



iHCYGNUS TECH iNverter

Reversible heat pumps featuring inverter compressors with R410A.

Nominal cooling capacity 6 – 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 electronic commutation integrated. In the rotary or 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

- Compressors with BLDC motors and regulated by inverter which allows a capacity modulation from 20% to 100%;
- All electrical motors with electronic commutation integrated (compressors, fans and circulators, if included);
- Extremely low noise levels;
- Extended operating limits;
- Optimisation of heat pump defrosting cycles thanks to the exclusive Frost Detecting System;
- Domestic hot water production up to +60 °C;
- Domestic hot water option for external DHW three-way valve management;
- Designed for installation in confined spaces;
- Easy to use semi-graphic terminal;
- Easy installation and simple access to all chiller components.

Kits

- 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

- Refrigerant R410A;
- Twin rotary inverter compressor (020-051) and scroll inverter compressor (081-211);
- Compressor crankcase heater;
- Finned tube condensing coils with hydrophilic coating;
- Condensate collection tray with hose connection for condensing coils;
- EC brushless axial fans;
- Brazed stainless steel plate evaporator;
- Threaded hydraulic connections directly accessible from the external of the unit;
- Heat pumps with 2nd electronic expansion valve for performance optimisation in all operating conditions (models 081 to 211);
- Protection grade IPX4;
- Factory charged with refrigerant and non-freezing oil;
- Inspections and tests performed in factory as per all MTA products and components;
- RS485 ModBus interface for connection to supervisor systems.

Options

- Configuration without storage tank;
- Medium head pressure circulators complete with EC motors;
- Antifreeze heaters protection.



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.



Twin rotary or scroll compressors with high energy efficiency and low sound levels.

iHCY model		020	031	051	081	101	131	171	211
Nominal cooling capacity [1]	kW	5,63	9,81	12,67	17,80	22,56	30,81	40,07	46,15
Total absorbed power [1]	kW	1,88	3,61	4,77	6,88	8,48	11,29	14,46	16,45
SEER [2]		4,18	4,14	4,15	4,15	4,38	4,16	4,55	4,64
Max external air temperature [3]	°C	46	46	46	46	46	46	46	46
Nominal heating capacity [4]	kW	6,11	10,73	14,36	20,15	25,01	35,03	45,37	50,08
Total absorbed power [4]	kW	1,85	3,38	4,57	6,81	8,38	11,30	14,58	16,04
SCOP [5]		3,55	3,47	3,62	3,28	3,35	3,21	3,40	3,44
Min external air temperature [6]	°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 level [7]	dB(A)	64,9	67,3	67,1	72,1	72,7	74,6	75,6	76,1
Sound pressure level [8]	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	168	173	305	317	477	513	551

Data declared according to UNI EN 14511:2018. All data refers to standard units without accessories/options and in nominal working conditions. The listed noise levels and dimensions refer to base units with no options fitted.

(1) Data referred to nominal conditions, external ambient temperature 35 °C and evaporator water temperature IN/OUT 12/7 °C;

(2) Data declared in compliance with the European Regulation (EU) 2016/2281 with regard to ecodesign requirements for cooling products (air conditioning applications);

(3) Data declared referred to cooling mode and outlet water temperature 7 °C;

(4) Data referred to nominal conditions external ambient temperature 7 °C, relative humidity 87%, condenser IN/OUT 40/45 °C;

(5) 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;

(6) Data declared with: heating mode and outlet water temperature 45 °C;

(7) Determined on the basis of measurements taken in accordance with the standard ISO 3744;

(8) 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 working conditions.



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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