

Coil Data: THB Series

COILS

Titus offers hot water, chilled water, direct expansion (DX) coils for specific application with all THB Series Fan Coil Units. Strict on-site

inspection before, during, and after installation guarantees the highest quality and performance available.

Standard Features

- » Cooling - 3, 4 or 6 row chilled water or DX
- » Heating - 1, 2, 3 or 4 row hot water
- » 6 total rows of cooling and heating coils maximum
- » ½" O.D. seamless copper tubes
- » 0.016" tube wall thickness
- » High efficiency aluminum fin surface for optimizing heat transfer, pressure drop and carryover
- » Left or right hand, same or opposite side connections
- » Manual air vents

Optional Features

- » Automatic air vents
- » Stainless steel coil casings
- » DX coils are heat pump compatible

Titus offers fan coil rating and selection program TEAMS for complete unit, coil and sound selection. See your representative for more information.

Unit Size	Coil Face Area	Model THBE				Model THBP	
		Return Air Grille Free Area	Supply Air Grille Free Area	Filter Face Area	Nominal Filter Sizes	Filter Face Area	Nominal Filter Sizes
20	1.11 [0.1]	0.47 [.04]	0.40 [.04]	1.77 [.16]	30 X 8.5 X 1 [762 X 216 X 25]	1.18 [.11]	20 X 8.5 X 1 [508 X 216 X 25]
25	1.44 [0.13]	0.58 [.05]	0.50 [.05]	2.36 [.22]	(2) 20 X 8.5 X 1 [508 X 216 X 25]	1.54 [.14]	26 X 8.5 X 1 [660 X 216 X 25]
30	1.67 [0.15]	0.68 [.06]	0.56 [.05]	2.36 [.22]	(2) 20 X 8.5 X 1 [508 X 216 X 25]	1.77 [.11]	30 X 8.5 X 1 [762 X 216 X 25]
40	2.22 [0.21]	0.81 [.08]	0.80 [.07]	2.95 [.27]	(1) 20, (1) 30 X 8.5 X 1 [508, 762 X 216 X 25]	2.36 [.22]	(2) 20 X 8.5 X 1 [508 X 216 X 25]
50	2.78 [0.26]	1.01 [.09]	0.96 [.09]	3.54 [.33]	(2) 30 X 8.5 X 1 [762 X 216 X 25]	2.95 [.27]	(1) 20, (1) 30 X 8.5 X 1 [508, 762 X 216 X 25]
60	3.33 [0.31]	1.15 [.11]	1.20 [.11]	4.13 [.38]	(2) 20, (1) 30 X 8.5 X 1 [508, 762 X 216 X 25]	3.54 [.33]	(2) 30 X 8.5 X 1 [762 X 216 X 25]

Notes:

1. Face and free areas are in square feet [square meters]
2. Filter sizes are in inches [millimeters]
3. Return Air Grille Free Area applies to THBE and Telescoping Bottom Panel return grilles
4. Supply Air Grille Free Area applies to THBE supply grille and minimum free area allowable for a supply grille supplied by others

AHRI STANDARD RATINGS

Model/Size	Coil		Airflow CFM (Dry Flow)	Cooling Capacity		Water		Power Input (Watts)
	Rows	FPI		QT (BTUH)	QS (BTUH)	Flow Rate (GPM)	WPD (ft-wg)	
THBC-20	3	10	331	9699	7210	1.9	5.26	57
THBC-25	3	10	448	14189	10210	2.8	10.66	125
THBC-30	3	10	771	18750	14640	3.8	6.5	165
THBC-40	3	10	793	22559	16719	4.5	10.22	261
THBC-50	3	10	1196	30370	23280	6	9.17	472
THBC-60	3	10	1440	34169	27000	6.8	4.5	522
THBC-20	4	10	312	12680	8760	2.5	10.22	57
THBC-25	4	10	434	15869	11340	3.1	5.79	125
THBC-30	4	10	721	23790	17469	4.8	11.51	165
THBC-40	4	10	779	28399	20280	5.7	9.34	261
THBC-50	4	10	1166	37490	27790	7.5	9.23	472
THBC-60	4	10	1365	42849	32400	8.5	4.12	522
THBP-20	3	10	265	8220	6039	1.6	4.05	57
THBP-25	3	10	414	13430	9609	2.7	10.02	125
THBP-30	3	10	620	16309	12500	3.3	5.19	165
THBP-40	3	10	768	22069	16309	4.4	9.63	261
THBP-50	3	10	1069	28579	21600	5.7	8.34	472
THBP-60	3	10	1324	32639	25530	6.5	4.2	522
THBP-20	4	10	253	10819	7369	2.2	8.42	57
THBP-25	4	10	404	15100	10729	3	5.43	125
THBP-30	4	10	604	21280	15310	4.3	9.52	165
THBP-40	4	10	743	27530	19559	5.5	9.01	261
THBP-50	4	10	1022	34490	25190	6.9	8.06	472
THBP-60	4	10	1258	40409	30350	8	3.68	522
THBE-20	3	10	265	8220	6039	1.6	4.05	57
THBE-25	3	10	414	13430	9609	2.7	10.02	125
THBE-30	3	10	620	16309	12500	3.3	5.19	165
THBE-40	3	10	768	22069	16309	4.4	9.63	261
THBE-50	3	10	1069	28579	21600	5.7	8.34	472
THBE-60	3	10	1324	32639	25530	6.5	4.2	522
THBE-20	4	10	253	10819	7369	2.2	8.42	57
THBE-25	4	10	404	15100	10729	3	5.43	125
THBE-30	4	10	604	21280	15310	4.3	9.52	165
THBE-40	4	10	743	27530	19559	5.5	9.01	261
THBE-50	4	10	1022	34490	25190	6.9	8.06	472
THBE-60	4	10	1258	40409	30350	8	3.68	522

Note: Based on 80°F DB and 67°F WB EAT, 45°F EWT, 10°F temperature rise, high fan speed. Motor type is PSC and motor voltage is 115/1/60. Airflow under dry coil conditions. Models THBE tested at 0.0" external static pressure. Models THBC and THBP tested at 0.05" external static pressure.

PHYSICAL DATA

HEATING CAPACITY

Unit Type	Unit Size	Nom CFM	1 Row			2 Row		
			QS (MBH)	GPM	WPD	QS (MBH)	GPM	WPD
THBC	20	330	12.1	0.6	1.06	20.9	1.1	0.81
	25	447	16.5	0.8	2.27	28.6	1.5	1.76
	30	805	23.0	1.2	4.5	41.9	2.2	3.79
	40	793	24.8	1.3	0.9	47.2	2.4	5.74
	50	1273	35.2	1.8	2.03	64.4	3.3	1.73
	60	1563	44.0	2.3	3.61	80.4	4.1	3.1
THBP	20	264	10.8	0.6	0.85	18.1	0.9	0.62
	25	414	15.9	0.8	2.11	27.3	1.4	1.6
	30	619	20.4	1.0	3.58	36.2	1.9	2.88
	40	767	24.4	1.3	0.88	46.3	2.4	5.56
	50	1141	33.6	1.7	1.85	60.7	3.1	1.55
	60	1433	42.3	2.2	3.37	76.6	3.9	2.81
THBE	20	286	11.3	0.6	0.92	19.1	1.0	0.69
	25	431	16.2	0.8	2.22	27.9	1.4	1.67
	30	667	21.1	1.1	3.85	37.8	1.9	3.13
	40	795	24.9	1.3	0.9	47.3	2.4	5.74
	50	1190	34.2	1.8	1.92	19.1	1.0	0.69
	60	1489	43.1	2.2	3.49	78.3	4.0	2.93

Note: Based on 70°F DB EAT, 180°F EWT, 40°F temperature drop, high fan speed

THB UNIT WEIGHT DATA

Component	Unit Size						
	20	25	30	40	50	60	
THBC Base Unit	40 [18]	51 [23]	59 [27]	69 [31]	91 [41]	111 [50]	
THBP Base Unit	45 [20]	56 [25]	65 [30]	80 [36]	103 [47]	123 [56]	
THBE Base Unit	119 [54]	138 [63]	155 [70]	181 [82]	220 [100]	257 [117]	
Coil Rows	1 Row - Dry	8 [4]	10 [5]	11 [5]	13 [6]	15 [7]	18 [8]
	1 Row - Wet	10 [5]	12 [5]	13 [6]	15 [7]	18 [8]	21 [10]
	2 Row - Dry	11 [5]	13 [6]	15 [7]	18 [8]	22 [10]	26 [12]
	2 Row - Wet	14 [6]	16 [7]	18 [8]	22 [10]	27 [12]	32 [15]
	3 Row - Dry	14 [6]	17 [8]	19 [9]	24 [11]	29 [13]	34 [15]
	3 Row - Wet	17 [8]	21 [10]	24 [15]	30 [14]	36 [16]	42 [19]
	4 Row - Dry	17 [8]	20 [9]	23 [10]	29 [13]	36 [16]	42 [19]
	4 Row - Wet	21 [10]	25 [11]	29 [13]	36 [16]	45 [20]	53 [24]

Note: Unit weight data is in pounds [kilograms]



Electric Heat

Titus offers electric heating coils for specific application with all THB Series Fan Coil units. This allows the flexibility to provide an unrivaled

amount of electric heat options in one complete package.

Standard Features

- » ETL listed as an assembly for safety compliance
- » Single point power connection
- » Mounted in preheat position
- » Automatic reset primary and backup secondary thermal limits
- » Internal wiring rated at 105°C
- » Integral electric heat assembly with removable element for easy service
- » Stainless steel terminals and hardware



Useful Formulas

$$kW^* = \frac{CFM \times \Delta T \times 1.085^{**}}{3413}$$

$$1\emptyset \text{ AMPs} = \frac{kW \times 1000}{Volts}$$

$$* 1kW = 3413 \text{ BTU/H}$$

** Capacity at sea level

Altitude Considerations:

Reduce by 0.034 for each 1000 ft. of altitude above sea level

$$\text{Example: } 5000 \text{ ft./}1000 \text{ ft.} = 5$$

$$5 \times 0.034 = 0.17$$

$$1.085 - 0.17 = 0.915$$

Optional Features

- » Silent solid state relays
- » Door interlocking disconnect switch
- » Main fusing

Electrical Calculations Information

1. Contact your local Titus sales office
2. Non-Fused Door Interlock Disconnect Switch shall be sized according to MCA
3. Fused Door Interlock Disconnect Switch and Main Fusing shall be sized according to MOP

THB ELECTRIC HEAT SELECTION CHART (AMPS)

Unit Size	MBH	5.1	6.8	10.2	13.7	17.1	20.5	25.6	27.3	34.1
	KW	1.5	2.0	3.0	4.0	5.0	6.0	7.0	8.0	10.0
	Volts	AMPS								
20	115	13.0	17.4	26.1						
	208	7.2	9.6	14.4						
	230	6.5	8.7	13.0						
	277	5.4	7.2	10.8						
25	115	13.0	17.4	26.1						
	208	7.2	9.6	14.4						
	230	6.5	8.7	13.0						
	277	5.4	7.2	10.8						
30	115	13.0	17.4	26.1	34.6	43.5				
	208	7.2	9.6	14.4	19.2	24.0	28.8			
	230	6.5	8.7	13.0	17.4	21.7	26.1			
	277	5.4	7.2	10.8	14.4	18.1	21.7			
40	115		17.4	26.1	34.6	43.5				
	208		9.6	14.4	19.2	24.0	28.8	33.7		
	230		8.7	13.0	17.4	21.7	26.1	30.4		
	277		7.2	10.8	14.4	18.1	21.7	25.3		
50	115			26.1	34.6	43.5				
	208			14.4	19.2	24.0	28.8	33.7	38.5	
	230			13.0	17.4	21.7	26.1	30.4	34.8	
	277			10.8	14.4	18.1	21.7	25.3	28.9	
60	115			26.1	34.6	43.5				
	208			14.4	19.2	24.0	28.8	33.7	38.5	
	230			13.0	17.4	21.7	26.1	30.4	34.8	43.5
	277			10.8	14.4	18.1	21.7	25.3	28.9	36.1

Notes:

1. Shaded areas of the electric heat selection chart indicate kW and voltage options not available
2. Available voltages are single phase, 60 hertz
3. Size heater for Leaving Air Temperature (LAT less than 104°F)
4. Silent, solid state heater relay is available for sound sensitive environments
5. Ask your Titus representative about continuously modulating electric heat using SSR and special control options



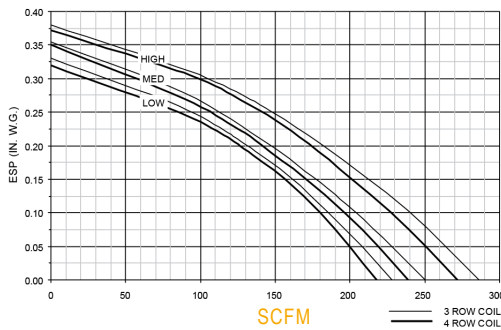
Fan Performance Curves (PSC Motors)

GENERAL FAN NOTES, PSC MOTORS

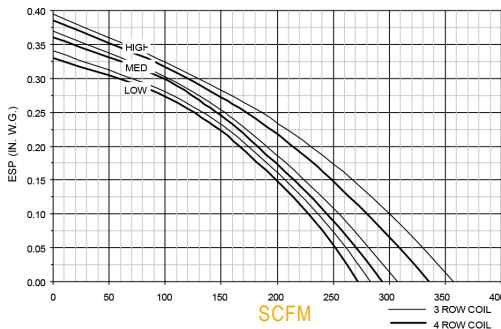
1. Fan curves on the following pages depict actual performance of each motor tap without any additional fan balance adjustment. Actual capacities which fall below each curve can be obtained by adding an adjustment device. Units should not be run prior to installation of downstream ductwork; otherwise, damage to the motor may result.
2. Titus Fan Coil Units are equipped with permanent split-capacitor (PSC) motors with three taps (High, Medium and Low) which provides variable horsepower outputs. Most often, size selections are conservative and actual CFM requirements and/or external static pressure requirements are lower than those specified. In this case, the unit fan motor can be run at low or medium tap, substantially reducing the operating cost of the unit.
3. All fan curves are for 115/1/60 motors and include pressure losses for cabinet, electric heater, and 3 or 4 row coil. Plenum units include a clean 1" throwaway filter. For other coil configurations, adjust performance curves based on pressure losses for the coils using TEAMS.
4. See page 114 for fan motor electrical data
5. For additional high static pressure applications and rating points, contact factory

Size 20

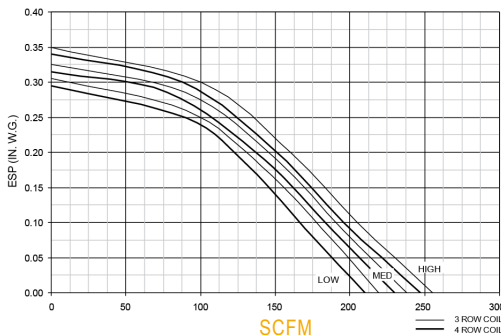
THBP Plenum Return



THBC Free Return

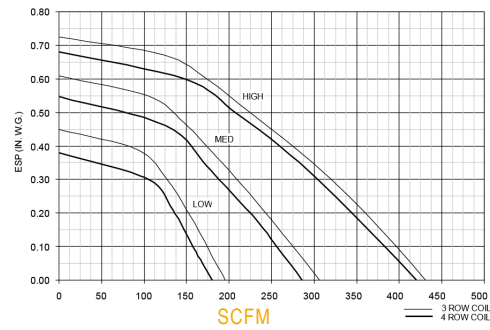


THBE Exposed Cabinet

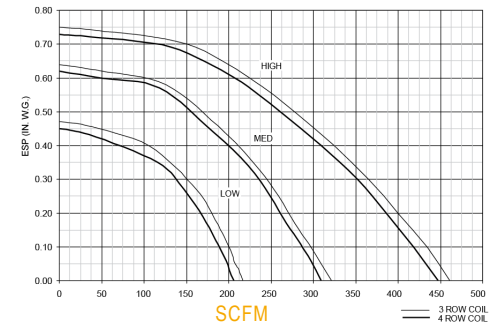


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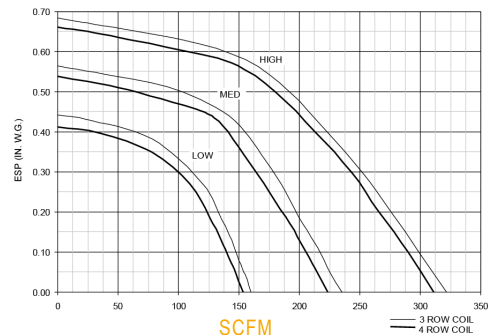
THBP Plenum Return



THBC Free Return



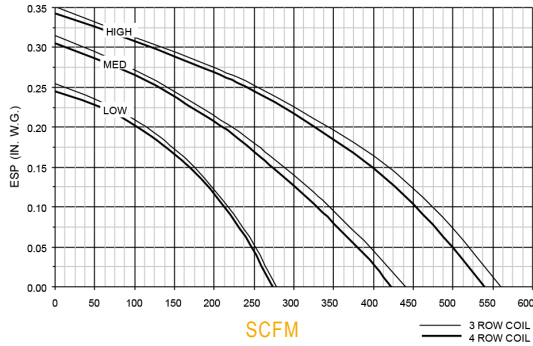
THBE Exposed Cabinet



FAN CURVES / PSC MOTOR

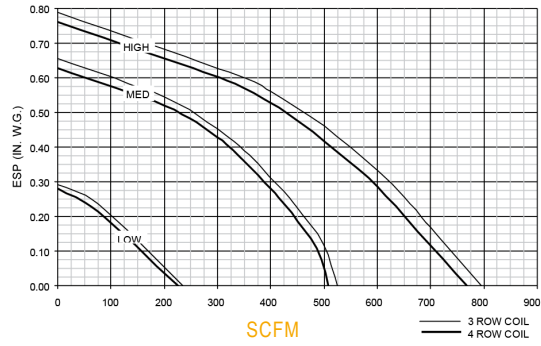
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THBP Plenum Return

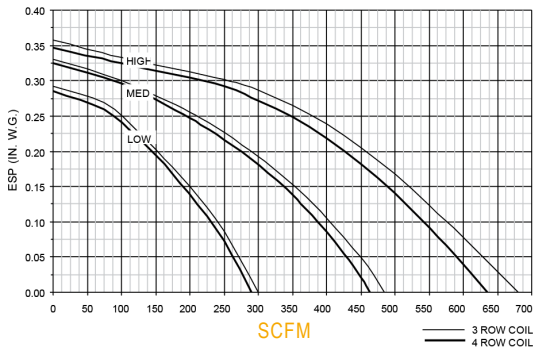


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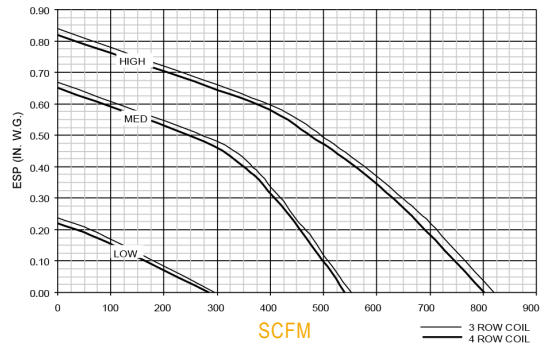
THBP Plenum Return



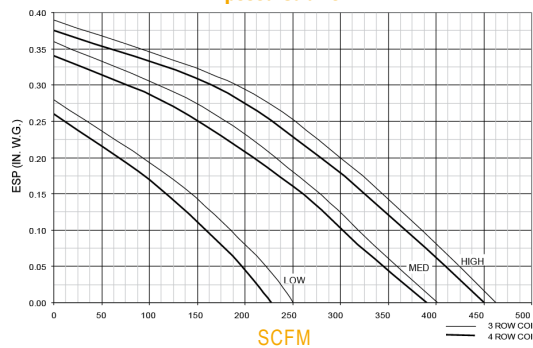
THBC Free Return



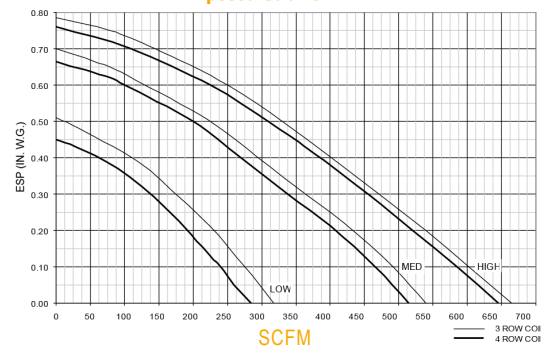
THBC Free Return



THBE Exposed Cabinet

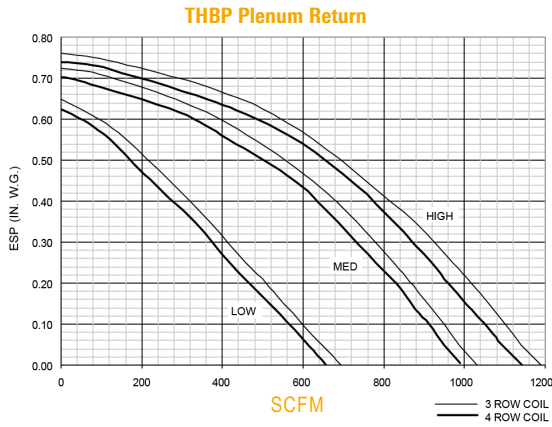


THBE Exposed Cabinet

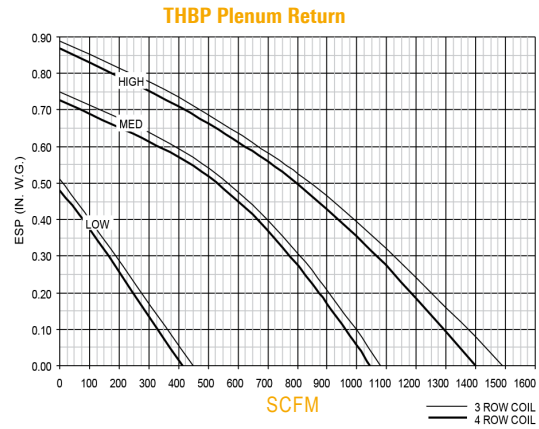


FAN CURVES / PSC MOTOR

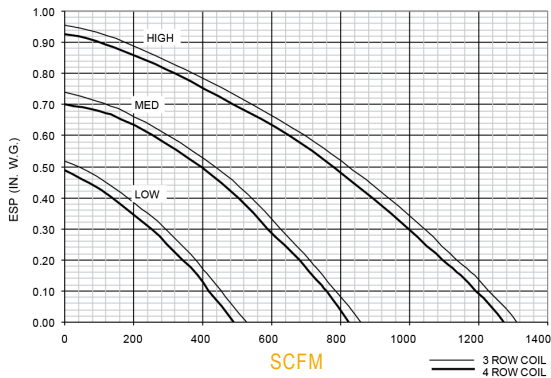
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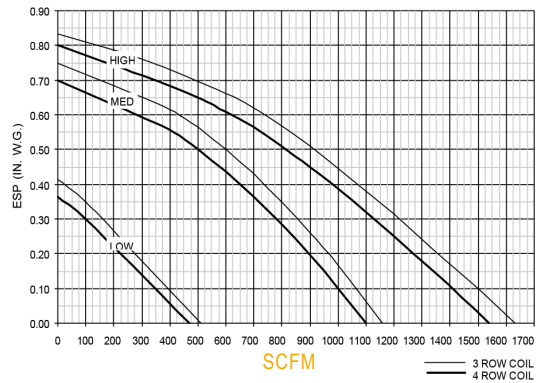
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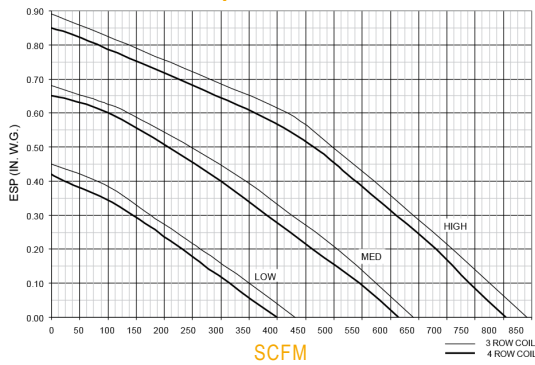
THBC Free Return



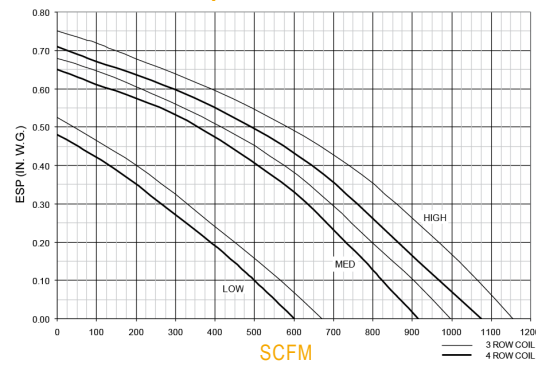
THBC Free Return



THBE Exposed Cabinet



THBE Exposed Cabinet



Motor, Fan And Sound Data

PSC MOTOR AND FAN DATA

Unit Size	Fan Speed	Motor H.P. (QTY)	# Of Fan	Watts	115 Volts	208-230 Volts	277 Volts
					AMPS	AMPS	AMPS
20	High	(1) 1/30	1	57	0.8	0.4	0.3
	Medium	(1) 1/50		39	0.4	0.3	0.3
	Low	(1) 1/60		33	0.3	0.3	0.3
25	High	(1) 1/15	1	125	1.0	0.5	0.45
	Medium	(1) 1/30		90	0.9	0.3	0.3
	Low	(1) 1/60		60	0.5	0.2	0.2
30	High	(1) 1/10	2	165	1.6	0.7	0.6
	Medium	(1) 1/30		76	0.8	0.3	0.5
	Low	(1) 1/60		47	0.5	0.2	0.4
40	High	(1) 1/6	2	261	2.6	0.9	0.85
	Medium	(1) 1/12		162	1.5	0.5	0.5
	Low	(1) 1/40		75	0.6	0.4	0.3
50	High	(1) 1/8	3	215	1.6	0.9	0.68
		(1) 1/6		257	2.1	0.9	0.85
	Medium	(1) 1/15		145	1.3	0.6	0.5
		(1) 1/12		156	1.5	0.5	0.5
	Low	(1) 1/40		69	0.8	0.3	0.3
		(1) 1/40		75	0.6	0.4	0.3
60	High	(2) 1/6	4	522	4.2	1.8	1.7
	Medium	(2) 1/12		324	3.0	1.0	1.0
	Low	(2) 1/40		150	1.2	0.6	0.6

Notes:

1. Motor electrical data is nameplated data. Actual data will vary with application. Watts shown are for 115V.
2. 230 volt motor is nameplated for 208-230/1/60. Use 230 volt motor data for 208 volt applications.
3. Unit size 30, 208-230 and 277 volt motors are 1/12 HP at high tap

Fan Curves / ECM™ Motor

Note: Contact Titus regarding EC motor data before project submission

HORIZONTAL PLENUM

Unit Size	Fan Speed	Motor H.P. (QTY)	# Of Fan	WATTS	115 Volts		208-230 Volts		277 Volts	
					FLA	3-Phase Neutral	FLA	3-Phase Neutral	FLA	3-Phase Neutral
20	High	(1) ¼	1	37	1.00	1.50	0.70	1.00	0.70	1.00
25	High	(1) ¼	1	74	1.70	2.50	1.30	1.90	1.20	1.70
30	High	(1) ¼	2	70	1.70	2.50	1.30	1.90	1.20	1.70
40	High	(1) ¼	2	124	2.80	4.00	2.10	3.00	2.10	3.00
50	High	(2) ¼	3	185	4.00	5.80	3.00	4.40	2.80	4.00
60	High	(2) ¼	4	250	5.20	7.40	4.00	4.80	3.80	5.40

HORIZONTAL EXPOSED

Unit Size	Fan Speed	Motor H.P. (QTY)	# Of Fan	WATTS	115 Volts		208-230 Volts		277 Volts	
					FLA	3-Phase Neutral	FLA	3-Phase Neutral	FLA	3-Phase Neutral
20	High	(1) ¼	1	25	0.70	1.00	0.60	0.90	0.60	0.90
25	High	(1) ¼	1	40	1.00	1.50	0.70	1.00	0.70	1.00
30	High	(1) ¼	2	44	1.00	1.50	0.80	1.20	0.80	1.20
40	High	(1) ¼	2	79	1.90	2.70	1.40	2.00	1.40	2.00
50	High	(2) ¼	3	92	2.40	3.40	1.80	2.60	1.80	2.60
60	High	(2) ¼	4	148	3.60	5.20	2.80	4.00	2.80	4.00

Notes:

1. Watts as shown are for a Plenum / Exposed unit with .05" ESP, 4 row coil, 115/1/60, 12 FPI, and throwaway filters
2. Motors nameplated for 208-230/1/60. Data is at 230 volts.
3. Motor HP as noted is a nominal rating
4. Data as supplied is for reference only. For project specific operational points see selection tool report out.



Sound Data

THB SOUND DATA

Unit Size	Fan Speed	SCFM	Total Sound Power Level						
			Octave Band / Center Frequency (HZ)						
			2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000
20	High	282	57	61	53	52	48	42	40
	Medium	216	53	54	48	45	41	33	36
	Low	175	49	49	44	40	34	30	33
25	High	420	61	63	58	57	54	47	43
	Medium	286	55	53	50	47	45	36	32
	Low	180	50	44	39	38	36	30	30
30	High	522	63	62	58	58	53	48	44
	Medium	458	60	56	54	53	49	43	40
	Low	269	50	45	43	40	34	29	34
40	High	810	68	70	65	63	57	54	51
	Medium	565	63	62	58	54	50	44	40
	Low	300	54	47	42	39	31	31	34
50	High	1050	64	69	69	65	57	55	54
	Medium	840	59	63	63	57	51	47	44
	Low	490	51	55	60	47	42	37	36
60	High	1400	71	75	72	70	61	59	54
	Medium	1050	63	66	68	60	55	49	45
	Low	500	53	58	48	42	35	32	35

1. Sound data tested in accordance with AHRI 350-2000
2. Sound levels are expressed in decibels, dB RE: 1 x 10⁻¹² watts
3. Total sound power level data based on Model THBP with fan CFM at corresponding motor tap with 115/1/60 volt motor, 3 or 4 row coil, 1" throwaway filter, 0.0" external static pressure and standard rated internal pressure losses

