



Vertiv™ Liebert® PCW

Cloud - Ready Precision
Cooling Technology for
Maximum Energy Saving



About Vertiv™

Vertiv brings together hardware, software, analytics and ongoing services to ensure its customers' vital applications 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. Headquartered in Columbus, Ohio, USA, Vertiv employs around 20,000 people and does business in more than 130 countries. For more information, and for the latest news and content from Vertiv, visit Vertiv.com

OUR PURPOSE

We believe there is a better way to meet the world's accelerating demand for data - one driven by passion and innovation.

OUR PRESENCE

GLOBAL PRESENCE

Manuf. and Assembly Locations **19**
Service Centers **270+**
Service Field Engineers **2,700+**
Technical Support/Response **330+**
Customer Experience Centers/Labs **17**



US AND CANADA

Manuf. and Assembly Locations **7**
Service Centers **120+**
Service Field Engineers **850+** Technical Support/Response **120+** Customer Experience Centers/Labs **4**



LATIN AMERICA

Manuf. and Assembly Locations **1**
Service Centers **20+**
Service Field Engineers **300+** Technical Support/Response **25+** Customer Experience Centers/Labs **2**



EUROPE, MIDDLE EAST AND AFRICA

Manuf. and Assembly Locations **5**
Service Centers **70+**
Service Field Engineers **600+** Technical Support/Response **95+** Customer Experience Centers/Labs **6**



ASIA PACIFIC

Manuf. and Assembly Locations **6**
Service Centers **60+**
Service Field Engineers **950+** Technical Support/Response **90+** Customer Experience Centers/Labs **5**

Why You Should Choose Vertiv™ Liebert® PCW Over Other Precision Systems

Vertiv™ Liebert® PCW patented technology puts it at the forefront of data center precision cooling solutions in terms of efficient performance and reduced operational costs.

Cool the Cloud

Vertiv™ Liebert® PCW precision air conditioner uses chilled water as a cooling medium and offers a capacity range from 66 kW up to 210 kW for data centers.

Recently, Vertiv APAC has introduced 'Vertiv™ Liebert® PH250' model in this series. A stand-alone unit that delivers up to 300 kW cooling capacity (based on the selected data hall operating environment) and features very high airflow capability. It also offers the best performance in its class: highest energy saving, high system availability, and low total cost of ownership when integrated with a holistic data center solution.

Together with new capacity, the Liebert PCW series has a unique cutting-edge technology that ensures business continuity by providing the most optimum cooling capacity as required for the servers.

“Vertiv™ Liebert® PCW is designed to lead the thermal management market for Chilled Water (CW) perimeter units for all data center configurations, thanks to its well-established design that minimizes running costs for the entire cooling system.”

- The Liebert PCW ensures precise and constant control of airflow, temperature, and humidity under all operating conditions.
- The Liebert PCW matches the requirements of cooling continuity for data center and it is certified by the authorities of data center design and operation.
- All components and control strategies are upgraded to provide an extremely efficient solution for infrastructures facing the challenges of modern IT applications.
- It perfectly adapts with each data center's air condition and water temperature requirements.
- A wider operating range allows users to remain a step ahead of the challenges posed by data centers and change in climatic conditions.
- Liebert PCW uses algorithms developed and perfected over fifty years of business experience and comes now with a new 9" touch screen display for quicker and easier data readability.

Vertiv™ Liebert® PCW Simplifies Installation for Real Operational Efficiency

Vertiv™ Liebert® PCW extended solution offers power cables with fast coupling to allow easy connection between the fan and coil modules, reducing installation time.

New coil design with enhanced efficiency.

Larger coil & filters to reduce further pressure drop.

Unique integrated aerodynamic design to reduce fan power consumption.



New HMI with clear and color graphical display

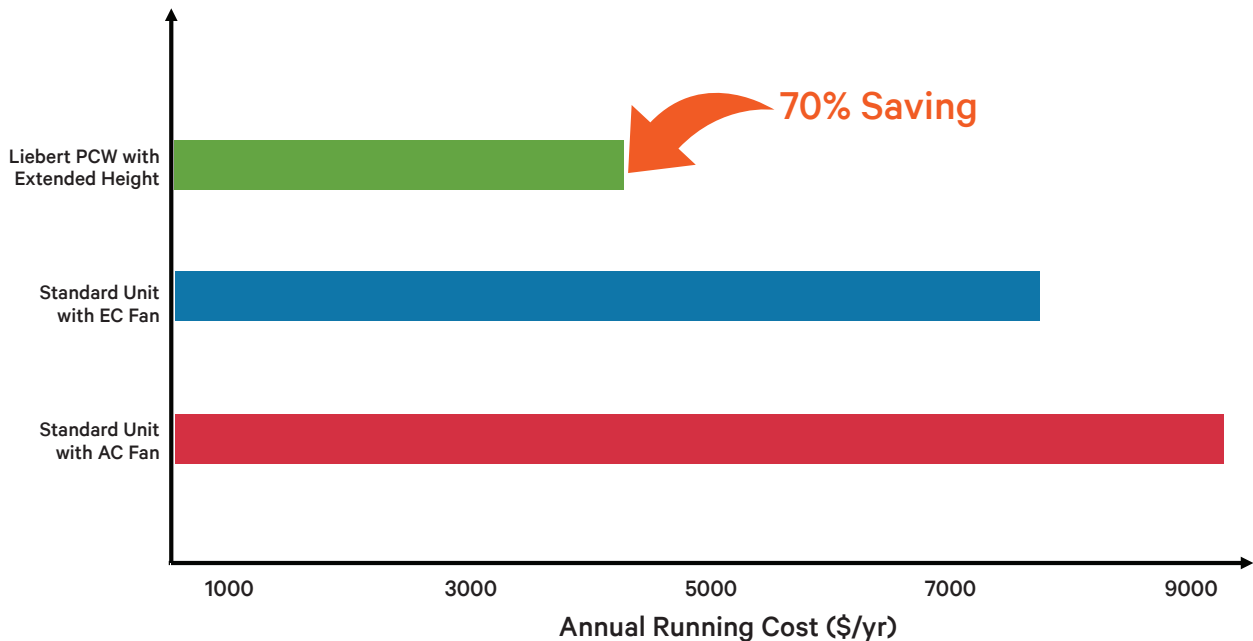
New coil and filter design

On-demand water connection

EC fan in raised floor*

*: EC fans can be configured to deliver the cold air from top, bottom, front or rear.

Energy Saving Performance of Liebert® PCW



Note: Return Temperature: 24 °C/ 50% RH; Water Temperature : 7 °C to 12 °C; Net Sensible Capacity 115 kW; Energy Cost 0.1 \$/ kWh

Optimized Components that Offer an Effective and Efficient Solution

High Efficiency

With optimized aerodynamic design (minimum internal pressure drops), and the new EC Fan, Vertiv™ Liebert® PCW can perfectly match the cooling needs of the server with minimum power consumption. Liebert® PCW delivers optimum energy efficiency and 70% saving when compared to standard market solution with EC fans.

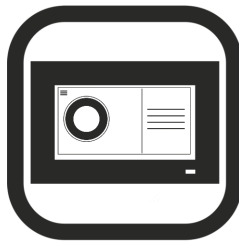


EC Fan

The unit is fitted with one (two, three or four) direct-driven, high efficient, single inlet, backward curved centrifugal 'plug' type innovating EC fan(s). The fan(s) have an impeller with corrosion resistant curved blades made of fibreglass plastic, which dramatically reduce the noise level and increases the unit efficiency.

Intelligent Controller with HMI Display

The 9 inch HMI touch screen is a standard offering for 250 kW model and it is also available for other models on request.



Aeraulic Design Efficiency

Specially designed cooling cabinets for lower air pressure drop resulting in a higher NSEER. A unique inner aerodynamic architecture - from the coil angle to the electrical panel - achieving an outstanding competitive advantage and state-of-the-art efficiency.

Easy Installation & Maintenance

Liebert PCW simplifies installation & maintenance for operational efficiency. Complete frontal access of cooling coil, filters, user friendly electrical connection, and futhermore, to simply access the fans during installation and replacement. The Liebert PCW maintenance kit facilitates servicing, reducing repair time, and possible downtime.



Introducing the Largest Configuration of Vertiv™ Liebert® PCW Series



Vertiv™ Liebert® PH250 Unit

Vertiv APAC has introduced 'Vertiv™ Liebert® PH250' model, a stand-alone unit in Liebert PCW series that delivers 230 kW to 300 kW cooling capacity (based on the selected operating environment) and features very high airflow and ESP capabilities.

Technical Specification

Parameters	PH250	
Cooling Capacity, kW	230.3	
Sensible Cooling Capacity, kW	230.3	
SHR	1.0	
Airflow, m ³ /h	59,000	
Air Side	Return air dry bulb, °C	36
	Return air, %RH	26
	ESP, Pa	20
Water Side	Inlet, °C	20
	Outlet, °C	28
Dimension	WxDxH (mm)	3500x1080x2650
Weight	kg	1410

Note: The cooling capacities are based on chilled water supply at 20 °C, return at 28 °C, and ESP at 20Pa.

Vertiv™ Liebert® PH250 - At a Glance

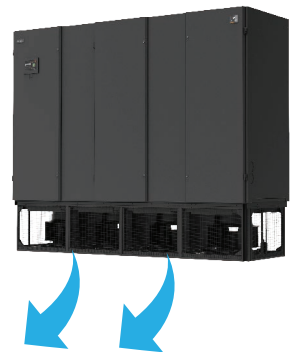
Rear-flow Model



Front-flow Model



Downflow Model



Front and Rear Airflow Discharge (New)

- Horizontal airflow discharge
- No raised floor required for frontal or rear airflow configuration

Special Fans to Suit Requirements

- High efficiency for greater airflow and/or high ESP capability
- Reduced noise level

High Capacity vs. Footprint

- Capacity ranges from 230 kW to 300 kW (depending on requirements)
- Compact footprint and height allow for easier transportation (able to fit into a standard container)

Technical Specifications

Downflow Unit

Product Specification		Model						
		PH066DC	PH081DC	PH091DC	PH111DC	PH136DC	PH161DC	PH201DC
Cooling Capacity and Sensible Cooling Capacity (29.5 °C DB, 32%RH)	Cooling Capacity (kW)	69.2	83.3	92.6	115.7	137.4	164.3	207.5
	Sensible Cooling Capacity (kW)	69.2	83.3	92.6	115.7	137.4	164.3	207.5
Fan	Airflow Rate (m ³ /hr)	17000	20000	20800	27900	31800	38000	49600
	Number of Fans	2	2	2	3	3	3	4
	External Static Pressure (Pa)	20	20	20	20	20	20	20
Electric Heater	Capacity (kW)	9	9	9	9	9	9	9
Electrode Humidifier	Humidification Capacity (kg/h)	10	10	10	10	10	10	10

Note: The cooling capacities are based on chilled water supply at 10 °C, return at 16.5 °C, and ESP at 20 Pa.

Upflow Unit

Product Specification		Model		
		PH066UC	PH081UC	PH091UC
Cooling Capacity and Sensible Cooling Capacity (29.5 °C DB, 32%RH)	Cooling Capacity (kW)	69.0	83.1	92.4
	Sensible Cooling Capacity (kW)	69.0	83.1	92.4
Fan	Airflow Rate (m ³ /hr)	17000	20000	20800
	Number of Fans	2	2	2
	Static Pressure Outside the Fan (Pa)	100	100	100
Electric Heater	Capacity (kW)	9	9	9
Electrode Humidifier	Humidification Capacity (kg/h)	10	10	10

Note: The cooling capacities are based on chilled water supply at 10 °C, return at 16.5 °C, and ESP at 100 Pa.

Unit Dimension and Weight

Product Specification	Model									
	PH066UC	PH081UC	PH091UC	PH066DC	PH081DC	PH091DC	PH111DC	PH136DC	PH161DC	PH201DC
Net Weight (kg) (with Fan Module)	610	650	690	560	590	630	735	795	905	1145
Dimension (mm) (with Fan Module) (WidthxDepth) ³	1750x890	2050x890	2050x890	1750x890	2050x890	2050x890	2550x890	2550x890	2950x890	3350x890

Note:

1. If the required data is not listed in the table please contact Vertiv local representative.
2. Input power supply will be 380 V to 415 V, 50 Hz / 60 Hz 3 Ph+N.
3. The default height of above mentioned Liebert PCW models is 2570 mm.
4. Please refer Page 6 for technical specification of PH250 model.
5. Dual Source chilled water unit is available on request.

