



Vertiv™ Liebert® CRV4

12 kW to 66 kW

4th Generation Row-Cooling
with Elevated Performance





Designed to Enhance Data Center Cooling Performance

The Vertiv™ Liebert® CRV4 thermal management solution is a row-based solution designed to provide maximum cooling in a compact footprint. This solution provides the highest efficiency and availability by removing heated air from the data center hot aisle and using it to return cooled air to the servers (cold aisle).

The Liebert CRV4 includes all of the critical functions fundamental to cooling units such as humidification, dehumidification, re-heating, air filtration, condensation management, temperature and humidity control, alarm functions, and data communications.

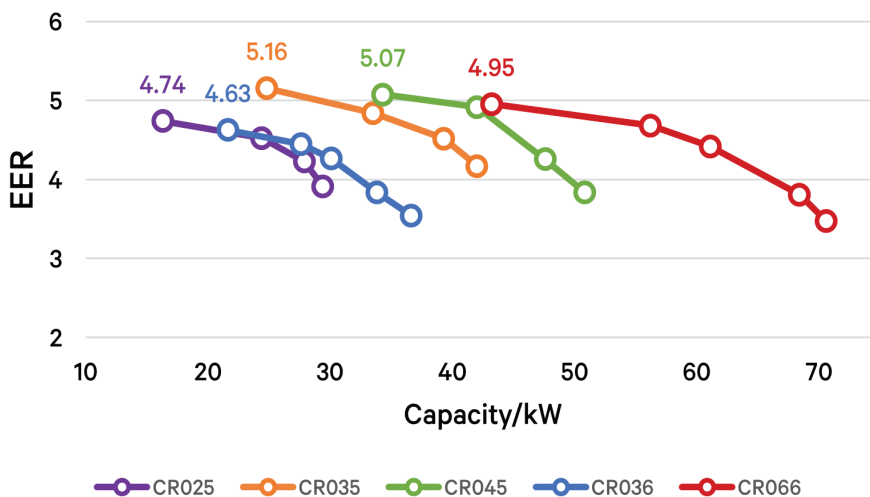
A stand-alone, direct expansion system with variable capacity, available in both 300 mm (12, 25, and 36 kW) and 600 mm (35, 45, and 66 kW) versions, complete with the roof or wall-mounted condenser. The Liebert CRV4 series enhances capacity range as well as offers superior performance over all the available row cooling solutions in the marketplace.

It is ideally suited for rack-level cooling, specifically designed for high return air temperatures. The Liebert CRV4 optimizes air distribution and maximizes efficiency, delivering both cost and economical operation.

The graphical representation below shows ultra efficiency by Liebert CRV4 at different load conditions.

Liebert® CRV4 Unit

Liebert® CRV4 Performance



Liebert® CRV4: Achieving one of the best EER credentials in market

This capacity vs EER (without condenser power) graph is drafted considering indoor return air temperature at 37 °C DBT and relative humidity of 24 %, while condensing temperature is 45 °C. It is seen that during partial load, the EER value is maximum for any model and energy efficiency is much better than the legacy series and any other available solution in the market.



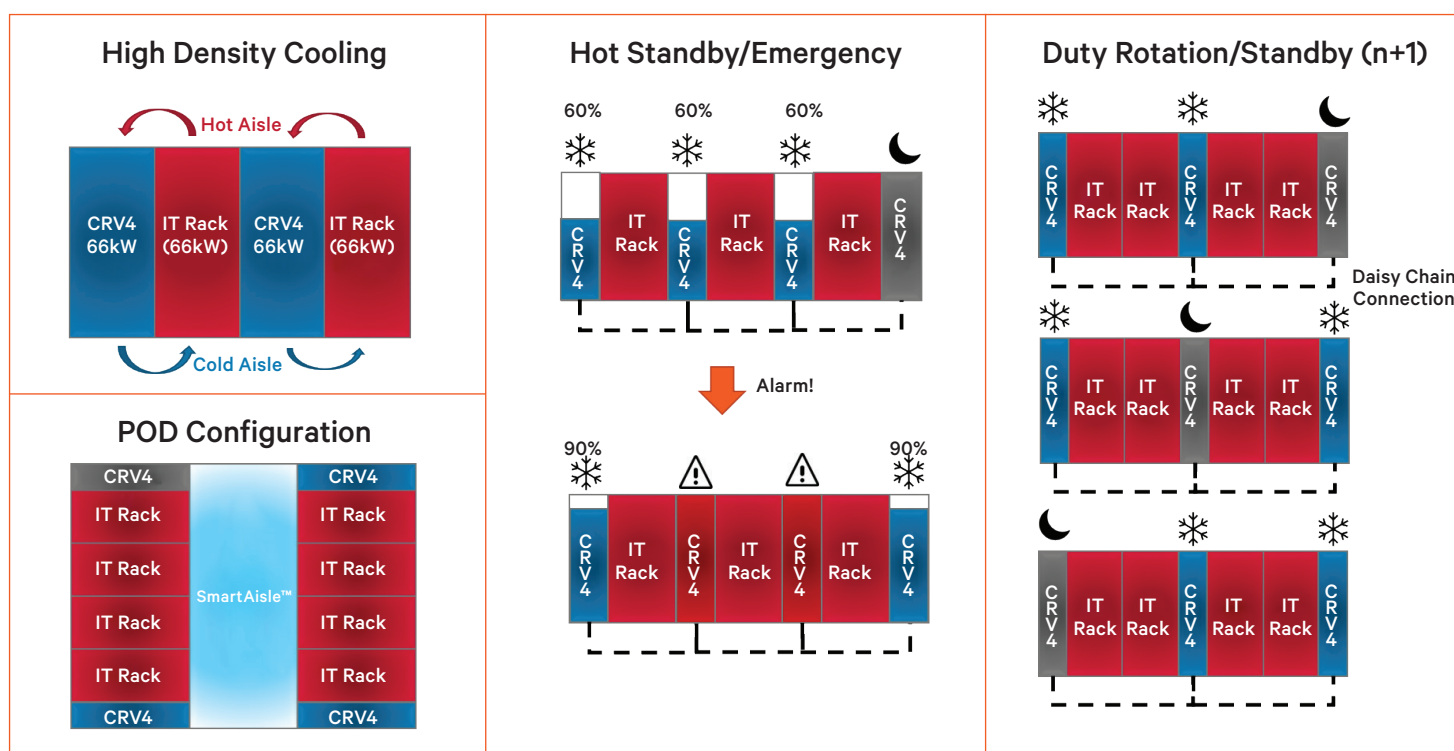
- Suitable for small computer rooms to large data centers

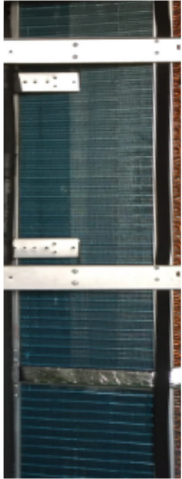
- Suitable for high-density heat loads (>8 kW/rack)

- Able to provide cooling with or without a raised floor

- Thermal Group Control for up to 32 units

Liebert® CRV4: Configuration





Evaporator Coil Design

- The finned tube evaporator with high heat dissipation efficiency is used. R&D has produced evaporator designs with increased efficiency by ensuring that the refrigerant is distributed evenly in each loop.



Variable Capacity Brushless DC Inverter Compressor

- DC inverter compressor technology provides infinite variable capacity modulation between 30% - 100% to ensure precise response to dynamic changing cooling demand.
- Improved reliability by reducing compressor cycling and component wear.
- Environment-friendly R410A refrigerant.



Additional

Long Piping Kit

Steam Humidifier

Wind-leading Grill

PTC Heater



Flexible Operations

- Variable capacity for different loading
- Air volume quantity can be varied as per load density



Diversified Allocation

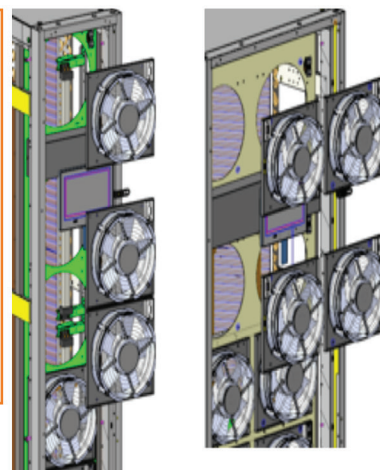
- Best suited for >8 kW/Rack load
- High heat density application with hot/cold aisle row cooling

res, all in one solution



Flexible Fan Operation

- The EC fan speed is automatically regulated by the Liebert CRV4 smart controller.
- High-efficiency EC fans save energy and its hot-swappable design allows replacement while the unit is running.



Electronic Expansion Valve (EEV)

- Allows for integrated and optimal variable capacity control.
- Maintain constant superheat & dehumidification assistance.



Features



Lower Operational Cost

- High return temp design leads to more energy saving
- Small footprint releases space for IT equipment



High Reliability

- High-degree precision controls by smart controller
- Better longevity

Liebert® CRV4 12 kW to 66 kW

Liebert® CRV4 Smart Controller, A Drive to the Highest Efficiency Levels

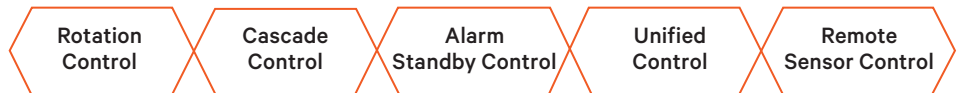
- 7" large touch screen color display with HMI version.
- Advanced control algorithms allow the airflow and cooling to be modulated independently.
- Multiple control modes (six) for fan and compressor.
- Built-in RS485 interface for Modbus, optional SNMP and TCP/IP interface.



Intelligent Thermal Controls for Smarter Management

Make smarter decisions in your critical infrastructure space with integrated intelligent controls for ease of management. The Liebert® CRV4 is equipped with Intelligent Controls and the Liebert® RDU, allowing users to easily manage multiple units and even 3rd party units across different (up to 32 units).

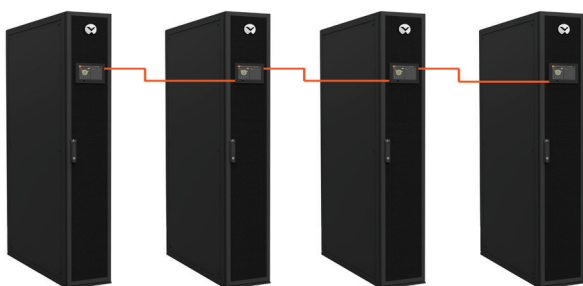
Via Liebert® RDU



Note: Vertiv™ Liebert® RDU to be purchased separately.

- Management of environmental conditions i.e. temperature and humidity, leak, smoke, thermal group control, and digital inputs and outputs.
- Monitoring infrastructure and alarm management: Cooling unit, UPS, gensets, etc.
- Equipped with a built-in web server, eliminating the need for additional software installation.
- Ability to network with other perimeter units, including other 3rd party cooling units.

Via Daisy Chain



- Up to 16 units can be configured in a team to rotate based on day and time.
- Units that are idle but ready become active in the event of an alarm condition in one of the operating units or based on a rotation schedule.

Row Cooling Row Cooling Row Cooling Row Cooling

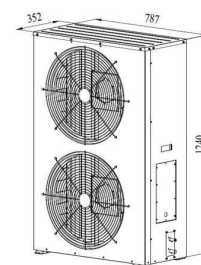
Technical Specifications

Model	Liebert® CR012	Liebert® CR025	Liebert® CR036	Liebert® CR035	Liebert® CR045	Liebert® CR066
Cooling Mode ^[1]	Air-cooled	Air-cooled	Air-cooled	Air-cooled	Air-cooled	Air-cooled
Total capacity (kW) ^[2]	13.9	28.8	35.2	40.9	47.5	64.6
Reheat (kW)	2	3	3	6	6	6
Humidifier (kg/h)	-	1.5	1.5	1.5	1.5	1.5
FLA (A)	19.1	22.7	32.1	36.9	44.3	51
Electrical Power	380 V to 415 V/3 Ph/50 Hz and 60 Hz					
Net weight (kg)	215	235	260	320	335	360
Dimension (H x W x D) (mm)	2000 x 300 x 1100	2000 x 300 x 1100	2000 x 300 x 1100	2000 x 600 x 1100	2000 x 600 x 1100	2000 x 600 x 1100

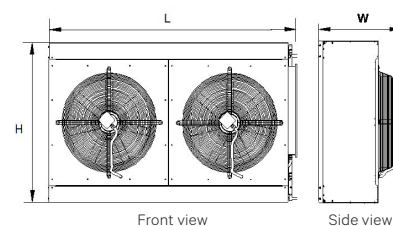
Vertiv™ Liebert® CRV4 Condenser Configuration

Vertiv™ Liebert® LSF Condenser (LxWxH)

Model	35 °C	40 °C	45 °C	
Vertiv™ Liebert®	CR012	LSF12-R3 (787x352x1240)	LSF12-R3 (787x352x1240)	LSF12-R3 (787x352x1240)
	CR025	LSF38-R3 (1384x695x990)	LSF42-R3 (1584x695x1273)	LSF52-R3 (1584x695x1273)
	CR035	LSF42-R3 (1584x695x1273)	LSF52-R3 (1584x695x1273)	LSF76-R3 (2384x695x1273)
	CR036	LSF42-R3 (1584x695x1273)	LSF52-R3 (1584x695x1273)	LSF70-R3 (2384x695x1273)
	CR045	LSF52-R3 (1584x695x1273)	LSF76-R3 (2384x695x1273)	LSF85-R3 (2384x695x1273)
	CR066	LSF76-R3 (2384x695x1273)	LSF85-R3 (2384x695x1273)	LSF85-R3 (2384x695x1273)



Liebert® LSF-12 unit

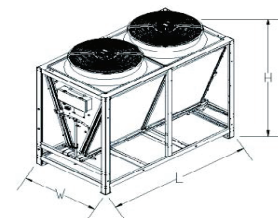


Liebert® LSF™ Unit

Vertiv™ Liebert® LVC Condenser

*Each Liebert LVC must pair with 2 identical Liebert CRV (LxWxH)

Model	35 °C	40 °C	45 °C	
Vertiv™ Liebert®	CR012	/	/	/
	2 x CR025	/	LVC088 (2330x1100x1709)	LVC106 (2330x1100x1709)
	2 x CR035	LVC088 (2330x1100x1709)	LVC106 (2330x1100x1709)	LVC152 (2330x1250x2222)
	2 x CR036	LVC088 (2330x1100x1709)	LVC106 (2330x1100x1709)	LVC140 (2330x1250x2222)
	2 x CR045	LVC106 (2330x1100x1709)	LVC152 (2330x1250x2222)	LVC170 (2330x1250x2222)
	2 x CR066	LVC152 (2330x1250x2222)	LVC170 (2330x1250x2222)	LVC170 (2330x1250x2222)



Liebert® LVC™ Unit

Note:

1. Water Cooled option is available, please contact Vertiv local representative for more info.
2. Performance based on 37 °C return air temperature, 24% relative humidity, and 45 °C condensing temperature.



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