

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

COMFORT

CHILLERS

i-FX-G05 AIR COOLED CHILLERS WITH INVERTER SCREW COMPRESSORS, FROM 477 TO 1697 kW



r R513A

INVERTER TOTAL
TECHNOLOGY

i-FX-G05

THE GREEN FULL INVERTER CHILLER DEVOTED TO THE HIGHEST EFFICIENCY. ALWAYS.



Air cooled chiller with inverter screw compressors for outdoor installation from 477 to 1697 kW

i-FX-G05 is the new high performing chiller which features inverter driven screw compressors and high performing variable speed fans. Dedicated to comfort applications – from small retail

projects to large commercial and district cooling schemes, the air cooled chiller has been perfectly designed for reducing operating costs while keeping an extremely compact design.

QUICK&EASY INSTALLATION AND MAINTENANCE



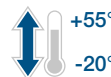
A vast array of already mounted options together with a smart unit design for quick and easy installation and maintenance operations.

HIGH DEGREE OF CONFIGURABILITY



Always the right solution for every project thanks to many specifically developed versions and a bespoke list of options (e.g. the integrated hydronic modules, several water flows controls).

EXTENDED OPERATING RANGE



Wide operating range, working with outdoor air temperatures from -20°C up to +55°C thanks to specifically developed options and smart control logics.

LEADING INVERTER TECHNOLOGY

The new i-FX-G05 showcases the latest variable speed technology applied on:

- ✓ dual screw compressors with integrated refrigerant cooled inverter motor and variable Vi technology
- ✓ high efficiency variable speed fans
- ✓ integrated variable speed hydronic modules (opt.)

COMPLETE RANGE OF CHILLERS

K	K efficiency	EER: 2,76	SEER: 4,84 up to: 5,00
K +EC fans	K efficiency	EER: 2,79	SEER: 5,05 up to: 5,25
A	High efficiency	EER: 3,03	SEER: 5,22 up to: 5,33

EER conditions: evap 12/7°C, air 35°C - SEER according to the Regulation (EU) N.2281/2016

ACOUSTIC VERSIONS

-	Standard	Unit with standard compressor's enclosures.	Baseline
		Unit with noise reducer kit (Opt. 2315).	-3 dB(A)
SL	Super low noise	The highest level of noise reduction which cuts noise emissions down to -9dB(A), without compromising the unit's efficiency.	-9 dB(A)

HEAT RECOVERY CONFIGURATIONS

-	Standard unit	Unit for the production of chilled water.	-
D	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
R	Total heat recovery	A devoted refrigerant water heat exchanger recovers all the condensation heat. Suitable for DHW production or air treatment in applications with AHU.	up to 60°C

ALL-ROUND SUSTAINABILITY



i-FX-G05 is the result of Mitsubishi Electric Hydronics & IT Cooling Systems' extensive approach to sustainability.

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 support the creation of a greener tomorrow, Mitsubishi Electric Hydronics & IT Cooling Systems designed i-FX-G05, a complete chiller range with reduced environmental impact, optimized for R513A refrigerant.

Combining brilliant annual efficiency with the use of a low GWP refrigerant, i-FX-G05 tackles both the indirect (due to primary energy consumption) and the direct global warming, thus resulting in the perfect choice for any new, forward-looking cooling system.



LOW GWP

-56% GWP vs R134a



Non-flammable

Safety Class A1

REFRIGERANT BENCHMARK

SCROLL			SCREW		
Refrigerant	GWP*	Flammability**	Refrigerant	GWP*	Flammability**
R410A	2088	NON flammable	R134a	1430	NON flammable
R32	675	MILDLY flammable	R513A	631	NON flammable
R454B	466	MILDLY flammable	R1234ze	7	MILDLY flammable
R452B	698	MILDLY flammable	R1234yf	4	MILDLY flammable

*IPCC AR4 **ASHRAE 34 - ISO 817

New regulations like the EU F-gas and the Kigali Amendment to the Montreal Protocol, are driving the industry towards new eco-friendly refrigerants, with reduced greenhouse effect.

Unfortunately, the majority of low GWP refrigerants raises another critical issue: flammability.

The new refrigerant R513A, chosen for i-FX-G05, is a brilliant exception: it offers a -56% GWP reduction compared to R134a's while ensuring complete non-toxicity and non-flammability (Class A1 of ASHRAE 34, ISO 817).

PROFOUND EXPERTISE



With thousands of units installed worldwide since 2003, Climaveneta air-cooled screw chillers have evolved into the third generation: i-FX-G05 series. The highest manufacturing quality, proven reliability, and full configurability are the reasons behind the success of this range. Today i-FX-G05 combines extensive expertise with the latest technology to deliver you the best value.

TOP-LEVEL PERFORMANCE



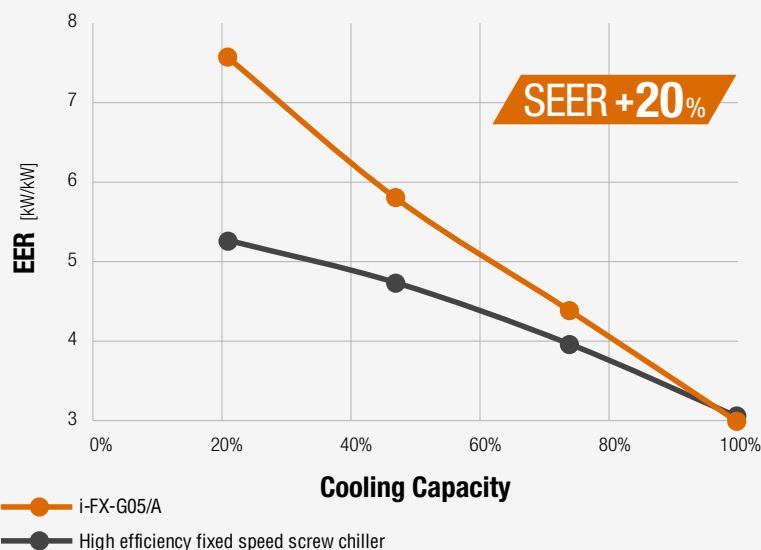
Fully customizable with a range of versions and accessories, i-FX-G05 allows custom-made application design for individual projects. Thanks to devoted technological solutions and accurate design, each i-FX-G05 configuration brings high full load performance and brilliant part load efficiency together, thus helping individuals and businesses reduce the energy consumption of their HVAC systems and cut their running costs.



FULL INVERTER TECHNOLOGY



HIGHER ENERGY EFFICIENCY



The increase in efficiency compared to high efficiency ErP 2018 compliant fixed speed units is expressed by drawing the EER trend to the conditions defined by the ErP directive 2009/125 /EC necessary for the calculation of SEER seasonal parameters.

ErP 2021 COMPLIANT



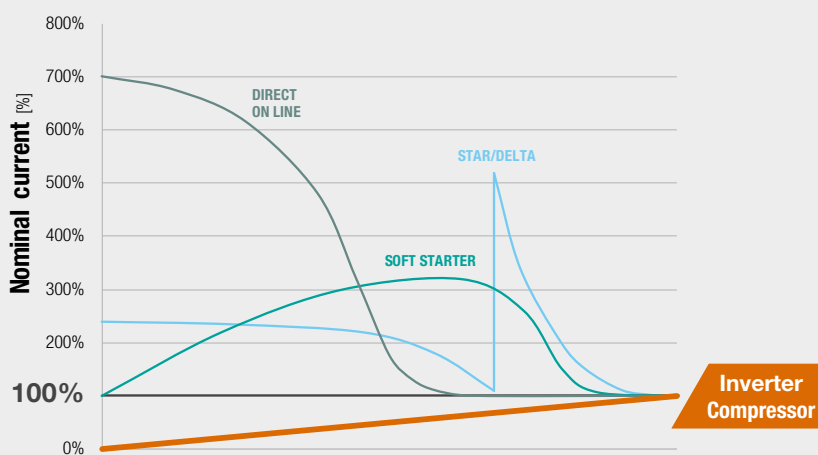
In most of cases, in comfort applications units are working at full load only for a very few hours every year.

This means that for most of the time the units are working partialized. In this condition the inverter and variable Vi technology makes the real difference in terms of efficiency, even compared to the latest generation high efficiency fixed speed units.



ABSENCE OF IN-RUSH CURRENTS

The inverter technology involves a start-up phase with very low in-rush current. The frequency converters chosen by Mitsubishi Electric are characterized by values of Displacement Power Factor of between 0,97 and 0,99.



No electrical and mechanical stress

The unit never exceeds the nominal current, not even when starting up.

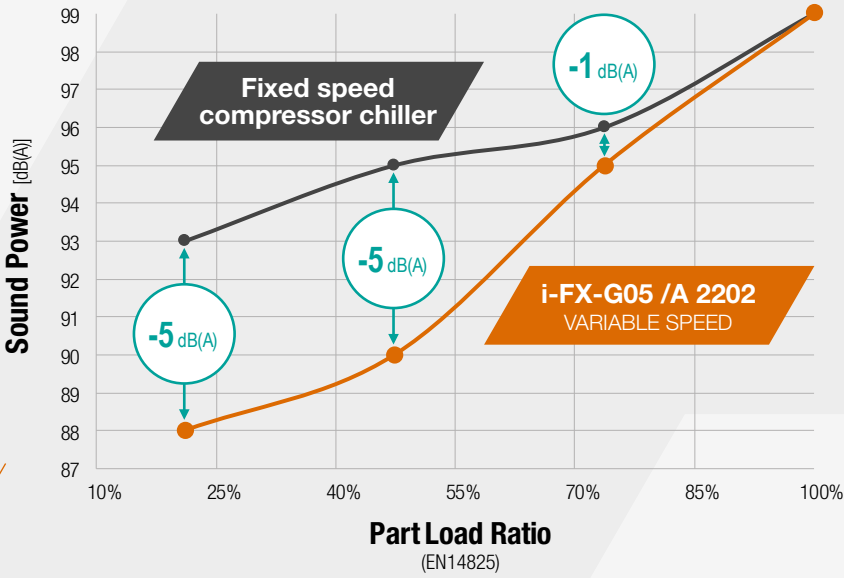
No additional equipment needed

Such as star/delta commutators or soft starters in order to reduce the in-rush currents.

The new i-FX-G05 chillers apply variable speed technology in all of its main components, achieving top-level performances in any load condition.



REDUCED SOUND POWER LEVELS



LOWER SPEED, LOWER NOISE

The unit working in partial loads is far more silent than a fixed speed compressor unit.

In applications with units working at part load for most of the year, i-FX-G05 ensures extremely low noise operations down to -5dB(A).

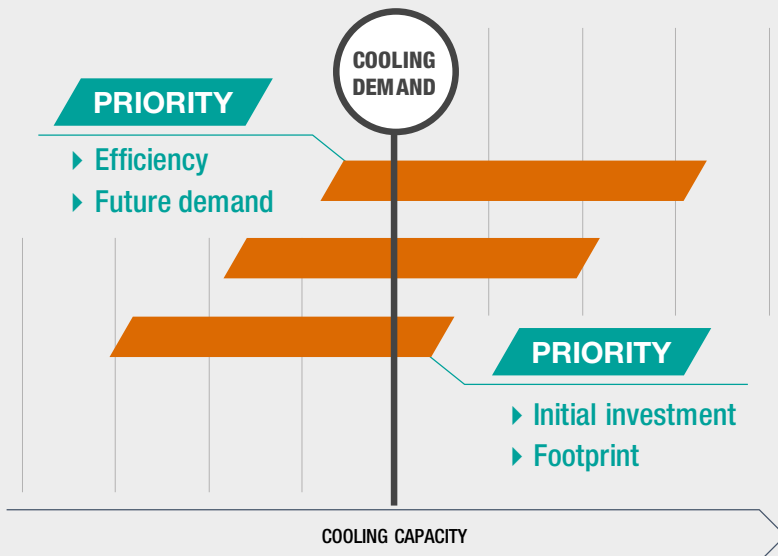
Ideal for sound sensitive environments

- ✓ Museums and Theatres
- ✓ Hospitals
- ✓ Institutions
- ✓ Hotels



FLEXIBLE SELECTION

The smart design of the units combined with the ELCAWorld selection software allows you to always choose the right unit for every project, prioritizing efficiency, additional future plant demands or reducing the initial investment and the footprint.



Choose YOUR target

- EFFICIENCY**
- INITIAL INVESTMENT**
- FOOTPRINT**
- FUTURE PLANT DEMANDS**

TECHNOLOGICAL CHOICES

W3000TE CONTROL

Fully in-house developed management software.

- ▶ Efficient and reliable operation in all conditions
- ▶ Connectivity with the most commonly used BMS protocols (Opt.)

KIPLink USER INTERFACE

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



Built-in pump group (Opt.)

Factory-mounted pumps and pre-plumbed hydraulic components, for minimum on-site installation time, work, and cost.

- ▶ Fix speed and variable speed pumps available, with low or high head
- ▶ Electronic primary flow controls for constant pressure or constant temperature

Casing

Base and frame made of hot-galvanized steel, all parts polyester-painted.

- ▶ Easy access to all inner components
- ▶ Simple transport, lifting, and handling
- ▶ Total weather resistance

Refrigerant circuits

One independent refrigerant circuit per compressor, to grant reliability and easy maintenance. Compressor enclosures are supplied as standard in all versions.

Variable speed fans

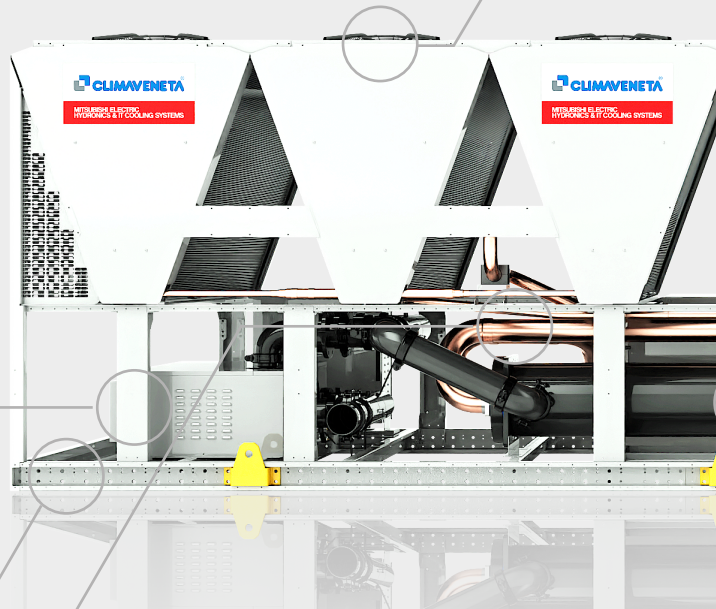
New generation AC and EC fans for precise airflow management and reduced power consumption.

i-FX-G05 / K versions

High performing axial fans equipped with autotransformer for speed adjustment

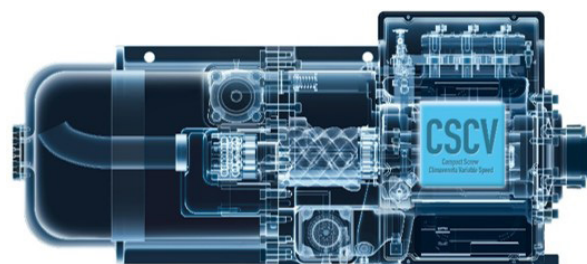
i-FX-G05 / A versions

High performing EC fans, for higher efficiency and continuous speed modulation



CSCV Compressors

Inverter, Variable Vi dual rotor screw compressors, designed according to Mitsubishi Electric Hydronics & IT Cooling Systems specifications and for its' exclusive use.



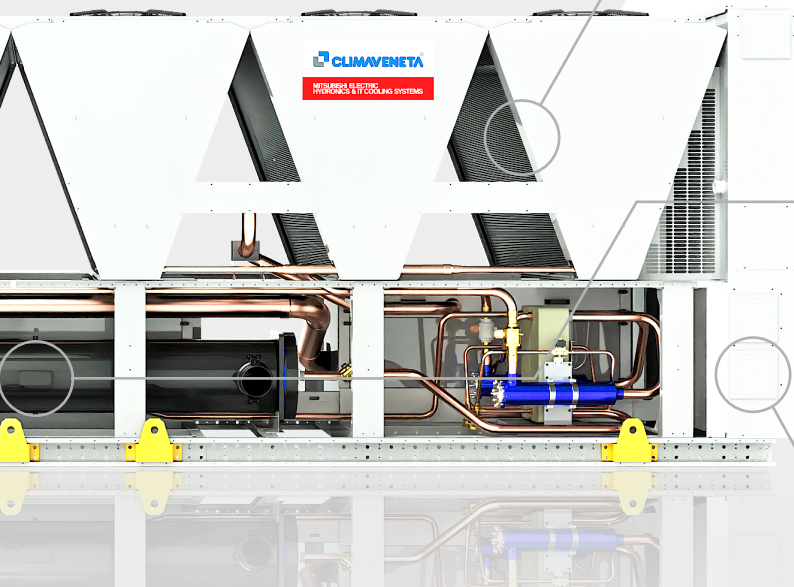
Trusted reliability, simplified installation, maximized performance: i-FX-G05 improves the already high performance of the fixed speed chiller range adding new exceptional features.



Micro-channel coils

New generation full aluminum micro-channel coils, ideally positioned on a "V" block structure to optimize airflow and heat transfer.

- ▶ Up to 30% of refrigerant charge reduction vs. traditional tube and fin coils.
- ▶ Long Life Alloy (LLA) for higher corrosion resistance and longer life cycle
- ▶ Protective coating available for harsh industrial and marine environments (Opt.)



Low GWP refrigerant

New generation refrigerant with reduced greenhouse effect. Non-flammable.

Reduced GWP

R513A GWP_{100 year} = 572
(R134a GWP_{100 year} = 1300)

GWP values according to IPCC AR5

Non-toxic, non-flammable

ASHRAE 34, ISO 817: A1 class

Favorable physical properties

Same cooling capacity delivered as R134a
Same operating pressures as R134a

In line with standard building codes

No special equipment
No need for flammable risk assesment
No extra costs

Compliant with eco regulation objectives

No future retrofit required
Reduced price volatility

Shell and tube evaporator

Dry expansion, single pass shell and tube evaporator, fully developed by Mitsubishi Electric Hydronics & IT Cooling Systems.

- ▶ Internally grooved copper tubes for enhanced heat exchange
- ▶ Low pressure drops
- ▶ Fully protected against ice formation

Electrical panel

Large electrical panel with power circuit components and control main board.

- ▶ Forced-air cooling system

SMART VARIABLE Vi LOGIC

Variable Speed Drive

Integrated and compact frequency converter, refrigerant cooled, for outstanding seasonal efficiency and wide capacity regulation.

Automatic internal volume ratio adaption

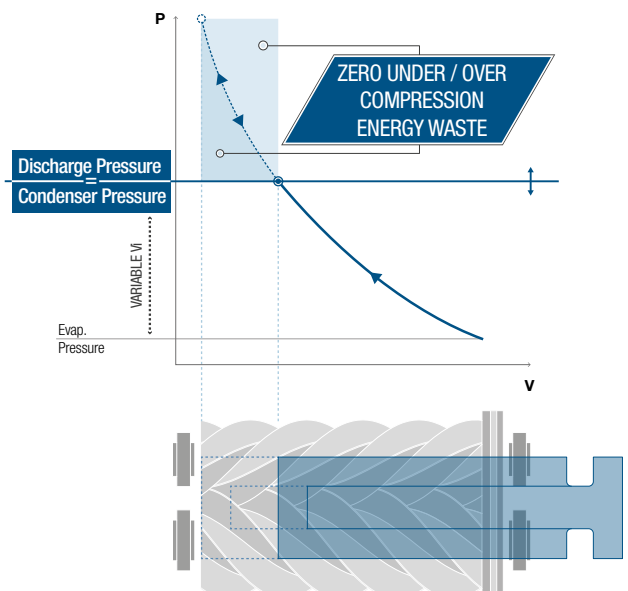
Obtained thanks to an integrated Vi slider which adapts the internal geometry to the current operating condition, thus ensuring the best efficiency.

Extra durability achieved thanks to dedicated components:

- Envelope control function, 3-stage warning and alarm system, safe-torque-off function.
- Carbon steel bearings granted for a lifetime of over 150.000 hours.

High efficiency high speed motor

For unprecedented full and part load efficiencies and extremely wide and accurate capacity regulation.



CORE FEATURES FOR ALL YOUR EQUIPMENT NEEDS

W3000TE control and KIPLink innovative interface

The logic behind i-FX-G05 is the W3000TE control software. Characterized by advanced functions and algorithms, **W3000TE features proprietary settings** that ensure faster adaptive responses to different dynamics, in all operating modes. Direct control over the unit comes through the innovative KIPLink interface.

Based on Wi-Fi technology, **KIPLink** gets rid of the standard keyboard and **allows one to operate on the unit directly from a mobile device** (smartphone, tablet, notebook).



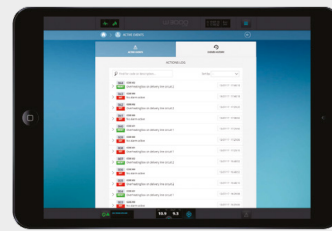
Easier on-site operation

Monitor each component while moving around the unit for maintenance operations. View and change all parameters with easy-to-understand screenshots 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.

How to access the unit with KIPLink



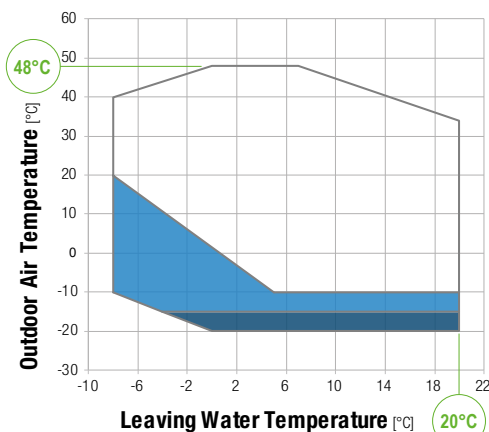
Direct access to the W3000TE control is achieved by scanning the QR-code positioned on the front side of the i-FX-G05 unit.



The three-colour LED button positioned on the electrical board allows the user to switch the unit on/off and visualize the general status of the equipment without using any mobile device.

In addition (Opt. 1442, 1444) or in substitution (Opt. 6194, 6195) to the KIPLink, i-FX-G05 can be provided with: a 7" color touch screen interface or with a keyboard with large display and LED icons. In these cases, the LED switch is not provided. Remote keyboard is possible (Opt. C9261063, C9261064, C926108911, C926108913).

EXTENSIVE OPERATING LIMITS



K VERSION (Standard)

FULL LOAD OPERATION

- Standard unit
- Required: EC fans (Opt. 808)
- Required: EC fans (Opt. 808)
Low temp. device DBA (Opt. 813)

Air temp. < -10°C
Double insulation on heat exchangers (Opt. 2631)

LWT < 0°C
Compressor liquid injection (Opt. 871)

EC fans (Opt. 808)
Maximum outside air temperature: 46°C

PARTIAL LOAD OPERATION

In case of higher outdoor air temperature, i-FX-G05 automatically partializes its resources to ensure uninterrupted operation (HPTC function).

Operating limits when working partialized (water *7°C):
up to 53°C

Climaveneta brand products have always been synonymous for best in class performance and high versatility. This is particularly true for i-FX-G05, the innovative chiller where all the features have been designed for complete customer peace of mind.

Hydronic modules and flow controls

i-FX-G05 units come equipped as standard with terminal and modulating signal (0-10V) to control the activation and speed of one external variable speed pump, with the internally developed VPF.E control logic, which adjusts the pump speed on the basis of the plant's thermal load, in order to maintain the defined plant-side ΔT (primary circuit).



Factory-mounted pump group

2 pumps (duty/standby) provide low or high head (available head approx. 100 or 200 kPa)

Fixed speed pumps

2 pump, 2-pole motor: Opt. 4711 (LH) / 4712 (HH)
2 pump, 4-pole motor: Opt. 4708 (LH) / 4709 (HH)

Variable speed pumps

2 pump, 2-pole motor: Opt. 4722 (LH) / 4723 (HH)
2 pump, 4-pole motor: Opt. 4719 (LH) / 4721 (HH)

Close-coupled pumps
by Grundfos

Terminals for external pump control

The unit controls the activation and speed of 1 or 2 external pumps.

Terminals + Modulating signal

1 pump: Standard
2 pumps: Opt. 4714

These arrangements allow to control the activation / deactivation of fixed speed pumps too!

Other possible variable primary flow control logics:



VPF control logic

The VPF control series (Variable Primary Flow) doesn't only adjust the pump speed on the basis of the plant's thermal load, but also dynamically optimizes the unit's thermoregulation for variable flow operation, thus ensuring both the highest pump energy savings and chiller stable operation.

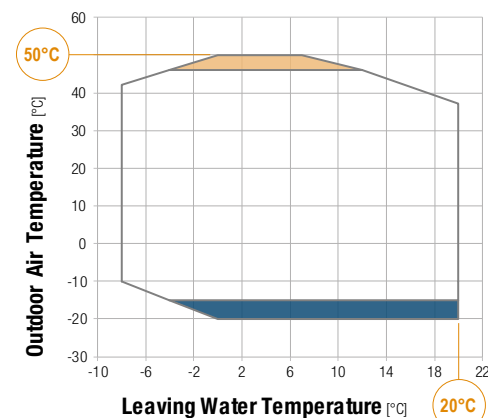
VPF: constant ΔP on the plant side

For systems with only the primary circuit.
Opt. 4864 or 4865 for single unit system
Opt. 4866 for multi-unit system

VPF.D: constant ΔT on the plant side

For systems with primary and secondary circuits separated by a hydraulic decoupler.
Opt. 4867 for single unit system
Opt. 4868 for multi-unit system

EXTENSIVE OPERATING LIMITS



A VERSION (High Efficiency)

FULL LOAD OPERATION

- Standard unit
- Required: HT kit (Opt. 1955)
- Required: Low temp. device DBA (Opt. 813)

Air temp. < -10°C
Double insulation on heat exchangers (Opt. 2631)

LWT < 0°C
Compressor liquid injection (Opt. 871)

PARTIAL LOAD OPERATION

In case of higher outdoor air temperature, i-FX-G05 automatically partializes its resources to ensure uninterrupted operation (HPTC function).

Operating limits when working partialized (water *7°C):
up to 55°C

i-FX-G05

Energy Analysis

Seville Mixed-use building: Retail + Offices

COMFORT COOLING

Project

This multi-use building, located in Seville, is characterized by the presence of shops and offices, for a cooling power requirement of 900 kW.

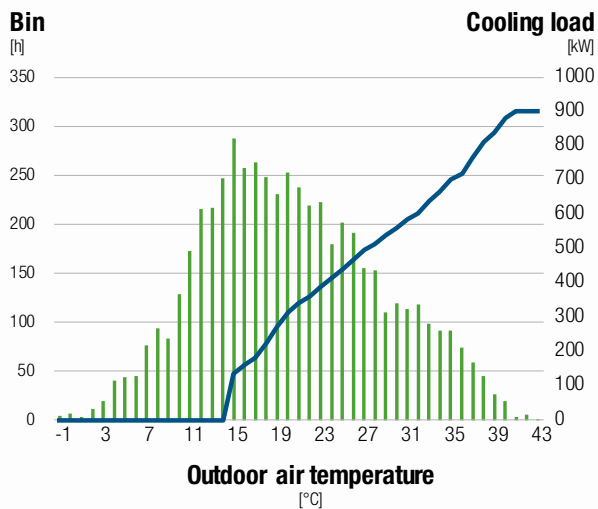
This project has provided data to evaluate the significant increase in seasonal efficiency of the new i-FX-G05 inverter screw chillers compared to an already excellent high efficiency fixed speed chiller.

This comfort application emphasizes the benefits of Inverter technology, ensuring exceptional results.



Temperature profile

Cooling load



The building is located in Seville (Spain).

The cooling load is 900 kW at 43°C of external air temperature.

However, as visible from the graph, for most of the hours the unit is working at partial load: the perfect conditions to make the most of i-FX-G05 units.

Energy analysis parameters:

Operating schedule: 7 days/week, from 6 am to 8 pm

Cold water set point: 7°C

Electric energy cost: 0,16 €/kWh

Interest rate: 6%

Inflation rate: 3%

i-FX-G05/A vs High efficiency chiller with screw compressors

This analysis compares the efficiency of the new Inverter i-FX-G05 versus a latest generation high efficiency, fixed speed screw compressor chiller.

The chillers have the same footprint.



High efficiency unit with screw compr.

Cooling capacity: 1162 kW (12/7°C, 35°C)
 EER: 3,02 (12/7°C, 35°C)
 SEER: 4,39 Length: 10400 mm



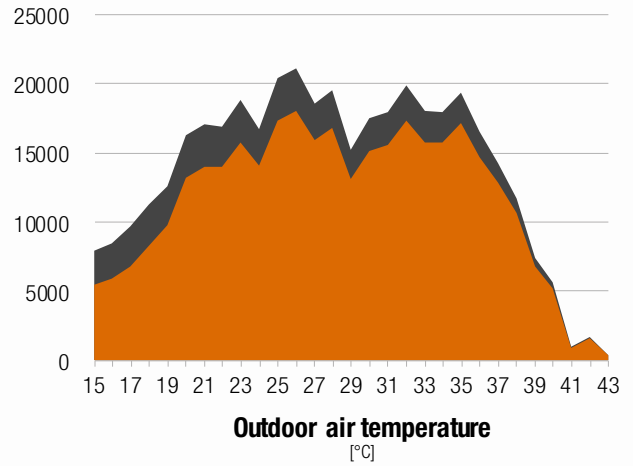
i-FX-G05/A

Cooling capacity: 1177 kW (12/7°C, 35°C)
 EER: 2,99 (12/7°C, 35°C)
 SEER: 5,16 Length: 10400 mm

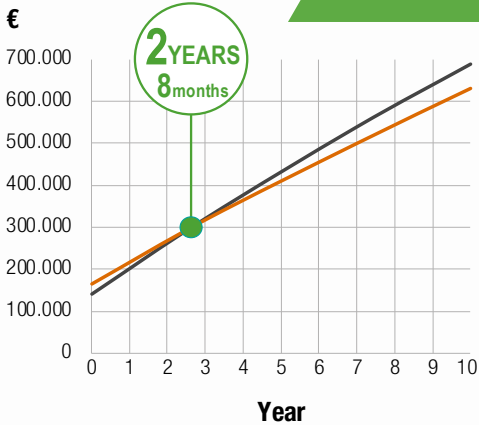
Electrical energy

[kWh/year]

Traditional Unit: 100%
 i-FX-G05/A 4822: 85% **-15% Energy Consumption**



Payback Time



Results

The results obtained comparing a top-level fixed speed screw compressor chiller to the new i-FX-G05 are astounding:

Even if the two units have the same footprint, the new unit achieves 20% higher annual energy efficiency than the latest generation fixed speed unit, resulting in an annual energy consumption reduced by 15%.

This leads to a payback time of only 2 years and 8 months.

AT A GLANCE



Power input saving

61.537 kWh per year

CO₂ saved per year

27.618 kg, equivalent to CO₂ emissions produced by a petrol car driving 162.447 km

Payback period

2 years and 8 months

Annual energy efficiency

+20 %

ACCESSORIES AND SERVICES

MICROCHANNEL COILS

Al - Regular (std)

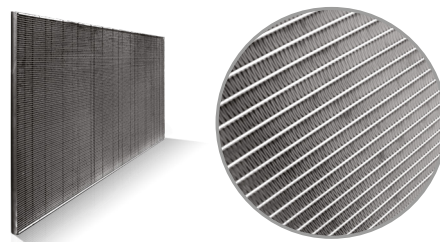
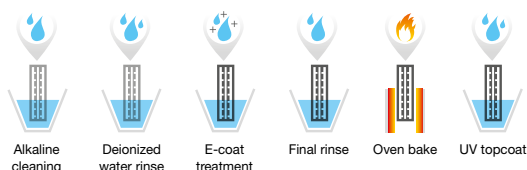
Al - E-coating (Opt. 876)



3120 h
SWAAT test
(ASTM G85-02 A3)

✓ UV rays
excellent

E-coating process



TUBE & FIN COILS

Cu/Al - Regular (Opt. 879)

Cu/Al - Pre-painted fins (Opt. 894)

Cu/Al - High pressure spray coating (Opt. 895 / RFQ)

Fin Guard Silver SB *

Opt. 895

Polyurethane resin with
aluminum fillers

✓ **3000 h** ASTM B117

✓ **UV rays** - excellent

* Thermoguard

PoluAl XT *

RFQ

Polyurethane resin with
aluminum fillers

✓ **4000 h** ASTM B117

✓ **UV rays** - excellent

* Blygold

Heresite P-413C *

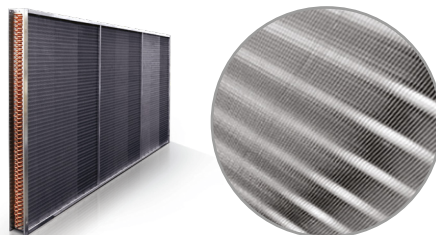
RFQ

Phenolic resin

✓ **6000 h** ASTM B117

✓ **UV rays** - good

* Heresite Protective Coating, LLC



Cu/Cu - Tube & fin coil (Opt. 881)

WITNESS TESTING

Test your chiller before installation and make sure its' performance is totally reliable.

Performance WITNESS TEST

Performance Witness testing is available as additional service in order to allow the final user to see the unit being tested under specific conditions. Carried out within modern and sophisticated facilities, this service gives the customer the possibility to choose among different witness test options in order to:

- ▶ Verify unit operation under severe conditions
- ▶ Detect sound emissions
- ▶ Check performance, both at full and partial loads
- ▶ Test the unit with low outdoor air temperature operation
- ▶ Time the fast restart



All the flexibility you need to fit the most diverse application requirements

FURTHER OPTIONS

Auxiliary input

4-20 mA (Opt. 6161): Enables remote set-point adjustments (analog input).

Double set-point (Opt. 6162): Enables the remote switch between 2 set-points (digital input).

Demand limit (Opt. 6171): Limits the unit's power absorption for safety reasons or in temporary situations (digital input).

Electrical

Automatic circuit breakers for all major electrical loads (compressors excluded) (Opt. 3414):

Protect all the major electrical loads (compressors excluded) from possible current peaks, over-current switches are provided in place of the standard fuses. The compressors are already protected by extra-fast selectional fuses.

Connectivity

Serial card interface module to allow integration with BMS protocols:

Modbus (Opt. 4181) / LonWorks (Opt. 4182) / BACnet MS/TP (Opt. 4184) / BACnet over IP (Opt. 4185)

M-Net interface kit (Opt. 4187): Interface module to allow the integration of the unit with Mitsubishi Electric proprietary communication protocol M-Net.

Energy Meter

Energy meter for BMS (Opt. 5924): Acquires electrical data and the power absorbed by the unit and send them the BMS for energy metering (Modbus RS485).

Refrigerant circuit

Dual pressure relief valves with switch (Opt. 1961): One valve is isolated from the refrigerant circuit while the other is in service. The user can work on the isolated valve for periodic maintenance or replacement, without removing the refrigerant from the circuit.

Compressor suction valve (Opt. 1901): Installed on each compressor suction line, it simplifies maintenance activity (discharge valves are present as per standard).

Refrigerant leak detector

Leak detector (Opt. 3431): Factory installed device. In case of a gas leak detection it raises an alarm.

Leak detector + compressor off (Opt. 3433): Factory installed device. In case of a gas leak detection it raises an alarm and stops the units.

Hydraulic

Water flow switch (Opt. 1801): Designed to protect the unit where the water flow across the evaporator is not sufficient and falls outside of the operating parameters.

Delta T > 8°C (Opt. 2881): Evaporator designed to operate with low primary circuit water flow.

Flanged hydraulic connections (Opt. 2911): Grooved coupling with flanged counter-pipe.

Structure

Anti-intrusion grilles (Opt. 2021): Perimeter metal grilles to protect against the intrusion of solid bodies into the unit structure.

Rubber type (Opt. 2101) or spring type (Opt. 2102) anti-vibration mountings: Reduce vibrations, keeping noise transmission to a minimum.

Packing

Reinforcing bars (Opt. 1971): Steel brackets used to strengthen the unit structure. Suggested in case of long truck transport.

Nylon packing (Opt. 9966): i-FX-G05 is covered with a protective nylon layer and provided with the lifting eye-plates, to load the unit into a truck.

Container packing (Opt. 9979): i-FX-G05 is covered with a protective nylon layer, provided with structural reinforcing bars and equipped with both lifting eye-plates and handling devices to load it on a container (metal slides, front handling bar).

i-FX-G05

2202 - 7223

Air cooled chillers with
inverter screw compressors
(from 477 to 1697 kW)



i-FX-G05/K

Model		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	kW	478,6	531,1	561,2	598,1	656,7	720,7	801,4
Total power input	kW	172,0	189,2	198,6	209,1	237,2	263,0	290,3
EER	kW/kW	2,783	2,807	2,826	2,860	2,769	2,740	2,761
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
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 η_s	(7)(9) %	188	188	186	187	187	190	190
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	l/s	22,89	25,40	26,84	28,60	31,40	34,47	38,33
Pressure drop	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	5270	5280	5330	5720	6210	6270

Model		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	kW	874,1	932,0	990,3	1029	1054	1128	1169
Total power input	kW	312,1	331,0	358,1	383,8	366,8	405,3	430,5
EER	kW/kW	2,801	2,816	2,765	2,681	2,874	2,783	2,715
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	2,840	2,750	2,690
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 η_s	(7)(9) %	189	190	188	189	189	190	193
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	l/s	41,80	44,57	47,36	49,20	50,41	53,94	55,90
Pressure drop	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	6700	6740	7350	7750	8220	8340	8500

Notes:

- Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
- Values in compliance with EN14511.
- 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.
- Sound power on the basis of measurements made in compliance with ISO 9614.
- Sound power level in cooling, outdoors.
- Unit in standard configuration/execution, without optional accessories.

7 ▶ Parameter calculated according to [REGULATION (EU) N. 2016/2281]

8 ▶ Seasonal energy efficiency ratio

9 ▶ Seasonal space cooling energy efficiency

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

Certified data in EUROVENT



Model		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	kW	1242	1302	1409	1493	1559	1649	1697
Total power input	kW	438,8	477,1	498,8	544,8	578,9	596,2	618,5
EER	kW/kW	2,830	2,729	2,825	2,740	2,693	2,766	2,744
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	2,740	2,710
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 η_s	(7)(9) %	193	193	187	188	187	187	189
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	l/s	59,42	62,28	67,38	71,40	74,58	78,86	81,17
Pressure drop	kPa	47,1	51,8	45,9	51,5	39,6	44,3	50,4
REFRIGERANT CIRCUIT								
Compressors nr.	N°	2	2	3	2	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	8890	9000	10650	11460	11840	12350	12430

Notes:

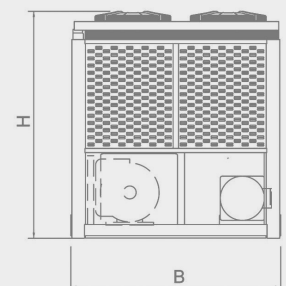
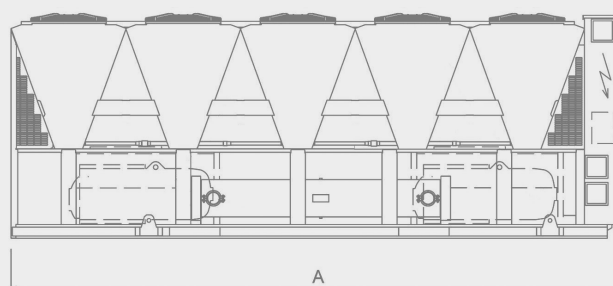
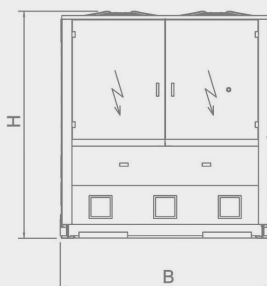
- 1 ▶ Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
- 2 ▶ Values in compliance with EN14511.
- 3 ▶ Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
- 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 [GWP₁₀₀ 631] fluorinated greenhouse gases.

Certified data in EUROVENT



i-FX-G05

2202 - 7223

Air cooled chillers with
inverter screw compressors
(from 477 to 1697 kW)



i-FX-G05/SL-K

Model		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	kW	477,0	516,7	554,6	578,0	662,9	711,3	774,2
Total power input	kW	168,1	177,0	195,5	212,2	228,3	260,2	295,6
EER	kW/kW	2,838	2,919	2,837	2,724	2,904	2,734	2,619
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
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 η_s	(7)(9) %	194	192	190	187	193	193	192
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	l/s	22,81	24,71	26,52	27,64	31,70	34,02	37,02
Pressure drop	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	5450	5600	5620	5650	6560	6580	6590

Model		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	kW	845,6	903,1	972,7	1028	1046	1120	1162
Total power input	kW	317,7	336,9	356,8	373,5	359,4	397,2	422,1
EER	kW/kW	2,662	2,681	2,726	2,752	2,910	2,820	2,753
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
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 η_s	(7)(9) %	187	188	191	195	192	194	197
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	l/s	40,44	43,19	46,52	49,15	50,01	53,58	55,57
Pressure drop	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	7050	7100	8110	8550	9010	9130	9310

Notes:

- Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
- Values in compliance with EN14511.
- 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.
- Sound power on the basis of measurements made in compliance with ISO 9614.
- Sound power level in cooling, outdoors.
- Unit in standard configuration/execution, without optional accessories.

7 ▶ Parameter calculated according to [REGULATION (EU) N. 2016/2281]

8 ▶ Seasonal energy efficiency ratio

9 ▶ Seasonal space cooling energy efficiency

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

Certified data in EUROVENT



Model		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	kW	1199	1290	1365	1474	1541	1590	1635
Total power input	kW	446,5	470,5	507,7	541,1	572,2	610,0	633,6
EER	kW/kW	2,685	2,742	2,689	2,724	2,693	2,607	2,580
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2) kW	1195	1286	1361	1469	1537	1586	1630
EER	(1)(2) kW/kW	2,660	2,710	2,660	2,690	2,670	2,580	2,550
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 η_s	(7)(9) %	195	197	188	194	191	190	191
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	l/s	57,32	61,67	65,28	70,50	73,70	76,02	78,18
Pressure drop	kPa	43,9	50,8	43,1	50,2	38,7	41,2	46,7
REFRIGERANT CIRCUIT								
Compressors nr.	N°	2	2	3	2	3	2	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	9270	9790	11140	12390	12770	12850	12930

Notes:

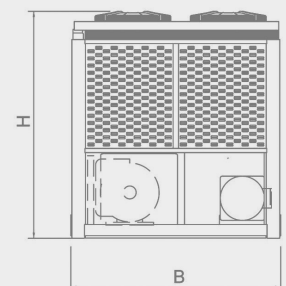
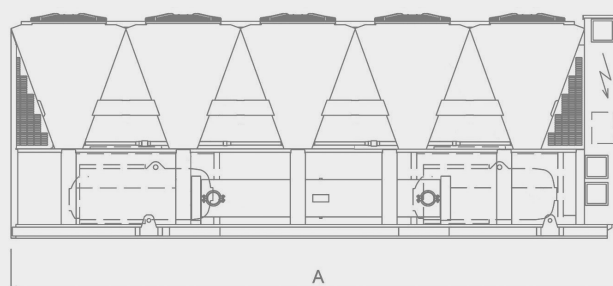
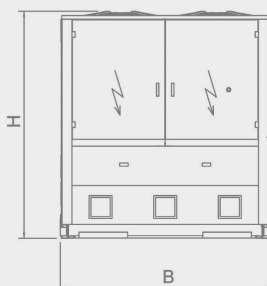
- 1 ▶ Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
- 2 ▶ Values in compliance with EN14511.
- 3 ▶ Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
- 4 ▶ Sound power on the basis of measurements 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 [GWP₁₀₀ 631] fluorinated greenhouse gases.

Certified data in EUROVENT



i-FX-G05

2202 - 6603

Air cooled chillers with
inverter screw compressors
(from 477 to 1520 kW)



i-FX-G05/A

Model		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	kW	510,2	551,9	590,0	626,9	684,3	767,2	839,9	899,4
Total power input	kW	163,5	177,8	189,4	203,0	222,2	257,2	286,0	303,4
EER	kW/kW	3,120	3,104	3,115	3,088	3,080	2,983	2,937	2,964
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
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 η_s	(7)(9) %	207	208	207	205	205	206	206	204
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	l/s	24,40	26,39	28,22	29,98	32,73	36,69	40,16	43,01
Pressure drop	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	5180	5240	5720	5800	6210	6620	6670	7080

Model		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	kW	959,4	1028	1099	1162	1230	1334	1467	1520
Total power input	kW	320,6	340,0	358,2	388,6	401,1	452,6	493,4	518,9
EER	kW/kW	2,993	3,024	3,068	2,990	3,067	2,947	2,973	2,929
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
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 η_s	(7)(9) %	202	207	206	203	206	203	199	202
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	l/s	45,88	49,16	52,54	55,59	58,81	63,78	70,16	72,70
Pressure drop	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	4	3	4
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	7120	8110	8550	8810	9280	10880	10920	11610

Notes:

- Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
- Values in compliance with EN14511.
- 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.
- Sound power on the basis of measurements made in compliance with ISO 9614.
- Sound power level in cooling, outdoors.
- Unit in standard configuration/execution, without optional accessories.

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

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

Certified data in EUROVENT



i-FX-G05/SL-A

Model		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	kW	498,8	559,5	581,8	615,1	682,8	751,6	811,9	891,5
Total power input	kW	162,3	182,7	185,5	202,2	216,8	251,1	275,3	295,2
EER	kW/kW	3,073	3,062	3,136	3,042	3,149	2,993	2,949	3,020
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
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 η_s	(7)(9) %	208	208	209	206	208	208	208	207
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	l/s	23,85	26,76	27,82	29,42	32,65	35,94	38,83	42,63
Pressure drop	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	5490	6030	6080	6400	6990	6990	7460	7860

Model		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	kW	942,8	1016	1086	1149	1213	1332	1462
Total power input	kW	312,4	331,8	350,0	380,1	393,2	456,9	493,5
EER	kW/kW	3,018	3,062	3,103	3,023	3,085	2,915	2,963
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2) kW	939,4	1013	1082	1146	1209	1328	1458
EER	(1)(2) kW/kW	2,980	3,020	3,060	2,990	3,050	2,880	2,930
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 η_s	(7)(9) %	204	209	209	207	210	204	197
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	l/s	45,09	48,60	51,92	54,96	58,00	63,72	69,92
Pressure drop	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	4	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	8080	8860	9310	9640	10080	11410	11420

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 [GWP₁₀₀ 631] fluorinated greenhouse gases.

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A SELECTION OF CLIMAVENETA INSTALLATIONS

BOTSWANA INNOVATION HUB

2015 GABORONE (BOTSWANA)

Application:
Office building

Plant type:
Hydronic System

Cooling capacity: 2803 kW

Heating capacity: 2133 kW

Installed machines: 1x i-FX (1+i) CA high efficiency chiller with fixed and inverter speed compressors, 3x ERACS2-Q XL-CA high efficiency 4-pipe heat pumps



PROJECT

The Botswana Innovation Hub is located strategically on a 57 hectares site, near the Sir Seretse Khama International Airport in Gaborone, the capital city of Botswana and the centre of the country's business activity. The facility will provide an attractive location for technology driven and knowledge intensive business to develop and compete in the global market.

CHALLENGE

The building has been designed to save energy and be as many efficient as possible. The roof design of the Botswana Innovation Hub incorporates large overhangs to passively shade the building's interior volumes, mechanisms to collect and re-use water, and both passive and active photovoltaic systems to harness solar energy.

SOLUTION

The air conditioning system is based on 3 INTEGRA multipurpose ERACS2-Q XL-CA and one high efficiency air cooled chiller i-FX (1+i) CA, all supplied by Climaveneta.

HOSPITAL DE VIC

2017 BARCELONA (SPAIN)

Application:
Healthcare / Hospitals

Plant type:
Hydronic System

Cooling capacity: 2510 kW

Installed machines:
2x i-FX (1+i)/SL low noise screw compressor chiller, 1x TECS2/SL-CA-E high efficiency and low noise chiller with oil-free compressor, 1x ClimaPRO optimization and management system



PROJECT

Santa Creu de Vic, founded in 1348, is a geriatric hospital and is a reference point throughout Spain. The organization, part of the Hospital Consortium of Catalonia, has 178 beds and employs about 155 people. The aging population and the increase in chronic diseases have created new requirements related to the health care of the elderly people.

CHALLENGE

To improve the quality of services, while complying with current and future patients' needs, the hospital is undertaking an important refurbishment of the building which includes: the creation of a new clinic on the ground floor, the construction of a new area dedicated to rehabilitation and the creation of a large underground car park, which will be covered by an extensive green area.

SOLUTION

The restructuring also includes the modernization of the mechanical systems, including the HVAC one. The new HVAC system is based on Climaveneta branded air cooled, high efficiency, chillers: two i-FX (1+i)/SL and one TECS2/SL-CA-E, all supplied with the silent version to grant the maximum acoustic comfort to all patients. The HVAC system, with a total cooling capacity of almost 2,000 kW, is controlled by the management and optimization system ClimaPRO.

MORE THAN 1000 PROJECTS ALL OVER THE WORLD

2015 Hannover - Germany Hannover Messe

Application: Fair

Plant type: Hydronic System

Cooling Capacity: 785 kW

Installed machines: 1x i-FX (1+i)/CA high efficiency chiller with fixed speed and inverter speed compressors



2017 Imola (Bologna) - Italy Montecatone Hospital

Application: Healthcare / Hospitals

Plant type: Hydronic System

Cooling Capacity: 1468 kW

Installed machines: 2x i-FX (1+i)/SL low noise chiller with fixed and inverter speed compressors



Climaveneta's chiller units, with their unbeatable advantages in terms of efficiency, quality, and precision are already the preferred choice of the major brands in the most prestigious projects all over the world.

2013 Mumbai - India
National Sports Club of India

Application: Sport structures
Plant type: Hydronic System
Cooling Capacity: 2476 kW
Installed machines: 1x FOCS2/CA high efficiency chillers with screw compressors, 1x i-FX/CA high efficiency chiller with inverter screw compressors

2018 Montevideo - Uruguay
Antel Arena

Application: Mixed-Use Development
Plant type: Air to Air System
 Hydronic System - HPAC System
Cooling Capacity: 5000 kW
Heating Capacity: 3000 kW
Airflow: 865700 m³/h
Installed machines: 26x WIZARD air handling units, 2x NECS/B scroll compressor chillers, 2x FOCS2/SL-K, 5x ERACS2-Q, 102x a-CHD, 55x a-LIFE2, 5x a-HWD2, 8x ACO/ACU, ClimaPRO

antel arena



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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