



PROCESS COOLING  
SOLUTIONS

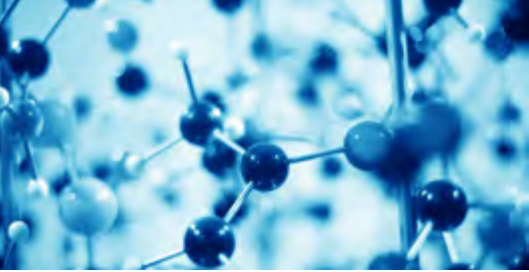
# SOLUTIONS FOR PROCESS COOLING



*Cooling your industry,  
optimising your process.*



Cooling, conditioning, purifying.



## Solutions for Process Cooling

The wide range of MTA products is perfectly aligned to the needs of the process cooling market, which can range from the temperature control of industrial processes to the cooling of food products. Reliability and durability are the trademarks that have always distinguished the MTA products; the high quality standards and excellent performance of the cooling systems to the specific needs of each industrial application, allowing to optimize the processes and reducing its costs.

### Air-cooled chillers

The air-cooled chillers provide the most classic and most versatile solution for the cooling of industrial processes. MTA offers units from 1 to 1640 kW with scroll, piston and screw compressors with refrigerant R410A (Tech series) and R134a (Plus series). Evaporators are available in the characteristic configuration with a finned coil submerged in the tank (TAEvo Tech), shell&tube or plate. Most ranges feature internal hydronic groups with single or double pumps for maximum system reliability. The application of the most advanced technologies ensures optimized EER values, including Class A rated models.

### Air-cooled laser chillers

The air-cooled liquid chillers TAEvo laser, in R407C and cooling capacities from 17.5 to 90.2 kW, ensure the stable operation of laser systems, achieving three important goals such as: the maintenance of a specific wavelength, the high laser beam quality, the reduction of the thermal stress of the components with a consequent increase of the life of the devices and a reduction of maintenance costs. An integrated fine temperature control System, featuring an hot gas by-pass valve, is controlled by an advanced PID control, ensuring minimal temperature fluctuations down to  $\pm 0,5^\circ\text{C}$ . The hydraulic circuit NON-FERROUS allows to preserve the purity of the cooling fluid, avoiding the phenomena of contamination of the laser source and optics.

### Units with high head pressure fans

The air-cooled chillers from 13 to 166 kW (TAEvo Tech series) can be equipped with centrifugal fans or axial EC brushless with high head pressure. These units are ideal for indoors installation, allowing to duct the hot air leaving the condenser.

### Heat pumps

Heat Pumps offer a unique configuration whereby the refrigeration circuit can supply both chilled water and hot water, ensuring a very flexible solution to numerous applications. MTA's product range features elevated COP levels and offer reversibility either on the refrigerant or water side. MTA offers both air-cooled and water-cooled models in R407C (HAEvo series) in R410A (Tech series) and R134a (Plus series) with piston, scroll or screw compressors. Heating capacities from 12 to 373 kW (air-cooled) and from 7 to 1850 kW (water-cooled).

### Water-cooled chillers

The water cooled chillers offer very high energy efficiency values as well as very low noise levels, and are the ideal solution if a cooling water source is available. Thanks to their compact size, they are particularly suitable for installations within technological areas. The water cooled units are available with cooling capacities from 7 to 1554 kW, with scroll or screw compressors; condensers shell&tube, coaxial or plate type. Refrigerant R134a (Plus series), R410A (Tech series) and R407C (TWEvo series) are offered.

**TAEvo Tech** 

Cooling capacity (std version): 7-166 kW;  
Cooling capacity (HE version, A class): 13-146 kW;  
Unit category: air-cooled chillers;  
Compressors: scroll;  
Refrigerant: R410A.



**TAEvo M**

Cooling capacity: 1,4 - 4,4 kW;  
Unit category: air-cooled chillers;  
Compressors: piston, rotary;  
Refrigerant: R134a, R407C.



**HAEvo** 

Cooling capacity: 13-96 kW;  
Heating capacity: 12-85 kW;  
Unit category: heat pumps;  
Compressors: piston, scroll;  
Refrigerant: R407C.



**GALAXY Tech** 

Cooling capacity: 461 - 1354 kW;  
Unit category: air-cooled chillers;  
Compressors: scroll;  
Refrigerant: R410A.



**TWEvo** 

Cooling capacity: 7 - 169 kW;  
Unit category: water-cooled chillers;  
Compressors: piston, scroll;  
Refrigerant: R407C.



**TAEvo Laser**


Cooling capacity: 17-90 kW;  
Unit category: air-cooled chillers for laser systems;  
Compressors: piston, scroll;  
Refrigerant: R407C.




**ARIES Tech** 

Cooling capacity: 216 - 440 kW;  
Heating capacity: 178 - 373 kW;  
Unit category: air-cooled chillers and heat pumps;  
Compressors: scroll;  
Refrigerant: R410A.



**PHOENIX Plus** 

Cooling capacity: 434 - 1640 kW;  
Unit category: air-cooled chillers;  
Compressors: screw;  
Refrigerant: R134a.





temperature control of the final product to the thermostatic temperature control of rooms and working phases. High reliability and energy efficiency ensure also the minimal environmental impact. The wide range of options and accessories allow to tailor costs.

### Free-cooling units

The chillers with integrated free-cooling are the ideal solution for industrial processes which require cooling throughout the entire year, especially when the ambient air temperature is lower than the temperature of the fluid returning from the process circuit. This thanks to some additional cooling coils which allow the water to either be pre-cooled or even fully cooled, by the outside air. MTA has taken freecooling to a new dimension with a unique configuration whereby the refrigeration and freecooling coils are housed in separate compartments, improving freecooling capacity and thus energy savings and also reducing noise levels. The range, with scroll or screw compressors, covers 51 to 494 kW cooling capacities.

### Free-cooling modules

AquaFree free-cooling modules are a compact solution capable to transform a normal chiller in a free-cooling unit. AquaFree allows the user to choose the degree of efficiency of the system, through the installation of one or more modules in parallel. Once connected hydraulically, the system chiller / freecoolers is managed in complete autonomy by the chiller microprocessor, without the need for further programming. All modules are equipped with a three-way valve and an electrical panel with integrated control, so that they are able to operate also as stand-alone units.

### RWD dry coolers

The RWD dry coolers are suitable for cooling the water down to a temperature close to the dry-bulb ambient temperature or as a free cooling system when combined with a chiller. RWD provides significant energy savings compared to solutions with only chiller and can be supplied with all the major hydraulic components already installed on board. Thanks to the water sprayed on the cooling coils through a special nozzle system, the Airbatic version offers many advantages such as: a water outlet temperature value close to the wet-bulb ambient temperature, an high cooling capacity with water consumption much lower than systems equipped with cooling towers.

### Condenserless units

Condenserless units are designed to be used with remote condensers and feature very compact size and extremely low noise levels. They are well suited for use in structures with architectural restrictions and strict noise limits. The MTA products offer features such as scroll or screw compressors, and cover a cooling capacity from 224 and 1438 kW (NET and AQP2 series).

### Supervisor systems and remote controls

All units can be controlled remotely by means of dedicated devices available as kit. MTA's xCONNECT, a world of connectivity, allows easy connection to BMS systems, with smartphone and tablet.

**NEPTUNE Tech** 

**Cooling capacity:** 300 - 710 kW;  
**Heating capacity:** 279 - 657 kW;  
**Unit category:** water-cooled chillers, heat pumps and condenserless units;  
**Compressors:** scroll;  
**Refrigerant:** R410A.



**ARIES free-cooling**

**Cooling capacity:** 65 - 226 kW;  
**Unit category:** air-cooled chillers with integrated free-cooling;  
**Compressors:** scroll;  
**Refrigerant:** R407C.



**AQUAFREE**

**Potenza free cooling:** 310 - 466 kW;  
**Unit category:** units only for cooling mode with free-cooling system.  
 The units can be combined to ARIES Tech, GALAXY Tech and PHOENIX Plus.



**Customized solutions**

Beyond the standard models, MTA offers customized solutions for endless air conditioning applications, as well as for industrial users.



**AQUARIUS Plus 2** 

**Cooling capacity:** 489 - 1982 kW;  
**Heating capacity:** 339 - 1389 kW;  
**Unit category:** water-cooled chillers, heat pumps and condenserless units;  
**Compressors:** screw;  
**Refrigerant:** R134a.



**PHOENIX free-cooling**

**Cooling capacity:** 218 - 662 kW;  
**Unit category:** air-cooled chillers with integrated free-cooling;  
**Compressors:** screw;  
**Refrigerant:** R407C.




**RWD**

**Free-cooling capacity:** 10 - 372 kW;  
**Unit category:** standard unit suitable for cooling the water down to a temperature close to the dry-bulb ambient temperature or as a free cooling system when combined with a chiller.  
**Airbatic Version:** water outlet temperature value close to the wet-bulb ambient temperature.



**Connectivity**

xCONNECT, MTA's world of connectivity, allows communication via BMS, LAN, Ethernet and MTA's xWEB. Smartphone and as well as tablet, plus USB interfacing are also offered.







www.mta-it.com



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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  
- Air/Water with cooling capacity up to 600 kW  
- Water/Water up to 1500 kW



GOST Certification



Cooling, conditioning, purifying.