

THE SAFCT COOLING TOWER



Design Features:

The non-rusting FRP[†] casing and basin, circular in shape, eliminates special installation requirements. Prevailing wind directions will not affect tower performance.

Casing:

Easy access through casing simplifies cleaning. Individual fiberglass panels are galvanized steel bolted together for periodic wash down and general clean up. The SAFCT-FRP cooling tower is designed for durability and long life even under the most severe environmental weather conditions.

Fan Blades:

Aerodynamically designed propeller type fan blades are used to conserve power and assure quiet operations. SAFCT models 40 through 80 feature a factory balanced ABS plastic blade. SAFCT models 100 and above feature an all FRP adjustable fan.

Fan Drive:

All models have a unique belt drive, designed to reduce noise levels.

Water Distribution System:

All SAFCT models use an aluminum alloy sprinkler head. Both types of sprinkler head require little or no head pressure loss and minimum maintenance.

Inlet Louvers:

Non-rusting FRP louvers provides easy access to sump while preventing foreign objects from entering water basin.

Ladder:

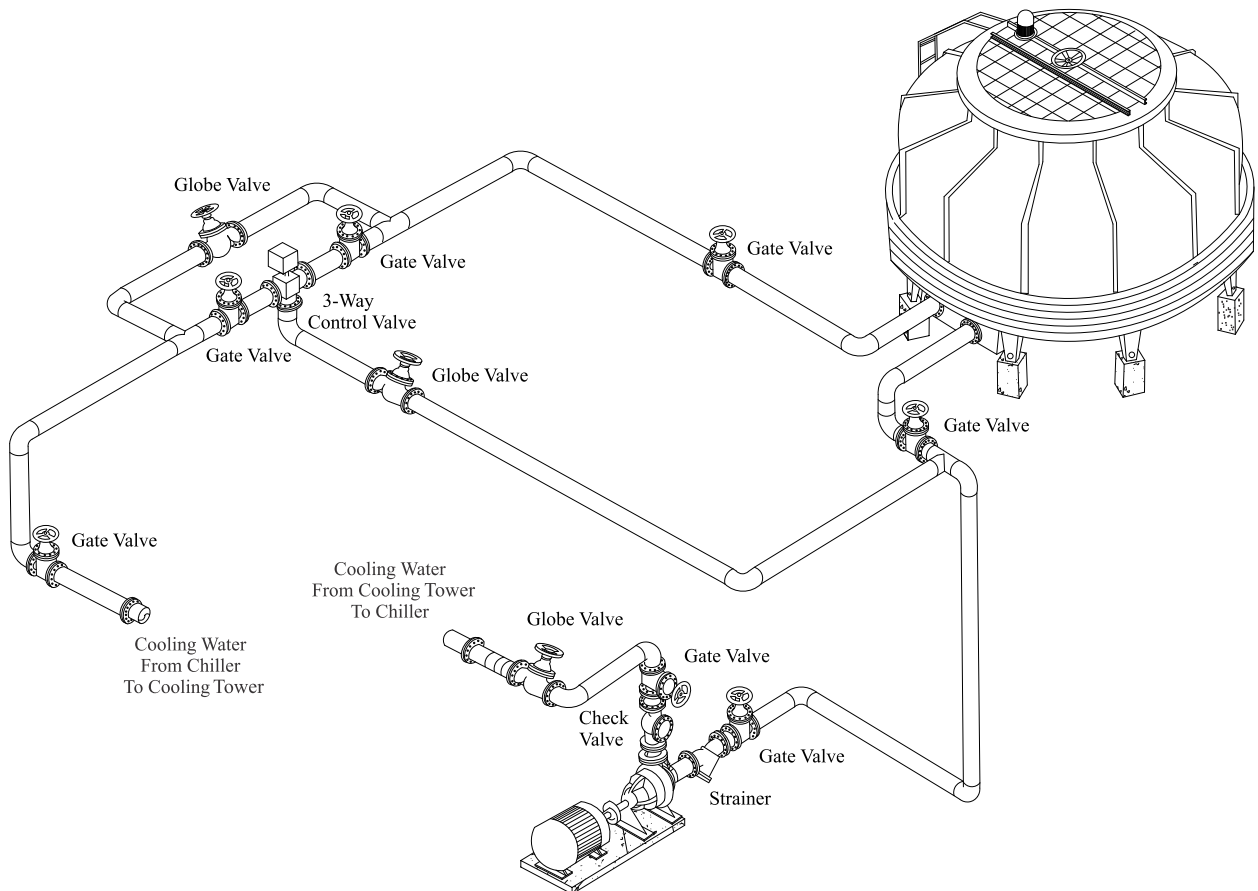
Provided for maintenance and inspection accessibility to fan and sprinkler systems.

Fill Material:

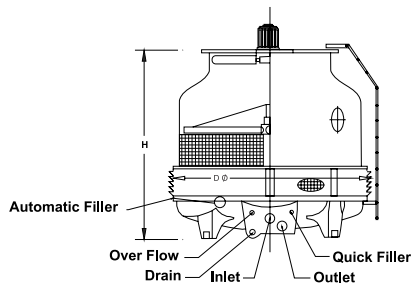
Honeycomb heat-embossed PVC is formed to permit high heat transfer efficiency. The SAFCT fill is suitable for operation with inlet water temperatures of 125° F. For higher temperatures, contact your representative for quote.

FRP= Fiber Reinforced Polymer

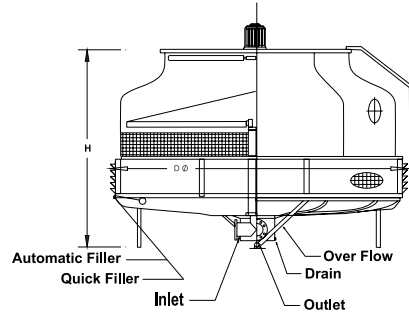
Pipe Connection



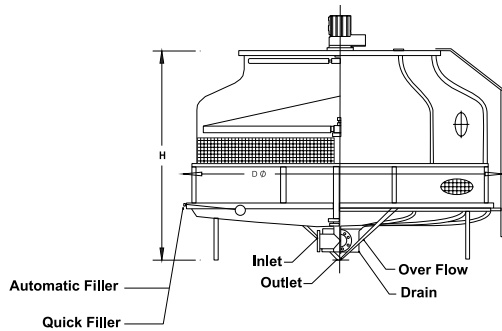
DIMENSIONS



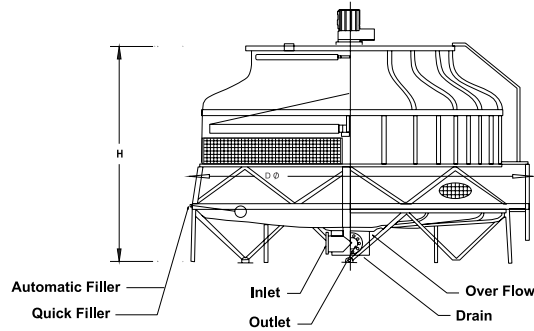
SAFCT 40 - 175



SAFCT 200



SAFCT 225 - 350

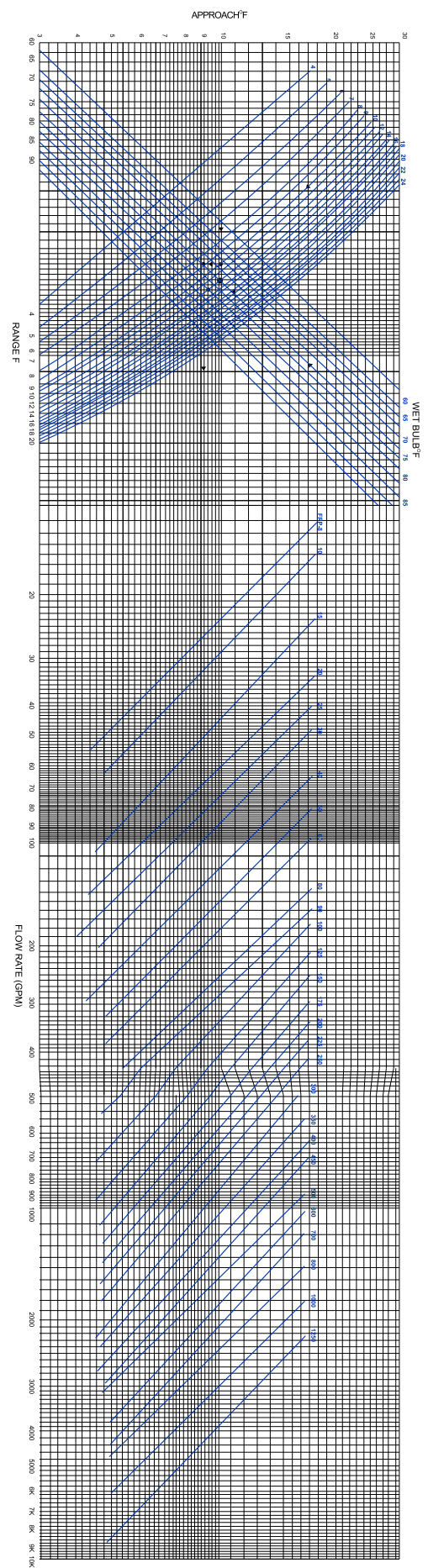


SAFCT 400 - 1250

MODEL	Dia. (mm)	H (mm)	Opp. Wt. (kg)	Net Wt (kg)	Water Flow (gpm)	Inlet (Inch)	Fan Dia. (Inch)	Air Flow (cfm)	hp
SAFCT010	900	1630	146	58	35	1 1/2	540	3180	0.75
SAFCT020	1200	1710	279	115	71	2	590	70000	1 1/2
SAFCT030	1600	2000	378	170	105	3	840	8480	1 1/2
SAFCT040	1600	2210	424	179	141	3	840	96710	1 1/2
SAFCT050	1900	2410	530	220	175	3	840	11300	1 1/2
SAFCT060	2000	2300	718	408	210	4	1140	14500	2
SAFCT080	2000	2600	800	439	280	4	1140	17100	2
SAFCT090	2300	2900	870	474	318	4	1140	21800	2
SAFCT100	2600	2900	961	532	352	4	1140	24100	2
SAFCT125	3000	2940	1072	647	442	5	1420	27500	3
SAFCT150	3000	2940	1485	807	528	5	1420	29700	4
SAFCT175	3300	2960	1573	892	620	6	1720	32900	5 1/2
SAFCT200	3700	3750	3063	1364	700	6	1800	47100	5 1/2
SAFCT225	3700	3750	3187	1484	800	6	1800	57100	7 1/2
SAFCT250	4500	3950	3381	1679	880	8	2320	66500	7 1/2
SAFCT300	4500	3950	3497	1790	1050	8	2320	76900	7 1/2
SAFCT350	4900	4280	3888	1887	1230	8	2320	83500	10
SAFCT400	4900	4280	4330	2330	1410	8	2320	90700	15
SAFCT450	5580	4420	5849	2566	1580	8	2920	106500	15
SAFCT500	5580	4420	7190	2620	1770	8	2920	119500	15
SAFCT600	6530	4870	10700	3527	2120	10	3300	139500	15
SAFCT700	6530	5170	10781	3686	2460	10	3300	171000	20
SAFCT800	7600	5250	12846	5265	2850	12	3600	197100	25
SAFCT1000	7600	5400	13287	5484	3520	12	3600	217700	30
SAFCT1250	8800	5600	15499	6518	4400	12	4200	270700	30

* SAFCT-40 THROUGH 100 ARE ASSEMBLED TOWERS.
 SAFCT-125 THROUGH 700 REQUIRE FIELD ASSEMBLY.
 SPECIFICATION SUBJECT TO CHANGE WITHOUT NOTICE.

SELECTION CHART



How to use this chart:

1- Calculate approach & range as:

Approach = T cold - T wet bulb

Range = T warm - T cold

2- Start from approach with horizontal line until cross the range line, then draw a vertical line till cross the wet bulb line.

3- Draw a horizontal line from the last point until cross the vertical line from water quantity (GPM). The Line above this cross point is the selected model.

Example:

Flow rate = 500GPM

T inlet = 95 F

T outlet = 85 F

Tw.b. = 75 F

Approach = 85-75=10 F

Range = 95-85 = 10 F

1- Start from Approach (10 F) until cross the range line (10 F)

2- Draw on vertical line till cross the wet bulb (75 F)

3- Draw a horizontal line till cross the vertical line from flow rate (500 GPM)

4- the above line and the best selection is SAFCT-150

The series HCC Cooling Tower have found extended appliance in unit air conditioners and refrigerating plants , when water supply for cooling condensers is a difficulty.

Some of the outstanding features of these towers are

- sturdy construction ensuring reliability and extra long life;
- ample wetted deck surface of special plastic material. Available also of metallic construction;
- low speed centrifugal fans are fitted on HCC model towers, ensuring quiet operation and permitting the use of an air exhaust duct;

The towers are completely assembled at the factory.

COMPONENTS

CASING - of galvanized sheet. Larger sizes have galvanized angle frames. The connections and the access doors of the model HCC are at the left hand side (front view), optional available at the right hand side.

FAN SECTION - Model HCC : equipped with one, two or three double width double inlet centrifugal fans. The wheels have forward curved blades; the shaft is mounted on ball bearings with grease lubrication points outside the casing.

MOTOR AND DRIVE -The units are equipped with 3 - phase, fully enclosed, ventilated type motors; veebelt drive with drive enclosure.

WETTED DECK SURFACE - of multicellular type,

made of special plastic material. Optional available of galvanized sheet construction.

WATER DISTRIBUTOR - consisting of a header with branches fitted with low pressure operating brass nozzles. The header is provided with a setting valve for the continuous discharge of water, thus avoiding an excessive concentration of minerals.

ELIMINATOR - consisting of "Z" formed section easily removable for inspection of the water distributor.

WATER FILTER - large area water filter fitted to the water outlet pipe.

MODEL AND SIZE	NOMINAL CAPACITY*		NOMINAL FLOW RATE		MOTOR	
					External static pressure	
	Tons	Btu/h	WATER GPM	AIR CFM	0.0 in. W.g.* HP	0.4 in. W.g.* HP
HCC 040	50	742860	137	10240	3	3
HCC 050	63	928570	172	12830	4	5.5
HCC 060	75	1114290	206	15300	5.5	5.5
HCC 075	93	1392860	258	19190	5.5	7.5
HCC 100	125	1857140	343	25600	7.5	10
HCC 125	156	2321430	429	32020	10	15
HCC 150	187	2785710	515	38490	15	15
HCC 175	220	3250000	601	44730	15	20
HCC 200	250	3714280	686	50030	20	20

* Nominal Capacity based on entering air temp. WB 75 F, entering water temp. 95 F, leaving water temp. 84 F.

METHOD FOR SELECTION COOLING TOWER SIZE

EXAMPLE

The design data are as follows:

Entering water temp.	95°F
Leaving water temp.	85°F
Water temp. Difference ΔT	10°F
Entering air temp.(WB)	72 F
Water flow rate	371 GPM

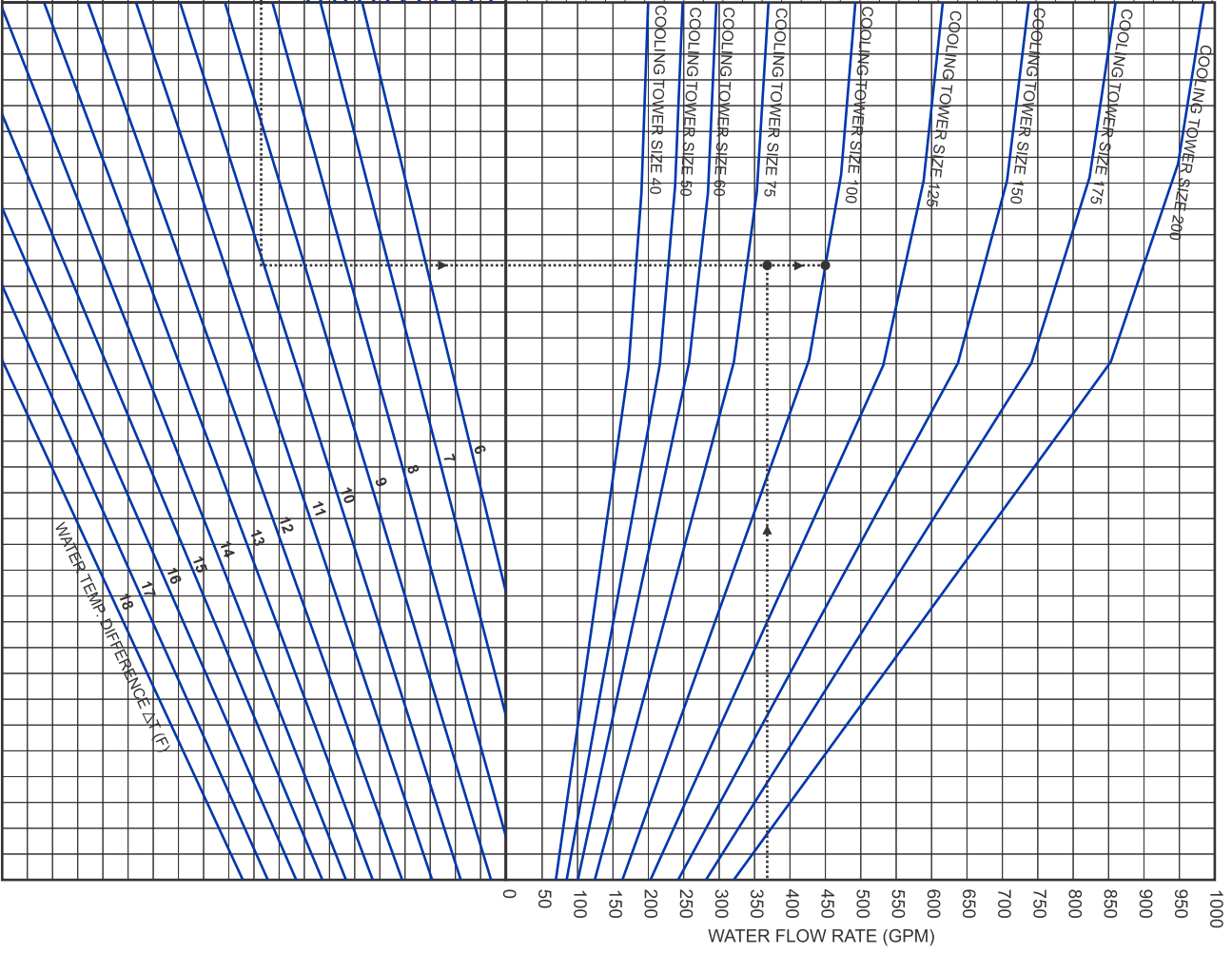
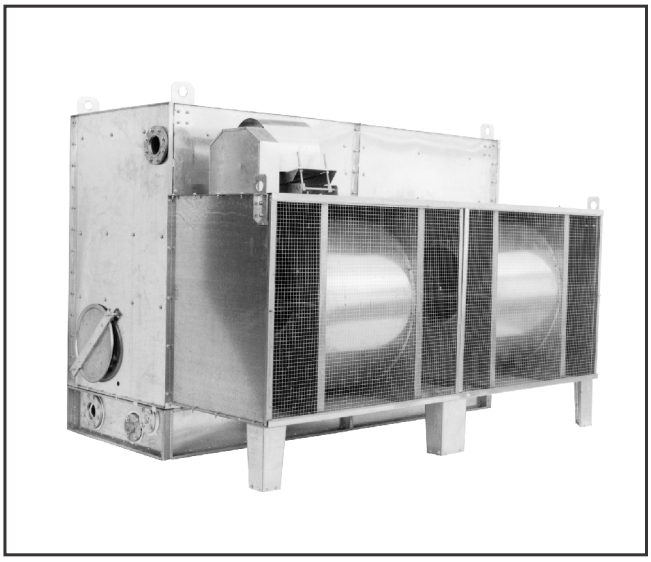
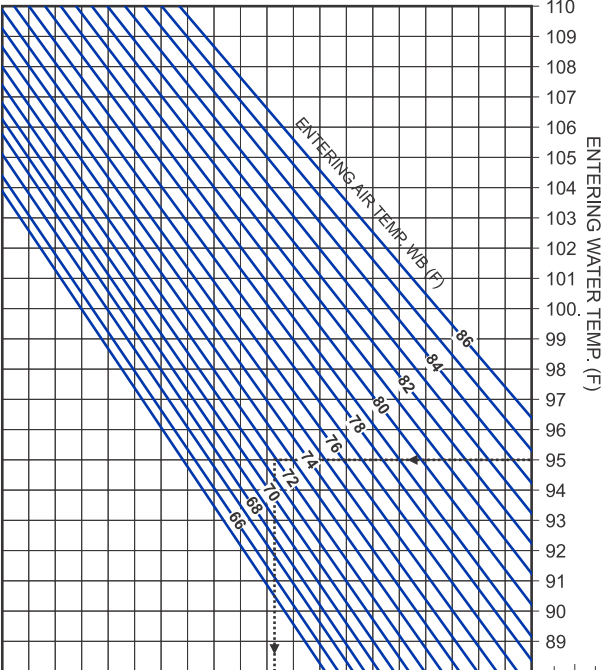
the previous line. Intersection of these lines gives a point. Therefore the tower to be selected is one size immediately higher, i.e.. cooling tower size 100.

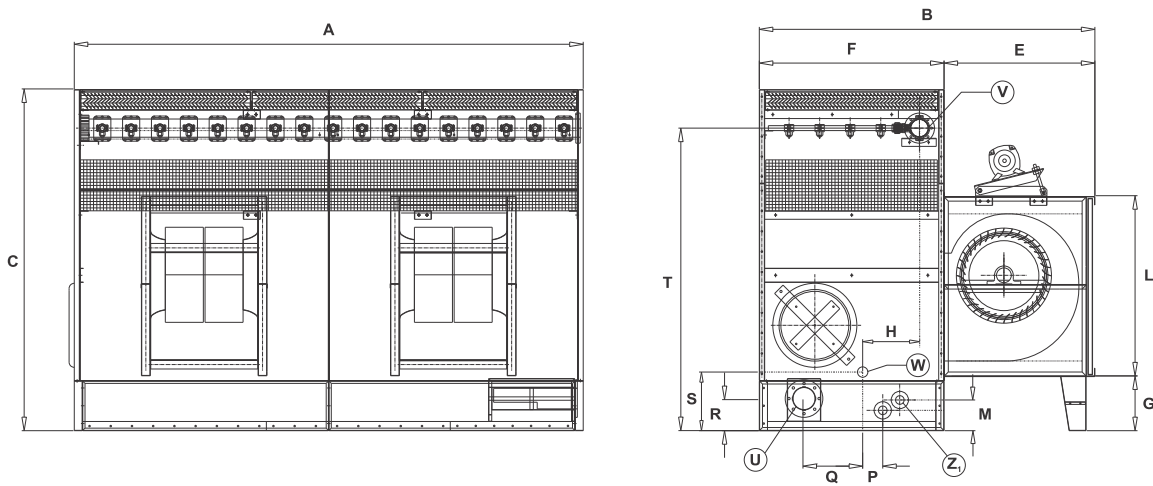
If draw a horizontal line from the cooling tower curve (size 100) to the left to intersect the axis of tons of refrigeration, thus tons of refrigeration is 161.

Enter the chart at the selected entering water temperature (95°F). Draw a vertical line to intersect the curve corresponding to the wet bulb(WB) temperature of entering air (72°F).

From this point proceed horizontally and meet the curve of the water temperature difference (10°F), and from this point draw a vertical line.

Then enter the chart at the selected volume flow rate (371 GPM) and draw a horizontal line to intersect





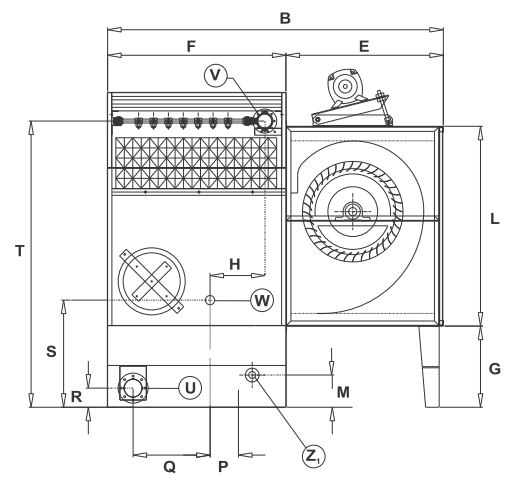
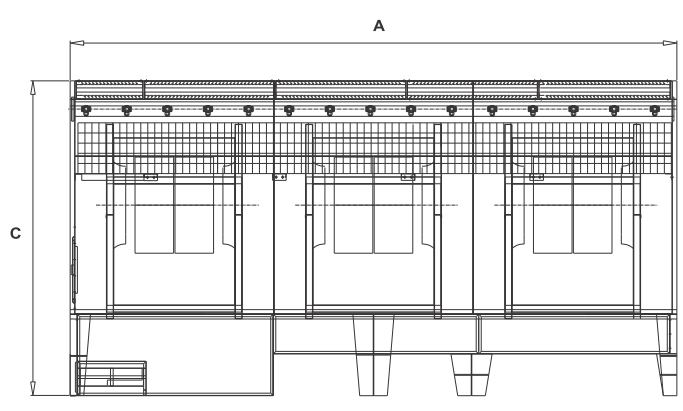
CT Cooling Tower with right hand side connection

- Legend**
 U - Pump suction
 V - Water return from condenser
 Z₁ - Overflow
 W - Float valve

WEIGHT (kg)

Size	Dry Weight	Operat. Wgt
040	698	1128
050	761	1300
060	929	1500
075	1078	1800
100	1237	2197

SIZE	DIMENSIONS(mm)														PIPING CONNECTIONS(In)				
	A	B	C	E	F	G	H	L	M	P	Q	R	S	T	In Let	Out Let	Over flow	Drain	Floator
40	2057	1829	2007	762	1067	330	394	940	279	178	254	152	406	1778	4	4	2	2	¾
50	2057	1829	2007	762	1067	330	394	940	279	178	254	152	406	1778	4	4	2	2	¾
60	2565	1829	2007	737	1092	191	432	1016	203	254	254	127	406	1880	4	4	2	2	¾
75	3023	1956	2007	889	1067	178	432	1168	203	254	254	127	406	1880	4	4	2	2	¾
100	3962	1981	2007	889	1092	330	381	1168	279	127	254	152	406	1880	4	4	2	2	¾



CT Cooling Tower with right hand side connection

Legend

- U - Pump suction
- V - Water return from condenser
- Z₁ - Overflow
- W - Float valve

WEIGHT (kg)

Size	Dry Weight	Operat. Wgt
125	1577	2795
150	1857	3094
175	2147	3398
200	2446	3597

SIZE	DIMENSIONS(mm)														PIPING CONNECTIONS(In)				
	A	B	C	E	F	G	H	L	M	P	Q	R	S	T	In Let	Out Let	Over flow	Drain	Floater
125	3962	2210	2311	889	1321	660	508	1168	381	406	305	178	584	2159	5	5	2½	2½	1
150	4851	2438	2515	1118	1321	635	508	1422	407	381	305	178	660	2261	5	5	2½	2½	1
175	4674	2718	2515	1143	1575	635	610	1410	406	419	457	178	673	2210	6	6	2½	2½	1
200	5385	2642	2540	1067	1575	559	686	1219	407	381	406	152	584	2286	6	6	2½	2½	1