

SUPERIOR



AIR HANDLERS

DESIGNED FOR MAXIMUM FLEXIBILITY

The Superior Rex Air-Handling Unit, SBM is designed to maximize flexibility of selection and installation.

The unit is also designed to exceed the stringent quality standards of the institutional market, while remaining cost competitive in the light commercial segment of the market.

SBM sets the new standard for quality, flexibility, and competitive pricing.

FOR THE BUILDING DESIGNER

Optional Components Mean Flexibility

The extensive variety of standard options available on the SBM is where you find the versatility to fit any HVAC system designer's needs.

Options include: Mixing boxes with standard low leak dampers, High efficiency filter sections for 2" prefilter and 4" final filter, blow-thru electric heat with single point power connection. All electric heat units are listed with ETL as an assembly and carry the cETL label.

High Efficiency motors, starters, disconnects and fusing mean easier coordination between mechanical and electrical trades.

Coil options allow for 4 or 6 row cooling coils. Water coils have optional circuiting that can be used to reduce Water Pressure Drop, which may also allow for pipe size reductions and lower material cost. Hot Water or Standard Steam coils may be placed in the Preheat or Reheat position.

All SBM Air-Handling Units have the option of foil faced insulation.

FOR THE CONTRACTOR

Lower Installed Cost

SBM Air-Handling Units are shipped completely assembled, reducing field installation time and labor. All units are thoroughly inspected and tested prior to shipment, eliminating potential problems at startup. Motor wiring is brought to a junction box on the outside of the unit casing, reducing electrical hook-up time.

A wide variety of fan discharge configurations allow for increased flexibility and easier installation on the jobsite, resulting in cost reductions by eliminating expensive elbows, etc.

FOR THE OWNER

Quality Product

SBMs are built from G60 minimum spangled galvanized steel with a chromate coating. This metal surpasses the ASTM 125 hour salt spray test for corrosion and rust. Standard insulation is 1 inch fiberglass insulation which is glued and pin spotted for maximum positive adhesion. Insulation complies with UL 181 and NFPA 90A.

All units, with or without Electric Heat, are ETL listed and labeled. All wiring is in compliance with NEC, assuring safety and quality for the owner.

Model SBM Air-Handling Units offer a wide range of application flexibility, while maintaining a simple, easy to install unit design. These units are intended to provide comfort cooling and heating within a small footprint. They may be applied in many types of building structures including schools, office buildings, hospitals, condominiums, assisted living facilities, apartments or stores. Applications can be constant or variable volume. There are many applications in which the SBM product can be utilized. Some examples include:

Constant volume applications

- » Two-pipe hydronic system for cooling and/or heating
- » Two-pipe hydronic cooling system with electric heat
- » Four-pipe system with dedicated heating and cooling coils
- » Direct Expansion (DX) split systems with hydronic heat
- » Direct Expansion (DX) split systems with electric heat

Variable volume applications

- » Two-pipe hydronic system for cooling and/or heating
- » Two-pipe hydronic cooling system with electric heat
- » Four-pipe system with dedicated heating and cooling coils

ACOUSTICS

Control of noise within both occupied and unoccupied spaces has become increasingly important to designers and building owners/ occupants. Proper consideration must be given to placement of indoor air conditioning units, particularly in the occupied space.

Inherent flexibility of the fan and coil combination in the vertical configuration allows application in sound-sensitive areas. In such instances, a fan running at low speed with a high capacity coil normally yields satisfactory results. It also may be desirable to select a larger nominal capacity unit and operate it at a less than nominal airflow for further acoustic benefit.

Three phase motors are recommended for sound-sensitive applications to avoid potential single phase motor hum. Unit operation in the stall region of the fan curve is not recommended since it may cause unsatisfactory noise levels and excessive unit vibration.

INSTALLATION

These floor mounted or ceiling hung units can be installed on a base rail or hanger rods at the corner points. All units have internally isolated fan decks; therefore, flex connections are not required, which will reduce installation costs. One of the most important and basic IAQ issues is condensate management. The first step to ensure trouble-free operation is proper installation. It is very important that the unit be mounted high enough so that the condensate drain from the unit may be properly trapped. Please refer to the SBM IOM Manual at www.superiorrex.com for specifics on this issue. As with all HVAC systems, these units should be installed according to all applicable ASHRAE standards, SMACNA and local code requirements.

OPERATING LIMITATIONS

Units must not be operated above maximum fan speed or unit airflow as listed in the Fan Performance section of this catalog. Unit operation at greater than maximum fan speed could drastically reduce bearing life and may result in a catastrophic failure. Operating at greater than the maximum allowable airflow in the cooling mode may result in unsatisfactory operation due to moisture carry over from the coil. In addition, it is often not economical to operate a unit at its maximum fan speed due to the greater motor power requirements.

Units with electric heat should not be operated with leaving air temperature greater than 104°F, to prevent excessive leaving air temperatures and electric heat limit trips. A hydronic (or steam) coil and electric heat should not be operated simultaneously to prevent excessive leaving air temperatures and limit trips. Electric heat units are equipped with a lockout switch that disables the electric heater if the temperature of the hydronic (or steam) coil is greater than 104°F (40°C).

Water coils must not be operated above a fluid velocity of 8 ft./sec. to reduce the possibility of velocity induced erosion and flow noise. Water coils must not be operated below a fluid velocity of 1 ft./sec. to prevent degraded coil performance caused by laminar flow. These high or low fluid flow rates may not be included in the AHRI coil certification.

SBM

- Modular construction allows footprint savings by stacking modules in two-high configuration
- Single wall and double wall-galvanized construction equipped with removable access panels/hinged doors for improved accessibility and serviceability
- Hot Water, Chilled Water, Steam, and Direct Expansion (DX) coils available
- Blow-thru electric heat with single point power connection
- Customized options including double-sloped IAQ galvanized drain pan, direct drive plenum fans, high-efficiency filters, double wall perforated lining, external face and bypass dampers, and inspection windows
- 600 - 10,000 CFM nominal airflows



SBM

MODEL:

SBM

See website for Specifications

OVERVIEW

Superior Rex modular air-handling units are equipped with the design flexibility to meet specific project needs. SBM design allows you to configure draw-thru applications in horizontal, vertical and footprint saving arrangements. SBM sets the new standard for quality, flexibility and competitive pricing. These products are engineered to satisfy the most basic air-handling requirements, to those associated with sophisticated isolation room systems required to meet challenging indoor air quality (IAQ), controls and sound sensitive projects.

OPTIONAL FEATURES INCLUDE:

Construction

- » Double wall (solid or perforated) cabinets
- » Stainless steel IAQ drain pan with stainless steel male pipe threaded connection
- » Fan discharge arrangements
- » Scrim reinforced foil faced insulation
- » EcoShield 1" insulation
- » Hinged access panels with lift and turn fasteners
- » 4" Base rails with rigging slots factory assembled and installed

Fan Motor and Drive

- » Direct drive plenum fans with internal rubber-in-shear (RIS) isolation
- » TEFC motors
- » High efficiency motors
- » Two-speed motors with contactors
- » Variable frequency drives, factory installed (mounted and wired)
- » Motor starter (contactor with overload for three phase; contactor for single phase), factory installed (mounted and wired)

Coils

- » 3, 4, 6 and 8 row chilled water or DX coils
- » Up to 4 rows hot water or up to 2 rows standard steam
- » Heating coil in preheat or reheat position
- » Coil connections opposite handing. All coils shall be hydrostatically tested at 450 PSIG air pressure under water, and rated for a maximum of 450 PSIG working pressure at 200BF.
- » Stainless steel coil casings
- » 0.025" tube wall thickness
- » Auto air vents

Filters and Filter Rack

- » 4" high efficiency pleated filters (65, 85, and 95%)
- » Mixing box with filter sections (flator v-bank filter arrangements)



A Participating Corporation in the AHRI 430 Certification Program

Inlet Damper Section

- » Factory assembled and installed
- » Heavy gauge galvanized steel formed blade dampers
- » Low leak dampers with extruded vinyl blade seals and flexible metal jamb seals
- » Medium and large inlet plenums with v-bank or flat filters
- » Parallel blade operation
- » Interconnecting damper linkage
- » Damper actuator (modulating from 100% OA to 100% RA)

Additional Modules

- » Face and bypass with medium and small coils
- » Discharge plenums
- » Access sections

Electrical

- » Motor wiring in conduit
- » Single phase fan control package
- » Three phase fan control package
- » Door interlocking disconnect switch (non-fused or fused)
- » Fusing (main or per stage)
- » Hand off auto switch (HOA)
- » Frequency inverters
- » Electric heat interlock relay
- » Relays, transformers, etc.

Coil And Filter Data

Superior Rex offers hot water, chilled water, direct expansion (DX), and standard steam coils for specific application with all SBM units. Coils tested in accordance with AHRI 410, and strict on-site inspection before, during, and after installation guarantees the highest quality and performance available.

Standard Features

- » All coils are designed, manufactured and tested by Superior Rex
- » ½" O.D. seamless copper tubes
- » Aluminum fin construction with die-formed spacer collars for uniform spacing
- » Mechanically expanded copper tubes leak tested to a minimum 350 PSIG air pressure under water
- » Manual air vent plug on all water coils
- » Copper ODM sweat connections
- » 450 PSIG working pressure at 200°F
- » Refrigerant coils are factory sealed and charged with a minimum of 5 PSIG nitrogen or refrigerated dry air
- » Thermal expansion valves are not included
- » Steam coils rated at maximum for 15 PSIG
- » 0.016" tube wall thickness (0.025" on steam)

Optional Features

- » Stainless steel coil casings
- » Automatic air vents on water coils
- » Elevated working pressure ratings
- » Heat pump compatible cooling coils
- » Double circuit DX coils (50-50 split)
- » 0.025" tube wall thickness



COIL AND FILTER DATA

Unit Size	Coil Face Area	Flat Filter			V-Bank Filter		
		Qty.	Dimensions	Face Area	Qty.	Dimensions	Filter Face Area
02	2.1 [0.20]	1	16 x 20 x 2 [406 x 508 x 51]	2.2 [0.20]	2	16 x 20 x 2 [406 x 508 x 51]	4.4 [0.41]
03	2.9 [0.27]	1	16 x 25 x 2 [406 x 635 x 51]	2.8 [0.26]	2	16 x 25 x 2 [406 x 635 x 51]	5.6 [0.52]
04	3.8 [0.35]	2	16 x 20 x 2 [406 x 508 x 51]	4.4 [0.41]	2	20 x 25 x 2 [508 x 635 x 51]	6.9 [0.64]
06	5.6 [0.52]	2	20 x 25 x 2 [508 x 635 x 51]	6.9 [0.64]	4	20 x 20 x 2 [508 x 508 x 51]	11.1 [1.03]
08	7.4 [0.69]	2	20 x 25 x 2 [508 x 635 x 51]	6.9 [0.64]	2 2	16 x 20 x 2 [406 x 508 x 51] 20 x 25 x 2 [508 x 635 x 51]	11.4 [1.06]
10	9.7 [0.90]	1 2	16 x 25 x 2 [406 x 635 x 51] 20 x 25 x 2 [508 x 635 x 51]	9.7 [0.90]	2 4	16 x 20 x 2 [406 x 508 x 51] 20 x 20 x 2 [508 x 508 x 51]	15.6 [1.45]
12	12.6 [1.17]	4	20 x 25 x 2 [508 x 635 x 51]	13.9 [1.29]	6	20 x 25 x 2 [508 x 635 x 51]	20.8 [1.93]
14	14.3 [1.33]	8	16 x 20 x 2 [406 x 508 x 51]	17.8 [1.65]	3 6	20 x 25 x 2 [508 x 635 x 51] 20 x 20 x 2 [508 x 508 x 51]	27.1 [2.52]
17	17.0 [1.58]	6	20 x 25 x 2 [508 x 635 x 51]	20.8 [1.93]	12	20 x 20 x 2 [508 x 508 x 51]	33.3 [3.09]

Notes:

1. Standard filters are 2" throwaway; optional filters are 2" pleated
2. Filter sizes are nominal and standard size, measured in inches [millimeters]
3. Coil and filter face areas are measured in square feet [square meters]
4. Cooling and heating coils have same face area
5. For coil connection sizes, refer to the Superior Rex Selection Program

STATIC PRESSURE DROPS

SECTION PRESSURE DROPS

Component Air Pressure Drop (IN. W.G.)												
Unit Size	CFM	Cabinet Losses								Damper Losses		Electric Heater Losses
		Mixing Box	Fan Modules		Filter Modules	Coil Modules		Access Modules	Plenum Modules	Mixing Box	Blow Thru	
		MFM LFM MMM LMM	FCM	VFM	SFM MVM	SCM MCM	VCM	SAM MAM LAM	LPM	MFM LFM MMM LMM	EHB	
2	600	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.04	0.02	0.02
	850	0.02	0.02	0.02	0.03	0.03	0.04	0.03	0.04	0.06	0.04	0.04
	975	0.02	0.02	0.02	0.04	0.04	0.04	0.04	0.04	0.07	0.05	0.06
	1100	0.03	0.03	0.03	0.05	0.05	0.05	0.05	0.05	0.08	0.06	0.08
3	900	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.06	0.02	0.05
	1250	0.02	0.02	0.02	0.03	0.03	0.04	0.03	0.04	0.09	0.03	0.10
	1425	0.03	0.02	0.02	0.04	0.04	0.05	0.04	0.05	0.11	0.04	0.13
	1600	0.03	0.03	0.03	0.05	0.05	0.06	0.05	0.06	0.13	0.05	0.17
4	1200	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.04	0.02	0.09
	1600	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.06	0.03	0.17
	1800	0.02	0.02	0.02	0.04	0.04	0.04	0.04	0.04	0.07	0.04	0.21
	2000	0.03	0.02	0.02	0.04	0.04	0.05	0.04	0.05	0.09	0.05	0.27
6	1800	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.04	0.02	0.04
	2500	0.02	0.02	0.02	0.03	0.03	0.04	0.03	0.04	0.06	0.03	0.09
	2850	0.03	0.02	0.02	0.04	0.04	0.05	0.04	0.05	0.08	0.04	0.12
	3200	0.03	0.03	0.03	0.05	0.05	0.06	0.05	0.06	0.09	0.05	0.15
8	2300	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.03	0.02	0.07
	3250	0.02	0.02	0.02	0.03	0.03	0.04	0.03	0.04	0.05	0.03	0.15
	3725	0.03	0.02	0.02	0.04	0.04	0.05	0.04	0.05	0.06	0.04	0.20
	4200	0.03	0.03	0.03	0.05	0.05	0.06	0.05	0.06	0.07	0.05	0.26
10	2900	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.12
	4100	0.02	0.02	0.02	0.03	0.03	0.04	0.03	0.04	0.04	0.03	0.25
	4700	0.03	0.02	0.02	0.04	0.04	0.05	0.04	0.05	0.06	0.04	0.33
	5300	0.03	0.03	0.03	0.05	0.05	0.06	0.05	0.06	0.07	0.05	0.42
12	3800	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.04	0.02	0.07
	5325	0.02	0.01	0.01	0.02	0.02	0.03	0.02	0.03	0.07	0.04	0.14
	6090	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.09	0.05	0.18
	6850	0.02	0.02	0.02	0.03	0.03	0.04	0.03	0.04	0.11	0.06	0.23
14	4400	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.02	0.02	0.02	0.09
	6200	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.04	0.03	0.19
	7100	0.02	0.02	0.02	0.03	0.03	0.04	0.03	0.04	0.05	0.04	0.25
	8000	0.03	0.02	0.02	0.04	0.04	0.05	0.04	0.05	0.07	0.05	0.32
17	5100	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.02	0.02	0.02	0.13
	7225	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.26
	8290	0.02	0.02	0.02	0.03	0.03	0.04	0.03	0.04	0.05	0.05	0.35
	9350	0.02	0.02	0.02	0.04	0.04	0.04	0.04	0.04	0.06	0.06	0.45

Notes:

1. Figures do not include pressure drop of internal filter media. Refer to Air Pressure Drop Through Filter Section table for filter air pressure drop adders.
2. Figures do not include pressure drop of internal heating and/or cooling coils. Refer to Air Pressure Drop Through Dry Coil Section table for coil air pressure drop adders.
3. Mixing box with single damper in fully opened position operating at 100% air volume
4. Economizer with outside air and exhaust dampers in fully opened position operating at 100% air volume

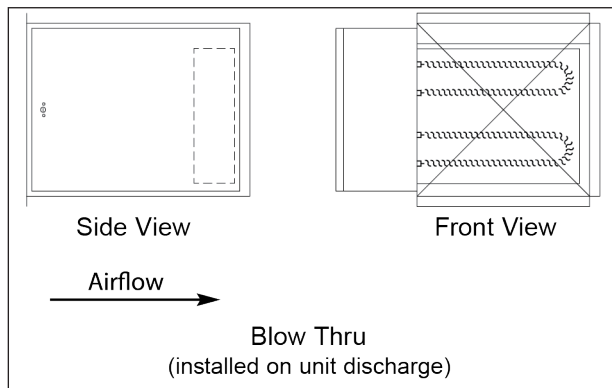
Electric Heat

Standard Features

- » G60 galvanized steel casing
- » 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
- » Airov switch
- » Incoming line power distribution block
- » ETL Listed in compliance with UL/ANSI Standard 1995
- » Single point power connection
- » Heater factory mounted to unit with ETL listing as an assembly

Optional Features

- » Main incoming power disconnect (non-fused) (fused)
- » Fusing (main) (per stage)
- » Magnetic contactors wired for disconnecting operation
- » Solid state relay with 4-20 mA, thermistor 0-135 Ohm, 0-16 VDC, or 6-9 VDC control
- » Fan control package with heater interlock contacts (required for single point power connection)
- » De-rated elements (for longer life)



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



1. Non-Fused Door Interlock Disconnect Switch shall be sized according to MCA
2. Fused Door Interlock Disconnect Switch and Main Fusing shall be sized according to MOP
3. Heaters above 480v must utilize one time secondary limits only

ELECTRIC HEAT

Unit Voltage And Phase			Blow-Thru Electric Heat																	
			Unit Size																	
			2		3		4		6		8		10		12		14		17	
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max		
Single Phase	115	kW	3	5	3	5	4	5												
		AMPs	26.1	43.5	26.1	43.5	34.8	43.5												
	208	kW	3	9	3	9	4	9	6	9	7	9								
		AMPs	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	4	11	6	11	7	11	9	11						
		AMPs	13.0	47.8	13.0	47.8	17.4	47.8	26.1	47.8	30.4	47.8	39.1	47.8						
277	kW	3	13	3	13	4	13	6	13	7	13	9	13							
	AMPs	10.8	46.9	10.8	46.9	14.4	46.9	21.7	46.9	25.3	46.9	32.5	46.9							
Three Phase	208	kW	3	13	3	16	4	16	4	16	7	16	9	16	12	16	14	16		
		AMPs	8.3	36.1	8.3	44.4	11.1	44.4	11.1	44.4	19.4	44.4	25.0	44.4	33.3	44.4	38.9	44.4		
	230	kW	3	13	3	18	4	18	4	18	7	18	9	18	12	18	14	18	16	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	30.1	45.2	35.1	45.2	40.2	45.2
	460	kW	3	13	3	20	4	26	4	26	7	38	9	38	12	38	14	38	16	38
		AMPs	3.8	16.3	3.8	25.1	5.0	32.6	5.0	32.6	8.8	47.7	11.3	47.7	15.1	47.7	17.6	47.7	20.1	47.7
	575	kW	3	13	3	20	4	26	4	26	7	46	9	46	12	46	14	46	16	46
		AMPs	3.0	13.1	3.0	20.1	4.0	26.1	4.0	26.1	7.0	46.2	9.0	46.2	12.0	46.2	14.1	46.2	16.1	46.2

Notes:

1. Blow-thru heaters can have a maximum of two stages
2. VFD controllers cannot be supplied with blow-thru heaters
3. Specific kW ratings are available within the ranges shown. Refer to selection program.
4. Heaters above 480v must utilize one time secondary limits only

PHYSICAL DATA

FILTER PRESSURE DROPS

Filter Type	Size & Efficiency	Air Velocity (FPM)												
		200	250	300	350	400	450	500	550	600	650	700	750	800
High Efficiency Pleated	2" @ 30%	0.12	0.15	0.18	0.21	0.24	0.27	0.30	0.33	0.36	0.39	0.42	0.45	0.48
	4" @ 65%	0.18	0.23	0.27	0.32	0.36	0.41	0.45	0.50	0.54	0.59	0.63	0.68	0.72
	4" @ 85%	0.26	0.33	0.39	0.46	0.52	0.59	0.65	0.72	0.78	0.85	0.91	0.98	1.04
	4" @ 95%	0.30	0.38	0.45	0.53	0.60	0.68	0.75	0.83	0.90	0.98	1.05	1.13	1.20

Notes:

1. Figures listed represent air pressure drop of clean filters
2. Usable pressure drop across pleated media not recommended to exceed 1.0 inch w.g.
3. Air velocities associated with pressure drops in the shaded region not recommended

COIL PRESSURE DROPS

		Air Pressure Drop Through Dry Coil Section (IN. W.G.)													
Rows	Fins per Inch	Air Velocity (FPM)													
		200	250	300	350	400	450	500	550	600	650	700	750	800	
1	8	0.01	0.02	0.03	0.04	0.05	0.05	0.06	0.08	0.09	0.10	0.11	0.13	0.14	
	10	0.02	0.03	0.03	0.04	0.05	0.06	0.07	0.09	0.10	0.11	0.13	0.15	0.16	
	12	0.02	0.03	0.04	0.05	0.06	0.07	0.09	0.10	0.11	0.13	0.15	0.16	0.18	
	14	0.02	0.03	0.04	0.05	0.07	0.08	0.11	0.11	0.13	0.14	0.16	0.18	0.20	
2	8	0.03	0.04	0.06	0.07	0.09	0.11	0.13	0.15	0.17	0.20	0.23	0.25	0.28	
	10	0.04	0.05	0.07	0.09	0.11	0.13	0.15	0.17	0.20	0.23	0.26	0.29	0.32	
	12	0.04	0.06	0.08	0.10	0.12	0.14	0.17	0.20	0.23	0.26	0.29	0.33	0.36	
	14	0.05	0.07	0.09	0.11	0.13	0.16	0.19	0.22	0.25	0.33	0.33	0.36	0.40	
3	8	0.04	0.06	0.09	0.11	0.14	0.16	0.19	0.23	0.26	0.30	0.34	0.38	0.42	
	10	0.05	0.08	0.10	0.13	0.16	0.19	0.22	0.26	0.30	0.34	0.39	0.44	0.48	
	12	0.06	0.09	0.12	0.15	0.18	0.22	0.26	0.30	0.34	0.39	0.44	0.49	0.55	
	14	0.07	0.10	0.13	0.16	0.20	0.24	0.29	0.33	0.38	0.43	0.49	0.55	0.61	
4	8	0.06	0.09	0.11	0.15	0.18	0.22	0.26	0.30	0.35	0.40	0.45	0.51	0.57	
	10	0.07	0.10	0.13	0.17	0.21	0.25	0.30	0.35	0.40	0.46	0.52	0.58	0.65	
	12	0.08	0.12	0.15	0.19	0.24	0.29	0.34	0.40	0.46	0.52	0.58	0.65	0.73	
	14	0.09	0.13	0.17	0.22	0.27	0.32	0.38	0.44	0.51	0.58	0.65	0.73	0.81	
6	8	0.09	0.13	0.17	0.22	0.27	0.33	0.39	0.45	0.52	0.60	0.68	0.76	0.85	
	10	0.11	0.15	0.20	0.26	0.32	0.38	0.45	0.52	0.60	0.69	0.78	0.87	0.97	
	12	0.12	0.17	0.23	0.29	0.36	0.43	0.51	0.59	0.68	0.78	0.88	0.98	1.09	
	14	0.14	0.20	0.26	0.33	0.40	0.48	0.57	0.66	0.76	0.87	0.98	1.09	1.21	
8	8	0.12	0.17	0.23	0.29	0.36	0.44	0.52	0.61	0.70	0.80	0.90	1.01	1.13	
	10	0.14	0.20	0.27	0.34	0.42	0.51	0.60	0.70	0.80	0.92	1.04	1.16	1.29	
	12	0.16	0.23	0.31	0.39	0.48	0.58	0.68	0.79	0.91	1.04	1.17	1.31	1.45	
	14	0.19	0.26	0.35	0.44	0.54	0.65	0.76	0.89	1.02	1.15	1.30	1.46	1.62	

Note: Dehumidifying cooling coils with face velocities exceeding 525 fpm not recommended

PERFORMANCE DATA

water source | air handlers

WEIGHT DATA

COIL WEIGHT DATA

Unit Size	Coil Rows	Dry Coil				100% Water				40% Glycol			
		8 FPI	10 FPI	12 FPI	14 FPI	8 FPI	10 FPI	12 FPI	14 FPI	8 FPI	10 FPI	12 FPI	14 FPI
2	1	10 [5]	11 [5]	11 [5]	11 [5]	12 [5]	12 [5]	13 [6]	13 [6]	12 [5]	12 [5]	13 [6]	13 [6]
	2	16 [7]	16 [7]	17 [8]	18 [8]	19 [9]	20 [9]	21 [10]	21 [10]	20 [9]	20 [9]	21 [10]	22 [10]
	3	21 [10]	22 [10]	23 [11]	24 [11]	27 [12]	28 [13]	29 [13]	30 [14]	27 [12]	28 [13]	29 [13]	30 [14]
	4	28 [13]	29 [13]	30 [14]	32 [14]	35 [16]	36 [16]	37 [17]	39 [18]	35 [16]	36 [16]	37 [17]	39 [18]
	6	40 [18]	42 [19]	44 [20]	46 [21]	51 [23]	53 [24]	55 [25]	57 [26]	51 [23]	53 [24]	55 [25]	58 [26]
	8	57 [26]	61 [28]	65 [30]	69 [31]	71 [32]	75 [34]	79 [36]	83 [38]	72 [33]	76 [34]	80 [36]	84 [38]
3	1	13 [6]	13 [6]	13 [6]	14 [6]	15 [7]	16 [7]	16 [7]	17 [8]	15 [7]	16 [7]	16 [7]	17 [8]
	2	19 [9]	20 [9]	21 [10]	22 [10]	24 [11]	25 [12]	26 [12]	27 [12]	25 [12]	26 [12]	27 [12]	28 [13]
	3	26 [12]	28 [13]	29 [13]	31 [14]	34 [15]	35 [16]	37 [17]	38 [17]	34 [15]	36 [16]	37 [17]	39 [17]
	4	34 [15]	36 [16]	38 [17]	40 [18]	44 [20]	46 [21]	48 [22]	50 [23]	44 [20]	46 [21]	48 [22]	50 [23]
	6	50 [23]	53 [24]	56 [25]	59 [27]	64 [29]	67 [31]	70 [32]	73 [33]	65 [30]	68 [31]	71 [32]	74 [34]
	8	71 [32]	76 [34]	81 [37]	86 [39]	89 [41]	95 [43]	100 [45]	105 [47]	91 [41]	96 [43]	101 [46]	106 [48]
4	1	15 [7]	15 [7]	16 [7]	17 [8]	18 [8]	18 [8]	19 [9]	20 [9]	18 [8]	19 [9]	19 [9]	20 [9]
	2	23 [11]	24 [11]	26 [12]	27 [12]	29 [13]	30 [14]	32 [14]	33 [15]	30 [14]	31 [14]	32 [14]	33 [15]
	3	32 [14]	33 [15]	35 [16]	37 [17]	40 [18]	42 [19]	44 [20]	46 [21]	41 [19]	43 [19]	45 [20]	47 [21]
	4	41 [19]	44 [20]	46 [21]	49 [22]	53 [24]	55 [25]	58 [26]	60 [27]	54 [24]	56 [25]	59 [27]	61 [28]
	6	60 [27]	64 [29]	68 [31]	72 [33]	78 [35]	82 [37]	86 [39]	89 [41]	79 [36]	83 [38]	87 [39]	90 [41]
	8	80 [36]	85 [38]	90 [41]	95 [43]	103 [47]	108 [49]	113 [51]	118 [54]	105 [47]	110 [50]	115 [52]	120 [54]
6	1	19 [9]	20 [9]	21 [10]	22 [10]	24 [11]	25 [11]	26 [12]	27 [12]	24 [11]	25 [11]	26 [12]	27 [12]
	2	32 [14]	34 [15]	36 [16]	38 [17]	41 [19]	43 [20]	45 [20]	47 [21]	42 [19]	43 [20]	45 [20]	47 [21]
	3	45 [20]	48 [22]	50 [23]	53 [24]	58 [26]	61 [28]	64 [29]	67 [30]	59 [27]	62 [28]	65 [29]	67 [30]
	4	59 [27]	62 [28]	66 [30]	70 [32]	76 [35]	80 [36]	84 [38]	88 [40]	77 [35]	81 [37]	85 [39]	89 [40]
	6	87 [39]	92 [42]	98 [44]	104 [47]	113 [51]	119 [54]	124 [56]	130 [59]	115 [52]	120 [55]	126 [57]	132 [60]
	8	117 [53]	125 [57]	133 [61]	142 [64]	152 [69]	160 [73]	169 [77]	177 [80]	155 [70]	163 [74]	171 [78]	179 [81]
8	1	23 [11]	25 [11]	26 [12]	27 [12]	30 [14]	31 [14]	32 [15]	33 [15]	30 [14]	31 [14]	32 [15]	34 [15]
	2	40 [18]	43 [19]	45 [20]	48 [22]	52 [24]	54 [25]	57 [26]	59 [27]	53 [24]	55 [25]	58 [26]	60 [27]
	3	57 [26]	61 [27]	64 [29]	68 [31]	75 [34]	78 [36]	82 [37]	86 [39]	76 [34]	79 [36]	83 [38]	87 [39]
	4	75 [34]	80 [36]	85 [38]	90 [41]	98 [45]	103 [47]	108 [49]	113 [51]	100 [45]	105 [47]	110 [50]	115 [52]
	6	111 [50]	118 [54]	126 [57]	133 [60]	146 [66]	153 [69]	161 [73]	168 [76]	148 [67]	155 [70]	163 [74]	170 [77]
	8	157 [71]	169 [77]	182 [83]	195 [88]	204 [92]	216 [98]	229 [104]	241 [110]	207 [94]	219 [99]	232 [105]	245 [111]
10	1	28 [13]	30 [13]	31 [14]	33 [15]	36 [16]	37 [17]	39 [18]	40 [18]	36 [16]	38 [17]	39 [18]	41 [18]
	2	48 [22]	51 [23]	54 [25]	57 [26]	63 [28]	66 [30]	69 [31]	72 [33]	64 [29]	67 [30]	70 [32]	73 [33]
	3	68 [31]	73 [33]	77 [35]	82 [37]	90 [41]	95 [43]	99 [45]	104 [47]	91 [41]	96 [44]	101 [46]	106 [48]
	4	89 [41]	96 [43]	102 [46]	108 [49]	119 [54]	125 [57]	131 [60]	138 [62]	120 [55]	127 [58]	133 [60]	139 [63]
	6	133 [60]	142 [64]	152 [69]	161 [73]	176 [80]	186 [84]	195 [88]	204 [93]	179 [81]	188 [85]	198 [90]	207 [94]
	8	183 [83]	197 [90]	212 [96]	226 [103]	241 [109]	255 [116]	270 [122]	284 [129]	244 [111]	259 [117]	273 [124]	288 [131]
12	1	35 [16]	37 [17]	39 [18]	42 [21]	45 [21]	48 [22]	50 [23]	52 [24]	46 [21]	48 [22]	50 [23]	52 [24]
	2	62 [28]	66 [30]	70 [32]	74 [34]	81 [37]	86 [39]	90 [41]	94 [43]	83 [38]	87 [39]	91 [41]	95 [43]
	3	88 [40]	94 [43]	101 [46]	107 [49]	118 [53]	124 [56]	130 [59]	137 [62]	119 [54]	126 [57]	132 [60]	139 [63]
	4	116 [53]	125 [57]	133 [60]	142 [64]	155 [70]	164 [74]	172 [78]	181 [82]	158 [72]	166 [75]	175 [79]	184 [83]
	6	173 [78]	186 [84]	199 [90]	211 [96]	231 [105]	244 [111]	257 [117]	270 [122]	235 [107]	248 [112]	261 [118]	274 [124]
	8	233 [106]	251 [114]	269 [122]	287 [130]	311 [141]	329 [149]	347 [157]	365 [165]	316 [143]	334 [151]	352 [160]	370 [168]
14	1	39 [18]	41 [19]	44 [20]	46 [21]	50 [23]	53 [24]	55 [25]	58 [26]	51 [23]	54 [24]	56 [25]	58 [26]
	2	69 [31]	74 [33]	78 [36]	83 [38]	91 [41]	96 [43]	101 [46]	106 [48]	92 [42]	97 [44]	102 [46]	107 [49]
	3	98 [45]	106 [48]	113 [51]	120 [55]	132 [60]	139 [63]	146 [66]	154 [70]	134 [61]	141 [64]	149 [67]	156 [71]
	4	130 [59]	140 [63]	149 [68]	159 [72]	174 [79]	184 [83]	194 [88]	203 [92]	177 [80]	187 [85]	197 [89]	206 [94]
	6	194 [88]	208 [94]	223 [101]	237 [108]	260 [118]	274 [124]	289 [131]	303 [138]	264 [120]	279 [126]	293 [133]	308 [140]
	8	272 [123]	295 [134]	318 [144]	341 [155]	359 [163]	382 [173]	405 [184]	428 [194]	365 [166]	388 [176]	411 [186]	434 [197]
17	1	45 [20]	48 [22]	51 [23]	53 [24]	58 [26]	61 [28]	64 [29]	67 [30]	59 [27]	62 [28]	65 [29]	68 [31]
	2	79 [36]	85 [39]	91 [41]	97 [44]	106 [48]	112 [51]	117 [53]	123 [56]	108 [49]	113 [51]	119 [54]	125 [57]
	3	114 [52]	122 [56]	131 [59]	140 [63]	153 [69]	162 [73]	170 [77]	179 [81]	155 [71]	164 [74]	173 [78]	181 [82]
	4	150 [68]	162 [73]	173 [79]	185 [84]	203 [92]	214 [97]	226 [102]	237 [108]	206 [93]	217 [99]	229 [104]	240 [109]
	6	224 [102]	241 [109]	259 [117]	276 [125]	302 [137]	319 [145]	336 [153]	354 [160]	307 [139]	324 [147]	341 [155]	359 [163]
	8	206 [93]	206 [93]	206 [93]	206 [93]	309 [140]	309 [140]	309 [140]	309 [140]	315 [143]	315 [143]	315 [143]	315 [143]

WEIGHT AND ELECTRICAL DATA

MOTOR/DRIVE WEIGHT DATA

Motor Type	Motor Horsepower										
	1/3	1/2	3/4	1	1 1/2	2	3	5	7 1/2	10	15
ODP	25 [11]	28 [13]		35 [16]	45 [20]	35 [16]	75 [34]	100 [45]	125 [57]	125 [57]	220 [100]
TEFC	28 [13]	35 [16]		45 [20]	65 [29]	70 [32]	85 [39]	105 [48]	145 [66]	160 [73]	295 [134]
E+	N/A	N/A	N/A	40 [18]	55 [25]	55 [25]	90 [41]	100 [45]	145 [66]	130 [59]	300 [136]
2 Speed	45 [20]	35 [16]	33	45 [20]	40 [18]	70 [32]	75 [34]	N/A	N/A	N/A	N/A

Notes:

1. Includes motor, pulleys, belts, and motor base
2. Motor/drive weight data is shipping weight in pounds [kilograms]

MOTOR ELECTRICAL DATA

Horsepower	Maximum Motor Amperage							
	Voltage							
	115/1	208/1	230/1	277/1	208/3	230/3	460/3	575/3
1/3	6.3	3.5	3.2	2.6	1.7	1.5	0.8	-
1/2	7.8	4.3	3.9	3.6	2.2	2.1	1.1	0.9
3/4	10.6	5.4	5.3	5.0	3.2	3.0	1.5	1.2
1	15.0	8.3	7.5	5.5	4.0	3.6	1.8	1.4
1 1/2	-	-	-	-	5.3	5.0	2.5	1.9
2	-	-	-	-	7.0	6.4	3.2	2.5
3	-	-	-	-	9.1	9.0	4.5	3.2
5	-	-	-	-	14.2	12.8	6.4	5.2
7 1/2	-	-	-	-	22.2	21.6	10.8	8.2
10	-	-	-	-	28.6	28.4	14.2	11.4
15	-	-	-	-	44.9	40.6	20.3	16.2

Notes:

1. Actual motor nameplate AMPs may vary, but will not exceed values shown
2. Consult factory for applications requiring special motors

GENERAL FAN NOTES

Forward curved Fans (Belt Drive)

1. Consult Superior Rex for applications at operating conditions not in the following table and curves
2. Fan motor voltage, fan rotation, and fan RPM may require field setting/adjustment
3. Drive losses not included in fan performance table and curves
4. In direction of airflow, after fan discharge – only LPM (Large Plenum) and EHB (Electric Heat Blow-thru) are available
5. Section will have internal isolation

Plenum Fans (Direct Drive)

1. Consult Superior Rex for applications at specific operating conditions
2. VFD's are recommended for operation and field balancing of units whether factory supplied and factory mounted, field supplied and factory mounted, or field supplied and field mounted
3. In direction of airflow, there must be space prior to the plug fan inlet. For sizes 02 through 06, the minimum requirement is either an SAM (Small Access) or an MCM (Medium Coil). For sizes 08 through 17, the minimum requirement is an MAM (Medium Access).
4. Section will have internal isolation

Fan Performance Data

FORWARD CURVED FAN PERFORMANCE DATA

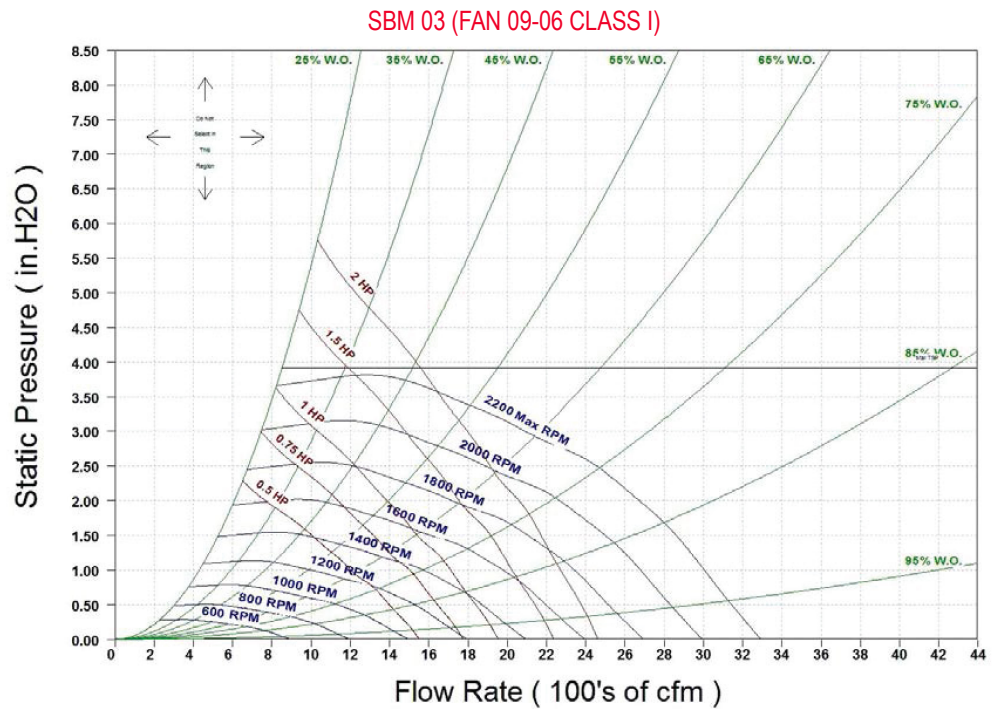
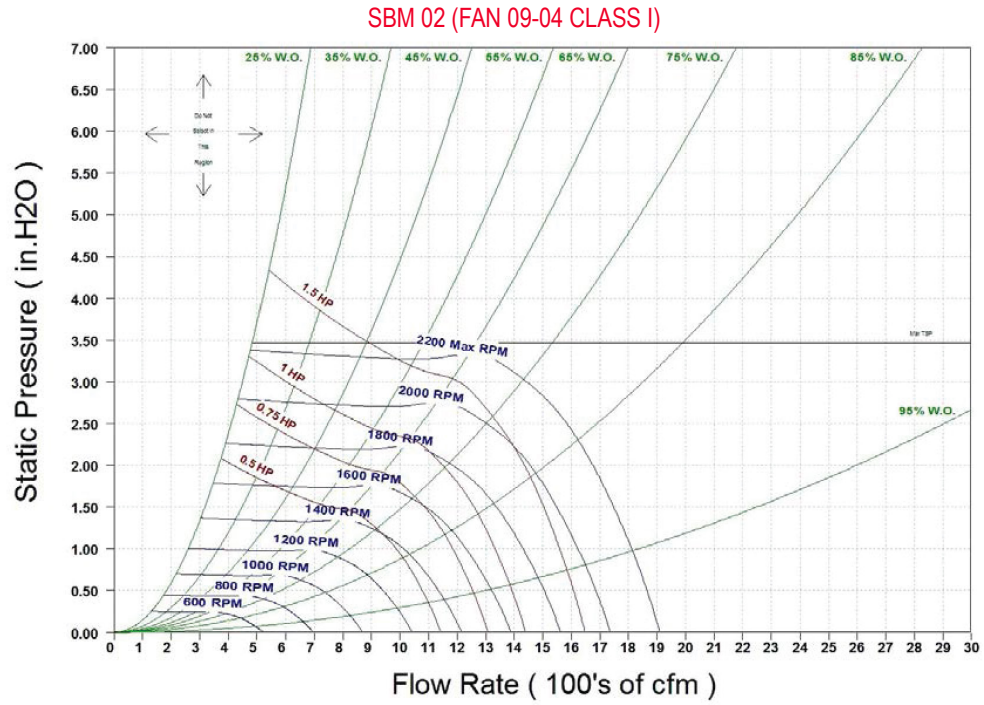
TSP [in-wg]	Unit Size	02					03					04				
	Actual CFM	650	750	850	950	1050	950	1100	1250	1400	1550	1200	1400	1600	1800	2000
3.5	RPM	-	-	-	-	-	-	-	-	-	2160	-	-	-	-	1880
	BHP	-	-	-	-	-	-	-	-	-	1.82	-	-	-	-	2.09
3.0	RPM	-	-	-	-	-	-	-	-	1990	2025	-	-	-	1740	1750
	BHP	-	-	-	-	-	-	-	-	1.39	1.60	-	-	-	1.60	1.84
2.5	RPM	-	-	-	-	-	-	-	1810	1845	1890	-	-	-	1595	1625
	BHP	-	-	-	-	-	-	-	1.03	1.20	1.40	-	-	-	1.37	1.62
2.0	RPM	-	-	-	-	1725	-	1615	1650	1695	1740	-	-	1425	1455	1490
	BHP	-	-	-	-	0.86	-	0.72	0.86	1.01	1.19	-	-	0.97	1.17	1.39
1.5	RPM	-	-	1485	1515	1570	1400	1435	1475	1525	1575	-	1235	1265	1305	1355
	BHP	-	-	0.53	0.59	0.69	0.47	0.57	0.69	0.83	1.00	-	0.64	0.79	0.97	1.18
1.0	RPM	1200	1225	1275	1345	1430	1185	1230	1280	1330	1390	1015	1050	1095	1145	*
	BHP	0.27	0.31	0.37	0.45	0.56	0.34	0.42	0.53	0.66	0.80	0.37	0.48	0.61	0.78	*
0.5	RPM	935	1020	1110	*	*	930	985	*	*	*	790	*	*	*	*
	BHP	0.15	0.20	0.27	*	*	0.22	0.29	*	*	*	0.24	*	*	*	*

TSP [in-wg]	Unit Size	06					08					10				
	Actual CFM	1900	2200	2500	2800	3100	2400	2800	3200	3600	4000	3100	3600	4100	4600	5100
3.5	RPM	-	-	-	-	1615	-	-	-	-	1555	-	-	-	1345	1375
	BHP	-	-	-	-	3.41	-	-	-	-	4.24	-	-	-	4.62	5.41
3.0	RPM	-	-	-	1490	1510	-	-	-	1435	1460	-	-	1235	1260	1295
	BHP	-	-	-	2.61	3.01	-	-	-	3.23	3.80	-	-	3.43	4.09	4.80
2.5	RPM	-	-	1360	1375	1400	-	-	1305	1330	1360	-	1125	1145	1180	1220
	BHP	-	-	1.93	2.25	2.63	-	-	2.36	2.83	3.38	-	2.46	3.01	3.60	4.37
2.0	RPM	-	1215	1230	1255	1280	-	1165	1190	1220	1250	1000	1020	1055	1095	1135
	BHP	-	1.35	1.61	1.91	2.25	-	1.64	2.01	2.45	2.95	1.65	2.10	2.56	3.18	3.90
1.5	RPM	1050	1070	1090	1125	1160	1010	1030	1060	1100	1140	885	915	955	1000	1045
	BHP	0.87	1.07	1.30	1.59	1.92	1.05	1.32	1.66	2.07	2.56	1.36	1.69	2.18	2.76	3.42
1.0	RPM	880	905	945	990	*	850	885	925	970	*	760	805	850	*	*
	BHP	0.63	0.80	1.02	1.29	*	0.78	1.03	1.34	1.71	*	1.02	1.38	1.81	*	*
0.5	RPM	690	*	*	*	*	670	*	*	*	*	*	*	*	*	*
	BHP	0.42	*	*	*	*	0.54	*	*	*	*	*	*	*	*	*

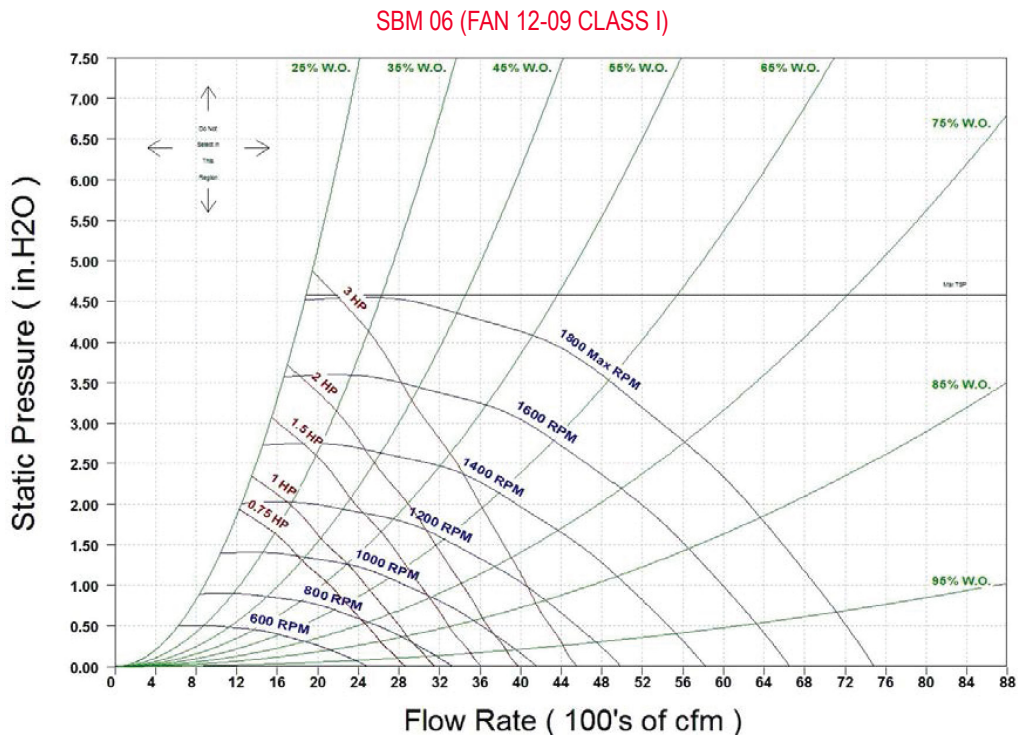
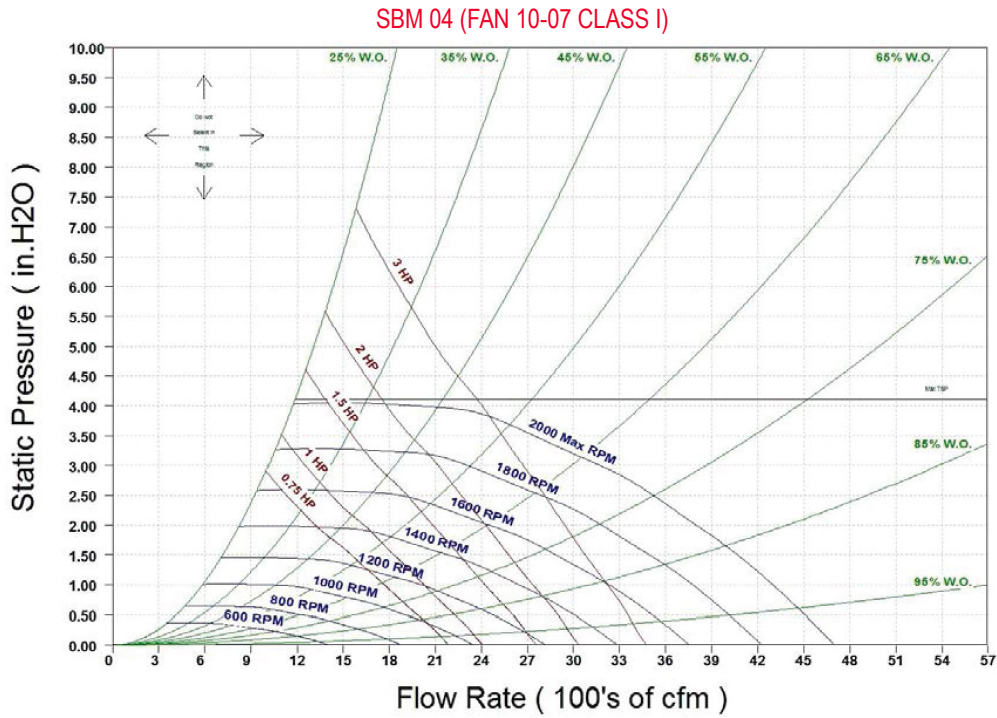
TSP [in-wg]	Unit Size	12					14					17				
	Actual CFM	3900	4600	5300	6000	6700	4600	5400	6200	7000	7800	5200	6200	7200	8200	9200
3.5	RPM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1095
	BHP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.25
3.0	RPM	-	-	-	-	-	-	-	-	-	-	-	-	-	1010	1025
	BHP	-	-	-	-	-	-	-	-	-	-	-	-	-	6.98	8.34
2.5	RPM	-	-	-	-	900	-	-	-	-	905	-	-	920	930	950
	BHP	-	-	-	-	4.50	-	-	-	-	5.33	-	-	5.05	6.06	7.42
2.0	RPM	-	-	-	805	815	-	-	-	810	820	-	-	830	850	875
	BHP	-	-	-	3.22	3.88	-	-	-	3.84	4.58	-	-	4.20	5.29	6.52
1.5	RPM	-	-	695	710	725	-	-	705	715	730	-	720	740	760	785
	BHP	-	-	2.15	2.67	3.24	-	-	2.60	3.16	3.83	-	2.71	3.53	4.43	5.48
1.0	RPM	-	575	590	605	*	-	580	590	610	635	590	610	635	*	*
	BHP	-	1.31	1.68	2.05	*	-	1.57	1.97	2.48	3.11	1.55	2.11	2.77	*	*
0.5	RPM	420	*	*	*	*	425	445	*	*	*	450	*	*	*	*
	BHP	0.63	*	*	*	*	0.77	1.05	*	*	*	1.01	*	*	*	*

* Contact Superior Rex

FAN CURVES

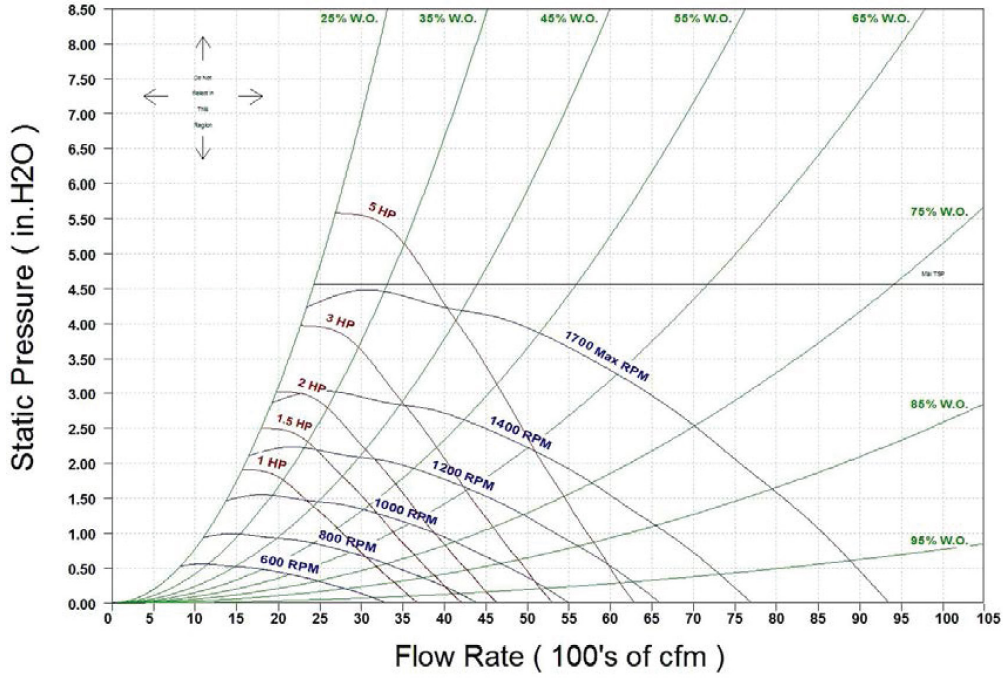


FAN CURVES

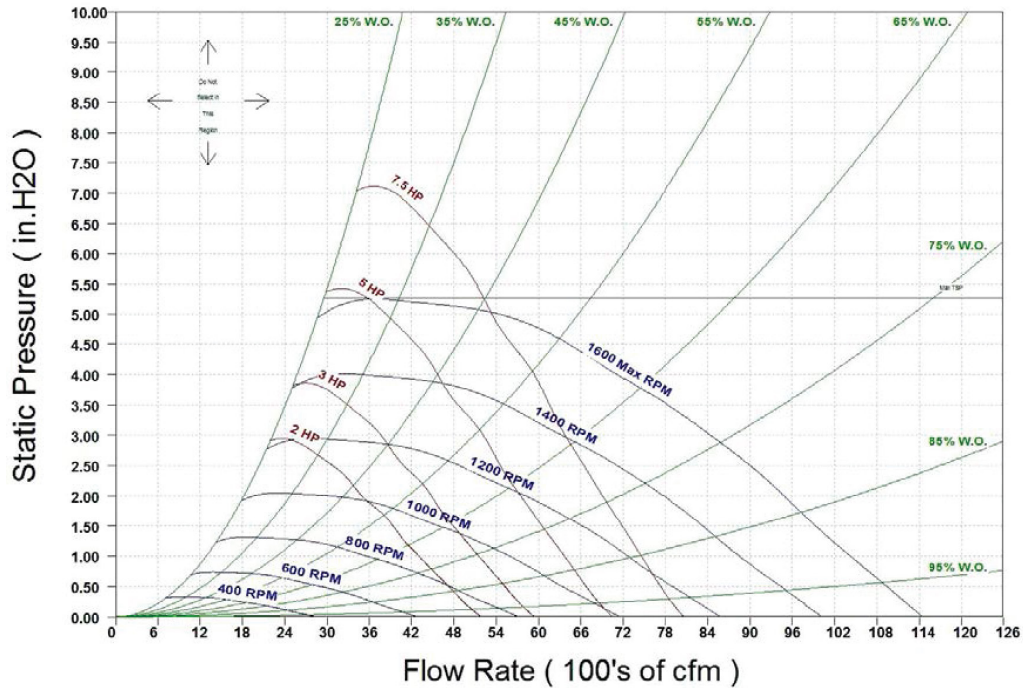


FAN CURVES

SBM 08 (FAN 12-12 CLASS I)

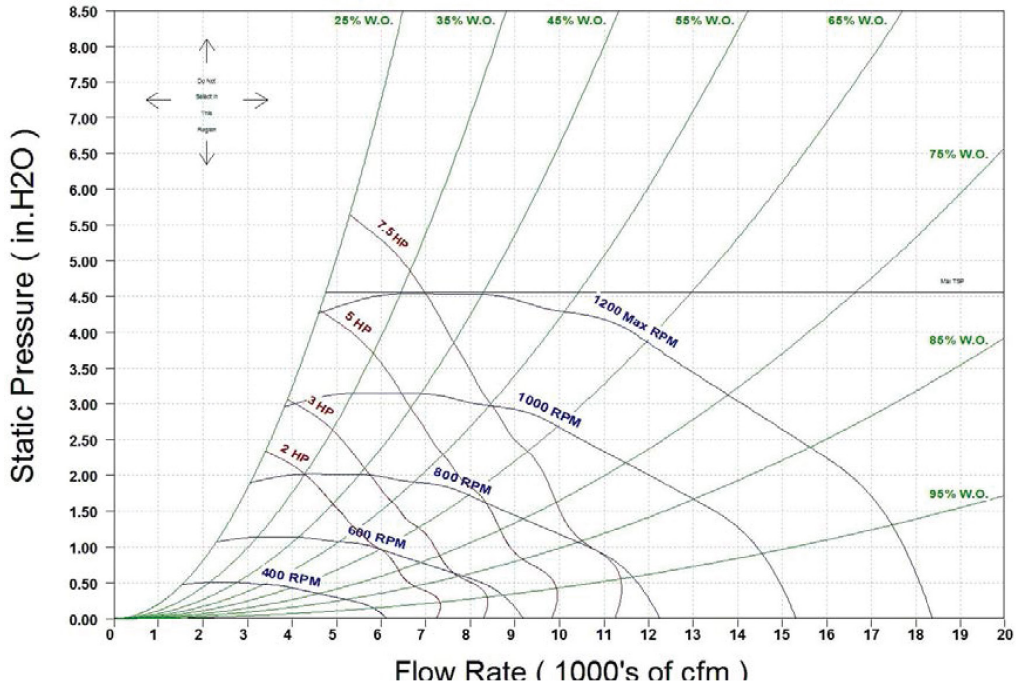


SBM 10 (FAN 15-11 CLASS I)

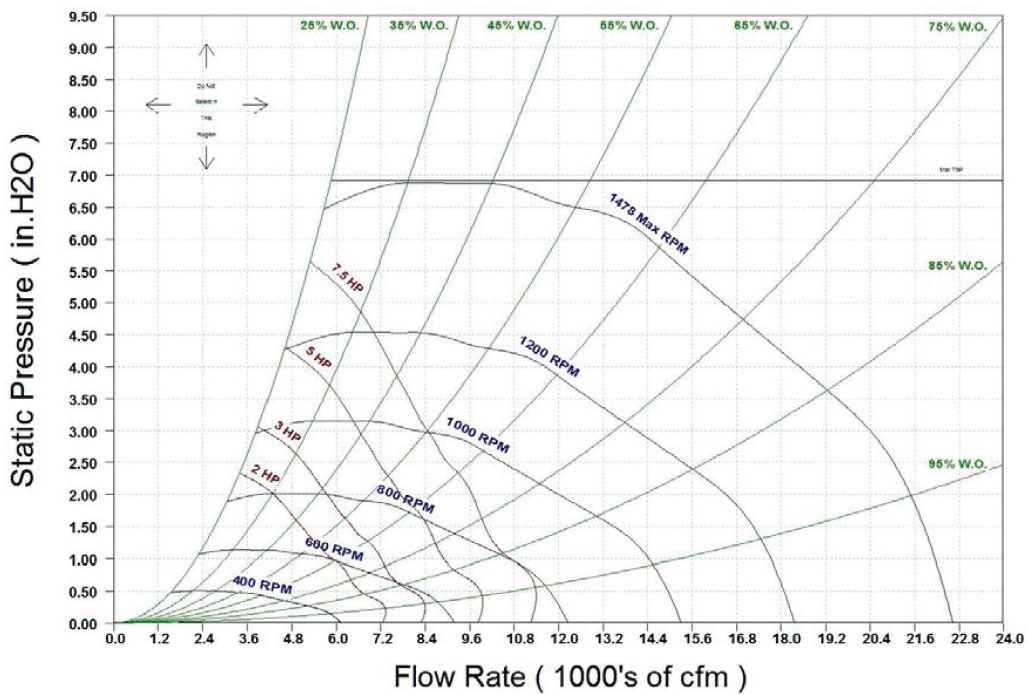


FAN CURVES

SBM 12 (FAN 18-13 CLASS I)

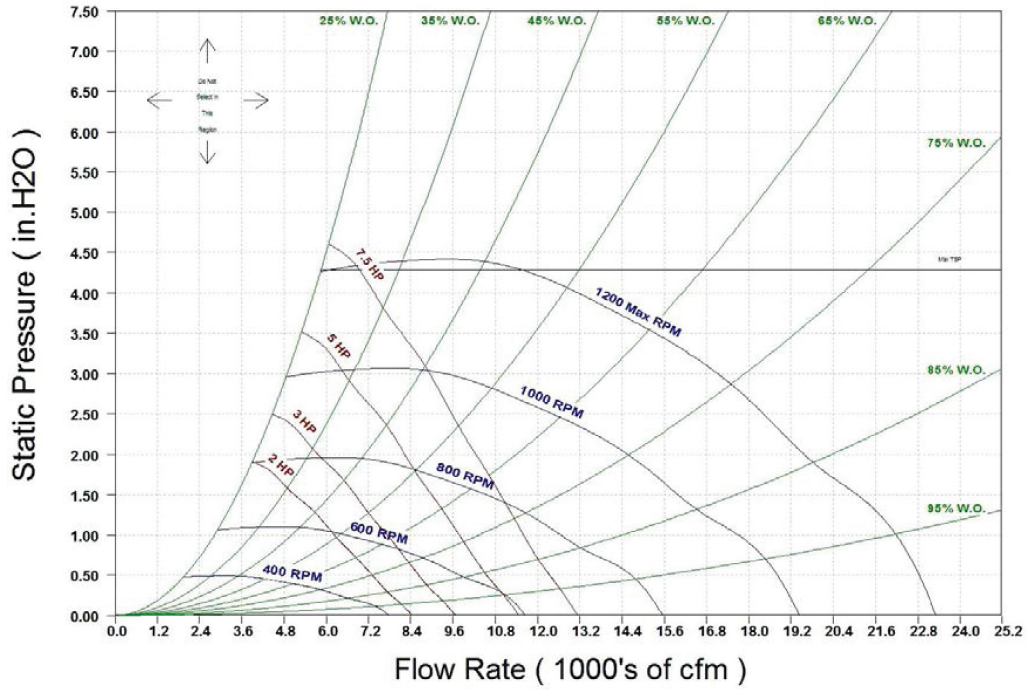


SBM 12 (FAN 18-13 CLASS II)

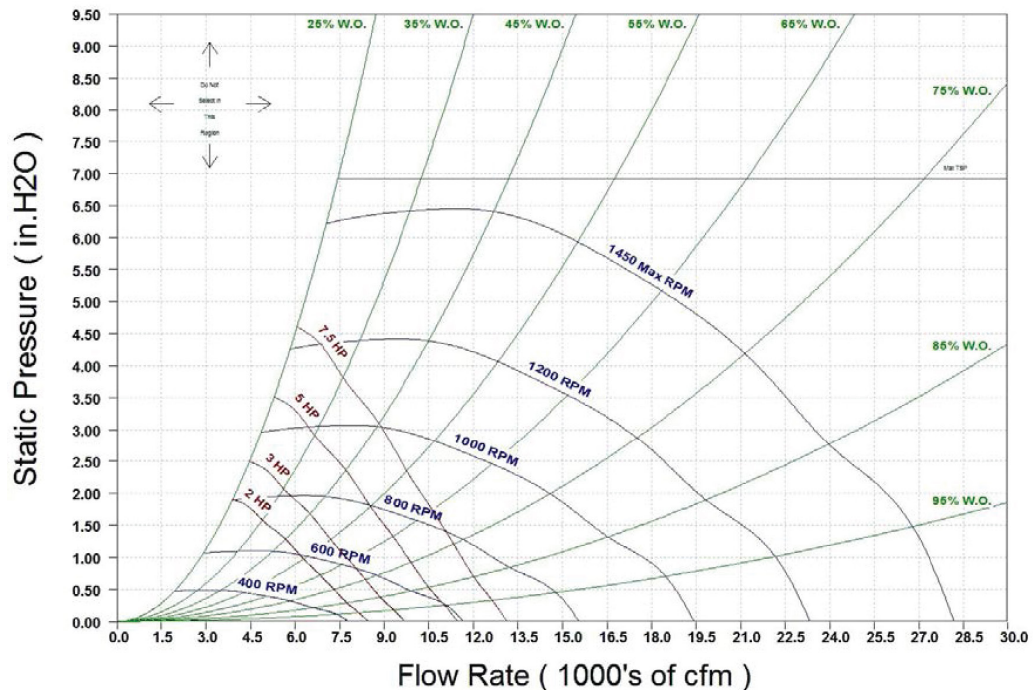


FAN CURVES

SBM 14 (FAN 18-18 CLASS I)

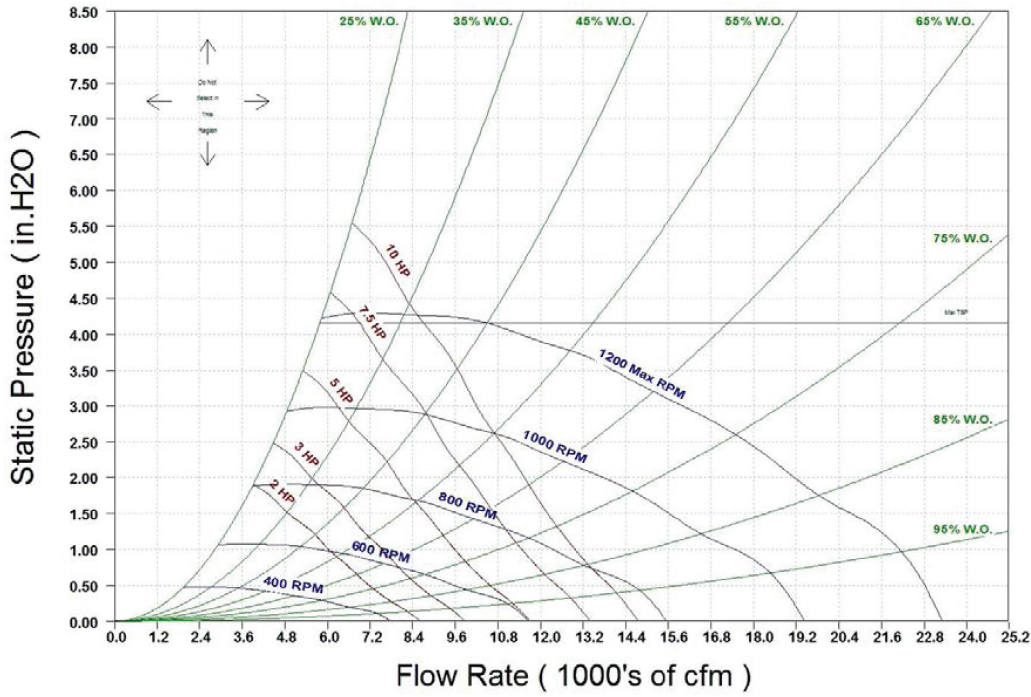


SBM 14 (FAN 18-18 CLASS II)

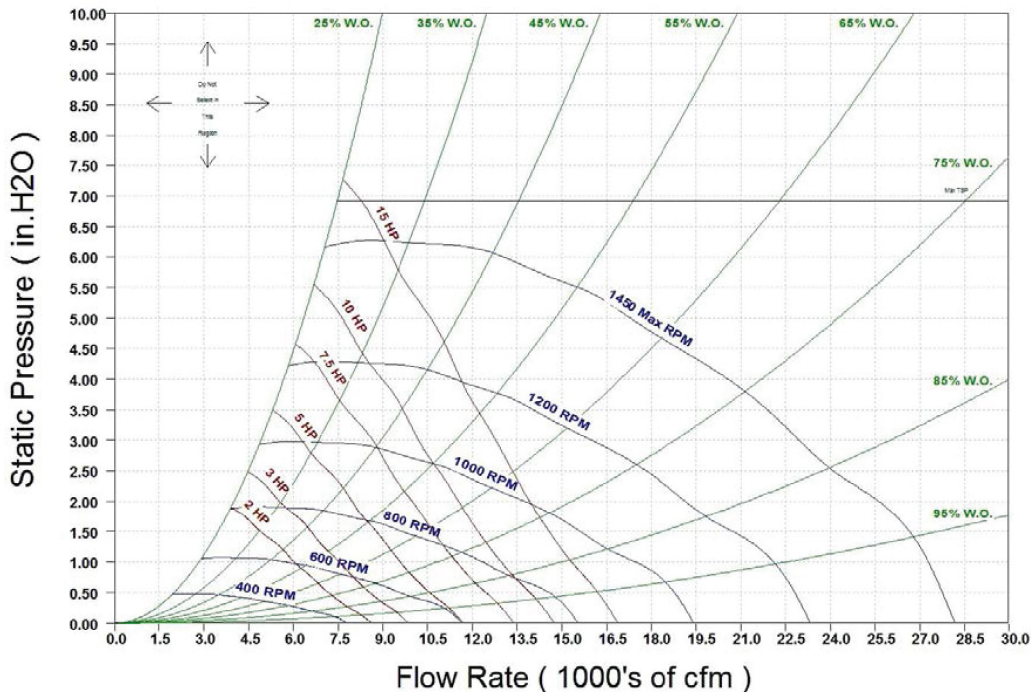


FAN CURVES

SBM 17 (FAN 18-18 CLASS I)

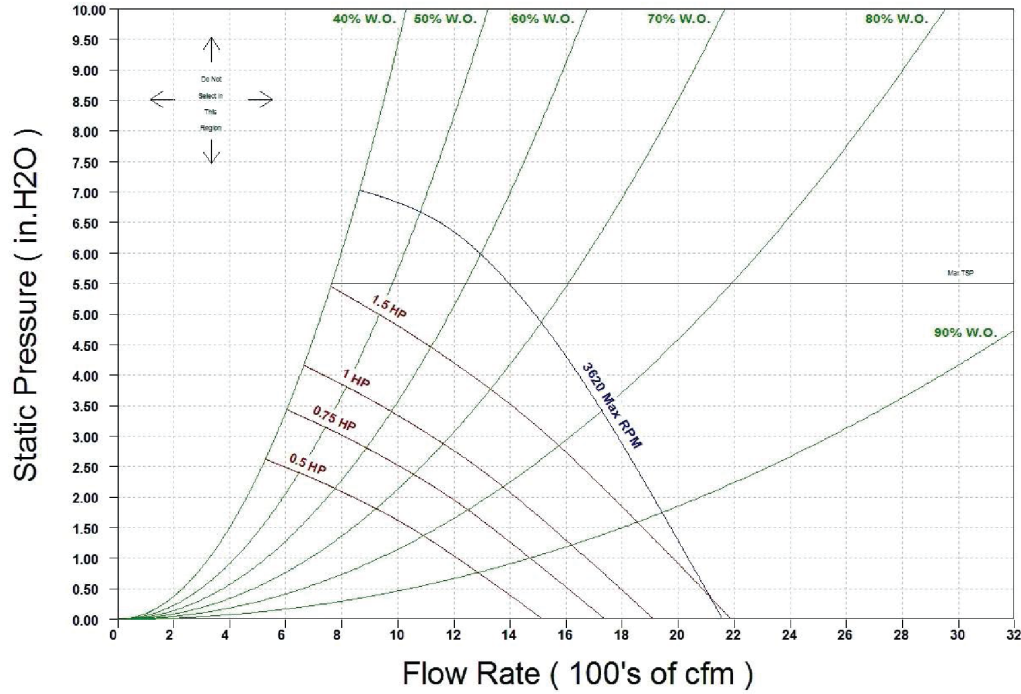


SBM 17 (FAN 18-18 CLASS II)

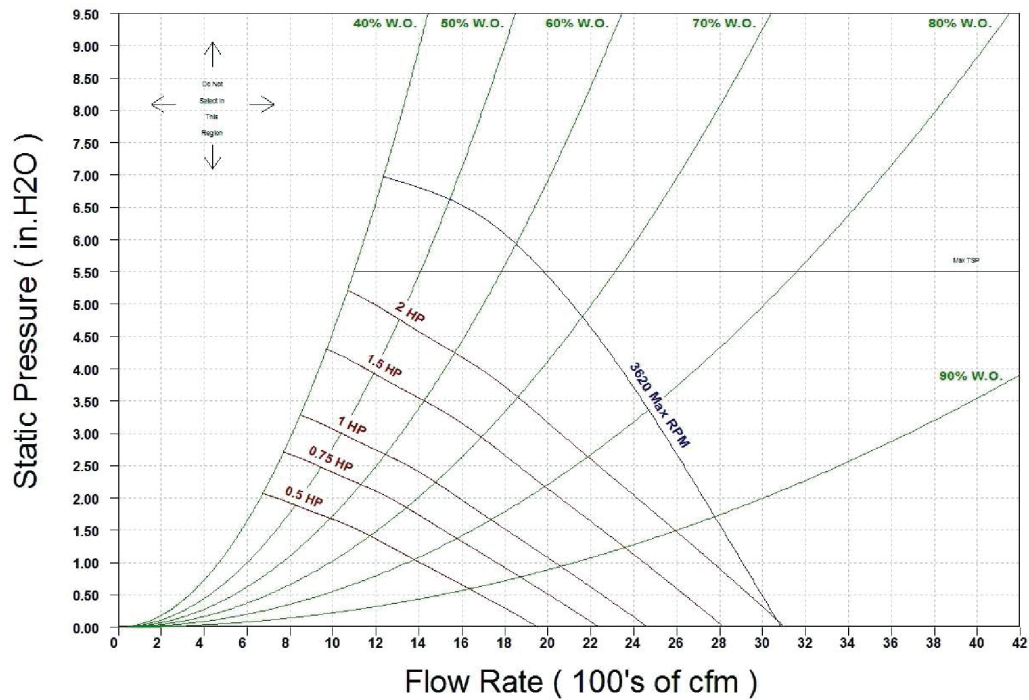


FAN CURVES

SBM 02 (FAN 135-60 CLASS I)

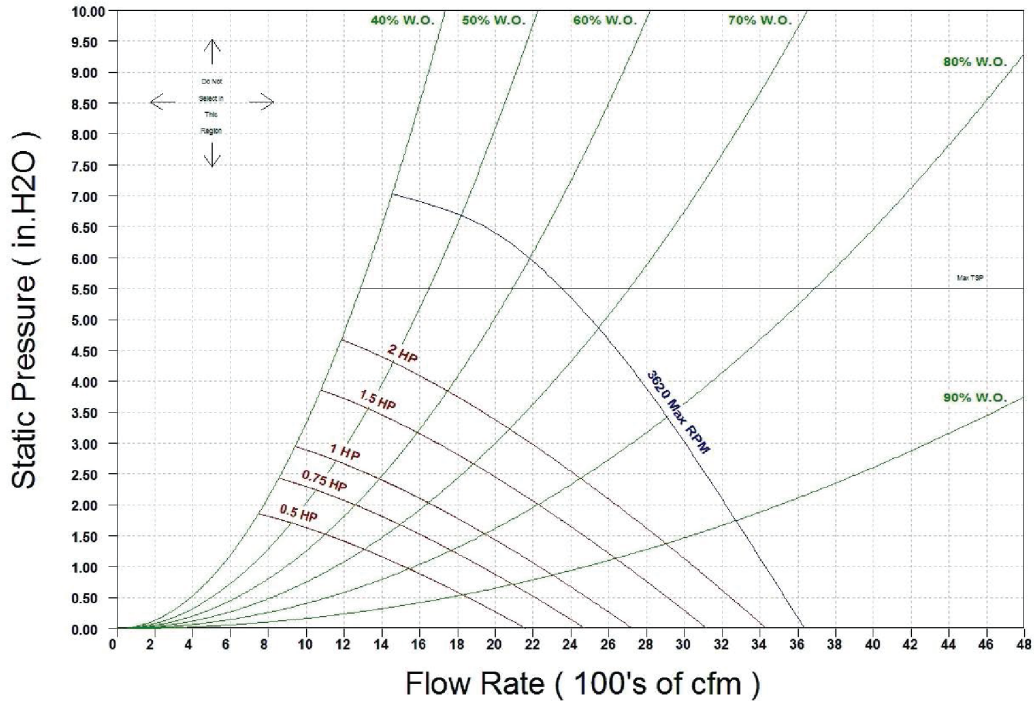


SBM 03 (FAN 135-85 CLASS I)

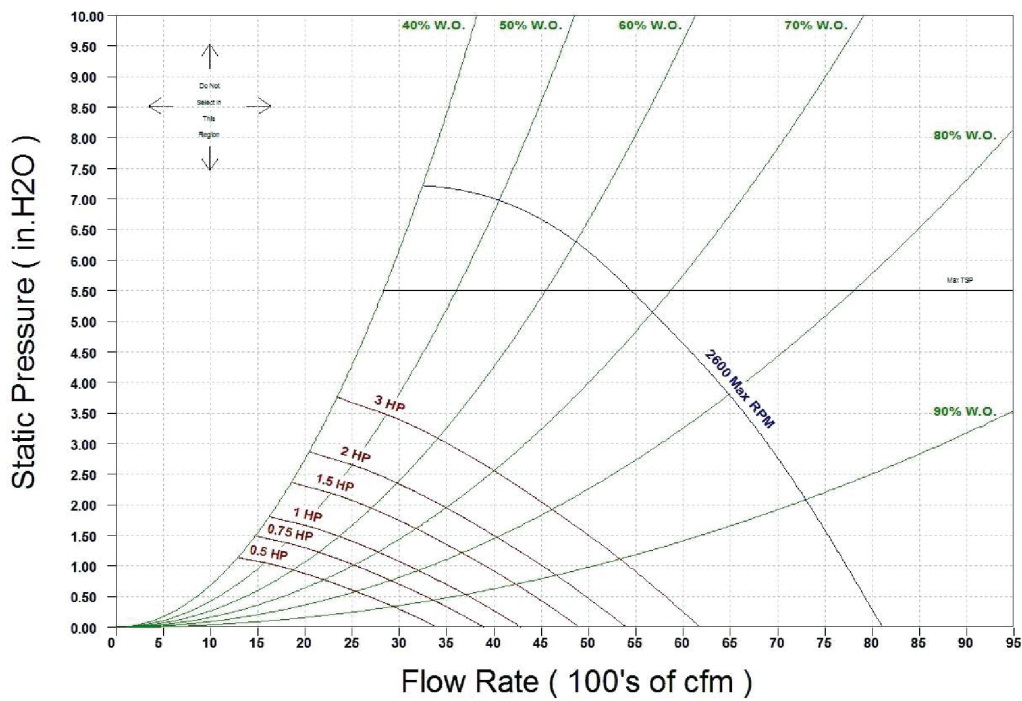


FAN CURVES

SBM 04 (FAN 135-100 CLASS I)

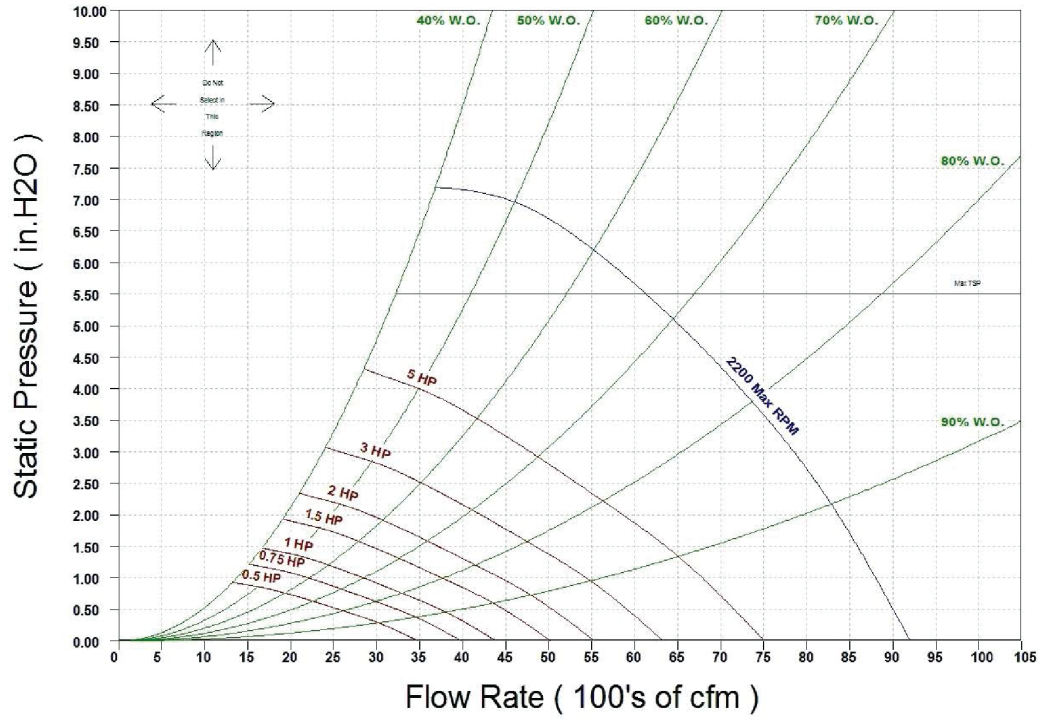


SBM 06 (FAN 185-100 CLASS I)

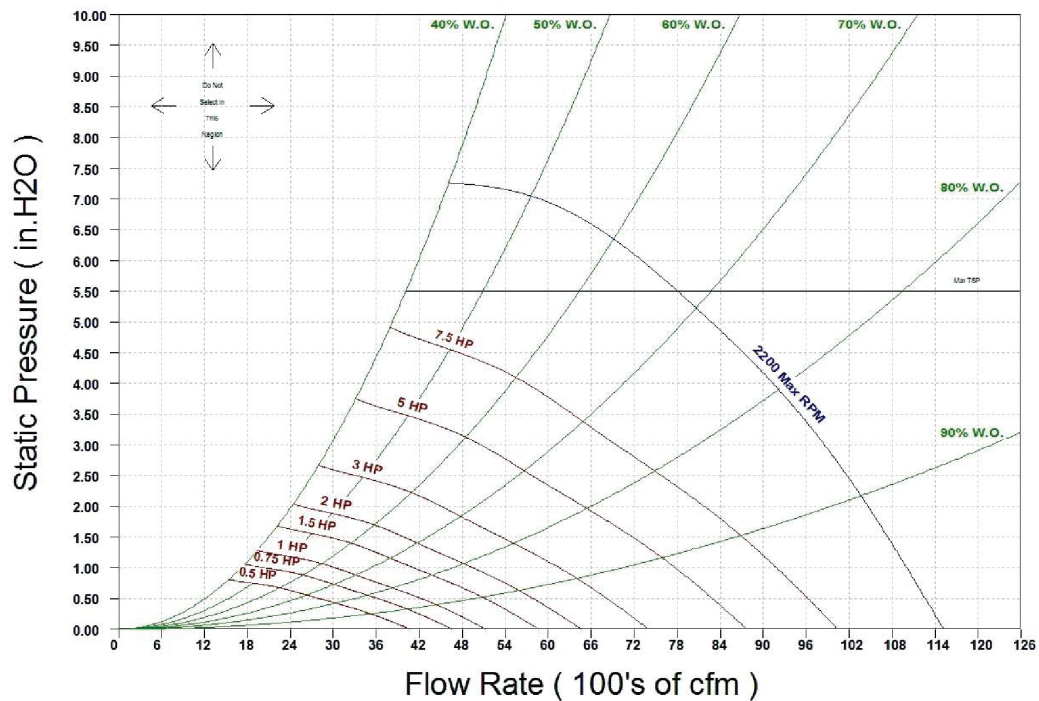


FAN CURVES

SBM 08 (FAN 220-80 CLASS I)

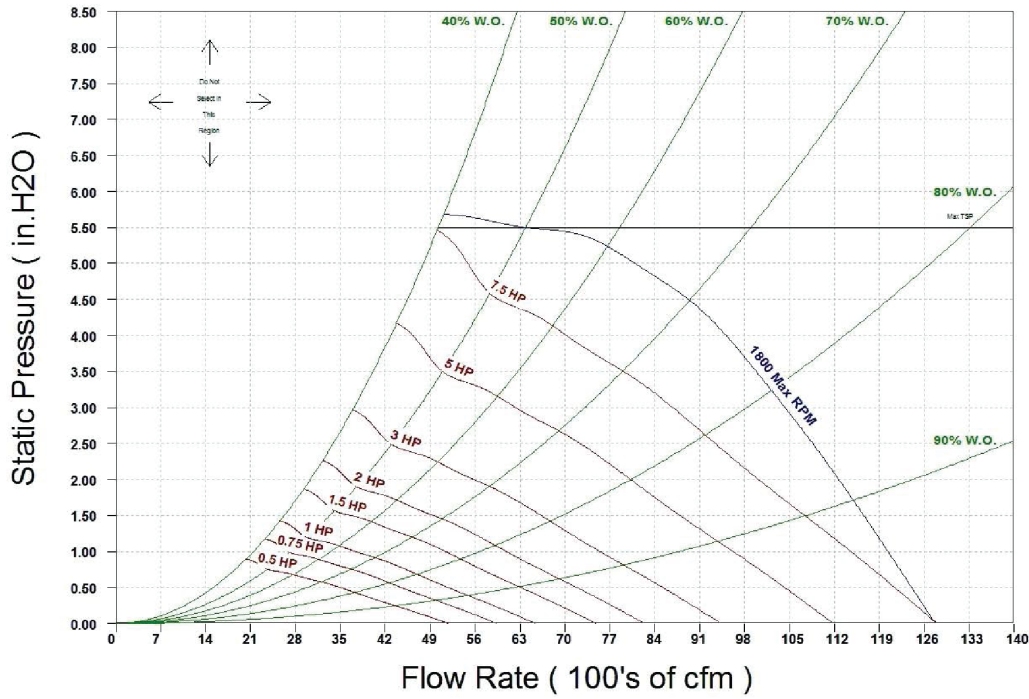


SBM 10 (FAN 220-100 CLASS I)



FAN CURVES

SBM 12 (FAN 245-100 CLASS I)



SBM 17 (FAN 270-100 CLASS I)

