

i-FX2-G05 0522 – 1863

AIR SOURCED CHILLER



R513A

**MITSUBISHI ELECTRIC
HYDRONICS & IT COOLING SYSTEMS**

AIR SOURCED CHILLER

For outdoor installation

Cooling Capacity: 507 – 1858kW

An outdoor unit designed to produce chilled water, featuring semi-hermetic variable-speed screw compressors optimised for R513A. The i-FX2-G05 range includes axial-flow fans, full-aluminium micro-channel condensing coils, an electronic expansion valve, and a single-pass shell-and-tube evaporator designed by Mitsubishi Electric Hydraulics & IT Cooling Systems (MEHITS).

The range also features Variable Vi (compression ratio) technology, allowing it to adjust the internal geometry based on operating conditions. With carefully sized internal components and advanced variable-speed technology, the unit ensures flexibility, reliability, and maximum efficiency across all operating conditions.

Key Features

High Efficiency Inverter Screw Compressor

The i-FX2-G05 features variable speed screw-compressors, designed according to MEHITS specifications and for its exclusive use. These compact compressors combine an integrated oil separator, a frequency modulation inverter, and an inverter cooling system all within in a single casing.

R513A Refrigerant

R513A is a lower GWP alternative to traditional R134A refrigerant delivering a 56% reduction in Global Warming Potential (GWP of R513A=572, GWP of R134A=1300, as per IPCC 5th Revision). In addition, R513A has zero impact on the ozone layer.

Aluminium Micro-Channel Heat Exchangers

The full aluminium micro-channel condenser coils offer high efficiency while minimising refrigerant volume and reducing unit weight. Optional e-coating protection provides maximum corrosion resistance – even in the harshest environments.

Shell and Tube Heat Exchanger

This direct-expansion shell-and-tube heat exchanger serves as the evaporator, with refrigerant flowing through the internal pipes and water flowing on the shell side. Developed and manufactured by MEHITS, the heat exchanger is a single-step type that enables near-perfect counter-flow heat exchange.

Electronic Expansion Valve Supplied as Standard

The use of an electronic expansion valve provides considerable benefits, especially in cases of variable demand and different operating conditions. It ensures energy savings through efficiency optimisation across a range of conditions, which translates into improved operating efficiency, faster unit start-up, and a wider extension of the operating limits.

Unit and Plant Harmony

Low inrush current and a higher power factor than comparable fixed-speed units make for easy electrical installation, reduced starting current, and superior power factor. VSD technology allows the unit to modulate, reducing fluctuations in leaving water temperature.

High Efficiency Performance



*1 i-FX2-G05-SL-E/0702 version with EC fans EN14511 value.

*2 i-FX2-G05-E/0572 version with EC fans Seasonal efficiency in cooling (Reg. EU 2016/2281).

Capacity Range

VERSION		COOLING CAPACITY
K†	KEY EFFICIENCY	533 – 1858 kW
E	ENHANCED EFFICIENCY	523 – 1483 kW
SL-K	KEY EFFICIENCY, SUPER LOW NOISE	517 – 1773 kW
SL-E	ENHANCED EFFICIENCY, SUPER LOW NOISE	507 – 1435 kW

† Performance data overleaf.

Specifications



i-FX2-G05-K

NOTE: Performance data of other versions are available upon request.

		0532	0602	0622	0672	0732	0802	0892	0972	1032	1082	1122	1192	1242	1382	1452	1552	1633	1703
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	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE																			
COOLING ONLY (EN14511 VALUE)																			
Cooling capacity (1) (2)	kW	532.7	596.7	623	673.7	724.8	799.9	888.5	966	1,033	1,078	1,122	1,184	1,242	1,382	1,449	1,550	1,627	1,701
EER (1) (2)	kW/kW	2.89	2.91	2.96	2.97	2.90	2.82	2.86	2.94	2.97	2.93	2.88	3.00	2.96	3.01	2.89	3.05	2.92	2.90
SEASONAL EFFICIENCY IN COOLING (REG. EU 2016/2281)																			
AMBIENT REFRIGERATION																			
Prated, c (7)	kW	532.7	596.7	623	673.7	724.8	799.9	888.5	966	1,033	1,078	1,122	1,184	1,242	1,382	1,449	1,550	1,627	1,701
SEER (7) (8)		5.08	5.00	5.06	4.89	4.85	4.87	4.99	5.00	4.90	4.97	5.01	5.04	5.05	5.12	5.03	5.16	4.99	5.04
Performance ηs (7) (9)	%	200	197	199	193	191	192	197	197	193	196	197	199	199	202	198	203	197	198
EXCHANGERS																			
HEAT EXCHANGER USER SIDE IN COOLING																			
Water flow (1)	L/s	25.50	28.56	29.82	32.24	34.69	38.28	42.52	46.23	49.44	51.61	53.72	56.66	59.44	66.11	69.32	74.16	77.86	81.39
Pressure drop at the heat exchanger (1)	kPa	43.3	54.4	45.8	53.5	56.3	46.3	57.1	42.5	48.6	64.5	69.9	67.6	69.9	61.3	67.5	58.5	69.4	75.9
REFRIGERANT CIRCUIT																			
Compressors nr.	No.	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3
No. Circuits	No.	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3
Theoretical refrigerant charge	kg	83	92	94	101	112	132	143	155	166	167	167	187	207	243	243	263	263	268
NOISE LEVEL																			
Total sound pressure (3)	dB(A)	68	69	69	69	70	69	70	71	71	71	72	72	73	73	73	73	73	73
Total sound power level in cooling (4) (5)	dB(A)	100	101	101	101	102	102	103	104	104	104	105	105	106	106	106	106	106	106
SIZE AND WEIGHT																			
A (6)	mm	4,150	5,400	5,400	5,400	5,400	6,650	6,650	7,900	7,900	7,900	7,900	9,150	9,150	10,400	10,400	11,650	11,650	11,650
B (6)	mm	2,260	2,260	2,260	2,260	2,260	2,260	2,260	2,260	2,260	2,260	2,260	2,260	2,260	2,260	2,260	2,260	2,260	2,260
H (6)	mm	2,640	2,640	2,640	2,640	2,640	2,640	2,640	2,640	2,640	2,640	2,640	2,640	2,640	2,640	2,640	2,640	2,640	2,640
Operating weight (6)	kg	4,500	5,000	5,007	5,106	5,388	5,863	5,974	6,464	6,584	7,031	7,409	8,243	8,249	9,008	9,008	10,165	11,301	11,679

(1) Plant (side) cooling exchanger water (in/out) 12.00°C/7.00°C; Source (side) heat exchanger air (in) 35.0°C.

(2) Values in compliance with EN14511.

(3) Average sound pressure level at 10m distance, unit in a free field on a reflective surface, non-binding value calculated from the sound power level.

(4) Sound power on the basis of measurements taken in compliance with ISO 9614.

(5) Sound power level in cooling, outdoors.

(6) Unit in standard configuration, without optional accessories.

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

(8) Seasonal energy efficiency ratio.

(9) Seasonal space cooling energy efficiency.

The units highlighted in this publication contain [GWP100 631] fluorinated greenhouse gases. Data highlighted in green are Eurovent Certified.

Optional Extras

- User interface versions including KIPLINK
- Microchannel coils with e-coating protection
- Traditional coils with copper tubes and aluminium fins, also available with pre-painted fins or Blygold protective treatment
- Noise reducer kit
- EC fans with DC brushless motor (for K-versions)
- Automatic circuit breakers
- Hydronic module with high or low head, fixed speed or variable speed twin pumps
- Compressor acoustical enclosures
- Smart current limit
- Multi manager
- Night Mode to limit the maximum noise level of the unit
- Pressure relief valves
- Compressor suction valve
- Variable primary flow control
- Thermal energy meter
- Anti-intrusion grills
- Hydraulic decoupler probe
- Refrigerant leak detector
- For more options refer to the Databook

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