



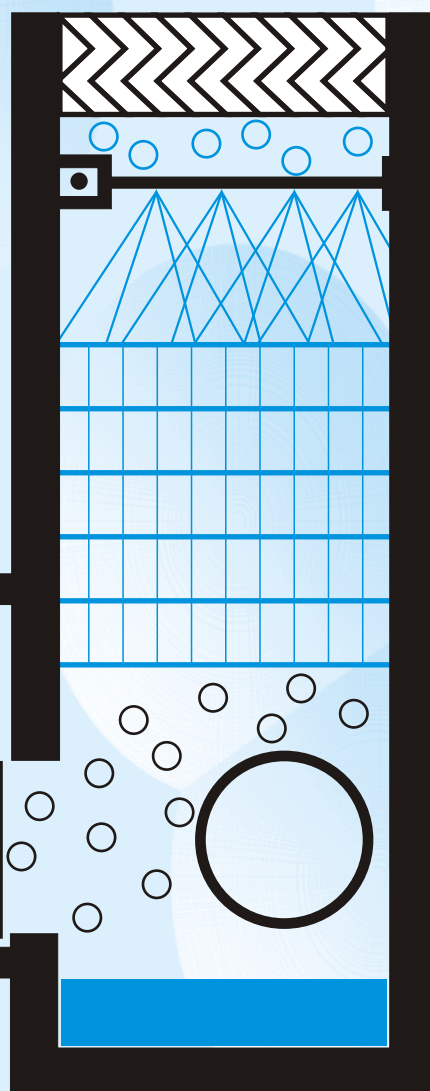
# HAVAAFARIN

برجهای خنک کننده

**COOLING TOWERS**

*model*  
**HCC**

*in nominal*  
**50 to 250 tons capacities**  
**with CENTRIFUGAL FAN**



**1****ELIMINATOR**

Removable, permitting easy inspection of distributor

**2****DISTRIBUTOR**

With low pressure operating nozzles

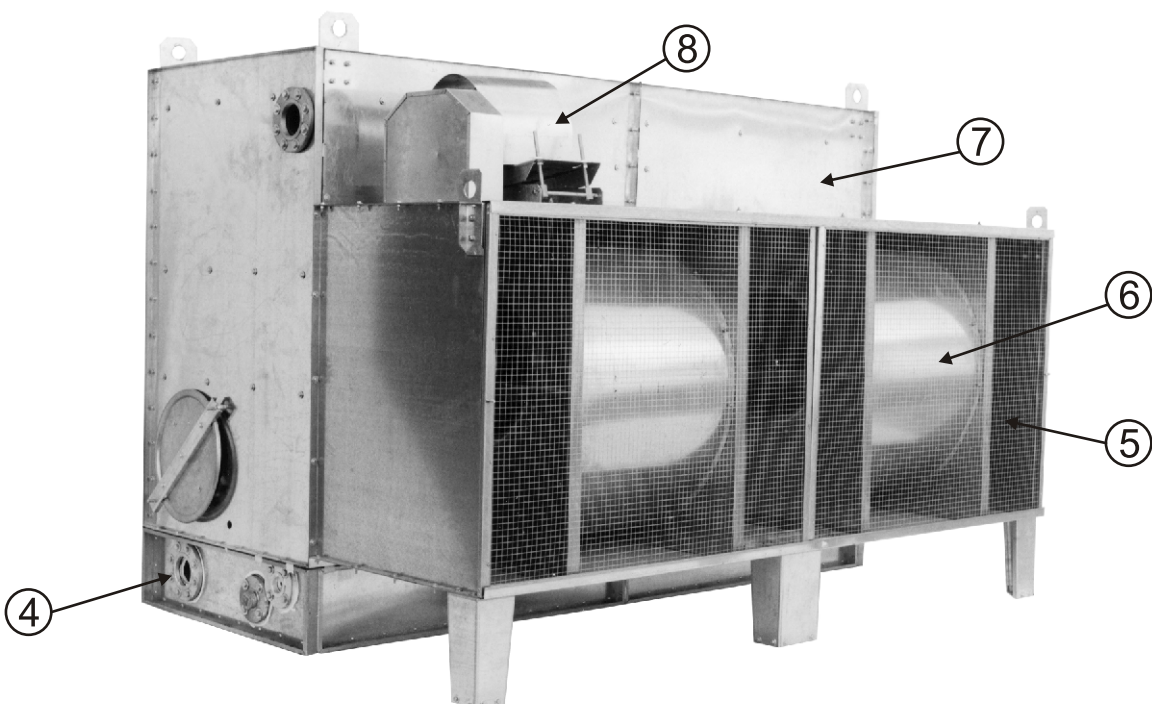
**3****WETTED DECK**

Surface of special multi cellular plastic material; optional metallic construction

**4****WATER CONNECTION**

The figure shows left hand side connections

## MODEL HCC

**GRILL**

Metallic screen

**5****FAN SECTION**

Forward curves blade centrifugal fans

**6****CASING**

Galvanized steel plate; large size have angle frame

**7****MOTOR AND DRIVE**

3-phase enclosed motor. Vee-belt drive with protection

**8**

## THE HCC COOLING TOWER

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 and connected to the bearings by means of tubes.

**MOTOR AND DRIVE** -The units are equipped with 3 - phase, fully enclosed, ventilated type motors; vee-belt 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 "V" formed section easily removable for inspection of the water distributor.

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

MODEL AND SIZE	NOMINAL CAPACITY*		NOMINAL FLOW RATE		MOTOR	
					External static pressure	
			WATER	AIR	0.0 in. W	0.4 in. W
	Tons	Btu/h	GPM	CFM	HP	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 $\Delta T$	10°F
Entering air temp.(WB)	72°F
Water flow rate	371 GPM

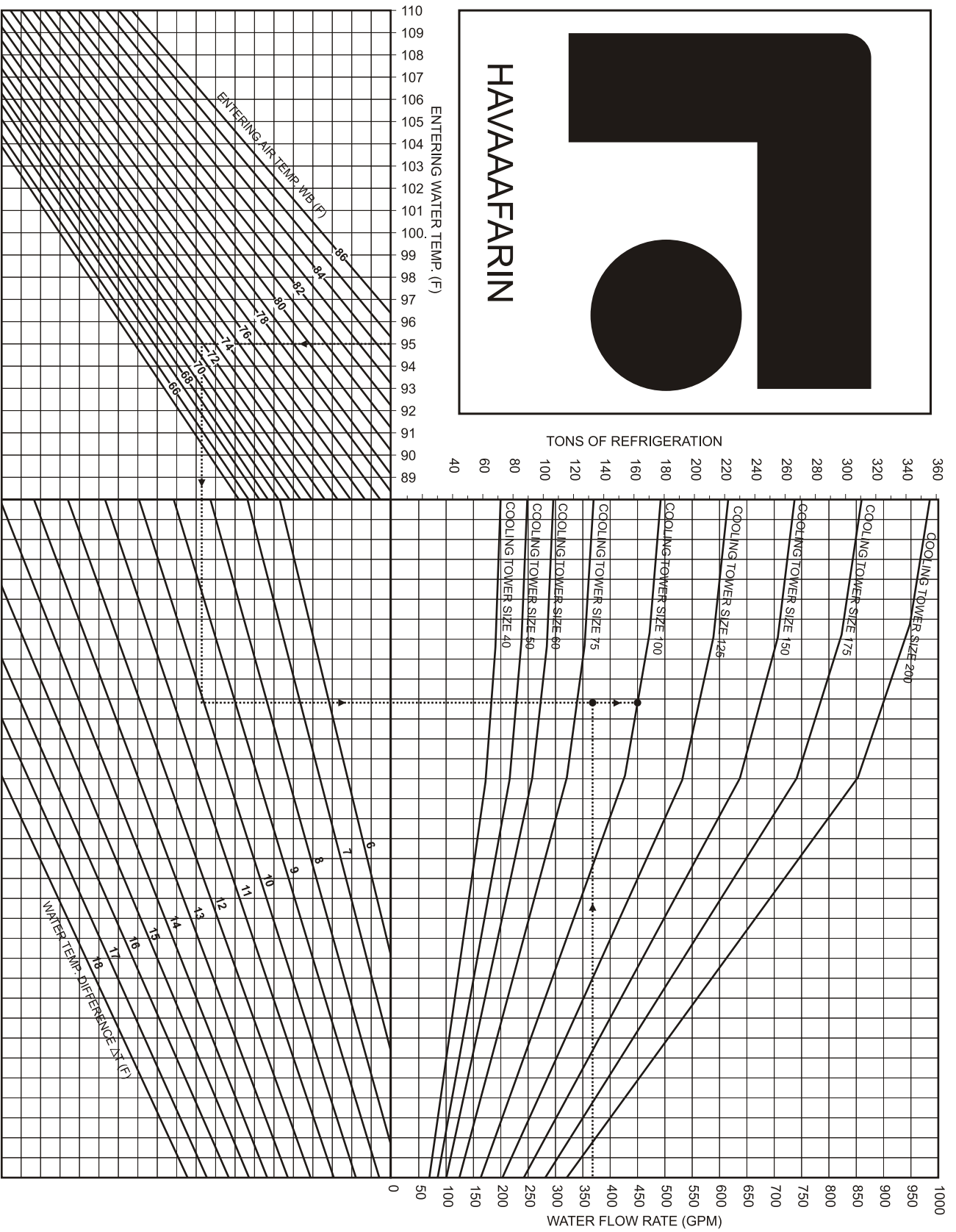
Enter the chart at the selected entering water temperature (95°F). Draw a vertical line to intersect the curve corresponding to the wet bulb(WB) temperature of entering air (72°F). From this point proceed horizontally and meet the curve of the water temperature

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 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.**

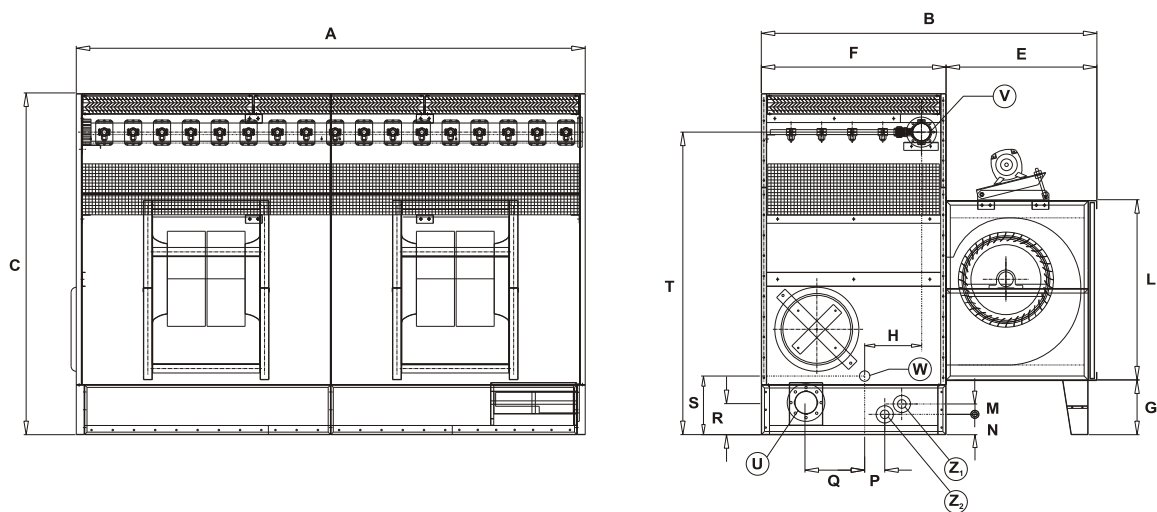
If draw a horizontal line from the cooling tower curve (size 100) to the left to intersect the axis of tons of refrigeration, thus **tons of refrigeration is 161.**





## DIMENSIONS

### MODEL HCC - SIZES 040 UP TO 100



CT Cooling Tower with right hand side connection

### Legend

U - Pump suction  
V - Water return from condenser  
Z<sub>1</sub> - Overflow  
Z<sub>2</sub> - Drain  
W - Float valve

### WEIGHT (lb)

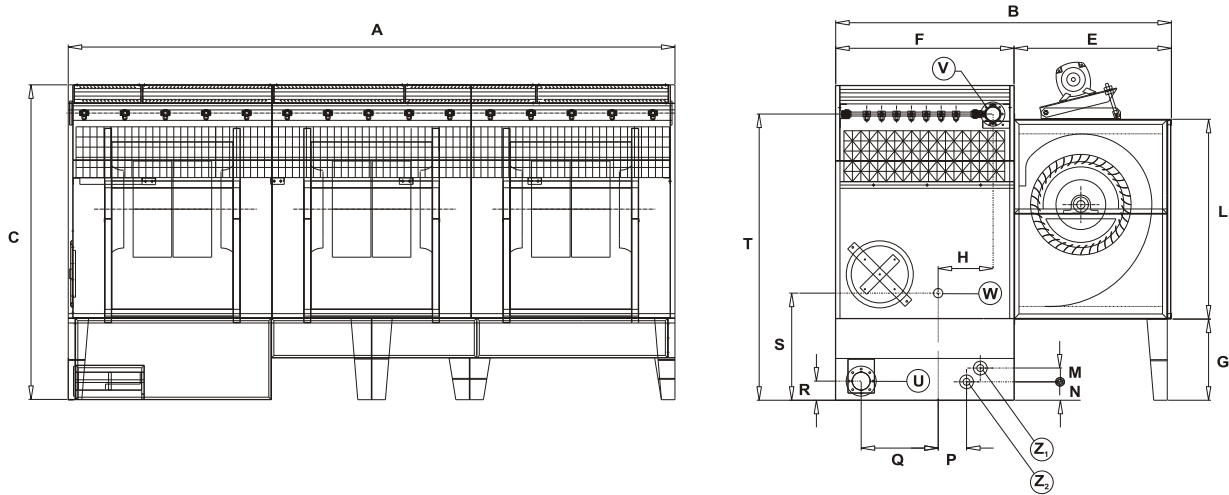
Size	Dry Weight	Operat. Wgt
040	1540	2490
050	1680	2870
060	2050	3310
075	2380	3970
100	2730	4850

### DIMENSIONS (in)

Size	A	B	C	E	F	G	H	L	M	N	P	Q	R	S	T	PT Connections				
																V	U	Z <sub>1</sub>	Z <sub>2</sub>	W
40	81	72	79	30	42	13	15 $\frac{1}{2}$	37	6	5	7	10	6	16	70	3	4	2	2	3/4
50	81	72	79	30	42	13	15 $\frac{1}{2}$	37	6	5	7	10	6	16	70	3	4	2	2	3/4
60	101	72	79	29	43	7 $\frac{1}{2}$	17	40	5	3	10	10	5	16	74	4	4	2	2	3/4
75	119	77	79	35	42	7	17	46	5	3	10	10	5	16	74	4	4	2	2	3/4
100	156	78	79	35	43	13	15	46	6	5	5	10	6	16	74	4	4	2	2	3/4

## DIMENSIONS

### MODEL HCC - SIZES 125 UP TO 200



CT Cooling Tower with right hand side connection

#### Legend

U - Pump suction  
V - Water return from condenser  
Z<sub>1</sub> - Overflow  
Z<sub>2</sub> - Drain  
W - Float valve

#### WEIGHT (lb)

Size	Dry Weight	Operat. Wgt
125	3480	6170
150	4100	6830
175	4740	7500
200	5400	7940

#### DIMENSIONS (in)

Size	A	B	C	E	F	G	H	L	M	N	P	Q	R	S	T	PT Connections				
																V	U	Z <sub>1</sub>	Z <sub>2</sub>	W
125	156	87	91	35	52	26	20	46	10	5	16	12	7	23	85	5	5	2 1/2	2 1/2	1
150	191	96	99	44	52	25	20	56	12	4	15	12	7	26	89	5	5	2 1/2	2 1/2	1
175	184	107	99	45	62	25	24	55 1/2	11	5	16 1/2	18	7	26 1/2	87	6	6	2 1/2	2 1/2	1
200	212	104	100	42	62	22	27	48	12	4	15	16	6	23	90	6	6	2 1/2	2 1/2	1

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