

HiRef

Innovators above
the standards

INDUSTRY

DATA CENTER



Chilled water units

HTI CW

for medium/small server rooms

Range: 7.9–45.4 kW



HTI CW units are split-type air conditioners intended for small and medium-sized Data Centers. Designed for **ceiling or wall mounting**, they are suitable for air conditioning of control centres with limited internal space or space entirely taken up by technological equipment. Thanks to the **rational layout of components and wide range of available accessories**, these units are **easy to install and suitable for different shelter configurations**.

Main advantages

Finned pack exchanger with hydrophilic coating.

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



Maximised energy saving with direct Free-Cooling

The units can, on request, be equipped with a direct Free Cooling module. This system, which can also be installed inside an already operational unit, reduces the work of the chiller units in generating chilled water (partial Free-Cooling), and in a state of complete Free-Cooling can be switched off. This naturally has an important effect on the system's PUE.



Ventilation EC

EC PLUG fans, standard on the entire range, make it possible to vary the air flow according to the thermal load. Their accurate adjustment allows an efficient use of power for ventilation and a consequent reduction of the system's PUE. Extended range speed adjustment is carried out via Modbus protocol. The "emergency speed" function allows for fan operation even in the event of microprocessor malfunctions.

Maximised Redundancy

In case of mains power + uninterruptible power supply in direct current (DUAL), the (optional) Free Cooling mode ensures correct internal thermal conditions, even in the event of blackouts. This ensures the continuity of service of the system.





Simple and fast installation

The units can be installed, as needed, on the ceiling or on the wall. Thanks to the use of EC PLUG fans, air conditioners in the HTI CW series guarantee optimal air distribution, efficiency, energy savings, reliability and compactness, whatever the configuration chosen.

Easier scheduled maintenance

The unit has been painstakingly designed to ensure frontal access to components. This aspect, combined with the complete extractability of filters and Free-Cooling damper (if present), greatly facilitates routine maintenance operations.



Accurate regulation with multiple types of valves

All units in the HTI CW range have as standard regulating valves fitted with 0-10V servo motor, selectable in 2-way execution, with variable or 3-way flow system. It is also possible to mount a servo motor with spring return and pressure-independent valves on request. All these types of valves ensure the utmost adjustment accuracy while maintaining the system's hydronic balance.

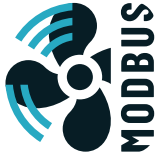


Technological components



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.



Modbus controlled fans

The Modbus protocol, unlike the 0-10V signal, allows to not only control the speed of the fans, but also to capture, monitor and manage considerably more data and alarm information.



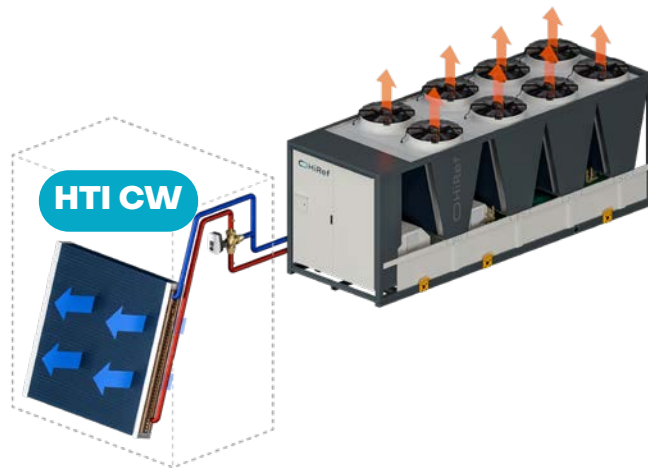
EC Radial Fans

Radial or centrifugal fans are characterised by backward blades. Air is taken in the axial direction, parallel to the rotation axis and delivered radially, perpendicular to the rotation axis. This type of fan does not require an external screw, has a high head and is suitable for use in indoor units where the air is often ducted and recirculated. They are driven by electronically commutated (EC) brushless permanent-magnet (BLDC) synchronous motors. The use of these motors reduces unit consumption, noise and footprint, improves the efficiency and life cycle of the system through accurate control of speed and acceleration, resulting in less heat dissipation. In addition, inrush currents and sparks are eliminated.

Types of system



CHILLED WATER



Additional benefits

- Temperature control through heating and post-heating systems with electric heating elements
- Humidity control through dehumidification and humidification with external humidifier
- Fan speed modulation based on thermal load (constant ΔT)
- Version available with dual power supply for emergencies: 230/400V network and 24/48VDC backup supply
- Epoxy powder painted structural metalwork supplied as standard
- Air filter class G3 supplied as standard Air Filters G4, M5, F7
- Instant water inlet/outlet temperature reading function

Technical table

HTI CW		0073	0105	0120	0145	0310	0380
AIR TEMPERATURE 27°C - RELATIVE HUMIDITY 40% / WATER TEMPERATURE IN 7°C OUT 12°C							
COOLING CAPACITY	kW	8.9	10.1	13.1	14.6	38.4	45.4
SHR	-	0.82	0.78	0.83	0.79	0.92	0.85
EER	-	52.88	51.03	52.11	49.35	33.25	36.78
AIR TEMPERATURE 30°C - RELATIVE HUMIDITY 35% / WATER TEMPERATURE IN 10°C OUT 15°C							
COOLING CAPACITY	kW	7.9	8.5	11.5	12.5	36.3	41.7
SHR	-	0.94	0.9	0.96	0.91	1	0.95
EER	-	47.07	43.27	45.54	42.39	31.37	33.78
AIR TEMPERATURE 35°C - RELATIVE HUMIDITY 30% / WATER TEMPERATURE IN 15°C OUT 20°C							
COOLING CAPACITY	kW	7.9	8.4	11.3	12.4	35.6	41.8
SHR	-	0.98	0.96	1	0.96	1	0.99
EER	-	46.69	42.89	44.76	42.02	30.84	33.82
AIR FLOW	m³/h	1300		1950		7000	
FANS ABSORBED POWER	kW	0.2		0.3		1.2	
POWER SUPPLY	-	230/1/50				400/3+N/50	
SOUND PRESSURE LEVEL at 2 meters free field	dB	53	55	54	56	66	
DIMENSIONS [LxHxD]	mm	1050x358x936		1150x408x1026		1500x685x1096	

Also available with 60 Hz power supply. | Units can only be installed on the ceiling for sizes 0310-0381.

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