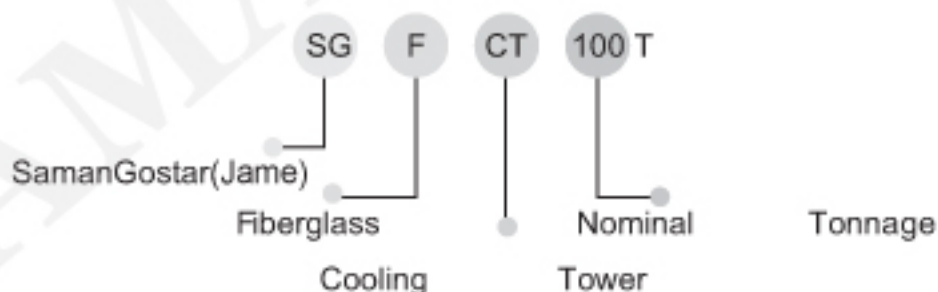




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NOMENCLATURE





FIBERGLASS COOLING TOWER BEFITS OVER METALLIC TYPE

Use of non ferric material in construction of body and water basin prevents the spread of legionnaires' disease bacteria.

Use of fiberglass in construction of this type of tower solves the problems related to corrosion and helps to prolong tower life and reduce maintenance cost. Due to inclusion of (UV) in the raw material, the tower body resists harmful sun rays, high humidity and discoloration.

The bottle shaped design of these towers accounts for about 30% of cooling taking place through natural flow of air. Of course, this means smaller electric motors and less energy consumption. The design also makes the tower more steady against high winds.

All fiberglass tower components are available in disassembled format so that transportation could be made simple. Fast assembly in any place is possible. The net weights of these towers are about 20% of the metallic ones which make installations on top of small and large buildings more simple.

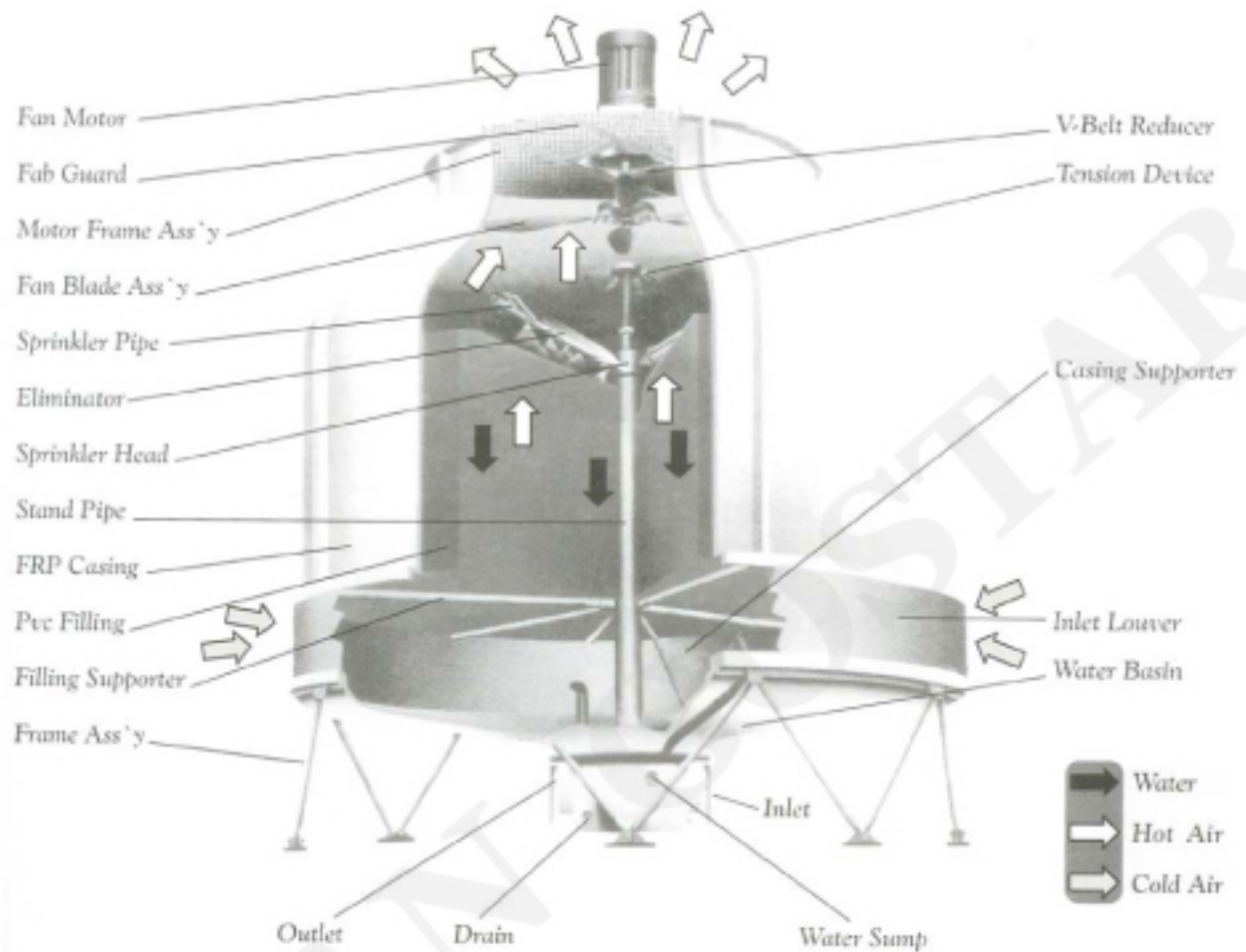
Due to the use of fiberglass and PVC material and also the balancing of fan(s) both statically and dynamically, the vibration of these units have been reduced to the least. The fan(s) produce high air flow at low sound.

Service and maintenance is very easy and through simple operations internal parts of tower could be reached.

Fiberglass cooling tower body may be offered in an assortment of colors to match the installation area or as per customer requirement.

Packing made of PVC material produce a suitable film of water on the surfaces which means better water and air contact thereby a better heat transfer is achieved.

STRUCTURE & COMPONENT



FRP construction OK in rain, hail or shine



Self-rotating sprinker with low head loss



S.G.J. high efficiency filling



Quiet operation from belt driven fan



Specially designed quiet fan



Light weight and small



Strong FRP casing



Non direction installation

HEAT REJECTION LOAD CHART (UNDER NOMINAL FLOW)

SELECTION EXAMPLE

A) GIVEN

1. Ambient W.B. Temp. = 82.5 °F
2. Approach = 9 °F
3. Heat Rejection = 7,500,00 BTU/hr

B) TOWER SELECTION

From the chart, find out the intersection of 82.5 °F W.B. Temp. and 9 °F Approach, project a line vertically to meet the 7,500,000 BTU/hr line, then a SGFCT 500 should be selected.

NOTE : The selection point should be on or above the curve of the tower selected.

Range = Inlet Temp. - Outlet Temp.

Approach = Outlet Temp. - W.B. Temp.

REFERENCE

$$1 \text{ m}^3/\text{min} = 1000 \text{ l/min} = 60 \text{ m}^3/\text{hr}$$

$$1 \text{ l/min} = 0.21995 \text{ gal (imp.)}/\text{min}$$

$$= 0.26418 \text{ U.S. gal}/\text{min}$$

$$1 \text{ gal (imp.)}/\text{min} = 4.546/\text{min} = 0.27279 \text{ m}^3/\text{hr}$$

$$= 1.2 \text{ U.S. gal}/\text{min}$$

$$1 \text{ U.S. gal}/\text{min} = 3.78533 \text{ l/min} = 0.22711 \text{ m}^3/\text{hr}$$

$$= 0.83 \text{ gal (imp.)}/\text{min}$$

$$1 \text{ ft}^3/\text{min (cfm)} = 0.0283 \text{ m}^3/\text{min}$$

$$= 1.699 \text{ m}^3/\text{hr}$$

$$1 \text{ KW} = 1.333 \text{ HP}$$

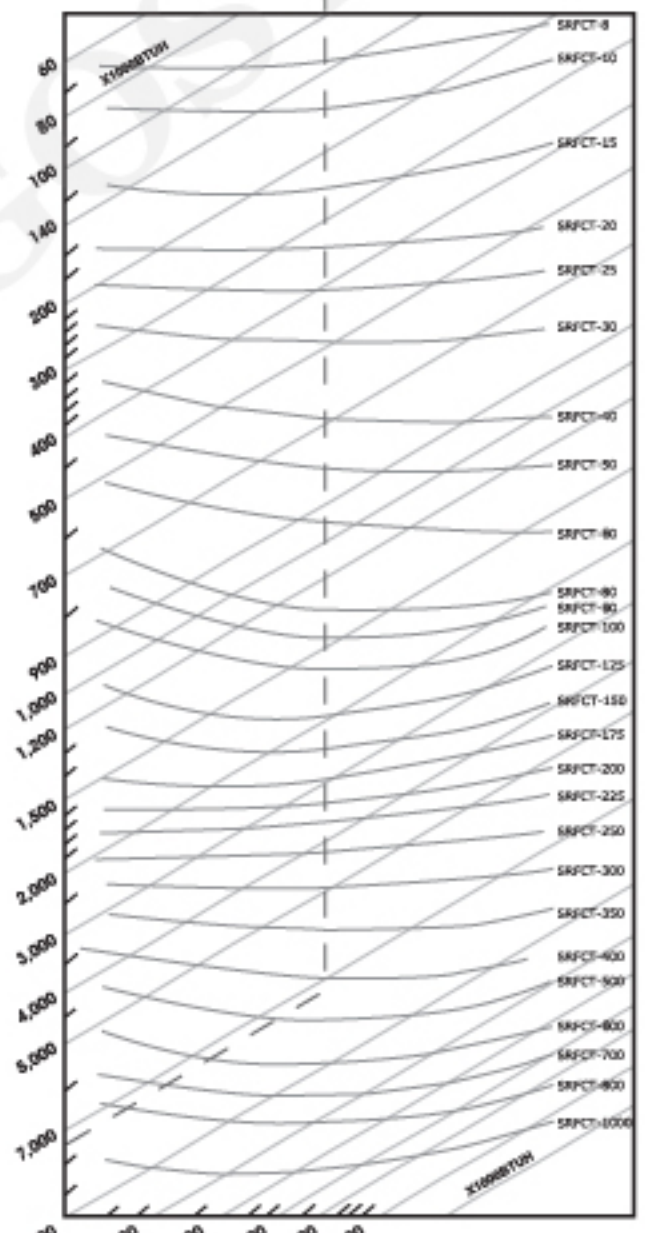
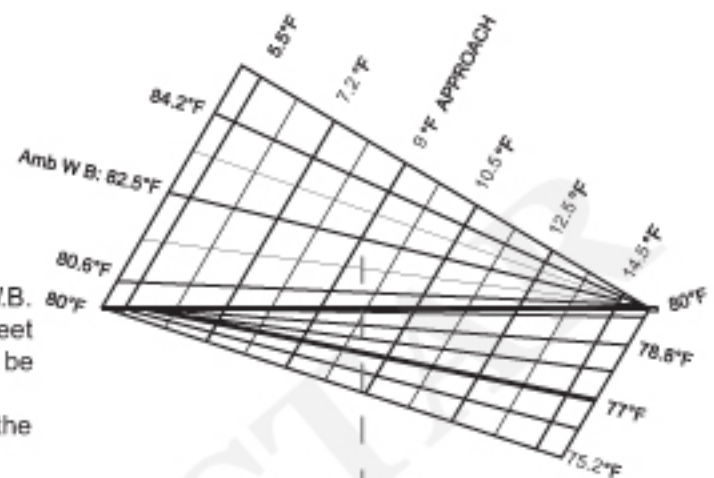
$$= 3394.08 \text{ BTU}/\text{hr}$$

$$= 855.36 \text{ Kcal}/\text{hr}$$

$$^{\circ}\text{F} = \frac{9}{5} ^{\circ}\text{C} + 32$$

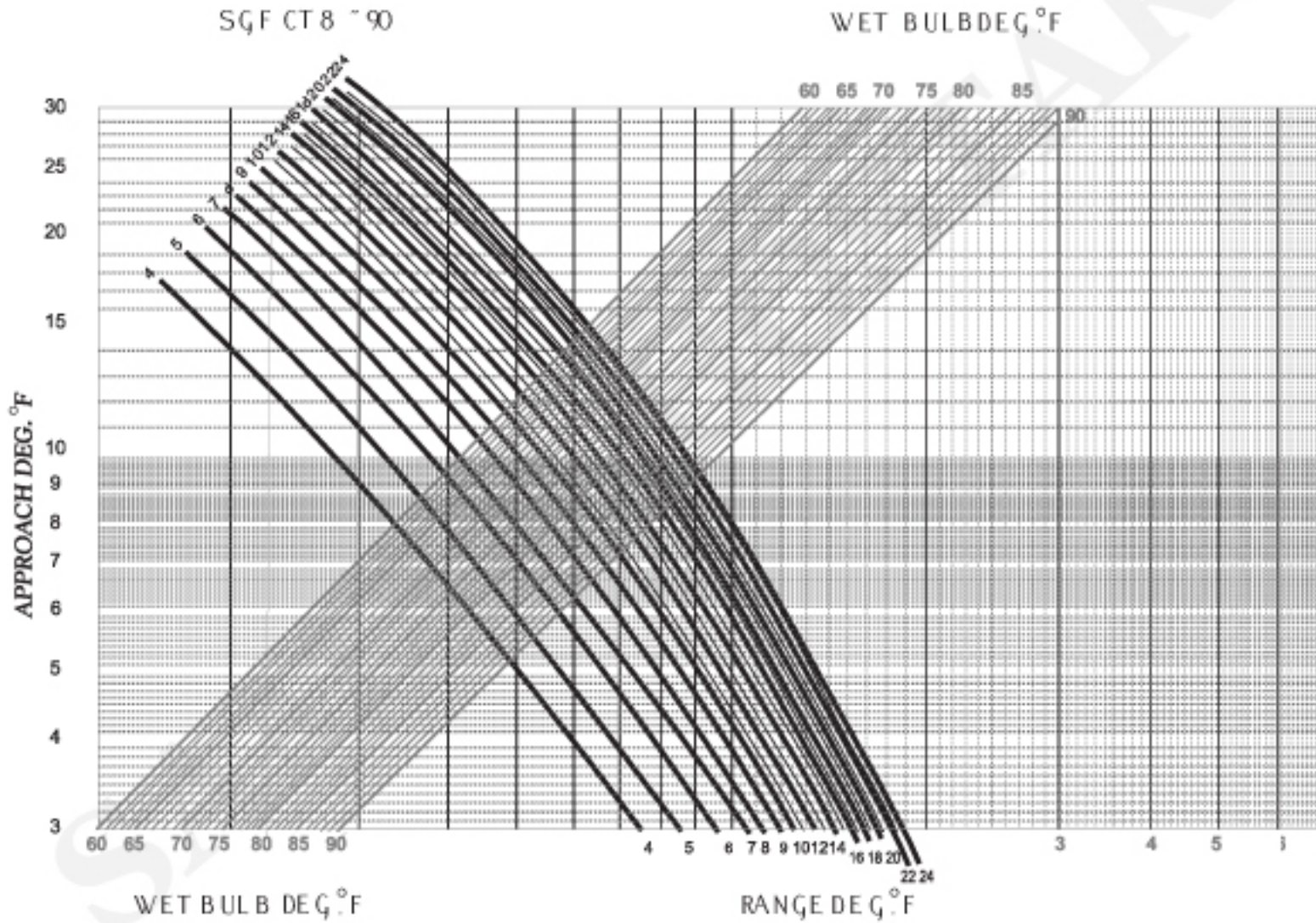
$$^{\circ}\text{C} = \frac{5}{9} (^{\circ}\text{F} - 32)$$

°F	°C	°F	°C
65	18.3	85	29.4
66	18.9	86	30.0
67	19.4	87	30.6
68	20.0	88	31.1
69	20.6	89	31.7
70	21.1	90	32.2
71	21.7	91	32.8
72	22.2	92	33.3
73	22.8	93	33.9
74	23.3	94	34.4
75	23.9	95	35.0
76	24.4	96	35.6
77	25.0	97	36.1
78	25.6	98	36.7
79	26.1	99	37.2
80	26.7	100	37.8
81	27.2	101	38.3
82	27.8	102	38.9
83	28.3	103	39.4
84	28.9	104	40.0





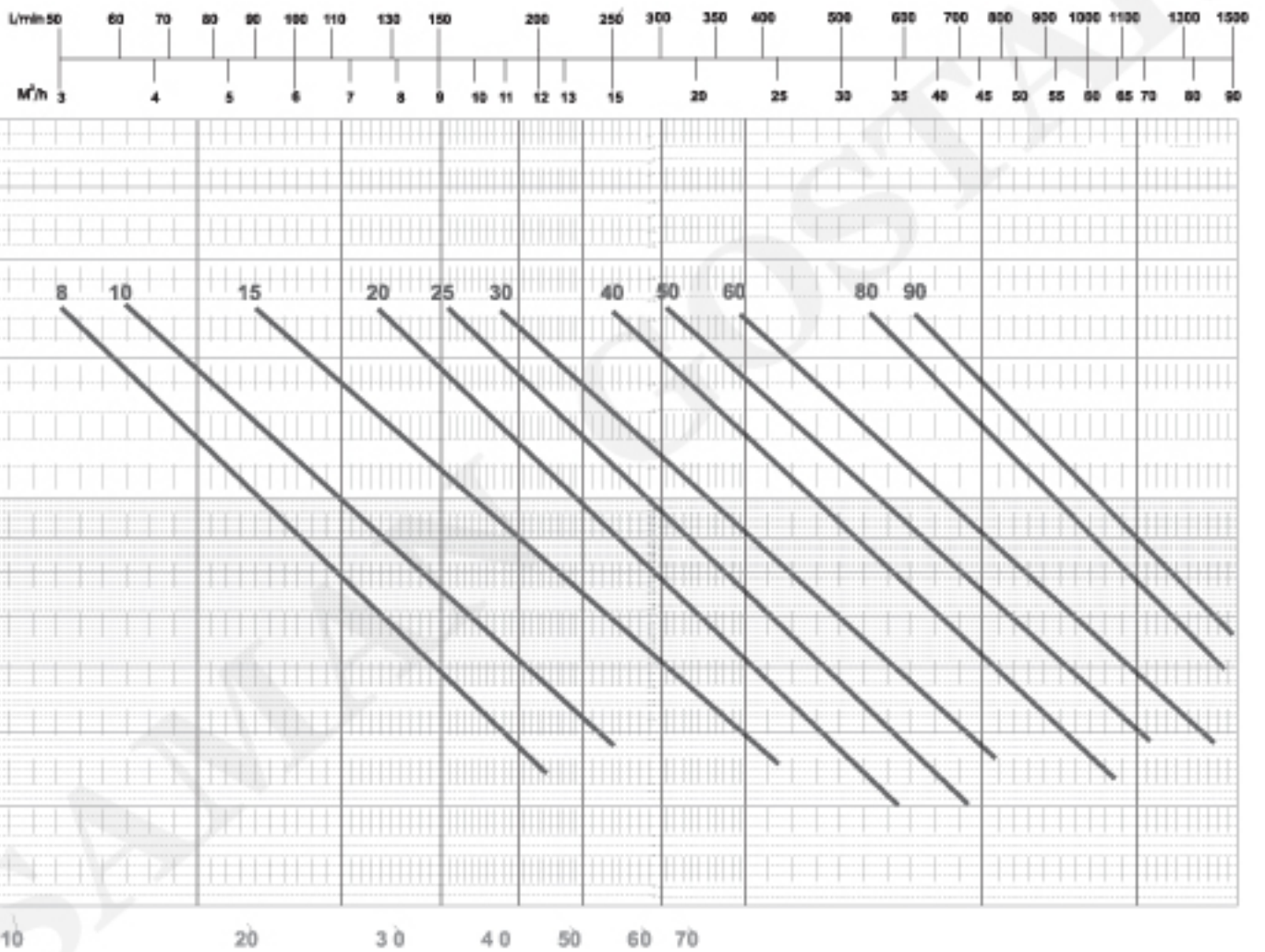
TOWER SELECTION CHART





....Cooling Tower

6





TOWER SELECTION CHART

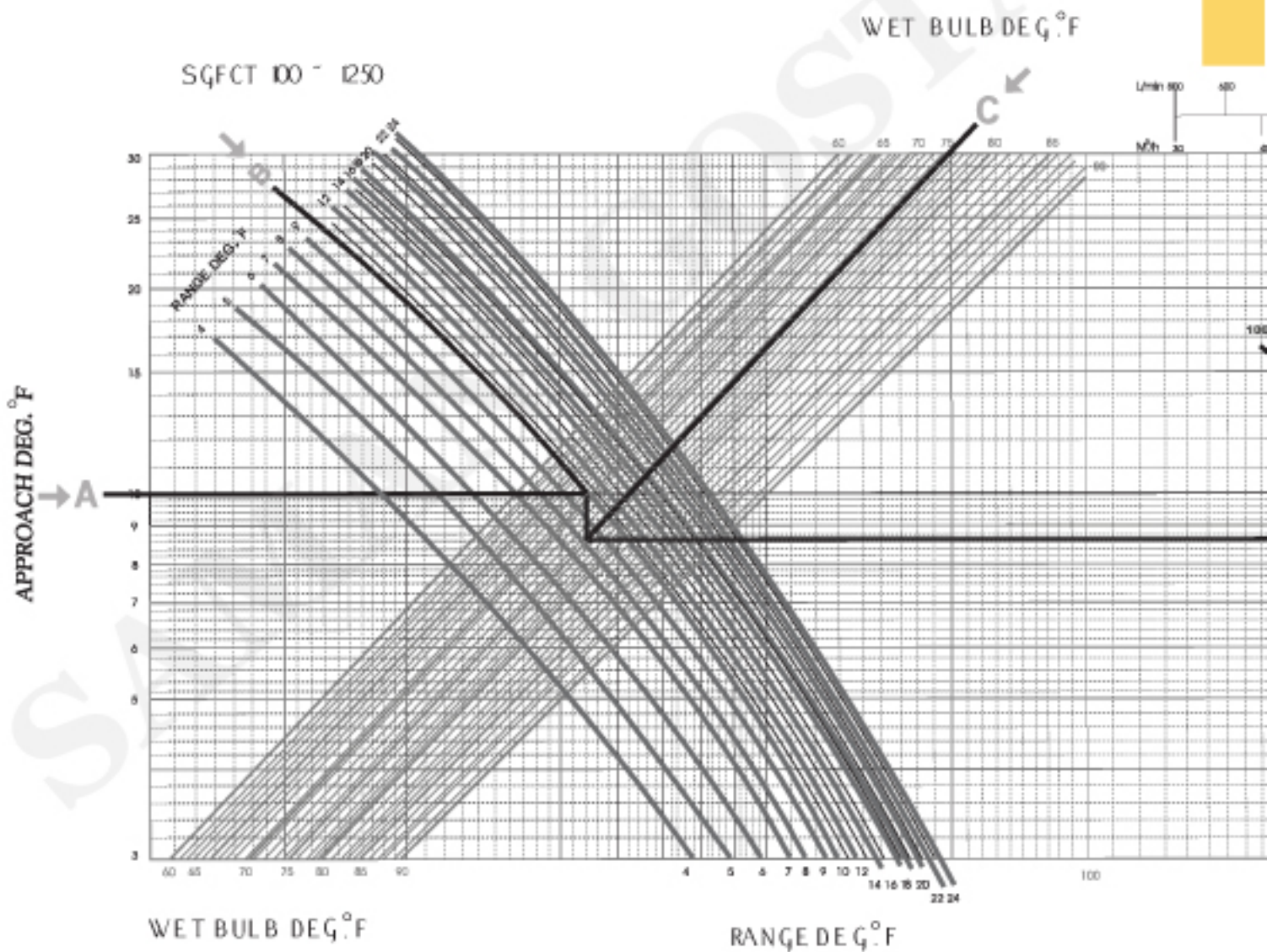
Selection Procedure

A) GIVEN

Warm water inlet temperature 95 F
Cooled water outlet temperature 85 F
Ambient wet bulb temperature 75 F
Water flow (qty) 1000 GPM

B) SOLUTION

Determine range = inlet temp. - Outlet temp. 10°F
Determine approach = Outlet temp. - W.B. temp. 10°F



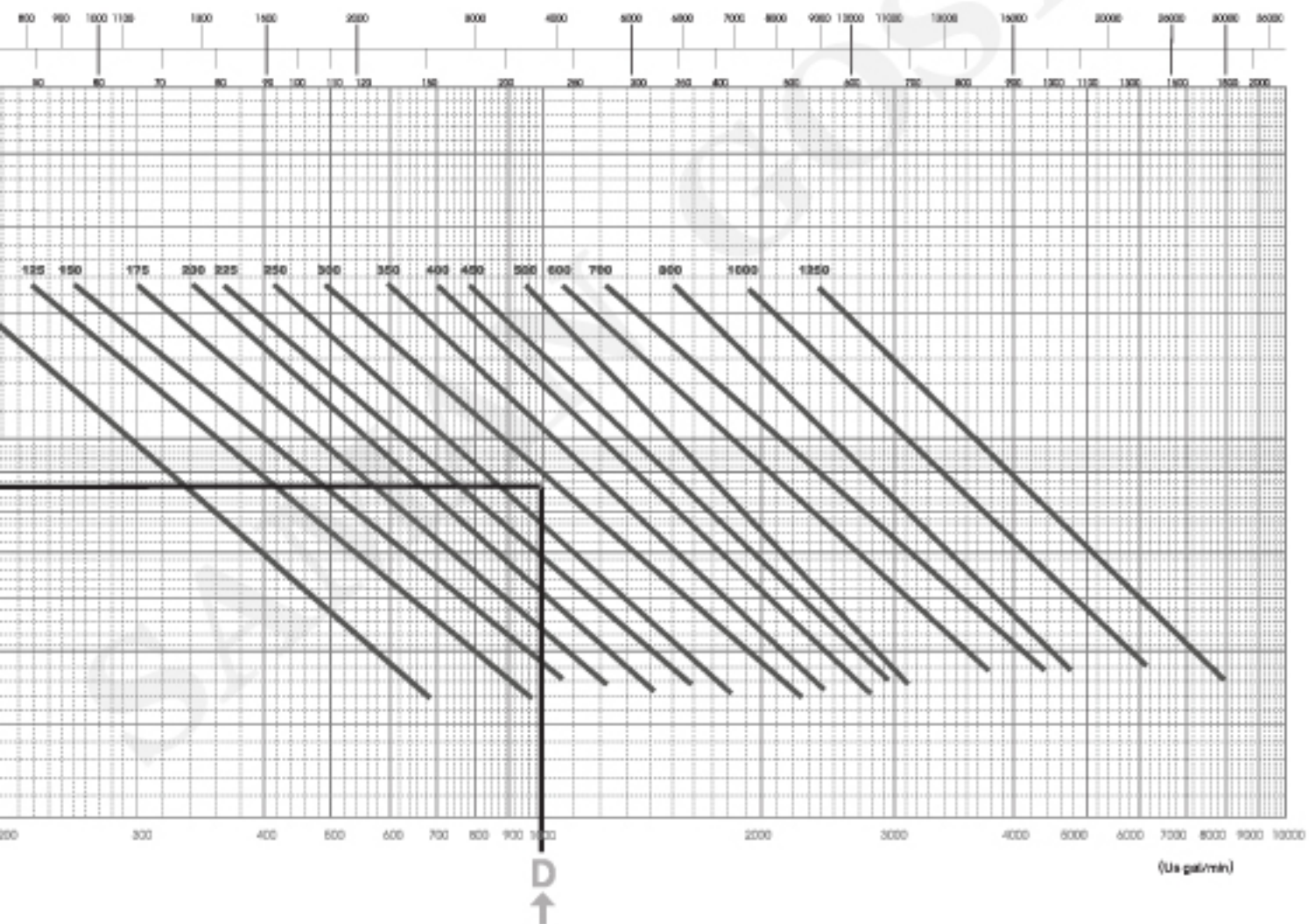


....Cooling Tower

C)STEP

- (1) Draw a line horizontally from the 10°F Approach line to the 10°F range curve.
- (2) From the intersection point drop a perpendicular to the 75°F wet bulb curve.
- (3) From this intersection point draw a horizontal line to meet the 1000 gal/min line.
- (4) The point reached is within closest to the 300 SGFCT curve therefore the model selected is SGFCT-300.

Tower Selected - S G F CT 300





TECHNICAL DATA

Model	Nom. Tonnage	Pump		Fan			Weights	
		Water FlowRate (GPM)	Nozzel Head (ft)	Motor Power (hp)	Air Flow Rate (C.F.M.)	DIA. (Cm)	NET (Kg)	OPR (Kg)
SGFCT-60	60	204	8	2	14600	117	371	662
SGFCT-80	80	275	8	2	17800	117	410	771
SGFCT-90	90	310	10	3	22100	117	453	877
SGFCT-100	100	334	10	3	24500	117	518	996
SGFCT-125	125	430	11	4	27900	150	615	1326
SGFCT-150	150	516	11	4	30200	150	702	1434
SGFCT-175	175	602	13	4	33400	180	903	2513
SGFCT-200	200	689	14	5.5	48000	180	1044	2654
SGFCT-225	225	773	14	5.5	57800	180	1185	2796
SGFCT-250	250	862	15	7.5	66700	240	1297	3914
SGFCT-300	300	1021	15	7.5	77600	240	1496	4114
SGFCT-350	350	1205	16	7.5	84100	240	1617	5076
SGFCT-400	400	1387	16	10	91200	240	1860	5319
SGFCT-450	450	1561	17	15	107100	326	1987	7442
SGFCT-500	500	1738	17	15	120200	326	2031	7756

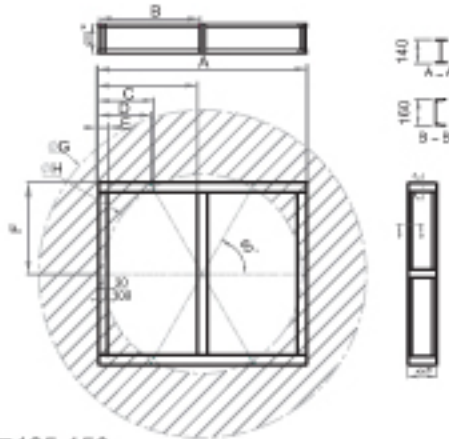


PHYSICAL DATA

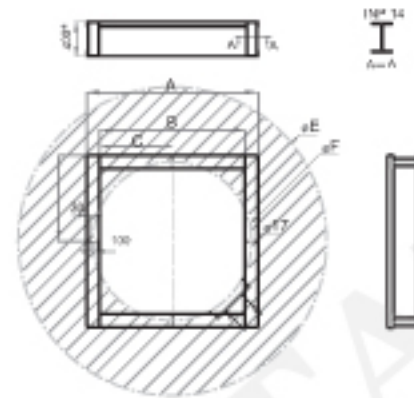
Model	Connection Sizes						Dimensions	
	Inlet (in)	Outlet (in)	Over Flow (in)	Drain (in)	Make Up (in)	Quick Fill (in)	Dia. (Cm)	Height (Cm)
SGFCT-60	4	4	1½	1½	1/2	1/2	212	254
SGFCT-80	4	4	1½	1½	1/2	1/2	212	254
SGFCT-90	4	4	1½	1½	1/2	1/2	259	267
SGFCT-100	4	4	1½	1½	1/2	1/2	259	267
SGFCT-125	6	6	2	2	3/4	1	295	284
SGFCT-150	6	6	2	2	3/4	1	295	284
SGFCT-175	6	6	2	2	1	1	372	296
SGFCT-200	6	6	2	2	1	1	372	296
SGFCT-225	6	6	2	2	1	1	372	296
SGFCT-250	8	8	2	2	1	1	443	359
SGFCT-300	8	8	2	2	1	1	443	359
SGFCT350	8	8	2	2	1½	1½	486	373
SGFCT-400	8	8	2	2	1½	1½	486	373
SGFCT-450	10	10	2	2	2"	2"	552	393
SGFCT-500	10	10	2	2	2"	2"	552	393

NOTE: Unit Height Does Not Include The Electric Motor.

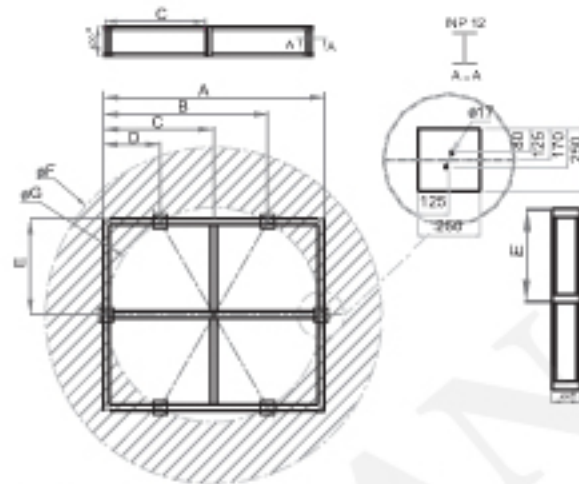
FOUNDATION SPECIFICATION & DRAWINGS



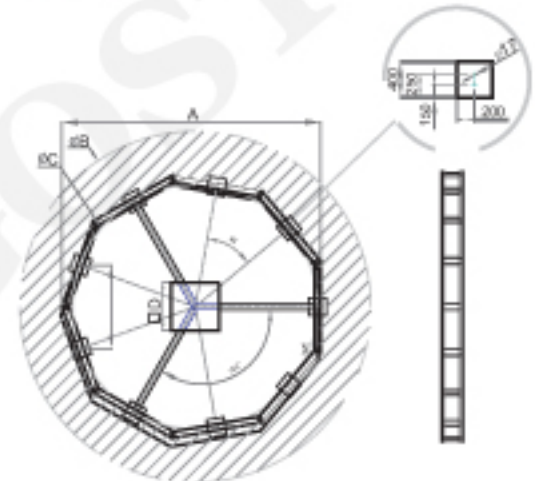
SGFCT-125,150



SGFCT-60~100



SGFCT-175~400

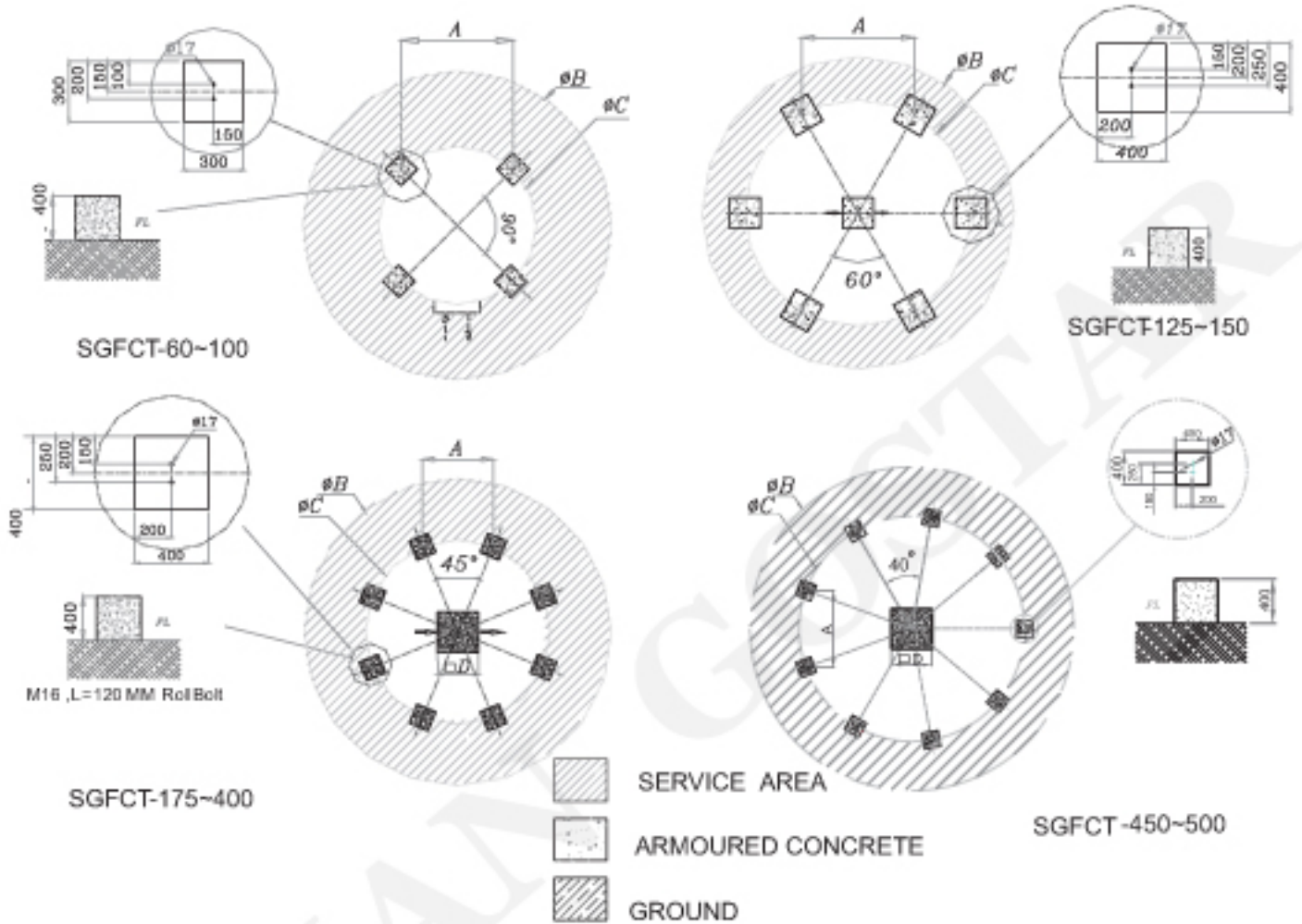


SGFCT-450~500

 SERVICE AREA

Model	A	B	C	D	E	F	G	H
SGFCT-60, 80	1900	1580	790	950	3000	1740	-	-
SGFCT-90, 100	2320	2000	1000	1160	3500	2160	-	-
SGFCT-125, 150	2660	2340	1170	3040	2720	1280	4500	2880
SGFCT-175, 200, 225	3400	2390	1700	1010	6000	3620	-	-
SGFCT-250, 300	4060	2855	2000	1205	6800	4320	-	-
SGFCT-350, 400	4460	3140	2200	1320	7000	4760	-	-
SGFCT-450, 500	5100	3600	2500	1500	8000	5420	-	-

FOUNDATION SPECIFICATION & DRAWINGS



Model	A	B	C	D
SGFCT-60, 80	1230	3000	1740	-
SGFCT-90, 100	1530	3500	2160	-
SGFCT-125, 150	1440	4500	2880	-
SGFCT-175, 200, 225	1380	6000	3620	600
SGFCT-250, 300	1650	7000	4320	800
SGFCT-350, 400	1820	7000	4760	800
SGFCT-450, 500	2070	8000	5420	1000