

SOME OTHER UNITS AVAILABLE FROM OUR PREMIUM LINE

QBE



LIQUID CHILLERS
FROM 2 TO 25 KW

CDC



DRYCOOLER
FROM 300 TO 1200 KW

CWE/HWE



LIQUID CHILLERS/HEAT PUMPS
FROM 13 TO 140 KW

CWB/CWB FC



LIQUID CHILLERS
FROM 80 TO 570 KW



FRIULAIR[®]

Chillers

via Cisis, 36 - 33052 Cervignano del Friuli (Ud) Italy
Tel. +39 0431 939416 - Fax. +39 0431 939419
friulair@friulair.com - www.friulair.com

MADE IN ITALY

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MWC

WATER COOLED MODULAR CHILLERS

from 21 to 115 kW (up to 575 kW in parallel)

MWC



DESCRIPTION

The MWC is a modular water cooled chiller with scroll compressors and brazed plates heat exchanger.

The range includes 7 models with cooling capacities from 21 to 115 kW and the possibility of connecting up to 5 units in parallel, to reach a total cooling capacity of 575 kW.

Thanks to its modular design, the MWC chiller can match existing and future capacity requirements simply adding modules.

It can also be field-assembled in limited-access mechanical rooms, standard doorways and onto typical freight elevators.

These are their main characteristics: compact size, redundant operation, manoeuvrability, efficiency, reliability and serviceability.

FRAME AND CABINET COVERING

All frame and cabinet cover material is made of galvanized steel, powder coated RAL 7035. All fasteners are either stainless steel or electro-galvanized.

ENERGY EFFICIENCY

The modular and water cooled configuration guarantees better EER and SEER ratings than those offered by normal air-cooled chillers.

GREEN SOLUTION

The use of plate heat exchangers and the modular solution of the units reduce the amount of refrigerant charge. Additionally, the R410A (Ozone friendly) refrigerant, is able to provide superior performance comparing to the most other synthetic refrigerants.

COMPRESSORS

MWC chillers use single or twin scroll hermetic compressors.

Scroll compressors are the highest technological level on this product range; they are noted for reliability and efficiency through their widespread use in the air conditioning sector. The scroll compressor has the additional benefits of quiet operations, no vibration and the ability to adsorb liquid returns.

Compressors are mounted on rubber anti-vibration blocks to reduce noise even further.

They are also protected by an electronic device controlling phase sequences to avoid any contrary rotation.

EVAPORATOR AND CONDENSER

With stainless steel brazed plates, compact in size and really efficient. The electronic control's anti-freeze function monitors the evaporator's outlet water temperature. A differential pressure switch protects the evaporator against lack of water. A stainless steel filtration mesh is factory installed on the inlet of evaporator plate.

ELECTRICAL PANEL

Complying with EN 60204 CE, with door lock disconnecter (blocks access to the control panel when it is live) and watertight door to access electronic control.

Includes circuit breaker protectors for compressors and pump, contactors, autotransformers, compressor rotation direction control devices; panel wires are numbered.

OPTIONS:

Automatic water bypass valve (evaporator side)	[1]	BA
Evaporator side P3 pump	[2]	PE3
Condenser side P3 pump	[2]	PC3
Water condensing control		CCW
Mechanical hot gas bypass valve	[2]	VBM
Panels kit		FT
Wheels kit		FW
Stainless steel threaded water connections kit (GAS) for single installation		WC2I
Hydraulic shut-off valve kit		VSI
Remote Panel Kit		ER
Wooden crate		PWC

AVAILABLE OPTIONS FOR MODULAR UNITS (2 or more MWC):

Stainless steel In/out water manifold kit	WCM
Manifold spacers kit	WCD
Manifold insulation kit condensation water	CMI
Spacers insulation kit condensation water	CDI
Closing plugs kit	WCT
3" Stainless steel threaded water connections kit (GAS) for multiple installation	WCM2I
Sequencer kit	EVG
RS485 Isolator	ISL



[1] Available only for installations of single MWC equipped with evaporator pump.
[2] Available only for MWC 021÷042

PERFORMANCES [1]	MWC	021	041	042	053	075	100	140
Cooling capacity	[kW]	16.43	33.88	33.32	43.03	58.44	75.74	114.96
Compressors power input	[kW]	4.16	8.03	8.38	10.10	13.84	17.50	26.98
Total absorbed current	[A]	7.66	13.23	15.41	17.31	22.52	28.95	44.90
Energy efficiency (pump excluded)	EER	3.95	4.22	3.98	4.26	4.22	4.33	4.26
Seasonal energy performance ratio [*]	SEER	5.20	5.42	6.20	5.37	6.09	6.20	6.04
Evaporator water flow	[l/h]	2 826	5 828	5 730	7 402	10 051	13 027	19 773
Evaporator and filter pressure drop	[kPa]	46	47	46	41	34	34	38
Condenser water flow	[l/h]	3 541	7 209	7 172	9 138	12 432	16 037	24 414
Condenser pressure drop	[kPa]	70	70	69	65	50	50	55

ELECTRICAL DATA [2] [3]

Maximum power input	[kW]	6.93	12.79	13.70	16.61	22.82	28.57	44.20
Maximum absorbed current	[A]	11.90	20.26	23.80	26.75	35.88	45.44	70.40
Starting current	[A]	90.00	141.00	101.90	176.00	141.90	167.70	247.20
Power supply	[V/Ph/Hz]	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
IP protection degree	---	IP54	IP54	IP54	IP54	IP54	IP54	IP54

TECHNICAL DATA

N° of compressors	[#]	1	1	2	1	2	2	2
N° of refrigerant circuits	[#]	1	1	1	1	1	1	1
Water connections size (Grooved)	[inch]	1"	1 1/2"	1 1/2"	1 1/2"	2"	2"	2"
Width	[mm]	870	870	870	870	870	870	870
Depth	[mm]	1 200	1 200	1 200	1 200	1 220	1 220	1 220
Height	[mm]	1 110	1 110	1 110	1 110	1 190	1 190	1 190
Weight (empty)	[kg]	190	210	225	235	355	390	450

OPTIONS

Pump power input P3 – evaporator	[kW]	1.45	1.50	1.50	n.a.	n.a.	n.a.	n.a.
Pump absorbed current P3 – evaporator	[A]	2.60	3.40	3.40	n.a.	n.a.	n.a.	n.a.
P3 pump available pressure – evaporator	[kPa]	253.00	373.50	376.00	n.a.	n.a.	n.a.	n.a.
Pump power input P3 – condenser	[kW]	1.45	1.50	1.50	n.a.	n.a.	n.a.	n.a.
Pump absorbed current P3 – condenser	[A]	2.60	3.40	3.40	n.a.	n.a.	n.a.	n.a.
P3 pump available pressure – condenser	[kPa]	220.00	332.00	335.00	n.a.	n.a.	n.a.	n.a.

[*] Data reported here are in accordance with European Regulation (EU) 2016/2281 for eco-design requirements of cooling products and high temperature process chillers.

[1] Data referred to: evaporator water temp. in/out: 12/7°C - condenser water temp. in/out: 35/40°C

[2] Data referred to unit without pumps

[3] Data related to most heavy condition allowed, without the intervention of the safety devices

n.a. Not Available

MICROPROCESSOR CONTROLLER

Each machine has an independent electronic panel to control and optimize all MWC chiller components and functions. Then, the same controller can be easily connected to a serial chain from the Master Panel (EVG option), to ensure the best performance of the modular system, with minimal field wiring. A maximum of 5 units can be connected in parallel and supervised by our Sequencer. An RS485 connection is available with native Modbus communication.



User interface of the sequencer

Electronic control on the MWC machine