

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

PROCESS

CHILLERS

# FX-G05-Y

AIR SOURCE CHILLERS WITH SCREW  
COMPRESSORS, FROM 140 TO 1710 kW



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**R513A**

# FX-G05-Y

**TOTAL RELIABILITY  
AND BEST EFFICIENCY,  
WITHOUT COMPROMISE.**



FX-G05-Y is the perfectly employed in industrial applications in order to make your process cooling activity more dependable and efficient.

**Each component of FX-G05-Y has been accurately selected and tested to ensure long life operation and keep performance unchanged over time. This means both reducing maintenance costs and saving energy throughout the unit's lifetime.**

## +57° -20° UNYIELDING IN EXTREME CONDITIONS

Developed to ensure complete reliability, FX-G05-Y can operate in all climates from -15°C to 52°C and, equipped with highly resistant coil coatings, it can withstand even the harshest industrial or marine environments.



## COOLING DEPENDABILITY

Designed for continuous operation, FX-G05-Y meets the needs of an industry that can't afford interruptions. Devoted devices and functions maximize the unit's uptime even in case of emergency circumstances.

## PROCESS COOLING APPLICATIONS

- ✓ Food industry
- ✓ Printing industry
- ✓ Chemical
- ✓ Plastics
- ✓ Pharmaceutical
- ✓ Winery



## PLUG & PLAY

The integrated hydronic modules make installation and commissioning fast and easy, while the innovative user interface allows enhanced monitoring and simple adjustment of the key operating parameters.

## COMPLETE RANGE OF CHILLERS

Low GWP from 140 to 1710 kW



<b>E</b>	Very high efficiency	EER: 3,16	SEPR HT: 5,42
<b>CA</b>	High efficiency	EER: 3,03	SEPR HT: 5,31
<b>K</b>	Key efficiency	EER: 2,74	SEPR HT: 5,19

Average values (EN14511) of FX-G05-Y 1502-7223.

## ACOUSTIC VERSIONS

<b>-</b>	<b>Standard</b>	Unit with standard soundproofing equipment.	<b>Baseline</b>
		Unit with compressor acoustical enclosure (Opt. 2301).	<b>-2 dB(A)</b>
		Unit with noise reducer kit (Opt. 2315).	<b>-7 dB(A)</b>
<b>SL</b>	<b>Super low noise</b>	The highest level of noise reduction which cuts noise emissions by 10 to 12 dB(A), without compromising the unit's efficiency.	<b>-12 dB(A)</b>

## HEAT RECOVERY CONFIGURATIONS

<b>-</b>	<b>Standard unit</b>	Unit for the production of chilled water.	<b>Baseline</b>
<b>D</b>	<b>Partial heat recovery</b>	A desuperheater on the compressor discharge line recovers approximately 20% of the unit's capacity.	<b>60°C</b>
<b>R</b>	<b>Total heat recovery</b>	A devoted refrigerant water heat exchanger recovers all the condensation heat.	<b>55°C 60°C with HT kit</b>

# ALL-ROUND SUSTAINABILITY



**FX-G05-Y 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 FX-G05-Y, a complete chiller range with reduced environmental impact, optimized for R513A refrigerant.**

Combining brilliant annual efficiency with the use of a low GWP refrigerant, FX-G05-Y 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

<b>SCROLL</b>		
Refrigerant	GWP*	Flammability**
R410A	2088	NON flammable
R32	675	MILDLY flammable
R454B	466	MILDLY flammable
R452B	698	MILDLY flammable

<b>SCREW</b>		
Refrigerant	GWP*	Flammability**
R134a	1430	NON flammable
R513A	631	NON flammable
1234ze	7	MILDLY flammable
1234yf	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 FX-G05-Y, 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



## TOP-LEVEL PERFORMANCE



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

Fully customizable with a range of versions and accessories, FX-G05-Y allows custom-made application design for individual projects. Thanks to devoted technological solutions and accurate design, each FX-G05-Y 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.

# 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

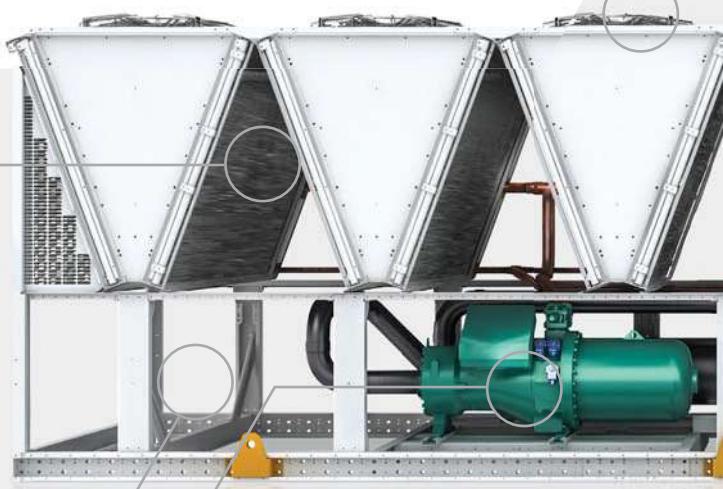
Innovative Wi-Fi interface for an easy and enhanced unit management.



## 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.)



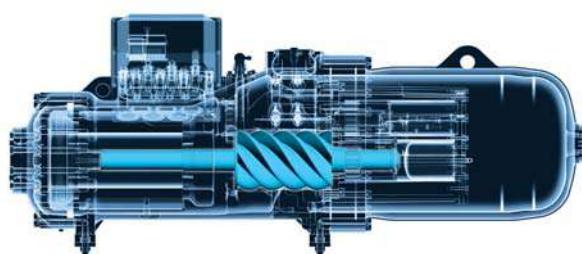
## Built-in pump group (Opt.)

Factory-mounted pumps and pre-plumbed hydraulic components, for the 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

## CSC screw compressors

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



# FX-G05-Y brings advanced technology and know-how together in customizable packages to aid design, specification, installation, and on-going operations.

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R513A

## Variable speed fans

High performing axial fans equipped with autotransformer for speed adjustment.

- ▶ Precise air-flow management, reduced power consumption and lower sound levels at part load
- ▶ Totally independent ventilation system for each refrigerant circuit
- ▶ EC fans available with proprietary algorithm for energy savings and very low ambient operation (Opt.)



## Low GWP refrigerant

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

### Reduced GWP

R513A GWP<sub>100 year</sub> = 572  
(R134a GWP<sub>100 year</sub> = 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 assessment  
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

Brazed plate evaporator for small sizes (<200 kW)

## Innovative internal geometry

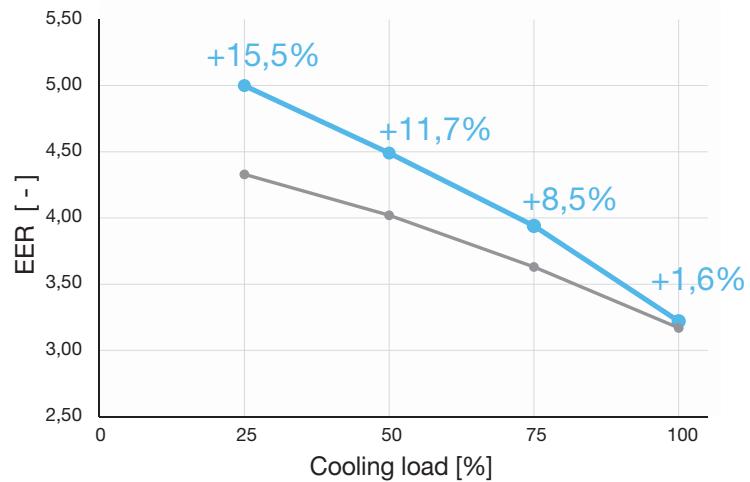
Thanks to its specific design, aimed at optimizing the internal volumes for partial load operation, the CSC compressors deliver excellent performance in all the different operating conditions.

## Enhanced lubrication system

A special oil management valve calibrates the oil circulation and delivers a remarkable increase of the compressor efficiency at partial loads.

## Extreme durability

The brilliantly engineered mechanics include carbon steel bearings guaranteed for a lifetime of 150.000 hours.



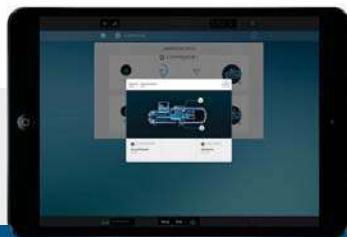
The graph shows the chiller efficiency with the variation of the load rate and air temperature (ESEER operating conditions).

# CORE FEATURES FOR ALL YOUR EQUIPMENT NEEDS

## W3000TE control and KIPlink innovative interface

The logic behind FX-G05-Y 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).



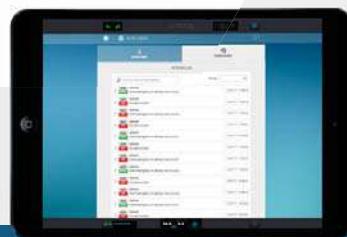
**Easier on-site operation**

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” message 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 FX-G05-Y unit.



### LED switch

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, FX-G05-Y 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).

## Witness Testing

Test your chiller before its installation and make its performance 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



## Hydronic modules and flow controls

The FX-G05-Y units can be equipped with a factory-mounted complete pump group, which **optimizes hydraulic and electrical installation space, time and costs**, or simply with terminals to control the external pumps with the unit control logic.



### Close-coupled pumps by Grundfos

SiC/SiC (silicon carbide) primary seal pairing, extremely resistant against wear, abrasive particles and wear.

EPDM bellows seal prevent the risk of deposits, such as rust, on the shaft.

Pull-out design: during maintenance the power head can be pulled out without removing the pump housing from the pipework.

In-line or end-suction models were chosen based on dimensions and performances

**Factory-mounted pump group** 2 pumps (duty/standby) provide low or high head (available head approx. 100 or 200 kPa).  
1 pump available for single compressor units.

#### Fixed speed pumps

1 pump	LH 2-poles: Opt. 4706
	HH 2-poles: Opt. 4707
2 pumps	LH 2-poles: Opt. 4711 / 4-poles: Opt. 4708
	HH 2-poles: Opt. 4712 / 4-poles: Opt. 4709

#### Variable speed pumps

1 pump	LH 2-poles: Opt. 4717
	HH 2-poles: Opt. 4718
2 pumps	LH 2-poles: Opt. 4722 / 4-poles: Opt. 4719
	HH 2-poles: Opt. 4723 / 4-poles: Opt. 4721

#### Terminals for external pump control

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

##### ON/OFF signal

1 pump	Opt. 4702
2 pumps	Opt. 4703

##### Modulating signal

1 pump	Opt. 4713
2 pumps	Opt. 4714

### 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

#### VPFD: 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

For quick and easy commissioning, it is possible to adjust the pump speed directly from the unit control (Opt. 4862).

## Operating limits

- Standard unit
- Required: Kit HT (Opt. 1955)
- Required: EC fans (Opt. 808)
- Required: DBA device (coil flooding) (Opt. 813)  
EC fans (Opt. 808)

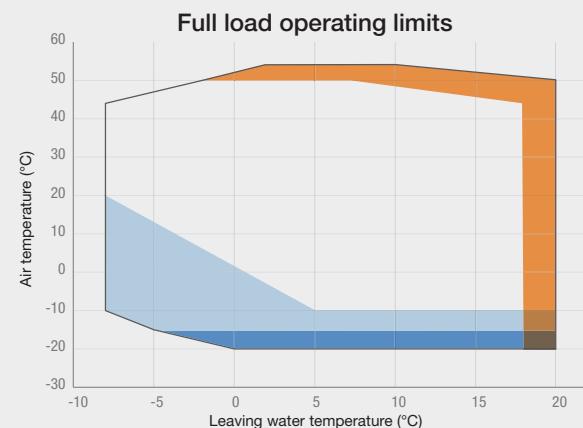
Air temp. < -10°C: Double insulation on heat exchangers (Opt. 2631)  
LWT < 0°C: Compressor liquid injection (Opt. 871)

### Partial load operating limits

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

Operating limits when working partialized (water \*7°C):

/K, /SL-K	53°C
/E, SL-E	55°C
/CA, SL-CA	55°C
+kit HT (all versions)	57°C



The diagram shows the operating limits of versions /E, /SL-E  
For versions /K, /SL-K, the max outdoor temperature is lowered by 4°C  
For versions /CA, /SL-CA, the max outdoor temperature is lowered by 2°C

# ACCESSORIES

## EC fans

**EC fans (Opt. 808):** Electronically commutated fans with brushless motor to continuously adjust the speed in order to minimise energy consumption and noise emissions, especially at part loads (+1% of EER, +3% of SEPR HT).

+3%  
SEPR HT

## Noise reduction

**Compressor acoustical enclosure (Opt. 2301):**  
Enclosure realised with painted sheet metal panels lined with an acoustic insulation.  
Sound power reduction: -2 dB(A).

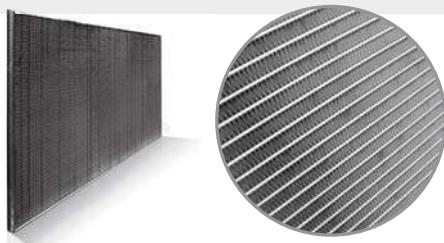
**Noise Reducer kit (Opt. 2315):**  
The kit includes dedicated fans' speed calibration together with the soundproofing of the most critical components.  
Sound power reduction: -7 dB(A).



## Coils and coatings

### MICROCHANNEL COILS

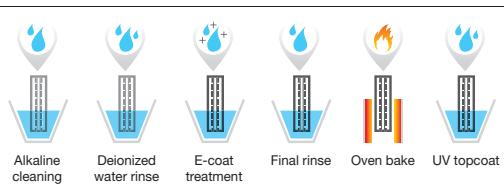
Al - Regular (std)



Al - E-coating (Opt. 876)



#### 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

**PoluAI XT \***  
RFQ

Polyurethane resin with aluminum fillers

- ✓ 4000 h ASTM B117
- ✓ UV rays - excellent

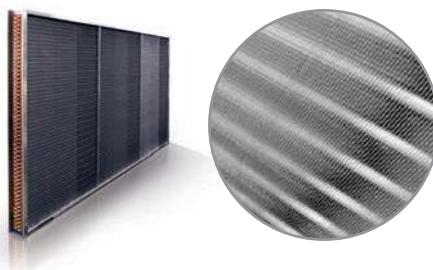
\* Blygold

**Heresite P-413C \***  
RFQ

Phenolic resin

- ✓ 6000 h ASTM B117
- ✓ UV rays - good

\* Heresite Protective Coating, LLC



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

# EQUIPMENT FOR MISSION CRITICAL APPLICATIONS

Committed to ensure the highest standards of reliability, FX-G05-Y includes a full range of devices and functions that maximize unit's uptime in case of emergency circumstances.

## FAST RESTART

Ensures a **faster return to the necessary cooling levels** in the shortest time possible, while maintaining the **reliability** of the chiller.



Ensure immediate cooling start-up within 25"



Have the unit running at full load in a shorter time

A 2-cpr unit in standard working conditions delivers 100% of cooling capacity within 180" after power is restored.

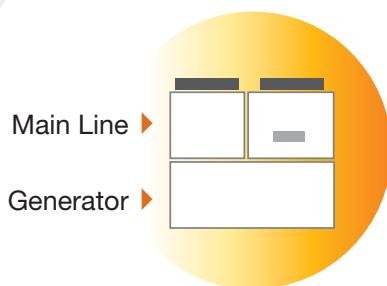
### Fast restart - UPS excluded (Opt.4501)

This option requires an external 230V AC UPS, not supplied with the unit, to keep the on-board controller functional and ensure fast restart after a power outage.

### Fast restart - UPS included (Opt. 4502)

This option includes an electric device capable of keeping the controller power supply uninterrupted during a power failure. The capacity of this device is selected on the basis of the needs of a specific project.

## DOUBLE POWER SUPPLY



Redundancy increases uptime. FX-G05-Y extends this concept also to the electrical supply: the unit, equipped with an ATS\*, can be connected to two separate power lines to enhance the system's dependability.

In case of a main line power outage, the ATS\* automatically switches over to the backup line, granting uninterrupted power supply to the unit.

\* ATS: Automatic Transfer Switch

### Double power supply (ATS) (Opt. 1561)

The ATS, installed within the electrical board, automatically senses if one of the sources has lost or gained power. The switching is completely automatic (line priority and frequency of checking are selectable).

### Double power supply (Motorized changeover) (Opt. 1562)

The motorized changeover, installed within the electrical board, is with remote control (i.e. signal of generator start-up).

## ENERGY METER

**You can't manage what you don't measure.**

Energy meter option allows to acquire the electrical data and the power absorbed by the unit and send them to the supervisor for energy metering.



**FX-G05-Y 0751 - 1801**Chiller, air source for outdoor installation,  
from 140 to 396 kW.

<b>FX-G05-Y /K</b>		<b>0751</b>	<b>0851</b>	<b>0951</b>	<b>0961</b>	<b>1101</b>
Power supply	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
<b>PERFORMANCE</b>						
<b>COOLING ONLY (GROSS VALUE)</b>						
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
<b>COOLING ONLY (EN14511 VALUE)</b>						
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
<b>ENERGY EFFICIENCY</b>						
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)</b>						
Process refrigeration at high temperature						
Prated,c	(7) kW	145,1	159,7	202,1	221,1	237,1
SEPR	(7)(9)	5,00	5,24	5,01	5,00	5,25
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)</b>						
Process refrigeration at medium temperature						
Prated,c	(8) kW	76,10	84,50	103,2	118,2	124,9
SEPR	(8)(9)	3,34	3,52	3,38	3,38	3,47
<b>EXCHANGERS</b>						
<b>HEAT EXCHANGER USER SIDE IN REFRIGERATION</b>						
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
<b>REFRIGERANT CIRCUIT</b>						
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
<b>NOISE LEVEL</b>						
Sound Pressure	(3) dB(A)	62	62	62	62	64
Sound power level in cooling	(4)(5) dB(A)	94	94	94	94	96
<b>SIZE AND WEIGHT</b>						
Length	(6) mm	1500	1500	2750	2750	2750
Width	(6) mm	2260	2260	2260	2260	2260
Height	(6) mm	2500	2500	2500	2500	2500
Operating weight	(6) kg	1480	1510	2100	2130	2460
<b>FX-G05-Y /K</b>		<b>1301</b>	<b>1401</b>	<b>1421</b>	<b>1431</b>	<b>1801</b>
Power supply	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
<b>PERFORMANCE</b>						
<b>COOLING ONLY (GROSS VALUE)</b>						
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
<b>COOLING ONLY (EN14511 VALUE)</b>						
Cooling capacity	(1)(2) kW	273,7	297,8	327,7	346,8	394,4
EER	(1)(2) kW/kW	2,950	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
<b>ENERGY EFFICIENCY</b>						
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)</b>						
Process refrigeration at high temperature						
Prated,c	(7) kW	273,7	297,8	327,7	346,8	394,4
SEPR	(7)(9)	5,00	5,01	5,00	5,00	5,14
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)</b>						
Process refrigeration at medium temperature						
Prated,c	(8) kW	141,0	155,6	177,2	184,3	207,5
SEPR	(8)(9)	3,31	3,37	3,46	3,37	3,29
<b>EXCHANGERS</b>						
<b>HEAT EXCHANGER USER SIDE IN REFRIGERATION</b>						
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
<b>REFRIGERANT CIRCUIT</b>						
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
<b>NOISE LEVEL</b>						
Sound Pressure	(3) dB(A)	64	65	66	66	66
Sound power level in cooling	(4)(5) dB(A)	96	97	98	98	98
<b>SIZE AND WEIGHT</b>						
Length	(6) mm	2750	2750	2750	4000	4000
Width	(6) mm	2260	2260	2260	2260	2260
Height	(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 EN14511-3:2013.

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 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]



**GREEN  
CERTIFICATION  
RELEVANT**

**R R513A** **COOLING** **SCREW**  
**VPF VAR.PRIM.FLOW** **T SHELL & TUBES** **AXIAL**

<b>FX-G05-Y /SL-K</b>		<b>0751</b>	<b>0851</b>	<b>0951</b>	<b>0961</b>	<b>1101</b>
Power supply	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
<b>PERFORMANCE</b>						
<b>COOLING ONLY (GROSS VALUE)</b>						
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
<b>COOLING ONLY (EN14511 VALUE)</b>						
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
<b>ENERGY EFFICIENCY</b>						
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)</b>						
Process refrigeration at high temperature						
Prated,c	(7) kW	139,7	169,0	194,9	214,0	244,9
SEPR	(7)(9)	5,06	5,68	5,04	5,01	5,40
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)</b>						
Process refrigeration at medium temperature						
Prated,c	(8) kW	73,70	87,60	99,90	114,8	127,2
SEPR	(8)(9)	3,37	3,73	3,36	3,37	3,52
<b>EXCHANGERS</b>						
<b>HEAT EXCHANGER USER SIDE IN REFRIGERATION</b>						
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
<b>REFRIGERANT CIRCUIT</b>						
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
<b>NOISE LEVEL</b>						
Sound Pressure	(3) dB(A)	52	52	53	53	55
Sound power level in cooling	(4)(5) dB(A)	84	84	85	85	87
<b>SIZE AND WEIGHT</b>						
Length	(6) mm	1500	2750	2750	2750	2750
Width	(6) mm	2260	2260	2260	2260	2260
Height	(6) mm	2500	2500	2500	2500	2500
Operating weight	(6) kg	1640	2050	2270	2290	2770
<b>FX-G05-Y /SL-K</b>		<b>1301</b>	<b>1401</b>	<b>1421</b>	<b>1431</b>	<b>1801</b>
Power supply	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
<b>PERFORMANCE</b>						
<b>COOLING ONLY (GROSS VALUE)</b>						
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
<b>COOLING ONLY (EN14511 VALUE)</b>						
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
<b>ENERGY EFFICIENCY</b>						
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)</b>						
Process refrigeration at high temperature						
Prated,c	(7) kW	264,1	286,6	330,5	345,6	393,7
SEPR	(7)(9)	5,00	5,04	5,19	5,38	5,22
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)</b>						
Process refrigeration at medium temperature						
Prated,c	(8) kW	136,6	150,4	177,3	182,8	205,4
SEPR	(8)(9)	3,27	3,34	3,48	3,54	3,28
<b>EXCHANGERS</b>						
<b>HEAT EXCHANGER USER SIDE IN REFRIGERATION</b>						
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
<b>REFRIGERANT CIRCUIT</b>						
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
<b>NOISE LEVEL</b>						
Sound Pressure	(3) dB(A)	55	56	57	57	57
Sound power level in cooling	(4)(5) dB(A)	87	88	89	89	89
<b>SIZE AND WEIGHT</b>						
Length	(6) mm	2750	2750	4000	4000	4000
Width	(6) mm	2260	2260	2260	2260	2260
Height	(6) mm	2500	2500	2500	2500	2500
Operating weight	(6) kg	2770	2790	3250	3410	3880

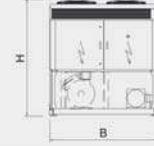
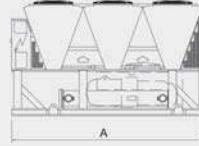
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature

[REGULATION (EU) N. 2015/1095]

9 Seasonal energy efficiency ratio

The units highlighted in this publication contain R513A [GWP<sub>100</sub> 631] fluorinated greenhouse gases.

Certified data in EUROVENT



**FX-G05-Y 1502 - 7823**Chiller, air source for outdoor installation,  
from 289 to 1710 kW.

<b>FX-G05-Y /K</b>			<b>1502</b>	<b>1702</b>	<b>1902</b>	<b>1922</b>	<b>2202</b>	<b>2602</b>	<b>2652</b>	<b>2702</b>	<b>2722</b>
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
<b>PERFORMANCE</b>											
<b>COOLING ONLY (GROSS VALUE)</b>											
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
<b>COOLING ONLY (EN14511 VALUE)</b>											
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	2,830	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
<b>ENERGY EFFICIENCY</b>											
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)</b>											
Process refrigeration at high temperature											
Prated,c	(7)	kW	298,9	324,9	382,1	430,5	479,3	531,7	557,1	598,8	656,3
SEPR	(7)(9)		5,08	5,30	5,18	5,09	5,27	5,28	5,27	5,17	5,03
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)</b>											
Process refrigeration at medium temperature											
Prated,c	(8)	kW	154,8	170,6	202,7	232,2	251,6	279,7	290,6	312,2	354,6
SEPR	(8)(9)		3,29	3,51	3,39	3,32	3,43	3,47	3,43	3,37	3,35
<b>EXCHANGERS</b>											
<b>HEAT EXCHANGER USER SIDE IN REFRIGERATION</b>											
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
<b>REFRIGERANT CIRCUIT</b>											
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
<b>NOISE LEVEL</b>											
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
<b>SIZE AND WEIGHT</b>											
Length	(6)	mm	2750	2750	4000	4000	4000	5250	5250	5250	5250
Width	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
Height	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	3160	3170	3720	3810	4610	5060	5060	5130	5520
<b>FX-G05-Y /K</b>			<b>3152</b>	<b>3602</b>	<b>3902</b>	<b>4202</b>	<b>4502</b>	<b>4802</b>	<b>4812</b>	<b>4822</b>	<b>5412</b>
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
<b>PERFORMANCE</b>											
<b>COOLING ONLY (GROSS VALUE)</b>											
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
<b>COOLING ONLY (EN14511 VALUE)</b>											
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	2,690
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
<b>ENERGY EFFICIENCY</b>											
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)</b>											
Process refrigeration at high temperature											
Prated,c	(7)	kW	722,9	800,2	869,2	923,3	979,4	1018	1055	1142	1172
SEPR	(7)(9)		5,14	5,24	5,23	5,21	5,24	5,23	5,24	5,15	5,25
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)</b>											
Process refrigeration at medium temperature											
Prated,c	(8)	kW	386,4	421,9	458,1	489,8	519,6	543,8	559,3	621,2	628,7
SEPR	(8)(9)		3,36	3,34	3,40	3,47	3,49	3,52	3,48	3,47	3,46
<b>EXCHANGERS</b>											
<b>HEAT EXCHANGER USER SIDE IN REFRIGERATION</b>											
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
<b>REFRIGERANT CIRCUIT</b>											
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
<b>NOISE LEVEL</b>											
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
<b>SIZE AND WEIGHT</b>											
Length	(6)	mm	6500	6500	7750	7750	7750	7750	9000	9000	9150
Width	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
Height	(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 EN14511-3:2013.

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 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]



**GREEN  
CERTIFICATION  
RELEVANT**

**R R513A**

**A ENERGY CLASS**

**COOLING**

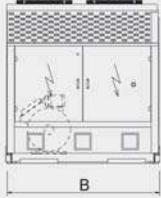
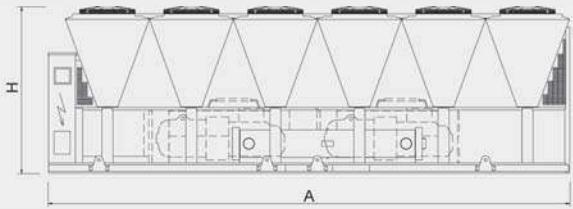
**SCREW**

**VPF VAR.PRIM.FLOW**

**T SHELL & TUBES**

**AXIAL**

<b>FX-G05-Y /K</b>			<b>6002</b>	<b>6022</b>	<b>6303</b>	<b>6903</b>	<b>7203</b>	<b>7213</b>	<b>7223</b>
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
<b>PERFORMANCE</b>									
<b>COOLING ONLY (GROSS VALUE)</b>									
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
<b>COOLING ONLY (EN14511 VALUE)</b>									
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
<b>ENERGY EFFICIENCY</b>									
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)</b>									
Process refrigeration at high temperature									
Prated,c	(7)	kW	1235	1298	1397	1476	1543	1649	1704
SEPR	(7)(9)		5,27	5,15	5,19	5,20	5,26	5,14	5,13
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)</b>									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	649,7	706,1	737,8	787,4	820,9	892,5	928,3
SEPR	(8)(9)		3,38	3,36	3,42	3,49	3,52	3,44	3,46
<b>EXCHANGERS</b>									
<b>HEAT EXCHANGER USER SIDE IN REFRIGERATION</b>									
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
<b>REFRIGERANT CIRCUIT</b>									
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
<b>NOISE LEVEL</b>									
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
<b>SIZE AND WEIGHT</b>									
Length	(6)	mm	10400	10400	11650	11650	11650	12900	12900
Width	(6)	mm	2260	2260	2260	2260	2260	2260	2260
Height	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	9200	9310	11880	11940	11950	12490	12570



8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature

[REGULATION (EU) N. 2015/1095]

9 Seasonal energy efficiency ratio

The units highlighted in this publication contain R513A [GWP<sub>100</sub> 631] fluorinated greenhouse gases.

Certified data in EUROVENT

**FX-G05-Y 1502 - 7823**Chiller, air source for outdoor installation,  
from 289 to 1710 kW.

<b>FX-G05-Y /SL-K</b>		<b>1502</b>	<b>1702</b>	<b>1902</b>	<b>1922</b>	<b>2202</b>	<b>2602</b>	<b>2652</b>	<b>2702</b>	<b>2722</b>
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
<b>PERFORMANCE</b>										
<b>COOLING ONLY (GROSS VALUE)</b>										
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
<b>COOLING ONLY (EN14511 VALUE)</b>										
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
<b>ENERGY EFFICIENCY</b>										
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)</b>										
Process refrigeration at high temperature										
Prated,c	(7) kW	287,8	332,5	380,5	417,3	474,7	517,0	554,4	576,8	661,2
SEPR	(7)(9)	5,07	5,17	5,29	5,11	5,09	5,11	5,16	5,23	5,11
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)</b>										
Process refrigeration at medium temperature										
Prated,c	(8) kW	149,8	173,1	197,1	225,9	250,3	270,1	288,3	302,0	354,9
SEPR	(8)(9)	3,33	3,43	3,51	3,43	3,38	3,33	3,37	3,46	3,43
<b>EXCHANGERS</b>										
<b>HEAT EXCHANGER USER SIDE IN REFRIGERATION</b>										
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
<b>REFRIGERANT CIRCUIT</b>										
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
<b>NOISE LEVEL</b>										
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
<b>SIZE AND WEIGHT</b>										
Length	(6) mm	2750	4000	4000	4000	5250	5250	5250	5250	6500
Width	(6) mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
Height	(6) mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6) kg	3420	4160	4230	4230	5200	5560	5580	5620	6610
<b>FX-G05-Y /SL-K</b>		<b>3152</b>	<b>3602</b>	<b>3902</b>	<b>4202</b>	<b>4502</b>	<b>4802</b>	<b>4812</b>	<b>4822</b>	<b>5412</b>
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
<b>PERFORMANCE</b>										
<b>COOLING ONLY (GROSS VALUE)</b>										
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
<b>COOLING ONLY (EN14511 VALUE)</b>										
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	2,820	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
<b>ENERGY EFFICIENCY</b>										
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)</b>										
Process refrigeration at high temperature										
Prated,c	(7) kW	714,1	768,6	836,2	890,0	962,1	1018	1048	1133	1166
SEPR	(7)(9)	5,16	5,25	5,26	5,24	5,23	5,22	5,21	5,14	5,19
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)</b>										
Process refrigeration at medium temperature										
Prated,c	(8) kW	381,1	408,0	443,2	474,2	510,2	541,7	554,0	614,4	622,8
SEPR	(8)(9)	3,38	3,36	3,44	3,52	3,50	3,47	3,48	3,48	3,42
<b>EXCHANGERS</b>										
<b>HEAT EXCHANGER USER SIDE IN REFRIGERATION</b>										
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
<b>REFRIGERANT CIRCUIT</b>										
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
<b>NOISE LEVEL</b>										
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
<b>SIZE AND WEIGHT</b>										
Length	(6) mm	6500	6500	7750	7750	9000	9000	10250	10250	10400
Width	(6) mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
Height	(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 EN14511-3:2013.  
 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 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]



**GREEN  
CERTIFICATION  
RELEVANT**

**R R513A**

**A ENERGY CLASS**

**COOLING**

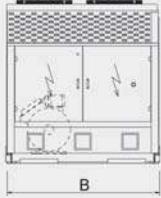
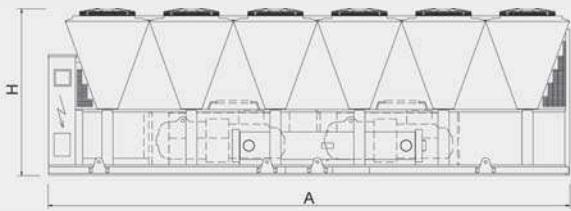
**SCREW**

**VPF VAR.PRIM.FLOW**

**T SHELL & TUBES**

**AXIAL**

<b>FX-G05-Y /SL-K</b>			<b>6002</b>	<b>6022</b>	<b>6303</b>	<b>6903</b>	<b>7203</b>	<b>7213</b>	<b>7223</b>
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
<b>PERFORMANCE</b>									
<b>COOLING ONLY (GROSS VALUE)</b>									
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
<b>COOLING ONLY (EN14511 VALUE)</b>									
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
<b>ENERGY EFFICIENCY</b>									
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)</b>									
Process refrigeration at high temperature									
Prated,c	(7)	kW	1190	1285	1346	1458	1526	1590	1644
SEPR	(7)(9)		5,27	5,20	5,22	5,21	5,24	5,17	5,15
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)</b>									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	628,9	696,9	714,1	776,9	810,2	864,9	900,1
SEPR	(8)(9)		3,42	3,41	3,49	3,50	3,51	3,53	3,53
<b>EXCHANGERS</b>									
<b>HEAT EXCHANGER USER SIDE IN REFRIGERATION</b>									
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
<b>REFRIGERANT CIRCUIT</b>									
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
<b>NOISE LEVEL</b>									
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
<b>SIZE AND WEIGHT</b>									
Length	(6)	mm	10400	11650	11650	12900	12900	12900	12900
Width	(6)	mm	2260	2260	2260	2260	2260	2260	2260
Height	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	9860	10420	12810	13340	13340	13420	13500



8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature

[REGULATION (EU) N. 2015/1095]

9 Seasonal energy efficiency ratio

The units highlighted in this publication contain R513A [GWP<sub>100</sub> 631] fluorinated greenhouse gases.

Certified data in EUROVENT

**FX-G05-Y 1502 - 7823**Chiller, air source for outdoor installation,  
from 289 to 1710 kW.

<b>FX-G05-Y /CA</b>			<b>1502</b>	<b>1702</b>	<b>1902</b>	<b>1922</b>	<b>2202</b>	<b>2602</b>	<b>2652</b>
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
<b>PERFORMANCE</b>									
<b>COOLING ONLY (GROSS VALUE)</b>									
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
<b>COOLING ONLY (EN14511 VALUE)</b>									
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	B
<b>ENERGY EFFICIENCY</b>									
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)</b>									
Process refrigeration at high temperature									
Prated,c	(7)	kW	301,6	348,6	393,8	460,5	511,7	549,9	588,9
SEPR	(7)(9)		5,27	5,36	5,40	5,40	5,37	5,22	5,26
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)</b>									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	153,5	178,7	203,2	235,9	263,9	282,7	303,2
SEPR	(8)(9)		3,35	3,45	3,53	3,50	3,46	3,32	3,37
<b>EXCHANGERS</b>									
<b>HEAT EXCHANGER USER SIDE IN REFRIGERATION</b>									
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
<b>REFRIGERANT CIRCUIT</b>									
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
<b>NOISE LEVEL</b>									
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
<b>SIZE AND WEIGHT</b>									
Length	(6)	mm	4000	4000	4000	5250	5250	5250	6500
Width	(6)	mm	2260	2260	2260	2260	2260	2260	2260
Height	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	3660	3720	3760	4660	5040	5090	5830
<b>FX-G05-Y /CA</b>			<b>2702</b>	<b>2722</b>	<b>3152</b>	<b>3602</b>	<b>3902</b>	<b>4202</b>	<b>4502</b>
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
<b>PERFORMANCE</b>									
<b>COOLING ONLY (GROSS VALUE)</b>									
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
<b>COOLING ONLY (EN14511 VALUE)</b>									
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	3,050
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	B
<b>ENERGY EFFICIENCY</b>									
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)</b>									
Process refrigeration at high temperature									
Prated,c	(7)	kW	626,6	681,5	764,0	835,0	901,7	952,5	1028
SEPR	(7)(9)		5,27	5,18	5,26	5,34	5,32	5,31	5,32
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)</b>									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	323,3	364,7	401,1	434,7	470,6	501,8	538,9
SEPR	(8)(9)		3,39	3,41	3,34	3,37	3,42	3,50	3,48
<b>EXCHANGERS</b>									
<b>HEAT EXCHANGER USER SIDE IN REFRIGERATION</b>									
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
<b>REFRIGERANT CIRCUIT</b>									
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
<b>NOISE LEVEL</b>									
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
<b>SIZE AND WEIGHT</b>									
Length	(6)	mm	6500	6500	7750	7750	9000	9000	10400
Width	(6)	mm	2260	2260	2260	2260	2260	2260	2260
Height	(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.

2 Values in compliance with EN14511-3:2013.

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 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]



**GREEN  
CERTIFICATION  
RELEVANT**

**R R513A**

**A ENERGY CLASS**

**COOLING**

**SCREW**

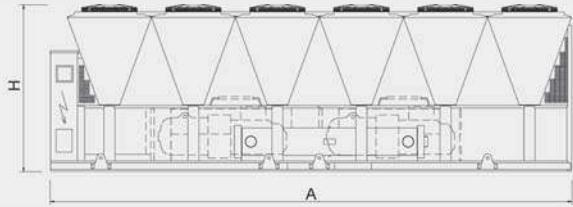
**VPF VAR.PRIM.FLOW**

**T SHELL & TUBES**

**AXIAL**

**FX-G05-Y /CA**

		<b>4802</b>	<b>4822</b>	<b>5412</b>	<b>5703</b>	<b>6303</b>	<b>6603</b>
Power supply	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
<b>PERFORMANCE</b>							
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
<b>ENERGY EFFICIENCY</b>							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(7) kW	1094	1173	1232	1338	1456	1517
SEPR	(7)(9)	5,32	5,30	5,33	5,31	5,30	5,30
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(8) kW	574,1	633,0	652,1	692,8	759,1	790,1
SEPR	(8)(9)	3,49	3,50	3,42	3,35	3,45	3,45
<b>EXCHANGERS</b>							
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
<b>REFRIGERANT CIRCUIT</b>							
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
<b>NOISE LEVEL</b>							
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
<b>SIZE AND WEIGHT</b>							
Length	(6) mm	10400	10400	11650	12900	12900	12900
Width	(6) mm	2260	2260	2260	2260	2260	2260
Height	(6) mm	2500	2500	2500	2500	2500	2500
Operating weight	(6) kg	8780	9040	10120	12160	12330	12640



8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature

[REGULATION (EU) N. 2015/1095]

9 Seasonal energy efficiency ratio

The units highlighted in this publication contain R513A [GWP<sub>100</sub> 631] fluorinated greenhouse gases.

Certified data in EUROVENT

**FX-G05-Y 1502 - 7823**Chiller, air source for outdoor installation,  
from 289 to 1710 kW.

<b>FX-G05-Y /SL-CA</b>			<b>1502</b>	<b>1702</b>	<b>1902</b>	<b>1922</b>	<b>2202</b>	<b>2602</b>	<b>2652</b>
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
<b>PERFORMANCE</b>									
<b>COOLING ONLY (GROSS VALUE)</b>									
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
<b>COOLING ONLY (EN14511 VALUE)</b>									
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	B
<b>ENERGY EFFICIENCY</b>									
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)</b>									
Process refrigeration at high temperature									
Prated,c	(7)	kW	303,4	343,9	393,1	449,0	499,3	559,1	581,0
SEPR	(7)(9)		5,35	5,42	5,35	5,41	5,36	5,33	5,25
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)</b>									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	155,0	176,9	205,8	231,0	258,5	287,8	298,8
SEPR	(8)(9)		3,45	3,55	3,50	3,55	3,50	3,47	3,39
<b>EXCHANGERS</b>									
<b>HEAT EXCHANGER USER SIDE IN REFRIGERATION</b>									
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
<b>REFRIGERANT CIRCUIT</b>									
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	112
<b>NOISE LEVEL</b>									
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
<b>SIZE AND WEIGHT</b>									
Length	(6)	mm	4000	4000	5250	5250	5250	6500	6500
Width	(6)	mm	2260	2260	2260	2260	2260	2260	2260
Height	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	4130	4190	4680	5140	5520	6140	6390
<b>FX-G05-Y /SL-CA</b>			<b>2702</b>	<b>2722</b>	<b>3152</b>	<b>3602</b>	<b>3902</b>	<b>4202</b>	<b>4502</b>
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
<b>PERFORMANCE</b>									
<b>COOLING ONLY (GROSS VALUE)</b>									
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
<b>COOLING ONLY (EN14511 VALUE)</b>									
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	B
<b>ENERGY EFFICIENCY</b>									
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)</b>									
Process refrigeration at high temperature									
Prated,c	(7)	kW	613,9	678,5	752,0	816,7	896,1	944,5	1017
SEPR	(7)(9)		5,29	5,17	5,24	5,34	5,34	5,31	5,31
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)</b>									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	316,0	361,7	394,6	423,2	466,2	496,4	532,5
SEPR	(8)(9)		3,44	3,45	3,37	3,36	3,44	3,52	3,50
<b>EXCHANGERS</b>									
<b>HEAT EXCHANGER USER SIDE IN REFRIGERATION</b>									
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
<b>REFRIGERANT CIRCUIT</b>									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	123	136	148	162	171	184	197
<b>NOISE LEVEL</b>									
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
<b>SIZE AND WEIGHT</b>									
Length	(6)	mm	6500	7750	7750	9000	10250	10250	11650
Width	(6)	mm	2260	2260	2260	2260	2260	2260	2260
Height	(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 EN14511-3:2013.

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 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]



**GREEN  
CERTIFICATION  
RELEVANT**

**R R513A**

**A ENERGY CLASS**

**COOLING**

**SCREW**

**VPF VAR.PRIM.FLOW**

**T SHELL & TUBES**

**AXIAL**

**FX-G05-Y /SL-CA**

Power supply	V/ph/Hz	4802	4822	5412	5703	6303
PERFORMANCE		400/3/50	400/3/50	400/3/50	400/3/50	400/3/50

**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	4,330	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	3,040	2,980
ESEER (1)(2)	kW/kW	4,150	4,160	4,160	4,130	4,150

Cooling energy class

**ENERGY EFFICIENCY**

**SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)**

Process refrigeration at high temperature

Prated,c (7)	kW	1082	1160	1215	1306	1439
SEPR (7)(9)		5,34	5,30	5,33	5,31	5,36

**SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)**

Process refrigeration at medium temperature

Prated,c (8)	kW	566,7	624,2	642,3	677,4	752,2
SEPR (8)(9)		3,53	3,55	3,46	3,38	3,51

**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**

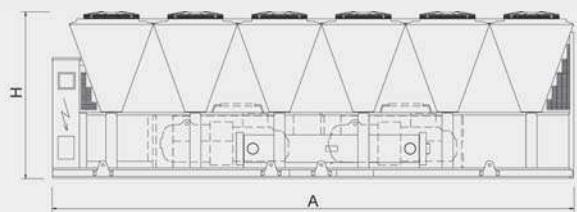
Compressors nr.	N°	2	2	2	3	3
No. Circuits	N°	2	2	2	3	3
Refrigerant charge	kg	210	220	237	260	226

**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**

Length (6)	mm	11650	11650	12900	12900	12900
Width (6)	mm	2260	2260	2260	2260	2260
Height (6)	mm	2500	2500	2500	2500	2500
Operating weight (6)	kg	9890	10230	10760	13130	13260



8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature

[REGULATION (EU) N. 2015/1095]

9 Seasonal energy efficiency ratio

The units highlighted in this publication contain R513A [GWP<sub>100</sub> 631] fluorinated greenhouse gases.

Certified data in EUROVENT

**FX-G05-Y 1502 - 7823**Chiller, air source for outdoor installation,  
from 289 to 1710 kW.

<b>FX-G05-Y /E</b>			<b>1502</b>	<b>1702</b>	<b>1902</b>	<b>1922</b>	<b>2202</b>	<b>2602</b>	<b>2652</b>	<b>2702</b>	<b>2722</b>
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
<b>PERFORMANCE</b>											
<b>COOLING ONLY (GROSS VALUE)</b>											
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	4,370	4,370	4,390	4,360
<b>COOLING ONLY (EN14511 VALUE)</b>											
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	A
<b>ENERGY EFFICIENCY</b>											
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)</b>											
Process refrigeration at high temperature											
Prated,c	(7)	kW	315,8	361,6	412,9	450,1	529,0	574,4	611,2	647,9	701,5
SEPR	(7)(9)		5,29	5,40	5,41	5,43	5,39	5,25	5,28	5,29	5,26
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)</b>											
Process refrigeration at medium temperature											
Prated,c	(8)	kW	159,0	181,9	207,1	237,1	267,2	290,9	310,4	330,0	371,1
SEPR	(8)(9)		3,27	3,38	3,47	3,45	3,42	3,28	3,33	3,36	3,39
<b>EXCHANGERS</b>											
<b>HEAT EXCHANGER USER SIDE IN REFRIGERATION</b>											
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
<b>REFRIGERANT CIRCUIT</b>											
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
<b>NOISE LEVEL</b>											
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
<b>SIZE AND WEIGHT</b>											
Length	(6)	mm	4000	5250	5250	5250	6500	6500	7750	7750	7750
Width	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
Height	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	3720	4240	4360	4420	5590	5920	6400	6490	6600
<b>FX-G05-Y /E</b>			<b>3152</b>	<b>3602</b>	<b>3902</b>	<b>4202</b>	<b>4502</b>	<b>4802</b>	<b>4822</b>	<b>5412</b>	
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
<b>PERFORMANCE</b>											
<b>COOLING ONLY (GROSS VALUE)</b>											
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	
<b>COOLING ONLY (EN14511 VALUE)</b>											
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	A	
<b>ENERGY EFFICIENCY</b>											
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)</b>											
Process refrigeration at high temperature											
Prated,c	(7)	kW	783,7	851,4	927,8	983,6	1051	1119	1216	1274	
SEPR	(7)(9)		5,32	5,35	5,34	5,33	5,36	5,36	5,35	5,37	
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)</b>											
Process refrigeration at medium temperature											
Prated,c	(8)	kW	405,5	436,1	478,5	511,0	546,0	581,3	645,2	661,9	
SEPR	(8)(9)		3,32	3,32	3,39	3,45	3,48	3,48	3,45	3,36	
<b>EXCHANGERS</b>											
<b>HEAT EXCHANGER USER SIDE IN REFRIGERATION</b>											
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	
<b>REFRIGERANT CIRCUIT</b>											
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	
<b>NOISE LEVEL</b>											
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	
<b>SIZE AND WEIGHT</b>											
Length	(6)	mm	9000	9000	10250	10250	11650	11650	11650	12900	
Width	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	
Height	(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 EN14511-3:2013.

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 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]



**GREEN  
CERTIFICATION  
RELEVANT**

**R R513A**

**A ENERGY CLASS**

**COOLING**

**SCREW**

**VPF VAR.PRIM.FLOW**

**T SHELL & TUBES**

**AXIAL**

<b>FX-G05-Y /SL-E</b>		<b>1502</b>	<b>1702</b>	<b>1902</b>	<b>1922</b>	<b>2202</b>	<b>2602</b>	<b>2652</b>	<b>2702</b>	<b>2722</b>
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
<b>PERFORMANCE</b>										
<b>COOLING ONLY (GROSS VALUE)</b>										
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
<b>COOLING ONLY (EN14511 VALUE)</b>										
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	A
<b>ENERGY EFFICIENCY</b>										
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)</b>										
Process refrigeration at high temperature										
Prated,c	(7) kW	312,1	358,1	408,1	446,2	522,6	566,9	603,6	640,0	694,9
SEPR	(7)(9)	5,39	5,50	5,51	5,50	5,50	5,51	5,50	5,50	5,50
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)</b>										
Process refrigeration at medium temperature										
Prated,c	(8) kW	157,7	180,6	205,4	235,7	264,9	288,0	307,5	326,9	368,5
SEPR	(8)(9)	3,43	3,51	3,61	3,61	3,54	3,50	3,53	3,56	3,65
<b>EXCHANGERS</b>										
<b>HEAT EXCHANGER USER SIDE IN REFRIGERATION</b>										
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
<b>REFRIGERANT CIRCUIT</b>										
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
<b>NOISE LEVEL</b>										
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
<b>SIZE AND WEIGHT</b>										
Length	(6) mm	4000	5250	5250	5250	6500	6500	7750	7750	7750
Width	(6) mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
Height	(6) mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6) kg	3960	4460	4620	4680	6120	6460	6940	7040	7140
<b>FX-G05-Y /SL-E</b>		<b>3152</b>	<b>3602</b>	<b>3902</b>	<b>4202</b>	<b>4502</b>	<b>4802</b>	<b>4822</b>	<b>5412</b>	
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
<b>PERFORMANCE</b>										
<b>COOLING ONLY (GROSS VALUE)</b>										
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	
<b>COOLING ONLY (EN14511 VALUE)</b>										
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	B	
<b>ENERGY EFFICIENCY</b>										
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)</b>										
Process refrigeration at high temperature										
Prated,c	(7) kW	774,1	839,4	915,0	970,6	1037	1104	1202	1257	
SEPR	(7)(9)	5,50	5,50	5,51	5,50	5,50	5,51	5,51	5,51	
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)</b>										
Process refrigeration at medium temperature										
Prated,c	(8) kW	402,0	431,7	473,7	505,9	540,4	575,4	639,7	655,8	
SEPR	(8)(9)	3,50	3,45	3,54	3,61	3,62	3,64	3,64	3,52	
<b>EXCHANGERS</b>										
<b>HEAT EXCHANGER USER SIDE IN REFRIGERATION</b>										
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	
<b>REFRIGERANT CIRCUIT</b>										
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	
<b>NOISE LEVEL</b>										
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	
<b>SIZE AND WEIGHT</b>										
Length	(6) mm	9000	9000	10250	10250	11650	11650	11650	12900	
Width	(6) mm	2260	2260	2260	2260	2260	2260	2260	2260	
Height	(6) mm	2500	2500	2500	2500	2500	2500	2500	2500	
Operating weight	(6) kg	7990	8500	8990	9290	9830	9910	10900	11530	

8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature

[REGULATION (EU) N. 2015/1095]

9 Seasonal energy efficiency ratio

The units highlighted in this publication contain R513A [GWP<sub>100</sub> 631] fluorinated greenhouse gases.

Certified data in EUROVENT

# 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

**Compressor rephasing (Opt. 3301):** The capacitors on the compressors' line increase the unit's power factor.

**Automatic circuit breakers for compressors (Opt. 3411) or all major electrical loads (Opt. 3412):** Protects the compressors or the compressors and fans from possible current peaks, over-current switches are provided in place of the standard fuses.

**Soft-starter (Opt. 1511) or 3-phase soft-starter (Opt. 1513):** 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

**BMS connection:** 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 to 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):** FX-G05-Y 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):** FX-G05-Y 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).

# "BY FAR THE BEST PROOF IS EXPERIENCE"

**Sir Francis Bacon**  
British philosopher (1561-1626)

## Flextronic

2017 Tczew – Poland

Electronic & automation

**Plant type:** Hydronic System - HPAC System

**Cooling capacity:** 2225 kW

**Installed machines:**

1x screw compressor chiller,  
1x screw compressor chiller with free-cooling technology,  
2x full inverter close control units



## Lindsay's Fresh

2018 Brisbane - Australia

Industrial Process - Food & Drink

**Plant type:** Hydronic System

**Cooling capacity:** 786 kW

**Installed machines:**

2x screw compressor chillers



## Victorinox Swiss Army

2017 Delémont – Switzerland

Tools & machinery

**Cooling capacity:** 321 kW

**Installed machines:**

1x screw compressor chiller with  
HFO refrigerant



## Ratti Plant

2018 Guanzate - Italy

Industrial Process

**Plant type:** Cooling capacity: 1056 kW

**Installed machines:**

2x screw compressor chillers with HFO  
refrigerant





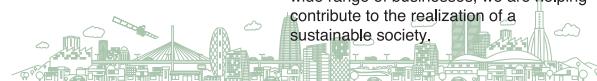
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for a greener tomorrow



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.

