

Coil and Filter Data

COIL AND FILTER DATA

Unit Size	Coil Face Area	2" Flat Filters (Quantity) and Size	Filter Face Area
08	2.1 [0.20]	(1) 16 x 20 x 2 [406 x 508 x 51]	2.2 [0.20]
12	2.7 [0.25]	(1) 16 x 25 x 2 [406 x 635 x 51]	2.8 [0.26]
16	3.5 [0.33]	(2) 16 x 20 x 2 [406 x 508 x 51]	4.4 [0.41]
20	4.9 [0.46]	(1) 16 x 20 x 2 [406 x 508 x 51] (1) 16 x 25 x 2 [406 x 635 x 51]	5.0 [0.46]
30	6.5 [0.60]	(2) 16 x 25 x 2 [406 x 635 x 51] (1) 20 x 25 x 2 [508 x 635 x 51]	9.0 [0.84]
40	8.4 [0.78]	(3) 20 x 25 x 2 [508 x 635 x 51]	10.4 [0.97]

Notes:

- Standard filters are 2" throwaway
- Filter sizes are nominal and standard size, measured in inches [millimeters]
- Coil and filter face areas are measured in square feet [square meters]
- Cooling and heating coils have same face area



NOMINAL COIL CONNECTION SIZES

Unit Size	Coil Type														
	Water					Steam				Refrigerant					
	1 Row	2 Row	3 Row	4 Row	6 Row	1 Row		2 Row		3 Row		4 Row		6 Row	
						STM.	COND.	STM.	COND.	Liquid	Suction	Liquid	Suction	Liquid	Suction
08	5/8 [16]	5/8 [16]	7/8 [22]	7/8 [22]	7/8 [22]	1 1/8 [29]	7/8 [22]	1 1/8 [29]	7/8 [22]	5/8 [16]	5/8 [16]	5/8 [16]	5/8 [16]	5/8 [16]	5/8 [16]
12	5/8 [16]	5/8 [16]	7/8 [22]	7/8 [22]	7/8 [22]	1 1/8 [29]	7/8 [22]	1 1/8 [29]	7/8 [22]	5/8 [16]	7/8 [22]	5/8 [16]	7/8 [22]	5/8 [16]	7/8 [22]
16	5/8 [16]	7/8 [22]	7/8 [22]	7/8 [22]	1 1/8 [29]	1 1/8 [29]	7/8 [22]	1 3/8 [35]	1 1/8 [29]	5/8 [16]	7/8 [22]	5/8 [16]	7/8 [22]	5/8 [16]	7/8 [22]
20	5/8 [16]	7/8 [22]	1 1/8 [29]	1 1/8 [29]	1 1/8 [29]	1 3/8 [35]	1 1/8 [29]	1 3/8 [35]	1 1/8 [29]	5/8 [16]	7/8 [22]	5/8 [16]	7/8 [22]	5/8 [16]	7/8 [22]
30	7/8 [22]	1 1/8 [29]	1 1/8 [29]	1 1/8 [29]	1 3/8 [35]	1 5/8 [41]	1 1/8 [29]	1 5/8 [41]	1 1/8 [29]	5/8 [16]	1 1/8 [29]	5/8 [16]	1 1/8 [29]	5/8 [16]	1 1/8 [29]
40	1 1/8 [29]	1 3/8 [35]	1 3/8 [35]	1 3/8 [35]	1 5/8 [41]	2 1/8 [54]	1 3/8 [35]	2 1/8 [54]	1 3/8 [35]	5/8 [16]	1 1/8 [29]	5/8 [16]	1 1/8 [29]	7/8 [22]	1 3/8 [35]

Notes:

- Water coils are based on Standard GPM Circuiting. Consult Titus Representative for applications requiring special circuiting.
- For other selections, refer to TEAMS
- Refrigerant coil connection sizes for single circuit coils and may vary with application. Contact Titus for double circuit coils.
- All dimensional data is outside diameter (O.D.), measured in inches [millimeters]

COILS AND STATIC PRESSURE DATA

COILS

Titus manufactures hot water, chilled water and direct expansion (DX) coils for specific application with all Model TBH and TBV blower coils. AHRI 410 certified and labeled, and strict on-site inspection before,

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

Standard Features

- » Designed, manufactured and tested by Titus
- » AHRI 410 certified and labeled
- » ½" O.D. seamless copper tubes
- » High efficiency aluminum fin surface for optimizing heat transfer, pressure drop and carryover
- » Mechanically expanded copper tubes leak tested to a minimum 450 PSIG air pressure under water
- » Manual air vent plug on all water coils
- » Copper ODM sweat connections
- » 450 PSIG working pressure at 200°F
- » Evaporator coils are factory sealed and charged with a minimum of 5 PSIG nitrogen or refrigerated dry air
- » Steam coils rated at 15 PSIG maximum operating pressure at about 35°F
- » 0.016" tube wall thickness (0.025" on steam)

Optional Features

- » Stainless steel coil casings
- » Automatic air vents on water coils
- » Heat pump compatible cooling coils
- » 0.025" tube wall thickness



COMPONENT STATIC PRESSURE LOSS – INCHES W.G.

Unit Size	Nominal CFM	Cabinet	Filter (2" T/A)	Coil					Inlet Damper Section	Electric Heat Section
				1 Row	2 Row	3 Row	4 Row	6 Row		
08	800	0.09	0.25	0.05	0.10	0.23	0.31	0.47	0.04	0.05
12	1200	0.09	0.25	0.06	0.12	0.29	0.39	0.58	0.06	0.05
16	1600	0.10	0.25	0.06	0.13	0.30	0.40	0.60	0.09	0.05
20	2000	0.11	0.25	0.06	0.11	0.26	0.35	0.52	0.05	0.05
30	3000	0.14	0.25	0.07	0.13	0.31	0.41	0.61	0.08	0.05
40	4000	0.16	0.25	0.07	0.14	0.32	0.43	0.64	0.07	0.05

Notes:

1. All static pressures are at nominal CFM
2. Coil static pressure for standard coil, 10FPI at 80/67 EAT and 45° EWT with 10° rise
3. For 8, 12 or 14 FPI, refer to TEAMS
4. Filter static pressure based on 50% loaded filter
5. If pleated filters are used in lieu of throwaway, the filter static pressure loss is 0.35

Electric Heat

Standard Features

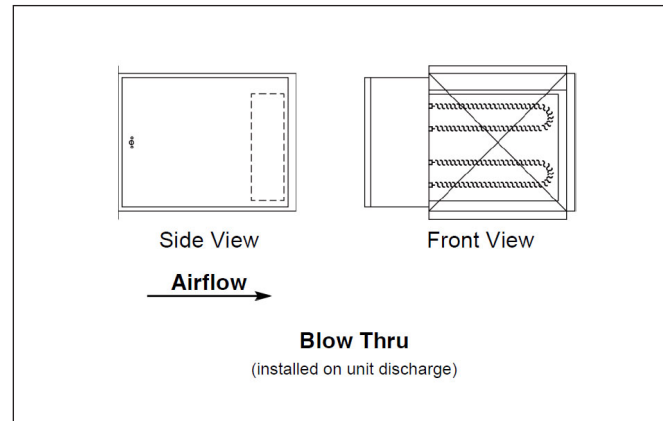
- » Flanged construction for direct unit mounting, in blow-thru configuration
- » Listed for zero clearance installation
- » Meets National Electrical Code requirements
- » Ni-Chrome wire in ceramic insulators
- » Stainless steel element terminals and hardware
- » Element support brackets on maximum 3 1/2" centers
- » Solid cover with continuous full height hinge
- » Overtemperature protection
- » All internal wiring rated for 105°C minimum
- » Airflow switch
- » Incoming line power distribution block
- » cETL Listed in compliance with UL/ANSI Standard 1995
- » Single point power connection
- » Heater factory mounted to unit with cETL listing as an assembly

Optional Features

- » Main incoming power disconnect (non-fused)
- » Fusing (main)
- » Magnetic contactors wired for disconnecting operation
- » Fan control package with heater interlock contacts (required for single point power connection)

Electrical Calculations Information

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



Heater AMP Calculation	
Voltage	AMPs per kW
115/1	8.70
208/1	4.81
230/1	4.35
277/1	3.61
208/3	2.78
230/3	2.51
460/3	1.26
575/3	1.00

Unit Voltage And Phase			Electric Heat KW Limits											
			Unit Size											
			08		12		16		20		30		40	
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Single Phase	115	kW	3	5	3	5	3	5	4	5				
		AMPs	26.1	43.5	26.1	43.5	26.1	43.5	34.8	43.5				
	208	kW	3	9	3	9	3	9	4	9	6	9	7	9
		AMPs	14.4	43.3	14.4	43.3	14.4	43.3	19.2	43.3	28.8	43.3	33.7	43.3
	230	kW	3	11	3	11	3	11	4	11	6	11	7	11
		AMPs	13.0	47.8	13.0	47.8	13.0	47.8	17.4	47.8	26.1	47.8	30.4	47.8
Three Phase	277	kW	3	13	3	13	3	13	4	13	6	13	7	13
		AMPs	10.8	46.9	10.8	46.9	10.8	46.9	14.4	46.9	21.7	46.9	25.3	46.9
	208	kW	3	13	3	16	3	16	4	16	4	16	7	16
		AMPs	8.3	36.1	8.3	44.4	8.3	44.4	11.1	44.4	11.1	44.4	19.4	44.4
	230	kW	3	13	3	18	3	18	4	18	4	18	7	18
		AMPs	7.5	32.6	7.5	45.2	7.5	45.2	10.0	45.2	10.0	45.2	17.6	45.2
	460	kW	3	13	3	20	3	20	4	26	4	26	7	38
		AMPs	3.8	16.3	3.8	25.1	3.8	25.1	5.0	32.6	5.0	32.6	8.8	47.7
	575	kW	3	13	3	20	3	20	4	26	4	26	7	46
		AMPs	3.0	13.1	3.0	20.1	3.0	20.1	4.0	26.1	4.0	26.1	7.0	46.2

Notes:

1. Factory certified submittals available upon request
2. Standard heater kW limits are maximum per unit size and voltage
3. Heater should be sized for a maximum leaving air temperature of 104°F

FORWARD CURVED FAN PERFORMANCE DATA

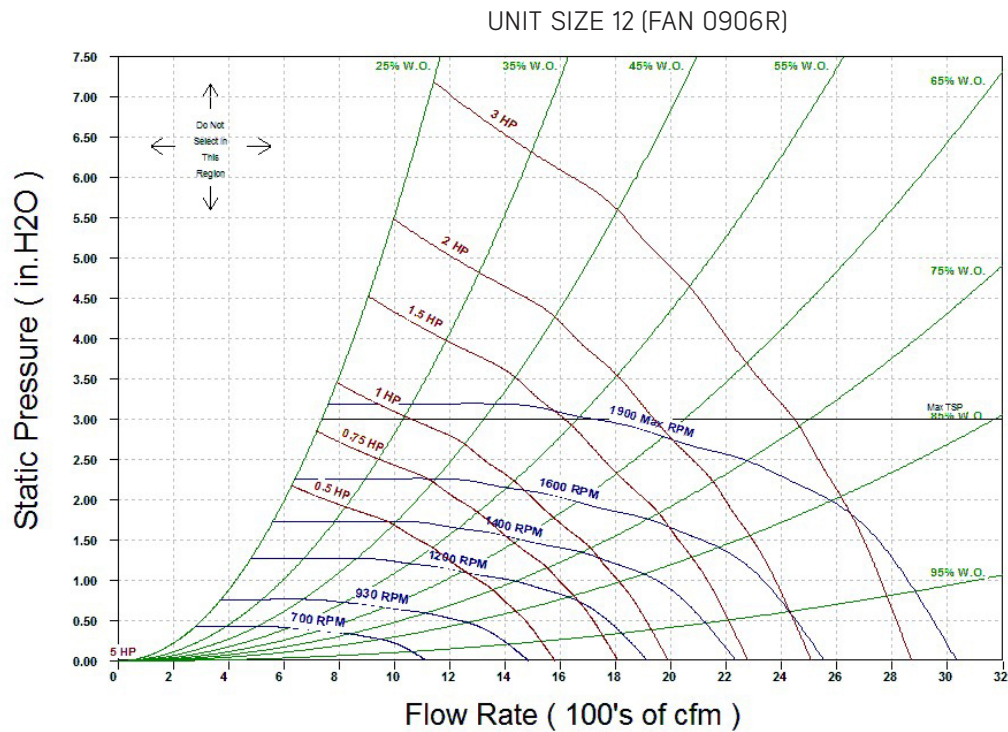
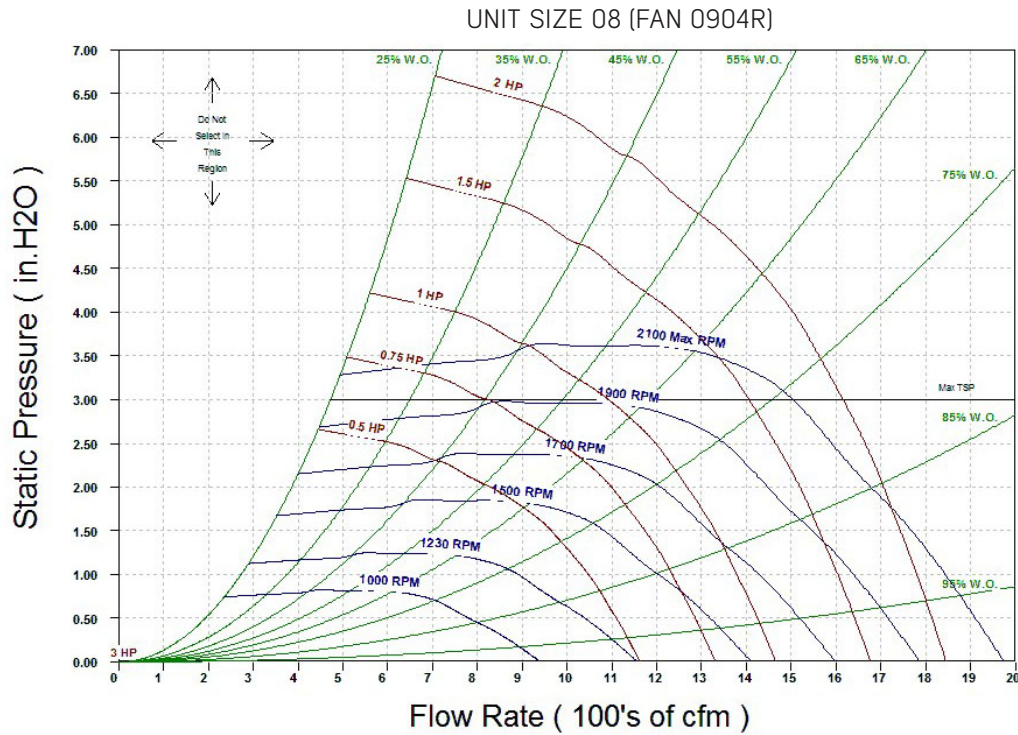
TSP [in-wg]	Unit Size	08					12					16				
	Actual CFM	600	700	800	900	1000	1000	1100	1200	1300	1400	1400	1500	1600	1700	1800
2.4	RPM	-	-	-	-	1746	-	-	-	-	1710	-	-	-	-	-
	BHP	-	-	-	-	0.70	-	-	-	-	1.02	-	-	-	-	-
2.2	RPM	-	-	-	1670	1674	-	-	-	1638	1638	-	-	-	-	1415
	BHP	-	-	-	0.57	0.65	-	-	-	0.87	0.95	-	-	-	-	1.08
2.0	RPM	-	-	-	1594	1598	-	-	-	1561	1568	-	-	-	1349	1353
	BHP	-	-	-	0.52	0.59	-	-	-	0.79	0.88	-	-	-	0.92	0.99
1.8	RPM	-	-	1510	1514	1524	-	-	1481	1485	1494	-	-	1279	1283	1287
	BHP	-	-	0.41	0.47	0.55	-	-	0.66	0.73	0.81	-	-	0.78	0.84	0.91
1.6	RPM	-	-	1425	1430	1446	-	1397	1397	1406	1415	-	1206	1210	1214	1218
	BHP	-	-	0.37	0.43	0.50	-	0.53	0.59	0.66	0.74	-	0.65	0.70	0.76	0.82
1.4	RPM	-	1331	1335	1347	1366	-	1306	1314	1323	1335	1128	1132	1136	1140	1149
	BHP	-	0.28	0.33	0.39	0.45	-	0.47	0.53	0.60	0.67	0.53	0.58	0.63	0.68	0.75
1.2	RPM	-	1235	1242	1259	1283	1209	1216	1225	1236	1249	1048	1052	1057	1067	1077
	BHP	-	0.24	0.29	0.34	0.40	0.37	0.42	0.47	0.53	0.59	0.46	0.51	0.55	0.61	0.67
1.0	RPM	1125	1129	1145	1168	1200	1109	1118	1130	1144	1163	962	969	979	988	1002
	BHP	0.17	0.21	0.25	0.30	0.36	0.32	0.36	0.41	0.47	0.53	0.40	0.44	0.49	0.54	0.60
0.8	RPM	1009	1022	1044	1075	1113	1002	1014	1030	1049	1073	872	882	895	909	923
	BHP	0.14	0.17	0.21	0.26	0.32	0.26	0.31	0.35	0.40	0.47	0.34	0.38	0.42	0.47	0.52
0.6	RPM	884	906	939	979	1024	885	903	926	951	984	777	791	806	822	838
	BHP	0.11	0.14	0.18	0.22	0.28	0.21	0.25	0.30	0.35	0.41	0.28	0.32	0.36	0.40	0.45
Fan Size		0904R					0906R					1008R				
Coil Face Area		2.1					2.7					3.5				
FPM @ CFM		286	333	381	429	476	370	407	444	481	519	400	429	457	486	514

TSP [in-wg]	Unit Size	20					30					40				
	Actual CFM	1800	1950	2100	2250	2400	2600	2800	3000	3200	3400	3600	3800	4000	4200	4400
2.4	RPM	-	-	-	-	1507	-	-	-	1034	1037	-	-	-	1021	1023
	BHP	-	-	-	-	1.60	-	-	-	2.01	2.20	-	-	-	2.00	2.15
2.2	RPM	-	-	-	1441	1446	-	-	-	992	996	-	-	977	979	980
	BHP	-	-	-	1.37	1.49	-	-	-	1.88	2.06	-	-	1.72	1.86	1.99
2.0	RPM	-	-	1373	1377	1382	-	-	945	949	952	-	932	933	934	937
	BHP	-	-	1.15	1.26	1.37	-	-	1.59	1.75	1.91	-	1.46	1.58	1.71	1.85
1.8	RPM	-	-	1305	1310	1315	-	896	899	903	906	-	885	886	888	892
	BHP	-	-	1.05	1.15	1.25	-	1.33	1.47	1.61	1.76	-	1.33	1.44	1.57	1.71
1.6	RPM	-	1230	1234	1239	1251	844	847	851	854	858	834	835	837	841	844
	BHP	-	0.87	0.95	1.04	1.16	1.09	1.21	1.34	1.47	1.60	1.10	1.20	1.31	1.43	1.56
1.4	RPM	1150	1154	1159	1170	1182	792	796	799	803	810	781	783	787	790	794
	BHP	0.70	0.77	0.85	0.95	1.05	0.98	1.09	1.21	1.32	1.46	0.98	1.08	1.18	1.29	1.41
1.2	RPM	1068	1073	1085	1097	1114	737	741	745	752	759	726	729	732	737	743
	BHP	0.61	0.68	0.76	0.85	0.96	0.87	0.97	1.07	1.19	1.31	0.86	0.96	1.05	1.16	1.27
1.0	RPM	981	993	1006	1024	1042	677	682	689	697	705	666	670	676	681	687
	BHP	0.52	0.60	0.67	0.76	0.86	0.75	0.84	0.95	1.05	1.17	0.75	0.83	0.93	1.02	1.12
0.8	RPM	892	908	926	947	969	613	621	629	637	648	602	608	614	622	631
	BHP	0.45	0.52	0.59	0.68	0.77	0.64	0.72	0.82	0.92	1.03	0.64	0.72	0.79	0.89	0.99
0.6	RPM	800	820	842	865	889	544	553	564	576	590	532	541	550	559	570
	BHP	0.38	0.44	0.51	0.59	0.68	0.53	0.61	0.70	0.79	0.90	0.52	0.60	0.67	0.76	0.85
Fan Size		1010R					1509R					1511R				
Coil Face Area		4.9					6.5					8.4				
FPM @ CFM		367	398	428.6	459.2	489.8	400	431	462	492	523	429	452	476	500	524

Notes:

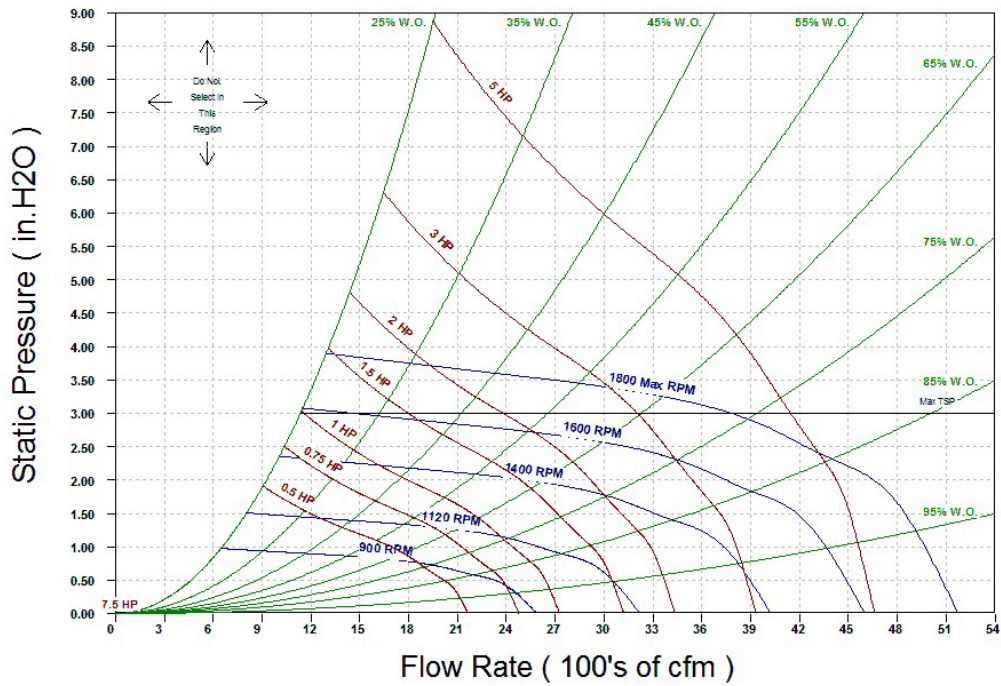
1. Consult Titus for applications at operating conditions not shown above
2. Fan motor voltage, fan rotation, and fan RPM may require field setting/adjustment
3. Drive losses not included in fan performance

Fan Performance Curves

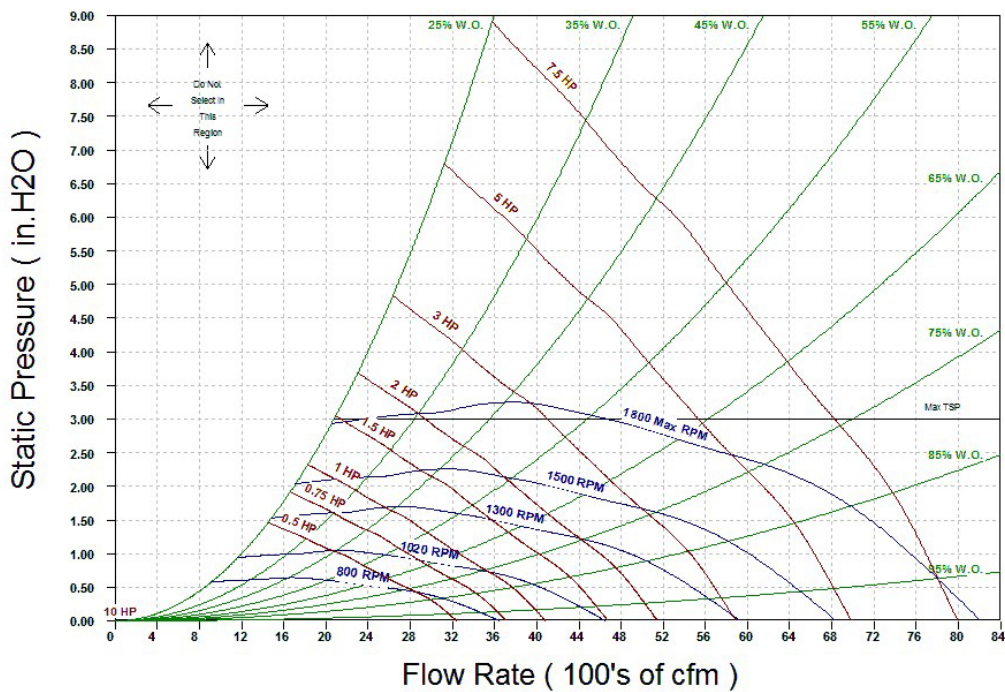


FAN CURVES

UNIT SIZE 16 (FAN 1008R)

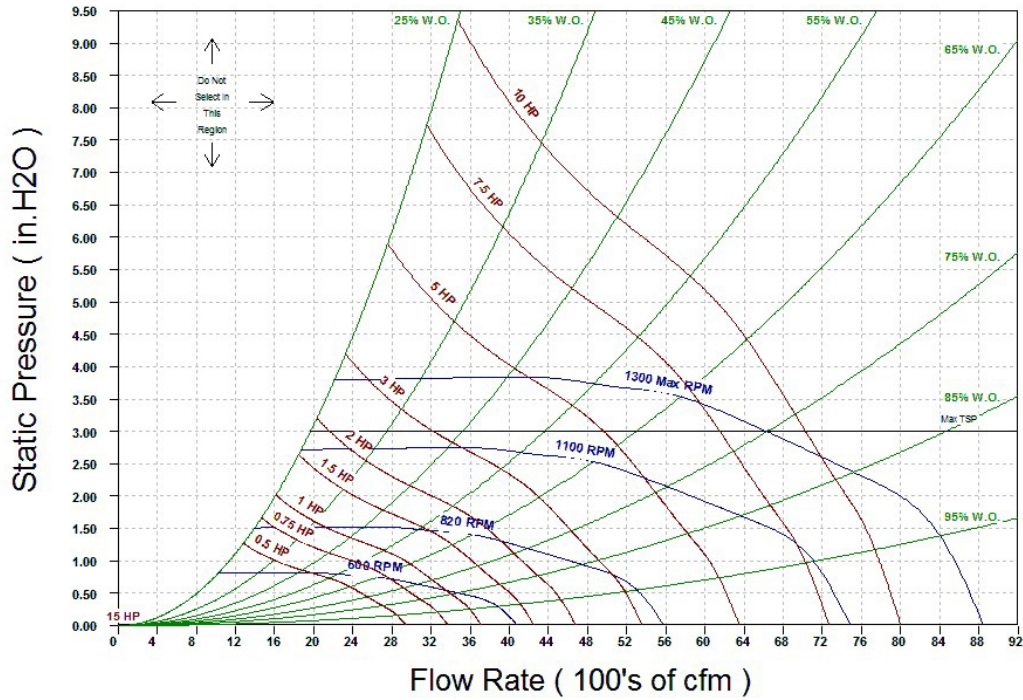


UNIT SIZE 20 (FAN 1010R)



FAN CURVES

UNIT SIZE 30 (FAN 1509R)



UNIT SIZE 40 (FAN 1511R)

