



Liebert®

CRV+™

Row based Efficient Cooling
for High Density Data center



Liebert[®] CRV+[™] : Designed to Enhance Data Center Cooling Performance

The Liebert[®] CRV+[™] from Vertiv is the latest row cooling solution for data centers and making it an ideal choice when considering scalability of the IT infrastructure.

Liebert CRV+ is a plug-and-play unit with the capability of addressing the needs of both open and contained applications. Targeted for small & medium data centers, the Liebert CRV+ unit provides cooling at server rack level.



Get MORE capacity

SMALLEST Footprint

BREAKTHROUGH
TECHNOLOGY
Variable speed compressor

HIGHEST Part load efficiency

OPTIMIZED Design

INTELLIGENT Controller



Liebert CRV+ is the latest thermal management solution from Vertiv in the Row cooling solution, optimized to ensure maximum cooling capacity with minimal footprint. It perfectly fits in your changing infrastructure cooling environment.

Liebert[®] CRV+[™] : Feature-rich, small footprint row cooling solution

Vertiv understands the challenges of setting up the right infrastructure to support the business critical datacenter operations and helps respond to changing business environments.

Vertiv delivers innovative solutions through various centers of expertise, distinct areas of breakthrough products and services that help determine what is needed in relation to application.

Liebert[®] CRV+[™] has been designed to deliver high efficiency and availability 24/7. It offers unique value in compact size. It perfectly fits in your changing infrastructure cooling environment.

Ideally suited for rack-level cooling and specifically designed for high return air temperatures, the Liebert CRV+ optimizes air distribution and maximizes efficiency, delivering both cost and energy-related savings.

Value Features

- Energy efficient, Zero ODP refrigerant (R410A)
- DC brushless inverter compressor
- EC fan
- Electronic expansion valve
- MERV8 (G4) class filter
- Modbus RTU (RS485) communication
- Condensate water pump
- Adjustable air baffle system to direct airflow to the heat source
- Top and bottom connections available
- PTC reheater
- Steam humidifier

Added Options

- Air pressure differential switch
- Low temperature kit
- Water leak detection
- Remote rack temperature sensor
- Dual power source
- Pro-Active alarm system for filter replacement
- RDU-SIC (Modbus IP, BACnet IP, SNMP)
- Flexibility to accommodate third party fire and smoke detection sensor



Liebert® CRV+™ : Industry-leading technologies all in one solution

Variable Capacity Brushless DC Inverter Compressor

- DC inverter compressor technology provides infinite variable capacity modulation between 30% - 100% to ensure precise output to match the changing cooling demand
- Delivering high efficiency at full and part load
- Improved reliability by reducing compressor cycling and component wear
- Quiet operation



Electronic Expansion Valve

- Stepless regulation of refrigerant flow compliments the variable capacity compressor to save energy
- Faster response and more precise temperature control compared to TXV
- Precise control of cooling capacity to adapt to changing thermal load



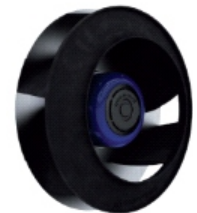
Intelligent Controller

- Up to 16 Liebert® CRV+™ units can be networked together
- Advanced control algorithms allow the airflow and cooling to be modulated independently, enhancing performance and eliminating excessive operations
- Enhanced system reliability with predictive analysis of component and performance
- Event logs stores the last 200 messages to enrich unit history and enhance support
- Connects up to 10 remote temperature sensors



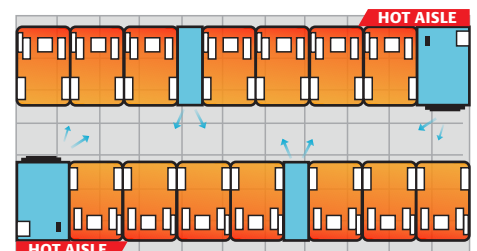
Flexible fan operation

- The EC fan speed is automatically regulated by the CRV+ controller
- Soft startup to ensure low inrush current
- The EC fan design and layout in CRV+ is optimised to save up to 30% energy



Typical Application of Liebert® CRV+™

No. of Racks	Less than 25 Racks
Heat Load	up to 10~12 kW/Rack
Space	Small to Mid size Computer Room
Raised Floor	with or without raised floor



Liebert[®] CRV+[™] : Reliable, Intelligent, Energy Saving

Its new design allows wide range of operation. DX solution delivers up to 35kW cooling in a small footprint.

Its unique feature allows multiple unit connectivity to form an intelligent network. It results in better communication and control thereby optimizing the performance according to dynamic load conditions.

The EC fan offers flexibility in mode of operation. Either allow it to work in Auto mode to vary fan speed according to load conditions or select Manual mode to operate fans at fixed speed.



Flexible Operations

- Advanced control algorithms allow the airflow and cooling to be modulated independently
- Adjustable modular baffle system
- Air volume quantity can be varied as per load density
- Extensive range of temperature & relative humidity



High Reliability

- Advanced automatic controller
- High degree precision controls by intelligent controller
- Better longevity



Lower operational cost

- High return temp design leads to more energy saving
- Variable capacity modulation
- Small footprint releases space for IT equipment
- Full frontal/back access - less installation & maintenance cost

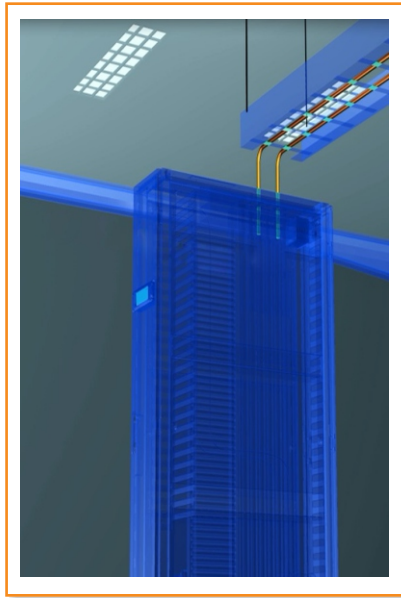


Diversified Allocation

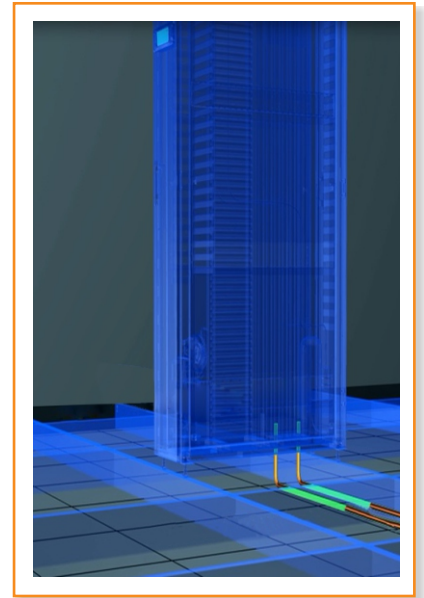
- Best suited for >8kW/Rack load
- With or without anti static floor
- High heat density application with hot/cold aisle row cooling
- Integral part of Smart Solution

Liebert® CRV+™ : Easy to Install - Easy to Maintain

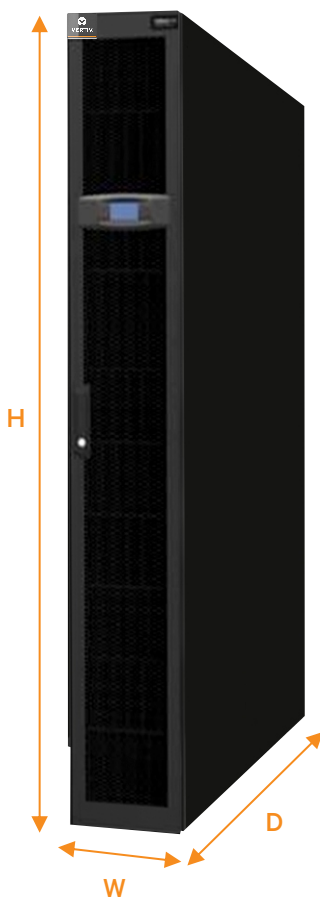
- Easy Adaption
- With top & bottom connection
- All service and Maintenance can be done through the front or the rear of the unit. No Side access required



Refrigerant - pipe inlet - from top



Refrigerant - pipe inlet - from bottom



Delivering Optimized Results:

Ideally suited for rack-level cooling and specifically designed for high return air temperatures, the Liebert® CRV+™ optimizes air distribution and maximizes efficiency, delivering both cost and energy-related savings.

Efficiency is further enhanced through the use of zero ODP R410A refrigerant which ensures constant operation at the highest efficiency levels.

The Liebert® CRV+™ is also designed to optimize installation and minimize start up, connection and labor investments. Total cost of ownership advantages are also achieved as a result of Liebert® CRV+™ configuration flexibility. The unit is available for integration with existing racks or as a bundled solution combined with racks, UPS and monitoring capabilities.

Specifications

Model	CR012	CR025	CR035
Cooling Mode	Air cooled	Air cooled	Air cooled
Max net sensible capacity ¹ (kW)	18	25.6	41.5
Rated net sensible capacity ¹ (kW)	13.6	20.8	36.6
Max air flow (m ³ /h)	4200	5000	8500
Rated air flow (m ³ /h)	3200	4000	6800
Reheat (kW)	2	3	6
Humidifier (kg/h)	-	1.5	1.5
FLA (A)	19.1	26	46.6
Electrical Power	380V ~ 415V +/- 10%, 3N ~ 50 Hz/60 Hz		
Net weight (kg)	215	260	335
Dimension (H x W x D) - mm	2000 X 300 X1100	2000 X 300 X1100	2000 X 600 X1100

Note:

1. Performance based on 37°C return air temperature, 24% relative humidity and 45°C condensing temperature.
2. If the required data is not listed in the table please contact Vertiv .



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