

F TYPE DRY COOLER

Design Features



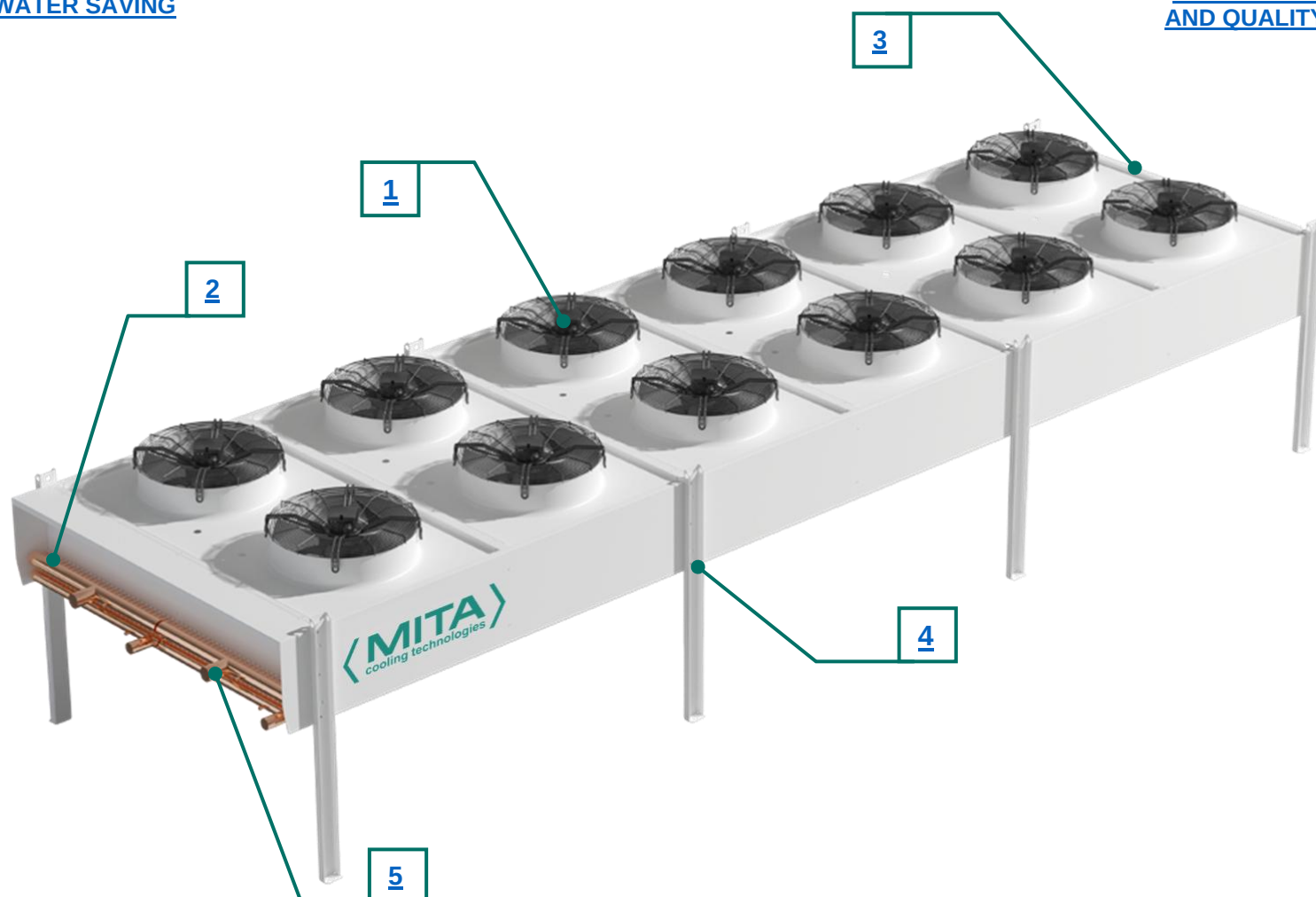
MDC-F Series



WATER SAVING



**RELIABILITY
AND QUALITY**



Axial Fan Dry Cooler	
Factory Assembled - Modular Flat-configuration Design	
1	EC / AC Motor(s) directly coupled with fan
2	Heat exchange coils
3	Control Panel
4	Casing & support structure
5	Inlet/outlet connections
6	Factory assembled, plug and play configuration



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OPERATING DESCRIPTION

Dry coolers are simple and reliable equipment.

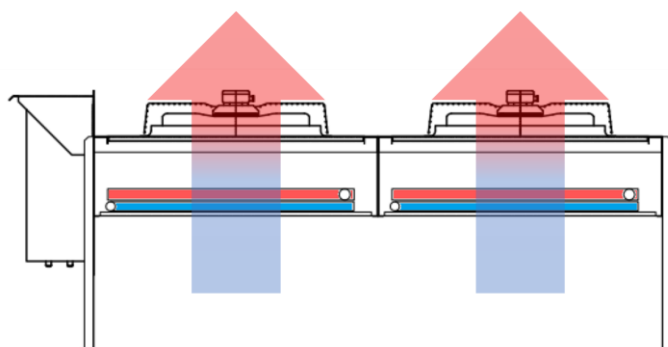
Their operating principle relies on an air/water sensible heat transfer via air pulled by the fans through a finned coil heat exchanger. Water or a mixture of water and glycol flows through the pipes that make up the coils and cools down as cooler ambient air brushes it. Fins are used to increase the overall heat exchange surface so that the equipment can be as compact and efficient as possible.

The water loop is closed and never in contact with the elements.

The only consumption is electricity to run the fans that moves air. Fans can be AC or EC type while fan control is guaranteed by a controller or a frequency converter that modulates fan RPM according to actual operating conditions.

Their performance and return temperature are a consequence of the place of installation.

The approach temperature is usually about 5°C.



PRODUCT RANGE & NOMENCLATURE

Length: Up to 12,5m

Versions: Single row fans or twin row fans

Coil type: Cu/Al, Cu/Coated Al / AISI/Al

Fin spacing 2,1 – 2,4 – 3,6 mm.

Capacity: from 20kW to 2000kW*

Fan size: Ø 800 – 900 – 1000mm

Fan type: AC or EC

Number of fans: 1 - 18

M D C - V - 35 B - 2 x 3 - 80 N - AC

Product line
Drycooler MDC

Coils arrangement
Twin coils in V **V**
Single coil **F**

Cooler lenght
Up to 12,8 m

Coil configuration
A - B - C - D

Motor type
AC - EC

Motor version
N (4 poles) - S (6 poles) - L (12 poles)

Fan diameter
Ø 350 - 500 - 630 - 800 - 900 mm

Numer of fan in line
1 - 11

Number of fan rows
1 - 2

1. EC / AC AXIAL FAN

Axial fan with electronic control is positioned in parallel with respect to the single flat-type coil, for homogeneous air distribution.

ErP 2015 energy efficiency requirements compliant.

Variant: AC motor.

Optional: Individual Switch-Off for each fan to cut power without affecting any other fan ensuring continuous operation.



2. HEAT EXCHANGE COILS

Heat exchange coil arranged in horizontal or vertical shape is made of copper pipes and aluminum fins. Angle between coils, diameter of pipes, thickness and pitch of fins are designed to ensure the best heat exchange performance with suitable fluid and airflow pressure drops.

Optional: Flanged inlet connections



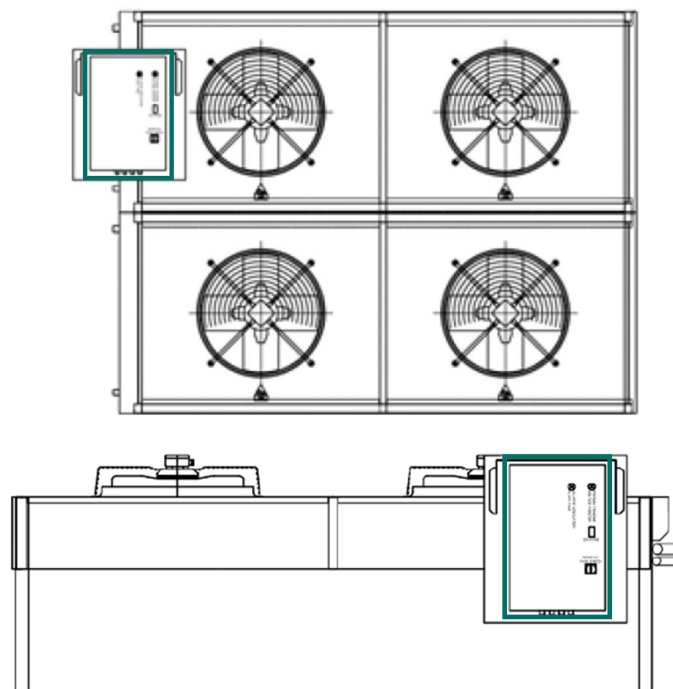
3. CONTROL PANEL (Optional)

Electric box with protections for each fan and differential thermal breaker. The electronic controller automatically regulates fans speed (from 10 to 100%) to keep a constant outlet fluid temperature.

Speed control together with EC fans allows for energy savings when ambient temperatures or thermal load are below nominal; also reducing noise levels.

Temperature probe is pre-installed and wired.

Variant: in case of AC motors a phase-cut controller is installed, regulating the fan speed rotation (down to 40% of rpm) according to the temperature probe signals.

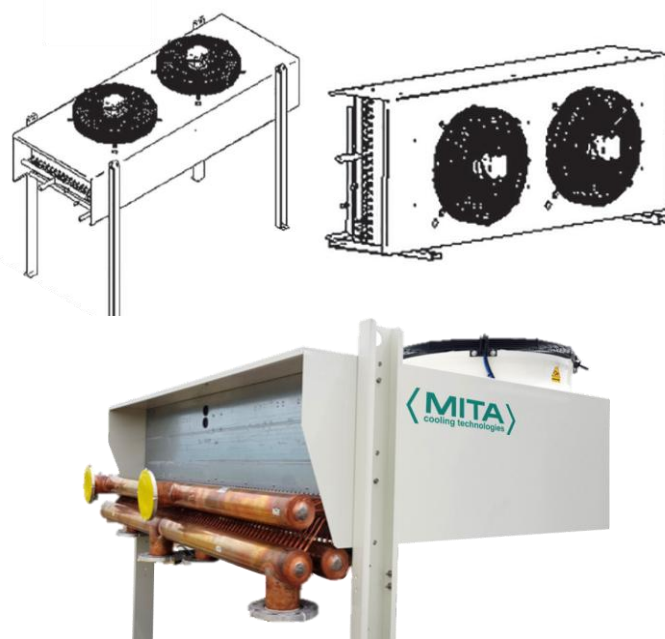


4. CASING & SUPPORT STRUCTURE

Casing structure made of press-folded galvanized metal sheets (1,5 mm thickness) designed to properly support the heat exchange coils.

Optional:

- Vertical installation kit consisting in bracket feet fixed to the casing structure that allows the air to flow from the bottom upwards.
- The conveyor on which the fan is screwed is equipped with hinges that allow it to be opened safely to access and clean the exchanger.
- Vibration Damper (elastomeric type) to reduce vibration transmitted by the unit through the fixing points.



Supply of the cooler is limited to the parts listed above. Building and electrical works, pumps, collectors external to the cooler, valves, hoisting gear and any scaffolding and labor are therefore excluded. Accessories and/or constructional variants are available on request. MITA Cooling Technologies S.r.l. may carry out constructional improvements without notice. Images for illustration purposes only.