



Indoor unit for the production of chilled water featuring semihermetic screw compressors optimized to operate with low compression ratio and R513A, shell and tubes evaporator designed by Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. and shell and tube condenser and electronic expansion valve. Base and supporting structure is made of polyester painted galvanized steel. Eurovent certification. The unit results extremely compact, thanks to the peculiar construction layout, without base frame and panels, and extremely flexible to easily adapts itself to different thermal load conditions thanks to the precise thermoregulation. The high performance's level is achieved thanks to the accurate sizing of all internal components.

Control



Electronic control W3000TE

W3000TE controller offers feature a large format keyboard with wide LCD display in order to ensure an easy access to the machine setup and a complete view of unit's status. The assessment and intervention on the unit is managed through a multi-level menu, with selectable user's language. The led icons immediately show the operating status of the circuits. As alternative, the innovative KIPLink user interface allows one to operate on the unit directly from the smartphone or tablet. Complete alarm management system is available, with the "black-box" and the alarm history display functions. Optional proprietary devices can perform the adjustment of the resources in systems made of several units. Consumption metering and performance measurement are possible, and supervision can be easily developed via proprietary devices or the integration in third party systems by means of the most common protocols as ModBus, Bacnet, Bacnet-over-IP, LonWorks.

Compatibility with the remote keyboard managing up to 8 units. The programmable timer manages a weekly schedule organised into time bands (up to 10 daily time bands associated with different operating set points) to optimise unit performance by minimising power consumption during periods of inactivity. The regulation operates on the water circuits featuring the step-wise regulation referred to the return water temperature with proportional logic. Optionally (VPF package), capacity modulation can be integrated with hydraulic flow modulation, thanks to inverter-driven pumps and to specific resources for the hydraulic circuit.

Refrigerant



Configurations

- | | |
|---|---|
| - Basic function | R Total condensing heat recovery function |
| D Partial condensing heat recovery function | |

Features

LOW GWP REFRIGERANT

New generation refrigerant R513A, with reduced greenhouse effect in comparison with traditional HFC refrigerants (Global Warming Potential GWP of R513A = 572, GWP of R134a = 1300 as per IPCC rev. 5th) and zero impact on the ozone layer. Not flammable (ASHRAE 34, ISO 817: class A1).

ErP READY

Thanks to the high level of efficiency at part load, the unit can meet and exceed the minimum energy efficiency threshold rated by the Seasonal Energy Efficiency Ratio SEER, in accordance with the eco-sustainable design requirements for all products using energy. For this reason, the unit represents the best choice for all the hydronic installations on the residential and commercial air conditioning systems.

MAXIMUM COMPACTNESS

Maximum compactness to achieve a very high flexibility in the design process and installation operations, offering a premium solution in case of reduced clearances or when retrofitting existing installations.

ELECTRONIC EXPANSION VALVE SUPPLIED STANDARD

The electronic expansion valve brings several benefits especially in case of variable thermal load conditions and source temperature. It improves the efficiency of the unit and reduces power consumption, and allows a faster ramp-up time and wider operating limits.

ADAPTABILITY

Adaptability at the building's cooling request thanks to the continuous capacity regulation, assured by sophisticated control's logic.

Accessories

- VPF (Variable Primary Flow) system
- Several devices for condensation's control
- Set-up for remote connectivity with ModBus, Echelon, Bacnet, Bacnet over-IP.
- Touch Screen visual display
- KIPLink user interface
- Kit HWT, High Water Temperature

FX-W-G05			0551	0651	0751	0851	0951	1102
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	124,3	140,5	166,3	198,2	221,7	252,4
Total power input	(1)	kW	25,50	28,41	35,57	40,52	46,10	51,04
EER	(1)	kW/kW	4,875	4,947	4,671	4,894	4,809	4,949
ESEER	(1)	kW/kW	5,970	5,950	5,960	5,940	5,930	6,320
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	123,9	140,1	165,8	197,5	220,8	251,4
EER	(1)(2)	kW/kW	4,710	4,780	4,510	4,720	4,630	4,770
ESEER	(1)(2)	kW/kW	5,530	5,510	5,480	5,460	5,440	5,730
Cooling energy class			B	B	C	B	C	B
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Ambient refrigeration								
Prated,c	(7)	kW	124	140	166	198	221	251
SEER	(7)(8)		5,37	5,37	5,36	5,40	5,35	5,64
Performance ηs	(7)(9)	%	207	207	206	208	206	218
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	5,944	6,719	7,954	9,479	10,60	12,07
Pressure drop	(1)	kPa	19,8	19,7	27,6	33,0	41,2	41,0
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION								
Water flow	(1)	l/s	7,133	8,045	9,611	11,37	12,75	14,45
Pressure drop	(1)	kPa	22,1	25,9	31,0	27,0	26,5	22,7
REFRIGERANT CIRCUIT								
Compressors nr.		N°	1	1	1	1	1	2
No. Circuits		N°	1	1	1	1	1	2
Refrigerant charge		kg	24,0	34,0	32,0	59,0	57,0	47,0
NOISE LEVEL								
Sound Pressure	(3)	dB(A)	75	75	76	76	76	78
Sound power level in cooling	(4)(5)	dB(A)	92	92	93	93	93	95
SIZE AND WEIGHT								
A	(6)	mm	2400	2600	2700	3000	3000	3000
B	(6)	mm	920	920	950	960	960	1100
H	(6)	mm	1500	1500	1500	1500	1500	1500
Operating weight	(6)	kg	1050	1110	1280	1450	1460	1710

Notes

- 1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
- 2 Values in compliance with EN14511
- 3 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
- 4 Sound power on the basis of measurements made in compliance with ISO 9614.
- 5 Sound power level in cooling, indoors.
- 6 Unit in standard configuration/execution, without optional accessories.
- 7 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
- 8 Seasonal energy efficiency ratio
- 9 Seasonal space cooling energy efficiency

The units highlighted in this publication contain R513A [GWP₁₀₀ 631] fluorinated greenhouse gases.
Certified data in EUROVENT

FX-W-G05			1302	1402	1502	1602	1752
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	285,1	311,9	345,2	366,2	400,6
Total power input	(1)	kW	56,86	64,04	71,26	76,05	86,66
EER	(1)	kW/kW	5,011	4,873	4,842	4,812	4,621
ESEER	(1)	kW/kW	6,240	6,220	6,120	6,110	6,090
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	284,1	310,7	344,2	365,1	399,2
EER	(1)(2)	kW/kW	4,840	4,690	4,690	4,660	4,480
ESEER	(1)(2)	kW/kW	5,670	5,630	5,600	5,630	5,580
Cooling energy class			B	B	B	B	C
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Ambient refrigeration							
Prated,c	(7)	kW	284	311	344	365	399
SEER	(7)(8)		5,62	5,58	5,61	5,61	5,57
Performance ηs	(7)(9)	%	217	215	216	217	215
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	13,63	14,91	16,51	17,51	19,16
Pressure drop	(1)	kPa	38,5	46,1	32,0	36,0	43,0
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION							
Water flow	(1)	l/s	16,29	17,90	19,83	21,06	23,19
Pressure drop	(1)	kPa	26,6	29,3	33,0	28,9	24,8
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2
Refrigerant charge		kg	68,0	66,0	63,0	91,0	116
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	77	78	78	78	78
Sound power level in cooling	(4)(5)	dB(A)	95	96	96	96	96
SIZE AND WEIGHT							
A	(6)	mm	3100	3100	3200	3200	3200
B	(6)	mm	1100	1100	1100	1200	1200
H	(6)	mm	1500	1500	1600	1600	1600
Operating weight	(6)	kg	1820	1990	2280	2430	2590

Notes

- Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
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Dimensional drawing

