

*i***CYGNUS**  **HP**

INVERTER PROPANE HEAT PUMP

R290



THE SUSTAINABLE ELECTRIFICATION OF HEATING

Let's reinvent heating with heat pumps

In our journey towards a sustainable future, innovation is enhancing electrical grids and power generation, making them more efficient and smarter and facilitating the integration of renewable energies. As electricity becomes greener, the transition to all-electric heating systems using heat pumps is key to achieve net-zero emissions targets.

Sustainable, in every detail

iCYGNUS N HP is the brand new air-source heat pump, with inverter compressor, delivering high water temperatures with maximum efficiency and silent operations; the ultimate sustainable solution to eliminate fossil fuels from your buildings.

Propane is the answer



GWP <1 (AR6) | ODP 0 (AR6) | Non-toxic

► Negligible environmental impact, the sustainable long-term solution. ► Pure fluid, avoids all the inconveniences related to glide. ► High performance, thanks to excellent thermodynamic properties.



Comprehensively engineered

Propane is A3 flammable classified according to ASHRAE Standard 34 and ISO 817.

Safety always comes first: accurate unit design in strict compliance with safety standards.

What's needed, from a single system



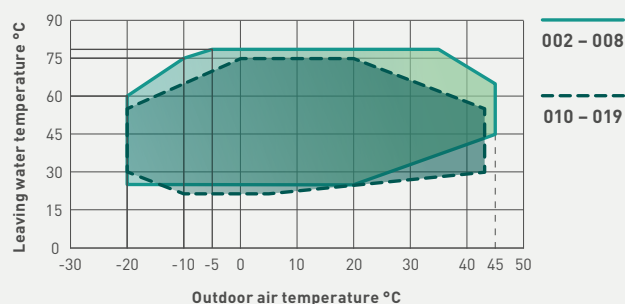
Cooling, heating and DHW from a single unit

iCYGNUS N HP can efficiently provide hot water for space heating and sanitary purposes all-year round, even in extremely cold weather.

Furthermore, the unit can deliver chilled water for air-conditioning, operating up to 46 °C outdoor air temperature.

MAX. WATER **78°C** | **-20°C** MIN. AMBIENT

Operating map in heating mode



High performance in all conditions

up to **4,4** | up to **3,6**
SCOP 35°C | **SCOP 55°C**



Extremely quiet operation

iCYGNUS N HP features variable speed technology on the compressors and fans, delivering high seasonal efficiency levels both in heating and cooling.

Significant emissions and running costs reductions are guaranteed.

The heat pump is designed with an intense focus on acoustics, with cutting-edge low-noise technologies on the compressor and the EC axial fans featuring an aerodynamic blade design.

The result is an extremely quiet unit.

No compromise on safety

- 1 Hermetically sealed refrigeration circuit**
Avoids any risk of refrigerant leakage, no refrigeration certificate required for installation. Valid for models 002 – 004.
- 2 High-efficiency gas/water separator**
Mounted externally, it guarantees optimal system operation and can separate refrigerant from the water flow in case of heat exchanger failure. Optional on models 010 – 019.
- 3 Separated electrical box**
For models 006 – 019, all electrical components are protected in a separate and ventilated electrical box (IP54).
- 4 Leak detection and ventilation system**
If a refrigerant leak is detected, the unit stops immediately and the fan ensures its safe dispersion. Valid for models 006 – 019.
- 5 Pressure safety valves**
Models 006 – 019 are equipped with relief valves on the high and low pressure sides to protect the refrigeration circuit.
- 6 Coil protection grill**
Robust and effective in protecting the air side coils during transportation, installation and extreme weather conditions

Leading edge technologies

- High efficiency EC fans**
Total control of the fan speed for optimum performance, at any condition.
- Variable speed scroll compressor**
Optimized for R290 with continuous capacity modulation for ultimate efficiency.
- Graphic display**
4,3" touch screen with user friendly interface. Remote on models 002 – 004. On board on models 006 – 019.
- Plug & Play**
Packaged monobloc heat pump, can be equipped with integrated pump and fits every application thanks to a comprehensive list of options.
- Smart grid ready**
The controller is designed to be easily integrated with a smart grid, following its operating logic.
- Scalable system**
Possibility to connect up to 4 units, increasing the total system capacity.



Technical data

Model		002	004	006	008	010	012	014	016	019
Circuits/Compressors	No.	1/1 VSD Scroll								
Power supply	V/Ph/Hz	230/1/50	230/1/50 or 400/3+N/50	400/3+N/50	400/3+N/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
Cooling capacity (1)	kW	6,5	11,2	16,7	23,0	27,8	32,2	37,4	45,5	51,8
EER (1)		2,66	2,80	2,82	2,83	2,94	2,76	2,77	3,14	2,96
Sound Power Level (2)	dB(A)	61	63	68	70	80	81	83	83	85
Sound Power Level (LN option) (2)	dB(A)	-	-	-	-	78	79	81	81	83
Sound Power Level (XLN option) (2)	dB(A)	-	-	-	-	75	76	78	78	80
SEER (3)		4,02	4,12	4,15	4,40	4,62	4,55	4,49	4,81	4,71
η_{sc} % (3)		157,9	161,9	163,0	173,1	182,0	179,0	176,8	189,4	185,6
Heating capacity (4)	kW	8,4	14,1	20,8	28,9	36,5	42,4	48,5	56,9	66,3
COP (4)		4,09	4,15	4,2	4,16	4,36	4,09	4,12	4,25	3,87
SCOP LT (5)		4,19	3,99	4,12	4,23	4,4	4,29	4,33	4,38	4,18
η_{sh} % (5)		164,5	156,7	162	166,2	173	168,4	170,2	172	164
SCOP MT (6)		3,31	3,28	3,25	3,4	3,41	3,37	3,38	3,56	3,44
η_{sh} % (6)		129,3	128,2	127,1	133,2	133,5	131,8	132,3	139,3	134,6
Width	mm	1253	1253	1887	1887	1120	1120	1120	1120	1120
Depth	mm	650	650	900	900	2145	2145	2145	2895	2895
Height	mm	1066	1365	1365	1816	1816	1805	1805	1805	1805

Basic unit without accessories

- (1) Cooling: outdoor air temperature 35°C and chilled water temperature 12°C/7°C. (EN 14511:2022)
(2) According ISO 9614:2009. Eurovent conditions, with 1pW reference sound power (without accessories)
(3) Ecodesign rating for comfort chiller - Fan coil application. Outdoor air temperature 35°C and chilled water temperature in/ out: 12°C/7°C. ns,c/SEER as defined in Ecodesign - REGULATION (EU) N° 2016/2281 of 20 December 2016.
(4) Outdoor air temperature 7°C - hot water temperature in/out 30/35°C. (EN 14511:2022)
(5) Ecodesign rating at low temperature conditions (LWT 35°C). Outdoor temperature: 7°C dry bulb/6°C wet bulb and hot water temperature in/out: 30°C/35°C. ns,h / SCOP as defined in Directive 2009/125/EC - COMMISSION REGULATION (EU) N° 813/2013 of 2 August 2013
(6) Ecodesign rating at medium temperature conditions (LWT 55°C). ns,h / SCOP as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign - COMMISSION REGULATION (EU) N° 813/2013 of 2 August 2013



M.T.A. SpA a socio unico
Business Office
Viale Spagna, 8
35020 Tribano PD Italy
Tel. +39 049 9588611
e-mail: info@mta-it.com
www.mta-it.com



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

