

R410A GAS

**i-MAX reversible inverter
heat pumps with axial fan**

66kW-115kW



i-MAX

Air-to-water reversible inverter heat pumps with axial fan, R410A

66 kW – 115 kW



Carpentry: made of hot-dip galvanized and painted sheet metal.

Compressors: scroll type, mounted on rubber anti-vibration mounts. Each of the 2 circuits is equipped with a DC inverter compressor. In this way, in each circuit it is possible to modulate continuously between the minimum capacity of the inverter compressor alone and the sum of the maximum capacities of all the compressors in the circuit.



User-side heat exchanger: the user-side exchanger is a double-circuit, brazed plate type and is made of AISI 304 stainless steel.

Air Side Heat Exchanger: the air side heat exchanger is made of copper tubes and aluminum fins.

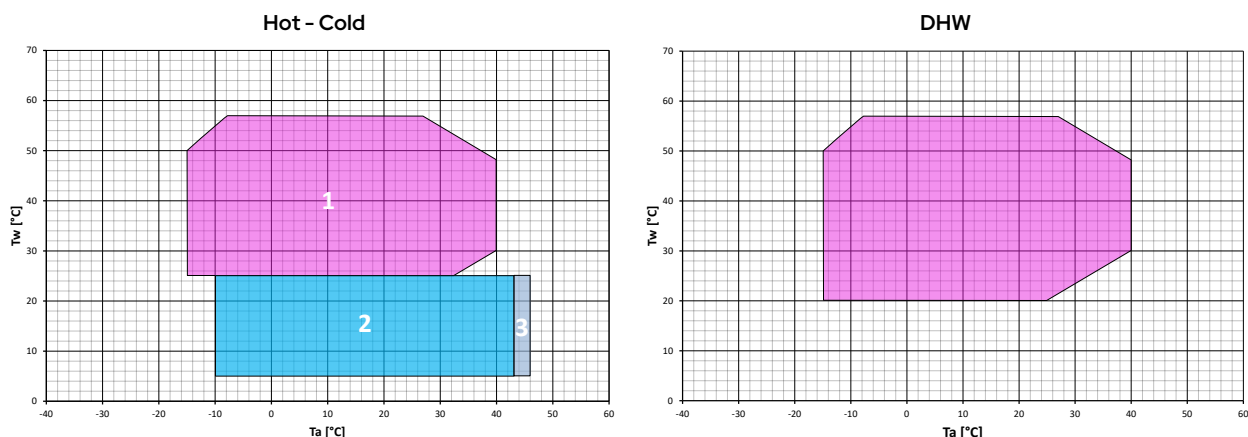
Fan: the fan is made of fiber-reinforced plastic, is of the axial type with airfoil-profile blades. The electric motor used is controlled via inverter.

Refrigerant Circuit: The refrigerant circuits are built using components from leading international manufacturers and in accordance with UNI EN 13134, relating to brazing processes. The refrigerant gas used is R410A. Each refrigerant circuit includes in its basic version: 4-way reversing valve, electronic expansion valve, liquid separator, liquid receivers, auxiliary circuit to reduce defrost times, oil recovery circuit, non-return valves, inspection valves for maintenance and control, safety device in accordance with PED (high-pressure switch), pressure transducers, precision probes, high-capacity dehydrating filter, mechanical filters.

Electrical Panel: the electrical panel is manufactured in compliance with current European standards and contains all the electromechanical and electronic components for regulation and control. The electrical panel is equipped with a terminal block with volt-free contacts for remote ON-OFF, summer/winter changeover, domestic hot water sensor, and remote control panel. The addition of the optional GI module allows management of additional system functions.

Hydraulic Circuit. Includes: plate heat exchanger with double refrigeration circuit and single hydraulic circuit, inlet pressure gauge and outlet connection on the heat exchanger for the evaluation of pressure drops, service valve, protection flow switch, automatic air vent valve and safety valve (6 bar).

Operating Areas



Tw: water temperature – Ta: outdoor air temperature

1. Heat pump mode
2. Chiller mode
3. Part load capacity



Accessories

Factory-installed

- **CI6:** Inverter AC pump (GI module included)
- **CI7:** Integrated AC pump
- **KA** - Antifreeze kit (heat exchanger + base) – includes the use of a self-heating cable that is glued to the base of the unit near the condenser coil, and a PET heater positioned on the plate heat exchanger face.
- **TR2** - Anti-corrosion treatment for coils – thanks to the treatment, the coil becomes flexible to withstand thermal expansion and contraction, mechanically resistant, protected against UV rays and dirt-repellent. Heat transfer losses are very limited. The treatment ensures coil protection in virtually all environmental conditions: from coastal to rural areas, from industrial to urban zones. The treatment withstands 6000 h according to ASTM B117.
- **GI** - System management module – allows the management of the following functions: management of the booster circulation pump with the aid of a room thermostat (not supplied); management of the mixing valve on the system side in both heating and cooling modes; management of solar-thermal integration.
- **CM** - BMS connectivity setup – ModBus protocol included – accessory that enables the connection of the unit to external controllers via serial cable with RS-485 electrical standard and ModBus RTU protocol.
- **SL:** Muting
- **SSL:** Super Silencing
- **IM** - Circuit breakers on compressors – Overcurrent switches applied to compressors, protecting components from faults caused by possible current spikes.
- **DSFR** - Three-phase relay for overvoltage and undervoltage monitoring + phase loss/sequence. Indicates the presence of all three phases in the correct sequence and whether all three phase-to-phase voltages are within the set limits. The overvoltage and undervoltage thresholds can be set separately.

Provided separately

- **SAS** - Domestic hot water probe / Remote system probe – in some system configurations (e.g. heat pump in parallel with the boiler on the same hydronic circuit and diverter valve for boiler exclusion), it may be necessary to enable a system temperature probe so that the unit controller can correctly manage the operation. The remote system probe controls the heat pump temperature only during the compressor start-up phase; shutdown is managed by the probe located on the heat pump flow line.
- **AG** - Anti-vibration kit – designed to prevent transmission of vibrations to the structure; must be installed under the unit, in the dedicated mounting holes.
- **Hi-TV415**** - Color touchscreen wired remote controller for centralized management of a chiller/heat pump cascade, for up to 7 units.
- **i-CR2**** - Wall-mounted remote control – Modbus remote controller with negative LCD and capacitive keys. The device is intended to be used as a remote unit keypad with local temperature sensing and replicates the functions of the on-board unit controller.

** Accessories not usable simultaneously



i-CR2
Wall-mounted
remote control
ACCESSORY



Hi-TV415
Touch screen remote
controller for cascade
management (max 7
units)
ACCESSORY

			0466	0475	0485	0695	06105	06115
Cooling	Cooling capacity (1)	kW	65.59	74.6	83.9	94.7	105.6	114.3
	Power input (1)	kW	22.62	25.72	28.83	32.66	36.16	39.4
	EER (1)	W/W	2.90	2.90	2.91	2.90	2.92	2.90
	Cooling capacity (2)	kW	79.6	90.16	102.8	113.3	127.3	139.3
	Power input (2)	kW	21.81	24.64	28.16	31.04	34.88	38.16
	EER (2)	W/W	3.65	3.66	3.65	3.65	3.65	3.65
	SEER (5)	W / W	3.82	3.85	3.81	3.8	3.83	3.81
Heating	Water flow rate (1)	l/s	3.14	3.57	4.01	4.53	5.05	5.47
	Heating capacity (3)	kW	68.4	74.7	85.6	93.34	102.47	111.47
	Input power (3)	kW	16.85	18.44	21.14	23.87	25.3	28.58
	COP (3)	W/W	4.06	4.05	4.05	3.91	4.05	3.90
	Heating capacity (4)	kW	65.86	71.0	82.12	88.57	97.13	108.28
	Power input (4)	kW	20.52	22.19	25.66	27.68	30.35	36.09
	COP (4)	W/W	3.21	3.20	3.20	3.20	3.20	3.00
	SCOP (6)	W/W	3.58	3.55	3.53	3.54	3.58	3.50
	Water flow rate (4)	l/s	3.15	3.40	3.93	4.24	4.65	5.18
	Pressure drops in the heat exchanger on the user side (4)	kPa	30	31	31	32	27	27
	Energy efficiency water 35°C/55°C		A+/A+	A+/A+	A+/A+	A+/A+	A+/A+	A++/A+
Compressor	Type		Scroll					
	Quantity		2 DC Inverter + 2 on/off			2 DC inverter + 4 on/off		
	Number of refrigeration circuits		2					
	Oil (type)		FVC68D					
	Oil charge (Circuit 1)	l	4	4	4	5.7	5.7	5.7
	Oil load (Circuit 2)	l	4	4	4	5.7	5.7	5.7
Refrigerant	Type		R410A					
	Refrigerant charge (Circuit 1) (7)	kg	10.2	9.6	13.2	13.4	14.2	14.3
	Refrigerant charge (Circuit 2) (7)	kg	10.2	9.6	13.2	13.4	14.2	14.3
	Tons of CO2 equivalent (7)	Ton	42.6	40.1	55.1	56.0	59.3	59.7
	Design pressure (high/low)	bar	41.5/27	41.5/27	41.5/27	41.5/27	41.5/27	41.5/27
Outdoor zone fans	Type		EC Axial					
	Number		2	2	2	2	2	2
	Rated power (1)	kW	2.4	2.7	3.0	3.4	3.8	4.1
	Maximum absorbed power	kW	3.9	3.9	3.9	3.9	6.4	6.4
	Maximum absorbed current	A	6.6	6.6	6.6	6.6	10	10
	Nominal air flow rate	m3/s	6.5 x2	7 x2	7.5 x2	8 x2	8.5 x2	9 x2
Internal heat exchanger	Internal heat exchanger type		Plate type					
	No. of indoor heat exchangers		1	1	1	1	1	1
	Water content	l	4.35	4.76	5.59	6	7.24	8.07
Hydronic circuit	Maximum pressure of hydronic kit (safety valve setting)	bar	6					
	Hydraulic connections	inch	2" ½ F	2" ½ F	2" ½ F	2" ½ F	2" ½ F	2" ½ F
	Minimum system water content (8)	L	200	200	200	260	260	260
Hydraulic circuit with integrated AC pump accessory	Available head (1)	kPa	83	79	78	81	82	77
	Rated AC pump power (1)	kW	1	1	1	1.2	1.2	1.2
	Maximum AC pump power	kW	1.10	1.10	1.10	1.32	1.32	1.32
	Maximum current absorbed by AC pump	A	1.96	1.96	1.96	2.35	2.35	2.35
Sound data	Sound power (9)	dB(A)	84	84	85	85	85	86
	Sound power level SL / SSL (9)	dB(A)	82.0 / 81.2	82.5 / 81.7	83.0 / 82.2	83.2 / 82.7	83.2/ 82.7	83.7 / 83.2
	Sound power (11)	dB(A)	84	84	85	-	-	-
	Sound pressure at 10 m (10)	dB(A)	52.2	52.2	53.2	53.2	53.2	54.2
Electrical data	Power supply		400V/3P+N+T/50Hz					
	Maximum input power, version without accessories	kW	39.9	42.3	46.7	52.3	55.8	63.0
	Maximum current absorbed, version without accessories	A	64.2	71.2	72.8	81.7	92.7	96.3
	Maximum inrush current for version without accessories	A	112.8	119.8	121.4	130.3	141.3	144.9

(1) Internal heat exchanger water temperature = 12/7°C, air entering the external heat exchanger 35°C.

(2) Internal heat exchanger water temperature = 23/18°C, air entering the external heat exchanger 35°C.

(3) Internal heat exchanger water temperature = 30/35°C, entering air temperature at the external heat exchanger = 7°C D.B./6°C W.B.

(4) Internal heat exchanger water temperature = 40/45°C, entering air temperature at the external heat exchanger = 7°C D.B./6°C W.B.

(5) Reference water temperature for internal heat exchanger = 12/7°C.

(6) Average climatic conditions; T_{biv} = -7°C, internal heat exchanger water temperature = 30/35°C.

(7) Indicative data subject to change. For the correct data, always refer to the technical nameplate on the unit.

(8) The calculated value of minimum system water volume does not take into account the water

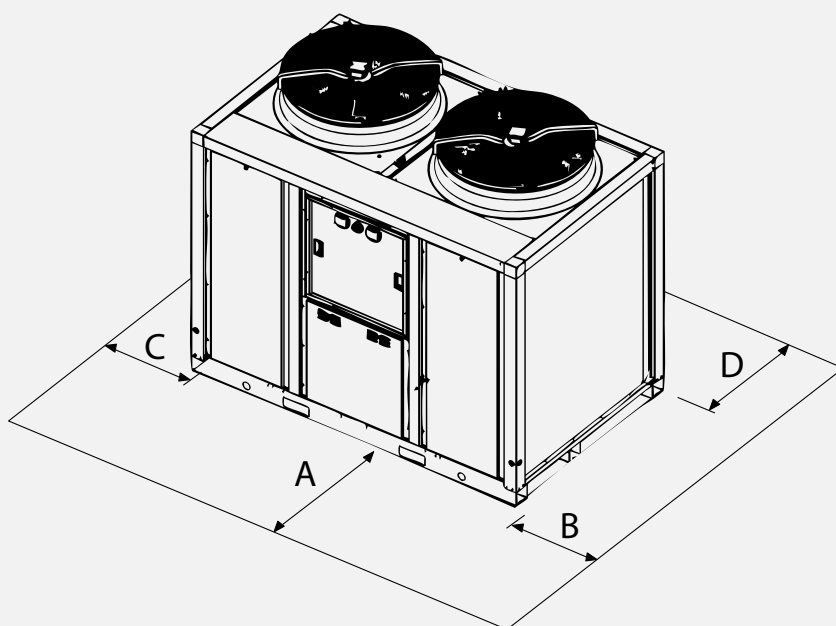
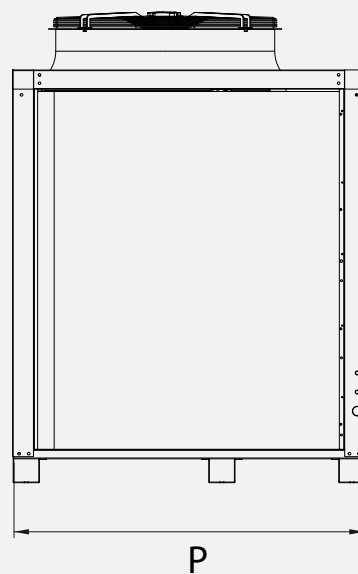
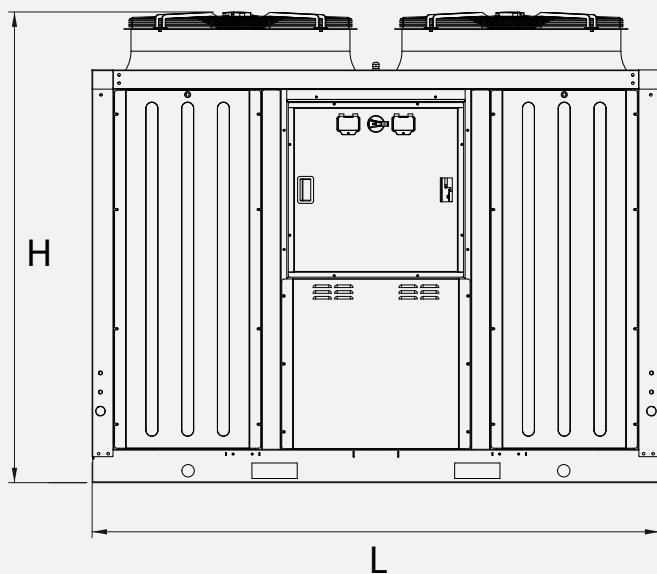
volume contained in the internal heat exchanger (evaporator). For applications with low outdoor air temperature or low average required loads, the minimum system water volume is obtained by doubling the indicated value.

(9) Sound power: Heating mode condition (3) according to EN 12102-1:2013, value determined on the basis of measurements carried out in accordance with UNI EN ISO 9614-1, in compliance with the requirements of the Eurovent and Heat Pump Keymark certifications.

(10) Sound pressure: Heating mode condition (3); value calculated from the sound power level using ISO 3744:2010 for the standard unit (without SL or SSL kit)

(11) Sound power: Heating mode at partial load according to Annex A of EN 12102:2017; value determined on the basis of measurements carried out in accordance with UNI EN ISO 9614-1, in compliance with the requirements of the Eurovent and Heat Pump Keymark certifications.

i-MAX 0466 / 0475 / 0485 / 0695 / 06105 / 06115



Clearances		A	B	C	D
0466	mm	1500	850	850	1000
0475	mm	1500	850	850	1000
0485	mm	1500	850	850	1000
0695	mm	1500	850	850	1000
06105	mm	1500	850	850	1000
06115	mm	1500	850	850	1000

		0466	0475	0485	0695	06105	06115
L	mm	2.250	2.250	2.250	2.250	2.250	2.250
D	mm	1.170	1.170	1.170	1.170	1.450	1.450
H	mm	1.985	1.985	1.985	1.985	2.010	2.010
Shipping weight	kg	943	955	1.011	1.026	1.128	1.142

Dimensions in mm

Price list

i-MAX			0466	0475	0485	0695	06105	06115
i-MAX	Heat pump chillers with dual refrigeration circuit and maximum capacity step control	£	40.003	42.505	44.605	49.120	51.988	53.170
FACTORY-MOUNTED ACCESSORIES								
CI6 (1)	Inverter AC pump	£	2.819	2.819	2.819	2.819	2.819	2.819
CI7	Integrated AC pump	£	2.247	2.247	2.247	2.247	2.247	2.247
CM	Serial communication module for Modbus	£	774	774	774	774	774	774
DSFR	Phase sequence and phase failure monitoring device + undervoltage and overvoltage relay	£	362	362	362	362	362	362
GI	System management module	£	573	573	573	573	573	573
IM	Magnetothermal circuit breakers	£	738	738	738	738	738	738
KA	Antifreeze kit	£	528	528	528	528	528	528
SL	Silencing	£	897	897	897	897	897	897
SSL	Super silencing	£	2.699	2.699	2.699	2.699	4.205	4.205
TR2	Finguard anti-corrosion treatment	£	5.036	5.036	5.036	5.036	5.036	5.036
ACCESSORIES SUPPLIED SEPARATELY								
Hi-TV415*	Touchscreen remote control	code	010312300001					
		£	640					
i-CR2*	Wall-mounted remote control	£	319					
AG	Anti-vibration support	code	015908010052					
		£	437	437	437	437	437	437
SAS	DHW storage probe - Remote probe	code	0110321000001					
		£	47					

(1) GI accessory included

For accessories of the DAS monitoring system (ISK, LNC, OVPN), see chapter "Connection devices for Maxa DAS supervision system"

* Accessories that cannot be used simultaneously



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