CHILLERS

FX-W 0551 - 1752

Water cooled chiller
124-401 kW

Configurations

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

Features

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.

Accessory

- 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

Indoor unit for the production of chilled water featuring semihermetic screw compressors optimized to operate with low compression ratio and R134a, 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.

Controls

Electronic control W3000TE

The brand new W3000TE controller offers advanced functions and algorithms. The LARGE keyboard with a large format and the wide LCD display favour an easy and safe 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. In addition to or as an alternative at Large Keyboard, the KIPlink - Keyboard In Your Pocket - is the innovative user interface based on WiFi technology that allows one to operate on the unit directly from the smartphone or tablet.
The diagnostics comprises a complete alarm management system, with "black box" (via PC) and alarm log functions (via display or also PC) for enhanced analysis of the unit operation.
Optional proprietary devices can perform the adjustment of the resources in systems made of several units. Consumption metering and performance measurement are possible as well. 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 to optimise unit performance by minimising power consumption during periods of inactivity. Up to 10 daily time bands can be associated with different operating set points. 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.

FX-W			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	140	166	198	222	252
Total power input	(1)	kW	24,5	27,3	34,1	38,9	44,2	49,0
EER	(1)	kW/kW	5,07	5,15	4,88	5,10	5,02	5,15
ESEER	(1)	kW/kW	5,98	6,02	5,95	6,01	5,94	6,34
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	124	140	166	198	221	251
EER	(1)(2)	kW/kW	4,90	4,97	4,69	4,90	4,82	4,96
ESEER	(1)(2)	kW/kW	5,53	5,57	5,48	5,51	5,44	5,75
Cooling energy class			B	B	B	B	B	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)		5,38	5,43	5,38	5,46	5,37	5,67
Performance ηs	(7)(9)	%	207	209	207	211	207	219
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	5,94	6,72	7,95	9,48	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	7,09	7,99	9,55	11,29	12,67	14,36
Pressure drop	(1)	kPa	21,8	25,6	30,6	26,6	26,2	22,4
REFRIGERANT CIRCUIT								
Compressors nr.		N°	1	1	1	1	1	2
No. Circuits		N°	1	1	1	1	1	2
Refrigerant charge		kg	22,0	32,0	30,0	56,0	54,0	44,0
NOISE LEVEL								
Sound Pressure	(3)	dB(A)	75	75	76	76	76	77
Sound power level in cooling	(4)(5)	dB(A)	92	92	93	93	93	95
SIZE AND WEIGHT								
A	(6)	mm	2600	2600	2600	3000	3000	3000
B	(6)	mm	940	940	940	940	940	1100
H	(6)	mm	1500	1500	1500	1500	1500	1600
Operating weight	(6)	kg	1090	1150	1320	1470	1470	1770

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 EN14511-3:2013.
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 Seasonal energy efficiency of the cooling environment [REGULATION (EU) N. 2016/2281]
8 Seasonal space heating energy index
9 Seasonal energy efficiency of the space cooling
The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.

FX-W			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	312	345	366	401
Total power input	(1)	kW	54,6	61,5	68,4	73,0	83,2
EER	(1)	kW/kW	5,22	5,07	5,05	5,02	4,81
ESEER	(1)	kW/kW	6,31	6,30	6,19	6,12	6,09
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	284	311	344	365	399
EER	(1)(2)	kW/kW	5,03	4,88	4,88	4,85	4,66
ESEER	(1)(2)	kW/kW	5,75	5,70	5,69	5,63	5,59
Cooling energy class			B	B	B	B	B
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Ambient refrigeration							
Prated,c	(7)	kW	284	311	344	365	399
SEER	(7)(8)		5,70	5,65	5,70	5,63	5,59
Performance ηs	(7)(9)	%	220	218	220	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	16,18	17,79	19,70	20,92	23,03
Pressure drop	(1)	kPa	26,3	28,9	32,5	28,5	24,5
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2
Refrigerant charge		kg	64,0	62,0	60,0	86,0	110
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	3000	3000	3200	3200	3200
B	(6)	mm	1100	1100	1200	1200	1200
H	(6)	mm	1600	1600	1700	1700	1700
Operating weight	(6)	kg	1880	2040	2320	2450	2590

Notes:
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Certified data in EUROVENT