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the standards

INDUSTRY

DATA CENTER



**Chilled water perimeter mounted units**

**JREF CW C**

**for Data Centers**

Range: 6.9-23.8 kW



The JREF CW Centrifugal series perimeter mounted units are chilled water units with AC centrifugal fans for small-sized premises such as server rooms and labs or for applications where **accurate control of thermo-hygrometric parameters and round-the-clock operation are required**. The internal design and the choice of components are primarily aimed at **ensuring a compact design to make unit installation as easy as possible**.

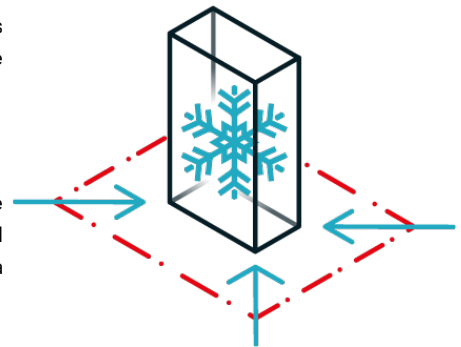
## Main advantages

### High power density

The reduced footprint and high efficiency offer higher cooling capacity. In this way the space dedicated to the units in the Data Center is minimized, making the most of available spaces.

### Double circuit

Chilled water units are also available with a double circuit. In this version the supply is via two different hydraulic circuits that can offer the utmost operational continuity if one of the two circuits malfunctions. Each circuit is equipped with a regulating valve



### Easier scheduled maintenance

The unit has been painstakingly designed to ensure frontal access to components. This makes routine maintenance easier in full compliance with safety standards.



### Finned pack coil with hydrophilic coating

All models in the JREF CW Centrifugal range feature heat exchange coils with hydrophilic coating. This special coating - together with adequate adjustment of air through-flow speeds - helps condensate collection and outflow during the dehumidification process, preventing any dripping on the inside and outside of the unit.



**Accurate regulation with multiple types of valves**

All units in the JREF CW Centrifugal range have as standard regulating valves fitted with 0-10V servo motor, selectable in 2-way execution, with variable or 3-way flow system or with servo motor with spring return. Pressure-independent valves can also be fitted on request. All these types of valves ensure the utmost adjustment accuracy while maintaining the system's hydronic balance.

**Technological components**



**Multi-protocol communication interface**

HiRef units can be integrated with the customer's external supervision Building Management System (BMS), using the most popular communication protocols, including Modbus RTU, Modbus/IP, BacNet, LonWorks, SNMP.



**On-board Humidifier**

Humidifiers are essential components for maintaining the right level of humidity in the server room and ensuring the proper functioning of the room equipment. Humidifiers with immersed electrodes can be installed in HiRef units, managed by proprietary software which, equipped with a special probe, keeps humidity levels at pre-established values.



**Fast restart**

The fast restart function (on request) allows the unit to restart quickly after a mains power outage. This optional feature is available with dual power to minimise restart times.



**Centrifugal fans**

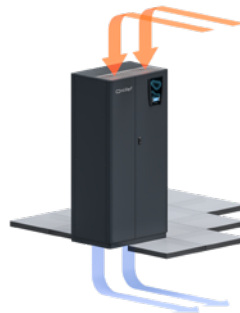
The installed centrifugal fans are forward curved with double suction and external screw, both in galvanised steel sheet. The air intake is axial from both sides and parallel to the rotation axis, or radial, guided by the external screw and perpendicular to the rotation axis.



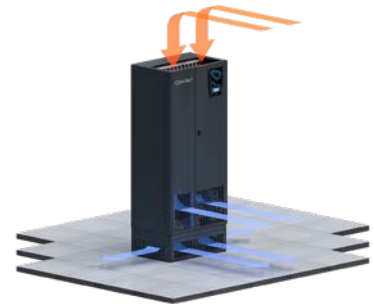
## Air flow configurations



Upflow



Downflow

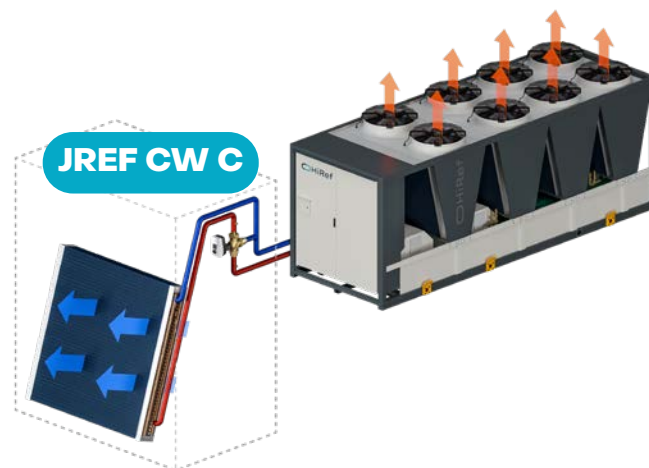


Displacement

## Types of system



CHILLED WATER



## Additional benefits

- Temperature control through heating and post-heating systems using electric heating elements, additional hot water coil, or both
- Humidity control through dehumidification and humidification
- Fan speed modulation based on thermal load (constant  $\Delta T$ )
- Broad choice of accessories including basic modules, plenums for ducting, plenums for direct Free-Cooling
- Air filter class G3 supplied as standard Air Filters G4, M5, F7
- Double power supply with automatic switch
- Instant reading of water flow rate, water inlet and outlet temperatures, or cooling capacity

## Technical table

JREF CW C		0080	0110	0140	0160	0200	0230
<b>AIR TEMPERATURE 24°C - RELATIVE HUMIDITY 50% / WATER TEMPERATURE IN 7°C OUT 12°C</b>							
<b>COOLING CAPACITY</b>	<b>kW</b>	6.9	10	12.8	14.5	18.7	20.8
<b>SHR</b>	-	0.87	0.85	0.88	0.87	0.88	0.85
<b>EER</b>	-	31.27	35.76	22.84	25.83	27.86	31.06
<b>AIR TEMPERATURE 30°C - RELATIVE HUMIDITY 35% / WATER TEMPERATURE IN 10°C OUT 15°C</b>							
<b>COOLING CAPACITY</b>	<b>kW</b>	8.8	10.7	15.3	17	21.8	23.7
<b>SHR</b>	-	0.94	1	1	1	1	1
<b>EER</b>	-	40	38.09	27.34	30.44	32.53	35.35
<b>AIR TEMPERATURE 35°C - RELATIVE HUMIDITY 30% / WATER TEMPERATURE IN 15°C OUT 20°C</b>							
<b>COOLING CAPACITY</b>	<b>kW</b>	8.9	10.7	15.4	17.1	22	23.8
<b>SHR</b>	-	0.94	1	1	1	1	1
<b>EER</b>	-	40.25	38.24	27.53	30.56	32.77	35.49
<b>AIR FLOW</b>	<b>m<sup>3</sup>/h</b>	1785	2150	3530	3470	5115	4990
<b>FANS ABSORBED POWER</b>	<b>kW</b>	0.2	0.3	0.6		0.7	
<b>POWER SUPPLY</b>	-	400/3+N/50					
<b>SOUND PRESSURE LEVEL at 2 meters free field</b>	<b>dB</b>	48	50	51		52	
<b>DIMENSIONS [LxHxD]</b>	<b>mm</b>	600x1875x449		900x1875x449		1200x1875x449	

Performance data relating to Downflow versions. | Also available with 60 Hz power supply. | Model height Displacement 2125 mm.

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