CHILLERS

i-BX	004M - 035T
i-NX	0151P - 0502P
NX	0152P - 0812P
NX	0614P - 1214P
NX	0614T - 1214T
NECS	1314 - 3218
FX	0751 - 1801
FX	1502 - 7223
FX-G05	0751 - 1801
FX-G05	1502 - 7223
FX HFO	1502 - 7823
i-FX-G01	2202 - 7223
i-FX-G04	2202 - 7823
i-FX-G05	2202 - 7223
i-FX (1+i)	2602 - 5403
TECS2	0211 - 1154
TECS2-G05	0211 - 1154
TECS2 HFO	0351 - 1053
NX-C	0072 - 1204
NX-W	0122 - 1204
FX-W	0551 - 1752
FOCS2-W	1301 - 9604
FOCS3-W	0551 - 4752
FX-W-G04	0551 - 2002
FX-W-G05	0551 - 1752
FOCS2-W-G05	1301 - 9604
FOCS3-W-G05	0551 - 4752
i-FX-W (1+i)	1402 - 4652
i-FX-W (1+i)-G05	1402 - 4652
TECS2-W HFO	0351 - 1414
TX-W	1A00 - 6D00
TX-W-G05	1A00 - 6D00
HE	0011 - 0121
NECS-ME	0152 - 1604
FOCS-ME	0401 - 1902
FOCS-ME	1001 - 9604
TECS-FC	0211 - 1204
TECS-FC-G05	0211 - 1204
TECS-EFC	0211 - 1204

CHILLERS

i-BX

004M - 035T 4,300-35,10 kW

Chiller, air source for outdoor installation

Outdoor unit for the production of chilled/hot water with variable speed (Inverter Driven) Scroll compressors, optimized for R410A in a single-circuit configuration, axial-flow fans, condensing coil with copper tubes and aluminum fins, plate heat exchanger on water side and electronic expansion valve as standard equipment.
Flexible and reliable unit; it easily adapts itself to different thermal load conditions thanks to the precise temperature control together with the use of inverter technology. The high performance's level, both full and partial load, is achieved thanks to the accurate unit's design and to the use of variable speed (inverter) motor.
The chillers i-BX are used in many applications, even completely different from each other, suitable for comfort and industrial processes, without making any compromises.

Control

NADISYSTEM
The keypad features function controls and a complete LCD display for viewing data and activating the unit, via a multilevel menu. The remote keyboard kit wired indoor and outdoor temperature sensors allow dynamic control of delivery temperature water, optimizing comfort in the room and increasing the energy efficiency.
The electronic board allows you to manage:
-outdoor air temperature sensor on board for climatic curve
-the built-in clock can be used to create an operating profile containing time bands for space cooling
-night mode to limit the noise level of the units. Noise level is reduced limiting the maximum speed of the compressor and fans.
-up to 4 units in cascade (with the accessories N-CM)

Refrigerant

R410A

Versions

B Basic

Features

ErP READY
The highest level of efficiency at part load, thanks to the inverter technology, can meet and exceed the minimum seasonal efficiency for cooling, SEER, according with the eco-sustainable design requirements for all products using energy. For this reason, the unit represents the best choice for all the hydronic application on the residential and commercial markets. The unit is suitable also for industrial market, satisfying the seasonal energy performance ratio SEPR.

SYSTEM EFFICIENCY
The unit is designed as a system: all components are regulated using proprietary control's logic for the highest efficiency.

HIGH EFFICIENCY AT PARTIAL LOAD
High seasonal efficiency in both heating and cooling mode, using DC inverter technology to modulate compressor operation and deliver the exact amount of energy based on the actual needs of the building. High efficiency for low energy consumption during the operating hours.

HIGH EFFICIENCY COMPONENTS
In terms of improving performance and reducing power consumption, the electronic thermostatic valve is an important component that maximises system efficiency, same for the choise the hydronic kit with inverter water pump and the modulating the fans speed as standard equipments.

WIDE OPERATING RANGE
Full load operation is ensured with outdoor air temperature up to 46°C during summer and down to -10°C of outdoor air temperature during winter. Production of evaporator leaving water temperature from -8°C to 20°C.

INTEGRATED HYDRONIC MODULE
The integrated hydronic include all the water circuit components (anti-freeze electrical heater on plate heat exchanger, air vents, flow switch, water filter, safety valve, EC water pumps, expansion tank) so as to optimize installation space, times and costs.

Accessories

- Remote keyboard
- Cascade management kit
- Copper-Aluminum heat exchanger coils with epoxy treatment
- Copper-Copper heat exchanger coils
- Buffer tank
- Serial card RS485 for ModBus
- Rubber anti-vibration mounting kit

i-BX M			004M	006M	008M	010	013
Power supply		V/ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	4,300	6,107	8,100	10,60	12,90
Total power input	(1)	kW	1,555	2,120	2,820	3,640	4,740
EER	(1)	kW/kW	2,774	2,882	2,872	2,912	2,722
ESEER	(1)	kW/kW	4,200	4,360	4,700	4,290	4,550
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	4,300	6,110	8,110	10,60	12,90
EER	(1)(2)	kW/kW	2,820	2,920	2,930	2,920	2,740
ESEER	(1)(2)	kW/kW	4,530	4,600	5,080	4,340	4,690
Cooling energy class			C	B	B	B	C
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Ambient refrigeration							
Prated,c	(7)	kW	4,30	6,11	8,11	10,6	12,9
SEER	(7)(8)		4,38	4,43	4,93	4,39	4,78
Performance ηs	(7)(9)	%	172	174	194	172	188
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow		l/s	0,206	0,292	0,387	0,507	0,617
Available unit's head	(1)	kPa	50,7	38,1	61,8	55,6	55,3
REFRIGERANT CIRCUIT							
Compressors nr.		N°	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	1,45	2,10	3,55	3,60	3,65
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	33	34	35	38	39
Sound power level in cooling	(4)(5)	dB(A)	64	65	66	69	70
SIZE AND WEIGHT							
A	(6)	mm	900	900	900	900	900
B	(6)	mm	370	370	420	420	420
H	(6)	mm	940	940	1240	1240	1240
Operating weight	(6)	kg	75	80	95	110	125

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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 R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

i-BX T			010T	013T	015T	020T	025T	030T	035T
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	10,70	13,30	15,50	20,60	25,00	29,80	35,10
Total power input	(1)	kW	3,640	4,740	5,440	7,200	8,690	10,00	11,84
EER	(1)	kW/kW	2,940	2,806	2,849	2,861	2,877	2,980	2,975
ESEER	(1)	kW/kW	4,360	4,570	4,140	4,120	4,260	4,150	4,290
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	10,70	13,30	15,50	20,60	25,00	29,90	35,20
EER	(1)(2)	kW/kW	2,950	2,820	2,870	2,880	2,900	3,010	3,010
ESEER	(1)(2)	kW/kW	4,420	4,690	4,200	4,200	4,360	4,270	4,390
Cooling energy class			B	C	C	C	B	B	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	10,7	13,3	15,5	20,6	25,0	29,9	35,2
SEER	(7)(8)		4,46	4,80	4,31	4,31	4,52	4,52	4,57
Performance ηs	(7)(9)	%	176	189	169	169	178	178	180
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow		l/s	0,512	0,636	0,741	0,985	1,196	1,425	1,679
Available unit's head	(1)	kPa	52,7	51,7	76,7	66,3	60,3	90,0	73,5
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	3,60	3,65	2,75	4,15	5,75	6,45	6,90
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	38	39	43	43	43	44	45
Sound power level in cooling	(4)(5)	dB(A)	69	70	74	74	75	76	77
SIZE AND WEIGHT									
A	(6)	mm	900	900	900	1450	1450	1450	1700
B	(6)	mm	420	420	420	550	550	550	650
H	(6)	mm	1240	1240	1390	1200	1700	1700	1700
Operating weight	(6)	kg	110	125	135	190	250	270	305

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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

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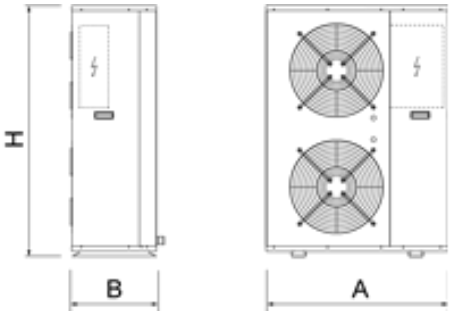
Dimensional drawing



CHILLERS

i-NX

Chiller, air source for outdoor installation

0151P - 0502P 43,88-129,3 kW

Outdoor unit for the production of chilled water with fixed speed and variable speed (Inverter Driven) Scroll compressors, optimized for R410A in a single-circuit configuration, axial-flow fans, micro-channel full-aluminum air coils and electronic expansion valve as standard equipment.
Flexible and reliable unit; it easily adapts itself to different thermal load conditions thanks to the precise temperature control together with the use of inverter technology. The high performance's level, both full and partial load, is achieved thanks to the accurate unit's design and to the use of fixed speed motor together with variable speed (inverter) motor.

Control

Electronic control W3000TE
The brand new W3000TE controller offers advanced functions and algorithms. The keypad W3000 Compact, as standard equipment, features function controls and a complete LCD display for viewing data and activating the unit, via a multilevel menu, with settable display language. In addition to or as an alternative, the KIPlink is available - 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. Using KIPlink, it is possible to turn the unit on and off, adjust the set-point, plot the main operating variables, monitor in detail the status of the refrigerant circuits, the compressors, the fans and the pumps (if present) and display and reset the possible alarms. The regulation features the continuous modulation of capacity, based on sequential adjustment + DIP referring to the leaving water temperature (neutral zone adjustment + DIP on outlet temperature probe, for the 0151 size). Diagnostics include complete alarm management, with "blackbox" functions (via PC) and alarm log (display or PC) for best analysis of unit be haviour. The built-in clock can be used to create an operating profile containing up to 4 typical days and 10 time bands, essential for efficient programming of energy production. 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 is available with different options, using proprietary devices or by integration into third party systems using ModBus, BACnet, BACnet-over-IP and Echelon LonWorks protocols. A dedicated wall-mounted keypad can be used for remote control of all the functions. 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

R410A

Versions

- Basic
- SL Super-low noise version

Configurations

- Basic function
- D Partial condensing heat recovery function

Features

HIGH EFFICIENCY
Unit with high efficiency and reduced energy consumption, thanks to the inverter technology, contributing to lower operating costs and therefore achieving a quick return on investment.

ErP READY
Thanks to the inverter technology, the high level of efficiency at part load meets and exceeds the minimum seasonal efficiency required by the Ecodesign Directive starting from 2021.

VARIBLE PRIMARY FLOW (OPTION)
Energy saving due to variable pump speed management based on load demand and the variable flow assures the functioning of the units also with critical working conditions.

INTEGRATED HYDRONIC MODULE
The built-in hydronic module already contains the main water circuit components; it is available as option with single or twin in-line pump, for achieving low or high head, fixed or variable speed and buffer tank.

ALUMINIUM MICRO-CHANNEL HEAT EXCHANGERS
This new range of chiller uses aluminum micro-channel condensers that ensure a premium level of efficiency. This solution also allows to reduce the refrigerant charge with respect to traditional copper/aluminium coils and to reduce the weight of the unit.

WIDE OPERATING RANGE
Full load operation is ensured with outdoor air temperature up to 48°C during summer. Dedicated accessories allow the unit operation down to -20°C of outdoor air temperature during winter.
Production of evaporator leaving water temperature from -10°C to 20°C.

Accessories

- Remote control keyboard (distance to 200m and to 500m)
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Compressor power factor correction
- Soft start
- Hydronic kit available in different configurations with 1 or 2 pumps fixed speed or variable speed and buffer tank
- VPF (Variable Primary Flow) system
- EC fans with electronic DC brushless motor
- LOW NOISE KIT (only on no silenced versions)
- User Limit Control (U.L.C.) allows the safe startup of the unit in critical conditions of water and air temperature.
- Night mode is a system setting to limit maximum noise level of the unit.
- Microchannel coils with e-coating protection
- Traditional coils with copper tubes and alluminium fins, also available with prepainted fins or Fin Guard Silver protective treatment.

i-NX			0151P	0182P	0202P	0262P	0302P	0352P	0402P	0502P
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	43,88	52,86	63,14	72,07	83,83	100,9	119,7	129,3
Total power input	(1)	kW	15,72	18,79	21,36	24,95	29,15	35,20	41,92	46,84
EER	(1)	kW/kW	2,796	2,814	2,949	2,884	2,870	2,866	2,857	2,763
ESEER	(1)	kW/kW	4,560	4,550	4,510	4,540	4,510	4,660	4,580	4,530
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	43,60	52,60	62,70	71,70	83,40	100,4	119,1	128,7
EER	(1)(2)	kW/kW	2,730	2,750	2,880	2,820	2,820	2,810	2,800	2,720
ESEER	(1)(2)	kW/kW	4,270	4,190	4,170	4,230	4,240	4,360	4,270	4,250
Cooling energy class			C	C	C	C	C	C	C	C
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Ambient refrigeration										
Prated,c	(7)	kW	43,6	52,6	62,7	71,7	83,4	100	119	129
SEER	(7)(8)		4,15	4,11	4,13	4,18	4,23	4,36	4,32	4,30
Performance ηs	(7)(9)	%	163	161	162	164	166	171	170	169
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	2,098	2,528	3,020	3,446	4,009	4,824	5,726	6,181
Pressure drop	(1)	kPa	37,2	41,2	42,3	39,4	35,0	36,2	42,9	38,9
REFRIGERANT CIRCUIT										
Compressors nr.		N°	1	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1	1
Refrigerant charge		kg	7,00	7,20	8,90	9,40	9,50	12,5	12,9	13,5
NOISE LEVEL										
Sound Pressure	(3)	dB(A)	51	52	53	53	54	55	57	57
Sound power level in cooling	(4)(5)	dB(A)	83	84	85	85	86	87	89	89
SIZE AND WEIGHT										
A	(6)	mm	2000	2000	2625	2625	2625	3250	3250	3250
B	(6)	mm	1350	1350	1350	1350	1350	1350	1350	1350
H	(6)	mm	2070	2070	2070	2070	2070	2170	2170	2170
Operating weight	(6)	kg	600	660	750	780	810	1060	1070	1080

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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

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Certified data in EUROVENT

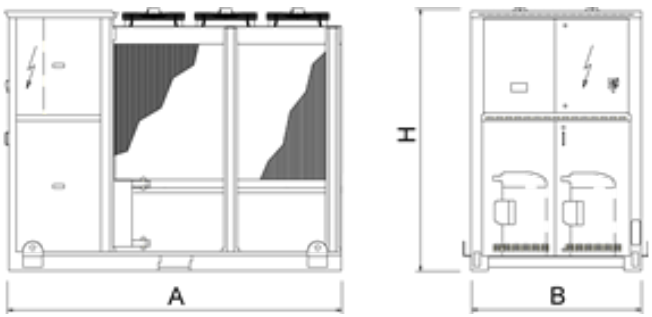
i-NX / SL			0151P	0182P	0202P	0262P	0302P	0352P	0402P	0502P
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	42,60	51,20	60,09	68,07	81,23	96,66	115,1	124,3
Total power input	(1)	kW	14,40	17,78	20,91	24,45	28,26	33,95	39,27	44,30
EER	(1)	kW/kW	2,958	2,876	2,876	2,780	2,869	2,853	2,929	2,806
ESEER	(1)	kW/kW	4,480	4,580	4,490	4,550	4,540	4,750	4,780	4,700
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	42,30	50,90	59,80	67,70	80,80	96,30	114,6	123,8
EER	(1)(2)	kW/kW	2,890	2,810	2,820	2,730	2,820	2,810	2,880	2,760
ESEER	(1)(2)	kW/kW	4,210	4,260	4,200	4,250	4,260	4,480	4,500	4,430
Cooling energy class			C	C	C	C	C	C	C	C
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Ambient refrigeration										
Prated,c	(7)	kW	42,3	50,9	59,8	67,7	80,8	96,3	115	124
SEER	(7)(8)		4,18	4,10	4,11	4,17	4,22	4,46	4,50	4,48
Performance ηs	(7)(9)	%	164	161	162	164	166	176	177	176
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	2,037	2,449	2,874	3,255	3,885	4,622	5,504	5,946
Pressure drop	(1)	kPa	35,1	38,7	38,3	35,2	32,9	33,2	39,6	36,0
REFRIGERANT CIRCUIT										
Compressors nr.		N°	1	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1	1
Refrigerant charge		kg	8,10	8,30	8,70	9,20	11,8	12,3	14,7	15,2
NOISE LEVEL										
Sound Pressure	(3)	dB(A)	45	45	46	46	47	48	50	50
Sound power level in cooling	(4)(5)	dB(A)	77	77	78	78	79	80	82	82
SIZE AND WEIGHT										
A	(6)	mm	2625	2625	2625	2625	3250	3250	3875	3875
B	(6)	mm	1350	1350	1350	1350	1350	1350	1350	1350
H	(6)	mm	2070	2070	2070	2070	2170	2170	2170	2170
Operating weight	(6)	kg	700	760	790	820	980	1090	1180	1200

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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 R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



CHILLERS

NX

Chiller, air source for outdoor installation

0152P - 0812P 39,24-227,1 kW

Outdoor unit for the production of chilled water with hermetic rotary Scroll compressors, ozone-friendly refrigerant R410A, axial-flow fans, plate heat exchanger, micro-channel full-aluminum air coils and thermostatic or electronic expansion valve, according to the model. The range is composed by units equipped with two compressors in a single-circuit configuration.

Control

Electronic control W3000 / W3000TE

The controller is available in two different versions according to the unit's model:

W3000 : electronic controller with Compact keyboard. It features an easy-to-use interface and a complete LCD display that allows consulting and intervening on the unit by means of a multi-lenguage menu, available in three languages: Italian, English and a further language among French, Spanish, German, Russian and Swedish. The alarm history display function can be enable by installing a real-time clock (optional).

W3000TE : electronic controller with Compact keyboard. It features an easy-to-use interface and a complete LCD display that allows consulting and intervening on the unit by means of a multi-language menu (19 languages are available). The diagnostics includes a complete alarm management, with the "black-box" and the alarm history display for enhanced analysis of the unit operation. 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.

Both the controllers offer advanced functions and algorithms.

The regulation is based on the patented "Quickmind" water temperature regulation logic uses self-adapting control to maintain flow temperatures and optimise performance even in low water content scenarios. As an alternative, the proportional or proportional-integral regulations are also available.

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 (up to 8 units).

The defrosting (reversible unit only) follows a proprietary self-adaptive logic, which features the monitoring of several operational parameters. This allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.

Refrigerant

R410A

Versions

K	Key efficiency, compact version	CA	Class A of efficiency
LN-K	Low Noise, Key efficiency and compact version	LN-CA	Low Noise, Class A of efficiency
SL-K	Super Low noise, Key efficiency and compact version	SL-CA	Super Low noise version, Class A of efficiency

Configurations

-	Basic function
D	Partial condensing heat recovery function

Features

CLASS A EFFICIENCY

The full range is available with the Class A efficiency rating. Thanks to the generous sizing of the heat exchangers and an accurate control of the fan speed, the CA versions grant a premium level efficiency in every noise configuration.

ALUMINIUM MICRO-CHANNEL HEAT EXCHANGERS

The full aluminium micro-channel condenser coils deliver high efficiency whilst ensuring a reduced refrigerant volume and a lower unit weight. The e-coating protection (optional) grants the highest level of resistance to corrosion in any condition, even in the most aggressive environments.

ELECTRONIC EXPANSION VALVE SUPPLIED STANDARD

The use of the electronic expansion valve generates considerable benefits, especially in cases of variable demand and different external conditions. It has been introduced into these units as a result of accurate design choices concerning the cooling circuit and the optimisation of operation in various different working conditions. The electronic expansion valve comes standard in the high-efficieny CA version, optional for the compact K versions.

WIDE OPERATING RANGE

Full load operation is ensured with outdoor air temperature up to 46°C, partial load operation is possible up to or even beyond 50°C. The unit can produce chilled water at negative temperature (down to -10°C of leaving water temperature). Dedicated accessories allow the unit operation down to -20°C of outdoor air temperature.

INTEGRATED HYDRONIC GROUP

The optional built-in hydronic module already contains the main water circuit components; it is available with single or twin in-line, for achieving both low or high head.

Accessories

- Microchannel coils with e-coating protection
- Traditional coils with copper tubes and alluminium fins, also available with prepainted fins or Fin Guard Silver protective treatment.
- Copper-Copper heat exchanger coils
- Compressor power factor correction
- Soft start
- Compressor suction and discharge valves
- High and low pressure gauges
- DVVF and DVV2F devices for low air temperature operation
- Hydronic module with 1 or 2 pumps, high or low head. Buffer tank available.
- Anti-intrusion grills

NX / K			0152P	0182P	0202P	0252P	0262P	0302P	0352P
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	39,24	44,25	51,91	58,87	64,99	77,62	88,53
Total power input	(1)	kW	13,50	15,59	18,08	20,51	23,46	26,76	31,34
EER	(1)	kW/kW	2,904	2,840	2,867	2,873	2,766	2,896	2,827
ESEER	(1)	kW/kW	4,410	4,370	4,410	4,390	4,330	4,230	4,410
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	39,00	44,00	51,60	58,60	64,70	77,20	87,90
EER	(1)(2)	kW/kW	2,850	2,780	2,800	2,820	2,720	2,840	2,760
ESEER	(1)(2)	kW/kW	4,190	4,150	4,200	4,200	4,170	4,060	4,160
Cooling energy class			C	C	C	C	C	C	C
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	39,0	44,0	51,6	58,6	64,7	77,2	87,9
SEER	(7)(8)		3,81	3,81	3,90	3,95	3,91	3,91	3,96
Performance ηs	(7)(9)	%	149	149	153	155	154	153	155
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	1,876	2,116	2,483	2,815	3,108	3,712	4,233
Pressure drop	(1)	kPa	36,3	34,1	36,3	33,4	33,2	33,9	54,1
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	5,70	6,00	6,20	8,00	8,10	9,60	10,2
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	51	51	52	52	52	53	54
Sound power level in cooling	(4)(5)	dB(A)	83	83	84	84	84	85	86
SIZE AND WEIGHT									
A	(6)	mm	1825	1825	1825	2395	2395	2395	2395
B	(6)	mm	1195	1195	1195	1195	1195	1195	1195
H	(6)	mm	1865	1865	1865	1865	1865	1865	1865
Operating weight	(6)	kg	470	480	490	540	550	570	660

NX / K			0402P	0452P	0502P	0552P	0602P	0702P
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	102,0	114,5	127,4	144,3	165,7	189,5
Total power input	(1)	kW	35,36	40,15	44,91	52,28	57,66	67,88
EER	(1)	kW/kW	2,881	2,855	2,837	2,759	2,872	2,791
ESEER	(1)	kW/kW	4,040	4,130	4,130	4,240	4,080	4,150
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	101,4	113,9	126,7	143,5	164,9	188,6
EER	(1)(2)	kW/kW	2,820	2,800	2,780	2,700	2,820	2,740
ESEER	(1)(2)	kW/kW	3,860	3,960	3,950	4,040	3,920	3,990
Cooling energy class			C	C	C	C	C	C
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Ambient refrigeration								
Prated,c	(7)	kW	101	114	127	144	165	189
SEER	(7)(8)		3,80	3,81	3,80	3,83	3,82	3,82
Performance ηs	(7)(9)	%	149	149	149	150	150	150
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	4,876	5,474	6,094	6,899	7,922	9,060
Pressure drop	(1)	kPa	49,9	51,3	49,1	52,1	49,3	49,8
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	12,2	13,5	13,8	15,4	17,7	17,8
NOISE LEVEL								
Sound Pressure	(3)	dB(A)	56	56	56	57	58	58
Sound power level in cooling	(4)(5)	dB(A)	88	88	88	89	90	90
SIZE AND WEIGHT								
A	(6)	mm	2825	2825	2825	3360	3980	3980
B	(6)	mm	1195	1195	1195	1195	1195	1195
H	(6)	mm	1980	1980	1980	1980	1980	1980
Operating weight	(6)	kg	830	870	900	980	1130	1110

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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

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Certified data in EUROVENT

0152P - 0812P 39,24-227,1 kW

NX / LN-K			0152P	0182P	0202P	0252P	0262P	0302P	0352P
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	39,26	44,35	51,70	58,76	65,52	74,65	89,94
Total power input	(1)	kW	13,62	15,78	18,51	20,36	23,15	28,31	31,06
EER	(1)	kW/kW	2,890	2,804	2,795	2,882	2,823	2,640	2,891
ESEER	(1)	kW/kW	4,500	4,440	4,410	4,380	4,390	4,220	4,260
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	39,10	44,00	51,40	58,50	65,20	74,40	89,30
EER	(1)(2)	kW/kW	2,830	2,740	2,730	2,830	2,770	2,600	2,820
ESEER	(1)(2)	kW/kW	4,280	4,220	4,200	4,190	4,210	4,080	4,010
Cooling energy class			C	C	C	C	C	D	C
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	39,1	44,0	51,4	58,5	65,2	74,4	89,3
SEER	(7)(8)		3,87	3,85	3,89	3,95	3,96	3,88	3,81
Performance ηs	(7)(9)	%	152	151	153	155	155	152	149
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	1,878	2,121	2,472	2,810	3,133	3,570	4,301
Pressure drop	(1)	kPa	36,3	34,2	36,0	33,3	33,7	31,4	55,9
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	5,80	5,80	6,80	8,30	8,40	9,20	10,9
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	47	47	47	48	48	48	51
Sound power level in cooling	(4)(5)	dB(A)	79	79	79	80	80	80	83
SIZE AND WEIGHT									
A	(6)	mm	1825	1825	2395	2395	2395	2395	2825
B	(6)	mm	1195	1195	1195	1195	1195	1195	1195
H	(6)	mm	1865	1865	1865	1865	1865	1865	1980
Operating weight	(6)	kg	480	500	540	570	570	580	780

NX / LN-K			0402P	0452P	0502P	0552P	0602P	0702P
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	99,41	112,9	125,2	139,9	162,8	179,4
Total power input	(1)	kW	35,95	39,26	44,20	52,95	58,07	70,29
EER	(1)	kW/kW	2,769	2,873	2,833	2,645	2,802	2,552
ESEER	(1)	kW/kW	4,110	4,290	4,330	4,360	4,200	4,100
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	98,80	112,3	124,5	139,2	162,0	178,6
EER	(1)(2)	kW/kW	2,710	2,810	2,770	2,600	2,750	2,510
ESEER	(1)(2)	kW/kW	3,920	4,110	4,140	4,170	4,040	3,950
Cooling energy class			C	C	C	D	C	D
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Ambient refrigeration								
Prated,c	(7)	kW	98,8	112	124	139	162	179
SEER	(7)(8)		3,80	3,89	3,89	3,94	3,87	3,81
Performance ηs	(7)(9)	%	149	153	153	155	152	150
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	4,754	5,397	5,989	6,689	7,785	8,580
Pressure drop	(1)	kPa	47,4	49,8	47,4	49,0	47,6	44,7
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	12,1	14,0	15,1	15,3	16,7	17,1
NOISE LEVEL								
Sound Pressure	(3)	dB(A)	51	52	52	52	53	53
Sound power level in cooling	(4)(5)	dB(A)	83	84	84	84	85	85
SIZE AND WEIGHT								
A	(6)	mm	2825	3360	3360	3360	3980	3980
B	(6)	mm	1195	1195	1195	1195	1195	1195
H	(6)	mm	1980	1980	1980	1980	1980	1980
Operating weight	(6)	kg	880	1000	1030	1060	1180	1150

Notes

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5 Sound power level in cooling, outdoors.
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NX / SL-K			0152P	0182P	0202P	0252P	0262P	0302P
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	39,41	44,60	52,28	58,89	65,87	77,75
Total power input	(1)	kW	13,89	16,07	18,18	20,27	22,88	27,39
EER	(1)	kW/kW	2,835	2,770	2,874	2,901	2,878	2,836
ESEER	(1)	kW/kW	4,280	4,250	4,490	4,150	4,220	4,300
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	39,20	44,30	52,00	58,60	65,60	77,30
EER	(1)(2)	kW/kW	2,780	2,710	2,810	2,840	2,830	2,780
ESEER	(1)(2)	kW/kW	4,070	4,050	4,270	3,990	4,050	4,120
Cooling energy class			C	C	C	C	C	C
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Ambient refrigeration								
Prated,c	(7)	kW	39,2	44,3	52,0	58,6	65,6	77,3
SEER	(7)(8)		3,80	3,80	3,95	3,80	3,80	3,87
Performance ηs	(7)(9)	%	149	149	155	149	149	152
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	1,884	2,133	2,500	2,816	3,150	3,718
Pressure drop	(1)	kPa	36,6	34,6	36,8	33,4	34,1	34,0
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	6,00	6,90	7,80	8,10	9,50	11,1
NOISE LEVEL								
Sound Pressure	(3)	dB(A)	44	45	45	46	46	46
Sound power level in cooling	(4)(5)	dB(A)	76	77	77	78	78	78
SIZE AND WEIGHT								
A	(6)	mm	2395	2395	2395	2825	2825	2825
B	(6)	mm	1195	1195	1195	1195	1195	1195
H	(6)	mm	1865	1865	1865	1980	1980	1980
Operating weight	(6)	kg	540	550	560	670	680	680

NX / SL-K			0352P	0402P	0452P	0502P	0552P	0602P
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	88,50	100,0	113,4	124,3	140,5	153,0
Total power input	(1)	kW	30,52	35,09	39,30	44,76	52,47	61,73
EER	(1)	kW/kW	2,902	2,849	2,885	2,775	2,676	2,480
ESEER	(1)	kW/kW	4,400	4,400	4,380	4,320	4,290	4,080
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	87,90	99,40	112,8	123,7	139,8	152,3
EER	(1)(2)	kW/kW	2,830	2,780	2,830	2,720	2,630	2,440
ESEER	(1)(2)	kW/kW	4,140	4,190	4,180	4,150	4,120	3,950
Cooling energy class			C	C	C	C	D	E
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Ambient refrigeration								
Prated,c	(7)	kW	87,9	99,4	113	124	140	152
SEER	(7)(8)		3,88	3,92	3,95	3,89	3,89	3,81
Performance ηs	(7)(9)	%	152	154	155	153	153	149
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	4,232	4,782	5,424	5,946	6,717	7,316
Pressure drop	(1)	kPa	54,1	48,0	50,3	46,7	49,4	42,0
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	11,4	13,6	15,6	16,7	16,8	17,1
NOISE LEVEL								
Sound Pressure	(3)	dB(A)	47	48	49	49	50	50
Sound power level in cooling	(4)(5)	dB(A)	79	80	81	81	82	82
SIZE AND WEIGHT								
A	(6)	mm	3360	3360	3980	3980	3980	3980
B	(6)	mm	1195	1195	1195	1195	1195	1195
H	(6)	mm	1980	1980	1980	1980	1980	1980
Operating weight	(6)	kg	860	960	1070	1080	1110	1180

Notes

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NX / CA			0152P	0182P	0202P	0252P	0262P	0302P	0352P
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	41,69	47,43	55,00	62,45	69,59	85,05	96,60
Total power input	(1)	kW	12,85	14,50	16,73	19,28	21,80	26,49	30,18
EER	(1)	kW/kW	3,258	3,269	3,293	3,238	3,193	3,208	3,199
ESEER	(1)	kW/kW	4,560	4,650	4,450	4,450	4,490	4,280	4,410
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	41,40	47,10	54,70	62,20	69,20	84,50	95,90
EER	(1)(2)	kW/kW	3,170	3,180	3,220	3,170	3,120	3,140	3,100
ESEER	(1)(2)	kW/kW	4,300	4,410	4,230	4,260	4,280	4,070	4,130
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	41,4	47,1	54,7	62,2	69,2	84,5	95,9
SEER	(7)(8)		3,92	4,05	3,95	4,02	4,06	3,88	3,90
Performance ηs	(7)(9)	%	154	159	155	158	159	152	153
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	1,994	2,268	2,630	2,987	3,328	4,067	4,619
Pressure drop	(1)	kPa	40,9	39,1	40,7	37,6	38,0	40,7	64,4
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	6,40	7,90	8,10	8,80	8,90	10,3	13,8
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	52	52	53	53	54	56	56
Sound power level in cooling	(4)(5)	dB(A)	84	84	85	85	86	88	88
SIZE AND WEIGHT									
A	(6)	mm	1825	2395	2395	2395	2395	2825	3360
B	(6)	mm	1195	1195	1195	1195	1195	1195	1195
H	(6)	mm	1865	1865	1865	1865	1865	1980	1980
Operating weight	(6)	kg	480	540	550	560	570	680	830

NX / CA			0402P	0452P	0502P	0562P	0612P	0712P	0812P
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	108,0	121,9	137,8	160,3	178,4	201,2	227,1
Total power input	(1)	kW	33,64	38,25	42,64	48,87	55,44	63,47	70,52
EER	(1)	kW/kW	3,214	3,183	3,235	3,278	3,220	3,169	3,221
ESEER	(1)	kW/kW	4,430	4,540	4,340	4,320	4,310	4,380	4,170
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	107,3	121,2	137,0	159,3	177,5	200,2	225,7
EER	(1)(2)	kW/kW	3,130	3,110	3,160	3,190	3,150	3,100	3,140
ESEER	(1)(2)	kW/kW	4,190	4,300	4,130	4,080	4,130	4,180	3,960
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	107	121	137	159	178	200	226
SEER	(7)(8)		3,96	4,08	3,94	3,94	3,99	4,08	3,88
Performance ηs	(7)(9)	%	156	160	155	155	157	160	152
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	5,163	5,831	6,589	7,668	8,532	9,622	10,86
Pressure drop	(1)	kPa	56,0	58,2	57,4	64,4	57,2	56,2	71,5
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	13,9	14,3	19,4	22,0	22,5	23,1	25,6
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	58	58	58	59	59	60	61
Sound power level in cooling	(4)(5)	dB(A)	90	90	90	91	91	92	93
SIZE AND WEIGHT									
A	(6)	mm	3360	3360	3980	3160	3160	3160	4335
B	(6)	mm	1195	1195	1195	2250	2250	2250	2250
H	(6)	mm	1980	1980	1980	2170	2170	2170	2170
Operating weight	(6)	kg	960	1000	1080	1510	1550	1570	1810

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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

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Certified data in EUROVENT

NX / LN-CA			0152P	0182P	0202P	0252P	0262P	0302P	0352P
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	41,48	46,98	55,01	63,49	70,68	82,66	94,43
Total power input	(1)	kW	12,57	14,40	17,20	19,48	21,88	25,96	29,34
EER	(1)	kW/kW	3,294	3,264	3,198	3,256	3,228	3,181	3,222
ESEER	(1)	kW/kW	4,560	4,620	4,710	4,310	4,340	4,370	4,520
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	41,20	46,70	54,70	63,10	70,30	82,30	93,80
EER	(1)(2)	kW/kW	3,200	3,180	3,130	3,180	3,150	3,120	3,140
ESEER	(1)(2)	kW/kW	4,290	4,380	4,460	4,110	4,150	4,200	4,250
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	41,2	46,7	54,7	63,1	70,3	82,3	93,8
SEER	(7)(8)		3,91	3,89	4,01	3,81	3,84	3,91	3,98
Performance ηs	(7)(9)	%	153	153	158	149	151	153	156
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	1,984	2,247	2,631	3,036	3,380	3,953	4,516
Pressure drop	(1)	kPa	40,5	38,4	40,7	38,8	39,2	38,5	61,6
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	6,70	7,90	8,00	8,90	11,4	11,5	12,6
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	48	48	48	49	49	50	52
Sound power level in cooling	(4)(5)	dB(A)	80	80	80	81	81	82	84
SIZE AND WEIGHT									
A	(6)	mm	2395	2395	2395	2825	2825	3360	3360
B	(6)	mm	1195	1195	1195	1195	1195	1195	1195
H	(6)	mm	1865	1865	1865	1980	1980	1980	1980
Operating weight	(6)	kg	550	560	560	670	680	750	870

NX / LN-CA			0402P	0452P	0502P	0562P	0612P	0712P	0812P
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	107,4	120,6	134,2	153,9	172,8	198,4	221,2
Total power input	(1)	kW	33,27	37,89	42,25	47,07	54,45	60,76	67,49
EER	(1)	kW/kW	3,225	3,182	3,180	3,268	3,176	3,263	3,277
ESEER	(1)	kW/kW	4,320	4,410	4,360	4,670	4,480	4,650	4,380
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	106,7	119,9	133,4	153,0	171,9	197,4	219,9
EER	(1)(2)	kW/kW	3,140	3,110	3,100	3,190	3,110	3,190	3,200
ESEER	(1)(2)	kW/kW	4,100	4,190	4,150	4,400	4,290	4,430	4,160
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	107	120	133	153	172	197	220
SEER	(7)(8)		3,85	3,96	3,95	4,19	4,09	4,28	4,05
Performance ηs	(7)(9)	%	151	155	155	165	161	168	159
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	5,137	5,769	6,417	7,361	8,261	9,486	10,58
Pressure drop	(1)	kPa	55,4	56,9	54,4	59,3	53,6	54,6	67,9
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	14,5	14,5	15,7	26,2	26,3	26,4	28,5
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	52	52	53	54	54	55	56
Sound power level in cooling	(4)(5)	dB(A)	84	84	85	86	86	87	88
SIZE AND WEIGHT									
A	(6)	mm	3980	3980	3980	3160	3160	4335	4335
B	(6)	mm	1195	1195	1195	2250	2250	2250	2250
H	(6)	mm	1980	1980	1980	2170	2170	2170	2170
Operating weight	(6)	kg	1050	1080	1090	1510	1550	1810	1870

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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NX / SL-CA			0182P	0202P	0252P	0262P	0302P	0352P	0412P
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	47,52	55,33	62,21	69,20	81,95	94,49	106,0
Total power input	(1)	kW	14,49	17,10	18,96	21,35	25,52	29,59	32,38
EER	(1)	kW/kW	3,276	3,234	3,274	3,234	3,212	3,193	3,272
ESEER	(1)	kW/kW	4,390	4,520	4,440	4,460	4,570	4,520	4,560
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	47,20	55,00	61,90	68,80	81,50	93,90	105,4
EER	(1)(2)	kW/kW	3,190	3,160	3,210	3,160	3,150	3,110	3,190
ESEER	(1)(2)	kW/kW	4,160	4,300	4,240	4,260	4,380	4,270	4,350
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	47,2	55,0	61,9	68,8	81,5	93,9	105
SEER	(7)(8)		3,80	3,90	3,90	3,96	4,11	4,03	4,10
Performance ηs	(7)(9)	%	149	153	153	155	161	158	161
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	2,272	2,646	2,975	3,309	3,919	4,519	5,070
Pressure drop	(1)	kPa	39,3	41,2	37,3	37,6	37,8	61,7	54,0
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	8,30	8,50	10,0	10,8	10,9	13,0	15,8
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	46	46	47	47	47	48	49
Sound power level in cooling	(4)(5)	dB(A)	78	78	79	79	79	80	81
SIZE AND WEIGHT									
A	(6)	mm	2825	2825	3360	3360	3360	3980	3160
B	(6)	mm	1195	1195	1195	1195	1195	1195	2250
H	(6)	mm	1980	1980	1980	1980	1980	1980	2170
Operating weight	(6)	kg	660	670	760	770	780	940	1410

NX / SL-CA			0462P	0512P	0562P	0612P	0712P	0812P
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	118,7	133,0	151,6	172,3	194,9	217,6
Total power input	(1)	kW	36,91	41,85	47,29	52,84	61,59	68,21
EER	(1)	kW/kW	3,217	3,174	3,205	3,263	3,164	3,191
ESEER	(1)	kW/kW	4,640	4,670	4,700	4,630	4,720	4,460
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	118,0	132,3	150,8	171,4	194,0	216,4
EER	(1)(2)	kW/kW	3,140	3,110	3,140	3,190	3,100	3,120
ESEER	(1)(2)	kW/kW	4,390	4,460	4,470	4,420	4,510	4,260
Cooling energy class			A	A	A	A	A	A
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Ambient refrigeration								
Prated,c	(7)	kW	118	132	151	171	194	216
SEER	(7)(8)		4,15	4,19	4,25	4,24	4,35	4,14
Performance ηs	(7)(9)	%	163	165	167	167	171	162
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	5,674	6,361	7,252	8,240	9,318	10,40
Pressure drop	(1)	kPa	55,1	53,5	57,6	53,3	52,7	65,7
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	16,6	19,3	24,0	26,1	26,2	30,0
NOISE LEVEL								
Sound Pressure	(3)	dB(A)	50	50	51	52	53	54
Sound power level in cooling	(4)(5)	dB(A)	82	82	83	84	85	86
SIZE AND WEIGHT								
A	(6)	mm	3160	3160	4335	4335	4335	5510
B	(6)	mm	2250	2250	2250	2250	2250	2250
H	(6)	mm	2170	2170	2170	2170	2170	2170
Operating weight	(6)	kg	1450	1480	1740	1820	1850	2130

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
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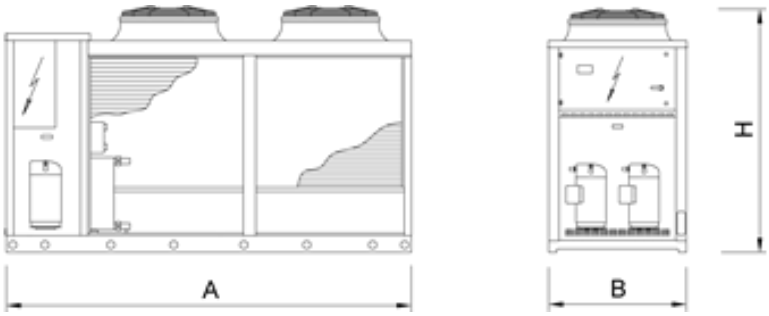
Dimensional drawing



CHILLERS

NX

Chiller, air source for outdoor installation

0614P - 1214P 159,0-326,7 kW

Outdoor unit for the production of chilled water with hermetic rotary Scroll compressors, ozone-friendly refrigerant R410A, axial-flow fans, braze-welded plate-type heat exchanger, micro-channel full-aluminum air coils and thermostatic expansion valve. The range is composed by units equipped with four compressors in tandem configuration on two independent refrigeration circuits.

Control

Electronic control W3000TE

W3000TE Compact control features an easy-to-use interface and a complete LCD display that allows consulting and intervening on the unit by means of a multi-language menu (19 languages are available).

The regulation is based on the patented “Quickmind” water temperature regulation logic uses self-adapting control to maintain flow temperatures and optimise performance even in low water content scenarios. As an alternative, the proportional or proportional-integral regulations are also available.

The diagnostics comprises a complete alarm management system, with the “black-box” (via PC) and the alarm history display (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 (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 defrosting (air source reversible unit only) follows a proprietary self-adaptive logic, which features the monitoring of several operational parameters. This allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.

Refrigerant

R410A

Versions

K	Key efficiency, compact version
LN-K	Low Noise, Key efficiency and compact version
SL-K	Super Low noise, Key efficiency and compact version

Configurations

-	Basic function
D	Partial condensing heat recovery function

Features

MAXIMUM COMPACTNESS

This new range is available in the K version, that integrates the maximum compactness with a qualifying unit’s efficiency. This allow to achieve a very high flexibility in the design process as well as during the on-site installation operations, offering a premium solution in case of reduced clearances or when retrofitting existing installations.

ALUMINIUM MICRO-CHANNEL HEAT EXCHANGERS

The full aluminium micro-channel condenser coils deliver high efficiency whilst ensuring a reduced refrigerant volume and a lower unit weight. The e-coating protection (optional) grants the highest level of resistance to corrosion in any condition, even in the most aggressive environments.

WIDE OPERATING RANGE

Full load operation is ensured with outdoor air temperature up to 46°C, partial load operation is possible up to or even beyond 50°C. The unit can produce chilled water at negative temperature (down to -10°C of leaving water temperature). Dedicated accessories allow the unit operation down to -20°C of outdoor air temperature.

INTEGRATED HYDRONIC GROUP

The optional built-in hydronic module already contains the main water circuit components; it is available with single or twin in-line, for achieving both low or high head.

Accessories

- Microchannel coils with e-coating protection
- Traditional coils with copper tubes and alluminium fins, also available with prepainted fins or Fin Guard Silver protective treatment.
- Copper-Copper heat exchanger coils
- Electronic expansion valve
- Compressor power factor correction
- Soft start
- Compressor suction and discharge valves
- High and low pressure gauges
- DVVF and DVV2F devices for low air temperature operation
- Hydronic module with 1 or 2 pumps, high or low head. Buffer tank available.
- Anti-intrusion grills

NX / K			0614P	0714P	0814P	0914P	1014P	1114P	1214P
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	164,7	194,1	217,8	248,2	289,2	308,4	326,7
Total power input	(1)	kW	58,31	66,73	78,90	88,61	98,95	108,4	118,2
EER	(1)	kW/kW	2,825	2,910	2,760	2,801	2,921	2,845	2,764
ESEER	(1)	kW/kW	4,060	4,390	4,300	4,410	4,260	4,270	4,180
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	163,9	193,2	216,8	247,1	287,9	307,2	325,3
EER	(1)(2)	kW/kW	2,770	2,860	2,710	2,750	2,870	2,800	2,720
ESEER	(1)(2)	kW/kW	3,850	4,160	4,080	4,180	4,050	4,080	3,990
Cooling energy class			C	C	C	C	C	C	C
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	164	193	217	247	288	307	325
SEER	(7)(8)		3,81	4,05	3,95	4,06	4,01	4,01	3,88
Performance ηs	(7)(9)	%	149	159	155	159	157	157	152
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	7,875	9,282	10,41	11,87	13,83	14,75	15,62
Pressure drop	(1)	kPa	45,0	47,1	47,8	50,4	54,8	46,8	52,5
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	18,5	20,5	26,8	26,9	30,4	35,2	35,3
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	60	60	61	62	63	63	63
Sound power level in cooling	(4)(5)	dB(A)	92	92	93	94	95	95	95
SIZE AND WEIGHT									
A	(6)	mm	3160	3160	3160	3160	4335	4335	4335
B	(6)	mm	2250	2250	2250	2250	2250	2250	2250
H	(6)	mm	2170	2170	2170	2170	2170	2170	2170
Operating weight	(6)	kg	1510	1680	1690	1830	2250	2300	2330

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
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0614P - 1214P 159,0-326,7 kW

NX / LN-K			0614P	0714P	0814P	0914P	1014P	1114P	1214P
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	159,8	185,5	208,2	235,0	274,0	290,4	320,3
Total power input	(1)	kW	58,13	68,57	79,63	92,21	101,0	111,6	118,5
EER	(1)	kW/kW	2,750	2,704	2,616	2,549	2,713	2,602	2,703
ESEER	(1)	kW/kW	4,130	4,420	4,370	4,410	4,250	4,250	4,370
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	159,1	184,7	207,3	234,0	272,8	289,3	318,9
EER	(1)(2)	kW/kW	2,710	2,660	2,580	2,510	2,670	2,570	2,660
ESEER	(1)(2)	kW/kW	3,940	4,190	4,160	4,190	4,050	4,060	4,160
Cooling energy class			C	D	D	D	D	D	D
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	159	185	207	234	273	289	319
SEER	(7)(8)		3,80	4,05	4,01	4,04	3,99	3,97	4,03
Performance ηs	(7)(9)	%	149	159	158	158	157	156	158
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	7,641	8,870	9,958	11,24	13,10	13,89	15,32
Pressure drop	(1)	kPa	42,4	43,0	43,7	45,2	49,2	41,5	50,5
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	18,5	20,5	26,8	26,9	30,4	35,2	35,3
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	54	54	55	56	57	57	58
Sound power level in cooling	(4)(5)	dB(A)	86	86	87	88	89	89	90
SIZE AND WEIGHT									
A	(6)	mm	3160	3160	3160	3160	4335	4335	4335
B	(6)	mm	2250	2250	2250	2250	2250	2250	2250
H	(6)	mm	2170	2170	2170	2170	2170	2170	2170
Operating weight	(6)	kg	1550	1730	1740	1870	2300	2350	2370

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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

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Certified data in EUROVENT

NX / SL-K			0614P	0714P	0814P	0914P	1014P	1114P	1214P
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	159,0	179,9	214,3	241,3	264,0	296,0	312,2
Total power input	(1)	kW	56,28	70,71	77,80	89,35	103,7	109,1	119,6
EER	(1)	kW/kW	2,824	2,545	2,754	2,702	2,546	2,713	2,610
ESEER	(1)	kW/kW	4,340	4,410	4,400	4,410	4,280	4,340	4,260
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	158,3	179,2	213,4	240,3	262,9	294,9	310,9
EER	(1)(2)	kW/kW	2,780	2,510	2,710	2,660	2,510	2,680	2,570
ESEER	(1)(2)	kW/kW	4,130	4,210	4,190	4,200	4,090	4,150	4,070
Cooling energy class			C	D	C	D	D	D	D
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	158	179	213	240	263	295	311
SEER	(7)(8)		3,92	4,03	4,04	4,07	3,99	4,03	3,91
Performance ηs	(7)(9)	%	154	158	159	160	157	158	153
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	7,602	8,604	10,25	11,54	12,63	14,16	14,93
Pressure drop	(1)	kPa	41,9	40,5	46,3	47,6	45,7	43,1	48,0
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	17,2	21,2	28,6	30,3	30,4	40,3	40,4
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	50	51	51	52	52	54	54
Sound power level in cooling	(4)(5)	dB(A)	82	83	83	84	84	86	86
SIZE AND WEIGHT									
A	(6)	mm	3160	3160	4335	4335	4335	5510	5510
B	(6)	mm	2250	2250	2250	2250	2250	2250	2250
H	(6)	mm	2170	2170	2170	2170	2170	2170	2170
Operating weight	(6)	kg	1550	1730	2030	2170	2300	2700	2730

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
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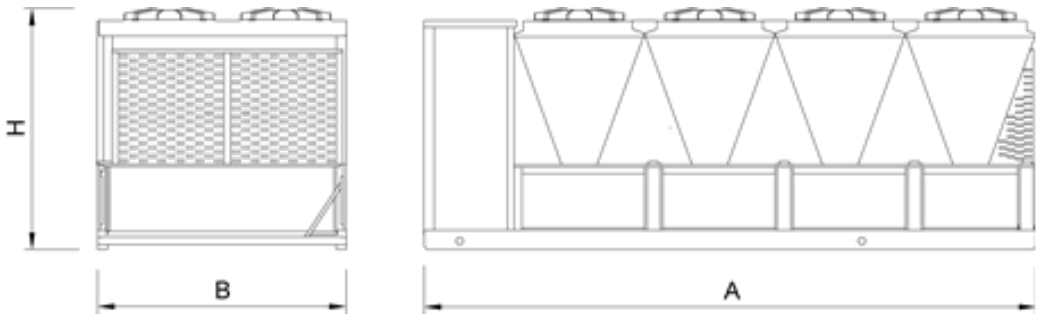
Dimensional drawing



CHILLERS

NX

Chiller, air source for outdoor installation

0614T - 1214T 159,0-352,0 kW

Outdoor unit for the production of chilled water with hermetic rotary Scroll compressors, ozone-friendly refrigerant R410A, axial-flow fans, shell and tubes heat exchanger, micro-channel full-aluminum air coils and thermostatic or electronic expansion valve, according to the model. The range is composed by units equipped with four compressors in tandem configuration on two independent refrigeration circuits.

Control

Electronic control W3000TE

W3000TE Compact control features an easy-to-use interface and a complete LCD display that allows consulting and intervening on the unit by means of a multi-language menu (19 languages are available).

The regulation is based on the patented “Quickmind” water temperature regulation logic uses self-adapting control to maintain flow temperatures and optimise performance even in low water content scenarios. As an alternative, the proportional or proportional-integral regulations are also available.

The diagnostics comprises a complete alarm management system, with the “black-box” (via PC) and the alarm history display (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 (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 defrosting (air source reversible unit only) follows a proprietary self-adaptive logic, which features the monitoring of several operational parameters. This allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.

Refrigerant

R410A

Versions

K	Key efficiency, compact version	CA	Class A of efficiency
LN-K	Low Noise, Key efficiency and compact version	LN-CA	Low Noise, Class A of efficiency
SL-K	Super Low noise, Key efficiency and compact version	SL-CA	Super Low noise version, Class A of efficiency

Configurations

-	Basic function
D	Partial condensing heat recovery function

Features

CLASS A EFFICIENCY

The full range is available with the Class A efficiency rating. Thanks to the generous sizing of the heat exchangers and an accurate control of the fan speed, the CA versions grant a premium level efficiency in every noise configuration.

ALUMINIUM MICRO-CHANNEL HEAT EXCHANGERS

The full aluminium micro-channel condenser coils deliver high efficiency whilst ensuring a reduced refrigerant volume and a lower unit weight. The e-coating protection (optional) grants the highest level of resistance to corrosion in any condition, even in the most aggressive environments.

ELECTRONIC EXPANSION VALVE SUPPLIED STANDARD

The use of the electronic expansion valve generates considerable benefits, especially in cases of variable demand and different external conditions. It has been introduced into these units as a result of accurate design choices concerning the cooling circuit and the optimisation of operation in various different working conditions. The electronic expansion valve comes standard in the high-efficieny CA version, optional for the compact K versions.

WIDE OPERATING RANGE

Full load operation is ensured with outdoor air temperature up to 46°C, partial load operation is possible up to or even beyond 50°C. The unit can produce chilled water at negative temperature (down to -10°C of leaving water temperature). Dedicated accessories allow the unit operation down to -20°C of outdoor air temperature.

EXCHANGER

The shell and tube exchanger allows to achieve the highest flexibility on the unit’s installation, keeping on the hydronic side the pressure drops at the minimum level, thus representing the best choice for all the hydronic applications on the residential, commercial and industrial markets.

INTEGRATED HYDRONIC GROUP

The optional built-in hydronic module already contains the main water circuit components; it is available with single or twin in-line, for achieving both low or high head.

Accessories

- Microchannel coils with e-coating protection
- Traditional coils with copper tubes and alluminium fins, also available with prepainted fins or Fin Guard Silver protective treatment.
- Copper-Copper heat exchanger coils
- Compressor power factor correction
- Soft start
- Compressor suction and discharge valves
- High and low pressure gauges
- DVVF and DVV2F devices for low air temperature operation
- Hydronic module with 1 or 2 pumps, high or low head. Buffer tank available.
- Anti-intrusion grills

NX / K			0614T	0714T	0814T	0914T	1014T	1114T	1214T
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	164,7	194,1	217,8	248,2	289,2	308,4	326,7
Total power input	(1)	kW	58,31	66,73	78,90	88,61	98,95	108,4	118,2
EER	(1)	kW/kW	2,825	2,910	2,760	2,801	2,921	2,845	2,764
ESEER	(1)	kW/kW	4,060	4,390	4,300	4,410	4,260	4,270	4,180
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	164,2	193,4	216,8	247,2	287,7	307,4	325,5
EER	(1)(2)	kW/kW	2,790	2,870	2,710	2,760	2,860	2,810	2,730
ESEER	(1)(2)	kW/kW	3,920	4,210	4,080	4,200	4,020	4,110	4,020
Cooling energy class			C	C	C	C	C	C	C
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	164	193	217	247	288	307	326
SEER	(7)(8)		3,81	4,11	3,95	4,10	3,97	4,05	3,91
Performance ηs	(7)(9)	%	150	161	155	161	156	159	153
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	7,875	9,282	10,41	11,87	13,83	14,75	15,62
Pressure drop	(1)	kPa	23,3	32,4	50,9	45,5	61,7	38,0	42,7
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	22,5	26,6	27,7	27,8	33,6	36,3	36,9
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	60	60	61	62	63	63	63
Sound power level in cooling	(4)(5)	dB(A)	92	92	93	94	95	95	95
SIZE AND WEIGHT									
A	(6)	mm	3160	3160	3160	3160	4335	4335	4335
B	(6)	mm	2250	2250	2250	2250	2250	2250	2250
H	(6)	mm	2170	2170	2170	2170	2170	2170	2170
Operating weight	(6)	kg	1650	1810	1820	1950	2340	2530	2550

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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

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Certified data in EUROVENT

0614T - 1214T 159,0-352,0 kW

NX / LN-K			0614T	0714T	0814T	0914T	1014T	1114T	1214T
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	159,8	185,5	208,2	235,0	274,0	290,4	320,3
Total power input	(1)	kW	58,13	68,57	79,63	92,21	101,0	111,6	118,5
EER	(1)	kW/kW	2,750	2,704	2,616	2,549	2,713	2,602	2,703
ESEER	(1)	kW/kW	4,130	4,420	4,370	4,410	4,250	4,250	4,370
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	159,3	184,9	207,3	234,1	272,7	289,5	319,2
EER	(1)(2)	kW/kW	2,720	2,670	2,580	2,510	2,670	2,570	2,670
ESEER	(1)(2)	kW/kW	3,990	4,250	4,160	4,210	4,040	4,100	4,210
Cooling energy class			C	D	D	D	D	D	D
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	159	185	207	234	273	290	319
SEER	(7)(8)		3,84	4,11	4,01	4,06	3,96	4,01	4,07
Performance ηs	(7)(9)	%	150	162	157	159	156	157	160
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	7,641	8,870	9,958	11,24	13,10	13,89	15,32
Pressure drop	(1)	kPa	21,9	29,6	46,5	40,7	55,4	33,7	41,0
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	22,5	26,6	27,7	27,8	33,6	36,3	36,9
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	54	54	55	56	57	57	58
Sound power level in cooling	(4)(5)	dB(A)	86	86	87	88	89	89	90
SIZE AND WEIGHT									
A	(6)	mm	3160	3160	3160	3160	4335	4335	4335
B	(6)	mm	2250	2250	2250	2250	2250	2250	2250
H	(6)	mm	2170	2170	2170	2170	2170	2170	2170
Operating weight	(6)	kg	1700	1860	1870	1990	2380	2580	2600

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
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NX / SL-K			0614T	0714T	0814T	0914T	1014T	1114T	1214T
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	159,0	179,9	214,3	241,3	264,0	296,0	312,2
Total power input	(1)	kW	56,28	70,71	77,80	89,35	103,7	109,1	119,6
EER	(1)	kW/kW	2,824	2,545	2,754	2,702	2,546	2,713	2,610
ESEER	(1)	kW/kW	4,340	4,410	4,400	4,410	4,280	4,340	4,260
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	158,5	179,3	213,4	240,3	262,8	295,0	311,1
EER	(1)(2)	kW/kW	2,790	2,510	2,710	2,660	2,510	2,680	2,580
ESEER	(1)(2)	kW/kW	4,180	4,240	4,190	4,200	4,070	4,170	4,100
Cooling energy class			C	D	C	D	D	D	D
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	158	179	213	240	263	295	311
SEER	(7)(8)		4,00	4,08	4,04	4,08	3,97	4,06	3,94
Performance ηs	(7)(9)	%	157	160	158	160	156	159	155
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	7,602	8,604	10,25	11,54	12,63	14,16	14,93
Pressure drop	(1)	kPa	21,7	27,8	49,3	43,0	51,4	35,1	39,0
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	22,5	26,6	30,2	41,2	41,3	41,4	41,4
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	50	51	51	52	52	54	54
Sound power level in cooling	(4)(5)	dB(A)	82	83	83	84	84	86	86
SIZE AND WEIGHT									
A	(6)	mm	3160	3160	4335	4335	4335	5510	5510
B	(6)	mm	2250	2250	2250	2250	2250	2250	2250
H	(6)	mm	2170	2170	2170	2170	2170	2170	2170
Operating weight	(6)	kg	1700	1860	2160	2290	2380	2930	2950

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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

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0614T - 1214T 159,0-352,0 kW

NX / CA			0614T	0714T	0814T	0914T	1014T	1114T	1214T
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	174,1	205,2	235,4	266,4	301,9	330,0	352,0
Total power input	(1)	kW	54,38	65,00	72,87	84,11	95,76	102,8	111,0
EER	(1)	kW/kW	3,200	3,157	3,229	3,168	3,151	3,210	3,171
ESEER	(1)	kW/kW	4,310	4,260	4,450	4,490	4,430	4,350	4,370
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	173,6	204,4	234,2	265,2	300,9	328,8	350,6
EER	(1)(2)	kW/kW	3,160	3,110	3,160	3,110	3,110	3,160	3,120
ESEER	(1)(2)	kW/kW	4,170	4,060	4,200	4,240	4,260	4,170	4,180
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	174	204	234	265	301	329	351
SEER	(7)(8)		4,06	4,03	4,10	4,17	4,25	4,13	4,10
Performance ηs	(7)(9)	%	159	158	161	164	167	162	161
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	8,326	9,814	11,26	12,74	14,44	15,78	16,83
Pressure drop	(1)	kPa	26,1	36,2	59,5	52,4	36,5	43,6	49,6
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	24,3	31,0	36,8	39,7	39,8	44,5	46,1
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	60	61	62	63	63	64	65
Sound power level in cooling	(4)(5)	dB(A)	92	93	94	95	95	96	97
SIZE AND WEIGHT									
A	(6)	mm	3160	4335	4335	4335	4335	5510	5510
B	(6)	mm	2250	2250	2250	2250	2250	2250	2250
H	(6)	mm	2170	2170	2170	2170	2170	2170	2170
Operating weight	(6)	kg	1700	2150	2160	2290	2550	2930	2950

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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 R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

NX / LN-CA			0614T	0714T	0814T	0914T	1014T	1114T	1214T
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	167,5	198,4	227,4	262,1	294,5	318,0	344,4
Total power input	(1)	kW	52,84	61,62	70,49	82,78	93,23	99,58	108,7
EER	(1)	kW/kW	3,172	3,221	3,226	3,165	3,160	3,193	3,168
ESEER	(1)	kW/kW	4,560	4,610	4,700	4,710	4,550	4,630	4,700
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	167,0	197,7	226,3	261,0	293,6	316,9	343,0
EER	(1)(2)	kW/kW	3,130	3,170	3,160	3,110	3,120	3,150	3,120
ESEER	(1)(2)	kW/kW	4,400	4,400	4,440	4,470	4,390	4,430	4,480
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	167	198	226	261	294	317	343
SEER	(7)(8)		4,23	4,31	4,31	4,36	4,37	4,39	4,37
Performance ηs	(7)(9)	%	166	170	169	171	172	172	172
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	8,011	9,488	10,87	12,53	14,08	15,21	16,47
Pressure drop	(1)	kPa	24,1	33,8	55,5	50,7	34,7	40,5	47,5
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	24,3	31,0	36,8	39,7	41,0	44,5	46,1
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	54	55	56	57	58	59	59
Sound power level in cooling	(4)(5)	dB(A)	86	87	88	89	90	91	91
SIZE AND WEIGHT									
A	(6)	mm	3160	4335	4335	4335	5510	5510	5510
B	(6)	mm	2250	2250	2250	2250	2250	2250	2250
H	(6)	mm	2170	2170	2170	2170	2170	2170	2170
Operating weight	(6)	kg	1700	2150	2160	2290	2880	2900	2930

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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

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Certified data in EUROVENT

NX / SL-CA			0614T	0714T	0814T	0914T	1014T	1114T	1214T
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	167,3	194,9	224,2	259,3	291,8	316,6	343,6
Total power input	(1)	kW	52,28	61,03	69,89	82,01	92,62	99,59	108,8
EER	(1)	kW/kW	3,199	3,195	3,207	3,162	3,151	3,179	3,158
ESEER	(1)	kW/kW	4,690	4,700	4,680	4,720	4,720	4,680	4,700
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	166,8	194,2	223,1	258,2	290,9	315,5	342,2
EER	(1)(2)	kW/kW	3,160	3,150	3,140	3,110	3,110	3,130	3,110
ESEER	(1)(2)	kW/kW	4,520	4,490	4,420	4,470	4,550	4,490	4,470
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	167	194	223	258	291	316	342
SEER	(7)(8)		4,33	4,37	4,28	4,35	4,50	4,42	4,35
Performance ηs	(7)(9)	%	170	172	168	171	177	174	171
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	8,000	9,322	10,72	12,40	13,95	15,14	16,43
Pressure drop	(1)	kPa	24,1	32,7	53,9	49,6	34,1	40,1	47,2
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	28,4	31,0	36,8	39,7	41,0	44,5	46,1
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	51	51	52	53	54	55	55
Sound power level in cooling	(4)(5)	dB(A)	83	83	84	85	86	87	87
SIZE AND WEIGHT									
A	(6)	mm	4335	4335	5510	5510	5510	5510	5510
B	(6)	mm	2250	2250	2250	2250	2250	2250	2250
H	(6)	mm	2170	2170	2170	2170	2170	2170	2170
Operating weight	(6)	kg	1980	2150	2490	2610	2880	2900	2930

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
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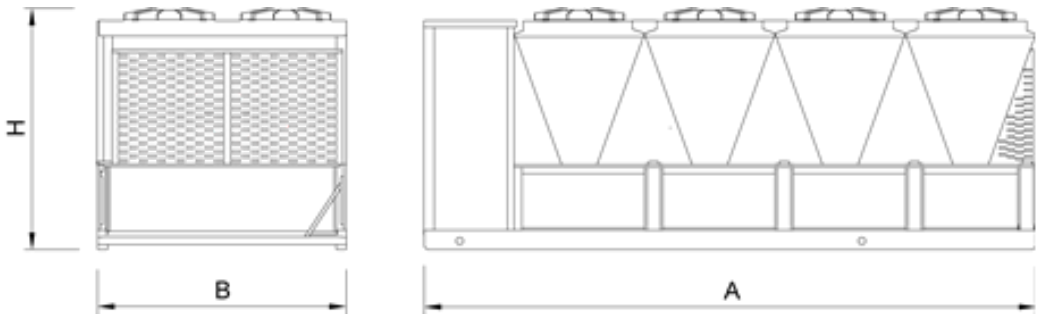
Dimensional drawing



CHILLERS

NECS

Chiller, air source for outdoor installation

1314 - 3218 333,6-884,7 kW

Outdoor unit for the production of chilled water with hermetic rotary Scroll compressors, ozone-friendly refrigerant R410A, axial-flow fans, shell and tubes exchanger and electronic expansion valve. The range is composed by units equipped with four, six and eight compressors in multi-circuit configuration.

Control

W3000SE Compact

W3000SE Compact controller offers advanced functions and algorithms. The keypad features an easy-to-use interface and a complete LCD display, allowing to consult and intervene on the unit by means of a multi-level menu, with selectable language setting.

Regulation based on the exclusive QuickMind algorithm, including self-adaptive control logics, beneficial in low water content systems. As alternatives the proportional- or proportional-integral regulations are also available.

The diagnostics includes a complete alarm management, with the "black-box" and alarm logging functions for enhanced analysis of the unit operation.

For multiple units' systems, the regulation of the resources, via optional proprietary devices, can be implemented. Energy metering, for both consumption and capacity, can also be developed. 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, Echelon LonWorks.

- Compatibility with the remote keyboard managing up to 10 units.
- Internal real time clock available for operation scheduling (4-day profiles with 10 hour belts).

The defrost adopts a proprietary self-adaptive logic, which features the monitoring of numerous operational parameters. This allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.

Refrigerant

R410A

Versions

B	Basic
SL	Super-low noise version
CA	High efficiency version
SL-CA	Super-low noise, high efficiency version

Configurations

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

Features

REFRIGERANT GAS R410A

The use of R410A allowed to achive better energy efficiencies with environment full respect (ODP = 0)

ALUMINIUM MICRO-CHANNEL HEAT EXCHANGERS

This new range of chiller uses aluminum micro-channel condensers that ensure a premium level of efficiency. This solution also allows to reduce the refrigerant charge with respect to traditional copper/aluminum coils, assuring the minimum allowable ratio between the refrigerant volume and the power capacity thus making this product range unique in the market, also improving the resistance against corrosion in saline or corrosive atmospheres.

EXCHANGER

The shell and tube exchanger allows to achieve the highest flexibility on the units installation, keeping the efficiency at the maximum level. For this reason, NECS represents the best choice for all the hydronic application on the residential, commercial and industrial markets.

ELECTRONIC EXPANSION VALVE SUPPLIED STANDARD

The use of the electronic expansion valve generates considerable benefits, especially in cases of variable demand and different external conditions. It was introduced into these units as a result of accurate design choices concerning the cooling circuit and the optimisation of operation in various different working conditions

INTEGRATED HYDRONIC GROUP

The optional built-in hydronic module already contains the main water circuit components; it is available with single or twin in-line, for achieving both low or high head.

Accessories

- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Remote control keyboard (distance to 200m and to 500m)
- Soft starters

NECS / B			1314	1414	1614	1715	1816	2015	2116
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	354,3	378,8	413,4	458,2	501,3	525,6	569,4
Total power input	(1)	kW	124,4	130,2	147,8	160,4	171,9	183,9	195,4
EER	(1)	kW/kW	2,848	2,909	2,797	2,857	2,916	2,858	2,914
ESEER	(1)	kW/kW	4,160	4,240	4,040	4,190	4,210	4,070	4,180
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	352,7	377,4	411,7	456,4	499,1	523,9	567,4
EER	(1)(2)	kW/kW	2,800	2,870	2,750	2,810	2,870	2,820	2,870
ESEER	(1)(2)	kW/kW	3,950	4,060	3,860	3,990	3,990	3,910	4,000
Cooling energy class			C	C	C	C	C	C	C
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	353	377	412	456	499	524	567
SEER	(7)(8)		4,11	4,22	4,10	4,17	4,22	4,10	4,23
Performance ηs	(7)(9)	%	162	166	161	164	166	161	166
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	16,94	18,12	19,77	21,91	23,97	25,14	27,23
Pressure drop	(1)	kPa	54,0	43,8	52,2	48,5	58,1	39,3	46,1
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	5	6	5	6
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	40,1	45,2	45,4	52,2	55,8	63,8	65,2
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	64	64	64	64	65	65	64
Sound power level in cooling	(4)(5)	dB(A)	96	96	96	96	97	97	97
SIZE AND WEIGHT									
A	(6)	mm	3905	3905	3905	5080	5080	5080	6255
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2450	2450	2450	2450	2450	2450	2450
Operating weight	(6)	kg	2730	2770	2800	3400	3650	3690	4200

NECS / B			2316	2416	2418	2618	2818	3018	3218
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	603,7	634,9	665,3	707,9	759,4	793,5	826,6
Total power input	(1)	kW	214,1	218,6	233,7	248,8	260,5	279,1	295,6
EER	(1)	kW/kW	2,820	2,904	2,847	2,845	2,915	2,843	2,796
ESEER	(1)	kW/kW	4,110	4,080	4,120	4,180	4,270	4,200	4,070
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	601,6	632,5	662,9	705,0	757,0	790,8	823,6
EER	(1)(2)	kW/kW	2,780	2,860	2,810	2,800	2,880	2,810	2,760
ESEER	(1)(2)	kW/kW	3,940	3,900	3,940	3,980	4,100	4,030	3,900
Cooling energy class			C	C	C	C	C	C	C
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	602	632	663	705	757	791	824
SEER	(7)(8)		4,15	4,14	4,12	4,17	4,29	4,22	4,10
Performance ηs	(7)(9)	%	163	162	162	164	168	166	161
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	28,87	30,36	31,81	33,85	36,31	37,95	39,53
Pressure drop	(1)	kPa	44,3	49,0	48,5	54,9	42,7	46,7	50,6
REFRIGERANT CIRCUIT									
Compressors nr.		N°	6	6	8	8	8	8	8
No. Circuits		N°	3	2	4	4	4	4	4
Refrigerant charge		kg	65,6	75,1	75,2	82,1	91,8	93,0	93,1
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	64	65	65	65	66	66	66
Sound power level in cooling	(4)(5)	dB(A)	97	98	98	98	99	99	99
SIZE AND WEIGHT									
A	(6)	mm	6255	6255	7430	7430	7430	7430	7430
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2450	2450	2450	2450	2450	2450	2450
Operating weight	(6)	kg	4220	4350	5260	5300	5370	5400	5430

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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

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Certified data in EUROVENT

NECS / SL			1314	1414	1614	1715	1816	2015	2116
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	333,6	358,1	397,4	431,5	465,0	497,6	532,3
Total power input	(1)	kW	129,2	137,3	153,1	168,1	182,7	191,6	206,0
EER	(1)	kW/kW	2,582	2,608	2,596	2,567	2,545	2,597	2,584
ESEER	(1)	kW/kW	4,290	4,310	4,210	4,330	4,360	4,260	4,370
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	332,3	356,9	395,8	430,0	463,2	496,2	530,6
EER	(1)(2)	kW/kW	2,550	2,580	2,560	2,540	2,510	2,570	2,550
ESEER	(1)(2)	kW/kW	4,100	4,150	4,030	4,140	4,150	4,120	4,190
Cooling energy class			D	D	D	D	D	D	D
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	332	357	396	430	463	496	531
SEER	(7)(8)		4,03	4,12	4,02	4,13	4,13	4,14	4,21
Performance ηs	(7)(9)	%	158	162	158	162	162	163	165
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	15,95	17,13	19,01	20,63	22,24	23,80	25,46
Pressure drop	(1)	kPa	47,8	39,2	48,2	43,0	50,0	35,2	40,3
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	5	6	5	6
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	41,0	47,0	50,0	57,0	57,0	66,0	79,0
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	54	54	54	54	54	54	54
Sound power level in cooling	(4)(5)	dB(A)	86	86	86	87	87	87	87
SIZE AND WEIGHT									
A	(6)	mm	5080	5080	5080	6255	6255	6255	7430
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2450	2450	2450	2450	2450	2450	2450
Operating weight	(6)	kg	3060	3160	3200	3900	4110	4190	4640

NECS / SL			2316	2416	2418	2618	2818	3018	3218
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	579,3	595,9	615,8	666,4	717,7	757,8	794,6
Total power input	(1)	kW	220,0	229,7	244,6	258,3	274,8	288,4	306,2
EER	(1)	kW/kW	2,633	2,594	2,518	2,580	2,612	2,628	2,595
ESEER	(1)	kW/kW	4,380	4,290	4,320	4,390	4,360	4,390	4,270
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	577,4	593,9	613,8	664,0	715,6	755,4	791,9
EER	(1)(2)	kW/kW	2,600	2,560	2,490	2,550	2,580	2,600	2,560
ESEER	(1)(2)	kW/kW	4,200	4,120	4,150	4,190	4,190	4,210	4,090
Cooling energy class			D	D	E	D	D	D	D
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	577	594	614	664	716	755	792
SEER	(7)(8)		4,21	4,14	4,11	4,16	4,20	4,21	4,11
Performance ηs	(7)(9)	%	165	163	162	163	165	166	161
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	27,70	28,49	29,45	31,87	34,32	36,24	38,00
Pressure drop	(1)	kPa	40,8	43,1	41,6	48,7	38,2	42,6	46,8
REFRIGERANT CIRCUIT									
Compressors nr.		N°	6	6	8	8	8	8	8
No. Circuits		N°	3	2	4	4	4	4	4
Refrigerant charge		kg	79,0	83,0	89,0	112	112	112	112
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	55	55	55	56	57	57	57
Sound power level in cooling	(4)(5)	dB(A)	88	88	88	89	90	90	90
SIZE AND WEIGHT									
A	(6)	mm	7430	7430	7430	8605	9780	9780	9780
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2450	2450	2450	2450	2450	2450	2450
Operating weight	(6)	kg	4730	4790	5410	5810	6160	6200	6250

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
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9 Seasonal space cooling energy efficiency

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Certified data in EUROVENT

NECS / CA			1314	1414	1614	1715	1816	2015	2116
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	370,4	391,4	438,4	481,1	517,5	549,2	591,4
Total power input	(1)	kW	119,6	125,1	141,5	154,0	166,3	177,0	189,4
EER	(1)	kW/kW	3,097	3,129	3,098	3,124	3,112	3,103	3,122
ESEER	(1)	kW/kW	4,450	4,480	4,390	4,540	4,500	4,420	4,480
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	368,7	389,9	436,4	479,1	515,1	547,3	589,2
EER	(1)(2)	kW/kW	3,040	3,080	3,040	3,070	3,050	3,060	3,080
ESEER	(1)(2)	kW/kW	4,220	4,280	4,170	4,300	4,240	4,230	4,280
Cooling energy class			B	B	B	B	B	B	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	369	390	436	479	515	547	589
SEER	(7)(8)		4,16	4,25	4,14	4,26	4,19	4,23	4,27
Performance ηs	(7)(9)	%	164	167	163	167	165	166	168
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	17,72	18,72	20,97	23,01	24,75	26,26	28,28
Pressure drop	(1)	kPa	59,0	46,8	58,7	53,5	61,9	42,9	49,8
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	5	6	5	6
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	47,0	51,0	54,0	67,0	67,0	70,0	77,0
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	65	65	65	64	65	65	65
Sound power level in cooling	(4)(5)	dB(A)	97	97	97	97	98	98	98
SIZE AND WEIGHT									
A	(6)	mm	5080	5080	5080	6255	6255	6255	7430
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2450	2450	2450	2450	2450	2450	2450
Operating weight	(6)	kg	3060	3100	3130	3800	4050	4090	4540

NECS / CA			2316	2416	2418	2618	2818	3018	3218
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	632,7	657,3	701,5	740,0	784,6	830,6	884,7
Total power input	(1)	kW	204,0	212,3	225,3	239,0	250,4	266,5	283,0
EER	(1)	kW/kW	3,101	3,096	3,114	3,096	3,133	3,117	3,126
ESEER	(1)	kW/kW	4,480	4,370	4,440	4,460	4,500	4,490	4,450
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	630,4	654,7	698,7	736,8	781,9	827,5	881,1
EER	(1)(2)	kW/kW	3,060	3,050	3,060	3,040	3,090	3,070	3,070
ESEER	(1)(2)	kW/kW	4,270	4,160	4,220	4,220	4,300	4,280	4,220
Cooling energy class			B	B	B	B	B	B	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	630	655	699	737	782	828	881
SEER	(7)(8)		4,28	4,17	4,18	4,17	4,28	4,27	4,21
Performance ηs	(7)(9)	%	168	164	164	164	168	168	166
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	30,26	31,43	33,55	35,39	37,52	39,72	42,31
Pressure drop	(1)	kPa	48,6	52,5	54,0	60,0	45,6	51,1	58,0
REFRIGERANT CIRCUIT									
Compressors nr.		N°	6	6	8	8	8	8	8
No. Circuits		N°	3	2	4	4	4	4	4
Refrigerant charge		kg	81,0	86,0	89,0	112	112	112	112
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	66	66	66	66	67	67	67
Sound power level in cooling	(4)(5)	dB(A)	99	99	99	99	100	100	100
SIZE AND WEIGHT									
A	(6)	mm	7430	7430	9780	9780	9780	9780	9780
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2450	2450	2450	2450	2450	2450	2450
Operating weight	(6)	kg	4630	4690	5930	5970	6040	6070	6110

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
8 Seasonal energy efficiency ratio
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Certified data in EUROVENT

NECS / SL-CA			1314	1414	1614	1715	1816
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	370,5	394,3	440,1	480,8	521,5
Total power input	(1)	kW	119,1	126,3	141,6	154,3	167,1
EER	(1)	kW/kW	3,111	3,122	3,108	3,116	3,121
ESEER	(1)	kW/kW	4,570	4,560	4,440	4,540	4,580
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	369,2	393,1	438,5	479,5	519,9
EER	(1)(2)	kW/kW	3,070	3,080	3,060	3,080	3,080
ESEER	(1)(2)	kW/kW	4,380	4,390	4,270	4,390	4,400
Cooling energy class			B	B	B	B	B
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Ambient refrigeration							
Prated,c	(7)	kW	369	393	438	480	520
SEER	(7)(8)		4,32	4,37	4,26	4,40	4,37
Performance ηs	(7)(9)	%	170	172	167	173	172
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	17,72	18,85	21,05	22,99	24,94
Pressure drop	(1)	kPa	41,9	35,9	44,8	32,9	38,7
REFRIGERANT CIRCUIT							
Compressors nr.		N°	4	4	4	5	6
No. Circuits		N°	2	2	2	2	2
Refrigerant charge		kg	53,0	67,0	72,0	77,0	77,0
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	53	53	53	54	54
Sound power level in cooling	(4)(5)	dB(A)	86	86	86	87	87
SIZE AND WEIGHT							
A	(6)	mm	6255	6255	6255	7430	7430
B	(6)	mm	2260	2260	2260	2260	2260
H	(6)	mm	2450	2450	2450	2450	2450
Operating weight	(6)	kg	3490	3700	3730	4400	4650

NECS / SL-CA			2015	2116	2316	2416	2418
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	550,4	591,6	638,3	662,5	695,3
Total power input	(1)	kW	176,7	189,3	204,3	213,3	222,8
EER	(1)	kW/kW	3,115	3,125	3,124	3,106	3,121
ESEER	(1)	kW/kW	4,520	4,600	4,590	4,530	4,580
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	548,8	589,6	636,1	660,1	693,4
EER	(1)(2)	kW/kW	3,080	3,080	3,080	3,060	3,090
ESEER	(1)(2)	kW/kW	4,350	4,400	4,390	4,330	4,430
Cooling energy class			B	B	B	B	B
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Ambient refrigeration							
Prated,c	(7)	kW	549	590	636	660	693
SEER	(7)(8)		4,37	4,39	4,40	4,33	4,39
Performance ηs	(7)(9)	%	172	173	173	170	173
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	26,32	28,29	30,52	31,68	33,25
Pressure drop	(1)	kPa	36,8	42,5	44,7	48,1	35,8
REFRIGERANT CIRCUIT							
Compressors nr.		N°	5	6	6	6	8
No. Circuits		N°	2	2	3	2	4
Refrigerant charge		kg	79,0	91,0	96,0	96,0	97,0
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	54	54	55	55	55
Sound power level in cooling	(4)(5)	dB(A)	87	87	88	88	88
SIZE AND WEIGHT							
A	(6)	mm	7430	8605	8605	8605	9780
B	(6)	mm	2260	2260	2260	2260	2260
H	(6)	mm	2450	2450	2450	2450	2450
Operating weight	(6)	kg	4510	4990	5360	5360	6100

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
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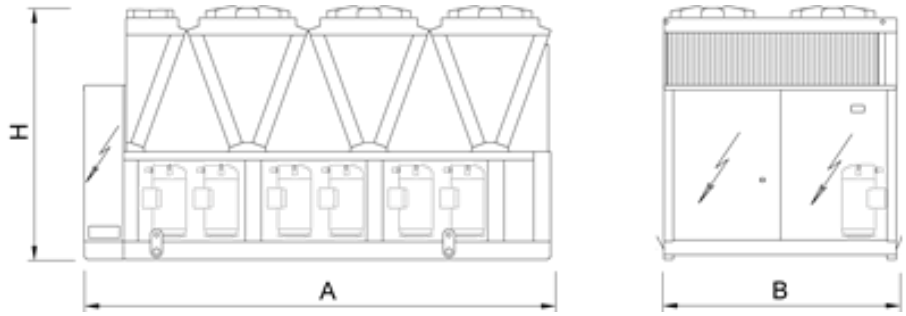
Dimensional drawing



CHILLERS

FX

0751 - 1801 140,1-395,7 kW

Chiller, air source for outdoor installation

Outdoor unit for the production of chilled water with semi-hermetic screw compressor optimized for R134a, axial-flow fans, micro-channel full-aluminum condensing coils, single-pass shell and tubes evaporator designed by Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. (brazed plate evaporator for sizes 0751 and 0851) and electronic expansion valve. Base and supporting structure and panels are of galvanized epoxy powder coated steel with increased thickness. Eurovent certification.
Flexible and reliable unit; it easily adapts itself to different thermal load conditions thanks to the precise thermoregulation and the accurate sizing of all internal components. The compressors feature an enhanced lubrication system, an innovative internal geometry and a different control of capacity steps. Innovations that grant a remarkable performance improvement especially at partial loads.

Control

W3000TE
W3000TE control is available with the new KIPlink user interface. Based on WiFi technology, it allows one to operate on the unit directly from the smartphone or tablet. Using KIPlink, it is possible to turn the unit on and off, adjust the set-point, plot the main operating variables, monitor the status of the various components and display / reset the alarms. As alternatives, the Touch interface, with a 7" WVGA colour display and USB port, or the Large keyboard, with a wide LCD display and led icons, are available. Temperature control characterized by the continuous capacity modulation, based on PID algorithms with dynamic neutral zone related to the leaving water temperature. Complete alarm management system is available, with the "black-box" and the alarm history display functions.
Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks. Compatibility with remote keyboard (up to 8 units). The programmable timer manages a weekly schedule organized 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. As an option (VPF package), the capacity modulation is integrated with the modulation of the water flow, by means of inverter and dedicated resources for the hydraulic circuit.

Refrigerant

R134a

Versions

K	Standard efficiency
SL-K	Super low noise, standard efficiency

Configurations

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

Features

HIGH EFFICIENCY
Very high efficiency at full and partial load, at the highest market levels, thanks to the adopted technological solutions. These units ensure low operating costs and therefore a quick payback time.

COMPACTNESS
Compactness in terms of overall size and weight, helping installation and working on site

EXTREMELY SILENT OPERATION
As the result of a systematic design oriented to minimize the noise level, the silenced version units give the best combination of quietness and efficiency on the market.

FLEXIBILITY
Flexibility in the applications thanks to the many configurations and versions available.

WIDE OPERATING RANGE
The accurate condensation control (variable fan speed regulation as per standard on every model) and devoted kits allow unit's operation from -10°C (-20°C with accessories) to 46°C (50°C with accessories) of outdoor air temperature and from -8°C to 18°C (20°C with accessories) of evaporator leaving water temperature.

ALUMINIUM MICRO-CHANNEL HEAT EXCHANGERS
The full aluminium micro-channel condenser coils deliver high efficiency whilst ensuring a reduced refrigerant volume and a lower unit weight. The e-coating protection (optional) grants the highest level of resistance to corrosion in any condition, even in the most aggressive environments.

INTEGRATED HYDRONIC GROUP
The built-in hydronic group (optional) includes the main water circuit components. It is available with 1 or 2 pumps, fixed or variable speed, high or low head to satisfy all the different industrial and comfort application requirements.

AHRI CERTIFICATION
Certified in accordance with the AHRI Air-Cooled Water-Chilling Packages Certification Program, which is based on AHRI Standard 550/590 (I-P) and AHRI Standard 551/591 (SI). Certified units may be found in the AHRI Directory at www.ahridirectory.org

Accessories

- Noise reducer (only on not silenced versions)
- EC fans with electronic DC brushless motor
- Microchannel coils with e-coating protection
- Traditional coils with copper tubes and alluminium fins, also available with prepainted fins or Fin Guard Silver protective treatment.
- Compressor enclosure (standard on silenced versions)
- Leak detector
- Kit HT to increase the unit operating range
- Compressor power factor correction
- Soft start
- Hydronic group
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus, Echelon, Bacnet, Bacnet over-IP.
- Remote control keyboard (distance to 200m and to 500m)

FX /K			0751	0851	0951	0961	1101
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	145,5	160,1	202,8	221,9	238,0
Total power input	(1)	kW	50,04	58,63	63,66	73,33	85,18
EER	(1)	kW/kW	2,910	2,732	3,184	3,027	2,793
ESEER	(1)	kW/kW	4,000	4,000	4,040	4,070	4,090
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	145,1	159,7	202,1	221,1	237,1
EER	(1)(2)	kW/kW	2,880	2,710	3,140	2,980	2,750
ESEER	(1)(2)	kW/kW	3,900	3,920	3,920	3,930	3,950
Cooling energy class			C	C	A	B	C
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Ambient refrigeration							
Prated,c	(7)	kW	145	160	202	221	237
SEER	(7)(8)		3,86	3,88	3,95	3,95	3,91
Performance ηs	(7)(9)	%	152	152	155	155	153
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	6,957	7,654	9,696	10,61	11,38
Pressure drop	(1)	kPa	20,6	20,1	30,2	36,2	41,6
REFRIGERANT CIRCUIT							
Compressors nr.		N°	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	20,0	22,0	28,0	31,0	33,0
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	62	62	62	62	64
Sound power level in cooling	(4)(5)	dB(A)	94	94	94	94	96
SIZE AND WEIGHT							
A	(6)	mm	1500	1500	2750	2750	2750
B	(6)	mm	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500
Operating weight	(6)	kg	1480	1510	2100	2130	2460

FX /K			1301	1401	1421	1431	1801
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	274,7	299,1	329,0	347,7	395,7
Total power input	(1)	kW	87,99	102,6	118,7	111,6	135,2
EER	(1)	kW/kW	3,122	2,915	2,772	3,116	2,927
ESEER	(1)	kW/kW	4,070	4,050	4,080	4,000	4,050
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	273,7	297,8	327,7	346,8	394,4
EER	(1)(2)	kW/kW	3,080	2,870	2,730	3,080	2,890
ESEER	(1)(2)	kW/kW	3,940	3,900	3,930	3,900	3,930
Cooling energy class			B	C	C	B	C
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Ambient refrigeration							
Prated,c	(7)	kW	274	298	328	347	394
SEER	(7)(8)		3,91	3,88	3,91	3,96	3,95
Performance ηs	(7)(9)	%	154	152	153	155	155
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	13,14	14,30	15,73	16,63	18,92
Pressure drop	(1)	kPa	42,5	50,4	44,9	29,5	38,2
REFRIGERANT CIRCUIT							
Compressors nr.		N°	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	38,0	42,0	46,0	49,0	55,0
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	64	65	66	66	66
Sound power level in cooling	(4)(5)	dB(A)	96	97	98	98	98
SIZE AND WEIGHT							
A	(6)	mm	2750	2750	2750	4000	4000
B	(6)	mm	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500
Operating weight	(6)	kg	2510	2540	2580	3110	3540

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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

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FX /SL-K			0751	0851	0951	0961	1101
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	140,1	169,5	195,5	214,7	245,9
Total power input	(1)	kW	50,40	53,88	64,25	74,84	80,11
EER	(1)	kW/kW	2,780	3,145	3,040	2,870	3,070
ESEER	(1)	kW/kW	3,970	4,210	4,020	4,050	4,140
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	139,7	169,0	194,9	214,0	244,9
EER	(1)(2)	kW/kW	2,750	3,110	3,000	2,830	3,020
ESEER	(1)(2)	kW/kW	3,880	4,100	3,910	3,930	3,990
Cooling energy class			C	A	B	C	B
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Ambient refrigeration							
Prated,c	(7)	kW	140	169	195	214	245
SEER	(7)(8)		3,82	4,09	3,93	3,93	4,00
Performance ηs	(7)(9)	%	150	161	154	154	157
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	6,698	8,107	9,351	10,27	11,76
Pressure drop	(1)	kPa	19,1	22,6	28,1	33,9	44,4
REFRIGERANT CIRCUIT							
Compressors nr.		N°	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	21,0	25,0	29,0	32,0	37,0
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	52	52	53	53	55
Sound power level in cooling	(4)(5)	dB(A)	84	84	85	85	87
SIZE AND WEIGHT							
A	(6)	mm	1500	2750	2750	2750	2750
B	(6)	mm	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500
Operating weight	(6)	kg	1640	2050	2270	2290	2770

FX /SL-K			1301	1401	1421	1431	1801
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	265,0	287,8	331,8	346,5	395,0
Total power input	(1)	kW	89,07	104,5	112,5	107,8	130,0
EER	(1)	kW/kW	2,974	2,754	2,949	3,214	3,038
ESEER	(1)	kW/kW	4,050	4,020	4,260	4,370	4,100
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	264,1	286,6	330,5	345,6	393,7
EER	(1)(2)	kW/kW	2,930	2,710	2,900	3,180	3,000
ESEER	(1)(2)	kW/kW	3,930	3,870	4,110	4,260	3,980
Cooling energy class			B	C	B	A	B
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Ambient refrigeration							
Prated,c	(7)	kW	264	287	330	346	394
SEER	(7)(8)		3,89	3,85	4,10	4,29	4,02
Performance ηs	(7)(9)	%	152	151	161	168	158
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	12,67	13,76	15,86	16,57	18,89
Pressure drop	(1)	kPa	39,5	46,6	45,7	29,3	38,1
REFRIGERANT CIRCUIT							
Compressors nr.		N°	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	40,0	43,0	50,0	52,0	59,0
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	55	56	57	57	57
Sound power level in cooling	(4)(5)	dB(A)	87	88	89	89	89
SIZE AND WEIGHT							
A	(6)	mm	2750	2750	4000	4000	4000
B	(6)	mm	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500
Operating weight	(6)	kg	2770	2790	3250	3410	3880

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
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9 Seasonal space cooling energy efficiency

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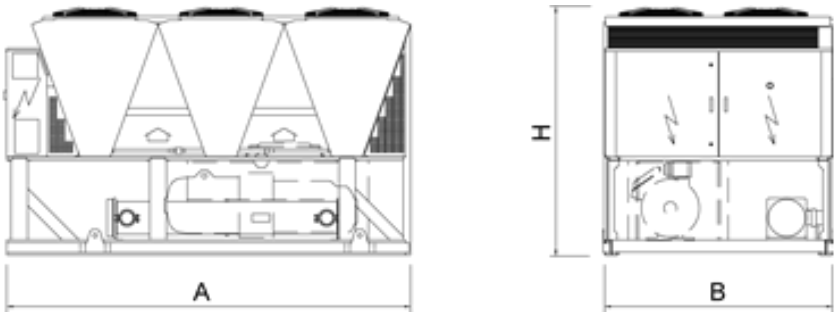
Certified data in EUROVENT

Dimensional drawing



CHILLERS

FX

Chiller, air source for outdoor installation

1502 - 7223 288,5-1710 kW

Outdoor unit for the production of chilled water with semi-hermetic screw compressors optimized for R134a, axial-flow fans, micro-channel full-aluminum condensing coils, single-pass shell and tubes evaporator designed by Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. and electronic expansion valve.
Base and supporting structure and panels are of galvanized epoxy powder coated steel with increased thickness. Eurovent certification.
Flexible and reliable unit; it easily adapts itself to different thermal load conditions thanks to the precise thermoregulation and the accurate sizing of all internal components. The compressors feature an enhanced lubrication system, an innovative internal geometry and a different control of capacity steps. Innovations that grant a remarkable performance improvement especially at partial loads.

Control

W3000TE
W3000TE control is available with the new KIPlink user interface. Based on WiFi technology, it allows one to operate on the unit directly from the smartphone or tablet. Using KIPlink, it is possible to turn the unit on and off, adjust the set-point, plot the main operating variables, monitor the status of the various components and display / reset the alarms. As alternatives, the Touch interface, with a 7" WVGA colour display and USB port, or the Large keyboard, with a wide LCD display and led icons, are available. Temperature control characterized by the continuous capacity modulation, based on PID algorithms with dynamic neutral zone related to the leaving water temperature. Complete alarm management system is available, with the "black-box" and the alarm history display functions.
Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks. Compatibility with remote keyboard (up to 8 units). The programmable timer manages a weekly schedule organized 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. As an option (VPF package), the capacity modulation is integrated with the modulation of the water flow, by means of inverter and dedicated resources for the hydraulic circuit.

Refrigerant

R134a

Versions

K	Standard efficiency
SL-K	Super low noise, standard efficiency
CA	High efficiency
SL-CA	Super low noise, high efficiency
E	Very high efficiency
SL-E	Super low noise, very high efficiency

Configurations

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

Features

HIGH EFFICIENCY
Very high efficiency at full and partial load, at the highest market levels, thanks to the adopted technological solutions. These units ensure low operating costs and therefore a quick payback time.

EXTREMELY SILENT OPERATION
As the result of a systematic design oriented to minimize the noise level, the silenced version units give the best combination of quietness and efficiency on the market.

FLEXIBILITY
Flexibility in the applications thanks to the many configurations and versions available.

WIDE OPERATING RANGE
The accurate condensation control (variable fan speed regulation as per standard on every model) and devoted kits allow unit's operation from -10°C (-20°C with accessories) to 50°C (54°C with accessories) of outdoor air temperature and from -8°C to 18°C (20°C with accessories) of evaporator leaving water temperature.

ALUMINIUM MICRO-CHANNEL HEAT EXCHANGERS
The full aluminium micro-channel condenser coils deliver high efficiency whilst ensuring a reduced refrigerant volume and a lower unit weight. The e-coating protection (optional) grants the highest level of resistance to corrosion in any condition, even in the most aggressive environments.

INTEGRATED HYDRONIC GROUP
The built-in hydronic group (optional) includes the main water circuit components. The 2 pumps are in twin configuration and available with 2 or 4-pole motor, fixed or variable speed, high or low head, to satisfy the different installation requirements.

AHRI CERTIFICATION
Certified in accordance with the AHRI Air-Cooled Water-Chilling Packages Certification Program, which is based on AHRI Standard 550/590 (I-P) and AHRI Standard 551/591 (SI). Certified units may be found in the AHRI Directory at www.ahridirectory.org

Accessories

- Noise reducer (only on not silenced versions)
- EC fans with electronic DC brushless motor
- Microchannel coils with e-coating protection
- Traditional coils with copper tubes and alluminium fins, also available with prepainted fins or Fin Guard Silver protective treatment.
- Compressor enclosure (standard on silenced versions)
- Leak detector
- Kit HT to increase the unit operating range
- Compressor power factor correction
- Soft start
- Hydronic group
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus, Echelon, Bacnet, Bacnet over-IP.
- Remote control keyboard (distance to 200m and to 500m)

FX /K			1502	1702	1902	1922	2202	2602	2652	2702	2722
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	299,6	325,8	383,2	432,0	480,6	533,4	558,7	600,7	658,3
Total power input	(1)	kW	100,6	117,0	130,7	143,5	169,3	185,1	193,9	203,6	234,8
EER	(1)	kW/kW	2,978	2,785	2,932	3,010	2,839	2,882	2,881	2,950	2,804
ESEER	(1)	kW/kW	4,260	4,260	4,290	4,320	4,250	4,280	4,280	4,310	4,300
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	298,9	324,9	382,1	430,5	479,3	531,7	557,1	598,8	656,3
EER	(1)(2)	kW/kW	2,950	2,760	2,900	2,970	2,810	2,850	2,850	2,910	2,770
ESEER	(1)(2)	kW/kW	4,130	4,120	4,140	4,130	4,110	4,110	4,130	4,140	4,140
Cooling energy class			B	C	B	B	C	C	C	B	C
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(7)	kW	299	325	382	430	479	532	557	599	656
SEER	(7)(8)		4,15	4,12	4,17	4,18	4,15	4,14	4,11	4,19	4,17
Performance ηs	(7)(9)	%	163	162	164	164	163	162	162	164	164
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	14,33	15,58	18,32	20,66	22,98	25,51	26,72	28,73	31,48
Pressure drop	(1)	kPa	23,9	28,3	33,6	42,7	32,3	39,8	34,9	40,3	38,5
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	44,0	47,0	55,0	63,0	69,0	76,0	80,0	88,0	94,0
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	67	67	67	68	68	68	68	68	70
Sound power level in cooling	(4)(5)	dB(A)	99	99	99	100	100	100	100	100	102
SIZE AND WEIGHT											
A	(6)	mm	2750	2750	4000	4000	4000	5250	5250	5250	5250
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	3160	3170	3720	3810	4610	5060	5060	5130	5520

FX /K			3152	3602	3902	4202	4502	4802	4812	4822	5412
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	725,4	802,7	871,9	926,5	982,4	1021	1059	1146	1176
Total power input	(1)	kW	249,9	267,4	289,7	309,8	336,9	362,5	347,9	389,1	415,5
EER	(1)	kW/kW	2,903	3,002	3,010	2,991	2,916	2,817	3,044	2,945	2,830
ESEER	(1)	kW/kW	4,290	4,260	4,260	4,290	4,270	4,270	4,280	4,310	4,270
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	722,9	800,2	869,2	923,3	979,4	1018	1055	1142	1172
EER	(1)(2)	kW/kW	2,860	2,960	2,970	2,950	2,880	2,780	3,000	2,900	2,800
ESEER	(1)(2)	kW/kW	4,110	4,100	4,100	4,110	4,110	4,100	4,110	4,120	4,120
Cooling energy class			C	B	B	B	C	C	B	B	C
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(7)	kW	723	800	869	923	979	1018	1055	1142	1172
SEER	(7)(8)		4,16	4,17	4,17	4,17	4,18	4,15	4,18	4,18	4,18
Performance ηs	(7)(9)	%	163	164	164	164	164	163	164	164	164
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	34,69	38,39	41,70	44,31	46,98	48,82	50,65	54,81	56,25
Pressure drop	(1)	kPa	46,8	40,9	42,6	48,1	41,8	45,1	48,5	53,3	42,2
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	104	117	127	135	140	146	151	164	168
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	69	69	70	70	71	71	71	71	72
Sound power level in cooling	(4)(5)	dB(A)	102	102	103	103	104	104	104	104	105
SIZE AND WEIGHT											
A	(6)	mm	6500	6500	7750	7750	7750	7750	9000	9000	9150
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	6450	6940	7440	7560	7790	7820	8250	8370	8660

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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 R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

FX /K			6002	6022	6303	6903	7203	7213	7223
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	1239	1303	1401	1481	1547	1654	1710
Total power input	(1)	kW	426,0	466,1	466,4	513,5	546,6	569,8	594,2
EER	(1)	kW/kW	2,908	2,796	3,004	2,884	2,830	2,903	2,878
ESEER	(1)	kW/kW	4,270	4,310	4,270	4,290	4,250	4,280	4,320
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	1235	1298	1397	1476	1543	1649	1704
EER	(1)(2)	kW/kW	2,870	2,760	2,970	2,850	2,800	2,870	2,840
ESEER	(1)(2)	kW/kW	4,110	4,120	4,110	4,110	4,110	4,120	4,140
Cooling energy class			C	C	B	C	C	C	C
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	1235	1298	1397	1476	1543	1649	1704
SEER	(7)(8)		4,17	4,17	4,21	4,19	4,18	4,21	4,21
Performance ηs	(7)(9)	%	164	164	166	165	164	165	166
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	59,26	62,29	67,01	70,81	74,00	79,11	81,79
Pressure drop	(1)	kPa	46,9	51,8	45,4	50,7	39,0	44,6	51,2
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	3	3	3	3	3
No. Circuits		N°	2	2	3	3	3	3	3
Refrigerant charge		kg	181	186	205	212	221	237	250
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	73	73	73	73	73	73	73
Sound power level in cooling	(4)(5)	dB(A)	106	106	106	106	106	106	106
SIZE AND WEIGHT									
A	(6)	mm	10400	10400	11650	11650	11650	12900	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	9200	9310	11880	11940	11950	12490	12570

Notes

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3 Average sound pressure level at 10m 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, outdoors.
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8 Seasonal energy efficiency ratio
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FX /SL-K			1502	1702	1902	1922	2202	2602	2652	2702	2722
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	288,5	333,4	381,6	418,7	476,0	518,6	556,0	578,5	663,2
Total power input	(1)	kW	101,2	113,0	125,9	146,1	161,4	174,6	191,8	207,2	222,7
EER	(1)	kW/kW	2,851	2,950	3,031	2,866	2,949	2,970	2,899	2,792	2,978
ESEER	(1)	kW/kW	4,230	4,250	4,280	4,300	4,270	4,280	4,280	4,260	4,260
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	287,8	332,5	380,5	417,3	474,7	517,0	554,4	576,8	661,2
EER	(1)(2)	kW/kW	2,820	2,920	3,000	2,830	2,920	2,930	2,870	2,760	2,940
ESEER	(1)(2)	kW/kW	4,100	4,110	4,130	4,130	4,130	4,120	4,130	4,110	4,110
Cooling energy class			C	B	B	C	B	B	C	C	B
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(7)	kW	288	332	380	417	475	517	554	577	661
SEER	(7)(8)		4,10	4,13	4,18	4,16	4,17	4,12	4,14	4,14	4,17
Performance ηs	(7)(9)	%	161	162	164	163	164	162	162	163	164
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	13,80	15,94	18,25	20,02	22,76	24,80	26,59	27,66	31,72
Pressure drop	(1)	kPa	22,2	29,6	33,3	40,1	31,7	37,6	34,5	37,4	39,1
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	44,0	51,0	58,0	63,0	72,0	79,0	84,0	88,0	101
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	55	55	56	56	57	57	57	57	57
Sound power level in cooling	(4)(5)	dB(A)	87	87	88	88	89	89	89	89	90
SIZE AND WEIGHT											
A	(6)	mm	2750	4000	4000	4000	5250	5250	5250	5250	6500
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	3420	4160	4230	4230	5200	5560	5580	5620	6610

FX /SL-K			3152	3602	3902	4202	4502	4802	4812	4822	5412
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	716,6	770,8	838,7	892,9	964,9	1021	1052	1137	1169
Total power input	(1)	kW	246,8	271,7	294,5	315,0	335,4	353,2	341,0	380,8	407,3
EER	(1)	kW/kW	2,904	2,837	2,848	2,835	2,877	2,891	3,085	2,986	2,870
ESEER	(1)	kW/kW	4,280	4,260	4,270	4,290	4,270	4,280	4,290	4,290	4,260
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	714,1	768,6	836,2	890,0	962,1	1018	1048	1133	1166
EER	(1)(2)	kW/kW	2,860	2,810	2,820	2,800	2,840	2,860	3,040	2,940	2,840
ESEER	(1)(2)	kW/kW	4,100	4,110	4,120	4,120	4,120	4,110	4,110	4,110	4,110
Cooling energy class			C	C	C	C	C	C	B	B	C
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(7)	kW	714	769	836	890	962	1018	1048	1133	1166
SEER	(7)(8)		4,16	4,18	4,18	4,16	4,18	4,18	4,20	4,19	4,20
Performance ηs	(7)(9)	%	163	164	164	164	164	164	165	165	165
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	34,27	36,86	40,11	42,70	46,14	48,85	50,30	54,38	55,91
Pressure drop	(1)	kPa	45,7	37,7	39,4	44,7	40,3	45,2	47,9	52,5	41,7
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	109	117	127	135	146	155	159	172	177
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	58	58	59	59	60	60	61	61	61
Sound power level in cooling	(4)(5)	dB(A)	91	91	92	92	93	93	94	94	94
SIZE AND WEIGHT											
A	(6)	mm	6500	6500	7750	7750	9000	9000	10250	10250	10400
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	7080	7550	8090	8200	9000	8870	9360	9470	9780

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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

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Certified data in EUROVENT

FX /SL-K			6002	6022	6303	6903	7203	7213	7223
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	1194	1289	1350	1463	1530	1595	1649
Total power input	(1)	kW	432,8	459,1	474,3	509,9	540,4	582,7	609,3
EER	(1)	kW/kW	2,759	2,808	2,846	2,869	2,831	2,737	2,706
ESEER	(1)	kW/kW	4,260	4,300	4,270	4,290	4,250	4,250	4,270
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	1190	1285	1346	1458	1526	1590	1644
EER	(1)(2)	kW/kW	2,730	2,770	2,810	2,830	2,800	2,710	2,680
ESEER	(1)(2)	kW/kW	4,100	4,120	4,110	4,110	4,110	4,110	4,100
Cooling energy class			C	C	C	C	C	C	D
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	1190	1285	1346	1458	1526	1590	1644
SEER	(7)(8)		4,15	4,18	4,20	4,19	4,21	4,17	4,16
Performance ηs	(7)(9)	%	163	164	165	165	165	164	163
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	57,11	61,64	64,56	69,97	73,16	76,27	78,86
Pressure drop	(1)	kPa	43,5	50,7	42,1	49,5	38,2	41,5	47,6
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	3	3	3	3	3
No. Circuits		N°	2	2	3	3	3	3	3
Refrigerant charge		kg	181	195	205	222	232	242	250
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	61	61	61	61	61	61	62
Sound power level in cooling	(4)(5)	dB(A)	94	94	94	94	94	94	95
SIZE AND WEIGHT									
A	(6)	mm	10400	11650	11650	12900	12900	12900	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	9860	10420	12810	13340	13340	13420	13500

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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 R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

FX /CA			1502	1702	1902	1922	2202	2602	2652
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	302,4	349,6	395,0	461,7	513,2	551,4	590,7
Total power input	(1)	kW	95,40	108,6	124,9	143,9	159,8	174,8	184,4
EER	(1)	kW/kW	3,170	3,219	3,163	3,208	3,212	3,154	3,203
ESEER	(1)	kW/kW	4,380	4,390	4,400	4,370	4,400	4,390	4,400
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	301,6	348,6	393,8	460,5	511,7	549,9	588,9
EER	(1)(2)	kW/kW	3,140	3,180	3,120	3,170	3,170	3,120	3,160
ESEER	(1)(2)	kW/kW	4,230	4,230	4,230	4,230	4,240	4,250	4,240
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	302	349	394	460	512	550	589
SEER	(7)(8)		4,30	4,29	4,29	4,30	4,31	4,25	4,26
Performance ηs	(7)(9)	%	169	169	168	169	169	167	167
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	14,46	16,72	18,89	22,08	24,54	26,37	28,25
Pressure drop	(1)	kPa	24,4	32,6	35,7	29,8	36,8	34,0	39,0
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	48,0	54,0	58,0	68,0	79,0	81,0	87,0
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	66	66	67	67	68	68	68
Sound power level in cooling	(4)(5)	dB(A)	98	98	99	99	100	100	101
SIZE AND WEIGHT									
A	(6)	mm	4000	4000	4000	5250	5250	5250	6500
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	3660	3720	3760	4660	5040	5090	5830

FX /CA			2702	2722	3152	3602	3902	4202	4502
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	628,7	683,7	766,2	837,8	904,7	956,0	1031
Total power input	(1)	kW	195,9	217,5	241,6	260,1	279,6	299,5	319,9
EER	(1)	kW/kW	3,209	3,143	3,171	3,221	3,236	3,192	3,223
ESEER	(1)	kW/kW	4,390	4,410	4,390	4,390	4,400	4,420	4,400
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	626,6	681,5	764,0	835,0	901,7	952,5	1028
EER	(1)(2)	kW/kW	3,160	3,100	3,130	3,180	3,190	3,140	3,180
ESEER	(1)(2)	kW/kW	4,210	4,240	4,230	4,210	4,220	4,220	4,220
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	627	682	764	835	902	952	1028
SEER	(7)(8)		4,28	4,30	4,33	4,30	4,32	4,31	4,31
Performance ηs	(7)(9)	%	168	169	170	169	170	169	169
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	30,07	32,70	36,64	40,06	43,26	45,72	49,29
Pressure drop	(1)	kPa	44,2	41,6	37,2	44,5	45,8	51,2	46,0
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	92,0	100	113	123	133	141	151
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	68	68	68	69	69	70	70
Sound power level in cooling	(4)(5)	dB(A)	101	101	101	102	102	103	103
SIZE AND WEIGHT									
A	(6)	mm	6500	6500	7750	7750	9000	9000	10400
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	5690	6110	6970	7440	7890	8000	8700

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
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5 Sound power level in cooling, outdoors.
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

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Certified data in EUROVENT

FX /CA			4802	4822	5412	5703	6303	6603
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	1098	1177	1236	1342	1460	1521
Total power input	(1)	kW	339,5	374,9	390,8	414,5	458,8	484,7
EER	(1)	kW/kW	3,234	3,140	3,163	3,238	3,182	3,138
ESEER	(1)	kW/kW	4,430	4,400	4,410	4,350	4,370	4,390
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	1094	1173	1232	1338	1456	1517
EER	(1)(2)	kW/kW	3,190	3,100	3,120	3,200	3,150	3,100
ESEER	(1)(2)	kW/kW	4,240	4,240	4,240	4,200	4,240	4,240
Cooling energy class			A	A	A	A	A	A
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Ambient refrigeration								
Prated,c	(7)	kW	1094	1173	1232	1338	1456	1517
SEER	(7)(8)		4,33	4,33	4,34	4,33	4,34	4,36
Performance ηs	(7)(9)	%	170	170	171	170	171	172
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	52,53	56,31	59,13	64,17	69,81	72,73
Pressure drop	(1)	kPa	50,1	42,3	46,7	41,6	34,7	37,7
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	2	2	3	3	3
No. Circuits		N°	2	2	2	3	3	3
Refrigerant charge		kg	161	173	182	197	226	224
NOISE LEVEL								
Sound Pressure	(3)	dB(A)	70	70	71	71	71	71
Sound power level in cooling	(4)(5)	dB(A)	103	103	104	104	104	104
SIZE AND WEIGHT								
A	(6)	mm	10400	10400	11650	12900	12900	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	8780	9040	10120	12160	12330	12640

Notes

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5 Sound power level in cooling, outdoors.
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Certified data in EUROVENT

FX /SL-CA			1502	1702	1902	1922	2202	2602	2652
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	304,2	344,9	394,3	450,1	500,7	560,7	582,8
Total power input	(1)	kW	94,73	107,7	121,8	143,7	159,4	178,3	181,6
EER	(1)	kW/kW	3,212	3,202	3,237	3,132	3,141	3,145	3,209
ESEER	(1)	kW/kW	4,380	4,390	4,400	4,350	4,390	4,390	4,390
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	303,4	343,9	393,1	449,0	499,3	559,1	581,0
EER	(1)(2)	kW/kW	3,180	3,160	3,200	3,100	3,110	3,110	3,170
ESEER	(1)(2)	kW/kW	4,240	4,230	4,240	4,220	4,240	4,240	4,220
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	303	344	393	449	499	559	581
SEER	(7)(8)		4,31	4,29	4,28	4,28	4,31	4,30	4,25
Performance ηs	(7)(9)	%	169	169	168	168	169	169	167
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	14,55	16,49	18,85	21,53	23,94	26,81	27,87
Pressure drop	(1)	kPa	24,7	31,7	35,6	28,3	35,1	35,1	38,0
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	48,0	54,0	62,0	71,0	79,0	88,0	92,0
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	55	56	56	57	57	57	58
Sound power level in cooling	(4)(5)	dB(A)	87	88	88	89	89	90	91
SIZE AND WEIGHT									
A	(6)	mm	4000	4000	5250	5250	5250	6500	6500
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	4130	4190	4680	5140	5520	6140	6390

FX /SL-CA			2702	2722	3152	3602	3902	4202	4502
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	615,6	680,7	754,1	819,3	899,1	947,9	1020
Total power input	(1)	kW	196,2	212,3	236,9	252,1	273,7	293,5	314,1
EER	(1)	kW/kW	3,138	3,206	3,183	3,250	3,285	3,230	3,247
ESEER	(1)	kW/kW	4,380	4,410	4,390	4,370	4,390	4,420	4,390
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	613,9	678,5	752,0	816,7	896,1	944,5	1017
EER	(1)(2)	kW/kW	3,100	3,160	3,150	3,210	3,240	3,180	3,200
ESEER	(1)(2)	kW/kW	4,230	4,240	4,230	4,200	4,210	4,220	4,220
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	614	678	752	817	896	944	1017
SEER	(7)(8)		4,30	4,32	4,34	4,30	4,31	4,32	4,33
Performance ηs	(7)(9)	%	169	170	170	169	169	170	170
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	29,44	32,55	36,06	39,18	43,00	45,33	48,80
Pressure drop	(1)	kPa	33,7	41,2	36,1	42,6	45,3	50,3	45,1
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	97,0	107	118	129	141	149	160
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	58	59	59	59	59	60	60
Sound power level in cooling	(4)(5)	dB(A)	91	92	92	92	92	93	93
SIZE AND WEIGHT									
A	(6)	mm	6500	7750	7750	9000	10250	10250	11650
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	6520	7150	7610	8500	8990	9280	9810

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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

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Certified data in EUROVENT

FX /SL-CA			4802	4822	5412	5703	6303
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	1086	1163	1219	1310	1442
Total power input	(1)	kW	333,8	369,1	385,3	409,5	460,0
EER	(1)	kW/kW	3,253	3,151	3,164	3,199	3,135
ESEER	(1)	kW/kW	4,420	4,400	4,410	4,370	4,370
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	1082	1160	1215	1306	1439
EER	(1)(2)	kW/kW	3,210	3,110	3,120	3,160	3,100
ESEER	(1)(2)	kW/kW	4,230	4,240	4,240	4,210	4,240
Cooling energy class			A	A	A	A	A
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Ambient refrigeration							
Prated,c	(7)	kW	1082	1160	1215	1306	1439
SEER	(7)(8)		4,34	4,34	4,35	4,34	4,34
Performance ηs	(7)(9)	%	170	171	171	171	171
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	51,94	55,63	58,31	62,64	68,95
Pressure drop	(1)	kPa	48,9	41,3	45,4	39,7	33,9
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	2	3	3
No. Circuits		N°	2	2	2	3	3
Refrigerant charge		kg	171	183	191	206	226
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	60	60	62	62	62
Sound power level in cooling	(4)(5)	dB(A)	93	93	95	95	95
SIZE AND WEIGHT							
A	(6)	mm	11650	11650	12900	12900	12900
B	(6)	mm	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500
Operating weight	(6)	kg	9890	10230	10760	13130	13260

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
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FX /E			1502	1702	1902	1922	2202	2602	2652	2702	2722
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	316,5	362,6	413,8	451,2	530,5	575,8	612,9	649,8	703,3
Total power input	(1)	kW	94,57	108,4	123,1	136,8	156,4	170,7	181,3	192,0	213,3
EER	(1)	kW/kW	3,346	3,345	3,361	3,298	3,392	3,373	3,381	3,384	3,297
ESEER	(1)	kW/kW	4,430	4,450	4,440	4,460	4,440	4,450	4,450	4,470	4,450
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	315,8	361,6	412,9	450,1	529,0	574,4	611,2	647,9	701,5
EER	(1)(2)	kW/kW	3,310	3,310	3,330	3,260	3,350	3,340	3,340	3,340	3,260
ESEER	(1)(2)	kW/kW	4,310	4,300	4,320	4,320	4,290	4,310	4,300	4,310	4,310
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(7)	kW	316	362	413	450	529	574	611	648	702
SEER	(7)(8)		4,40	4,37	4,40	4,36	4,40	4,36	4,36	4,41	4,41
Performance ηs	(7)(9)	%	173	172	173	172	173	171	171	173	173
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	15,14	17,34	19,79	21,58	25,37	27,54	29,31	31,07	33,63
Pressure drop	(1)	kPa	22,9	30,1	24,0	28,5	35,8	29,5	33,4	37,5	31,4
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	49,0	56,0	64,0	71,0	82,0	89,0	95,0	101	109
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	66	67	67	67	67	67	68	68	68
Sound power level in cooling	(4)(5)	dB(A)	98	99	99	99	100	100	101	101	101
SIZE AND WEIGHT											
A	(6)	mm	4000	5250	5250	5250	6500	6500	7750	7750	7750
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	3720	4240	4360	4420	5590	5920	6400	6490	6600

FX /E			3152	3602	3902	4202	4502	4802	4822	5412
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	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	785,8	854,0	931,3	986,6	1054	1123	1219	1277
Total power input	(1)	kW	236,1	256,1	277,1	297,5	317,3	337,2	373,1	391,5
EER	(1)	kW/kW	3,328	3,335	3,361	3,316	3,322	3,330	3,267	3,262
ESEER	(1)	kW/kW	4,440	4,460	4,510	4,460	4,490	4,480	4,410	4,430
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	783,7	851,4	927,8	983,6	1051	1119	1216	1274
EER	(1)(2)	kW/kW	3,290	3,290	3,310	3,270	3,280	3,280	3,230	3,230
ESEER	(1)(2)	kW/kW	4,290	4,290	4,290	4,290	4,300	4,290	4,280	4,290
Cooling energy class			A	A	A	A	A	A	A	A
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Ambient refrigeration										
Prated,c	(7)	kW	784	851	928	984	1051	1119	1216	1274
SEER	(7)(8)		4,41	4,41	4,41	4,41	4,41	4,39	4,41	4,43
Performance ηs	(7)(9)	%	173	174	173	173	173	173	173	174
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	37,58	40,84	44,54	47,18	50,39	53,70	58,31	61,05
Pressure drop	(1)	kPa	34,6	40,9	53,0	42,1	46,1	51,2	34,4	37,7
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
Refrigerant charge		kg	122	132	144	153	163	174	189	198
NOISE LEVEL										
Sound Pressure	(3)	dB(A)	68	69	69	70	70	70	70	71
Sound power level in cooling	(4)(5)	dB(A)	101	102	102	103	103	103	103	104
SIZE AND WEIGHT										
A	(6)	mm	9000	9000	10250	10250	11650	11650	11650	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	7400	7880	8420	8660	9190	9270	10330	11170

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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

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Certified data in EUROVENT

FX /SL-E			1502	1702	1902	1922	2202	2602	2652	2702	2722
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	312,8	359,1	409,0	447,3	524,1	568,3	605,2	641,9	696,6
Total power input	(1)	kW	93,22	106,0	121,2	135,8	154,2	169,0	179,3	189,5	212,1
EER	(1)	kW/kW	3,356	3,388	3,375	3,294	3,399	3,363	3,375	3,387	3,284
ESEER	(1)	kW/kW	4,450	4,470	4,450	4,460	4,450	4,460	4,470	4,490	4,470
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	312,1	358,1	408,1	446,2	522,6	566,9	603,6	640,0	694,9
EER	(1)(2)	kW/kW	3,320	3,350	3,340	3,260	3,360	3,330	3,340	3,340	3,250
ESEER	(1)(2)	kW/kW	4,330	4,320	4,330	4,320	4,300	4,330	4,330	4,330	4,330
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(7)	kW	312	358	408	446	523	567	604	640	695
SEER	(7)(8)		4,41	4,38	4,39	4,36	4,41	4,36	4,37	4,42	4,42
Performance ηs	(7)(9)	%	173	172	173	171	173	172	172	174	174
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	14,96	17,17	19,56	21,39	25,06	27,18	28,94	30,70	33,31
Pressure drop	(1)	kPa	22,4	29,5	23,4	28,0	34,9	28,7	32,6	36,6	30,8
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	49,0	56,0	64,0	71,0	82,0	89,0	95,0	101	109
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	56	57	57	57	57	58	58	59	59
Sound power level in cooling	(4)(5)	dB(A)	88	89	89	89	90	91	91	92	92
SIZE AND WEIGHT											
A	(6)	mm	4000	5250	5250	5250	6500	6500	7750	7750	7750
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	3960	4460	4620	4680	6120	6460	6940	7040	7140

FX /SL-E			3152	3602	3902	4202	4502	4802	4822	5412
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	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	776,1	841,9	918,4	973,5	1040	1108	1205	1260
Total power input	(1)	kW	234,5	253,8	275,0	295,6	315,3	335,2	373,3	389,9
EER	(1)	kW/kW	3,310	3,317	3,340	3,293	3,298	3,305	3,228	3,232
ESEER	(1)	kW/kW	4,450	4,470	4,510	4,470	4,490	4,490	4,420	4,440
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	774,1	839,4	915,0	970,6	1037	1104	1202	1257
EER	(1)(2)	kW/kW	3,270	3,280	3,290	3,250	3,250	3,260	3,200	3,200
ESEER	(1)(2)	kW/kW	4,310	4,300	4,300	4,310	4,320	4,290	4,290	4,300
Cooling energy class			A	A	A	A	A	A	A	A
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Ambient refrigeration										
Prated,c	(7)	kW	774	839	915	971	1037	1104	1202	1257
SEER	(7)(8)		4,41	4,41	4,42	4,41	4,42	4,40	4,41	4,44
Performance ηs	(7)(9)	%	173	174	174	174	174	173	173	175
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	37,11	40,26	43,92	46,55	49,72	52,98	57,62	60,28
Pressure drop	(1)	kPa	33,7	39,7	51,5	41,0	44,9	49,8	33,6	36,7
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
Refrigerant charge		kg	122	132	144	153	163	174	189	198
NOISE LEVEL										
Sound Pressure	(3)	dB(A)	59	59	59	60	60	60	60	62
Sound power level in cooling	(4)(5)	dB(A)	92	92	92	93	93	93	93	95
SIZE AND WEIGHT										
A	(6)	mm	9000	9000	10250	10250	11650	11650	11650	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	7990	8500	8990	9290	9830	9910	10900	11530

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
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9 Seasonal space cooling energy efficiency

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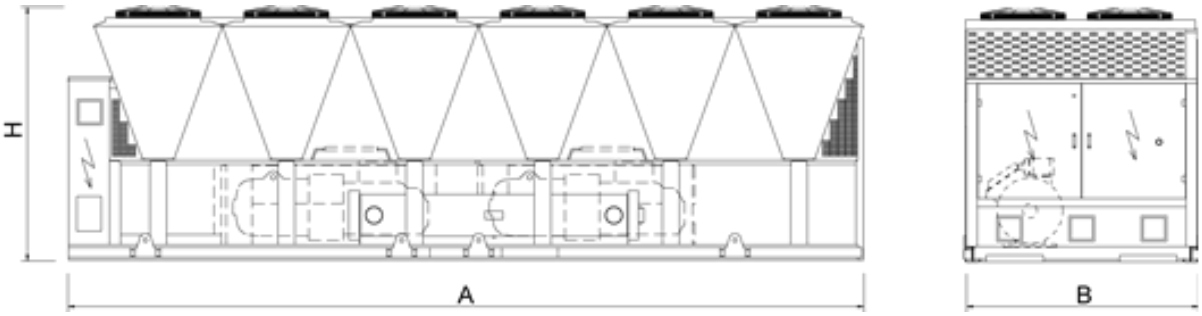
Dimensional drawing



CHILLERS

FX-G05

Chiller, air source for outdoor installation

0751 - 1801 140,1-395,7 kW

Outdoor unit for the production of chilled water with semi-hermetic screw compressor optimized for R513A, axial-flow fans, micro-channel full-aluminum condensing coils, single-pass shell and tubes evaporator designed by Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. (brazed plate evaporator for sizes 0751 and 0851) and electronic expansion valve. Base and supporting structure and panels are of galvanized epoxy powder coated steel with increased thickness. Eurovent certification.
Flexible and reliable unit; it easily adapts itself to different thermal load conditions thanks to the precise thermoregulation and the accurate sizing of all internal components. The compressors feature an enhanced lubrication system, an innovative internal geometry and a different control of capacity steps. Innovations that grant a remarkable performance improvement especially at partial loads.

Control

W3000TE
W3000TE control is available with the new KIPlink user interface. Based on WiFi technology, it allows one to operate on the unit directly from the smartphone or tablet. Using KIPlink, it is possible to turn the unit on and off, adjust the set-point, plot the main operating variables, monitor the status of the various components and display / reset the alarms. As alternatives, the Touch interface, with a 7" WVGA colour display and USB port, or the Large keyboard, with a wide LCD display and led icons, are available. Temperature control characterized by the continuous capacity modulation, based on PID algorithms with dynamic neutral zone related to the leaving water temperature. Complete alarm management system is available, with the "black-box" and the alarm history display functions.
Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks. Compatibility with remote keyboard (up to 8 units). The programmable timer manages a weekly schedule organized 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. As an option (VPF package), the capacity modulation is integrated with the modulation of the water flow, by means of inverter and dedicated resources for the hydraulic circuit.

Refrigerant

R513A

Versions

K	Standard efficiency
SL-K	Super low noise, standard efficiency

Configurations

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

HIGH EFFICIENCY
Very high efficiency at full and partial load, at the highest market levels, thanks to the adopted technological solutions. These units ensure low operating costs and therefore a quick payback time.

COMPACTNESS
Compactness in terms of overall size and weight, helping installation and working on site

EXTREMELY SILENT OPERATION
As the result of a systematic design oriented to minimize the noise level, the silenced version units give the best combination of quietness and efficiency on the market.

FLEXIBILITY
Flexibility in the applications thanks to the many configurations and versions available.

WIDE OPERATING RANGE
The accurate condensation control (variable fan speed regulation as per standard on every model) and devoted kits allow unit's operation from -10°C (-20°C with accessories) to 46°C (50°C with accessories) of outdoor air temperature and from -8°C to 18°C (20°C with accessories) of evaporator leaving water temperature.

ALUMINIUM MICRO-CHANNEL HEAT EXCHANGERS
The full aluminium micro-channel condenser coils deliver high efficiency whilst ensuring a reduced refrigerant volume and a lower unit weight. The e-coating protection (optional) grants the highest level of resistance to corrosion in any condition, even in the most aggressive environments.

INTEGRATED HYDRONIC GROUP
The built-in hydronic group (optional) includes the main water circuit components. It is available with 1 or 2 pumps, fixed or variable speed, high or low head to satisfy all the different industrial and comfort application requirements.

Accessories

- Noise reducer (only on not silenced versions)
- EC fans with electronic DC brushless motor
- Microchannel coils with e-coating protection
- Traditional coils with copper tubes and alluminium fins, also available with prepainted fins or Fin Guard Silver protective treatment.
- Compressor enclosure (standard on silenced versions)
- Leak detector
- Kit HT to increase the unit operating range
- Compressor power factor correction
- Soft start
- Hydronic group
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus, Echelon, Bacnet, Bacnet over-IP.
- Remote control keyboard (distance to 200m and to 500m)

FX-G05 /K			0751	0851	0951	0961	1101
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	145,5	160,1	202,8	221,9	238,0
Total power input	(1)	kW	52,12	61,09	66,27	76,37	88,76
EER	(1)	kW/kW	2,793	2,620	3,059	2,904	2,680
ESEER	(1)	kW/kW	3,930	3,920	3,970	4,010	4,000
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	145,1	159,7	202,1	221,1	237,1
EER	(1)(2)	kW/kW	2,760	2,600	3,020	2,860	2,640
ESEER	(1)(2)	kW/kW	3,830	3,840	3,850	3,880	3,870
Cooling energy class			C	D	B	C	D
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Ambient refrigeration							
Prated,c	(7)	kW	145	160	202	221	237
SEER	(7)(8)		3,80	3,80	3,87	3,93	3,83
Performance ηs	(7)(9)	%	149	149	152	154	150
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	6,957	7,654	9,696	10,61	11,38
Pressure drop	(1)	kPa	20,6	20,1	30,2	36,2	41,6
REFRIGERANT CIRCUIT							
Compressors nr.		N°	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	23,0	25,0	32,0	36,0	38,0
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	62	62	62	62	64
Sound power level in cooling	(4)(5)	dB(A)	94	94	94	94	96
SIZE AND WEIGHT							
A	(6)	mm	1500	1500	2750	2750	2750
B	(6)	mm	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500
Operating weight	(6)	kg	1480	1510	2100	2130	2460

FX-G05 /K			1301	1401	1421	1431	1801
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	274,7	299,1	329,0	347,7	395,7
Total power input	(1)	kW	91,61	106,9	123,7	116,2	140,9
EER	(1)	kW/kW	2,999	2,798	2,660	2,992	2,808
ESEER	(1)	kW/kW	4,020	3,970	3,990	3,940	3,960
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	273,7	297,8	327,7	346,8	394,4
EER	(1)(2)	kW/kW	2,960	2,750	2,620	2,960	2,770
ESEER	(1)(2)	kW/kW	3,890	3,820	3,850	3,860	3,850
Cooling energy class			B	C	D	B	C
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Ambient refrigeration							
Prated,c	(7)	kW	274	298	328	347	394
SEER	(7)(8)		3,90	3,80	3,83	3,95	3,86
Performance ηs	(7)(9)	%	153	149	150	155	152
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	13,14	14,30	15,73	16,63	18,92
Pressure drop	(1)	kPa	42,5	50,4	44,9	29,5	38,2
REFRIGERANT CIRCUIT							
Compressors nr.		N°	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	44,0	48,0	53,0	56,0	63,0
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	64	65	66	66	66
Sound power level in cooling	(4)(5)	dB(A)	96	97	98	98	98
SIZE AND WEIGHT							
A	(6)	mm	2750	2750	2750	4000	4000
B	(6)	mm	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500
Operating weight	(6)	kg	2510	2540	2580	3110	3540

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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

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Certified data in EUROVENT

FX-G05

0751 - 1801 140,1-395,7 kW

Chiller, air source for outdoor installation

FX-G05 /SL-K			0751	0851	0951	0961	1101
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	140,1	169,5	195,5	214,7	245,9
Total power input	(1)	kW	52,54	56,12	66,96	78,02	83,46
EER	(1)	kW/kW	2,669	3,021	2,918	2,753	2,945
ESEER	(1)	kW/kW	3,940	4,130	3,940	4,050	4,060
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	139,7	169,0	194,9	214,0	244,9
EER	(1)(2)	kW/kW	2,640	2,990	2,880	2,720	2,900
ESEER	(1)(2)	kW/kW	3,840	4,020	3,840	3,930	3,920
Cooling energy class			D	B	C	C	B
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Ambient refrigeration							
Prated,c	(7)	kW	140	169	195	214	245
SEER	(7)(8)		3,80	4,01	3,84	3,91	3,92
Performance ηs	(7)(9)	%	149	157	151	153	154
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	6,698	8,107	9,351	10,27	11,76
Pressure drop	(1)	kPa	19,1	22,6	28,1	33,9	44,4
REFRIGERANT CIRCUIT							
Compressors nr.		N°	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	24,0	29,0	33,0	37,0	43,0
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	52	52	53	53	55
Sound power level in cooling	(4)(5)	dB(A)	84	84	85	85	87
SIZE AND WEIGHT							
A	(6)	mm	1500	2750	2750	2750	2750
B	(6)	mm	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500
Operating weight	(6)	kg	1640	2050	2270	2290	2770

FX-G05 /SL-K			1301	1401	1421	1431	1801
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	265,0	287,8	331,8	346,5	395,0
Total power input	(1)	kW	92,83	109,0	117,3	112,3	135,5
EER	(1)	kW/kW	2,856	2,640	2,829	3,085	2,915
ESEER	(1)	kW/kW	4,050	3,940	4,180	4,290	4,010
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	264,1	286,6	330,5	345,6	393,7
EER	(1)(2)	kW/kW	2,820	2,600	2,790	3,050	2,880
ESEER	(1)(2)	kW/kW	3,930	3,800	4,030	4,180	3,900
Cooling energy class			C	D	C	B	C
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Ambient refrigeration							
Prated,c	(7)	kW	264	287	330	346	394
SEER	(7)(8)		3,87	3,80	4,02	4,21	3,94
Performance ηs	(7)(9)	%	152	149	158	165	155
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	12,67	13,76	15,86	16,57	18,89
Pressure drop	(1)	kPa	39,5	46,6	45,7	29,3	38,1
REFRIGERANT CIRCUIT							
Compressors nr.		N°	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	46,0	49,0	58,0	60,0	68,0
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	55	56	57	57	57
Sound power level in cooling	(4)(5)	dB(A)	87	88	89	89	89
SIZE AND WEIGHT							
A	(6)	mm	2750	2750	4000	4000	4000
B	(6)	mm	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500
Operating weight	(6)	kg	2770	2790	3250	3410	3880

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
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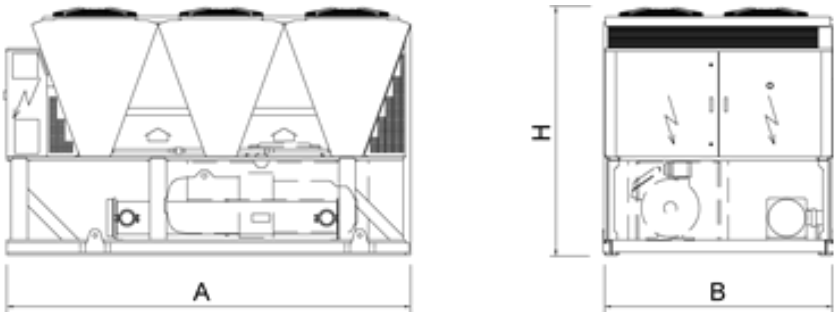
Dimensional drawing



CHILLERS

FX-G05

Chiller, air source for outdoor installation

1502 - 7223 288,5-1710 kW

Outdoor unit for the production of chilled water with semi-hermetic screw compressors optimized for R513A, axial-flow fans, micro-channel full-aluminum condensing coils, single-pass shell and tubes evaporator designed by Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. and electronic expansion valve.
Base and supporting structure and panels are of galvanized epoxy powder coated steel with increased thickness. Eurovent certification.
Flexible and reliable unit; it easily adapts itself to different thermal load conditions thanks to the precise thermoregulation and the accurate sizing of all internal components.
The compressors feature an enhanced lubrication system, an innovative internal geometry and a different control of capacity steps. Innovations that grant a remarkable performance improvement especially at partial loads.

Control

W3000TE
W3000TE control is available with the new KIPlink user interface. Based on WiFi technology, it allows one to operate on the unit directly from the smartphone or tablet. Using KIPlink, it is possible to turn the unit on and off, adjust the set-point, plot the main operating variables, monitor the status of the various components and display / reset the alarms. As alternatives, the Touch interface, with a 7" WVGA colour display and USB port, or the Large keyboard, with a wide LCD display and led icons, are available. Temperature control characterized by the continuous capacity modulation, based on PID algorithms with dynamic neutral zone related to the leaving water temperature. Complete alarm management system is available, with the "black-box" and the alarm history display functions.
Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks. Compatibility with remote keyboard (up to 8 units). The programmable timer manages a weekly schedule organized 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. As an option (VPF package), the capacity modulation is integrated with the modulation of the water flow, by means of inverter and dedicated resources for the hydraulic circuit.

Refrigerant

R513A

Versions

K	Standard efficiency
SL-K	Super low noise, standard efficiency
CA	High efficiency
SL-CA	Super low noise, high efficiency
E	Very high efficiency
SL-E	Super low noise, very high efficiency

Configurations

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

HIGH EFFICIENCY
Very high efficiency at full and partial load, at the highest market levels, thanks to the adopted technological solutions. These units ensure low operating costs and therefore a quick payback time.

EXTREMELY SILENT OPERATION
As the result of a systematic design oriented to minimize the noise level, the silenced version units give the best combination of quietness and efficiency on the market.

FLEXIBILITY
Flexibility in the applications thanks to the many configurations and versions available.

WIDE OPERATING RANGE
The accurate condensation control (variable fan speed regulation as per standard on every model) and devoted kits allow unit's operation from -10°C (-20°C with accessories) to 50°C (54°C with accessories) of outdoor air temperature and from -8°C to 18°C (20°C with accessories) of evaporator leaving water temperature.

ALUMINIUM MICRO-CHANNEL HEAT EXCHANGERS
The full aluminium micro-channel condenser coils deliver high efficiency whilst ensuring a reduced refrigerant volume and a lower unit weight. The e-coating protection (optional) grants the highest level of resistance to corrosion in any condition, even in the most aggressive environments.

INTEGRATED HYDRONIC GROUP
The built-in hydronic group (optional) includes the main water circuit components. The 2 pumps are in twin configuration and available with 2 or 4-pole motor, fixed or variable speed, high or low head, to satisfy the different installation requirements.

Accessories

- Noise reducer (only on not silenced versions)
- EC fans with electronic DC brushless motor
- Microchannel coils with e-coating protection
- Traditional coils with copper tubes and alluminium fins, also available with prepainted fins or Fin Guard Silver protective treatment.
- Compressor enclosure (standard on silenced versions)
- Leak detector
- Kit HT to increase the unit operating range
- Compressor power factor correction
- Soft start
- Hydronic group
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus, Echelon, Bacnet, Bacnet over-IP.
- Remote control keyboard (distance to 200m and to 500m)

FX-G05 /K			1502	1702	1902	1922	2202	2602	2652	2702	2722
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	299,6	325,8	383,2	432,0	480,6	533,4	558,7	600,7	658,3
Total power input	(1)	kW	104,7	122,0	136,1	149,4	176,5	192,9	202,0	212,1	244,6
EER	(1)	kW/kW	2,862	2,670	2,816	2,892	2,723	2,765	2,766	2,832	2,691
ESEER	(1)	kW/kW	4,170	4,160	4,210	4,230	4,170	4,230	4,250	4,220	4,210
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	298,9	324,9	382,1	430,5	479,3	531,7	557,1	598,8	656,3
EER	(1)(2)	kW/kW	2,840	2,640	2,780	2,850	2,700	2,730	2,740	2,800	2,660
ESEER	(1)(2)	kW/kW	4,050	4,030	4,060	4,060	4,030	4,070	4,110	4,060	4,060
Cooling energy class			C	D	C	C	C	C	C	C	D
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(7)	kW	299	325	382	430	479	532	557	599	656
SEER	(7)(8)		4,07	4,03	4,09	4,11	4,10	4,10	4,10	4,11	4,10
Performance ηs	(7)(9)	%	160	158	160	161	161	161	161	161	161
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	14,33	15,58	18,32	20,66	22,98	25,51	26,72	28,73	31,48
Pressure drop	(1)	kPa	23,9	28,3	33,6	42,7	32,3	39,8	34,9	40,3	38,5
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	51,0	54,0	63,0	72,0	79,0	87,0	92,0	101	108
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	67	67	67	68	68	68	68	68	70
Sound power level in cooling	(4)(5)	dB(A)	99	99	99	100	100	100	100	100	102
SIZE AND WEIGHT											
A	(6)	mm	2750	2750	4000	4000	4000	5250	5250	5250	5250
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	3160	3170	3720	3810	4610	5060	5060	5130	5520

FX-G05 /K			3152	3602	3902	4202	4502	4802	4812	4822	5412
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	725,4	802,7	871,9	926,5	982,4	1021	1059	1146	1176
Total power input	(1)	kW	260,4	278,6	301,8	322,7	351,1	377,8	362,3	405,4	433,0
EER	(1)	kW/kW	2,786	2,881	2,889	2,871	2,798	2,702	2,923	2,827	2,716
ESEER	(1)	kW/kW	4,200	4,180	4,180	4,200	4,180	4,190	4,200	4,230	4,190
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	722,9	800,2	869,2	923,3	979,4	1018	1055	1142	1172
EER	(1)(2)	kW/kW	2,750	2,850	2,850	2,830	2,770	2,670	2,880	2,790	2,680
ESEER	(1)(2)	kW/kW	4,030	4,020	4,020	4,030	4,030	4,020	4,030	4,050	4,040
Cooling energy class			C	C	C	C	C	D	C	C	D
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(7)	kW	723	800	869	923	979	1018	1055	1142	1172
SEER	(7)(8)		4,10	4,11	4,10	4,10	4,11	4,10	4,11	4,11	4,10
Performance ηs	(7)(9)	%	161	161	161	161	161	161	161	162	161
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	34,69	38,39	41,70	44,31	46,98	48,82	50,65	54,81	56,25
Pressure drop	(1)	kPa	46,8	40,9	42,6	48,1	41,8	45,1	48,5	53,3	42,2
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	120	135	146	155	161	168	174	189	193
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	69	69	70	70	71	71	71	71	72
Sound power level in cooling	(4)(5)	dB(A)	102	102	103	103	104	104	104	104	105
SIZE AND WEIGHT											
A	(6)	mm	6500	6500	7750	7750	7750	7750	9000	9000	9150
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	6450	6940	7440	7560	7790	7820	8250	8370	8660

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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 [GWP_{100} 631] fluorinated greenhouse gases.
Certified data in EUROVENT

FX-G05

1502 - 7223 288,5-1710 kW

Chiller, air source for outdoor installation

FX-G05 /K			6002	6022	6303	6903	7203	7213	7223
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	1239	1303	1401	1481	1547	1654	1710
Total power input	(1)	kW	443,8	485,7	485,8	535,1	569,7	593,7	619,2
EER	(1)	kW/kW	2,792	2,683	2,884	2,768	2,715	2,786	2,762
ESEER	(1)	kW/kW	4,190	4,220	4,190	4,200	4,160	4,200	4,230
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	1235	1298	1397	1476	1543	1649	1704
EER	(1)(2)	kW/kW	2,760	2,650	2,850	2,730	2,690	2,750	2,730
ESEER	(1)(2)	kW/kW	4,030	4,040	4,030	4,030	4,020	4,040	4,050
Cooling energy class			C	D	C	C	D	C	C
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	1235	1298	1397	1476	1543	1649	1704
SEER	(7)(8)		4,10	4,10	4,12	4,11	4,10	4,12	4,13
Performance ηs	(7)(9)	%	161	161	162	162	161	162	162
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	59,26	62,29	67,01	70,81	74,00	79,11	81,79
Pressure drop	(1)	kPa	46,9	51,8	45,4	50,7	39,0	44,6	51,2
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	3	3	3	3	3
No. Circuits		N°	2	2	3	3	3	3	3
Refrigerant charge		kg	208	214	236	244	254	273	288
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	73	73	73	73	73	73	73
Sound power level in cooling	(4)(5)	dB(A)	106	106	106	106	106	106	106
SIZE AND WEIGHT									
A	(6)	mm	10400	10400	11650	11650	11650	12900	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	9200	9310	11880	11940	11950	12490	12570

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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

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FX-G05 /SL-K			1502	1702	1902	1922	2202	2602	2652	2702	2722
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	288,5	333,4	381,6	418,7	476,0	518,6	556,0	578,5	663,2
Total power input	(1)	kW	105,5	117,7	131,2	152,3	168,2	182,0	199,9	216,1	232,1
EER	(1)	kW/kW	2,735	2,833	2,909	2,749	2,830	2,849	2,781	2,677	2,857
ESEER	(1)	kW/kW	4,140	4,160	4,190	4,220	4,190	4,250	4,230	4,220	4,180
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	287,8	332,5	380,5	417,3	474,7	517,0	554,4	576,8	661,2
EER	(1)(2)	kW/kW	2,710	2,800	2,880	2,720	2,800	2,820	2,750	2,650	2,820
ESEER	(1)(2)	kW/kW	4,020	4,030	4,050	4,050	4,050	4,090	4,090	4,070	4,030
Cooling energy class			C	C	C	C	C	C	C	D	C
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(7)	kW	288	332	380	417	475	517	554	577	661
SEER	(7)(8)		4,02	4,04	4,10	4,10	4,11	4,10	4,10	4,11	4,10
Performance ηs	(7)(9)	%	158	159	161	161	161	161	161	161	161
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	13,80	15,94	18,25	20,02	22,76	24,80	26,59	27,66	31,72
Pressure drop	(1)	kPa	22,2	29,6	33,3	40,1	31,7	37,6	34,5	37,4	39,1
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	51,0	59,0	67,0	72,0	83,0	91,0	97,0	101	116
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	55	55	56	56	57	57	57	57	57
Sound power level in cooling	(4)(5)	dB(A)	87	87	88	88	89	89	89	89	90
SIZE AND WEIGHT											
A	(6)	mm	2750	4000	4000	4000	5250	5250	5250	5250	6500
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	3420	4160	4230	4230	5200	5560	5580	5620	6610

FX-G05 /SL-K			3152	3602	3902	4202	4502	4802	4812	4822	5412
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	716,6	770,8	838,7	892,9	964,9	1021	1052	1137	1169
Total power input	(1)	kW	257,3	283,3	307,1	328,4	349,6	368,2	355,4	396,9	424,6
EER	(1)	kW/kW	2,785	2,721	2,731	2,719	2,760	2,773	2,960	2,865	2,753
ESEER	(1)	kW/kW	4,200	4,170	4,190	4,200	4,180	4,200	4,200	4,210	4,180
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	714,1	768,6	836,2	890,0	962,1	1018	1048	1133	1166
EER	(1)(2)	kW/kW	2,750	2,690	2,700	2,690	2,730	2,740	2,920	2,830	2,720
ESEER	(1)(2)	kW/kW	4,030	4,030	4,040	4,030	4,030	4,030	4,030	4,030	4,030
Cooling energy class			C	D	C	D	C	C	B	C	C
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(7)	kW	714	769	836	890	962	1018	1048	1133	1166
SEER	(7)(8)		4,10	4,11	4,10	4,10	4,11	4,10	4,11	4,11	4,11
Performance ηs	(7)(9)	%	161	161	161	161	162	161	162	161	162
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	34,27	36,86	40,11	42,70	46,14	48,85	50,30	54,38	55,91
Pressure drop	(1)	kPa	45,7	37,7	39,4	44,7	40,3	45,2	47,9	52,5	41,7
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	125	135	146	155	168	178	183	198	204
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	58	58	59	59	60	60	61	61	61
Sound power level in cooling	(4)(5)	dB(A)	91	91	92	92	93	93	94	94	94
SIZE AND WEIGHT											
A	(6)	mm	6500	6500	7750	7750	9000	9000	10250	10250	10400
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	7080	7550	8090	8200	9000	8870	9360	9470	9780

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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 [GWP_{100} 631] fluorinated greenhouse gases.
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FX-G05

1502 - 7223 288,5-1710 kW

Chiller, air source for outdoor installation

FX-G05 /SL-K			6002	6022	6303	6903	7203	7213	7223
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	1194	1289	1350	1463	1530	1595	1649
Total power input	(1)	kW	451,2	478,6	494,5	531,6	563,4	607,6	635,5
EER	(1)	kW/kW	2,646	2,693	2,730	2,752	2,716	2,625	2,595
ESEER	(1)	kW/kW	4,180	4,220	4,180	4,200	4,160	4,170	4,180
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	1190	1285	1346	1458	1526	1590	1644
EER	(1)(2)	kW/kW	2,620	2,660	2,700	2,720	2,690	2,600	2,570
ESEER	(1)(2)	kW/kW	4,020	4,040	4,030	4,030	4,030	4,030	4,020
Cooling energy class			D	D	C	C	D	D	D
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	1190	1285	1346	1458	1526	1590	1644
SEER	(7)(8)		4,10	4,12	4,11	4,11	4,12	4,11	4,10
Performance ηs	(7)(9)	%	161	162	161	161	162	161	161
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	57,11	61,64	64,56	69,97	73,16	76,27	78,86
Pressure drop	(1)	kPa	43,5	50,7	42,1	49,5	38,2	41,5	47,6
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	3	3	3	3	3
No. Circuits		N°	2	2	3	3	3	3	3
Refrigerant charge		kg	208	224	236	255	267	278	288
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	61	61	61	61	61	61	62
Sound power level in cooling	(4)(5)	dB(A)	94	94	94	94	94	94	95
SIZE AND WEIGHT									
A	(6)	mm	10400	11650	11650	12900	12900	12900	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	9860	10420	12810	13340	13340	13420	13500

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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

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Certified data in EUROVENT

FX-G05 /CA			1502	1702	1902	1922	2202	2602	2652
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	302,4	349,6	395,0	461,7	513,2	551,4	590,7
Total power input	(1)	kW	99,27	112,9	130,0	149,8	166,3	182,0	191,9
EER	(1)	kW/kW	3,045	3,097	3,038	3,082	3,086	3,030	3,078
ESEER	(1)	kW/kW	4,290	4,310	4,310	4,280	4,310	4,310	4,320
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	301,6	348,6	393,8	460,5	511,7	549,9	588,9
EER	(1)(2)	kW/kW	3,010	3,060	3,000	3,050	3,050	3,000	3,040
ESEER	(1)(2)	kW/kW	4,150	4,160	4,150	4,150	4,160	4,170	4,160
Cooling energy class			B	B	B	B	B	B	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	302	349	394	460	512	550	589
SEER	(7)(8)		4,21	4,21	4,20	4,21	4,22	4,16	4,16
Performance ηs	(7)(9)	%	166	166	165	166	166	163	164
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	14,46	16,72	18,89	22,08	24,54	26,37	28,25
Pressure drop	(1)	kPa	24,4	32,6	35,7	29,8	36,8	34,0	39,0
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	55,0	62,0	67,0	78,0	91,0	93,0	100
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	66	66	67	67	68	68	68
Sound power level in cooling	(4)(5)	dB(A)	98	98	99	99	100	100	101
SIZE AND WEIGHT									
A	(6)	mm	4000	4000	4000	5250	5250	5250	6500
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	3660	3720	3760	4660	5040	5090	5830

FX-G05 /CA			2702	2722	3152	3602	3902	4202	4502
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	628,7	683,7	766,2	837,8	904,7	956,0	1031
Total power input	(1)	kW	203,9	226,5	251,5	270,8	291,1	311,7	333,0
EER	(1)	kW/kW	3,083	3,019	3,047	3,094	3,108	3,067	3,096
ESEER	(1)	kW/kW	4,310	4,330	4,310	4,300	4,320	4,330	4,310
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	626,6	681,5	764,0	835,0	901,7	952,5	1028
EER	(1)(2)	kW/kW	3,040	2,980	3,010	3,050	3,070	3,020	3,060
ESEER	(1)(2)	kW/kW	4,140	4,160	4,150	4,130	4,140	4,140	4,140
Cooling energy class			B	B	B	B	B	B	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	627	682	764	835	902	952	1028
SEER	(7)(8)		4,19	4,22	4,24	4,21	4,23	4,22	4,22
Performance ηs	(7)(9)	%	165	166	167	165	166	166	166
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	30,07	32,70	36,64	40,06	43,26	45,72	49,29
Pressure drop	(1)	kPa	44,2	41,6	37,2	44,5	45,8	51,2	46,0
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	106	115	130	141	153	162	174
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	68	68	68	69	69	70	70
Sound power level in cooling	(4)(5)	dB(A)	101	101	101	102	102	103	103
SIZE AND WEIGHT									
A	(6)	mm	6500	6500	7750	7750	9000	9000	10400
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	5690	6110	6970	7440	7890	8000	8700

Notes

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5 Sound power level in cooling, outdoors.
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

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Certified data in EUROVENT

FX-G05

1502 - 7223 288,5-1710 kW

Chiller, air source for outdoor installation

FX-G05 /CA			4802	4822	5412	5703	6303	6603
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	1098	1177	1236	1342	1460	1521
Total power input	(1)	kW	353,4	390,4	406,9	431,5	477,7	504,8
EER	(1)	kW/kW	3,107	3,015	3,038	3,110	3,056	3,013
ESEER	(1)	kW/kW	4,340	4,310	4,330	4,270	4,290	4,300
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	1094	1173	1232	1338	1456	1517
EER	(1)(2)	kW/kW	3,060	2,980	3,000	3,070	3,030	2,980
ESEER	(1)(2)	kW/kW	4,160	4,160	4,160	4,120	4,160	4,160
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	1094	1173	1232	1338	1456	1517
SEER	(7)(8)		4,25	4,24	4,25	4,25	4,25	4,27
Performance ηs	(7)(9)	%	167	167	167	167	167	168
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	52,53	56,31	59,13	64,17	69,81	72,73
Pressure drop	(1)	kPa	50,1	42,3	46,7	41,6	34,7	37,7
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	2	2	3	3	3
No. Circuits		N°	2	2	2	3	3	3
Refrigerant charge		kg	185	199	209	227	260	258
NOISE LEVEL								
Sound Pressure	(3)	dB(A)	70	70	71	71	71	71
Sound power level in cooling	(4)(5)	dB(A)	103	103	104	104	104	104
SIZE AND WEIGHT								
A	(6)	mm	10400	10400	11650	12900	12900	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	8780	9040	10120	12160	12330	12640

Notes

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5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
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8 Seasonal energy efficiency ratio
9 Seasonal space cooling energy efficiency

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FX-G05 /SL-CA			1502	1702	1902	1922	2202	2602	2652
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	304,2	344,9	394,3	450,1	500,7	560,7	582,8
Total power input	(1)	kW	98,67	112,2	126,9	149,7	166,1	185,7	189,1
EER	(1)	kW/kW	3,082	3,074	3,107	3,007	3,014	3,019	3,082
ESEER	(1)	kW/kW	4,290	4,310	4,320	4,250	4,300	4,310	4,300
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	303,4	343,9	393,1	449,0	499,3	559,1	581,0
EER	(1)(2)	kW/kW	3,050	3,040	3,070	2,980	2,980	2,990	3,040
ESEER	(1)(2)	kW/kW	4,160	4,160	4,160	4,130	4,160	4,150	4,150
Cooling energy class			B	B	B	B	B	B	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	303	344	393	449	499	559	581
SEER	(7)(8)		4,22	4,21	4,20	4,19	4,22	4,22	4,18
Performance ηs	(7)(9)	%	166	165	165	165	166	166	164
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	14,55	16,49	18,85	21,53	23,94	26,81	27,87
Pressure drop	(1)	kPa	24,7	31,7	35,6	28,3	35,1	35,1	38,0
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	55,0	62,0	71,0	82,0	91,0	101	106
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	55	56	56	57	57	57	58
Sound power level in cooling	(4)(5)	dB(A)	87	88	88	89	89	90	91
SIZE AND WEIGHT									
A	(6)	mm	4000	4000	5250	5250	5250	6500	6500
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	4130	4190	4680	5140	5520	6140	6390

FX-G05 /SL-CA			2702	2722	3152	3602	3902	4202	4502
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	615,6	680,7	754,1	819,3	899,1	947,9	1020
Total power input	(1)	kW	204,4	221,1	246,8	262,5	285,1	305,7	327,1
EER	(1)	kW/kW	3,012	3,079	3,056	3,121	3,154	3,101	3,118
ESEER	(1)	kW/kW	4,290	4,330	4,300	4,290	4,300	4,330	4,300
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	613,9	678,5	752,0	816,7	896,1	944,5	1017
EER	(1)(2)	kW/kW	2,980	3,040	3,020	3,080	3,110	3,060	3,080
ESEER	(1)(2)	kW/kW	4,150	4,160	4,160	4,120	4,130	4,140	4,140
Cooling energy class			B	B	B	B	A	B	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	614	678	752	817	896	944	1017
SEER	(7)(8)		4,22	4,24	4,25	4,21	4,23	4,23	4,24
Performance ηs	(7)(9)	%	166	166	167	166	166	166	167
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	29,44	32,55	36,06	39,18	43,00	45,33	48,80
Pressure drop	(1)	kPa	33,7	41,2	36,1	42,6	45,3	50,3	45,1
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	112	123	136	148	162	171	184
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	58	59	59	59	59	60	60
Sound power level in cooling	(4)(5)	dB(A)	91	92	92	92	92	93	93
SIZE AND WEIGHT									
A	(6)	mm	6500	7750	7750	9000	10250	10250	11650
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	6520	7150	7610	8500	8990	9280	9810

Notes

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2 Values in compliance with EN14511
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5 Sound power level in cooling, outdoors.
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FX-G05

1502 - 7223 288,5-1710 kW

Chiller, air source for outdoor installation

FX-G05 /SL-CA			4802	4822	5412	5703	6303
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	1086	1163	1219	1310	1442
Total power input	(1)	kW	347,6	384,6	401,4	426,7	479,4
EER	(1)	kW/kW	3,124	3,024	3,037	3,070	3,008
ESEER	(1)	kW/kW	4,330	4,310	4,330	4,280	4,280
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	1082	1160	1215	1306	1439
EER	(1)(2)	kW/kW	3,080	2,990	3,000	3,030	2,980
ESEER	(1)(2)	kW/kW	4,150	4,160	4,160	4,130	4,150
Cooling energy class			B	B	B	B	B
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Ambient refrigeration							
Prated,c	(7)	kW	1082	1160	1215	1306	1439
SEER	(7)(8)		4,25	4,26	4,26	4,25	4,25
Performance ηs	(7)(9)	%	167	167	167	167	167
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	51,94	55,63	58,31	62,64	68,95
Pressure drop	(1)	kPa	48,9	41,3	45,4	39,7	33,9
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	2	3	3
No. Circuits		N°	2	2	2	3	3
Refrigerant charge		kg	197	210	220	237	260
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	60	60	62	62	62
Sound power level in cooling	(4)(5)	dB(A)	93	93	95	95	95
SIZE AND WEIGHT							
A	(6)	mm	11650	11650	12900	12900	12900
B	(6)	mm	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500
Operating weight	(6)	kg	9890	10230	10760	13130	13260

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
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FX-G05 /E			1502	1702	1902	1922	2202	2602	2652	2702	2722
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	316,5	362,6	413,8	451,2	530,5	575,8	612,9	649,8	703,3
Total power input	(1)	kW	98,32	112,6	128,0	142,3	162,6	177,5	188,6	199,6	221,8
EER	(1)	kW/kW	3,220	3,220	3,233	3,171	3,263	3,244	3,250	3,256	3,171
ESEER	(1)	kW/kW	4,350	4,370	4,360	4,370	4,360	4,360	4,370	4,390	4,360
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	315,8	361,6	412,9	450,1	529,0	574,4	611,2	647,9	701,5
EER	(1)(2)	kW/kW	3,190	3,180	3,200	3,140	3,220	3,210	3,210	3,220	3,140
ESEER	(1)(2)	kW/kW	4,230	4,220	4,250	4,240	4,210	4,230	4,220	4,240	4,230
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(7)	kW	316	362	413	450	529	574	611	648	702
SEER	(7)(8)		4,32	4,29	4,32	4,28	4,32	4,28	4,27	4,32	4,32
Performance ηs	(7)(9)	%	170	168	170	168	170	168	168	170	170
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	15,14	17,34	19,79	21,58	25,37	27,54	29,31	31,07	33,63
Pressure drop	(1)	kPa	22,9	30,1	24,0	28,5	35,8	29,5	33,4	37,5	31,4
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	56,0	64,0	74,0	82,0	94,0	102	109	116	125
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	66	67	67	67	67	67	68	68	68
Sound power level in cooling	(4)(5)	dB(A)	98	99	99	99	100	100	101	101	101
SIZE AND WEIGHT											
A	(6)	mm	4000	5250	5250	5250	6500	6500	7750	7750	7750
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	3720	4240	4360	4420	5590	5920	6400	6490	6600

FX-G05 /E			3152	3602	3902	4202	4502	4802	4822	5412
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	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	785,8	854,0	931,3	986,6	1054	1123	1219	1277
Total power input	(1)	kW	245,6	266,4	288,3	309,5	330,1	350,9	388,4	407,4
EER	(1)	kW/kW	3,200	3,206	3,230	3,188	3,193	3,200	3,139	3,135
ESEER	(1)	kW/kW	4,350	4,370	4,420	4,380	4,400	4,400	4,330	4,350
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	783,7	851,4	927,8	983,6	1051	1119	1216	1274
EER	(1)(2)	kW/kW	3,160	3,170	3,180	3,150	3,150	3,150	3,110	3,100
ESEER	(1)(2)	kW/kW	4,210	4,210	4,210	4,210	4,220	4,210	4,200	4,210
Cooling energy class			A	A	A	A	A	A	A	A
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Ambient refrigeration										
Prated,c	(7)	kW	784	851	928	984	1051	1119	1216	1274
SEER	(7)(8)		4,32	4,33	4,33	4,32	4,32	4,31	4,32	4,35
Performance ηs	(7)(9)	%	170	170	170	170	170	169	170	171
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	37,58	40,84	44,54	47,18	50,39	53,70	58,31	61,05
Pressure drop	(1)	kPa	34,6	40,9	53,0	42,1	46,1	51,2	34,4	37,7
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
Refrigerant charge		kg	140	152	166	176	187	200	217	228
NOISE LEVEL										
Sound Pressure	(3)	dB(A)	68	69	69	70	70	70	70	71
Sound power level in cooling	(4)(5)	dB(A)	101	102	102	103	103	103	103	104
SIZE AND WEIGHT										
A	(6)	mm	9000	9000	10250	10250	11650	11650	11650	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	7400	7880	8420	8660	9190	9270	10330	11170

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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 [GWP_{100} 631] fluorinated greenhouse gases.
Certified data in EUROVENT

FX-G05

Chiller, air source for outdoor installation

1502 - 7223 288,5-1710 kW

FX-G05 /SL-E			1502	1702	1902	1922	2202	2602	2652	2702	2722
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	312,8	359,1	409,0	447,3	524,1	568,3	605,2	641,9	696,6
Total power input	(1)	kW	97,03	110,3	126,2	141,4	160,5	176,0	186,6	197,3	220,9
EER	(1)	kW/kW	3,225	3,256	3,241	3,163	3,265	3,229	3,243	3,253	3,153
ESEER	(1)	kW/kW	4,380	4,390	4,360	4,370	4,370	4,450	4,430	4,440	4,430
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	312,1	358,1	408,1	446,2	522,6	566,9	603,6	640,0	694,9
EER	(1)(2)	kW/kW	3,190	3,220	3,210	3,130	3,230	3,200	3,210	3,210	3,120
ESEER	(1)(2)	kW/kW	4,260	4,250	4,250	4,240	4,220	4,320	4,290	4,280	4,290
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(7)	kW	312	358	408	446	523	567	604	640	695
SEER	(7)(8)		4,33	4,30	4,31	4,27	4,33	4,34	4,32	4,36	4,37
Performance ηs	(7)(9)	%	170	169	169	168	170	171	170	172	172
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	14,96	17,17	19,56	21,39	25,06	27,18	28,94	30,70	33,31
Pressure drop	(1)	kPa	22,4	29,5	23,4	28,0	34,9	28,7	32,6	36,6	30,8
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	56,0	64,0	74,0	82,0	94,0	102	109	116	125
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	56	57	57	57	57	58	58	59	59
Sound power level in cooling	(4)(5)	dB(A)	88	89	89	89	90	91	91	92	92
SIZE AND WEIGHT											
A	(6)	mm	4000	5250	5250	5250	6500	6500	7750	7750	7750
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	3960	4460	4620	4680	6120	6460	6940	7040	7140

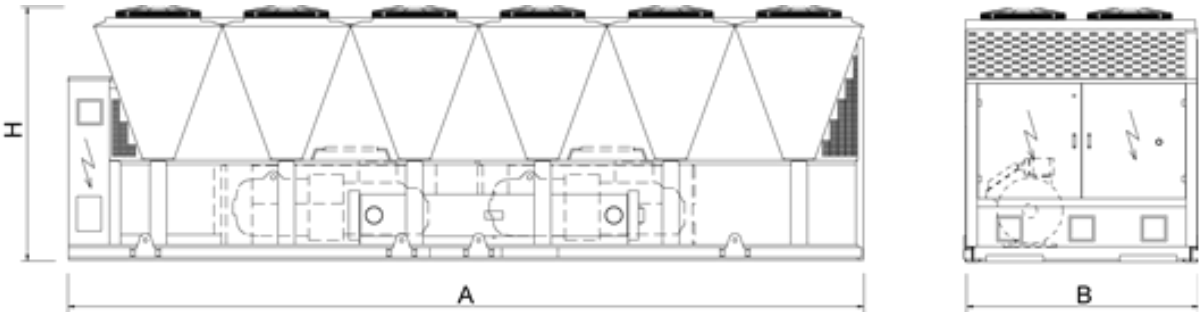
FX-G05 /SL-E			3152	3602	3902	4202	4502	4802	4822	5412
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	776,1	841,9	918,4	973,5	1040	1108	1205	1260
Total power input	(1)	kW	244,2	264,3	286,4	307,9	328,4	349,1	389,0	406,2
EER	(1)	kW/kW	3,178	3,185	3,207	3,162	3,167	3,174	3,098	3,102
ESEER	(1)	kW/kW	4,400	4,410	4,460	4,420	4,410	4,410	4,360	4,370
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	774,1	839,4	915,0	970,6	1037	1104	1202	1257
EER	(1)(2)	kW/kW	3,140	3,150	3,160	3,120	3,130	3,130	3,070	3,070
ESEER	(1)(2)	kW/kW	4,260	4,250	4,260	4,260	4,240	4,220	4,240	4,230
Cooling energy class			A	A	A	A	A	A	B	B
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Ambient refrigeration										
Prated,c	(7)	kW	774	839	915	971	1037	1104	1202	1257
SEER	(7)(8)		4,35	4,36	4,36	4,35	4,33	4,32	4,35	4,36
Performance ηs	(7)(9)	%	171	171	171	171	170	170	171	171
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	37,11	40,26	43,92	46,55	49,72	52,98	57,62	60,28
Pressure drop	(1)	kPa	33,7	39,7	51,5	41,0	44,9	49,8	33,6	36,7
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
Refrigerant charge		kg	140	152	166	176	187	200	217	228
NOISE LEVEL										
Sound Pressure	(3)	dB(A)	59	59	59	60	60	60	60	62
Sound power level in cooling	(4)(5)	dB(A)	92	92	92	93	93	93	93	95
SIZE AND WEIGHT										
A	(6)	mm	9000	9000	10250	10250	11650	11650	11650	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	7990	8500	8990	9290	9830	9910	10900	11530

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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 [GWP_{100} 631] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



CHILLERS

FX HFO

1502 - 7823 234,7-1463 kW

Chiller, air source for outdoor installation

Outdoor unit for the production of chilled water with semi-hermetic screw compressors optimized for HFO refrigerant R1234ze, axial-flow fans, micro-channel full-aluminum condensing coils, single-pass shell and tubes evaporator designed by Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. and electronic expansion valve.
Base and supporting structure and panels are of galvanized epoxy powder coated steel with increased thickness. Eurovent certification.
Flexible and reliable unit; it easily adapts itself to different thermal load conditions thanks to the precise thermoregulation and the accurate sizing of all internal components. The compressors feature an enhanced lubrication system, an innovative internal geometry and a different control of capacity steps. Innovations that grant a remarkable performance improvement especially at partial loads.

Control

W3000TE
W3000TE control is available with the new KIPlink user interface. Based on WiFi technology, it allows one to operate on the unit directly from the smartphone or tablet. Using KIPlink, it is possible to turn the unit on and off, adjust the set-point, plot the main operating variables, monitor the status of the various components and display / reset the alarms. As alternatives, the Touch interface, with a 7" WVGA colour display and USB port, or the Large keyboard, with a wide LCD display and led icons, are available. Temperature control characterized by the continuous capacity modulation, based on PID algorithms with dynamic neutral zone related to the leaving water temperature. Complete alarm management system is available, with the "black-box" and the alarm history display functions.
Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks. Compatibility with remote keyboard (up to 8 units). The programmable timer manages a weekly schedule organized 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. As an option (VPF package), the capacity modulation is integrated with the modulation of the water flow, by means of inverter and dedicated resources for the hydraulic circuit.

Refrigerant

R1234ze

Versions

A	High efficiency
SL-A	Super low noise, high efficiency

Configurations

-	Basic function
D	Partial 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.

HIGH EFFICIENCY
Very high efficiency at full and partial load, at the highest market levels, thanks to the adopted technological solutions. These units ensure low operating costs and therefore a quick payback time.

EXTREMELY SILENT OPERATION
As the result of a systematic design oriented to minimize the noise level, the silenced version units give the best combination of quietness and efficiency on the market.

FLEXIBILITY
Flexibility in the applications thanks to the many configurations and versions available.

WIDE OPERATING RANGE
The accurate condensation control (variable fan speed regulation as per standard on every model) and devoted kits allow unit's operation from -10°C (-15°C with accessories) to 48°C (52°C with accessories) of outdoor air temperature and from -2°C to 18°C (20°C with accessories) of evaporator leaving water temperature.

ALUMINIUM MICRO-CHANNEL HEAT EXCHANGERS
The full aluminium micro-channel condenser coils deliver high efficiency whilst ensuring a reduced refrigerant volume and a lower unit weight. The e-coating protection (optional) grants the highest level of resistance to corrosion in any condition, even in the most aggressive environments.

INTEGRATED HYDRONIC GROUP
The built-in hydronic group (optional) includes the main water circuit components. The 2 pumps are in twin configuration and available with 2 or 4-pole motor, fixed or variable speed, high or low head, to satisfy the different installation requirements.

Accessories

- Noise reducer (only on not silenced versions)
- EC fans with electronic DC brushless motor
- Microchannel coils with e-coating protection
- Traditional coils with copper tubes and alluminium fins, also available with prepainted fins or Fin Guard Silver protective treatment.
- Compressor enclosure (standard on silenced versions)
- Leak detector
- Kit HT to increase the unit operating range
- Compressor power factor correction
- Soft start
- Hydronic group
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus, Echelon, Bacnet, Bacnet over-IP.
- Remote control keyboard (distance to 200m and to 500m)

FX HFO /A			1502	1702	1802	1922	2202	2602	2702	2722	3602
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	237,5	269,7	293,1	339,6	377,1	414,8	483,4	533,4	631,7
Total power input	(1)	kW	74,04	84,99	91,95	103,9	118,5	131,7	152,7	167,7	199,3
EER	(1)	kW/kW	3,209	3,173	3,186	3,269	3,182	3,150	3,166	3,181	3,170
ESEER	(1)	kW/kW	4,310	4,270	4,340	4,250	4,270	4,360	4,300	4,340	4,310
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	236,7	268,9	292,4	338,7	376,0	413,4	482,2	531,8	629,5
EER	(1)(2)	kW/kW	3,160	3,130	3,150	3,230	3,140	3,110	3,130	3,140	3,120
ESEER	(1)(2)	kW/kW	4,140	4,120	4,210	4,120	4,120	4,180	4,170	4,180	4,130
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(7)	kW	237	269	292	339	376	413	482	532	630
SEER	(7)(8)		4,14	4,15	4,25	4,17	4,16	4,17	4,22	4,24	4,20
Performance ηs	(7)(9)	%	163	163	167	164	163	164	166	166	165
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	11,36	12,90	14,02	16,24	18,04	19,84	23,12	25,51	30,21
Pressure drop	(1)	kPa	33,0	31,4	20,7	27,8	34,3	41,5	29,7	36,2	44,6
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	43,0	47,0	51,0	58,0	63,0	70,0	81,0	86,0	108
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	66	67	67	68	68	68	68	70	69
Sound power level in cooling	(4)(5)	dB(A)	98	99	99	100	100	100	100	102	102
SIZE AND WEIGHT											
A	(6)	mm	4000	4000	4000	4000	4000	5250	5250	5250	6500
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	3640	3665	3740	3980	4610	5060	5120	5120	6760

FX HFO /A			4202	4802	4822	6002	6022	6603	7203	7223	7823
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	727,1	840,5	900,3	983,8	1065	1152	1271	1384	1452
Total power input	(1)	kW	229,4	268,6	279,6	311,3	334,5	363,3	404,7	434,4	460,7
EER	(1)	kW/kW	3,170	3,129	3,220	3,160	3,184	3,171	3,141	3,186	3,152
ESEER	(1)	kW/kW	4,320	4,310	4,300	4,360	4,390	4,330	4,340	4,360	4,370
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	724,5	838,5	897,3	980,8	1062	1149	1267	1379	1447
EER	(1)(2)	kW/kW	3,120	3,100	3,180	3,120	3,140	3,130	3,100	3,140	3,110
ESEER	(1)(2)	kW/kW	4,130	4,190	4,130	4,200	4,220	4,180	4,190	4,190	4,190
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(7)	kW	724	838	897	981	1062	1149	1267	1379	1447
SEER	(7)(8)		4,23	4,29	4,24	4,29	4,31	4,27	4,25	4,30	4,30
Performance ηs	(7)(9)	%	166	169	167	169	169	168	167	169	169
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	34,77	40,19	43,05	47,05	50,95	55,11	60,78	66,17	69,44
Pressure drop	(1)	kPa	47,0	30,6	45,4	41,9	46,1	40,5	40,2	47,7	52,5
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	3	3	3	3
No. Circuits		N°	2	2	2	2	2	3	3	3	3
Refrigerant charge		kg	124	134	139	167	171	189	195	203	218
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	70	71	71	73	73	73	73	73	73
Sound power level in cooling	(4)(5)	dB(A)	103	104	104	106	106	106	106	106	106
SIZE AND WEIGHT											
A	(6)	mm	7750	7750	9000	10400	10400	11650	11650	12900	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	7535	7820	8145	9040	9044	11932	11950	12600	12750

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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

FX HFO

1502 - 7823 234,7-1463 kW

Chiller, air source for outdoor installation

FX HFO /SL-A			1502	1702	1802	1922	2202	2602	2702	2722	3602
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	234,7	266,2	289,0	336,9	371,6	414,6	476,6	528,1	622,8
Total power input	(1)	kW	72,69	84,06	91,27	103,3	118,0	129,0	151,9	168,2	198,4
EER	(1)	kW/kW	3,228	3,165	3,165	3,261	3,149	3,214	3,138	3,140	3,139
ESEER	(1)	kW/kW	4,330	4,290	4,340	4,280	4,270	4,400	4,310	4,360	4,310
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	233,9	265,4	288,4	336,0	370,5	413,2	475,4	526,6	620,7
EER	(1)(2)	kW/kW	3,180	3,130	3,140	3,220	3,110	3,170	3,110	3,100	3,100
ESEER	(1)(2)	kW/kW	4,170	4,140	4,240	4,150	4,130	4,220	4,180	4,200	4,140
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(7)	kW	234	265	288	336	370	413	475	527	621
SEER	(7)(8)		4,16	4,16	4,27	4,18	4,16	4,21	4,23	4,25	4,20
Performance ηs	(7)(9)	%	163	163	168	164	163	165	166	167	165
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	11,22	12,73	13,82	16,11	17,77	19,83	22,79	25,25	29,78
Pressure drop	(1)	kPa	32,2	30,6	20,1	27,4	33,3	41,5	28,9	35,5	43,3
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	43,0	47,0	51,0	58,0	63,0	73,0	81,0	86,0	108
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	55	55	55	56	57	57	57	58	58
Sound power level in cooling	(4)(5)	dB(A)	87	87	87	88	89	89	89	90	91
SIZE AND WEIGHT											
A	(6)	mm	4000	4000	4000	4000	4000	5250	5250	5250	6500
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	3640	3665	3740	3980	4610	5050	5120	5120	6760

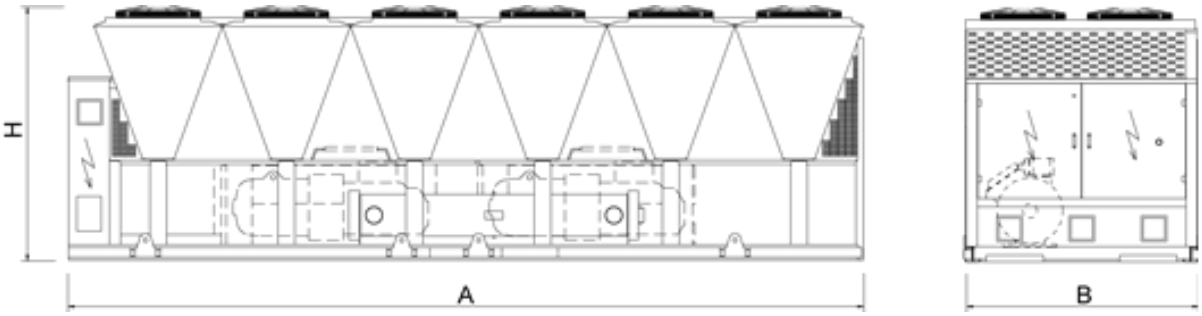
FX HFO /SL-A			4202	4802	4822	6002	6022	6603	7203	7223	7823
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	717,9	831,0	892,1	971,0	1054	1137	1261	1379	1463
Total power input	(1)	kW	228,4	258,0	280,1	309,7	335,0	362,7	400,3	430,7	466,7
EER	(1)	kW/kW	3,143	3,221	3,185	3,135	3,146	3,135	3,150	3,202	3,135
ESEER	(1)	kW/kW	4,330	4,310	4,310	4,360	4,410	4,330	4,370	4,420	4,420
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	715,4	828,6	889,2	968,1	1051	1134	1257	1375	1460
EER	(1)(2)	kW/kW	3,100	3,180	3,140	3,100	3,110	3,100	3,110	3,160	3,110
ESEER	(1)(2)	kW/kW	4,150	4,160	4,150	4,210	4,230	4,190	4,220	4,240	4,290
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(7)	kW	715	829	889	968	1051	1134	1257	1375	1460
SEER	(7)(8)		4,23	4,26	4,25	4,29	4,32	4,27	4,27	4,35	4,44
Performance ηs	(7)(9)	%	166	167	167	169	170	168	168	171	175
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	34,33	39,74	42,66	46,44	50,42	54,36	60,32	65,92	69,95
Pressure drop	(1)	kPa	45,8	38,7	44,6	40,8	45,1	39,4	39,6	47,3	31,1
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	3	3	3	3
No. Circuits		N°	2	2	2	2	2	3	3	3	3
Refrigerant charge		kg	124	134	139	167	171	189	204	213	223
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	59	60	61	61	61	61	61	62	62
Sound power level in cooling	(4)(5)	dB(A)	92	93	94	94	94	94	94	95	95
SIZE AND WEIGHT											
A	(6)	mm	7750	9000	9000	10400	10400	11650	12900	12900	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	7535	8100	8145	9040	9044	11932	12500	12700	12800

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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

Dimensional drawing



CHILLERS

i-FX-G01

Chiller, air source for outdoor installation

2202 - 7223 477,0-1697 kW

Outdoor unit for the production of chilled water with semi-hermetic variable-speed screw compressors optimized for R134a, axial-flow fans, micro-channel full-aluminum condensing coils, single-pass shell and tubes evaporator designed by Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. and electronic expansion valve.
Base and supporting structure and panels are of galvanized epoxy powder coated steel with increased thickness. Eurovent certification.
The screw compressors feature the variable speed technology thanks to the integrated refrigerant cooled inverter, for the maximum compactness and operating flexibility. Moreover, they feature the Variable Vi (compression ratio) technology, to change the internal geometry according to the operating conditions.
Thanks to the accurate sizing of all internal components and the use of variable speed technology, the unit ensures flexibility, reliability and maximum efficiency in every operating condition.

Control

W3000TE

W3000TE control is available with the new KIPlink user interface. Based on WiFi technology, it allows one to operate on the unit directly from the smartphone or tablet. Using KIPlink, it is possible to turn the unit on and off, adjust the set-point, plot the main operating variables, monitor the status of the various components and display / reset the alarms. As alternatives, the Touch interface, with a 7" WVGA colour display and USB port, or the Large keyboard, with a wide LCD display and led icons, are available. Temperature control characterized by the continuous capacity modulation, based on PID algorithms with dynamic neutral zone related to the leaving water temperature. Complete alarm management system is available, with the "black-box" and the alarm history display functions.
Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks. Compatibility with remote keyboard (up to 8 units). The programmable timer manages a weekly schedule organized 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. As an option (VPF package), the capacity modulation is integrated with the modulation of the water flow, by means of inverter and dedicated resources for the hydraulic circuit.

Refrigerant

R134a

Versions

K	Standard efficiency
SL-K	Super low noise, standard efficiency
A	High efficiency
SL-A	Super low noise, high efficiency

Configurations

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

Features

HIGH EFFICIENCY
Very high efficiency at full and partial load, at the highest market levels, thanks to the adopted technological solutions. These units ensure low operating costs and therefore a quick payback time.

ErP COMPLIANT 2021
Thanks to the inverter technology and the accurate design, the units already comply and exceed the minimum seasonal energy efficiency requirements that will start from 2021, imposed by the eco-sustainable design Directive 2009/125/EC.

WIDE OPERATING RANGE
The accurate condensation control (variable fan speed regulation as per standard on every model), the availability of devoted kits and smart control logics allow unit's operation from -20°C up to 55°C of outdoor air temperature and from -8°C to 20°C of evaporator leaving water temperature.

REDUCED FOOTPRINT
These new units have a reduced footprint, making them the best solution both for new plants (thanks to high efficiency) and for the replacement of obsolete units in existing plants, offering a very high efficiency increase with same dimensions and cooling capacity.

ALUMINIUM MICRO-CHANNEL HEAT EXCHANGERS
The full aluminium micro-channel condenser coils deliver high efficiency whilst ensuring a reduced refrigerant volume and a lower unit weight. The e-coating protection (optional) grants the highest level of resistance to corrosion in any condition, even in the most aggressive environments.

INTEGRATED HYDRONIC GROUP
The built-in hydronic group (optional) includes the main water circuit components. The 2 pumps are in twin configuration and available with 2 or 4-pole motor, fixed or variable speed, high or low head, to satisfy the different installation requirements.

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

HARMONY BETWEEN UNIT AND PLANT
Low inrush current and power factor higher than similar fixed speed units, permit an easy electrical installation which is not stressed during start-up and with no need of extra devices for power factor correction. The use of VSD technology allows the unit to partialize in a stepless way, with consequent lower fluctuations of leaving water temperature.

Accessories

- Noise reducer (only on not silenced versions)
- EC fans with electronic DC brushless motor (for K versions)
- Microchannel coils with e-coating protection
- Traditional coils with copper tubes and alluminium fins, also available with prepainted fins or Fin Guard Silver protective treatment.
- Leak detector
- Kit HT to increase the unit operating range
- Hydronic group
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus, Mitsubishi M-Net, Echelon, Bacnet, Bacnet over-IP.

i-FX-G01/K			2202	2602	2652	2702	2722	3152	3602
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	478,6	531,1	561,2	598,1	656,7	720,7	801,4
Total power input	(1)	kW	165,1	181,6	190,6	200,8	227,7	252,4	278,6
EER	(1)	kW/kW	2,899	2,925	2,944	2,979	2,884	2,855	2,877
ESEER	(1)	kW/kW	4,710	4,720	4,720	4,690	4,680	4,770	4,760
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	477,3	529,4	559,6	596,2	654,7	718,2	798,9
EER	(1)(2)	kW/kW	2,870	2,890	2,910	2,940	2,850	2,820	2,840
ESEER	(1)(2)	kW/kW	4,530	4,510	4,530	4,480	4,480	4,540	4,550
Cooling energy class			C	C	B	B	C	C	C
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	477	529	560	596	655	718	799
SEER	(7)(8)		4,84	4,84	4,78	4,82	4,80	4,88	4,90
Performance ηs	(7)(9)	%	190	191	188	190	189	192	193
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	22,89	25,40	26,84	28,60	31,40	34,47	38,33
Pressure drop	(1)	kPa	32,0	39,5	35,2	40,0	38,3	46,2	40,7
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	69,0	76,0	80,0	88,0	94,0	104	117
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	67	68	68	68	69	68	68
Sound power level in cooling	(4)(5)	dB(A)	99	100	100	100	101	101	101
SIZE AND WEIGHT									
A	(6)	mm	4150	5400	5400	5400	5400	6650	6650
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	4790	5360	5360	5420	5730	6150	6240

i-FX-G01/K			3902	4202	4502	4802	4812	4822	5412
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	874,1	932,0	990,3	1029	1054	1128	1169
Total power input	(1)	kW	299,6	317,8	343,7	368,3	352,1	389,0	413,1
EER	(1)	kW/kW	2,918	2,933	2,881	2,794	2,993	2,900	2,830
ESEER	(1)	kW/kW	4,660	4,680	4,730	4,790	4,700	4,710	4,850
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	871,3	928,7	987,3	1026	1050	1124	1166
EER	(1)(2)	kW/kW	2,880	2,890	2,850	2,760	2,950	2,860	2,800
ESEER	(1)(2)	kW/kW	4,460	4,450	4,530	4,560	4,480	4,480	4,640
Cooling energy class			C	C	C	C	B	C	C
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	871	929	987	1026	1050	1124	1166
SEER	(7)(8)		4,82	4,83	4,84	4,87	4,84	4,86	4,96
Performance ηs	(7)(9)	%	190	190	191	192	191	191	195
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	41,80	44,57	47,36	49,20	50,41	53,94	55,90
Pressure drop	(1)	kPa	42,8	48,7	42,4	45,8	48,1	51,7	41,7
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	127	135	140	146	151	164	168
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	69	70	70	71	71	72	72
Sound power level in cooling	(4)(5)	dB(A)	102	103	103	104	104	105	105
SIZE AND WEIGHT									
A	(6)	mm	7900	7900	7900	7900	9150	9150	9150
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	6730	6810	7410	7760	8360	8470	8560

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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 R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

i-FX-G01

2202 - 7223 477,0-1697 kW

Chiller, air source for outdoor installation

i-FX-G01/K			6002	6022	6303	6903	7203	7213	7223
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	1242	1302	1409	1493	1559	1649	1697
Total power input	(1)	kW	421,2	457,9	478,8	522,8	555,4	572,1	593,5
EER	(1)	kW/kW	2,949	2,843	2,943	2,856	2,807	2,882	2,859
ESEER	(1)	kW/kW	4,860	4,870	4,660	4,710	4,720	4,670	4,700
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	1238	1297	1405	1488	1555	1644	1691
EER	(1)(2)	kW/kW	2,910	2,800	2,910	2,820	2,780	2,850	2,820
ESEER	(1)(2)	kW/kW	4,630	4,620	4,460	4,490	4,530	4,480	4,480
Cooling energy class			B	C	B	C	C	C	C
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	1238	1297	1405	1488	1555	1644	1691
SEER	(7)(8)		4,97	4,97	4,79	4,84	4,83	4,83	4,84
Performance ηs	(7)(9)	%	196	196	189	190	190	190	191
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	59,42	62,28	67,38	71,40	74,58	78,86	81,17
Pressure drop	(1)	kPa	47,1	51,8	45,9	51,5	39,6	44,3	50,4
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	3	3	3	3	3
No. Circuits		N°	2	2	3	3	3	3	3
Refrigerant charge		kg	181	186	205	212	221	237	250
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	72	72	72	72	72	73	73
Sound power level in cooling	(4)(5)	dB(A)	105	105	105	105	105	106	106
SIZE AND WEIGHT									
A	(6)	mm	10400	10400	11650	11650	11650	12900	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	9030	9060	10880	11620	11940	12420	12440

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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

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i-FX-G01/SL-K			2202	2602	2652	2702	2722	3152	3602
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	477,0	516,7	554,6	578,0	662,9	711,3	774,2
Total power input	(1)	kW	161,3	169,9	187,5	203,5	219,1	249,6	283,5
EER	(1)	kW/kW	2,957	3,041	2,958	2,840	3,026	2,850	2,731
ESEER	(1)	kW/kW	4,870	4,860	4,820	4,710	4,810	4,820	4,810
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	475,7	515,1	553,0	576,3	660,9	708,9	772,0
EER	(1)(2)	kW/kW	2,930	3,000	2,920	2,810	2,990	2,810	2,700
ESEER	(1)(2)	kW/kW	4,680	4,640	4,630	4,520	4,610	4,590	4,610
Cooling energy class			B	B	B	C	B	C	C
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	476	515	553	576	661	709	772
SEER	(7)(8)		4,99	4,95	4,90	4,81	4,96	4,97	4,94
Performance ηs	(7)(9)	%	196	195	193	189	196	196	194
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	22,81	24,71	26,52	27,64	31,70	34,02	37,02
Pressure drop	(1)	kPa	31,8	37,4	34,4	37,3	39,1	45,0	38,0
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	72,0	79,0	84,0	88,0	101	109	117
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	60	61	61	61	61	61	61
Sound power level in cooling	(4)(5)	dB(A)	92	93	93	93	94	94	94
SIZE AND WEIGHT									
A	(6)	mm	5400	5400	5400	5400	6650	6650	6650
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	5510	5680	5700	5720	6480	6510	6550

i-FX-G01/SL-K			3902	4202	4502	4802	4812	4822	5412
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	845,6	903,1	972,7	1028	1046	1120	1162
Total power input	(1)	kW	304,7	323,1	342,2	358,3	344,9	381,1	404,9
EER	(1)	kW/kW	2,775	2,795	2,842	2,869	3,033	2,939	2,870
ESEER	(1)	kW/kW	4,700	4,690	4,820	4,900	4,800	4,860	4,940
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	843,1	900,1	969,8	1025	1042	1116	1159
EER	(1)(2)	kW/kW	2,740	2,760	2,810	2,830	2,990	2,900	2,840
ESEER	(1)(2)	kW/kW	4,500	4,480	4,620	4,670	4,580	4,610	4,730
Cooling energy class			C	C	C	C	B	B	C
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	843	900	970	1025	1042	1116	1159
SEER	(7)(8)		4,83	4,82	4,93	5,03	4,95	5,00	5,07
Performance ηs	(7)(9)	%	190	190	194	198	195	197	200
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	40,44	43,19	46,52	49,15	50,01	53,58	55,57
Pressure drop	(1)	kPa	40,1	45,7	40,9	45,7	47,3	51,0	41,2
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	127	135	146	155	159	172	177
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	62	63	63	63	63	63	63
Sound power level in cooling	(4)(5)	dB(A)	95	96	96	96	96	96	96
SIZE AND WEIGHT									
A	(6)	mm	7900	7900	9150	9150	10400	10400	10400
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	7070	7150	8290	8670	9110	9110	9360

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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 R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

i-FX-G01

Chiller, air source for outdoor installation

2202 - 7223 477,0-1697 kW

i-FX-G01/SL-K			6002	6022	6303	6903	7203	7213	7223
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	1199	1290	1365	1474	1541	1590	1635
Total power input	(1)	kW	428,2	451,3	486,9	519,0	548,8	584,9	607,6
EER	(1)	kW/kW	2,800	2,858	2,803	2,840	2,808	2,718	2,691
ESEER	(1)	kW/kW	4,930	4,930	4,810	4,940	4,870	4,850	4,870
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	1195	1286	1361	1469	1537	1586	1630
EER	(1)(2)	kW/kW	2,770	2,820	2,770	2,800	2,780	2,690	2,660
ESEER	(1)(2)	kW/kW	4,710	4,680	4,620	4,700	4,690	4,660	4,660
Cooling energy class			C	C	C	C	C	D	D
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	1195	1286	1361	1469	1537	1586	1630
SEER	(7)(8)		5,03	5,06	4,84	5,01	4,91	4,91	4,92
Performance ηs	(7)(9)	%	198	199	191	197	193	193	194
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	57,32	61,67	65,28	70,50	73,70	76,02	78,18
Pressure drop	(1)	kPa	43,9	50,8	43,1	50,2	38,7	41,2	46,7
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	3	3	3	3	3
No. Circuits		N°	2	2	3	3	3	3	3
Refrigerant charge		kg	181	195	205	222	232	242	250
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	63	63	63	63	63	64	64
Sound power level in cooling	(4)(5)	dB(A)	96	96	96	96	96	97	97
SIZE AND WEIGHT									
A	(6)	mm	10400	11650	11650	12900	12900	12900	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	9370	9780	11350	12550	12870	12890	12910

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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

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Certified data in EUROVENT

i-FX-G01/A			2202	2602	2652	2702	2722	3152	3602	3902
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	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	510,2	551,9	590,0	626,9	684,3	767,2	839,9	899,4
Total power input	(1)	kW	157,1	170,7	181,9	195,0	213,4	246,9	274,6	291,3
EER	(1)	kW/kW	3,248	3,233	3,244	3,215	3,207	3,107	3,059	3,088
ESEER	(1)	kW/kW	5,190	5,310	5,260	5,160	5,160	5,140	5,170	5,170
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	508,7	550,4	588,2	624,8	682,1	765,0	837,1	896,4
EER	(1)(2)	kW/kW	3,210	3,200	3,200	3,170	3,160	3,070	3,020	3,050
ESEER	(1)(2)	kW/kW	4,960	5,090	5,020	4,900	4,910	4,920	4,910	4,910
Cooling energy class			A	A	A	A	A	B	B	B
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Ambient refrigeration										
Prated,c	(7)	kW	509	550	588	625	682	765	837	896
SEER	(7)(8)		5,37	5,39	5,37	5,31	5,32	5,33	5,34	5,29
Performance ηs	(7)(9)	%	212	213	212	209	210	210	211	209
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	24,40	26,39	28,22	29,98	32,73	36,69	40,16	43,01
Pressure drop	(1)	kPa	36,4	34,0	38,9	43,9	41,6	37,3	44,7	45,3
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
Refrigerant charge		kg	79,0	81,0	87,0	92,0	100	113	123	133
NOISE LEVEL										
Sound Pressure	(3)	dB(A)	67	68	67	67	68	68	68	69
Sound power level in cooling	(4)(5)	dB(A)	99	100	100	100	101	101	101	102
SIZE AND WEIGHT										
A	(6)	mm	5400	5400	6650	6650	6650	7900	7900	9150
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	5270	5330	5730	5800	6130	6610	6670	7130

i-FX-G01/A			4202	4502	4802	4822	5412	5703	6303	6603
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	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	959,4	1028	1099	1162	1230	1334	1467	1520
Total power input	(1)	kW	307,8	326,5	343,9	373,0	385,1	434,5	473,6	498,0
EER	(1)	kW/kW	3,117	3,149	3,196	3,115	3,194	3,070	3,098	3,052
ESEER	(1)	kW/kW	5,190	5,200	5,170	5,130	5,160	5,130	5,090	5,110
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	955,9	1025	1095	1159	1226	1330	1463	1516
EER	(1)(2)	kW/kW	3,070	3,110	3,150	3,080	3,150	3,030	3,070	3,020
ESEER	(1)(2)	kW/kW	4,900	4,930	4,900	4,900	4,900	4,920	4,910	4,910
Cooling energy class			B	A	A	B	A	B	B	B
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Ambient refrigeration										
Prated,c	(7)	kW	956	1025	1095	1159	1226	1330	1463	1516
SEER	(7)(8)		5,23	5,38	5,33	5,28	5,34	5,26	5,17	5,24
Performance ηs	(7)(9)	%	206	212	210	208	211	207	204	207
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	45,88	49,16	52,54	55,59	58,81	63,78	70,16	72,70
Pressure drop	(1)	kPa	51,6	45,7	50,1	41,2	46,2	41,1	35,1	37,7
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	3	3	3
No. Circuits		N°	2	2	2	2	2	3	3	3
Refrigerant charge		kg	141	151	161	173	182	197	226	224
NOISE LEVEL										
Sound Pressure	(3)	dB(A)	70	70	71	72	72	72	72	72
Sound power level in cooling	(4)(5)	dB(A)	103	103	104	105	105	105	105	105
SIZE AND WEIGHT										
A	(6)	mm	9150	10400	10400	10400	11650	12900	12900	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	7150	8270	8750	8850	9390	11000	11150	11500

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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

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Certified data in EUROVENT

i-FX-G01

2202 - 7223 477,0-1697 kW

Chiller, air source for outdoor installation

i-FX-G01/SL-A			2202	2602	2652	2702	2722	3152	3602	3902
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	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	498,8	559,5	581,8	615,1	682,8	751,6	811,9	891,5
Total power input	(1)	kW	155,7	175,2	178,0	194,0	208,0	240,9	264,1	283,2
EER	(1)	kW/kW	3,204	3,193	3,269	3,171	3,283	3,120	3,074	3,148
ESEER	(1)	kW/kW	5,220	5,210	5,250	5,180	5,200	5,170	5,180	5,190
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	497,4	557,9	580,0	613,4	680,6	749,5	809,4	888,6
EER	(1)(2)	kW/kW	3,170	3,160	3,230	3,130	3,240	3,080	3,040	3,110
ESEER	(1)(2)	kW/kW	5,000	4,980	5,000	4,960	4,940	4,940	4,940	4,930
Cooling energy class			A	A	A	A	A	B	B	A
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Ambient refrigeration										
Prated,c	(7)	kW	497	558	580	613	681	750	809	889
SEER	(7)(8)		5,39	5,39	5,41	5,35	5,38	5,39	5,40	5,35
Performance ηs	(7)(9)	%	213	213	213	211	212	213	213	211
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	23,85	26,76	27,82	29,42	32,65	35,94	38,83	42,63
Pressure drop	(1)	kPa	34,8	35,0	37,8	33,6	41,5	35,8	41,8	44,5
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
Refrigerant charge		kg	79,0	88,0	92,0	97,0	107	118	129	141
NOISE LEVEL										
Sound Pressure	(3)	dB(A)	60	60	60	60	61	61	61	62
Sound power level in cooling	(4)(5)	dB(A)	92	93	93	93	94	94	94	95
SIZE AND WEIGHT										
A	(6)	mm	5400	6650	6650	6650	7900	7900	9150	10400
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	5590	6030	6070	6400	6930	6970	7460	8000

i-FX-G01/SL-A			4202	4502	4802	4822	5412	5703	6303
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	942,8	1016	1086	1149	1213	1332	1462
Total power input	(1)	kW	299,7	318,3	335,7	364,6	377,2	438,1	473,2
EER	(1)	kW/kW	3,146	3,192	3,235	3,151	3,216	3,040	3,090
ESEER	(1)	kW/kW	5,180	5,220	5,190	5,170	5,220	5,140	5,100
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	939,4	1013	1082	1146	1209	1328	1458
EER	(1)(2)	kW/kW	3,100	3,150	3,190	3,110	3,170	3,010	3,060
ESEER	(1)(2)	kW/kW	4,900	4,960	4,920	4,940	4,960	4,920	4,910
Cooling energy class			A	A	A	A	A	B	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	939	1013	1082	1146	1209	1328	1458
SEER	(7)(8)		5,28	5,42	5,41	5,37	5,45	5,29	5,10
Performance ηs	(7)(9)	%	208	214	213	212	215	209	201
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	45,09	48,60	51,92	54,96	58,00	63,72	69,92
Pressure drop	(1)	kPa	49,8	44,7	48,9	40,3	44,9	41,0	34,8
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	3	3
No. Circuits		N°	2	2	2	2	2	3	3
Refrigerant charge		kg	149	160	171	183	191	206	226
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	63	63	63	63	63	63	63
Sound power level in cooling	(4)(5)	dB(A)	96	96	96	96	96	96	96
SIZE AND WEIGHT									
A	(6)	mm	10400	11650	11650	11650	12900	12900	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	8070	9050	9450	9630	10030	11520	11520

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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

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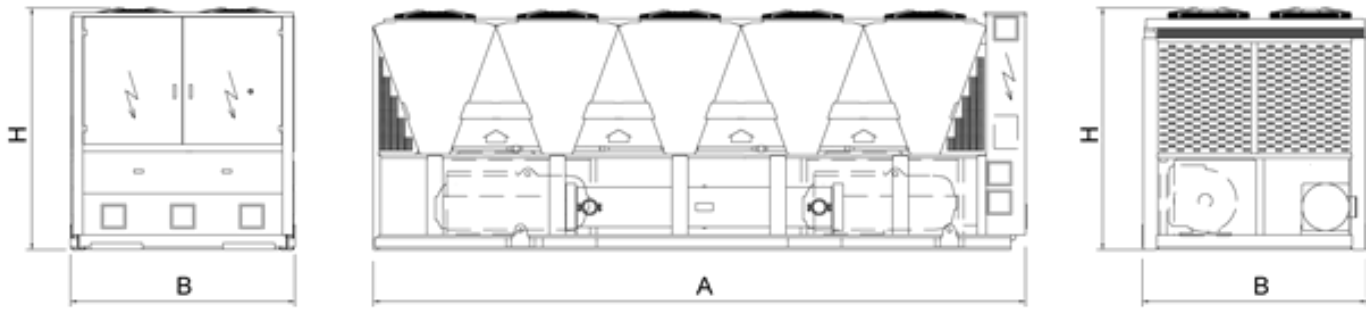
Certified data in EUROVENT

Dimensional drawing



CHILLERS

i-FX-G04

Chiller, air source for outdoor installation

2202 - 7823 382,7-1463 kW

Outdoor unit for the production of chilled water with semi-hermetic variable-speed screw compressors optimized for HFO R1234ze refrigerant, axial-flow fans, micro-channel full-aluminum condensing coils, single-pass shell and tubes evaporator designed by Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. and electronic expansion valve.
Base and supporting structure and panels are of galvanized epoxy powder coated steel with increased thickness. Eurovent certification.
The screw compressors feature the variable speed technology thanks to the integrated refrigerant cooled inverter, for the maximum compactness and operating flexibility. Moreover, they feature the Variable Vi (compression ratio) technology, to change the internal geometry according to the operating conditions.
Thanks to the accurate sizing of all internal components and the use of variable speed technology, the unit ensures flexibility, reliability and maximum efficiency in every operating condition.

Refrigerant

R1234ze

Versions

A High efficiency

SL-A Super low noise, high efficiency

Configurations

- Basic function

D Partial 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.

HIGH EFFICIENCY
Very high efficiency at full and partial load, at the highest market levels, thanks to the adopted technological solutions. These units ensure low operating costs and therefore a quick payback time.

ErP COMPLIANT 2021
Thanks to the inverter technology and the accurate design, the units already comply and exceed the minimum seasonal energy efficiency requirements that will start from 2021, imposed by the eco-sustainable design Directive 2009/125/EC.

REFRIGERANT LEAK DETECTOR
It is supplied factory mounted inside each compressor enclosure and wired in the electrical board. In case of leak detection it will raise an alarm.

WIDE OPERATING RANGE
The accurate condensation control (EC fans as standard on every model), the availability of devoted kits and smart control logics allow unit's operation from -15°C up to 55°C of outdoor air temperature and up to 20°C of evaporator leaving water temperature.

ALUMINIUM MICRO-CHANNEL HEAT EXCHANGERS
The full aluminium micro-channel condenser coils deliver high efficiency whilst ensuring a reduced refrigerant volume and a lower unit weight. The e-coating protection (optional) grants the highest level of resistance to corrosion in any condition, even in the most aggressive environments.

INTEGRATED HYDRONIC GROUP
The built-in hydronic group (optional) includes the main water circuit components. The 2 pumps are in twin configuration and available with 2 or 4-pole motor, fixed or variable speed, high or low head, to satisfy the different installation requirements.

HARMONY BETWEEN UNIT AND PLANT
Low inrush current and power factor higher than similar fixed speed units, permit an easy electrical installation which is not stressed during start-up and with no need of extra devices for power factor correction. The use of VSD technology allows the unit to partialize in a stepless way, with consequent lower fluctuations of leaving water temperature.

Control

KIP LINK

W3000TE
W3000TE control is available with the new KIPlink user interface. Based on WiFi technology, it allows one to operate on the unit directly from the smartphone or tablet. Using KIPlink, it is possible to turn the unit on and off, adjust the set-point, plot the main operating variables, monitor the status of the various components and display / reset the alarms. As alternatives, the Touch interface, with a 7" WVGA colour display and USB port, or the Large keyboard, with a wide LCD display and led icons, are available. Temperature control characterized by the continuous capacity modulation, based on PID algorithms with dynamic neutral zone related to the leaving water temperature. Complete alarm management system is available, with the "black-box" and the alarm history display functions.
Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks. Compatibility with remote keyboard (up to 8 units). The programmable timer manages a weekly schedule organized 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. As an option (VPF package), the capacity modulation is integrated with the modulation of the water flow, by means of inverter and dedicated resources for the hydraulic circuit.

Accessories

- Noise reducer (only on not silenced versions)
- Microchannel coils with e-coating protection
- Traditional coils with copper tubes and alluminium fins, also available with prepainted fins or Fin Guard Silver protective treatment.
- Kit HT to increase the unit operating range
- Hydronic group
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus, Mitsubishi M-Net, Echelon, Bacnet, Bacnet over-IP.
- Remote control keyboard (distance to 200m and to 500m)

i-FX-G04 /A			2202	2602	2702	2722	3602	4202	4802
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	382,7	417,9	486,9	534,8	642,0	725,9	843,1
Total power input	(1)	kW	117,7	130,2	147,7	168,4	211,1	237,1	281,3
EER	(1)	kW/kW	3,251	3,210	3,297	3,176	3,041	3,062	2,997
ESEER	(1)	kW/kW	5,010	5,170	5,130	5,030	4,960	5,000	4,950
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	381,5	416,4	485,7	533,2	639,7	723,4	841,1
EER	(1)(2)	kW/kW	3,210	3,160	3,260	3,140	3,000	3,020	2,970
ESEER	(1)(2)	kW/kW	4,790	4,890	4,940	4,810	4,700	4,750	4,770
Cooling energy class			A	A	A	A	B	B	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	382	416	486	533	640	723	841
SEER	(7)(8)		5,18	5,26	5,26	5,18	5,09	5,18	5,09
Performance ηs	(7)(9)	%	204	207	208	204	201	204	201
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	18,30	19,98	23,29	25,58	30,70	34,71	40,32
Pressure drop	(1)	kPa	35,3	42,1	30,1	36,4	46,1	46,8	30,8
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	63,0	70,0	81,0	86,0	108	124	134
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	67	68	68	69	68	70	72
Sound power level in cooling	(4)(5)	dB(A)	99	100	100	101	101	103	105
SIZE AND WEIGHT									
A	(6)	mm	4150	5400	5400	5400	6650	7900	7900
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	4780	5220	5360	5430	6060	6820	7810

i-FX-G04 /A			4822	6002	6022	6603	7203	7223	7823
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	915,7	994,1	1038	1146	1280	1399	1463
Total power input	(1)	kW	305,7	322,1	340,6	379,0	423,0	471,2	499,3
EER	(1)	kW/kW	2,995	3,086	3,048	3,024	3,026	2,969	2,930
ESEER	(1)	kW/kW	4,870	4,980	4,930	4,950	4,930	4,920	4,900
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	912,6	991,0	1035	1143	1276	1394	1458
EER	(1)(2)	kW/kW	2,960	3,050	3,010	2,990	2,990	2,930	2,890
ESEER	(1)(2)	kW/kW	4,630	4,750	4,700	4,740	4,730	4,690	4,660
Cooling energy class			B	B	B	B	B	B	C
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	913	991	1035	1143	1276	1394	1458
SEER	(7)(8)		5,06	5,13	5,09	5,11	5,04	5,04	5,00
Performance ηs	(7)(9)	%	199	202	201	201	198	198	197
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	43,79	47,54	49,65	54,79	61,21	66,89	69,95
Pressure drop	(1)	kPa	47,0	42,8	43,8	40,1	40,8	48,7	53,3
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	3	3	3	3
No. Circuits		N°	2	2	2	3	3	3	3
Refrigerant charge		kg	139	167	171	189	195	203	218
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	72	72	72	72	72	73	73
Sound power level in cooling	(4)(5)	dB(A)	105	105	105	105	105	106	106
SIZE AND WEIGHT									
A	(6)	mm	9150	10400	10400	11650	11650	12900	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	8240	8780	8880	11170	11800	12430	12390

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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

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Certified data in EUROVENT

i-FX-G04

2202 - 7823 382,7-1463 kW

Chiller, air source for outdoor installation

i-FX-G04 /SL-A			2202	2602	2702	2722	3602	4202	4802
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	377,2	421,3	480,7	527,2	633,2	718,2	832,9
Total power input	(1)	kW	116,8	125,4	145,9	167,1	207,2	234,4	269,9
EER	(1)	kW/kW	3,229	3,360	3,295	3,155	3,056	3,064	3,086
ESEER	(1)	kW/kW	5,020	5,220	5,130	5,050	4,950	5,020	5,050
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	376,1	419,8	479,5	525,7	631,0	715,7	830,5
EER	(1)(2)	kW/kW	3,190	3,310	3,260	3,120	3,010	3,020	3,050
ESEER	(1)(2)	kW/kW	4,810	4,940	4,940	4,840	4,710	4,770	4,840
Cooling energy class			A	A	A	A	B	B	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	376	420	480	526	631	716	830
SEER	(7)(8)		5,18	5,32	5,26	5,18	5,09	5,19	5,24
Performance ηs	(7)(9)	%	204	210	207	204	200	204	207
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	18,04	20,15	22,99	25,21	30,28	34,34	39,83
Pressure drop	(1)	kPa	34,3	42,8	29,4	35,3	44,8	45,9	38,9
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	63,0	73,0	81,0	86,0	108	124	134
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	60	61	61	62	61	63	63
Sound power level in cooling	(4)(5)	dB(A)	92	93	93	94	94	96	96
SIZE AND WEIGHT									
A	(6)	mm	4150	5400	5400	5400	6650	7900	9150
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	5020	5600	5680	5760	6390	7160	8400

i-FX-G04 /SL-A			4822	6002	6022	6603	7203	7223	7823
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	902,8	972,2	1024	1141	1262	1391	1458
Total power input	(1)	kW	303,4	318,4	337,4	376,1	416,2	468,8	499,7
EER	(1)	kW/kW	2,976	3,053	3,035	3,034	3,032	2,967	2,918
ESEER	(1)	kW/kW	4,890	4,980	4,950	4,960	5,020	4,990	4,900
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	899,8	969,3	1021	1138	1258	1386	1455
EER	(1)(2)	kW/kW	2,940	3,020	3,000	3,000	3,000	2,930	2,890
ESEER	(1)(2)	kW/kW	4,660	4,770	4,730	4,760	4,820	4,750	4,750
Cooling energy class			B	B	B	B	B	B	C
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	900	969	1021	1138	1258	1386	1455
SEER	(7)(8)		5,06	5,12	5,10	5,12	5,11	5,10	4,98
Performance ηs	(7)(9)	%	199	202	201	202	202	201	196
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	43,17	46,49	48,96	54,56	60,35	66,50	69,70
Pressure drop	(1)	kPa	45,7	40,9	42,6	39,7	39,7	48,1	30,9
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	3	3	3	3
No. Circuits		N°	2	2	2	3	3	3	0
Refrigerant charge		kg	139	167	171	189	204	213	223
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	63	63	63	63	63	64	64
Sound power level in cooling	(4)(5)	dB(A)	96	96	96	96	96	97	97
SIZE AND WEIGHT									
A	(6)	mm	9150	10400	10400	11650	12900	12900	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	8550	9090	9180	11620	12660	12950	12890

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
8 Seasonal energy efficiency ratio
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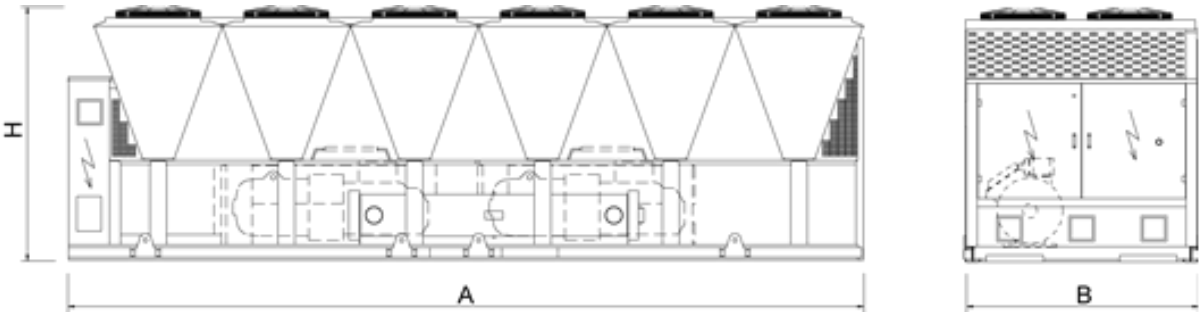
Certified data in EUROVENT

Dimensional drawing



CHILLERS

i-FX-G05

2202 - 7223 478,6-1697 kW

Chiller, air source for outdoor installation

Outdoor unit for the production of chilled water with semi-hermetic variable-speed screw compressors optimized for R513A, axial-flow fans, micro-channel full-aluminum condensing coils, single-pass shell and tubes evaporator designed by Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. and electronic expansion valve.
Base and supporting structure and panels are of galvanized epoxy powder coated steel with increased thickness. Eurovent certification.
The screw compressors feature the variable speed technology thanks to the integrated refrigerant cooled inverter, for the maximum compactness and operating flexibility. Moreover, they feature the Variable Vi (compression ratio) technology, to change the internal geometry according to the operating conditions.
Thanks to the accurate sizing of all internal components and the use of variable speed technology, the unit ensures flexibility, reliability and maximum efficiency in every operating condition.

Control

W3000TE
W3000TE control is available with the new KIPlink user interface. Based on WiFi technology, it allows one to operate on the unit directly from the smartphone or tablet. Using KIPlink, it is possible to turn the unit on and off, adjust the set-point, plot the main operating variables, monitor the status of the various components and display / reset the alarms. As alternatives, the Touch interface, with a 7" WVGA colour display and USB port, or the Large keyboard, with a wide LCD display and led icons, are available. Temperature control characterized by the continuous capacity modulation, based on PID algorithms with dynamic neutral zone related to the leaving water temperature. Complete alarm management system is available, with the "black-box" and the alarm history display functions.
Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks. Compatibility with remote keyboard (up to 8 units). The programmable timer manages a weekly schedule organized 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. As an option (VPF package), the capacity modulation is integrated with the modulation of the water flow, by means of inverter and dedicated resources for the hydraulic circuit.

Refrigerant

R513A

Versions

K	Standard efficiency
SL-K	Super low noise, standard efficiency
A	High efficiency
SL-A	Super low noise, high efficiency

Configurations

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

HIGH EFFICIENCY
Very high efficiency at full and partial load, at the highest market levels, thanks to the adopted technological solutions. These units ensure low operating costs and therefore a quick payback time.

ErP COMPLIANT 2021
Thanks to the inverter technology and the accurate design, the units already comply and exceed the minimum seasonal energy efficiency requirements that will start from 2021, imposed by the eco-sustainable design Directive 2009/125/EC.

WIDE OPERATING RANGE
The accurate condensation control (variable fan speed regulation as per standard on every model), the availability of devoted kits and smart control logics allow unit's operation from -20°C up to 55°C of outdoor air temperature and from -8°C to 20°C of evaporator leaving water temperature.

REDUCED FOOTPRINT
These new units have a reduced footprint, making them the best solution both for new plants (thanks to high efficiency) and for the replacement of obsolete units in existing plants, offering a very high efficiency increase with same dimensions and cooling capacity.

ALUMINIUM MICRO-CHANNEL HEAT EXCHANGERS
The full aluminium micro-channel condenser coils deliver high efficiency whilst ensuring a reduced refrigerant volume and a lower unit weight. The e-coating protection (optional) grants the highest level of resistance to corrosion in any condition, even in the most aggressive environments.

INTEGRATED HYDRONIC GROUP
The built-in hydronic group (optional) includes the main water circuit components. The 2 pumps are in twin configuration and available with 2 or 4-pole motor, fixed or variable speed, high or low head.

HARMONY BETWEEN UNIT AND PLANT
Low inrush current and power factor higher than similar fixed speed units, permit an easy electrical installation which is not stressed during start-up and with no need of extra devices for power factor correction. The use of VSD technology allows the unit to partialize in a stepless way, with consequent lower fluctuations of leaving water temperature.

Accessories

- Noise reducer (only on not silenced versions)
- EC fans with electronic DC brushless motor (for K versions)
- Microchannel coils with e-coating protection
- Traditional coils with copper tubes and alluminium fins, also available with prepainted fins or Fin Guard Silver protective treatment.
- Leak detector
- Kit HT to increase the unit operating range
- Hydronic group
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus, Mitsubishi M-Net, Echelon, Bacnet, Bacnet over-IP.

i-FX-G05/K			2202	2602	2652	2702	2722	3152	3602
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	478,6	531,1	561,2	598,1	656,7	720,7	801,4
Total power input	(1)	kW	172,0	189,2	198,6	209,1	237,2	263,0	290,3
EER	(1)	kW/kW	2,783	2,807	2,826	2,860	2,769	2,740	2,761
ESEER	(1)	kW/kW	4,660	4,670	4,670	4,630	4,630	4,720	4,700
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	477,3	529,4	559,6	596,2	654,7	718,2	798,9
EER	(1)(2)	kW/kW	2,750	2,770	2,800	2,830	2,740	2,710	2,730
ESEER	(1)(2)	kW/kW	4,480	4,460	4,480	4,430	4,430	4,490	4,490
Cooling energy class			C	C	C	C	C	C	C
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	477	529	560	596	655	718	799
SEER	(7)(8)		4,77	4,78	4,73	4,76	4,76	4,82	4,83
Performance ηs	(7)(9)	%	188	188	186	187	187	190	190
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	22,89	25,40	26,84	28,60	31,40	34,47	38,33
Pressure drop	(1)	kPa	32,0	39,5	35,2	40,0	38,3	46,2	40,7
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	79,0	87,0	92,0	101	108	120	135
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	67	68	68	68	69	68	68
Sound power level in cooling	(4)(5)	dB(A)	99	100	100	100	101	101	101
SIZE AND WEIGHT									
A	(6)	mm	4150	5400	5400	5400	5400	6650	6650
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	4790	5360	5360	5420	5730	6150	6240

i-FX-G05/K			3902	4202	4502	4802	4812	4822	5412
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	874,1	932,0	990,3	1029	1054	1128	1169
Total power input	(1)	kW	312,1	331,0	358,1	383,8	366,8	405,3	430,5
EER	(1)	kW/kW	2,801	2,816	2,765	2,681	2,874	2,783	2,715
ESEER	(1)	kW/kW	4,610	4,620	4,670	4,730	4,650	4,650	4,790
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	871,3	928,7	987,3	1026	1050	1124	1166
EER	(1)(2)	kW/kW	2,770	2,780	2,730	2,650	2,830	2,750	2,690
ESEER	(1)(2)	kW/kW	4,410	4,400	4,480	4,520	4,430	4,430	4,590
Cooling energy class			C	C	C	D	C	C	D
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	871	929	987	1026	1050	1124	1166
SEER	(7)(8)		4,79	4,82	4,77	4,80	4,79	4,82	4,89
Performance ηs	(7)(9)	%	189	190	188	189	189	190	193
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	41,80	44,57	47,36	49,20	50,41	53,94	55,90
Pressure drop	(1)	kPa	42,8	48,7	42,4	45,8	48,1	51,7	41,7
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	146	155	161	168	174	189	193
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	69	70	70	71	71	72	72
Sound power level in cooling	(4)(5)	dB(A)	102	103	103	104	104	105	105
SIZE AND WEIGHT									
A	(6)	mm	7900	7900	7900	7900	9150	9150	9150
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	6730	6810	7410	7760	8360	8470	8560

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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 [GWP_{100} 631] fluorinated greenhouse gases.
Certified data in EUROVENT

i-FX-G05

2202 - 7223 478,6-1697 kW

Chiller, air source for outdoor installation

i-FX-G05/K			6002	6022	6303	6903	7203	7213	7223
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	1242	1302	1409	1493	1559	1649	1697
Total power input	(1)	kW	438,8	477,1	498,8	544,8	578,9	596,2	618,5
EER	(1)	kW/kW	2,830	2,729	2,825	2,740	2,693	2,766	2,744
ESEER	(1)	kW/kW	4,810	4,810	4,610	4,660	4,660	4,620	4,650
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	1238	1297	1405	1488	1555	1644	1691
EER	(1)(2)	kW/kW	2,800	2,690	2,790	2,710	2,670	2,730	2,710
ESEER	(1)(2)	kW/kW	4,580	4,560	4,410	4,440	4,480	4,430	4,430
Cooling energy class			C	D	C	C	D	C	C
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	1238	1297	1405	1488	1555	1644	1691
SEER	(7)(8)		4,90	4,90	4,74	4,77	4,76	4,76	4,79
Performance ηs	(7)(9)	%	193	193	187	188	187	187	189
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	59,42	62,28	67,38	71,40	74,58	78,86	81,17
Pressure drop	(1)	kPa	47,1	51,8	45,9	51,5	39,6	44,3	50,4
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	3	3	3	3	3
No. Circuits		N°	2	2	3	3	3	3	3
Refrigerant charge		kg	208	214	236	244	254	273	288
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	72	72	72	72	72	73	73
Sound power level in cooling	(4)(5)	dB(A)	105	105	105	105	105	106	106
SIZE AND WEIGHT									
A	(6)	mm	10400	10400	11650	11650	11650	12900	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	9030	9060	10880	11620	11940	12420	12440

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
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i-FX-G05/SL-K			2202	2602	2652	2702	2722	3152	3602
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	477,0	516,7	554,6	578,0	662,9	711,3	774,2
Total power input	(1)	kW	168,1	177,0	195,5	212,2	228,3	260,2	295,6
EER	(1)	kW/kW	2,838	2,919	2,837	2,724	2,904	2,734	2,619
ESEER	(1)	kW/kW	4,810	4,800	4,770	4,660	4,750	4,760	4,750
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	475,7	515,1	553,0	576,3	660,9	708,9	772,0
EER	(1)(2)	kW/kW	2,810	2,880	2,810	2,690	2,870	2,700	2,590
ESEER	(1)(2)	kW/kW	4,480	4,590	4,570	4,470	4,560	4,540	4,560
Cooling energy class			C	C	C	D	C	C	D
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	476	515	553	576	661	709	772
SEER	(7)(8)		4,91	4,88	4,83	4,74	4,89	4,90	4,87
Performance ηs	(7)(9)	%	194	192	190	187	193	193	192
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	22,81	24,71	26,52	27,64	31,70	34,02	37,02
Pressure drop	(1)	kPa	31,8	37,4	34,4	37,3	39,1	45,0	38,0
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	83,0	91,0	97,0	101	116	125	135
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	60	61	61	61	61	61	61
Sound power level in cooling	(4)(5)	dB(A)	92	93	93	93	94	94	94
SIZE AND WEIGHT									
A	(6)	mm	5400	5400	5400	5400	6650	6650	6650
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	5510	5680	5700	5720	6480	6510	6550

i-FX-G05/SL-K			3902	4202	4502	4802	4812	4822	5412
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	845,6	903,1	972,7	1028	1046	1120	1162
Total power input	(1)	kW	317,7	336,9	356,8	373,5	359,4	397,2	422,1
EER	(1)	kW/kW	2,662	2,681	2,726	2,752	2,910	2,820	2,753
ESEER	(1)	kW/kW	4,640	4,640	4,760	4,850	4,740	4,800	4,880
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	843,1	900,1	969,8	1025	1042	1116	1159
EER	(1)(2)	kW/kW	2,630	2,650	2,700	2,720	2,870	2,780	2,720
ESEER	(1)(2)	kW/kW	4,450	4,430	4,560	4,610	4,530	4,560	4,670
Cooling energy class			D	D	C	C	C	C	C
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	843	900	970	1025	1042	1116	1159
SEER	(7)(8)		4,76	4,78	4,86	4,95	4,89	4,93	5,00
Performance ηs	(7)(9)	%	187	188	191	195	192	194	197
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	40,44	43,19	46,52	49,15	50,01	53,58	55,57
Pressure drop	(1)	kPa	40,1	45,7	40,9	45,7	47,3	51,0	41,2
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	146	155	168	178	183	198	204
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	62	63	63	63	63	63	63
Sound power level in cooling	(4)(5)	dB(A)	95	96	96	96	96	96	96
SIZE AND WEIGHT									
A	(6)	mm	7900	7900	9150	9150	10400	10400	10400
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	7070	7150	8290	8670	9110	9110	9360

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
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i-FX-G05

2202 - 7223 478,6-1697 kW

Chiller, air source for outdoor installation

i-FX-G05/SL-K			6002	6022	6303	6903	7203	7213	7223
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	1199	1290	1365	1474	1541	1590	1635
Total power input	(1)	kW	446,5	470,5	507,7	541,1	572,2	610,0	633,6
EER	(1)	kW/kW	2,685	2,742	2,689	2,724	2,693	2,607	2,580
ESEER	(1)	kW/kW	4,880	4,880	4,760	4,880	4,810	4,800	4,810
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	1195	1286	1361	1469	1537	1586	1630
EER	(1)(2)	kW/kW	2,650	2,710	2,660	2,690	2,670	2,580	2,550
ESEER	(1)(2)	kW/kW	4,660	4,630	4,570	4,650	4,630	4,610	4,610
Cooling energy class			D	C	D	D	D	D	D
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	1195	1286	1361	1469	1537	1586	1630
SEER	(7)(8)		4,95	4,99	4,77	4,94	4,84	4,84	4,85
Performance ηs	(7)(9)	%	195	197	188	194	191	190	191
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	57,32	61,67	65,28	70,50	73,70	76,02	78,18
Pressure drop	(1)	kPa	43,9	50,8	43,1	50,2	38,7	41,2	46,7
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	3	3	3	3	3
No. Circuits		N°	2	2	3	3	3	3	3
Refrigerant charge		kg	208	224	236	255	267	278	288
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	63	63	63	63	63	64	64
Sound power level in cooling	(4)(5)	dB(A)	96	96	96	96	96	97	97
SIZE AND WEIGHT									
A	(6)	mm	10400	11650	11650	12900	12900	12900	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	9370	9780	11350	12550	12870	12890	12910

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
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i-FX-G05/A			2202	2602	2652	2702	2722	3152	3602	3902
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	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	510,2	551,9	590,0	626,9	684,3	767,2	839,9	899,4
Total power input	(1)	kW	163,5	177,8	189,4	203,0	222,2	257,2	286,0	303,4
EER	(1)	kW/kW	3,120	3,104	3,115	3,088	3,080	2,983	2,937	2,964
ESEER	(1)	kW/kW	5,080	5,200	5,160	5,060	5,050	5,040	5,070	5,060
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	508,7	550,4	588,2	624,8	682,1	765,0	837,1	896,4
EER	(1)(2)	kW/kW	3,080	3,070	3,080	3,050	3,040	2,950	2,900	2,930
ESEER	(1)(2)	kW/kW	4,860	4,980	4,920	4,810	4,820	4,830	4,810	4,810
Cooling energy class			B	B	B	B	B	B	B	B
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Ambient refrigeration										
Prated,c	(7)	kW	509	550	588	625	682	765	837	896
SEER	(7)(8)		5,26	5,27	5,26	5,20	5,21	5,21	5,22	5,17
Performance ηs	(7)(9)	%	207	208	207	205	205	206	206	204
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	24,40	26,39	28,22	29,98	32,73	36,69	40,16	43,01
Pressure drop	(1)	kPa	36,4	34,0	38,9	43,9	41,6	37,3	44,7	45,3
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
Refrigerant charge		kg	91,0	93,0	100	106	115	130	141	153
NOISE LEVEL										
Sound Pressure	(3)	dB(A)	67	68	67	67	68	68	68	69
Sound power level in cooling	(4)(5)	dB(A)	99	100	100	100	101	101	101	102
SIZE AND WEIGHT										
A	(6)	mm	5400	5400	6650	6650	6650	7900	7900	9150
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	5270	5330	5730	5800	6130	6610	6670	7130

i-FX-G05/A			4202	4502	4802	4822	5412	5703	6303	6603
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	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	959,4	1028	1099	1162	1230	1334	1467	1520
Total power input	(1)	kW	320,6	340,0	358,2	388,6	401,1	452,6	493,4	518,9
EER	(1)	kW/kW	2,993	3,024	3,068	2,990	3,067	2,947	2,973	2,929
ESEER	(1)	kW/kW	5,080	5,090	5,060	5,020	5,060	5,030	4,990	5,010
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	955,9	1025	1095	1159	1226	1330	1463	1516
EER	(1)(2)	kW/kW	2,950	2,980	3,020	2,960	3,030	2,910	2,940	2,900
ESEER	(1)(2)	kW/kW	4,810	4,840	4,800	4,810	4,810	4,820	4,810	4,810
Cooling energy class			B	B	B	B	B	B	B	B
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Ambient refrigeration										
Prated,c	(7)	kW	956	1025	1095	1159	1226	1330	1463	1516
SEER	(7)(8)		5,12	5,26	5,21	5,16	5,22	5,15	5,06	5,12
Performance ηs	(7)(9)	%	202	207	206	203	206	203	199	202
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	45,88	49,16	52,54	55,59	58,81	63,78	70,16	72,70
Pressure drop	(1)	kPa	51,6	45,7	50,1	41,2	46,2	41,1	35,1	37,7
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	3	3	3
No. Circuits		N°	2	2	2	2	2	3	3	3
Refrigerant charge		kg	162	174	185	199	209	227	260	258
NOISE LEVEL										
Sound Pressure	(3)	dB(A)	70	70	71	72	72	72	72	72
Sound power level in cooling	(4)(5)	dB(A)	103	103	104	105	105	105	105	105
SIZE AND WEIGHT										
A	(6)	mm	9150	10400	10400	10400	11650	12900	12900	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	7150	8270	8750	8850	9390	11000	11150	11500

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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i-FX-G05

2202 - 7223 478,6-1697 kW

Chiller, air source for outdoor installation

i-FX-G05/SL-A			2202	2602	2652	2702	2722	3152	3602	3902
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	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	498,8	559,5	581,8	615,1	682,8	751,6	811,9	891,5
Total power input	(1)	kW	162,3	182,7	185,5	202,2	216,8	251,1	275,3	295,2
EER	(1)	kW/kW	3,073	3,062	3,136	3,042	3,149	2,993	2,949	3,020
ESEER	(1)	kW/kW	5,110	5,110	5,150	5,080	5,100	5,060	5,080	5,080
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	497,4	557,9	580,0	613,4	680,6	749,5	809,4	888,6
EER	(1)(2)	kW/kW	3,040	3,030	3,100	3,010	3,110	2,960	2,910	2,980
ESEER	(1)(2)	kW/kW	4,900	4,890	4,910	4,860	4,850	4,840	4,850	4,840
Cooling energy class			B	B	A	B	A	B	B	B
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Ambient refrigeration										
Prated,c	(7)	kW	497	558	580	613	681	750	809	889
SEER	(7)(8)		5,27	5,27	5,30	5,23	5,27	5,28	5,28	5,24
Performance ηs	(7)(9)	%	208	208	209	206	208	208	208	207
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	23,85	26,76	27,82	29,42	32,65	35,94	38,83	42,63
Pressure drop	(1)	kPa	34,8	35,0	37,8	33,6	41,5	35,8	41,8	44,5
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
Refrigerant charge		kg	91,0	101	106	112	123	136	148	162
NOISE LEVEL										
Sound Pressure	(3)	dB(A)	60	60	60	60	61	61	61	62
Sound power level in cooling	(4)(5)	dB(A)	92	93	93	93	94	94	94	95
SIZE AND WEIGHT										
A	(6)	mm	5400	6650	6650	6650	7900	7900	9150	10400
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	5590	6030	6070	6400	6930	6970	7460	8000

i-FX-G05/SL-A			4202	4502	4802	4822	5412	5703	6303
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	942,8	1016	1086	1149	1213	1332	1462
Total power input	(1)	kW	312,4	331,8	350,0	380,1	393,2	456,9	493,5
EER	(1)	kW/kW	3,018	3,062	3,103	3,023	3,085	2,915	2,963
ESEER	(1)	kW/kW	5,080	5,120	5,090	5,060	5,120	5,030	5,000
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	939,4	1013	1082	1146	1209	1328	1458
EER	(1)(2)	kW/kW	2,970	3,020	3,060	2,990	3,050	2,880	2,930
ESEER	(1)(2)	kW/kW	4,810	4,860	4,830	4,840	4,870	4,820	4,820
Cooling energy class			B	B	B	B	B	C	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	939	1013	1082	1146	1209	1328	1458
SEER	(7)(8)		5,17	5,31	5,29	5,25	5,33	5,17	4,99
Performance ηs	(7)(9)	%	204	209	209	207	210	204	197
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	45,09	48,60	51,92	54,96	58,00	63,72	69,92
Pressure drop	(1)	kPa	49,8	44,7	48,9	40,3	44,9	41,0	34,8
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	3	3
No. Circuits		N°	2	2	2	2	2	3	3
Refrigerant charge		kg	171	184	197	210	220	237	260
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	63	63	63	63	63	63	63
Sound power level in cooling	(4)(5)	dB(A)	96	96	96	96	96	96	96
SIZE AND WEIGHT									
A	(6)	mm	10400	11650	11650	11650	12900	12900	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	8070	9050	9450	9630	10030	11520	11520

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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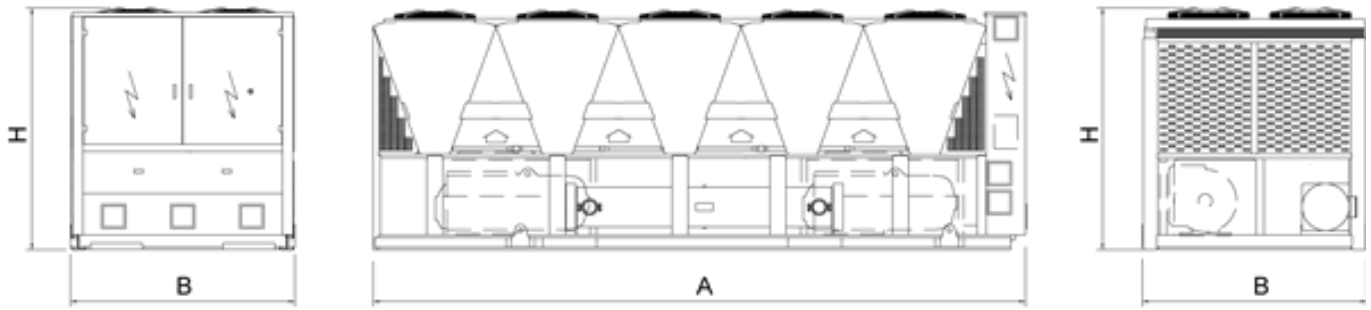
Dimensional drawing



CHILLERS

i-FX (1+i)

2602 - 5403 567,5-1273 kW

High efficiency chiller, air source for outdoor installation

Outdoor unit for the production of chilled water with fixed speed and variable speed (Inverter Driven) screw compressors optimized for R134a, axial-flow fans, condensing coil with copper tubes and aluminium fins, shell and tube single pass evaporator designed by Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. and electronic expansion valve.
Eurovent certification for all the sizes.
Base and supporting structure and panels are of galvanized epoxy powder coated steel.
Flexible and reliable unit; it easily adapts itself to different thermal load conditions thanks to the precise temperature control together with the use of inverter technology. The high performance's level, both full and partial load, is achieved thanks to the accurate unit's design and to the use of fixed speed motor together with variable speed (inverter) motor.

Control

W3000TE
W3000TE features a large keyboard and wide LCD display for 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. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Refrigerant

R134a

Versions

CA Class A of efficiency

SL Super-low noise version

Configurations

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

Features

WIDE RANGE
Extended capacity range.

HIGH EFFICIENCY
Unit with high efficiency and reduced energy consumption, thanks to the inverter technology, contributing to lower operating costs and therefore achieving a quick return on investment.

EXTREMELY SILENT OPERATION
Extremely silent operation together with high efficiency, tank to dedicated acoustic devices and a precise design for the choice of the components.

GREEN RELEVANT PRODUCT
These units comply with the minimum efficiency requirements of air cooled chillers defined in ASHRAE 90.1-2013 "Energy Standard for buildings except LowRise Residential Building", included the higher values required from January 2015.

Accessories

- Hydronic group
- VPF (Variable Primary Flow) kit: variable flow pumps with on board regulation
- Noise reducer (only on not silenced versions)
- EC fans with electronic DC brushless motor
- Axial fans with External Static Pressure (ESP) up to 130 Pa.
- Remote control keyboard (distance to 200m and to 500m)
- Set-up for remote connectivity with ModBus/Echelon protocol cards

i-FX (1+i) /CA			2602	2662	2722	3152	3602
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	567,5	631,0	700,2	785,2	858,0
Total power input	(1)	kW	181,1	201,2	223,7	249,0	273,4
EER	(1)	kW/kW	3,134	3,136	3,130	3,153	3,138
ESEER	(1)	kW/kW	4,810	4,810	4,780	4,790	4,840
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	565,9	629,2	698,5	783,1	855,4
EER	(1)(2)	kW/kW	3,100	3,100	3,100	3,120	3,100
ESEER	(1)(2)	kW/kW	4,620	4,620	4,620	4,610	4,630
Cooling energy class			A	A	A	A	A
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Ambient refrigeration							
Prated,c	(7)	kW	566	629	698	783	855
SEER	(7)(8)		4,72	4,73	4,77	4,76	4,77
Performance ηs	(7)(9)	%	186	186	188	187	188
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	27,14	30,17	33,48	37,55	41,03
Pressure drop	(1)	kPa	36,0	35,4	31,1	34,5	41,2
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2
Refrigerant charge		kg	143	188	200	214	225
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	67	68	68	68	69
Sound power level in cooling	(4)(5)	dB(A)	100	101	101	101	102
SIZE AND WEIGHT							
A	(6)	mm	7000	7900	7900	7900	9860
B	(6)	mm	2260	2260	2260	2260	2260
H	(6)	mm	2530	2530	2530	2530	2530
Operating weight	(6)	kg	6130	7170	7460	7970	9110

i-FX (1+i) /CA			3902	4212	4513	4953	5403
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	951,2	1045	1127	1196	1273
Total power input	(1)	kW	302,0	333,1	358,7	380,1	404,9
EER	(1)	kW/kW	3,150	3,137	3,142	3,147	3,144
ESEER	(1)	kW/kW	4,790	4,820	4,840	4,790	4,820
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	948,6	1042	1123	1192	1269
EER	(1)(2)	kW/kW	3,110	3,100	3,100	3,110	3,100
ESEER	(1)(2)	kW/kW	4,610	4,610	4,600	4,600	4,600
Cooling energy class			A	A	A	A	A
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Ambient refrigeration							
Prated,c	(7)	kW	949	1042	1123	1192	1269
SEER	(7)(8)		4,82	4,77	4,74	4,73	4,75
Performance ηs	(7)(9)	%	190	188	187	186	187
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	45,49	49,96	53,90	57,18	60,88
Pressure drop	(1)	kPa	36,7	44,3	51,6	43,6	49,5
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	3	3	3
No. Circuits		N°	2	2	3	3	3
Refrigerant charge		kg	242	256	269	282	293
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	70	71	72	72	72
Sound power level in cooling	(4)(5)	dB(A)	103	104	105	105	105
SIZE AND WEIGHT							
A	(6)	mm	10790	11720	12630	12630	12630
B	(6)	mm	2260	2260	2260	2260	2260
H	(6)	mm	2530	2530	2530	2530	2530
Operating weight	(6)	kg	10080	10140	11640	12570	12950

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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 R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

i-FX (1+i)

2602 - 5403 567,5-1273 kW

High efficiency chiller, air source for outdoor installation

i-FX (1+i) /SL			2602	2662	2722	3152	3903
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	543,7	611,1	678,8	752,3	804,7
Total power input	(1)	kW	180,5	200,7	221,8	248,5	267,7
EER	(1)	kW/kW	3,012	3,045	3,060	3,027	3,006
ESEER	(1)	kW/kW	4,910	4,900	4,870	4,920	4,870
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	542,2	609,5	677,2	750,4	802,5
EER	(1)(2)	kW/kW	2,980	3,010	3,030	3,000	2,970
ESEER	(1)(2)	kW/kW	4,720	4,720	4,710	4,740	4,680
Cooling energy class			B	B	B	B	B
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Ambient refrigeration							
Prated,c	(7)	kW	542	610	677	750	802
SEER	(7)(8)		4,84	4,85	4,86	4,88	4,81
Performance ηs	(7)(9)	%	190	191	192	192	189
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	26,00	29,22	32,46	35,97	38,48
Pressure drop	(1)	kPa	33,0	33,2	29,2	31,7	36,3
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	2	2	3
No. Circuits		N°	2	2	2	2	3
Refrigerant charge		kg	143	188	200	214	225
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	58	59	60	60	60
Sound power level in cooling	(4)(5)	dB(A)	91	92	93	93	93
SIZE AND WEIGHT							
A	(6)	mm	7000	7900	7900	7900	9900
B	(6)	mm	2260	2260	2260	2260	2260
H	(6)	mm	2530	2530	2530	2530	2530
Operating weight	(6)	kg	6410	7400	7690	8370	9570

i-FX (1+i) /SL			3953	4013	4063	4953	5403
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	880,2	946,3	1018	1143	1209
Total power input	(1)	kW	295,3	311,2	334,9	380,0	411,4
EER	(1)	kW/kW	2,981	3,041	3,040	3,008	2,939
ESEER	(1)	kW/kW	4,860	4,890	4,910	4,900	4,910
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	878,1	943,7	1015	1140	1205
EER	(1)(2)	kW/kW	2,950	3,010	3,000	2,970	2,900
ESEER	(1)(2)	kW/kW	4,690	4,700	4,700	4,710	4,690
Cooling energy class			B	B	B	B	B
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Ambient refrigeration							
Prated,c	(7)	kW	878	944	1015	1140	1205
SEER	(7)(8)		4,83	4,84	4,80	4,81	4,78
Performance ηs	(7)(9)	%	190	191	189	190	188
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	42,09	45,25	48,67	54,66	57,83
Pressure drop	(1)	kPa	31,5	36,4	42,1	39,9	44,6
REFRIGERANT CIRCUIT							
Compressors nr.		N°	3	3	3	3	3
No. Circuits		N°	3	3	3	3	3
Refrigerant charge		kg	242	256	269	282	293
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	60	60	61	61	64
Sound power level in cooling	(4)(5)	dB(A)	93	93	94	94	97
SIZE AND WEIGHT							
A	(6)	mm	10800	10800	11700	11700	12630
B	(6)	mm	2260	2260	2260	2260	2260
H	(6)	mm	2530	2530	2530	2530	2530
Operating weight	(6)	kg	10080	10650	11090	12600	13530

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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

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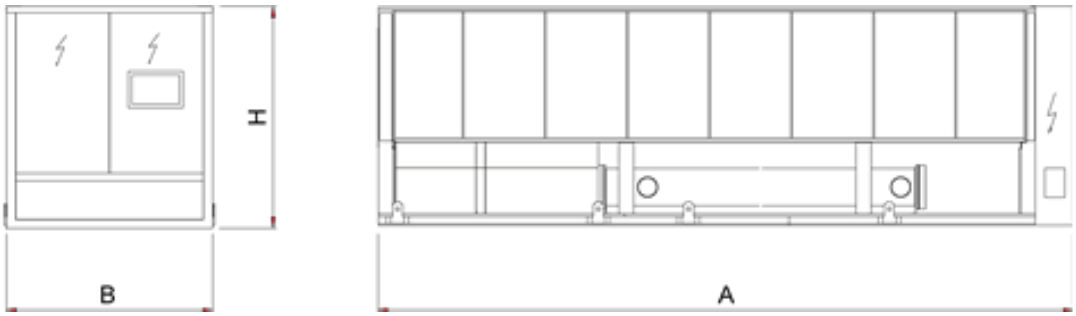
Certified data in EUROVENT

Dimensional drawing



CHILLERS

TECS2

High efficiency chiller, air source for outdoor installation

0211 - 1154 220,1-1324 kW

Outdoor unit for the production of chilled water featuring oil-free centrifugal compressor, with R134a, axial-flow fans, condensing coil with copper tubes and aluminium fins, shell and tube flooded evaporator and electronic regulation valve. Base and supporting structure and panels are of galvanized epoxy powder coated steel with increased thickness. Flexible and reliable unit; it easily adapts itself to different thermal load conditions thanks to the precise thermoregulation together with the use of inverter technology. The compressor is radically innovative: magnetic bearings and digital rotor speed control allow partial load efficiency levels to be reached that were hither to impossible.

Control

Electronic control W3000 TE

W3000TE features a large keyboard and wide LCD display for 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. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Refrigerant

R134a

Versions

SL-CA	Super Low noise version, Class A of efficiency
XL-CA	eXtra Low noise version, Class A of efficiency
SL-CA-E	Super Low noise version, Premium efficiency, Class A enhanced

Configurations

-	Basic function
D	Partial condensing heat recovery function

Features

VERY HIGH EFFICIENCY
Very high efficiency at full and partial load, to top market levels, thanks to adopted technological solutions: large capacity modulation and expanded exchanger, offering minimum running costs of the unit in real working conditions.

VERSION ´CA-E´ AVAILABLE
The version ´CA-E´ is characterized by efficiency beyond the ´Class A´ for Eurovent. The technological choices adopted assure the minimization of operating costs and therefore a quick payback time.

EXTREMELY SILENT OPERATION
As result of a sistematic design oriented to minimize the noise level, XL version´s units give the best compromise between silence and efficiency on the market.

LOW INRUSH CURRENTS
Reduced breakaway starting currents thanks to the revolutionary centrifugal compressor.

Accessories

- VPF (Variable Primary Flow) kit: variable flow pumps with on board regulation
- Hydronic group
- EC fans with electronic DC brushless motor
- Set-up for remote connectivity with ModBus/Echelon protocol cards

TECS2 / SL-CA			0211	0251	0351	0452	0512	0552	0652
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	232,7	257,7	345,7	442,3	508,6	573,7	649,6
Total power input	(1)	kW	70,53	81,12	110,4	138,4	161,0	173,7	207,6
EER	(1)	kW/kW	3,301	3,178	3,131	3,196	3,159	3,303	3,129
ESEER	(1)	kW/kW	4,770	4,870	4,720	5,070	5,170	5,090	5,040
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	231,9	257,0	344,8	441,2	507,4	572,1	648,4
EER	(1)(2)	kW/kW	3,250	3,140	3,100	3,160	3,130	3,260	3,110
ESEER	(1)(2)	kW/kW	4,610	4,730	4,570	4,880	4,970	4,870	4,890
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	232	257	345	441	507	572	648
SEER	(7)(8)		4,82	4,93	4,88	5,08	5,21	5,07	5,14
Performance ηs	(7)(9)	%	190	194	192	200	205	200	203
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	11,13	12,33	16,53	21,15	24,32	27,43	31,07
Pressure drop	(1)	kPa	36,4	27,4	28,5	27,6	27,7	35,2	21,1
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	1	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	100	100	120	210	180	210	240
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	56	56	58	58	58	59	59
Sound power level in cooling	(4)(5)	dB(A)	88	88	90	90	90	91	92
SIZE AND WEIGHT									
A	(6)	mm	3100	3100	4000	4900	4900	5800	7000
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2430	2430	2430	2430	2430	2430	2430
Operating weight	(6)	kg	2320	2370	3050	4000	4240	4530	5800

TECS2 / SL-CA			0712	0853	0913	1013	1054	1154
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	742,2	848,1	903,5	977,3	1065	1183
Total power input	(1)	kW	225,2	269,3	286,5	309,9	336,1	373,7
EER	(1)	kW/kW	3,296	3,149	3,154	3,154	3,169	3,166
ESEER	(1)	kW/kW	5,160	5,120	5,130	5,090	5,060	5,140
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	740,5	846,0	901,1	975,1	1062	1180
EER	(1)(2)	kW/kW	3,260	3,120	3,120	3,120	3,130	3,130
ESEER	(1)(2)	kW/kW	4,970	4,920	4,900	4,900	4,850	4,920
Cooling energy class			A	A	A	A	A	A
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Ambient refrigeration								
Prated,c	(7)	kW	740	846	901	975	1062	1180
SEER	(7)(8)		5,21	5,11	5,11	5,15	5,10	5,14
Performance ηs	(7)(9)	%	205	202	201	203	201	203
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	35,49	40,56	43,20	46,74	50,93	56,59
Pressure drop	(1)	kPa	27,6	31,8	36,0	29,7	35,3	37,3
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	3	3	3	4	4
No. Circuits		N°	1	2	2	2	2	2
Refrigerant charge		kg	280	340	430	490	480	520
NOISE LEVEL								
Sound Pressure	(3)	dB(A)	59	60	60	60	61	61
Sound power level in cooling	(4)(5)	dB(A)	92	93	93	93	94	94
SIZE AND WEIGHT								
A	(6)	mm	7000	8500	9700	10600	11200	11500
B	(6)	mm	2260	2260	2260	2260	2260	2260
H	(6)	mm	2430	2430	2430	2430	2430	2430
Operating weight	(6)	kg	6150	6940	7370	8150	8700	9020

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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 R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

TECS2

0211 - 1154 220,1-1324 kW

High efficiency chiller, air source for outdoor installation

TECS2 / XL-CA			0211	0251	0351	0452	0512	0552	0652
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	220,1	254,2	341,0	435,3	525,5	579,4	640,4
Total power input	(1)	kW	68,52	79,84	109,4	136,5	165,6	171,2	206,2
EER	(1)	kW/kW	3,213	3,185	3,117	3,189	3,173	3,384	3,106
ESEER	(1)	kW/kW	4,750	4,990	4,840	5,190	5,230	5,170	5,190
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	219,4	253,5	340,1	434,3	524,2	577,7	639,3
EER	(1)(2)	kW/kW	3,170	3,150	3,080	3,160	3,140	3,340	3,080
ESEER	(1)(2)	kW/kW	4,610	4,840	4,690	5,020	5,030	4,940	5,030
Cooling energy class			A	A	B	A	A	A	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	219	254	340	434	524	578	639
SEER	(7)(8)		4,82	5,00	4,98	5,19	5,20	5,11	5,27
Performance ηs	(7)(9)	%	190	197	196	205	205	201	208
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	10,53	12,16	16,31	20,82	25,13	27,71	30,62
Pressure drop	(1)	kPa	32,6	26,7	27,7	26,7	29,5	35,9	20,5
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	1	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	100	100	130	220	220	240	270
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	50	50	51	51	52	52	52
Sound power level in cooling	(4)(5)	dB(A)	82	82	83	83	84	85	85
SIZE AND WEIGHT									
A	(6)	mm	3100	3100	4000	4900	5800	7000	7000
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2430	2430	2430	2430	2430	2430	2430
Operating weight	(6)	kg	2370	2420	3200	4240	4690	5350	6150

TECS2 / XL-CA			0712	0853	0913	1013	1054	1154
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	738,9	873,7	899,7	971,8	1049	1174
Total power input	(1)	kW	226,2	278,7	289,5	311,8	331,2	377,3
EER	(1)	kW/kW	3,267	3,135	3,108	3,117	3,167	3,112
ESEER	(1)	kW/kW	5,240	5,240	5,300	5,240	5,190	5,230
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	737,3	871,5	897,3	969,6	1046	1171
EER	(1)(2)	kW/kW	3,240	3,100	3,070	3,090	3,130	3,080
ESEER	(1)(2)	kW/kW	5,050	5,030	5,060	5,040	4,960	5,010
Cooling energy class			A	A	B	B	A	B
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Ambient refrigeration								
Prated,c	(7)	kW	737	872	897	970	1046	1171
SEER	(7)(8)		5,24	5,20	5,23	5,27	5,20	5,22
Performance ηs	(7)(9)	%	207	205	206	208	205	206
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	35,33	41,78	43,03	46,47	50,15	56,14
Pressure drop	(1)	kPa	27,3	33,7	35,7	29,4	34,2	36,8
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	3	3	3	4	4
No. Circuits		N°	1	2	2	2	2	2
Refrigerant charge		kg	310	410	450	520	500	580
NOISE LEVEL								
Sound Pressure	(3)	dB(A)	53	53	53	54	54	55
Sound power level in cooling	(4)(5)	dB(A)	86	86	86	87	87	88
SIZE AND WEIGHT								
A	(6)	mm	7900	9400	9700	10600	11200	12400
B	(6)	mm	2260	2260	2260	2260	2260	2260
H	(6)	mm	2430	2430	2430	2430	2430	2430
Operating weight	(6)	kg	6650	7520	7770	8650	9150	9960

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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 R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

TECS2 / SL-CA-E			0211	0251	0351	0452	0512	0552	0652
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	228,7	284,8	384,5	455,1	526,8	590,0	702,8
Total power input	(1)	kW	67,10	81,34	113,1	133,6	154,3	168,5	203,8
EER	(1)	kW/kW	3,408	3,503	3,400	3,406	3,414	3,501	3,448
ESEER	(1)	kW/kW	5,290	5,520	5,430	5,790	5,710	5,640	5,770
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	227,9	283,9	383,3	454,0	525,5	588,2	701,4
EER	(1)(2)	kW/kW	3,360	3,450	3,350	3,370	3,380	3,450	3,420
ESEER	(1)(2)	kW/kW	5,090	5,310	5,190	5,550	5,460	5,340	5,570
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	228	284	383	454	526	588	701
SEER	(7)(8)		5,39	5,50	5,52	5,82	5,76	5,60	5,84
Performance ηs	(7)(9)	%	213	217	218	230	227	221	231
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	10,93	13,62	18,39	21,76	25,19	28,21	33,61
Pressure drop	(1)	kPa	35,2	33,5	35,2	29,2	29,7	37,2	24,7
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	1	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	100	100	130	220	220	240	270
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	56	56	58	58	58	59	59
Sound power level in cooling	(4)(5)	dB(A)	88	88	90	90	90	91	92
SIZE AND WEIGHT									
A	(6)	mm	3100	3100	4000	4900	4900	5800	7000
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2430	2430	2430	2430	2430	2430	2430
Operating weight	(6)	kg	2270	2350	3130	4070	4230	4570	6040

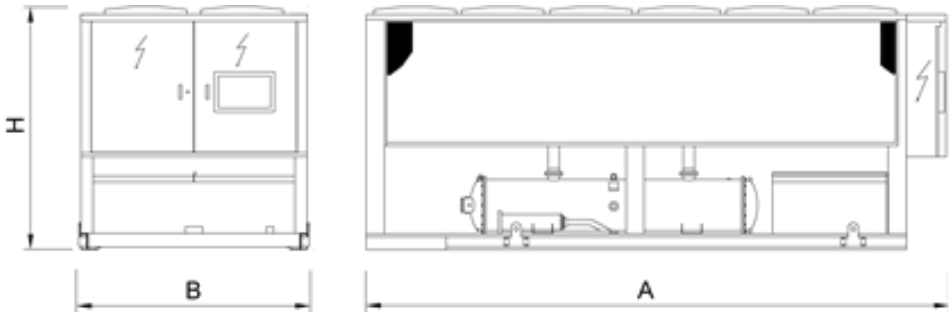
TECS2 / SL-CA-E			0712	0853	0913	1013	1054	1154
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	795,7	902,1	969,3	1086	1177	1324
Total power input	(1)	kW	233,5	262,8	278,7	317,1	336,5	382,9
EER	(1)	kW/kW	3,408	3,433	3,478	3,425	3,498	3,458
ESEER	(1)	kW/kW	5,770	5,620	5,790	5,710	5,870	5,750
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	793,7	899,7	966,4	1083	1173	1320
EER	(1)(2)	kW/kW	3,370	3,390	3,430	3,380	3,450	3,410
ESEER	(1)(2)	kW/kW	5,510	5,370	5,480	5,440	5,550	5,420
Cooling energy class			A	A	A	A	A	A
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Ambient refrigeration								
Prated,c	(7)	kW	794	900	966	1083	1173	1320
SEER	(7)(8)		5,76	5,66	5,73	5,75	5,79	5,70
Performance ηs	(7)(9)	%	227	223	226	227	229	225
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	38,05	43,14	46,35	51,91	56,30	63,34
Pressure drop	(1)	kPa	31,7	35,9	41,5	36,7	43,1	46,8
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	3	3	3	4	4
No. Circuits		N°	1	2	2	2	2	2
Refrigerant charge		kg	310	410	450	520	500	580
NOISE LEVEL								
Sound Pressure	(3)	dB(A)	59	60	60	60	61	62
Sound power level in cooling	(4)(5)	dB(A)	92	93	93	93	94	95
SIZE AND WEIGHT								
A	(6)	mm	7900	8500	9700	10600	11200	12400
B	(6)	mm	2260	2260	2260	2260	2260	2260
H	(6)	mm	2430	2430	2430	2430	2430	2430
Operating weight	(6)	kg	6450	7020	7610	8510	8660	9720

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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 R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



CHILLERS

TECS2-G05

High efficiency chiller, air source for outdoor installation

0211 - 1154 217,9-1313 kW

Outdoor unit for the production of chilled water featuring oil-free centrifugal compressor, with R513A, axial-flow fans, condensing coil with copper tubes and aluminium fins, shell and tube flooded evaporator and electronic regulation valve. Base and supporting structure and panels are of galvanized epoxy powder coated steel with increased thickness. Flexible and reliable unit; it easily adapts itself to different thermal load conditions thanks to the precise thermoregulation together with the use of inverter technology. The compressor is radically innovative: magnetic bearings and digital rotor speed control allow partial load efficiency levels to be reached that were hither to impossible.

Control

Electronic control W3000 TE

W3000TE features a large keyboard and wide LCD display for 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. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Refrigerant

R513A

Versions

SL-CA	Super Low noise version, Class A of efficiency
XL-CA	eXtra Low noise version, Class A of efficiency
SL-CA-E	Super Low noise version, Premium efficiency, Class A enhanced

Configurations

-	Basic function
D	Partial condensing heat recovery function

Features

VERY HIGH EFFICIENCY
Very high efficiency at full and partial load, to top market levels, thanks to adopted technological solutions: large capacity modulation and expanded exchanger, offering minimum running costs of the unit in real working conditions.

VERSION ´CA-E´ AVAILABLE
The version ´CA-E´ is characterized by efficiency beyond the ´Class A´ for Eurovent. The technological choices adopted assure the minimization of operating costs and therefore a quick payback time.

EXTREMELY SILENT OPERATION
As result of a sistematic design oriented to minimize the noise level, XL version´s units give the best compromise between silence and efficiency on the market.

LOW INRUSH CURRENTS
Reduced breakaway starting currents thanks to the revolutionary centrifugal compressor.

Accessories

- VPF (Variable Primary Flow) kit: variable flow pumps with on board regulation
- Hydronic group
- EC fans with electronic DC brushless motor
- Set-up for remote connectivity with ModBus/Echelon protocol cards

TECS2-G05/SL-CA			0211	0251	0351	0452	0512	0552	0652
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	230,4	255,9	343,3	437,9	502,5	567,3	643,1
Total power input	(1)	kW	70,85	80,82	110,0	137,7	160,7	173,5	207,2
EER	(1)	kW/kW	3,254	3,167	3,121	3,180	3,127	3,270	3,104
ESEER	(1)	kW/kW							
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	229,6	255,2	342,4	436,9	501,3	565,7	641,9
EER	(1)(2)	kW/kW	3,210	3,130	3,090	3,150	3,100	3,230	3,080
ESEER	(1)(2)	kW/kW	4,600	4,760	4,550	4,880	4,920	4,810	4,840
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	230	255	342	437	501	566	642
SEER	(7)(8)		4,76	4,92	4,86	5,07	5,16	5,03	5,11
Performance ηs	(7)(9)	%	188	194	192	200	203	198	201
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	11,02	12,24	16,42	20,94	24,03	27,13	30,76
Pressure drop	(1)	kPa	35,7	27,0	28,1	27,0	27,0	34,4	20,7
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	1	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	100	100	120	210	180	210	240
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	56	56	58	58	58	59	59
Sound power level in cooling	(4)(5)	dB(A)	88	88	90	90	90	91	92
SIZE AND WEIGHT									
A	(6)	mm	3100	3100	4000	4900	4900	5800	7000
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2430	2430	2430	2430	2430	2430	2430
Operating weight	(6)	kg	2320	2370	3050	4000	4240	4530	5800

TECS2-G05/SL-CA			0712	0853	0913	1013	1054	1154
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	733,3	840,5	891,7	964,6	1056	1173
Total power input	(1)	kW	225,0	269,6	287,3	309,1	335,2	373,3
EER	(1)	kW/kW	3,259	3,118	3,104	3,121	3,150	3,142
ESEER	(1)	kW/kW						
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	731,7	838,5	889,3	962,5	1053	1170
EER	(1)(2)	kW/kW	3,230	3,090	3,070	3,090	3,120	3,110
ESEER	(1)(2)	kW/kW	4,920	4,870	4,820	4,850	4,830	4,890
Cooling energy class			A	A	A	A	A	A
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Ambient refrigeration								
Prated,c	(7)	kW	732	838	889	962	1053	1170
SEER	(7)(8)		5,17	5,08	5,04	5,10	5,08	5,11
Performance ηs	(7)(9)	%	204	200	199	201	200	201
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	35,07	40,19	42,64	46,13	50,52	56,08
Pressure drop	(1)	kPa	26,9	31,2	35,1	29,0	34,7	36,7
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	3	3	3	4	4
No. Circuits		N°	1	2	2	2	2	2
Refrigerant charge		kg	280	340	430	490	480	520
NOISE LEVEL								
Sound Pressure	(3)	dB(A)	59	60	60	60	61	61
Sound power level in cooling	(4)(5)	dB(A)	92	93	93	93	94	94
SIZE AND WEIGHT								
A	(6)	mm	7000	8500	9700	10600	11200	11500
B	(6)	mm	2260	2260	2260	2260	2260	2260
H	(6)	mm	2430	2430	2430	2430	2430	2430
Operating weight	(6)	kg	6150	6940	7370	8150	8700	9020

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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 [GWP_{100} 631] fluorinated greenhouse gases.
Certified data in EUROVENT

TECS2-G05

High efficiency chiller, air source for outdoor installation

0211 - 1154 217,9-1313 kW

TECS2-G05/XL-CA			0211	0251	0351	0452	0512	0552	0652
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	217,9	252,4	338,6	431,0	519,2	573,0	634,0
Total power input	(1)	kW	68,84	79,54	109,0	135,9	165,3	171,1	205,8
EER	(1)	kW/kW	3,167	3,175	3,106	3,171	3,141	3,349	3,081
ESEER	(1)	kW/kW							
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	217,2	251,7	337,7	430,0	517,9	571,4	632,9
EER	(1)(2)	kW/kW	3,130	3,140	3,070	3,140	3,110	3,310	3,060
ESEER	(1)(2)	kW/kW	4,610	4,860	4,670	4,990	4,980	4,900	4,990
Cooling energy class			A	A	B	A	A	A	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	217	252	338	430	518	571	633
SEER	(7)(8)		4,77	4,99	4,96	5,16	5,15	5,08	5,23
Performance ηs	(7)(9)	%	188	197	195	203	203	200	206
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	10,42	12,07	16,19	20,61	24,83	27,40	30,32
Pressure drop	(1)	kPa	32,0	26,3	27,3	26,2	28,8	35,1	20,1
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	1	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	100	100	130	220	220	240	270
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	50	50	51	51	52	52	52
Sound power level in cooling	(4)(5)	dB(A)	82	82	83	83	84	85	85
SIZE AND WEIGHT									
A	(6)	mm	3100	3100	4000	4900	5800	7000	7000
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2430	2430	2430	2430	2430	2430	2430
Operating weight	(6)	kg	2370	2420	3200	4240	4690	5350	6150

TECS2-G05/XL-CA			0712	0853	0913	1013	1054	1154
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	730,0	865,8	888,0	959,1	1040	1163
Total power input	(1)	kW	226,0	279,0	290,4	311,0	330,3	376,9
EER	(1)	kW/kW	3,230	3,103	3,058	3,084	3,149	3,086
ESEER	(1)	kW/kW						
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	728,4	863,6	885,7	957,0	1037	1160
EER	(1)(2)	kW/kW	3,200	3,070	3,030	3,060	3,120	3,050
ESEER	(1)(2)	kW/kW	4,990	4,980	4,990	4,990	4,950	4,970
Cooling energy class			A	A	B	B	A	B
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Ambient refrigeration								
Prated,c	(7)	kW	728	864	886	957	1037	1160
SEER	(7)(8)		5,19	5,15	5,17	5,23	5,18	5,18
Performance ηs	(7)(9)	%	205	203	204	206	204	204
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	34,91	41,40	42,47	45,87	49,75	55,63
Pressure drop	(1)	kPa	26,7	33,1	34,8	28,6	33,7	36,1
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	3	3	3	4	4
No. Circuits		N°	1	2	2	2	2	2
Refrigerant charge		kg	310	410	450	520	500	580
NOISE LEVEL								
Sound Pressure	(3)	dB(A)	53	53	53	54	54	55
Sound power level in cooling	(4)(5)	dB(A)	86	86	86	87	87	88
SIZE AND WEIGHT								
A	(6)	mm	7900	9400	9700	10600	11200	12400
B	(6)	mm	2260	2260	2260	2260	2260	2260
H	(6)	mm	2430	2430	2430	2430	2430	2430
Operating weight	(6)	kg	6650	7520	7770	8650	9150	9960

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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 [GWP_{100} 631] fluorinated greenhouse gases.
Certified data in EUROVENT

TECS2-G05/SL-CA-E			0211	0251	0351	0452	0512	0552	0652
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	226,4	282,8	381,9	450,5	520,5	583,5	695,8
Total power input	(1)	kW	67,41	81,04	112,7	133,0	154,1	168,3	203,5
EER	(1)	kW/kW	3,359	3,491	3,389	3,387	3,378	3,467	3,419
ESEER	(1)	kW/kW							
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	225,6	281,9	380,8	449,4	519,2	581,8	694,4
EER	(1)(2)	kW/kW	3,310	3,440	3,350	3,350	3,340	3,420	3,390
ESEER	(1)(2)	kW/kW	5,100	5,300	5,200	5,520	5,400	5,300	5,530
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	226	282	381	449	519	582	694
SEER	(7)(8)		5,33	5,49	5,51	5,79	5,71	5,56	5,80
Performance ηs	(7)(9)	%	210	216	217	229	225	219	229
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	10,83	13,52	18,26	21,55	24,89	27,90	33,27
Pressure drop	(1)	kPa	34,5	33,0	34,7	28,6	29,0	36,4	24,2
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	1	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	100	100	130	220	220	240	270
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	56	56	58	58	58	59	59
Sound power level in cooling	(4)(5)	dB(A)	88	88	90	90	90	91	92
SIZE AND WEIGHT									
A	(6)	mm	3100	3100	4000	4900	4900	5800	7000
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2430	2430	2430	2430	2430	2430	2430
Operating weight	(6)	kg	2270	2350	3130	4070	4230	4570	6040

TECS2-G05/SL-CA-E			0712	0853	0913	1013	1054	1154
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	786,2	894,0	956,7	1071	1168	1313
Total power input	(1)	kW	233,3	263,0	279,5	316,2	335,5	382,5
EER	(1)	kW/kW	3,370	3,399	3,423	3,387	3,481	3,433
ESEER	(1)	kW/kW						
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	784,3	891,6	953,9	1068	1164	1309
EER	(1)(2)	kW/kW	3,330	3,360	3,380	3,350	3,430	3,390
ESEER	(1)(2)	kW/kW	5,460	5,310	5,400	5,390	5,530	5,380
Cooling energy class			A	A	A	A	A	A
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Ambient refrigeration								
Prated,c	(7)	kW	784	892	954	1068	1164	1309
SEER	(7)(8)		5,72	5,61	5,66	5,70	5,77	5,66
Performance ηs	(7)(9)	%	226	221	224	225	228	224
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	37,60	42,75	45,75	51,24	55,85	62,77
Pressure drop	(1)	kPa	31,0	35,3	40,4	35,7	42,4	46,0
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	3	3	3	4	4
No. Circuits		N°	1	2	2	2	2	2
Refrigerant charge		kg	310	410	450	520	500	580
NOISE LEVEL								
Sound Pressure	(3)	dB(A)	59	60	60	60	61	62
Sound power level in cooling	(4)(5)	dB(A)	92	93	93	93	94	95
SIZE AND WEIGHT								
A	(6)	mm	7900	8500	9700	10600	11200	12400
B	(6)	mm	2260	2260	2260	2260	2260	2260
H	(6)	mm	2430	2430	2430	2430	2430	2430
Operating weight	(6)	kg	6450	7020	7610	8510	8660	9720

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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

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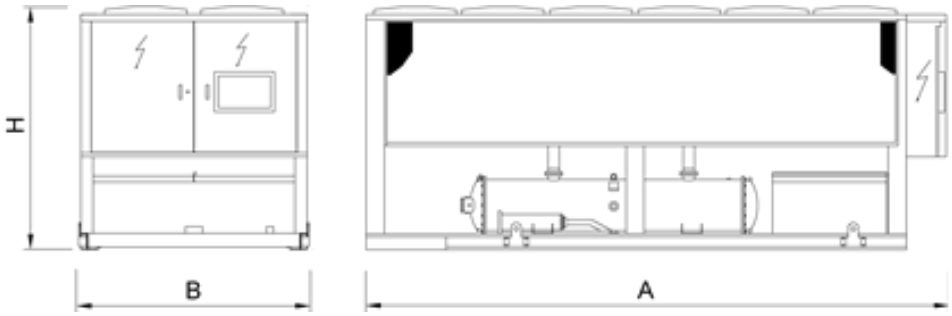
Certified data in EUROVENT

TECS2-G05

High efficiency chiller, air source for outdoor installation

0211 - 1154 217,9-1313 kW

Dimensional drawing



CHILLERS

TECS2 HFO

High efficiency chiller, air source for outdoor installation

0351 - 1053 339,2-1017 kW

Outdoor unit for the production of chilled water featuring oil-free centrifugal compressor, with refrigerant HFO (1234-ze), axial-flow fans, condensing coil with copper tubes and aluminium fins, shell and tube flooded evaporator and electronic regulation valve. Base and supporting structure and panels are of galvanized epoxy powder coated steel with increased thickness. Flexible and reliable unit; it easily adapts itself to different thermal load conditions thanks to the precise thermoregulation together with the use of inverter technology. The compressor is radically innovative: magnetic bearings and digital rotor speed control allow partial load efficiency levels to be reached that were hither to impossible.

Control

W3000TE

W3000TE features a large keyboard and wide LCD display for 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. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Refrigerant

r1234ze

Versions

SL-CA-E Super Low noise version, Premium efficiency, Class A enhanced (based on Eurovent classification)

Configurations

- Basic 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.

VERY HIGH EFFICIENCY
Very high efficiency at full and partial load, to top market levels, thanks to adopted technological solutions: large capacity modulation and expanded exchanger, offering minimum running costs of the unit in real working conditions.

EXTREMELY SILENT OPERATION
The best compromise between silence and efficiency, as result of a sistematic design oriented to minimize the noise level.

LOW INRUSH CURRENTS
Reduced breakaway starting currents thanks to the revolutionary centrifugal compressor.

Accessories

- VPF (Variable Primary Flow) kit: variable flow pumps with on board regulation
- Hydronic group
- Set-up for remote connectivity with ModBus/Echelon protocol cards

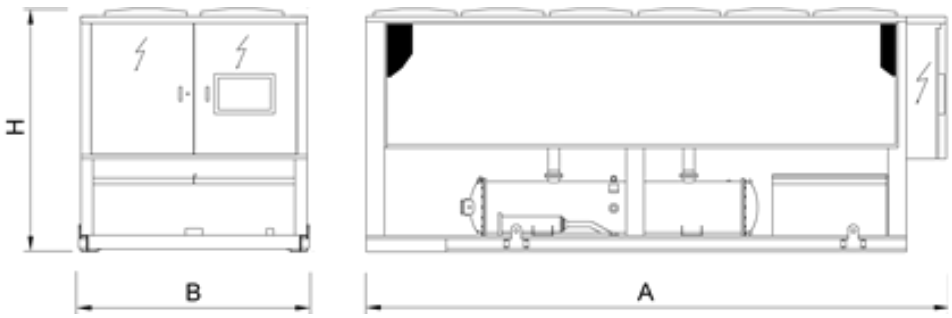
TECS2 HFO / SL-CA-E			0351	0702	1053
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50
PERFORMANCE					
COOLING ONLY (GROSS VALUE)					
Cooling capacity	(1)	kW	339,2	678,5	1017
Total power input	(1)	kW	96,26	192,4	282,4
EER	(1)	kW/kW	3,522	3,527	3,601
ESEER	(1)	kW/kW	5,560	5,960	6,000
COOLING ONLY (EN14511 VALUE)					
Cooling capacity	(1)(2)	kW	338,3	677,2	1014
EER	(1)(2)	kW/kW	3,480	3,500	3,550
ESEER	(1)(2)	kW/kW	5,360	5,750	5,640
Cooling energy class			A	A	A
ENERGY EFFICIENCY					
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)					
Ambient refrigeration					
Prated,c	(7)	kW	338	677	1014
SEER	(7)(8)		5,65	5,99	5,89
Performance ηs	(7)(9)	%	223	237	233
EXCHANGERS					
HEAT EXCHANGER USER SIDE IN REFRIGERATION					
Water flow	(1)	l/s	16,22	32,45	48,66
Pressure drop	(1)	kPa	27,4	23,1	45,7
REFRIGERANT CIRCUIT					
Compressors nr.		N°	1	2	3
No. Circuits		N°	1	1	2
Refrigerant charge		kg	130	310	450
NOISE LEVEL					
Sound Pressure	(3)	dB(A)	58	59	60
Sound power level in cooling	(4)(5)	dB(A)	90	92	93
SIZE AND WEIGHT					
A	(6)	mm	4000	7900	9700
B	(6)	mm	2260	2260	2260
H	(6)	mm	2430	2430	2430
Operating weight	(6)	kg	3130	6450	7610

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m 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, outdoors.
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

Dimensional drawing



CHILLERS

NX-C

Chiller, air source for indoor installation

0072 - 1204 17,43-291,1 kW

Unit for indoor installation to produce chilled water with hermetic rotary Scroll compressors, centrifugal plug fans with EC motor, braze-welded plate-type exchanger and thermal expansion valve.
Structure and the external panelling made of hot-galvanised metal plate and painted with epoxy powder coat RAL 7035. The panels are easily removable for a quick and easy access to the inside components on either side of the unit.
The range includes the single-circuit two-compressor versions and the dual circuit four-compressor versions.

Control

Electronic control W3000TE
The keypad W3000 Compact, as standard equipment, features function controls and a complete LCD display for viewing data and activating the unit, via a multilevel menu, with settable display language. In alternative or in addition to Compact keyboard, the innovative user interface KIPlink allows one to operate on the unit directly from the smartphone or tablet. Using KIPlink, it is possible to turn the unit on and off, adjust the set-point, plot the main operating variables, monitor in detail the status of the refrigerant circuits, the compressors, the fans and the pumps (if present) and display and reset the possible alarms.
The regulation is based on the exclusive QuickMind algorithm, including self-adaptive control logics, beneficial in low water content systems. Alternatively, the proportional or proportional-integral regulations are also available.
Complete alarm management system is available, with the “black-box” and the alarm history display functions. For multiple units’ systems, the regulation of the resources can be implemented via optional proprietary devices. Energy metering, for both consumption and capacity, can also be developed.
The built-in clock can create an operating profile up to 4 typical days and 10 time bands.
Supervision is available either using proprietary devices or by integration into third party systems using ModBus, BACnet, BACnet-over-IP and Echelon LonWorks protocols.
A dedicated wall-mounted keypad can be used for remote control of all the functions.
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

R410A

Versions

K	Standard efficiency
SL-K	Super low noise, standard efficiency
A	High efficiency

Configurations

-	Basic function
D	Partial condensing heat recovery function

Features

HIGH EFFICIENCY
Very high efficiency at full and partial load, at the highest market levels, thanks to the adopted technological solutions. These units ensure low operating costs and therefore a quick payback time.

ErP READY
The highest level of efficiency at part load can meet and exceed the minimum seasonal efficiency for heating, SCOP according with the eco-sustainable design requirements for all products using energy.

PLUG FUN WITH EC MOTOR
More air flow by smaller diameter.
Energy cost saving by highest efficiency at the operating point.
Fan is directly coupling with motor, no energy lost due to the transmission (belts and pulleys). External rotor fitted with permanent magnets. Outstanding efficiency even at partial load range, due to the lack of brushes and lower consumption in every working condition in order to achieve a better seasonal efficiency in accordance with ErP Directive.

TOTAL VERSATILITY
Horizontal or vertical air flow.

INTEGRATED HYDRONIC MODULE
The built-in hydronic module already contains the main water circuit components; it is available as option with single or twin in-line pump, for achieving low or high head, fixed or variable speed.

Accessories

- Soft starters
- Set-up for remote connectivity with ModBus, Echelon, Bacnet, Bacnet over-IP.
- Outside air temperature probe for plant water set point compensation.
- Horizontal or vertical air outflow
- Hydronic module available in different configurations with 1 or 2 pumps fixed speed or variable speed, for achieving both low or high head.
- VPF (Variable Primary Flow) system
- Electronic expansion valve

NX-C / K			0072	0092	0102	0122	0152	0182	0202	0232	0272
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	17,76	22,48	26,53	30,29	38,46	45,45	51,78	58,09	66,80
Total power input	(1)	kW	6,230	8,289	9,536	11,33	12,88	14,85	17,72	20,49	23,63
EER	(1)	kW/kW	2,857	2,714	2,778	2,681	2,984	3,054	2,927	2,834	2,831
ESEER	(1)	kW/kW	4,350	4,210	4,330	4,190	4,310	4,340	4,210	4,140	4,200
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	17,70	22,40	26,40	30,10	38,30	45,30	51,60	57,80	66,50
EER	(1)(2)	kW/kW	2,850	2,710	2,780	2,680	2,990	3,060	2,930	2,830	2,830
ESEER	(1)(2)	kW/kW	4,200	4,090	4,210	4,050	4,200	4,240	4,130	4,050	4,100
Cooling energy class			A	B	A	B	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(6)	kW	17,7	22,4	26,4	30,1	38,3	45,3	51,6	57,8	66,5
SEER	(6)(7)		3,92	3,86	3,92	3,80	4,04	4,10	4,00	3,92	4,00
Performance ηs	(6)(8)	%	154	151	154	149	159	161	157	154	157
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	0,849	1,075	1,269	1,449	1,839	2,173	2,476	2,778	3,194
Pressure drop	(1)	kPa	24,8	24,4	25,1	25,5	27,3	24,9	25,3	25,6	25,3
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1	1	1
Refrigerant charge		kg	3,50	3,70	4,10	4,20	7,30	8,30	9,20	9,40	10,7
FANS											
Air flow		m³/s	2,08	2,50	3,33	3,47	4,44	5,42	5,69	5,97	7,50
Available static pressure		Pa	30	30	30	30	30	30	30	30	30
NOISE LEVEL											
Sound power level in cooling	(3)(4)	dB(A)	80	78	81	80	77	80	81	82	82
SIZE AND WEIGHT											
A	(5)	mm	1500	1500	1500	1500	2480	2480	2480	2480	2480
B	(5)	mm	900	900	900	900	1100	1100	1100	1100	1100
H	(5)	mm	1910	1910	1910	1910	2100	2100	2100	2100	2100
Operating weight	(5)	kg	380	380	400	410	680	710	720	740	800

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Total sound power of fans, as declared by the maker, at the rated speed of rotation and a useful static head of nominal on the delivery side.
4 Sound power level in cooling, outdoors.
5 Unit in standard configuration/execution, without optional accessories.
6 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
7 Seasonal energy efficiency ratio
8 Seasonal space cooling energy efficiency

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Certified data in EUROVENT

NX-C

0072 - 1204 17,43-291,1 kW

Chiller, air source for indoor installation

NX-C / K			0302	0352	0402	0452	0502	0552	0602	0702	0524
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	75,49	85,51	97,63	110,0	125,0	140,2	155,7	178,1	127,2
Total power input	(1)	kW	27,14	32,07	35,51	40,87	44,75	52,93	59,88	66,85	47,73
EER	(1)	kW/kW	2,786	2,664	2,749	2,689	2,790	2,650	2,599	2,662	2,667
ESEER	(1)	kW/kW	4,020	3,920	3,980	3,910	4,020	3,890	3,830	3,970	4,120
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	75,20	85,20	97,20	109,6	124,6	139,7	155,2	177,5	126,8
EER	(1)(2)	kW/kW	2,800	2,670	2,750	2,690	2,800	2,660	2,610	2,670	2,680
ESEER	(1)(2)	kW/kW	3,940	3,850	3,910	3,850	3,970	3,830	3,790	3,920	4,010
Cooling energy class			A	B	A	B	A	B	B	B	B
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(6)	kW	75,2	85,2	97,2	110	125	140	155	178	127
SEER	(6)(7)		3,86	3,81	3,82	3,80	3,85	3,80	3,81	3,87	3,93
Performance ηs	(6)(8)	%	151	149	150	149	151	149	149	152	154
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	3,610	4,089	4,669	5,262	5,978	6,705	7,445	8,518	6,080
Pressure drop	(1)	kPa	25,9	25,7	25,3	25,4	25,4	25,8	25,6	26,3	25,6
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	4
No. Circuits		N°	1	1	1	1	1	1	1	1	2
Refrigerant charge		kg	11,1	12,0	14,1	14,8	18,6	19,2	20,0	23,5	21,0
FANS											
Air flow		m³/s	8,06	8,89	10,56	11,11	12,50	13,89	15,83	18,06	13,06
Available static pressure		Pa	30	30	30	30	30	30	30	30	30
NOISE LEVEL											
Sound power level in cooling	(3)(4)	dB(A)	82	84	87	80	87	88	89	94	88
SIZE AND WEIGHT											
A	(5)	mm	2480	2480	2980	2980	3970	3970	3970	4670	3970
B	(5)	mm	1100	1100	1260	1260	1260	1260	1260	1260	1260
H	(5)	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100
Operating weight	(5)	kg	820	890	1080	1110	1290	1310	1380	1560	1250

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Total sound power of fans, as declared by the maker, at the rated speed of rotation and a useful static head of nominal on the delivery side.
4 Sound power level in cooling, outdoors.
5 Unit in standard configuration/execution, without optional accessories.
6 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
7 Seasonal energy efficiency ratio
8 Seasonal space cooling energy efficiency

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Certified data in EUROVENT

NX-C / K			0604	0704	0804	0904	1004	1104	1204
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	148,4	171,2	191,2	220,1	245,7	281,7	291,1
Total power input	(1)	kW	56,57	64,19	74,66	81,94	93,40	107,6	121,1
EER	(1)	kW/kW	2,622	2,667	2,560	2,687	2,631	2,618	2,404
ESEER	(1)	kW/kW	4,050	4,060	3,990	4,050	4,040	3,820	3,740
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	147,9	170,7	190,6	219,5	245,0	281,0	290,3
EER	(1)(2)	kW/kW	2,630	2,680	2,570	2,700	2,640	2,630	2,410
ESEER	(1)(2)	kW/kW	3,940	3,960	3,900	3,960	3,950	3,740	3,660
Cooling energy class			B	B	B	B	B	B	C
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(6)	kW	148	171	191	220	245	281	290
SEER	(6)(7)		3,90	3,93	3,86	3,94	3,90	3,81	3,80
Performance ηs	(6)(8)	%	153	154	151	155	153	149	149
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	7,098	8,188	9,143	10,52	11,75	13,47	13,92
Pressure drop	(1)	kPa	27,0	25,7	26,1	26,1	26,1	23,5	25,1
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	3
Refrigerant charge		kg	22,3	26,3	28,4	32,3	34,6	86,0	86,0
FANS									
Air flow		m³/s	15,28	17,78	19,44	22,50	24,17	24,17	24,17
Available static pressure		Pa	30	30	30	30	30	30	30
NOISE LEVEL									
Sound power level in cooling	(3)(4)	dB(A)	90	95	97	91	93	94	94
SIZE AND WEIGHT									
A	(5)	mm	3970	4670	4670	5670	5670	5670	5670
B	(5)	mm	1260	1260	1260	1260	1260	1260	1260
H	(5)	mm	2100	2100	2100	2100	2100	2100	2100
Operating weight	(5)	kg	1350	1640	1780	2060	2140	2530	2580

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Total sound power of fans, as declared by the maker, at the rated speed of rotation and a useful static head of nominal on the delivery side.
4 Sound power level in cooling, outdoors.
5 Unit in standard configuration/execution, without optional accessories.
6 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
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NX-C / SL-K			0072	0092	0102	0122	0152	0182	0202	0232
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	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	17,43	21,89	25,62	29,28	37,48	44,40	51,20	56,83
Total power input	(1)	kW	6,087	8,016	9,112	10,83	12,64	14,49	17,34	20,02
EER	(1)	kW/kW	2,857	2,731	2,810	2,713	2,976	3,062	2,960	2,840
ESEER	(1)	kW/kW	4,360	4,250	4,350	4,430	4,280	4,370	4,260	4,290
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	17,30	21,80	25,50	29,10	37,30	44,20	51,00	56,60
EER	(1)(2)	kW/kW	2,870	2,720	2,830	2,720	2,960	3,070	2,970	2,840
ESEER	(1)(2)	kW/kW	4,250	4,150	4,250	4,300	4,180	4,290	4,190	4,220
Cooling energy class			A	A	A	A	A	A	A	A
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Ambient refrigeration										
Prated,c	(6)	kW	17,3	21,8	25,5	29,1	37,3	44,2	51,0	56,6
SEER	(6)(7)		3,96	3,89	3,92	3,99	4,00	4,12	4,04	4,05
Performance ηs	(6)(8)	%	155	153	154	156	157	162	158	159
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	0,834	1,047	1,225	1,400	1,792	2,123	2,448	2,718
Pressure drop	(1)	kPa	23,9	23,1	23,5	23,9	25,9	23,8	24,8	24,5
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1	1
Refrigerant charge		kg	3,50	3,70	6,80	7,00	7,30	8,30	9,20	9,40
FANS										
Air flow		m³/s	1,81	2,08	2,22	2,36	3,61	4,44	4,86	5,14
Available static pressure		Pa	30	30	30	30	30	30	30	30
NOISE LEVEL										
Sound power level in cooling	(3)(4)	dB(A)	68	70	70	72	70	76	73	74
SIZE AND WEIGHT										
A	(5)	mm	1500	1500	2480	2480	2480	2480	2480	2480
B	(5)	mm	900	900	1100	1100	1100	1100	1100	1100
H	(5)	mm	1910	1910	2100	2100	2100	2100	2100	2100
Operating weight	(5)	kg	450	450	690	700	730	790	790	810

Notes

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NX-C / SL-K			0272	0302	0352	0402	0452	0502	0552	0602
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	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	65,37	73,49	82,99	94,78	106,9	122,4	136,4	150,5
Total power input	(1)	kW	22,77	26,43	31,05	34,34	39,50	43,82	51,51	57,78
EER	(1)	kW/kW	2,868	2,784	2,669	2,764	2,706	2,795	2,649	2,604
ESEER	(1)	kW/kW	4,410	4,000	4,070	4,000	4,060	4,030	3,920	4,080
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	65,10	73,20	82,70	94,50	106,5	122,0	136,0	150,0
EER	(1)(2)	kW/kW	2,870	2,780	2,670	2,770	2,710	2,800	2,660	2,610
ESEER	(1)(2)	kW/kW	4,330	3,950	4,010	3,960	4,020	3,970	3,870	4,040
Cooling energy class			A	A	B	A	A	A	B	B
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Ambient refrigeration										
Prated,c	(6)	kW	65,1	73,2	82,7	94,5	106	122	136	150
SEER	(6)(7)		4,15	3,83	3,88	3,84	3,89	3,86	3,81	3,92
Performance ηs	(6)(8)	%	163	150	152	151	153	151	149	154
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	3,126	3,514	3,969	4,533	5,111	5,852	6,521	7,196
Pressure drop	(1)	kPa	24,2	24,5	24,2	23,9	23,9	24,4	24,4	23,9
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1	1
Refrigerant charge		kg	11,6	12,0	12,8	16,8	17,3	18,6	19,2	21,1
FANS										
Air flow		m³/s	6,11	6,39	6,94	8,06	8,61	10,83	11,67	12,22
Available static pressure		Pa	30	30	30	30	30	30	30	30
NOISE LEVEL										
Sound power level in cooling	(3)(4)	dB(A)	76	76	77	76	77	82	83	86
SIZE AND WEIGHT										
A	(5)	mm	2980	2980	2980	3970	3970	3970	3970	4670
B	(5)	mm	1260	1260	1260	1260	1260	1260	1260	1260
H	(5)	mm	2100	2100	2100	2100	2100	2100	2100	2100
Operating weight	(5)	kg	930	980	1060	1220	1380	1400	1430	1610

Notes

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NX-C / SL-K			0702	0524	0604	0704	0804	0904	1004
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	172,2	124,0	144,5	166,2	185,1	222,3	243,4
Total power input	(1)	kW	65,36	46,62	54,98	62,74	71,80	79,56	91,00
EER	(1)	kW/kW	2,633	2,661	2,627	2,651	2,578	2,793	2,675
ESEER	(1)	kW/kW	3,880	4,130	4,120	4,200	3,990	4,220	4,050
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	171,7	123,6	144,0	165,7	184,6	221,6	242,7
EER	(1)(2)	kW/kW	2,640	2,670	2,630	2,660	2,590	2,800	2,680
ESEER	(1)(2)	kW/kW	3,830	4,010	4,000	4,090	3,900	4,110	3,960
Cooling energy class			B	B	B	B	B	A	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(6)	kW	172	124	144	166	185	222	243
SEER	(6)(7)		3,80	3,93	3,91	4,02	3,83	4,08	3,92
Performance ηs	(6)(8)	%	149	154	154	158	150	160	154
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	8,237	5,929	6,911	7,946	8,851	10,63	11,64
Pressure drop	(1)	kPa	24,6	24,3	25,6	24,2	24,5	26,6	25,6
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	4	4	4	4	4	4
No. Circuits		N°	1	2	2	2	2	2	2
Refrigerant charge		kg	25,3	21,0	23,1	27,6	29,7	82,6	84,3
FANS									
Air flow		m³/s	13,89	11,11	12,22	13,89	15,00	19,17	19,72
Available static pressure		Pa	30	30	30	30	30	30	30
NOISE LEVEL									
Sound power level in cooling	(3)(4)	dB(A)	89	82	84	89	82	88	89
SIZE AND WEIGHT									
A	(5)	mm	5670	3970	4670	5670	5670	5670	5670
B	(5)	mm	1260	1260	1260	1260	1260	1260	1260
H	(5)	mm	2100	2100	2100	2100	2100	2100	2100
Operating weight	(5)	kg	1790	1370	1550	1960	2110	2550	2600

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NX-C / A			0072	0092	0102	0122	0152	0182	0202	0232
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	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	18,11	22,91	27,39	31,64	38,83	46,00	53,05	59,17
Total power input	(1)	kW	5,936	7,831	8,561	10,22	12,55	14,39	17,18	19,81
EER	(1)	kW/kW	3,047	2,925	3,201	3,098	3,079	3,194	3,081	2,990
ESEER	(1)	kW/kW	4,560	4,490	4,830	4,830	4,440	4,490	4,390	4,390
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	18,00	22,80	27,20	31,40	38,60	45,80	52,80	58,90
EER	(1)(2)	kW/kW	3,060	2,930	3,210	3,100	3,090	3,230	3,110	3,000
ESEER	(1)(2)	kW/kW	4,470	4,410	4,730	4,680	4,330	4,440	4,310	4,300
Cooling energy class			A	A	A	A	A	A	A	A
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Ambient refrigeration										
Prated,c	(6)	kW	18,0	22,8	27,2	31,4	38,6	45,8	52,8	58,9
SEER	(6)(7)		4,17	4,14	4,36	4,38	4,17	4,27	4,17	4,16
Performance ηs	(6)(8)	%	164	163	171	172	164	168	164	164
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	0,866	1,096	1,310	1,513	1,857	2,200	2,537	2,830
Pressure drop	(1)	kPa	25,8	25,3	26,8	27,9	27,8	25,5	26,6	26,6
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1	1
Refrigerant charge		kg	3,50	3,70	6,80	7,00	7,30	8,30	9,20	9,40
FANS										
Air flow		m³/s	2,50	2,92	3,75	4,17	4,86	6,11	6,53	6,94
Available static pressure		Pa	30	30	30	30	30	30	30	30
NOISE LEVEL										
Sound power level in cooling	(3)(4)	dB(A)	74	77	82	84	86	83	84	84
SIZE AND WEIGHT										
A	(5)	mm	1500	1500	2480	2480	2480	2480	2480	2480
B	(5)	mm	900	900	1100	1100	1100	1100	1100	1100
H	(5)	mm	1910	1910	2100	2100	2100	2100	2100	2100
Operating weight	(5)	kg	450	450	690	700	730	790	790	810

Notes

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NX-C / A			0272	0302	0352	0402	0452	0502	0552	0602
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	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	67,76	77,18	87,21	99,82	113,0	126,1	141,0	158,5
Total power input	(1)	kW	22,81	26,21	30,71	33,70	38,72	43,92	51,68	57,44
EER	(1)	kW/kW	2,974	2,947	2,840	2,961	2,920	2,872	2,727	2,761
ESEER	(1)	kW/kW	4,460	4,190	4,190	4,210	4,080	4,100	4,080	4,000
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	67,50	76,90	86,90	99,40	112,6	125,7	140,5	158,0
EER	(1)(2)	kW/kW	2,990	2,960	2,850	2,980	2,930	2,880	2,730	2,780
ESEER	(1)(2)	kW/kW	4,380	4,120	4,120	4,140	4,030	4,050	4,020	3,960
Cooling energy class			A	A	A	A	A	A	A	A
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Ambient refrigeration										
Prated,c	(6)	kW	67,5	76,9	86,9	99,4	113	126	140	158
SEER	(6)(7)		4,22	4,01	4,02	4,04	3,90	3,93	3,92	3,90
Performance ηs	(6)(8)	%	166	158	158	159	153	154	154	153
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	3,240	3,691	4,171	4,774	5,402	6,028	6,742	7,580
Pressure drop	(1)	kPa	26,0	27,1	26,7	26,5	26,7	25,9	26,1	26,5
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1	1
Refrigerant charge		kg	11,6	12,0	12,8	16,8	17,3	18,6	19,2	21,1
FANS										
Air flow		m³/s	8,06	9,17	9,72	11,67	12,50	13,33	14,44	16,94
Available static pressure		Pa	30	30	30	30	30	30	30	30
NOISE LEVEL										
Sound power level in cooling	(3)(4)	dB(A)	90	83	84	83	85	86	88	93
SIZE AND WEIGHT										
A	(5)	mm	2980	2980	2980	3970	3970	3970	3970	4670
B	(5)	mm	1260	1260	1260	1260	1260	1260	1260	1260
H	(5)	mm	2100	2100	2100	2100	2100	2100	2100	2100
Operating weight	(5)	kg	930	980	1060	1220	1380	1400	1430	1610

Notes

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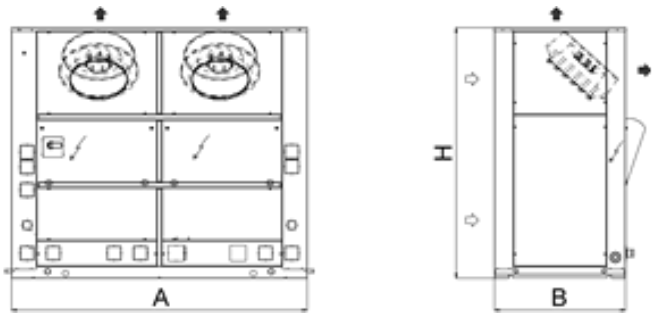
NX-C / A			0702	0524	0604	0704	0804	0904	1004
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	180,4	127,2	150,0	173,5	193,4	225,0	251,1
Total power input	(1)	kW	65,28	46,54	55,11	62,30	70,67	81,65	91,08
EER	(1)	kW/kW	2,763	2,735	2,722	2,785	2,736	2,757	2,756
ESEER	(1)	kW/kW	4,090	4,190	4,130	4,310	4,150	4,170	4,120
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	179,8	126,8	149,5	173,0	192,8	224,3	250,4
EER	(1)(2)	kW/kW	2,770	2,740	2,730	2,800	2,750	2,770	2,760
ESEER	(1)(2)	kW/kW	4,050	4,070	4,010	4,200	4,050	4,070	4,020
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(6)	kW	180	127	150	173	193	224	250
SEER	(6)(7)		4,00	3,98	3,96	4,16	4,01	4,06	3,96
Performance ηs	(6)(8)	%	157	156	155	163	157	159	155
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	8,628	6,080	7,174	8,298	9,249	10,76	12,01
Pressure drop	(1)	kPa	27,0	25,6	27,6	26,4	26,7	27,3	27,3
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	4	4	4	4	4	4
No. Circuits		N°	1	2	2	2	2	2	2
Refrigerant charge		kg	25,3	21,0	23,1	27,6	29,7	82,6	84,3
FANS									
Air flow		m³/s	18,61	13,06	15,56	19,72	19,72	21,94	21,94
Available static pressure		Pa	30	30	30	30	30	30	30
NOISE LEVEL									
Sound power level in cooling	(3)(4)	dB(A)	96	86	89	88	88	91	91
SIZE AND WEIGHT									
A	(5)	mm	5670	3970	4670	5670	5670	5670	5670
B	(5)	mm	1260	1260	1260	1260	1260	1260	1260
H	(5)	mm	2100	2100	2100	2100	2100	2100	2100
Operating weight	(5)	kg	1790	1370	1550	1960	2110	2550	2600

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Total sound power of fans, as declared by the maker, at the rated speed of rotation and a useful static head of nominal on the delivery side.
4 Sound power level in cooling, outdoors.
5 Unit in standard configuration/execution, without optional accessories.
6 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
7 Seasonal energy efficiency ratio
8 Seasonal space cooling energy efficiency

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



CHILLERS

NX-W

Water cooled chiller

0122 - 1204 38,14-397,8 kW

Water to water indoor unit for the production of chilled water with hermetic rotary Scroll compressors, braze-welded plate-type exchanger and electronic expansion valve. Basement and frame in hot-galvanised shaped sheet steel with a suitable thickness. All parts polyester-powder painted to assure total weather resistance, RAL 7035.
The range includes the single-circuit two-compressor versions and the dual circuit four-compressor versions.

Control

Electronic control W3000TE
W3000 Compact, as standard equipment, features function controls and a complete LCD display for viewing data and activating the unit, via a multilevel menu, with settable display language.
The controller provides water temperature control for the heating systems, cooling systems (only for reversible units), as well as for domestic hot water (only for reversible units). These different temperatures are managed automatically based on the different conditions in which the system operates, with the possibility to assign specific levels of priority to domestic hot water production, depending on the needs of the application.
The regulation is based on the exclusive QuickMind algorithm, including self-adaptive control logics, beneficial in low water content systems. As alternatives the proportional- or proportional- integral regulations are also available.
Complete alarm management system is available, with the “black-box” and the alarm history display functions. For systems made up of multiple units, differentiated device management means just a certain portion of the capacity installed can be dedicated to domestic water production, thus ensuring more efficient energy distribution and guaranteeing simultaneous water delivery to the different distribution systems. The built-in clock can create an operating profile up to 4 typical days and 10 time bands, essential for efficient programming of energy production and fundamental for managing the Legionella prevention cycles. Available time bands also for DHW production.
Supervision is available either using proprietary devices or by integration into third party systems using ModBus, BACnet, BACnet-over-IP and Echelon LonWorks protocols.
A dedicated wall-mounted keypad can be used for remote control of all the functions.
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

R410A

Versions

- Basic

Configurations

- Basic function

Features

HIGH EFFICIENCY
Very high efficiency at full and partial load, at the highest market levels, thanks to the adopted technological solutions. These units ensure low operating costs and therefore a quick payback time.

ErP READY
The highest level of efficiency at part load can meet and exceed the minimum seasonal efficiency for heating, SCOP (only for reversible units) and for cooling, SEER, according with the eco-sustainable design requirements for all products using energy. The units already comply with the minimum seasonal energy efficiency requirements that will start from 2021.

VARIBLE PRIMARY FLOW (OPTION)
Energy saving due to variable pump speed management based on load demand and the variable flow assures the functioning of the units also with critical working conditions. VPF (Variable Primary Flow) available for sizes 0604-1204.

EXTREMELY SILENT OPERATION
Extremely silent operation together with high efficiency, tank to dedicated acoustic devices and a precise design for the choice of the components.

INTEGRATED HYDRONIC MODULE
The built-in hydronic module already contains the main water circuit components; it is available as option with single or twin in-line pump, for achieving low head, fixed or variable speed, available for user side and source side (up to 4 pumps).

INTEGRATED CONDENSATION´S CONTROL
The electronics of the units manages the most suitable condensing control for each type of application: pressure-controlled valve, two or three-way modulating valv, 0-10V signal for variable speed driven pumps.

TOTAL VERSATILITY
The units have been designed with a range of integrated accessories, keeping in mind the operation with open loop (well water or ground water), dry cooler or cooling tower and suitable for geothermal application so as to satisfy all service system and installation requirements.

ELECTRONIC EXPANSION VALVE SUPPLIED STANDARD
The use of the electronic expansion valve generates considerable benefits, especially in cases of variable demand and at different working conditions. It guaranteed energy saving due to efficiency optimization in various different working conditions. The electronic thermostatic valve allows you to obtain speed in reaching machine stability and an extension of the operating limits.

Accessories

- Touch Screen visual display
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Outside air temperature probe for plant water set point compensation.
- Integral acoustical enclosure (type base)
- Thicker soundproofing cladding
- User side and source side hydronic kit available in different configurations
- VPF (Variable Primary Flow) system
- Condensing control device: two or three-way modulating pressure-controlled valve and inverter on pumps

NX-W			0122	0152	0182	0202	0252	0262	0302	0352
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	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	38,14	47,70	56,19	65,31	72,33	82,33	96,67	111,4
Total power input	(1)	kW	7,525	9,312	10,84	12,62	13,84	15,99	18,88	21,68
EER	(1)	kW/kW	5,060	5,124	5,204	5,183	5,239	5,144	5,116	5,134
ESEER	(1)	kW/kW	6,460	6,760	6,420	6,470	6,720	6,410	6,490	6,630
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	37,90	47,50	55,90	65,10	72,00	82,00	96,40	111,0
EER	(1)(2)	kW/kW	4,850	4,890	4,960	4,970	5,010	4,960	4,940	4,960
ESEER	(1)(2)	kW/kW	5,890	6,100	5,810	5,930	6,120	5,950	6,040	6,130
Cooling energy class			B	B	B	B	B	B	B	B
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Ambient refrigeration										
Prated,c	(7)	kW	37,9	-	55,9	-	72,0	82,0	-	111
SEER	(7)(8)		5,33	-	5,41	-	5,72	5,66	-	5,92
Performance ηs	(7)(9)	%	205	-	208	-	221	218	-	229
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	1,824	2,281	2,687	3,123	3,459	3,937	4,623	5,326
Pressure drop	(1)	kPa	21,6	26,6	26,7	21,8	21,6	21,8	22,7	22,9
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION										
Water flow	(1)	l/s	2,175	2,716	3,194	3,713	4,106	4,684	5,505	6,339
Pressure drop	(1)	kPa	11,8	15,7	18,1	20,6	23,1	13,5	14,2	14,6
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1	1
Refrigerant charge		kg	3,80	4,20	5,20	5,50	6,70	8,00	9,60	11,0
NOISE LEVEL										
Sound Pressure	(3)	dB(A)	57	57	58	58	58	59	60	60
Sound power level in cooling	(4)(5)	dB(A)	73	73	74	74	74	75	76	77
SIZE AND WEIGHT										
A	(6)	mm	1225	1225	1225	1225	1225	1225	1225	1570
B	(6)	mm	885	885	885	885	885	885	885	885
H	(6)	mm	1495	1495	1495	1495	1495	1495	1495	1805
Operating weight	(6)	kg	360	360	390	410	440	480	520	660

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 R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

NX-W

Water cooled chiller

0122 - 1204 38,14-397,8 kW

NX-W			0402	0452	0502	0552	0602	0702	0802	0604
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	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	126,1	141,8	157,5	181,1	204,4	230,5	254,3	191,8
Total power input	(1)	kW	24,48	27,68	30,88	35,20	39,59	45,24	51,16	38,29
EER	(1)	kW/kW	5,147	5,119	5,097	5,145	5,162	5,100	4,967	5,008
ESEER	(1)	kW/kW	6,340	6,470	6,320	6,420	6,420	6,500	6,060	6,600
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	125,7	141,4	157,0	180,6	203,8	229,8	253,4	191,4
EER	(1)(2)	kW/kW	4,990	4,960	4,930	4,990	5,000	4,930	4,790	4,880
ESEER	(1)(2)	kW/kW	5,950	6,040	5,920	6,000	6,010	6,030	5,630	6,140
Cooling energy class			B	B	B	B	B	B	B	B
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Ambient refrigeration										
Prated,c	(7)	kW	-	-	157	-	204	-	253	191
SEER	(7)(8)		-	-	5,69	-	5,80	-	5,39	6,00
Performance ηs	(7)(9)	%	-	-	220	-	224	-	207	232
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	6,030	6,780	7,532	8,659	9,777	11,02	12,16	9,174
Pressure drop	(1)	kPa	23,1	23,8	24,4	24,9	25,5	30,7	37,4	17,1
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION										
Water flow	(1)	l/s	7,174	8,074	8,974	10,30	11,63	13,14	14,55	10,96
Pressure drop	(1)	kPa	15,4	15,9	18,5	18,3	21,0	23,5	28,8	16,2
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	4
No. Circuits		N°	1	1	1	1	1	1	1	2
Refrigerant charge		kg	12,5	13,9	14,8	18,1	21,4	21,9	22,0	19,3
NOISE LEVEL										
Sound Pressure	(3)	dB(A)	60	61	61	62	62	65	66	69
Sound power level in cooling	(4)(5)	dB(A)	77	78	78	79	79	82	83	86
SIZE AND WEIGHT										
A	(6)	mm	1570	1570	1570	1570	1570	1570	1570	2210
B	(6)	mm	885	885	885	885	885	885	885	885
H	(6)	mm	1805	1805	1805	1805	1805	1805	1805	1805
Operating weight	(6)	kg	740	790	820	870	920	940	960	870

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

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Certified data in EUROVENT

NX-W			0704	0804	0904	1004	1104	1204
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	221,0	250,0	281,3	312,7	359,3	397,8
Total power input	(1)	kW	43,95	49,61	56,09	62,55	71,34	79,96
EER	(1)	kW/kW	5,034	5,040	5,014	5,003	5,039	4,972
ESEER	(1)	kW/kW	6,640	6,580	6,640	6,530	6,610	6,570
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	220,5	249,4	280,6	311,9	358,4	396,6
EER	(1)(2)	kW/kW	4,910	4,910	4,880	4,860	4,880	4,800
ESEER	(1)(2)	kW/kW	6,160	6,120	6,130	6,020	6,030	5,960
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	220	249	281	312	358	397
SEER	(7)(8)		6,04	5,97	5,98	5,87	5,89	5,79
Performance ηs	(7)(9)	%	233	231	231	227	228	224
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	10,57	11,96	13,45	14,95	17,18	19,02
Pressure drop	(1)	kPa	18,1	20,0	21,3	24,9	28,2	34,6
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION								
Water flow	(1)	l/s	12,62	14,27	16,07	17,87	20,51	22,75
Pressure drop	(1)	kPa	17,4	19,6	22,0	24,8	30,0	36,1
REFRIGERANT CIRCUIT								
Compressors nr.		N°	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2
Refrigerant charge		kg	23,1	25,5	29,9	37,7	44,5	44,6
NOISE LEVEL								
Sound Pressure	(3)	dB(A)	70	71	72	73	74	74
Sound power level in cooling	(4)(5)	dB(A)	87	88	89	90	91	91
SIZE AND WEIGHT								
A	(6)	mm	2210	2650	2650	2650	2650	2650
B	(6)	mm	885	885	885	885	885	885
H	(6)	mm	1805	1805	1805	1805	1805	1805
Operating weight	(6)	kg	1050	1240	1330	1530	1630	1710

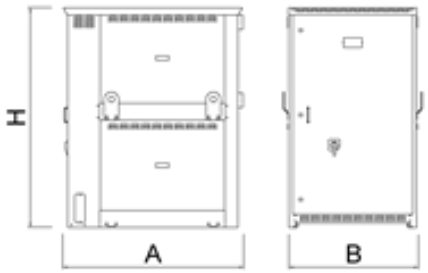
Notes

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

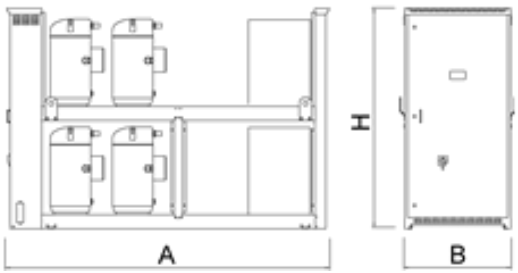
The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing

Size 0122-802



Size 0604-1204



CHILLERS

FX-W

Water cooled chiller

0551 - 1752 124,3-400,6 kW

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.

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

R134a

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.

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

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	124,3	140,5	166,3	198,2	221,7	252,4
Total power input	(1)	kW	24,47	27,27	34,14	38,89	44,24	48,99
EER	(1)	kW/kW	5,073	5,147	4,877	5,095	5,016	5,151
ESEER	(1)	kW/kW	5,980	6,020	5,950	6,010	5,940	6,340
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	4,900	4,970	4,700	4,900	4,820	4,960
ESEER	(1)(2)	kW/kW	5,530	5,570	5,480	5,510	5,440	5,750
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	5,944	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	7,087	7,993	9,546	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	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 HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

FX-W

Water cooled chiller

0551 - 1752 124,3-400,6 kW

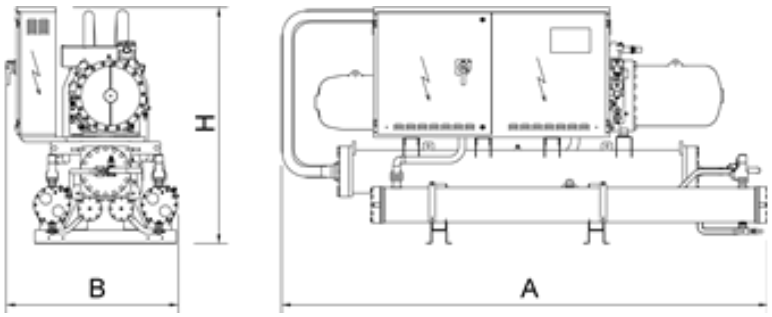
FX-W			1302	1402	1502	1602	1752
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	285,1	311,9	345,2	366,2	400,6
Total power input	(1)	kW	54,57	61,46	68,38	72,99	83,17
EER	(1)	kW/kW	5,222	5,072	5,047	5,016	4,815
ESEER	(1)	kW/kW	6,310	6,300	6,190	6,120	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	5,030	4,880	4,880	4,860	4,660
ESEER	(1)(2)	kW/kW	5,750	5,700	5,690	5,630	5,590
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	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

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 R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



CHILLERS

FOCS2-W

High efficiency water cooled chiller

1301 - 9604 306,0-2416 kW

Unit for indoor installation for chilled water production. Semihermetic screw compressors optimized to operate with low compression ratio and R134a; shell and tubes condenser and direct expansion evaporator; electronic expansion valve. Frame in polyester-painted galvanized steel. High efficiency unit: the innovative optimized compressors and the high performing heat exchangers enhance EER values up to 5,1 (CA version) and even up to 5,6 (CA-E version) at Eurovent standars conditions.

Control

W3000TE

W3000TE features a large keyboard and wide LCD display for 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. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Refrigerant

R134a

Versions

CA High efficiency version

CA-E Premium efficiency version: Class A enhanced

Configurations

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

Features

HIGH EFFICIENCY

The version ´CA-E´ is characterized by efficiency beyond the ´Class A´ for Eurovent. The technological choices adopted assure the minimization of operating costs and therefore a quick payback time.

ADAPTABILITY

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

SILENT OPERATION

Extremely silent operation thanks to the accurate unit's design. Optional integral acoustic enclosure, reduces more the sound level beyond the best on market

AHRI CERTIFICATION

Certified in accordance with the AHRI Water-Cooled Water-Chilling and Heat Pump Water-Heating Packages Certification Program, which is based on AHRI Standard 550/590 (I-P). Certified units may be found in the AHRI Directory at www.ahridirectory.org

Accessories

- Integral acoustical enclosure (type base or plus)
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus/Echelon protocol cards

FOCS2-W /CA			1301	1401	3202	3602	4202	4502	4802
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	306,0	348,3	843,9	957,3	1071	1145	1213
Total power input	(1)	kW	60,47	68,70	166,7	188,8	211,6	226,1	239,8
EER	(1)	kW/kW	5,058	5,070	5,062	5,070	5,061	5,064	5,058
ESEER	(1)	kW/kW	5,940	5,950	5,870	6,140	6,080	6,230	6,170
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	304,9	347,0	841,1	954,1	1069	1142	1210
EER	(1)(2)	kW/kW	4,860	4,870	4,890	4,900	4,920	4,910	4,900
ESEER	(1)(2)	kW/kW	5,450	5,450	5,410	5,630	5,670	5,780	5,700
Cooling energy class			B	B	B	B	B	B	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	305	347	841	954	1069	1142	1210
SEER	(7)(8)		5,55	5,58	5,88	5,89	5,89	5,97	5,90
Performance ηs	(7)(9)	%	214	215	227	228	228	231	228
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	14,64	16,66	40,35	45,78	51,23	54,74	58,02
Pressure drop	(1)	kPa	41,9	45,0	45,4	46,4	30,6	34,2	38,4
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION									
Water flow	(1)	l/s	17,46	19,87	48,14	54,60	61,11	65,30	69,22
Pressure drop	(1)	kPa	35,9	35,0	34,8	34,8	34,4	35,4	36,0
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	2	2	2	2	2
No. Circuits		N°	1	1	2	2	2	2	2
Refrigerant charge		kg	42,0	43,0	126	130	130	125	140
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	79	79	80	80	80	80	80
Sound power level in cooling	(4)(5)	dB(A)	97	97	99	99	99	99	99
SIZE AND WEIGHT									
A	(6)	mm	3830	3830	4750	4750	4750	4750	4750
B	(6)	mm	900	900	1150	1150	1150	1150	1150
H	(6)	mm	1700	1700	2050	2050	2200	2200	2200
Operating weight	(6)	kg	2050	2110	5110	5400	6070	6120	6180

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

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Certified data in EUROVENT

FOCS2-W

High efficiency water cooled chiller

1301 - 9604 306,0-2416 kW

FOCS2-W /CA			5402	6002	8103	9003	9004	9604
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	1348	1490	2024	2236	2278	2416
Total power input	(1)	kW	266,9	295,0	400,4	442,0	450,7	478,2
EER	(1)	kW/kW	5,051	5,051	5,055	5,059	5,054	5,052
ESEER	(1)	kW/kW	6,000	6,090	6,090	6,140	6,240	6,170
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	1344	1485	2018	2228	2273	2410
EER	(1)(2)	kW/kW	4,880	4,870	4,900	4,890	4,920	4,910
ESEER	(1)(2)	kW/kW	5,540	5,570	5,610	5,600	5,800	5,710
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	1344	1485	-	-	-	-
SEER	(7)(8)		5,89	5,88	-	-	-	-
Performance ηs	(7)(9)	%	228	227	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	64,47	71,27	96,81	106,9	108,9	115,5
Pressure drop	(1)	kPa	47,4	54,6	43,7	53,3	32,3	36,3
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION								
Water flow	(1)	l/s	76,93	85,04	115,5	127,5	130,0	137,9
Pressure drop	(1)	kPa	34,5	36,6	34,6	35,8	35,0	37,0
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	2	3	3	4	4
No. Circuits		N°	2	2	3	3	4	4
Refrigerant charge		kg	164	180	269	261	267	260
NOISE LEVEL								
Sound Pressure	(3)	dB(A)	82	82	82	82	82	82
Sound power level in cooling	(4)(5)	dB(A)	101	101	102	102	102	102
SIZE AND WEIGHT								
A	(6)	mm	4850	4850	4950	4950	4650	4650
B	(6)	mm	1150	1150	1700	1700	2250	2250
H	(6)	mm	2200	2200	2150	2150	2230	2230
Operating weight	(6)	kg	6950	7090	10170	10350	14330	14390

Notes

1 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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5 Sound power level in cooling, indoors.
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Certified data in EUROVENT

FOCS2-W / CA-E			1301	1401	1601	1801	2101	2401	2802	3202	3602
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	320,7	364,7	441,9	506,3	573,7	649,4	729,4	884,2	1012
Total power input	(1)	kW	57,30	65,10	79,06	90,27	102,6	116,1	130,3	158,1	180,4
EER	(1)	kW/kW	5,597	5,602	5,587	5,607	5,592	5,593	5,598	5,593	5,610
ESEER	(1)	kW/kW	6,490	6,500	6,300	6,400	6,370	6,400	6,660	6,570	6,730
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	319,5	363,3	440,0	504,2	571,4	646,5	726,6	880,5	1009
EER	(1)(2)	kW/kW	5,320	5,330	5,300	5,320	5,310	5,300	5,340	5,320	5,380
ESEER	(1)(2)	kW/kW	5,830	5,830	5,650	5,720	5,720	5,700	5,960	5,840	6,060
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(7)	kW	320	363	440	504	571	646	727	880	1009
SEER	(7)(8)		5,88	5,90	5,88	5,89	5,88	5,89	6,16	6,08	6,31
Performance ηs	(7)(9)	%	227	228	227	228	227	228	238	235	244
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	15,33	17,44	21,13	24,21	27,44	31,06	34,88	42,28	48,41
Pressure drop	(1)	kPa	45,7	47,7	53,5	53,4	52,8	60,2	51,9	58,6	41,3
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION											
Water flow	(1)	l/s	18,02	20,49	24,84	28,44	32,24	36,50	40,99	49,69	56,86
Pressure drop	(1)	kPa	48,4	46,6	51,6	52,6	54,3	56,3	46,6	51,5	52,8
REFRIGERANT CIRCUIT											
Compressors nr.		N°	1	1	1	1	1	1	2	2	2
No. Circuits		N°	1	1	1	1	1	1	2	2	2
Refrigerant charge		kg	50,0	60,0	75,0	72,0	80,0	100	124	140	160
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	79	78	78	78	78	78	80	80	80
Sound power level in cooling	(4)(5)	dB(A)	97	97	97	97	97	97	99	99	99
SIZE AND WEIGHT											
A	(6)	mm	4250	4250	4150	4150	4130	4350	4550	4950	5170
B	(6)	mm	900	900	900	900	900	900	1150	1150	1150
H	(6)	mm	1815	1910	1990	1990	1990	2090	2050	2200	2200
Operating weight	(6)	kg	2470	2770	3570	3750	3790	4230	5390	6460	6920

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

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FOCS2-W

High efficiency water cooled chiller

1301 - 9604 306,0-2416 kW

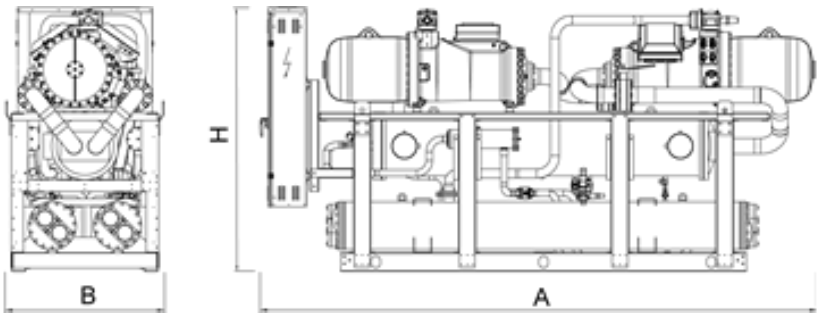
FOCS2-W / CA-E			4202	4802	2701	3001	5402	7204	7804	8404
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	1147	1299	706,7	781,3	1411	2025	2157	2294
Total power input	(1)	kW	205,1	232,3	127,8	140,9	255,6	360,7	385,5	410,3
EER	(1)	kW/kW	5,592	5,592	5,530	5,545	5,520	5,614	5,595	5,591
ESEER	(1)	kW/kW	6,640	6,660	6,380	6,410	6,660	6,760	6,640	6,650
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	1143	1293	704,0	778,6	1407	2019	2149	2286
EER	(1)(2)	kW/kW	5,330	5,310	5,270	5,300	5,300	5,400	5,350	5,350
ESEER	(1)(2)	kW/kW	5,910	5,870	5,760	5,810	6,000	6,130	5,940	5,970
Cooling energy class			A	A	A	A	A	A	A	A
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Ambient refrigeration										
Prated,c	(7)	kW	1143	1293	704	779	1407	-	-	-
SEER	(7)(8)		6,18	6,16	5,89	5,90	6,23	-	-	-
Performance ηs	(7)(9)	%	239	238	228	228	241	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	54,85	62,10	33,80	37,36	67,48	96,82	103,2	109,7
Pressure drop	(1)	kPa	55,0	65,0	51,5	47,2	46,0	41,3	59,3	54,6
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION										
Water flow	(1)	l/s	64,46	72,98	39,78	43,96	79,45	113,7	121,2	128,9
Pressure drop	(1)	kPa	54,4	56,6	51,7	49,3	51,5	52,0	53,3	53,8
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	1	1	2	4	4	4
No. Circuits		N°	2	2	1	1	2	4	4	4
Refrigerant charge		kg	174	210	115	105	220	320	348	348
NOISE LEVEL										
Sound Pressure	(3)	dB(A)	79	79	80	80	81	82	82	82
Sound power level in cooling	(4)(5)	dB(A)	99	99	99	99	101	102	102	102
SIZE AND WEIGHT										
A	(6)	mm	4920	4920	4350	4350	5200	5220	4900	4900
B	(6)	mm	1150	1285	900	900	1285	2250	2250	2250
H	(6)	mm	2350	2430	2180	2180	2440	2305	2455	2455
Operating weight	(6)	kg	7900	8560	4760	4870	8850	13720	15850	16100

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 R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



CHILLERS

FOCS3-W

Water cooled chiller

0551 - 4752 188,2-1693 kW

High efficiency unit for indoor installation for chilled water production. Semihermetic screw compressors optimized to operate with low compression ratio and R134a; shell and tubes condenser, flooded evaporator and electronic expansion valve. High efficiency unit thanks to the innovative optimized compressors and the high performing heat exchangers.

Control

W3000TE

W3000TE features a large keyboard and wide LCD display for 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. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Refrigerant

R134a

Versions

CA High energy efficiency units

Features

HIGH EFFICIENCY
Very high efficiency at full and partial load, at the highest market levels, thanks to the adopted technological solutions. These units ensure low operating costs and therefore a quick payback time.

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

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.

AHRI CERTIFICATION
Certified in accordance with the AHRI Water-Cooled Water-Chilling and Heat Pump Water-Heating Packages Certification Program, which is based on AHRI Standard 550/590 (I-P). Certified units may be found in the AHRI Directory at www.ahridirectory.org

Accessories

- Touch Screen visual display
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Several devices for condensation´s control

FOCS3-W			0551	0701	0851	0951	1101	1301	1401
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	188,2	250,0	306,0	337,6	383,5	459,9	524,0
Total power input	(1)	kW	34,94	45,85	56,10	61,20	69,80	82,52	93,00
EER	(1)	kW/kW	5,393	5,447	5,455	5,516	5,494	5,575	5,634
ESEER	(1)	kW/kW	6,840	7,090	6,550	6,850	6,800	6,730	6,900
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	187,4	248,9	304,7	336,1	381,9	458,2	522,3
EER	(1)(2)	kW/kW	5,090	5,150	5,160	5,210	5,200	5,300	5,400
ESEER	(1)(2)	kW/kW	6,140	6,310	5,940	6,160	6,140	6,150	6,090
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	187	249	305	336	382	458	522
SEER	(7)(8)		5,92	6,15	5,72	5,88	5,90	5,94	6,55
Performance ηs	(7)(9)	%	229	238	221	227	228	230	254
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	9,001	11,95	14,63	16,15	18,34	21,99	25,06
Pressure drop	(1)	kPa	42,0	48,7	49,1	52,4	52,8	47,5	39,9
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION									
Water flow	(1)	l/s	10,64	14,10	17,26	19,01	21,61	25,86	29,42
Pressure drop	(1)	kPa	56,7	57,2	56,0	58,6	57,4	54,5	44,3
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	75,0	86,0	95,0	94,0	86,0	100	110
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	77	77	80	80	80	80	80
Sound power level in cooling	(4)(5)	dB(A)	95	95	98	98	98	98	98
SIZE AND WEIGHT									
A	(6)	mm	2920	2920	2920	2920	2920	2900	2900
B	(6)	mm	1180	1180	1180	1180	1180	1180	1180
H	(6)	mm	1870	1870	1870	1870	1870	1960	1970
Operating weight	(6)	kg	1740	1790	2170	2200	2260	2940	3020

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 R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

FOCS3-W

Water cooled chiller

0551 - 4752 188,2-1693 kW

FOCS3-W			1651	1901	2101	2501	2602	3002	3152
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	591,8	681,6	741,3	837,0	915,9	1062	1140
Total power input	(1)	kW	103,9	121,9	133,1	149,3	164,1	186,9	196,0
EER	(1)	kW/kW	5,696	5,591	5,569	5,606	5,581	5,682	5,816
ESEER	(1)	kW/kW	7,000	6,900	6,890	6,940	7,350	7,430	7,460
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	589,5	679,4	738,9	834,3	913,2	1058	1137
EER	(1)(2)	kW/kW	5,410	5,330	5,340	5,370	5,370	5,420	5,630
ESEER	(1)(2)	kW/kW	6,350	6,100	6,190	6,230	6,440	6,560	6,800
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	590	679	739	834	913	1058	1137
SEER	(7)(8)		6,16	6,25	6,39	6,31	6,34	6,47	7,03
Performance ηs	(7)(9)	%	239	242	248	244	246	251	273
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	28,30	32,59	35,45	40,03	43,80	50,79	54,53
Pressure drop	(1)	kPa	50,9	42,0	42,7	42,8	40,0	51,5	37,4
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION									
Water flow	(1)	l/s	33,17	38,31	41,69	47,02	51,49	59,55	63,73
Pressure drop	(1)	kPa	55,2	59,7	45,3	47,6	44,0	53,8	31,6
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	1	1	2	2	2
No. Circuits		N°	1	1	1	1	2	2	2
Refrigerant charge		kg	112	121	147	182	210	249	270
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	80	80	82	82	81	81	81
Sound power level in cooling	(4)(5)	dB(A)	98	98	100	100	100	100	100
SIZE AND WEIGHT									
A	(6)	mm	2900	2930	2980	2990	4430	4430	4440
B	(6)	mm	1180	1180	1190	1280	1270	1270	1270
H	(6)	mm	1960	2050	2100	2200	2210	2210	2280
Operating weight	(6)	kg	3150	3270	3570	3960	6200	6430	7080

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 R134a [GWP_{100} 1430] fluorinated greenhouse gases.

Certified data in EUROVENT

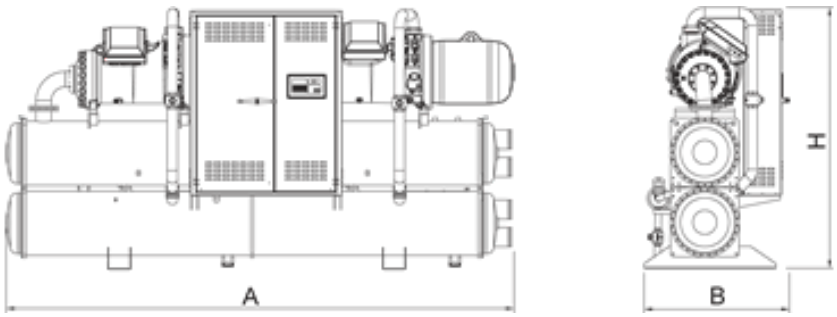
FOCS3-W			3502	3652	4002	4102	4502	4602	4752
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	1218	1303	1382	1450	1522	1614	1693
Total power input	(1)	kW	214,0	224,7	241,8	252,5	268,1	284,0	292,0
EER	(1)	kW/kW	5,692	5,799	5,715	5,743	5,677	5,683	5,798
ESEER	(1)	kW/kW	7,240	7,320	7,280	7,270	7,120	7,390	7,390
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	1214	1299	1377	1445	1517	1609	1688
EER	(1)(2)	kW/kW	5,430	5,600	5,460	5,500	5,420	5,450	5,540
ESEER	(1)(2)	kW/kW	6,410	6,670	6,470	6,490	6,360	6,580	6,580
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	1214	1299	1377	1445	1517	1609	1688
SEER	(7)(8)		6,34	6,89	6,43	6,50	6,35	6,50	6,75
Performance ηs	(7)(9)	%	246	267	249	252	246	252	262
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	58,23	62,33	66,11	69,33	72,76	77,20	80,94
Pressure drop	(1)	kPa	51,4	39,8	50,4	46,7	51,5	42,5	46,7
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION									
Water flow	(1)	l/s	68,26	72,87	77,45	81,18	85,33	90,51	94,64
Pressure drop	(1)	kPa	56,2	33,7	52,9	49,5	54,7	53,1	58,0
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	270	280	280	288	297	341	341
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	81	81	81	82	82	82	82
Sound power level in cooling	(4)(5)	dB(A)	100	100	100	101	102	102	102
SIZE AND WEIGHT									
A	(6)	mm	4470	4470	4470	4565	4650	5270	5270
B	(6)	mm	1270	1320	1270	1320	1320	1320	1320
H	(6)	mm	2250	2330	2280	2380	2380	2380	2380
Operating weight	(6)	kg	7160	7560	7280	7850	7940	8420	8950

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 R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



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

FX-W-G04

Water cooled chiller

0551 - 2002 93,17-373,4 kW

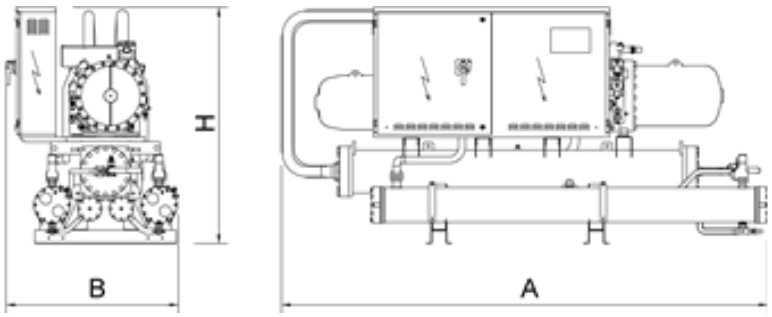
FX-W-G04			1302	1402	1502	1702	1902	2002
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	212,0	232,0	259,7	291,8	331,8	373,4
Total power input	(1)	kW	41,78	47,06	52,41	59,28	67,77	75,44
EER	(1)	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

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

Dimensional drawing



CHILLERS

FX-W-G05

Water cooled chiller

0551 - 1752 124,3-400,6 kW

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.

Refrigerant

R513A

Configurations

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

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.

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]
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9 Seasonal space cooling energy efficiency

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Certified data in EUROVENT

FX-W-G05

Water cooled chiller

0551 - 1752 124,3-400,6 kW

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

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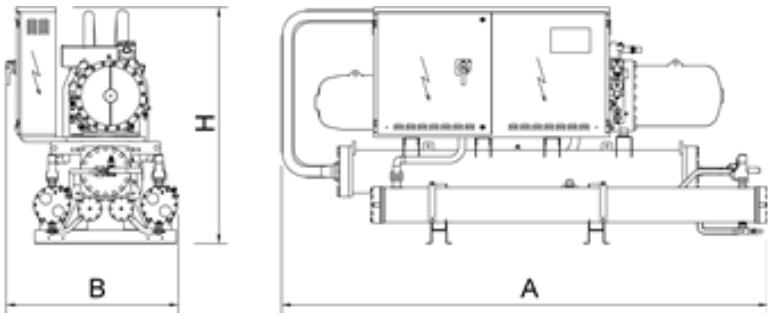
Dimensional drawing



CHILLERS

FOCS2-W-G05

High efficiency water cooled chiller

1301 - 9604 306,0-2416 kW

Unit for indoor installation for chilled water production. Semihermetic screw compressors optimized to operate with low compression ratio and R513A; shell and tubes condenser and direct expansion evaporator; electronic expansion valve. Frame in polyester-painted galvanized steel. High efficiency unit: the innovative optimized compressors and the high performing heat exchangers enhance EER values up to 5,1 (CA version) and even up to 5,6 (CA-E version) at Eurovent standars conditions.

Control

W3000TE

W3000TE features a large keyboard and wide LCD display for 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. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Refrigerant

R513A

Versions

CA High efficiency version

CA-E Premium efficiency version: Class A enhanced

Configurations

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

Features

HIGH EFFICIENCY

The version ´CA-E´ is characterized by efficiency beyond the ´Class A´ for Eurovent. The technological choices adopted assure the minimization of operating costs and therefore a quick payback time.

ADAPTABILITY

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

SILENT OPERATION

Extremely silent operation thanks to the accurate unit's design. Optional integral acoustic enclosure, reduces more the sound level beyond the best on market

AHRI CERTIFICATION

Certified in accordance with the AHRI Water-Cooled Water-Chilling and Heat Pump Water-Heating Packages Certification Program, which is based on AHRI Standard 550/590 (I-P). Certified units may be found in the AHRI Directory at www.ahridirectory.org

Accessories

- Integral acoustical enclosure (type base or plus)
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus/Echelon protocol cards

FOCS2-W-G05 /CA			1301	1401	3202	3602	4202	4502	4802
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	306,0	348,3	843,9	957,3	1071	1145	1213
Total power input	(1)	kW	63,01	71,59	173,7	196,7	220,5	235,6	249,9
EER	(1)	kW/kW	4,857	4,865	4,858	4,867	4,857	4,860	4,854
ESEER	(1)	kW/kW	5,820	5,830	5,870	6,140	6,080	6,170	6,170
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	304,9	347,0	841,1	954,1	1069	1142	1210
EER	(1)(2)	kW/kW	4,670	4,680	4,690	4,700	4,730	4,720	4,710
ESEER	(1)(2)	kW/kW	5,340	5,350	5,400	5,620	5,660	5,720	5,690
Cooling energy class			B	B	B	B	B	B	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	305	347	841	954	1069	1142	1210
SEER	(7)(8)		5,44	5,46	5,88	5,88	5,88	5,90	5,88
Performance ηs	(7)(9)	%	210	211	227	227	227	228	227
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	14,64	16,66	40,35	45,78	51,23	54,74	58,02
Pressure drop	(1)	kPa	41,9	45,0	45,4	46,4	30,6	34,2	38,4
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION									
Water flow	(1)	l/s	17,57	20,00	48,46	54,95	61,51	65,73	69,67
Pressure drop	(1)	kPa	36,4	35,4	35,3	35,2	34,8	35,8	36,5
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	2	2	2	2	2
No. Circuits		N°	1	1	2	2	2	2	2
Refrigerant charge		kg	45,0	46,0	133	137	137	132	147
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	79	79	80	80	80	80	80
Sound power level in cooling	(4)(5)	dB(A)	97	97	99	99	99	99	99
SIZE AND WEIGHT									
A	(6)	mm	3830	3830	4750	4750	4750	4750	4750
B	(6)	mm	900	900	1150	1150	1150	1150	1150
H	(6)	mm	1700	1700	2050	2050	2200	2200	2200
Operating weight	(6)	kg	2050	2110	5110	5400	6070	6120	6180

Notes

1 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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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]
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9 Seasonal space cooling energy efficiency

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FOCS2-W-G05

High efficiency water cooled chiller

1301 - 9604 306,0-2416 kW

FOCS2-W-G05 /CA			5402	6002	8103	9003	9004	9604
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	1348	1490	2024	2236	2278	2416
Total power input	(1)	kW	278,1	307,4	417,3	460,6	469,7	498,3
EER	(1)	kW/kW	4,847	4,847	4,850	4,855	4,850	4,848
ESEER	(1)	kW/kW	6,010	6,090	5,970	6,010	6,110	6,050
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	1344	1485	2018	2228	2273	2410
EER	(1)(2)	kW/kW	4,690	4,680	4,710	4,700	4,730	4,720
ESEER	(1)(2)	kW/kW	5,540	5,560	5,500	5,500	5,680	5,600
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	1344	1485	-	-	-	-
SEER	(7)(8)		5,88	5,88	-	-	-	-
Performance ηs	(7)(9)	%	227	227	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	64,47	71,27	96,81	106,9	108,9	115,5
Pressure drop	(1)	kPa	47,4	54,6	43,7	53,3	32,3	36,3
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION								
Water flow	(1)	l/s	77,44	85,60	116,3	128,4	130,8	138,8
Pressure drop	(1)	kPa	35,0	37,0	35,0	36,3	35,5	37,4
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	2	3	3	4	4
No. Circuits		N°	2	2	3	3	4	4
Refrigerant charge		kg	173	189	283	275	281	273
NOISE LEVEL								
Sound Pressure	(3)	dB(A)	82	82	82	82	82	82
Sound power level in cooling	(4)(5)	dB(A)	101	101	102	102	102	102
SIZE AND WEIGHT								
A	(6)	mm	4850	4850	4950	4950	4650	4650
B	(6)	mm	1150	1150	1700	1700	2250	2250
H	(6)	mm	2200	2200	2150	2150	2230	2230
Operating weight	(6)	kg	6950	7090	10170	10350	14330	14390

Notes

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FOCS2-W-G05 /CA-E			1301	1401	1601	1801	2101	2401	2802	3202	3602
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	320,7	364,7	441,9	506,3	573,7	649,4	729,4	884,2	1012
Total power input	(1)	kW	59,70	67,84	82,38	94,07	106,9	121,0	135,8	164,8	187,9
EER	(1)	kW/kW	5,372	5,379	5,363	5,380	5,367	5,367	5,371	5,365	5,386
ESEER	(1)	kW/kW	6,370	6,370	6,300	6,390	6,380	6,400	6,520	6,440	6,600
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	319,5	363,3	440,0	504,2	571,4	646,5	726,6	880,5	1009
EER	(1)(2)	kW/kW	5,110	5,120	5,090	5,110	5,100	5,090	5,130	5,110	5,170
ESEER	(1)(2)	kW/kW	5,710	5,720	5,630	5,720	5,710	5,700	5,850	5,720	5,940
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(7)	kW	320	363	440	504	571	646	727	880	1009
SEER	(7)(8)		5,75	5,78	5,88	5,88	5,88	5,88	6,04	5,96	6,17
Performance ηs	(7)(9)	%	222	223	227	227	227	227	233	230	239
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	15,33	17,44	21,13	24,21	27,44	31,06	34,88	42,28	48,41
Pressure drop	(1)	kPa	45,7	47,7	53,5	53,4	52,8	60,2	51,9	58,6	41,3
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION											
Water flow	(1)	l/s	18,13	20,62	24,99	28,62	32,44	36,72	41,24	49,99	57,20
Pressure drop	(1)	kPa	49,0	47,2	52,2	53,3	55,0	57,0	47,2	52,1	53,4
REFRIGERANT CIRCUIT											
Compressors nr.		N°	1	1	1	1	1	1	2	2	2
No. Circuits		N°	1	1	1	1	1	1	2	2	2
Refrigerant charge		kg	53,0	63,0	79,0	76,0	84,0	105	131	147	168
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	79	78	78	78	78	78	80	80	80
Sound power level in cooling	(4)(5)	dB(A)	97	97	97	97	97	97	99	99	99
SIZE AND WEIGHT											
A	(6)	mm	4250	4250	4150	4150	4130	4350	4550	4950	5170
B	(6)	mm	900	900	900	900	900	900	1150	1150	1150
H	(6)	mm	1815	1910	1990	1990	1990	2090	2050	2200	2200
Operating weight	(6)	kg	2470	2770	3570	3750	3790	4230	5390	6460	6920

Notes

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FOCS2-W-G05

High efficiency water cooled chiller

1301 - 9604 306,0-2416 kW

FOCS2-W-G05 /CA-E			4202	4802	2701	3001	5402	7204	7804	8404
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	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	1147	1299	706,7	781,3	1411	2025	2157	2294
Total power input	(1)	kW	213,8	242,0	133,2	146,9	266,3	375,9	401,7	427,5
EER	(1)	kW/kW	5,365	5,368	5,306	5,319	5,299	5,387	5,370	5,366
ESEER	(1)	kW/kW	6,520	6,530	6,380	6,400	6,540	6,620	6,510	6,520
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	1143	1293	704,0	778,6	1407	2019	2149	2286
EER	(1)(2)	kW/kW	5,120	5,110	5,060	5,090	5,090	5,190	5,140	5,140
ESEER	(1)(2)	kW/kW	5,800	5,750	5,750	5,810	5,890	6,020	5,830	5,860
Cooling energy class			A	A	A	A	A	A	A	A
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Ambient refrigeration										
Prated,c	(7)	kW	1143	1293	704	779	1407	-	-	-
SEER	(7)(8)		6,04	6,03	5,88	5,88	6,09	-	-	-
Performance ηs	(7)(9)	%	234	233	227	227	236	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	54,85	62,10	33,80	37,36	67,48	96,82	103,2	109,7
Pressure drop	(1)	kPa	55,0	65,0	51,5	47,2	46,0	41,3	59,3	54,6
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION										
Water flow	(1)	l/s	64,85	73,42	40,02	44,23	79,94	114,4	121,9	129,7
Pressure drop	(1)	kPa	55,0	57,3	52,3	49,9	52,2	52,6	54,0	54,5
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	1	1	2	4	4	4
No. Circuits		N°	2	2	1	1	2	4	4	4
Refrigerant charge		kg	183	221	121	111	231	336	366	366
NOISE LEVEL										
Sound Pressure	(3)	dB(A)	79	79	80	80	81	82	82	82
Sound power level in cooling	(4)(5)	dB(A)	99	99	99	99	101	102	102	102
SIZE AND WEIGHT										
A	(6)	mm	4920	4920	4350	4350	5200	5220	4900	4900
B	(6)	mm	1150	1285	900	900	1285	2250	2250	2250
H	(6)	mm	2350	2430	2180	2180	2440	2305	2455	2455
Operating weight	(6)	kg	7900	8560	4760	4870	8850	13720	15850	16100

Notes

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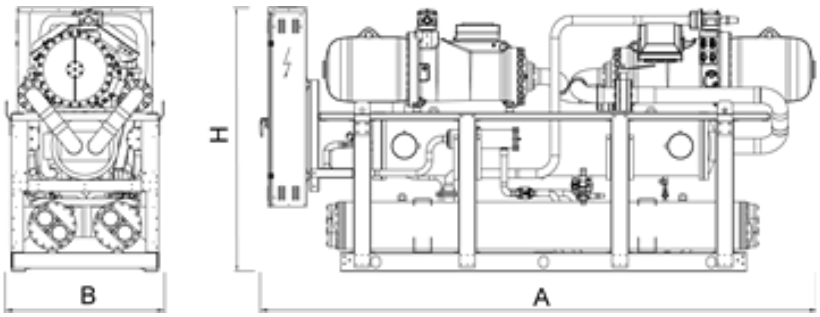
Certified data in EUROVENT

Dimensional drawing



CHILLERS

FOCS3-W-G05

Water cooled chiller

0551 - 4752 188,2-1693 kW

Indoor unit for the production of chilled water featuring semihermetic screw compressors optimized to operate with low compression ratio and R513A, electronic expansion valve, shell and tube condenser and shell and tube flooded evaporator.
The unit results extremely compact, thanks to the peculiar construction layout, without base , frame and panels. At the same time high efficiency is guaranteed by the innovative optimized compressors and high performing heat exchangers, enhancing the EER values up to 5,8 at Eurovent standard conditions.

Control

W3000TE
W3000TE features a large keyboard and wide LCD display for 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. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Refrigerant

R513A

Versions

CA High energy efficiency units

Features

HIGH EFFICIENCY
Very high efficiency at full and partial load, at the highest market levels, thanks to the adopted technological solutions. These units ensure low operating costs and therefore a quick payback time.

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

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.

AHRI CERTIFICATION
Certified in accordance with the AHRI Water-Cooled Water-Chilling and Heat Pump Water-Heating Packages Certification Program, which is based on AHRI Standard 550/590 (I-P). Certified units may be found in the AHRI Directory at www.ahridirectory.org

Accessories

- Touch Screen visual display
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Several devices for condensation´s control

FOCS3-W-G05			0551	0701	0851	0951	1101	1301	1401
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	188,2	250,0	306,0	337,6	383,5	459,9	524,0
Total power input	(1)	kW	36,40	47,78	58,45	63,77	72,73	85,99	96,90
EER	(1)	kW/kW	5,170	5,230	5,231	5,292	5,275	5,348	5,408
ESEER	(1)	kW/kW	6,910	7,150	6,560	6,830	6,800	6,730	7,250
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	187,4	248,9	304,7	336,1	381,9	458,2	522,3
EER	(1)(2)	kW/kW	4,890	4,950	4,960	5,010	5,000	5,090	5,190
ESEER	(1)(2)	kW/kW	6,180	6,370	5,950	6,150	6,140	6,140	6,670
Cooling energy class			B	B	B	B	B	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	187	249	305	336	382	458	522
SEER	(7)(8)		5,81	6,04	5,62	5,78	5,79	5,94	6,50
Performance ηs	(7)(9)	%	224	234	217	223	223	230	252
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	9,001	11,95	14,63	16,15	18,34	21,99	25,06
Pressure drop	(1)	kPa	42,0	48,7	49,1	52,4	52,8	47,5	39,9
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION									
Water flow	(1)	l/s	10,70	14,19	17,36	19,13	21,74	26,02	29,60
Pressure drop	(1)	kPa	57,4	57,9	56,7	59,3	58,1	55,2	44,8
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	83,0	95,0	105	104	95,0	110	121
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	77	77	80	80	80	80	80
Sound power level in cooling	(4)(5)	dB(A)	95	95	98	98	98	98	98
SIZE AND WEIGHT									
A	(6)	mm	2920	2920	2920	2920	2920	2900	2900
B	(6)	mm	1180	1180	1180	1180	1180	1180	1180
H	(6)	mm	1870	1870	1870	1870	1870	1960	1970
Operating weight	(6)	kg	1740	1790	2170	2200	2260	2940	3020

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 [GWP_{100} 631] fluorinated greenhouse gases.
Certified data in EUROVENT

FOCS3-W-G05

Water cooled chiller

0551 - 4752 188,2-1693 kW

FOCS3-W-G05			1651	1901	2101	2501	2602	3002	3152
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	591,8	681,6	741,3	837,0	915,9	1062	1140
Total power input	(1)	kW	108,2	127,0	138,7	155,6	171,0	194,8	204,3
EER	(1)	kW/kW	5,470	5,367	5,345	5,379	5,356	5,452	5,580
ESEER	(1)	kW/kW	6,960	7,020	6,920	6,800	7,060	7,330	7,530
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	589,5	679,4	738,9	834,3	913,2	1058	1137
EER	(1)(2)	kW/kW	5,200	5,120	5,130	5,160	5,160	5,210	5,400
ESEER	(1)(2)	kW/kW	6,310	6,390	6,400	6,280	6,400	6,480	6,870
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	590	679	739	834	913	1058	1137
SEER	(7)(8)		6,12	6,19	6,27	6,19	6,28	6,37	6,89
Performance ηs	(7)(9)	%	237	240	243	240	243	247	267
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	28,30	32,59	35,45	40,03	43,80	50,79	54,53
Pressure drop	(1)	kPa	50,9	42,0	42,7	42,8	40,0	51,5	37,4
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION									
Water flow	(1)	l/s	33,37	38,54	41,94	47,31	51,80	59,91	64,10
Pressure drop	(1)	kPa	55,8	60,4	45,8	48,1	44,5	54,4	32,0
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	1	1	2	2	2
No. Circuits		N°	1	1	1	1	2	2	2
Refrigerant charge		kg	124	134	162	201	231	274	297
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	80	80	82	82	81	81	81
Sound power level in cooling	(4)(5)	dB(A)	98	98	100	100	100	100	100
SIZE AND WEIGHT									
A	(6)	mm	2900	2930	2980	2990	4430	4430	4440
B	(6)	mm	1180	1180	1190	1280	1270	1270	1270
H	(6)	mm	1960	2050	2100	2200	2210	2210	2280
Operating weight	(6)	kg	3150	3270	3570	3960	6200	6430	7080

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 [GWP_{100} 631] fluorinated greenhouse gases.

Certified data in EUROVENT

FOCS3-W-G05			3502	3652	4002	4102	4502	4602	4752
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	1218	1303	1382	1450	1522	1614	1693
Total power input	(1)	kW	222,9	234,1	251,9	263,1	279,3	295,9	304,3
EER	(1)	kW/kW	5,464	5,566	5,486	5,511	5,449	5,455	5,564
ESEER	(1)	kW/kW	7,150	7,400	7,130	7,200	7,190	7,230	7,500
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	1214	1299	1377	1445	1517	1609	1688
EER	(1)(2)	kW/kW	5,220	5,380	5,250	5,290	5,210	5,240	5,320
ESEER	(1)(2)	kW/kW	6,330	6,740	6,350	6,450	6,410	6,500	6,660
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	1214	1299	1377	1445	1517	1609	1688
SEER	(7)(8)		6,24	6,76	6,30	6,50	6,34	6,41	6,62
Performance ηs	(7)(9)	%	242	262	244	252	246	248	257
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	58,23	62,33	66,11	69,33	72,76	77,20	80,94
Pressure drop	(1)	kPa	51,4	39,8	50,4	46,7	51,5	42,5	46,7
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION									
Water flow	(1)	l/s	68,67	73,30	77,91	81,66	85,84	91,05	95,19
Pressure drop	(1)	kPa	56,8	34,1	53,5	50,1	55,4	53,7	58,7
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	297	308	308	317	327	376	376
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	81	81	81	82	82	82	82
Sound power level in cooling	(4)(5)	dB(A)	100	100	100	101	102	102	102
SIZE AND WEIGHT									
A	(6)	mm	4470	4470	4470	4565	4650	5270	5270
B	(6)	mm	1270	1320	1270	1320	1320	1320	1320
H	(6)	mm	2250	2330	2280	2380	2380	2380	2380
Operating weight	(6)	kg	7160	7560	7280	7850	7940	8420	8950

Notes

1 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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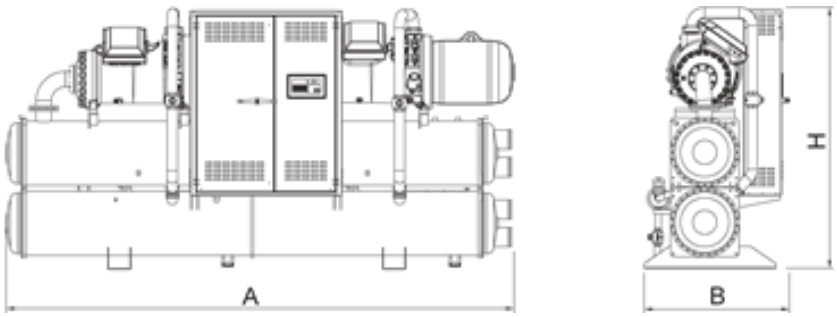
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, indoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
8 Seasonal energy efficiency ratio
9 Seasonal space cooling energy efficiency

The units highlighted in this publication contain R513A [GWP_{100} 631] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



CHILLERS

i-FX-W (1+i)

High efficiency water cooled chiller

1402 - 4652 532,3-1784 kW

Single circuit indoor unit for the production of chilled water, with fixed speed and variable speed (Inverter Driven) screw compressors optimized for R134a, electronic expansion valve, high performing shell and tube condenser and shell and tube flooded evaporator, both designed and produced by Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. These technological solutions enhance the EER values over 5,7 at Eurovent standard conditions.
The resulting unit is extremely compact, thanks to the strategic layout, designed without base, frame and panels.

Control

W3000TE
W3000TE features a large keyboard and wide LCD display for 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. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Refrigerant

R134a

Versions

CA High energy efficiency units

Features

HIGH EFFICIENCY
Unit with high efficiency and reduced energy consumption, thanks to the inverter technology, contributing to lower operating costs and therefore achieving a quick return on investment.

FLEXIBILITY
Unit featured by remarkable application flexibility thanks to the inverter tecnology which allows to obtain, taking in consideration the cooling capacity needed, the best result about costs/performances and maximum efficiency.

TOTAL VERSATILITY
Unit designed gathering in a single circuit a compressor with step regulation and one working with inverter, in order to guarantee the best answer to plant necessities both at full and at part loads.

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.

AHRI CERTIFICATION
Certified in accordance with the AHRI Water-Cooled Water-Chilling and Heat Pump Water-Heating Packages Certification Program, which is based on AHRI Standard 550/590 (I-P). Certified units may be found in the AHRI Directory at www.ahridirectory.org

Accessories

- Touch Screen visual display
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Several devices for condensation´s control

i-FX-W (1+i)			1402	1752	1902	2152	2602
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	532,3	665,0	721,0	819,3	998,7
Total power input	(1)	kW	97,87	119,5	129,9	148,3	181,7
EER	(1)	kW/kW	5,437	5,565	5,550	5,525	5,496
ESEER	(1)	kW/kW	8,520	8,570	8,470	8,620	8,630
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	486,7	608,1	659,4	750,0	914,3
EER	(1)(2)	kW/kW	5,370	5,490	5,480	5,470	5,470
ESEER	(1)(2)	kW/kW	7,460	7,510	7,400	7,530	7,530
Cooling energy class			A	A	A	A	A
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Ambient refrigeration							
Prated,c	(7)	kW	487	608	659	750	914
SEER	(7)(8)		7,30	7,25	7,17	7,31	7,44
Performance ηs	(7)(9)	%	284	282	279	284	289
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	23,34	29,16	31,62	35,96	43,84
Pressure drop	(1)	kPa	30,5	34,7	33,8	33,2	37,1
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION							
Water flow	(1)	l/s	27,44	34,18	37,07	42,16	51,41
Pressure drop	(1)	kPa	37,4	35,4	41,7	41,5	38,7
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	118	160	164	177	258
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	82	82	81	83	83
Sound power level in cooling	(4)(5)	dB(A)	100	100	100	102	102
SIZE AND WEIGHT							
A	(6)	mm	2950	3310	3310	3310	4475
B	(6)	mm	1320	1425	1445	1480	1410
H	(6)	mm	1805	1935	2000	2150	2250
Operating weight	(6)	kg	3350	4280	4410	4830	6630

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 R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

i-FX-W (1+i)

High efficiency water cooled chiller

1402 - 4652 532,3-1784 kW

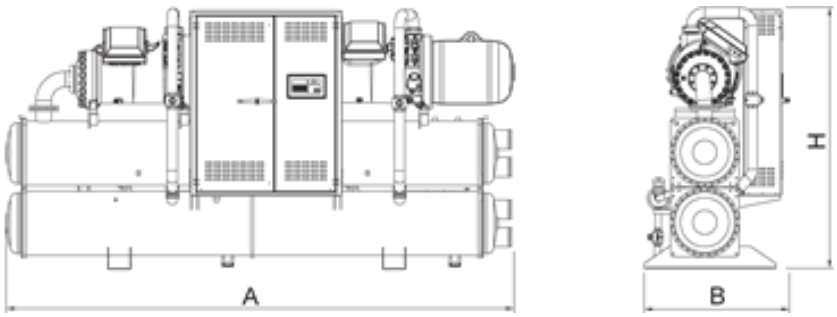
i-FX-W (1+i)			3002	3402	3852	4252	4652
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	1143	1296	1472	1607	1784
Total power input	(1)	kW	207,3	233,3	264,5	291,6	329,6
EER	(1)	kW/kW	5,514	5,555	5,565	5,511	5,413
ESEER	(1)	kW/kW	8,550	8,560	8,600	8,440	8,390
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	1046	1186	1348	1482	1632
EER	(1)(2)	kW/kW	5,520	5,580	5,620	5,520	5,470
ESEER	(1)(2)	kW/kW	7,590	7,650	7,740	7,490	7,440
Cooling energy class			A	A	A	A	A
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Ambient refrigeration							
Prated,c	(7)	kW	1046	1186	1348	1482	1632
SEER	(7)(8)		7,58	7,55	7,67	7,36	7,43
Performance ηs	(7)(9)	%	295	294	299	287	289
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	50,15	56,88	64,63	71,06	78,30
Pressure drop	(1)	kPa	37,5	31,9	30,9	37,3	45,3
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION							
Water flow	(1)	l/s	58,76	66,56	75,57	83,27	91,86
Pressure drop	(1)	kPa	30,0	33,3	29,6	35,9	29,5
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	295	315	323	338	338
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	83	82	82	84	84
Sound power level in cooling	(4)(5)	dB(A)	102	102	102	104	104
SIZE AND WEIGHT							
A	(6)	mm	4475	4570	4650	4650	4850
B	(6)	mm	1405	1435	1495	1495	1495
H	(6)	mm	2250	2380	2500	2500	2500
Operating weight	(6)	kg	7470	8220	8800	8930	9340

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 R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



CHILLERS

i-FX-W (1+i)-G05

High efficiency water cooled chiller

1402 - 4652 532,3-1784 kW

Single circuit indoor unit for the production of chilled water, with fixed speed and variable speed (Inverter Driven) screw compressors optimized for R513A, electronic expansion valve, high performing shell and tube condenser and shell and tube flooded evaporator, both designed and produced by Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. These technological solutions enhance the EER values over 5,7 at Eurovent standard conditions.
The resulting unit is extremely compact, thanks to the strategic layout, designed without base, frame and panels.

Refrigerant

R513A

Versions

CA High energy efficiency units

Features

HIGH EFFICIENCY
Unit with high efficiency and reduced energy consumption, thanks to the inverter technology, contributing to lower operating costs and therefore achieving a quick return on investment.

FLEXIBILITY
Unit featured by remarkable application flexibility thanks to the inverter tecnology which allows to obtain, taking in consideration the cooling capacity needed, the best result about costs/performances and maximum efficiency.

TOTAL VERSATILITY
Unit designed gathering in a single circuit a compressor with step regulation and one working with inverter, in order to guarantee the best answer to plant necessities both at full and at part loads.

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.

AHRI CERTIFICATION
Certified in accordance with the AHRI Water-Cooled Water-Chilling and Heat Pump Water-Heating Packages Certification Program, which is based on AHRI Standard 550/590 (I-P). Certified units may be found in the AHRI Directory at www.ahridirectory.org

Control

W3000TE
W3000TE features a large keyboard and wide LCD display for 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. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Accessories

- Touch Screen visual display
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Several devices for condensation´s control

i-FX-W (1+i)-G05			1402	1752	1902	2152	2602
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	532,3	665,0	721,0	819,3	998,7
Total power input	(1)	kW	102,0	124,6	135,4	154,6	189,4
EER	(1)	kW/kW	5,219	5,337	5,325	5,299	5,273
ESEER	(1)	kW/kW	8,360	8,410	8,310	8,450	8,440
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	486,7	608,1	659,4	750,0	914,3
EER	(1)(2)	kW/kW	5,160	5,270	5,260	5,260	5,260
ESEER	(1)(2)	kW/kW	7,340	7,380	7,270	7,390	7,400
Cooling energy class			A	A	A	A	A
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Ambient refrigeration							
Prated,c	(7)	kW	487	608	659	750	914
SEER	(7)(8)		7,18	7,11	7,03	7,18	7,31
Performance ηs	(7)(9)	%	279	277	273	279	284
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	23,34	29,16	31,62	35,96	43,84
Pressure drop	(1)	kPa	30,5	34,7	33,8	33,2	37,1
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION							
Water flow	(1)	l/s	27,61	34,39	37,29	42,42	51,72
Pressure drop	(1)	kPa	37,8	35,9	42,2	42,0	39,2
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	130	176	181	195	284
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	82	82	81	83	83
Sound power level in cooling	(4)(5)	dB(A)	100	100	100	102	102
SIZE AND WEIGHT							
A	(6)	mm	2950	3310	3310	3310	4475
B	(6)	mm	1320	1425	1445	1480	1410
H	(6)	mm	1805	1935	2000	2150	2250
Operating weight	(6)	kg	3350	4280	4410	4830	6630

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 [GWP_{100} 631] fluorinated greenhouse gases.
Certified data in EUROVENT

i-FX-W (1+i)-G05

High efficiency water cooled chiller

1402 - 4652 532,3-1784 kW

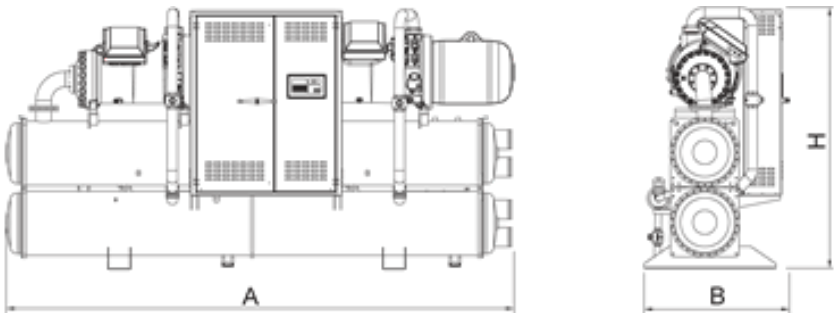
i-FX-W (1+i)-G05			3002	3402	3852	4252	4652
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	1143	1296	1472	1607	1784
Total power input	(1)	kW	216,0	243,1	275,6	303,9	343,4
EER	(1)	kW/kW	5,292	5,331	5,341	5,288	5,195
ESEER	(1)	kW/kW	8,380	8,400	8,430	8,280	8,230
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	1046	1186	1348	1482	1632
EER	(1)(2)	kW/kW	5,310	5,360	5,400	5,300	5,260
ESEER	(1)(2)	kW/kW	7,460	7,500	7,600	7,360	7,300
Cooling energy class			A	A	A	A	A
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Ambient refrigeration							
Prated,c	(7)	kW	1046	1186	1348	1482	1632
SEER	(7)(8)		7,44	7,40	7,53	7,23	7,29
Performance ηs	(7)(9)	%	290	288	293	281	284
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	50,15	56,88	64,63	71,06	78,30
Pressure drop	(1)	kPa	37,5	31,9	30,9	37,3	45,3
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION							
Water flow	(1)	l/s	59,11	66,96	76,02	83,76	92,41
Pressure drop	(1)	kPa	30,3	33,7	30,0	36,4	29,9
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	325	347	356	372	372
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	83	82	82	84	84
Sound power level in cooling	(4)(5)	dB(A)	102	102	102	104	104
SIZE AND WEIGHT							
A	(6)	mm	4475	4570	4650	4650	4850
B	(6)	mm	1405	1435	1495	1495	1495
H	(6)	mm	2250	2380	2500	2500	2500
Operating weight	(6)	kg	7470	8220	8800	8930	9340

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 [GWP_{100} 631] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



CHILLERS

TECS2-W HFO

High efficiency water cooled chiller

0351 - 1414 339,6-1364 kW

Indoor unit for the production of chilled water featuring centrifugal compressors oil-free, with refrigerant HFO (1234-ze), electronic regulation valve, shell and tube condenser and shell and tube flooded evaporator. Base and supporting structure and panels are of galvanized epoxy powder coated steel with increased thickness.
Flexible and reliable unit; it easily adapts itself to different thermal load conditions thanks to the precise thermoregulation together with the use of inverter technology. The compressor is radically innovative: magnetic bearings and digital rotor speed control allow partial load efficiency levels to be reached that were hither to impossible.

Control

W3000TE
W3000TE features a large keyboard and wide LCD display for 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. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Refrigerant

r1234ze

Versions

HC High Condensing

Configurations

- Basic function

H Function with heat pump, reversible on hydraulic side

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.

VERY HIGH EFFICIENCY
Very high efficiency at full and partial load, to top market levels, thanks to adopted technological solutions: large capacity modulation and expanded exchanger, offering minimum running costs of the unit in real working conditions.

EXTREMELY SILENT OPERATION
Extremely silent operation in line with the best on the market, and highly reduced vibrations

LOW INRUSH CURRENTS
Reduced breakaway starting currents thanks to the revolutionary centrifugal compressor.

AHRI CERTIFICATION
Certified in accordance with the AHRI Water-Cooled Water-Chilling and Heat Pump Water-Heating Packages Certification Program, which is based on AHRI Standard 550/590 (I-P). Certified units may be found in the AHRI Directory at www.ahridirectory.org

Accessories

- Integral acoustical enclosure (type base or plus)
- VPF (Variable Primary Flow) system
- Several devices for condensation´s control
- Leak detector
- Set-up for remote connectivity with ModBus/Echelon protocol cards

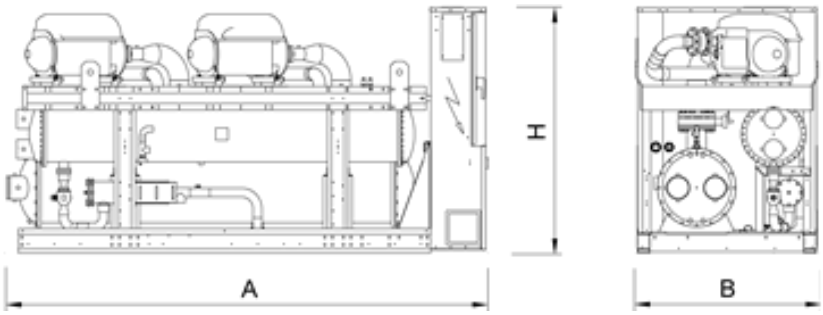
TECS2-W HFO / HC			0351	0712	1053	1414
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE						
COOLING ONLY (GROSS VALUE)						
Cooling capacity	(1)	kW	339,6	676,1	1015	1364
Total power input	(1)	kW	62,97	126,6	189,8	251,1
EER	(1)	kW/kW	5,390	5,340	5,348	5,432
ESEER	(1)	kW/kW	9,010	9,400	9,320	9,510
COOLING ONLY (EN14511 VALUE)						
Cooling capacity	(1)(2)	kW	338,6	674,5	1013	1361
EER	(1)(2)	kW/kW	5,180	5,170	5,190	5,290
ESEER	(1)(2)	kW/kW	7,830	8,120	8,220	8,500
Cooling energy class			A	A	A	A
ENERGY EFFICIENCY						
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)						
Ambient refrigeration						
Prated,c	(7)	kW	339	674	1013	1361
SEER	(7)(8)		8,20	8,22	8,36	8,76
Performance ηs	(7)(9)	%	320	321	326	342
EXCHANGERS						
HEAT EXCHANGER USER SIDE IN REFRIGERATION						
Water flow	(1)	l/s	16,24	32,33	48,54	65,22
Pressure drop	(1)	kPa	32,9	29,0	31,1	33,1
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION						
Water flow	(1)	l/s	19,19	38,25	57,42	76,97
Pressure drop	(1)	kPa	40,8	39,6	32,0	23,0
REFRIGERANT CIRCUIT						
Compressors nr.		N°	1	2	3	4
No. Circuits		N°	1	1	1	1
Refrigerant charge		kg	100	200	420	410
NOISE LEVEL						
Sound Pressure	(3)	dB(A)	74	76	77	78
Sound power level in cooling	(4)(5)	dB(A)	92	94	96	97
SIZE AND WEIGHT						
A	(6)	mm	2990	3490	4990	5450
B	(6)	mm	950	1300	1300	1300
H	(6)	mm	1900	1800	1800	1990
Operating weight	(6)	kg	1570	3010	4380	5240

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

Dimensional drawing



CHILLERS

TX-W

High efficiency water cooled chiller

1A00 - 6D00 246-4549 kW

Indoor unit for the production of chilled water featuring centrifugal compressors oil-free, with R134a, electronic regulation valve, shell and tube condenser and shell and tube flooded evaporator.
Base and supporting structure and panels are of galvanized epoxy powder coated steel with increased thickness.
Flexible and reliable unit; it easily adapts itself to different thermal load conditions thanks to the precise thermoregulation together with the use of inverter technology. The compressor is radically innovative: magnetic bearings and digital rotor speed control allow partial load efficiency levels to be reached that were hither to impossible.

Control

W3000TE
For the TX-W family, dedicated control logics, named CX4, have been implemented to take full advantage from the variable speed centrifugal compressor, thus maximizing the unit performance in all working conditions.
The control is available through the innovative user interface KIPlink, which allows one to operate on the unit directly from the smartphone or tablet. Using KIPlink, it is possible to turn the unit on and off, adjust the set-point, plot the main operating variables, monitor in detail the status of the components and reset the alarms. Secure access to data is guaranteed by three password levels (user, service, manufacturer).
The continuous capacity modulation is based on the PID algorithms and related to the leaving water temperature, with adjustment on the neutral areas. Complete alarm management system is available, with the “black-box” and the alarm history display functions. Supervision is achievable through various options, with proprietary devices or with the integration in third party systems by means of the most common communication protocols (ModBus, BACnet-over-IP, Echelon LonWorks, BACnet MS / TP). Connection with remote touchscreen is available.
A programmable timer allows the creation of an operating profile up to 4 days and 10 type bands, with automatic transmission from summer time to winter time.
For systems consisting of multiple units, the management of the resources is possible via optional proprietary devices. 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

R134a

Configurations

- Basic function

Features

NO COMPROMISE
Large availability in the combinations of the compressors (up to 6 compressors on the same unit), plus the flexibility in the choice of the heat exchangers can satisfy each specific installation and design requirements: the highest full load efficiency, the best initial investment, an unrivaled seasonal efficiency, an operating range suitable for applications in systems operating at high or low condensation (dry coolers or cooling towers)

VERY HIGH EFFICIENCY
Very high efficiency at full and partial load, to top market levels, thanks to adopted technological solutions: large capacity modulation and expanded exchanger, offering minimum running costs of the unit in real working conditions.

FLEXIBLE COMPOSITION
Choice between horizontal or diagonal arrangement of the heat exchangers, with dimensions that favor the compact overall dimensions in height or plant, water connections to the evaporator and condenser that can be deployed on the right or left, to fit for all applications

ADAPTABILITY
Adaptability at the building’s heating request thanks to the continuous capacity regulation, assured by sophisticated control’s logic.

LOW INRUSH CURRENTS
Reduced breakaway starting currents thanks to the revolutionary centrifugal compressor.

EXTREMELY SILENT OPERATION
Extremely silent operation in line with the best on the market, and highly reduced vibrations

AHRI CERTIFICATION
Certified in accordance with the AHRI Water-Cooled Water-Chilling and Heat Pump Water-Heating Packages Certification Program, which is based on AHRI Standard 550/590 (I-P). Certified units may be found in the AHRI Directory at www.ahridirectory.org

Accessories

- Integral acoustical enclosure (type base or plus)
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Several devices for condensation´s control
- filters kit for conformity to EN 61000-6-3 (residential ambients)

TX-W			1A00	1B00	1B1A	1B2A	1B3A	1C00	1C1A	1C1B	1C3B
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	246,1-356,6	346,0-494,3	586,6-850,1	828,9-1201	1096-1566	400,6-572,2	648,9-927,0	744,4-1063	1438-2054
EER	(1)	kW/kW	6,250	6,310	6,250	6,080	6,260	6,460	6,340	6,360	6,380
ESEER (up to)	(1)	kW/kW									
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	246,1	366,9	586,0	827,1	1157	464,0	649,0	746,0	1723
EER	(1)(2)	kW/kW	6,060	6,060	6,070	5,940	6,020	6,140	6,160	6,180	5,970
ESEER	(1)(2)	kW/kW	8,850	8,460	8,880	8,680	8,670	8,840	8,860	8,840	8,430
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(8)	kW	246	367	586	827	1157	464	649	746	1723
SEER	(8)(9)		8,99	8,70	8,91	8,89	8,79	9,07	8,99	8,92	8,42
Performance ηs	(8)(10)	%	352	340	348	348	343	355	352	349	329
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	11,80	17,59	28,09	39,62	55,47	22,24	31,10	35,75	82,69
Pressure drop	(1)	kPa	19,2	22,1	26,1	21,6	35,1	24,6	26,2	26,3	53,2
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION											
Water flow	(1)	l/s	13,66	20,35	32,51	46,03	64,24	25,69	35,93	41,29	95,77
Pressure drop	(1)	kPa	17,7	20,8	21,0	19,8	26,7	24,0	20,8	20,5	34,5
REFRIGERANT CIRCUIT											
Compressors nr.		N°	1	1	2	3	4	1	2	2	4
No. Circuits		N°	1	1	1	1	1	1	1	1	1
Refrigerant charge		kg	215	220	390	495	747	262	436	416	1078
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	75	76	76	78	78	77	77	77	79
Sound power level in cooling	(4)(5)	dB(A)	93	94	95	97	98	95	96	96	99
SIZE AND WEIGHT											
A	(6)(7)	mm	2910	2910	3050	3710	4690	2910	3050	3050	4720
B	(6)(7)	mm	1000	1000	1620	1710	1890	1000	1620	1620	1890
H	(6)(7)	mm	1950	1950	2190	2260	2400	1950	2190	2190	2400
Operating weight	(6)(7)	kg	2690	2800	5200	7590	9320	2880	5280	5410	11010

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 Lay-out with diagonal exchangers in units with 1, 2, 3 and 4 compressors; lay-out with horizontal exchangers in units with 5 and 6 compressors.
8 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
9 Seasonal energy efficiency ratio
10 Seasonal space cooling energy efficiency

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

TX-W			1D00	1D1A	1D1B	1D1C	1D2C	1D3C	1D4C	1D5C	2A00
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	595,5-744,4	757,5-1098	852,5-1235	1052-1315	1274-1901	1980-2475	2461-3076	2942-3677	499,4-713,5
EER	(1)	kW/kW	6,220	6,160	6,240	6,300	6,390	6,370	6,480	6,560	6,160
ESEER (up to)	(1)	kW/kW									
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	667,1	758,0	864,0	1077	1285	2160	2659	3153	526,0
EER	(1)(2)	kW/kW	5,970	5,970	6,040	6,040	6,200	6,010	6,090	6,190	5,940
ESEER	(1)(2)	kW/kW	8,120	8,570	8,710	8,700	8,940	8,470	8,470	8,580	8,870
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(8)	kW	667	758	864	1077	1285	-	-	-	526
SEER	(8)(9)		8,31	8,76	8,73	8,65	9,10	-	-	-	8,90
Performance ηs	(8)(10)	%	324	343	341	338	356	-	-	-	348
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	32,00	36,34	41,42	51,66	61,59	103,7	127,7	151,4	25,21
Pressure drop	(1)	kPa	39,8	29,6	31,1	41,5	31,0	61,3	69,7	62,3	24,3
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION											
Water flow	(1)	l/s	37,05	42,14	47,96	59,75	71,08	119,9	147,3	174,3	29,25
Pressure drop	(1)	kPa	39,1	24,2	24,7	32,9	25,5	39,1	45,0	51,2	24,9
REFRIGERANT CIRCUIT											
Compressors nr.		N°	1	2	2	2	3	4	5	6	2
No. Circuits		N°	1	1	1	1	1	1	1	1	1
Refrigerant charge		kg	253	422	400	450	814	1017	1319	1696	273
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	78	78	78	78	79	79	79	80	76
Sound power level in cooling	(4)(5)	dB(A)	96	97	97	97	99	99	100	101	95
SIZE AND WEIGHT											
A	(6)(7)	mm	2910	3050	3050	3050	4690	4720	5700	6610	2910
B	(6)(7)	mm	1000	1620	1620	1620	1660	1890	2350	2400	1560
H	(6)(7)	mm	1950	2190	2190	2190	2260	2400	2400	2450	2190
Operating weight	(6)(7)	kg	2950	5350	5340	5420	8810	11410	15330	20580	4070

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 Lay-out with diagonal exchangers in units with 1, 2, 3 and 4 compressors; lay-out with horizontal exchangers in units with 5 and 6 compressors.
8 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
9 Seasonal energy efficiency ratio
10 Seasonal space cooling energy efficiency

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

TX-W			2B00	2B1A	2B2A	2B3A	2C00	2C1A	2C1B	2D00	2D1B
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	681,1-987,1	938,5-1341	1191-1702	1444-2063	798,7-1141	1054-1506	1150-1642	994,7-1485	1451-1988
EER	(1)	kW/kW	6,290	6,100	6,300	6,330	6,430	6,440	6,460	6,060	6,330
ESEER (up to)	(1)	kW/kW									
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	685,1	987,1	1257	1685	925,1	1135	1237	993,1	1464
EER	(1)(2)	kW/kW	6,100	5,900	6,030	5,900	6,090	6,180	6,200	5,890	6,090
ESEER	(1)(2)	kW/kW	8,750	8,610	8,540	8,290	8,930	8,690	8,780	8,850	8,500
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(8)	kW	685	987	1257	1685	925	1135	1237	993	1464
SEER	(8)(9)		8,86	8,80	8,63	8,24	8,92	8,83	8,86	8,92	8,59
Performance ηs	(8)(10)	%	346	344	337	321	349	345	346	349	335
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	32,83	47,29	60,29	80,94	44,35	54,42	59,31	47,60	70,22
Pressure drop	(1)	kPa	26,4	23,5	41,5	62,0	34,4	36,1	35,6	30,5	42,2
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION											
Water flow	(1)	l/s	37,98	54,97	69,78	93,81	51,28	62,81	68,41	55,31	81,14
Pressure drop	(1)	kPa	20,8	21,9	27,1	38,8	26,9	28,1	27,3	25,4	33,3
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	3	4	5	2	3	3	2	3
No. Circuits		N°	1	1	1	1	1	1	1	1	1
Refrigerant charge		kg	433	640	1015	1303	411	751	795	429	814
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	77	78	78	78	78	78	78	79	79
Sound power level in cooling	(4)(5)	dB(A)	96	97	98	99	97	98	98	98	99
SIZE AND WEIGHT											
A	(6)(7)	mm	3050	3710	4720	5700	3050	4690	4690	3050	4690
B	(6)(7)	mm	1620	1710	1890	2350	1620	1660	1660	1620	1660
H	(6)(7)	mm	2190	2260	2400	2400	2190	2260	2260	2190	2260
Operating weight	(6)(7)	kg	5340	7750	10610	13850	5330	8470	8700	5310	8810

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 Lay-out with diagonal exchangers in units with 1, 2, 3 and 4 compressors; lay-out with horizontal exchangers in units with 5 and 6 compressors.
8 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
9 Seasonal energy efficiency ratio
10 Seasonal space cooling energy efficiency

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Certified data in EUROVENT

TX-W

High efficiency water cooled chiller

1A00 - 6D00 246-4549 kW

TX-W			2D1C	2D2B	2D2C	2D3C	2D4C	3A00	3B00	3B1A	3B2A
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	1656-2070	1984-2479	2117-2646	2599-3249	3081-3852	733,1-1062	1036-1480	1288-1839	1540-2200
EER	(1)	kW/kW	6,370	6,330	6,390	6,490	6,580	6,060	6,130	6,320	6,360
ESEER (up to)	(1)	kW/kW									
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	1870	2203	2360	2856	3350	732,1	1091	1359	1812
EER	(1)(2)	kW/kW	5,990	5,950	6,000	6,080	6,190	5,910	5,920	6,060	5,930
ESEER	(1)(2)	kW/kW	8,320	8,230	8,370	8,380	8,530	8,770	8,700	8,530	8,290
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(8)	kW	1870	-	-	-	-	732	1091	1359	1812
SEER	(8)(9)		8,24	-	-	-	-	8,93	8,82	8,64	8,22
Performance ηs	(8)(10)	%	321	-	-	-	-	349	345	338	321
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	89,77	105,8	113,3	137,2	160,8	35,07	52,27	65,17	86,97
Pressure drop	(1)	kPa	62,7	66,7	66,6	75,6	67,1	21,5	23,7	40,7	61,8
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION											
Water flow	(1)	l/s	103,8	122,4	131,0	158,3	185,2	40,76	60,73	75,40	100,7
Pressure drop	(1)	kPa	48,9	44,7	42,3	48,7	53,3	19,6	22,5	26,5	39,5
REFRIGERANT CIRCUIT											
Compressors nr.		N°	3	4	4	5	6	3	3	4	5
No. Circuits		N°	1	1	1	1	1	1	1	1	1
Refrigerant charge		kg	812	1013	1094	1299	1667	501	598	985	1269
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	79	79	80	79	80	77	78	78	78
Sound power level in cooling	(4)(5)	dB(A)	99	99	100	100	101	96	97	98	99
SIZE AND WEIGHT											
A	(6)(7)	mm	4690	4720	4720	5700	6610	3710	3710	4720	5700
B	(6)(7)	mm	1660	1890	1890	2350	2400	1710	1710	1890	2350
H	(6)(7)	mm	2260	2400	2400	2400	2450	2260	2260	2400	2400
Operating weight	(6)(7)	kg	8880	11250	11450	15420	20750	7440	7370	10740	14050

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 Lay-out with diagonal exchangers in units with 1, 2, 3 and 4 compressors; lay-out with horizontal exchangers in units with 5 and 6 compressors.
8 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
9 Seasonal energy efficiency ratio
10 Seasonal space cooling energy efficiency

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Certified data in EUROVENT

TX-W			3B3A	3C00	3C1A	3C1B	3C2B	3D00	3D1A	3D1C	3D2C
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	1793-2562	1205-1721	1453-2076	1550-2214	1907-2724	1792-2240	2076-2594	2254-2817	2738-3423
EER	(1)	kW/kW	6,420	6,490	6,450	6,470	6,540	6,340	6,330	6,370	6,490
ESEER (up to)	(1)	kW/kW									
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	2095	1310	1753	1877	2292	2068	2354	2559	3057
EER	(1)(2)	kW/kW	6,010	6,230	6,010	6,040	6,080	5,960	5,930	5,980	6,060
ESEER	(1)(2)	kW/kW	8,430	8,900	8,510	8,550	8,480	8,250	8,100	8,240	8,240
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(8)	kW	-	1310	1753	1877	-	-	-	-	-
SEER	(8)(9)		-	8,98	8,55	8,56	-	-	-	-	-
Performance ηs	(8)(10)	%	-	351	334	334	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	100,5	62,81	84,10	90,04	110,1	99,34	113,1	122,9	146,9
Pressure drop	(1)	kPa	56,3	35,8	52,2	52,5	59,6	69,1	76,3	72,4	81,1
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION											
Water flow	(1)	l/s	116,2	72,40	97,31	104,1	127,1	114,9	130,9	142,1	169,4
Pressure drop	(1)	kPa	43,8	28,5	34,4	33,7	41,8	56,4	48,8	47,1	55,8
REFRIGERANT CIRCUIT											
Compressors nr.		N°	6	3	4	4	5	3	4	4	5
No. Circuits		N°	1	1	1	1	1	1	1	1	1
Refrigerant charge		kg	1677	795	1078	1013	1252	850	1059	1072	1400
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	79	78	79	79	79	79	80	80	80
Sound power level in cooling	(4)(5)	dB(A)	100	98	99	99	100	99	100	100	101
SIZE AND WEIGHT											
A	(6)(7)	mm	6610	4690	4720	4720	5700	4690	4720	4720	5700
B	(6)(7)	mm	2400	1660	1890	1890	2350	1660	1890	1890	2350
H	(6)(7)	mm	2450	2260	2400	2400	2400	2260	2400	2400	2400
Operating weight	(6)(7)	kg	18670	8700	11010	11210	14910	9010	11250	11580	15500

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 Lay-out with diagonal exchangers in units with 1, 2, 3 and 4 compressors; lay-out with horizontal exchangers in units with 5 and 6 compressors.
8 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
9 Seasonal energy efficiency ratio
10 Seasonal space cooling energy efficiency

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Certified data in EUROVENT

TX-W

High efficiency water cooled chiller

1A00 - 6D00 246-4549 kW

TX-W			3D3C	4B00	4B1A	4B2A	4C00	4C1B	4D00	4D1C	4D2C
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	3221-4026	1384-1978	1636-2337	1890-2700	1376-2294	1964-2806	2388-2985	2877-3596	3360-4200
EER	(1)	kW/kW	6,590	6,350	6,390	6,450	6,440	6,560	6,330	6,480	6,600
ESEER (up to)	(1)	kW/kW									
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	3549	1462	1937	2218	1498	2370	2755	3255	3750
EER	(1)(2)	kW/kW	6,190	6,090	5,950	6,030	6,240	6,100	5,940	6,050	6,170
ESEER	(1)(2)	kW/kW	8,480	8,600	8,310	8,400	8,910	8,480	8,110	8,180	8,390
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(8)	kW	-	1462	1937	-	1498	-	-	-	-
SEER	(8)(9)		-	8,68	8,30	-	9,17	-	-	-	-
Performance ηs	(8)(10)	%	-	339	324	-	359	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	170,4	70,11	92,98	106,4	71,80	113,8	132,4	156,5	180,1
Pressure drop	(1)	kPa	71,5	40,1	60,5	57,3	30,7	62,1	81,7	88,9	75,7
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION											
Water flow	(1)	l/s	196,1	81,06	107,7	123,0	82,82	131,3	153,1	180,4	207,3
Pressure drop	(1)	kPa	54,8	26,4	39,1	45,1	20,4	42,4	54,7	54,9	61,2
REFRIGERANT CIRCUIT											
Compressors nr.		N°	6	4	5	6	4	5	4	5	6
No. Circuits		N°	1	1	1	1	1	1	1	1	1
Refrigerant charge		kg	1626	1078	1233	1638	1050	1239	1072	1380	1767
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	80	78	78	79	79	79	80	80	80
Sound power level in cooling	(4)(5)	dB(A)	101	98	99	100	99	100	100	101	101
SIZE AND WEIGHT											
A	(6)(7)	mm	6610	4720	5700	6610	4720	5700	4720	5700	6610
B	(6)(7)	mm	2400	1890	2350	2400	1890	2350	1890	2350	2400
H	(6)(7)	mm	2450	2400	2400	2450	2400	2400	2400	2400	2450
Operating weight	(6)(7)	kg	21010	10920	14300	18880	11250	15000	11580	15730	21180

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 Lay-out with diagonal exchangers in units with 1, 2, 3 and 4 compressors; lay-out with horizontal exchangers in units with 5 and 6 compressors.
8 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
9 Seasonal energy efficiency ratio
10 Seasonal space cooling energy efficiency

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Certified data in EUROVENT

TX-W			5B00	5B1A	5C00	5C1B	5D00	5D1C	6B00	6C00	6D00
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	1732-2474	1986-2837	2021-2888	2381-3401	3016-3770	3500-4374	2082-2974	2440-3486	3639-4549
EER	(1)	kW/kW	6,420	6,470	6,600	6,640	6,470	6,590	6,490	6,660	6,580
ESEER (up to)	(1)	kW/kW									
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	2062	2342	2448	2864	3453	3948	2466	2942	4147
EER	(1)(2)	kW/kW	5,970	6,050	6,130	6,200	6,040	6,170	6,070	6,220	6,160
ESEER	(1)(2)	kW/kW	8,340	8,390	8,590	8,580	8,130	8,360	8,400	8,670	8,300
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(8)	kW	-	-	-	-	-	-	-	-	-
SEER	(8)(9)		-	-	-	-	-	-	-	-	-
Performance ηs	(8)(10)	%	-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	99,01	112,4	117,5	137,4	166,0	189,7	118,4	141,2	199,2
Pressure drop	(1)	kPa	61,0	57,3	62,6	58,7	92,9	79,2	58,1	59,4	82,3
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION											
Water flow	(1)	l/s	114,6	129,9	135,5	158,3	191,4	218,2	136,7	162,6	229,2
Pressure drop	(1)	kPa	39,1	45,9	40,4	45,5	61,7	61,7	46,0	44,5	68,1
REFRIGERANT CIRCUIT											
Compressors nr.		N°	5	6	5	6	5	6	6	6	6
No. Circuits		N°	1	1	1	1	1	1	1	1	1
Refrigerant charge		kg	1317	1594	1343	1583	1355	1739	1722	1555	1699
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	78	79	79	80	80	81	79	80	81
Sound power level in cooling	(4)(5)	dB(A)	99	100	100	101	101	102	100	101	102
SIZE AND WEIGHT											
A	(6)(7)	mm	5700	6610	5700	6610	5700	6610	6610	6610	6610
B	(6)(7)	mm	2350	2400	2350	2400	2350	2400	2400	2400	2400
H	(6)(7)	mm	2400	2450	2400	2450	2400	2450	2450	2450	2450
Operating weight	(6)(7)	kg	14550	19150	15180	20240	15890	21350	19400	20410	21560

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 Lay-out with diagonal exchangers in units with 1, 2, 3 and 4 compressors; lay-out with horizontal exchangers in units with 5 and 6 compressors.
8 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
9 Seasonal energy efficiency ratio
10 Seasonal space cooling energy efficiency

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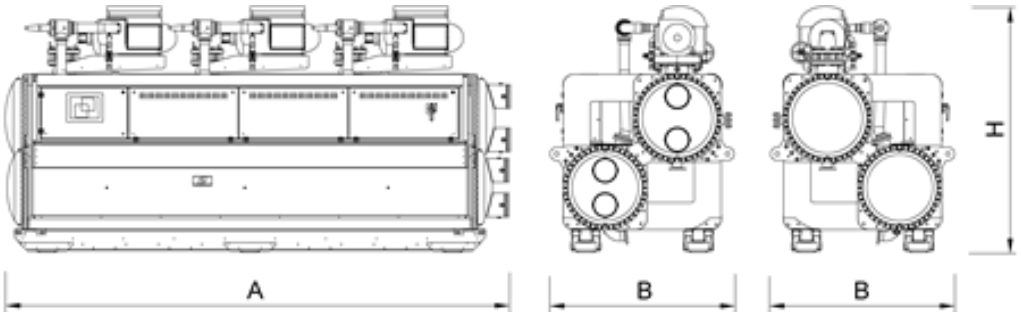
Certified data in EUROVENT

Dimensional drawing



CHILLERS

TX-W-G05

High efficiency water cooled chiller

1A00 - 6D00 248-4466 kW

Indoor unit for the production of chilled water featuring centrifugal compressors oil-free, with R513A, electronic regulation valve, shell and tube condenser and shell and tube flooded evaporator.
Base and supporting structure and panels are of galvanized epoxy powder coated steel with increased thickness.
Flexible and reliable unit; it easily adapts itself to different thermal load conditions thanks to the precise thermoregulation together with the use of inverter technology. The compressor is radically innovative: magnetic bearings and digital rotor speed control allow partial load efficiency levels to be reached that were hither to impossible.

Control

W3000TE
For the TX-W family, dedicated control logics, named CX4, have been implemented to take full advantage from the variable speed centrifugal compressor, thus maximizing the unit performance in all working conditions.
The control is available through the innovative user interface KIPlink, which allows one to operate on the unit directly from the smartphone or tablet. Using KIPlink, it is possible to turn the unit on and off, adjust the set-point, plot the main operating variables, monitor in detail the status of the components and reset the alarms. Secure access to data is guaranteed by three password levels (user, service, manufacturer).
The continuous capacity modulation is based on the PID algorithms and related to the leaving water temperature, with adjustment on the neutral areas. Complete alarm management system is available, with the “black-box” and the alarm history display functions. Supervision is achievable through various options, with proprietary devices or with the integration in third party systems by means of the most common communication protocols (ModBus, BACnet-over-IP, Echelon LonWorks, BACnet MS / TP). Connection with remote touchscreen is available.
A programmable timer allows the creation of an operating profile up to 4 days and 10 type bands, with automatic transmission from summer time to winter time.
For systems consisting of multiple units, the management of the resources is possible via optional proprietary devices. 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

R513A

Configurations

- Basic function

Features

NO COMPROMISE
Large availability in the combinations of the compressors (up to 6 compressors on the same unit), plus the flexibility in the choice of the heat exchangers can satisfy each specific installation and design requirements: the highest full load efficiency, the best initial investment, an unrivaled seasonal efficiency, an operating range suitable for applications in systems operating at high or low condensation (dry coolers or cooling towers)

VERY HIGH EFFICIENCY
Very high efficiency at full and partial load, to top market levels, thanks to adopted technological solutions: large capacity modulation and expanded exchanger, offering minimum running costs of the unit in real working conditions.

FLEXIBLE COMPOSITION
Choice between horizontal or diagonal arrangement of the heat exchangers, with dimensions that favor the compact overall dimensions in height or plant, water connections to the evaporator and condenser that can be deployed on the right or left, to fit for all applications

ADAPTABILITY
Adaptability at the building’s heating request thanks to the continuous capacity regulation, assured by sophisticated control’s logic.

LOW INRUSH CURRENTS
Reduced breakaway starting currents thanks to the revolutionary centrifugal compressor.

EXTREMELY SILENT OPERATION
Extremely silent operation in line with the best on the market, and highly reduced vibrations

Accessories

- Integral acoustical enclosure (type base or plus)
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Several devices for condensation´s control
- filters kit for conformity to EN 61000-6-3 (residential ambients)

TX-W-G05			1A00	1B00	1B1A	1B2A	1B3A	1C00	1C1A	1C1B	1C3B
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	243,6-353,0	343,6-490,9	582,5-844,2	820,6-1189	1083-1547	396,2-565,9	642,4-917,7	735,4-1051	1425-2036
EER	(1)	kW/kW	6,150	6,290	6,230	6,040	6,200	6,390	6,290	6,290	6,320
ESEER (up to)	(1)	kW/kW									
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	243,7	364,4	581,9	818,9	1143	458,9	642,5	737,1	1708
EER	(1)(2)	kW/kW	5,970	6,050	6,060	5,910	5,970	6,080	6,110	6,120	5,910
ESEER	(1)(2)	kW/kW	8,760	8,460	8,850	8,670	8,590	8,770	8,810	8,770	8,370
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(8)	kW	244	364	582	819	1143	459	642	737	1708
SEER	(8)(9)		8,94	8,75	8,92	8,88	8,71	9,01	8,97	8,86	8,39
Performance ηs	(8)(10)	%	350	342	349	347	340	352	351	346	328
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	11,68	17,46	27,89	39,23	54,81	21,99	30,79	35,32	81,94
Pressure drop	(1)	kPa	18,8	21,8	25,7	21,1	34,3	24,1	25,7	25,7	52,2
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION											
Water flow	(1)	l/s	13,55	20,22	32,29	45,60	63,56	25,44	35,61	40,85	95,03
Pressure drop	(1)	kPa	17,5	20,5	20,7	19,4	26,2	23,5	20,4	20,1	33,9
REFRIGERANT CIRCUIT											
Compressors nr.		N°	1	1	2	3	4	1	2	2	4
No. Circuits		N°	1	1	1	1	1	1	1	1	1
Refrigerant charge		kg	215	220	390	495	747	262	436	416	1078
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	75	76	76	78	78	77	77	77	79
Sound power level in cooling	(4)(5)	dB(A)	93	94	95	97	98	95	96	96	99
SIZE AND WEIGHT											
A	(6)(7)	mm	2910	2910	3050	3710	4690	2910	3050	3050	4720
B	(6)(7)	mm	1000	1000	1620	1710	1890	1000	1620	1620	1890
H	(6)(7)	mm	1950	1950	2190	2260	2400	1950	2190	2190	2400
Operating weight	(6)(7)	kg	2690	2800	5200	7590	9320	2880	5280	5410	11010

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 Lay-out with diagonal exchangers in units with 1, 2, 3 and 4 compressors; lay-out with horizontal exchangers in units with 5 and 6 compressors.
8 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
9 Seasonal energy efficiency ratio
10 Seasonal space cooling energy efficiency

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Certified data in EUROVENT

TX-W-G05

High efficiency water cooled chiller

1A00 - 6D00 248-4466 kW

TX-W-G05			1D00	1D1A	1D1B	1D1C	1D2C	1D3C	1D4C	1D5C	2A00
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	587,8-734,7	736,8-1084	833,4-1226	1043-1303	1241-1880	1964-2455	2441-3051	2918-3648	495,9-708,5
EER	(1)	kW/kW	6,130	6,100	6,210	6,250	6,300	6,300	6,420	6,480	6,120
ESEER (up to)	(1)	kW/kW									
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	658,5	748,2	857,2	1067	1271	2143	2637	3128	522,3
EER	(1)(2)	kW/kW	5,890	5,910	6,020	5,990	6,100	5,940	6,040	6,120	5,900
ESEER	(1)(2)	kW/kW	8,060	8,530	8,700	8,640	8,800	8,400	8,420	8,500	8,800
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(8)	kW	658	748	857	1067	1271	-	-	-	522
SEER	(8)(9)		8,27	8,69	8,72	8,61	8,98	-	-	-	8,87
Performance ηs	(8)(10)	%	323	340	341	336	351	-	-	-	347
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	31,59	35,86	41,09	51,19	60,91	102,9	126,6	150,1	25,03
Pressure drop	(1)	kPa	38,8	28,8	30,6	40,8	30,3	60,3	68,6	61,4	24,0
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION											
Water flow	(1)	l/s	36,64	41,65	47,60	59,28	70,44	119,1	146,3	173,2	29,07
Pressure drop	(1)	kPa	38,3	23,6	24,4	32,3	25,1	38,6	44,4	50,5	24,6
REFRIGERANT CIRCUIT											
Compressors nr.		N°	1	2	2	2	3	4	5	6	2
No. Circuits		N°	1	1	1	1	1	1	1	1	1
Refrigerant charge		kg	253	422	400	450	814	1017	1319	1696	273
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	78	78	78	78	79	79	79	80	76
Sound power level in cooling	(4)(5)	dB(A)	96	97	97	97	99	99	100	101	95
SIZE AND WEIGHT											
A	(6)(7)	mm	2910	3050	3050	3050	4690	4720	5700	6610	2910
B	(6)(7)	mm	1000	1620	1620	1620	1660	1890	2350	2400	1560
H	(6)(7)	mm	1950	2190	2190	2190	2260	2400	2400	2450	2190
Operating weight	(6)(7)	kg	2950	5350	5340	5420	8810	11410	15330	20580	4070

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 Lay-out with diagonal exchangers in units with 1, 2, 3 and 4 compressors; lay-out with horizontal exchangers in units with 5 and 6 compressors.
8 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
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10 Seasonal space cooling energy efficiency

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TX-W-G05			2B00	2B1A	2B2A	2B3A	2C00	2C1A	2C1B	2D00	2D1B
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	676,3-980,2	930,1-1329	1176-1680	1434-2049	791,5-1131	1042-1489	1135-1621	971,1-1471	1416-1966
EER	(1)	kW/kW	6,210	6,050	6,210	6,320	6,400	6,360	6,360	6,040	6,240
ESEER (up to)	(1)	kW/kW									
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	680,3	978,2	1240	1674	916,7	1123	1221	984,1	1448
EER	(1)(2)	kW/kW	6,040	5,850	5,960	5,890	6,060	6,100	6,110	5,850	6,010
ESEER	(1)(2)	kW/kW	8,700	8,530	8,470	8,300	8,910	8,600	8,640	8,780	8,410
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(8)	kW	680	978	1240	1674	917	1123	1221	984	1448
SEER	(8)(9)		8,82	8,73	8,55	8,25	8,90	8,77	8,77	8,86	8,52
Performance ηs	(8)(10)	%	345	341	334	322	348	343	343	346	333
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	32,60	46,87	59,51	80,37	43,95	53,83	58,54	47,17	69,44
Pressure drop	(1)	kPa	26,0	23,1	40,4	61,1	33,8	35,3	34,6	30,0	41,2
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION											
Water flow	(1)	l/s	37,77	54,55	68,99	93,18	50,86	62,22	67,66	54,87	80,40
Pressure drop	(1)	kPa	20,5	21,6	26,5	38,3	26,5	27,6	26,7	25,0	32,7
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	3	4	5	2	3	3	2	3
No. Circuits		N°	1	1	1	1	1	1	1	1	1
Refrigerant charge		kg	433	640	1015	1303	411	751	795	429	814
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	77	78	78	78	78	78	78	79	79
Sound power level in cooling	(4)(5)	dB(A)	96	97	98	99	97	98	98	98	99
SIZE AND WEIGHT											
A	(6)(7)	mm	3050	3710	4720	5700	3050	4690	4690	3050	4690
B	(6)(7)	mm	1620	1710	1890	2350	1620	1660	1660	1620	1660
H	(6)(7)	mm	2190	2260	2400	2400	2190	2260	2260	2190	2260
Operating weight	(6)(7)	kg	5340	7750	10610	13850	5330	8470	8700	5310	8810

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.
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8 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
9 Seasonal energy efficiency ratio
10 Seasonal space cooling energy efficiency

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Certified data in EUROVENT

TX-W-G05

High efficiency water cooled chiller

1A00 - 6D00 248-4466 kW

TX-W-G05			2D1C	2D2B	2D2C	2D3C	2D4C	3A00	3B00	3B1A	3B2A
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	1636-2045	1968-2460	2092-2614	2568-3210	3054-3817	724,3-1050	1009-1462	1273-1819	1522-2174
EER	(1)	kW/kW	6,300	6,270	6,320	6,400	6,510	5,970	6,070	6,220	6,250
ESEER (up to)	(1)	kW/kW									
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	1848	2185	2332	2823	3320	723,3	1078	1344	1790
EER	(1)(2)	kW/kW	5,920	5,890	5,950	6,010	6,130	5,830	5,850	5,970	5,830
ESEER	(1)(2)	kW/kW	8,250	8,170	8,320	8,300	8,480	8,650	8,610	8,430	8,190
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(8)	kW	1848	-	-	-	-	723	1078	1344	1790
SEER	(8)(9)		8,22	-	-	-	-	8,83	8,74	8,57	8,16
Performance ηs	(8)(10)	%	321	-	-	-	-	345	342	335	318
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	88,69	104,9	112,0	135,6	159,4	34,65	51,64	64,46	85,92
Pressure drop	(1)	kPa	61,2	65,6	65,0	73,8	65,9	21,0	23,2	39,8	60,3
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION											
Water flow	(1)	l/s	102,7	121,6	129,6	156,7	183,7	40,35	60,10	74,72	99,77
Pressure drop	(1)	kPa	47,9	44,1	41,4	47,7	52,5	19,2	22,0	26,1	38,7
REFRIGERANT CIRCUIT											
Compressors nr.		N°	3	4	4	5	6	3	3	4	5
No. Circuits		N°	1	1	1	1	1	1	1	1	1
Refrigerant charge		kg	812	1013	1094	1299	1667	501	598	985	1269
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	79	79	80	79	80	77	78	78	78
Sound power level in cooling	(4)(5)	dB(A)	99	99	100	100	101	96	97	98	99
SIZE AND WEIGHT											
A	(6)(7)	mm	4690	4720	4720	5700	6610	3710	3710	4720	5700
B	(6)(7)	mm	1660	1890	1890	2350	2400	1710	1710	1890	2350
H	(6)(7)	mm	2260	2400	2400	2400	2450	2260	2260	2400	2400
Operating weight	(6)(7)	kg	8880	11250	11450	15420	20750	7440	7370	10740	14050

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.
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5 Sound power level in cooling, indoors.
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10 Seasonal space cooling energy efficiency

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Certified data in EUROVENT

TX-W-G05			3B3A	3C00	3C1A	3C1B	3C2B	3D00	3D1A	3D1C	3D2C
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	1772-2531	1196-1709	1442-2059	1531-2187	1894-2705	1771-2213	2051-2563	2233-2792	2711-3388
EER	(1)	kW/kW	6,320	6,430	6,360	6,390	6,470	6,240	6,220	6,350	6,440
ESEER (up to)	(1)	kW/kW									
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	2070	1301	1738	1854	2277	2043	2326	2536	3027
EER	(1)(2)	kW/kW	5,920	6,170	5,940	5,970	6,030	5,870	5,840	5,960	6,010
ESEER	(1)(2)	kW/kW	8,330	8,820	8,420	8,480	8,410	8,160	7,990	8,240	8,210
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(8)	kW	-	1301	1738	1854	-	-	-	-	-
SEER	(8)(9)		-	8,92	8,47	8,50	-	-	-	-	-
Performance ηs	(8)(10)	%	-	349	331	332	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	99,31	62,37	83,42	88,96	109,3	98,15	111,8	121,8	145,4
Pressure drop	(1)	kPa	55,0	35,3	51,4	51,3	58,8	67,4	74,5	71,1	79,5
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION											
Water flow	(1)	l/s	115,1	71,99	96,69	103,0	126,3	113,7	129,6	140,9	167,9
Pressure drop	(1)	kPa	42,9	28,2	33,9	33,0	41,4	55,3	47,9	46,3	54,8
REFRIGERANT CIRCUIT											
Compressors nr.		N°	6	3	4	4	5	3	4	4	5
No. Circuits		N°	1	1	1	1	1	1	1	1	1
Refrigerant charge		kg	1677	795	1078	1013	1252	850	1059	1072	1400
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	79	78	79	79	79	79	80	80	80
Sound power level in cooling	(4)(5)	dB(A)	100	98	99	99	100	99	100	100	101
SIZE AND WEIGHT											
A	(6)(7)	mm	6610	4690	4720	4720	5700	4690	4720	4720	5700
B	(6)(7)	mm	2400	1660	1890	1890	2350	1660	1890	1890	2350
H	(6)(7)	mm	2450	2260	2400	2400	2400	2260	2400	2400	2400
Operating weight	(6)(7)	kg	18670	8700	11010	11210	14910	9010	11250	11580	15500

Notes

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Certified data in EUROVENT

CHILLERS

TX-W-G05

High efficiency water cooled chiller

1A00 - 6D00 248-4466 kW

TX-W-G05			3D3C	4B00	4B1A	4B2A	4C00	4C1B	4D00	4D1C	4D2C
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	3192-3990	1366-1952	1620-2314	1875-2679	1344-2277	1947-2781	2369-2961	2857-3571	3337-4171
EER	(1)	kW/kW	6,570	6,260	6,310	6,410	6,400	6,530	6,280	6,450	6,550
ESEER (up to)	(1)	kW/kW									
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	3518	1443	1918	2200	1488	2349	2733	3233	3724
EER	(1)(2)	kW/kW	6,170	6,020	5,880	6,000	6,190	6,080	5,890	6,020	6,130
ESEER	(1)(2)	kW/kW	8,480	8,510	8,240	8,370	8,860	8,460	8,070	8,160	8,350
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(8)	kW	-	1443	1918	-	1488	-	-	-	-
SEER	(8)(9)		-	8,60	8,23	-	9,12	-	-	-	-
Performance ηs	(8)(10)	%	-	336	321	-	357	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	168,9	69,20	92,05	105,6	71,29	112,7	131,3	155,4	178,9
Pressure drop	(1)	kPa	70,2	39,1	59,3	56,3	30,3	60,9	80,4	87,6	74,6
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION											
Water flow	(1)	l/s	194,5	80,15	106,8	122,1	82,33	130,2	152,0	179,3	206,0
Pressure drop	(1)	kPa	53,9	25,8	38,4	44,5	20,2	41,7	53,9	54,2	60,5
REFRIGERANT CIRCUIT											
Compressors nr.		N°	6	4	5	6	4	5	4	5	6
No. Circuits		N°	1	1	1	1	1	1	1	1	1
Refrigerant charge		kg	1626	1078	1233	1638	1050	1239	1072	1380	1767
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	80	78	78	79	79	79	80	80	80
Sound power level in cooling	(4)(5)	dB(A)	101	98	99	100	99	100	100	101	101
SIZE AND WEIGHT											
A	(6)(7)	mm	6610	4720	5700	6610	4720	5700	4720	5700	6610
B	(6)(7)	mm	2400	1890	2350	2400	1890	2350	1890	2350	2400
H	(6)(7)	mm	2450	2400	2400	2450	2400	2400	2400	2400	2450
Operating weight	(6)(7)	kg	21010	10920	14300	18880	11250	15000	11580	15730	21180

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 Lay-out with diagonal exchangers in units with 1, 2, 3 and 4 compressors; lay-out with horizontal exchangers in units with 5 and 6 compressors.
8 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
9 Seasonal energy efficiency ratio
10 Seasonal space cooling energy efficiency

The units highlighted in this publication contain R513A [GWP_{100} 631] fluorinated greenhouse gases.

Certified data in EUROVENT

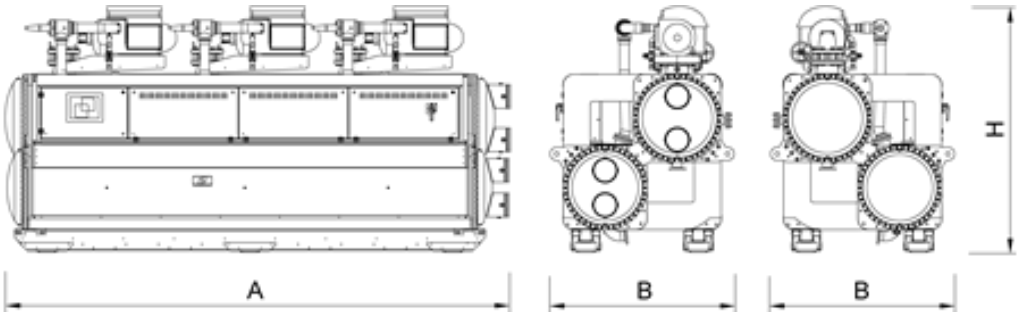
TX-W-G05			5B00	5B1A	5C00	5C1B	5D00	5D1C	6B00	6C00	6D00
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	1718-2454	1966-2809	1999-2856	2357-3367	2991-3739	3458-4322	2055-2935	2420-3458	3592-4490
EER	(1)	kW/kW	6,340	6,430	6,540	6,580	6,450	6,540	6,430	6,580	6,520
ESEER (up to)	(1)	kW/kW									
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	2046	2319	2421	2835	3426	3901	2434	2919	4092
EER	(1)(2)	kW/kW	5,900	6,020	6,080	6,150	6,020	6,130	6,020	6,150	6,110
ESEER	(1)(2)	kW/kW	8,270	8,380	8,530	8,540	8,130	8,330	8,360	8,600	8,270
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(8)	kW	-	-	-	-	-	-	-	-	-
SEER	(8)(9)		-	-	-	-	-	-	-	-	-
Performance ηs	(8)(10)	%	-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	98,21	111,3	116,2	136,0	164,7	187,4	116,8	140,1	196,6
Pressure drop	(1)	kPa	60,0	56,2	61,2	57,6	91,4	77,4	56,6	58,5	80,2
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION											
Water flow	(1)	l/s	113,9	128,7	134,2	156,9	190,0	215,8	135,1	161,5	226,4
Pressure drop	(1)	kPa	38,6	45,1	39,7	44,7	60,8	60,4	44,9	43,9	66,5
REFRIGERANT CIRCUIT											
Compressors nr.		N°	5	6	5	6	5	6	6	6	6
No. Circuits		N°	1	1	1	1	1	1	1	1	1
Refrigerant charge		kg	1317	1594	1343	1583	1355	1739	1722	1555	1699
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	78	79	79	80	80	81	79	80	81
Sound power level in cooling	(4)(5)	dB(A)	99	100	100	101	101	102	100	101	102
SIZE AND WEIGHT											
A	(6)(7)	mm	5700	6610	5700	6610	5700	6610	6610	6610	6610
B	(6)(7)	mm	2350	2400	2350	2400	2350	2400	2400	2400	2400
H	(6)(7)	mm	2400	2450	2400	2450	2400	2450	2450	2450	2450
Operating weight	(6)(7)	kg	14550	19150	15180	20240	15890	21350	19400	20410	21560

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 Lay-out with diagonal exchangers in units with 1, 2, 3 and 4 compressors; lay-out with horizontal exchangers in units with 5 and 6 compressors.
8 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
9 Seasonal energy efficiency ratio
10 Seasonal space cooling energy efficiency

The units highlighted in this publication contain R513A [GWP_{100} 631] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



CHILLERS

HE

Condenserless unit

0011 - 0121 4,700-32,40 kW

Refrigerant

R407C

Versions

FF Basic version, with built-in hydronic kit

Features

Structure and base in hot-dip galvanised steel with epoxy powder paint finish.
High efficiency, low pressure drop AISI 316 stainless steel plate heat exchangers, fitted with heating element to provide frost protection.
Control with foolproof device accessible from the outside.
Differential pressure switch.
The remote condenser may be installed up to a distance of 50 metres from the cooling unit.
The safety of the unit is guaranteed by a door lock isolator on the electrical power switchboard and by active protection devices on the main components.

HH FF is the Climaveneta range of cooling units. These are indoor units that may be combined with remote outdoor condensers to guarantee maximum flexibility and compliance with any architectural restriction. These units have hermetic Scroll compressors and Full Floating technology. The latter is an intelligent electronic unit providing the perfect answer to residential market requirements: compactness, ease of installation and quietness.

Control

Full Floating features
Once every 3 minutes an algorithm automatically optimises the water set point in relation to the compressor operating time and the temperatures of the water in the system. The water storage tank is no longer indispensable because it is compensated by the Floating
Set function, with resulting reduction in:
size;
weight;
installation times;
system setting-up times.

Accessories

- Buffer tank plus pump
- Hydronic kit plus pump
- Removable metal mesh water filter kit
- Modulating pump kit
- Control board for the modulating pump kit

HE / FF			0011	0021	0025	0031	0021	0025	0031
Power supply		V/ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING									
Cooling capacity	(1)	kW	4,700	6,100	7,000	8,200	6,100	7,000	8,200
Total power input	(1)	kW	1,600	2,100	2,500	2,900	2,100	2,400	2,900
EER	(1)	kW/kW	2,840	2,890	2,800	2,790	2,940	2,860	2,860
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	0,250	0,306	0,361	0,417	0,306	0,361	0,417
Available unit's head	(1)	kPa	22,0	24,0	26,0	27,0	24,0	26,0	27,0
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg							
NOISE LEVEL									
Sound Pressure	(2)	dB(A)	43	43	48	48	43	48	48
Sound power level in cooling	(3)(4)	dB(A)	0	0	0	0	0	0	0
SIZE AND WEIGHT									
A	(5)	mm	450	450	450	450	450	450	450
B	(5)	mm	400	400	400	400	400	400	400
H	(5)	mm	960	960	960	960	960	960	960
Operating weight	(5)	kg	68	70	71	74	70	71	74

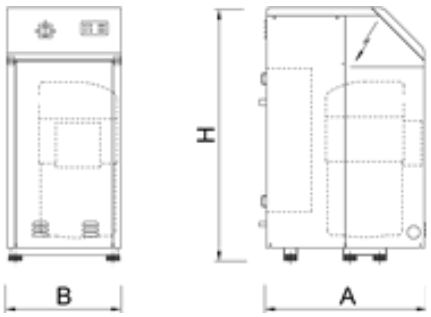
HE / FF			0041	0051	0061	0071	0091	0101	0121
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING									
Cooling capacity	(1)	kW	10,50	12,50	15,00	19,10	22,20	26,80	32,40
Total power input	(1)	kW	3,400	4,200	4,900	6,300	7,800	8,900	10,90
EER	(1)	kW/kW	3,060	2,970	3,070	3,030	2,860	3,000	2,960
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	0,528	0,639	0,778	0,944	1,139	1,333	1,639
Available unit's head	(1)	kPa	19,0	20,0	20,0	23,0	22,0	23,0	23,0
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg							
NOISE LEVEL									
Sound Pressure	(2)	dB(A)	52	52	52	52	52	53	53
Sound power level in cooling	(3)(4)	dB(A)	0	0	0	0	0	0	0
SIZE AND WEIGHT									
A	(5)	mm	450	450	450	600	600	600	600
B	(5)	mm	400	400	400	600	600	600	600
H	(5)	mm	960	960	960	960	960	960	960
Operating weight	(5)	kg	85	87	90	177	180	187	190

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Condensation temperature 47°C.
2 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.
3 Sound power on the basis of measurements made in compliance with ISO 9614.
4 Sound power level in cooling, indoors.
5 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain HFC R407C [GWP_{100} 1774] fluorinated greenhouse gases.

Dimensional drawing



CHILLERS

NECS-ME

Condenserless unit

0152 - 1604 39,51-431,6 kW

Indoor unit for the production of chilled water that may be connected to a remote condenser with hermetic rotary scroll compressors working with R410A, braze-welded plate-type exchanger and thermal expansion valve. Panels and base in hot-dip galvanised sheet steel with paint finish.

Control

W3000 Base – W3000SE Compact

Two different versions of controllers are available:
W3000 Base: complete with keypad, easy-to-use interface and LCD display, menu with up to three languages (Italian and English come standard, a further language can be chosen within French, Spanish, German, Russian and Swedish)
W3000SE Compact: complete with keypad, easy-to-use interface and LCD display, multi-language menu, with selectable language setting on site. Internal clock also included.
Both W3000 electronic controllers offer advanced functions and algorithms. The keypad features an easy-to-use interface and a complete LCD display, allowing to consult and intervene on the unit by means of a multi-level menu, with selectable language setting. Regulation based on the exclusive QuickMind algorithm, including self-adaptive control logics, beneficial in low water content systems. As alternatives the proportional- or proportional- integral regulations are also available. Complete alarm management, with the “black-box” and alarm logging functions for enhanced analysis of the unit operation (available on W3000SE Compact only).
For multiple units’ systems, the regulation of the resources via optional proprietary devices, can be implemented. Energy metering, for both consumption and capacity, can also be developed and supervision can be executed via proprietary devices or the integration in third party systems by means of the most common protocols as ModBus, Bacnet, Bacnet-over-IP, Echelon LonWorks. Compatibility with the remote keyboard managing up to 10 units. The internal real time clock allows to manage a weekly schedule operating on 4-day profiles with 10 hour belts (available on W3000SE Compact only, optional on W3000 Base controller).

Refrigerant

R410A

Versions

B Basic

Features

REFRIGERANT GAS R410A
The use of R410A allowed to achive better energy efficiencies with environment full respect (ODP = 0)

UNIT DESIGNED FOR COMBINATION WITH REMOTE CONDENSER
Compact units, designed for residential- and commercial air-conditioning systems

INTEGRAL CONTROL AND ADJUSTMENT
The condenserless unit comes complete with built-in microprocessor control with possible connection to the condenser.

INTEGRATED HYDRONIC GROUP
The built-in hydronic module already contains the main water circuit components; it is available with single or double pump configuration, with low or high head.

Accessories

- Remote control keyboard (distance to 200m and to 500m)
- Set-up for remote connectivity with ModBus, Echelon LonTalk, Bacnet protocol board
- Acoustical enclosure to reduce the noise emissions.
- Rubber anti-vibration mounting kit

NECS-ME / B			0152	0182	0202	0252	0262	0302	0352
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
PERFORMANCE									
COOLING									
Cooling capacity	(1)	kW	39,51	45,83	53,60	60,53	67,35	80,23	92,78
Total power input	(1)	kW	12,03	13,47	15,74	18,08	19,97	23,44	26,87
EER	(1)	kW/kW	3,292	3,393	3,414	3,343	3,370	3,427	3,450
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	1,889	2,192	2,563	2,895	3,221	3,837	4,437
Pressure drop	(1)	kPa	48,0	41,3	41,0	39,1	48,4	29,4	27,6
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg							
NOISE LEVEL									
Sound Pressure	(2)	dB(A)	42	43	43	43	44	44	45
Sound power level in cooling	(3)(4)	dB(A)	73	74	74	74	75	76	77
SIZE AND WEIGHT									
A	(5)	mm	1130	1130	1130	1130	1130	1310	1310
B	(5)	mm	669	669	669	669	669	893	893
H	(5)	mm	1255	1255	1255	1255	1255	1496	1496
Operating weight	(5)	kg	270	280	290	295	300	410	500

NECS-ME / B			0412	0452	0512	0552	0612	0604	0704
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
PERFORMANCE									
COOLING									
Cooling capacity	(1)	kW	104,5	117,4	131,4	150,7	169,9	160,8	185,6
Total power input	(1)	kW	30,29	33,93	37,58	43,25	48,92	46,89	53,75
EER	(1)	kW/kW	3,449	3,463	3,495	3,480	3,474	3,429	3,456
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	5,000	5,612	6,283	7,204	8,126	7,692	8,874
Pressure drop	(1)	kPa	35,0	33,1	32,2	28,9	36,8	32,5	31,0
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	4	4
No. Circuits		N°	1	1	1	1	1	2	2
Refrigerant charge		kg							
NOISE LEVEL									
Sound Pressure	(2)	dB(A)	45	46	46	47	47	54	55
Sound power level in cooling	(3)(4)	dB(A)	77	78	78	79	79	86	87
SIZE AND WEIGHT									
A	(5)	mm	1310	1310	1310	1310	1310	2227	2227
B	(5)	mm	893	893	893	893	893	1020	1020
H	(5)	mm	1496	1496	1496	1496	1496	1780	1780
Operating weight	(5)	kg	585	615	645	680	700	755	950

NECS-ME / B			0804	0904	1004	1104	1204	1404	1604
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
PERFORMANCE									
COOLING									
Cooling capacity	(1)	kW	207,4	235,4	263,0	300,5	339,2	386,5	431,6
Total power input	(1)	kW	60,55	67,86	75,16	86,49	97,84	110,9	123,9
EER	(1)	kW/kW	3,422	3,467	3,497	3,474	3,468	3,485	3,483
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	9,918	11,26	12,58	14,37	16,22	18,48	20,64
Pressure drop	(1)	kPa	38,8	38,9	39,4	36,7	46,7	49,6	54,7
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg							
NOISE LEVEL									
Sound Pressure	(2)	dB(A)	56	57	58	59	59	59	59
Sound power level in cooling	(3)(4)	dB(A)	88	89	90	91	91	91	91
SIZE AND WEIGHT									
A	(5)	mm	2227	2227	2227	2227	2227	2227	2227
B	(5)	mm	1020	1020	1020	1020	1020	1020	1020
H	(5)	mm	1780	1780	1780	1780	1780	1780	1780
Operating weight	(5)	kg	1125	1185	1250	1330	1370	1430	1480

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Condensation temperature 47°C.
2 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
3 Sound power on the basis of measurements made in compliance with ISO 9614.
4 Sound power level in cooling, indoors.
5 Unit in standard configuration/execution, without optional accessories.

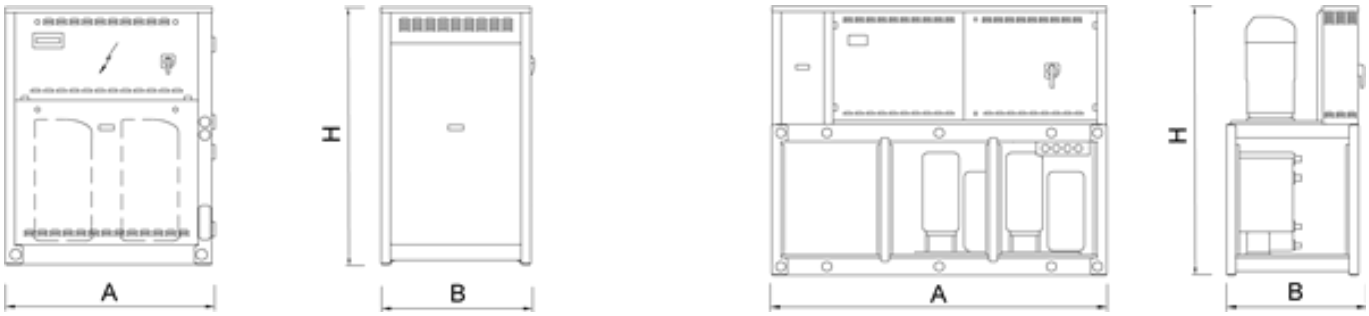
The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.

NECS-ME

Condenserless unit

0152 - 1604 39,51-431,6 kW

Dimensional drawing



CHILLERS

FOCS-ME

Condenserless unit

0401 - 1902 79,23-410,4 kW

Indoor unit for the production of chilled water combined with a remote condenser, with semi-hermetic screw compressors optimized for R134a, shell and tube evaporator designed by Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. and thermostatic expansion valve.
Base and supporting structure and panels are of galvanized epoxy powder coated steel with increased thickness.
Flexible and reliable unit; it 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.

Refrigerant

R134a

Versions

B Basic

Features

COMPACTNESS
Compactness in terms of overall size and weight, helping installation and working on site

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

WIDE OPERATING RANGE
Extensive range of operation with remote condenser operating up to 46°C air temperature

SILENT OPERATION
Extremely silent operation thanks to the accurate unit's design. Optional integral acoustic enclosure, reduces more the sound level beyond the best on market

Accessories

- Soft start
- Set-up for remote connectivity with ModBus, Echelon, Bacnet, Bacnet over-IP.
- Remote control keyboard (distance to 200m and to 500m)
- Electronic expansion valve
- Integral acoustical enclosure (type base or plus)

Control

W3000SE Large
The W3000 SE Large controller offers advanced functions and algorithms.
The keypad is generously sized with full operating status display. The commands and detailed LCD display make access to the unit's settings easy and safe. These resources allow to consult and intervene on the unit by means of a multi-level menu, with selectable language setting.
The diagnostics includes a complete alarm management, with the "black-box" and alarm logging functions for enhanced analysis of the unit operation.
For multiple units' systems, the regulation of the resources, via optional proprietary devices, can be implemented. Energy metering, for both consumption and capacity, can also be developed. 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, Echelon LonWorks.
Compatibility with the remote keyboard managing up to 10 units.
Availability of an internal real time clock for operation scheduling (4-day profiles with 10 hour belts).
The regulation features the continuous modulation of capacity, based on a dynamic dead band and referring to the leaving water temperature. As alternative, step-wise regulation is also available, referred to the return water temperature with selectable proportional- or proportional-integral logic.

FOCS-ME / B			0401	0501	0551	0651	0751	0802	0851
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
PERFORMANCE									
COOLING									
Cooling capacity	(1)	kW	79,23	98,20	119,3	135,1	151,2	161,7	181,3
Total power input	(1)	kW	22,73	27,92	32,46	37,59	42,27	45,59	48,88
EER	(1)	kW/kW	3,489	3,520	3,671	3,593	3,574	3,546	3,708
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	3,789	4,696	5,706	6,459	7,230	7,731	8,668
Pressure drop	(1)	kPa	14,7	14,9	11,9	15,2	19,0	14,6	18,3
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	1	1	1	2	1
No. Circuits		N°	1	1	1	1	1	2	1
Refrigerant charge		kg							
NOISE LEVEL									
Sound Pressure	(2)	dB(A)	59	60	62	62	62	62	62
Sound power level in cooling	(3)(4)	dB(A)	91	92	94	94	94	94	94
SIZE AND WEIGHT									
A	(5)	mm	2024	2330	2400	2400	2400	2890	2947
B	(5)	mm	880	880	880	880	880	1081	880
H	(5)	mm	1300	1300	1490	1490	1490	1430	1490
Operating weight	(5)	kg	720	750	1040	1060	1060	1280	1130

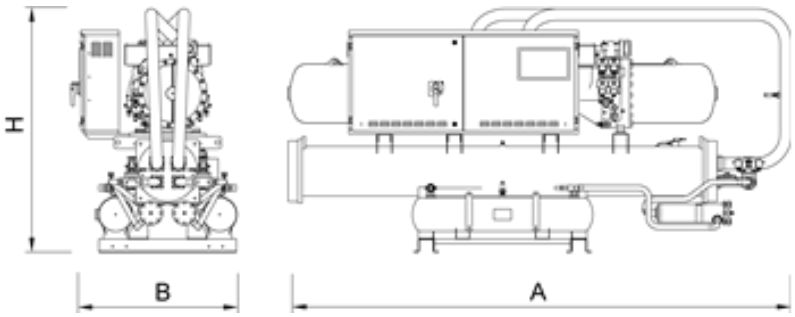
FOCS-ME / B			0951	1002	1102	1302	1502	1702	1902
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING									
Cooling capacity	(1)	kW	203,1	199,8	229,9	273,0	312,2	360,3	410,4
Total power input	(1)	kW	56,47	56,00	64,62	75,29	85,01	97,66	113,2
EER	(1)	kW/kW	3,595	3,568	3,559	3,625	3,673	3,688	3,625
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	9,711	9,553	10,99	13,06	14,93	17,23	19,63
Pressure drop	(1)	kPa	34,8	33,7	44,6	38,7	35,0	46,5	25,0
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	2	2	2	2	2	2
No. Circuits		N°	1	2	2	2	2	2	2
Refrigerant charge		kg							
NOISE LEVEL									
Sound Pressure	(2)	dB(A)	62	63	65	65	65	65	65
Sound power level in cooling	(3)(4)	dB(A)	94	95	97	97	97	97	97
SIZE AND WEIGHT									
A	(5)	mm	2947	2890	3016	3277	3277	3292	3362
B	(5)	mm	880	1081	1081	1081	1081	1081	1081
H	(5)	mm	1500	1430	1480	1580	1580	1590	1700
Operating weight	(5)	kg	1150	1290	1680	1970	1990	2010	2300

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Condensation temperature 47°C.
2 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
3 Sound power on the basis of measurements made in compliance with ISO 9614.
4 Sound power level in cooling, indoors.
5 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.

Dimensional drawing



CHILLERS

FOCS-ME

Condenserless unit

1001 - 9604 218,9-2240 kW

Indoor unit for the production of chilled water combined with a remote condenser, with semi-hermetic screw compressors optimized for R134a, shell and tube evaporator designed by Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. and thermostatic expansion valve.
Base and supporting structure and panels are of galvanized epoxy powder coated steel with increased thickness.
Flexible and reliable unit; it 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.

Refrigerant

R134a

Versions

B Basic

Features

COMPACTNESS
Compactness in terms of overall size and weight, helping installation and working on site

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

WIDE OPERATING RANGE
Extensive range of operation with remote condenser operating up to 46°C air temperature

SILENT OPERATION
Extremely silent operation thanks to the accurate unit's design. Optional integral acoustic enclosure, reduces more the sound level beyond the best on market

Accessories

- Integral acoustical enclosure (type base or plus)
- Electronic expansion valve
- Soft start
- Set-up for remote connectivity with ModBus, Echelon, Bacnet, Bacnet over-IP.
- Remote control keyboard (distance to 200m and to 500m)

Control

W3000SE Large
The W3000 SE Large controller offers advanced functions and algorithms.
The keypad is generously sized with full operating status display. The commands and detailed LCD display make access to the unit's settings easy and safe. These resources allow to consult and intervene on the unit by means of a multi-level menu, with selectable language setting.
The diagnostics includes a complete alarm management, with the "black-box" and alarm logging functions for enhanced analysis of the unit operation.
For multiple units' systems, the regulation of the resources, via optional proprietary devices, can be implemented. Energy metering, for both consumption and capacity, can also be developed. 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, Echelon LonWorks.
Compatibility with the remote keyboard managing up to 10 units.
Availability of an internal real time clock for operation scheduling (4-day profiles with 10 hour belts).
The regulation features the continuous modulation of capacity, based on a dynamic dead band and referring to the leaving water temperature. As alternative, step-wise regulation is also available, referred to the return water temperature with selectable proportional- or proportional-integral logic.

FOCS-ME / B			1001	1201	1301	1351	1601	1801	2002	2402	2602
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	400/3/50	400/3/50
PERFORMANCE											
COOLING											
Cooling capacity	(1)	kW	218,9	261,7	295,4	333,0	389,0	444,8	418,5	516,4	591,4
Total power input	(1)	kW	59,65	69,66	77,52	85,39	101,5	118,0	113,6	139,2	155,1
EER	(1)	kW/kW	3,667	3,755	3,812	3,899	3,833	3,769	3,684	3,710	3,813
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	10,47	12,52	14,13	15,93	18,60	21,27	20,01	24,70	28,28
Pressure drop	(1)	kPa	37,3	35,5	31,3	39,8	22,4	29,3	23,9	36,4	25,9
REFRIGERANT CIRCUIT											
Compressors nr.		N°	1	1	1	1	1	1	2	2	2
No. Circuits		N°	1	1	1	1	1	1	2	2	2
Refrigerant charge		kg									
NOISE LEVEL											
Sound Pressure	(2)	dB(A)	62	65	65	65	65	65	65	65	67
Sound power level in cooling	(3)(4)	dB(A)	94	97	97	97	97	97	97	97	99
SIZE AND WEIGHT											
A	(5)	mm	2835	3120	3120	3120	3530	3530	3730	3730	4500
B	(5)	mm	900	900	900	900	900	900	1150	1150	1150
H	(5)	mm	1800	1800	1800	1800	1950	1950	2000	2000	2000
Operating weight	(5)	kg	1380	1870	1910	1920	2640	2650	2750	3420	3710

FOCS-ME / B			2702	3202	3602	4202	4502	4802	5003	5203	5403
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	400/3/50	400/3/50
PERFORMANCE											
COOLING											
Cooling capacity	(1)	kW	674,0	758,6	884,6	1000	1061	1120	1184	1251	1304
Total power input	(1)	kW	171,0	202,2	235,8	264,9	277,4	290,0	319,6	336,6	353,3
EER	(1)	kW/kW	3,942	3,752	3,751	3,775	3,825	3,862	3,705	3,717	3,691
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	32,23	36,28	42,31	47,84	50,72	53,56	56,60	59,82	62,36
Pressure drop	(1)	kPa	36,3	46,1	45,9	40,0	45,0	50,2	56,0	44,1	47,9
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	3	3	3
No. Circuits		N°	2	2	2	2	2	2	3	3	3
Refrigerant charge		kg									
NOISE LEVEL											
Sound Pressure	(2)	dB(A)	67	67	67	67	67	67	69	69	69
Sound power level in cooling	(3)(4)	dB(A)	99	99	99	99	99	99	101	101	101
SIZE AND WEIGHT											
A	(5)	mm	4500	4500	4500	4500	4500	4500	4425	4425	4425
B	(5)	mm	1150	1150	1150	1150	1150	1150	1700	1700	1700
H	(5)	mm	2000	2000	2000	2000	2000	2000	1900	1900	1900
Operating weight	(5)	kg	3730	4600	5050	5220	5250	5280	6810	6840	6850

FOCS-ME / B			5414	5904	6404	6804	7204	7804	8404	9004	9604
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	400/3/50	400/3/50
PERFORMANCE											
COOLING											
Cooling capacity	(1)	kW	1348	1433	1548	1660	1769	1886	2001	2121	2240
Total power input	(1)	kW	342,1	373,3	405,6	438,6	471,7	500,6	529,9	554,8	580,1
EER	(1)	kW/kW	3,940	3,839	3,817	3,785	3,750	3,767	3,776	3,823	3,861
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	64,46	68,55	74,04	79,37	84,61	90,17	95,68	101,4	107,1
Pressure drop	(1)	kPa	36,3	41,1	35,2	40,4	45,9	52,7	40,1	45,1	50,3
REFRIGERANT CIRCUIT											
Compressors nr.		N°	4	4	4	4	4	4	4	4	4
No. Circuits		N°	4	4	4	4	4	4	4	4	4
Refrigerant charge		kg									
NOISE LEVEL											
Sound Pressure	(2)	dB(A)	70	70	70	70	70	70	70	70	70
Sound power level in cooling	(3)(4)	dB(A)	102	102	102	102	102	102	102	102	102
SIZE AND WEIGHT											
A	(5)	mm	4500	4500	4500	4500	4500	4500	4500	4500	4500
B	(5)	mm	2250	2250	2250	2250	2250	2250	2250	2250	2250
H	(5)	mm	2000	2000	2000	2000	2000	2000	2000	2000	2000
Operating weight	(5)	kg	7560	8400	9980	10010	10020	10190	10350	10420	10480

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Condensation temperature 47°C.
2 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
3 Sound power on the basis of measurements made in compliance with ISO 9614.
4 Sound power level in cooling, indoors.
5 Unit in standard configuration/execution, without optional accessories.

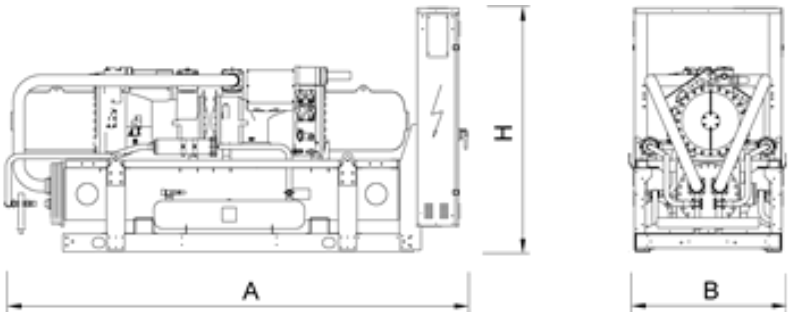
The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.

FOCS-ME

1001 - 9604 218,9-2240 kW

Condenserless unit

Dimensional drawing



CHILLERS

TECS-FC

0211 - 1204 302,2-1693 kW

High efficiency air cooled chiller with free-cooling

Outdoor unit for the production of chilled water, equipped with oil-free centrifugal compressors, R134a refrigerant, axial EC fans, condensing coil with copper tubes and aluminum fins, shell and tube flooded evaporator and electronic expansion valve. Base, supporting structure and panels are of galvanized epoxy powder coated steel; the unit is supplied with refrigerant.
The rotor speed digital control allows an accurate and efficient thermoregulation in every operating condition.
In free cooling mode, the liquid is cooled by outdoor air, thus lowering the load of the compressors until it is reduced to zero.
The NG configuration complies with applications where it is not allowed or desired the use of ethylene glycol.

Control

Electronic control W3000 TE
W3000TE features a large keyboard and wide LCD display for 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. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Refrigerant

R134a

Versions

K	Key efficiency, compact version
CA	High energy efficiency units

Configurations

-	Basic function
NG	Function for free-cooling without use of glycole

Features

ENERGY SAVING
Energy saving guaranteed by free-cooling, which exploits the low external air temperatures; free-cooling control with optional modulating valve.

VERY HIGH EFFICIENCY
Top-level seasonal efficiency thanks to technlogical solutions at the forefront: magnetic levitation centrifugal compressors, flooded evaporator, EC fans and advanced control algorithms.

WIDE RANGE
Extended capacity range.

LOW INRUSH CURRENTS
Reduced breakaway starting currents thanks to the revolutionary centrifugal compressor.

EXTREMELY SILENT OPERATION
Extremely silent operation in line with the best on the market, and highly reduced vibrations

INTEGRATED HYDRONIC GROUP
It consists of 2 pumps with 4-pole motor, fixed or variable speed, with high or low head options to satisfy the different installation requirements.

Accessories

- Modulating valve for water temperature control in Free-Cooling mode
- Hydronic group
- VPF (Variable Primary Flow) kit: variable flow pumps with on board regulation
- Compressor power factor correction
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Touch Screen visual display
- Remote control keyboard (distance to 200m and to 500m)

TECS-FC /K			0211	0351	0452	0552	0652	0712
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	302,2	482,7	594,2	689,0	943,4	980,2
Total power input	(1)	kW	87,10	140,9	178,6	181,0	285,2	275,2
EER	(1)	kW/kW	3,470	3,426	3,327	3,807	3,308	3,562
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	300,0	479,0	590,1	683,7	936,5	972,8
EER	(1)(2)	kW/kW	3,360	3,310	3,230	3,670	3,210	3,440
TOTAL FREE-COOLING (GROSS VALUE)								
Cooling capacity	(3)	kW	302,2	482,7	594,2	689,0	943,4	980,2
EER	(3)	kW/kW	59,25	50,28	49,52	67,55	56,15	51,05
Total free-cooling temperature	(3)	°C	-1,9	-2,5	-1,9	-1,4	-2,7	-1,4
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Ambient refrigeration								
Prated,c	(8)	kW	261	414	507	608	800	851
SEER	(8)(9)		4,91	4,62	4,66	5,23	4,73	4,77
Performance ηs	(8)(10)	%	193	182	184	206	186	188
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	16,01	25,57	31,48	36,50	49,98	51,93
Pressure drop	(1)	kPa	86,0	98,6	89,3	104	104	107
REFRIGERANT CIRCUIT								
Compressors nr.		N°	1	1	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	120	140	260	260	320	320
NOISE LEVEL								
Sound Pressure	(4)	dB(A)	56	61	62	58	63	63
Sound power level in cooling	(5)(6)	dB(A)	88	93	94	91	96	96
SIZE AND WEIGHT								
A	(7)	mm	4000	4000	4900	6400	7000	7900
B	(7)	mm	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	3430	3850	5080	5820	6340	6900

TECS-FC /K			0903	0953	1003	1164	1204
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	1185	1253	1421	1578	1649
Total power input	(1)	kW	320,1	373,2	424,6	455,0	460,6
EER	(1)	kW/kW	3,702	3,357	3,347	3,468	3,580
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	1177	1246	1411	1567	1637
EER	(1)(2)	kW/kW	3,590	3,280	3,250	3,360	3,460
TOTAL FREE-COOLING (GROSS VALUE)							
Cooling capacity	(3)	kW	1185	1253	1421	1578	1649
EER	(3)	kW/kW	49,38	52,21	53,83	50,58	52,85
Total free-cooling temperature	(3)	°C	-1,2	-2,7	-2,5	-1,6	-1,8
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Ambient refrigeration							
Prated,c	(8)	kW	1045	1069	1212	1361	1435
SEER	(8)(9)		4,62	4,46	4,53	4,38	4,41
Performance ηs	(8)(10)	%	182	175	178	172	173
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	62,78	66,38	75,30	83,61	87,35
Pressure drop	(1)	kPa	91,8	80,2	103	106	115
REFRIGERANT CIRCUIT							
Compressors nr.		N°	3	3	3	4	4
No. Circuits		N°	2	2	2	2	2
Refrigerant charge		kg	430	520	520	540	540
NOISE LEVEL							
Sound Pressure	(4)	dB(A)	64	64	65	65	65
Sound power level in cooling	(5)(6)	dB(A)	97	97	98	98	98
SIZE AND WEIGHT							
A	(7)	mm	10600	11200	11200	13000	13600
B	(7)	mm	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500
Operating weight	(7)	kg	9750	10260	10530	12290	12350

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 30%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, outdoors.
7 Unit in standard configuration/execution, without optional accessories.
8 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
9 Seasonal energy efficiency ratio
10 Seasonal space cooling energy efficiency

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.

TECS-FC

0211 - 1204 302,2-1693 kW

High efficiency air cooled chiller with free-cooling

TECS-FC /CA			0211	0251	0351	0452	0552	0712	0803	0903	1003
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	309,6	353,9	496,1	615,8	714,1	990,3	1068	1209	1446
Total power input	(1)	kW	85,40	89,80	134,3	173,2	177,2	268,3	266,8	308,4	412,3
EER	(1)	kW/kW	3,625	3,941	3,694	3,555	4,030	3,691	4,003	3,920	3,507
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	307,3	351,1	492,1	611,3	708,3	982,7	1062	1201	1436
EER	(1)(2)	kW/kW	3,500	3,790	3,560	3,440	3,870	3,560	3,900	3,800	3,400
TOTAL FREE-COOLING (GROSS VALUE)											
Cooling capacity	(3)	kW	309,6	353,9	496,1	615,8	714,1	990,3	1068	1209	1446
EER	(3)	kW/kW	60,71	52,04	58,36	60,37	52,51	58,25	52,35	54,71	65,43
Total free-cooling temperature	(3)	°C	-0,1	-0,2	-1,0	-0,5	0,4	-0,9	0,2	0,0	-1,6
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(8)	kW	271	319	434	535	650	867	972	1086	1244
SEER	(8)(9)		5,04	4,95	5,05	5,18	5,26	5,16	5,21	5,06	4,94
Performance ηs	(8)(10)	%	199	195	199	204	207	204	205	199	195
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	16,40	18,75	26,28	32,63	37,83	52,47	56,60	64,05	76,60
Pressure drop	(1)	kPa	90,3	96,3	104	95,9	111	109	74,6	95,6	107
REFRIGERANT CIRCUIT											
Compressors nr.		N°	1	1	1	2	2	2	3	3	3
No. Circuits		N°	1	1	1	1	1	1	2	2	2
Refrigerant charge		kg	120	120	140	260	280	320	430	430	520
NOISE LEVEL											
Sound Pressure	(4)	dB(A)	56	57	58	58	59	60	61	61	61
Sound power level in cooling	(5)(6)	dB(A)	88	89	90	91	92	93	94	94	94
SIZE AND WEIGHT											
A	(7)	mm	4000	4000	4900	6400	7900	10000	12100	13000	13000
B	(7)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	3660	3790	4380	5720	6770	8870	10530	11370	11730

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 30%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, outdoors.
7 Unit in standard configuration/execution, without optional accessories.
8 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
9 Seasonal energy efficiency ratio
10 Seasonal space cooling energy efficiency

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.

TECS-FC /NG /K			0211	0351	0452	0552	0652	0712
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	310,4	495,7	610,2	707,6	968,9	1007
Total power input	(1)	kW	87,60	141,6	179,5	181,9	286,6	276,6
EER	(1)	kW/kW	3,543	3,501	3,399	3,890	3,381	3,641
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	308,1	491,3	605,5	701,3	960,7	998,8
EER	(1)(2)	kW/kW	3,430	3,370	3,290	3,730	3,260	3,510
TOTAL FREE-COOLING (GROSS VALUE)								
Cooling capacity	(3)	kW	310,4	495,7	610,2	707,6	968,9	1007
EER	(3)	kW/kW	38,32	32,83	31,29	39,98	30,47	29,44
Total free-cooling temperature	(3)	°C	-4,9	-5,5	-5,0	-4,5	-5,8	-4,5
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Ambient refrigeration								
Prated,c	(8)	kW	260	413	506	606	798	849
SEER	(8)(9)		4,74	4,42	4,47	4,92	4,51	4,57
Performance ηs	(8)(10)	%	187	174	176	194	177	180
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	14,85	23,72	29,20	33,86	46,37	48,17
Pressure drop	(1)	kPa	98,1	128	112	137	135	130
REFRIGERANT CIRCUIT								
Compressors nr.		N°	1	1	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	120	140	260	260	320	320
NOISE LEVEL								
Sound Pressure	(4)	dB(A)	56	61	62	58	63	63
Sound power level in cooling	(5)(6)	dB(A)	88	93	94	91	96	96
SIZE AND WEIGHT								
A	(7)	mm	4000	4000	4900	6400	7000	7900
B	(7)	mm	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	4120	4620	6100	6990	7610	8280

TECS-FC /NG /K			0903	0953	1003	1164	1204
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	1217	1287	1460	1621	1693
Total power input	(1)	kW	321,7	375,0	426,7	457,2	462,9
EER	(1)	kW/kW	3,783	3,432	3,422	3,545	3,657
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	1208	1278	1448	1606	1677
EER	(1)(2)	kW/kW	3,660	3,330	3,300	3,410	3,500
TOTAL FREE-COOLING (GROSS VALUE)							
Cooling capacity	(3)	kW	1217	1287	1460	1621	1693
EER	(3)	kW/kW	31,21	30,28	30,17	26,49	27,66
Total free-cooling temperature	(3)	°C	-4,3	-5,7	-5,6	-4,7	-4,9
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Ambient refrigeration							
Prated,c	(8)	kW	1043	1067	1209	1357	1430
SEER	(8)(9)		4,45	4,28	4,31	4,15	4,14
Performance ηs	(8)(10)	%	175	168	170	163	163
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	58,24	61,58	69,85	77,56	81,03
Pressure drop	(1)	kPa	113	110	140	154	169
REFRIGERANT CIRCUIT							
Compressors nr.		N°	3	3	3	4	4
No. Circuits		N°	2	2	2	2	2
Refrigerant charge		kg	430	520	520	540	540
NOISE LEVEL							
Sound Pressure	(4)	dB(A)	64	64	65	65	65
Sound power level in cooling	(5)(6)	dB(A)	97	97	98	98	98
SIZE AND WEIGHT							
A	(7)	mm	10600	11200	11200	13000	13600
B	(7)	mm	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500
Operating weight	(7)	kg	11700	12320	12640	14750	14820

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 0%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 0%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, outdoors.
7 Unit in standard configuration/execution, without optional accessories.
8 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
9 Seasonal energy efficiency ratio
10 Seasonal space cooling energy efficiency

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.

TECS-FC

0211 - 1204 302,2-1693 kW

High efficiency air cooled chiller with free-cooling

TECS-FC /NG /CA			0211	0251	0351	0452	0552	0712	0803	0903	1003
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	318,0	363,5	509,5	632,4	733,4	1017	1097	1242	1485
Total power input	(1)	kW	85,90	90,30	134,9	174,1	178,1	269,7	268,1	310,0	414,4
EER	(1)	kW/kW	3,702	4,025	3,777	3,632	4,118	3,771	4,092	4,006	3,583
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	315,5	360,4	504,9	627,3	726,5	1009	1090	1233	1472
EER	(1)(2)	kW/kW	3,570	3,860	3,620	3,500	3,930	3,630	3,970	3,870	3,450
TOTAL FREE-COOLING (GROSS VALUE)											
Cooling capacity	(3)	kW	318,0	363,5	509,5	632,4	733,4	1017	1097	1242	1485
EER	(3)	kW/kW	39,26	29,55	36,39	40,28	29,81	31,78	30,99	30,59	33,67
Total free-cooling temperature	(3)	°C	-3,2	-3,2	-4,1	-3,6	-2,7	-4,0	-2,9	-3,1	-4,7
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(8)	kW	270	318	433	533	648	865	970	1084	1241
SEER	(8)(9)		4,87	4,69	4,82	4,94	4,91	4,91	5,00	4,83	4,67
Performance ηs	(8)(10)	%	192	184	190	194	193	194	197	190	184
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	15,22	17,39	24,38	30,26	35,10	48,67	52,51	59,42	71,06
Pressure drop	(1)	kPa	103	120	131	120	147	133	92,2	117	145
REFRIGERANT CIRCUIT											
Compressors nr.		N°	1	1	1	2	2	2	3	3	3
No. Circuits		N°	1	1	1	1	1	1	2	2	2
Refrigerant charge		kg	120	120	140	260	280	320	430	430	520
NOISE LEVEL											
Sound Pressure	(4)	dB(A)	56	57	58	58	59	60	61	61	61
Sound power level in cooling	(5)(6)	dB(A)	88	89	90	91	92	93	94	94	94
SIZE AND WEIGHT											
A	(7)	mm	4000	4000	4900	6400	7900	10000	12100	13000	13000
B	(7)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	4400	4550	5260	6870	8130	10650	12640	13650	14080

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 0%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 0%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, outdoors.
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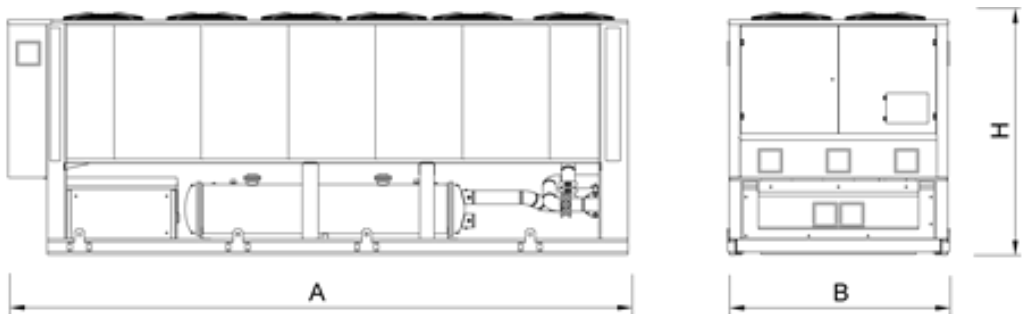
Dimensional drawing



CHILLERS

TECS-FC-G05

High efficiency air cooled chiller with free-cooling

0211 - 1204 299,2-1671 kW

Outdoor unit for the production of chilled water, equipped with oil-free centrifugal compressors, R513A refrigerant, axial EC fans, condensing coil with copper tubes and aluminum fins, shell and tube flooded evaporator and electronic expansion valve. Base, supporting structure and panels are of galvanized epoxy powder coated steel. The unit is supplied with refrigerant and has been factory tested.
In free cooling mode, the liquid is cooled by outdoor air, thus lowering the load of the compressors until it is reduced to zero.
The NG configuration complies with applications where it is not allowed or desired the use of ethylene glycol.

Refrigerant

R513A

Versions

K	Key efficiency, compact version
CA	High energy efficiency units

Configurations

-	Basic function
NG	Function for free-cooling without use of glycole

Features

ENERGY SAVING
Energy saving guaranteed by free-cooling, which exploits the low external air temperatures; free-cooling control with optional modulating valve.

VERY HIGH EFFICIENCY
Top-level seasonal efficiency thanks to technlogical solutions at the forefront: magnetic levitation centrifugal compressors, flooded evaporator, EC fans and advanced control algorithms.

WIDE RANGE
Extended capacity range.

LOW INRUSH CURRENTS
Reduced breakaway starting currents thanks to the revolutionary centrifugal compressor.

EXTREMELY SILENT OPERATION
Extremely silent operation in line with the best on the market, and highly reduced vibrations

INTEGRATED HYDRONIC GROUP
It consists of 2 pumps with 4-pole motor, fixed or variable speed, with high or low head options to satisfy the different installation requirements.

Control

Electronic control W3000 TE
W3000TE features a large keyboard and wide LCD display for 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. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Accessories

- Modulating valve for water temperature control in Free-Cooling mode
- Hydronic group
- VPF (Variable Primary Flow) kit: variable flow pumps with on board regulation
- Compressor power factor correction
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Touch Screen visual display
- Remote control keyboard (distance to 200m and to 500m)

TECS-FC-G05/K			0211	0351	0452	0552	0652	0712
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	299,2	479,3	590,0	682,1	932,1	969,4
Total power input	(1)	kW	87,50	140,4	177,9	180,1	284,6	275,0
EER	(1)	kW/kW	3,419	3,414	3,316	3,787	3,275	3,525
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	297,1	475,7	586,0	677,0	925,4	962,2
EER	(1)(2)	kW/kW	3,310	3,300	3,220	3,650	3,180	3,410
TOTAL FREE-COOLING (GROSS VALUE)								
Cooling capacity	(3)	kW	299,2	479,3	590,0	682,1	932,1	969,4
EER	(3)	kW/kW	58,67	49,93	49,17	66,87	55,48	50,49
Total free-cooling temperature	(3)	°C	-1,8	-2,4	-1,8	-1,3	-2,5	-1,3
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Ambient refrigeration								
Prated,c	(8)	kW	258	411	504	602	790	842
SEER	(8)(9)		4,88	4,63	4,64	5,20	4,70	4,74
Performance ηs	(8)(10)	%	192	182	183	205	185	186
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	15,85	25,39	31,26	36,14	49,38	51,36
Pressure drop	(1)	kPa	84,3	97,2	88,0	102	101	105
REFRIGERANT CIRCUIT								
Compressors nr.		N°	1	1	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	120	140	260	260	320	320
NOISE LEVEL								
Sound Pressure	(4)	dB(A)	56	61	62	58	63	63
Sound power level in cooling	(5)(6)	dB(A)	88	93	94	91	96	96
SIZE AND WEIGHT								
A	(7)	mm	4000	4000	4900	6400	7000	7900
B	(7)	mm	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	3430	3850	5080	5820	6340	6900

TECS-FC-G05/K			0903	0953	1003	1164	1204
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	1173	1238	1409	1558	1627
Total power input	(1)	kW	319,5	372,8	425,0	456,2	459,3
EER	(1)	kW/kW	3,671	3,321	3,315	3,415	3,542
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	1166	1231	1399	1547	1615
EER	(1)(2)	kW/kW	3,570	3,240	3,220	3,310	3,430
TOTAL FREE-COOLING (GROSS VALUE)							
Cooling capacity	(3)	kW	1173	1238	1409	1558	1627
EER	(3)	kW/kW	48,88	51,58	53,37	49,94	52,15
Total free-cooling temperature	(3)	°C	-1,1	-2,5	-2,4	-1,5	-1,6
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Ambient refrigeration							
Prated,c	(8)	kW	1035	1056	1201	1343	1416
SEER	(8)(9)		4,59	4,42	4,50	4,33	4,37
Performance ηs	(8)(10)	%	181	174	177	170	172
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	62,16	65,59	74,62	82,52	86,21
Pressure drop	(1)	kPa	90,0	78,3	101	103	112
REFRIGERANT CIRCUIT							
Compressors nr.		N°	3	3	3	4	4
No. Circuits		N°	2	2	2	2	2
Refrigerant charge		kg	430	520	520	540	540
NOISE LEVEL							
Sound Pressure	(4)	dB(A)	64	64	65	65	65
Sound power level in cooling	(5)(6)	dB(A)	97	97	98	98	98
SIZE AND WEIGHT							
A	(7)	mm	10600	11200	11200	13000	13600
B	(7)	mm	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500
Operating weight	(7)	kg	9750	10260	10530	12290	12350

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 30%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, outdoors.
7 Unit in standard configuration/execution, without optional accessories.
8 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
9 Seasonal energy efficiency ratio
10 Seasonal space cooling energy efficiency

The units highlighted in this publication contain R513A [GWP_{100} 631] fluorinated greenhouse gases.

TECS-FC-G05

High efficiency air cooled chiller with free-cooling

0211 - 1204 299,2-1671 kW

TECS-FC-G05/CA			0211	0251	0351	0452	0552	0712	0803	0903	1003
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	306,5	351,4	492,6	609,7	705,6	979,4	1058	1195	1433
Total power input	(1)	kW	85,80	89,50	133,8	172,4	176,9	268,1	266,3	308,1	412,7
EER	(1)	kW/kW	3,572	3,926	3,682	3,537	3,989	3,653	3,973	3,879	3,472
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	304,2	348,7	488,7	605,3	700,0	972,0	1052	1187	1423
EER	(1)(2)	kW/kW	3,450	3,780	3,550	3,420	3,840	3,530	3,870	3,760	3,370
TOTAL FREE-COOLING (GROSS VALUE)											
Cooling capacity	(3)	kW	306,5	351,4	492,6	609,7	705,6	979,4	1058	1195	1433
EER	(3)	kW/kW	60,10	51,68	57,95	59,77	51,88	57,61	51,86	54,07	64,84
Total free-cooling temperature	(3)	°C	0,0	-0,1	-0,9	-0,4	0,5	-0,8	0,3	0,1	-1,5
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(8)	kW	268	317	431	529	642	857	962	1073	1233
SEER	(8)(9)		5,02	4,94	5,04	5,17	5,22	5,13	5,18	5,01	4,90
Performance ηs	(8)(10)	%	198	195	199	204	206	202	204	198	193
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	16,24	18,62	26,10	32,30	37,38	51,89	56,04	63,28	75,91
Pressure drop	(1)	kPa	88,5	94,9	103	94,0	109	107	73,1	93,3	105
REFRIGERANT CIRCUIT											
Compressors nr.		N°	1	1	1	2	2	2	3	3	3
No. Circuits		N°	1	1	1	1	1	1	2	2	2
Refrigerant charge		kg	120	120	140	260	280	320	430	430	520
NOISE LEVEL											
Sound Pressure	(4)	dB(A)	56	57	58	58	59	60	61	61	61
Sound power level in cooling	(5)(6)	dB(A)	88	89	90	91	92	93	94	94	94
SIZE AND WEIGHT											
A	(7)	mm	4000	4000	4900	6400	7900	10000	12100	13000	13000
B	(7)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	3660	3790	4380	5720	6770	8870	10530	11370	11730

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 30%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, outdoors.
7 Unit in standard configuration/execution, without optional accessories.
8 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
9 Seasonal energy efficiency ratio
10 Seasonal space cooling energy efficiency

The units highlighted in this publication contain R513A [GWP_{100} 631] fluorinated greenhouse gases.

TECS-FC-G05/NG/K			0211	0351	0452	0552	0652	0712
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	307,3	492,2	605,9	700,6	957,3	995,6
Total power input	(1)	kW	88,00	141,1	178,8	181,0	286,1	276,4
EER	(1)	kW/kW	3,492	3,488	3,389	3,871	3,346	3,602
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	305,0	487,9	601,3	694,5	949,4	987,6
EER	(1)(2)	kW/kW	3,380	3,360	3,280	3,710	3,230	3,470
TOTAL FREE-COOLING (GROSS VALUE)								
Cooling capacity	(3)	kW	307,3	492,2	605,9	700,6	957,3	995,6
EER	(3)	kW/kW	37,94	32,60	31,07	39,58	30,10	29,11
Total free-cooling temperature	(3)	°C	-4,8	-5,4	-4,9	-4,4	-5,6	-4,4
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Ambient refrigeration								
Prated,c	(8)	kW	258	410	502	600	789	840
SEER	(8)(9)		4,72	4,43	4,46	4,90	4,49	4,54
Performance ηs	(8)(10)	%	186	174	175	193	177	178
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	14,70	23,56	29,00	33,52	45,81	47,64
Pressure drop	(1)	kPa	96,2	126	111	135	132	127
REFRIGERANT CIRCUIT								
Compressors nr.		N°	1	1	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	120	140	260	260	320	320
NOISE LEVEL								
Sound Pressure	(4)	dB(A)	56	61	62	58	63	63
Sound power level in cooling	(5)(6)	dB(A)	88	93	94	91	96	96
SIZE AND WEIGHT								
A	(7)	mm	4000	4000	4900	6400	7000	7900
B	(7)	mm	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	4120	4620	6100	6990	7610	8280

TECS-FC-G05/NG/K			0903	0953	1003	1164	1204
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	1205	1271	1447	1600	1671
Total power input	(1)	kW	321,1	374,7	427,1	458,5	461,6
EER	(1)	kW/kW	3,753	3,392	3,388	3,490	3,620
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	1197	1263	1435	1586	1655
EER	(1)(2)	kW/kW	3,630	3,290	3,270	3,360	3,470
TOTAL FREE-COOLING (GROSS VALUE)							
Cooling capacity	(3)	kW	1205	1271	1447	1600	1671
EER	(3)	kW/kW	30,90	29,91	29,90	26,14	27,30
Total free-cooling temperature	(3)	°C	-4,2	-5,5	-5,5	-4,5	-4,7
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Ambient refrigeration							
Prated,c	(8)	kW	1033	1054	1198	1339	1412
SEER	(8)(9)		4,42	4,25	4,28	4,10	4,12
Performance ηs	(8)(10)	%	174	167	168	161	162
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	57,66	60,84	69,22	76,55	79,97
Pressure drop	(1)	kPa	111	107	138	150	165
REFRIGERANT CIRCUIT							
Compressors nr.		N°	3	3	3	4	4
No. Circuits		N°	2	2	2	2	2
Refrigerant charge		kg	430	520	520	540	540
NOISE LEVEL							
Sound Pressure	(4)	dB(A)	64	64	65	65	65
Sound power level in cooling	(5)(6)	dB(A)	97	97	98	98	98
SIZE AND WEIGHT							
A	(7)	mm	10600	11200	11200	13000	13600
B	(7)	mm	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500
Operating weight	(7)	kg	11700	12320	12640	14750	14820

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 0%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 0%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, outdoors.
7 Unit in standard configuration/execution, without optional accessories.
8 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
9 Seasonal energy efficiency ratio
10 Seasonal space cooling energy efficiency

The units highlighted in this publication contain R513A [GWP_{100} 631] fluorinated greenhouse gases.

TECS-FC-G05

High efficiency air cooled chiller with free-cooling

0211 - 1204 299,2-1671 kW

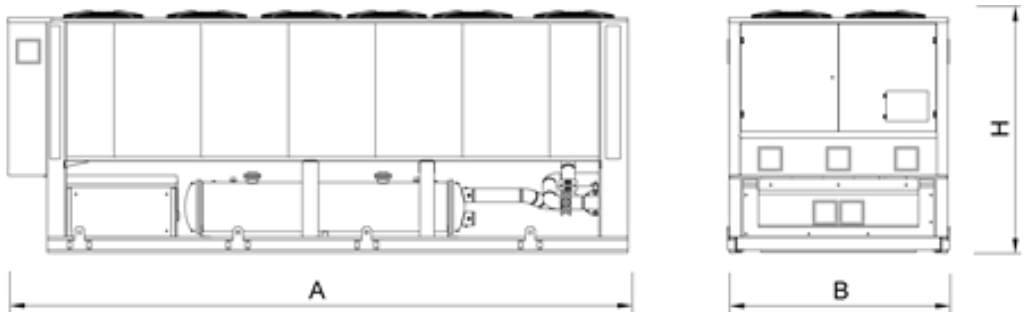
TECS-FC-G05/NG/CA			0211	0251	0351	0452	0552	0712	0803	0903	1003
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	314,8	360,9	505,9	626,1	724,6	1006	1086	1227	1472
Total power input	(1)	kW	86,30	89,90	134,4	173,3	177,8	269,4	267,6	309,7	414,8
EER	(1)	kW/kW	3,648	4,014	3,764	3,613	4,075	3,734	4,058	3,962	3,549
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	312,4	357,8	501,4	621,1	717,9	997,8	1080	1218	1460
EER	(1)(2)	kW/kW	3,520	3,850	3,610	3,480	3,890	3,590	3,940	3,830	3,420
TOTAL FREE-COOLING (GROSS VALUE)											
Cooling capacity	(3)	kW	314,8	360,9	505,9	626,1	724,6	1006	1086	1227	1472
EER	(3)	kW/kW	38,86	29,34	36,14	39,88	29,46	31,44	30,68	30,22	33,38
Total free-cooling temperature	(3)	°C	-3,1	-3,2	-4,0	-3,5	-2,6	-3,9	-2,8	-3,0	-4,6
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(8)	kW	268	316	430	528	640	855	960	1071	1230
SEER	(8)(9)		4,84	4,70	4,81	4,93	4,89	4,89	4,97	4,79	4,64
Performance ηs	(8)(10)	%	191	185	189	194	193	193	196	189	182
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	15,06	17,27	24,21	29,96	34,68	48,13	51,98	58,71	70,42
Pressure drop	(1)	kPa	101	118	130	118	144	130	90,3	114	143
REFRIGERANT CIRCUIT											
Compressors nr.		N°	1	1	1	2	2	2	3	3	3
No. Circuits		N°	1	1	1	1	1	1	2	2	2
Refrigerant charge		kg	120	120	140	260	280	320	430	430	520
NOISE LEVEL											
Sound Pressure	(4)	dB(A)	56	57	58	58	59	60	61	61	61
Sound power level in cooling	(5)(6)	dB(A)	88	89	90	91	92	93	94	94	94
SIZE AND WEIGHT											
A	(7)	mm	4000	4000	4900	6400	7900	10000	12100	13000	13000
B	(7)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	4400	4550	5260	6870	8130	10650	12640	13650	14080

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 0%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 0%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, outdoors.
7 Unit in standard configuration/execution, without optional accessories.
8 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
9 Seasonal energy efficiency ratio
10 Seasonal space cooling energy efficiency

The units highlighted in this publication contain R513A [GWP_{100} 631] fluorinated greenhouse gases.

Dimensional drawing



CHILLERS

TECS-EFC

0211 - 1204 300,2-1682 kW

High efficiency air cooled chiller with evaporative free-cooling

Outdoor unit for the production of chilled water, equipped with oil-free centrifugal compressors, R134a refrigerant, axial EC fans, condensing coil with copper tubes and aluminum fins, shell and tube flooded evaporator, evaporative cooling system and electronic expansion valve. Base, supporting structure and panels are of galvanized epoxy powder coated steel. The unit is supplied with refrigerant and has been factory tested. In free cooling mode, the liquid is cooled by outdoor air, thus lowering the load of the compressors until it is reduced to zero. The evaporative cooling system is made of treated cellulose pads and a water circulator that keeps the pads wet. It lowers the air temperature before it reaches unit's coils, thus increasing mechanical cooling efficiency and allowing free-cooling benefits to begin at higher outdoor temperatures.
The NG configuration complies with applications where it is not allowed or desired the use of ethylene glycol.

Refrigerant

R134a

Versions

K	Key efficiency, compact version
CA	High energy efficiency units

Configurations

-	Basic function
NG	Function for free-cooling without use of glycole

Features

EXTENSION OF FREE-COOLING TEMPERATURE RANGE
Thanks to the evaporative cooling system that decreases the outdoor air temperature, the unit can take full advantage of the free-cooling benefit also in climatic conditions that normally don't permit it.

ENERGY SAVING
Energy saving guaranteed by free-cooling, which exploits the low external air temperatures; free-cooling control with optional modulating valve.

VERY HIGH EFFICIENCY
Top-level seasonal efficiency thanks to technlogical solutions at the forefront: magnetic levitation centrifugal compressors, flooded evaporator, EC fans and advanced control algorithms.

WIDE RANGE
Extended capacity range.

LOW INRUSH CURRENTS
Reduced breakaway starting currents thanks to the revolutionary centrifugal compressor.

EXTREMELY SILENT OPERATION
Extremely silent operation in line with the best on the market, and highly reduced vibrations

INTEGRATED HYDRONIC GROUP
It consists of 2 pumps with 4-pole motor, fixed or variable speed, with high or low head options to satisfy the different installation requirements.

Control

Electronic control W3000 TE
W3000TE features a large keyboard and wide LCD display for 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. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Accessories

- Modulating valve for water temperature control in Free-Cooling mode
- Hydronic group
- VPF (Variable Primary Flow) kit: variable flow pumps with on board regulation
- Compressor power factor correction
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Touch Screen visual display
- Remote control keyboard (distance to 200m and to 500m)

TECS-EFC /K			0211	0351	0452	0552	0652	0712
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	300,2	479,1	589,5	684,8	935,0	974,2
EER	(1)	kW/kW	4,057	4,229	3,983	4,334	4,248	4,288
EER (evaporative system OFF)	(1)	kW/kW	3,431	3,374	3,291	3,773	3,253	3,508
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	298,0	475,5	585,5	679,6	928,2	966,9
EER	(1)(2)	kW/kW	3,910	4,070	3,850	4,160	4,090	4,120
EER (evaporative system OFF)	(1)(2)	kW/kW	3,324	3,265	3,198	3,640	3,155	3,393
TOTAL FREE-COOLING (GROSS VALUE)								
Cooling capacity	(3)	kW	300,2	479,1	589,5	684,8	935,0	974,2
EER	(3)	kW/kW	58,86	49,91	49,12	67,14	55,65	50,74
Total free-cooling temperature	(3)	°C	-2,3	-2,8	-2,3	-1,8	-3,1	-1,9
COOLING ONLY - maximum cooling capacity (GROSS VALUE)								
Cooling capacity	(1)	kW	317,5	506,8	631,3	717,6	1004	1016
EER	(1)	kW/kW	3,816	3,956	3,685	4,162	3,856	4,097
COOLING ONLY - maximum cooling capacity (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	315,0	502,6	626,5	711,7	995,8	1008
EER	(1)(2)	kW/kW	3,680	3,800	3,560	3,990	3,710	3,940
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Ambient refrigeration								
Prated,c	(8)	kW	258	409	501	601	788	841
SEER	(8)(9)		4,63	4,45	4,49	5,04	4,58	4,61
Performance ηs	(8)(10)	%	182	175	177	199	180	182
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	15,91	25,38	31,23	36,28	49,54	51,62
Pressure drop	(1)	kPa	85,1	97,4	88,1	103	102	106
REFRIGERANT CIRCUIT								
Compressors nr.		N°	1	1	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	120	140	260	260	320	320
NOISE LEVEL								
Sound Pressure	(4)	dB(A)	56	61	62	58	63	63
Sound power level in cooling	(5)(6)	dB(A)	88	93	94	91	96	96
SIZE AND WEIGHT								
A	(7)	mm	4000	4000	4900	6400	7000	7900
B	(7)	mm	3060	3060	3060	3060	3060	3060
H	(7)	mm	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	3760	4180	5490	6360	6940	7580

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C - 50% R.H.; Ethylene glycol 30%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, outdoors.
7 Unit in standard configuration/execution, without optional accessories.
8 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
9 Seasonal energy efficiency ratio
10 Seasonal space cooling energy efficiency

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.

TECS-EFC

High efficiency air cooled chiller with evaporative free-cooling

0211 - 1204 300,2-1682 kW

TECS-EFC /K			0903	0953	1003	1164	1204
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	1179	1243	1409	1567	1638
EER	(1)	kW/kW	4,262	4,180	4,238	4,168	4,242
EER (evaporative system OFF)	(1)	kW/kW	3,661	3,309	3,292	3,422	3,534
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	1171	1236	1399	1556	1626
EER	(1)(2)	kW/kW	4,120	4,060	4,090	4,020	4,080
EER (evaporative system OFF)	(1)(2)	kW/kW	3,555	3,231	3,197	3,319	3,417
TOTAL FREE-COOLING (GROSS VALUE)							
Cooling capacity	(3)	kW	1179	1243	1409	1567	1638
EER	(3)	kW/kW	49,12	51,79	53,37	50,22	52,50
Total free-cooling temperature	(3)	°C	-1,7	-3,0	-2,9	-2,1	-2,2
COOLING ONLY - maximum cooling capacity (GROSS VALUE)							
Cooling capacity	(1)	kW	1225	1328	1505	1653	1721
EER	(1)	kW/kW	4,119	3,848	3,893	3,928	4,033
COOLING ONLY - maximum cooling capacity (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	1217	1320	1493	1640	1707
EER	(1)(2)	kW/kW	3,980	3,730	3,750	3,790	3,870
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Ambient refrigeration							
Prated,c	(8)	kW	1034	1054	1195	1344	1418
SEER	(8)(9)		4,46	4,30	4,39	4,23	4,26
Performance ηs	(8)(10)	%	175	169	173	166	167
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	62,46	65,84	74,63	83,03	86,79
Pressure drop	(1)	kPa	91,1	79,1	102	105	114
REFRIGERANT CIRCUIT							
Compressors nr.		N°	3	3	3	4	4
No. Circuits		N°	2	2	2	2	2
Refrigerant charge		kg	430	520	520	540	540
NOISE LEVEL							
Sound Pressure	(4)	dB(A)	64	64	65	65	65
Sound power level in cooling	(5)(6)	dB(A)	97	97	98	98	98
SIZE AND WEIGHT							
A	(7)	mm	10600	11200	11200	13000	13600
B	(7)	mm	3060	3060	3060	3060	3060
H	(7)	mm	2500	2500	2500	2500	2500
Operating weight	(7)	kg	10670	11240	11510	13430	13540

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C - 50% R.H.; Ethylene glycol 30%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, outdoors.
7 Unit in standard configuration/execution, without optional accessories.
8 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
9 Seasonal energy efficiency ratio
10 Seasonal space cooling energy efficiency

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.

TECS-EFC /CA			0211	0251	0351	0452	0552	0712	0803	0903	1003
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	308,0	352,6	493,5	612,1	712,1	985,1	1065	1205	1436
EER	(1)	kW/kW	4,157	4,348	4,375	4,144	4,428	4,374	4,415	4,406	4,317
EER (evaporative system OFF)	(1)	kW/kW	3,586	3,905	3,642	3,518	3,994	3,636	3,968	3,878	3,453
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	305,7	349,8	489,6	607,7	706,3	977,6	1059	1197	1426
EER	(1)(2)	kW/kW	4,000	4,170	4,190	4,000	4,240	4,200	4,290	4,250	4,160
EER (evaporative system OFF)	(1)(2)	kW/kW	3,465	3,760	3,511	3,406	3,838	3,512	3,864	3,756	3,346
TOTAL FREE-COOLING (GROSS VALUE)											
Cooling capacity	(3)	kW	308,0	352,6	493,5	612,1	712,1	985,1	1065	1205	1436
EER	(3)	kW/kW	60,39	51,85	58,06	60,01	52,36	57,95	52,21	54,52	64,98
Total free-cooling temperature	(3)	°C	-0,6	-0,6	-1,4	-0,9	-0,1	-1,3	-0,2	-0,5	-2,0
COOLING ONLY - maximum cooling capacity (GROSS VALUE)											
Cooling capacity	(1)	kW	320,8	360,3	509,7	642,5	720,6	1018	1081	1226	1513
EER	(1)	kW/kW	3,990	4,279	4,233	3,937	4,391	4,231	4,368	4,344	4,055
COOLING ONLY - maximum cooling capacity (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	318,2	357,4	505,4	637,5	714,7	1010	1075	1218	1501
EER	(1)(2)	kW/kW	3,840	4,100	4,050	3,790	4,200	4,060	4,240	4,190	3,900
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(8)	kW	268	317	430	529	646	858	965	1077	1229
SEER	(8)(9)		4,76	4,72	4,86	4,99	5,01	4,95	5,00	4,84	4,76
Performance ηs	(8)(10)	%	187	186	191	196	197	195	197	191	187
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	16,32	18,68	26,14	32,43	37,72	52,18	56,41	63,86	76,09
Pressure drop	(1)	kPa	89,6	95,8	103	95,0	111	108	74,2	95,2	106
REFRIGERANT CIRCUIT											
Compressors nr.		N°	1	1	1	2	2	2	3	3	3
No. Circuits		N°	1	1	1	1	1	1	2	2	2
Refrigerant charge		kg	120	120	140	260	280	320	430	430	520
NOISE LEVEL											
Sound Pressure	(4)	dB(A)	56	57	58	58	59	60	61	61	61
Sound power level in cooling	(5)(6)	dB(A)	88	89	90	91	92	93	94	94	94
SIZE AND WEIGHT											
A	(7)	mm	4000	4000	4900	6400	7900	10000	12100	13000	13000
B	(7)	mm	3060	3060	3060	3060	3060	3060	3060	3060	3060
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	3990	4120	4790	6260	7450	9740	11590	12510	12870

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C - 50% R.H.; Ethylene glycol 30%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, outdoors.
7 Unit in standard configuration/execution, without optional accessories.
8 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
9 Seasonal energy efficiency ratio
10 Seasonal space cooling energy efficiency

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.

TECS-EFC

0211 - 1204 300,2-1682 kW

High efficiency air cooled chiller with evaporative free-cooling

TECS-EFC /NG /K			0211	0351	0452	0552	0652	0712
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	308,3	492,0	605,4	703,3	960,2	1001
EER	(1)	kW/kW	4,149	4,320	4,071	4,429	4,341	4,383
EER (evaporative system OFF)	(1)	kW/kW	3,507	3,445	3,363	3,856	3,325	3,587
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	306,0	487,7	600,8	697,1	952,2	992,9
EER	(1)(2)	kW/kW	4,000	4,130	3,920	4,220	4,150	4,200
EER (evaporative system OFF)	(1)(2)	kW/kW	3,394	3,316	3,256	3,696	3,208	3,458
TOTAL FREE-COOLING (GROSS VALUE)								
Cooling capacity	(3)	kW	308,3	492,0	605,4	703,3	960,2	1001
EER	(3)	kW/kW	38,06	32,58	31,05	39,73	30,19	29,27
Total free-cooling temperature	(3)	°C	-5,3	-5,9	-5,4	-4,9	-6,2	-4,9
COOLING ONLY - maximum cooling capacity (GROSS VALUE)								
Cooling capacity	(1)	kW	326,1	520,5	648,3	737,0	1031	1044
EER	(1)	kW/kW	3,901	4,041	3,765	4,253	3,940	4,189
COOLING ONLY - maximum cooling capacity (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	323,5	515,6	642,8	730,0	1021	1035
EER	(1)(2)	kW/kW	3,750	3,850	3,620	4,050	3,760	4,010
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Ambient refrigeration								
Prated,c	(8)	kW	257	408	500	600	786	839
SEER	(8)(9)		4,48	4,27	4,33	4,76	4,38	4,42
Performance ηs	(8)(10)	%	176	168	170	187	172	174
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	14,75	23,54	28,97	33,66	45,95	47,89
Pressure drop	(1)	kPa	97,1	126	111	136	133	129
REFRIGERANT CIRCUIT								
Compressors nr.		N°	1	1	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	120	140	260	260	320	320
NOISE LEVEL								
Sound Pressure	(4)	dB(A)	56	61	62	58	63	63
Sound power level in cooling	(5)(6)	dB(A)	88	93	94	91	96	96
SIZE AND WEIGHT								
A	(7)	mm	4000	4000	4900	6400	7000	7900
B	(7)	mm	3060	3060	3060	3060	3060	3060
H	(7)	mm	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	4450	4950	6510	7530	8210	8960

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C - 50% R.H.; Ethylene glycol 0%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 0%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, outdoors.
7 Unit in standard configuration/execution, without optional accessories.
8 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
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TECS-EFC /NG /K			0903	0953	1003	1164	1204
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	1210	1276	1448	1610	1682
EER	(1)	kW/kW	4,359	4,270	4,325	4,258	4,338
EER (evaporative system OFF)	(1)	kW/kW	3,739	3,380	3,367	3,498	3,611
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	1202	1267	1436	1596	1666
EER	(1)(2)	kW/kW	4,200	4,120	4,140	4,070	4,120
EER (evaporative system OFF)	(1)(2)	kW/kW	3,619	3,283	3,249	3,363	3,457
TOTAL FREE-COOLING (GROSS VALUE)							
Cooling capacity	(3)	kW	1210	1276	1448	1610	1682
EER	(3)	kW/kW	31,03	30,02	29,92	26,31	27,48
Total free-cooling temperature	(3)	°C	-4,7	-6,1	-6,0	-5,1	-5,3
COOLING ONLY - maximum cooling capacity (GROSS VALUE)							
Cooling capacity	(1)	kW	1258	1364	1545	1698	1768
EER	(1)	kW/kW	4,209	3,933	3,976	4,015	4,123
COOLING ONLY - maximum cooling capacity (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	1249	1354	1531	1682	1750
EER	(1)(2)	kW/kW	4,050	3,790	3,800	3,830	3,910
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Ambient refrigeration							
Prated,c	(8)	kW	1032	1052	1192	1340	1414
SEER	(8)(9)		4,30	4,14	4,19	4,10	4,10
Performance ηs	(8)(10)	%	169	163	165	161	161
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	57,90	61,07	69,29	77,05	80,49
Pressure drop	(1)	kPa	112	108	138	153	168
REFRIGERANT CIRCUIT							
Compressors nr.		N°	3	3	3	4	4
No. Circuits		N°	2	2	2	2	2
Refrigerant charge		kg	430	520	520	540	540
NOISE LEVEL							
Sound Pressure	(4)	dB(A)	64	64	65	65	65
Sound power level in cooling	(5)(6)	dB(A)	97	97	98	98	98
SIZE AND WEIGHT							
A	(7)	mm	10600	11200	11200	13000	13600
B	(7)	mm	3060	3060	3060	3060	3060
H	(7)	mm	2500	2500	2500	2500	2500
Operating weight	(7)	kg	12620	13300	13620	15890	16010

Notes

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TECS-EFC

High efficiency air cooled chiller with evaporative free-cooling

0211 - 1204 300,2-1682 kW

TECS-EFC /NG /CA			0211	0251	0351	0452	0552	0712	0803	0903	1003
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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	316,3	362,1	506,8	628,7	731,3	1012	1094	1237	1474
EER	(1)	kW/kW	4,251	4,438	4,473	4,237	4,525	4,466	4,509	4,508	4,416
EER (evaporative system OFF)	(1)	kW/kW	3,665	3,992	3,721	3,595	4,081	3,718	4,056	3,962	3,526
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	313,9	359,0	502,3	623,7	724,4	1004	1088	1228	1461
EER	(1)(2)	kW/kW	4,090	4,240	4,260	4,060	4,300	4,270	4,370	4,330	4,220
EER (evaporative system OFF)	(1)(2)	kW/kW	3,538	3,827	3,570	3,466	3,893	3,578	3,938	3,825	3,395
TOTAL FREE-COOLING (GROSS VALUE)											
Cooling capacity	(3)	kW	316,3	362,1	506,8	628,7	731,3	1012	1094	1237	1474
EER	(3)	kW/kW	39,05	29,44	36,20	40,04	29,73	31,62	30,90	30,47	33,42
Total free-cooling temperature	(3)	°C	-3,7	-3,7	-4,5	-4,1	-3,2	-4,4	-3,3	-3,6	-5,1
COOLING ONLY - maximum cooling capacity (GROSS VALUE)											
Cooling capacity	(1)	kW	329,5	370,0	523,5	659,9	740,0	1045	1110	1260	1554
EER	(1)	kW/kW	4,078	4,368	4,326	4,024	4,488	4,322	4,463	4,443	4,145
COOLING ONLY - maximum cooling capacity (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	326,8	366,7	518,6	654,2	732,9	1036	1103	1251	1540
EER	(1)(2)	kW/kW	3,910	4,170	4,120	3,860	4,260	4,130	4,320	4,270	3,950
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(8)	kW	268	316	428	528	644	856	963	1075	1225
SEER	(8)(9)		4,60	4,50	4,63	4,76	4,71	4,73	4,82	4,64	4,51
Performance ηs	(8)(10)	%	181	177	182	188	185	186	190	183	177
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	15,14	17,33	24,25	30,08	35,00	48,43	52,34	59,18	70,55
Pressure drop	(1)	kPa	102	119	130	119	147	132	91,8	116	144
REFRIGERANT CIRCUIT											
Compressors nr.		N°	1	1	1	2	2	2	3	3	3
No. Circuits		N°	1	1	1	1	1	1	2	2	2
Refrigerant charge		kg	120	120	140	260	280	320	430	430	520
NOISE LEVEL											
Sound Pressure	(4)	dB(A)	56	57	58	58	59	60	61	61	61
Sound power level in cooling	(5)(6)	dB(A)	88	89	90	91	92	93	94	94	94
SIZE AND WEIGHT											
A	(7)	mm	4000	4000	4900	6400	7900	10000	12100	13000	13000
B	(7)	mm	3060	3060	3060	3060	3060	3060	3060	3060	3060
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	4730	4880	5670	7410	8810	11520	13700	14790	15220

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C - 50% R.H.; Ethylene glycol 0%.
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Dimensional drawing