LIEBERT® HPW

High Performance Wall-Mounted Air Conditioning

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 garanting 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). Indipendently 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). Using the commissioning software, installation and start-up can be completed without the need for specialized personnel on site.

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	2.840
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/thikness	-/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

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