COOLSIDE EVO CW: Chilled water air conditioners for high density racks and blade servers.

Cooling Capacity: **19,6 ÷ 54,8 kW**

rcgroupairconditioning

CHILLED WATER · EC · FRONT FLOW · CLOSED LOOP

MAIN FEATURES
- Chilled water air conditioners for high density racks and blade servers.
- 4 models, 2 versions available for a wide selection opportunity.
- Synergy with RC Group liquid chillers.
- Chilled water feeding.
- EC Plug-fans.
- "F" Version, frontal air delivery, "L" version, side air delivery.
- Suitable for indoor installation.

MAIN BENEFITS
- Suitable for direct cooling system (close loops) or cooling system for rows of racks (hot/cold aisle).
- Plug-fan EC for a higher energy efficiency.
- Availability of refrigerant connections on the top or on the bottom of the unit.
- Availability of dual power supply.
- Availability of box-server rack.
- Easily of maintenance.

WORKING LIMITS
INDOOR UNIT
Room air temperature:
14°C minimum temperature with wet bulb
26°C minimum temperature with wet bulb.
40°C maximum temperature with dry bulb.

Room air humidity:
20%rH minimum relative humidity.
70%rH maximum relative humidity.

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fifty cool years

COMPONENTS

FRAMEWORK

- Framework in galvanized steel sheet externally painted with epoxy powders.
- Panels in galvanized steel sheet externally painted with epoxy powders and internally insulated with noise absorption material.
- Access doors. The doors are equipped with handle with security lock.
- Holders for unit height adjusting.
- Colour:
  - RAL 7016 (anthracite grey) textured.
- Air flow:
  - A3 / A6 size – Cooling system for rows of racks (in-row):
    - o Air intake from the back side through honeycomb type grille and frontal air delivery through honeycomb type grille.
  - B3 / B6 size – Direct cooling system of racks (in-racks):
    - o Air intake from side through honeycomb type grille and air delivery from side through honeycomb type grille.

FILTER SECTION – COOLSIDE EVO “F”

The filter section is not supplied for COOLSIDE EVO “L” unit.

- Washable air filters with G2 efficiency, with cells in synthetic fibre, on air suction panel.
- Differential pressure switch on the air side for clogged filters signal.

COOLING SECTION

- Heat exchanger coil with internally corrugated copper tubes and high efficiency aluminium fins, specifically developed to provide high heat transfer and lower pressure drops.
- 2-way modulating valve for water flow regulation with 0÷10V servomotor and emergency manual control.
- Hydraulic connections arranged for connection from bottom side of the unit.
- Condensate tray in peraluman with connection (external diameter Ø16) for a discharge tube or for a pump for condensate drain (option).

FANS SECTION

- Centrifugal fans with backward curved blades, single suction and without scroll housings (Plug-fans), directly coupled to brushless type synchronous EC motor with integrated electronic commutated system and continuous variation of the rotation speed. The motor rotation control is obtained with the EC system (Electronic Commutation) that manage the motor according to the 0÷10V proportional signal coming from the microprocessor control.
- Fans quick installation system for a fast replacement.
- #2 temperature sensors on air delivery.
- Temperature sensor on air intake.
- Current detector for loss of air flow alarm.

ELECTRICAL PANEL

Extractable electrical panel, in accordance with EN60204-1 norms, complete with:

- Power supply with 10A plugs.
- Magnetothermic switch on power supply
- Terminals for external enabling, smoke/fire alarm, general alarm and LAN connection.
- Power supply: 230/1/50

CONTROL SYSTEM

- Microprocessor system with graphic display for control and monitor of operating and alarms status. The system includes:
  - Voltage free contact for remote general alarm.
  - Main components hour-meter.
  - Non-volatile “Flash” memory for data storage.
  - Menu with protection password.
  - LAN connection.

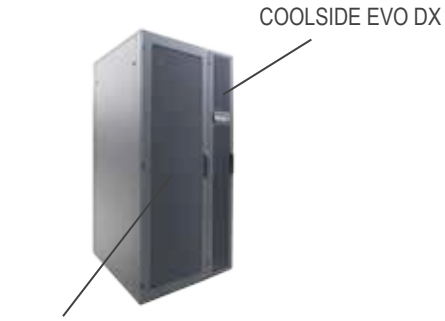
OPTIONAL ACCESSORIES - COOLSIDE EVO CW

MODEL SIZE	20 A3 F	20 A3 L	20 B3 F	20 B3 L	40 A6 F	40 A6 L	40 B6 F	40 B6 L
214 - BOX-server rack	-	●	-	●	-	-	-	-
215 - Kit BOX 8 connections cabling	●	●	●	●	-	-	-	-
216 - Kit BOX 16 connections cabling	●	●	●	●	-	-	-	-
Baseboard for machine holders	●	●	●	●	●	●	●	●
850 - Condensate discharge pump	●	●	●	●	●	●	●	●
911 - Water presence alarm	●	●	●	●	●	●	●	●
913 - Additional water sensor (kit)	●	●	●	●	●	●	●	●
905 - Remote temperature sensor	●	●	●	●	●	●	●	●
202 - Timed stop button kit	●	●	●	●	●	●	●	●
501 - Three-way valve	●	●	●	●	●	●	●	●
858 - Connections from the top COOLSIDE EVO CW	●	●	●	●	●	●	●	●
852 - COOLSIDE humidifier kit	●	●	●	●	●	●	●	●
851 - Dual power supply	●	●	●	●	●	●	●	●
Remote shared terminal	●	●	●	●	●	●	●	●
923 - RC-Com MBUS/JBUS Serial board	●	●	●	●	●	●	●	●
931 - BACnet Ethernet - SNMP - TCP/IP Serial board	●	●	●	●	●	●	●	●
932 - BACnet MS/TP Serial board	●	●	●	●	●	●	●	●

● available accessory; - not available accessory

OPTIONAL ACCESSORIES - BOX - Server Rack
Standard 19" server rack to match to COOLSIDE EVO CW 20 "L".

The system sucks hot air directly from the rear side of the racks, and, once cooled, enters it in the front side of the rack.
Thanks to the "closed" cooling system the electronic equipment contained in racks do not require fans for air circulation.



FRAMEWORK
- The rack is a 19" standard type (482,6 mm) - 42U (1,75 inch = 44,45 mm) in galvanized steel sheet externally painted with epoxy powders.
- Galvanized steel sheet panels externally painted with epoxy powders and internally insulated with noise absorption material.
- Colour: RAL 7016 (anthracite grey) textured.
- The server - rack is in compliance with IEC 60 297-1/2 norms
- Maximum load capacity for internal installation 1000 kg.
- Access doors. The doors are equipped with handle with security lock.
  - Front door is made of safety glass that allows direct control of the internal equipment
  - Back door in galvanized steel sheet

OPTIONAL ACCESSORIES
- Bus bar with maximum load of 96 A (7 modules 2 x 3 x 16A) and power supply cord.

POSSIBLE CONFIGURATIONS

LIQUID CHILLER

FREE-COOLING LIQUID CHILLER

IN-ROW

COOLSIDE EVO CW "F"
Frontal air delivery

COOLING SYSTEM FOR ROWS OF RACKS (IN ROW).
COOLSIDE EVO CW "F"
COOLSIDE EVO units and the racks are placed in rows that are arranged so as to obtain alternate cold and hot aisles.
Electronic equipments contained in racks independently provide to aspire the necessary air for cooling.

IN-RACK

COOLSIDE EVO CW "L"
Side air delivery

DIRECT COOLING SYSTEM (IN RACK).
COOLSIDE EVO CW "L"
The system sucks hot air directly from the rear side of the racks, and, once cooled, enters it in the front side of the rack.
Thanks to the "closed" cooling system the electronic equipment contained in racks do not require fans for air circulation.

TECHNICAL DATA - COOLSIDE EVO CW

Model		20			40		
Size		A3 – B3			A6 – B6		
		Nom	Med	Max	Nom	Med	Max
Cooling Capacity (1)							
Total	**kW**	**25,0**	**19,6**	**25,5**	**53,4**	**41,7**	**54,8**
Sensible	**kW**	**25,0**	**19,6**	**25,5**	**53,4**	**41,7**	**54,8**
SHR	kW/kW	1,00	1,00	1,00	1,00	1,00	1,00
Fans	n.	5	5	5	10	10	10
Total air flow rate	m^3/h	4700	3500	4850	9400	7000	9700
Cooling coil							
Water flow rate	m^3/h	4,29	3,37	4,40	9,17	7,15	9,42
Pressure drop - coil + valve	kPa	42,0	26,6	44,0	58,0	36,5	60,6
Air filters	n.		1			1	
Efficiency			G2			G2	
Power supply	V/Ph/Hz		230/1/50			230/1/50	
Max operating current (FLA)	A		3,6			7,1	
Sound pressure level (2)							
On air delivery COOLSIDE EVO "F"	dB(A)	69,8	63,4	70,4	72,3	65,9	72,9
Irradiated COOLSIDE EVO "L"	dB(A)	63,1	56,7	63,7	65,6	59,2	66,2
Net weight							
COOLSIDE EVO "F"	kg		A3 = 168 / B3 = 178			A6 = 219 / B6 = 232	
COOLSIDE EVO "L"	kg		A3 = 166 / B3 = 176			A6 = 217 / B6 = 230	
Connections - ISO 228/1-B							
Chilled water inlet / outlet	M Ø		1"			1 ½"	

THE COOLING CAPACITY DOES NOT CONSIDER THE SUPPLY FANS MOTOR THERMAL LOAD
1. Characteristics referred to entering air at 35°C d.b. (20.1°C w.b.) - chilled water temperature 7/12°C - 0% glycol.
2. Noise pressure level at 1 meter in free field (ISO EN 3744).

COOLSIDE EVO CW - DIMENSIONS (mm)

SIZE	a	b	c
20 A3	300	1000	2000
20 B3	300	1200	2000
40 A6	600	1000	2000
40 B6	600	1200	2000