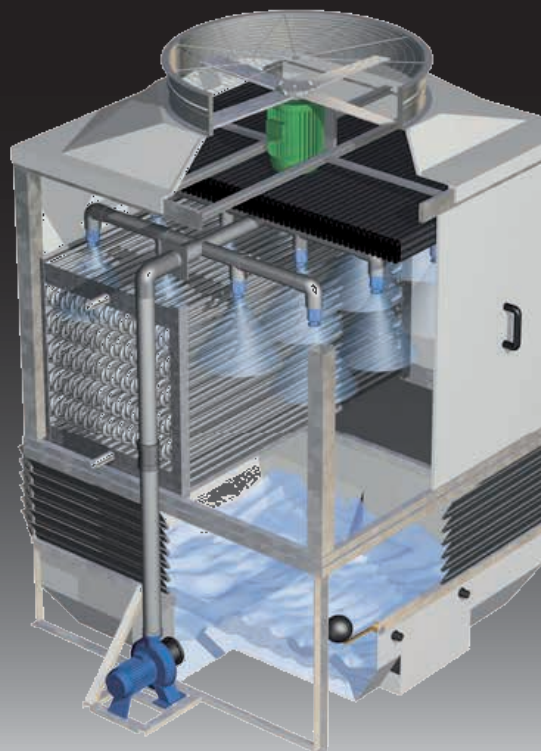




# MCC

Closed circuit evaporative coolers



# EVAPORATIVE COOLERS MCC SERIES



## Closed circuit evaporative cooling towers MCC Series

The MCC series closed circuit evaporative cooling towers are employed as an alternative to open-type cooling circuits with heat exchangers, in those cases in which the cooling fluid for the user's equipment (generally water or water with glycol) must maintain its chemical and physical characteristics constant over time and unpolluted by external elements. In fact the fluid to be cooled circulates within the tubes constituting the heat exchanger coil placed inside the cooling tower: the coil, in turn, is continuously wetted by the water contained in the basin of the tower, which is sent to a spray system with nozzles via the appropriate pump. Thanks to the combined effects of the evaporation of a small part of the spray water and of the turbulence created inside the tubes, the cooling of the fluid, which can hence be returned to the user's equipment, is achieved.

## Construction features

Fitted with one or more axial fans according to the model, the MCC series is built with a strong supporting structure in hot-dip galvanised steel and side walls made of fibreglass sandwich panels. The internal heat exchanger is composed of smooth-tube coils. The standard configuration is completed by the water collecting basin and the fan stacks made entirely of fibreglass (FRP). The range includes several models suitable for installations with requested refrigeration capacities between approx. 80 and 3800 kW.

## For all models several option items are available, such as:

- Different solutions to reduce sound emissions
- Totally removable side walls for an easy and total access to the internal parts, to simplify inspection, cleaning or maintenance operations
- Special dimensions for shipment by sea containers.

## Fields of application

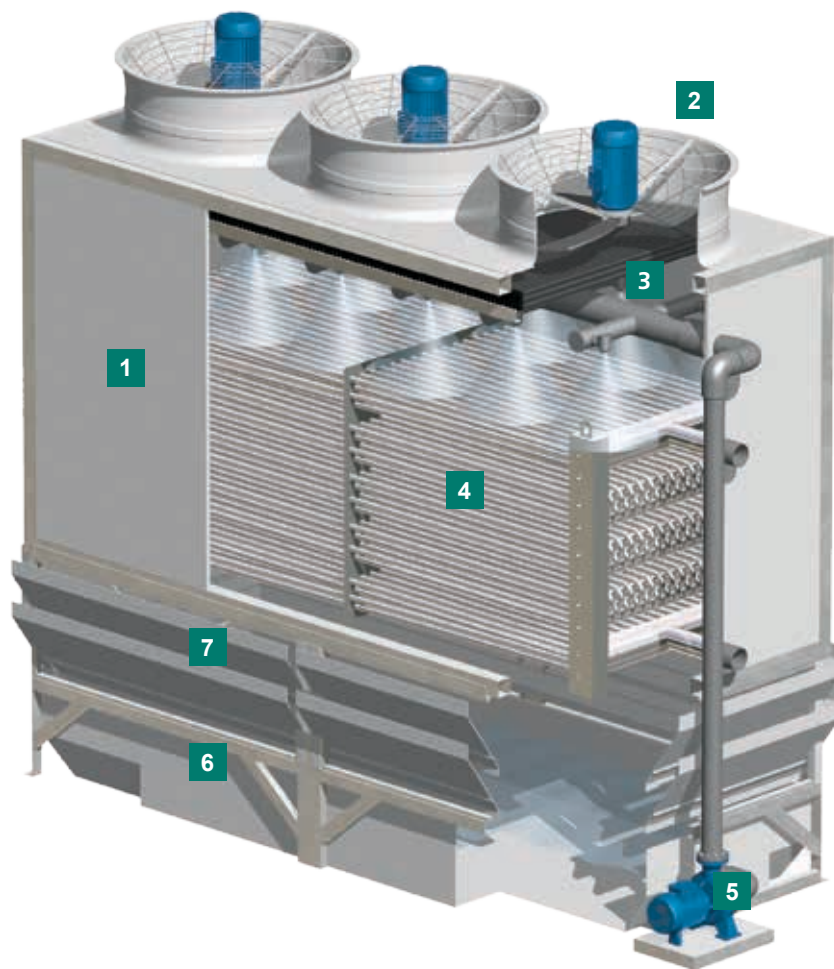
The closed circuit cooling tower is employed in industrial plants and civil air conditioning installations, in particular:

- Cooling of delicate equipment such as air compressors, moulds and plastic extrusion machines, pipe-manufacturing (using an emulsion of anti-corrosion additive in the water of the closed circuit) or induction furnaces (with demineralised water)
- Evaporative chilling (cooling tower's direct production of cold water for an air conditioning installation when the chiller is shutdown in the low season) and load shaving (direct production of cold water upstream of a chiller thus only subject to partload).





# CONSTRUCTION FEATURES



## 1 Structure and main casing

### Construction Materials:

steel supporting structure, hot-dip galvanised after fabrication, sandwich panelling in 22 mm thick fibreglass.

### Characteristics:

- optimum mechanical resistance
- good sound-absorption properties
- non-corroding
- easy internal inspection (with optional totally removable side walls)

## Multi-blade axial fan

2

### Construction Materials:

hot-dip galvanised steel (support), plastic (fan blades), stainless steel (protective grid).

### Characteristics:

- high performance, low absorbed electric power, fan directly driven by the motor
- electrical wiring connections to fan motor/s.

## 3 Water distribution system

### Construction Materials:

normalised PN 10 PVC pipes, polypropylene tangential nozzles.

### Characteristics:

- non-corroding
- uniform and complete spraying of the coil, full-cone spray
- exclusive MITA-design nozzles: the water flow is induced in the diffuser cone solely by the tangential connection to the main body of the nozzle, hence there are no internal parts which could cause obstructions.

## 4 Heat exchange coil

### Construction Materials:

hot-dip galvanised steel (stainless steel).

### Characteristics:

- large heat exchange surface
- easy maintenance (thanks to the optional totally removable side walls).

## 5 Centrifugal water recirculating pump and piping of the spray water circuit

## 6 Basin with sloping bottom and top of the tower

### Construction Materials:

glass-mat reinforced orthophthalic polyester resin in several layers.

### Characteristics:

- external surface protection by means of a gelcoat resistant to UV-radiation, to cold and hot water, to abrasion from the elements/weather conditions and to chemicals
- internal water-proofing/impermeability obtained by means of an isophthalic, paraffin-containing, impermeable and hydrorepellent gel-coat (for the basin)
- light-weight
- non-corroding.

## 7 Anti-splash louvers on the air inlet openings

### Construction Materials:

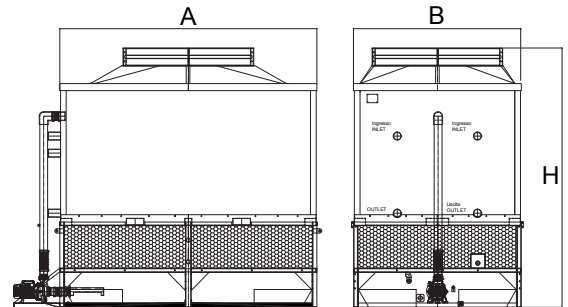
PVC or fibreglass..

### Characteristics:

- non-corroding
- easy dismantling even after many years in service.

# TECHNICAL CHARACTERISTICS

Model	Dimensional data and coil type			Fans			Pump	
	MCC	045	R	3	2	C	N	K1
Product line	Code dimension (m²)	Coil type	Code - No. Rows	No.	Axial AC	Noise		
	020 - (1,9) 030 - (2,9) 035 - (3,5) 045 - (4,5) 055 - (5,5) 070 - (6,9) 085 - (8,4) 110 - (10,7) 130 - (12,9) 160 - (16,2) 210 - (20,8) 170 - (16,8) 220 - (21,4) 260 - (25,7)	R Standard  T Twin pass	1 - 6 Rows 2 - 8 Rows 3 - 10 Rows 4 - 12 Rows	1 2 3 4	A For models from 085 to 260  C For models from 020 to 070	N Standard  S Silent  L Low noise	-	K0 No pump  K1 1 pump  K2 2 pumps



Model	Dimensions (m)			Weight (kg)		Total fans power (kW)	Total power for spray pumps (kW)	Power for electric heater in the basin (*) (kW)
	A	B	H	Empty	Operation			
MCC-020R1-2CN-K1	1,89	1,05	3,18	980	1960	2,6	1,1	2
MCC-020R2-2CN-K1	1,89	1,05	3,18	1110	2130	2,6	1,1	2
MCC-020R3-2CN-K1	1,89	1,05	3,18	1210	2280	2,8	1,1	2
MCC-020R4-2CN-K1	1,89	1,05	3,43	1310	2430	3,3	1,1	2
MCC-030R1-2CN-K1	2,79	1,05	3,18	1240	2670	4,9	1,5	3
MCC-030R2-2CN-K1	2,79	1,05	3,18	1350	2860	5,2	1,5	3
MCC-030R3-2CN-K1	2,79	1,05	3,18	1570	3150	5,5	1,5	3
MCC-030R4-2CN-K1	2,79	1,05	3,43	1730	3380	6,8	1,5	3
MCC-035R2-2CN-K1	2,87	1,26	3,24	1620	3480	6,9	2,2	3
MCC-035R3-2CN-K1	2,87	1,26	3,24	1860	3810	6,9	2,2	3
MCC-035R4-2CN-K1	2,87	1,26	3,49	2040	4080	8,7	2,2	3
MCC-045R2-2CN-K1	3,69	1,26	3,24	2010	4380	8,7	2,2	4,5
MCC-045R3-2CN-K1	3,69	1,26	3,24	2220	4710	8,8	2,2	4,5
MCC-045R4-2CN-K1	3,69	1,26	3,49	2520	5130	8,8	2,2	4,5
MCC-055R2-3CN-K1	3,69	1,53	3,46	2370	5280	10,4	4	7,5
MCC-055R3-3CN-K1	3,69	1,53	3,46	2670	5730	10,4	4	7,5
MCC-055R4-3CN-K1	3,69	1,53	3,71	2850	6060	13,0	4	7,5
MCC-070R2-3CN-K1	4,59	1,53	3,61	2820	6450	13,0	5,5	7,5
MCC-070R3-3CN-K1	4,59	1,53	3,61	3180	6990	13,2	5,5	7,5
MCC-070R4-3CN-K1	4,59	1,53	3,88	3540	7530	13,2	5,5	7,5
MCC-085R2-1AN-K1	3,62	2,36	3,65	3690	8190	15	5,5	7,5
MCC-085R3-1AN-K1	3,62	2,36	3,65	4080	8790	15	5,5	7,5
MCC-085R4-1AN-K1	3,62	2,36	4,14	4620	9570	15	5,5	7,5
MCC-110R2-2AN-K1	4,59	2,36	3,80	4590	10290	15	5,5	2x4,5
MCC-110R3-2AN-K1	4,59	2,36	3,80	5220	11220	22	5,5	2x4,5
MCC-110R4-2AN-K1	4,59	2,36	4,03	5730	12000	22	5,5	2x4,5
MCC-130R2-2AN-K1	5,52	2,36	3,80	5430	12270	22	5,5	2x7,5
MCC-130R3-2AN-K1	5,52	2,36	3,80	6090	13290	22	5,5	2x7,5
MCC-130R4-2AN-K1	5,52	2,36	4,03	6840	14400	22	5,5	2x7,5
MCC-160R2-2AN-K1	5,49	2,98	4,34	7050	15660	22	9,2	2x7,5
MCC-160R3-2AN-K1	5,49	2,98	4,34	8160	17220	30	9,2	2x7,5
MCC-160R4-2AN-K1	5,49	2,98	4,60	9120	18630	30	9,2	2x7,5
MCC-170R2-2AN-K2	7,32	2,36	3,65	7380	16350	30	11	2x7,5
MCC-170R3-2AN-K2	7,32	2,36	3,65	8160	17580	30	11	2x7,5
MCC-170R4-2AN-K2	7,32	2,36	4,14	9240	19140	30	11	2x7,5
MCC-210R2-2AN-K2	5,79	3,60	4,53	11240	15560	30	15	2x7,5
MCC-210R3-2AN-K2	5,79	3,60	4,53	12040	16930	30	15	2x7,5
MCC-220R2-4AN-K2	9,26	2,36	3,80	9180	20580	30	11	4x4,5
MCC-220R3-4AN-K2	9,26	2,36	3,80	10440	22410	44	11	4x4,5
MCC-220R4-4AN-K2	9,26	2,36	4,03	11460	24000	44	11	4x4,5
MCC-260R2-4AN-K2	11,12	2,36	3,80	10860	24570	44	11	4x7,5
MCC-260R3-4AN-K2	11,12	2,36	3,80	12180	26580	44	11	4x7,5
MCC-260R4-4AN-K2	11,12	2,36	4,03	13680	28800	44	11	4x7,5

(\*) Optional

Technical data not binding



Via del Benessere, 13  
27010 Siziano (PV) - Italy  
+39 0382.67599 - info@mitact.it