Envi Group
All about HVAC-R

Since **1981**

FROM 200 TO 1000 KW
T SERIES

FROM 1000 TO 4000 KW
GTP SERIES

FROM 1000 TO 4500 KW
NC/ST SERIES
SPLASH FILLING

FROM 1000 TO 5000 KW
GT SERIES

FACTORY ASSEMBLED

WATER COOLING **TOWERS**

> DESIGN FEATURES

The NC and ST water cooling towers are derived from a common standard and are supplied pre-assembled, since their dimensions are compatible with transportation by road, avoiding the separation between the cooling tower body from the ventilation group.
For oversea shipping a special size suitable for container packing is also available.

> STRUCTURE

STT AND STG MODELS

Every module is composed of a main cooling unit, one or two ventilating group and an additional separated cooling unit. The structure is composed by a strong welded frame and assembled casing. The top of the cooling tower is flat and suitable to walk on.
The module can be completed with the air inlet section and the cooled water basin.

NCP AND NCG MODELS

Every module is composed of a main cooling unit and one or two ventilating group.
The structure is formed by a strong welded frame and welded/applied casing.
The module can be completed with the air inlet section and the cooled water basin

> FILLING

STT AND STG MODELS

The splash grids are assembled on several overlapping layers, and rest on a strong lower bearing frame. Due to this supporting system, the splash grids could be replaced or combined with a film filling.

NCP AND NCG MODELS

The splash grids are assembled on several overlapping layers, and are suspended by stainless cables to an upper frame.

> FAN UNITS

The ventilation is operated by induced draught, characterized by fans in drawing position. The electric motors are equipped with all the special protections for the operation in presence of water droplets and moisture; the fan is assembled directly on the motor shaft and the whole group is assembled on a monolithic structure which can be easily disassembled. The fans have an high efficiency wing profile .The ventilation duct is protected by a safety metal grid.

> DISTRIBUTION SYSTEM

The water to be cooled enters into the module through a single flanged connection. The nozzles are assembled through a threaded connection and their dimensions are factory selected to suit the design water flow and guarantee the best performances.
The passages size are large, in order to avoid any risk of blockage.

> DRIFT ELIMINATORS

The drift eliminators are made of PVC/PP sheet modular elements. The efficiency of the eliminator is very high and it limits the water leaks due to dragging to less than 0.005% of the circulating range.

> OPTIONAL EQUIPMENT

Every cooling towers can be equipped with several optionals,
selected according to ILMED IMPIANTI experience.

> VIBRASWITCH

The vibration switch is available, to monitoring the anomalous vibrations of the fan units. The device, operating on a on/off control, when the vibration reaches such a level as to become dangerous for good operation, the vibraswitch automatically disconnects the electrical circuit of the unit.
The vibraswitch is provided with a reset button and a reset coil remote control switch.

> ELECTRIC HEATERS

Electric immersion heaters are available factory installed into the basin of the cooling tower. The heaters are sized to keep at + 4-5°C the basin water temperature with an ambient air temperature of - 15°C and with the fans switched off. They are supplied complete of thermostat in weatherproof enclosure for outdoor use.

> CAGED LADDER

For the inspection and maintenance of the fan units a caged ladder can be supplied, to climb over the fan deck. The caged ladder will be manufactured in HDGS.

> FAN DECK HANDRAIL

In case of supply of caged ladder, the safety handrail all around the fan deck is strongly recommended. The handrail is manufactured in HDGS, according to the most common international regulations. In any case the access to the fan deck has to be restricted to authorized and skilled personnel.

> MAKE-UP VALVE

A mechanical valve an float assembly is available for a simple water level control and make-up. Float valve is plugged in the water make-up manifold.
It allows to automatically make-up the water consumed for evaporation and other reasons. It is made by a copper or plastic floating sphere and a cast iron floating tap.

> WATER LEVEL CONTROL

The electric water level control is also available, for an accurate control of the basin level. It is a liquid point level switch based on the technology of the vibrating fork, to be assembled inside the basin of the cooling tower.

> TEMPERATURE SENSOR

An electric temperature sensor is available, to be assembled in the basin of the cooling tower, or preferably on the outlet piping. The sensor is made by an electric probe of the PT100 type, complete of transmitter 0-20 mA.

> SPECIAL EXECUTION

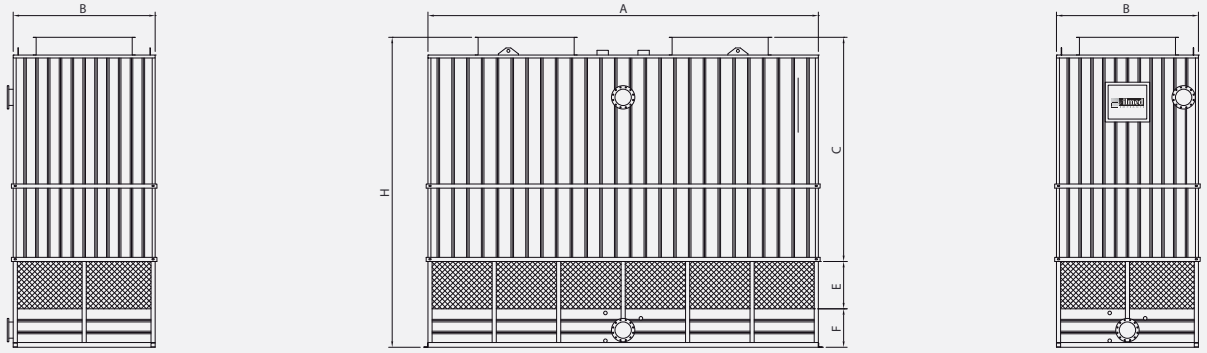
In the case of shipments by container Ilmed Impianti is able to supply special versions with perfectly compatible measures. We are also fully available for studies and customized according to specific customer requirements.

> ENVIRONMENTAL IMPACT - LOW NOISE MODELS

The sound power level generated by the NC - ST cooling towers is suitable for the installation in most environments.
In case of very strict requirements, special models and execution are available, which are characterized by differentiated and very low level of sound emissions. ILMED is in position to propose many technical solutions, and to combine them together in order to attain the best result through a low noise ventilation groups, attenuation system splash in basin and installation of silencers in the suction / ejection section

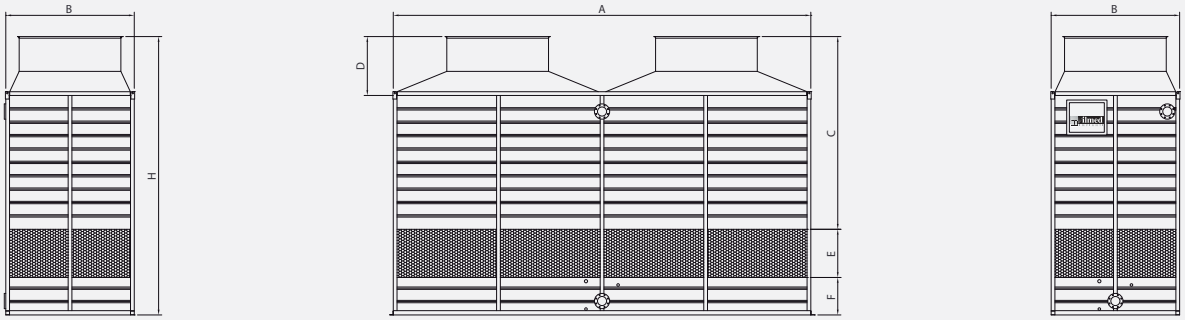
> TECHNICAL DATA

ST TOWER



		Q1/60	Q1/63	Q1/61	R1/60	R1/63	R1/61	H2/60	H2/63	H2/61	N2/60	N2/63	N2/61	P2/60	P2/63	P2/61	Q2/60	Q2/63	Q2/61
MODULE SIZE	Lenght A (mm)	3.650	3.650	3.650	4.200	4.200	4.200	4.850	4.850	4.850	6.000	6.000	6.000	6.600	6.600	6.600	7.120	7.120	7.120
	Widht B (mm)	2.400	2.400	2.400	2.400	2.400	2.400	2.400	2.400	2.400	2.400	2.400	2.400	2.400	2.400	2.400	2.400	2.400	2.400
	Height C (mm)	3.800	3.800	3.800	3.800	3.800	3.800	3.800	3.800	3.800	3.800	3.800	3.800	3.800	3.800	3.800	3.800	3.800	3.800
AIR INLET	Height E (mm)	800	800	0	800	800	0	800	800	0	800	800	0	800	800	0	900	800	0
BASIN	Height F (mm)	650	0	0	650	0	0	650	0	0	650	0	0	650	0	0	650	0	0
COMPLETE CT	Height H (mm)	5.250	4.600	3.800	5.250	4.600	3.800	5.250	4.600	3.800	5.250	4.600	3.800	5.250	4.600	3.800	5.350	4.600	3.800
NOMINAL WATER FLOW RATE	mc/h	138	138	138	158	158	158	180	180	180	236	236	236	260	260	260	276	276	276
NOMINAL CAPABILITY	kCal/h	1.380.000	1.380.000	1.380.000	1.580.000	1.580.000	1.580.000	1.800.000	1.800.000	1.800.000	2.360.000	2.360.000	2.360.000	2.600.000	2.600.000	2.600.000	2.760.000	2.760.000	2.760.000
	kW	1.605	1.605	1.605	1.837	1.837	1.837	2.093	2.093	2.093	2.744	2.744	2.744	3.023	3.023	3.023	3.209	3.209	3.209
MOTOR	N	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2
	kW	15	15	15	15	15	15	7,5	7,5	7,5	11	11	11	11	11	1	15	15	15

NC TOWER



		M1/60	M1/63	M1/61	P1/60	P1/63	P1/61	R1/60	R1/63	R1/61	H2/60	H2/63	H2/61	M2/60	M2/63	M2/61	P2/60	P2/63	P2/61
MODULE SIZE	Lenght A (mm)	2.900	2.900	2.900	3.450	3.450	3.450	4.000	4.000	4.000	4.800	4.800	4.800	5.600	5.600	5.600	6.700	6.700	6.700
	Widht B (mm)	2.400	2.400	2.400	2.400	2.400	2.400	2.400	2.400	2.400	2.250	2.250	2.250	2.400	2.400	2.400	2.400	2.400	2.400
	Height C (mm)	3.450	3.450	3.450	3.500	3.500	3.500	3.610	3.610	3.610	3.300	3.300	3.300	3.450	3.450	3.450	3.500	3.500	3.500
FAN STACK	Height D (mm)	1.000	1.000	1.000	1.000	1.000	1.000	1.100	1.100	1.100	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
AIR INLET	Height E (mm)	650	650	0	800	800	0	900	900	0	800	800	0	900	900	0	900	900	0
BASIN	Height F (mm)	450	0	0	500	0	0	700	0	0	450	0	0	650	0	0	700	0	0
COMPLETE C.T	Height H (mm)	5.500	5.100	4.450	5.800	5.300	4.500	6.310	5.610	4.710	5.550	5.100	4.300	6.000	5.350	4.450	6.100	5.400	4.500
NOMINAL WATER FLOW RATE	mc/h	100	100	100	132	132	132	152	152	152	168	168	168	200	200	200	264	264	264
NOMINAL CAPABILITY	kCal/h	1.000.000	1.000.000	1.000.000	1.320.000	1.320.000	1.320.000	1.520.000	1.520.000	1.520.000	1.680.000	1.680.000	1.680.000	2.000.000	2.000.000	2.000.000	2.640.000	2.640.000	2.640.000
	kW	1.163	1.163	1.163	1.535	1.535	1.535	1.767	1.767	1.767	1.953	1.953	1.953	2.326	2.326	2.326	3.070	3.070	3.070
MOTOR	N	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2
	kW	7,5	7,5	7,5	11	11	11	15	15	15	7,5	7,5	7,5	7,5	7,5	7,5	11	11	11

R2/60	R2/63	R2/61		
7.800	7.800	7.800	Lenght A (mm)	MODULE SIZE
2.400	2.400	2.400	Widht B (mm)	
3.610	3.610	3.610	Height C (mm)	
1.100	1.100	1.100	Height D (mm)	FAN STACK
900	900	0	Height E (mm)	AIR INLET
700	0	0	Height F (mm)	BASIN
6.310	5.610	4.710	Height H (mm)	COMPLETE C.T
318	318	318	mc/h	NOMINAL WATER FLOW RATE
3.180.000	3.180.000	3.180.000	kCal/h	NOMINAL CAPABILITY
3.698	3.698	3.698	kW	
2	2	2	N	MOTOR
15	15	15	kW	

(*) Nominal performances are referred to the following conditions:

- Inlet water 40°C
- Outlet water 30°C
- Wet bulb air 24°C

> OVERSEA SHIPMENT BY CONTAINER

A special production range of cooling towers is available, with dimensions suitable for the transportation by container.

> MATERIALS

The production range considers different interchangeable and compatible materials to answer every customer requirements and specifications.

	NCP			NCG		
	COMPOSITION OF THE SUPPLY					
ITEM	STANDARD	OPTIONAL		STANDARD	OPTIONAL	
COOLING BODY						
MAIN FRAME	Painted steel			Galvanized steel		
CASING	Painted steel			FRP	Aluminium	
FAN STACK	Painted steel			Galvanized steel		
SAFETY GRID	Galvanized steel			Galvanized steel		
FAN	Aluminium	PP		Aluminium	PP	
FAN UNIT BRIDGE	Painted steel			Galvanized steel		
BOLTS	AISI 304			Galvanized steel		
PIPING	Painted steel			Galvanized steel		
SPRAYING NOZZLES	PPG			PPG		
FILLING	AISI 304			AISI 304		
DRIFT ELIMINATORS	PVC	PP		PVC	PP	
LOWER BODY						
AIR INLET FRAME	Painted steel	PVC		Galvanized steel	Painted steel	
LOUVERS	Painted steel	Galvanized steel	PP	Galvanized steel	PVC	PP
BASIN	Painted steel			Galvanized steel	Painted steel	
BOLTS	AISI 304			Galvanized steel		

	STT			STG		
	COMPOSITION OF THE SUPPLY					
ITEM	STANDARD	OPTIONAL		STANDARD	OPTIONAL	
COOLING BODY						
MAIN FRAME	Painted steel			Galvanized steel		
CASING	FRP	Aluminium		FRP	Aluminium	
FAN STACK	FRP	Painted steel		FRP	Galvanized steel	
SAFETY GRID	Galvanized steel			Galvanized steel		
FAN	Aluminium	PP		Aluminium	PP	
FAN UNIT BRIDGE	Painted steel			Galvanized steel		
BOLTS	AISI 304			Galvanized steel		
PIPING	Painted steel	PP	PVC	Galvanized steel	PP	PVC
SPRAYING NOZZLES	PPG			PPG		
FILLING	PP			PP		
DRIFT ELIMINATORS	PVC	PP		PVC	PP	
LOWER BODY						
AIR INLET FRAME	Painted steel			Galvanized steel		
LOUVERS	PVC	Galvanized steel	PP	PVC	Galvanized steel	PP
BASIN	Painted steel			Galvanized steel	Painted steel	
BOLTS	AISI 304			Galvanized steel		

Available upon request the following models with structural materials in stainless steel AISI 304 / AISI 316:
NCX: as model NCP where "AISI 304/316" instead of "painted steel"
NCZ: as model NCP where "AISI 304/316" instead of "galvanized steel"
STX: as model STT where "AISI 304/316" instead of "painted steel"
STZ: as model STG where "AISI 304/316" instead of "galvanized steel"

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