CHILLERS

FX-W-G04

Water cooled chiller

0551 - 2002 93,17-373,4 kW

Indoor unit for the production of chilled water featuring semihermetic screw compressors optimized to operate with low compression ratio, refrigerant HFO R1234ze, 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

R1234ze

Configurations

- Basic function
- R Total condensing heat recovery function

Features

HFO REFRIGERANT
4th generation refrigerant HFO 1234ze, with negligible greenhouse effect in comparison with traditional HFC refrigerants (Global Warming Potential GWP of HFO 1234ze < 1, GWP of R134a = 1300 as per IPCC rev. 5th) and zero impact on the ozone layer.

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-G04			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	93,17	103,0	125,9	143,6	166,0	188,3
Total power input	(1)	kW	18,52	20,89	26,21	29,65	33,88	37,05
EER	(1)	kW/kW	5,038	4,928	4,805	4,851	4,897	5,089
ESEER	(1)	kW/kW						
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	92,90	102,6	125,5	143,1	165,5	187,7
EER	(1)(2)	kW/kW	4,840	4,730	4,650	4,670	4,720	4,910
ESEER	(1)(2)	kW/kW	-	-	-	-	-	-
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	92,9	103	126	143	166	188
SEER	(7)(8)		5,45	5,40	5,38	5,44	5,46	5,64
Performance ηs	(7)(9)	%	210	208	207	209	210	218
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	4,455	4,927	6,020	6,866	7,936	9,007
Pressure drop	(1)	kPa	23,3	28,5	20,3	27,6	27,7	30,7
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION								
Water flow	(1)	l/s	5,320	5,902	7,242	8,249	9,517	10,74
Pressure drop	(1)	kPa	19,8	19,2	23,0	27,2	29,7	20,2
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	21,0	24,0	35,0	35,0	44,0
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	2400	2700	2700	2700	3000
B	(6)	mm	945	945	945	945	945	1100
H	(6)	mm	1500	1500	1500	1500	1500	1500
Operating weight	(6)	kg	930	940	1210	1290	1310	1690

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 HFC HFO-1234ze [GWP_{100} 7] fluorinated greenhouse gases.
Certified data in EUROVENT

CHILLERS

FX-W-G04

Water cooled chiller

0551 - 2002 93,17-373,4 kW

FX-W-G04			1302	1402	1502	1702	1902	2002
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	212,0	232,0	259,7	291,8	331,8	373,4
Total power input	(1)	kW	41,78	47,06	52,41	59,28	67,77	75,44
EER	(1)	kW/kW	5,072	4,926	4,956	4,921	4,894	4,952
ESEER	(1)	kW/kW						
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	211,3	231,2	258,9	290,8	330,7	371,9
EER	(1)(2)	kW/kW	4,910	4,760	4,790	4,750	4,720	4,770
ESEER	(1)(2)	kW/kW	-	-	-	-	-	-
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	211	231	259	291	331	372
SEER	(7)(8)		5,73	5,66	5,68	5,74	5,72	5,56
Performance ηs	(7)(9)	%	221	218	219	222	221	214
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	10,14	11,09	12,42	13,96	15,87	17,86
Pressure drop	(1)	kPa	30,5	36,5	31,6	39,9	38,8	49,2
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION								
Water flow	(1)	l/s	12,09	13,29	14,87	16,72	19,03	21,38
Pressure drop	(1)	kPa	20,1	21,7	24,1	27,9	29,6	29,0
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2
Refrigerant charge		kg	46,0	44,0	48,0	55,0	55,0	69,0
NOISE LEVEL								
Sound Pressure	(3)	dB(A)	78	78	78	78	78	79
Sound power level in cooling	(4)(5)	dB(A)	95	96	96	96	96	98
SIZE AND WEIGHT								
A	(6)	mm	3000	3100	3100	3100	3100	3640
B	(6)	mm	1100	1100	1100	1100	1100	1240
H	(6)	mm	1500	1500	1500	1500	1500	2050
Operating weight	(6)	kg	1700	1860	2030	2170	2190	3270

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Dimensional drawing