MITSUBISHI ELECTRIC
HYDRONICS & IT COOLING SYSTEMS S.p.A.

IT COOLING

AIR CONDITIONERS FOR HIGH DENSITY RACKS AND BLADE SERVERS

COOLSIDE LEGACY

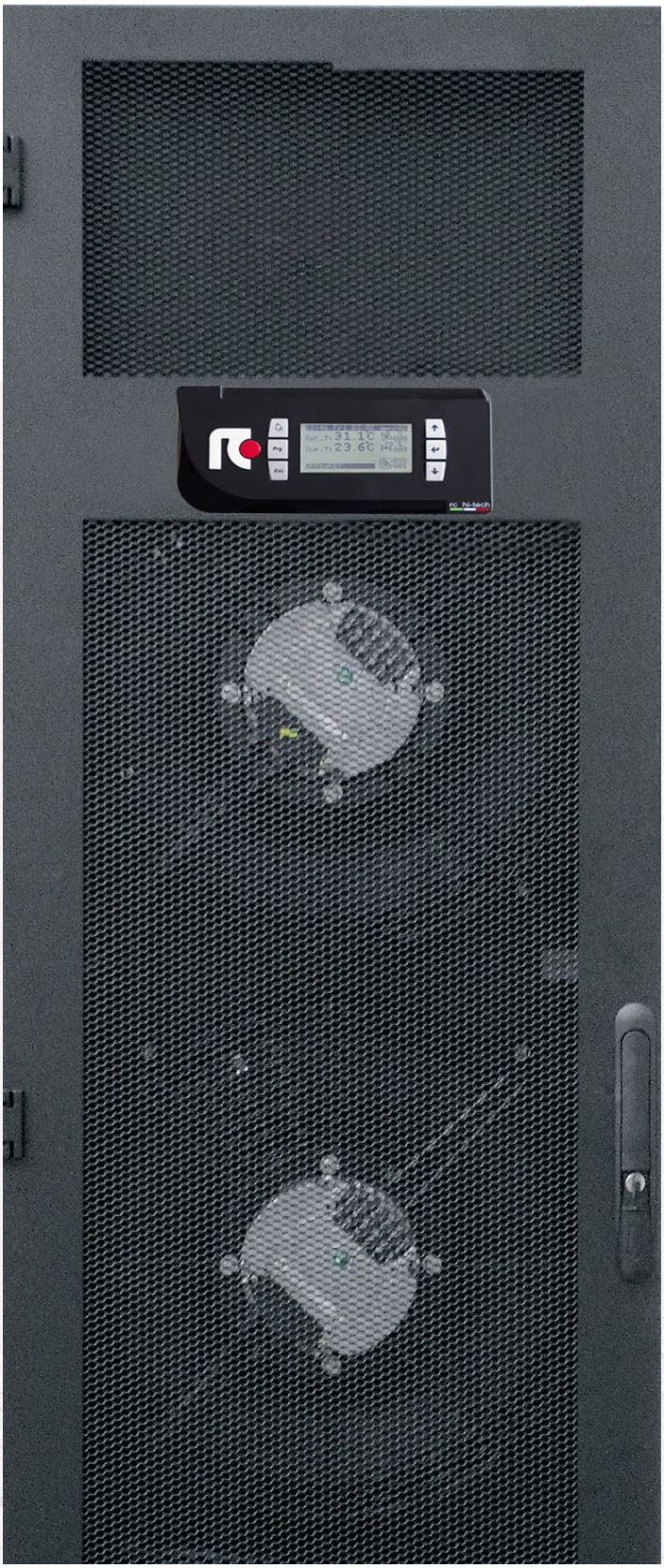
RACK COOLING SOLUTIONS FOR HIGH DENSITY RACK MANAGEMENT, FROM 4 TO 75 kW

FULL DC INVERTER

rcitcooling.com

COOLSIDE LEGACY

YOUR TARGETED COOLING, EXACTLY WHERE IT IS NEEDED.



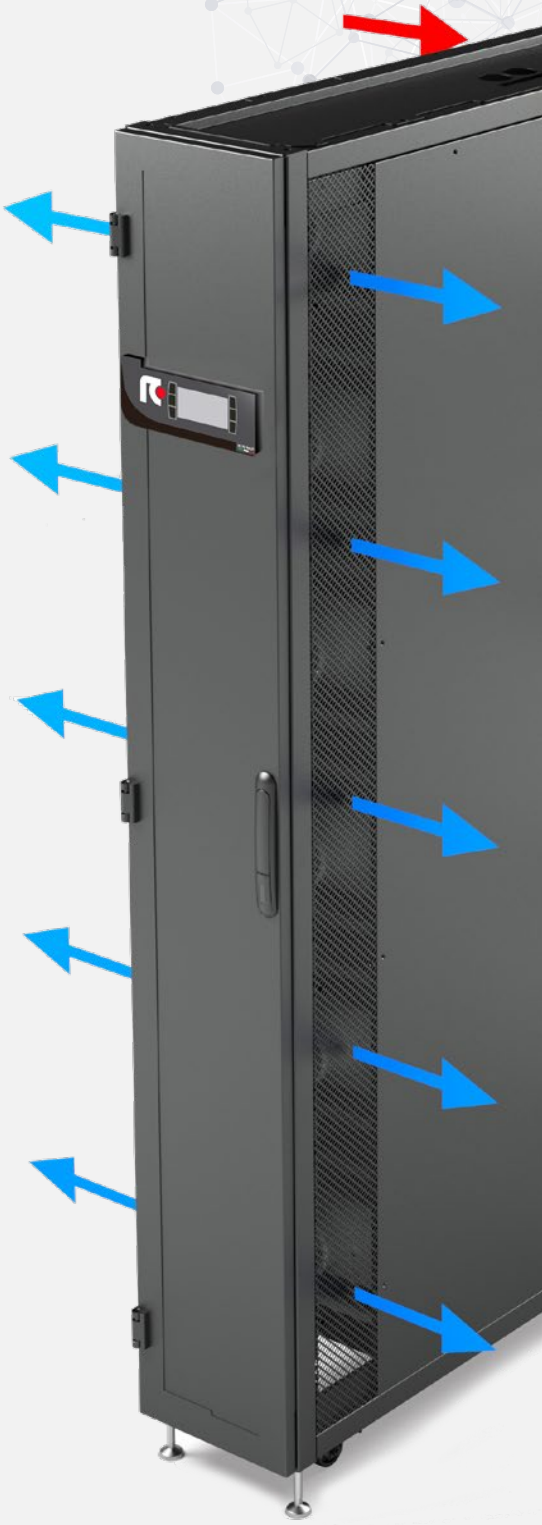
In data centers with high thermal loads, close-coupled cooling is the best way to eliminate hot spots.

COOLSIDE LEGACY range is the new RC IT Cooling solutions providing highly efficient targeted cooling, low operating costs and a flexible layout.

EFFICIENT HOT SPOT MANAGEMENT

COOLSIDE LEGACY solutions have been designed for managing high density severs (blade servers), better known as hot-spots. By means of its technologies, these rack cooling units deliver targeted cooling exactly where it is required.

- Direct Expansion or chilled water versions available
- Modulating Air flow, thanks to EC high efficiency fans. The fans adapt to the thermal load detected by sensors positioned in the hot and cold aisles
- Perfectly compatible with most of racks and re[illegible]re expansion of the cooling system



SCALABILITY AND MODULARITY

COOLSIDE LEGACY is the latest rack cooling range that joins the best technologies of the RC and Climaveneta brands in order to give customers a top quality solution for high density data centers. Thanks to their highly flexible design and a reduced footprint COOLSIDE units can be easily installed in environments with small space available.

- Suitable for 42U and 47U racks
- Great scalability of the cooling system. The unit easily adapts to the real thermal load of the server
- Easy-to-install solution for modular cooling systems and rapid upgrade of the data center capacity

ACTIVE FREE COOLING

High density COOLSIDE LEGACY solutions with single or dual circuit allow the use of warm water with a temperature above 15°C. This contributes to harness the full free cooling potential even in places that are normally considered too hot for such efficient systems.

In the COOLSIDE Dual Circuit version, while the primary circuit (circuit 1) could be water cooled via an external dry cooler in order to maximize the free cooling benefits, the secondary backup circuit (circuit 2) can be easily combined with a free cooling chiller for a perfect redundancy and unbeatable values in terms of efficiency.

REDUNDANCY AND RELIABILITY

In IT environments any cooling disruption could cause great damages to the server racks. High reliability standards are key for this kind of applications, in order to eliminate any risk of equipment failure.

The COOLSIDE Dual Coil version features a redundant cooling system consisting of a double cooling coil and a double regulation valve which are completely independent.
The reliability of the system is also increased by the use of automatic switch for the dual power supply feed for a continuous and non-stop power supply.

VERSIONS

Five cooling technologies to ensure superior efficiency in less space.

RACK COOLING UNITS FOR INDOOR INSTALLATION

COOLSIDE DX Direct Expansion Version

SAVINGS UP TO 30%
COMPARED TO
TRADITIONAL SYSTEMS

SHR=1

The COOLSIDE DX rack cooler joins the efficiency of a new Direct Expansion system with the use of the latest DC inverter driven motor installed in the condensing unit. Good performance and high efficiency are the result of the adoption of advanced technologies:

- Inverter DC technology on the scroll compressor with new generation brushless motor
- Electronic expansion valve for better inverter compressor performance, and optimised refrigerant cycle

- New generation EC brushless fans made of ultralight material
- Completely sensible load (SHR=1)
- “HOT SWAPPABLE” EC fans from the front side
- Easy handling due to integrated wheels depends on several factors:

  Environment dimensions, layout, loads trend, kind of air cooling system, redundancy.

COOLSIDE CW Chilled water version

25% BIGGER SAVINGS
THANKS TO THE ADAPTIVE
SET POINT ACCORDING
TO THE REAL THERMAL LOAD

VAIR VARIABLE AIR FLOW

In the hydronic version the cooling is provided by external chillers and dry coolers. The chilled water version is ideal for systems that aims at making extensive use of the free cooling technology in order to increase energy savings.

- New generation EC brushless fans made of ultralight material
- 3-way or 2-way (optional) modulating valves

- Cooling capacity from 16 to 74 kW
- Optimal integration with free cooling chillers
- “HOT SWAPPABLE” EC fans from the front side
- Easy handling due to integrated wheels

RACK COOLING UNITS FOR INDOOR INSTALLATION WITH INTEGRATED COMPRESSOR

COOLSIDE ROW DX Direct expansion version

EER 5,78

INVERTER

COOLSIDE LEGACY

COOLSIDE DF Dual Fluid Version

100% BACKUP
RELIABILITY
ALL YEAR LONG

The Dual Fluid Rack Cooler features two separate circuits for the highest redundancy of the cooling capacity. Thanks to a system ensuring 100% back-up, the total system reliability is always guaranteed, also in emergency situations.

- DC Scroll compressor with inverter technology installed in the condensing unit
- Electronic expansion valve to ensure superior performance of the inverter compressor and refrigerant cycle optimisation
- New generation ultralight fans, with EC brushless motor
- Complete sensible load (SHR=1)
- Easy handling due to integrated wheels
- Hot swappable EC fans from the front side

COOLSIDE FC Free Cooling Version

60% OF THE YEAR
IN FREE
COOLING MODE

The COOLSIDE FC rack cooler ensures high levels of energy efficiency thanks to the combination of the direct expansion system with the indirect free cooling mode. This unit works in free cooling mode whenever the outside temperature allows to use the outdoor air as a source of indirect cooling. The simultaneous operation of the expansion system and the water system contributes to increase the overall efficiency.

- DC Scroll compressor with inverter technology, installed in the condensing unit
- Electronic expansion valve to ensure superior performance of the inverter compressor and refrigerant cycle optimisation
- New generation ultralight fans, with EC brushless motor
- Complete sensible load (SHR=1)
- Easy handling due to integrated wheels
- Hot swappable EC fans from the front side

INTEGRATED COMPRESSOR

Suitable for in-row cooling systems, the COOLSIDE ROW DX version features the latest DC brushless compressor direclty installed inside the indoor unit. The unit has been designed to be coupled with a remote condenser.

- Inverter DC technology on the scroll compressor with new generation brushless motor
- EER values up to 5,78
- Availability of extra-circuit coil
- Easy handling due to integrated wheels

CONFIGURATIONS

From large to small IT environments, from high to low density areas, COOLSIDE solutions are available in both In-row and Enclosure configurations to provide customers the best data center adaptability.

IN-ROW

Ideal for hot/cold aisles

COOLSIDE CW-I: Chilled Water
COOLSIDE DX-I: Direct Expansion
COOLSIDE DF-I: Dual Fluid
COOLSIDE FC-I: Free Cooling
COOLSIDE ROW DX-I: Direct Expansion

In the In-row configuration the treated air coming from the hot aisle of the data center (35°C) is sucked in the back of the unit, with great advantages in terms of energy efficiency and increased cooling capacity. The air is then cooled and delivered to the cold aisle (18-20°C) from the front side of the rack.

FEATURES AND BENEFITS

DESIGN

- Back-up system for power and cooling
- Hot swappable EC fans from the front
- Scalability and modularity
- Ideal for data center expansion

ENERGY SAVINGS

- Cooling only where it is needed
- Optimised management of the system
- Extreme flexibility (applicability to 42U & 47U racks)

HIGHLY EFFICIENT OPERATION

- Reduced space occupancy (0,39 m2)
- Plug & Play connections for a quick and easy installation
- User-friendly Cascade System for electrical panel maintenance
- Humidification System (optional)

AIR DELIVERY OPTIONS

Left-side frontal air delivery.
Back air suction.

Frontal air delivery from both sides. Back air suction.

Right-side frontal air delivery.
Back air suction.

Frontal air delivery.
Back air suction.

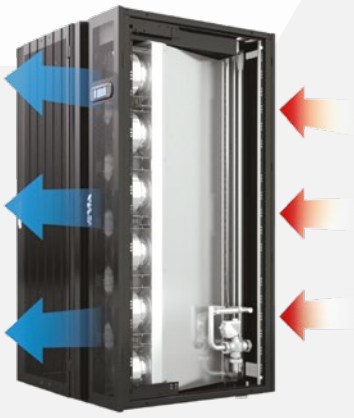
COOLSIDE LEGACY

ENCLOSURE

Ideal for removing hot spots in stand alone systems

COOLSIDE CW-E: Chilled Water
COOLSIDE DX-E: Direct Expansion
COOLSIDE DF-E: Dual Fluid
COOLSIDE FC-E: Free Cooling

In the Enclosure configuration both the servers and the conditioners are coupled on the same structure, avoiding the mixing of indoor and outdoor air and the consequent efficiency reduction. The air is directly treated inside the rack; sucked at 46°C, cooled down to 25- 30°C and then delivered back to the servers. This increases energy saving thanks to the low amount of treated air.



FEATURES AND BENEFITS

DESIGN

- Back-up system for Power and Cooling
- Hot swappable EC fans from the front
- Scalability and modularity
- Ideal for data center expansion

ENERGY SAVINGS

- Increased energy savings thanks to the low amount of treated air
- Optimised blade management
- Extreme flexibility (applicability to 42U & 47U racks)

HIGHLY EFFICIENT OPERATION

- Reduced space occupancy (1,8 m2)
- Plug & Play connections for a quick and easy installation
- User-friendly Cascade System for electrical panel maintenance
- Humidification System (optional)

AIR DELIVERY OPTIONS

Right-side frontal air delivery.
Right- side air suction from the rear.

Left-side frontal air delivery.
Left-side air suction from the rear.

Frontal air delivery from both sides.
Back air suction from both sides.

TECHNOLOGICAL CHOICES

DC Inverter compressor for the direct expansion versions

The inverter driven compressor, through the variable frequency, modulates the power capacity provided, optimizing the performances at part load and increasing the overall efficiency of the system in any condition.

Compared to the traditional On/Off compressors the Inverter compressor ensures:

- Quick achievement of the desired temperature thanks to the BOOSTER function
- Starting current & pick removal due to compressor speed and air flow modulation
- Reduced vibrations and low noise levels
- Efficient working performance at partial loads

INVERTER
DRIVEN COMPRESSOR

EC-PUL fans for all indoor units

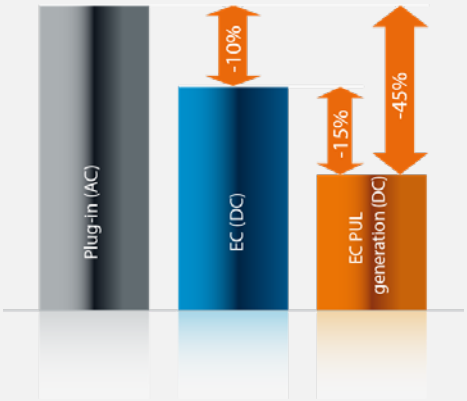
The high efficiency EC PUL (Polymeric ULltralight) brushless fan reduces both noise levels as well as energy consumption, and assures a variable air flow at part loads, optimizing the operating costs of the unit.

Main features:

- Further noise level reduction 4-5 dB
- Further absorbed power reduction by 15%

PUL POLYMERIC ULTRALIGHT FAN

EC-PUL FANS also for outdoor units



The use of EC brushless technology even on the remote motocondenser (optional) fan assures a further average reduction of noise levels by 10%, together with a strong reduction of energy consumption by 45% compared to traditional condensers with AC technology.

COOLSIDE LEGACY

Electronic Expansion Valve

The Direct Expansion COOLSIDE units with DC Inverter compressor make use of electronic expansion valve as standard.

These valves have a much wider modulation capacity. It stands out for its quality of control and its capacity to quickly reach and maintain the operating stability of the unit. Joined with the INVERTER compressor technology, the valve ensures a quick fluctuation-free regulation, and therefore a highly accurate adjustment to the swings of load and ambient conditions.

Eco-friendly Refrigerant

R-410A refrigerant represents the most modern and cutting-edge choice in refrigerant technology: it clearly contributes to make the IT spaces since it complies with environmental friendly policies and provide enhanced cooling efficiency.

R-410A refrigerant represents the most efficient long-term solution; it contributes to increase the energy efficiency up to 5-6% compared to the R-407c refrigerant, limiting ozone depletion effect to the minimum.

Advanced control

The units are provided with a new algorithm called IDM-INTEGRAL DYNAMIC MANAGEMENT, which allows to avoid the stratification of the air temperature inside the rack through the use of 4 integrated and independent sensors (2 for aspiring and 2 for leaving). On the basis of the real load in each single blade, the sensors contribute to improve the ventilation efficiency, working where it is requested.

This helps to maximize the energy efficiency. L'IDM guarantees the optimal air temperature and humidity management via a dynamic system able to avoid local condensation thus maintaining SHR = 1-

AIR CONDITIONERS FOR HIGH DENSITY RACKS AND BLADE SERVERS

COOLSIDE LEGACY

COOLSIDE DX Direct Expansion

In-row configuration

COOLSIDE DX - I with condensing unit

Model			0021		0051		0071		0121		0151		0251	
Power Supply			230V/1N/50Hz*		230V/1N/50Hz*		400V/3N/50Hz*		400V/3N/50Hz*		400V/3N/50Hz*		400V/3N/50Hz*	
			max	min	max	min	max	min	max	min	max	min	max	min
Total Cooling Capacity kW		kw	8,81	4,34	10,63	4,72	16,59	6,78	28,62	11,76	37,20	21,88	57,47	27,29
Sensible Cooling Capacity kW		kw	8,81	4,34	9,61	4,72	15,67	6,78	27,37	11,76	37,20	21,16	57,47	27,29
Power abs compressor kW		kw	2,58	0,62	2,63	0,77	4,56	1,17	7,19	1,81	9,5	4,37	14,4	4,05
Power abs condensation fan			0,13	0,13	0,31	0,31	0,6	0,6	1,2	1,2	1,12	1,12	1,68	1,68
Power abs evaporator fan kW		kw	0,16	0,03	0,16	0,04	0,304	0,064	0,860	0,090	0,98	0,28	2,6	0,51
Air flow		m^3/h	1500	800	1500	900	2700	1200	4200	1800	7000	3500	12000	6000
EER			3,07	5,56	3,43	4,21	3,03	3,7	3,1	3,8	3,21	3,79	3,07	4,37
No. circuits			1		1		1		1		1		1	
Dimensions														
Indoor unit	HxPxL	mm	2100x1000x300		2100x1000x300		2100x1000x300		2100x1000x300		2100x1000x600		2100x1000x600	
Outdoor unit	HxPxL	mm	1240x420x900		1240x420x900		1200x550x1450		1700x550x1450		1865x1195x1825		1865x1195x2395	

Performances at the following conditions: 35°/27% U.R. and 35°C outdoor temperature

* 60Hz versions available
The data in the table refer to the above power supply

COOLSIDE DX Direct Expansion

Enclosure configuration

COOLSIDE DX - E with condensing unit

Model			0021		0051		0071		0121		0151		0251	
Power Supply			230V/1N/50Hz*		230V/1n/50Hz*		400V/3N/50Hz*		400V/3N/50Hz*		400V/3N/50Hz*		400V/3N/50Hz*	
			max	min	max	min	max	min	max	min	max	min	max	min
Total Cooling Capacity kW		kw	10,700	5,82	11,84	5,64	18,71	8,19	33,02	14,09	44,11	25,83	68,38	33,12
Sensible Cooling Capacity kW		kw	10,700	5,82	11,84	5,64	18,71	8,19	33,02	14,09	44,11	25,83	68,38	33,12
Power abs compressor kW		kw	2,750	0,66	2,68	0,73	4,65	1,15	7,4	1,81	9,81	4,4	14,95	3,99
Power abs condensation fan		Kw	0,13	0,13	0,31	0,31	0,6	0,6	1,2	1,2	1,12	1,12	1,68	1,68
Power abs evaporator fan kW		kw	0,16	0,03	0,16	0,04	0,3	0,06	0,86	0,09	0,98	0,28	2,6	0,51
Air flow		m^3/h	1500	800	1500	900	2700	1200	4200	1800	7000	3500	12000	6000
EER			3,52	7,10	3,8	5,2	3,37	4,52	3,5	4,54	3,70	4,45	3,56	5,36
No. circuits			1		1		1		1		1		1	
Dimensions														
Indoor unit	HxPxL	mm	2100x1200x300		2100x1200x300		2100x1200x300		2100x1200x300		2100x1200x600		2100x1200x600	
Outdoor unit	HxPxL	mm	1240x420x900		1240x420x900		1200x550x1450		1700x550x1450		1865x1195x1825		1865x1195x2395	

Performances at the following conditions: 46°/16% U.R. and 35°C outdoor air temperature

* 60Hz versions available
The data in the table refer to the above power supply

COOLSIDE CW Chilled Water

In-row configuration

COOLSIDE CW - I

Model			0020	0025	0035	0038	0036	0040	0050	0060	0055
Power Supply			230V/1N/50Hz*					400V/3N/50Hz*			
Total Cooling Capacity		kW	16,14	20,52	24,60	38,50	20,95	43,40	46,9	58,2	47,12
Sensible Cooling Capacity		kW	16,14	20,52	24,60	38,50	20,95	43,40	46,9	58,2	47,12
Water pressure drops		kPa	30,00	35,00	40,00	93	70,00	85	38	56	62
Water flow		m^3	2,77	3,53	4,23	6,63	3,60	7,48	8,06	10	8,1
Power abs evaporator fan		kW	0,516	0,688	0,860	1,7	0,860	2,85	2,12	2,6	2,64
Air flow		m^3	2520	3360	4200	6500	4200	9500	8800	12000	10500
No. circuits			1	1	1	1	2	1	1	1	2
Dimensions											
Indoor unit	HxPxL	mm	2100x1000x300					2100x1000x600			

Performances at the following conditions: 35°/27% U.R. and 10°/15°C water temperature

* 60Hz versions available
The data in the table refer to the above power supply

COOLSIDE CW Chilled Water

Enclosure configuration

COOLSIDE CW - E

Model			0020	0025	0035	0038	0036	0040	0050	0060	0055
Power Supply			230V/1N/50Hz*					400V/3N/50Hz*			
Total Cooling Capacity		kW	20,44	26,06	31,25	48,80	26,79	55,70	60	74,71	60,69
Sensible Cooling Capacity		kW	20,44	26,06	31,25	48,80	26,79	55,70	60	74,71	60,69
Water pressure drops		kPa	30,00	40,00	45,00	101	80,00	94	42	63	69
Water flow		m^3	2,93	3,74	4,49	7,02	3,85	8,01	8,62	10,73	8,71
Power abs evaporator fan		kW	0,52	0,69	0,86	1,7	0,86	2,85	2,12	2,6	2,64
Air flow		m^3	2520	3360	4200	6500	4200	9500	8800	12000	10500
No. circuits			1	1	1	1	2	1	1	1	2
Dimensions											
Indoor unit	HxPxL	mm	2100x1000x300					2100x1000x600			

Performances at the following conditions: 46°/16% U.R. and 14°/20°C water temperature

* 60Hz versions available
The data in the table refer to the above power supply

AIR CONDITIONERS FOR HIGH DENSITY RACKS AND BLADE SERVERS

COOLSIDE LEGACY

COOLSIDE DF Dual Fluid

In-row configuration — COOLSIDE DF - I with condensing unit

Enclosure configuration — COOLSIDE DF - E with condensing unit

Model			0051		0071		0051		0071	
Power supply			230V/1N/50Hz*		400V/3N/50Hz*		230V/1N/50Hz *		400V/3N/50Hz*	
Performance (DX)			max (1)	min (1)	max (1)	min (1)	max (2)	min (2)	max (2)	min (2)
Total Cooling Capacity		kW	10,95	4,55	13,99	6,93	12,7	5,4	16,71	8,41
Sensible Cooling Capacity		kW	10,24	4,55	13,99	6,93	12,7	5,4	16,71	8,41
Compressor power abs		kW	2,64	0,77	3,58	1,17	2,71	0,74	3,65	1,15
Condensing unit's fan power abs		kW	0,31	0,31	0,6	0,6	0,31	0,31	0,6	0,6
EER			3,35	4,06	2,87	3,76	3,80	4,95	3,38	4,62
Performance (CW)			Performance (3)		Performance (3)		Performance (4)		Performance (4)	
Total Cooling Capacity		kW	9,53		17,7		12,10		22,6	
Sensible Cooling Capacity		kW	9,53		17,7		12,10		22,6	
Water flow		l/h	1640		3040		1740		3240	
CRCD pressure drop			14,9		45,7		16,3		50,1	
Fans			max	min	max	min	max	min	max	min
Air flow		m^3/h	1500	700	3360	1500	1500	700	3360	1500
Indoor unit's fan power abs		kW	0,32	0,04	0,69	0,072	0,32	0,04	0,69	0,072
Dimensions										
Indoor unit	HxPxL	mm	2100x1000x300		2100x1000x300		2100x1200x300		2100x1200x300	
Outdoor unit	HxPxL	mm	1240x420x900		1200x550x1450		1240x420x900		1200x550x1450	

(1) Performances at the following conditions: 35°C/27% U.R., 35°C outdoor air temperature
(2) Performances at the following conditions: 46°C/16% U.R., 35°C outdoor air temperature
(3) Performances at the following conditions: 35°C/27% U.R., 10°/15°C water temperature
(4) Performances at the following conditions: 46°C/16% U.R., 14°/20°C water temperature

* 60Hz versions available
The data in the table refer to the above power supply

COOLSIDE FC Free cooling

In-row configuration — COOLSIDE FC - I with condensing unit

Enclosure configuration — COOLSIDE FC - E with condensing unit

Model			0051		0071		0051		0071	
Power supply			230V/1N/50Hz*		400V/3N/50Hz*		230V/1N/50Hz *		400V/3N/50Hz*	
Performance (DX)			max (1)	min (1)	max (1)	min (1)	max (2)	min (2)	max (2)	min (2)
Total Cooling Capacity		kW	11,29	4,66	14,67	7,16	12,93	5,51	17,52	8,7
Sensible Cooling Capacity		kW	10,38	4,66	14,67	7,16	12,93	5,51	17,52	8,7
Compressor power abs compressor		kW	2,41	0,69	3,08	1,06	2,5	0,64	3,11	1,03
Condensing unit's fan power abs		kW	0,6	0,6	1,2	1,2	0,6	0,6	1,2	1,2
EER			3,02	2,68	2,73	2,61	3,38	3,26	3,24	3,21
Performance (FC)			Performance (3)		Performance (3)		Performance (4)		Performance (4)	
Total Cooling Capacity		kW	9,89		17,7		12,48		22,8	
Sensible Cooling Capacity		kW	9,89		17,7		12,48		22,8	
Water flow		l/h	2370		3070		2670		3570	
CRCF pressure drop		kPa	28,7		46,6		35,9		59,6	
Pump power abs		kW	0,41		0,41		0,41		0,41	
i-HCFT available pressure		kPa	86		92		77		81	
Fans			max	min	max	min	max	min	max	min
Air flow		m^3/h	1500	700	3360	1500	1500	700	3360	1500
Indoor unit's fan power abs		kW	0,32	0,04	0,69	0,072	0,32	0,04	0,69	0,072
Dimensions										
Indoor unit	HxPxL	mm	2100x1000x300		2100x1000x300		2100x1200x300		2100x1200x300	
Outdoor unit	HxPxL		1200x550x1450		1700x550x1450		1200x550x1450		1700x550x1450	

(1) Performances at the following conditions: 35°C/27% U.R., 30/35°C condensing water temperature
(2) Performances at the following conditions: 46°C/16% U.R., 30/35°C condensing water temperature
(3) Performances at the following conditions: 35°C/27% U.R., input water FC 10°C
(4) Performances at the following conditions :46°C/16% U.R., input water FC 14°C

* 60Hz versions available
The data in the table refer to the above power supply

HFC R410A COOLING INV.COMP. EEV
SCROLL FREE C. EC FAN VAIR

COOLSIDE ROW DX Direct Expansion

Model		25			40		
SIZE			B6 BF			B6 BF	
COOLING CAPACITY (1)		Min	Nom	Max	Min	Nom	Max
Total	kW	14,4	23,1	28,5	18,0	36,5	39,7
Sensible	kW	14,4	23,1	28,5	18,0	36,5	39,7
SHR – Sensible Heat Ratio (2)		1	1	1	1	1	1
SUPPLY FANS	n.	4	4	4	4	4	4
Total air flow	m^3/h	3450	5800	7400	4400	9400	9400
External static pressure	Pa	0	0	0	0	0	0
Engaged power	kW	0,05	0,23	0,46	0,10	0,94	0,89
Absorbed current [OA]	A	0,11	0,52	1,03	0,22	2,11	2,36
Installed power	kW		2,00			2,00	
Max operating current [FLA]	A		4,4			4,4	
BLDC INVERTER COMPRESSOR							
Quantity	n.		1			1	
Max operating current [FLA]	A		16,2			24,9	
Starting current [LRA]	A		4			4	
Proportional cooling capacity	%		30...100			30...100	
AIR FILTERS	n.		1			1	
Efficiency			G2			G2	
REFRIGERANT			R410A			R410A	
Refrigerant charge (3)	kg		4,5			4,6	
Gas circuits	n.		1			1	
POWER SUPPLY	V/Ph/Hz		400/3/50+N			400/3/50+N	
ENERGY EFFICIENCY INDEXES (4)							
EER – Energy Efficiency Ratio	kW/ kW	5,78	4,34	3,60	5,29	3,40	3,06
SOUND PRESSURE LEVEL (5)							
On air delivery	dB(A)	43,6	54,9	60,2	48,9	65,4	65,4
On air suction	dB(A)	40,6	51,9	57,2	45,9	62,4	62,4
DIMENSIONS							
Length	mm		1200			1200	
Width	mm		600			600	
Height	mm		2000			2000	
NET WEIGHT	kg		290			290	

THE COOLING CAPACITY DOES NOT CONSIDER THE SUPPLY FANS MOTOR THERMAL LOAD

1. Characteristics referred to entering air at 35°C with 25 % rH, ambient temperature 35°C - unit coupled to TEAM MATE remote condenser operating at nominal conditions with 3m of equivalent length of refrigerant connecting pipes.
2. Ratio between sensible heat and total heat.
3. Unit refrigerant charge. It is necessary to provide the additional charge for the remote air cooled condenser and related connection pipes system. Also perform an additional charge of lubricating oil in the proportion of 2/3% of the charged refrigerant. Lubricant oil must be the same type as the charged one as shown on the compressor plate.
4. The Energy Efficiency Index consider also the remote air cooled condenser as shown in the table.
5. Sound pressure level at 1 meter in free field (ISO EN 3744).
6. Condensate discharge of the condensate tray. External diameter.

“BY FAR THE BEST PROOF IS EXPERIENCE” Sir Francis Bacon

2014 Riga - Latvia
State Police Headquarters

Cooling capacity: 370 kW
Installed machines: 5x Free cooling chillers, 6x Chilled water rack cooler units

2012 Saint Denis - France
CNES – Centre National d’Etudes Spatiales

Cooling capacity: 432 kW
Installed machines: 12x Chilled water rack cooler units, 1x Water cooled chiller, 4x Chilled water close control units

2018 Kuwait City - Kuwait
Kna Data Centre

Cooling capacity: 258 kW
Installed machines: 9x Direct expansion rack cooler units with condensing units, 20x Rack cabinets

2013 Florence -Italy
Nuovo Pignone

Cooling capacity: 400 kW
Installed machines: 5x Inverter close control air conditioners, 4x Direct expansion rack cooler units with condensing units

RC IT Cooling solutions for data center cooling, with their unbeatable advantages in terms of efficiency, quality, and reliability, are already the preferred choice in the most challenging and prestigious projects, all around the world and with many major brands.

2013 Montigny Le Bretonneu - France
RTE - Réseau
Transport Electricitè

Cooling capacity: 312 kW
Installed machines: 12x Chilled water rack cooler units

2016 Glasglow – Great Britain
SLD Hillington

Air flow: 12000 m^3
Installed machines: 1x Chilled water air conditioner, 1x Free cooling chiller, 1x Chilled water rack cooler

2013 Trivendrum - India
VSSC - Vikram
Sarabhai Space Center

Cooling capacity: 280 kW
Installed machines: 10x Direct expansion rack cooler units with condensing units

2013 Cartagena - Colombia
Claro Datacenter - Cartagena

Cooling capacity: 215,4 kW
Installed machines: 4x Chilled water rack cooler units, 1x scroll compressor chiller

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RC IT COOLING

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.

MITSUBISHI ELECTRIC HYDRONICS & IT COOLING SYSTEMS S.p.A.