

SPECIFICATIONS AND FEATURES

General Description

The TVCB and THCB series of chilled water blowers are available in eight sizes covering 3100 to 18700 cfm [5266 to 31775 m³/hr]. Each unit has two sections; the coil section which include chilled water coil and filters; the blower and drive package section which can be either vertical or horizontal supply air discharge.

Casing

- ✳ Constructed of heavy gauge steel sheet and insulated with 10mm thick x 1 1/2 lb per cu.ft [24 kg per cu meter] polyethylene foam.
- ✳ Aesthetically coated with powder coating to provide excellent finish, weatherability and corrosion resistance.
- ✳ Removable panels on the left and right hand side of the unit to provide access to critical parts and components.

Cooling Coil

Coils have been designed and tested to assure maximum efficiency of heat transfer between circulating water and air. The two basic criteria for heat transfer on the airside of the coil have been perfected by fin contour and staggered tube configuration.

Coils are circuited to optimize performance and fluid pressure drop limitations. Standard coils are constructed of aluminum fins and 3/8"[9.5mm] O.D. copper tubes. Casing is made from heavy gauge steel sheet.

Each model can be either 3 or 4 rows deep coil.

Standard coils are suitable for 250 psig [17 bar] working pressure and are tested under water with 350 psig air pressure. The following are available as options for special applications:

- ✳ Pre-coated aluminum fins or copper finned coils
- ✳ Higher design working and test pressures
- ✳ Custom made coils for heating or cooling

Drive Package and Blowers

✳ THCB/TVCB 145 to TVCB 760

Belt driven drive package offers flexibility on various air flow rate and various static pressure application. Single large diameter double inlet double width blowers (AMCA certified) reduce the noise level and eliminate the need for common transition and eliminate air unbalance.

Filters

TVCB / THCB : 1" [25mm] thick washable filters (70% arrestance efficiency).

PHYSICAL SPECIFICATIONS

Evaporator Units (Vertical and Horizontal Casing Type – THCB-D & TVCB-D)

Model	Blower Section				Evaporator Section			Filters		Approx. Operating Weight lbs[kg]
	Blower		Motor Max HP	Air Flow Min - Max cfm[m ³ /hr]	Coil		Water In/ Out (MBSP)	Qty	Size Inches [mm]	
	Qty	Dia X Width			Rows Deep	Face Area ft ² [m ²]				
THCB 145D	1	12x12 (inches)	3.0	3100-3900 [5266-6626]	3,4	7.2[0.7]	1.5	1 1	20x25x1 [508x635x25] 25x25x1 [635x635x25]	375 (170)
TVCB 145D	1	12x12 (inches)	3.0	3100-3900 [5266-6626]	3,4	7.2[0.7]	1.5	2	25x25x1 [635x635x25]	440(200)
THCB 190D	1	15x15 (inches)	4.0	3800-5000 [6456-8495]	3,4	9.3[0.9]	1.5	2	25x25x1 [635x635x25]	456(207)
TVCB 190D	1	15x15 (inches)	4.0	3800-5000 [6456-8495]	3,4	9.3[0.9]	1.5	1 2	25x16x1 [635x406x25] 20x25x1 [508x635x25]	515 (234)
THCB 250D	1	15x15 (inches)	7.5	5600-7200 [9514-12232]	3,4	13.2[1.2]	2.0	1 1	20x25x1 [508x635x25] 25x25x1 [635x635x25]	623(285)
TVCB 250D	1	15x15 (inches)	7.5	5600-7200 [9514-12232]	3,4	13.2[1.2]	2.0	4	20x25x1 [508x635x25]	767 (348)
TVCB 320D	1	18x13 (inches)	15.0	6600-9400 [11213-15970]	3,4	16.5[1.5]	2.0	3 3	16x25x1 [408x635x25] 25x25x1 [508x635x25]	920 (417)
TVCB 435D	1	450x450 (mm)	15.0	9000-12000 [15291-20388]	3,4	21.4[2.0]	2.0	3 3	20x25x1 [635x635x25] 25x25x1 [508x635x25]	1150 (522)
TVCB 480D	1	500x500 (mm)	20.0	8000-16000[13592-27184]	3,4	29.2[2.7]	2.5	9	20x25x1 [508x635x25]	1450 (658)
TVCB 570D	1	500x500 (mm)	20.0	12000-16000[20388-27184]	3,4	29.2[2.7]	2.5	9	20x25x1 [508x635x25]	1600 (726)
TVCB 760D	1	560x560 (mm)	30.0	15300-18700 [25994-31771]	3,4	34.0 [3.2]	2.5	3 6	20x25x1 [508x635x25] 25x25x1 [635x635x25]	1900 (862)

PERFORMANCE DATA

Capacity Based On 44°F EWT, 54°F LWT

Model	Supply Air cfm [m ³ /hr]	Coil Row	80°FDB/ 67°FWB				75°FDB/ 62°FWB				72°FDB/ 60°FWB			
			Capacity (MBH)		Flow Rate Usqpm	Pressure Drop ft.wg	Capacity (MBH)		Flow Rate Usqpm	Pressure Drop ft.wg	Capacity (MBH)		Flow Rate Usqpm	Pressure Drop ft.wg
			Total	Sensible			Total	Sensible			Total	Sensible		
TVCB 145D THCB 145D	3500 [5947]	3	97.2	71.5	19.5	2.6	65.7	62.2	13.2	1.3	55.2	55.2	11.0	1.0
		4	125.3	87.0	25.1	6.5	85.0	74.9	17.0	3.3	71.3	67.2	14.3	2.5
TVCB 190D THCB 190D	4400 [7476]	3	127.7	92.2	25.6	3.9	86.2	80.0	17.3	2.0	72.3	71.9	14.5	1.5
		4	170.3	114.9	34.1	11.1	110.9	96.0	22.2	5.3	93.1	86.2	18.6	3.9
TVCB 250D THCB 250D	6400 [10875]	3	201.0	140.1	40.2	10.5	131.7	118.8	26.4	5.1	110.6	106.7	22.2	3.7
		4	239.9	163.7	48.0	9.2	158.0	138.0	31.6	4.5	132.6	123.9	26.6	3.3
TVCB 320D	8000 [13594]	3	260.3	182.0	52.1	12.5	171.1	154.3	34.3	6.1	143.8	138.6	28.8	4.5
		4	310.8	212.7	62.2	10.9	205.0	179.3	41.0	5.3	172.2	160.8	34.5	3.9
TVCB 435D	10500 [17842]	3	329.2	229.3	65.9	12.0	215.9	194.4	43.2	5.8	181.4	175.0	36.3	4.3
		4	393.1	268.1	78.7	11.0	259.1	226.0	51.9	5.3	217.6	202.9	43.6	3.9
TVCB 480D	12000 [20390]	3	404.5	277.5	81.0	9.6	262.4	232.4	52.5	4.6	220.0	208.8	44.1	3.4
		4	477.8	321.1	95.7	8.4	312.6	268.5	62.6	4.0	262.1	240.2	52.5	3.0
TVCB 570D	14000 [23789]	3	443.1	308.1	88.7	11.3	290.2	260.8	58.1	5.4	243.7	234.3	48.8	4.0
		4	529.8	359.9	106.1	10.0	347.9	302.9	69.7	4.8	292.1	271.3	58.5	3.6
TVCB 760D	17000 [28886]	3	529.9	370.1	106.1	12.1	347.9	313.9	69.7	5.9	292.3	281.9	58.5	4.3
		4	632.7	431.4	126.7	10.8	417.1	364.4	83.5	5.2	350.3	327.0	70.1	3.8

NOTES:

1.) To correct for different air flow, use this multiplier:

Air Flow Variation	Total Capacity	Sensible Capacity
0.9	0.93	0.92
1.0	1.00	1.00
1.1	1.07	1.08

2.) To correct for altitude, use this multiplier:

Altitude Above Sea Level - ft	Cooling Capacity
0	1.00
2000	0.98
3000	0.97
4000	0.96
5000	0.95
6000	0.93
7000	0.92

BLOWER PERFORMANCE

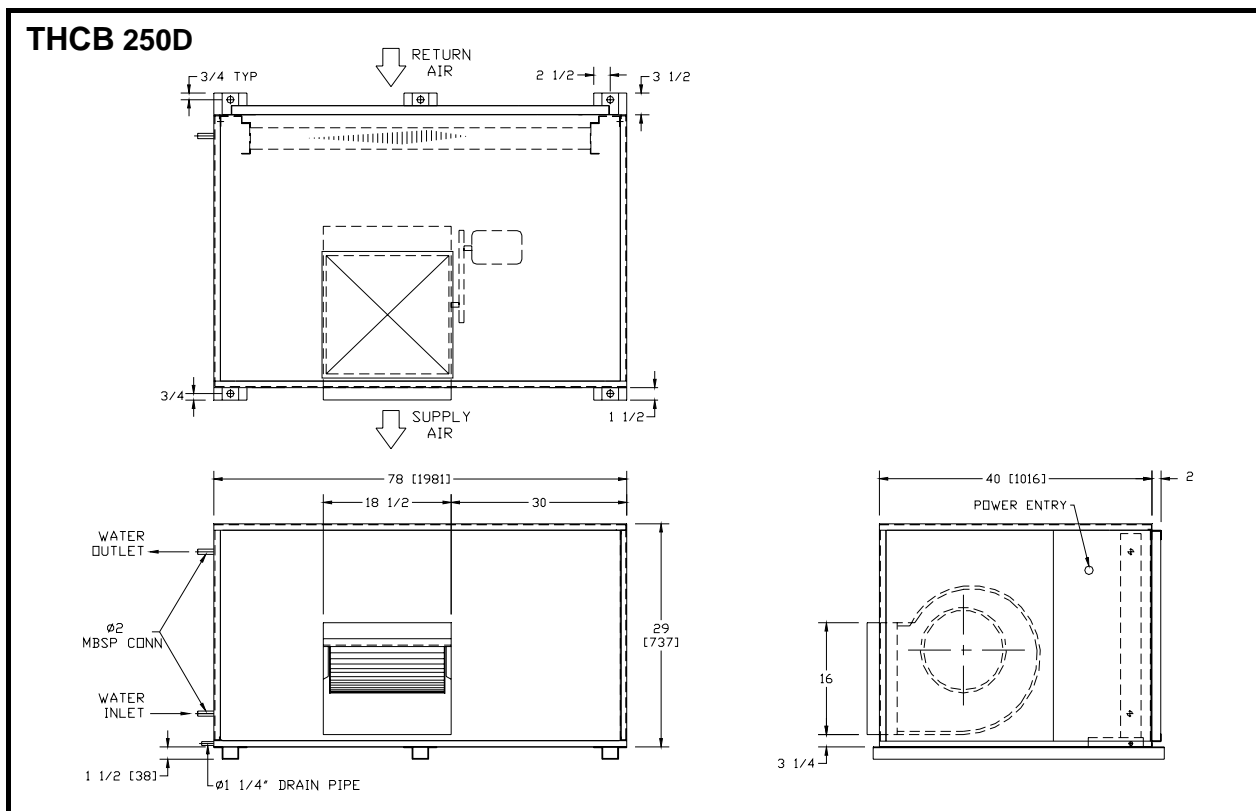
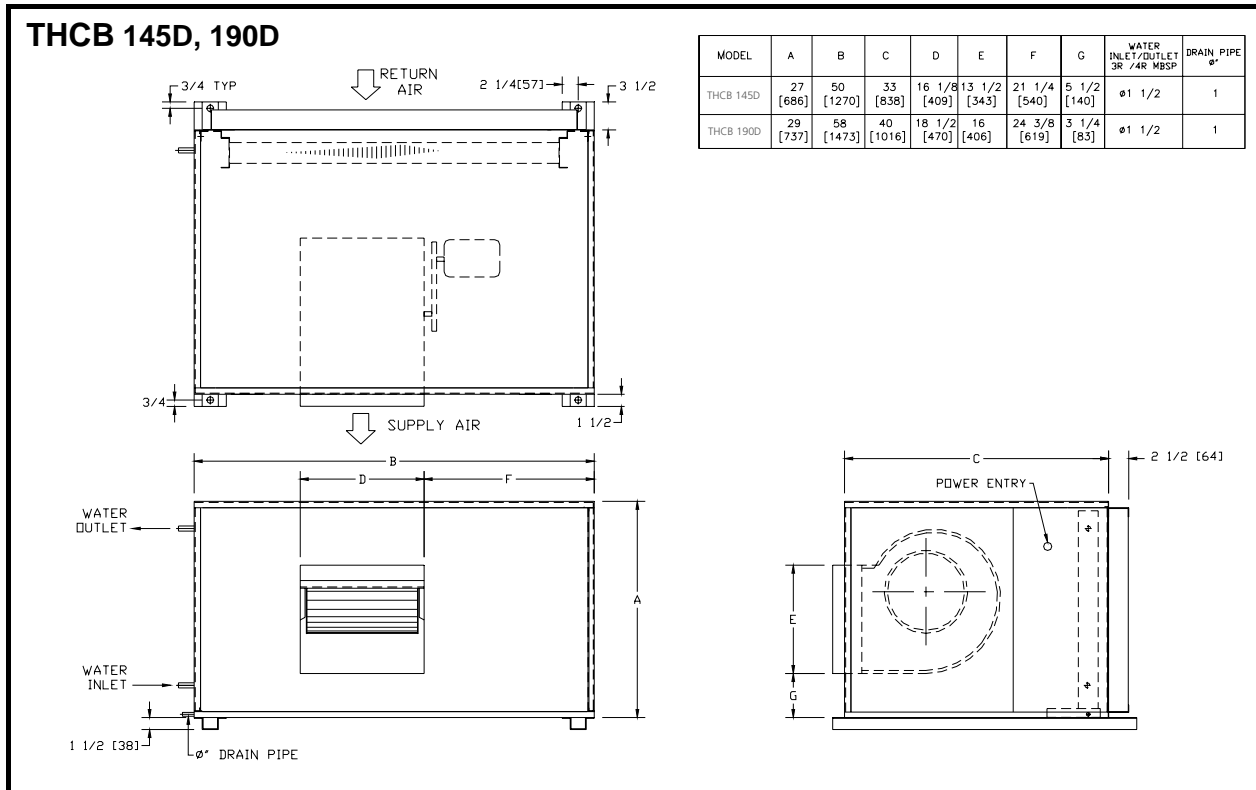
Available External Static Pressure (in.wg)

RPM	Air Flow in cfm										Fan Model
	ESP	BHP	ESP	BHP	ESP	BHP	ESP	BHP	ESP	BHP	
TVCB / THCB 145D											
	3100		3300		3500		3700		3900		12-12 (Inches)
800	0.54	0.93	0.50	1.00	0.44	1.13	0.38	1.20	0.34	1.33	
900	0.84	1.07	0.82	1.20	0.80	1.33	0.76	1.53	0.72	1.60	
1000	1.16	1.33	1.12	1.44	1.08	1.67	1.06	1.73	1.02	1.87	
1100	1.48	1.60	1.44	1.67	1.40	1.87	1.38	2.00	1.36	2.13	
TVCB / THCB 190D											
	3800		4100		4400		4700		5000		15-15 (Inches)
700	0.64	1.07	0.62	1.20	0.58	1.33	0.54	1.53	0.52	1.67	
800	1.02	1.40	0.98	1.53	0.96	1.67	0.94	1.87	0.94	2.00	
900	1.42	1.73	1.38	1.87	1.34	2.07	1.32	2.27	1.30	2.53	
1000	1.72	2.20	1.74	2.40	1.78	2.53	1.76	2.67	1.75	2.93	
TVCB / THCB 250D											
	5600		6000		6400		6800		7200		15-15 (Inches)
900	1.43	2.93	1.40	3.33	1.38	3.60	1.36	3.93	1.34	4.27	
950	1.63	3.20	1.60	3.60	1.58	3.80	1.56	4.00	1.54	4.53	
1000	1.91	3.47	1.88	3.87	1.86	4.00	1.84	4.47	1.82	5.07	
1050	2.13	3.73	2.10	4.00	2.08	4.27	2.06	4.93	2.04	5.27	
TVCB320D											
	6600		7300		8000		8700		9400		18-13 (Inches)
850	1.80	4.27	1.78	5.07	1.72	5.60	1.64	6.40	1.54	6.93	
900	2.13	4.67	2.12	5.53	2.08	6.40	2.04	6.93	1.94	7.73	
950	2.44	5.20	2.42	6.00	2.39	6.80	2.35	7.73	2.28	4.27	
1000	2.84	5.67	2.78	6.67	2.72	7.33	2.70	8.00	2.68	9.07	
TVCB435D											
	9000		9750		10500		11250		12000		450-450 (mm)
650	0.57	3.73	0.63	4.00	0.67	4.67	0.71	5.20	0.75	5.33	
700	0.91	4.13	0.94	4.67	0.97	5.33	1.00	5.60	1.02	6.00	
750	1.17	4.67	1.19	5.07	1.22	5.60	1.23	6.40	1.27	6.67	
800	1.52	5.20	1.55	5.60	1.57	6.53	1.61	6.93	1.63	7.73	
TVCB480D											
	8000		10000		12000		14000		16000		500-500 (mm)
650	1.25	3.47	1.27	4.67	1.25	6.00	1.15	7.73	1.05	9.33	
700	1.56	4.00	1.61	5.33	1.59	6.93	1.48	8.27	1.43	10.27	
750	1.79	4.53	1.91	6.00	1.93	7.73	1.87	9.33	1.79	11.07	
800	2.11	5.33	2.25	6.67	2.29	8.27	2.24	10.67	2.19	12.53	
TVCB570D											
	12000		13000		14000		15000		16000		500-500 (mm)
650	1.14	6.00	1.08	6.67	1.04	7.73	1.00	8.27	0.94	9.33	
700	1.48	6.93	1.46	7.73	1.37	8.27	1.34	9.33	1.32	10.27	
750	1.82	7.73	1.80	8.27	1.76	9.33	1.70	10.53	1.68	11.33	
800	2.18	8.27	2.14	9.33	2.13	10.67	2.11	11.33	2.08	12.53	
TVCB760D											
	15300		16150		17000		17850		18700		560-560 (mm)
550	0.87	6.80	0.86	7.73	0.83	8.00	0.79	8.67	0.76	9.33	
600	1.25	8.00	1.23	8.53	1.21	9.33	1.19	10.40	1.18	10.67	
650	1.51	9.33	1.53	9.73	1.55	10.67	1.57	10.93	1.60	12.00	
700	2.03	10.53	2.01	10.93	2.00	11.73	1.99	12.80	1.97	13.33	

Notes: 1. Values based on four row wet and standard washable filter.
 2. For three row of wet coil, add 0.08" wg of external static pressure.

DIMENSIONAL DATA

Evaporator Units (Horizontal Casing Type)

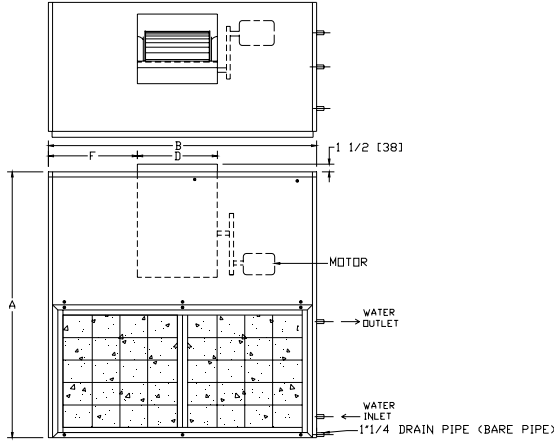


- Notes : 1.) All dimensions are in inches[mm].
 2.) Units shown are right hand piping connection.
 3.) Standard water inlet and outlet comes with BS males threaded connection

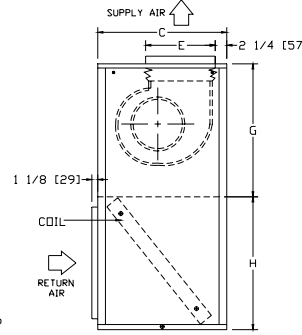
DIMENSIONAL DATA

Evaporator Units (Vertical Casing Type)

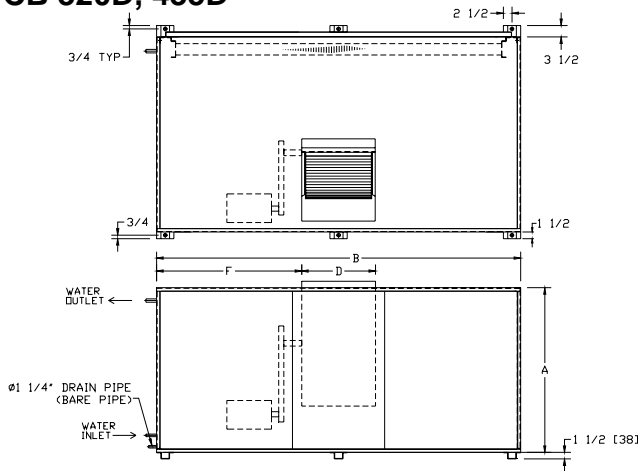
TVCB 145D, 190D, 250D



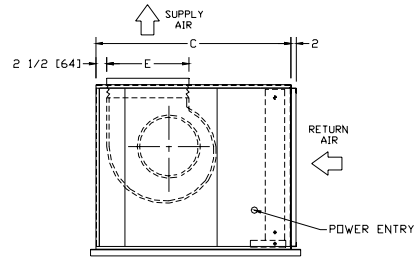
MODEL	A	B	C	D	E	F	G	H	WATER INLET/OUTLET 3R /4R MBSP
TVCB 145D	54 1/2 [1394]	52 [1321]	25 [635]	16 [406]	13 1/2 [343]	14 3/4 [375]	27 1/4 [692]	27 1/4 [692]	ø1 1/2
TVCB 190D	57 1/2 [1461]	58 1/2 [1486]	28 [711]	18 5/8 [473]	16 [406]	15 [381]	28 3/4 [730]	28 3/4 [730]	ø1 1/2
TVCB 250D	58 3/4 [1492]	81 1/2 [2070]	28 [711]	18 5/8 [473]	16 [406]	24 3/4 [622]	28 3/4 [730]	30 [762]	ø2



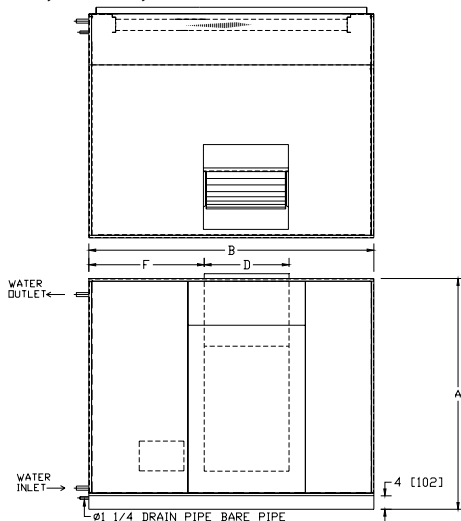
TVCB 320D, 435D



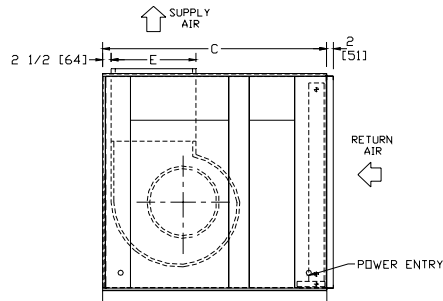
MODEL	A	B	C	D	E	F	WATER INLET/OUTLET 3R /4R MBSP
TVCB 320D	38 [965]	84 [2134]	45 [1143]	17 [432]	19 [483]	33 1/2 [851]	ø2
TVCB 435D	48 [1219]	84 [2134]	45 [1143]	22 1/2 [569]	22 1/2 [569]	37 [940]	ø2



TVCB 480D, 570D, 760D



MODEL	A	B	C	D	E	F	WATER INLET/OUTLET 3R /4R MBSP
TVCB 480D	68 [1727]	84 [2134]	66 [1676]	25 [635]	25 [635]	34 [864]	ø2 1/2
TVCB 570D	68 [1727]	84 [2134]	66 [1676]	25 [635]	25 [635]	34 [864]	ø2 1/2
TVCB 760D	78 [1981]	84 [2134]	66 [1676]	28 [711]	28 [711]	34 [864]	ø2 1/2



- Notes : 1.) All dimensions are in inches[mm].
 2.) Units shown are right hand piping connection.
 3.) Standard water inlet and outlet comes with BS males threaded connection

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