



iHCYGNUS TECH iNverter

Heat pumps featuring inverter scroll compressors with R410A.

Nominal cooling capacity 5 – 44 kW

Nominal heating capacity 6 – 50 kW



The full inverter air conditioning.

The energy efficiency is an essential feature in residential, offices and light commercial buildings. To meet this requirement, in combination with low noise emissions and extended operating limits, MTA recommends the iHCYGNUS TECH series with R410A refrigerant and all electrical motors with inverter integrated. In the scroll compressors, the inverter technology modulates the frequency, allowing to adjust the cooling capacity supplied according to the effective heat requirement, drastically decreasing the electrical power consumptions.

Seasonal efficiency levels are even more evident in heat pump mode, thanks to the integrated storage tank and to the detection system of the quantity of ice accumulating on the external coil, so that defrost cycles are performed only when necessary, thereby minimising the power consumption.



Cooling, conditioning, purifying.

Benefits

- Extremely low noise levels;
- Suitable to commercial and domestic chilled water air-conditioning applications;
- Extended operating limits;
- All electrical motors with inverter integrated (compressors, fans and circulators, if included);
- Optimisation of heat pump defrosting cycles thanks to the exclusive Frost Detecting System;
- Designed for installation in confined spaces;
- Easy to use thanks to a semi-graphic terminal;
- Easy installation and simple access to all chiller components.

Options and kits

- Configuration without storage tank;
- Low head pressure pump (mod. 020-051);
- Medium head pressure pump (mod. 020-211);
- Remote user interface;
- xWEB300D EVO for local or remote (GPRS) monitoring plus data filing based on WEB server technology;
- EMC filters;
- Antivibration mountings;
- Condenser filters;
- External 3-way valve kit for DHW (domestic hot water).

Standard Features

- Single inverter scroll compressor (020-171) and double inverter scroll compressors (211);
- Hydraulic threaded connections directly accessible from the external of the unit;
- Brazed stainless steel plate evaporator;
- Condensate collection tray with hose connection;
- EC brushless axial fans;
- Heat pumps with 2nd electronic expansion valve for performance optimisation in all operating conditions (models 081 to 211);
- Factory charged with refrigerant and non-freezing oil;
- Protection grade IPX4;
- Inspections and tests performed in factory as per all MTA products and components;
- Refrigerant R410A;
- Compressor crankcase heater;
- RS485 ModBus interface for connection to supervisor systems.



Semigraphic user terminal with multifunctional buttons and dynamic display icons (mod. 020-051).



Semigraphic user terminal with multifunctional buttons and dynamic display icons (mod. 081-211).



Built-in pumping module with or without storage tank.



Higher energy efficiency and quieter operation thanks to the use of inverter scroll compressors.

Models		020	031	051	081	101	131	171	211
Nominal cooling capacity [1]	kW	5,26	9,16	12,02	17,96	22,02	30,03	39,14	44,01
Total absorbed power [1]	kW	1,88	3,46	4,81	7,08	8,39	11,11	14,47	16,26
Max external air temperature [2]	°C	46	46	46	46	46	46	46	46
Nominal heating capacity [3]	kW	6,05	10,37	14,00	21,06	25,01	34,64	44,93	50,08
Total absorbed power [3]	kW	1,97	3,55	4,75	7,05	8,22	11,29	14,96	16,61
SCOP [4]		3,43	3,24	3,36	3,41	3,54	3,34	3,44	3,45
Min external air temperature [5]	°C	-15	-15	-15	-15	-15	-15	-15	-15
Power supply	V/Ph/Hz	230±10%/1/50		400 ± 10% / 3+N-PE / 50					
Circuits / Compressors	N°	1/1							
Sound power [6]	dB(A)	64,9	67,3	67,1	72,1	72,7	74,6	75,6	76,1
Sound pressure [7]	dB(A)	36,9	39,3	39,1	44,1	44,7	46,6	47,6	48,1
Depth	mm	550	550	550	2012	2012	2526	2526	2526
Width	mm	1420	1420	1420	830	830	1115	1115	1115
Height	mm	1330	1330	1330	1232	1232	1689	1689	1689
Installed weight	kg	150	157	166	330	345	515	555	595

Data declared according to UNI EN 14511:2018. All data refers to standard units without accessories/options which require an electrical feeding source and in nominal working conditions.

- (1) Nominal cooling capacity and nominal absorbed power: data referred to nominal conditions, external ambient temperature 35 °C and evaporator water temperature IN/OUT 12/7 °C;
- (2) Maximum external air temperature: data declared referred to cooling mode and outlet water temperature 7 °C;
- (3) Nominal heating capacity and nominal absorbed power: data referred to nominal conditions external ambient temperature 7 °C, relative humidity 87%, condenser IN/OUT 40/45 °C;
- (4) SCOP: data declared according to the European Regulation 813/2013 for heat pumps at low temperature (BT) in average climate conditions (Strasbourg) and variable outlet water temperature;
- (5) Minimum external air temperature: data declared with: heating mode and outlet water temperature 45 °C;
- (6) Sound power: determined on the basis of measurements taken in accordance with the standard ISO 3744;
- (7) Sound pressure at 10 m: average value obtained in free field on a reflective surface at a distance of 10 m from the external side of the electrical panel of machine and at height of 1.6 m from the unit support base. Values with tolerance ± 2 dB. The sound levels refer to operation of the unit under full load in nominal conditions and with circulation pump.

The listed noise levels, weights and dimensions refer to base units with no options fitted.



MTA is ISO9001 certified, a sign of its commitment to complete customer satisfaction.



MTA products comply with European safety directives, as recognised by the CE symbol.



EAC Declaration

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