

MODULAR COOLING TOWERS

TK SERIES



MODULAR COOLING TOWERS

WATER COOLING TOWERS



> MODULAR COOLING TOWER

The TK Series Modular Towers by ILMED IMPIANTI represent the link between the Pre-assembled Open Circuit Towers and Site-Assembled Towers.

> TK- SERIES MODULAR COOLING TOWER

Modular Cooling Towers are suitable for medium size systems:

- ✓ Chemical industry
- ✓ Cogeneration plants
- ✓ Food industry
- ✓ Metallurgical industry
- ✓ Oil & gas industry
- ✓ Petrochemical industry
- ✓ Power plants
- ✓ Refineries
- ✓ Steel mills

They are derived from a common standard and are supplied in pre-assembled modules, with dimensions compatible with transport by truck or container.

The standard provides for the alternative use of different materials, interchangeable and compatible with each other, to compose an assembly that fully meets the customer's needs and specifications, thus reducing the number of components susceptible to corrosion. Thanks to the high level of prefabrication, the assembling operations on site are significantly reduced compared to those required by a Field Erected tower.

Depending on the needs of thermal loads to be dissipated, cells can be made up of multiple modules that define dimensions comparable to the towers assembled on site.

To facilitate routine and extraordinary maintenance works, the refrigerating sections are provided with a door of large dimensions and even, if it is possible, to foresee some completely removable walls.



> STRUCTURE

Each tower is made up of two or more separate refrigeration modules and a ventilation section. The cell can be completed with the air inlet section and the cooled water collection basin. The simple, robust and low-weight reticular structure uses open profile sections. The upper part is flat and is a walkable surface.

> FAN SECTION

The TK Series Modular Towers have a ventilation unit composed of an electric motor, installed outside the flow of humid air, and by an axial fan with vertical flow having high performance blades. The connection between motor and fan is carried out via a system with orthogonal gearbox and driving shaft that is dynamically balanced.

The FRP ventilation duct is supplied in separated sections to be assembled on site with the proper bolts.



> DISTRIBUTION SYSTEM

The water to be cooled enters the module through a single pipe. The nozzles are secured via an adapter with a threaded connection, and have a diameter selected according to the design flow rate, thus guaranteeing the best performance.

The passage dimensions are such as to avoid any risk of clogging.



> LOUVERS AND WATER COLLECTION TANK

Louvers are designed for induced draft cooling towers, on which they mainly perform the functions of channeling the incoming air flow and eliminating the escape of water spray from the tower.

The basin and louvers can be made of different materials depending on the application. The basin allows the process water to be collected and, thanks to the flanged outlet, it can be connected directly to the utilities; the bottom is made smooth and inclined to allow complete drainage of the water during emptying and prevent the formation of biological agents such as legionella. Depending on the customer's needs, louvers and the basin can be excluded from the supply



> OPTIONAL EQUIPMENT

ILMED IMPIANTI is able to propose the best solution, finding the right balance between performance and costs, thanks to the experience acquired in applications of cooling towers, installed in particularly difficult environments, with extreme atmospheric conditions, aggressive waters, in compliance with local regulations.

> A FILLING FOR EACH APPLICATION

Correct filling selection allows to maximize performance, reliability and durability, reducing maintenance cost.

FILM FILLING

The film filling can be used with clean or moderately dirty water. This ensures a high heat exchange, with the best heat dissipation.

Film filling is also available with the following features:

- ✓ for water at high temperatures
- ✓ for very low ambient temperatures
- ✓ for self-extinguishing
- ✓ with diagonal or vertical channels
- ✓ with channels of different sizes

SPLASH FILLING

The SPLASH GRID can be used for dirty water and suspended solids. The grids ensure excellent no-clogging qualities, thus guaranteeing good heat exchange.

The system consists of grids of exclusive ILMED design, in polypropylene, injection molded. The grid supports are made using stainless steel cables, by interposing specific spacers. The grids are mounted on overlapping levels, with alternating arrangement of the profile sections, to form a very ventilated assembly, which excludes any risk of clogging.

HYBRID SPLASH FILLING

The TRUST (Three-dimensional Ultimate Splash Type) filling system consists of modular items, made from a polypropylene (PP) copolymer of high thickness, of the "SPLASH" type, specifically designed by ILMED IMPIANTI for use and cooling in towers with dirty water and high levels of suspended solids. The modular features facilitate handling and cleaning during maintenance, in order to extend functional life and performance of the component. The TRUST System is the natural evolution of the traditional grid system, thus defining new very high levels of robustness, ease of installation, performance and durability over time.

> ACCESSORIES

To deal with specific applications, a complete range of accessories is available:

LOW AMBIENT TEMPERATURES: for environments with extreme temperatures, special fillings, motors with heaters, special reducers, louvers and hot water are available.

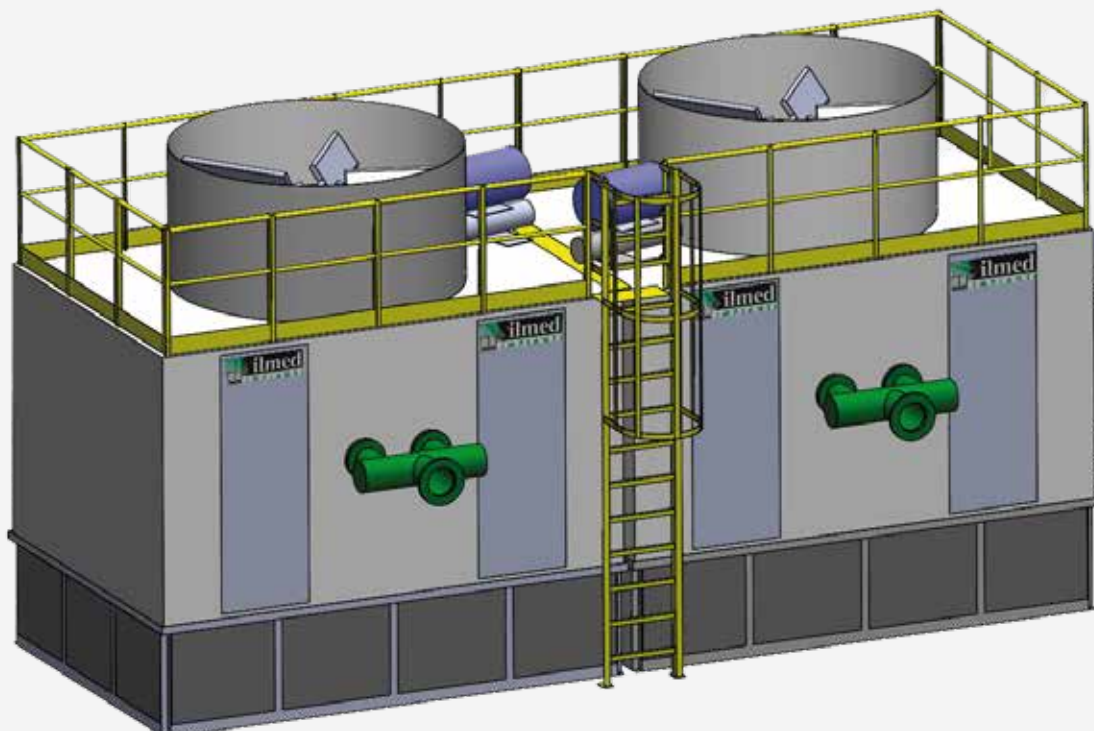
NOISE: special fans and motors can be installed to reduce noise emissions. Furthermore, countermeasures are available against the noise of water falling into the basin. To obtain very low noise emission levels, silencing systems can be provided with silencers installed on the air intake and expulsion.

ILMED IMPIANTI's skill to supply turnkey systems is that of being able to supply VFD electrical panels, control panels, water treatment and filtration systems.

> MATERIALS

Choosing the correct material is important for durability and reliability. ILMED IMPIANTI's design always considers the most suitable material for each environmental condition.

ITEM	TK			
	STANDARD	ALTERNATIVE		
MAIN FRAME	GALVANIZED STEEL	STAINLESS STEEL	PAINTED STEEL	
CASING	FRP (BARDAGE TYPE)	FRP (SANDWICH TYPE)		
LOUVERS		GALVANIZED STEEL	STAINLESS STEEL	PAINTED STEEL
FAN STACK	FRP			
FAN	FRP	ALUMINIUM LIGHT ALLOY		
FAN UNIT BRIDGE	GALVANIZED STEEL	STAINLESS STEEL	PAINTED STEEL	
BOLTS	GALVANIZED STEEL	STAINLESS STEEL	DUPLEX	SILICON BRONZE
PRIMARY DISTRIBUTION	GALVANIZED STEEL	PVC	PP	
SECONDARY DISTRIBUTION	GALVANIZED STEEL	PVC	PP	
SPRAYING NOZZLES	PPG			
FILM FILLING	PVC	PVC LT	PVC HT	PP
SPLASH FILLING	PP			
DRIFT ELIMINATORS	PVC	PP		



FIELD ERECTED

TK SERIES

DRY COOLER

GT SERIES

GTP SERIES

NC/ST SERIES

REVAMPING &
SPARE PARTS

T SERIES

TURN-KEY PLANTS

IC³ SERIES

ITC SERIES



YOUR COLD WATER



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