

**mitsubishi electric**  
**HYDRONICS & IT COOLING SYSTEMS S.p.A.**

IT COOLING

AIR CONDITIONERS FOR HIGH DENSITY RACKS AND BLADE SERVERS

# CCD climaveneta Cooling Door



**CHILLED WATER  
COOLING DOOR UNIT  
FROM 26 TO 39 kW**

# CCD

## Climaveneta

### Cooling Door

The CCD Cooling Door unit is the most innovative and efficient system for managing hot spots inside data centers, in other words, high density racks up to and over 40 kW/m<sup>2</sup> per rack.

The CCD Cooling Door unit is housed at the rear of the rack and is managed by a dynamic system, especially designed to handle the rack exhaust air, which self-adapts to rack requirements.



#### WORKING MODE

The CCD Cooling Door unit is to be considered both as a stand-alone cooling unit for the exhaust air of the single rack in small data centers and as a system for managing hot spots in large data centers for integration of hot and cold aisles or aisle containment structures. While the cooling of rack is delegated to the perimeter air conditioning units that provides cold air between 18-20°C in the cold aisle, the Cooling Door handles racks at a higher thermal load.

#### CONFIGURATIONS

BASIC: Single chilled water coil version  
DUAL: Double chilled water coil version

#### MAIN FEATURES

- ✓ New generation EC fans
- ✓ 42U / 48U racks adaptability
- ✓ Can be supplied with the rack
- ✓ Dynamic control of air stratification
- ✓ Configuration with reduced Airflow Rate R(N+1)
- ✓ Integration into dual circuit, FREE COOLING + back up system
- ✓ Dehumidification Less Management

#### CCD Cooling Door

#### BASIC

#### DUAL

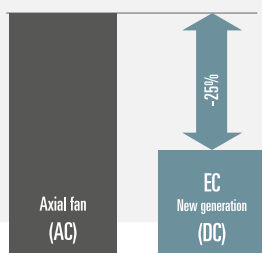
Models		0030 R	0030 T	0035 R	0035 T	0036 R	0036 T
Electrical power supply	V-Ph-Hz	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
<b>COOLING PERFORMANCES</b>							
Total cooling capacity	(1) kW	26,6	31,8	32,2	39,1	29,2	35,8
Sensible cooling capacity	(1) kW	26,6	31,8	32,2	39,1	29,2	35,8
SHR		1	1	1	1	1	1
EER	W/W	157	110	189	135	172	123
Water flow rate	(1) l/h	3830	4570	4620	5610	4190	5140
Total unit pressure drop	(1) kPa	53	73	37	51	35	50
N water circuits	n	1	1	1	1	2	2
<b>FANS</b>							
Number	n	4	4	4	4	4	4
Fan air flow	m <sup>3</sup> /h	5040	6520	4790	6200	4140	5520
Power Input	kW	0,17	0,29	0,17	0,29	0,17	0,29
<b>DIMENSION</b>							
Dimension LxHxP	mm	600x2020x260	600x2020x260	600x2020x260	600x2020x260	600x2020x260	600x2020x260

Note: (1) Inlet air : 46 C/15% r.h. ; Water (in/out): 14/20 C

# CHILLED WATER COOLING DOOR UNIT FROM 26 TO 39 kW

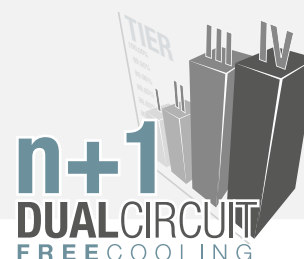


## EFFICIENCY



The CCD Cooling Door unit combines the efficiency of a hydronic heat extraction system with the use of last-generation electronic-switching EC fans in order to achieve EER values of over 100. The reduction in the temperature of the exhaust air allows the CCD Cooling Door to use cooling water with higher temperatures (14-20 °C). This feature prevents unwanted condensation (SHR=1) whilst allowing just the free cooling mode to be combined with the Climaveneta chillers.

## REDUNDANCY



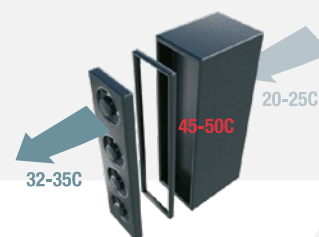
CCD Cooling Door is designed to ensure maximum reliability of the system through full redundancy of the cooling system. This is guaranteed by the new DUAL version with dual power feed, dual battery and dual valve, which are completely independent; the result is the 100% back-up in conditioning system. This allows you to connect the new DUAL version from one side to a primary FREE COOLING system (Circuit 1) and the other to a chiller in total back up.

## MINIMUM FLOORSPACE OCCUPANCY



The great advantage of the CCD Cooling Door lies in the fact that it is installed at the back of the rack (hot aisle) without occupying space that can be used for the servers, unlike other solutions which, instead, reduce the number of racks per row.

## ADAPTABILITY



CCD Cooling Door can be supplied together with the rack or for installation in different types of rack using a 'frame' which adapts to every kind of rack.

## FLEXIBILITY

To assure quick and easy installation, the CCD Cooling Door unit is fitted with flexible steel connectors on the water side and the electrical power input at the bottom. This allows the CCD Cooling Door to be easily opened in order to access the rack at any time and without any difficulties in wiring, servicing and expanding the servers.

## MODULARITY

As CCD Cooling Door units must only cater for the T gradient, they are required to dissipate much less heat than local conditioning units (in the row) and therefore, unlike the latter, they never risk having a limited cooling capacity.

## DYNAMIC RACK CONTROL

Optimal control of temperature stratification depending on the load of individual blades using 4 independent temperature probes connected to the 4 fans operating in the modulating and independent modes.

## AISLE CONTAINMENT AND INTEGRATION

Perfect integration with the aisle containment system as, being installed on the hot aisle, they do not require an entrance in the cold corridor for maintenance. Integration with all the hydronic products in the Climaveneta range via monitoring software.



for a greener tomorrow

Eco Changes is the Mitsubishi Electric Group's environmental statement, and expresses the Group's stance on environmental management. Through a wide range of businesses, we are helping contribute to the realization of a sustainable society.



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