



VERTIV™

Liebert®

HPC-S

from 60 to 400 kW

Air-Cooled, Freecooling
and Adiabatic Freecooling Chillers
for Highly Efficient Data Centers



Vertiv™

Vertiv designs, builds and services mission critical technologies that enable the vital applications for data centers, communication networks, and commercial and industrial environments. We support today's growing mobile and cloud computing markets with our portfolio of power, thermal, infrastructure management products, software and solutions, all complemented by our global service network. Bringing together global reach and local knowledge, and our decades-long heritage including brands like Chloride®, Liebert® and NetSure™, our team of experts is ready to take on your most complex challenges, creating solutions that keep your systems running—and your business moving. Together, we're building the future of a world where critical technologies always work.

YOUR VISION, OUR PASSION.

VertivCo.com



From the Air-Cooled to the Adiabatic Freecooling Chiller:

A Range of Solutions for Different Data Center Environments.

Recent market trends have seen an increase in operating temperatures under which new IT equipment operates. This has led to the progress in adiabatic solutions, extending freecooling availability to higher ambient temperatures. The newest data center designs, in accordance with ASHRAE (the American Society of Heating, Refrigerating and Air Conditioning Engineers) guidelines, have accepted to move out of the recommended envelope to the allowable ranges (A1-A4). The Liebert® HPC-S freecooling chiller solution embraces this trend by expanding its range to include the adiabatic freecooling models which incorporate newest developments in the management of adiabatic technology. When specifically applied to data centers with high chilled water temperatures, the adiabatic freecooling version of the Liebert HPC-S is capable of achieving an energy saving of 25% to 30% compared to a standard freecooling chiller solution.



Liebert HPC-S Freecooling Chiller

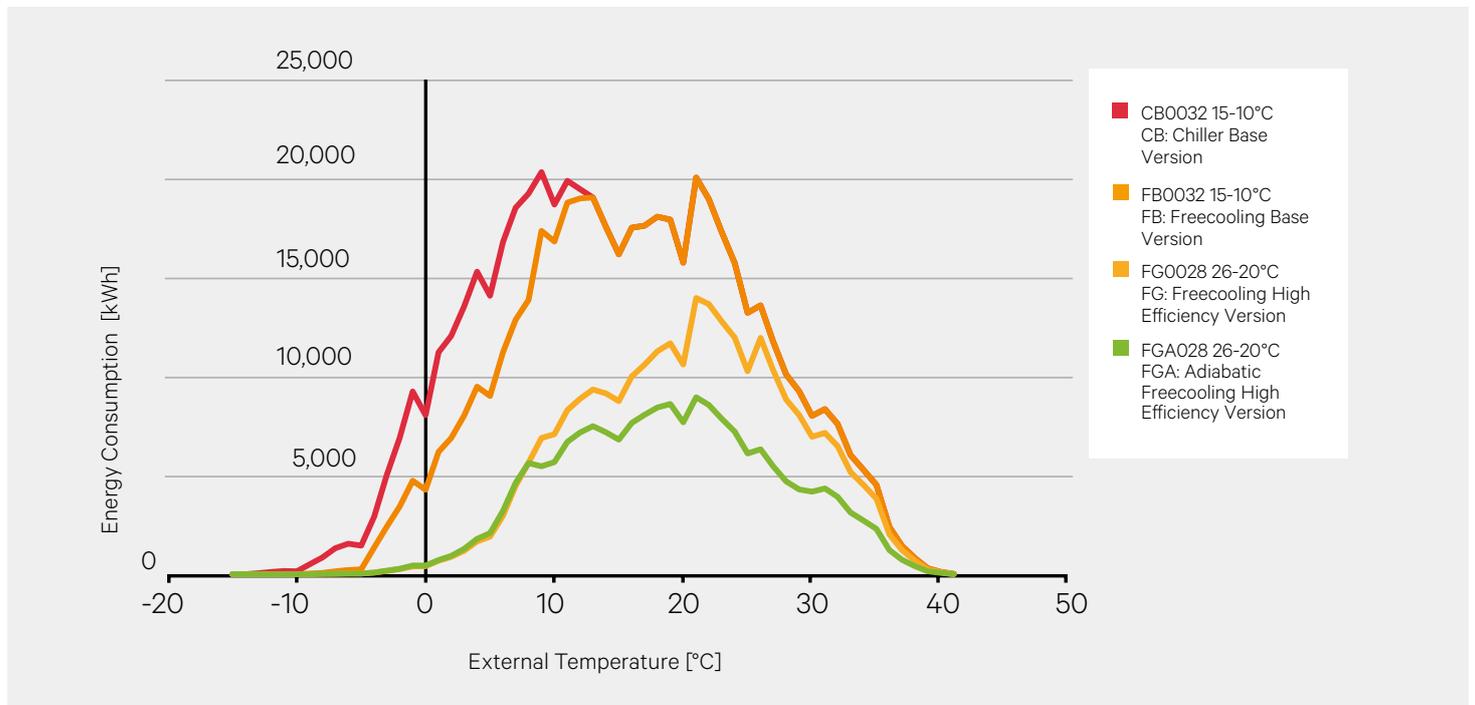


Liebert HPC-S Adiabatic Freecooling Chiller

Liebert® HPC-S Helps Achieve Your Business Goals While Respecting the Environment

Today, environmental responsibility is becoming increasingly fundamental for many organizations. The Liebert® HPC-S guarantees increased efficiency for customers while reducing environmental impact through its ability to work in different operating modes: from sole direct expansion to freecooling and adiabatic freecooling modes. The freecooling operation takes advantage of the external environment conditions in order to cool water, thus requiring compressor operation only when the outside temperature exceeds freecooling limits. In the FGA models, the adiabatic wet pad system pre-cools the ambient air which enters the freecooling coil, thus increasing freecooling capacity and reducing the use of compressors throughout the year. Taking a data center with a 350 kW load in Madrid as an example, the annual energy saving of the Liebert HPC-S adiabatic freecooling version working at 26° to 20°C chilled water temperatures would be 30% higher compared to the freecooling unit operating at the same conditions. Energy savings would boost to 65% when compared to the air-cooled chiller version working with chilled water temperatures of 15° to 10°C.

Liebert HPC-S Annual Energy Consumption: A Wide Range of Energy Efficient Solutions



Madrid Climatic Profile with 350 kW Heat Load

Liebert® HPC - S

State-of-the-Art Technologies Maximizing the Benefits for Small Data Centers



HIGH EFFICIENCY

The freecooling and adiabatic freecooling operation allows to reduce the annual use of compressors, thus achieving top efficiency levels.



FREECOOLING

Integrated freecooling section, delivers additional energy savings and greater reliability.



ADIABATIC COOLING

In the adiabatic models, the highly efficient adiabatic wet pads humidify air entering the freecooling and condensing coils, increase freecooling operation and mechanical efficiency.



SCROLL COMPRESSOR

Liebert® HPC-S is equipped with scroll compressors to improve efficiency and performance reliability.



EC FANS

High efficiency motors guarantee a 25% reduction in energy consumption compared to traditional AC motors.



ELECTRONIC EXPANSION VALVE

Stability and efficiency guaranteed in all conditions.



VERTIV™ ICOM™ CONTROL

Advanced unit and teamwork control to maximize energy efficiency.



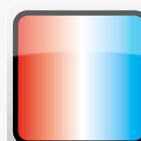
EXTREMELY LOW NOISE

Audible noise is reduced to a minimum as a result of EC Fans and special acoustic insulation.



FAST START RAMP

Ensures full restoration of chiller capacity within 100 seconds from a power re-start.



SUPERSAVER

The Supersaver is the software logic embedded in the Vertiv ICOM Control leveraging on the communication with floor mount units to maximize efficiency at system level.

Customer Experience Center

Thermal Management

Vertiv's newest Customer Experience Center located in Tognana (Padova - Italy), is specifically designed for customers to interact with Thermal Management data center technologies. The center gives our customers the unique opportunity to witness pre-installation demonstrations, covering technical performance, interoperability and efficiency of our Thermal Management solutions under a broad range of real field conditions. Customers visiting the center may also benefit from a comprehensive consultation from our R&D, engineering and application specialists.



Freecooling Chiller Validation Area

Our Thermal Management Customer Experience Center features a dedicated area to test our highly efficient freecooling and adiabatic freecooling chillers. The scope of the Freecooling Chiller Validation Area is to provide customers, consultants and data center specialists with the most complete testing area to experience the capabilities of our technology at peak conditions.

Each Liebert® HPC-S unit undergoes stringent end-of-line testing in our two multi-purpose specialized testing cabins prior to its shipment. The state-of-the-art equipment and features of the cabins ensure high precision measurement of a wide range of testing conditions. The main testing cabin has an internal volume of 650 m³ and is designed to perform high precision tests with simulated ambient temperatures of up to 55°C.

Every customer visit is accompanied by a complete final report which includes each and every tested parameter as well as the relevant outputs for the specific Thermal Management unit validated. With our constant focus on our customers' needs, we guide them through a first-hand experience with full transparency and flexibility, enabling them to achieve the highest standards of technical excellence.



Liebert® HPC-S 60-220 kW Freecooling Chiller Specifications

| G Model | | FG0006 | FG0007 | FG0009 | FG0011 | FG0014 | FG0015 | FG0018 | | |
|---|-------|--------------------|--------|--------------------|--------------------|--------|--------------------|--------------------|--------|--------|
| HIGH EFFICIENCY CONFIGURATION | | | | | | | | | | |
| Cooling Capacity ¹ | kW | 63.0 | 82.6 | 93.5 | 118.8 | 149.3 | 165.4 | 187.2 | | |
| Freecooling Capacity ² | kW | 45.7 | 70.7 | 84.2 | 88.6 | 130.2 | 136.5 | 135.1 | | |
| Total Power Input ¹ | kW | 18.8 | 24.3 | 28.1 | 36.7 | 45.3 | 51.7 | 58.2 | | |
| Unit EER ¹ | --- | 3.35 | 3.40 | 3.33 | 3.24 | 3.30 | 3.20 | 3.22 | | |
| SPL (Sound Pressure Level) ³ | dB(A) | 78.5 | 79.5 | 79.5 | 79.5 | 80 | 80 | 80 | | |
| PWL (Sound Power Level) ⁴ | dB(A) | 95.5 | 97.5 | 97.5 | 97.5 | 99 | 99 | 99 | | |
| Dimensions | mm | 2043 x 1201 x 1931 | | 3043 x 1201 x 1931 | | | 4043 x 1201 x 1931 | | | |
| QUIET CONFIGURATION | | | | | | | | | | |
| Cooling Capacity ¹ | kW | 57.4 | 78.2 | 88.3 | 109.9 | 140.3 | 154.0 | 172.1 | | |
| Freecooling Capacity ² | kW | 33.9 | 55.3 | 65.0 | 66.5 | 99.7 | 103.1 | 100.9 | | |
| Total Power Input ¹ | kW | 19.3 | 22.0 | 26.4 | 36.7 | 43.3 | 51.0 | 59.1 | | |
| Unit EER ¹ | --- | 2.97 | 3.55 | 3.34 | 3.00 | 3.24 | 3.02 | 2.91 | | |
| SPL (Sound Pressure Level) ³ | dB(A) | 58 | 59 | 59 | 61 | 62 | 62 | 62 | | |
| PWL (Sound Power Level) ⁴ | dB(A) | 75 | 77 | 77 | 79 | 81 | 81 | 81 | | |
| Dimensions | mm | 2043 x 1201 x 1874 | | 3043 x 1201 x 1874 | | | 4043 x 1201 x 1874 | | | |
| B Model | | FB0006 | FB0007 | FB0009 | FB0011 | FB0014 | FB0015 | FB0018 | FB0019 | FB0022 |
| BASE CONFIGURATION | | | | | | | | | | |
| Cooling Capacity ¹ | kW | 61.4 | 73.7 | 91.1 | 116.3 | 138.5 | 151.6 | 182.8 | 199.7 | 223.7 |
| Freecooling Capacity ² | kW | 45.1 | 44.9 | 70.2 | 87.8 | 87.6 | 89.7 | 133.8 | 137.8 | 133.9 |
| Total Power Input ¹ | kW | 19.2 | 24.9 | 28.6 | 37.2 | 46.9 | 54.8 | 59.3 | 68.2 | 77.3 |
| Unit EER ¹ | --- | 3.20 | 2.96 | 3.19 | 3.13 | 2.95 | 2.77 | 3.08 | 2.93 | 2.89 |
| SPL (Sound Pressure Level) ³ | dB(A) | 75 | 75 | 76 | 76 | 76.5 | 76.5 | 77 | 77.5 | 78 |
| PWL (Sound Power Level) ⁴ | dB(A) | 92 | 92 | 94 | 94 | 94.5 | 94.5 | 96 | 96.5 | 97 |
| LOW NOISE CONFIGURATION | | | | | | | | | | |
| Cooling Capacity ¹ | kW | 59.9 | 71.3 | 89.7 | 114.0 | 134.9 | 147.2 | 178.9 | 194.8 | 217.4 |
| Freecooling Capacity ² | kW | 41.6 | 41.0 | 65.2 | 81.1 | 80.5 | 82.2 | 123.3 | 126.7 | 122.9 |
| Total Power Input ¹ | kW | 19.3 | 25.3 | 28.0 | 37.1 | 47.3 | 55.8 | 59.3 | 68.7 | 78.3 |
| Unit EER ¹ | --- | 3.10 | 2.82 | 3.20 | 3.07 | 2.85 | 2.64 | 3.02 | 2.84 | 2.78 |
| SPL (Sound Pressure Level) ³ | dB(A) | 63 | 63 | 64 | 66 | 66.5 | 66.5 | 67 | 67.5 | 68 |
| PWL (Sound Power Level) ⁴ | dB(A) | 80 | 80 | 82 | 84 | 84.5 | 84.5 | 86 | 86.5 | 87 |
| Dimensions | mm | 2043 x 1201 x 1902 | | | 3043 x 1201 x 1902 | | | 4043 x 1201 x 1902 | | |

1 At the following standard conditions: power supply 400V/3ph/50Hz; outdoor temperature 35°C; water inlet/outlet temperature 15/10°C; ethylene glycol 30%

2 At the following standard conditions: power supply 400V/3ph/50Hz; outdoor temperature 5°C; coolant inlet temperature 15°C; ethylene glycol 30%

3 Measured at outdoor temperature of 35 °C; 1m from the unit; free field conditions; according to ISO 3744

4 At outdoor temperature of 35°C; calculated according to ISO 3744

Liebert® HPC-S 60-220 kW Air-Cooled Chiller Specifications

| G Model | | CG0006 | CG0007 | CG0009 | CG0011 | CG0014 | CG0015 | CG0018 | | |
|---|-------|--------------------|--------|--------------------|--------------------|--------|--------------------|--------------------|--------|--------|
| HIGH EFFICIENCY CONFIGURATION | | | | | | | | | | |
| Cooling Capacity ¹ | kW | 59.6 | 77.8 | 89.1 | 113.3 | 142.2 | 158.3 | 178.6 | | |
| Total Power Input ¹ | kW | 18.2 | 23.6 | 27.3 | 35.6 | 44.0 | 50.1 | 56.4 | | |
| Unit EER ¹ | --- | 3.27 | 3.30 | 3.27 | 3.18 | 3.23 | 3.16 | 3.17 | | |
| SPL (Sound Pressure Level) ² | dB(A) | 78.5 | 79.5 | 79.5 | 79.5 | 80 | 80 | 80 | | |
| PWL (Sound Power Level) ³ | dB(A) | 95.5 | 97.5 | 97.5 | 97.5 | 99 | 99 | 99 | | |
| Dimensions | mm | 2043x1201x1931 | | 3043 x 1201 x 1931 | | | 4043 x 1201 x 1931 | | | |
| QUIET CONFIGURATION | | | | | | | | | | |
| Cooling Capacity ¹ | kW | 54.3 | 73.9 | 84.2 | 104.7 | 133.8 | 147.4 | 164.3 | | |
| Total Power Input ¹ | kW | 18.7 | 21.5 | 25.7 | 35.7 | 42.2 | 49.5 | 57.4 | | |
| Unit EER ¹ | --- | 2.91 | 3.44 | 3.28 | 2.93 | 3.17 | 2.98 | 2.86 | | |
| SPL (Sound Pressure Level) ² | dB(A) | 58 | 59 | 59 | 61 | 62 | 62 | 62 | | |
| PWL (Sound Power Level) ³ | dB(A) | 75 | 77 | 77 | 79 | 81 | 81 | 81 | | |
| Dimensions | mm | 2043 x 1201 x 1874 | | 3043 x 1201 x 1874 | | | 4043 x 1201 x 1874 | | | |
| B Model | | CB0006 | CB0007 | CB0009 | CB0011 | CB0014 | CB0015 | CB0018 | CB0019 | CB0022 |
| BASE CONFIGURATION | | | | | | | | | | |
| Cooling Capacity ¹ | kW | 58.5 | 70.6 | 86.8 | 111.6 | 132.9 | 146.5 | 175.8 | 193.1 | 215.9 |
| Total Power Input ¹ | kW | 18.5 | 23.9 | 28.0 | 35.9 | 45.2 | 52.7 | 57.1 | 65.5 | 74.3 |
| Unit EER ¹ | --- | 3.16 | 2.95 | 3.10 | 3.11 | 2.94 | 2.78 | 3.08 | 2.95 | 2.91 |
| SPL (Sound Pressure Level) ² | dB(A) | 75 | 75 | 76 | 76 | 76.5 | 76.5 | 77 | 77.5 | 78 |
| PWL (Sound Power Level) ³ | dB(A) | 92 | 92 | 94 | 94 | 94.5 | 94.5 | 96 | 96.5 | 97 |
| LOW NOISE CONFIGURATION | | | | | | | | | | |
| Cooling Capacity ¹ | kW | 56.8 | 68.0 | 85.2 | 108.8 | 128.8 | 141.3 | 171.1 | 187.3 | 208.7 |
| Total Power Input ¹ | kW | 18.6 | 24.4 | 27.3 | 35.8 | 45.8 | 53.8 | 57.2 | 66.2 | 75.4 |
| Unit EER ¹ | --- | 3.05 | 2.79 | 3.12 | 3.04 | 2.81 | 2.63 | 2.99 | 2.83 | 2.77 |
| SPL (Sound Pressure Level) ² | dB(A) | 63 | 63 | 64 | 66 | 66.5 | 66.5 | 67 | 67.5 | 68 |
| PWL (Sound Power Level) ³ | dB(A) | 80 | 80 | 82 | 84 | 84.5 | 84.5 | 86 | 86.5 | 87 |
| Dimensions | mm | 2043 x 1201 x 1902 | | | 3043 x 1201 x 1902 | | | 4043 x 1201 x 1902 | | |

1 At the following standard conditions: power supply 400V/3ph/50Hz; outdoor temperature 35°C; water inlet/outlet temperature 12/7 °C; ethylene glycol 0%

2 Measured at outdoor temperature of 35 °C; 1m from the unit; free field conditions; according to ISO 3744

3 At outdoor temperature of 35°C; calculated according to ISO 3744

Liebert® HPC-S 170 - 400 kW Freecooling Chiller Specifications

| G Model | | FG0017 | FG0020 | FG0023 | FG0025 | FG0028 | FG0030 | |
|---|-------|--------------------|--------|--------------------|----------------|--------------------|----------------|--------|
| HIGH EFFICIENCY CONFIGURATION | | | | | | | | |
| Cooling Capacity ¹ | kW | 171.8 | 189.4 | 224.4 | 242.7 | 281.5 | 312.9 | |
| Freecooling Capacity ² | kW | 105.5 | 102.1 | 139.6 | 134.6 | 179.5 | 173.5 | |
| Total Power Input ¹ | kW | 59.1 | 67.3 | 76.8 | 84.8 | 95.2 | 108.4 | |
| Unit EER ¹ | --- | 2.91 | 2.81 | 2.92 | 2.86 | 2.96 | 2.89 | |
| SPL (Sound Pressure Level) ³ | dB(A) | 78.5 | 78.5 | 79 | 79 | 79.5 | 79.5 | |
| PWL (Sound Power Level) ⁴ | dB(A) | 97.5 | 97.5 | 98.5 | 98.5 | 99.5 | 99.5 | |
| Dimensions | mm | 3750 x 1300 x 2529 | | 4750 x 1300 x 2529 | | 5750 x 1300 x 2529 | | |
| QUIET CONFIGURATION | | | | | | | | |
| Cooling Capacity ¹ | kW | 157.7 | 174.4 | 206.8 | 224.7 | 259.5 | 288.5 | |
| Freecooling Capacity ² | kW | 81.2 | 81.4 | 107.6 | 107.6 | 137.7 | 137.9 | |
| Total Power Input ¹ | kW | 59.5 | 69.2 | 77.1 | 86.1 | 95.6 | 110.5 | |
| Unit EER ¹ | --- | 2.65 | 2.52 | 2.68 | 2.61 | 2.71 | 2.61 | |
| SPL (Sound Pressure Level) ³ | dB(A) | 65 | 65 | 65.5 | 65.5 | 66 | 66 | |
| PWL (Sound Power Level) ⁴ | dB(A) | 84 | 84 | 85 | 85 | 86 | 86 | |
| Dimensions | mm | 3750 x 1300 x 2472 | | 4750 x 1300 x 2472 | | 5750 x 1300 x 2472 | | |
| B Model | | FB0017 | FB0020 | FB0023 | FB0025 | FB0028 | FB0030 | FB0032 |
| BASE CONFIGURATION | | | | | | | | |
| Cooling Capacity ¹ | kW | 168.5 | 183.6 | 209.8 | 235.8 | 268.0 | 303.6 | 341.1 |
| Freecooling Capacity ² | kW | 98.8 | 101.0 | 100.0 | 133.1 | 132.1 | 171.6 | 169.3 |
| Total Power Input ¹ | kW | 59.5 | 69.3 | 80.0 | 86.9 | 97.4 | 111.3 | 125.6 |
| Unit EER ¹ | --- | 2.83 | 2.65 | 2.62 | 2.71 | 2.75 | 2.73 | 2.72 |
| SPL (Sound Pressure Level) ³ | dB(A) | 76 | 76 | 76 | 76.5 | 76.5 | 77 | 77 |
| PWL (Sound Power Level) ⁴ | dB(A) | 95 | 95 | 95 | 96 | 96 | 97 | 97 |
| LOW NOISE CONFIGURATION | | | | | | | | |
| Cooling Capacity ¹ | kW | 165.5 | 179.9 | 205.5 | 231.1 | 262.7 | 297.4 | 334.5 |
| Freecooling Capacity ² | kW | 93.0 | 94.7 | 94.9 | 125.1 | 125.4 | 160.8 | 160.4 |
| Total Power Input ¹ | kW | 59.0 | 69.3 | 80.1 | 86.7 | 97.3 | 111.2 | 125.8 |
| Unit EER ¹ | --- | 2.80 | 2.59 | 2.56 | 2.66 | 2.70 | 2.67 | 2.66 |
| SPL (Sound Pressure Level) ³ | dB(A) | 70.5 | 70.5 | 70.5 | 71 | 71 | 71.5 | 71.5 |
| PWL (Sound Power Level) ⁴ | dB(A) | 89.5 | 89.5 | 89.5 | 90.5 | 90.5 | 91.5 | 91.5 |
| Dimensions | mm | 3750x1300x2500 | | | 4750x1300x2500 | | 5750x1300x2500 | |

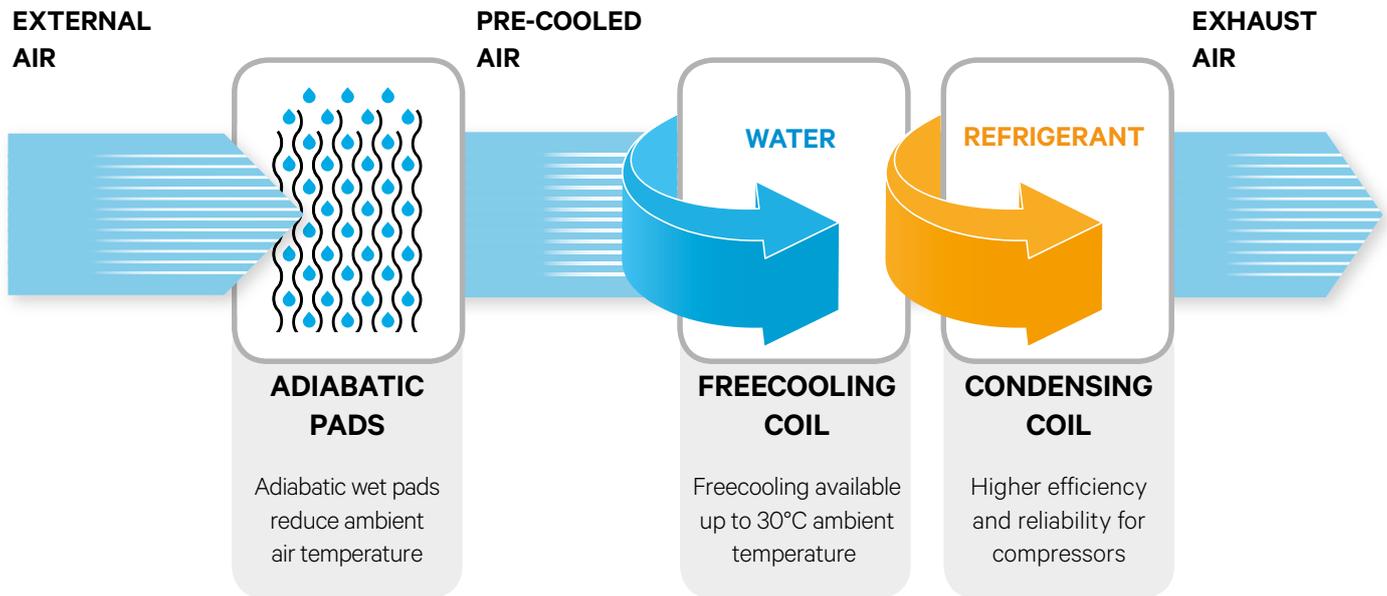
- 1 At the following standard conditions: power supply 400V/3ph/50Hz; outdoor temperature 35°C; water inlet/outlet temperature 15/10°C; ethylene glycol 30%
- 2 At the following standard conditions: power supply 400V/3ph/50Hz; outdoor temperature 5°C; coolant inlet temperature 15°C; ethylene glycol 30%
- 3 Measured at outdoor temperature of 35 °C; 1m from the unit; free field conditions; according to ISO 3744
- 4 At outdoor temperature of 35°C; calculated according to ISO 3744

Liebert® HPC-S 170 - 400 kW Air-Cooled Chiller Specifications

| G Model | | CG0017 | CG0020 | CG0023 | CG0025 | CG0028 | CG0030 | |
|---|-------|--------------------|--------|--------------------|----------------|--------------------|----------------|--------|
| HIGH EFFICIENCY CONFIGURATION | | | | | | | | |
| Cooling Capacity ¹ | kW | 165.7 | 185.5 | 216.4 | 237.2 | 270.8 | 305.9 | |
| Total Power Input ¹ | kW | 56.9 | 63.7 | 74.1 | 80.5 | 91.8 | 102.8 | |
| Unit EER ¹ | --- | 2.91 | 2.91 | 2.92 | 2.95 | 2.95 | 2.98 | |
| SPL (Sound Pressure Level) ² | dB(A) | 78.5 | 78.5 | 79 | 79 | 79.5 | 79.5 | |
| PWL (Sound Power Level) ³ | dB(A) | 97.5 | 97.5 | 98.5 | 98.5 | 99.5 | 99.5 | |
| Dimensions | mm | 3750 x 1300 x 2529 | | 4750 x 1300 x 2529 | | 5750 x 1300 x 2529 | | |
| QUIET CONFIGURATION | | | | | | | | |
| Cooling Capacity ¹ | kW | 153.2 | 170.1 | 200.8 | 218.8 | 251.3 | 281.1 | |
| Total Power Input ¹ | kW | 56.8 | 65.6 | 73.7 | 81.8 | 91.3 | 105.0 | |
| Unit EER ¹ | --- | 2.70 | 2.59 | 2.72 | 2.67 | 2.75 | 2.68 | |
| SPL (Sound Pressure Level) ² | dB(A) | 65 | 65 | 65.5 | 65.5 | 66 | 66 | |
| PWL (Sound Power Level) ³ | dB(A) | 84 | 84 | 85 | 85 | 86 | 86 | |
| Dimensions | mm | 3750 x 1300 x 2472 | | 4750 x 1300 x 2472 | | 5750 x 1300 x 2472 | | |
| B Model | | CB0017 | CB0020 | CB0023 | CB0025 | CB0028 | CB0030 | CB0032 |
| BASE CONFIGURATION | | | | | | | | |
| Cooling Capacity ¹ | kW | 163.3 | 178.5 | 205.8 | 228.9 | 261.4 | 294.6 | 333.6 |
| Total Power Input ¹ | kW | 57.0 | 66.1 | 75.5 | 83.2 | 92.2 | 106.5 | 118.6 |
| Unit EER ¹ | --- | 2.86 | 2.70 | 2.72 | 2.75 | 2.83 | 2.77 | 2.81 |
| SPL (Sound Pressure Level) ² | dB(A) | 76 | 76 | 76 | 76.5 | 76.5 | 77 | 77 |
| PWL (Sound Power Level) ³ | dB(A) | 95 | 95 | 95 | 96 | 96 | 97 | 97 |
| LOW NOISE CONFIGURATION | | | | | | | | |
| Cooling Capacity ¹ | kW | 159.9 | 174.4 | 200.5 | 224.0 | 255.4 | 287.9 | 325.4 |
| Total Power Input ¹ | kW | 56.7 | 66.3 | 76.1 | 83.2 | 92.6 | 106.5 | 119.3 |
| Unit EER ¹ | --- | 2.82 | 2.63 | 2.63 | 2.69 | 2.76 | 2.70 | 2.73 |
| SPL (Sound Pressure Level) ² | dB(A) | 70.5 | 70.5 | 70.5 | 71 | 71 | 71.5 | 71.5 |
| PWL (Sound Power Level) ³ | dB(A) | 89.5 | 89.5 | 89.5 | 90.5 | 90.5 | 91.5 | 91.5 |
| Dimensions | mm | 3750x1300x2500 | | | 4750x1300x2500 | | 5750x1300x2500 | |

- 1 At the following standard conditions: power supply 400V/3ph/50Hz; outdoor temperature 35°C; water inlet/outlet temperature 12/7 °C; ethylene glycol 0%
- 2 Measured at outdoor temperature of 35 °C; 1m from the unit; free field conditions; according to ISO 3744
- 3 At outdoor temperature of 35°C; calculated according to ISO 3744

Adiabatic Freecooling Models: Boosting Data Center Efficiency and Resilience



Liebert® HPC-S 170 - 400 KW Adiabatic Freecooling Chiller

| Standard noise models | | FGA017 | FGA020 | FGA023 | FGA025 | FGA028 | FGA030 |
|--|-------|--------------------|-----------|--------------------|-----------|--------------------|-----------|
| SMART AISLE APPLICATION (fluid in/out 26°/20°C) | | | | | | | |
| Cooling Capacity ¹ | kW | 221 | 246 | 290 | 317 | 365 | 408 |
| Freecooling Capacity at 20°C ambient ² | kW | 106 | 105 | 140 | 139 | 179 | 179 |
| Total Power Input ¹ | kW | 63.9 | 72.6 | 82.7 | 90.9 | 102.5 | 116.5 |
| Unit EER ¹ | --- | 3.46 | 3.39 | 3.51 | 3.49 | 3.56 | 3.50 |
| SPL (Sound Pressure Level) ³ | dB(A) | 73.5 | 74.0 | 74.5 | 75.0 | 75.5 | 75.5 |
| PWL (Sound Power Level) ⁴ | dB(A) | 93.2 | 93.7 | 94.7 | 95.2 | 96.1 | 96.1 |
| Dimensions | mm | 3750 x 1900 x 2625 | | 4750 x 1900 x 2625 | | 5750 x 1900 x 2625 | |
| LEGACY APPLICATION (fluid in/out 15°/10°C) | | | | | | | |
| Cooling Capacity ⁵ | kW | 171 | 191 | 224 | 244 | 281 | 315 |
| Freecooling Capacity at 5°C ambient ⁶ | kW | 105 | 104 | 138 | 137 | 178 | 177 |
| Total Power Input ⁵ | kW | 59.1 | 66.5 | 66.0 | 73.1 | 95.2 | 107.1 |
| Unit EER ¹ | --- | 2.90 | 2.87 | 2.92 | 2.92 | 2.95 | 2.94 |
| SPL (Sound Pressure Level) ³ | dB(A) | 73.5 | 74.0 | 74.5 | 75.0 | 75.5 | 75.5 |
| PWL (Sound Power Level) ⁴ | dB(A) | 93.2 | 93.7 | 94.7 | 95.2 | 96.1 | 96.1 |
| Dimensions | mm | 3750 x 1900 x 2625 | | 4750 x 1900 x 2625 | | 5750 x 1900 x 2625 | |
| Low noise models | | FGA017-LN | FGA020-LN | FGA023-LN | FGA025-LN | FGA028-LN | FGA030-LN |
| SMART AISLE APPLICATION (fluid in/out 26°/20°C) | | | | | | | |
| Cooling Capacity ¹ | kW | 211 | 233 | 277 | 301 | 348 | 386 |
| Freecooling Capacity at 20°C ambient ² | kW | 93 | 93 | 124 | 123 | 158 | 156 |
| Total Power Input ¹ | kW | 63.8 | 74.0 | 82.3 | 92.0 | 101.9 | 118.3 |
| Unit EER ¹ | --- | 3.30 | 3.15 | 3.36 | 3.27 | 3.42 | 3.26 |
| SPL (Sound Pressure Level) ³ | dB(A) | 67.5 | 68.0 | 68.5 | 69.0 | 69.5 | 69.5 |
| PWL (Sound Power Level) ⁴ | dB(A) | 87.2 | 87.7 | 88.7 | 89.2 | 90.1 | 90.1 |
| Dimensions | mm | 3750 x 1900 x 2625 | | 4750 x 1900 x 2625 | | 5750 x 1900 x 2625 | |
| LEGACY APPLICATION (fluid in/out 15°/10°C) | | | | | | | |
| Cooling Capacity ⁵ | kW | 165 | 182 | 215 | 234 | 270 | 302 |
| Freecooling Capacity at 5°C ambient ⁶ | kW | 91 | 91 | 121 | 120 | 155 | 154 |
| Total Power Input ⁵ | kW | 58.1 | 66.7 | 75.3 | 83.3 | 93.2 | 106.8 |
| Unit EER ¹ | --- | 2.84 | 2.73 | 2.86 | 2.81 | 2.90 | 2.82 |
| SPL (Sound Pressure Level) ³ | dB(A) | 67.5 | 68.0 | 68.5 | 69.0 | 69.5 | 69.5 |
| PWL (Sound Power Level) ⁴ | dB(A) | 87.2 | 87.7 | 88.7 | 89.2 | 90.1 | 90.1 |
| Dimensions | mm | 3750 x 1900 x 2625 | | 4750 x 1900 x 2625 | | 5750 x 1900 x 2625 | |

1 At the following conditions: power supply 400V/3ph/50Hz; outdoor temperature 35°C; water inlet/outlet temperature 26/20°C; ethylene glycol 30%

2 At the following conditions: power supply 400V/3ph/50Hz; outdoor temp. 20°C, relative humidity 55%; coolant inlet temp. 26°C; eth. gl. 30%; adiabatic ON

3 Measured at outdoor temperature of 35 °C; 1m from the unit; free field conditions; according to ISO 3744

4 At outdoor temperature of 35°C; calculated according to ISO 3744

5 At the following conditions: power supply 400V/3ph/50Hz; outdoor temperature 35°C; water inlet/outlet temperature 15/10°C; ethylene glycol 30%

6 At the following conditions: power supply 400V/3ph/50Hz; outdoor temperature 5°C; coolant inlet temperature 15°C; ethylene glycol 30%; adiabatic OFF

Thermal Management Data Center Infrastructure for Small and Large Applications



Liebert® HPC

Wide range of high efficiency Freecooling Chillers from 40 kW to 1600 kW

- Designed specifically for data center applications and to work with Vertiv™ SmartAisle™
- Premium energy efficiency version
- Unique control capabilities with the Vertiv iCOM™ Control.

Liebert PDX Liebert PCW

Available from 5-220 kW

- Premium energy efficiency
- Eurovent certified performance
- Unique control capabilities with the Vertiv iCOM Control
- Liebert® EconoPhase™ available for the direct expansion system.



Liebert EFC

Indirect evaporative freecooling unit leveraging on data center know-how. Available from 100 to 350 kW

- Unique control capabilities optimizing water and energy costs
- Substantial reductions and savings in terms of electrical infrastructure.

Vertiv™ Trellis™ Platform

Vertiv's Trellis™ platform is a real-time infrastructure optimization platform that enables the unified management of data centre IT and facilities infrastructure. The Vertiv Trellis platform software can manage capacity, track inventory, plan changes, visualize configurations, analyze and calculate energy usage, and optimize cooling and power equipment. The Vertiv Trellis platform monitors the data center, providing a thorough understanding of system dependencies to help IT and facilities organizations keep the data center running at peak performance. This unified and complete solution, delivers the power to see the real situation in your data center, make the right decision and take action with confidence.



Liebert AFC
The Adiabatic Freecooling Chiller available from 500-1450 kW

- Integrated adiabatic pad system
- High freecooling capacity
- 100% compressor back up.

Vertiv SmartAisle™

- Aisle containment
- Provides highest energy efficiency
- Works with any Liebert Thermal Management unit.



Liebert CRV
Row-based high efficiency cooling units available from 10-60 kW in DX and CW versions

- Full airflow and cooling capacity modulation to match server load and to save energy
- Best footprint capacity with the highest efficiency
- Six different control modes to ensure greater flexibility.



Liebert DCL
Closed loop rack cooling

- Two different architectures:
Closed Loop
Hybrid Loop
- Multiple combinations for up to 4 server racks
- Dual CW coil version for redundancy.

SERVICES

Vertiv supports entire critical infrastructures with the largest global service organization and an extensive service offering, enhancing network availability and ensuring total peace of mind 24/7.

Our approach to servicing critical infrastructure covers all aspects of availability and performance: from single power and thermal management equipment to entire mission-critical systems.

The most comprehensive insurance for business protection can be obtained with a service program from Vertiv which includes access to Vertiv LIFE™ Services.

VERTIV™ LIFE™ SERVICES

Vertiv LIFE Services provides Remote Diagnostics and Preventive Monitoring for UPS and thermal management equipment.

Vertiv LIFE Services delivers increased uptime and operational efficiency by enabling continuous monitoring of your equipment, expert data analysis and field engineering expertise.

Through the data transferred from your equipment via Vertiv LIFE Services, our Remote experts gain the real-time insight and information needed to quickly identify, diagnose, and resolve any irregularities that may arise in operation, ultimately taking responsibility for your critical assets 24/7.



VertivCo.com | Vertiv Infrastructure Limited, George Curl Way, Southampton, SO18 2RY, VAT Number: GB188146827

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