

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

IT COOLING

AIR CONDITIONERS FOR HIGH DENSITY RACKS AND BLADE SERVERS

CRC LEGACY



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

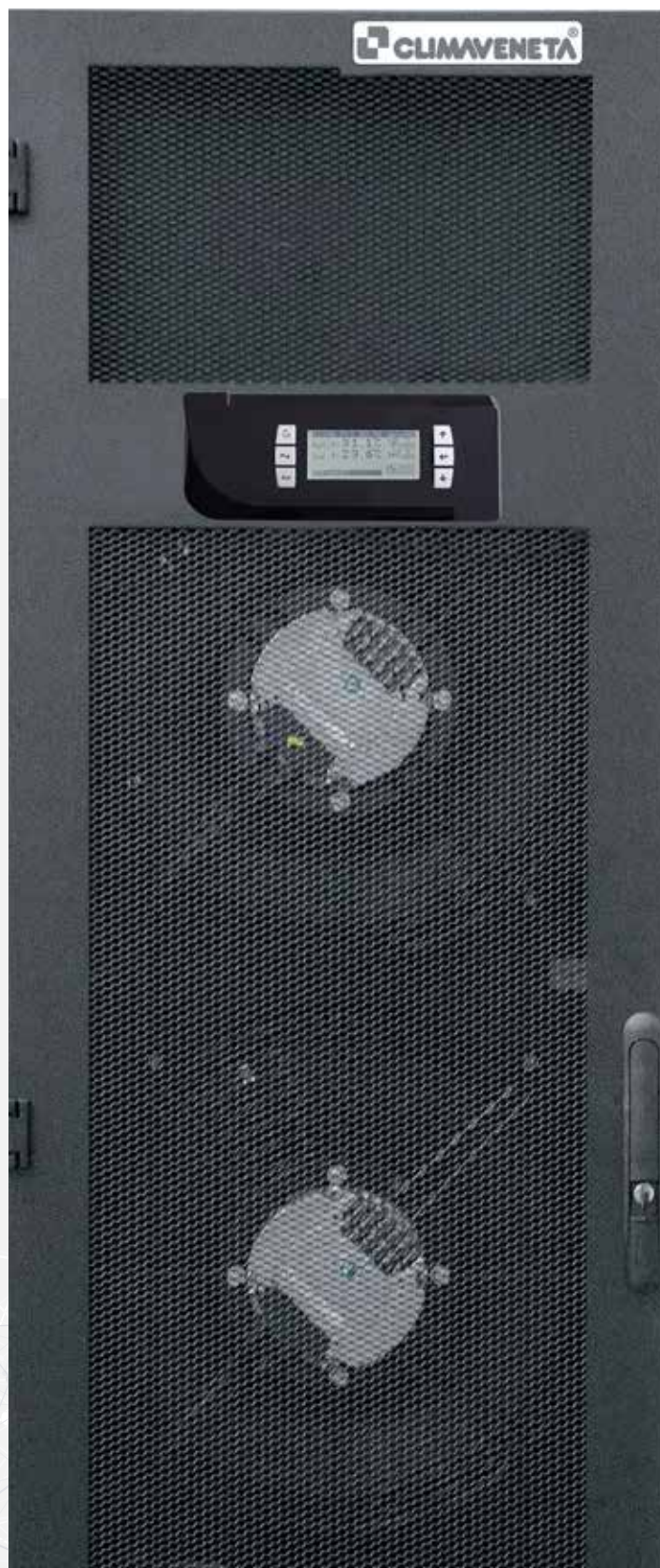


CRC LEGACY

**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.

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



EFFICIENT HOT SPOT MANAGEMENT



CRC LEGACY solutions have been designed for managing high density servers (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 ready for future expansion of the cooling system

SCALABILITY AND MODULARITY



CRC LEGACY is the latest rack cooling range that provides customers with a top quality solution for high density data centers. Thanks to their highly flexible design and a reduced footprint CRC LEGACY 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

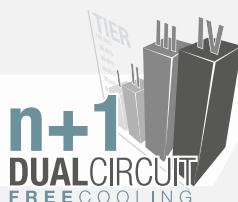
ACTIVE FREE COOLING



High density CRC 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 CRC LEGACY 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.

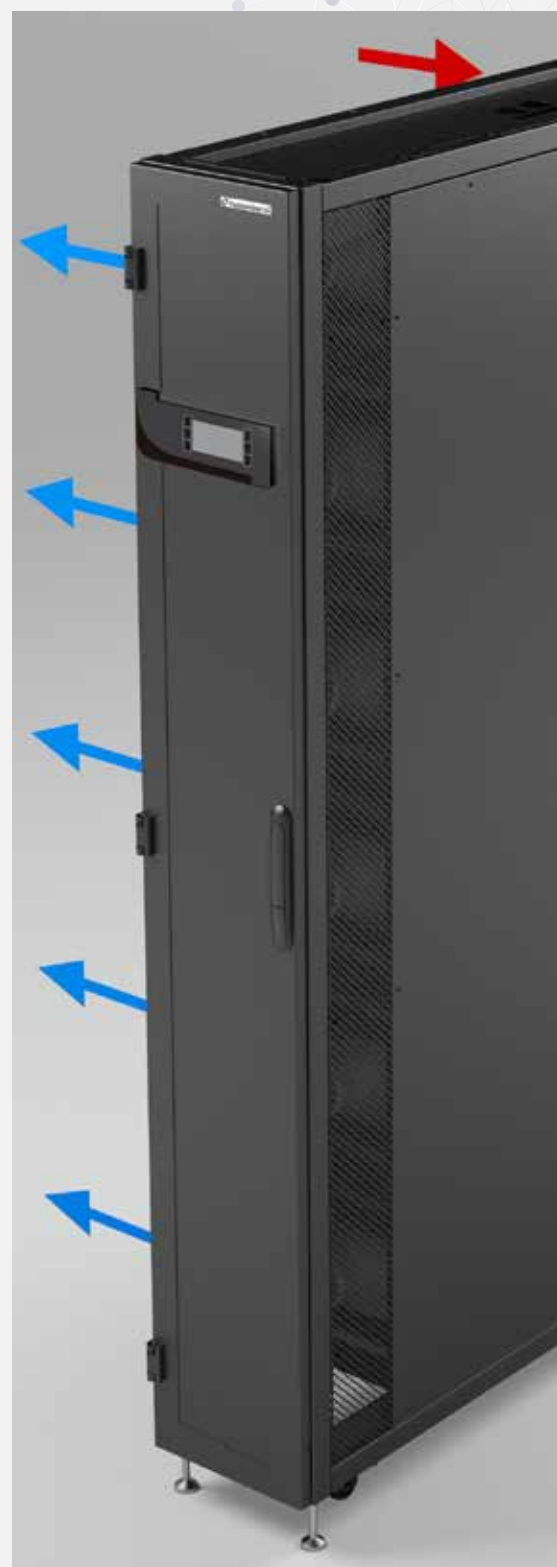
REDUNDANCY AND RELIABILITY



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 CRC LEGACY 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

CRCX Direct Expansion Version



The CRCX 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

**SAVINGS UP TO 30%
COMPARED TO
TRADITIONAL SYSTEMS**

- ✓ 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.

CRCC Chilled water version



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

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

- ✓ 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

CRCX ROW Direct expansion version

EER 5,78

INVERTER



CRC LEGACY

CRC D Dual Fluid Version



SHR=1 ❄️



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

**100% BACKUP
RELIABILITY
ALL YEAR LONG**

- ✓ 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

CRC F Free Cooling Version



Active
FreeCooling



The CRCF 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

**60% OF THE YEAR
IN FREE
COOLING MODE**

- ✓ 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 CRCX ROW version features the latest DC brushless compressor directly 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, **CRC LEGACY** solutions are available in both In-row and Enclosure configurations to provide customers the best data center adaptability.

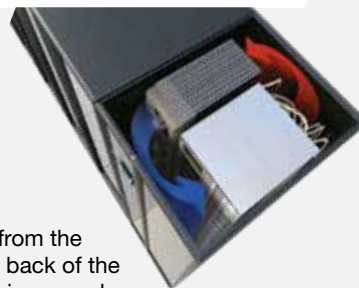
IN-ROW

Ideal for hot/cold aisles



CRCCL-I: Chilled Water
 CRCX-I: Direct Expansion
 CRCCL-I: Dual Fluid
 CRCCL-I: Free Cooling
 CRCX ROW-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.

CRC LEGACY

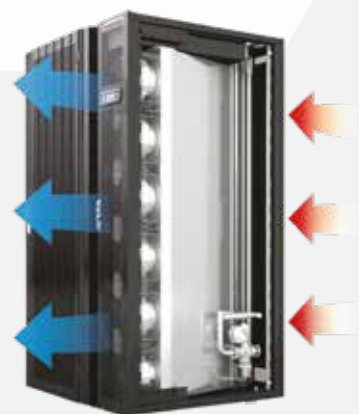
ENCLOSURE

Ideal for removing hot spots in stand alone systems



CRCC-E: Chilled Water
CRCX-E: Direct Expansion
CRCD-E: Dual Fluid
CRCF-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.



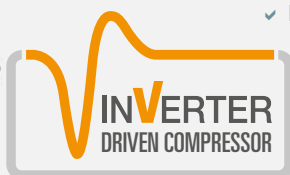
Left-side frontal air delivery.
Left-side air suction from the rear.



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

EC-PUL fans for all indoor units

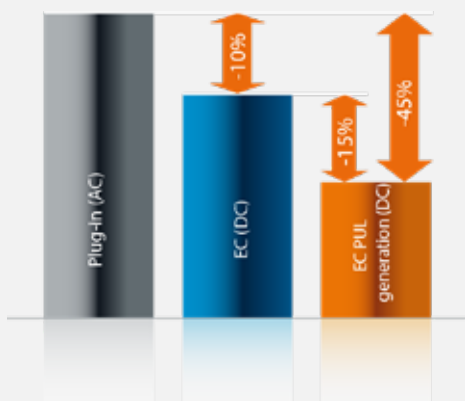


The high efficiency EC PUL (Polymeric ULtralight) brushless fan reduces both noise levels as well as energy consumption, and assures a variable air flow at part loads, optimizing the operating costs of the unit.

Main features:

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

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.

CRC LEGACY

Electronic Expansion Valve



The Direct Expansion CRC LEGACY 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-



CRCX LEGACY

CRCX Direct Expansion

In-row configuration

CRCX - I with condensing unit

Model			0021	0051	0071	0121	0151	0251
Power Supply V/ph/Hz			230/1/50	230/1/50	230/1/50	230/1/50	400/3+N/50	400/3+N/50
PERFORMANCE								
Total cooling capacity gross	(1)	kW	8,81	10,6	16,6	28,6	37,2	57,5
Sensible cooling capacity gross	(1)	kW	8,81	9,61	15,7	27,4	37,2	57,5
Total power input (Comp.+fans)	(1)	kW	2,87	3,05	5,47	9,25	11,9	18,9
SHR	(2)		1,00	0,91	0,95	0,96	1,00	1,00
FANS								
Fans type			EC FAN	EC FAN	EC FAN	EC FAN	EC FAN	EC FAN
Quantity		N°	2	2	4	5	2	3
Air flow	(3)	m³/h	1500	1500	2700	4200	7000	12000
NOISE LEVEL								
Sound Power		dB(A)	79	79	80	86	78	82
Sound Pressure	(4)	dB(A)	59	59	60	66	58	62
SIZE AND WEIGHT								
A	(3)	mm	300	300	300	300	600	600
B	(3)	mm	1000	1000	1000	1000	1000	1000
H	(3)	mm	2085	2085	2085	2085	2085	2085
Weight	(3)	kg	185	175	190	193	220	232
COUPLING UNIT EXTERNAL								
Power supply		V/ph/Hz	230/1/50	230/1/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
REFRIGERANT CIRCUIT								
Compressors nr.		N°	1	1	1	1	1	1
Compressors power absorption		kW	2,58	2,63	4,56	7,19	9,50	14,4
Refrigerant charge		kg	3,00	3,00	6,00	11,0		
FANS								
Quantity		N°	1	2	1	2	4	6
Air flow for fan		m³/h	3200	6400	8640	15768	13932	20920
Fans power input		kW	0,13	0,13	0,60	0,60	0,30	0,30
SIZE AND WEIGHT								
Dimension A		mm	900	900	1450	1450	1825	2395
Dimension B		mm	420	420	550	550	1195	1195
Dimension H		mm	1240	1240	1200	1700	1865	1865
Weight		kg	108	108	182	247	440	500

Notes:

1 Indoor conditions (in) 35°C - R.H. 27%; Outdoor air temperature 35°C; ESP= 0Pa.

2 SHR = Sensible cooling capacity gross / Total cooling capacity gross.

3 Unit in standard configuration/execution, without optional accessories.

4 Average sound pressure level, at a distance of 2m, for units in a free field on a reflecting surface.

The average sound pressure level is calculated based on the sound power level measured in accordance with ISO 3744.

The units highlighted in this publication contain HFC R410A [GWP₁₀₀ 2088] fluorinated greenhouse gases.



CRCX Direct Expansion

Enclosure configuration

CRCX - E with condensing unit

Model		0021	0051	0071	0121	0151	0251
Power Supply	V/ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	400/3+N/50	400/3+N/50
PERFORMANCE							
Total cooling capacity gross	(1) kW	10,7	11,8	18,7	33,0	44,1	68,4
Sensible cooling capacity gross	(1) kW	10,7	11,8	18,7	33,0	44,1	68,4
Total power input (Comp.+fans)	(1) kW	3,04	3,11	5,56	9,47	12,2	19,4
SHR	(2)	1,00	1,00	1,00	1,00	1,00	1,00
FANS							
Fans type		EC FAN	EC FAN	EC FAN	EC FAN	EC FAN	EC FAN
Quantity	N°	2	2	4	5	2	3
Air flow	(3) m³/h	1500	1500	2700	4200	7000	12000
NOISE LEVEL							
Sound Power	dB(A)	79	79	80	86	78	82
Sound Pressure	(4) dB(A)	59	59	60	66	58	62
SIZE AND WEIGHT							
A	(3) mm	300	300	300	300	600	600
B	(3) mm	1200	1200	1200	1200	1200	1200
H	(3) mm	2085	2085	2085	2085	2085	2085
Weight	(3) kg	185	185	200	203	245	257
COUPLING UNIT EXTERNAL							
Power supply	V/ph/Hz	230/1/50	230/1/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
REFRIGERANT CIRCUIT							
Compressors nr.	N°	1	1	1	1	1	1
Compressors power absorption	kW	2,75	2,68	4,65	7,40	9,80	14,9
Refrigerant charge	kg	3,00	3,00	6,00	11,0		
FANS							
Quantity	N°	1	2	1	2	4	6
Air flow for fan	m³/h	3200	6400	8640	15768	13832	20920
Fans power input	kW	0,13	0,13	0,60	0,60	0,30	0,30
SIZE AND WEIGHT							
Dimension A	mm	900	900	1450	1450	1825	2395
Dimension B	mm	420	420	550	550	1195	1195
Dimension H	mm	1240	1240	1200	1700	1865	1865
Weight	kg	108	108	182	247	440	500

Notes:

1 Indoor conditions (in) 46°C - R.H. 16%; Outdoor air temperature 35°C; ESP= 0Pa.

2 SHR = Sensible cooling capacity gross / Total cooling capacity gross.

3 Unit in standard configuration/execution, without optional accessories.

4 Average sound pressure level, at a distance of 2m, for units in a free field on a reflecting surface.

The average sound pressure level is calculated based on the sound power level measured in accordance with ISO 3744.

The units highlighted in this publication contain HFC R410A [GWP₁₀₀ 2088] fluorinated greenhouse gases.



CRC LEGACY

CRCC Chilled Water

In-row configuration

CRCC - I

Model			0020	0025	0035	0038	0036	0040	0050	0060	0055
Power Supply	V/ph/Hz		230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
PERFORMANCE											
Total cooling capacity gross	(1)	kW	16,1	20,5	24,6	38,5	21,0	43,4	46,9	58,2	47,1
Sensible cooling capacity gross	(1)	kW	16,1	20,5	24,6	38,5	21,0	43,4	46,9	58,2	47,1
Fans power input	(1)	kW	0,52	0,69	0,86	1,70	0,86	2,85	2,17	2,66	2,66
SHR	(2)		1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
Fluid flow	(1)	l/s	0,77	0,98	1,18	1,84	1,00	2,08	2,24	2,79	2,25
Total pressure drop (Coil + Valve)	(1)	kPa	13,5	20,9	29,1	93,4	55,2	85,3	37,7	56,4	60,7
FANS											
Fans type			EC FAN	EC FAN	EC FAN	EC FAN	EC FAN	EC FAN	EC FAN	EC FAN	EC FAN
Quantity	N°		3	4	5	5	5	2	2	3	3
Air flow	(3)	m³/h	2520	3360	4200	6500	4200	9500	8800	12000	10500
NOISE LEVEL											
Sound Power		dB(A)	84	85	86	82	86	88	84	82	82
Sound Pressure	(4)	dB(A)	64	65	66	62	66	68	64	62	62
SIZE AND WEIGHT											
A	(3)	mm	300	300	300	300	300	600	600	600	600
B	(3)	mm	1000	1000	1000	1000	1000	1000	1000	1000	1000
H	(3)	mm	2085	2085	2085	2085	2085	2085	2085	2085	2085
Weight	(3)	kg	190	192	195	195	205	235	240	247	255

Notes:

1 Indoor conditions (in) 35°C - R.H. 27%; Water temperature (in/out) 10°C/15°C; ESP= 0Pa.

2 SHR = Sensible cooling capacity gross / Total cooling capacity gross.

3 Unit in standard configuration/execution, without optional accessories.

4 Average sound pressure level, at a distance of 2m, for units in a free field on a reflecting surface.

The average sound pressure level is calculated based on the sound power level measured in accordance with ISO 3744.



CRCC Chilled Water

Enclosure configuration

CRCC - E

Model		0020	0025	0035	0038	0036	0040	0050	0060	0055
Power Supply	V/ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
PERFORMANCE										
Total cooling capacity gross	(1) kW	20,4	26,1	31,2	48,8	26,8	55,7	60,0	74,7	60,7
Sensible cooling capacity gross	(1) kW	20,4	26,1	31,2	48,8	26,8	55,7	60,0	74,7	60,7
Fans power input	(1) kW	0,53	0,69	0,87	1,70	0,87	2,87	2,18	2,68	2,67
SHR	(2)	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
Fluid flow	(1) l/s	0,82	1,04	1,25	1,95	1,07	2,22	2,40	2,98	2,42
Total pressure drop (Coil + Valve)	(1) kPa	14,3	22,5	31,5	101	60,4	94,4	41,5	62,5	69,0
FANS										
Fans type		EC FAN	EC FAN	EC FAN	EC FAN	EC FAN	EC FAN	EC FAN	EC FAN	EC FAN
Quantity	N°	3	4	5	5	5	2	2	3	3
Air flow	(3) m³/h	2520	3360	4200	6500	4200	9500	8800	12000	10500
NOISE LEVEL										
Sound Power	dB(A)	84	85	86	82	86	87	84	82	82
Sound Pressure	(4) dB(A)	64	65	66	62	66	67	64	62	62
SIZE AND WEIGHT										
A	(3) mm	300	300	300	300	300	600	600	600	600
B	(3) mm	1200	1200	1200	1200	1200	1200	1200	1200	1200
H	(3) mm	2085	2085	2085	2085	2085	2085	2085	2085	2085
Weight	(3) kg	200	202	205	205	215	260	265	272	280

Notes:

1 Indoor conditions (in) 46°C - R.H. 16%; Water temperature (in/out) 14°C/20°C; ESP= 0Pa.

2 SHR = Sensible cooling capacity gross / Total cooling capacity gross.

3 Unit in standard configuration/execution, without optional accessories.

4 Average sound pressure level, at a distance of 2m, for units in a free field on a reflecting surface.

The average sound pressure level is calculated based on the sound power level measured in accordance with ISO 3744.



CRC LEGACY

CRCD Dual Fluid

R HFC R410A

EC FAN

COOLING

SCROLL

In-row configuration

Enclosure configuration

CRCD - I with condensing unit

CRCD - E with condensing unit

Model			0051	0071	0051	0071
Power Supply	V/ph/Hz		230/1/50	230/1/50	230/1/50	230/1/50
PERFORMANCE						
Total cooling capacity gross	(1)	kW	9,53	17,7	12,1	22,6
Sensible cooling capacity gross	(1)	kW	9,53	17,7	12,1	22,6
SHR			1,00	1,00	1,00	1,00
PERFORMANCE (CW)						
Total cooling capacity gross	(2)	kW	10,9	14,0	12,7	16,7
Sensible cooling capacity gross	(2)	kW	10,2	14,0	12,7	16,7
FANS						
Air flow		m³/h	1500	3360	1500	3360
Power Input		kW	0,32	0,69	0,33	0,69
Quantity		N°	2	4	2	4
Sound Pressure	(3)	dB(A)	58	64	58	64
SIZE AND WEIGHT						
A	(4)	mm	300	300	300	300
B	(4)	mm	1000	1000	1200	1200
H	(4)	mm	2085	2085	2085	2085
SIZE AND WEIGHT						
Dimension A	(4)	mm	900	1450	900	1450
Dimension B	(4)	mm	420	550	420	550
Dimension H	(4)	mm	1240	1200	1240	1200

CRCD - I

Notes:

1 Indoor conditions (in) 35 °C U.R. 27%; Outdoor air temperature 35 °C.

2 Indoor conditions (in) 35 °C U.R. 27%; Water temperature (in/out) 10/15 °C.

3 Average sound pressure level, at a distance of 2m, for units in a free field on a reflecting surface.

The average sound pressure level is calculated based on the sound power level measured in accordance with ISO 3744.

4 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain HFC R410A [GWP₁₀₀ 2088] fluorinated greenhouse gases.

CRCD - E

Notes:

1 Indoor conditions (in) 46 °C U.R. 16%; Outdoor air temperature 35 °C.

2 Indoor conditions (in) 46 °C U.R. 16%; Water temperature (in/out) 14/20 °C.

3 Average sound pressure level, at a distance of 2m, for units in a free field on a reflecting surface.

The average sound pressure level is calculated based on the sound power level measured in accordance with ISO 3744.

4 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain HFC R410A [GWP₁₀₀ 2088] fluorinated greenhouse gases.

CRCF Free cooling

			In-row configuration		Enclosure configuration	
			CRCF - I with condensing unit		CRCF - E with condensing unit	
Model			0051	0071	0051	0071
Power Supply	V/ph/Hz		230/1/50	230/1/50	230/1/50	230/1/50
Refrigerant			R410A	R410A	R410A	R410A
No. Circuits	N°		1	1	1	1
PERFORMANCE						
Total cooling capacity gross	(1)	kW	11,1	14,6	12,8	17,4
Sensible cooling capacity gross	(1)	kW	10,3	14,6	12,8	17,4
SHR			0,93	1,00	1,00	1,00
EER (total)		kW/kW	4,35	4,69	4,74	5,45
FANS						
Air flow		m³/h	1500	3360	1500	3360
Power Input		kW	0,32	0,69	0,33	0,69
Quantity		N°	2	4	2	4
Sound Pressure	(3)	dB(A)	59	64	58	64
SIZE AND WEIGHT						
A	(4)	mm	300	300	300	300
B	(4)	mm	1000	1000	1200	1200
H	(4)	mm	2085	2085	2085	2085
SIZE AND WEIGHT						
Dimension A	(4)	mm	1450	1450	1450	1450
Dimension B	(4)	mm	550	550	550	550
Dimension H	(4)	mm	1200	1700	1200	1700

CRCF - I

Notes:

1 Indoor conditions (in) 35 °C U.R. 27%; Condensing water 30/35 °C.

2 Indoor conditions (in) 35 °C U.R. 27%; Input water FC 10 °C.

3 Average sound pressure level, at a distance of 2m, for units in a free field on a reflecting surface.

The average sound pressure level is calculated based on the sound power level measured in accordance with ISO 3744.

4 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain HFC R410A [GWP₁₀₀ 2088] fluorinated greenhouse gases.

CRCF - E

Notes:

1 Indoor conditions (in) 46 °C U.R. 16%; Condensing water 30/35 °C.

2 Indoor conditions (in) 46 °C U.R. 16%; Input water FC 14 °C.

3 Average sound pressure level, at a distance of 2m, for units in a free field on a reflecting surface.

The average sound pressure level is calculated based on the sound power level measured in accordance with ISO 3744.

4 Unit in standard configuration/execution, without optional accessories.

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CRC LEGACY

CRCX ROW Direct Expansion

Model			25 B6 BF	40 B6 BF
Power Supply			400/3+N/50	400/3+N/50
PERFORMANCE				
Total cooling capacity gross	(1)	kW	23,5	37,1
Sensible cooling capacity gross	(1)	kW	23,5	36,7
Total power input (Comp.+fans)	(1)	kW	5,27	10,1
SHR	(2)	kW/kW	0,99	0,99
FANS				
Fans type			EC RADIAL	EC RADIAL
Quantity	(3)	N°	4	4
Air flow		m³/h	5800	9400
NOISE LEVEL				
Sound Power		dB(A)	64	76
Sound Pressure	(4)	dB(A)	44	56
SIZE AND WEIGHT				
A	(3)	mm	1200	1200
B	(3)	mm	600	600
H	(3)	mm	2000	2000
Weight	(3)	kg	290	290
SIZE AND WEIGHT				
Dimension A		mm	1400	1600
Dimension B		mm	665	665
Dimension H		mm	1027	1027
Weight		kg	120	153

Notes:

1 Indoor conditions (in) 35°C - R.H. 27%; Outdoor air temperature 35°C; ESP= 0Pa.

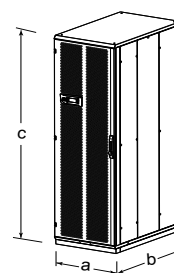
2 SHR = Sensible cooling capacity gross / Total cooling capacity gross.

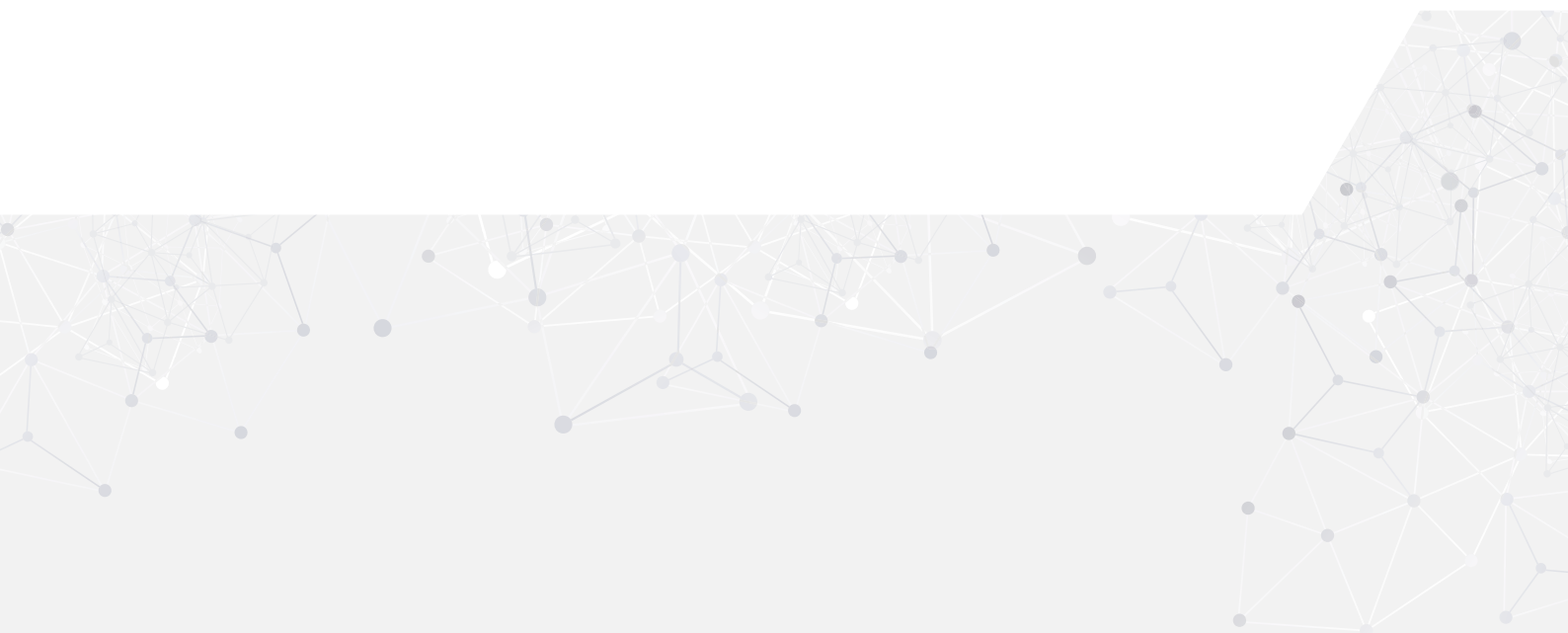
3 Unit in standard configuration/execution, without optional accessories.

4 Average sound pressure level, at a distance of 2m, for units in a free field on a reflecting surface.

The average sound pressure level is calculated based on the sound power level measured in accordance with ISO 3744.

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**“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



Climaveneta 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 Bretonneau - France

RTE - Réseau

Transport Electricité

Cooling capacity: 312 kW

Installed machines: 12x Chilled water rack cooler units



2016 Glasglow – Great Britain

SLD Hillington

Air flow: 12000 m³

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





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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