



Integrated Systems

Complete solutions
for water-cooling



MITA COOLING STATIONS

System A | System B

Each station consists of:

- Water softening system and water additives dosing system
- Pump unit
- Electronic control panel
- Enclosing structure
- One or multiple one-piece reinforced concrete tanks for water collection.

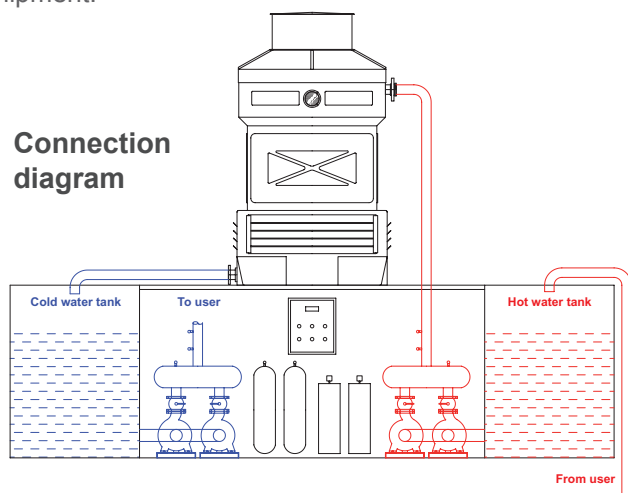
The control panel not only acts as electronic interface but also as automated illumination with electric sockets with frost protection through electric heating.

“MITA SYSTEM” general characteristic

The MITA SYSTEM cooling stations are designed as integrated solution to manage cooling systems by means of cooling towers. The structure, for MITA SYSTEM A stations, consisting of a concrete tank and a technical room, can be used as support surface for the cooling tower (interposed floor slab). Otherwise, for MITA SYSTEM B, the structure, consisting of a concrete monolith, integrates tanks, technical room and can be used as the support surface for the cooling tower (ceiling slab). These solutions, therefore, integrate all the main components constituting the cooling system in a single preassembled structure, ready to be connected to the customer's hydraulic and electric system (plug and play).

This solution allows the station to be factory tested before shipment.

Connection
diagram



MITA SYSTEM cooling stations are configured with two separated water loops, cooling tower loop and user loop, managed by as many pumping units, giving more flexibility to the system. User loop pumps and cooling tower fans are driven by inverters, granting adaptation to thermal load, energy saving, safe management, low noise and flexibility in use. Since water quality is essential to preserve high cooling efficiency, our cooling stations are designed to manage independently the required chemical-physical standards of water, by using a water softening system and a water additives dosing system. An inductive conductivity sensor can be also integrated as optional.

These solutions are specifically developed and designed for a more efficient and automated management of cooling towers and other cooling systems, which guarantees our customers to considerably reduce the operations of designing and building up, making it possible to refer to one supplier only for the whole cooling plant.



Main advantages:

- Tested solutions and guaranteed by manufacturer results
- Simplicity in design for customer
- High energy efficiency
- Temperatures stability, thanks to water tanks thermal flywheel
- Simplicity in management
- Optimized use of space
- Reduction of operating costs
- Reduction of installation and testing costs
- Investment guarantee: cooling stations can be easily disconnected and transferred
- Industry 4.0 integrability



MITA COOLING STATIONS

System A

| COOLING STATION | THERMAL DUTY | FLOW RATE | T IN - T OUT | STORAGE VOLUME | DIMENSIONS |
|-----------------|--------------|-----------|--------------|----------------|--------------------|
| MITA SYSTEM A | (kW) | (m³/h) | (°C) | (m³) | (m) a x b x h |
| 13 | 151 | 13 | 40-30 | 5 | 3,55 x 2,50 x 2,20 |
| 24 | 279 | 24 | 40-30 | 8,5 | 3,90 x 2,60 x 2,20 |
| 35 | 407 | 35 | 40-30 | 8,5 | 4,40 x 2,60 x 2,20 |
| 55 | 639 | 55 | 40-30 | 8,5 | 4,40 x 2,60 x 2,20 |
| 85 | 988 | 85 | 40-30 | 8,5 | 4,40 x 2,60 x 2,20 |
| 110 | 1.279 | 110 | 40-30 | 8,5 | 4,90 x 2,60 x 2,20 |

MITA System A

The cooling station is made from rectangular section of one-piece reinforced concrete and a structure made of stainless steel/aluminum constituting a technical area.

It is accessible through a door with locking handle. The tank's roof is prepared to take a mounting frame for the cooling tower if required. The technical area is enclosed by 25 mm thick composite panels assuring weatherproof insulation.

The tank, with integrated partition wall for hot/cold water, provides a thermal flywheel, guaranteeing a stable temperature and a reasonable autonomy in case of temporary lack of water supply. In the upper part each one of the tank's compartments has a hatch, allowing inspection and cleaning. This single tank solution with partition wall makes the system's size particularly compact. It is possible to place on the top of cooling station a



small/medium size cooling tower, which makes this solution the best one for limited thermal load plants.



MITA COOLING STATIONS

System B

| COOLING STATION | THERMAL DUTY | FLOW RATE | T IN - T OUT | STORAGE VOLUME | DIMENSIONS |
|-----------------|--------------|-----------|--------------|----------------|--------------------|
| MITA SYSTEM B | (kW) | (m³/h) | (°C) | (m³) | (m) a x b x h |
| 100 | 1.163 | 100 | 40-30 | 10 | 5,80 x 2,50 x 2,50 |
| 160 | 1.868 | 160 | 40-30 | 16 | 7,40 x 2,50 x 2,50 |
| 200 | 2.326 | 200 | 40-30 | 20 | 8,80 x 2,50 x 2,50 |
| 250 | 2.907 | 250 | 40-30 | 20 | 8,80 x 2,50 x 2,50 |

MITA System B

The cooling station is made from one-piece reinforced concrete with two external tanks and a technical area for housing all the appliances. It is accessible through a door with anti-panic handle.

The ceiling is designed to hold the cooling tower. The two tanks provide a thermal flywheel, guaranteeing a stable temperature and a reasonable autonomy in case of temporary lack of water supply. In the upper part each tank has a hatch, allowing inspection and cleaning. This two tanks solution

make it possible to have a bigger water storage volume, so that it can be also coupled with double cell cooling towers, which makes this solution suitable for higher thermal load plants.



WATER TREATMENT

Dosing stations and salinity control

DOSC

Ideal solution for dosage of additive (anti-scaling agent, anti-corrosion, anti-algae) and control of salinity in medium sized cooling systems. Dosage is proportional to water consumption. Salt content is kept to the correct level with automatic purging.

CAB and VD

Water softeners single and double column with volumetric activation, the resin column automatically regenerates after reaching its cyclic capacity.

Devices designed for dispensing desalinated water for industrial use.

SAL CONTROL

Control system of salt concentration by means of a pre-programmed, timed purge or through an inductive/resistive conductivity meter, ideal for the salinity control in cooling systems.



REINFORCED CONCRETE TANKS

Prefabricated, self-supporting tanks made from one-piece reinforced concrete designed to hold water for industrial usage which can also be used as a support for the cooling tower.

The tanks guarantee a thermal flywheel effect with stable temperature and sufficient autonomy in case of temporary lacking water supply. In the upper part each tank has a hatch allowing inspection and cleaning.

It is possible to internally separate hot and cold water and a compensation system keeps the unit in correct balance.



| CAPACITY | LENGTH | WIDTH | HEIGHT |
|----------|--------|-------|--------|
| m³ | m | m | m |
| 5,00 | 2,00 | 1,55 | 2,00 |
| 8,50 | 2,60 | 1,90 | 2,20 |
| 10,00 | 2,60 | 1,90 | 2,50 |
| 12,00 | 3,00 | 2,50 | 2,36 |
| 16,00 | 4,00 | 2,50 | 2,36 |
| 20,00 | 4,00 | 2,50 | 2,56 |
| 25,00 | 5,00 | 2,50 | 2,56 |
| 30,00 | 6,00 | 2,50 | 2,56 |
| 40,00 | 8,00 | 2,50 | 2,56 |
| 50,00 | 10,00 | 2,50 | 2,56 |

| Suggested loads for tank couplings | | |
|------------------------------------|------------|--------|
| Coupling | Aspiration | Return |
| DN | m³/h | m³/h |
| 65 | 20 | 30 |
| 80 | 30 | 40 |
| 100 | 50 | 70 |
| 125 | 75 | 100 |
| 150 | 110 | 150 |
| 200 | 200 | 250 |



MITA CONTROL SYSTEM

Energy efficiency

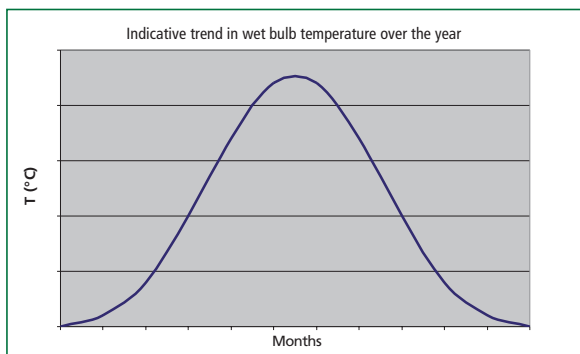
MITA offers an optional system with integrated inverter for its systems: **MCS MITA CONTROL SYSTEM.**

The minimum temperature limit theoretically achievable by an evaporative tower is that represented by the wet bulb temperature of the atmospheric air measured in the installation area. The correct size of cooling tower can be determined by considering the highest value of wet-bulb temperature recorded within the year, disregarding the variability of temperature. MITA

Control System (MCS) constantly controls the thermal output ensuring the performance of the system despite change of wet- bulb temperature, optimising the cooling tower's performance avoiding unnecessary waste throughout the day and year. MCS is a simple, reliable and efficient system which can be installed on a unit or remotely, equipped with an inverter integrated into a control panel with IP54 protection as well as a temperature sensor.

MCS provides the following advantages:

- Electricity Saving
- Reduction of electromechanical components and hence reduced maintenance costs
- Lower water consumption
- Cost saving relative to water-treatment
- Less noise



REMOTE CONTROL PLATFORM

MITA Connect is a remote-control platform allowing the monitoring of the units and data collection for predictive maintenance, safely accessible from every location through web, app or mobile phone.



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