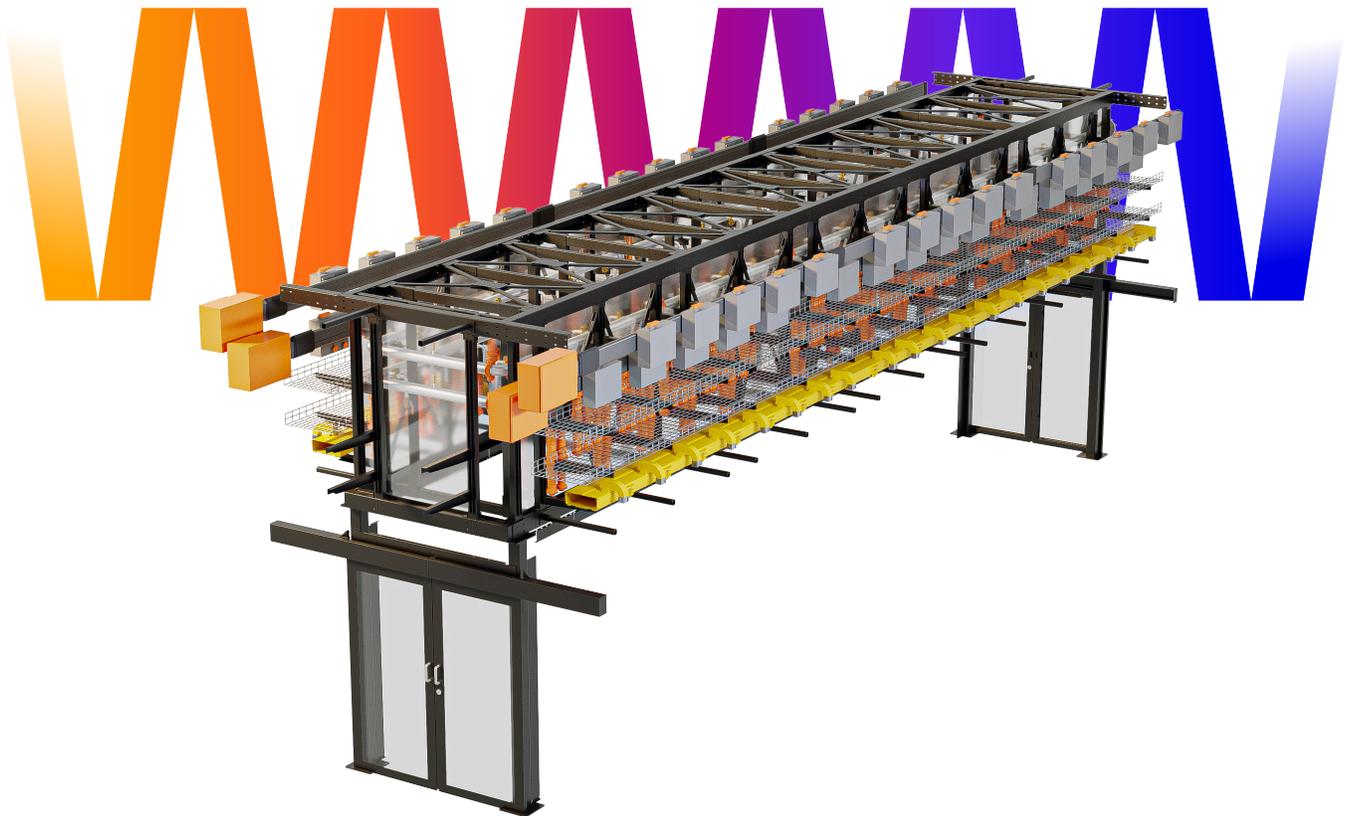




Product brochure

# Vertiv™ SmartRun

Integrated overhead IT solution





## Table of Contents

About Vertiv	3
Simplifying overhead infrastructure for modern datacenters	4
All-in-one Modular Design	6
Building Faster requires building Smarter	7
Vertiv Installation and Liquid Cooling Services	8
Vertiv™ SmartRun Specification Table	10
Vertiv™ SmartRun Configuration Table	11
Vertiv™ SmartRun Rack Tap Kits Specification Table	12
Vertiv™ SmartRun Rack Tap Kits Configuration Tables	13
Reference Design	14



# About Vertiv

Vertiv (NYSE: VRT) brings together hardware, software, analytics and ongoing services to enable its customers' vital applications to run continuously, perform optimally and grow with their business needs. Vertiv solves the most important challenges facing today's data centers, communication networks and commercial and industrial facilities with a portfolio of power, cooling and IT infrastructure solutions and services that extends from the cloud to the edge of the network.

**VRT**  
**LISTED**  
**NYSE**

Headquartered in Columbus, Ohio, USA, Vertiv does business in more than 130 countries. For more information, and for the latest news and content from Vertiv, visit Vertiv.com.

## Vertiv™ infrastructure solutions at-a-glance

Vertiv™ Infrastructure Solutions offers you comprehensive support for designing data centers, utilizing the entire Vertiv™ product lineup to deliver seamlessly integrated solutions. By combining our extensive portfolio and expertise, we create prefabricated and modular solutions tailored both for AI and traditional data centers. With a platform-based approach, we eliminate the challenges of selecting individual products and managing on-site integration, enabling you to build an efficient, resilient, and future-ready data center infrastructure.

 <b>Global presence</b> with localized volume manufacturing facilities	 <b>Simplified and Scalable assembly</b> for straightforward on-site installation	 <b>Full owners</b> of the process from design to onsite installation
 <b>High quality Factory Integration</b> with schedule and cost certainty	 <b>Energy Efficient Design</b> allows for lower site PUE and reduced environmental impact while controlling costs	

**Vertiv™ Infrastructure Solutions** bring over two decades of experience in deploying prefabricated and modular solutions across the world to different industries and customer profiles.

<b>Accelerating Deployment Cycles</b>	<ul style="list-style-type: none"> <li>Repeatable factory-integration to reduce deployment <b>up to 50% and 50% less on-site work (including commissioning)</b></li> <li>Global supply-chain and service delivery footprint</li> </ul>
<b>Maximizing Building Blocks &amp; Space Optimization</b>	<ul style="list-style-type: none"> <li>Modular and hybrid solutions in multi-MW sizes</li> <li>Module design-practice <b>unlocks up to 30% space</b></li> </ul>
<b>Reduce Field Work and Improve Build Quality</b>	<ul style="list-style-type: none"> <li>Productizing non-repeatable field work in the factory, improving build-quality and <b>customer's total cost of ownership up to 25%</b></li> </ul>

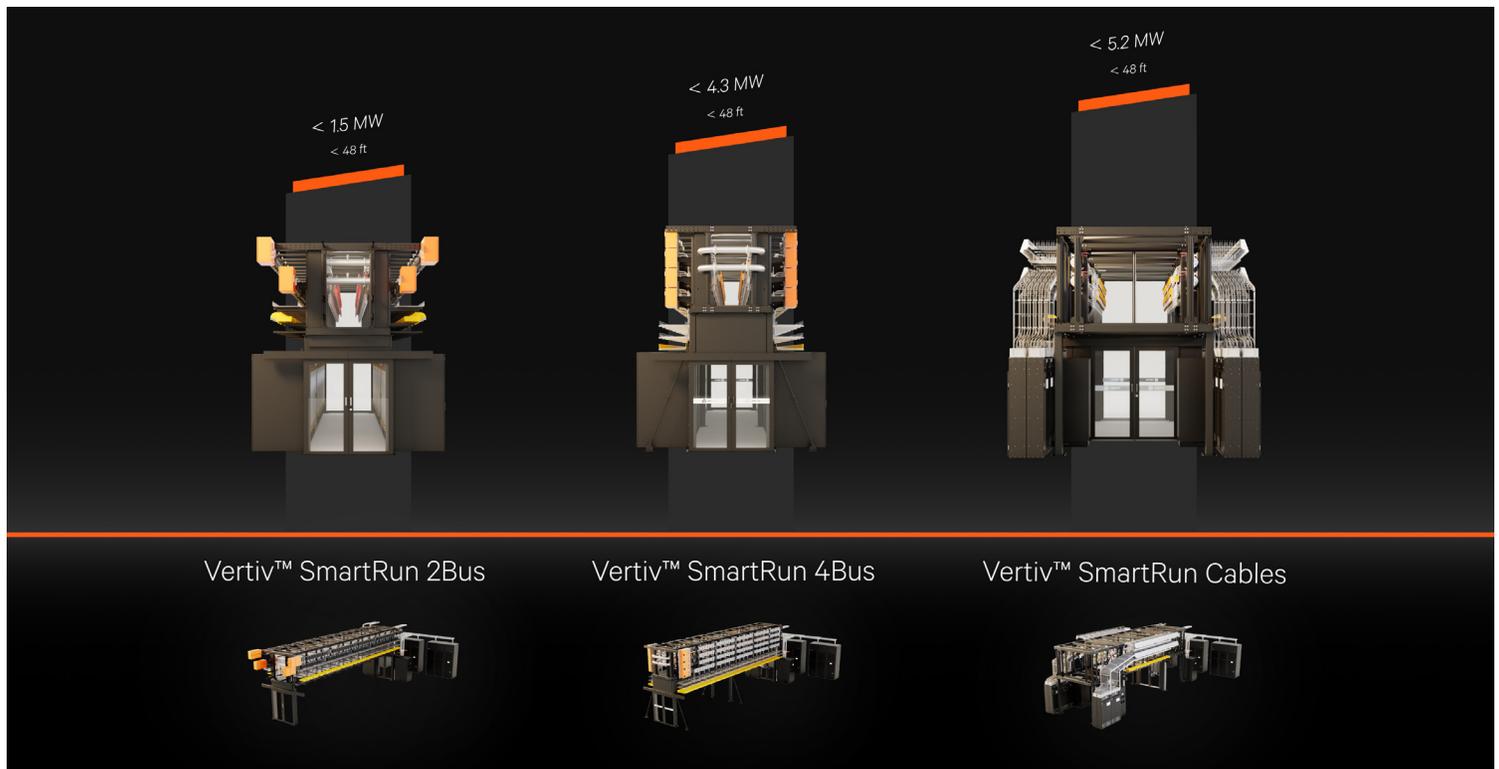
Scan QR code and visit [Vertiv Infrastructure Solution page](#).



# Vertiv™ SmartRun: simplifying overhead infrastructure for modern data centers

Vertiv™ SmartRun is a prefabricated overhead infrastructure solution engineered to accelerate deployment, reduce on-site complexity, and deliver repeatable, scalable performance in data center whitespace. Designed and built by Vertiv, the Vertiv™ SmartRun integrates critical systems—busway, aisle containment, liquid cooling piping and cabling—into a single, lift-and-set deployment model that transforms how infrastructure is installed above the rack.

Data center providers are demanding speed—yet today's on-site construction is plagued by delays, complex coordination, and material waste of up to 10–15%. Vertiv™ SmartRun addresses these challenges by **reducing on-site installation time by up to 85%, and lowering total deployment costs of aisle-based systems by up to 40%**, solving both the schedule risk and the first cost barrier.



## Vertiv™ SmartRun key benefits

- **One Integrated System, One Purchase:** No more sourcing busway, piping, and aisle containment separately - Vertiv™ SmartRun is delivered as a unified solution, fully engineered and pre-integrated.
- **Streamlined Logistics & Procurement:** Single-source procurement and limited shipments simplify project receipting and vendor management.
- **Accelerated Deployment:** Up to 85% faster deployment on-site compared to traditional stick-built infrastructure.
- **Reduced On-Site Labor:** Prefabricated assemblies minimize labor hours and reduce skilled trade dependencies.
- **Lower Capex:** Cuts total cost of aisle-based infrastructure deployment by up to 40%.
- **Guaranteed Timelines:** Vertiv manufacturing and project management enables predictable delivery and execution.



- **Rapid Installation with Single-Lift Deployment:** Modules are shipped ready to install with a forklift or lift assist—minimizing disruption and maximizing speed.
- **Scalable Modularity:** Configurable to fit a wide range of data center layouts and performance requirements.
- **Global Reach, Local Execution:** Vertiv's worldwide manufacturing and service footprint enables rapid, consistent deployments anywhere.

### Vertiv™ SmartRun key features:

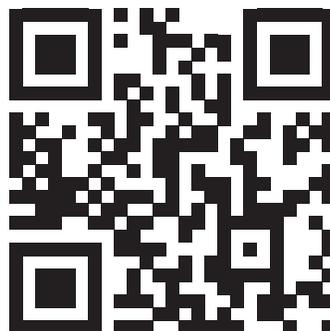
- **Modular & Adaptable:** Vertiv™ SmartRun connects like building blocks, allowing flexible layouts for both new and existing spaces.
- **Easy Indoor Delivery:** Designed to move smoothly through standard doors and hallways without special equipment or disassembly.
- **Flexible Installation:** Can be securely mounted to the floor or suspended overhead, depending on space and design needs.
- **Ready for Liquid Cooling:** Built to integrate seamlessly with advanced cooling systems to manage high-performance heat loads.
- **Supports High Power Use:** Compatible with a variety of power setups, making it ideal for demanding, high-density environments.
- **Built-In Containment:** Includes airflow management features that improve cooling efficiency and system performance.
- **Clean Cable Management:** Features structured pathways for data and power, keeping infrastructure neat, scalable, and easy to service.

### Perfect for:

- Hyperscale data centers
- Colocation facilities
- AI infrastructure deployments
- High-performance computing environments



[Learn more about Vertiv™ SmartRun](#)



[Explore a 3D model of Vertiv™ SmartRun](#)

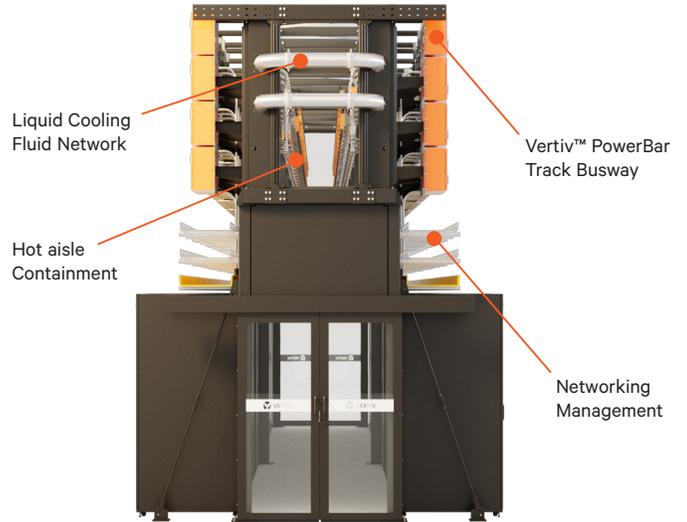
# Vertiv™ SmartRun: All-in-one Design

## Power distribution: scalable and flexible

- Supports Vertiv™ PowerBar Track Open Channel Busway enabling Vertiv™ SmartRun with up to 8000A
- Enables RPP and Power Cable Distribution applications with power management tray allowing solutions up to 9600A
- Up to 600V power systems with scalable PowerBar Track tap-off boxes enabling 334kW concurrent maintainable rack spaces
- Flexible redundancy options: N, N+1, 4N/3, 2N power distribution architectures for concurrent maintainability
- Up to 3 tiers of network management cable tray per row of racks



Vertiv™ SmartRun 4Bus



Frontal view of Vertiv™ SmartRun 4Bus with racks

## Hot aisle containment: premium and scalable

- Polycarbonate hot aisle containment tied directly into the customer building cooling for cooling efficiency management
- Designed to perfectly fit racks of different heights, with adjustable filler panels to seal gaps where racks haven't been installed, maintaining airtight containment
- Premium sliding Vertiv doors feature a high-end, seamless design for easy access

## Liquid cooling: precision-controlled network

- Integrated technology cooling system (TCS) featuring Stainless steel piping enabling liquid cooled rack spaces
- TCS liquid branches supplied with independent rack isolation valves and energy control valving for fast acting shutoff capability for a fully monitored and controlled liquid cooling system
- Single Vertiv™ SmartRun supports up to 6MW of liquid cooling enabling high density AI clusters and rack spaces
- Includes leak detection infrastructure allowing real-time identification of potential fluid leaks protecting IT hardware from failures



Vertiv™ SmartRun to be configured and manufactured via scalable lengths of 8ft (2.4m) blocks. All blocks assembled together to form Vertiv SmartRun in Vertiv manufacturing facilities.

## Configurability and scalability

- Manufacture to length via 8ft (2.4m) building blocks for shippable pods up to 48ft (14.6m) and up to 46 total rack spaces
- Connect SmartRuns together end-to-end on-site unlocking clusters up to 96ft long totaling up to 92 rack spaces
- Ready for high seismic deployments, pre-designed for 95% global coverage
- Supporting up to 29,000lbs of datacenter infrastructure via industrial premium steel frame construction solving the complete whitespace design with additional attachments of Vertiv™ CDUs, Vertiv™ RPP's and Vertiv™ SmartIT Racks.



# Building faster requires delivering smarter

## More Manufacturing = Less Construction



Vertiv 48ft SmartRun being packaged and transported via drop trailer

*“Reduces on-site deployment time by up to 85%”*



Vertiv 48ft SmartRun being deployed and delivered to a tilt-up concrete building with leave-out panel and staging area for large module receiving

*Up to 40% Reduction in overall cost of deployment.*

### Building faster

Building datacenters faster requires simplifying on-site construction by manufacturing more in Vertiv Facilities. Manufacturing elements that would typically be site installed and transferring the works into Vertiv Manufacturing Facilities.

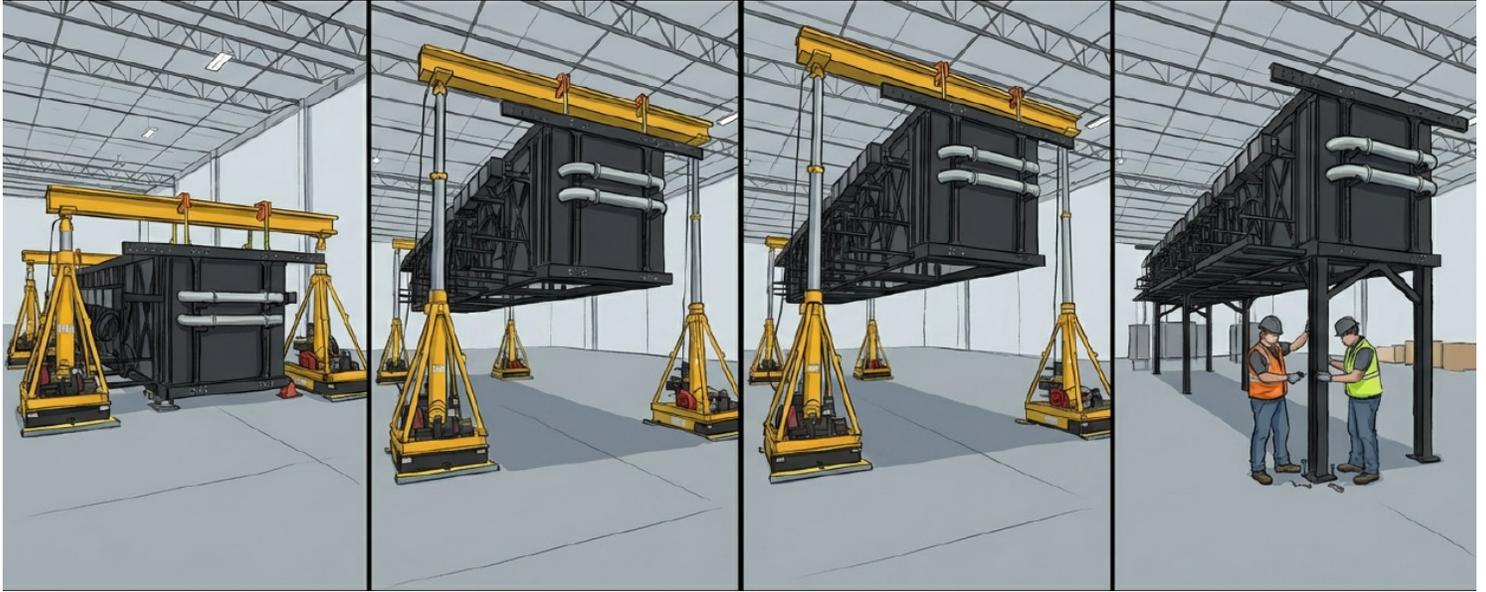
This increased manufacturing increases the speed and most importantly the quality and consistency of the solutions that arrive and are constructed on-site.

### Delivering Smarter

Building more in the manufacturing facilities synonymously requires building Smarter on-site. This requires datacenter owners, programs and construction teams to evaluate and plan for the capability receipt large datacenter products or modules. This quick evaluation capability allows the owner and contractor to the most expedited and simplified datacenter deployment and take the most work off-site.

# Vertiv™ Installation Services

The performance of your critical infrastructure depends on the precision of its installation. Vertiv™ Services eliminates the coordination gap between the manufacturer and the contractor, delivering a true factory-to-ceiling solution.



## White-Glove Installation Services

### Logistics & Receipting

Coordinate delivery, offload preassembled sections using cranes or forklifts as required, verify received materials, and stage components to support site install.

### Rigging & Lifting

Specialized rigging services support the lifting of Vertiv™ SmartRun on to posts in accordance with approved structural calculations and site requirements.

### Assembly & Connection

Technicians perform final torquing and alignment for internal mechanical and electrical connections (including liquid cooled piping), and door installation—supporting full system readiness.

### Assembly & Connection

Final activities include inspections, continuity and grounding checks, pressure testing, valve and quick connect verification, and documentation handover.

## Local Presence, Global Scale

Vertiv supports Vertiv™ SmartRun installations with a globally distributed services organization designed to respond across the globe.

### Global Field Engineering Network

Vertiv maintains a large, geographically distributed field engineering workforce operating across more than 130 countries, helping provide access to trained expertise where and when it's needed.

### Consistency of Execution

From new builds to retrofit projects, factory trained teams follow standardized installation and commissioning practices to support consistent execution across sites and regions.

### Technical Support

A global support model enables 24/7 access to technical resources, helping address critical power and cooling issues as they arise.





# Vertiv™ liquid cooling services at-a-glance

Liquid cooling transforms the data center from a static, aircooled environment into a dynamic fluid ecosystem. Managing fluid chemistry, pressure dynamics, and material compatibility requires specialized expertise beyond general mechanical contracting.

Vertiv Services provides OEM-certified engineering and lifecycle services that support the deployment, commissioning, and ongoing operation of SmartRun and liquid cooling infrastructure for high-density and high-performance computing environments.

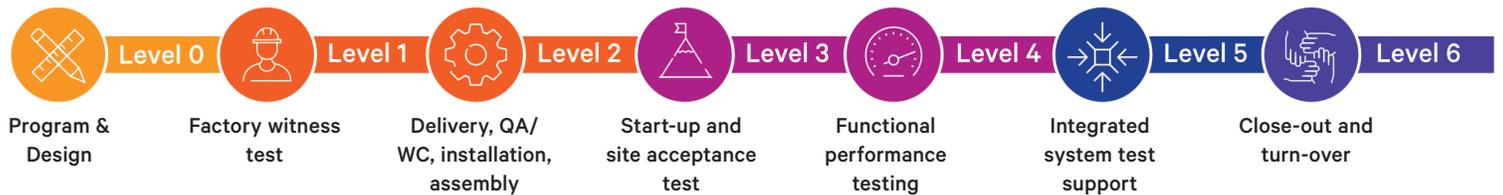
## Expert Turnkey Services

Comprehensive liquid cooling services support high-density computing environments, spanning site assessment, solution design support, and performance optimization. Vertiv's thermal experts assist with AI and high-performance computing facility upgrades, supporting scalable, efficient operation from deployment through ongoing maintenance.



## Expert Turnkey Services

PurgeRite fluid management services support liquid cooling system readiness through engineered flushing, purging, filtration, and closed loop water treatment—helping data center teams prepare hydronic systems for commissioning and AI driven high-density operations.



### Consultation & Assessment

**Perform design consultation and assessment customized to specific site requirements:**

- Site visit • Product selection • System planning/design • System layout
- Integration drawings • Computational fluid dynamic (CFD) Digital Twin modeling

### Installation & Integration

**Manage project and perform assembly services:**

- Rack assembly • Busway installation • Rack PDU installation • Aisle containment
- Integration from CDU to chip via overhead and rack manifolds • Removal of old equipment • New Vertiv™ unit installation

Hassle-free design, deployment and management for forward-looking data centers in every location.

### Commissioning

**OEM commissioning and startup service:**

- Site Acceptance Inspection • Startup • Site Acceptance Testing • Integration System Testing • Training

### Recurring Services

- Preventive Maintenance Visits • Parts/Labor Coverage • Emergency Response • Technical Support • Fluid management (Fluid sampling and testing; system discharge and recharge, fluid quality remediation)


**Design Specifications**
**Vertiv™ SmartRun 2Bus**
**Vertiv™ SmartRun 4Bus**
**Vertiv™ SmartRun Cables**

Architecture	Specifications	Specifications	Specifications
Max Lift/Transport Size LxWxH	Up to 48' x 13' x 6.5' (14.4 x 4 x 2 m)	Up to 48' x 14' x 8.8' (13 x 4 x 2.7 m)	Up to 48' x 13' x 6.5' (14.4 x 4 x 2 m)
Number of Rack Spaces		Up to 46 Racks	
Modular Scalable Length		8 ft (2.4 m)	
Minimum Height to Drop Ceiling	14.6 ft (4.4 m)	16.9 ft (5.2 m)	14.6 ft (4.4 m)
Rack Height/Post Height		Up to 52U Rack, 8ft (2.4 m) Post Height	
Hot Aisle Width		6 ft (1.8 m)	
<b>Structural</b>			
Total Unit Weight Capacity	Up to 750 lbs / ft (1115 kg / m)	Up to 915 lbs / ft (1360 kg / m)	Up to 885 lbs / ft (1315 kg / m)
Infrastructure Weight Capacity	Up to 465 lbs / ft (690 kg / m)	Up to 605 lbs / ft (900 kg / m)	Up to 555 lbs / ft (825 kg / m)
Mounting		Post / Floor Standing	
Seismic zone		Designs up to Zone 4	
<b>Thermal</b>		Up to Category C Standard; D & E by Request	
Liquid Thermal Capacity per Pod (kW) <sup>1</sup>		6 MW	
Main Header Size		Up to 8" (DN200)	
Technology Cooling Loop Architecture		Ring or Straight	
Piping Material		Stainless Steel	
Thermal Monitoring		Pressure, Flow, Leak Detection Temperature	
CDU Utility Skid		<i>Designed via ETO</i>	
<b>Electrical</b>			
Power Distribution Unit		Vertiv™ PowerBar Track Busway	Power Cable Distribution
Total Unit Amperage	Up to 4000A	Up to 8000A	9600A
Voltage		Up to 600V	
Redundancy	N or 2N	N, 2N, 4N/3	<i>Designed via ETO</i>
Phase Configurations		3Ph + 100% N (TPN)	
RPP Utility Skid		N/A	<i>Designed via ETO</i>
<b>Auxillary</b>			
Cable Tray Qty		Up to 3 Tiers	
Monitoring and Controls		Modbus, Bacnet, TCP, PLC	
Lighting		40FC, 80CRI, 4000k	
Containment		Polycarbonate Paneling with Sliding Doors	
Color		Black	

<sup>1</sup> 80:20 Liquid:Air, 1.5 LPM/kW, 8ft/sec, PG25

Engineering to Order (ETO) Options Available upon request



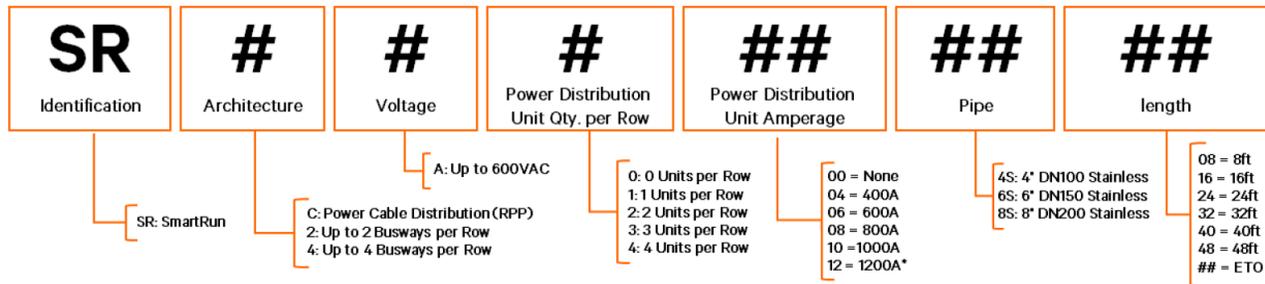
[Learn more about Vertiv™ SmartRun](#)



[Explore a 3D model of Vertiv™ SmartRun](#)



# Configure a Vertiv™ SmartRun



Vertiv™ SmartRun Sku Decoder, \*RPP only No Busway

## Vertiv™ SmartRun 2Bus - Two PowerBar Track Busbars per Row

The standard for N and 2N redundant architectures, Vertiv™ SmartRun 2Bus delivers up to **4000A** via up to two independent PowerBar Track busway runs. Vertiv™ SmartRun 2Bus dual busbar runs allow up to two Tap boxes per rack space providing the perfect balance of modularity and power, seamlessly supporting a mix of storage, networking, and liquid-cooled AI compute in a single row.

Vertiv™ SmartRun 2Bus MW Capacity	N Redundancy			2N Redundancy		
	400 V	415 V	480 V	400 V	415 V	480 V
SR2A2046S## 2X2X400A BUSWAY, 6" Pipe	1.1MW	1.1MW	1.3MW	0.6MW	0.6MW	0.7MW
SR2A2066S## 2X2X600A BUSWAY, 6" Pipe	1.7MW	1.7MW	2.0MW	0.8MW	0.9MW	1.0MW
SR2A2086S## 2X2X800A BUSWAY, 6" Pipe	2.2MW	2.3MW	2.7MW	1.1MW	1.1MW	1.3MW
SR2A2108S## 2X2X1000A BUSWAY, 6" Pipe	2.8MW	2.9MW	3.3MW	1.4MW	1.4MW	1.7MW

## to be configure to length ability within Standard 8ft (2.4 m Segments)



Vertiv™ SmartRun 2Bus with up to Two PowerBar Track Busbars per Row

## Vertiv™ SmartRun 4Bus – Four PowerBar Track Busbars per Row

The solution for emerging 4N/3 redundant power topologies, Vertiv™ SmartRun 4Bus supports the most intense AI workloads with up to **8000A** via four independent PowerTrack busway runs. Vertiv™ SmartRun 4Bus architecture allows up to four Tap boxes per rack space, enabling concurrently maintainable densities of 345kW without compromising the inherent modularity of the system.

Vertiv™ SmartRun 4Bus MW Capacity	N Redundancy			4N/3 Redundancy			2N Redundancy		
	400 V	415 V	480 V	400 V	415 V	480 V	400 V	415 V	480 V
SR4A4046S## 2X4X400A BUSWAY, 6" Pipe	2.2MW	2.3MW	2.7MW	1.7MW	1.7MW	2.0MW	1.1MW	1.1MW	1.3MW
SR4A4068S## 2X4X600A BUSWAY, 6" Pipe	3.3MW	3.4MW	4.0MW	2.5MW	2.6MW	3.0MW	1.7MW	1.7MW	2.0MW
SR4A4088S## 2X4X800A BUSWAY, 6" Pipe	4.4MW	4.6MW	5.3MW	3.3MW	3.4MW	4.0MW	2.2MW	2.3MW	2.7MW
SR4A4108S## 2X4X1000A BUSWAY, 6" Pipe	5.5MW	5.7MW	6.6MW	4.2MW	4.3MW	5.0MW	2.8MW	2.9MW	3.3MW

## to be configure to length ability within Standard 8ft (2.4 m Segments)



Vertiv™ SmartRun 4Bus with up to Four PowerBar Track Busbars per Row

## Vertiv™ SmartRun Cables – Power Cable Distribution Solution

Optimized for static, ultra-dense deployments where raw power takes precedence over future flexibility, Vertiv™ SmartRun Cables centralizes over-current protection in Vertiv™ RPP units or Switchgear for eye-level serviceability. This configuration routes custom power cables directly to the rack via power cable tray allowing concurrently maintainable pod densities of up to **9600A**.

Vertiv™ SmartRun Cables MW Capacity	N Redundancy			4N/3 Redundancy			2N Redundancy		
	400 V	415 V	480 V	400 V	415 V	480 V	400 V	415 V	480 V
SR0A4046S## 2X4X400A RPP, 6" Pipe	2.2MW	2.3MW	2.7MW	1.7MW	1.7MW	2.0MW	1.1MW	1.1MW	1.3MW
SR0A4068S## 2X4X600A RPP, 6" Pipe	3.3MW	3.4MW	4.0MW	2.5MW	2.6MW	3.0MW	1.7MW	1.7MW	2.0MW
SR0A4088S## 2X4X800A RPP, 8" Pipe	4.4MW	4.6MW	5.3MW	3.3MW	3.4MW	4.0MW	2.2MW	2.3MW	2.7MW
SR0A4108S## 2X4X1000A RPP, 8" Pipe	5.5MW	5.7MW	6.6MW	4.2MW	4.3MW	5.0MW	2.8MW	2.9MW	3.3MW
SR0A4128S## 2X4X1200A RPP, 8" Pipe	6.6MW	6.9MW	8.0MW	5.0MW	5.2MW	6.0MW	3.3MW	3.4MW	4.0MW
SR0A2148S## 2X2X1400A Switchboard, 8" Pipe	3.9MW	4.0MW	4.7MW	2.9MW	3.0MW	3.5MW	1.9MW	2.0MW	2.3MW
SR0A2168S## 2X2X1600A Switchboard, 8" Pipe	4.4MW	4.6MW	5.3MW	3.3MW	3.4MW	4.0MW	2.2MW	2.3MW	2.7MW

## to be configure to length ability within Standard 8ft (2.4 m Segments)

RPP, Switchgear, Skidded Power Distribution Equipment Configured Separately if Requested



Vertiv™ SmartRun Cables with RPPs at end of Row

Vertiv™ SmartRun offering not limited to the skus shown

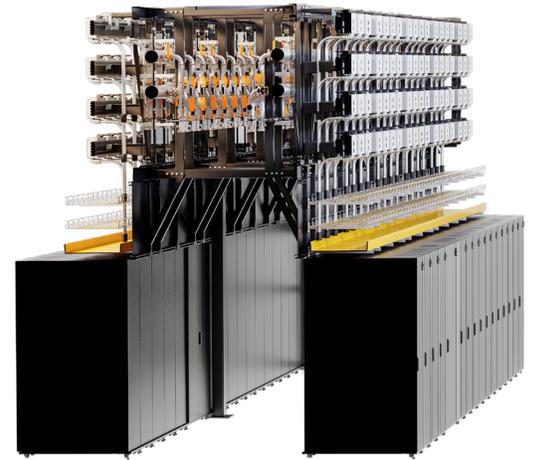
## Vertiv™ SmartRun Rack Tap-Kits

### Defined Per Rack Space

Vertiv™ Rack Tap Kits serve as the critical bridge between the SmartRun infrastructure and your IT load. Consisting of a Vertiv™ PowerBar Track Tap Box and a Vertiv™ Coolchip Liquid Branch, each kit is uniquely configured to the specific power and cooling demands of that individual rack space.

### Ultimate Modularity

This architecture enables extreme mixed-density deployments. A single Vertiv™ SmartRun row can simultaneously support 20kW air-cooled racks and 400kW liquid-cooled GPU clusters side-by-side.



Vertiv™ SmartRun Rack Tap Kits

Rack Tap-Kit Specifications	Vertiv™ SmartRun 2Bus	Vertiv™ SmartRun 4Bus	Vertiv™ SmartRun Cables
<b>Electrical Tap Box</b>	<b>Specifications</b>	<b>Specifications</b>	<b>Specifications</b>
Amperage per Rack Space	Up to 320A	Up to 640A	Designed via ETO
Short Circuit Current Rating (SCCR)		Up to 35 kA	
Peak Value (kA)		Up to 73.5 kA	
Short Circuit Conditional Rating (KAIC)		Up to 100 kAIC	
Rack Power Connection Location		Top of Rack or Back of Rack	
Tap Boxes Per Rack Space	Up to 2	Up to 4	NA
Power Feeds Per Rack Space	Up to 4	Up to 8	Designed via ETO
<b>Thermal Liquid Branch</b>			
Liquid Capacity per Rack Space (kW)		300kW	
Rack Fluid Connection Location		Top of Rack or Back of Rack	
Branch Rack Connection		Up to 2" Quick Connection	
Flow Control Device		Energy valve	

Note: Rack Tap Kits can be ordered factory-installed on Vertiv™ SmartRun units for plug-and-play deployment. Engineering to Order (ETO) Options Available upon request.



Vertiv™ PowerBar Track Tap Boxes

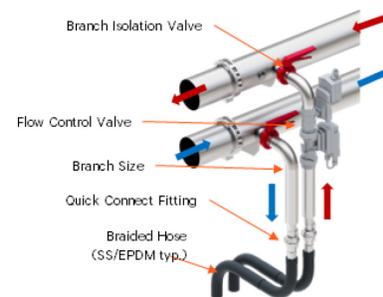
Vertiv™ PowerBar Track Tap Boxes deliver up to 200A of localized protection for high-density rack spaces. Featuring a finger-safe, hot-swappable design, they offer ultimate modularity across the PowerBar Track busbar.

For Vertiv SmartRun Power Cable applications, fault protection is centralized upstream (Switchgear/RPP), allowing for a streamlined tap design with drop cords factory-sized to your exact specifications.



Vertiv™ Panel with Breakers

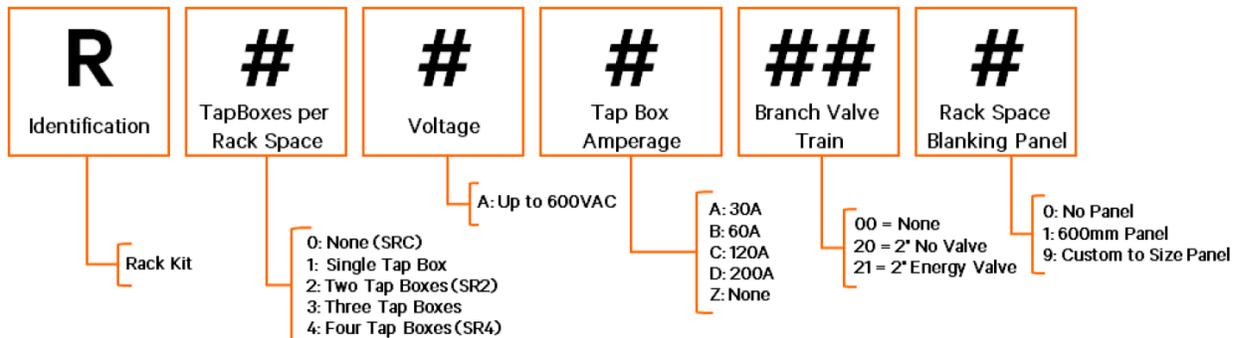
Vertiv™ Coolchip Manifold Rack Branches align with server racks at 600mm increments all equipped with rack isolation valves. Standard 2-inch branches support up to 300kW of liquid cooling. Branches can ship complete flow control, fast-acting shutoff, quick-connects and hose kits for rapid installation to Liquid Cooled server Racks.



Vertiv™ Coolchip Manifold Branch



# Configure a Vertiv™ SmartRun Rack Tap-Kit



Vertiv™ SmartRun Sku Decoder

## Vertiv™ SmartRun 2Bus Rack Tap Kits – Balanced Redundancy

Utilizing dual independent power feeds, Vertiv™ SmartRun 2Bus Rack kits support concurrently maintainable densities of up to **133kW** per rack space. This configuration provides the ideal balance of power and modularity for mixed-density rows.

Maximum IT Load per Rack Space		N Redundancy			2N Redundancy		
Sku	Sku Description	400 V	415 V	480 V	400 V	415 V	480 V
R2AA000	Qty. 2, 30A TapBoxes, No Liquid	33kW	34kW	40kW	17kW	17kW	20kW
R2AB210	Qty. 2, 60A TapBoxes, Liquid Branch w/Energy Valve	66kW	69kW	80kW	33kW	34kW	40kW
R2AC210	Qty. 2, 120A TapBoxes, Liquid Branch w/Energy Valve	133kW	138kW	159kW	66kW	69kW	80kW
R2AD210	Qty. 2, 200A TapBoxes, Liquid Branch w/Energy Valve	221kW	230W	266kW	111kW	115kW	133kW

## Vertiv™ SmartRun 4Bus Rack Tap Kits – Extreme AI Density

Vertiv™ SmartRun 4Bus allows Rack Tap kits to aggregate four independent power feeds to deliver concurrently maintainable densities of up to **400kW** per rack space with Liquid Cooling Control Valve Branches. Designed for the most intensive AI clusters without compromising serviceability.

Maximum IT Load per Rack Space		N Redundancy			4N/3 Redundancy			2N Redundancy		
Sku	Sku Description	400 V	415 V	480 V	400 V	415 V	480 V	400 V	415 V	480 V
R4AA210	Qty. 4, 30A TapBoxes, Liquid Branch w/Energy Valve	66kW	69kW	80kW	50kW	52kW	60kW	33kW	34kW	40kW
R4AB210	Qty. 4, 60A TapBoxes, Liquid Branch w/Energy Valve	133kW	138kW	159kW	100kW	103kW	120kW	66kW	69kW	80kW
R4AC210	Qty. 4, 120A TapBoxes, Liquid Branch w/Energy Valve	266kW	276kW	319kW	199kW	207kW	239kW	133kW	138kW	159kW
R4AD210	Qty. 4, 200A TapBoxes, Liquid Branch w/Energy Valve	443kW	459kW	531kW	332kW	345kW	399kW	221kW	230kW	266kW

## Vertiv™ SmartRun Cable Rack Tap Kits - Tray Cabled AI Density

For static, fixed-load applications, Vertiv™ SmartRun Power Cable Rack kits include no busway tap-off box and only a liquid cooling control valve branch allowing up to **300kW** of liquid cooling capacity per rack space. All over-current power protection to be configured with the upstream Vertiv™ RPP, Vertiv™ PDU, or Vertiv™ Switchgear Unit.

Maximum IT Load per Rack Space		Rack kW	
R0AZ21	No Tap Box, Liquid Branch w/Energy Valve	300kW	For Vertiv™ Connect Architectures, Overcurrent power protection to be configured with the RPP, Switchgear or upstream power distribution equipment.

Vertiv™ SmartRun offering not limited to the skus shown

# Vertiv™ SmartRun Reference Design - 4.3MW AI Pod, 50MW Datahall

## 1. Defining the Specification

"I have a tenant looking at a 50MW datahall of 4MW pods with a 4N/3 power topology around 32ft. They plan to deploy either 143kW or 228kW racks alongside standard 15-20kW network gear, but they haven't finalized the floorplan yet. I need a solution flexible enough to handle that density swing without knowing the exact rack sequence. Can you give me a couple of options that would work here? We need to start tracking and evaluating pricing"

Vertiv™ SmartRun Architecture	
Critical IT Load	4.3MW
600mm Racks Spaces	32
Redundancy	4N/3
Total Amperage	8000A
Liquid Cooling Capacity	6MW

Layout 1: 150kW Racks				Layout 2: 240kW Racks				Layout 3: 330kW Racks							
Rack Space	6ft	Rack Space		Rack Space	6ft	Rack Space		Rack Space	6ft	Rack Space		Rack Space	6ft	Rack Space	
1	150kw	Hot Aisle	2	1	240kw	Hot Aisle	2	1	330kw	Hot Aisle	2	1	330kw	Hot Aisle	2
3	150kw		4	3	240kw		4	3	330kw		4				
5	150kw		6	5	240kw		6	5	330kw		6				
7	150kw		8	7	240kw		8	7	330kw		8				
9	150kw	Hot Aisle	10	9	240kw	Hot Aisle	10	9	20kw	Hot Aisle	10	9	20kw	Hot Aisle	10
11	150kw		12	11	240kw		12	11	20kw		12				
13	150kw		14	13	240kw		14	13	20kw		14				
15	150kw		16	15	240kw		16	15	20kw		16				
17	150kw	Hot Aisle	18	17	20kw	Hot Aisle	18	17	20kw	Hot Aisle	18	17	20kw	Hot Aisle	18
19	150kw		20	19	20kw		20	19	20kw		20				
21	150kw		22	21	20kw		22	21	20kw		22				
23	150kw		24	23	20kw		24	23	20kw		24				
25	150kw	Hot Aisle	26	25	20kw	Hot Aisle	26	25	20kw	Hot Aisle	26	25	20kw	Hot Aisle	26
27	20kw		28	27	20kw		28	27	20kw		28				
29	20kw		30	29	20kw		30	29	20kw		30				
31	20kw		32	31	20kw		32	31	20kw		32				
Row 1		Total	Row 2	Row 1		Total	Row 2	Row 1		Total	Row 2	Row 1		Total	Row 2
IT Load		2010kw	4020kw	IT Load		2080kw	4160kw	IT Load		1560kw	3120kw	IT Load		1560kw	1560kw
Liquid kW		1658kw	3315kw	Liquid kW		1632kw	3264kw	Liquid kW		1122kw	2244kw	Liquid kW		1122kw	1122kw
Air kW		353kw	705kw	Air kW		448kw	896kw	Air kW		438kw	876kw	Air kW		438kw	438kw

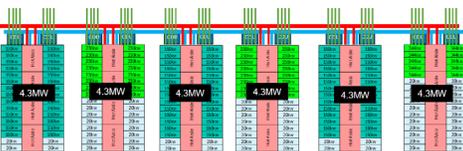
## 2. Align to Vertiv™ SmartRun

Vertiv™ SmartRun #1	Description	SR
SmartRun Type	4N/3	4
Voltage	VAC	A
Qty of Busway or RPPs per Row	4	4
Amperage of Busways or RPP	1000A	10
Pipe Size	8" Stainless	8S
Length	32 ft	32

## 3. Assigning Rack Tap Kits

Layout 1: Rack Kits			Layout 2: Rack Kits			Layout 3: Rack Kits		
Rack kW	Rack Kit	Qty	Rack kW	Rack Kit	Qty	Rack kW	Rack Kit	Qty
Up to 52kW	R4AA000	0	Up to 52kW	R4AA000	16	Up to 52kW	R4AA000	24
Up to 103kW	R4AB210	0	Up to 103kW	R4AB210	0	Up to 103kW	R4AB210	0
Up to 207kW	R4AC210	26	Up to 207kW	R4AC210	0	Up to 207kW	R4AC210	0
Up to 345kW	R4AD210	6	Up to 345kW	R4AD210	16	Up to 345kW	R4AD210	8

## 4. Configure a Datahall Bill of Material



Example 50MW datahall of IT load consisting of Qty. 12 4.3MW Vertiv™ SmartRuns with various configurations

Vertiv™ SmartRun	SKU	Qty
<b>Layout 1: 150kW Racks</b>	<b>SR4A4108S32</b>	<b>5</b>
Up to 52kW Rack Kit	R4AA000	0
Up to 103kW Rack Kit	R4AB210	0
Up to 207kW Rack Kit	R4AC210	26
Up to 345kW Rack Kit	R4AD210	6
<b>Layout 2: 240kW Racks</b>	<b>SR4A4108S32</b>	<b>5</b>
Up to 52kW Rack Kit	R4AA000	16
Up to 103kW Rack Kit	R4AB210	0
Up to 207kW Rack Kit	R4AC210	0
Up to 345kW Rack Kit	R4AD210	16
<b>Layout 3: 330kW Racks</b>	<b>SR4A4108S32</b>	<b>2</b>
Up to 52kW Rack Kit	R4AA000	24
Up to 103kW Rack Kit	R4AB210	0
Up to 207kW Rack Kit	R4AC210	0
Up to 345kW Rack Kit	R4AD210	8



Vertiv™ SmartRun 4Bus



Vertiv™ SmartRun 4Bus



**Vertiv.com** | Vertiv Headquarters, 505 N Cleveland Ave, Westerville, OH 43082, USA

© 2026 Vertiv Group Corp. All rights reserved. Vertiv™ and the Vertiv logo are trademarks or registered trademarks of Vertiv Group Corp. All other names and logos referred to are trade names, trademarks or registered trademarks of their respective owners. While every precaution has been taken to ensure accuracy and completeness here, Vertiv Group Corp. assumes no responsibility, and disclaims all liability, for damages resulting from use of this information or for any errors or omissions. Specifications, rebates and other promotional offers are subject to change at Vertiv's sole discretion upon notice.