

Efficiency, Compactness, Flexibility

Liebert HPW is a high performance wall-mount cooling solution ideal for Mobile Telecom Network remote access nodes in shelters and containers:

- Direct expansion solution guaranteeing the highest efficiency in a wide range of external environmental conditions as a result of its heat exchanger surface design.
- Freecooling with the highest energy saving combining the advanced circular damper system with downflow air distribution.
- Emergency freecooling with the most efficient 48V DC plug type fan to reduce the impact on the site power consumption.

Cooling availability also in emergency situations

The Network availability must be guaranteed, especially under emergency situations. Even if the main power supply fails due to natural or accidental causes, Liebert HPW controls the internal temperature by ventilating or using the freecooling system: fans, damper and control are powered through back-up power coming from DC batteries or AC power generators.

Site conditions always under control

The possibility to remotely monitor and control the site conditions facilitates immediate reaction to any situation by allowing the operator to timely interact with the unit. The standard on-board controls allow interaction with one or more units, optimizing the operation and enabling the connectivity to superior systems or third-party BMS (Dial up, SNMP, Modbus, IP communication).

Solving unfavourable installation situations

Liebert HPW is available in two versions with different airflow patterns: HPW-O (Upflow) and HPW-D (Downflow). Independently of the configuration, the condensing section is installed in the cabinet upper part. This simple design feature reduces installation restrictions due to environmental limitations: dusty

environments, green areas and the proximity of adjacent buildings.

The use of intelligent fan speed regulation and the possibility to utilise the most appropriate cabinet within the different sizes available for the required cooling capacity significantly reduces noise emissions thus allowing site operation in residential areas.

Limited energy consumption

The downflow air distribution guarantees unit Energy Efficiency Ratio values close to or higher than 3, even in critical environmental conditions (ambient

temperatures higher than 40°C). This, combined with the innovative freecooling system, can drastically reduce yearly energy consumption.

Reduced installation impact

The cooling system is pre-charged and no pressure test is required on site. The installation is simplified as a result of pre-arranged air ducts (standard) and fast plug electrical connections (optional).



Liebert® HPW - WM06SD Model

Technical Specifications

| MODEL DOWNFLOW AND OVER | | 05S | 06S | 06M | 08M | 10M | 13M | 15M |
|--|-------------------|---------------------------|------|------|--------------|------|------|--------|
| Main power supply | | 230V/1N/50Hz | | | 400V/3N/50Hz | | | |
| Emergency power supply | | 48VDC or 230V/1N/50Hz | | | | | | |
| PERFORMANCES DOWNFLOW (D VERSION) | | | | | | | | |
| Total cooling capacity ⁽¹⁾ | kW | 5.5 | 6.3 | 6.5 | 8.9 | 11.7 | 13.0 | 14.9 |
| Sensible cooling capacity ⁽¹⁾ | kW | 5.5 | 5.8 | 6.2 | 8.9 | 10.9 | 13.0 | 14.0 |
| SHR ⁽¹⁾ | - | 1 | 0.92 | 0.95 | 1 | 0.93 | 1 | 0.94 |
| Compressor AC power input | kW | 1.26 | 1.63 | 1.46 | 1.90 | 2.66 | 2.56 | 3.29 |
| Evaporator fan DC power input | kW | 0.10 | 0.10 | 0.10 | 0.28 | 0.45 | 0.45 | 0.82 |
| Condenser fan AC power input | kW | 0.25 | 0.25 | 0.20 | 0.22 | 0.72 | 0.68 | 0.69 |
| Evaporator airflow | m ³ /h | 1110 | 1110 | 1300 | 1950 | 2300 | 2615 | 2820 |
| Freecooling airflow | m ³ /h | 1310 | 1310 | 1440 | 2420 | 2420 | 2850 | 3000 |
| Condenser max. airflow | m ³ /h | 2610 | 2610 | 3710 | 3710 | 5660 | 5880 | 5880 |
| Outdoor SPL ⁽²⁾ | dB(A) | 52.5 | 54.0 | 50.0 | 52.0 | 55.0 | 55.0 | 58.0 |
| Indoor SPL ⁽²⁾ | dB(A) | 57.0 | 57.0 | 57.0 | 60.0 | 64.0 | 59.0 | 63.0 |
| Max. ambient temperature ⁽³⁾ | °C | 49.0 | 47.0 | 52.0 | 50.5 | 50.0 | 51.0 | 48.5 |
| PERFORMANCES OVER (O VERSION) | | | | | | | | |
| Total cooling capacity ⁽¹⁾ | kW | 5.3 | 6.0 | 5.7 | 8.2 | 11.1 | 12.0 | 13.8 |
| Sensible cooling capacity ⁽¹⁾ | kW | 4.6 | 5.0 | 5.4 | 8.0 | 9.5 | 10.2 | 11.2 |
| SHR ⁽¹⁾ | - | 0.87 | 0.83 | 0.95 | 0.98 | 0.86 | 0.85 | 0.80 |
| Compressor AC power input | kW | 1.25 | 1.63 | 1.49 | 1.93 | 2.68 | 2.60 | 3.30 |
| Evaporator fan DC power input | kW | 0.10 | 0.10 | 0.10 | 0.45 | 0.45 | 0.45 | 0.78 |
| Condenser fan AC power input | kW | 0.25 | 0.5 | 0.20 | 0.22 | 0.72 | 0.68 | 0.72 |
| Evaporator airflow | m ³ /h | 1060 | 1060 | 1360 | 2130 | 2300 | 2300 | 2450 |
| Freecooling airflow | m ³ /h | 1090 | 1090 | 1360 | 2400 | 2400 | 2700 | 2840 |
| Condenser max. airflow | m ³ /h | 2610 | 2610 | 3710 | 3710 | 5660 | 5880 | 5880 |
| Outdoor SPL ⁽²⁾ | dB(A) | 52.5 | 54.0 | 49.5 | 52.0 | 55.0 | 55.0 | 58.0 |
| Indoor SPL ⁽²⁾ | dB(A) | 57.0 | 57.0 | 57.0 | 64.0 | 64.0 | 64.0 | 67.0 |
| Max. ambient temperature ⁽³⁾ | °C | 49.5 | 47.5 | 52.0 | 50.0 | 50.0 | 51.0 | 48.5 |
| REFRIGERATION CIRCUIT | | | | | | | | |
| Compressor type/quantity | | scroll / 1 | | | | | | |
| Refrigerant | | R407C | | | | | | |
| Expansion device | | thermostatic valve | | | | | | |
| EVAPORATOR FAN | | | | | | | | |
| Quantity/type AC | | | | | 1/Plug | | | 2/Plug |
| Quantity/type DC (48V) | | | | | 1/Plug | | | 2/Plug |
| CONDENSER FAN | | | | | | | | |
| Quantity/type | | 1 / Axial | | | | | | |
| Speed control | | variable (option) | | | | | | |
| AIR FILTERY | | | | | | | | |
| Filter type / efficiency | | pleated / G3 | | | | | | |
| HEATING | | | | | | | | |
| Electric heating (opt) | | 1.5 | | | | 3.0 | 6.0 | |
| CABINET | | | | | | | | |
| Frame | | galvanized steel | | | | | | |
| Painting | | polyester – RAL 7035 | | | | | | |
| Insulation type/thickness | -/mm | polyethylene foam class 1 | | | | | | |
| Width | mm | 800 | | | 932 | | | |
| Depth | mm | 450 | | | 640 | | | |
| Height | mm | 1690 | | | 1901 | | | |
| Weight | kg | 170 | 175 | 195 | 205 | 220 | 250 | 260 |

Data refers to 48 VDC emergency version.

(1) Values refer to 35°C outdoor temperature, nominal power supply and the following indoor conditions:

- 30°C/39.5%R.H. at the evaporating air intake side for WM 05-15 D models
- 27°C/47%R.H. at the evaporating air intake side for WM 05-15 O models

(2) Measured with 35°C outdoor temperature, at 2m from the unit, in free field conditions

(3) • 30°C/39.5%R.H. at the evaporating air intake side for WM 05-15 D models

- 27°C/47%R.H. at the evaporating air intake side for WM 05-15 O models