IWC INDUSTRIAL

Package Cooling Towers, Evaporative Condensers and Closed Circuit Fluid Coolers

www.iwc.co.za

IWC Industrial is a subsidiary company of NEXT Cooling and specialises in factory built, package cooling towers for a variety of industries.

Our cooling tower range includes small EWK cooling towers which are simple plug and play towers suitable for small to medium size applications such as distilleries, dry cleaners and wineries. Our larger FM range of cooling towers is a range of multi-fanned factory assembled cooling towers with an internal steel frame and a FRP cladding manufactured from a robust, durable, and compact fibre reinforced polyester. This range of cooling towers provides high cooling capacity units that are easily transported, installed, and maintained and are ideal for larger processing facilities or remote locations.

We offer a full range of spares and services for the above cooling towers as well as spares and service for many other cooling towers.

We also offer a range of plate heat exchangers for numerous applications and as well as spares and services for most brands of exchangers.

EWK Range

The iconic EWK cooling tower is manufactured in a robust, durable and compact glass reinforced polyester casing.

EWK cooling towers have truly stood the test of time and thousands of these units are still successfully operational after many decades of reliable service.

Components

Body

The cooling tower casing is available with or without a water basin, and is made of glass reinforced polyester. All fasteners are made from stainless steel. The standard colour is grey, however other RAL colours are available on request.

Drift eliminator

Profiled plastic elements (PVC, Polypropylene or ABS) prevent water droplets from being carried out of the cooling tower by the air flow.

Water distribution system

Self-cleaning, full-cone plastic nozzles are attached onto the water distribution pipes. These ensure a uniform distribution which is key to the performance of the cooling tower.

We offer distribution pipes in PVC and mild steel galvanized and can offer a range of stainless steel if required.

Fill

Various cooling tower fills are available and are selected to best suit the process conditions (both temperature and water quality). Fill materials are generally either made of PVC or polypropylene but other materials to suit higher temperature applications are also available.

Cooling components

The cooling components are carefully selected to ensure that there is minimal corrosion and no degradation (rotting).

Inlet Louvres

The cooling towers are generally supplied with Dark Room type air inlet louvres which are made of plastic (PVC, polypropylene, or ABS), and prevent water from splashing out. These can easily be dismantled for inspection and cleaning purposes.

Basket strainer

The sieve/basket strainer is attached to the cooling tower outlet, and prevents dirt from entering the water system.

Make-up Float valve

The float valve is connected to the make-up water supply.

Mechanicals

The mechanicals are the only moving parts on the cooling tower and they are the driving force behind cooling the water. The mechanicals are made up of a motor, fan, fan guard, and motor support. The standard supply for the fan guard and motor support is galvanised with the option to change to SS.

Advantages

Non-corrosive, long life and light weight

Very high cooling capacity, re-cooling of up to 350 m³ of water per hour in a single tower

Individual systems in a modular system with several variants and modular designs, with an optional water basin

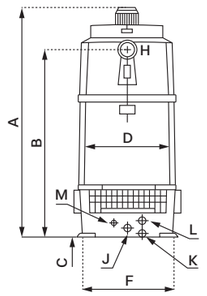
Low energy consumption and easy maintenance due to induced draught fans

Long maintenance intervals and service life

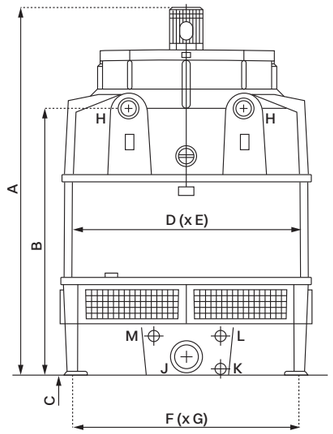
Plug and play design results in simple, economical installation

Complete EWK Tower Range

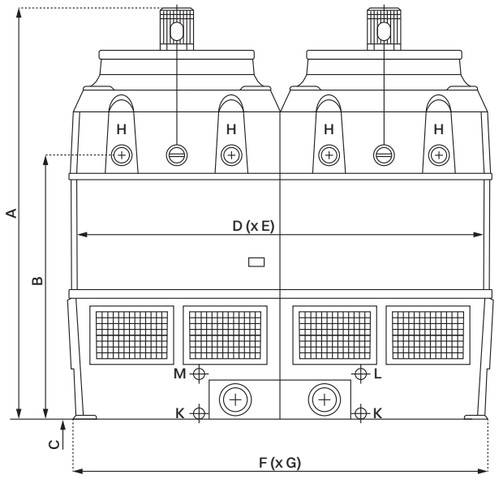
EWK036
EWK064
EWK144
EWK225
EWK324



EWK441
EWK661
EWK900
EWK1000



EWK1262



		WEIGHT		A	B	C	D	E	F	G	H	J	K	L	M
TYPE EWK	MOTOR kW	OPER kg	NETT kg	mm	mm	mm	mm	mm	mm	mm	Inch/NB INLET	Inch/NB OUTLET	Inch/NB DRAIN	Inch/NB OVER-FLOW	Inch/NB MAKE-UP
036/06	0,37	130	60	1720	1365	95	610	-	556	-	1 1/4" F	2" M	1 1/2" M	1" M	1/2" M
064/06 /09	0,75	243 260	100 115	2015 2315	1525 1825	95	810	-	757	-	65 S	2" M	1 1/2" M	1" M	1/2" M
144/06 /09	1,50	618 668	200 240	2385 2658	1775 2075	125	1210	-	1151	-	65 S	100 S	1 1/2" M	1 1/2" M	1/2" M
225/06 /09	2,20	1118 1185	330 385	2505 805	1760 2060	125	1510	-	1430	-	80 S	100 S	1 1/2" M	1 1/2" M	1 " M
324/06 /09	3,00	1557 1645	440 510	2805 3105	1870 2170	125	1810	-	1698	-	100 S	100 S	1 1/2" M	1 1/2" M	1" M
441/06 /15	5,50	2105	780	3125 3725	2310 2925	155	2110	-	2016	-	100 S	150 S	2" M	1 1/2" M	1" M
661/06 /09 /15	7,50	4280 4530	1040	3300 3600 4200	2180 2480 3080	180	2110	3160	2002	3052	2X100 S	200 S	2" M	1 1/2" M	1" M
900/13	11,00	6200	1400	4435	2625	180	2025	4125	1869	3962	2X100 S	200 S	2" M	2" M	2" M
1000/13	15,00 11,00	6600 7400	1750 1690	4300 4365	2680	180	2416	4212 2474	4250 3970	2456 2280	2X100 S	200 S	2" M	2" M	2" M
EWK 1262/13	2 X 7,5	9200	3000	4765	2845	180	4240	3020	4092	2870	4X100 S	2 x 200 S	2" M	2" M	2" M

Notes:

1. All dimensions are in mm U.N.O unless otherwise specified
2. Dimensions not to be used for construction - subject to confirmation with as built drawings.
3. S = Flanges drilled to SANS 1123/1000/3
4. F = Female BSP Thread PVC.
5. M = Male BSP Thread PVC.

FM Range

The FM range of cooling towers is a range of multi-fanned factory assembled cooling towers manufactured with an internal steel frame and a robust and durable FRP (fibre reinforced polyester) cladding.

This range of cooling towers provides high cooling capacity units that are easily transported, installed and maintained.

Components

Body

The casing is available with or without a water basin. The FM design consists of a 3CR12 or stainless steel frame (either 304 or 316 stainless steel). The cladding consists of fibre reinforced polyester side sheets and glass reinforced polyester fan stacks.

The cooling deck is fitted with a sheet-metal walkway and an access hatch, providing safe entry to the cooling tower internals. Access to the deck is via a cat ladder, available on request. Safety rails are also available on request. All fasteners are made from stainless steel. The standard colour is grey however other RAL colours are available on request.

Louvres

The air inlet louvres can be offered and are made of plastic (PVC or Polypropylene) or stainless steel depending on customer preference, and prevent water from splashing out. These are easily removed for inspection and cleaning purposes.

Drift eliminator

Profiled plastic elements (PVC, Polypropylene or ABS) prevent water droplets from being carried out of the cooling tower by the air flow.

Water distribution system

Self-cleaning, full-cone plastic nozzles are attached onto the water distribution pipes. These ensure a uniform distribution which is key to the performance of the cooling tower.

We offer distribution pipes in PVC and mild steel galvanized or a range of stainless steel can be offered if required.

Fill

Various cooling tower fills are available and are selected to best suit the process conditions (both temperature and water quality), fill materials are generally either made of PVC or polypropylene but other materials to suit higher temperature applications are also available.

Cooling components

The cooling components are carefully selected to ensure that there is minimal corrosion and degradation (rotting).

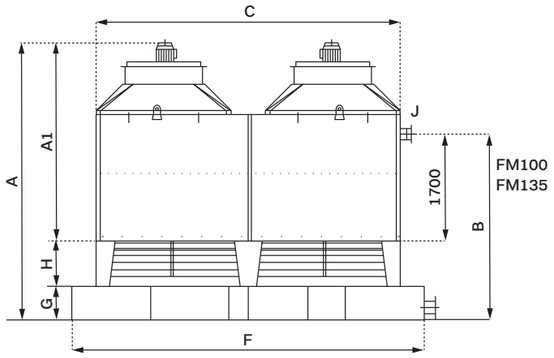
Mechanicals

The mechanical components are the only moving parts of the cooling tower and are the driving force for heat rejection. Each tower is equipped with an axial ventilation fan driven by an electric motor and supported by a motor support structure, with a protective fan guard fitted as standard. Fan blades are aerodynamically optimised for efficient airflow and are manufactured from polyamide or aluminium, and are adjustable when stationary. The fan guard and motor support are supplied in galvanised steel as standard, with stainless steel (SS) available as an option.

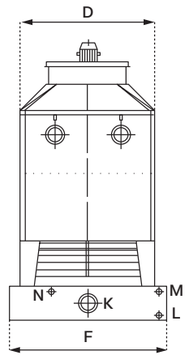
Advantages

- Non-corrosive, long life and light weight
- Easy maintenance due to the accessible induced draft fans.
- Long maintenance intervals and service life
- Plug and play design results in simple, economical installation

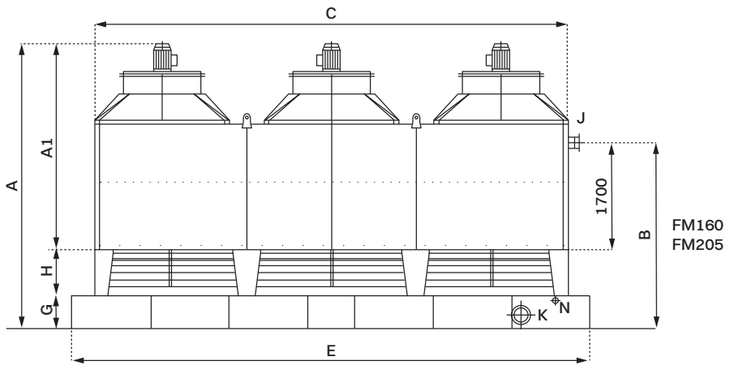
Complete FM Tower Range



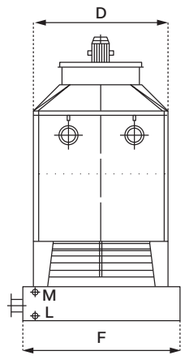
FM100 & FM135 FRONT VIEW
(TWO OFF MECHANICAL ASSEMBLIES)



FM100 SIDE VIEW



FM160 & FM205 FRONT VIEW (THREE OFF MECHANICAL ASSEMBLIES)
FM135 BASIN NOZZLES CORRESPOND WITH THIS VIEW



FM135, FM160 & FM205 SIDE VIEW

		WEIGHT		A	A1	B	C	D	E	F	G	H	J	K	L	M	N
MODEL FM	MOTOR kW	OPER kg	NETT kg	mm	mm	mm	mm	mm	mm	mm	mm	mm	NB INLET	NB OUTLET	BSP (with plug) DRAIN	BSP SOCKET O/FLOW	BSP MALE MAKE-UP
FM 100	5.5kW	3500	2400	4430	3155	2975	4850	2150	5610	2500	530	730	150	200	2"	2"	1 1/2"
FM135	7.5 kW	4000	2600	4540	3265	2975	5450	2450	5810	3000	600	665	150	200	2"	2"	1 1/2"
FM160	5.5kW	4400	2800	4430	3155	2975	7550	2150	8270	2500	530	730	150	200	2"	2"	1 1/2"
FM205	7.5kW	5850	3700	4550	3265	2975	8450	2450	8815	3000	600	665	150	200	2"	2"	1 1/2"

The mechanical components are the only moving parts of the cooling tower and are the driving force for heat rejection. Each tower is equipped with an axial ventilation fan driven by an electric motor and supported by a motor support structure, with a protective fan guard fitted as standard. Fan blades are aerodynamically optimised for efficient airflow and are manufactured from polyamide or aluminium, and are adjustable when stationary. The fan guard and motor support are supplied in galvanised steel as standard, with stainless steel (SS) available as an option.

Notes:

1. Dimension "A1" to be used for towers on concrete basins.
2. Dimension "H" air inlet heights to be confirmed for multiple tower configurations.

Closed Circuit Fluid Coolers & Evaporative Condensers

Closed circuit coolers provide efficient heat rejection by means of evaporative cooling. However, unlike an open cooling tower, there is no direct contact between the process fluid and the ambient air.

The fluid to be cooled (or gas to be condensed) flows through the tubes of a serpentine tube type heat exchanger (closed circuit) without coming into contact with the secondary cooling water thereby preventing dirt or pollution from entering the primary circuit. Heat is transferred from the fluid (or gas) through the tube walls to the secondary cooling water (open circuit) which is sprayed continuously over the coil.

The closed loop coil design keeps the process fluid free from any airborne particulates, ensuring a contaminant-free cooling loop. This mitigates the risk of heat exchange surface fouling; this maximizes system efficiency and minimizes maintenance and operating costs.

The axial fan at the top of the cooling tower draws air in through the air inlets at the bottom. The air moves past the secondary cooling water during which a small portion of the water evaporates, transferring heat from the water to the air thereby cooling the secondary water.

Compared to dry coolers, closed circuit coolers require significantly less space and power. In addition, many closed circuit coolers can be operated as a dry cooler's during low load or low ambient dry bulb conditions. This dry mode of operation saves water.

Common closed circuit cooler applications:

- Computer Room and Data Center Cooling
- High Efficiency, Low Fouling, Chillers and Heat Exchangers
- Furnace Cooling
- Industrial Process Equipment
- Chiller Plant Applications
- Evaporative Cooling with Dry Cooling Capability

Components

Body

The cooling tower casing is manufactured from fibreglass, stainless steel or galvanised steel, providing a robust anti-aging and corrosion resistant solution suitable for even to even the most severe environments. The coolers are supplied with or without an internal basin depending on the size and application.

Drift eliminators

Profiled plastic elements (PVC or Polypropylene) prevent water droplets from being carried out of the cooling tower by the air flow.

Water distribution system

Self-cleaning, full-cone plastic nozzles are attached onto the water distribution pipes. These ensure a uniform distribution which is key to the performance of the cooling tower.

Serpentine coil

The internal coil can be provided in either hot dip galvanised carbon steel, 304 or 316 stainless steel. The coils are of a multi-pass design and the number of passes is dependent of the cooling / condensing load and the ambient conditions under which the unit operates.

Spray Water Pumps (secondary circuit)

Each closed circuit cooler is equipped with its own spray water pump/pumps sized to provide the design water flow rate required. The cooler is equipped with the necessary piping to connect the spray water pump to the distribution pipework.

Mechanicals

The mechanical components are the only moving parts of the cooling tower and are the driving force for heat rejection. Each tower is equipped with an axial ventilation fan driven

by an electric motor and supported by a motor support structure, with a protective fan guard fitted as standard. Fan blades are aerodynamically optimised for efficient airflow and are manufactured from polyamide or aluminium, and are adjustable when stationary. The fan guard and motor support are supplied in galvanised steel as standard, with stainless steel (SS) available as an option.

Evaporative Condenser and Closed Circuit Cooling Towers

Efficient cooling, diverse choices

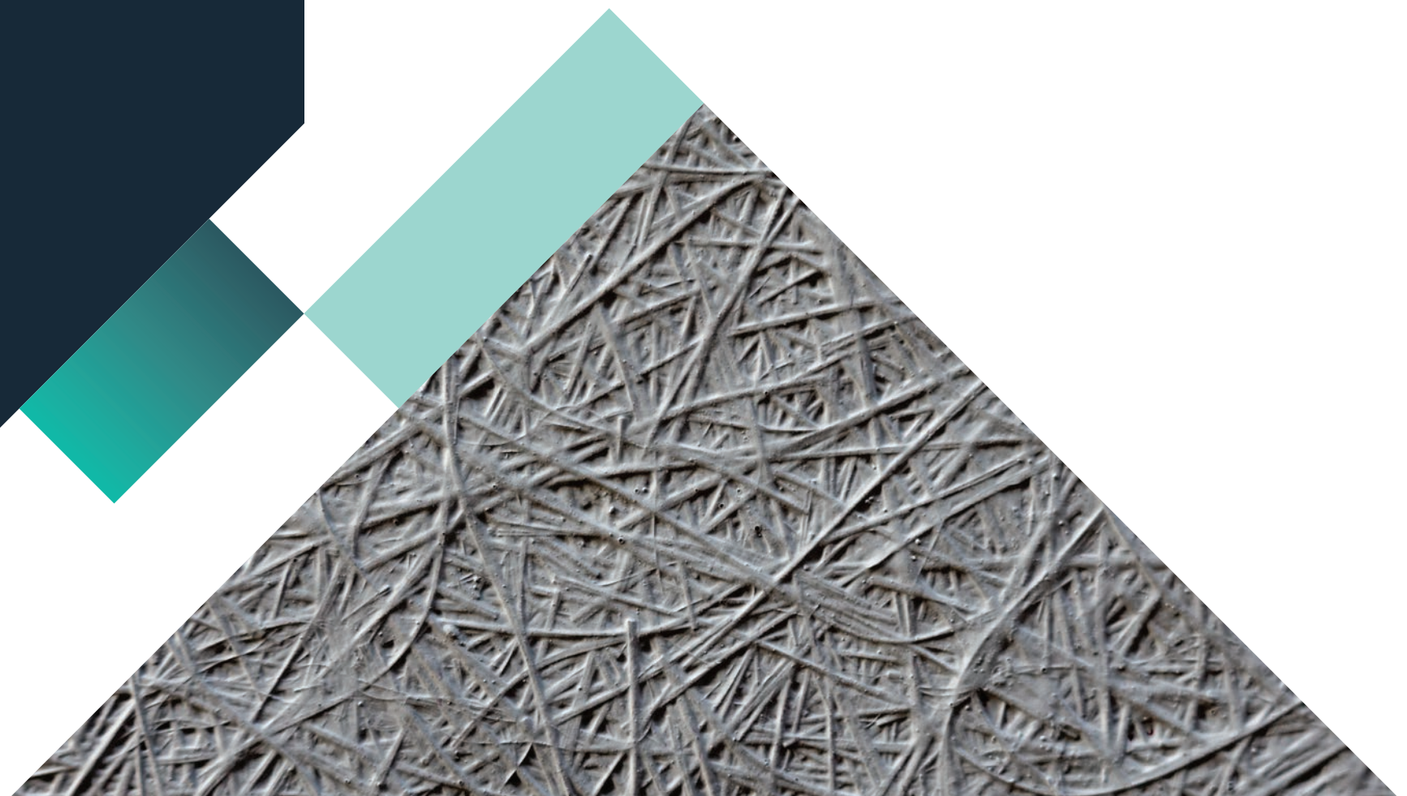
From industrial cooling to commercial applications, we have the solution for you.

We offer various designs, from cross flow, counter flow, axial flow fans, centrifugal fans and other styles, accurately matching working conditions.

IWC Industrial also distributes a range of air cooled adiabatic heat exchangers of various designs and configurations depending on customer requirements.

Advantages

- Non-corrosive, long life and light weight, thanks to the fibreglass reinforced polyester casing and appropriate choice of material for the serpentine coil
- Optional fibreglass, steel, stainless steel or concrete basins
- Simple to inspect and maintain
- Long maintenance intervals and service life
- Simple and inexpensive installation thanks to our factory assembled design



Other Services

IWC Industrial offers more than just cooling towers, we provide additional solutions which include the following:

- Installation of cooling towers
- Pumps, piping and installation thereof
- Electrical, controls and Instrumentation
- Commissioning of supplied equipment and systems
- Aftermarket services including service plans for all makes of cooling towers
- PHE - supply of new units, spares, and services
- Supply of additional associate equipment including skid mounted plug and play cooling systems
- Chemical dosing & side stream filters

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IWC Industrial is part of NEXT COOLING with offices in
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