VERTIV™

Liebert®

PEX+™

High Efficiency, Low Operating Cost
Precision Solution for Data Centers

WE ARE VERTIV

Vertiv, formerly Emerson Network Power, designs, builds, and services mission critical technologies that enable vital applications for data centers, communication networks, and commercial & industrial environments

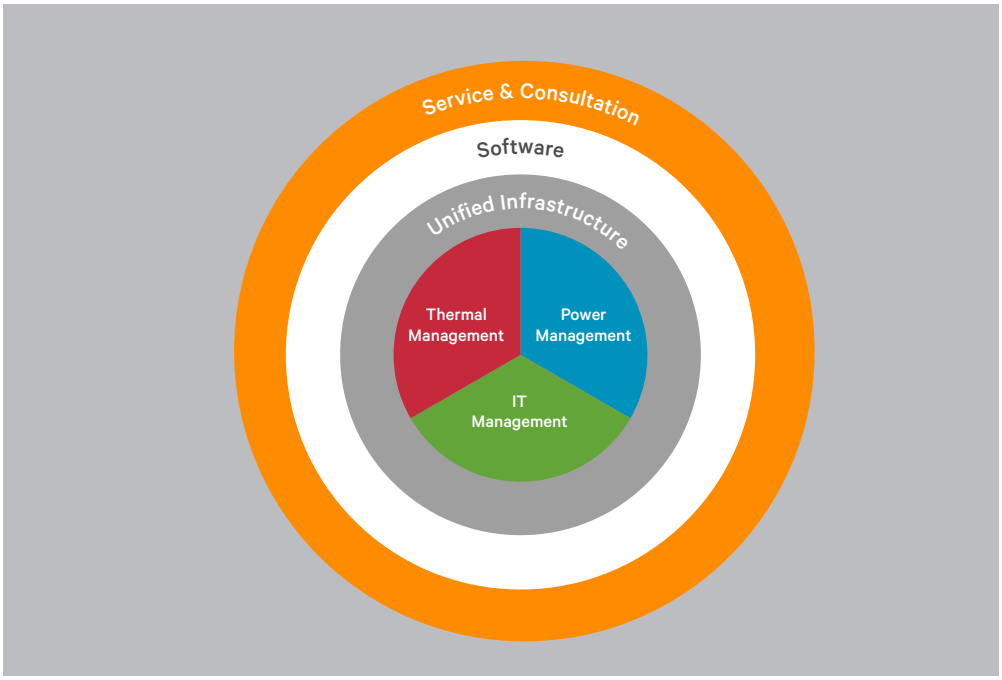
We support today's growing mobile and cloud computing markets with our portfolio of power, thermal and infrastructure management products, software and solutions, all complemented by our extensive global service network.

We help strengthen the world's most vital applications by bringing together global reach and local knowledge, and our decades-long heritage, including brands like ASCO, Chloride, Liebert, NetSure, and Trellis.

Vertiv

Your Vision, Our Passion

With a unique combination of industry expertise, technology, and resources, our mission is to support and power mission-critical technologies that drive possibility.



ASCO®

Our global critical power switching, control, and management solutions, engineered to the most demanding specifications, ensures power, reliability, compliance and efficiency

Chloride ®

Our global industrial power solutions meet the most demanding technical specifications and provide safe, reliable power- no matter the challenge

Liebert ®

Our global power and thermal management solutions are some of the world's most efficient and reliable power and cooling technologies

NetSure™

Our global intelligently engineered DC power systems deliver high availability, energy efficiency, and scalability for converged networks

Trellis ™

Our industry-leading software gives customers an integrated view of operations across IT and facilities resources, enabling better decisions that save time and money

What will the future of the data center look like? Following our Data Center 2025 survey, here's what we found:

84% believe that data center infrastructure equipment will become more efficient

Is your data center operating at peak efficiency?

58% believe that data centers will shrink in size. Despite of this, power densities and compute power will increase

Is your data center's thermal solution equipped to handle high heat densities?

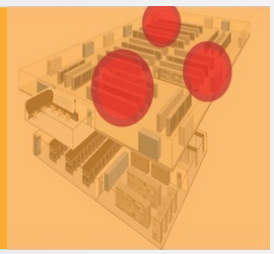
67% of computing will be done in the cloud

Is your data center prepared for next-gen computing technologies?

58% believe that size of data center will reduce by more than half the current size

Is your data center cooling system compact ?

Up to 50kW More than 50kW in power density - a dramatic upswing that bring significant disruption in how data centers are laid out and cooled



Re-evaluate your existing strategy to focus on new cooling methods and approaches

Liebert PEX+

Next-Gen Cooling Solution from Vertiv

Least air flow resistance; resulting in low power consumption

INTRODUCING of LIEBERT® PEX+™

Vertiv's next-generation thermal management solution, uniquely designed to give you the highest levels of efficiency at a lower operating cost

The data center landscape is changing. Innovations such as cloud computing, Big Data and Internet of Things are transforming the way the data center operates. Faced with high power densities and computing requirements, data centers must always perform at the highest levels of efficiency and availability, minimizing downtime or outages.

We at Vertiv understand the evolving nature of your business and so we evolve with you. Our latest thermal management solution, the Liebert® PEX+™, features next-gen cooling technologies that gives you the highest levels of efficiency and availability at a small footprint.

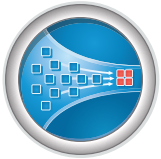
The Liebert® PEX+™'s modular design also gives you the flexibility and convenience unlike other cooling solutions. It is also compact and easy to install, adapting to the changing demands of your business.

The Liebert® PEX+™ offers the perfect combination of availability, effficiency, modularity. It is available in both DX and Chilled Water variants.

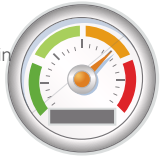
Liebert® PEX+™ Cooling Unit delivers Efficiency Without Compromise

Efficiency Without Compromise provides a path to optimize data center infrastructure around design, operating and management efficiency while maintaining or improving availability.

ECO AVAILABILITY
Balancing high levels of availability and efficiency



High DENSITY
Delivering high power in lowest footprint



FLEX CAPACITY
Adapting to IT changes for continuous optimization and design flexibility

INFRASTRUCTURE MANAGEMENT
Improving performance of the IT infrastructure and environment

Liebert® PEX+™ Key Features

Scroll Technology

The best solution in terms of reliability and also variable cooling capacity option is available. In variable compressor step-less capacity modulation from 20% to 100% can be achieved. PEX+ can be offered with both fixed & digital scroll technology.

Electronic Expansion Valve

This valve is designed to constantly optimize the refrigerant circuits performance in order to achieve the highest efficiency also at partial loads. EEV can be offered based on application demand.

iCOM Controller

Smart mode is a control algorithm developed for SmartAisle™ applications (cold aisle containment) meeting the cooling and airflow needs of the servers without wasting a single Watt on unnecessary cooling or air movement.

Liebert® EC Fan

The unit is fitted with direct-driven, high efficiency, single inlet, backward curved, centrifugal 'plug' type innovating EC fan(s). The EC fan technology regulates airflow and reduces the fan input power. In-floor configuration further reduces energy consumption in downflow units

Energy efficiency

First class energy efficiency is achieved though combination of industry's best practices

Ease of maintenance

The control function will give alerts on timely basis for predictive/preventive maintenance. also the PeX+ modular design makes it very easy to access the components from service perspective.

Infrared humidifier

Latest technology, fast responsive Infrared humidifier helps maintain the humidity to desired level

24/7 Service offering

Vertiv supports customers with the extensive service offering, guaranteeing availability and total peace of mind 24/7

Cascading effect to higher efficiency

Newly Designed fan

Modified design architecture to reduce the air flow obstruction

High Surface area coil

High Efficiency filter

High efficiency aspect bought to each component level

Liebert® PEX+™ is engineered at every component level design to give you the best features.

Every component is redesigned to perform better, so with increase in component level efficiency , the end result is much better which is cascading energy savings.

This design approach is what you never experienced before with more advance features like optimized aisle control, it gets better and better in terms of efficiency.

The Liebert® PEX+™ is designed using the latest technologies, keeping in mind industry trends; anticipating future requirements; and achieving the best energy efficiency scenario.

The Liebert® PEX+™ CW variant is engineered to handle much bigger capacity demands, which will help you in better planning for future requirements. It is optimally designed so you get up to 50% more capacity in the same size.

Advance technology based Liebert® iCOM™ controller acts as the brain of the precision cooling system, delivers the optimum performance according to varying load conditions, resulting in big savings in operating cost

Liebert® iCOM™ Control allows high efficiency, availability and this control is ready for cloud computing - adaption to site needs.

The Liebert® iCOM™ control system offers the highest capabilities of unit control, communication and monitoring of Liebert mission-critical cooling units. Liebert® iCOM™ provides advanced diagnostic and maintenance support, enabling multiple units to communicate and work together as a team to precisely control temperature and humidity across a room. TheLiebert iCOM™ have two kinds of screen display: a standard display and a large display.

The self monitoring of redundant units alternates standby positions and gives priority to possible hot spots. The high-level supervision of multiple units allows them to work together as a single system optimizing room temperature and humidity. This is of particular

The Liebert® iCOM™ directly connects with the facility network (Ethernet) and enables communication between multiple Liebert® PEX+™ units for synchronized operation, guaranteeing increased reliability and precision cooling room control.

Technical data of PEX+DX downflow & upflow Air-cooled unit (with fixed scroll compressor)

Model	P1020	P1025	P1030	P1035	P1040	P1050	P2060	P2070	P2080	P2090	P2100
Gross Cooling capacity and Sensible cooling capacity (kW)											
Cooling capacity*1 (24 ℃ DB 50%RH)	22.3	31.0	37.1	41.4	45.9	54.5	74.4	77.9	91.3	102.1	109.0
Sensible cooling capacity (24 ℃ DB 50%RH)	19.4	26.9	32.4	35.9	40.1	48.0	64.9	68.7	80.0	89.6	958
Indoor unit Fan section											
Std Air volume (m³/hr)	5500	6700	8000	9000	10600	12200	16000	18000	21200	24400	24400
Fan number	1	1	1	1	1	1	2	2	2	2	2
Fan power (kW)*2 - Downflow	0.64	1.02	1.47	1.83	1.51	1.86	2.94	3.65	3.0	3.72	3.72
Fan power (kW)*2 - Upflow	0.72	1.11	1.57	1.94	1.77	2.22	3.15	3.87	3.55	4.43	4.43
Compressor*3											
Number	1	1	1	1	1	1	2	2	2	2	2
PTC type Electric heater											
Power (kW)	6	6	6	6	9	9	9	9	12	12	12
Infrared humidifier											
Humidifying capacity (kg/h)	4.5	4.5	4.5	4.5	4.5	4.5	10	10	10	10	10
Unit Footprint											
Unit dimension (W*D*H) (mm)	853X874 X 1970		1130 X 995 X 1975		1330 X 995 X 1975		1830 X 995 X 1975		2230 X 995 X 1975		
Indoor Unit Weight											
Net weight (kg)	320	340	440	440	460	530	690	730	770	810	810

Note :

1. Performance tolerance 5%
2. For net capacities, deduct fan input power. Refer to the Liebert® PEX+™ Rating for specific input conditions, air flow, and configuration.
3. *1 : The above cooling capacity is based on condensing temperature of 45°C.
4. *2 : For downflow unit ESP 20 Pa & for upflow unit ESP 50Pa considered
5. *3 : Fixed Scroll compressor & R407C refrigerant based, for R410A refrigerant, please contact Vertiv representatives
6. Standard offer is with TXV, EEV is available on request
7. Water cooled condenser can be offered on request
8. If you need any data, not listed; please contact with Vertiv representative

Technical data of PEX+DX downflow & upflow Air-cooled unit (with digital scroll compressor)

Model	P1020	P1025	P1030	P1040	P1050	P2060
Gross Cooling capacity and Sensible cooling capacity (kW)						
Cooling capacity*1 (24℃ DB 50%RH)	22.6	25.5	33.7	45.7	50.1	66.0
Sensible cooling capacity (24℃ DB 50%RH)	19.5	23.4	29.3	39.4	44.2	58.0
Indoor unit Fan section						
Std Air volume (m³/hr)	5500	6700	8000	10600	12200	16000
Fan number	1	1	1	1	1	2
Fan power (kW)*2 - Downflow	0.6	1.0	1.5	1.5	1.9	2.9
Fan power (kW)*2 - Upflow	0.7	1.1	1.6	1.8	2.2	3.1
Compressor*3						
Number	1	1	1	2	2	2
PTC type Electric heater						
Power (kW)	6	6	6	9	9	9
Infrared humidifier						
Humidifying capacity (kg/h)	4.5	4.5	4.5	4.5	4.5	9
Unit Footprint						
Unit dimension (W*D*H) (mm)	853 X 874 X 1970		1130 X 995 X 1975	1330 X 995 X 1975		1830 X 995 X 1975
Indoor Unit Weight						
Net weight (kg)	320	340	440	480	570	690

Note :

1. Performance tolerance 5%
2. For net capacities, deduct fan input power. Refer to the Liebert® PEX+™ Rating for specific input conditions, air flow, and configuration.
3. *1 : The above cooling capacity is based on condensing temperature of 45°C.
4. *2 : For downflow unit ESP 20 Pa & for upflow unit ESP 50Pa considered
5. *3 : The above models are equipped with R407C based digital compressor ; for any other capacity with variable compressor system, please contact with Vertiv representative.
6. Standard offer is with TXV, EEV is available on request
7. Water cooled condenser can be offered on request
8. If you need any data, not listed; please contact with Vertiv representative

Technical data of PEX+CW down flow & up flow chilled water unit

Model	P1030	P1040	P1050	P1060	P2070	P2080	P2090	P2100	P2110
Gross Cooling capacity and Sensible cooling capacity (kW)									
Cooling capacity[1] (24°C DB 50%RH)	30.4	40.6	51.2	60.6	71.8	80.8	92.7	100.5	111.8
Sensible cooling capacity (24°C DB 50%RH)	27.0	34.4	41.4	48.1	61.0	70.1	75.2	83.2	91.7
Indoor unit Fan section									
Std Air volume (m³/hr)	9200	9600	10200	11200	17000	20400	18600	21300	23200
Fan number	1	1	1	1	2	2	2	2	2
Fan power (kW)[2] (Downflow)	1.15	1.29	1.53	1.64	1.91	3.01	2.42	3.4	3.56
Fan power (kW)[2] (upflow)	1.56	1.79	2.15	1.96	2.75	4.19	3.53	4.85	4.24
Unit Footprint									
Unit dimension (W*D*H) (mm)	930 X 995 X 1975			1680 X 995 X 1975					1830 X 995 X 1975
Indoor Unit Weight									
Net weight (kg)	300	310	330	350	490	500	510	520	540

Model	P2120	P2130	P2140	P3150	P3160	P3170	P3180	P3190	P3200
Gross Cooling capacity and Sensible cooling capacity (kW)									
Cooling capacity[1] (24°CDB 50%RH)	120.5	131.0	140.4	150.2	161.7	170.6	181.5	192.5	207.8
Sensible cooling capacity (24°CDB 50%RH)	100.1	104.9	111.6	123.9	132.1	139.9	150.6	153.4	164.9
Indoor unit Fan section									
Std Air volume (m³/hr)	25900	24800	26100	31600	33100	35400	39000	36000	38400
Fan number	2	2	2	3	3	3	3	3	3
Fan power (kW)[2] - Downflow	4.69	4.42	4.8	4.96	5.61	5.83	7.75	6.4	7.52
Fan power (kW)[2] - Upflow	5.77	5.16	5.53	7.33	8.29	6.87	8.37	7.47	8.16
Unit Footprint									
Unit dimension (W*D*H) (mm)	1830 X 995 X 1975			2505 X 995 X 1975	2730 X 995 X 1975				
Indoor Unit Weight									
Net weight (kg)	550	560	580	770	790	810	820	840	850

Note :

1. Performance tolerance 5%
2. For net capacities, deduct fan input power. Refer to the Liebert® PEX+™ CW Rating for specific input conditions, air flow, and configuration.
3. *1 : The above cooling capacity is based on chilled water inlet/outlet temperature of 7°C/12°C respectively.
4. *2 : For downflow unit ESP 20 Pa & for upflow unit ESP 50Pa considered
5. Heater & Humidifier are available on request, please contact Vertiv representatives
6. Standard offer is G4 filter, higher grade filters available on request
7. If you need any data, not listed; please contact with Vertiv representative

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