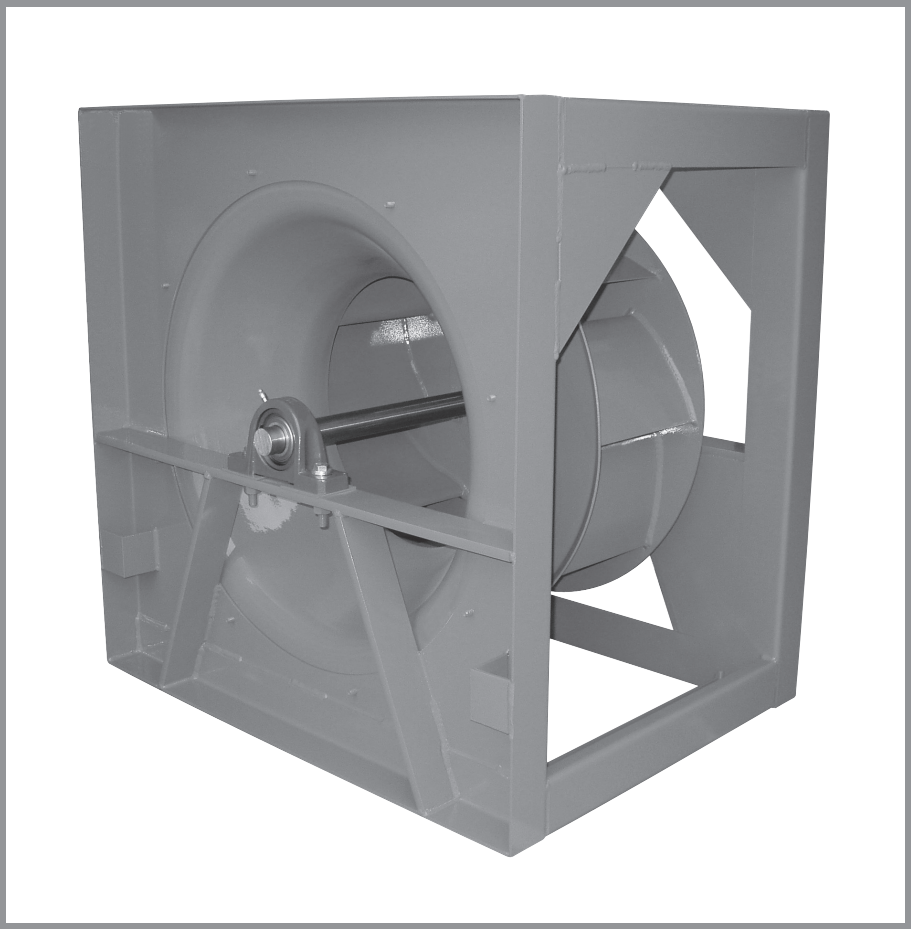
Twin City Fan & Blower

BULLETIN 470
January 2007

E-SERIES PLENUM FANS

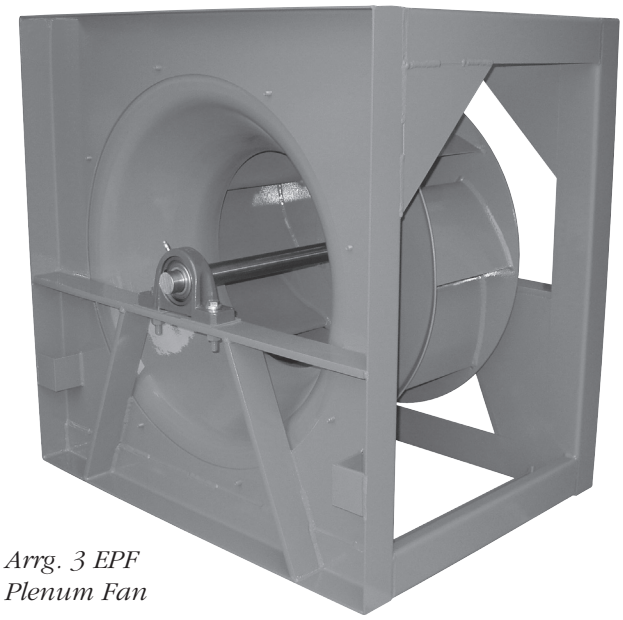
TYPE EPF, EPFN (High Efficiency)
TYPE EPQ, EPQN (Better Sound Quality)



E-Series Plenum Fans

Twin City Fan & Blower, the world's largest supplier of plenum fans, now offers the completely redesigned E-Series, the first plenum fan to be AMCA licensed for sound and air in both an Arrangement 1 and 3 configuration.

The E-Series offers the flexibility of two plenum fan designs, with each model offering its own unique performance characteristics. While every E-Series fan is highly efficient and quiet, you can choose an E-Series design option that optimizes the performance requirements most important to your application.



Arrg. 3 EPF Plenum Fan

9-Bladed Wheel Models

EPF (Arr. 3)

The model EPF features a highly efficient and cost effective, nine-bladed airfoil wheel design. The high efficiency of the EPF will often allow the use of smaller fans without increasing power requirements. The EPF is an Arrangement 3 design.

EPFN (Arr. 1 and 4)

The model EPFN features the same highly efficient, nine-bladed airfoil wheel design as the EPF, but is available in Arrangement 1 or 4 designs without inlet obstructions.

12-Bladed Wheel Models

EPQ (Arr. 3)

The Better Sound Quality model EPQ features a twelve-bladed airfoil wheel design that flattens the sound spectrum and reduces the dominance of pure tones. The EPQ is an Arrangement 3 design.

EPQN (Arr. 1 and 4)

The model EPQN features the same Better Sound Quality, twelve-bladed airfoil wheel design as the EPQ, but is available in Arrangement 1 or 4 without inlet obstructions.

Ultra Low Vibration Options

The standard E-Series plenum fans already offers a low vibration design, but when faced with stringent vibration requirements, Twin City Fan & Blower offers patent pending Ultra Low Vibration (ULV) designs with a full spectrum dynamic balance.

Along with the ULV balance guarantee, a full vibration report is provided that includes a summary of banded spectrum limits, spectrum plots on 3 axes, a waterfall (cascade) plot, a time waveform plot, and a transient capture (coast down) plot.

Compact Designs with Performance Assurance

Space is often a key consideration in the selection of plenum fans, making the compact Arrangement 3 configuration very popular.

The Arrangement 3 configuration is constructed with a bearing and bearing bar in the inlet, which will affect fan performance. These performance affects should be taken into account to ensure that your system functions as designed.

As the leading supplier of plenum fans, Twin City Fan & Blower understands the importance of having confidence in performance ratings. Twin City Fan provides our customers that confidence as the only plenum fan manufacturer to offer AMCA licensed sound and air performance on both the Arrangement 1 and 3 fan designs.

amca CERTIFIED RATINGS SOUND AND AIR PERFORMANCE ® AIR MOVEMENT AND CONTROL ASSOCIATION INTERNATIONAL, INC.

Twin City Fan & Blower certifies that the Type EPF, EPFN, EPQ & EPQN Plenum Fans shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.

Refer to Bulletin 475 for sound power levels.

Application Information

Plenum fans are unhoused fans designed to operate inside of field-fabricated or factory-built air handling units.

The fan wheel pressurizes the entire surrounding air plenum in which the fan is installed, allowing air ducts from any direction to be directly connected to the air handling unit enclosure. This design generally saves space by eliminating the fan housing, transitions, and diffusers within the air handling unit.

Plenum fans have found a ready acceptance in the air conditioning industry. In addition, the construction versatility, adaptability in the direction of the discharges, suitability for internal isolation and application of sound panels, and generally lower cost makes it a very popular fan arrangement.

Benefits of a Plenum Fan

Saves Space – There are no housings, transitions, or diffusers within the air handling unit.

Efficiency – Plenum fans can be as efficient or more efficient than scroll type fans at specific operating points towards the bottom of the fan curve.

Lower cost – Plenum fans are less expensive than scroll type fans.

EPQ / EPQN Advantage

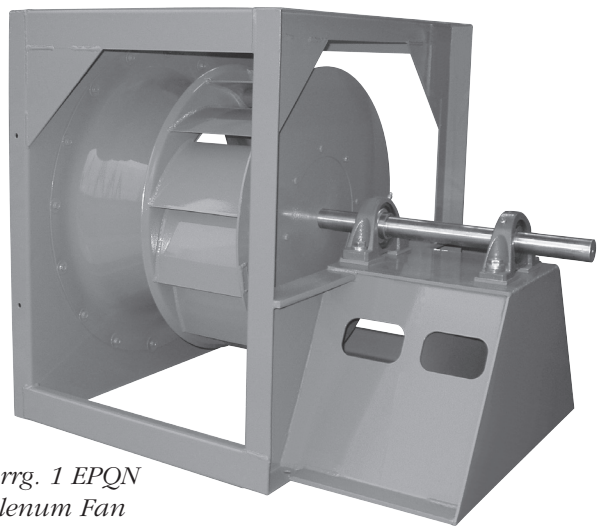
The EPQ/EPQN plenum fans offers unique performance features that are beneficial for many sound sensitive and higher pressure applications.

The EPQ/EPQN features a twelve-bladed airfoil wheel versus the nine-bladed wheel of our type EPF/EPFN plenum fans or eight- to ten-bladed wheels with most other competition. The "Q" in the EPQ/EPQN designation stands for Better Noise Quality. Noise quality is a subjective description for noise that is less objectionable.

Looking at the sound comparison, you will notice that the type EPQ/EPQN offers noise (SPL) that is more equally distributed across all frequencies. This can be more pleasant to hear than the sound characteristics of a nine-bladed design. Fans are often dominated in noise by the noise occurring at the blade pass frequency. (Blade pass frequency = RPM x Number of blades/60.) Noise quality is improved by reducing the difference in amplitude between the blade pass amplitudes and the neighboring frequency amplitudes. The increased higher frequency sound power levels on the twelve-bladed wheels mask the blade pass frequency offering a better sounding fan. Although the overall A-weighted sound power levels of the nine-bladed EPF/EPFN fans are slightly lower, the sound "quality" of the twelve-bladed EPQ/EPQN fans may be desirable for the application.

A higher blade pass frequency allows for easier attenuation of the noise, especially when installed inside an air handler cabinet. In many applications, the use of the EPQ/EPQN design will move the blade pass frequency from the second octave band to the third octave band. Acoustic silencers will normally perform about 10 dB better in the third band.

In addition to sound considerations, there are also additional benefits to using the EPQ/EPQN at higher pressures. Selections over 8" wg static pressure are often near the peak pressure of the fan. The additional blades give a higher peak pressure and also add stability to the fan. Twelve smaller passages through the fan wheel are more resistant to flow disturbances on the inlet than nine larger passages. The EPQ/EPQN is thus more resistant to system effects when operating at high pressures and the higher inlet velocities that accompany these selections.



Arrg. 1 EPQN Plenum Fan

TYPE	CFM	SP	RPM	BHP	FREQUENCY, HZ								LwA
					63	125	250	500	1000	2000	4000	8000	
EPQN – 12 Blades	20,000	3	977	13.42	86	89	(90)	83	81	77	69	64	87
EPFN – 9 Blades	20,000	3	967	12.92	89	(94)	87	79	80	74	67	63	85

NOTE: Circled figures indicate blade pass frequency.

Construction Features

Wheels

High efficiency, non-overloading airfoil wheels are provided on all sizes and arrangements.

Arr. 1 and 3 – Aluminum wheels using extruded aluminum blades are standard to size 245 on arrangement 1 and 3 fans, and available as an option on larger sizes. Steel wheels are standard on sizes 270 and larger.

Arr. 4 – Aluminum wheels using extruded aluminum blades are standard to size 600 on direct drive arrangement 4 fans, a popular choice for applications requiring precision balance and improved reliability.

Inlet Cones

Heavy-gauge, spun steel inlet cones are closely matched to the wheel intake rim to ensure efficient and quiet operation.

Structural Frame

Frames are constructed of heavy-gauge steel, continuously welded at all connections for maximum strength and rigidity. The "cross frame" bearing support is designed for maximum stability and load distribution.

Shafts

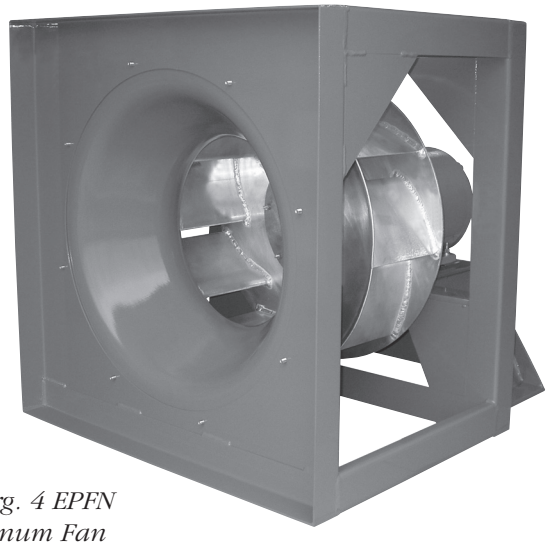
Shafts are AISI Grade 1040 or 1045 hot-rolled steel accurately turned, ground, polished, and ring-gauged for verification. Shafts are generously sized for a first critical speed of at least 1.43 times the maximum speed for the class.

Fan Bearings

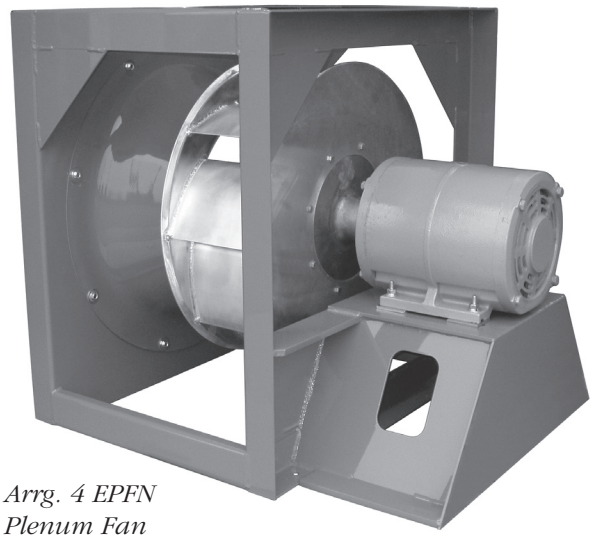
Either ball (adapter mount) or spherical roller, heavy-duty, self-aligning, pillow block type bearings are provided. Bearing selection is based on minimum L-10 life of 80,000 hours. Considering the long life offered with our standard bearing selections, we do not recommend upgrades to split-roller bearings due to their large size, especially on Arrangement 3 fans.

Inlet Collar

Horizontal configurations are designed to be flex-connected to the perimeter of the square panel without the addition of an inlet collar.



Arrg. 4 EPFN Plenum Fan



Arrg. 4 EPFN Plenum Fan

Flow Measurement System

Piezometer Ring (Airflow Measuring System)

A piezometer ring is available on plenum fans, as well as other Twin City Fan housed fans, as part of an airflow measuring system, based on the principle of a flow nozzle. The inlet cone of the fan is used as the flow nozzle. The flow can be calculated by measuring the pressure drop through the inlet cone. No tubes or sensors are inserted in the high velocity airstream which could obstruct airflow.

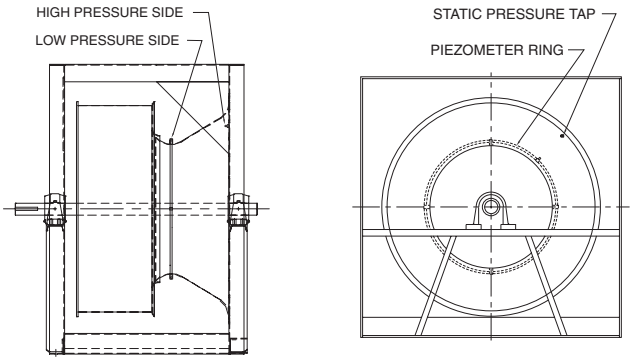
The system, consists of a piezometer ring mounted at the throat and a static pressure tap mounted on the face of the inlet cone. A differential pressure transducer and digital display can also be provided.

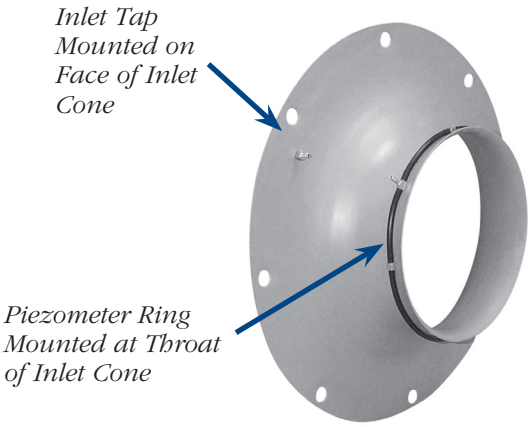
The pressure drop is measured from the tap located on the face of the inlet cone to the piezometer ring in the throat. The inlet tap is connected to the high-pressure side of the transducer and the piezometer ring is connected to the low-pressure side. See diagram on right.

Based on Twin City Fan laboratory tests, the system was determined to be accurate within +/-5%.

Refer to Twin City Fan Engineering Supplement ES-105.

NOTE: Twin City Fan does not recommend placement of flow measuring probes inside the fan inlet cone in the path of airflow. These devices create disturbances and unpredictable performance losses. Twin City Fan will not be responsible for loss of performance due to such devices.





Accessories

Variable Inlet Vanes

Variable inlet vanes provide economical, stable, and efficient air volume control for manual or motorized operation. Blades are supported with fatigue-resistant steel shafts and two needle roller bearings riding on zone-hardened surfaces to minimize wear. Bearings are lubricated for life with high grade moisture resistant grease and protected with lip seals. The vane bearing housings are welded in position and stiffened with a welded support ring. The welded structure eliminates flutter and vibration while utilizing a cantilevered design to minimize insertion loss.

NOTE: Inlet vanes are not recommended on fans smaller than size 182 due to noise and performance loss.

Inlet Screen

Heavy-gauge barbecue grille style inlet screen that nests in the inlet funnel for personnel protection on non-ducted inlets.

Inlet Collar

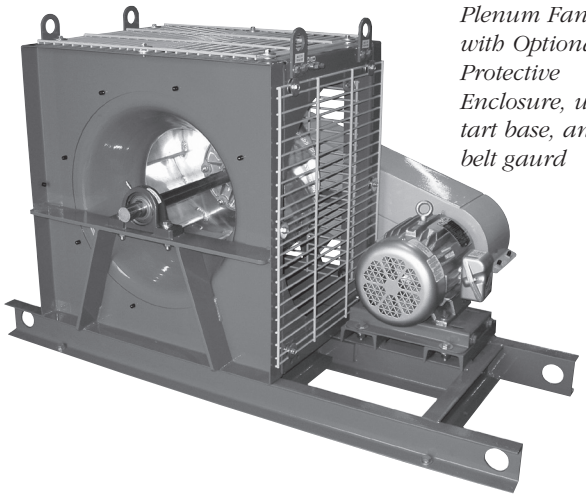
The standard, square-panel design provides the means for flex connecting on all arrangements without an inlet collar.

Belt Guard

Provides protection to personnel from the moving drive parts. Both standard and OSHA totally enclosed types are available.

Protective Enclosure

Grill style protective enclosure completely encloses all sides and the back of the fan wheel. Side panels are individually removable to provide access to the wheel.



Arrg. 3 EPQ Plenum Fan with Optional Protective Enclosure, unitart base, and belt gaurd

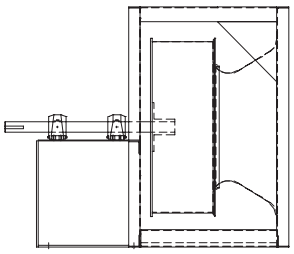
NOTE: On belt driven units, a belt guard should be used for full protection.

Arrangements

Arrangement 1

Arrangement 1 features an overhung wheel design suitable for V-belt drive and requires mounting of motor independent of the fan.

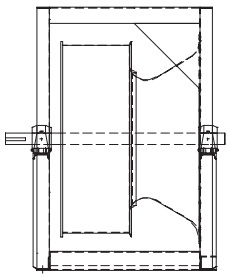
- Models EPFN and EPQN.
- Class I and II available in sizes 122 to 730. See dimensional drawing on page 28.
- Class III available in sizes 182 to 730. Contact factory for dimensional drawing.



Arrangement 3 (Horizontal)

This is the most common plenum fan arrangement for use in OEM and site-built air handlers. Arrangement 3 is suitable for V-belt drive and requires mounting of the motor independently of the fan. Twin City Fan & Blower offers common unitary bases and isolation bases for the fan and motor as accessories.

- Models EPF and EPQ.
- Class I and II available in sizes 122 to 730. See dimensional drawing on page 29.
- Class III available in sizes 182 to 730. See dimensional drawings on page 30.

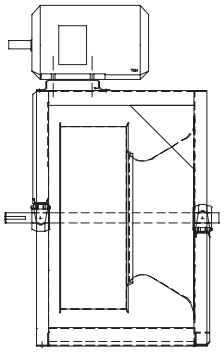


Arrangements 3HS and 3HA (Horizontal with Top Mounted Motor)

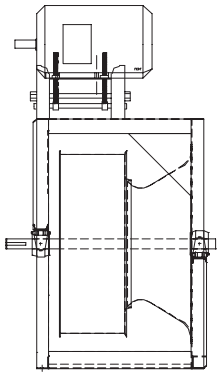
Arrangements 3HS and 3HA provide a means for mounting the motor on top of the unit. This design is often desirable when floor space is limited.

Available with two different motor mounting options: slide base type (Arrangement 3HS) and adjustable motor base (Arrangement 3HA). Due to limited belt center range, NEMA "slide base" option is available on sizes 182 and larger only. A heavy duty Twin City Fan & Blower designed "adjustable motor base" is available for all fan sizes.

- Models EPF and EPQ.
- Arrangement 3HS is available in Class I and II with motor slide base for sizes 182 to 542. See dimensional drawing on page 32.
- Arrangement 3HA with pivot motor base is available in Class I and II for sizes 122 to 542. See dimensional drawing on page 32.



Arrg. 3HS



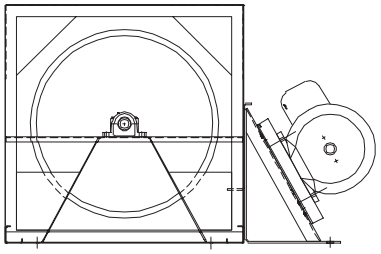
Arrg. 3HA

Arrangements

Arrangement 3SM (Horizontal With Side Mounted Motor)

Arrangement 3SM is designed to provide an economical and space-saving means to supply plenum fans with motors mounted to the side of the fan frame. A motor slide base allows for quick and easy belt adjustments.

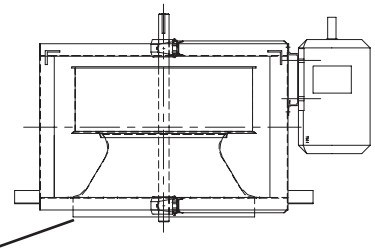
- Models EPF and EPQ.
- Class I and II available in sizes 165 to 600. Motor limited to maximum frame size shown on drawing.
- See dimensional drawing on page 31.



Arrangements 3VS and 3VA (Vertical with Side Mounted Motor)

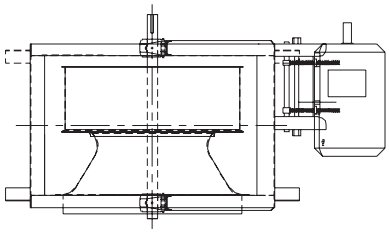
Vertical Arrangement 3 is available with two different motor mounting options: slide base type (Arrangement 3VS) and adjustable motor base (Arrangement 3VA). Due to limited belt center range, NEMA "slide base" option is available on sizes 182 and larger only. A heavy duty Twin City Fan & Blower designed "adjustable motor base" is available for all fan sizes.

- Models EPF and EPQ.
- Arrangement 3VS is available in Class I and II with motor slide base for sizes 182 to 542. See dimensional drawing on page 33.
- Arrangement 3VA with pivot motor base is available in Class I and II for sizes 122 to 542. See dimensional drawing on page 33.
- Unless specified otherwise, units will be built for vertical up airflow.



Inlet collar is now optional on 3VS, 3VA

Arrg. 3VS



Arrg. 3VA

Shown with optional Inlet collar.

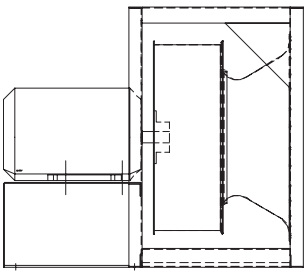
Arrangement 4 (Horizontal)

Direct drive Arrangement 4 mounts the fan wheel directly onto the motor shaft. This arrangement provides a compact fan/motor unit which eliminates belt residue and requires less maintenance than other arrangements.

For these reasons, Arrangement 4 plenum fans are widely used in cleanroom, pharmaceutical, and other critical applications.

Fans can be selected with varying wheel widths to provide desired performance at direct drive motor speeds. Performance changes in the field are usually achieved by means of variable inlet vanes or VFD.

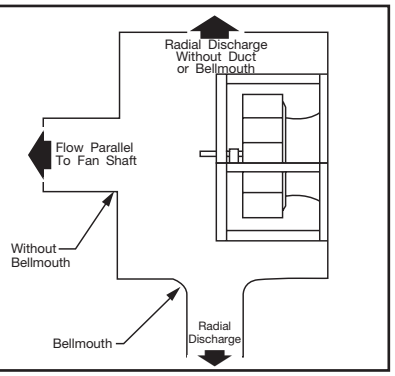
- Models EPFN and EPQN.
- Aluminum wheels using extruded aluminum blades are standard.
- Class I and II available in sizes 122 to 600.
- Class III available in sizes 182 to 600.
- See dimensional drawing on page 34.



Duct Entrance Losses From Plenum Fan Cabinet

To achieve the air velocity in the discharge duct and overcome the loss associated with the air entering the ductwork, additional resistance must be added to the external static pressure (ESP) requirements of the fan. Different types of duct entrances and locations will require varying correction factors. Therefore, prior to selecting a fan, make the following correction, depending upon the type of duct and its location.

ADDITIONAL DUCT ENTRANCE LOSS TO BE ADDED TO FAN ESP	
DISCHARGE TYPE	**CORRECTION FACTOR**
• Radial and ducted with bellmouth	1.1 x Duct Velocity Pressure
• Radial and ducted without bellmouth	1.4 x Duct Velocity Pressure
• Radial without duct or bellmouth	1.8 x Duct Velocity Pressure
• Flow parallel to shaft and ducted with bellmouth	1.6 x Duct Velocity Pressure
• Flow parallel to shaft and ducted without bellmouth	1.9 x Duct Velocity Pressure
• Flow parallel to shaft without duct or bellmouth	2.4 x Duct Velocity Pressure



Example: A system requires 30,000 CFM at 5" SP at standard air density with one 4 ft diameter duct with bell-mouth placed in a radial discharge. Determine RPM and brake horsepower:

Duct area = $(4^2 \times \pi) \div 4 = 12.57$ ft^2
Duct velocity = 30,000 ÷ 12.57 = 2387 FPM
Duct velocity pressure = $(2387 \div 4005)^2 = 0.355$ @ std. cond.

Entrance loss correction factor = 1.1 x duct velocity pressure
= 1.1 x 0.355 = 0.39
Thus, select the fan for = 5" + 0.39" = 5.39" S.P.

Application Guidelines

Fan Selection Recommendations

1. System effect losses (see AMCA 201) and plenum losses should be estimated and added to the required static pressure, prior to making selections. Refer to AMCA Publication 201 at www.amca.org and Twin City Fan Engineering Data Letter "Fan Performance Troubleshooting Guide" (ED-100) at www.tcf.com.
2. Fans should be selected so that the point of operation is approximately between 55% and 90% of the free delivery point on the fan curve.
3. Avoid selections over 4000 RPM. A narrow width, larger size impeller can be used to avoid this.
4. Arrangements 1 and 4 will offer the best efficiency and lowest noise as there are no inlet obstructions.
5. Where space is available, mount the fan and motor on a sub-base. The motor can be mounted on the fan on Arrangements 3HS, 3HA, 3SM, 3VS, and 3VA.
6. Use inertia-type isolation bases or rigid mounting for lowest fan vibration. Rigid mounting requires dynamic analysis (by others) of the support structure to avoid resonance.
7. Applications exceeding 10" SP are prone to high system effect losses. Use of housed fans (BAE-DWDI) should be considered.
8. Where static pressures over 8" wg are required, Type EPQ or EPQN are preferred because of lower operating speeds and improved stability. Select the fan so the design pressure is at least 10% below the peak pressure.
9. Where flow monitoring is required, use a piezometer ring or externally mounted flow measurement station. Fan performance may be substantially affected by flow measurement probes mounted directly in the fan inlet cone. Refer to page 5.
10. For direct drive fans without speed control (or where speed control cannot exceed 60 Hz), select fans at 3 – 5% below the nominal speed of the motor. This will normally cover the uncertainties associated with the system and air balancer's measurements. Select motors loaded no closer than 90% of the maximum loading of the motor.
11. For multiple fans in a plenum, alternate CW and CCW rotation fans to minimize losses. If fans are not counter-rotating, install walls between each fan to create cells in the outlet plenum.
12. Add losses for duct take-offs per the chart above to pressure requirements of the fan. Bellmouth entries will always reduce losses and are recommended.
13. For highest reliability, specify the required bearing life. For example, the statement "minimum L-10 bearing life = 100,000 hours" allows for the best bearing to be put on the fan without creating other problems. Some specifications state "use split roller bearings." This can cause a number of problems, such as:
    1. On smaller fans, there may not be enough radial load to prevent roller skidding. This is especially a problem for Arrangement 3 fans.
    2. Split roller bearings are not offered in sizes smaller than 1 7/16" bore. Smaller fans use shafts smaller than this.
    3. The oversized bearing in the inlet will block some air in smaller fans (above the losses that are already included in the EPF/EPQ ratings).

Application Guidelines

Location and Placement of Fans in Air Handlers

1. Center the fan inlets in both the horizontal and vertical planes.
2. For inlet clearance, see Figure 1. The flow should converge at an angle not greater than 45° when approaching the opening for the fan inlet. A minimum of one fan wheel diameter clearance is recommended.
3. In the fan outlet plenum, a minimum wall clearance of one-half fan wheel diameter to the periphery of the fan wheel is recommended.
4. Figure 1 shows that the minimum clearance between the back of the fan wheel and the nearest component downstream (Dim. E) should be one wheel diameter. Small clearances do not allow the flow to equalize behind the fan wheel and the pressure drop of the downstream component is increased.
5. When the flow enters the inlet plenum perpendicular to the fan shaft, large system effect losses can occur. See Figure 2 for a recommended flow baffle or a vortex breaker that may help preserve rated fan performance.
6. When two or more fans are installed in a plenum, divide the plenum into imaginary cells of equal area. Center the fan inlets on each cell. See Figure 3.

Installation Recommendations

1. Install the fan so the flexible connector on the inlet remains uncollapsed during operation.
2. Install thrust restraints (snubbers) to maintain the axial position of the fan when it is generating pressure.
3. Peripheral equipment, such as electrical components, inverters, control panels, etc., should be positioned away from the high velocity air entering or leaving the fan.
4. Adjust springs on the isolation base so that spring deflection is approximately equal for all isolators.
5. Follow safety, installation, start-up, and maintenance instructions supplied with each fan.

Figure 1. Recommended Location of Fan in Plenum

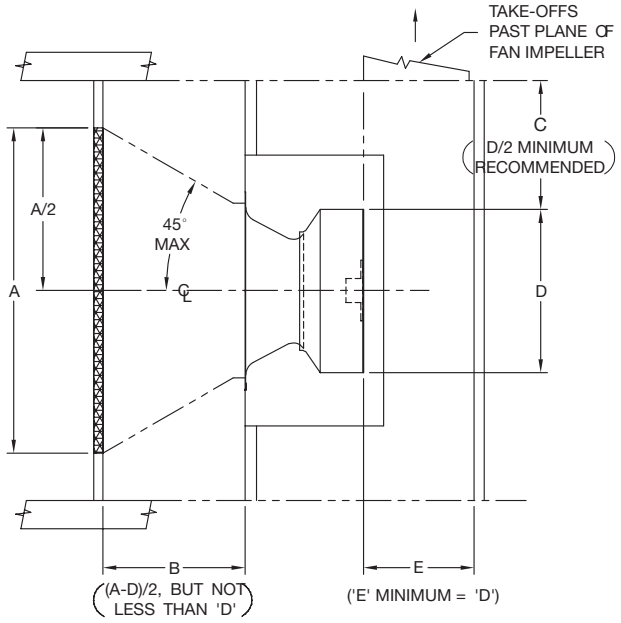


Figure 2. Flow Baffle and Vortex Spin Breaker Location

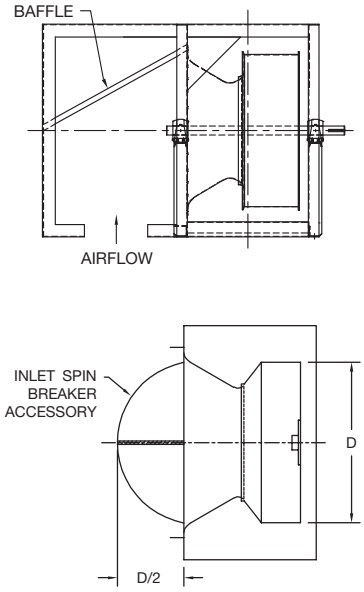
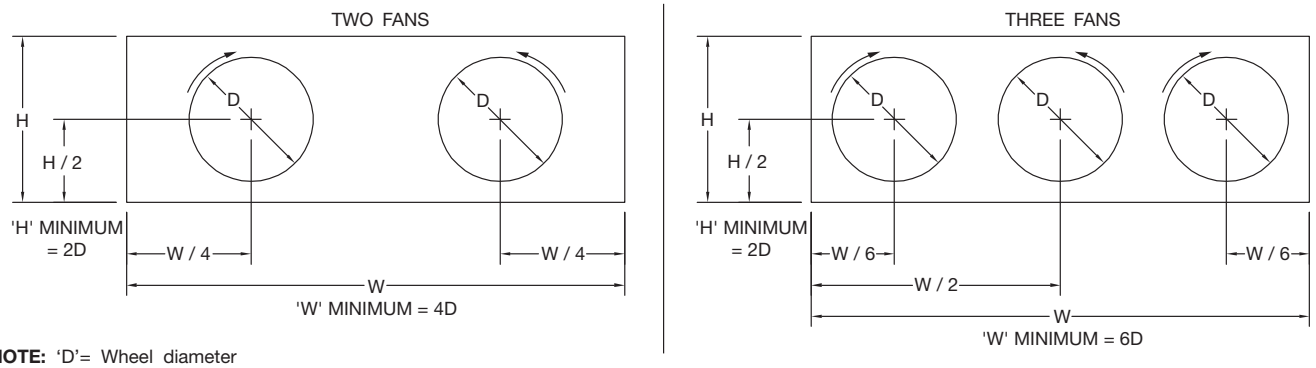


Figure 3. Location of Counter-Rotating Fans



NOTE: 'D'= Wheel diameter

Engineering Data

Maximum RPM, Wheel Weights, & WR^2 – EPF and EPFN

EPF EPFN	WHEEL DIA. (IN.)	CLASS I					CLASS II					CLASS III				
		MAX.	ALUMINUM		STEEL		MAX.	ALUMINUM		STEEL		MAX.	ALUMINUM		STEEL	
		RPM (70°F)	WT. (LB)	WR^2 (LB-FT^2)	WT. (LB)	WR^2 (LB-FT^2)	RPM (70°F)	WT. (LB)	WR^2 (LB-FT^2)	WT. (LB)	WR^2 (LB-FT^2)	RPM (70°F)	WT. (LB)	WR^2 (LB-FT^2)	WT. (LB)	WR^2 (LB-FT^2)
122	12.40	3388	9	0.9	N/A	N/A	4000	9	0.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A
150	13.98	3006	12	1.7	N/A	N/A	3909	12	1.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A
165	15.75	2668	15	2.9	N/A	N/A	3468	15	2.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A
182	18.25	2302	17	6.1	N/A	N/A	2930	18	6.1	N/A	N/A	3767	21	6.2	N/A	N/A
200	20.00	2101	21	6.4	N/A	N/A	2674	21	7.4	N/A	N/A	3438	24	9.3	N/A	N/A
222	22.25	1888	30	12	N/A	N/A	2403	30	12	N/A	N/A	3090	34	15	N/A	N/A
245	24.50	1715	35	21	N/A	N/A	2183	35	21	N/A	N/A	2806	38	22	N/A	N/A
270	27.00	1556	40	29	85	84	1981	40	29	97	93	2546	47	32	131	125
300	30.00	1401	49	46	103	120	1783	54	51	111	128	2291	58	52	153	178
330	33.00	1273	62	70	136	194	1620	67	76	154	215	2083	72	77	206	294
365	36.50	1151	73	103	157	273	1465	79	112	179	306	1884	84	114	237	409
402	40.25	1044	85	151	180	376	1329	93	165	209	429	1708	98	166	310	647
445	44.50	944	126	233	327	880	1202	135	253	351	932	1545	142	256	470	1255
490	49.00	857	164	391	366	1171	1091	164	391	395	1249	1403	174	535	535	1708
542	54.25	775	227	632	513	2048	986	227	632	653	2562	1267	239	673	696	2778
600	60.00	700	255	931	662	3224	891	255	931	750	3542	1146	270	991	801	3838
660	66.00	637	346	1377	953	5621	810	346	1377	1099	6510	1041	371	1478	1016	5910
730	73.00	576	412	2049	1076	7630	733	499	2671	1153	8058	942	550	2985	1318	9290

Maximum RPM, Wheel Weights, & WR^2 – EPQ and EPQN

EPQ EPQN	WHEEL DIA. (IN.)	CLASS I					CLASS II					CLASS III				
		MAX.	ALUMINUM		STEEL		MAX.	ALUMINUM		STEEL		MAX.	ALUMINUM		STEEL	
		RPM (70°F)	WT. (LB)	WR^2 (LB-FT^2)	WT. (LB)	WR^2 (LB-FT^2)	RPM (70°F)	WT. (LB)	WR^2 (LB-FT^2)	WT. (LB)	WR^2 (LB-FT^2)	RPM (70°F)	WT. (LB)	WR^2 (LB-FT^2)	WT. (LB)	WR^2 (LB-FT^2)
122	12.40	3388	10	2.1	N/A	N/A	4000	10	2.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
150	13.98	3006	13	3.3	N/A	N/A	3909	13	3.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A
165	15.75	2668	17	5.2	N/A	N/A	3468	17	5.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
182	18.25	2302	20	7.2	N/A	N/A	2930	20	7.2	N/A	N/A	3767	23	7.4	N/A	N/A
200	20.00	2101	24	10	N/A	N/A	2674	24	8.4	N/A	N/A	3438	27	10	N/A	N/A
222	22.25	1888	34	14	N/A	N/A	2403	34	14	N/A	N/A	3090	38	17	N/A	N/A
245	24.50	1715	39	24	N/A	N/A	2183	39	24	N/A	N/A	2806	43	24	N/A	N/A
270	27.00	1556	46	35	96	94	1981	46	35	107	104	2546	53	38	142	135
300	30.00	1401	57	55	116	135	1783	61	59	124	144	2291	65	59	166	193
330	33.00	1273	72	81	151	216	1620	77	87	169	237	2083	82	88	222	316
365	36.50	1151	85	120	176	307	1465	91	129	199	340	1884	96	130	257	443
402	40.25	1044	99	176	203	425	1329	107	190	232	479	1708	112	190	345	721
445	44.50	944	141	274	356	955	1202	150	294	379	1007	1545	157	297	512	1367
490	49.00	857	183	451	400	1281	1091	183	451	429	1359	1403	200	481	586	1872
542	54.25	775	250	722	551	2213	986	250	722	716	2808	1267	262	763	759	3024
600	60.00	700	290	1058	740	3573	891	290	1058	824	3891	1146	305	1118	874	4188
660	66.00	637	380	1574	1047	6161	810	380	1574	1110	6450	1041	405	1675	1193	7050
730	73.00	576	454	2342	1191	8438	733	541	2964	1267	8865	942	592	3278	1433	10097

*Consult factory for fans over 4000 RPM.

Contact factory for belt driven fans above 150 HP.

Bare Fan Weights

SIZE	WHEEL DIA. (IN.)	ARR. 1 (EPQN)			ARR. 3 (EPQ)			ARR. 4 (EPQN)		
		CL I	CL II	CL III	CL I	CL II	CL III	CL I	CL II	CL III
122	12.40	93	94	N/A	79	79	N/A	83	83	N/A
150	13.98	115	117	N/A	99	101	N/A	102	102	N/A
165	15.75	133	135	N/A	114	116	N/A	120	120	N/A
182	18.25	165	169	188	143	147	164	149	150	166
200	20.00	192	192	213	167	167	186	172	172	190
222	22.25	242	246	272	209	209	238	221	221	243
245	24.50	283	288	317	245	251	277	254	254	279
270	27.00	395	412	478	342	359	429	362	374	436
300	30.00	498	506	587	432	448	524	452	461	538
330	33.00	607	633	732	526	561	654	559	578	673
365	36.50	764	804	923	670	714	811	709	732	845
402	40.25	876	915	1096	762	814	986	808	838	1016
445	44.50	1291	1326	1551	1132	1183	1431	1204	1229	1452
490	49.00	1485	1527	1776	1289	1347	1633	1383	1413	1674
542	54.25	1834	2031	2183	1628	1813	1987	1725	1899	2059
600	60.00	2086	2204	2365	1904	2036	2231	1942	2030	2200
660	66.00	2619	2724	2932	2433	2558	2810	2085	2135	2343
730	73.00	2996	3117	3428	2848	2924	3283	N/A	N/A	N/A

NOTES:

1. Arrangement 1 and 3 weights include an aluminum wheel on size 122 through 245, and a steel wheel on size 270 through 730.
2. Arrangement 4 weights include an aluminum wheel on all sizes.
3. Weights are for the 12-bladed wheel design (EPQ and EPQN). 9-bladed designs (EPF and EPFN) are slightly less and can be reduced by the difference between the wheel weights shown above.
4. Weights do not include motor, drive, motor base, or slide base.

Performance Data

122 EPFN (9-Blade, Arr. 1 and 4)

Wheel Diameter: 12.38" **Max. BHP = 0.056 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1000	1660	0.25	2151	0.54																		
1100	1734	0.28	2182	0.57																		
1200	1811	0.31	2224	0.61	2630	0.98																
1400	1966	0.38	2338	0.70	2693	1.08	3039	1.51														
1600	2124	0.46	2486	0.81	2792	1.20	3103	1.65	3406	2.14												
1800	2291	0.55	2642	0.94	2924	1.35	3197	1.81	3473	2.31	3744	2.86										
2000	2466	0.65	2796	1.09	3076	1.53	3320	2.00	3568	2.51	3817	3.07										
2200	2647	0.77	2953	1.25	3232	1.73	3467	2.22	3687	2.74	3913	3.31										
2400	2831	0.90	3116	1.42	3386	1.94	3623	2.48	3831	3.02												
2800	3204	1.22	3462	1.81	3702	2.43	3931	3.03														
3200	3582	1.62	3824	2.28																		
3600	3966	2.12																				

MAXIMUM RPM: CLASS I = 3388 CLASS II = 4000 Selections above 4000 RPM not recommended. Consult factory.

122 EPF (9-Blade, Arr. 3)

Wheel Diameter: 12.38" **Max. BHP = 0.056 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1000	1699	0.27	2135	0.53																		
1100	1771	0.30	2189	0.58																		
1200	1848	0.33	2256	0.64	2605	0.97																
1400	2013	0.41	2392	0.76	2715	1.12	3013	1.50														
1600	2187	0.50	2538	0.87	2851	1.29	3125	1.71	3384	2.13												
1800	2367	0.60	2696	1.01	2991	1.46	3260	1.94	3501	2.40	3730	2.87	3968	3.39								
2000	2553	0.73	2864	1.17	3140	1.64	3397	2.16	3636	2.69	3854	3.20										
2200	2742	0.88	3038	1.34	3298	1.84	3542	2.39	3773	2.97	3990	3.55										
2400	2934	1.04	3216	1.55	3465	2.08	3696	2.64	3916	3.25												
2800	3326	1.44	3583	2.03	3814	2.62																
3200	3726	1.95	3962	2.62																		
3600																						

MAXIMUM RPM: CLASS I = 3388 CLASS II = 4000 Selections above 4000 RPM not recommended. Consult factory.

122 EPQN (12-Blade, Arr. 1 and 4)

Wheel Diameter: 12.38" **Max. BHP = 0.062 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1000	1644	0.27	2046	0.53																		
1100	1721	0.30	2106	0.58																		
1200	1799	0.34	2173	0.63	2494	0.96																
1400	1963	0.42	2315	0.75	2614	1.11	2886	1.49														
1600	2132	0.51	2468	0.89	2752	1.27	3007	1.68	3245	2.12												
1800	2302	0.61	2627	1.04	2899	1.47	3144	1.90	3370	2.37	3581	2.86	3795	3.38								
2000	2475	0.72	2792	1.20	3054	1.68	3289	2.16	3507	2.64	3711	3.16	3902	3.69								
2200	2654	0.86	2961	1.37	3214	1.90	3441	2.43	3650	2.95	3848	3.49										
2400	2839	1.01	3131	1.56	3378	2.14	3598	2.72	3802	3.30	3991	3.86										
2800	3222	1.40	3475	2.00	3717	2.67	3925	3.34														
3200	3616	1.91	3835	2.55																		
3600																						

MAXIMUM RPM: CLASS I = 3388 CLASS II = 4000 Selections above 4000 RPM not recommended. Consult factory.

122 EPQ (12-Blade, Arr. 3)

Wheel Diameter: 12.38" **Max. BHP = 0.061 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1000	1672	0.28	2076	0.55																		
1100	1752	0.31	2137	0.60																		
1200	1834	0.35	2206	0.66	2530	0.98																
1400	2006	0.44	2353	0.78	2654	1.14	2928	1.53														
1600	2185	0.54	2514	0.92	2795	1.32	3053	1.74	3292	2.18												
1800	2370	0.67	2681	1.08	2949	1.51	3193	1.98	3421	2.45	3634	2.94	3850	3.45								
2000	2560	0.82	2855	1.26	3112	1.73	3344	2.23	3561	2.74	3767	3.27	3960	3.80								
2200	2754	0.99	3034	1.47	3279	1.97	3504	2.50	3710	3.05	3907	3.62										
2400	2950	1.18	3216	1.70	3453	2.25	3668	2.81	3869	3.39												
2800	3347	1.66	3594	2.26	3811	2.88																
3200	3751	2.26	3981	2.96																		
3600																						

MAXIMUM RPM: CLASS I = 3388 CLASS II = 4000 Selections above 4000 RPM not recommended. Consult factory.

Class I = First white section
Class II = Blue shaded section
Underlined figures indicate Maximum Static Efficiency

Performance certified is for installation Type A; Free inlet, Free outlet.
Power rating (BHP) does not include transmission losses.
Performance ratings do not include the effects of appurtenances (accessories).
Performance based on a shaft height of 10" above the base on fan size 122.

Performance Data

150 EPFN (9-Blade, Arr. 1 and 4)

Wheel Diameter: 14.00" **Max. BHP = 0.154 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1200	1433	0.30																				
1400	1529	0.35	1928	0.73																		
1600	1637	0.42	1989	0.80	2336	1.28																
1800	1743	0.49	2072	0.90	2384	1.38	2689	1.94														
2200	1966	0.66	2281	1.14	2535	1.65	2791	2.22	3045	2.87	3293	3.56										
2600	2207	0.86	2495	1.42	2743	2.00	2956	2.60	3171	3.26	3388	3.98	3602	4.74	3812	5.55						
3000	2459	1.10	2716	1.75	2957	2.41	3166	3.07	3352	3.76	3535	4.49	3723	5.28								
3400	2716	1.40	2951	2.13	3173	2.87	3380	3.61	3565	4.37	3731	5.14	3892	5.94								
3800	2976	1.77	3198	2.57	3399	3.40	3595	4.22	3779	5.05												
4200	3239	2.20	3450	3.06	3637	3.98	3817	4.89														
4600	3505	2.71	3706	3.64	3883	4.62																
5000	3773	3.30																				

MAXIMUM RPM: CLASS I = 3006 CLASS II = 3909

150 EPF (9-Blade, Arr. 3)

Wheel Diameter: 14.00" **Max. BHP = 0.154 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1200	1464	0.32																				
1400	1563	0.38	1933	0.74																		
1600	1670	0.45	2025	0.86	2323	1.28																
1800	1786	0.52	2120	0.97	2406	1.44	2667	1.92														
2200	2029	0.71	2327	1.21	2594	1.78	2835	2.36	3051	2.93	3265	3.53										
2600	2285	0.96	2558	1.53	2799	2.14	3025	2.81	3235	3.50	3427	4.17	3608	4.84	3789	5.54						
3000	2548	1.27	2801	1.90	3024	2.57	3231	3.29	3428	4.05	3615	4.85	3792	5.65								
3400	2818	1.65	3052	2.36	3262	3.09	3455	3.86	3637	4.67	3813	5.53										
3800	3092	2.10	3311	2.90	3508	3.70	3691	4.53	3862	5.40												
4200	3370	2.65	3576	3.53	3761	4.40																
4600	3650	3.28	3844	4.25																		
5000																						

MAXIMUM RPM: CLASS I = 3006 CLASS II = 3909

150 EPQN (12-Blade, Arr. 1 and 4)

Wheel Diameter: 14.00" **Max. BHP = 0.171 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1200	1414	0.32	1786	0.65																		
1400	1518	0.39	1859	0.74																		
1600	1627	0.46	1953	0.85	2228	1.27																
1800	1741	0.54	2052	0.97	2316	1.42	2555	1.92														
2200	1976	0.72	2266	1.25	2511	1.78	2732	2.32	2933	2.90	3128	3.51										
2600	2215	0.95	2494	1.57	2724	2.20	2930	2.82	3121	3.44	3301	4.11	3469	4.80	3634	5.52	3802	6.28				
3000	2466	1.24	2728	1.93	2948	2.65	3144	3.38	3325	4.10	3494	4.81	3657	5.55	3811	6.32						
3400	2729	1.60	2965	2.35	3180	3.16	3367	3.98	3540	4.81	3703	5.63	3856	6.43								
3800	2998	2.05	3207	2.84	3416	3.74	3598	4.64	3764	5.56												
4200	3272	2.59	3460	3.43	3652	4.38	3833	5.38														
4600			3721	4.13	3895	5.12																
5000																						

MAXIMUM RPM: CLASS I = 3006 CLASS II = 3909

150 EPQ (12-Blade, Arr. 3)

Wheel Diameter: 14.00" **Max. BHP = 0.168 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1200	1437	0.33																				
1400	1545	0.40	1887	0.76																		
1600	1660	0.48	1983	0.88	2261	1.31																
1800	1780	0.57	2086	1.00	2351	1.47	2593	1.96														
2200	2030	0.79	2311	1.29	2553	1.83	2774	2.41	2977	2.99	3174	3.60										
2600	2292	1.08	2550	1.65	2776	2.26	2980	2.90	3170	3.57	3351	4.25	3521	4.95	3687	5.66	3858	6.42				
3000	2561	1.44	2800	2.09	3011	2.77	3204	3.48	3383	4.22	3551	4.97	3713	5.75	3869	6.55						
3400	2835	1.89	3059	2.62	3257	3.38	3438	4.15	3608	4.95	3769	5.78										
3800	3112	2.43	3324	3.25	3510	4.08	3682	4.93	3844	5.80												
4200	3393	3.08	3593	3.99	3770	4.90																
4600	3676	3.84	3866	4.84																		
5000																						

MAXIMUM RPM: CLASS I = 3006 CLASS II = 3909

Class I = First white section
Class II = Blue shaded section
Underlined figures indicate Maximum Static Efficiency

Performance certified is for installation Type A; Free inlet, Free outlet.
Power rating (BHP) does not include transmission losses.
Performance ratings do not include the effects of appurtenances (accessories).
Performance based on a shaft height of 10" above the base on fan size 150.

Performance Data

165 EPFN (9-Blade, Arr. 1 and 4)

Wheel Diameter: 15.75" **Max. BHP = 0.248 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1500	1268	0.37																				
1700	1333	0.43	1702	0.90																		
1900	1408	0.49	1739	0.97																		
2100	1483	0.55	1788	1.05	2087	1.66																
2500	1634	0.71	1920	1.26	2170	1.88	2422	2.60	2668	3.39												
2900	1795	0.88	2071	1.52	2293	2.18	2509	2.91	2728	3.73	2941	4.61										
3300	1966	1.09	2221	1.81	2442	2.54	2631	3.30	2821	4.13	3013	5.04	3203	6.01	3390	7.04						
3700	2142	1.33	2376	2.14	2592	2.94	2778	3.77	2945	4.62	3114	5.55	3286	6.54	3456	7.59						
4500	2504	1.95	2708	2.90	2897	3.88	3078	4.86	3243	5.86	3390	6.87										
5300	2872	2.77	3060	3.86	3226	5.01	3387	6.16														
6100	3246	3.83	3421	5.05																		
6900																						

MAXIMUM RPM: CLASS I = 2668 CLASS II = 3468

165 EPF (9-Blade, Arr. 3)

Wheel Diameter: 15.75" **Max. BHP = 0.248 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1500	1295	0.40																				
1700	1363	0.46	1698	0.90																		
1900	1437	0.52	1759	1.02	2041	1.54																
2100	1515	0.59	1825	1.13	2084	1.67																
2500	1681	0.76	1962	1.35	2212	2.02	2428	2.66	2642	3.35												
2900	1855	0.97	2114	1.62	2346	2.35	2558	3.12	2747	3.86	2929	4.63										
3300	2035	1.22	2278	1.94	2492	2.71	2692	3.56	2879	4.44	3050	5.30	3210	6.14	3370	7.03						
3700	2220	1.53	2448	2.31	2649	3.15	2836	4.04	3013	4.99	3181	5.98	3339	6.95								
4500	2599	2.30	2802	3.24	2984	4.20	3151	5.20	3309	6.25	3461	7.35										
5300	2988	3.33	3171	4.44	3336	5.54																
6100	3383	4.65																				
6900																						

MAXIMUM RPM: CLASS I = 2668 CLASS II = 3468

165 EPQN (12-Blade, Arr. 1 and 4)

Wheel Diameter: 15.75" **Max. BHP = 0.275 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1500	1250	0.40																				
1700	1322	0.46	1630	0.90																		
1900	1398	0.54	1694	1.00	1951	1.53																
2100	1476	0.61	1761	1.11	2002	1.66																
2500	1638	0.78	1906	1.38	2133	1.98	2335	2.64	2529	3.34												
2900	1804	0.97	2060	1.67	2274	2.37	2467	3.07	2644	3.82	2811	4.60	2980	5.45								
3300	1972	1.21	2220	1.99	2425	2.79	2608	3.58	2778	4.37	2938	5.22	3087	6.09	3232	7.00	3381	7.96				
3700	2148	1.49	2385	2.35	2581	3.24	2758	4.14	2920	5.02	3072	5.90	3218	6.83	3355	7.79						
4500	2518	2.24	2718	3.21	2908	4.27	3072	5.35	3223	6.45	3366	7.54										
5300	2901	3.26	3068	4.32	3240	5.52	3401	6.78														
6100			3437	5.77																		
6900																						

MAXIMUM RPM: CLASS I = 2668 CLASS II = 3468

165 EPQ (12-Blade, Arr. 3)

Wheel Diameter: 15.75" **Max. BHP = 0.270 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1500	1270	0.41																				
1700	1345	0.48	1654	0.92																		
1900	1425	0.55	1720	1.04	1980	1.56																
2100	1507	0.63	1789	1.15	2032	1.71																
2500	1678	0.83	1940	1.42	2165	2.05	2370	2.72	2566	3.42												
2900	1857	1.07	2102	1.73	2313	2.44	2505	3.18	2684	3.95	2852	4.73	3024	5.57								
3300	2042	1.37	2271	2.10	2471	2.87	2652	3.68	2821	4.53	2982	5.40	3133	6.28	3280	7.19	3431	8.14				
3700	2231	1.73	2446	2.54	2636	3.38	2809	4.26	2969	5.17	3121	6.11	3267	7.08	3406	8.06						
4500	2616	2.64	2810	3.61	2982	4.60	3140	5.62	3288	6.67	3428	7.75										
5300	3008	3.86	3187	5.02	3344	6.17																
6100	3407	5.46																				
6900																						

MAXIMUM RPM: CLASS I = 2668 CLASS II = 3468

Class I = First white section
Class II = Blue shaded section
Underlined figures indicate Maximum Static Efficiency

Performance certified is for installation Type A; Free inlet, Free outlet.
Power rating (BHP) does not include transmission losses.
Performance ratings do not include the effects of appurtenances (accessories).
Performance based on a shaft height of 10" above the base on fan size 165.

Performance Data

182 EPFN (9-Blade, Arr. 1 and 4)

Wheel Diameter: 18.25" **Max. BHP = 0.453 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2500	1086	0.57																				
2800	1136	0.64	1426	1.27																		
3100	1190	0.73	1467	1.40																		
3400	1246	0.82	1515	1.54	1743	2.32																
4000	1368	1.05	1614	1.85	1829	2.71	2021	3.63														
4600	1495	1.30	1723	2.20	1925	3.15	2109	4.16	2276	5.20												
5200	1627	1.61	1840	2.60	2030	3.65	2205	4.74	2367	5.88	2516	7.05	2664	8.29								
5800	1763	1.97	1964	3.07	2141	4.19	2307	5.38	2463	6.61	2610	7.89	2745	9.17	2877	10.50						
7000	2044	2.86	2222	4.17	2384	5.51	2532	6.87	2673	8.27	2807	9.71	**2937**	**11.20**	**3061**	**12.72**	**3180**	**14.27**	**3292**	**15.82**		
8200	2334	4.04	2492	5.56	2640	7.11	2777	8.68	2905	10.25	**3028**	**11.86**	**3147**	**13.52**	**3262**	**15.21**	**3374**	**16.94**	**3483**	**18.70**		
9400	2631	5.56	2772	7.28	2906	9.03	**3034**	**10.82**	**3154**	**12.62**	**3268**	**14.42**	**3377**	**16.23**	**3483**	**18.08**	**3587**	**19.98**	**3689**	**21.92**		
10600			**3059**	**9.38**	**3181**	**11.33**	**3299**	**13.33**	**3411**	**15.33**	**3519**	**17.36**	**3622**	**19.39**	**3721**	**21.42**						

MAXIMUM RPM: CLASS I = 2302 CLASS II = 2930 CLASS III = 3767

182 EPF (9-Blade, Arr. 3)

Wheel Diameter: 18.25" **Max. BHP = 0.443 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2500	1101	0.59	1420	1.20																		
2800	1157	0.68	1449	1.32	1721	2.06																
3100	1217	0.77	1487	1.45	1742	2.22																
3400	1281	0.88	1534	1.60	1772	2.40	1998	3.29														
4000	1416	1.14	1644	1.94	1852	2.81	2054	3.76	2249	4.78	2436	5.88										
4600	1551	1.43	1767	2.34	1956	3.29	2135	4.31	2312	5.39	2484	6.53	2650	7.74	2811	9.02						
5200	1689	1.78	1899	2.81	2073	3.85	2238	4.94	2396	6.09	2553	7.30	2707	8.56	2858	9.88	**3004**	**11.27**	**3147**	**12.71**		
5800	1833	2.20	2034	3.35	2200	4.48	2353	5.66	2500	6.89	2642	8.17	2783	9.51	2922	10.88	**3059**	**12.30**	**3194**	**13.79**		
7000	2135	3.28	2306	4.61	2468	6.00	2607	7.37	2735	8.75	2861	10.20	**2983**	**11.68**	**3102**	**13.21**	**3219**	**14.77**	**3335**	**16.38**		
8200	2448	4.74	2592	6.22	2739	7.83	2876	9.46	**2998**	**11.07**	**3110**	**12.67**	**3219**	**14.30**	**3327**	**16.00**	**3432**	**17.72**	**3535**	**19.48**		
9400			2892	8.28	**3019**	**10.04**	**3147**	**11.90**	**3268**	**13.78**	**3378**	**15.63**	**3479**	**17.45**	**3577**	**19.31**	**3672**	**21.18**	**3766**	**23.10**		
10600			**3201**	**10.84**	**3312**	**12.76**	**3426**	**14.78**	**3539**	**16.88**	**3648**	**19.00**	**3749**	**21.10**								

MAXIMUM RPM: CLASS I = 2302 CLASS II = 2930 CLASS III = 3767

182 EPQN (12-Blade, Arr. 1 and 4)

Wheel Diameter: 18.25" **Max. BHP = 0.458 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2500	1093	0.59	1380	1.19																		
2800	1151	0.67	1420	1.31																		
3100	1212	0.77	1468	1.45	1694	2.21																
3400	1277	0.87	1520	1.59	1735	2.39																
4000	1412	1.11	1635	1.93	1833	2.81	2014	3.74	2187	4.75												
4600	1552	1.40	1760	2.31	1944	3.28	2113	4.30	2272	5.38	2423	6.50	2574	7.68								
5200	1697	1.74	1893	2.75	2064	3.82	2223	4.93	2372	6.08	2515	7.29	2651	8.54	2783	9.82	2917	11.17				
5800	1846	2.15	2030	3.26	2192	4.42	2342	5.63	2483	6.87	2617	8.15	2747	9.48	2871	10.85	**2991**	**12.25**	**3110**	**13.71**		
7000	2155	3.18	2314	4.50	2462	5.85	2598	7.25	2725	8.68	2847	10.14	**2964**	**11.64**	**3077**	**13.18**	**3187**	**14.75**	**3295**	**16.36**	**3500**	**19.65**
8200	2472	4.56	2610	6.06	2744	7.63	2870	9.22	**2988**	**10.84**	**3100**	**12.50**	**3207**	**14.18**	**3311**	**15.90**	**3412**	**17.64**	**3511**	**19.43**	**3701**	**23.06**
9400			2917	8.04	**3036**	**9.79**	**3152**	**11.59**	**3263**	**13.42**	**3368**	**15.27**	**3468**	**17.15**	**3564**	**19.04**	**3658**	**20.98**	**3749**	**22.93**		
10600			**3231**	**10.47**	**3338**	**12.42**	**3443**	**14.42**	**3546**	**16.45**	**3645**	**18.51**	**3740**	**20.58**								

MAXIMUM RPM: CLASS I = 2302 CLASS II = 2930 CLASS III = 3767

182 EPQ (12-Blade, Arr. 3)

Wheel Diameter: 18.25" **Max. BHP = 0.455 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2500	1106	0.61	1388	1.19																		
2800	1167	0.71	1432	1.33																		
3100	1229	0.81	1482	1.48	1704	2.21																
3400	1295	0.92	1537	1.65	1749	2.42	1947	3.25														
4000	1436	1.18	1658	2.04	1852	2.89	2031	3.79	2200	4.75	2370	5.79										
4600	1588	1.51	1785	2.44	1969	3.45	2135	4.43	2292	5.46	2441	6.54	2587	7.68	2736	8.89						
5200	1746	1.93	1922	2.91	2094	4.04	2252	5.17	2397	6.27	2538	7.42	2672	8.62	2802	9.87	**2931**	**11.16**	**3062**	**12.52**		
5800	1905	2.42	2067	3.48	2223	4.66	2375	5.95	2515	7.21	2646	8.43	2773	9.70	2896	11.01	**3015**	**12.37**	**3131**	**13.76**	**3363**	**16.69**
7000	2228	3.67	2375	4.94	2506	6.23	2636	7.64	2764	9.17	2887	10.73	**3003**	**12.24**	**3114**	**13.73**	**3221**	**15.22**	**3326**	**16.74**	**3530**	**19.92**
8200	2557	5.33	2693	6.84	2812	8.32	2922	9.83	**3033**	**11.44**	**3144**	**13.18**	**3252**	**14.99**	**3358**	**16.82**	**3459**	**18.62**	**3556**	**20.37**	**3741**	**23.84**
9400			**3015**	**9.22**	**3127**	**10.93**	**3229**	**12.63**	**3326**	**14.36**	**3422**	**16.16**	**3519**	**18.08**	**3615**	**20.09**	**3710**	**22.17**				
10600			**3342**	**12.16**	**3448**	**14.12**	**3544**	**16.04**	**3633**	**17.94**	**3720**	**19.88**										

MAXIMUM RPM: CLASS I = 2302 CLASS II = 2930 CLASS III = 3767

Class I = First white section
Class II = Blue shaded section
Class III = Bolded section after blue section
Underlined figures indicate Maximum Static Efficiency

Performance certified is for installation Type A; Free inlet, Free outlet.
Power rating (BHP) does not include transmission losses.
Performance ratings do not include the effects of appurtenances (accessories).
Performance based on a shaft height of 13" above the base on fan size 182.

Performance Data

200 EPFN (9-Blade, Arr. 1 and 4)

Wheel Diameter: 20.00" **Max. BHP = 0.716 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3000	991	0.68																				
3400	1042	0.79	1305	1.54																		
3800	1096	0.90	1348	1.72																		
4200	1155	1.03	1396	1.91	1601	2.86																
4600	1216	1.17	1446	2.11	1645	3.12																
5400	1344	1.51	1554	2.56	1741	3.69	1910	4.88	2065	6.12												
6200	1477	1.91	1672	3.09	1846	4.34	2006	5.65	2155	7.02	2291	8.40										
7000	1614	2.38	1798	3.72	1959	5.07	2110	6.50	2252	7.99	2385	9.51	2509	11.07	2629	12.67						
7800	1756	2.95	1927	4.42	2080	5.91	2221	7.45	2355	9.04	2483	10.70	2605	12.39	**2720**	**14.11**	**2829**	**15.85**	**2936**	**17.64**		
9400	2047	4.38	2197	6.12	2335	7.90	2463	9.70	2583	11.52	**2698**	**13.39**	**2810**	**15.32**	**2918**	**17.30**	**3022**	**19.30**	**3123**	**21.35**		
11000	2346	6.28	2478	8.29	2603	10.36	**2721**	**12.45**	**2832**	**14.55**	**2937**	**16.66**	**3038**	**18.80**	**3137**	**20.99**	**3233**	**23.23**	**3327**	**25.51**		
12600			**2767**	**11.01**	**2880**	**13.34**	**2988**	**15.71**	**3091**	**18.10**	**3190**	**20.51**	**3285**	**22.93**	**3376**	**25.36**						

MAXIMUM RPM: CLASS I = 2101 CLASS II = 2674 CLASS III = 3438

200 EPF (9-Blade, Arr. 3)

Wheel Diameter: 20.00" **Max. BHP = 0.700 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3000	1004	0.71	1295	1.44																		
3400	1061	0.82	1326	1.60	1572	2.50																
3800	1123	0.96	1366	1.78	1595	2.71	1810	3.76														
4200	1189	1.11	1415	1.98	1627	2.96	1829	4.03	2021	5.21												
4600	1257	1.27	1470	2.20	1667	3.23	1858	4.34	2040	5.55	2214	6.85										
5400	1394	1.66	1592	2.72	1767	3.84	1934	5.06	2098	6.34	2258	7.70	2411	9.14	2560	10.67						
6200	1533	2.11	1725	3.34	1885	4.58	2036	5.88	2181	7.26	2325	8.71	2467	10.22	2604	11.79	**2738**	**13.45**	**2869**	**15.17**		
7000	1679	2.67	1862	4.05	2013	5.42	2152	6.84	2286	8.32	2415	9.86	2543	11.47	2670	13.13	**2794**	**14.83**	**2917**	**16.62**		
7800	1831	3.34	1999	4.85	2148	6.39	2278	7.93	2402	9.51	2523	11.17	2639	12.86	**2754**	**14.61**	**2869**	**16.43**	**2982**	**18.28**		
9400	2144	5.09	2282	6.81	2422	8.68	2548	10.54	2659	12.37	**2765**	**14.23**	**2868**	**16.14**	**2970**	**18.12**	**3068**	**20.12**	**3164**	**22.15**		
11000			2583	9.40	**2703**	**11.48**	**2822**	**13.67**	**2933**	**15.86**	**3033**	**18.02**	**3126**	**20.15**	**3216**	**22.32**	**3305**	**24.55**	**3393**	**26.82**		
12600			**2895**	**12.71**	**2998**	**15.00**	**3102**	**17.40**	**3207**	**19.91**	**3307**	**22.44**	**3399**	**24.93**								

MAXIMUM RPM: CLASS I = 2101 CLASS II = 2674 CLASS III = 3438

200 EPQN (12-Blade, Arr. 1 and 4)

Wheel Diameter: 20.00" **Max. BHP = 0.724 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3000	997	0.71	1259	1.43																		
3400	1056	0.82	1300	1.59																		
3800	1119	0.95	1350	1.78	1553	2.70																
4200	1185	1.09	1403	1.97	1597	2.95	1777	4.00														
4600	1253	1.24	1462	2.20	1646	3.22	1815	4.33														
5400	1394	1.61	1586	2.69	1756	3.84	1912	5.05	2059	6.32	2198	7.65										
6200	1540	2.06	1720	3.27	1876	4.54	2022	5.87	2159	7.25	2290	8.70	2414	10.19	2535	11.72						
7000	1691	2.60	1858	3.95	2006	5.34	2142	6.80	2271	8.30	2393	9.85	2511	11.45	2624	13.09	**2733**	**14.78**	2841	16.53		
7800	1847	3.25	2001	4.73	2142	6.26	2270	7.84	2391	9.46	2507	11.13	2617	12.83	**2725**	**14.59**	**2830**	**16.40**	**2931**	**18.24**	3125	22.04
9400	2165	4.91	2297	6.65	2423	8.45	2541	10.29	2651	12.17	**2755**	**14.08**	**2855**	**16.03**	**2953**	**18.03**	**3047**	**20.05**	**3139**	**22.11**	**3317**	**26.35**
11000			2605	9.14	**2716**	**11.20**	**2824**	**13.31**	**2926**	**15.45**	**3023**	**17.62**	**3116**	**19.84**	**3205**	**22.08**	**3291**	**24.33**	**3376**	**26.65**		
12600			**2922**	**12.29**	**3021**	**14.62**	**3118**	**16.99**	**3212**	**19.40**	**3303**	**21.85**	**3390**	**24.32**								

MAXIMUM RPM: CLASS I = 2101 CLASS II = 2674 CLASS III = 3438

200 EPQ (12-Blade, Arr. 3)

Wheel Diameter: 20.00" **Max. BHP = 0.719 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3000	1009	0.74	1266	1.43																		
3400	1070	0.87	1311	1.61	1529	2.46																
3800	1134	1.00	1363	1.82	1563	2.70																
4200	1202	1.15	1420	2.06	1610	2.99	1786	4.00														
4600	1273	1.32	1481	2.31	1662	3.30	1829	4.36	1989	5.50												
5400	1425	1.74	1609	2.84	1778	4.02	1931	5.18	2076	6.40	2213	7.68	2350	9.04								
6200	1584	2.28	1745	3.45	1903	4.80	2048	6.15	2181	7.47	2310	8.85	2433	10.28	2552	11.77	2671	13.33	2792	14.96		
7000	1745	2.94	1893	4.21	2035	5.64	2172	7.19	2300	8.71	2419	10.19	2535	11.71	2647	13.29	**2755**	**14.92**	**2861**	**16.61**	3071	20.12
7800	1908	3.72	2047	5.13	2175	6.61	2302	8.27	2424	10.00	2540	11.71	2648	13.35	**2753**	**15.02**	**2856**	**16.74**	**2956**	**18.51**	**3148**	**22.17**
9400	2239	5.72	2367	7.45	2478	9.15	2583	10.91	**2689**	**12.82**	**2794**	**14.87**	**2896**	**16.97**	**2993**	**19.02**	**3087**	**21.05**	**3177**	**23.05**	**3351**	**27.07**
11000	2576	8.41	**2692**	**10.45**	**2796**	**12.46**	**2889**	**14.43**	**2980**	**16.48**	**3070**	**18.62**	**3161**	**20.91**	**3250**	**23.29**	**3338**	**25.74**	**3424**	**28.20**		
12600			**3022**	**14.25**	**3119**	**16.57**	**3208**	**18.87**	**3290**	**21.13**	**3369**	**23.43**										

MAXIMUM RPM: CLASS I = 2101 CLASS II = 2674 CLASS III = 3438

Class I = First white section
Class II = Blue shaded section
Class III = Bolded section after blue section
Underlined figures indicate Maximum Static Efficiency

Performance certified is for installation Type A; Free inlet, Free outlet.
Power rating (BHP) does not include transmission losses.
Performance ratings do not include the effects of appurtenances (accessories).
Performance based on a shaft height of 14.50" above the base on fan size 200.

Performance Data

222 EPFN (9-Blade, Arr. 1 and 4)

Wheel Diameter: 22.25" **Max. BHP = 1.219 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3500	856	0.76																				
4000	900	0.88																				
4500	947	1.01	1172	1.93																		
5000	998	1.16	1215	2.16	1399	3.22																
6000	1106	1.48	1305	2.66	1477	3.88	1630	5.13														
7000	1221	1.88	1403	3.22	1565	4.61	1712	6.05	1843	7.47												
8000	1340	2.36	1510	3.85	1661	5.42	1800	7.02	1929	8.66	2046	10.27	2160	11.96								
9000	1464	2.93	1622	4.58	1763	6.30	1895	8.08	2018	9.89	2134	11.73	2241	13.54	2343	15.39	2444	17.31				
10000	1590	3.61	1738	5.41	1872	7.29	1995	9.23	2112	11.20	2223	13.20	2329	15.24	2429	17.28	2524	19.32	2615	21.37		
12000	1849	5.30	1980	7.43	2100	9.62	2212	11.87	2317	14.17	2418	16.51	2515	18.87	2609	21.27	2700	23.69	2788	26.14		
14000	2114	7.54	2231	10.00	2339	12.50	2441	15.05	2538	17.65	2631	20.32	2720	23.02	2807	25.77	2891	28.52	2973	31.30		
16000			2488	13.19	2587	16.03	2681	18.90	2770	21.80	2857	24.78	2940	27.79	3020	30.84						

MAXIMUM RPM: CLASS I = 1888 CLASS II = 2403 CLASS III = 3090

222 EPF (9-Blade, Arr. 3)

Wheel Diameter: 22.25" **Max. BHP = 1.212 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3500	868	0.79	1130	1.61																		
4000	912	0.92	1156	1.82																		
4500	962	1.06	1191	2.03	1393	3.09																
5000	1016	1.22	1231	2.26	1422	3.40	1600	4.61														
6000	1133	1.60	1324	2.79	1498	4.07	1657	5.43	1809	6.86	1954	8.31										
7000	1256	2.07	1429	3.40	1587	4.83	1735	6.33	1874	7.91	2006	9.53	2135	11.22	2259	12.90						
8000	1383	2.64	1544	4.13	1688	5.70	1825	7.34	1955	9.06	2078	10.83	2196	12.65	2311	14.54	2424	16.47	2533	18.38		
9000	1514	3.33	1665	4.98	1798	6.69	1924	8.48	2046	10.34	2162	12.25	2274	14.23	2381	16.25	2485	18.31	2587	20.43		
10000	1647	4.14	1788	5.95	1915	7.83	2032	9.76	2145	11.76	2254	13.81	2360	15.93	2463	18.11	2562	20.33	2657	22.56		
12000	1917	6.20	2046	8.37	2159	10.55	2266	12.81	2365	15.09	2461	17.43	2555	19.83	2648	22.30	2737	24.78	2825	27.32		
14000	2192	8.92	2310	11.46	2415	14.00	2511	16.54	2604	19.16	2692	21.82	2776	24.50	2858	27.23	2939	30.02	3019	32.85		
16000			2579	15.34	2677	18.24	2767	21.14	2852	24.06	2934	27.02	3013	30.03	3088	33.04						

MAXIMUM RPM: CLASS I = 1888 CLASS II = 2403 CLASS III = 3090

222 EPQN (12-Blade, Arr. 1 and 4)

Wheel Diameter: 22.25" **Max. BHP = 1.287 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3500	848	0.78																				
4000	901	0.92	1122	1.79																		
4500	956	1.06	1158	2.00	1354	3.07																
5000	1015	1.23	1204	2.24	1381	3.35																
6000	1139	1.62	1312	2.80	1463	4.02	1610	5.35	1757	6.78												
7000	1270	2.11	1427	3.43	1568	4.83	1696	6.26	1822	7.78	1948	9.40	2074	11.11								
8000	1406	2.72	1549	4.18	1680	5.73	1802	7.34	1914	8.97	2023	10.66	2134	12.46	2244	14.34	2354	16.28				
9000	1545	3.44	1677	5.06	1799	6.76	1913	8.53	2020	10.33	2121	12.16	2218	14.03	2316	15.99	2415	18.04	2512	20.14	2709	24.59
10000	1686	4.29	1810	6.10	1922	7.92	2030	9.85	2131	11.81	2229	13.83	2320	15.84	2409	17.91	2496	20.01	2584	22.20	2761	26.81
12000	1972	6.43	2084	8.64	2183	10.78	2277	12.97	2369	15.25	2456	17.57	2541	19.94	2623	22.34	2702	24.75	2778	27.18	2925	32.12
14000			2364	11.87	2455	14.40	2540	16.92	2622	19.47	2701	22.07	2778	24.73	2853	27.44	2927	30.21	2998	32.98		
16000			2649	15.90	2733	18.83	2812	21.73	2887	24.62	2959	27.51	3029	30.44								

MAXIMUM RPM: CLASS I = 1888 CLASS II = 2403 CLASS III = 3090

222 EPQ (12-Blade, Arr. 3)

Wheel Diameter: 22.25" **Max. BHP = 1.281 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3500	862	0.82	1099	1.61																		
4000	917	0.96	1131	1.83																		
4500	974	1.12	1174	2.07	1358	3.09																
5000	1034	1.30	1224	2.34	1394	3.43	1557	4.60														
6000	1162	1.74	1336	2.94	1486	4.19	1628	5.50	1765	6.86	1901	8.31										
7000	1299	2.29	1454	3.63	1596	5.06	1724	6.53	1846	8.05	1965	9.60	2082	11.21	2198	12.90						
8000	1441	2.98	1580	4.46	1712	6.05	1834	7.70	1945	9.36	2053	11.08	2159	12.84	2263	14.64	2365	16.47	2467	18.39		
9000	1585	3.81	1713	5.44	1834	7.17	1949	8.99	2056	10.83	2157	12.72	2253	14.62	2349	16.60	2442	18.57	2534	20.58	2715	24.73
10000	1729	4.79	1852	6.61	1961	8.46	2069	10.43	2172	12.46	2269	14.52	2360	16.58	2448	18.69	2534	20.82	2620	23.02	2788	27.47
12000	2022	7.27	2136	9.51	2233	11.68	2325	13.90	2415	16.20	2504	18.61	2589	21.03	2672	23.51	2750	25.96	2826	28.45	2972	33.51
14000	2318	10.56	2425	13.25	2517	15.83	2599	18.35	2677	20.90	2755	23.54	2833	26.28	2909	29.08	2982	31.88	3054	34.74		
16000			2716	17.91	2804	20.93	2882	23.85	2954	26.73	3024	29.65										

MAXIMUM RPM: CLASS I = 1888 CLASS II = 2403 CLASS III = 3090

Class I = First white section
Class II = Blue shaded section
Class III = Bolded section after blue section
Underlined figures indicate Maximum Static Efficiency

Performance certified is for installation Type A; Free inlet, Free outlet.
Power rating (BHP) does not include transmission losses.
Performance ratings do not include the effects of appurtenances (accessories).
Performance based on a shaft height of 16" above the base on fan size 222.

Performance Data

245 EPFN (9-Blade, Arr. 1 and 4)

Wheel Diameter: 24.50" **Max. BHP = 1.92 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
4400	790	0.93	1021	1.92																		
5000	831	1.07	1047	2.13																		
5600	877	1.23	1079	2.36	1258	3.63																
6200	926	1.41	1115	2.60	1286	3.96	1442	5.40														
7400	1031	1.83	1200	3.18	1354	4.67	1497	6.27	1632	7.96	1759	9.73										
8600	1140	2.35	1295	3.87	1435	5.49	1567	7.23	1691	9.06	1810	10.99	1924	13.00	2034	15.08						
9800	1250	2.95	1399	4.68	1526	6.44	1648	8.33	1763	10.30	1874	12.37	1981	14.52	2084	16.74	2184	19.03	2281	21.39		
11000	1364	3.67	1506	5.61	1626	7.55	1738	9.58	1845	11.69	1949	13.89	2049	16.18	2146	18.54	2240	20.97	2332	23.48		
12200	1481	4.53	1615	6.66	1731	8.81	1835	10.99	1935	13.24	2032	15.58	2126	18.00	**2218**	**20.51**	**2307**	**23.08**	**2394**	**25.73**		
14600	1720	6.71	1838	9.19	1947	11.77	2045	14.36	2134	16.93	**2219**	**19.55**	**2302**	**22.25**	**2384**	**25.03**	**2464**	**27.87**	**2543**	**30.80**		
17000	1966	9.63	2069	12.41	2168	15.36	**2261**	**18.38**	**2347**	**21.40**	**2426**	**24.38**	**2501**	**27.39**	**2574**	**30.45**	**2646**	**33.58**	**2717**	**36.78**		
19400			**2307**	**16.50**	**2396**	**19.76**	**2482**	**23.15**	**2564**	**26.61**	**2641**	**30.05**	**2713**	**33.47**	**2781**	**36.87**						

MAXIMUM RPM: CLASS I = 1715 CLASS II = 2183 CLASS III = 2806

245 EPF (9-Blade, Arr. 3)

Wheel Diameter: 24.50" **Max. BHP = 1.91 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
4400	804	0.99																				
5000	849	1.15	1057	2.20																		
5600	898	1.34	1094	2.49	1270	3.71																
6200	950	1.55	1135	2.79	1299	4.10																
7400	1058	2.05	1227	3.45	1376	4.98	1515	6.55	1647	8.15												
8600	1171	2.64	1328	4.26	1466	5.94	1593	7.73	1714	9.55	1828	11.35	1942	13.28								
9800	1289	3.36	1436	5.22	1564	7.05	1683	9.00	1794	11.04	1902	13.12	2004	15.16	2104	17.25	**2204**	**19.45**				
11000	1409	4.22	1546	6.30	1668	8.36	1780	10.45	1885	12.64	1985	14.93	2081	17.23	2175	19.55	**2266**	**21.87**	**2355**	**24.21**		
12200	1533	5.27	1660	7.52	1776	9.83	1882	12.11	1981	14.43	2077	16.88	2167	19.37	**2255**	**21.93**	**2342**	**24.53**	**2426**	**27.10**		
14600	1787	7.94	1896	10.51	2001	13.28	2098	16.05	**2189**	**18.77**	**2275**	**21.49**	**2358**	**24.28**	**2439**	**27.18**	**2516**	**30.11**	**2592**	**33.15**		
17000			2142	14.43	**2234**	**17.50**	**2324**	**20.74**	**2408**	**23.96**	**2489**	**27.18**	**2565**	**30.32**	**2639**	**33.49**	**2711**	**36.72**	**2781**	**40.01**		
19400			**2394**	**19.40**	**2477**	**22.81**	**2557**	**26.35**	**2636**	**30.05**	**2711**	**33.74**	**2783**	**37.40**								

MAXIMUM RPM: CLASS I = 1715 CLASS II = 2183 CLASS III = 2806

245 EPQN (12-Blade, Arr. 1 and 4)

Wheel Diameter: 24.50" **Max. BHP = 2.04 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
4400	779	0.96																				
5000	824	1.11	1026	2.19																		
5600	875	1.29	1061	2.44	1234	3.73																
6200	929	1.49	1100	2.71	1261	4.07																
7400	1043	1.98	1192	3.33	1334	4.84	1469	6.46	1598	8.16												
8600	1157	2.53	1299	4.11	1423	5.73	1545	7.51	1662	9.37	1774	11.31	1886	13.35								
9800	1275	3.20	1412	5.03	1524	6.79	1633	8.69	1740	10.71	1844	12.81	1944	14.97	2042	17.21	2140	19.53				
11000	1395	3.99	1525	6.05	1634	8.05	1732	10.06	1829	12.20	1924	14.43	2018	16.78	2110	19.19	**2198**	**21.62**	**2285**	**24.13**	2462	29.43
12200	1519	4.95	1640	7.20	1748	9.48	1840	11.66	1928	13.91	2015	16.26	2102	18.75	**2187**	**21.30**	**2271**	**23.93**	**2353**	**26.61**	**2510**	**32.05**
14600	1770	7.35	1877	9.98	1976	12.72	2066	15.44	2147	18.08	**2222**	**20.70**	**2295**	**23.38**	**2368**	**26.17**	**2441**	**29.06**	**2514**	**32.06**	**2656**	**38.22**
17000	2026	10.54	2121	13.55	**2211**	**16.67**	**2295**	**19.85**	**2374**	**23.04**	**2447**	**26.16**	**2515**	**29.24**	**2579**	**32.28**	**2642**	**35.38**	**2704**	**38.54**		
19400			**2371**	**18.05**	**2452**	**21.52**	**2530**	**25.11**	**2604**	**28.74**	**2675**	**32.41**	**2742**	**36.03**	**2804**	**39.54**						

MAXIMUM RPM: CLASS I = 1715 CLASS II = 2183 CLASS III = 2806

245 EPQ (12-Blade, Arr. 3)

Wheel Diameter: 24.50" **Max. BHP = 2.03 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
4400	790	1.00																				
5000	838	1.17	1041	2.25																		
5600	891	1.36	1074	2.51																		
6200	947	1.59	1116	2.81	1278	4.18																
7400	1064	2.11	1213	3.51	1352	5.00	1489	6.64	1623	8.39												
8600	1185	2.76	1324	4.36	1446	6.01	1566	7.77	1683	9.63	1799	11.61										
9800	1309	3.55	1440	5.37	1552	7.19	1659	9.10	1764	11.09	1867	13.17	1970	15.38	2072	17.68	2173	20.06				
11000	1436	4.50	1558	6.52	1666	8.57	1764	10.65	1859	12.79	1952	15.00	2044	17.30	2136	19.70	**2228**	**22.22**	**2318**	**24.78**		
12200	1565	5.63	1680	7.86	1783	10.13	1876	12.40	1963	14.70	2049	17.09	2134	19.55	**2217**	**22.04**	**2300**	**24.64**	**2382**	**27.30**	**2547**	**32.96**
14600	1827	8.50	1930	11.16	2022	13.82	2109	16.55	**2189**	**19.25**	**2265**	**21.99**	**2337**	**24.73**	**2409**	**27.56**	**2481**	**30.47**	**2552**	**33.42**	**2691**	**39.46**
17000			**2186**	**15.41**	**2271**	**18.51**	**2350**	**21.63**	**2425**	**24.78**	**2496**	**27.93**	**2564**	**31.11**	**2629**	**34.29**	**2691**	**37.46**	**2753**	**40.72**		
19400			**2446**	**20.74**	**2524**	**24.26**	**2598**	**27.83**	**2667**	**31.37**	**2734**	**34.98**	**2798**	**38.58**								

MAXIMUM RPM: CLASS I = 1715 CLASS II = 2183 CLASS III = 2806

Class I = First white section
Class II = Blue shaded section
Class III = Bolded section after blue section
Underlined figures indicate Maximum Static Efficiency

Performance certified is for installation Type A; Free inlet, Free outlet.
Power rating (BHP) does not include transmission losses.
Performance ratings do not include the effects of appurtenances (accessories).
Performance based on a shaft height of 17" above the base on fan size 245.

Performance Data

270 EPFN (9-Blade, Arr. 1 and 4)

Wheel Diameter: 27.00" **Max. BHP = 3.10 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
5000	705	1.07																				
5800	743	1.24	952	2.55																		
6600	787	1.44	978	2.83																		
7400	835	1.68	1012	3.15	1174	4.84																
8200	885	1.94	1051	3.51	1202	5.27	1346	7.22														
9000	937	2.24	1095	3.92	1236	5.74	1371	7.78	1501	9.95												
10600	1045	2.92	1189	4.84	1317	6.86	1437	9.02	1553	11.36	1665	13.85	1776	16.45								
12200	1157	3.75	1291	5.93	1409	8.18	1519	10.53	1623	12.98	1725	15.61	1824	18.37	1921	21.25	2017	24.23	2114	27.32		
13800	1273	4.75	1397	7.20	1507	9.68	1610	12.26	1707	14.92	1800	17.67	1891	20.56	1980	23.59	2067	26.73	2153	29.98		
17000	1511	7.34	1618	10.32	1718	13.36	1809	16.40	1895	19.50	1977	22.66	2057	25.93	2134	29.25	2209	32.65	2284	36.21		
20200	1757	10.89	1850	14.40	1938	17.94	2022	21.54	2101	25.17	2175	28.78	2247	32.47	2317	36.23	2385	40.05	2452	43.96		
23400			2089	19.59	2168	23.69	2243	27.78	2316	31.94	2386	36.14	2453	40.36	2517	44.56						

MAXIMUM RPM: CLASS I = 1556 CLASS II = 1981 CLASS III = 2546

270 EPF (9-Blade, Arr. 3)

Wheel Diameter: 27.00" **Max. BHP = 3.08 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
5000	716	1.13	943	2.37																		
5800	756	1.33	961	2.65																		
6600	803	1.56	991	2.98	1163	4.59																
7400	854	1.82	1028	3.34	1187	5.04	1338	6.91														
8200	909	2.12	1070	3.76	1219	5.55	1358	7.48	1495	9.60												
9000	966	2.47	1115	4.20	1256	6.10	1388	8.14	1514	10.31	1638	12.63										
10600	1082	3.28	1217	5.24	1341	7.35	1460	9.58	1574	11.95	1683	14.41	1789	16.99	1895	19.72	1999	22.55				
12200	1203	4.30	1328	6.50	1439	8.83	1547	11.29	1651	13.85	1751	16.51	1848	19.27	1942	22.12	2034	25.07	2126	28.16		
13800	1326	5.54	1443	7.99	1547	10.56	1643	13.21	1738	15.99	1831	18.87	1921	21.83	2009	24.90	2094	28.03	2177	31.24		
17000	1576	8.74	1682	11.81	1774	14.83	1861	17.98	1941	21.17	2019	24.47	2096	27.86	2173	31.36	2248	34.90	2321	38.49		
20200	1831	13.12	1928	16.84	2013	20.45	2090	24.01	2165	27.72	2235	31.46	2303	35.31	2368	39.18	2433	43.15	2499	47.26		
23400			2178	23.25	2258	27.52	2330	31.67	2397	35.79	2462	40.00	2526	44.34								

MAXIMUM RPM: CLASS I = 1556 CLASS II = 1981 CLASS III = 2546

270 EPQN (12-Blade, Arr. 1 and 4)

Wheel Diameter: 27.00" **Max. BHP = 3.26 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
5000	698	1.11																				
5800	741	1.30	927	2.57																		
6600	790	1.53	964	2.92	1119	4.43																
7400	842	1.78	1004	3.28	1148	4.91																
8200	897	2.07	1048	3.68	1186	5.43	1311	7.27														
9000	953	2.38	1096	4.12	1226	5.98	1347	7.95	1460	10.00												
10600	1071	3.15	1200	5.13	1317	7.23	1427	9.42	1532	11.71	1630	14.06	1725	16.48	1823	19.02						
12200	1192	4.09	1310	6.31	1417	8.64	1518	11.07	1614	13.58	1707	16.18	1796	18.86	1880	21.56	1963	24.35	2047	27.24		
13800	1316	5.23	1425	7.70	1525	10.28	1618	12.95	1707	15.70	1793	18.53	1876	21.42	1956	24.36	2034	27.39	2109	30.47	2256	36.81
17000	1569	8.21	1667	11.25	1753	14.30	1835	17.44	1913	20.66	1988	23.97	2061	27.35	2132	30.78	2201	34.25	2269	37.79	2401	45.06
20200	1828	12.31	1915	15.90	1994	19.51	2066	23.11	2136	26.81	2204	30.59	2269	34.42	2333	38.36	2395	42.33	2456	46.36		
23400			2168	21.86	2241	26.05	2308	30.22	2371	34.39	2432	38.63	2492	42.96								

MAXIMUM RPM: CLASS I = 1556 CLASS II = 1981 CLASS III = 2546

270 EPQ (12-Blade, Arr. 3)

Wheel Diameter: 27.00" **Max. BHP = 3.23 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
5000	706	1.14																				
5800	756	1.37	939	2.65																		
6600	807	1.62	974	2.99																		
7400	861	1.89	1018	3.39	1162	5.04																
8200	917	2.20	1068	3.86	1198	5.56	1328	7.48														
9000	977	2.57	1120	4.36	1243	6.18	1361	8.14	1479	10.30												
10600	1101	3.45	1227	5.45	1344	7.60	1448	9.75	1548	12.00	1648	14.41	1748	16.98								
12200	1230	4.57	1341	6.76	1449	9.17	1550	11.67	1641	14.13	1727	16.63	1814	19.29	1902	22.14	1988	25.06				
13800	1360	5.92	1464	8.39	1560	10.97	1654	13.73	1743	16.55	1825	19.34	1902	22.13	1979	25.05	2056	28.09	2133	31.27	2286	37.93
17000	1623	9.43	1719	12.54	1800	15.55	1878	18.68	1956	21.99	2032	25.41	2106	28.91	2175	32.35	2241	35.78	2305	39.25	2429	46.31
20200	1891	14.27	1979	18.02	2055	21.66	2123	25.24	2189	28.90	2255	32.71	2321	36.68	2385	40.71	2448	44.83	2509	48.96		
23400			2242	25.05	2314	29.35	2379	33.57	2439	37.74	2496	41.92										

MAXIMUM RPM: CLASS I = 1556 CLASS II = 1981 CLASS III = 2546

Class I = First white section
Class II = Blue shaded section
Class III = Bolded section after blue section
Underlined figures indicate Maximum Static Efficiency

Performance certified is for installation Type A; Free inlet, Free outlet.
Power rating (BHP) does not include transmission losses.
Performance ratings do not include the effects of appurtenances (accessories).
Performance based on a shaft height of 19" above the base on fan size 270.

Performance Data

300 EPFN (9-Blade, Arr. 1 and 4)

Wheel Diameter: 30.00" **Max. BHP = 5.27 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
6000	627	1.27																				
7000	662	1.49	847	3.05																		
8000	702	1.73	872	3.40	1025	5.31																
9000	746	2.01	904	3.82	1047	5.81	1179	8.03														
10000	794	2.35	940	4.26	1074	6.37	1200	8.68	1317	11.17												
11000	842	2.70	980	4.74	1106	6.99	1225	9.40	1337	11.96	1443	14.70										
13000	941	3.56	1068	5.87	1181	8.36	1287	11.01	1390	13.83	1488	16.75	1582	19.82	1672	23.02						
15000	1041	4.58	1164	7.24	1266	9.96	1363	12.85	1456	15.91	1546	19.09	1633	22.36	1718	25.77	1800	29.30	1879	32.93		
17000	1144	5.82	1262	8.82	1359	11.83	1448	14.97	1533	18.23	1616	21.67	1696	25.20	1775	28.86	1851	32.56	1926	36.40		
21000	1359	9.10	1461	12.70	1555	16.45	1636	20.16	1709	23.89	1781	27.79	1851	31.80	1919	35.93	1986	40.19	2051	44.49		
25000	1582	13.67	1668	17.79	1753	22.16	1832	26.61	1903	31.03	1968	35.45	2030	39.95	2090	44.53	2150	49.26	2208	54.03		
29000			1884	24.42	1958	29.32	2031	34.41	2100	39.56	2165	44.76	2224	49.88	2279	54.97						

MAXIMUM RPM: CLASS I = 1401 CLASS II = 1783 CLASS III = 2291

300 EPF (9-Blade, Arr. 3)

Wheel Diameter: 30.00" **Max. BHP = 5.11 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
6000	639	1.33																				
7000	675	1.56	860	3.20																		
8000	717	1.84	888	3.58	1041	5.56																
9000	761	2.14	921	3.99	1064	6.11	1198	8.40														
10000	809	2.50	959	4.48	1094	6.69	1219	9.13	1339	11.70												
11000	858	2.89	1000	5.02	1128	7.33	1246	9.87	1358	12.57	1467	15.41										
13000	960	3.89	1090	6.26	1205	8.83	1313	11.55	1415	14.48	1512	17.58	1607	20.83	1699	24.14	1790	27.60				
15000	1066	5.15	1186	7.73	1292	10.60	1391	13.58	1485	16.69	1575	19.97	1662	23.45	1746	27.07	1828	30.78	1909	34.60		
17000	1174	6.66	1287	9.53	1386	12.63	1477	15.90	1565	19.30	1649	22.80	1730	26.44	1808	30.22	1884	34.16	1958	38.22		
21000	1399	10.60	1496	14.27	1585	17.77	1667	21.52	1744	25.50	1817	29.55	1889	33.72	1959	37.98	2026	42.26	2092	46.69		
25000	1629	15.97	1714	20.50	1794	24.77	1869	28.93	1940	33.30	2007	37.89	2071	42.62	2133	47.44	2194	52.36	2254	57.33		
29000			1938	28.38	2010	33.57	2078	38.45	2143	43.24	2206	48.20	2266	53.37								

MAXIMUM RPM: CLASS I = 1401 CLASS II = 1783 CLASS III = 2291

300 EPQN (12-Blade, Arr. 1 and 4)

Wheel Diameter: 30.00" **Max. BHP = 5.54 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
6000	621	1.33																				
7000	657	1.55	845	3.17																		
8000	699	1.81	865	3.55																		
9000	745	2.12	895	3.97	1042	6.05																
10000	794	2.46	933	4.44	1065	6.65	1196	9.02														
11000	845	2.86	974	4.94	1095	7.27	1216	9.80	1335	12.47												
13000	949	3.81	1067	6.17	1173	8.70	1275	11.46	1377	14.40	1478	17.40	1579	20.63								
15000	1056	4.96	1166	7.63	1262	10.42	1354	13.39	1443	16.55	1531	19.88	1619	23.29	1707	26.80	1795	30.51				
17000	1167	6.37	1269	9.38	1360	12.47	1443	15.66	1524	19.03	1603	22.58	1680	26.24	1757	30.02	1835	33.91	1913	37.89	2068	46.31
21000	1394	9.97	1482	13.78	1563	17.47	1638	21.24	1708	25.11	1775	29.08	1841	33.19	1906	37.44	1970	41.84	2033	46.35	2158	55.65
25000	1626	14.85	1704	19.50	1776	23.98	1844	28.36	1909	32.82	1971	37.41	2029	42.00	2086	46.72	2141	51.48	2196	56.38		
29000			1931	26.73	1996	32.06	2058	37.24	2117	42.32	2174	47.43	2229	52.65	2282	57.96						

MAXIMUM RPM: CLASS I = 1401 CLASS II = 1783 CLASS III = 2291

300 EPQ (12-Blade, Arr. 3)

Wheel Diameter: 30.00" **Max. BHP = 5.52 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
6000	626	1.35																				
7000	665	1.60																				
8000	712	1.90																				
9000	763	2.27	903	4.06																		
10000	817	2.70	945	4.57																		
11000	870	3.17	992	5.18	1105	7.44																
13000	978	4.24	1094	6.65	1192	9.06	1288	11.75	1387	14.66												
15000	1089	5.55	1201	8.43	1291	11.12	1376	13.93	1459	17.00	1542	20.25										
17000	1203	7.15	1308	10.43	1397	13.59	1474	16.63	1550	19.86	1623	23.25	1696	26.87	1770	30.61						
21000	1438	11.40	1529	15.42	1612	19.47	1687	23.44	1753	27.21	1815	30.97	1876	34.87	1937	38.95	1996	43.17	2055	47.58	2174	56.74
25000	1677	17.22	1757	21.99	1832	26.81	1902	31.63	1968	36.44	2027	41.02	2082	45.50	2135	50.00	2186	54.51	2237	59.17		
29000			1992	30.53	2059	36.06	2123	41.65	2184	47.25	2242	52.82										

MAXIMUM RPM: CLASS I = 1401 CLASS II = 1783 CLASS III = 2291

Class I = First white section
Class II = Blue shaded section
Class III = Bolded section after blue section
Underlined figures indicate Maximum Static Efficiency

Performance certified is for installation Type A; Free inlet, Free outlet.
Power rating (BHP) does not include transmission losses.
Performance ratings do not include the effects of appurtenances (accessories).
Performance based on a shaft height of 21" above the base on fan size 300.

Performance Data

330 EPFN (9-Blade, Arr. 1 and 4)

Wheel Diameter: 33.00" **Max. BHP = 8.49 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
7000	564	1.49																				
8000	589	1.70	762	3.52																		
9000	617	1.92	779	3.86																		
11000	682	2.47	824	4.65	954	7.09	1073	9.77														
13000	754	3.15	881	5.57	998	8.27	1107	11.13	1211	14.24	1308	17.51										
15000	828	3.97	946	6.67	1052	9.59	1152	12.72	1247	15.99	1339	19.47	1426	23.11	1510	26.94						
17000	903	4.92	1016	7.93	1113	11.08	1205	14.45	1294	18.03	1379	21.71	1461	25.53	1541	29.57	1617	33.70	1692	38.06		
19000	979	6.04	1090	9.41	1180	12.81	1265	16.39	1347	20.18	1427	24.18	1504	28.25	1578	32.40	1651	36.75	1722	41.25		
23000	1137	8.86	1238	12.89	1324	16.94	1400	21.07	1471	25.28	1541	29.70	1609	34.29	1675	39.00	1740	43.84	1804	48.80		
27000	1302	12.66	1389	17.21	1472	21.99	1546	26.81	1611	31.57	1673	36.45	1734	41.49	1794	46.70	1852	51.99	1909	57.42		
31000	1470	17.56	1547	22.67	1622	28.03	1693	33.53	1758	39.05	1817	44.55	1872	50.05	1926	55.71	1979	61.48	2031	67.34		
35000			1709	29.38	1776	35.27	1843	41.45	1906	47.68	1964	53.87	2018	60.07	2069	66.30						

MAXIMUM RPM: CLASS I = 1273 CLASS II = 1620 CLASS III = 2083

330 EPF (9-Blade, Arr. 3)

Wheel Diameter: 33.00" **Max. BHP = 8.23 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
7000	574	1.56																				
8000	600	1.77	774	3.70																		
9000	630	2.03	792	4.06	939	6.39																
11000	696	2.63	841	4.89	969	7.44	1091	10.26														
13000	769	3.38	899	5.89	1017	8.66	1126	11.71	1230	14.96	1330	18.33										
15000	845	4.31	965	7.09	1073	10.09	1174	13.32	1269	16.80	1360	20.46	1449	24.27	1536	28.22						
17000	923	5.47	1036	8.46	1136	11.77	1230	15.23	1319	18.88	1403	22.73	1485	26.82	1565	31.06	1643	35.38	1720	39.84		
19000	1003	6.83	1110	10.07	1204	13.65	1291	17.37	1375	21.27	1455	25.33	1532	29.61	1606	34.05	1678	38.63	1749	43.35		
23000	1169	10.25	1264	14.18	1350	18.17	1428	22.46	1502	26.94	1573	31.47	1642	36.15	1709	40.97	1774	45.93	1838	51.13		
27000	1340	14.75	1424	19.53	1502	24.01	1575	28.71	1643	33.71	1707	38.84	1769	44.08	1831	49.51	1890	54.92	1948	60.46		
31000	1514	20.52	1589	26.12	1661	31.48	1728	36.61	1792	41.97	1852	47.59	1909	53.36	1965	59.34	2019	65.36	2073	71.52		
35000			1758	34.14	1823	40.36	1886	46.32	1945	52.09	2002	58.05	2057	64.35								

MAXIMUM RPM: CLASS I = 1273 CLASS II = 1620 CLASS III = 2083

330 EPQN (12-Blade, Arr. 1 and 4)

Wheel Diameter: 33.00" **Max. BHP = 8.92 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
7000	559	1.55																				
8000	583	1.76																				
9000	613	2.00	775	4.03																		
11000	681	2.59	816	4.84	949	7.39																
13000	756	3.33	876	5.82	988	8.61	1100	11.60														
15000	833	4.22	943	6.97	1044	9.99	1140	13.22	1238	16.68	1334	20.26										
17000	913	5.30	1017	8.36	1108	11.58	1196	15.07	1281	18.75	1366	22.58	1452	26.58	1537	30.77						
19000	995	6.57	1093	9.95	1178	13.43	1259	17.14	1337	21.05	1413	25.14	1489	29.39	1566	33.78	1642	38.25	1718	42.96		
23000	1164	9.72	1250	13.84	1328	17.92	1399	22.13	1466	26.45	1533	31.04	1597	35.72	1660	40.58	1723	45.62	1786	50.78	1913	61.39
27000	1336	13.81	1413	18.77	1484	23.54	1550	28.32	1612	33.24	1671	38.28	1728	43.43	1784	48.71	1840	54.22	1894	59.79	2001	71.38
31000	1511	19.04	1581	24.83	1646	30.44	1706	35.83	1764	41.32	1820	47.00	1872	52.65	1923	58.46	1972	64.29	2022	70.42		
35000			1751	32.13	1811	38.60	1868	44.89	1921	50.97	1973	57.16	2023	63.45	2071	69.85						

MAXIMUM RPM: CLASS I = 1273 CLASS II = 1620 CLASS III = 2083

330 EPQ (12-Blade, Arr. 3)

Wheel Diameter: 33.00" **Max. BHP = 8.89 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
7000																						
8000	590	1.81																				
9000	623	2.09																				
11000	698	2.79	824	4.96																		
13000	779	3.69	891	6.07	996	8.79																
15000	860	4.72	965	7.45	1059	10.33	1150	13.53														
17000	942	5.93	1045	9.13	1130	12.21	1212	15.55	1292	19.17												
19000	1026	7.35	1126	11.02	1207	14.45	1281	17.92	1355	21.74	1426	25.73	1500	29.97								
23000	1200	11.01	1289	15.44	1368	19.84	1436	24.00	1499	28.16	1560	32.45	1620	36.96	1679	41.71	1738	46.63	1799	51.76		
27000	1378	15.87	1457	21.02	1531	26.28	1598	31.44	1658	36.41	1712	41.18	1765	46.07	1817	51.09	1869	56.33	1920	61.78	2020	73.09
31000			1630	28.04	1697	34.01	1760	40.00	1819	45.95	1873	51.72	1923	57.33	1970	62.84	2016	68.43	2061	74.09		
35000			1807	36.73	1868	43.41	1926	50.13	1982	56.93	2035	63.67										

MAXIMUM RPM: CLASS I = 1273 CLASS II = 1620 CLASS III = 2083

Class I = First white section
Class II = Blue shaded section
Class III = Bolded section after blue section
Underlined figures indicate Maximum Static Efficiency

Performance certified is for installation Type A; Free inlet, Free outlet.
Power rating (BHP) does not include transmission losses.
Performance ratings do not include the effects of appurtenances (accessories).
Performance based on a shaft height of 23" above the base on fan size 330.

Performance Data

365 EPFN (9-Blade, Arr. 1 and 4)

Wheel Diameter: 36.50" **Max. BHP = 14.55 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
8000	491	1.66																				
9200	511	1.90																				
10400	534	2.16	682	4.34																		
11600	560	2.46	698	4.78																		
14000	615	3.12	741	5.79	852	8.67																
16400	676	3.92	791	6.92	893	10.15	987	13.51	1078	17.13												
18800	741	4.88	846	8.23	941	11.77	1029	15.53	1111	19.35	1191	23.40										
23600	880	7.40	967	11.40	1050	15.64	1128	20.01	1201	24.54	1271	29.26	1338	34.05	1403	38.93	1466	43.90	1529	49.14		
28400	1026	10.93	1099	15.45	1171	20.39	1240	25.45	1307	30.67	1371	36.04	1431	41.44	1490	47.06	1547	52.76	1603	58.58		
33200	1176	15.63	1239	20.71	1301	26.17	1363	32.00	1422	37.86	1480	43.85	1537	50.01	1592	56.30	1644	62.59	1695	69.03		
38000			1384	27.37	1439	33.38	1493	39.71	1547	46.34	1599	53.02	1651	59.88	1702	66.84	1751	73.80	1799	80.90		
42800			1532	35.59	1581	42.14	1630	49.03	1678	56.19	1726	63.62	1773	71.16	1819	78.74	1865	86.48				

MAXIMUM RPM: CLASS I = 1151 CLASS II = 1465 CLASS III = 1884

365 EPF (9-Blade, Arr. 3)

Wheel Diameter: 36.50" **Max. BHP = 14.43 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
8000	496	1.73																				
9200	518	2.00																				
10400	541	2.28	689	4.55																		
11600	568	2.60	707	5.04																		
14000	628	3.34	751	6.11	862	9.11	968	12.42														
16400	693	4.25	803	7.35	906	10.73	999	14.21	1089	17.97												
18800	762	5.37	862	8.78	954	12.45	1043	16.36	1126	20.42	1203	24.51	1282	29.02								
23600	906	8.32	992	12.37	1070	16.67	1145	21.24	1218	25.98	1289	30.90	1357	35.95	1421	41.00	1483	46.15	1544	51.45		
28400	1053	12.27	1131	17.14	1201	22.10	1266	27.23	1329	32.63	1390	38.13	1451	43.85	1511	49.74	1569	55.72	1625	61.76		
33200	1204	17.52	1275	23.22	1339	28.93	1398	34.70	1455	40.71	1509	46.84	1562	53.14	1615	59.66	1667	66.25	1719	73.06		
38000	1357	24.22	1423	30.84	1482	37.35	1536	43.81	1588	50.43	1638	57.19	1687	64.19	1734	71.26	1780	78.45	1826	85.81		
42800			1572	40.05	1627	47.40	1678	54.70	1726	61.99	1773	69.48	1818	77.02	1862	84.75						

MAXIMUM RPM: CLASS I = 1151 CLASS II = 1465 CLASS III = 1884

365 EPQN (12-Blade, Arr. 1 and 4)

Wheel Diameter: 36.50" **Max. BHP = 15.10 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
8000	486	1.72																				
9200	506	1.96																				
10400	535	2.27																				
11600	566	2.61	691	4.97																		
14000	630	3.36	739	6.04	843	9.00																
16400	698	4.27	800	7.36	887	10.52	977	14.04														
18800	767	5.34	863	8.81	946	12.40	1022	16.10	1099	20.06												
23600	912	8.13	998	12.39	1073	16.77	1141	21.24	1205	25.81	1264	30.36	1325	35.24	1388	40.37						
28400	1061	11.88	1139	16.98	1208	22.15	1271	27.42	1329	32.74	1385	38.19	1438	43.67	1488	49.15	1537	54.72	1587	60.53	1692	72.93
33200	1213	16.79	1284	22.73	1348	28.73	1407	34.81	1461	40.88	1513	47.13	1562	53.39	1610	59.77	1656	66.16	1699	72.43	1784	85.42
38000	1367	23.04	1432	29.84	1492	36.72	1546	43.52	1598	50.48	1647	57.48	1693	64.49	1738	71.68	1781	78.87	1823	86.13		
42800			1583	38.54	1638	46.20	1690	53.94	1738	61.63	1784	69.39	1829	77.31	1871	85.16						

MAXIMUM RPM: CLASS I = 1151 CLASS II = 1465 CLASS III = 1884

365 EPQ (12-Blade, Arr. 3)

Wheel Diameter: 36.50" **Max. BHP = 15.10 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
8000	489	1.75																				
9200	513	2.02																				
10400	542	2.34																				
11600	575	2.71	696	5.05																		
14000	646	3.60	749	6.23	849	9.16																
16400	719	4.67	813	7.67	899	10.85	985	14.32														
18800	793	5.96	883	9.37	960	12.87	1035	16.56	1109	20.47	1187	24.84										
23600	946	9.32	1029	13.61	1099	17.89	1161	22.22	1222	26.73	1281	31.31	1340	36.10	1400	41.17	1462	46.61				
28400	1103	13.91	1178	19.05	1245	24.27	1304	29.43	1357	34.58	1408	39.86	1458	45.22	1508	50.74	1557	56.35	1606	62.13	1705	74.28
33200	1264	20.06	1332	26.05	1393	32.06	1450	38.16	1502	44.22	1550	50.30	1594	56.29	1637	62.39	1680	68.65	1723	75.02	1808	88.09
38000			1489	34.81	1545	41.63	1599	48.64	1649	55.63	1695	62.52	1739	69.50	1779	76.30	1818	83.23	1856	90.22		
42800			1648	45.56	1700	53.23	1750	61.04	1797	68.85	1842	76.74	1884	84.52								

MAXIMUM RPM: CLASS I = 1151 CLASS II = 1465 CLASS III = 1884

Class I = First white section
Class II = Blue shaded section
Class III = Bolded section after blue section
Underlined figures indicate Maximum Static Efficiency

Performance certified is for installation Type A; Free inlet, Free outlet.
Power rating (BHP) does not include transmission losses.
Performance ratings do not include the effects of appurtenances (accessories).
Performance based on a shaft height of 25.50" above the base on fan size 365.

Performance Data

402 EPFN (9-Blade, Arr. 1 and 4)

Wheel Diameter: 40.25" **Max. BHP = 23.73 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
10000	448	2.06																				
11500	467	2.37																				
13000	490	2.71	622	5.41																		
16000	540	3.50	657	6.59	762	9.97																
19000	595	4.44	702	7.95	797	11.74	885	15.72														
22000	654	5.56	752	9.51	840	13.71	921	18.13	998	22.72	1072	27.53										
25000	717	6.93	806	11.32	888	15.90	964	20.75	1035	25.75	1103	30.87	1169	36.19								
28000	782	8.56	863	13.35	940	18.41	1012	23.66	1078	29.01	1142	34.61	1204	40.35	1264	46.22	1322	52.19				
34000	918	12.84	985	18.27	1051	24.19	1115	30.31	1176	36.56	1234	42.96	1290	49.59	1343	56.24	1395	63.07	1446	70.02		
40000	1057	18.56	1115	24.70	1172	31.33	1228	38.30	1283	45.48	1336	52.72	1388	60.18	1437	67.63	1485	75.32	1531	83.03		
46000			1250	32.94	1300	40.21	1350	47.96	1399	56.00	1446	64.04	1493	72.30	1539	80.67	1584	89.18	1628	97.85		
52000			1389	43.27	1433	51.19	1477	59.51	1521	68.26	1564	77.22	1607	86.43	1649	95.68	1690	104.96				

MAXIMUM RPM: CLASS I = 1044 CLASS II = 1329 CLASS III = 1708

402 EPF (9-Blade, Arr. 3)

Wheel Diameter: 40.25" **Max. BHP = 23.53 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
10000	454	2.18																				
11500	474	2.50																				
13000	497	2.87	628	5.66																		
16000	549	3.71	667	6.98	770	10.45																
19000	609	4.78	712	8.42	808	12.38	895	16.52	981	21.07												
22000	672	6.09	765	10.13	852	14.51	934	19.13	1010	23.89	1083	28.87										
25000	738	7.70	824	12.15	901	16.85	978	21.97	1050	27.21	1118	32.59	1182	38.01	1247	43.87	1314	50.25				
28000	805	9.59	885	14.45	957	19.60	1026	25.03	1094	30.75	1159	36.61	1221	42.62	1279	48.57	1337	54.86	1394	61.32		
34000	943	14.45	1014	20.26	1078	26.20	1138	32.43	1195	38.84	1251	45.45	1307	52.33	1362	59.43	1415	66.61	1466	73.87		
40000	1083	20.84	1148	27.73	1206	34.58	1260	41.56	1312	48.83	1361	56.20	1410	63.90	1458	71.71	1506	79.75	1553	87.90		
46000	1226	29.16	1285	37.08	1339	44.99	1388	52.80	1436	60.90	1481	69.04	1525	77.44	1568	86.05	1610	94.77	1652	103.72		
52000			1425	48.66	1475	57.61	1521	66.45	1564	75.24	1607	84.39	1648	93.58	1688	103.00						

MAXIMUM RPM: CLASS I = 1044 CLASS II = 1329 CLASS III = 1708

402 EPQN (12-Blade, Arr. 1 and 4)

Wheel Diameter: 40.25" **Max. BHP = 24.62 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
10000	443	2.14																				
11500	464	2.46																				
13000	492	2.86																				
16000	550	3.73	652	6.83																		
19000	613	4.82	707	8.40	790	12.17																
22000	677	6.09	765	10.16	842	14.39	913	18.79	988	23.62												
25000	743	7.61	827	12.20	899	16.91	965	21.75	1027	26.71	1092	32.08										
28000	811	9.42	890	14.49	959	19.72	1022	25.07	1079	30.39	1135	35.96	1192	41.83	1251	48.01						
34000	949	13.95	1021	20.08	1084	26.27	1141	32.55	1195	39.03	1246	45.55	1294	52.10	1339	58.58	1385	65.42	1432	72.55	1529	87.50
40000	1091	19.98	1156	27.16	1214	34.37	1268	41.71	1317	49.02	1364	56.51	1409	64.11	1453	71.84	1494	79.41	1534	87.12	1611	102.71
46000	1235	27.75	1294	35.97	1348	44.24	1398	52.58	1445	60.98	1489	69.39	1531	77.92	1571	86.48	1610	95.17	1649	104.10		
52000			1435	46.83	1485	56.15	1531	65.42	1575	74.82	1617	84.29	1657	93.78	1696	103.47						

MAXIMUM RPM: CLASS I = 1044 CLASS II = 1329 CLASS III = 1708

402 EPQ (12-Blade, Arr. 3)

Wheel Diameter: 40.25" **Max. BHP = 24.62 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
10000	447	2.18																				
11500	470	2.53																				
13000	499	2.96	620	5.75																		
16000	563	3.97	661	7.04	760	10.61																
19000	631	5.25	718	8.74	799	12.47	882	16.67														
22000	699	6.75	782	10.76	854	14.91	924	19.29	995	24.04												
25000	769	8.57	850	13.17	915	17.70	978	22.47	1039	27.38	1101	32.66	1166	38.48								
28000	841	10.76	918	15.91	981	20.95	1038	26.10	1094	31.44	1149	36.96	1204	42.73	1260	48.86	1318	55.46				
34000	987	16.33	1056	22.51	1117	28.75	1171	34.96	1219	41.11	1265	47.36	1312	53.93	1358	60.59	1403	67.34	1448	74.31	1540	89.13
40000	1137	23.86	1199	31.08	1255	38.36	1307	45.73	1354	53.01	1397	60.26	1437	67.48	1477	74.95	1516	82.46	1556	90.27	1633	105.96
46000			1345	41.90	1396	50.16	1445	58.64	1490	67.04	1533	75.55	1572	83.85	1609	92.21	1644	100.53	1678	108.89		
52000			1493	55.26	1541	64.67	1586	74.11	1629	83.67	1669	93.11	1708	102.73								

MAXIMUM RPM: CLASS I = 1044 CLASS II = 1329 CLASS III = 1708

Class I = First white section
Class II = Blue shaded section
Class III = Bolded section after blue section
Underlined figures indicate Maximum Static Efficiency

Performance certified is for installation Type A; Free inlet, Free outlet.
Power rating (BHP) does not include transmission losses.
Performance ratings do not include the effects of appurtenances (accessories).
Performance based on a shaft height of 28.12" above the base on fan size 402.

Performance Data

445 EPFN (9-Blade, Arr. 1 and 4)

Wheel Diameter: 44.50" **Max. BHP = 39.19 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
12000	403	2.47																				
13800	420	2.84																				
15600	440	3.25	560	6.49																		
17400	461	3.68	574	7.17																		
21000	507	4.69	610	8.70	700	12.97																
24600	558	5.92	652	10.42	735	15.24	812	20.30	886	25.69												
28200	612	7.37	697	12.37	775	17.69	846	23.24	914	29.07	978	34.98										
35400	727	11.20	798	17.20	865	23.49	929	30.06	989	36.88	1046	43.92	1101	51.13	1154	58.44	1205	65.81	1256	73.55		
42600	848	16.57	907	23.31	966	30.73	1022	38.28	1077	46.14	1129	54.12	1179	62.36	1226	70.57	1273	79.18	1318	87.76		
49800	972	23.71	1024	31.37	1074	39.50	1124	48.16	1173	57.06	1220	65.99	1266	75.14	1311	84.56	1354	94.06	1396	103.78		
57000			1144	41.50	1188	50.39	1233	60.00	1276	69.79	1319	79.90	1361	90.09	1402	100.39	1443	111.03	1482	121.61		
64200			1267	54.06	1307	63.90	1346	74.08	1386	84.95	1424	95.87	1463	107.31	1500	118.56	1537	130.03				

MAXIMUM RPM: CLASS I = 944 CLASS II = 1202 CLASS III = 1545

445 EPF (9-Blade, Arr. 3)

Wheel Diameter: 44.50" **Max. BHP = 38.87 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
12000	408	2.60																				
13800	426	3.00																				
15600	446	3.44	566	6.82																		
17400	468	3.91	581	7.54																		
21000	518	5.03	618	9.17	709	13.67	794	18.53														
24600	572	6.41	661	11.02	745	16.07	822	21.35	894	26.84												
28200	629	8.11	710	13.18	786	18.73	859	24.63	926	30.63	989	36.75	1053	43.45								
35400	748	12.57	819	18.69	883	25.16	943	31.90	1003	39.04	1061	46.42	1116	53.90	1168	61.40	1219	69.16	1269	77.13		
42600	871	18.66	934	25.91	991	33.33	1044	41.01	1095	49.03	1145	57.30	1195	65.91	1244	74.74	1291	83.61	1337	92.71		
49800	996	26.65	1054	35.22	1105	43.65	1154	52.40	1200	61.32	1244	70.47	1287	79.88	1330	89.59	1373	99.58	1415	109.67		
57000	1122	36.80	1176	46.74	1224	56.49	1268	66.17	1310	76.00	1352	86.34	1391	96.62	1429	107.13	1467	117.99	1505	129.14		
64200			1300	60.84	1345	71.91	1386	82.76	1425	93.66	1463	104.8	1500	116.15	1536	127.73						

MAXIMUM RPM: CLASS I = 944 CLASS II = 1202 CLASS III = 1545

445 EPQN (12-Blade, Arr. 1 and 4)

Wheel Diameter: 44.50" **Max. BHP = 40.67 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
12000	399	2.57																				
13800	417	2.95																				
15600	441	3.41																				
17400	466	3.91	568	7.44																		
21000	520	5.07	609	9.09	693	13.49																
24600	576	6.44	659	11.05	731	15.84	803	21.03														
28200	634	8.09	712	13.28	780	18.67	841	24.14	904	30.09												
35400	753	12.28	824	18.72	885	25.26	941	32.00	993	38.81	1041	45.61	1090	52.82	1141	60.47	1194	68.57				
42600	877	18.01	941	25.69	997	33.41	1048	41.25	1096	49.30	1142	57.51	1185	65.67	1225	73.72	1266	82.26	1306	90.82	1391	109.31
49800	1003	25.49	1061	34.42	1113	43.39	1161	52.47	1206	61.69	1248	70.99	1288	80.36	1327	89.89	1364	99.33	1400	108.91	1469	128.27
57000	1131	35.06	1184	45.27	1232	55.46	1277	65.79	1319	76.16	1359	86.64	1397	97.24	1433	107.84	1468	118.58	1502	129.37		
64200			1309	58.50	1354	70.02	1396	81.57	1435	93.06	1473	104.79	1509	116.50	1544	128.42						

MAXIMUM RPM: CLASS I = 944 CLASS II = 1202 CLASS III = 1545

445 EPQ (12-Blade, Arr. 3)

Wheel Diameter: 44.50" **Max. BHP = 40.67 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
12000	402	2.62																				
13800	422	3.03																				
15600	447	3.53																				
17400	474	4.08	573	7.60																		
21000	533	5.42	617	9.37	698	13.72																
24600	594	7.07	670	11.53	740	16.28	810	21.47														
28200	655	9.01	729	14.15	791	19.35	852	24.86	912	30.68	975	37.15										
35400	781	14.08	850	20.59	907	27.00	957	33.42	1007	40.21	1055	47.05	1103	54.20	1151	61.65	1201	69.69	1253	78.39		
42600	912	21.13	973	28.83	1028	36.67	1076	44.38	1120	52.19	1161	60.02	1202	68.11	1242	76.23	1282	84.63	1322	93.29	1403	111.56
49800	1045	30.46	1100	39.40	1151	48.54	1197	57.63	1240	66.79	1279	75.86	1315	84.85	1350	93.97	1385	103.35	1420	112.88	1489	132.37
57000			1230	52.71	1277	63.11	1320	73.46	1361	83.96	1399	94.37	1435	104.82	1468	115.09	1500	125.51	1530	135.71		
64200			1363	69.26	1405	80.69	1446	92.45	1484	104.1	1521	115.98										

MAXIMUM RPM: CLASS I = 944 CLASS II = 1202 CLASS III = 1545

Class I = First white section
Class II = Blue shaded section
Class III = Bolded section after blue section
Underlined figures indicate Maximum Static Efficiency

Performance certified is for installation Type A; Free inlet, Free outlet.
Power rating (BHP) does not include transmission losses.
Performance ratings do not include the effects of appurtenances (accessories).
Performance based on a shaft height of 31.09" above the base on fan size 445.

Performance Data

490 EPFN (9-Blade, Arr. 1 and 4)

Wheel Diameter: 49.00" **Max. BHP = 63.44 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
16000	376	3.29																				
18000	392	3.74																				
20000	409	4.20	514	8.25																		
24000	446	5.26	542	9.89	627	14.89																
28000	487	6.53	576	11.75	654	17.34	726	23.18														
32000	531	8.02	612	13.77	685	19.91	752	26.34	816	33.08												
36000	577	9.77	651	16.09	720	22.78	783	29.79	843	37.13	899	44.48	955	52.38								
44000	673	14.24	736	21.62	797	29.53	854	37.62	908	46.06	958	54.56	1007	63.42	1055	72.53	1101	81.67	1146	91.03		
52000	774	20.34	828	28.62	881	37.63	932	46.90	981	56.35	1028	66.06	1073	76.03	1116	86.13	1158	96.48	1200	107.26		
60000	878	28.34	925	37.53	971	47.38	1017	57.90	1061	68.50	1104	79.29	1147	90.58	1187	101.71	1226	113.14	1264	124.79		
68000			1025	48.61	1066	59.34	1107	70.79	1147	82.60	1186	94.57	1225	106.87	1263	119.30	1300	131.89	1336	144.66		
76000			1127	62.09	1164	73.77	1201	86.08	1237	98.79	1273	111.99	1309	125.58	1343	138.87	1378	152.77				

MAXIMUM RPM: CLASS I = 857 CLASS II = 1091 CLASS III = 1403

490 EPF (9-Blade, Arr. 3)

Wheel Diameter: 49.00" **Max. BHP = 62.92 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
16000	381	3.47																				
18000	397	3.93	510	7.95																		
20000	414	4.42	520	8.67																		
24000	454	5.59	550	10.46	634	15.65																
28000	499	7.05	583	12.37	663	18.29	734	24.33	805	31.07												
32000	545	8.75	622	14.63	695	21.09	763	27.86	825	34.71	887	42.18										
36000	593	10.79	665	17.24	730	24.10	794	31.48	855	39.21	910	46.79	965	54.94	1020	63.59						
44000	693	16.04	756	23.59	813	31.53	867	39.90	920	48.64	972	57.75	1022	67.09	1069	76.42	1114	85.81	1159	95.68		
52000	795	22.92	853	31.88	904	40.86	952	50.22	998	59.97	1043	70.02	1088	80.46	1132	91.14	1175	102.05	1217	113.23		
60000	899	31.77	952	42.11	999	52.33	1043	62.77	1086	73.74	1126	84.77	1165	96.07	1204	107.73	1243	119.72	1282	132.10		
68000	1005	42.97	1054	54.77	1098	66.40	1138	77.89	1177	89.76	1215	102.02	1251	114.41	1286	127.04	1321	140.08	1355	153.12		
76000			1156	69.75	1198	82.94	1236	95.83	1272	108.78	1307	122.01	1341	135.50	1374	149.26						

MAXIMUM RPM: CLASS I = 857 CLASS II = 1091 CLASS III = 1403

490 EPQN (12-Blade, Arr. 1 and 4)

Wheel Diameter: 49.00" **Max. BHP = 65.84 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
16000	372	3.40																				
18000	391	3.89																				
20000	412	4.44																				
24000	455	5.63	539	10.30																		
28000	501	7.05	579	12.35	647	17.89																
32000	549	8.76	622	14.70	685	20.81	745	27.31	808	34.40												
36000	598	10.74	667	17.32	727	24.12	782	31.14	834	38.31	890	46.24										
44000	698	15.66	761	23.61	816	31.73	866	40.05	913	48.52	956	56.92	999	65.71	1044	75.13	1090	84.90				
52000	801	22.16	858	31.43	910	41.00	956	50.54	999	60.28	1040	70.17	1080	80.33	1116	90.10	1153	100.49	1189	110.89	1266	133.53
60000	906	30.48	959	41.25	1006	52.01	1050	63.00	1091	74.13	1129	85.29	1165	96.48	1201	108.09	1235	119.56	1268	131.19	1331	154.60
68000	1012	40.85	1061	53.07	1105	65.24	1146	77.53	1185	90.03	1221	102.42	1256	115.16	1289	127.86	1321	140.69	1352	153.55		
76000			1164	67.17	1206	80.89	1245	94.65	1281	108.30	1316	122.24	1349	136.12	1381	150.26						

MAXIMUM RPM: CLASS I = 857 CLASS II = 1091 CLASS III = 1403

490 EPQ (12-Blade, Arr. 3)

Wheel Diameter: 49.00" **Max. BHP = 65.84 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
16000	377	3.51																				
18000	396	4.01																				
20000	418	4.61	513	8.78																		
24000	466	6.00	546	10.60	625	15.82																
28000	516	7.69	588	12.86	655	18.38	724	24.63														
32000	567	9.70	635	15.51	695	21.57	753	27.94	813	35.00												
36000	618	12.02	685	18.64	739	25.17	792	32.08	844	39.33	897	47.14	952	55.69								
44000	724	18.00	785	26.02	837	34.03	882	41.99	926	50.31	969	58.78	1012	67.64	1054	76.67	1098	86.45	1143	96.82		
52000	833	26.01	888	35.38	938	44.98	982	54.47	1021	63.85	1058	73.36	1095	83.21	1132	93.31	1168	103.51	1204	114.02	1276	135.90
60000	944	36.40	994	47.16	1040	58.11	1082	69.06	1121	80.07	1156	90.89	1189	101.76	1221	112.78	1253	124.09	1285	135.60	1348	159.13
68000			1102	61.67	1145	74.07	1185	86.56	1222	98.98	1257	111.47	1289	123.74	1319	135.97	1348	148.32	1376	160.69		
76000			1212	79.36	1251	92.95	1289	106.93	1324	120.74	1358	134.82	1389	148.50								

MAXIMUM RPM: CLASS I = 857 CLASS II = 1091 CLASS III = 1403

Class I = First white section
Class II = Blue shaded section
Class III = Bolded section after blue section
Underlined figures indicate Maximum Static Efficiency

Performance certified is for installation Type A; Free inlet, Free outlet.
Power rating (BHP) does not include transmission losses.
Performance ratings do not include the effects of appurtenances (accessories).
Performance based on a shaft height of 34.23" above the base on fan size 490.

Performance Data

542 EPFN (9-Blade, Arr. 1 and 4)

Wheel Diameter: 54.25" **Max. BHP = 105.5 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
20000	342	4.13																				
22500	356	4.65																				
25000	372	5.24	467	10.33																		
30000	407	6.61	493	12.38	569	18.60																
35000	445	8.23	524	14.67	594	21.64	659	28.97														
40000	486	10.15	558	17.28	624	24.99	684	33.03	740	41.21	796	50.15										
45000	528	12.35	595	20.31	656	28.56	713	37.37	766	46.40	817	55.73	866	65.30								
55000	618	18.20	674	27.39	727	37.07	779	47.31	827	57.74	872	68.37	916	79.44	959	90.82	1000	102.15	1040	113.71		
65000	711	26.05	759	36.35	806	47.55	851	59.03	895	70.86	937	82.91	978	95.51	1016	107.93	1054	120.96	1091	134.19		
75000	807	36.39	849	47.88	890	60.17	930	73.07	970	86.50	1008	99.87	1046	113.78	1082	127.69	1117	141.92	1151	156.41		
85000			941	62.11	977	75.36	1014	89.73	1049	104.26	1084	119.28	1119	134.70	1152	149.83	1185	165.46	1218	181.67		
95000			1035	79.47	1068	94.04	1101	109.38	1133	125.19	1165	141.62	1197	158.53	1227	175.00	1258	192.24				

MAXIMUM RPM: CLASS I = 775 CLASS II = 986 CLASS III = 1267

542 EPF (9-Blade, Arr. 3)

Wheel Diameter: 54.25" **Max. BHP = 104.7 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
20000	347	4.36																				
22500	361	4.92	462	9.90																		
25000	378	5.58	472	10.83																		
30000	415	7.06	500	13.08	575	19.50																
35000	456	8.88	532	15.59	603	22.91	666	30.36	729	38.66												
40000	499	11.09	568	18.43	632	26.34	693	34.76	749	43.35	803	52.36	860	62.62								
45000	544	13.76	608	21.77	666	30.34	723	39.50	777	49.01	827	58.59	875	68.44	924	79.16						
55000	636	20.49	692	29.88	743	39.77	791	50.16	838	61.00	884	72.21	929	83.87	972	95.73	1012	107.34	1052	119.51		
65000	730	29.34	782	40.57	827	51.67	871	63.55	911	75.44	951	87.93	991	100.89	1031	114.40	1069	127.83	1106	141.48		
75000	826	40.78	874	53.83	915	66.41	955	79.58	993	93.12	1029	106.94	1064	121.08	1098	135.36	1133	150.38	1167	165.46		
85000	923	55.12	967	69.91	1006	84.36	1043	99.04	1077	113.58	1111	128.85	1144	144.57	1175	160.19	1206	176.35	1236	192.48		
95000			1062	89.44	1099	105.80	1133	121.92	1166	138.39	1197	154.80	1227	171.45	1257	188.80						

MAXIMUM RPM: CLASS I = 775 CLASS II = 986 CLASS III = 1267

542 EPQN (12-Blade, Arr. 1 and 4)

Wheel Diameter: 54.25" **Max. BHP = 109.5 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
20000	339	4.28																				
22500	356	4.87																				
25000	376	5.58	462	10.72																		
30000	416	7.10	490	12.83																		
35000	459	8.94	528	15.50	589	22.42	652	30.05														
40000	503	11.11	568	18.48	625	26.18	677	34.07	733	42.91												
45000	548	13.63	610	21.86	664	30.39	713	39.10	759	47.99	808	57.73										
55000	640	19.92	697	29.92	746	40.01	791	50.43	833	60.97	872	71.56	910	82.44	949	93.92	989	105.84	1030	118.28		
65000	735	28.27	787	40.00	833	51.87	874	63.72	913	75.98	950	88.42	985	100.84	1018	113.26	1050	125.83	1082	138.76	1149	166.41
75000	832	39.01	879	52.41	922	66.03	961	79.67	997	93.33	1032	107.51	1064	121.40	1096	135.81	1127	150.30	1156	164.55	1212	193.54
85000	930	52.44	974	67.77	1013	82.90	1050	98.34	1084	113.67	1117	129.36	1148	145.09	1178	161.10	1207	177.26	1235	193.44		
95000			1069	85.94	1107	103.22	1141	120.16	1174	137.48	1205	154.77	1234	171.88	1263	189.62						

MAXIMUM RPM: CLASS I = 775 CLASS II = 986 CLASS III = 1267

542 EPQ (12-Blade, Arr. 3)

Wheel Diameter: 54.25" **Max. BHP = 109.5 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
20000	343	4.39																				
22500	361	5.04																				
25000	381	5.77	465	10.90																		
30000	426	7.57	497	13.27	567	19.71																
35000	472	9.72	536	16.12	596	23.00	657	30.71														
40000	519	12.28	580	19.53	634	27.13	686	35.10	738	43.64												
45000	567	15.33	626	23.49	675	31.71	722	40.29	768	49.23	815	58.90	863	69.29								
55000	665	23.05	719	33.01	766	43.07	807	53.13	845	63.25	884	73.97	922	84.92	959	96.03	997	107.82	1037	120.67		
65000	765	33.32	815	45.18	859	57.05	899	69.01	934	80.72	967	92.56	999	104.56	1032	117.15	1064	129.79	1096	142.82	1160	169.98
75000	868	46.84	912	60.19	953	73.83	991	87.62	1026	101.38	1058	115.05	1087	128.43	1116	142.32	1144	156.22	1173	170.81	1229	200.04
85000			1012	78.97	1050	94.36	1086	110.02	1119	125.50	1150	140.96	1180	156.74	1207	172.04	1233	187.47	1258	202.90		
95000			1113	101.67	1148	118.70	1182	136.18	1213	153.33	1243	170.73										

MAXIMUM RPM: CLASS I = 775 CLASS II = 986 CLASS III = 1267

Class I = First white section
Class II = Blue shaded section
Class III = Bolded section after blue section
Underlined figures indicate Maximum Static Efficiency

Performance certified is for installation Type A; Free inlet, Free outlet.
Power rating (BHP) does not include transmission losses.
Performance ratings do not include the effects of appurtenances (accessories).
Performance based on a shaft height of 37.90" above the base on fan size 542.

Performance Data

600 EPFN (9-Blade, Arr. 1 and 4)

Wheel Diameter: 60.00" **Max. BHP = 174.6 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
25000	311	5.14																				
28000	324	5.79																				
31000	339	6.55	423	12.74																		
37000	370	8.20	447	15.27	515	22.87																
43000	403	10.09	475	18.08	538	26.62	596	35.50														
49000	440	12.45	505	21.19	564	30.53	618	40.32	670	50.63	720	61.44										
55000	477	15.08	537	24.71	593	34.92	644	45.57	692	56.61	738	67.96	783	79.86								
67000	557	22.09	608	33.33	656	45.13	703	57.59	746	70.17	787	83.19	827	96.73	866	110.62	903	124.38	939	138.37		
79000	640	31.51	683	43.96	726	57.66	767	71.67	807	86.09	845	100.75	882	116.03	917	131.39	951	147.06	984	162.89		
91000	724	43.59	762	57.48	800	72.58	837	88.44	872	104.29	908	121.07	942	137.78	975	154.85	1007	172.30	1037	189.46		
103000			844	74.42	877	90.57	910	107.77	943	125.84	975	144.12	1006	162.44	1037	181.31	1067	200.30	1096	219.44		
115000			928	95.13	958	112.79	987	130.99	1017	150.52	1046	170.38	1075	190.80	1103	211.12	1131	231.90				

MAXIMUM RPM: CLASS I = 700 CLASS II = 891 CLASS III = 1146

600 EPF (9-Blade, Arr. 3)

Wheel Diameter: 60.00" **Max. BHP = 173.2 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
25000	316	5.46																				
28000	329	6.15	419	12.28																		
31000	344	6.95	429	13.48																		
37000	377	8.74	453	16.10	521	24.04	588	33.13														
43000	414	10.98	482	19.18	546	28.16	603	37.32	659	47.34												
49000	452	13.63	514	22.59	572	32.31	627	42.61	678	53.23	727	64.33	777	76.48								
55000	491	16.75	549	26.54	602	37.08	653	48.16	702	59.82	747	71.45	791	83.66	835	96.65						
67000	573	24.83	624	36.31	670	48.32	714	61.12	756	74.15	798	87.92	839	102.23	877	116.32	914	130.78	950	145.52		
79000	657	35.46	703	48.89	745	62.65	784	76.86	821	91.55	858	107.01	894	122.68	929	138.56	964	155.13	998	171.99		
91000	742	49.02	785	64.73	823	80.21	859	96.12	893	112.40	926	129.31	957	146.13	989	163.98	1020	181.81	1052	200.74		
103000	828	65.99	868	83.92	903	101.30	936	118.86	968	136.94	999	155.55	1028	174.16	1057	193.56	1085	213.07	1112	232.45		
115000			952	106.95	986	126.89	1017	146.47	1046	165.96	1074	185.75	1102	206.32	1129	227.22						

MAXIMUM RPM: CLASS I = 700 CLASS II = 891 CLASS III = 1146

600 EPQN (12-Blade, Arr. 1 and 4)

Wheel Diameter: 60.00" **Max. BHP = 181.2 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
25000	309	5.35																				
28000	325	6.10																				
31000	342	6.92	419	13.27																		
37000	378	8.79	445	15.89	511	23.93																
43000	416	11.00	479	19.13	533	27.48	590	36.89														
49000	455	13.59	514	22.66	565	31.99	613	41.85	663	52.56												
55000	495	16.63	551	26.66	600	37.12	644	47.69	686	58.64	730	70.45										
67000	577	24.20	628	36.28	673	48.69	713	61.21	751	74.02	787	87.13	821	100.23	857	114.45	893	128.86				
79000	661	34.11	708	48.33	749	62.57	787	77.19	822	91.99	856	107.27	888	122.49	918	137.64	947	152.94	976	168.65	1037	202.33
91000	747	46.85	790	63.17	829	79.72	864	96.15	897	112.87	928	129.79	958	147.08	987	164.56	1015	182.12	1041	199.27	1092	234.59
103000	834	62.76	874	81.33	910	99.86	943	118.38	974	137.01	1004	156.08	1032	175.11	1059	194.41	1085	213.81	1111	233.78		
115000			958	102.74	992	123.45	1024	144.39	1053	164.92	1081	185.76	1108	206.82	1134	228.14						

MAXIMUM RPM: CLASS I = 700 CLASS II = 891 CLASS III = 1146

600 EPQ (12-Blade, Arr. 3)

Wheel Diameter: 60.00" **Max. BHP = 181.2 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
25000	313	5.51																				
28000	329	6.29																				
31000	347	7.18	422	13.51																		
37000	387	9.36	451	16.39	514	24.33																
43000	428	11.97	486	19.85	540	28.30	594	37.58														
49000	470	15.09	525	23.95	573	33.14	620	42.88	668	53.57												
55000	512	18.69	566	28.74	610	38.73	653	49.33	694	60.12	736	71.78	780	84.65								
67000	599	27.92	648	40.05	691	52.40	728	64.65	763	77.15	798	90.12	832	103.31	866	117.03	901	131.65	936	146.75		
79000	688	40.19	733	54.52	773	68.96	809	83.43	841	97.75	871	112.18	901	127.16	930	142.06	960	157.91	988	173.24	1047	206.80
91000	779	56.15	819	72.33	857	89.12	891	105.71	923	122.52	951	138.70	978	155.25	1004	171.96	1030	189.13	1056	206.63	1107	242.21
103000			908	94.67	942	113.13	975	132.22	1005	150.99	1033	169.67	1060	188.70	1084	206.97	1108	225.90	1131	244.79		
115000			998	121.65	1030	142.37	1060	163.15	1089	184.32	1116	205.28	1142	226.42								

MAXIMUM RPM: CLASS I = 700 CLASS II = 891 CLASS III = 1146

Class I = First white section
Class II = Blue shaded section
Class III = Bolded section after blue section
Underlined figures indicate Maximum Static Efficiency

Performance certified is for installation Type A; Free inlet, Free outlet.
Power rating (BHP) does not include transmission losses.
Performance ratings do not include the effects of appurtenances (accessories).
Performance based on a shaft height of 41.92" above the base on fan size 600.

Performance Data

660 EPFN (9-Blade, Arr. 1 and 4)

Wheel Diameter: 66.00" **Max. BHP = 281 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
30000	282	6.17																				
35000	299	7.31	379	14.52																		
40000	317	8.53	392	16.50																		
45000	337	9.97	407	18.57	469	27.85																
53000	371	12.59	435	22.29	492	32.80	544	43.64														
61000	408	15.79	466	26.64	519	38.20	567	50.20	613	62.77	657	75.78										
69000	446	19.54	499	31.57	549	44.33	594	57.40	637	71.20	678	85.32	717	99.59	756	114.81						
77000	486	24.13	534	37.15	580	50.97	623	65.19	664	80.20	702	95.29	740	111.32	775	126.80	810	143.08	845	160.24		
93000	568	35.82	608	50.55	648	66.76	686	83.28	723	100.34	759	118.17	792	135.79	824	153.85	856	172.78	887	191.87		
109000	653	51.66	687	68.12	722	86.31	756	105.39	788	124.36	821	144.53	852	164.54	882	184.95	911	205.76	939	226.79		
125000			769	90.56	799	110.16	829	131.05	859	153.00	888	175.16	916	197.31	944	220.10	971	242.96	998	266.68		
141000			853	118.46	880	140.06	907	162.78	933	186.09	959	210.28	985	235.18	1011	260.66	1036	285.91				

MAXIMUM RPM: CLASS I = 637 CLASS II = 810 CLASS III = 1041

660 EPF (9-Blade, Arr. 3)

Wheel Diameter: 66.00" **Max. BHP = 279 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
30000	286	6.52																				
35000	303	7.72	383	15.24																		
40000	322	9.06	397	17.36	464	26.54																
45000	344	10.67	413	19.65	475	29.37	534	40.05														
53000	381	13.69	441	23.58	499	34.64	551	46.01	601	58.17												
61000	419	17.31	474	28.30	526	40.37	576	53.27	621	66.15	664	79.52	708	94.23								
69000	459	21.75	510	33.83	557	46.93	602	60.63	646	75.17	687	89.90	726	104.94	764	120.50	803	137.36				
77000	500	27.04	548	40.35	591	54.34	632	69.07	673	84.73	712	100.67	750	117.31	785	133.58	819	150.20	854	168.21		
93000	583	40.25	626	56.15	665	72.48	701	89.33	735	106.64	769	124.76	803	143.65	836	162.84	868	182.36	899	202.19		
109000	668	57.77	708	76.75	743	95.40	775	114.11	807	134.08	837	154.30	866	174.88	895	196.12	924	217.98	952	239.80		
125000	755	80.52	791	102.19	823	123.38	853	144.72	882	166.65	910	189.14	936	211.50	962	234.79	988	258.88	1013	282.83		
141000			875	133.21	905	157.30	934	181.86	960	205.63	986	230.36	1011	255.36	1035	280.62						

MAXIMUM RPM: CLASS I = 637 CLASS II = 810 CLASS III = 1041

660 EPQN (12-Blade, Arr. 1 and 4)

Wheel Diameter: 66.00" **Max. BHP = 292 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
30000	280	6.42																				
35000	300	7.67																				
40000	322	9.12	388	17.10																		
45000	345	10.74	406	19.41	465	29.07																
53000	383	13.71	440	23.75	488	33.91	539	45.48														
61000	422	17.25	475	28.49	521	40.11	563	52.08	607	65.26												
69000	462	21.43	513	34.14	556	47.02	596	60.37	633	73.92	671	88.42	710	103.59								
77000	503	26.38	551	40.36	593	54.78	631	69.49	666	84.27	699	99.27	732	114.86	767	131.64						
93000	587	38.87	631	55.78	669	72.67	704	90.01	736	107.44	767	125.33	796	143.13	823	160.70	851	179.51	878	198.13	936	238.73
109000	673	55.36	712	74.80	748	94.74	780	114.44	810	134.42	839	155.09	866	175.62	892	196.25	918	217.61	942	238.40	988	280.28
125000	760	76.42	796	98.84	829	121.44	859	143.92	887	166.44	914	189.40	940	212.86	964	235.90	988	259.72	1011	283.43		
141000			881	128.07	912	153.65	940	178.84	967	204.50	992	229.85	1016	255.36	1040	281.83						

MAXIMUM RPM: CLASS I = 637 CLASS II = 810 CLASS III = 1041

660 EPQ (12-Blade, Arr. 3)

Wheel Diameter: 66.00" **Max. BHP = 292 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
30000	283	6.56																				
35000	304	7.93	378	15.46																		
40000	328	9.57	392	17.49																		
45000	353	11.42	411	19.96	468	29.60																
53000	394	14.93	447	24.74	495	35.05	543	46.34														
61000	436	19.19	486	30.28	529	41.72	570	53.53	612	66.48	656	80.93										
69000	479	24.32	527	36.85	567	49.49	604	62.40	641	76.03	677	90.07	715	105.60								
77000	522	30.28	568	44.29	607	58.33	641	72.34	675	87.13	708	102.21	740	117.54	774	134.47	808	152.07				
93000	611	45.70	652	62.42	689	79.46	722	96.50	751	113.24	779	130.42	807	148.19	835	166.48	862	184.80	889	203.68	944	243.74
109000	702	66.34	739	85.88	773	105.73	804	125.56	833	145.59	859	165.25	884	185.33	907	204.86	931	225.59	955	246.70	1002	289.69
125000			827	115.08	859	138.01	888	160.69	916	183.92	941	206.32	965	229.04	988	252.09	1009	274.45	1030	297.47		
141000			917	151.42	946	176.86	973	202.25	999	228.04	1024	254.13										

MAXIMUM RPM: CLASS I = 637 CLASS II = 810 CLASS III = 1041

Class I = First white section
Class II = Blue shaded section
Class III = Bolded section after blue section
Underlined figures indicate Maximum Static Efficiency

Performance certified is for installation Type A; Free inlet, Free outlet.
Power rating (BHP) does not include transmission losses.
Performance ratings do not include the effects of appurtenances (accessories).
Performance based on a shaft height of 46.11" above the base on fan size 660.

Performance Data

730 EPFN (9-Blade, Arr. 1 and 4)

Wheel Diameter: 73.00" **Max. BHP = 466 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
40000	263	8.28																				
45000	276	9.45	346	18.52																		
50000	290	10.76	357	20.68																		
55000	305	12.23	368	22.72	424	34.06																
60000	320	13.76	381	25.06	434	37.07	484	49.94														
70000	353	17.40	408	30.02	457	43.43	503	57.78	546	72.49												
80000	387	21.63	437	35.69	484	50.77	526	66.27	566	82.49	604	99.02	641	116.27								
90000	424	27.03	469	42.42	512	58.71	552	75.63	589	93.01	625	111.25	660	130.06	693	148.77	726	168.56				
110000	499	40.70	537	58.52	574	77.82	609	97.38	643	117.67	676	138.96	706	159.78	**736**	**181.75**	**765**	**203.99**	**794**	**227.10**		
130000	577	59.46	609	79.38	641	101.11	672	123.77	702	146.75	732	170.68	**761**	**195.11**	788	219.30	815	244.70	**840**	**269.38**		
150000			684	106.25	712	130.12	**740**	**155.62**	**767**	**181.73**	**793**	**207.92**	819	234.82	845	262.60	870	290.49	894	318.48		
170000			**761**	**139.92**	**786**	**166.17**	**811**	**193.85**	**835**	**222.24**	**859**	**251.71**	**883**	**282.04**	**906**	**312.07**	**929**	**342.76**				

MAXIMUM RPM: CLASS I = 576 CLASS II = 733 CLASS III = 942

730 EPF (9-Blade, Arr. 3)

Wheel Diameter: 73.00" **Max. BHP = 462 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
40000	267	8.78	342	17.60																		
45000	280	10.02	350	19.46																		
50000	295	11.47	362	21.82	421	33.06																
55000	311	13.06	373	23.96	429	35.81	483	49.04														
60000	327	14.73	386	26.45	440	39.12	489	52.37														
70000	362	18.91	414	31.78	464	46.08	510	60.98	552	76.08	594	92.54										
80000	399	24.12	447	38.41	491	53.81	533	69.87	574	87.08	611	103.97	648	122.12	685	141.41						
90000	436	30.16	481	45.92	521	62.50	560	80.18	598	98.66	634	117.52	668	136.62	701	156.31	733	176.40	**766**	**198.18**		
110000	513	45.89	552	64.52	588	83.95	621	103.97	653	124.90	685	146.80	716	169.06	**747**	**192.44**	**776**	**215.47**	**804**	**238.77**		
130000	591	66.70	627	89.03	659	111.22	689	133.94	718	157.71	**745**	**181.57**	**772**	**206.44**	799	232.09	826	258.60	852	285.05		
150000	671	94.01	704	120.01	733	145.30	**761**	**171.32**	**787**	**197.36**	**812**	**223.99**	**837**	**252.01**	**860**	**279.36**	**884**	**308.58**	**907**	**337.47**		
170000			**781**	**157.49**	**809**	**186.94**	**835**	**216.23**	**859**	**245.17**	**882**	**274.40**	**905**	**304.80**	**927**	**335.49**						

MAXIMUM RPM: CLASS I = 576 CLASS II = 733 CLASS III = 942

730 EPQN (12-Blade, Arr. 1 and 4)

Wheel Diameter: 73.00" **Max. BHP = 483 x (RPM / 1000)³**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
40000	262	8.59																				
45000	278	9.97	343	19.32																		
50000	295	11.52	353	21.33																		
55000	311	13.02	366	23.55	420	35.46																
60000	329	14.87	382	26.28	429	38.26																
70000	365	19.00	414	31.96	457	45.50	498	59.87														
80000	401	23.76	448	38.49	489	53.85	525	69.13	560	85.12	598	102.96										
90000	439	29.61	483	45.89	522	62.96	557	80.19	589	97.50	620	115.33	653	134.78	686	154.57						
110000	516	44.27	556	64.11	591	84.14	623	104.69	653	125.70	681	146.64	707	167.41	733	189.15	**759**	**211.62**	**785**	**234.46**	840	283.65
130000	595	63.87	631	87.12	664	110.94	693	134.32	721	158.62	**747**	**183.02**	**772**	**207.79**	796	232.62	819	257.56	841	282.52	**884**	**333.53**
150000	676	89.52	708	116.01	**738**	**143.01**	**766**	**170.38**	**792**	**197.79**	**816**	**224.95**	**840**	**253.46**	**862**	**281.30**	**884**	**310.09**	**905**	**338.63**		
170000			**787**	**151.93**	**815**	**182.62**	**840**	**212.61**	**865**	**243.87**	**888**	**274.68**	**910**	**305.64**	**931**	**336.76**						

MAXIMUM RPM: CLASS I = 576 CLASS II = 733 CLASS III = 942

730 EPQ (12-Blade, Arr. 3)

Wheel Diameter: 73.00" **Max. BHP = 483 x (RPM / 1000)³**

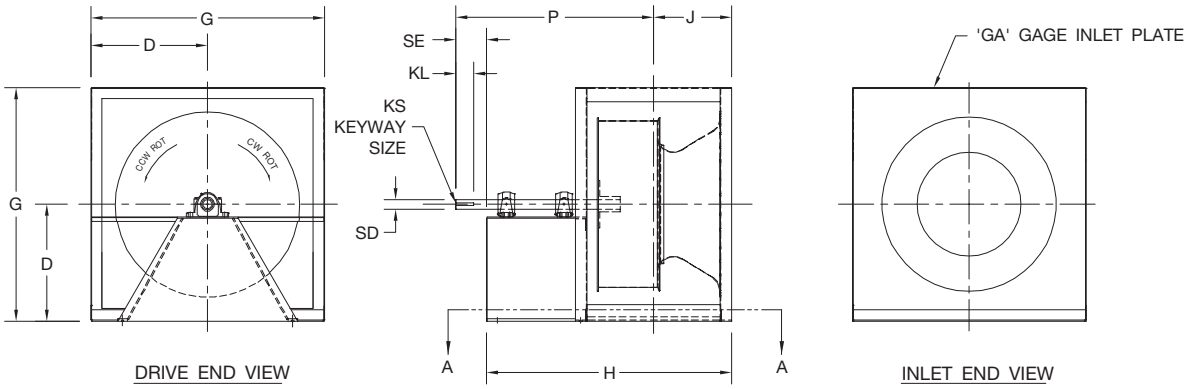
CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
40000	266	8.92																				
45000	283	10.45	345	19.63																		
50000	300	12.03	357	21.85																		
55000	319	13.96	371	24.31	423	36.17																
60000	338	16.06	387	27.14	434	39.28	483	53.29														
70000	376	20.87	422	33.59	463	46.94	503	61.14	544	76.79												
80000	415	26.70	460	41.40	497	56.17	532	71.35	567	87.50	602	104.59	639	123.62								
90000	455	33.72	498	50.26	533	66.50	565	83.17	597	100.71	628	118.68	659	137.50	691	157.74	724	179.48				
110000	537	51.88	575	71.76	609	91.99	639	112.17	665	131.73	691	152.24	717	173.36	**743**	**195.24**	**768**	**217.09**	**793**	**239.61**	**846**	**289.40**
130000	620	76.15	654	99.40	686	123.49	714	146.97	**741**	**171.28**	**764**	**194.31**	**787**	**218.44**	809	242.62	831	267.35	853	292.58	895	342.82
150000			**736**	**135.10**	**765**	**162.48**	**791**	**189.37**	**817**	**217.60**	**840**	**244.70**	**862**	**272.21**	**882**	**299.04**	**901**	**325.76**	**921**	**354.36**		
170000			**819**	**179.31**	**845**	**209.67**	**870**	**240.60**	**894**	**272.01**	**916**	**302.77**	**938**	**334.67**								

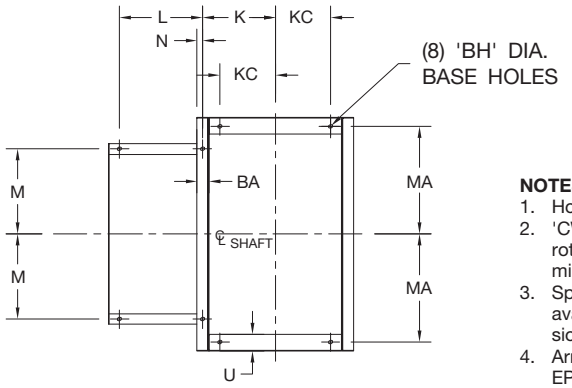
MAXIMUM RPM: CLASS I = 576 CLASS II = 733 CLASS III = 942

Class I = First white section
Class II = Blue shaded section
Class III = Bolded section after blue section
Underlined figures indicate Maximum Static Efficiency

Performance certified is for installation Type A; Free inlet, Free outlet.
Power rating (BHP) does not include transmission losses.
Performance ratings do not include the effects of appurtenances (accessories).
Performance based on a shaft height of 51" above the base on fan size 730.

Dimensional Data – Horizontal, Arr. 1 - Class I and II





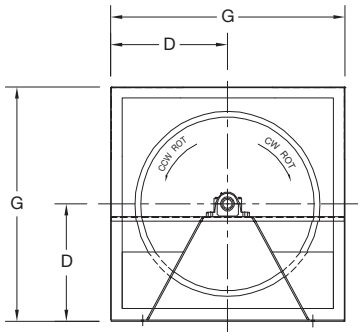
NOTES:
1. Horizontal applications only.
2. 'CW' rotation is standard, 'CCW' rotation is optional. Rotation is determined by viewing the drive end.
3. Split roller bearing upgrades are not available on fans with 'SD' dimensions less than 1.44".
4. Arrangement 1 is available on models EPFN and EPQN.

SIZE	BA	BH	D	G	GA	H	J	K	KC	KL	KS		L	M	MA	N	P	SD		SE	U
											CL I	CL II						CL I	CL II		
122	1.50	0.31	10.00	20.00	12	22.88	6.88	6.25	4.00	3.25	.25 x .13	.25 x .13	7.88	6.75	9.13	0.63	20.38	1.00	1.19	4.38	1.50
150	1.50	0.44	11.00	22.00	12	26.88	7.88	7.25	5.00	3.25	.25 x .13	.25 x .13	9.88	8.25	10.13	0.63	23.38	1.00	1.19	4.38	1.50
165	1.50	0.44	12.00	24.00	12	28.13	8.50	7.88	5.50	3.25	.25 x .13	.25 x .13	9.88	8.75	11.13	0.63	24.00	1.00	1.19	4.38	1.50
182	1.75	0.44	13.00	26.00	12	30.88	9.50	8.75	5.25	3.88	.25 x .13	.38 x .19	10.75	9.63	11.50	0.75	26.38	1.19	1.44	5.00	4.00
200	2.25	0.56	14.50	29.00	12	33.75	10.69	9.69	7.50	3.63	.38 x .19	.38 x .19	11.50	10.63	13.00	1.00	28.06	1.44	1.44	5.00	4.00
222	2.25	0.56	16.00	32.00	10	37.88	11.50	10.50	8.00	4.25	.38 x .19	.38 x .19	14.00	11.75	14.50	1.00	32.00	1.44	1.69	5.63	4.00
245	2.50	0.56	17.00	34.00	10	41.38	12.63	11.50	7.50	4.25	.38 x .19	.38 x .19	15.38	12.88	14.50	1.13	34.38	1.44	1.69	5.63	4.00
270	2.50	0.56	19.00	38.00	10	45.38	13.63	12.50	8.00	5.63	.38 x .19	.50 x .25	17.38	14.13	16.50	1.13	38.75	1.69	1.94	7.00	4.00
300	3.00	0.56	21.00	42.00	10	50.13	15.25	13.88	9.00	5.50	.50 x .25	.50 x .25	19.13	15.88	17.50	1.38	41.88	1.94	1.94	7.00	4.75
330	3.50	0.56	23.00	46.00	10	54.88	16.88	15.25	10.75	6.75	.50 x .25	.50 x .25	20.88	17.38	19.50	1.63	46.25	1.94	2.19	8.25	4.75
365	3.50	0.56	25.50	51.00	7	59.31	18.31	16.69	12.00	6.75	.50 x .25	.63 x .31	22.44	18.88	22.00	1.63	49.25	1.94	2.44	8.25	4.75
402	3.50	0.81	28.00	56.00	7	64.19	19.75	18.13	13.50	6.75	.50 x .25	.63 x .31	24.44	20.88	24.50	1.63	52.69	2.19	2.44	8.25	4.75
445	4.00	0.81	31.00	62.00	7	70.81	21.81	19.94	15.81	6.50	.63 x .31	.63 x .31	27.19	22.88	26.50	1.88	57.25	2.44	2.69	8.25	6.00
490	4.00	0.81	34.00	68.00	7	76.31	23.56	21.69	17.56	6.50	.63 x .31	.75 x .38	29.19	25.38	29.50	1.88	61.00	2.69	2.94	8.25	6.00
542	4.00	0.81	38.00	76.00	7	81.31	25.56	23.69	19.56	6.38	.75 x .38	.88 x .44	30.19	27.63	33.50	1.88	64.00	2.94	3.44	8.25	6.00
600	5.00	0.81	38.00	76.00	.25	89.88	28.81	26.44	21.81	6.63	.75 x .38	.88 x .44	32.75	30.63	33.50	2.38	69.56	2.94	3.44	8.50	6.00
660	5.00	0.81	40.75	81.50	.25	97.50	31.13	28.75	24.13	6.63	.88 x .44	1.00 x .50	35.75	33.13	36.25	2.38	75.00	3.44	3.94	8.63	6.00
730	5.00	0.81	46.00	92.00	.25	105.75	33.75	31.38	26.75	6.63	.88 x .44	1.00 x .50	38.75	37.13	41.50	2.38	80.63	3.44	3.94	8.63	6.00

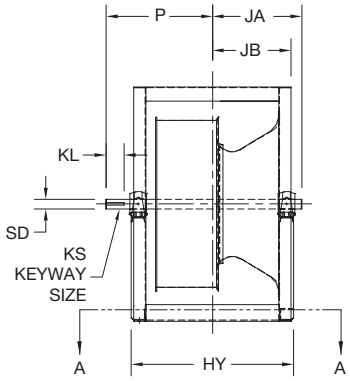
AC1001287

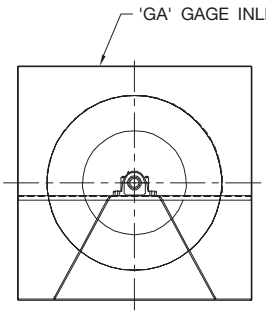
DIMENSIONS ARE SUBJECT TO CHANGE. CERTIFIED DRAWINGS AVAILABLE UPON REQUEST.

Dimensional Data – Horizontal, Arr. 3 - Class I, II, and III

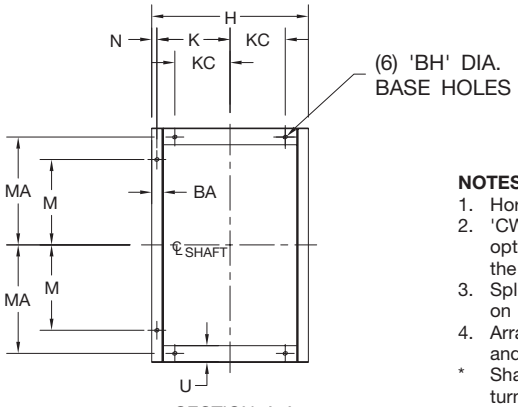


DRIVE END VIEW





INLET END VIEW



SECTION A-A

NOTES:
1. Horizontal applications only.
2. 'CW' rotation is standard, 'CCW' rotation is optional. Rotation is determined by viewing the drive end.
3. Split roller bearing upgrades are not available on fans with 'SD' dimensions less than 1.44".
4. Arrangement 3 is available on models EPF and EPQ.

* Shaft diameter ('SD') on Size 730, Class III is turned down from $4^{7}/_{16}$"

Class I and II

SIZE	BA	BH	D	G	GA	H	HY		JA		JB	K	KC	KL	KS		M	MA	N	P		SD		U
							CL I	CL II	CL I	CL II					CL I	CL II				CL I	CL II	CL I	CL II	
122	1.50	0.31	10.00	20.00	12	13.75	16.00	16.00	7.75	7.88	6.88	6.25	4.00	2.38	.25 x .13	.25 x .13	6.75	9.13	0.63	11.13	11.13	1.00	1.19	1.50
150	1.50	0.44	11.00	22.00	12	15.75	18.00	18.00	8.75	8.88	7.88	7.25	5.00	3.38	.25 x .13	.25 x .13	8.25	10.13	0.63	13.13	13.13	1.00	1.19	1.50
165	1.50	0.44	12.00	24.00	12	17.00	19.25	19.25	9.38	9.50	8.50	7.88	5.50	3.38	.25 x .13	.25 x .13	8.75	11.13	0.63	13.75	13.75	1.00	1.19	1.50
182	1.75	0.44	13.00	26.00	12	19.00	20.75	20.75	10.25	10.31	9.50	8.75	5.25	3.00	.25 x .13	.38 x .19	9.63	11.50	0.75	14.13	15.06	1.19	1.44	4.00
200	2.25	0.56	14.50	29.00	12	21.38	22.13	23.13	10.94	11.25	10.69	9.69	7.50	3.00	.25 x .13	.38 x .19	10.63	13.00	1.00	14.81	15.75	1.19	1.44	4.00
222	2.25	0.56	16.00	32.00	10	23.00	23.75	24.75	11.88	12.19	11.50	10.50	8.00	4.00	.38 x .19	.38 x .19	11.75	14.50	1.00	17.56	17.69	1.44	1.69	4.00
245	2.50	0.56	17.00	34.00	10	25.25	25.50	26.50	12.75	13.06	12.63	11.50	7.50	3.50	.38 x .19	.50 x .25	12.88	14.50	1.13	17.94	18.06	1.44	1.94	4.00
270	2.50	0.56	19.00	38.00	10	27.25	27.50	28.50	13.75	14.06	13.63	12.50	8.00	3.50	.38 x .19	.50 x .25	14.13	16.50	1.13	18.94	19.06	1.44	1.94	4.00
300	3.00	0.56	21.00	42.00	10	30.50	30.75	30.75	15.19	15.31	15.25	13.88	9.00	4.50	.38 x .19	.50 x .25	15.88	17.50	1.38	21.19	21.50	1.69	1.94	4.75
330	3.50	0.56	23.00	46.00	10	33.75	34.00	34.00	16.56	16.69	16.88	15.25	10.75	4.50	.38 x .19	.50 x .25	17.38	19.50	1.63	22.44	22.63	1.69	1.94	4.75
365	3.50	0.56	25.50	51.00	7	36.63	37.00	38.00	18.06	18.56	18.31	16.69	12.00	4.75	.50 x .25	.50 x .25	18.88	22.00	1.63	24.13	24.75	1.94	2.19	4.75
402	3.50	0.81	28.00	56.00	7	39.50	39.88	40.88	19.56	20.00	19.75	18.13	13.50	5.50	.50 x .25	.50 x .25	20.88	24.50	1.63	26.56	26.94	1.94	2.19	4.75
445	4.00	0.81	31.00	62.00	7	43.63	44.00	44.00	21.56	21.75	21.81	19.94	15.81	5.50	.50 x .25	.63 x .31	22.88	26.50	1.88	28.50	28.81	2.19	2.44	6.00
490	4.00	0.81	34.00	68.00	7	47.13	47.50	47.50	23.31	23.56	23.56	21.69	17.56	5.50	.50 x .25	.63 x .31	25.38	29.50	1.88	30.25	30.88	2.19	2.69	6.00
542	4.00	0.81	38.00	76.00	7	51.13	51.50	53.50	25.31	26.06	25.56	23.69	19.56	6.63	.63 x .31	.75 x .38	27.63	33.50	1.88	33.69	34.63	2.44	2.94	6.00
600	5.00	0.81	38.00	76.00	.25	57.63	58.13	58.13	28.44	28.56	28.81	26.44	21.81	6.81	.63 x .31	.88 x .44	30.63	33.50	2.38	37.00	38.19	2.69	3.44	6.00
660	5.00	0.81	40.75	81.50	.25	62.25	62.75	64.75	30.75	31.38	31.13	28.75	24.13	7.38	.75 x .38	.88 x .44	33.13	36.25	2.38	40.00	42.06	2.94	3.44	6.00
730	5.00	0.81	46.00	92.00	.25	67.50	68.00	70.00	33.50	34.00	33.75	31.38	26.75	7.38	.88 x .44	.88 x .44	37.13	41.50	2.38	43.69	44.69	3.44	3.44	6.00

AC1001285B

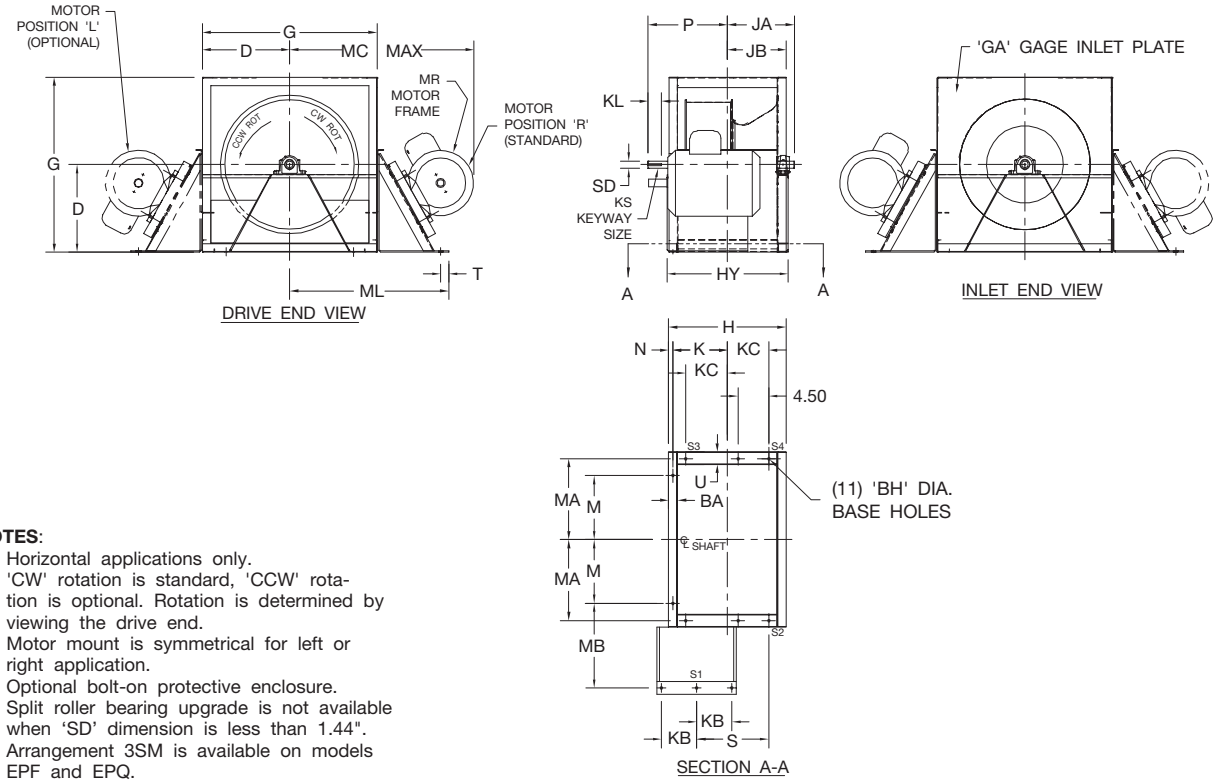
Class III

SIZE	BA	BH	D	G	GA	H	HY	JA	JB	K	KC	KL	KS	M	MA	N	P	SD	U
182	1.75	0.44	13.00	26.00	10	19.00	21.75	10.69	9.50	8.75	5.25	2.94	.38 x .19	9.63	11.50	0.75	15.19	1.69	4.00
200	2.25	0.56	14.50	29.00	10	21.38	23.13	11.38	10.69	9.69	7.50	2.94	.38 x .19	10.63	13.00	1.00	15.88	1.69	4.00
222	2.25	0.56	16.00	32.00	7	23.00	24.88	12.31	11.50	10.50	8.00	3.94	.50 x .25	11.75	14.50	1.00	18.06	1.94	4.00
245	2.50	0.56	17.00	34.00	7	25.25	26.63	13.19	12.63	11.50	7.50	3.50	.50 x .25	12.88	14.50	1.13	18.50	1.94	4.00
270	2.50	0.56	19.00	38.00	7	27.25	28.63	14.38	13.63	12.50	8.00	3.44	.50 x .25	14.13	16.50	1.13	19.56	2.19	4.00
300	3.00	0.56	21.00	42.00	7	30.50	30.88	15.38	15.25	13.88	9.00	4.44	.50 x .25	15.88	17.50	1.38	21.69	2.19	4.75
330	3.50	0.56	23.00	46.00	7	33.75	35.13	17.13	16.88	15.25	10.75	4.56	.63 x .31	17.38	19.50	1.63	23.63	2.44	4.75
365	3.50	0.56	25.50	51.00	.25	36.63	38.13	18.69	18.31	16.69	12.00	4.56	.63 x .31	18.88	22.00	1.63	24.94	2.44	4.75
402	3.50	0.81	28.00	56.00	.25	39.50	43.00	20.88	19.75	18.13	13.50	5.50	.63 x .31	20.88	24.50	1.63	28.13	2.69	4.75
445	4.00	0.81	31.00	62.00	.25	43.63	46.13	22.44	21.81	19.94	15.81	6.63	.75 x .38	22.88	26.50	1.88	31.06	2.94	6.00
490	4.00	0.81	34.00	68.00	.25	47.13	51.63	24.69	23.56	21.69	17.56	6.63	.75 x .38	25.38	29.50	1.88	33.75	2.94	6.00
542	4.00	0.81	38.00	76.00	.5	51.13	55.63	26.81	25.56	23.69	19.56	6.38	.88 x .44	27.63	33.50	1.88	36.56	3.44	6.00
600	5.00	0.81	38.00	76.00	.31	57.63	60.25	29.31	28.81	26.44	21.81	6.88	1.00 x .50	30.63	33.50	2.38	39.56	3.94	6.00
660	5.00	0.81	40.75	81.50	.31	62.25	66.88	32.13	31.13	28.75	24.13	8.25	1.00 x .50	33.13	36.25	2.38	44.19	3.94	6.00
730	5.00	0.81	46.00	92.00	.31	67.50	72.13	34.56	33.75	31.38	26.75	8.69	.88 x .44	37.13	41.50	2.38	47.06	3.44*	6.00

AC1001320A

DIMENSIONS ARE SUBJECT TO CHANGE. CERTIFIED DRAWINGS AVAILABLE UPON REQUEST.

Dimensional Data – Horizontal, Arr. 3SM - Class I and II



NOTES:
1. Horizontal applications only.
2. 'CW' rotation is standard, 'CCW' rotation is optional. Rotation is determined by viewing the drive end.
3. Motor mount is symmetrical for left or right application.
4. Optional bolt-on protective enclosure.
5. Split roller bearing upgrade is not available when 'SD' dimension is less than 1.44".
6. Arrangement 3SM is available on models EPF and EPQ.

SIZE	BA	BH	D	G	GA	H	HY		JA		JB	K	KB	KC	KL	KS	
							CL I	CL II	CL I	CL II						CL I	CL II
165	1.50	0.44	12.00	24.00	12	17.00	19.25	20.25	9.63	11.06	8.50	7.88	5.00	5.50	3.38	.25 x .13	.25 x .13
182	1.75	0.44	13.00	26.00	12	19.00	21.75	22.75	10.81	12.06	9.50	8.75	5.63	5.25	3.00	.25 x .13	.38 x .19
200	2.25	0.56	14.50	29.00	12	21.38	23.13	24.13	11.50	12.75	10.69	9.69	5.63	7.50	3.00	.25 x .13	.38 x .19
222	2.25	0.56	16.00	32.00	10	23.00	25.75	25.75	13.56	1356	11.50	10.50	5.63	8.00	4.00	.38 x .19	.38 x .19
245	2.50	0.56	17.00	34.00	10	25.25	27.50	27.50	14.44	14.44	12.63	11.50	6.50	7.50	3.50	.38 x .19	.50 x .25
270	2.50	0.56	19.00	38.00	10	27.25	29.50	29.50	15.44	15.44	13.63	12.50	6.50	8.00	3.50	.38 x .19	.50 x .25
300	3.00	0.56	21.00	42.00	10	30.50	31.75	32.75	16.56	16.75	15.25	13.88	8.75	9.00	4.50	.38 x .19	.50 x .25
330	3.50	0.56	23.00	46.00	10	33.75	34.00	35.00	17.69	17.88	16.88	15.25	8.75	10.75	4.50	.38 x .19	.50 x .25
365	3.50	0.56	25.50	51.00	7	36.63	37.00	38.00	19.19	20.00	18.31	16.69	10.44	12.00	4.75	.50 x .25	.50 x .25
402	3.50	0.81	28.00	56.00	7	39.50	40.88	40.88	20.81	21.44	19.75	18.13	9.69	13.50	5.50	.50 x .25	.50 x .25
445	4.00	0.81	31.00	62.00	7	43.63	44.00	44.00	23.00	23.25	21.81	19.94	9.69	15.81	5.50	.50 x .25	.63 x .31
490	4.00	0.81	34.00	68.00	7	47.13	47.50	49.50	24.75	25.56	23.56	21.69	9.69	17.56	5.50	.50 x .25	.63 x .31
542	4.00	0.81	38.00	76.00	7	51.13	51.50	53.50	27.00	27.25	25.56	23.69	10.19	19.56	6.63	.63 x .31	.75 x .38
600	5.00	0.81	38.00	76.00	.25	57.63	58.00	60.00	29.88	30.69	28.81	26.44	9.19	21.81	6.81	.63 x .31	.88 x .44

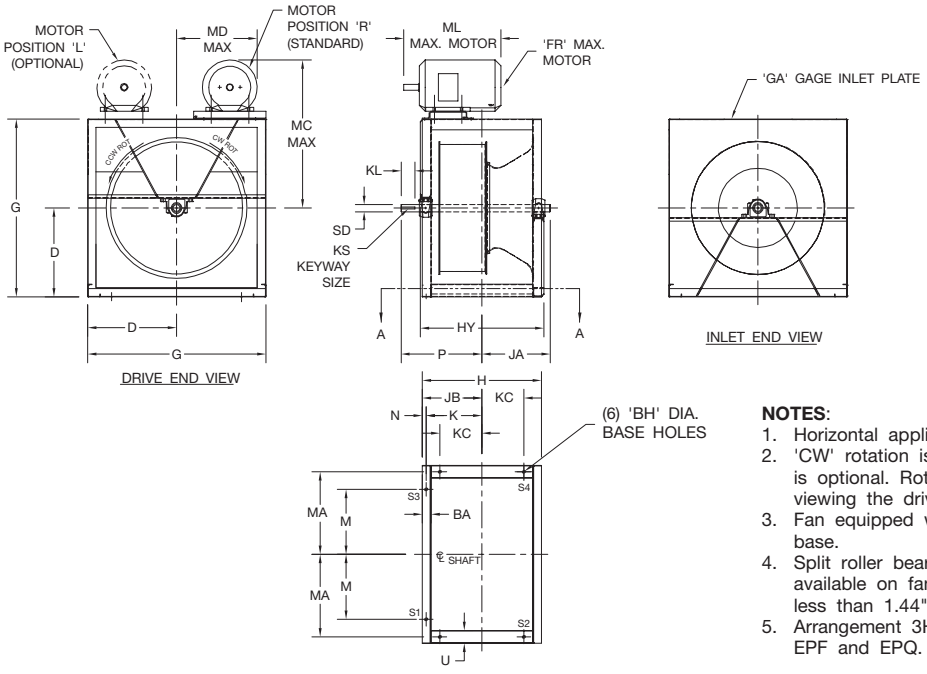
SIZE	M	MA	MB	MC	ML	MR	N	P		S		SD		T	U
								CL I	CL II	CL I	CL II	CL I	CL II		
165	8.75	11.13	13.50	26.75	23.25	56 - 215T	0.63	13.63	13.94	8.38	8.69	1.00	1.19	1.00	1.50
182	9.63	11.50	13.69	27.50	24.31	143T - 215T	0.75	14.69	15.69	8.75	8.94	1.19	1.44	1.00	4.00
200	10.63	13.00	14.19	31.00	25.81	143T - 254T	1.00	16.38	16.38	12.50	12.50	1.19	1.44	1.00	4.00
222	11.75	14.50	14.94	37.50	27.69	143T - 254T	1.00	18.25	18.25	14.75	14.75	1.44	1.69	1.00	4.00
245	12.88	14.50	15.69	32.00	29.56	143T - 256T	1.13	18.63	18.63	13.25	13.25	1.44	1.94	1.00	4.00
270	14.13	16.50	17.75	37.75	32.88	145T - 256T	1.13	19.63	19.63	14.81	14.81	1.44	1.94	1.00	4.00
300	15.88	17.50	18.88	42.00	36.00	145T - 284T	1.38	21.75	22.00	15.44	15.69	1.69	1.94	1.25	4.75
330	17.38	19.50	21.13	48.25	39.75	145T - 286T	1.63	22.88	23.75	17.81	18.06	1.69	1.94	1.25	4.75
365	18.88	22.00	23.38	53.25	43.50	182T - 324T	1.63	24.63	25.75	18.88	19.13	1.94	2.19	1.25	4.75
402	20.88	24.50	25.63	49.50	48.00	182T - 326T	1.63	27.06	28.19	23.31	23.56	1.94	2.19	1.50	4.75
445	22.88	26.50	27.63	53.25	52.00	184T - 326T	1.88	29.25	30.31	27.69	26.50	2.19	2.44	1.50	6.00
490	25.38	29.50	30.31	62.50	57.19	213T - 326T	1.88	31.00	32.06	30.25	31.31	2.19	2.69	1.50	6.00
542	27.63	33.50	33.75	66.50	62.88	213T - 364T	1.88	35.06	34.88	34.94	34.75	2.44	2.94	1.50	6.00
600	30.63	33.50	33.06	70.75	65.19	213T - 365T	2.38	37.63	38.69	40.94	40.63	2.69	3.44	1.50	6.00

AC1001294C

DIMENSIONS ARE SUBJECT TO CHANGE. CERTIFIED DRAWINGS AVAILABLE UPON REQUEST.

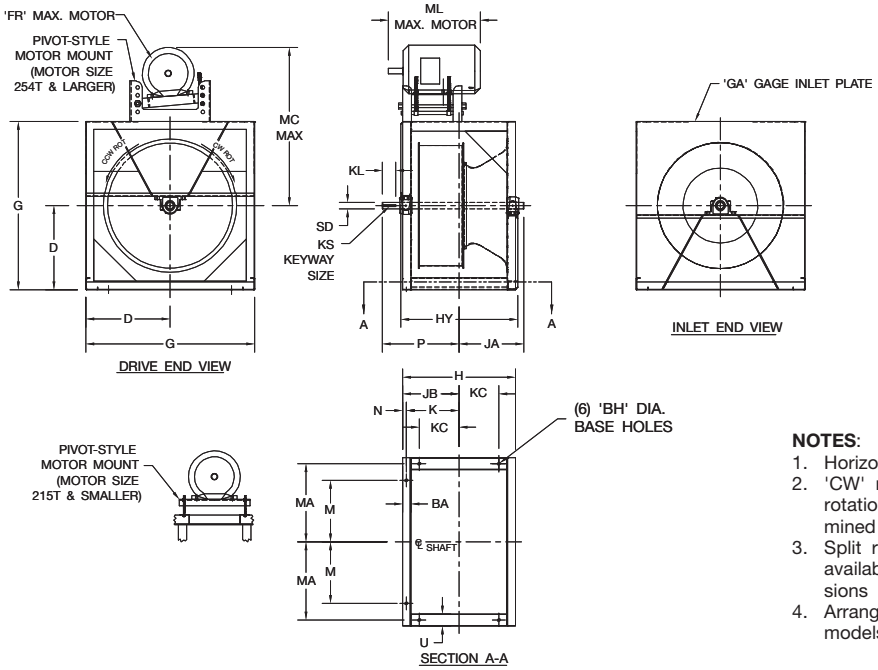
Dimensional Data – Horizontal, Arr. 3HS/3HA - Class I and II

Arr. 3HS



NOTES:
1. Horizontal applications only.
2. 'CW' rotation is standard, 'CCW' rotation is optional. Rotation is determined by viewing the drive end.
3. Fan equipped with standard NEMA slide base.
4. Split roller bearing upgrades are not available on fans with 'SD' dimensions less than 1.44".
5. Arrangement 3HS is available on models EPF and EPQ.

Arr. 3HA



NOTES:
1. Horizontal applications only.
2. 'CW' rotation is standard, 'CCW' rotation is optional. Rotation is determined by viewing the drive end.
3. Split roller bearing upgrades are not available on fans with 'SD' dimensions less than 1.44".
4. Arrangement 3HA is available on models EPF and EPQ.

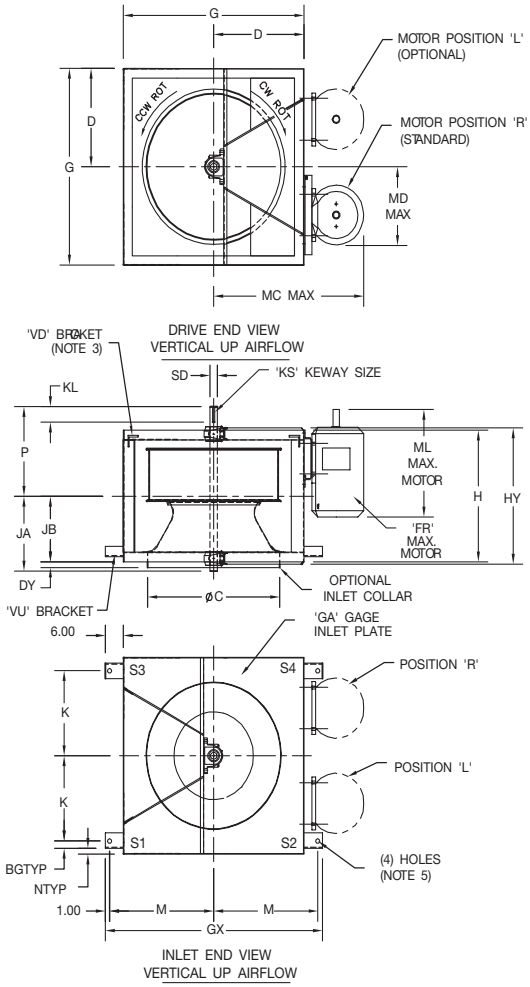
SIZE		BA	BH	D	FR	G	GA	H	HY		JA		JB	K	KC	KL	KS		M	MA	MC		MD	ML	N	P		SD		U
3HA	3HS								CL I	CL II	CL I	CL II					CL I	CL II			3HA	3HS				CL I	CL II	CL I	CL II	
122	---	1.50	0.31	10.00	215T	20.00	12	13.75	16.00	16.00	7.75	7.88	6.88	6.25	4.00	2.38	.25x.13	.25x.13	6.75	9.13	26.81	---	---	20.25	0.63	11.13	11.13	1.00	1.19	1.50
150	---	1.50	0.44	11.00	215T	22.00	12	15.75	18.00	18.00	8.75	8.88	7.88	7.25	5.00	3.38	.25x.13	.25x.13	8.25	10.13	27.81	---	---	20.25	0.63	13.13	13.31	1.00	1.19	1.50
165	---	1.50	0.44	12.00	215T	24.00	12	17.00	19.25	19.25	9.38	9.50	8.50	7.88	5.50	3.38	.25x.13	.25x.13	8.75	11.13	28.81	---	---	20.25	0.63	13.75	13.75	1.00	1.19	1.50
182	182	1.75	0.44	13.00	215T	26.00	12	19.00	20.75	20.75	10.25	10.31	9.50	8.75	5.25	3.00	.25x.13	.38x.19	9.63	11.50	29.88	27.5	13.00	20.25	0.75	14.13	15.06	1.19	1.44	4.00
200	200	2.25	0.56	14.50	215T	29.00	12	21.38	22.13	23.13	10.94	11.25	10.69	9.69	7.50	3.00	.25x.13	.38x.19	10.63	13.00	31.38	29.0	14.50	20.25	1.00	14.81	15.75	1.19	1.44	4.00
222	222	2.25	0.56	16.00	256T	32.00	10	23.00	23.75	24.75	11.88	12.19	11.50	10.50	8.00	4.00	.38x.19	.38x.19	11.75	14.50	39.38	33.25	16.13	25.75	1.00	17.56	17.69	1.44	1.69	4.00
245	245	2.50	0.56	17.00	256T	34.00	10	25.25	25.50	26.50	12.75	13.06	12.63	11.50	7.50	3.50	.38x.19	.50x.25	12.88	14.50	40.38	34.25	17.13	25.75	1.13	17.94	18.06	1.44	1.94	4.00
270	270	2.50	0.56	19.00	286T	38.00	10	27.25	27.50	28.50	13.75	14.06	13.63	12.50	8.00	3.50	.38x.19	.50x.25	14.13	16.50	43.88	37.75	19.13	28.88	1.13	18.94	19.06	1.44	1.94	4.00
300	300	3.00	0.56	21.00	286T	42.00	10	30.50	30.75	30.75	15.19	15.31	15.25	13.88	9.00	4.50	.38x.19	.50x.25	15.88	17.50	45.88	39.75	21.13	28.88	1.38	21.19	21.50	1.69	1.94	4.75
330	330	3.50	0.56	23.00	326T	46.00	10	33.75	34.00	35.00	16.69	16.88	16.88	15.25	10.75	4.50	.38x.19	.50x.25	17.38	19.50	52.38	44.25	23.00	32.00	1.63	22.44	22.63	1.69	1.94	4.75
365	365	3.50	0.56	25.50	326T	51.00	7	36.63	37.00	38.00	18.06	18.56	18.31	16.69	12.00	4.75	.50x.25	.50x.25	18.88	22.00	54.88	46.75	25.50	32.00	1.63	24.13	24.75	1.94	2.19	4.75
402	402	3.50	0.81	28.00	326T	56.00	7	39.50	39.88	40.88	19.56	20.00	19.75	18.13	13.50	5.50	.50x.25	.50x.25	20.88	24.50	57.50	49.25	28.00	32.00	1.63	26.56	26.94	1.94	2.19	4.75
445	445	4.00	0.81	31.00	365T	62.00	7	43.63	44.00	44.00	21.56	21.75	21.81	19.94	15.81	5.50	.50x.25	.63x.31	22.88	26.50	62.38	54.25	31.25	34.38	1.88	28.50	28.81	2.19	2.44	6.00
490	490	4.00	0.81	34.00	365T	68.00	7	47.13	47.50	47.50	23.31	23.56	23.56	21.69	17.56	5.50	.50x.25	.63x.31	25.38	29.50	65.38	57.25	34.25	34.38	1.88	30.25	30.88	2.19	2.69	6.00
542	542	4.00	0.81	38.00	365T	76.00	7	51.13	51.50	53.50	25.31	26.06	25.56	23.69	19.56	6.63	.63x.31	.75x.38	27.63	33.50	69.38	61.25	38.25	34.38	1.88	33.69	34.63	2.44	2.94	6.00

DIMENSIONS ARE SUBJECT TO CHANGE. CERTIFIED DRAWINGS AVAILABLE UPON REQUEST.

AC1001288C
AC1001289B

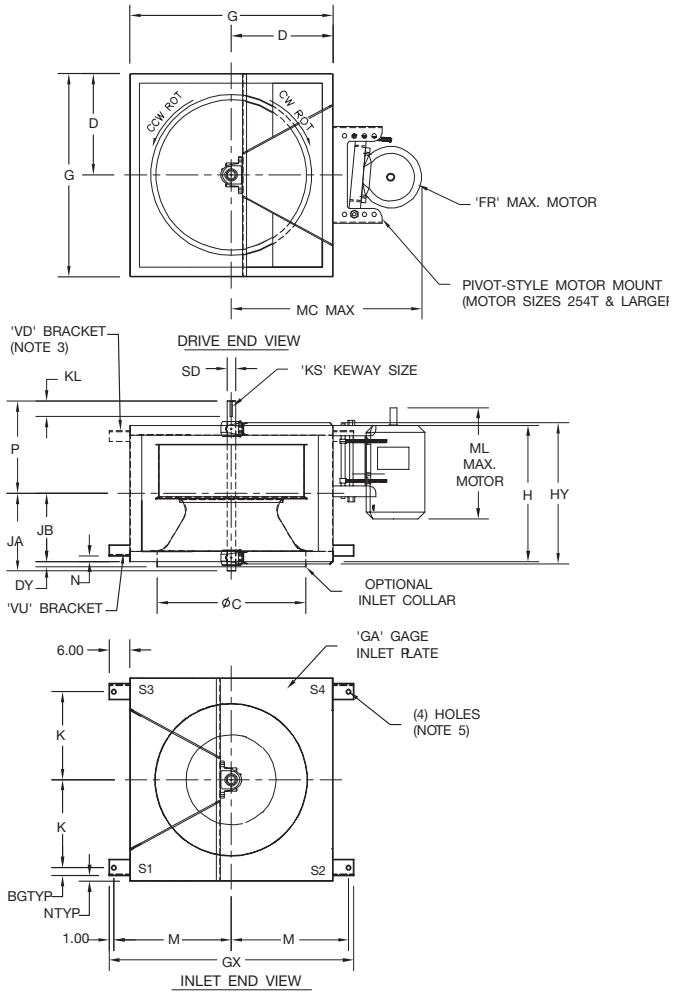
Dimensional Data – Vertical, Arr. 3VS/3VA - Class I and II

Arr. 3VS



NOTES:
1. Vertical applications only.
2. 'CW' rotation is standard, 'CCW' rotation is optional. Rotation is determined by viewing the drive end.
3. Vertical up (VU) airflow is standard. Vertical down (VD) airflow requires brackets mounted on drive end.
4. Split roller bearing upgrades are not available on vertical fans.
5. Spring bracket holes are sized per spring type. Hole diameters when bracket is used as a mounting foot are as follows:
   Size 182–365: 0.56 Size 402–542: 0.81
6. Fans equipped with standard NEMA motor slide base.
7. Arrangement 3VS is available on models EPF and EPQ.

Arr. 3VA



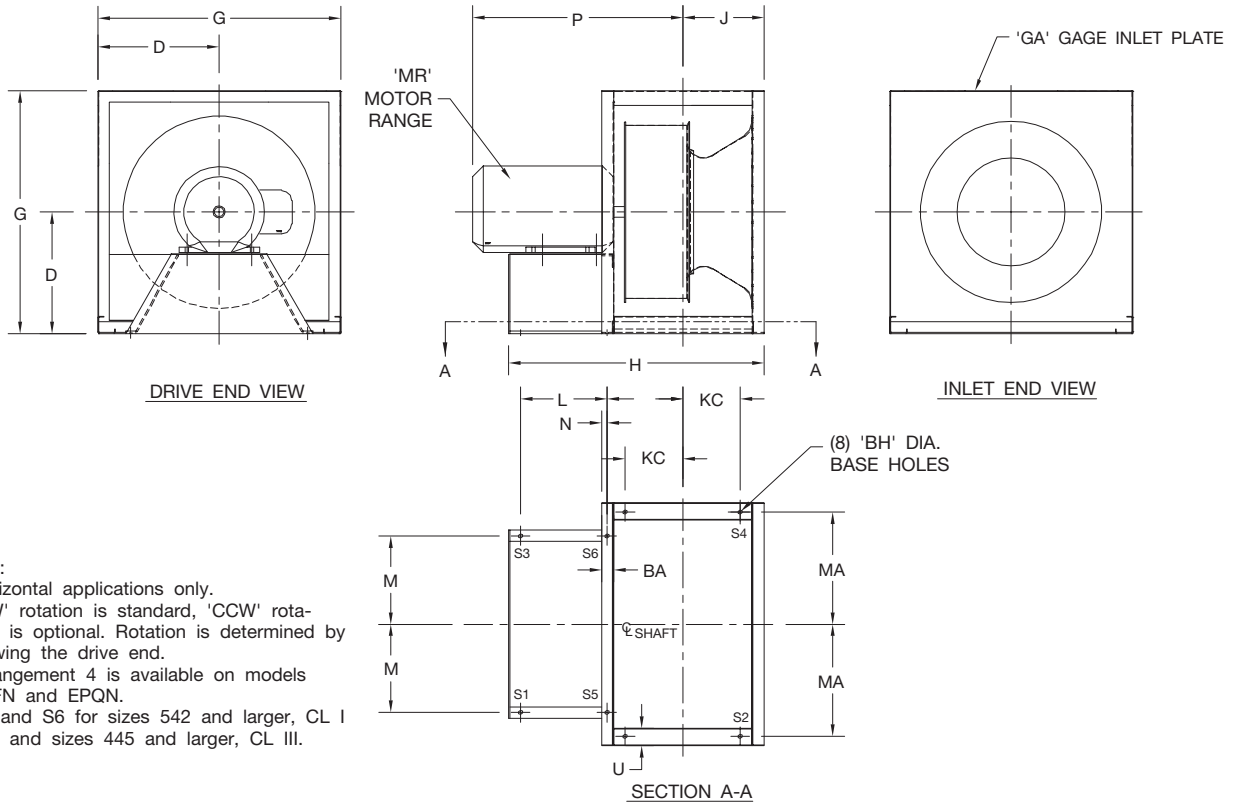
NOTES:
1. Vertical applications only.
2. 'CW' rotation is standard, 'CCW' rotation is optional. Rotation is determined by viewing the drive end.
3. Vertical up (VU) airflow is standard. Vertical down (VD) airflow requires brackets mounted on drive end.
4. Split roller bearing upgrades are not available on vertical fans.
5. Spring bracket holes are sized per spring type. Hole diameters when bracket is used as a mounting foot are as follows:
   Size 122–365: 0.56 Size 402–542: 0.81
6. Arrangement 3VA is available on models EPF and EPQ.

Size		BG	C	D	DY	FR	G	GA	GX	H	HY		JA		JB	K	KL	KS		M	MC		MD	ML		N	P		SD	
3VA	3VS										CL I	CL II	CL I	CL II				CL I	CL II		3VA	3VS	3VS	3VA	3VS		CL I	CL II	CL I	CL II
122	—	1.13	13.25	10.00	2.13	215T	20.00	12	32.00	13.75	16.00	16.00	7.75	7.88	6.88	7.88	2.38	0.25x0.13	0.25x0.13	15.00	28.75	—	—	20.25	—	1.00	11.13	11.13	1.00	1.19
150	—	1.13	16.19	11.00	2.13	215T	22.00	12	34.00	15.75	18.00	18.00	8.75	8.88	7.88	8.88	3.38	0.25x0.13	0.25x0.13	16.00	29.75	—	—	20.25	—	1.00	13.13	13.13	1.00	1.19
165	—	1.13	17.75	12.00	2.13	215T	24.00	12	36.00	17.00	19.25	19.25	9.38	9.50	8.50	9.88	3.38	0.25x0.13	0.25x0.13	17.00	30.75	—	—	20.25	—	1.00	13.75	13.75	1.00	1.19
182	182	1.63	19.50	13.00	1.88	215T	26.00	12	38.00	19.00	20.75	20.75	10.25	10.38	9.50	10.38	3.38	0.25x0.13	0.38x0.19	18.00	31.75	19.00	13.13	20.25	16.25	1.00	14.50	15.38	1.19	1.44
200	200	1.63	21.38	14.50	1.88	215T	29.00	12	41.00	21.38	22.13	23.13	10.94	11.31	10.69	11.38	3.69	0.25x0.13	0.38x0.19	19.50	33.25	21.50	14.50	20.25	20.25	1.50	15.50	16.38	1.19	1.44
222	222	1.63	23.75	16.00	1.88	256T	32.00	10	44.00	23.00	23.75	24.75	11.88	12.19	11.50	12.88	4.56	0.38x0.19	0.38x0.19	21.00	38.31	23.00	16.00	25.75	20.25	1.50	18.13	18.25	1.44	1.69
245	245	1.63	26.06	17.00	1.63	256T	34.00	10	46.00	25.25	25.50	26.50	12.75	13.06	12.63	13.88	4.06	0.38x0.19	0.50x0.25	22.00	39.31	24.00	17.00	25.75	20.25	1.50	18.50	18.63	1.44	1.94
270	270	1.63	28.50	19.00	1.63	286T	38.00	10	50.00	27.25	27.50	28.50	13.75	14.06	13.63	15.88	4.06	0.38x0.19	0.50x0.25	24.00	42.81	26.00	19.00	28.88	20.25	1.50	19.50	19.63	1.44	1.94
300	300	1.63	31.63	21.00	1.13	286T	42.00	10	54.00	30.50	30.75	30.75	15.19	15.31	15.25	17.88	5.06	0.38x0.19	0.50x0.25	26.00	44.81	29.25	21.13	28.88	25.75	1.50	21.75	22.06	1.69	1.94
330	330	1.63	34.75	23.00	1.13	326T	46.00	10	58.00	33.75	34.00	34.00	16.63	16.69	16.88	19.88	5.06	0.38x0.19	0.50x0.25	28.00	51.00	31.25	23.13	32.00	25.75	1.50	22.94	23.19	1.69	1.94
365	365	2.13	38.50	25.50	1.69	326T	51.00	7	63.00	36.63	37.00	38.00	18.06	18.44	18.31	21.88	5.31	0.50x0.25	0.50x0.25	30.50	53.50	33.75	25.63	32.00	25.75	1.50	24.69	25.31	1.94	2.19
402	402	2.13	42.44	28.00	1.69	326T	56.00	7	68.00	39.50	39.88	40.88	19.63	19.88	19.75	24.38	5.94	0.50x0.25	0.50x0.25	33.00	56.00	36.25	28.13	32.00	25.75	1.50	26.94	27.38	1.94	2.19
445	445	2.13	46.88	31.00	1.19	365T	62.00	7	74.00	43.63	44.00	44.00	21.56	21.56	21.81	27.38	6.38	0.50x0.25	0.63x0.31	36.00	61.00	40.00	31.13	34.38	28.88	1.50	29.38	29.69	2.19	2.44
490	490	2.13	51.63	34.00	1.19	365T	68.00	7	80.00	47.13	47.50	47.50	23.19	23.56	23.56	30.38	6.50	0.50x0.25	0.63x0.31	39.00	64.00	43.00	34.13	34.38	28.88	1.50	31.25	31.88	2.19	2.69
542	542	2.13	57.13	38.00	2.19	365T	76.00	7	88.00	51.13	51.50	53.50	25.31	26.06	25.56	34.38	7.50	0.63x0.31	0.75x0.38	43.00	68.00	48.50	38.00	34.38	32.00	1.50	34.56	35.50	2.44	2.94

AC1001292E
AC1001293D

DIMENSIONS ARE SUBJECT TO CHANGE. CERTIFIED DRAWINGS AVAILABLE UPON REQUEST.

Dimensional Data – Horizontal, Arr. 4 - Class I, II, and III



NOTES:
1. Horizontal applications only.
2. 'CW' rotation is standard, 'CCW' rotation is optional. Rotation is determined by viewing the drive end.
3. Arrangement 4 is available on models EPFN and EPQN.
4. S5 and S6 for sizes 542 and larger, CL I & II and sizes 445 and larger, CL III.

Class I and II

Size	BA	BH	D	FR	G	GA	H		J		K		KC		L	M	MA	N	P Max.		U
							50-77% Width	78-105% Width	50-77% Width	78-105% Width	50-77% Width	78-105% Width	50-77% Width	78-105% Width					50-77% Width	78-105% Width	
122	1.50	0.31	10.00	56-184T	20.00	12	23.25	24.25	6.38	6.88	5.75	6.25	3.50	4.00	9.25	6.75	9.13	0.63	18.31	19.19	1.50
150	1.50	0.44	11.00	56-184T	22.00	12	25.13	26.25	7.31	7.88	6.69	7.25	4.44	5.00	9.25	8.25	10.13	0.63	18.00	20.25	1.50
165	1.50	0.44	12.00	56-184T	24.00	12	26.25	27.50	7.88	8.50	7.25	7.88	4.88	5.50	9.25	8.75	11.13	0.63	18.63	20.75	1.50
182	1.75	0.44	13.00	143T-215T	26.00	12	30.00	31.50	8.75	9.50	8.00	8.75	4.50	5.25	10.88	9.63	11.50	0.75	25.13	26.00	4.00
200	2.25	0.56	14.50	143T-215T	29.00	12	31.75	33.38	9.88	10.69	8.88	9.69	6.69	7.50	10.63	10.63	13.00	1.00	25.63	26.75	4.00
222	2.25	0.56	16.00	182T-256T	32.00	10	37.75	39.63	10.56	11.50	9.56	10.50	7.06	8.00	14.63	11.75	14.50	1.00	31.88	33.00	4.00
245	2.50	0.56	17.00	182T-256T	34.00	10	39.63	41.63	11.63	12.63	10.50	11.50	6.50	7.50	14.50	12.88	14.50	1.13	32.63	33.75	4.00
270	2.50	0.56	19.00	213T-286T	38.00	10	42.75	45.00	12.50	13.63	11.38	12.50	6.88	8.00	16.25	14.13	16.50	1.13	35.88	37.00	4.00
300	3.00	0.56	21.00	213T-286T	42.00	10	45.25	47.75	14.00	15.25	12.63	13.88	7.75	9.00	16.00	15.88	17.50	1.38	36.88	38.00	4.75
330	3.50	0.56	23.00	254T-326T	46.00	10	49.50	52.25	15.50	16.88	13.88	15.25	9.38	10.75	17.56	17.38	19.50	1.63	40.25	42.13	4.75
365	3.50	0.56	25.50	284T-405T	51.00	7	56.81	59.81	16.81	18.31	15.19	16.69	10.50	12.00	21.06	18.88	22.00	1.63	48.50	51.25	4.75
402	3.50	0.81	28.00	284T-405T	56.00	7	59.44	62.69	18.13	19.75	16.50	18.13	11.88	13.50	21.06	20.88	24.50	1.63	49.88	52.63	4.75
445	4.00	0.81	31.00	324T-405T	62.00	7	62.69	66.31	20.00	21.81	18.13	19.94	14.00	15.81	20.81	22.88	26.50	1.88	52.88	54.88	6.00
490	4.00	0.81	34.00	324T-405T	68.00	7	65.81	69.81	21.56	23.56	19.69	21.69	15.56	17.56	20.81	25.38	29.50	1.88	54.19	56.50	6.00
542	4.00	0.81	38.00	364T-445T	76.00	7	72.81	77.31	23.31	25.56	21.44	23.69	17.31	19.56	24.44	27.63	33.50	1.88	62.44	65.50	6.00
600	5.00	0.81	38.00	364T-445T	76.00	.25	78.00	82.88	26.38	28.81	24.00	26.44	19.38	21.81	24.00	30.63	33.50	2.38	64.13	67.69	6.00
660	5.00	0.81	40.75	364T-445T	81.50	.25	82.00	87.50	28.38	31.13	26.00	28.75	21.44	24.13	24.00	33.13	36.25	2.38	66.63	69.88	6.00

AC1001290D

Class III

Size	BA	BH	D	FR	G	GA	H		J		K		KC		L	M	MA	N	P Max.		U
							50-77% Width	78-105% Width	50-77% Width	78-105% Width	50-77% Width	78-105% Width	50-77% Width	78-105% Width					50-77% Width	78-105% Width	
182	1.75	0.44	13.00	143T-256T	26.00	10	35.63	37.13	8.75	9.50	8.00	8.75	4.50	5.25	14.94	9.63	11.50	0.75	30.69	32.00	4.00
200	2.25	0.56	14.50	143T-256T	29.00	10	37.13	38.75	9.88	10.69	8.88	9.69	6.69	7.50	14.75	10.63	13.00	1.00	31.19	33.00	4.00
222	2.25	0.56	16.00	182T-256T	32.00	7	36.75	38.63	10.56	11.50	9.56	10.50	7.06	8.00	14.81	11.75	14.50	1.00	30.13	31.50	4.00
245	2.50	0.56	17.00	182T-256T	34.00	7	38.63	40.63	11.63	12.63	10.50	11.50	6.50	7.50	14.69	12.88	14.50	1.13	30.88	32.00	4.00
270	2.50	0.56	19.00	213T-286T	38.00	7	42.50	44.75	12.50	13.63	11.38	12.50	6.88	8.00	16.44	14.13	16.50	1.13	34.69	36.00	4.00
300	3.00	0.56	21.00	213T-324T	42.00	7	47.13	49.63	14.00	15.25	12.63	13.88	7.75	9.00	16.44	15.88	17.50	1.38	38.75	41.00	4.75
330	3.50	0.56	23.00	254T-326T	46.00	7	48.88	51.63	15.50	16.88	13.88	15.25	9.38	10.75	17.69	17.38	19.50	1.63	38.63	41.00	4.75
365	3.50	0.56	25.50	284T-405T	51.00	.25	56.38	59.38	16.81	18.31	15.19	16.69	10.50	12.00	21.13	18.88	22.00	1.63	48.88	51.00	4.75
402	3.50	0.81	28.00	284T-405T	56.00	.25	58.88	62.13	18.13	19.75	16.50	18.13	11.88	13.50	21.13	20.88	24.50	1.63	50.00	52.00	4.75
445	4.00	0.81	31.00	324T-445T	62.00	.25	67.00	70.63	20.00	21.81	18.13	19.94	14.00	15.81	24.50	22.88	26.50	1.88	59.25	62.00	6.00
490	4.00	0.81	34.00	324T-445T	68.00	.25	69.88	73.88	21.56	23.56	19.69	21.69	15.56	17.56	24.50	25.38	29.50	1.88	60.56	63.00	6.00
542	4.00	0.81	38.00	364T-445T	76.00	.25	73.25	77.75	23.31	25.56	21.44	23.69	17.31	19.56	24.50	27.63	33.50	1.88	62.19	64.50	6.00
600	5.00	0.81	38.00	364T-445T	76.00	.31	78.13	83.00	26.38	28.81	24.00	26.44	19.38	21.81	24.06	30.63	33.50	2.38	63.88	66.50	6.00
660	5.00	0.81	40.75	365T-445T	81.50	.31	80.63	86.13	28.38	31.13	26.00	28.75	21.44	24.13	24.06	33.13	36.25	2.38	64.38	67.50	6.00

AC1001322C

DIMENSIONS ARE SUBJECT TO CHANGE. CERTIFIED DRAWINGS AVAILABLE UPON REQUEST.

Typical Specifications

Fans shall be Type EPF, EPFN, EPQ or EPQN centrifugal plenum (plug) type, as manufactured by Twin City Fan & Blower, Minneapolis, Minnesota.

Fans shall have a sharply rising pressure characteristic extending through the operating range and continuing to rise beyond the peak efficiency to ensure quiet and stable operation. Fans shall have a non-overloading design with self-limiting horsepower characteristics and shall reach a peak in the normal selection area. All fans shall be capable of operating over the minimum pressure class limits as specified in AMCA's Standard 2408-69.

PERFORMANCE — Fans shall be tested in accordance with AMCA 210 and AMCA 300 test standards for air moving devices and shall be guaranteed by the manufacturer to deliver rated published performance levels. Fans shall be licensed to bear the AMCA certified ratings seal for fan inlet sound, fan outlet sound, and air performance.

Arrangement 3 fans shall be tested and rated with shaft, bearings, and bearing bar in the inlet and shall be licensed to bear the AMCA certified ratings seal for both sound and air.

CONSTRUCTION — Fans shall be designed without a scroll type housing and shall incorporate a non-overloading type backward inclined airfoil blade wheel, heavy-gauge reinforced steel inlet plate, structural steel frame, and shaft and bearings.

FRAME AND INLET PANEL — Inlet panels shall be of heavy-gauge reinforced steel construction. The inlet panel incorporates a removable spun inlet cone designed for smooth airflow into the accompanying inlet retaining ring of the fan wheel. A square, formed lip suitable for attachment of a boot connector shall surround the unit.

WHEEL — Wheels shall have a spun non-tapered style blade retaining ring on the inlet side to allow higher efficiencies over the performance range of the fan. Sizes 245 and smaller shall have airfoil-shaped extruded aluminum blades. Sizes 270 and larger shall have die-formed airfoil steel blades with the option of extruded aluminum blades. All wheels on direct drive arrangement 4 fans shall have airfoil-shaped extruded aluminum blades. Wheels shall be of welded constuction. EPF and EPFN wheels shall have nine blades for high efficiencies. EPQ and EPQN wheels shall have twelve blades for better sound quality. All wheels shall be statically and dynamically balanced on precision electronic balancers to a Balance Quality Grade G6.3 per ANSI/AMCA 204 or better.

SHAFT — Shafts shall be AISI 1040 or 1045 hot rolled steel, accurately turned, ground, polished, and ring gauged for verification. Shafts shall be sized for the first critical speed of at least 1.43 times the maximum speed. All shafts must be dial indicated for straightness after the keyways are cut and straightened as required.

FAN BEARINGS — Bearings shall be heavy duty, grease lubricated, anti-friction ball (adapter mount) or roller, self-aligning, pillow block type and selected for a minimum bearing life (AFBMA L-10) in excess of 80,000 hours at the maximum fan RPM. All bearings shall be equipped with greasable zerk fittings and, where necessary, extended lube lines for easy access for lubrication.

DRIVE — Motor sheaves shall be cast iron, variable pitch on applications 10 HP and smaller, and fixed pitch on 15 HP and larger. Drives and belts shall be rated for 150% of the required motor HP.

FINISH AND COATING — The entire fan assembly, excluding the shaft, shall be thoroughly degreased and deburred before application of a rust-preventative primer. After the fan is completely assembled, a finish coat of paint shall be applied to the entire assembly. The fan shaft shall be coated with a petroleum-based rust protectant. Aluminum components shall be unpainted.

ACCESSORIES — When specified, accessories shall be provided by Twin City Fan & Blower to maintain one source responsibility.

VARIABLE INLET VANES — When specified, the variable inlet vanes shall be internal "nested" type. Each assembly is to have eleven vanes on sizes 245 and larger, and eight vanes on sizes 182 through 222. Each vane assembly shall be complete with quadrant and handle, suitable for manual or automatic operation. Construction shall be heavy-gauge and shall be of the cantilever design. Vanes are lubricated for life with a high quality moisture-resistant lubricant.

FACTORY RUN TEST — All fans prior to shipment shall be completely assembled and test run as a unit at the specified operating speed or maximum RPM allowed for the particular construction type. Maximum vibration shall be within the limits of ANSI/AMCA 204 Fan Application Category BV-3. Balance readings shall be taken by electronic type equipment in the axial, vertical, and horizontal directions on each of the bearings. Records shall be maintained and a written copy shall be available upon request.

GUARANTEE — The manufacturer shall guarantee the workmanship and materials for its EPF, EPFN, EPQ and EPQN fans for at least one (1) year from startup or eighteen (18) months from shipment, whichever occurs first.

Unlimited Options...

Commercial Fans

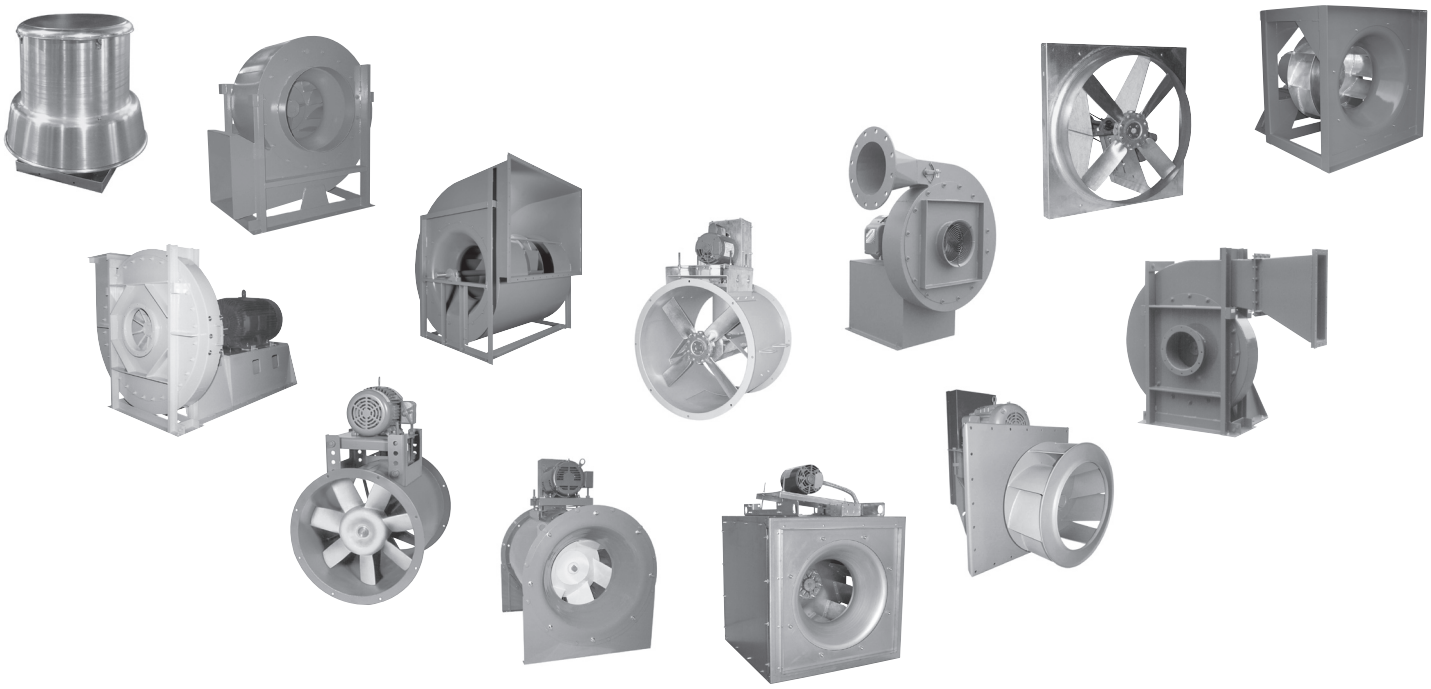
Centrifugal Fans • Utility Sets • Inline Centrifugal Fans • Plenum Fans
Radial Bladed Fans • Centrifugal Roof & Wall Exhausters • Filtered Supply Fans
Gravity Relief Ventilators • Ceiling & Cabinet Ventilators • Propeller Wall Fans
Tubeaxial Fans • Vaneaxial Fans • Propeller Roof Ventilators
Fume Hood/Smoke & Heat Exhaust Fans • Mancoolers • Fiberglass Fans

Industrial Fans

Centrifugal Fans • Forward Curved & Air Kit Components • Inline Centrifugal Fans
Plug Fans • Radial Bladed Fans • Radial Tip & High Efficiency Fans
Pressure Blowers • Tubeaxial Fans • Vaneaxial Fans

Custom Design Fans

Easy Access Fans • Insulated Fans • Inlet Boxes - Integral and Detached
Inlet Box Dampers • Independent Bearing Pedestals • Split Housings • Bolted Housings
Spark Resistant Construction • Ultra Fine Balancing • Modified Widths and Diameters
Variable Frequency Drives • API Specifications • Special Materials • Anti-Rotation Devices
Sleeve Oil Bearings • Volume Control Dampers • Inlet Vane Control with External Mechanisms



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Twin City

5959 Trenton Lane North • Minneapolis, MN 55442-3237
Phone: 763-551-7600 • Fax: 763-551-7601
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