MITSUBISHI ELECTRIC
HYDRONICS & IT COOLING SYSTEMS S.p.A.

COMFORT

CHILLERS

FX 2 G04

AIR COOLED CHILLERS FOR OUTDOOR INSTALLATION, FROM 252 TO 1572 kW

r HFO 1234ze

melcohit.com

CLIMAVENETA®

FX2 G04

HIGH EFFICIENCY CHILLERS FOR LONG-TERM SUSTAINABILITY

**Air cooled chillers with screw compressors and HFO green refrigerant.
From 252 to 1572 kW.**

EUROVENT CERTIFIED PERFORMANCE
www.eurovent-certification.com

Designed to deliver a green approach to modern eco-sustainable buildings, FX2-G04 are air cooled chillers with screw compressors optimized for R1234ze refrigerant.

All the main hydraulic and mechanic components are integrated inside the unit, providing installers the ideal plug & play solution for any HVAC plant. The complete range is Eurovent certified and all the sizes are completely ErP2021 compliant.

A COMPLETE NEW GENERATION OF CHILLERS

EFFICIENCY

COOLING — **FX2-G04** Air cooled chillers

UP TO

	EER	SEER
A	3,42	4,84

A ▸ High efficiency

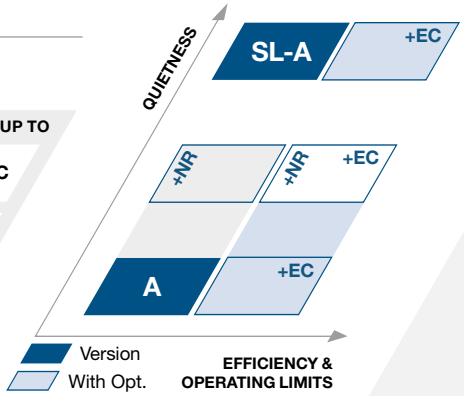
EER: 12/7°C, air 35°C (EN14511 values)
SEER: Regulation (EU) N. 2016/2281

OPERATING RANGE

COOLING

UP TO

AIR	from **-15°C** up to **+52°C**
WATER	from **-2°C** up to **+20°C**



ACOUSTIC VERSIONS

- **Low noise**

Unit with standard soundproofing equipment.	**Baseline**
Unit with compressor acoustical enclosure (Opt. 2301)	**-2 dB(A)**
Unit with noise reducer kit (Opt. 2315)	**-7 dB(A)**

SL-A **Super low noise**

The highest level of noise reduction without compromising the unit's efficiency.	**-12 dB(A)**

HEAT RECOVERY CONFIGURATIONS

Standard	Unit without heat recovery.	-
Partial heat recovery	A desuperheater on the compressor discharge line recovers approximately 20% of the unit's capacity. **Suitable for DHW production or other secondary uses, such as the integration of an existing boiler.**	**60°C**

ALL-ROUND SUSTAINABILITY

r HFO 1234ze

FX2-G04 is the result of Mitsubishi Electric Hydronics & IT Cooling Systems' extensive approach to sustainability.

Achieving outstanding performance and ensuring long-term sustainability are challenges that modern HVAC systems need to tackle.
Increasing concerns about the global warming impact of chillers and heat pumps is driving new regulatory policies to push towards even more efficient units with the lowest carbon footprint.
Today, an all-round approach is the only way to effectively reduce the Total Equivalent Warming Impact (TEWI).

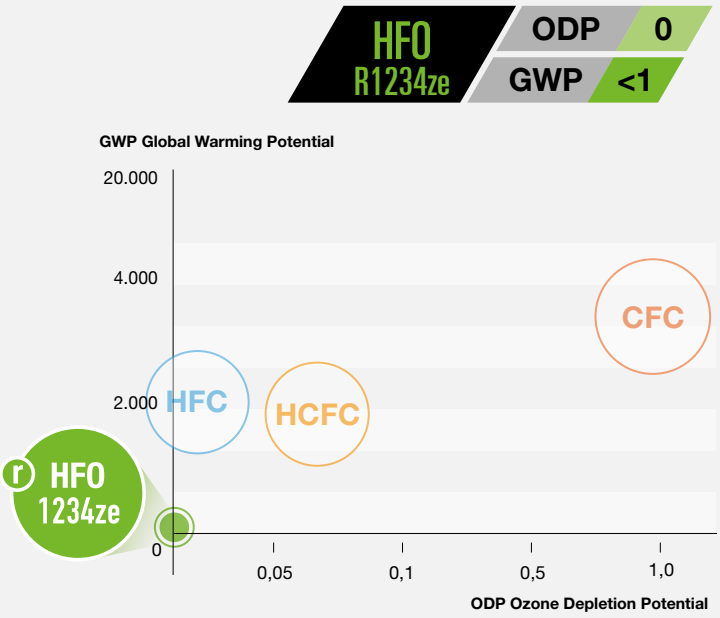
Fully committed to supporting the creation of a greener tomorrow, Mitsubishi Electric Hydronics & IT Cooling Systems designed FX2-G04, a complete chiller range optimized for HFO refrigerant R1234ze, with nearly zero environmental impact.

Combining brilliant annual efficiency with the use of a low GWP refrigerant, FX2-G04 tackles both the indirect (due to the primary energy consumption) and the direct global warming impact, thus resulting in the perfect choice for any new, forward-looking cooling system.

The environmental impact of the refrigerants is measured by two parameters:

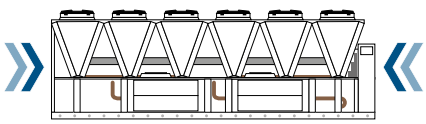
- **ODP:** Ozone Depletion Potential
- **GWP:** Global Warming Potential

While in the past the focus was on reducing ODP values to 0, new regulations encourage Member States to work harder on GWP.



HIGHER EFFICIENCY IN LESS SPACE

+8% COOLING CAPACITY
+9% SEASONAL EFFICIENCY



FX2-G04 delivers increased cooling capacity and efficiency compared to the previous generation, exceeding the most demanding efficiency thresholds.

SUPER SILENT OPERATION

THE MOST SILENT SCREW CHILLER ON THE MARKET

NR kit /// SL version

FX2-G04 chillers are key in providing perfect environmental comfort.

NR Kit is available for an outstanding sound levels while maintaining the same performance and footprint as the standard version.

For the ultimate acoustical performance, FX2-G04 is available in Super Low Noise configuration.

TECHNOLOGICAL CHOICES

W3000+ CONTROL

Management software developed fully in-house

- Proprietary settings for faster adaptive responses to different dynamics
- Enhanced diagnostics thanks to the black box function
- Connectivity with the most commonly used BMS protocols and M-Net Mitsubishi Electric proprietary protocol (Opt.)

KIPlink USER INTERFACE

Innovative Wi-Fi interface for an easy and enhanced unit management.

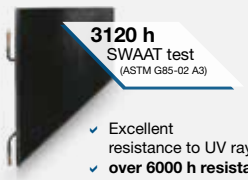
Patent-pending solution which optimizes the thermodynamic cycle

PATENT PENDING
PATENT PENDING

New generation full aluminum micro-channel coils for cooling only chillers

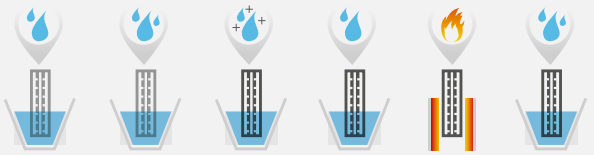
- Long Life Alloy (LLA) for higher corrosion resistance and longer life cycle
- Up to 30% of refrigerant charge reduction vs. traditional solutions
- Lower weight vs. traditional solutions

Al- E-coating treatment (opt.)



- Excellent resistance to UV rays.
- **over 6000 h resistance** as per ASTM B117
- **over 1000 h of surface protection against UV rays** as per ASTM G155-05a

E-coating process



HFO 1234ze refrigerant

4th generation refrigerant HFO 1234ze, with negligible greenhouse effect and zero impact on the ozone layer.

Negligible GWP
HFO 1234ze $GWP_{100\ year} < 1$
(R134a $GWP_{100\ year} = 1300$)
GWP values according to IPCC rev. 5th

Rapid molecule disintegration in the atmosphere
HFO 1234ze = 2 weeks
(R134a = 14 years)

Approved by international standards
ASHRAE 34, ISO 817:
A2L classification (non toxic, mildly flammable)

Compatible with common construction materials
No special components
No extra cost

In-line with environmental regulation objectives
No future retrofit required

BEST-IN-CLASS TECHNOLOGICAL CHOICES FOR HIGH-LEVEL PERFORMANCE AND SUPER SILENT OPERATION.

FANS

High performing, axial fans:

- External bell mouth for the highest efficiency and best-in-class sound power levels
- Variable Speed control as standard (DVVF), for large operating limits

EXTENDED LIMITS UP TO -15°C

EC AXIAL

EC fans (opt. available for all versions)

- Continuous regulation of air flow
- Reduced power consumption and increased efficiencies at partial loads
- Extended operating limits
- High ESP EC fan option for up to 150 Pa of available static pressure

Shell&Tube heat exchanger

Dry expansion, single pass S&T evaporator, fully developed in-house.

- Internally grooved copper tubes
- Possibility of inspection and tube cleaning
- Low pressure drops

Screw compressors

Dual rotor screw compressors designed according to Mitsubishi Electric Hydronics & IT Cooling Systems specifications and for its exclusive use.

- **Innovative internal geometry enhancing efficiency at part load operations**
- **Controlled lubrication system**
- **Extreme durability, with carbon steel bearings guaranteed for more than 150.000 hours**

HYDRONIC MODULES

The units come with pump control relay + 0-10V modulating signal to control an external pump as standard. The hydronic module (opt.) includes the Grundfos' pumps and all the main hydraulic components, which provides the best pairing with new FX2 range of chillers.

Pumps

- In-line configuration
- Twin pumps
- Fixed or variable speed
- Low or high head (approx. 100 or 200 kPa).

Pumps + Inverter

- External inverter to adjust the waterflow
- Reduced energy consumption through speed regulation
- Available flow control logics: Constant flow parameter-set, variable flow with VPF and VPF.D systems

Grundfos' pumps

- SiC/SiC (silicon carbide) primary seal pairing
- EPDM bellows seal
- Pull-out design

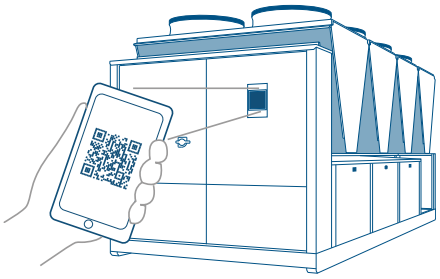
EVERYTHING UNDER YOUR CONTROL

KIPlink USER INTERFACE

An exclusive product of Mitsubishi Electric Hydronics & IT Cooling Systems.

Based on Wi-Fi technology, KIPlink is an option that allows one to operate the unit directly from a mobile device (smartphone, tablet, or notebook) by simply scanning the QR code positioned on the unit.

KIP LINK
Keyboard In your Pocket



MAIN FEATURES

Easier on-site operation

Monitor each component while moving around the unit for maintenance operations. View and change all parameters with easy-to-understand graphics and dedicated tooltips.
Get devoted “help” messages for alarm reset and trouble shooting.

Real-time graphs and trends

Monitor the immediate labor status of the compressors, heat exchangers, cooling circuits, and pumps.
View the real-time graphs of the key operating variable trends.

Data logger function

View history of events and use the filter for a simple search.
Enhance diagnostics with data and graphs of 10 minutes before and after each alarm. Download all the data for detailed analysis.

AS OPTION, FX2 IS AVAILABLE WITH:

- **Touch screen interface + KIPlink**

- **User-friendly Large Keyboard + KIPlink**

Touch Screen interface and large keyboard are available to substitute KIPlink.

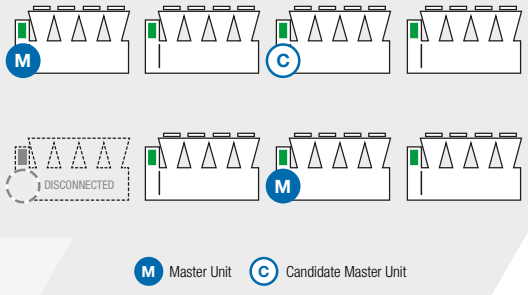
SMART LAN FUNCTIONS

FX2-G04 features embedded LAN logics for an easy connection between a group of chillers.

- **Up to 8 chillers connected to the same group.**
- **Load sharing and Sequencing.**
  Logics for the smart distribution of cooling loads among the units.
- **Selectable units’ start-up sequence.**
  To avoid simultaneous start-ups of different unit’s compressors in case of dangerous current peaks.
- **Stand by unit management with automatic unit rotation.**
- **Dynamic master with succession priority.**
  One master unit is elected to coordinate the group and if it becomes disconnected the candidate unit takes full control.
- **Resource priority management.**
  For a group of chillers, with different technologies, it is possible to set the usage priority of each unit, making the most of the available cooling resources. .

The entire cooling equipment works as one, with one master chiller that coordinates and optimizes the operation of the group.

MASTER SUCCESSION PRIORITY



FURTHER OPTIONS

Set-point adjustment

4-20 mA: Enables remote set-point adjustments (analog input).

Double set-point: Enables the remote switch between 2 set-points (digital input).

Set-point compensation: Automatic adjustment of the set-point on the basis of the outdoor temperature.

Control functions

Night mode: Limits the unit sound level reducing the usage of the resources. Sound power reduction (with factory settings): -3 dB(A).

U.L.C. User Limit Control: Controls a mixing valve (not included) to ensure a safe start-up and operation of the unit even in critical conditions.

Remote probe: Controls the unit's and pump's activation on the base of the water temperature of the buffer tank or hydraulic decoupler.

Demand limit: Limits the unit's power absorption for safety reasons or in temporary situations (digital input).

Electrical

Compressor rephasing: The capacitors on the compressors' line increase the unit's power factor.

Soft-starter: Manages the inrush current enabling lower motor windings' mechanical wear, avoidance of mains voltage fluctuations during starting and favorable sizing for the electrical system.

Connectivity

Serial card interface module to allow integration with BMS protocols:
Modbus / LonWorks / BACnet MS/TP / BACnet over IP / Konnex / Modbus TCP/IP/ SNMP

M-Net interface kit: Interface module to allow the integration of the unit with Mitsubishi Electric proprietary communication protocol M-Net.

Multi Manager options to allow easy connection between a group of chillers

Energy Meter

Energy meter for BMS: Acquires electrical data and the power absorbed by the unit and sends them the BMS for energy metering (Modbus RS485).

Energy meter for W3000+: The electrical data acquired is available directly on the unit's control.

Refrigerant circuit

Compressor suction and discharge valves: Installed for each compressor tandem or trio, the valves simplify maintenance activities. The user can work on the isolated valve for periodic maintenance or replacement, without removing the refrigerant from the circuit.

Dual pressure relief valves with switch: One valve is isolated from the refrigerant circuit while the other is in service. The userr can work on the isolated valve for periodic maintenance or replacement, without removing the refrigerant from the circuit.

Refrigerant leak detector

Leak detector: Factory installed device. In case of a gas leak detection it raises an alarm.

Leak detector + compressor off: Factory installed device. In case of a gas leak detection it raises an alarm and stops the units.

Hydraulic

Water flow switch: Designed to protect the unit when the water flow across the evaporator is not sufficient and falls outside of the operating parameters.

Structure

Anti-intrusion grilles: Perimeter metal grilles to protect against the intrusion of solid bodies into the unit structure.

Spring or rubber type anti-vibration mountings: Reduce vibrations, keeping noise transmission to a minimum.

Packing

Standard or nylon packing: The unit is provided with plastic supports, with or without a protective nylon layer.

Container packing: The unit is provided with metal slides and protective nylon layer for container loading.

FX 2 G04

0252 - 1593

Air cooled chillers
for outdoor installation
(from 252 to 1572 kW)

FX2-G04 / A

Model			0252	0302	0322	0352	0402	0452	0512	0572	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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	255,3	289,9	315,1	365,0	405,4	445,9	519,7	573,4	679,0
Total power input	(1)	kW	75,98	87,26	94,43	106,7	121,7	135,2	156,8	172,2	204,8
EER	(1)	kW/kW	3.359	3.321	3.338	3.421	3.331	3.298	3.314	3.330	3.315
ESEER	(1)	kW/kW	4.530	4.500	4.560	4.480	4.500	4.590	4.530	4.570	4.530
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	255,0	289,5	314,7	364,7	405,0	445,4	519,2	572,9	678,4
EER	(1)(2)	kW/kW	3.320	3.280	3.310	3.390	3.290	3.250	3.280	3.290	3.270
ESEER	(1)(2)	kW/kW	-	-	-	-	-	-	-	-	-
Cooling energy class			-	-	-	-	-	-	-	-	-
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (REG. EU 2016/2281)											
AMBIENT REFRIGERATION											
Prated,c	(7)	kW	255	290	315	365	405	445	519	573	678
SEER	(7)(8)		4,55	4,52	4,61	4,54	4,56	4,61	4,56	4,61	4,60
Performance ηs	(7)(9)	%	179	178	181	178	179	181	179	182	181
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	12,21	13,86	15,07	17,46	19,39	21,32	24,85	27,42	32,47
Pressure drop at the heat exchanger	(1)	kPa	38,1	36,3	23,9	32,1	39,7	48,0	34,3	41,8	51,5
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	55,0	59,0	67,0	72,0	81,0	93,0	98,0	123
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	2640	2640	2640	2640	2640	2640	2640	2640	2640
Operating weight	(6)	kg	3540	3560	3660	3810	4470	4990	5190	5250	6710

Model			0772	0902	0972	1052	1152	1243	1373	1503	1593
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	781,7	903,5	967,9	1058	1145	1239	1362	1488	1561
Total power input	(1)	kW	235,6	276,0	287,2	319,7	343,6	373,1	415,8	446,3	473,4
EER	(1)	kW/kW	3.318	3.274	3.370	3.309	3.332	3.321	3.276	3.334	3.297
ESEER	(1)	kW/kW	4.550	4.530	4.540	4.590	4.630	4.550	4.570	4.590	4.600
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	781,0	902,9	967,1	1057	1145	1238	1361	1487	1560
EER	(1)(2)	kW/kW	3.270	3.240	3.330	3.270	3.290	3.280	3.240	3.290	3.250
ESEER	(1)(2)	kW/kW	-	-	-	-	-	-	-	-	-
Cooling energy class			-	-	-	-	-	-	-	-	-
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (REG. EU 2016/2281)											
AMBIENT REFRIGERATION											
Prated,c	(7)	kW	781	903	967	1057	1145	1238	1361	1487	1560
SEER	(7)(8)		4,63	4,61	4,64	4,65	4,69	4,63	4,58	4,67	4,69
Performance ηs	(7)(9)	%	182	181	183	183	185	182	180	184	185
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	37,38	43,21	46,28	50,57	54,77	59,24	65,14	71,14	74,65
Pressure drop at the heat exchanger	(1)	kPa	54,3	35,3	52,5	48,4	53,3	46,9	46,2	55,1	60,7
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	142	152	160	191	195	216	222	232	248
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	2640	2640	2640	2640	2640	2640	2640	2640	2640
Operating weight	(6)	kg	7650	7900	8340	9370	9440	11380	12070	12680	12930

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 taken in compliance with ISO 9614.
5 ▸ Sound power level in cooling, outdoors.
6 ▸ Unit in standard configuration, 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 HFO-1234ze [GWP_{100} 7] fluorinated greenhouse gases.

Certified data in EUROVENT

EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com

VPF VARIABLE PRIMARY FLOW

COOLING SCREW SHELL&T. AXIAL HFO 1234ze

FX2-G04 / SL-A

Model			0252	0302	0322	0352	0402	0452	0512	0572	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	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	252,3	286,2	310,7	362,2	399,4	445,7	512,4	567,7	669,5
Total power input	(1)	kW	74,66	86,37	93,79	106,2	121,3	132,5	156,1	173,0	203,9
EER	(1)	kW/kW	3.378	3.312	3.312	3.411	3.293	3.364	3.283	3.282	3.283
ESEER	(1)	kW/kW	4.560	4.520	4.580	4.510	4.500	4.630	4.550	4.590	4.540
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	252,0	285,9	310,4	361,8	399,0	445,2	512,0	567,2	668,9
EER	(1)(2)	kW/kW	3.340	3.270	3.280	3.380	3.260	3.320	3.250	3.240	3.240
ESEER	(1)(2)	kW/kW	-	-	-	-	-	-	-	-	-
Cooling energy class			-	-	-	-	-	-	-	-	-
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (REG. EU 2016/2281)											
AMBIENT REFRIGERATION											
Prated,c	(7)	kW	252	286	310	362	399	445	512	567	669
SEER	(7)(8)		4,57	4,53	4,61	4,56	4,56	4,65	4,56	4,62	4,59
Performance ηs	(7)(9)	%	180	178	181	179	179	183	179	182	181
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	12,07	13,69	14,86	17,32	19,10	21,31	24,50	27,15	32,02
Pressure drop at the heat exchanger	(1)	kPa	37,2	35,4	23,3	31,6	38,5	47,9	33,4	41,0	50,1
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	55,0	59,0	67,0	72,0	85,0	93,0	98,0	123
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	2640	2640	2640	2640	2640	2640	2640	2640	2640
Operating weight	(6)	kg	3810	3830	3930	4080	4930	5620	5720	5780	7320

Model			0772	0902	0972	1052	1152	1243	1373	1503	1593
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	771,7	893,3	959,0	1044	1133	1222	1352	1482	1572
Total power input	(1)	kW	234,8	265,2	287,9	318,4	344,3	372,8	411,5	442,8	479,8
EER	(1)	kW/kW	3.287	3.368	3.331	3.279	3.291	3.278	3.286	3.347	3.276
ESEER	(1)	kW/kW	4.560	4.540	4.550	4.600	4.640	4.560	4.590	4.640	4.640
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	771,1	892,6	958,2	1043	1133	1221	1351	1481	1572
EER	(1)(2)	kW/kW	3.240	3.330	3.290	3.240	3.250	3.240	3.250	3.300	3.250
ESEER	(1)(2)	kW/kW	-	-	-	-	-	-	-	-	-
Cooling energy class			-	-	-	-	-	-	-	-	-
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (REG. EU 2016/2281)											
AMBIENT REFRIGERATION											
Prated,c	(7)	kW	771	893	958	1043	1133	1221	1351	1481	1572
SEER	(7)(8)		4,63	4,62	4,64	4,65	4,70	4,63	4,60	4,72	4,74
Performance ηs	(7)(9)	%	182	182	183	183	185	182	181	186	186
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	36,91	42,72	45,86	49,92	54,20	58,44	64,65	70,87	75,20
Pressure drop at the heat exchanger	(1)	kPa	53,0	44,7	51,5	47,2	52,2	45,6	45,5	54,7	35,9
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	142	155	160	191	195	216	233	243	253
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	2640	2640	2640	2640	2640	2640	2640	2640	2640
Operating weight	(6)	kg	8270	8910	8980	10010	10080	12300	13620	13740	13880

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 taken in compliance with ISO 9614.
5 ▸ Sound power level in cooling, outdoors.
6 ▸ Unit in standard configuration, 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 HFO-1234ze [GWP_{100} 7] fluorinated greenhouse gases.

Certified data in EUROVENT

MORE THAN 1000 PROJECTS ALL OVER THE WORLD

RATTI HEADQUARTERS

2018 GUANZATE (CO) – ITALY

Application:
Office Buildings

Cooling capacity:
1056 kW

Installed machines:
2x FX HFO/SL-A/S 2722

PROJECT

Ratti, founded in 1945, is one of the world's leading manufacturers of printed, plain, yarn-dyed and jacquard fabrics for international luxury and pret-à-porter brands. Its yearly production exceeds four million meters of fabric. Exports account for approximately 70% of total sales.

CHALLENGE

Ratti's headquarters and production facilities are located in Guanzate, near Como. Ratti understands the importance of quality, respect for the environment, safety and social responsibility. In fact, it is actively pursuing path of sustainable development with a focus on environmental protection. Thanks to self-produced energy through sustainable technologies such as the photovoltaic plant, in 2017 Ratti avoided the emission of 310 tons of CO_2.

SOLUTION

With these successful sustainable actions in mind, when it came time to update the HVAC system of their offices, Ratti chose Climaveneta brand air-cooled chillers with 4th generation HFO eco-friendly refrigerants, specifically, 2 FX HFO/SL-A/S 2722 chillers. The refrigerant HFO 1234ze selected ensures GWP levels near 0 (compared to GWP values of 1430 for R134a gas) and no toxicity, while continuing to guarantee high energy performance levels.

Every project is characterised by different needs and system specifications for various climates. All these projects share high energy efficiency, maximum integration, and total reliability resulting from the Climaveneta brand experience.

MAINOVA AG

Frankfurt - Germany

Period: 2018
Application: Office Buildings
Plant type: Hydronic System
Cooling capacity: 293 kW
Installed machines:
1x FX HFO/A 1802

QUIRON VALENICA HOSPITAL

Valencia - Spain

Period: 2018
Application: Healthcare / Hospitals
Plant type: Hydronic System
Cooling capacity: 289 kW
Installed machines:
1x FX HFO/SL-A/S 1802

DE BIJENKORF AMSTERDAM

Amsterdam - Netherland

Period: 2018
Application: Retail
Plant type: Hydronic System
Cooling capacity: 415 kW
Installed machines:
1x FX HFO SL-A

GABBANA

Windhof - Luxembourg

Period: 2017
Application: Office Buildings
Plant type: Hydronic System
Cooling capacity: 386 kW
Installed machines:
1x FX-FC HFO/NG/SL-T+/S 2602

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for a greener tomorrow

Eco Changes is the Mitsubishi Electric Group's environmental statement, and expresses the Group's stance on environmental management. Through a wide range of businesses, we are helping contribute to the realization of a sustainable society.

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