

ARIES *tech*

ARIES *tech* H^ARIES *tech*

Air-cooled chillers and heat pumps
with scroll compressors.



Designed with your energy in mind

Aries*tech* chillers and heat pumps represent the ideal example of design aimed at energy savings in all operating conditions. The technical solutions implemented on Aries all contribute to the reduction in overall system operating costs and the protection of the environment. Aries features: 4 scroll compressors connected in parallel within two cooling circuits, offering the exact cooling output required by the system; exchanger on the utility side with dual cooling circuits and a single water circuit, allowing operation with higher evaporating temperatures; cooling circuits with separate aerodynamic sections, permitting progressive shutdown of the fans according to the instantaneous thermal load; heat pumps with hot gas injection and MTA's exclusive and extremely advanced *Adaptive Defrosting* logic, to optimise seasonal energy efficiencies in winter conditions.



Cooling, conditioning, purifying.

BENEFITS

- Reduced noise levels, thanks also to the availability of three differing acoustic versions;
- High EER/COP levels, especially at partial loads;
- A world first: Adaptive Defrosting, MTA's unique and highly intelligent defrosting logic, improving energy efficiency and User comfort, and allowing operation down to -10°C ambient in heat pump mode;
- Allows start-up and operation in even the most severe conditions thanks to the unloading function;
- Simplified installation and easy access to all components;
- User friendly controller with multifunctional buttons and dynamic display icons;
- Compatible with the latest BMS supervision and interface systems.

MAIN OPTIONS

- Add-on external pumping unit with 1 or 2 pumps;
- Storage tank;
- Electronic thermostatic valve;
- Compressor shut-off valves on suction and discharge lines;
- Electronic fan speed control;
- Condenser coils designed for aggressive atmospheres;
- Antivibration dampers;
- Antifreeze heater on evaporator, pumps and tank.
- Metal mesh filters for condenser coil protection;
- Replicated remote control interface;
- Serial connection to supervisor systems;
- 460/3/60 power supply.



Semigraphic User interface with multifunctional buttons and dynamic display icons.



Optimisation of performance in the most frequent duty conditions thanks to the multiscroll logic.



Pump section with or without storage tank.



STANDARD CHARACTERISTICS

- 4 scroll compressors in parallel within two independent circuits;
- Single brazed "dual-circuit" stainless steel plate evaporator;
- Heat pumps equipped with 2nd thermostatic valve (for optimised performance in all operating conditions) and condensate collection tray with hose clamp connections;
- Axial fans with progressive activation for optimised condensing pressure control, installed in two independent aeraulic sections;
- RS485 ModBus interface for connection to supervisor systems;
- Ethernet connection featuring pre-programmed HTML supervision pages, allowing local or internet based visualization and modification of the operating parameters.
- Factory tested and supplied with refrigerant charge and antifreeze oil;
- Environmentally friendly refrigerant R410A with zero ozone depletion potential.

VERSIONS

- Chiller;
- Heat pump;
- Low external air temperature version (down to -20 °C);
- High external air temperature;
- Version with desuperheaters;
- Versions with total heat recovery;
- Acoustic configurations:
 - N standard;
 - SN low noise;
 - SSN very low noise.

TECHNICAL DATA

| Model AST <i>tech</i> - HAST <i>tech</i> | | 070 | 080 | 090 | 100 | 110 | 120 | 130 | 140 | |
|--|-------------------------|---------|--------------|------|------|------|------|------|------|------|
| AST | Cooling capacity | kW | 162 | 196 | 213 | 225 | 250 | 272 | 312 | 331 |
| | Absorbed power | kW | 54,0 | 61,6 | 65,7 | 72,0 | 85,0 | 99,7 | 101 | 111 |
| | ESEER | - | 3,87 | 4,18 | 4,33 | 4,36 | 4,15 | 4,18 | 4,10 | 4,13 |
| | IPLV | - | 4,08 | 4,53 | 4,58 | 4,58 | 4,49 | 4,46 | 4,38 | 4,36 |
| HAST | Max external air temp. | °C | 45 | 46 | 46 | 46 | 45 | 44 | 46 | 45 |
| | Heating capacity | kW | 179 | 214 | 230 | 243 | 276 | 317 | 339 | 374 |
| | Absorbed power | kW | 51,9 | 61,4 | 65,9 | 70,4 | 80,2 | 88,5 | 95,5 | 103 |
| | Min. external air temp. | °C | -7 | -7 | -6 | -6 | -6 | -8 | -7 | -8 |
| | Power supply | V/Ph/Hz | 400±10%/3/50 | | | | | | | |
| | Noise level | dB(A) | 65,6 | 64,6 | 64,6 | 64,6 | 64,6 | 64,6 | 65,3 | 65,3 |
| Depth | mm | 3418 | 3418 | 3418 | 3418 | 4518 | 4518 | 4518 | 4518 | |
| Width | mm | 2188 | 2188 | 2188 | 2188 | 2188 | 2188 | 2188 | 2188 | |
| Height | mm | 1989 | 1989 | 1989 | 1989 | 1989 | 1989 | 1989 | 1989 | |
| Installed weight | Kg | 1765 | 1941 | 2005 | 2068 | 2296 | 2319 | 2504 | 2599 | |

All data refers to standard units at the following nominal conditions:

- Chiller: evaporator water inlet-outlet temperature 12-7 °C, external air temperature 35 °C.

- Heat pump: condenser inlet-outlet temperature 40-45 °C, external air temperature 7 °C D.B., 6 °C W.B.

ESSER calculated according to EECCAC; IPLV calculated according to ARI Standard 550/590-2003.

Sound pressure level in hemispheric field at a distance of 10 m from condenser side and 1.6 m from ground.

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