



PROCESS COOLING  
SOLUTIONS



AIR CONDITIONING  
SYSTEMS

# ARIES TECH

Air cooled water chillers and heat pumps with R410A  
featuring hermetic scroll compressors



## The versatility and the reliability.

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 Tech 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 aerualic sections, permitting progressive shutdown of the fans according to the instantaneous thermal load; heat pumps with hot gas injection and MTA's intelligent FDS (Frost Detecting System) 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;
- Optimisation of performance also in heat pump mode thanks to hot gas injection and the innovative EcoDefrost defrosting system (min. ambient temperature -10 °C 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.

## Main options

- Shell and tube evaporator (AST only);
- 1 or 2 high/low head pressure pumps and water pressure gauge;
- Storage tank;
- Electronic expansion valves (AST only);
- Compressor shut-off valves on suction and discharge lines;
- High efficiency EC inverter fans that allows an high energy savings, special at partial load;
- Condenser coils designed for aggressive atmospheres;
- Antivibration dampers;
- Anti-freeze heaters on evaporator, pump and tank;
- Metal mesh filters for condenser coil protection;
- Electric power supplies differing from standard;
- Soft starter allows about a 20% reduction of the start-up current than direct start;
- Victaulic connections;
- Simple remote control;
- Replicated remote user terminal;
- Serial connection to supervisor systems;
- MTA xCONNECT supervision based on internal web pages;
- Modularity/web interconnection hub.

## Standard features

- 4 scroll compressors in parallel within two independent circuits;
- Phase monitor against phase reversal;
- Compressor crankcase heater;
- Single brazed "dual-circuit" stainless steel plate evaporator;
- Heat pumps equipped with 2<sup>nd</sup> thermostatic valve for optimised performance in all operating conditions);
- Axial fans with progressive activation for optimised condensing pressure control, installed in two independent aerualic sections;
- Factory tested and supplied with refrigerant charge and antifreeze oil;
- IP54 electric protection rating;
- Environmentally friendly refrigerant R410A;
- xDRIVE is a microprocessor electronic controller with high computing capacity and user friendly graphic interface;
- 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.

## Versions

- Cooling only (AST);
- Reversible heat pump (HAST);
- Low ambient air temperature version (down to -20 °C in cooling mode) (AST only);
- H version for high external air temperature / high efficiency (only AST);
- Version with desuperheaters (AST and HAST);
- Configuration with integrated Free-cooling, featuring unique aerualic separation between chiller and Free-cooling sections;
- Acoustic configurations:
  - N (standard);
  - SN (low noise);
  - SSN (very low noise).

Semigraphic user terminal with multifunctional buttons and dynamic display icons.



Also available with shell and tube evaporator (only for AST).



Pump section with or without storage tank.



High efficiency EC inverter fans.



Model AST - HAST		070	080	090	100	110	120	130	140	
AST	Cooling capacity	kW	160	193	210	222	247	269	308	327
	Total absorbed power	kW	66,9	74,9	79,0	85,9	99,5	114	120	131
	ESEER (N)	-	3,61	3,90	4,04	4,06	3,88	3,95	3,87	3,89
	ESEER (H)	-	3,81	4,01	4,11	4,16	3,78	3,84	3,97	3,99
	Max external air temperature vers. N	°C	45	46	46	46	45	44	46	45
Max external air temperature vers. H	°C	49	49	48	48	49	48	48	48	
HAST	Cooling capacity	kW	163	193	204	215	246	281	303	329
	Heating capacity	kW	178	213	229	243	276	316	338	373
	Total absorbed power (in heating)	kW	60,8	70,4	75,0	79,6	93,4	101,8	108,8	116,2
	Min external air temperature	°C	-7	-7	-6	-6	-6	-8	-7	-8
Power supply	V/Ph/Hz	400 ± 10% / 3 - PE / 50								
Circuits / Compressors	N°	2/4	2/4	2/4	2/4	2/4	2/4	2/4	2/4	
Sound pressure level (N)	dB(A)	65,6	64,6	64,6	64,6	64,6	64,6	65,3	65,3	
Sound pressure level (SN)	dB(A)	59,2	58,0	58,0	58,0	58,0	58,0	58,2	58,2	
Sound pressure level (SSN)	dB(A)	50,9	50,9	49,7	49,7	50,7	50,7	51,1	51,1	
Sound pressure level (H)	dB(A)	64,6	64,6	63,7	63,7	65,3	65,3	64,3	64,3	
Depth	mm	3418	3418	3418	3418	4518	4518	4518	4518	
Width	mm	2188	2188	2188	2188	2188	2188	2188	2188	
Height	mm	1935	1935	1935	1935	1935	1935	1935	1935	
Installed weight	Kg	1476	1671	1852	1928	2138	2229	2411	2532	

**Chiller:** data declared according to UNI EN 14511:2011. Evaporator water inlet-outlet 12-7 °C, external air temperature 35 °C;

**Heat pump:** data declared according to UNI EN 14511:2011. Condenser water inlet-outlet 40-45 °C, external air temperature 7 °C dry bulb, 6 °C wet bulb.

Sound pressure level in hemispherical field at 10 m from condenser side and 1.6 m from ground. 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 chillers 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](http://www.eurovent-certification.com). Eurovent Certification applied to the units: - Air/Water up to 600 kW - Water/Water up to 1500 kW



GOST Certification

## M.T.A. S.p.A.

Viale Spagna, 8 - ZI  
35020 Tribano (PD) - Italy  
Tel. +39 049 9588611  
Fax +39 049 9588612  
[info@mta-it.com](mailto:info@mta-it.com)  
[www.mta-it.com](http://www.mta-it.com)



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