



H CYGNUS TECH



Heat pumps featuring hermetic rotary or scroll compressors with R410A.
Nominal cooling capacity 6 – 56 kW | Nominal heating capacity 7 – 67 kW



Intended for residential and commercial air conditioning.

Low noise operation of technical systems is essential for continuously occupied premises such as homes, offices and light-commercial buildings, where air conditioning units are usually placed in close proximity to the users. In order to satisfy the specific comfort requirements of these type of premises, without compromising performance in all operating conditions, MTA recommends the HCYgnus Tech series of reversible heat pumps with environmentally friendly refrigerant R410A. The already very low noise levels have been further reduced by installing electronic fan speed controls, which run at lower speeds as cooling or heating demands decrease. Seasonal efficiency levels are even more evident in heat pump operation, with clear benefits in terms of climatic comfort, thanks to the integral storage tank and Frost Deteting System (FDS), designed to detect the quantity of ice accumulating on the external coil, so that defrost cycles are performed only when appropriate, thereby minimising the power consumption.



Cooling, conditioning, purifying.

Benefits

- Extremely low noise levels;
- High EER/COP values and seasonal performance indices;
- Ideally suited to commercial and domestic chilled water air-conditioning applications;
- Extended operating limits;
- Optimisation of heat pump defrosting cycles thanks to the exclusive Frost Detecting System (FDS) (Minimum ambient temperature in heat pump mode = -10 °C);
- Self-adaptive temperature control (SAC) for efficient operation with installations having low water contents;
- Designed for installation in confined spaces;
- Easy to use thanks to a controller with icon-based dual display;
- Easy installation and simple access to all chiller components.

Main Options

- Configuration without storage tank;
- High/low head pressure pump (depending on model);
- Double pump with one in stand-by (depending on model);
- Condensate collection tray with hose connection (models 013-071);
- Anti-freeze heaters on evaporator, pump and tank;
- Remote user interface;
- RS485 ModBus interface for connection to supervisor systems;
- xWEB300D for local or remote (GPRS) monitoring plus data filing based on WEB server technology;
- Antivibration mountings;
- Condenser filters;
- Soft starter.

Standard Features

- Single hermetic scroll compressor (020-171) and double hermetic scroll compressor (211-301);
- Integral hydronic kit complete with pump, tank, expansion vessel, filling/drain valve, pressure gauge, and automatic bleed valve;
- Hydraulic threaded connections directly accessible from the exterior of the unit;
- Brazed stainless steel plate evaporator;
- Axial fans with sickle shaped blades and electronic speed control;
- Heat pumps with 2nd thermostatic valve for performance optimisation in all operating conditions (models 131 to 301);
- Factory charged with refrigerant and non-freezing oil;
- Protection grade IPX4;
- Inspections and tests performed in factory as per all MTA products and components;
- Environmentally friendly refrigerant R410A with zero ozone depletion potential;
- Phase monitor against phase reversal;
- Compressor crankcase heater.



Microprocessor controller with dual icon-based display.



Higher energy efficiency and quieter operation thanks to scroll compressors.



Built-in pumping module with or without storage tank.



Remote control.

| Models | | 020 | 031 | 051 | 071 | 081 | 101 | 131 | 171 | 211 | 251 | 301 | |
|----------------------------------|---------|--------------|-------|-------|-------|-------|-------------------------|-------|-------|-------|-------|-------|--|
| Nominal cooling capacity [1] | kW | 6,11 | 9,13 | 13,31 | 16,99 | 18,57 | 24,80 | 33,09 | 37,93 | 43,68 | 50,23 | 56,05 | |
| Total absorbed power [1] | kW | 2,19 | 3,30 | 4,86 | 6,57 | 6,95 | 9,16 | 11,46 | 12,63 | 16,33 | 18,20 | 21,15 | |
| EER [2] | | 2,79 | 2,77 | 2,74 | 2,59 | 2,67 | 2,71 | 2,89 | 3,00 | 2,67 | 2,76 | 2,65 | |
| Max external air temperature [3] | °C | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | |
| Nominal heating capacity [4] | kW | 7,38 | 11,05 | 15,73 | 20,57 | 22,16 | 29,58 | 38,12 | 43,83 | 52,42 | 59,39 | 66,63 | |
| Total absorbed power [4] | kW | 2,20 | 3,56 | 5,05 | 6,42 | 7,34 | 9,46 | 12,18 | 13,62 | 17,02 | 19,26 | 21,94 | |
| COP [5] | | 3,36 | 3,11 | 3,11 | 3,20 | 3,02 | 3,13 | 3,13 | 3,22 | 3,08 | 3,08 | 3,04 | |
| SCOP [6] | | 3,48 | 3,34 | 3,43 | 3,48 | 3,27 | 3,41 | 3,42 | 3,55 | 3,68 | 3,76 | 3,74 | |
| ErP efficiency class [6] | | A+ | A+ | A+ | A+ | A+ | A+ | A+ | A+ | A+ | A+ | A+ | |
| Min external air temperature [7] | °C | -7 | -10 | -9 | -8 | -9 | -7 | -8 | -8 | -8 | -8 | -7 | |
| Power supply | V/Ph/Hz | 230±10%/1/50 | | | | | 400 ± 10% / 3+N-PE / 50 | | | | | | |
| Circuits / Compressors | N° | | | | | | 1/1 | | | | 1/2 | | |
| Sound power [8] | dB(A) | 69,9 | 70,0 | 76,7 | 77,8 | 75,8 | 77,6 | 80,7 | 82,7 | 82,9 | 83,3 | 82,8 | |
| Sound pressure [9] | dB(A) | 41,9 | 42,0 | 48,7 | 49,8 | 47,8 | 49,6 | 52,7 | 54,7 | 54,9 | 55,3 | 54,8 | |
| Depth | mm | 380 | 550 | 550 | 550 | 810 | 810 | 1112 | 1112 | 1112 | 1112 | 1112 | |
| Width | mm | 978 | 1420 | 1420 | 1420 | 1960 | 1960 | 2060 | 2060 | 2470 | 2470 | 2470 | |
| Height | mm | 985 | 1288 | 1288 | 1288 | 1203 | 1203 | 1417 | 1417 | 1595 | 1595 | 1595 | |
| Installed weight [10] | Kg | 134 | 273 | 282 | 291 | 465 | 488 | 581 | 652 | 733 | 765 | 768 | |

Data declared according to UNI EN 14511:2013.

- 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;
 - EER:** data referred to the full load functioning and nominal conditions, external ambient temperature 35 °C and evaporator water temperature IN/OUT 12/7 °C;
 - Maximum external air temperature:** data declared referred to cooling mode and outlet water temperature 7 °C;
 - 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;
 - COP:** data referred to the full load functioning and nominal conditions, external ambient temperature 7 °C, relative humidity 87%, condenser IN/OUT 40/45 °C;
 - 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;
 - Minimum external air temperature:** data declared with: heating mode and outlet water temperature 45 °C;
 - Sound power:** determined on the basis of measurements taken in accordance with the standard ISO 3744;
 - 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 a 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;
 - Installed weight:** data referred to the version with storage tank and P1 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.



MTA participates in the E.C.C. programme for LCP-HP. Certified products are listed on: www.eurovent-certification.com
Certification applied to the units:
- Air/Water up to 600 kW
- Water/Water up to 1500 kW



EAC Declaration

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