PMM

Cooling towers engineered for large systems

MITA cooling technologies

MITA
COOLING TECHNOLOGIES

Founded in Milan in 1960, MITA Cooling Technologies designs, produces and sells:

- Open and closed circuit cooling towers for civil and industrial water
- Evaporative condensers
- Adiabatic coolers and condensers
- Complete systems for industrial cooling.

In over 50 years of business more than 30.000 cooling towers have been installed all over Europe. They operate in several industrial fields of applications and they can solve different and complex cooling problems. Beyond the choice among different standard units, MITA provides customised solutions and it is constantly engaged in the study and design of technologically innovative models and solutions, focusing on the customer's demands, the energy saving and the respect for the environment.

PMM SERIES
COOLING TOWERS

The **PMM** series is proposed in big-size plants.

Each unit is engineered according to the technical data of the relevant project.

All models are made of factory pre-assembled modules and components.

This particular design grants a quick and inexpensive final installation, minimizing the erection times and costs.

Beside, this the **PMM** range can be engineered to fit existing basins or structures in many cases.

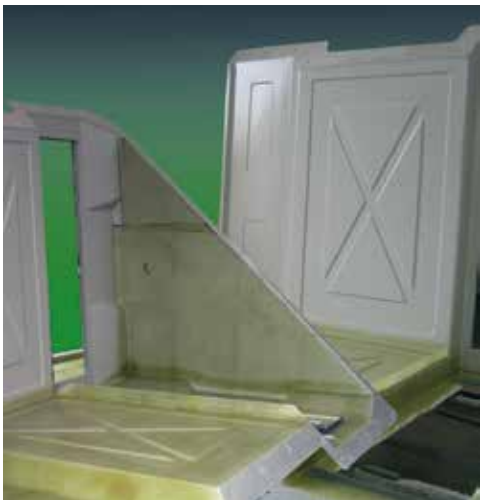
- Open-circuit counter flow cooling towers composed of pre-assembled modules
- Capacity from 2.6 to 14 MW (approximate values referred to one cell, 5°C temperature range, 19 mm fill pack), modular systems.

PMM series cooling towers can be used in many fields of application and sectors including:

- Steel mills and metals manufacturing in general
- Energy production facilities
- Chemical and pharmaceutical plants
- Food industry
- Air conditioning systems (for shopping malls, hospitals, exhibition halls, etc...)
- Technical gas production facilities.

CONSTRUCTIVE CHARACTERISTICS

- Non-corroding tower casing, made up of fibreglass sandwich panels
- Supporting frames made of thick steel, hot dip galvanized after all the processing
- Fill packs (heat exchanging surface) with different types of air / water channels, suitable for the use with various water qualities
- Certified PP Drift eliminators (drift loss 0.01%)
- Water distribution system in PVC / PP / PE and PP non-clogging spray nozzles
- Each unit can be supplied with one or more removable walls / access doors in order to allow quick and easy inspection and maintenance operations
- Fibreglass fan stack in segments, giving the possibility to access the fan area in a fast, simple and safe way
- Axial motor fan system with mechanical gearbox and transmission shaft, low installed motor power, low noise levels
- IP56 motor, located outside the air flow, easy to access.



FRP (non-corroding material) manufacture process

All **PMM** series cooling towers are assembled with different heat exchange fill packs selected according to the type of water to be cooled and the customer's needs.

The fill packs used by MITA (internally tested in the own test station) are composed of self-extinguishing PVC sheets or thermoformed PP, available with different geometries depending on the characteristics of water:

- **19 mm (PVC or PP*)**
  panels for industrially clean water, with maximum temperatures of +55 °C (PVC) and peaks up to +80 °C (PP)
- **NVP**
  for waters containing moderate amounts of suspended solids
- **GS (PP)**
  grids for very dirty water (suspended solids and colloids with a diameter <200/300 microns, concentration <1000 mg/l) and with a maximum peak temperature of +80°C.

***ASTM E-84 certified**

WHY
MITA PMM?

For our actual experience in the field:

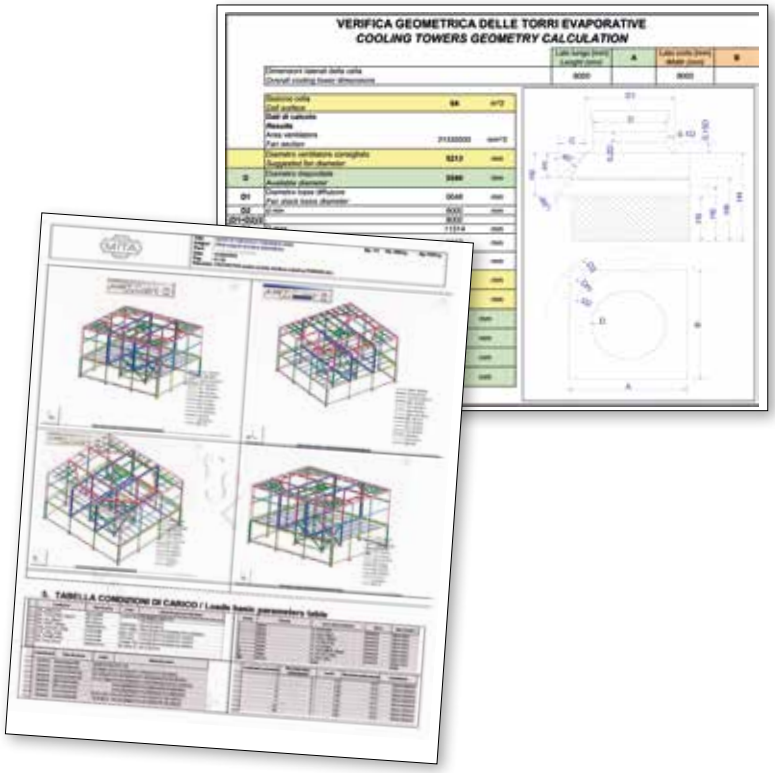
- We are offering solutions for over 50 years for civil and industrial water cooling
- For the quality in the choice of materials, preferring components that are naturally non-corroding.

For the solutions, designed from time to time according to the customers' demands and the various critical issues of systems:

- For the possibility of adaptation to existing tanks or structures (replacement of other cooling towers)
- In case of limited available spaces
- In case of short plant shutdown for the replacement of existing towers
- Because of the short erection time with limited use of workforce for the final installation
- For the short time from the order confirmation to the start-up
- Easy, fast and safe access to internal parts: the operations for ordinary and extraordinary maintenance are greatly simplified
- Transportability of pre-assembled modules and components on standard vehicles
- Limited use of cranes or forklifts for final assembly
- Energy savings (axial fans, low rpm)
- Multiple solutions to curb the sound levels
- Cooling of different types of water
- Maximum operating flexibility to optimize the system according to the different loads and environmental conditions.

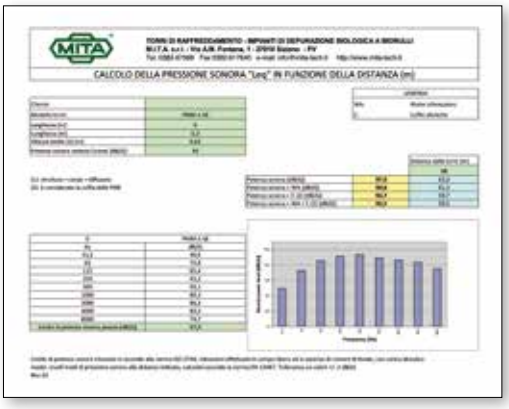
FEASIBILITY AND ENGINEERING PROCESS ANALYSIS

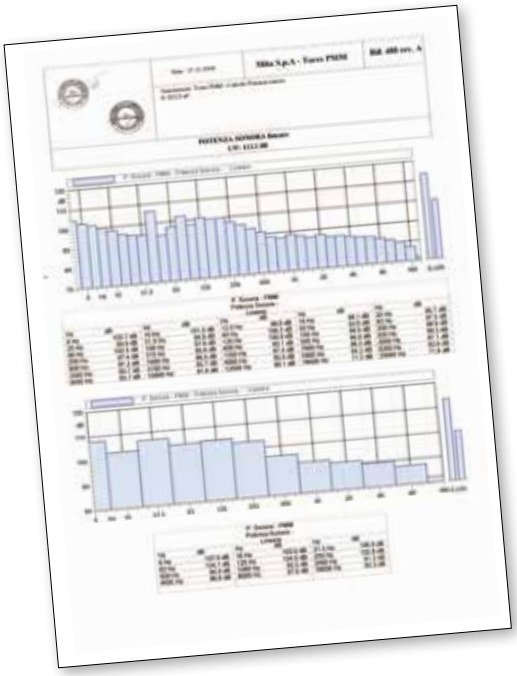
- For every order a static and dynamic structural analysis is carried out, considering seismic factors, wind thrust, snow load, etc.
- Computer tools, specific selection software to calculate the heat exchange surface, the impellers and motors used to achieve maximum efficiency and energy savings
- Wide range of customized solutions and optional items
- Pre- and after-sales technical inspections
- On-site supervision and support.

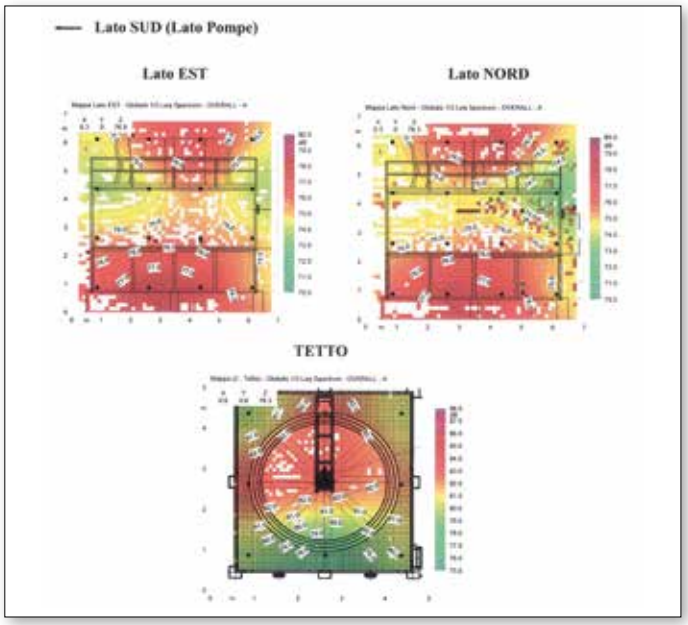


NOISE IMPACT ASSESSMENT

- MITA technical department makes use of a computer program for its cooling towers especially developed in cooperation with a company experienced in developing noise reduction solutions and vibro-acoustic analysis software
- The measurements of sound levels were made in cooperation with an acoustical consulting firm enrolled in the “Assoacustici” register
- All values related to noise emissions are measured and calculated according to ISO 3744 and EN 13487 standards.







Plant before the replacement with a MITA solution

Before... and after

Plant after the replacement with MITA modules

Installation Place	Sweden
Sector	Automotive
Cooling capacity, MW	26
Model	PMM A33
Cells number	5

Plant before the replacement with a MITA solution

Plant after the replacement with MITA modules

Installation Place	Italy
Sector	Technical gas production
Cooling capacity, MW	19
Model	PMM A43
Cells number	4

Plant before the replacement with a MITA solution

Plant after the replacement with MITA modules

Installation Place	Italy
Sector	HVAC
Cooling capacity, MW	15
Model	PMM 35
Cells number	4

Plant before the replacement with a MITA solution

Plant after the replacement with MITA modules

Installation Place	France
Sector	Metallurgic works
Cooling capacity, MW	20
Model	PMM B52
Cells number	1

Installation Place	Italy
Sector	Chemical
Cooling capacity, MW	36
Model	PMM 30
Cells number	4

Installation Place	Italy
Sector	Energy
Cooling capacity, MW	29
Model	PMM 30
Cells number	6

Installation Place	Italy
Sector	Metallurgic
Cooling capacity, MW	19
Model	PMM 20
Cells number	4

Installation Place	Poland
Sector	Chemical
Cooling capacity, MW	5,8
Model	PMM 30
Cells number	3

aggreko

MITA is also **aggreko** supplier, the global leader in rental of power generators, refrigerators and modular cooling towers with capacities up to 100 MW.

Temporary cooling towers can be used during planned maintenance activities, during the replacement and repair of existing units, for emergencies or in case of additional cooling processes.

Advantages:

- Design tested for safe and reliable operations
- Modular capacity up to 100 MW
- Quick commissioning of multi-megawatt systems
- Technical assistance.

MITA
cooling technologies

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