 P	Type I plug (IEC60320)
Total Current	16.5 Amps	13.1 Amps	11.5 Amps
Refrigerant	R410A	R410A	R410A
Communications	SNMP, Modbus RTU	SNMP, Modbus RTU	SNMP, Modbus RTU
Approvals	UL	UL	CE
Standard Warranty	2 years	2 years	2 years
Occupied U space	10U	10U	10U
Dimensions (H x D x W)	17.3 x 38.5 x 17.4 in (439 x 978 x 442 mm)	17.3 x 38.5 x 17.4 in (439 x 978 x 442 mm)	17.3 x 38.5 x 17.4 in (439 x 978 x 442 mm)
Weight	161 lbs (73kg)	161 lbs (73kg)	165lbs (75kg)

* Air Temperature to IT equipment 21°C (70°F), Heat Rejection inlet air temperature 25°C (77°F)

Optional Accessories

Accessory	SKU#	Description
2 Post Rack Mounting Kit	2POSTRMKITVRC	This Kit enables Installation of the Vertiv™ VRC unit in a 2-post rack

Services

Service Offering	Description	Included
Preferred Warranty	Two-year protection program for Vertiv VRC. It can be purchased only at the point of sale, it is valid throughout the two-year warranty period	Coverage of faulty parts as per standard warranty terms <ul style="list-style-type: none"> • Labor and travel coverage as per standard warranty terms • 8 working hours response time • One annual preventive maintenance visit • 24x7 access to professional helpline
Integrated Warranty Extension	One-year after-warranty protection program	Coverage of faulty parts excluding consumables <ul style="list-style-type: none"> • Labor and travel coverage • 8 working hours response time • One annual preventive maintenance visit • 24x7 access to professional helpline
Additional Services	Additional services available on 8x5 or 24x7 basis	<ul style="list-style-type: none"> • Electrical and mechanical installation • Start-up



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