SUSTAINABILITY, RELIABILITY AND INNOVATION.

Our added value for **cooling**.

MITA cooling technologies

PROTAGONISTS OF EVAPORATIVE COOLING SINCE 1960

MITA Cooling Technologies designs, manufactures and sells:
- **open and closed circuit cooling towers for civil and industrial water**
- **evaporative condensers**
- **adiabatic coolers and condensers**
- **gas coolers**
- **subcoolers**
- **complete cooling systems.**

IN 60 YEARS OF HISTORY, OVER 30,000 SYSTEMS HAVE BEEN INSTALLED THROUGHOUT EUROPE.

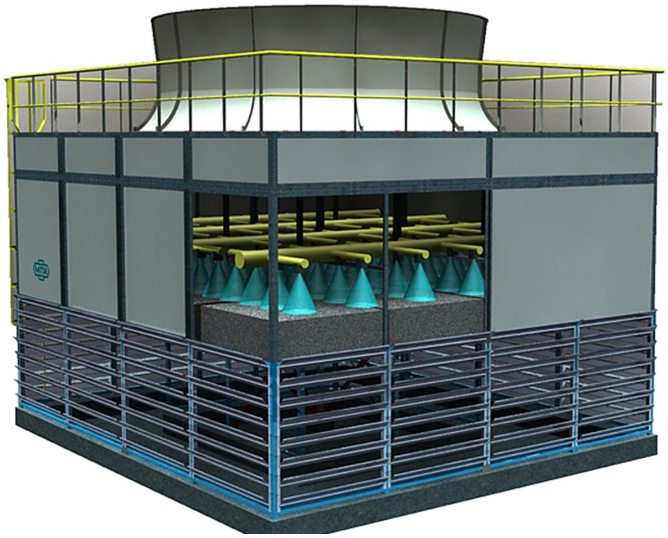
What distinguishes MITA Cooling Technologies is its methodical approach to each project. **Personal solutions are provided for each customer, according to their actual needs.**

A **preliminary consultancy service** that ends with the selection of the product, always focusing on energy saving and respect for the environment.

Mita Cooling Technologies is part of the MITA Group, an Italian business group that is developing at an international level.
MITA Group expresses real excellence in their reference markets.

The other companies belonging to the group are:
- ECONOMAX
- TORRAVAL Cooling
- MITA Water Technologies.

THEORY AND OPERATION OF EVAPORATIVE COOLING



Exploiting a simple natural principle according to which the forced evaporation of a minimum quantity of water causes a lowering of the temperature of the main water mass, **evaporative cooling today still represents the most widely used cooling system in the civil and industrial field.**

The minimum temperature limit theoretically attainable by an evaporative cooler is represented by the wet bulb temperature of the atmospheric air measured in the installation area, which is usually much lower than that of the dry bulb.

In fact, due to the effect of efficiency factors linked to the saturation of the air, **a suitably sized machine manages to cool the water/air up to temperatures of just 2-3°C above the wet bulb temperature.**

On this basis, many system engineers and machine manufacturers size **the cooling circuits and heat exchangers, providing for the use of water right from the start and can, therefore, guarantee the optimum efficiency of the systems and extremely low energy consumption.**

WE OFFER SIMPLE AND RELIABLE SOLUTIONS, STUDIED TOGETHER WITH OUR CUSTOMERS

We have always considered the retrieval of information to be of fundamental importance: for this **we operate as consultants, working on each project in close contact with the technical design studios and their engineers**.

Understanding the needs, and intercepting the expectations of the customers, is the basis for finding the ideal solution for a reliable and easy to manage project: this is the objective with which our technicians provide daily preliminary support.

The outcome of this process leads to the selection of the most technologically suitable product, always **focusing on energy saving and respect for the environment**.

The EUROVENT certification is a key point in our technical approach. It means attention to performance, but also to the design and development of products with a focus on efficiency, energy saving and natural resources.

EUROVENT CERTIFIED PERFORMANCE
www.eurovent-certification.com

ENERGY SAVING

WATER SAVING

NON CORRODING AND LONG LASTING

EASY MAINTENANCE

LIMITED NOISE

RELIABILITY AN QUALITY

A CONSULTANCY BASED APPROACH IN EVERY AREA

INDUSTRIAL PROCESS

REQUIREMENTS:

- criticality of cooling temperatures
- variability of water quality
- operational continuity (24H/365 days)
- energy efficiency
- limited water consumption
- accessibility for maintenance operations

SOLUTIONS:

- resistance to high and low temperatures
- multiplicity of heat exchange packs
- corrosion-free and long-lasting
- high-efficiency motors and fans
- hybrid and adiabatic solutions, free cooling
- extensive access to the internal components of the machines

HVAC

REQUIREMENTS:

- low noise impact
- limited size and weight
- visual impact
- energy efficiency
- limited water consumption
- reliable performance

SOLUTIONS:

- low noise solutions
- compact configurations, extensive use of light materials
- attention to product design
- high-efficiency motors and fans
- hybrid and adiabatic solutions, free cooling
- Eurovent/CTI Certified product line

INDUSTRIAL REFRIGERATION

REQUIREMENTS:

- criticality of condensation temperatures
- variability of refrigerants
- tendency towards the use of natural refrigerants
- operational continuity (24H/365 days)
- energy efficiency
- limited water consumption
- accessibility for maintenance operations

SOLUTIONS:

- selection of the optimum cooler
- specific models for the various refrigerants
- gas cooler and adiabatic subcoolers
- corrosion-free and long-lasting
- high-efficiency motors and fans
- hybrid and adiabatic solutions, free cooling
- extensive access to the internal components of the machines

COMMERCIAL REFRIGERATION

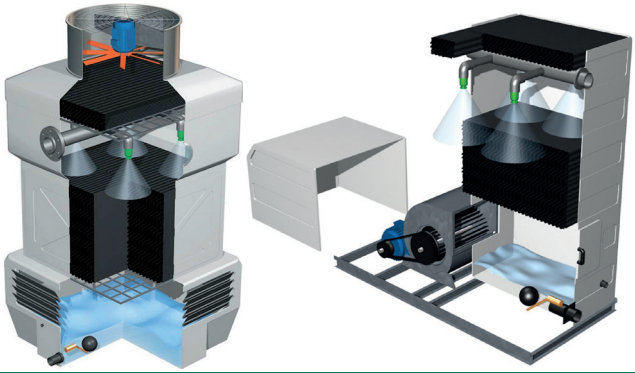
REQUIREMENTS:

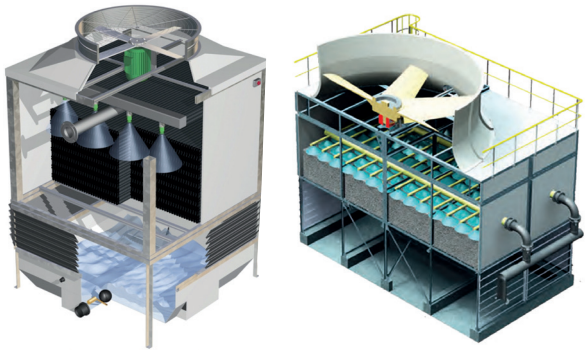
- low noise impact
- limited size and weight
- visual impact
- energy efficiency
- tendancy towards the use of natural refrigerants
- operational continuity (24H/365 days)
- limited water consumption

SOLUTIONS:

- low noise solutions
- compact configurations, extensive use of light materials
- attention to product design
- high-efficiency systems (adiabatic subcoolers)
- adiabatic gas coolers and subcoolers
- corrosion-free and long-lasting
- hybrid and adiabatic solutions, free cooling

INDUSTRIAL PROCESS AND HVAC





PMS and MCT SERIES

Open circuit cooling towers

The PMS series is suggested for small size plants, all models are totally pre-assembled at our factory.

- Axial motor-fan with direct coupling, low installed power, low noise levels.
- Tower body and tank entirely made of fibreglass, corrosion-free material.
- Distribution system in PVC, PP or PE equipped with wide non-clogging PP spray nozzles.
- Fill pack with different kinds of air/water channels, suitable for the use with different water types.
- Capacity: from 18 to 860 KW (indicative capacity referring to a machine, thermal gradient 5°C).

The MCT series is suggested for small/medium-sized installations and indoor installations. All models are totally pre-assembled at our factory.

- Tower body and tank entirely made of fibreglass, corrosion-free material.
- Fill pack in PVC or PP with a high heat exchange surface.
- Distribution system in PVC or PP equipped with wide non-clogging PP spray nozzles.
- Centrifugal motor-fan with transmission belt, low noise levels.
- Air inlet and outlet silencers available.
- Capacity: from 28 kW to 1.5MW (indicative capacity referring to a machine, thermal gradient 5°C).

PME-E and PMM SERIES

Open circuit towers

The PME-E series is suggested for medium and large size plants, all models are totally pre-assembled at our factory.

- Axial motor-fan with direct coupling, low installed power, low noise levels.
- Support structure in hot dip galvanized steel after fabrication.
- Distribution system in PVC, PP or PE equipped with wide non-clogging PP spray nozzles.
- Fill pack with different kinds of air/water channels, suitable for the use with different water types.
- Certified PP drift eliminators (entrainment 0.01%).
- Tank with sloping base entirely made of fibreglass.
- Capacity: from 860 kW to 2.6MW (indicative capacity referring to a machine, thermal gradient 5°C).

The PMM series is suggested for large size plants, each machine is designed according to the characteristics of the single project, all the models are made of modules and components pre-assembled at our factory. The design of PMM series grants a quick and inexpensive installation, besides the possibility of adaption to existing tanks or structures.

- Axial motor-fan with gearbox reducer, low installed power, low noise levels. Motors with IP56 protection.

EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com

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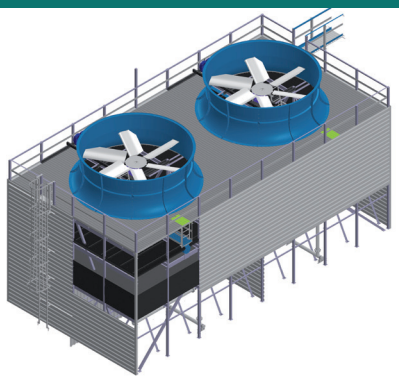
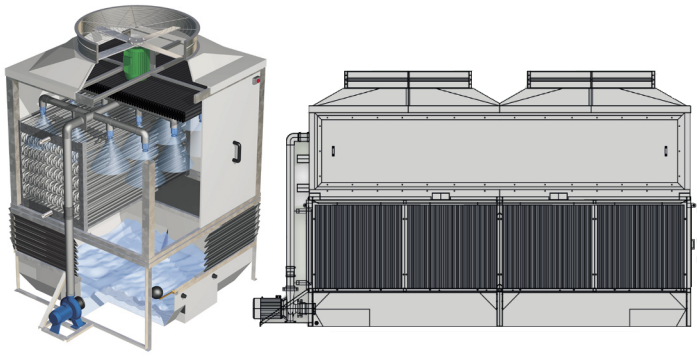
INDUSTRIAL PROCESS AND HVAC





PU SERIES

Field-erected open circuit cooling towers

The PU series is suggested for large size plants: for this reason, this range of towers is field-erected (components to be assembled on site).

The structure is made up of protruded FRP profiles, minimizing the presence of metal elements. Each single cell is able to cool water flow rates up to 5,500 m3/hr. The design and the types of materials used are optimal for any industrial process.
Different types and configurations of heat exchange packs allow treating all types of water, regardless of their aggressiveness. The PU series is the most appropriate option when the flow to be cooled is of considerable magnitude and where the cost of transport (distance and volume of the components to be moved) can have a substantial impact.

- Structure entirely made of protruded FRP profiles: calculated to support static and dynamic loads, seismic factors, wind thrust, snow load, etc.
- External covering system in corrugated panels of flame retardant fibreglass.
- Fibreglass diffusers (FRP).
- Each machine can be equipped with various accesses, for simple inspections and maintenance to: motor-fan group, plenum, water distribution system, droplets separators, heat exchange pack.
- Axial motor-fan with gearbox reducer, low installed power, low noise levels.

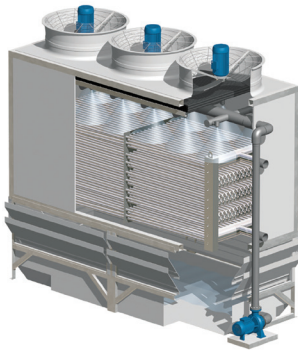
MCC and HBR SERIES

Closed circuit towers Hybrid coolers

The MCC series is suggested as an alternative to open cooling circuits with heat exchangers, where the cooling liquid (water or water and glycol) cannot be polluted by external agents. With MCC you can work in free cooling: the fluid circulates inside a tube evaporator coil.
The same applies to the HBR series, which in addition is able to operate in evaporative (wet) or dry (dry) mode depending on the external temperature or the fluid to be cooled. HBR is a hybrid system designed to reduce water consumption and/or energy consumption.

- Axial motor-fan with direct coupling, low installed power, low noise levels.
- Motors with IP56 protection.
- Tower body made of 22 mm thick fibreglass sandwich panels.
- Support structure in hot dip galvanized steel after fabrication (galvanization process in accordance with UNI EN ISO 1461-99 standard, thickness not inferior to 80 microns).
- Distribution system in PVC equipped with wide non-clogging PP spray nozzles.
- Certified PP drift eliminators (entrainment 0.01%).
- Heat exchanger coils made of smooth tubes in hot dip galvanized steel after fabrication (MCC series).
- Finned coils made of copper and aluminium (HBR series).
- Tank with sloping base entirely made of fibreglass.
- Each machine can be equipped with accesses for inspections and maintenance of internal parts.
- Capacity: from 80 kW to 1.7MW (indicative capacity referring to a machine, thermal gradient 5°C).

INDUSTRIAL AND COMMERCIAL REFRIGERATION



MCE SERIES

Evaporative condensers

The MCE series is suggested in industrial refrigeration, where a refrigerating fluid must be condensed. MCE is indicated in cooling systems linked to industrial logistics, or storage of foodstuffs inside refrigerated warehouses.

The refrigerant gas to be condensed is introduced into the upper collector of coils made of smooth tubes that, constantly wet by water and hit by an adequate countercurrent air flow, allows the progressive condensation.

- Axial motor-fan with direct coupling, low installed power, low noise levels.
- Motors with IP56 protection.
- Body made of 22 mm thick fibreglass sandwich panels.
- Support structure in hot dip galvanized steel after fabrication (galvanization process in accordance with UNI EN ISO 1461-99 standard, thickness not inferior to 80 microns).
- Distribution system in PVC equipped with wide non-clogging PP spray nozzles.
- Certified PP drift eliminators (entrainment 0.01%). Heat exchanger coils made of smooth tubes in hot dip galvanized steel after fabrication, in compliance with PED Directive 2014/68/EU.
- Tank with sloping base entirely made of fibreglass.
- Each machine can be equipped with accesses for inspections and maintenance of internal parts.
- Capacity: from 80 kW to 1.7 MW.

PAD and PAD-V SERIES

Adiabatic coolers and condensers

The PAD and PAD-V series are suggested where attention is particularly focused on the consumption of water (and the risks associated with its management) and energy. The optimum solution to increase the efficiency of air systems.

Adiabatic cooling is based on the sensitive exchange between the fluid flowing inside the finned coils and the air that brushes against the surface. During warmer periods the air is humidified before it hits the coil, thus lowering the temperature and increasing the efficiency. PAD is suggested for medium-large size industrial plants; PAD-V, with its compact design, for medium-small industrial plants and especially in HVAC.

- Models completely preassembled and equipped with an electrical panel (PLC that allows continuous optimization).
- Humidifier pack with high water retention capacity in flocked PVC (very short wetting cycles).
- Adiabatic circuit, protected inside, designed to recover water without requiring treatment.
- Single finned copper and aluminium coils (PAD series), double V coils (PAD-V series). Axial motor-fan with direct coupling (PAD series), EC fans for low electrical consumption and noise (PAD-V series).
- Support structure in hot dip galvanized steel after fabrication with fibreglass panels (PAD series), support carpentry made of press-folded galvanized sheet metal and subsequently protected by an epoxy paint cycle (PAD-V series).
- Each machine can be equipped with accesses for inspections and maintenance of internal parts.
- No risk of Legionella and aerosol.
- Capacity from 75 to 1,100 kW.

INDUSTRIAL AND COMMERCIAL REFRIGERATION

PAD G-C SERIES

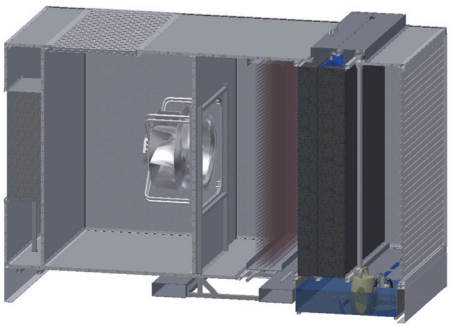
Adiabatic gas coolers

The PAD G-C series (adiabatic gas cooler) is suggested for CO2 refrigeration systems and to obtain greater efficiency compared to the classic air systems.

Adiabatic cooling is based on the sensitive exchange between the fluid flowing inside the finned coils and the air that brushes against the surface. In the summer season, the air is humidified before it hits the coil, so as to lower the temperature and increase the efficiency of the system even in the hottest period.

PAD G-C is the best solution to obtain high COP and low pressure in the circuit in the presence of high external temperatures.

- All models are completely preassembled and equipped with an electrical panel (PLC that allows continuous optimization).
- Humidifier pack with high water retention capacity made of flocked PVC (very short wetting cycles).
- Adiabatic circuit, protected inside, designed to recover water without requiring treatment.
- Double V-finned coil in copper and aluminium with stainless steel collectors.
- EC fans for low electrical consumption and noise.
- Support carpentry made of press-folded galvanized sheet metal and subsequently protected by an epoxy paint cycle.
- Each machine can be equipped with accesses for inspections and maintenance of internal parts.
- No risk of Legionella and aerosol.
- Capacity from 75 to 500 kW.



ALCHEMIST SERIES

Adiabatic subcoolers

The Alchemist series is suggested as a solution for the retrofit of systems using HFC refrigerants with high GWP and/or to increase the efficiency of CO2 systems.

Adiabatic cooling is based on the sensitive exchange between the fluid flowing inside the finned coils and the air that brushes against the surface. In the summer season, the air is humidified before it hits the coil, so as to lower the temperature and increase the efficiency of the system even in the hottest period. Alchemist combines the adiabatic cooling with the subcooling of the refrigerant fluid, in order to increase the efficiency of the system. It is installed downstream of the condenser and/or gas cooler with the following advantages:

- Savings in electricity compared to systems with only gas coolers.
- Water saving compared to the solution with only adiabatic gas cooler.
- All models are completely preassembled and equipped with an electrical panel (PLC that allows continuous optimization).
- Easy installation even in existing systems (retrofit).
- Each machine is accessible for inspections and maintenance of internal parts.
- EC plug fan.
- Finned coil.
- Humidifier pack with high water retention capacity made of flocked PVC (very short wetting cycles).

DISTINGUISHING FEATURES OF PRODUCTS

MITA Cooling Technologies are distinguished by the wide use of corrosion-free components. The result of this choice is **a product of high quality, light, exceptionally long-lasting and that minimizes maintenance operations.**

Several constructive variants designed according to specific needs and a wide range of optionals **makes the range extremely flexible and suitable to solve any cooling problem of the industrial or civil sector.**

- Plastic materials corrosion-free by nature: fibreglass, PVC, PP.
- Water collection tanks, body and cap entirely in fibreglass.
- Support structure in hot dip galvanized steel after fabrication (galvanization process in accordance with UNI EN ISO 1461-99 standard, thickness not inferior to 80 microns).
- Non-clogging PP spray nozzles.
- Certified PP drift eliminators (entrainment 0.01%).
- Motors directly coupled to axial fans, EC fans, EC plug fans. Low absorption, low maintenance and consumption optimization.
- Attention towards sound emissions: various technical solutions, levels measured and calculated according to the ISO 3744, EN 13487 and/or ATC 128 standards.
- Modular pre-assembled solutions composed of several cells. The modular design ensures extreme flexibility and the possibility of capacity-control depending on the production loads and/or according to different environmental conditions.
- Various solutions to allow a quick, safe and complete access to the internal components of the machines: inspection portholes, manhole covers, walls and louvres totally removable.
- In addition to the “catalogue” range, several variants are possible studied with the final user.
- ISO 9001 certification, Eurovent/CTI certification (PMS K12 series, PME-E K12), PED 2014/68/EU certified coils, EAC certification, ISO 14001/OHSAS 18001 management systems.

INTEGRATED SYSTEMS AND SERVICE

Thanks to the experience gained over the years in the cooling field, MITA Cooling Technologies is also able to provide:

- **A REMOTE MANAGEMENT PLATFORM (MITA Group Connect)** to monitor the operation of the machines, collect big data for predictive maintenance operations. All available in a secure way and from anywhere, via the web, app and mobile.

- **COOLING STATIONS** complete with softening system, pumping unit, electric panel, containment box, one or more monolithic tanks for water collection in reinforced concrete.

- **TANKS REINFORCED CONCRETE**.

- **DOSING STATIONS AND SALINITY CONTROL**.

- **MCS** (MITA Control System) to program and modulate the performance of the machine during its use, optimising electrical consumption and water treatment.

- **SPARE PARTS**: a wide range of solutions able to restore and guarantee the initial efficiency.

- **AFTER-SALES SERVICES**: installation and start-up assistance, extended warranty, scheduled maintenance, performance test.

MITA
cooling technologies

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