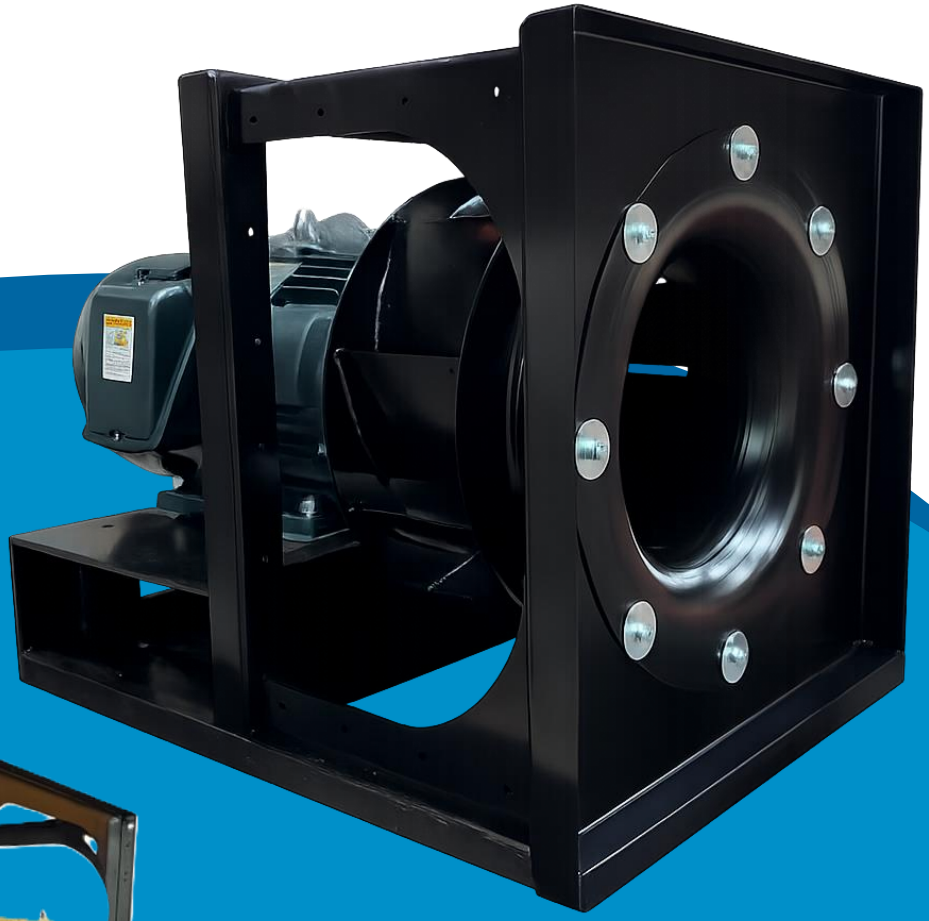
CHICAGO BLOWER CORPORATION

BULLETIN APF 101
March 2026

Design 81

Modular Plenum Fan



Overview

Design 81 Airfoil Plenum Fan

Chicago's Plenum Fan delivers a practical and economical solution for air handling and conditioning systems. Featuring an unhoused, true airfoil-bladed wheel, the fan is designed for direct installation within the plenum, eliminating the need for downstream duct transitions and reducing system complexity.

The fan can be installed in either horizontal or vertical orientations to accommodate space constraints and design flexibility. For higher airflow requirements, multiple units can be configured in fan array systems, arranged side-by-side or stacked vertically. This modular approach enhances redundancy, improves efficiency, and simplifies maintenance while optimizing available mechanical room space.

Made in the U.S.A

Performance:

- Sizes: 122 to 660
- Volumes to 195,000 CFM per fan
- Pressures to 18" wg per fan
- Temperatures to 200°F

Licensed to bear the AMCA seal for Sound, Air and FEI

Arrangements:

- Horizontal A/4
- Vertical A/4V

Drive Type:

- Direct Drive with fan wheel directly coupled to motor shaft

Optional Construction:

- Aluminum Construction
- Stainless Steel Construction

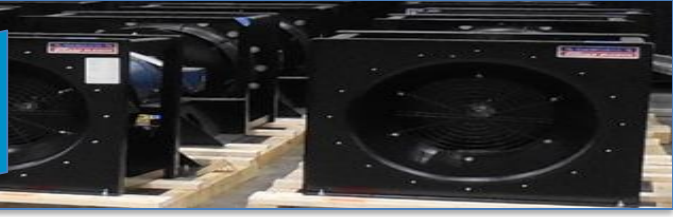
Standard Testing:

- Dynamic Wheel Balance to G6.3
- Vibration at run test <.15 in/sec

Warranty:

- The Design 81 carries a 3-year warranty

Benefits



Applications: Plenum fans are commonly used in commercial and industrial HVAC systems where large volumes of air must be moved efficiently within air handling units (AHUs) or duct systems. They are frequently installed in applications such as office buildings, hospitals, laboratories, manufacturing facilities, and data centers.

Unlike housed centrifugal fans, plenum fans operate directly within the air handling unit or plenum chamber, where the air is pressurized and distributed through the connected ductwork. They can be used in supply, return, or exhaust air systems and are often configured as single units or in fan arrays to meet higher airflow requirements.

Size: The Design 81 provides an expanded range of fan options in a compact design, typically occupying less space than competing solutions

Fan Size	CBC	Comp 1	Comp 2	Comp 3
12.25	19.375	20	N/A	N/A
13.5	21	N/A	N/A	N/A
15	22	22	22.75	21
16.5	24	24	24.5	23.1
18.25	26	26	27.5	25.6
20	28.625	29	29.5	28
22.25	31.125	32	31.5	31.2
24.5	33.75	34	35.5	34.3
27	36.625	38	37.5	37.8
30	40.25	42	41.75	42
33	43.75	46	44.75	46.2
36.5	47	51	48.5	46.2
40.25	51	56	52.5	51.1
44.5	57	62	58	56.4
49	61	68	62.5	62.3
54.25	68.5	76	68	68.6
60	73.5	76	75	76
66	R.F.	81.5	81.5	R.F.

**Dimensions refer to square housing panel size (in")*

Benefits:

- High efficiency, quiet, hollow bladed airfoil wheel
- Unhoused wheel installs within the plenum to eliminate downstream ductwork
- Stable air flow over entire performance range
- Horizontal, vertical and array installation
- Rugged industrial strength frame
- Integral lifting hooks
- 3-year Warranty

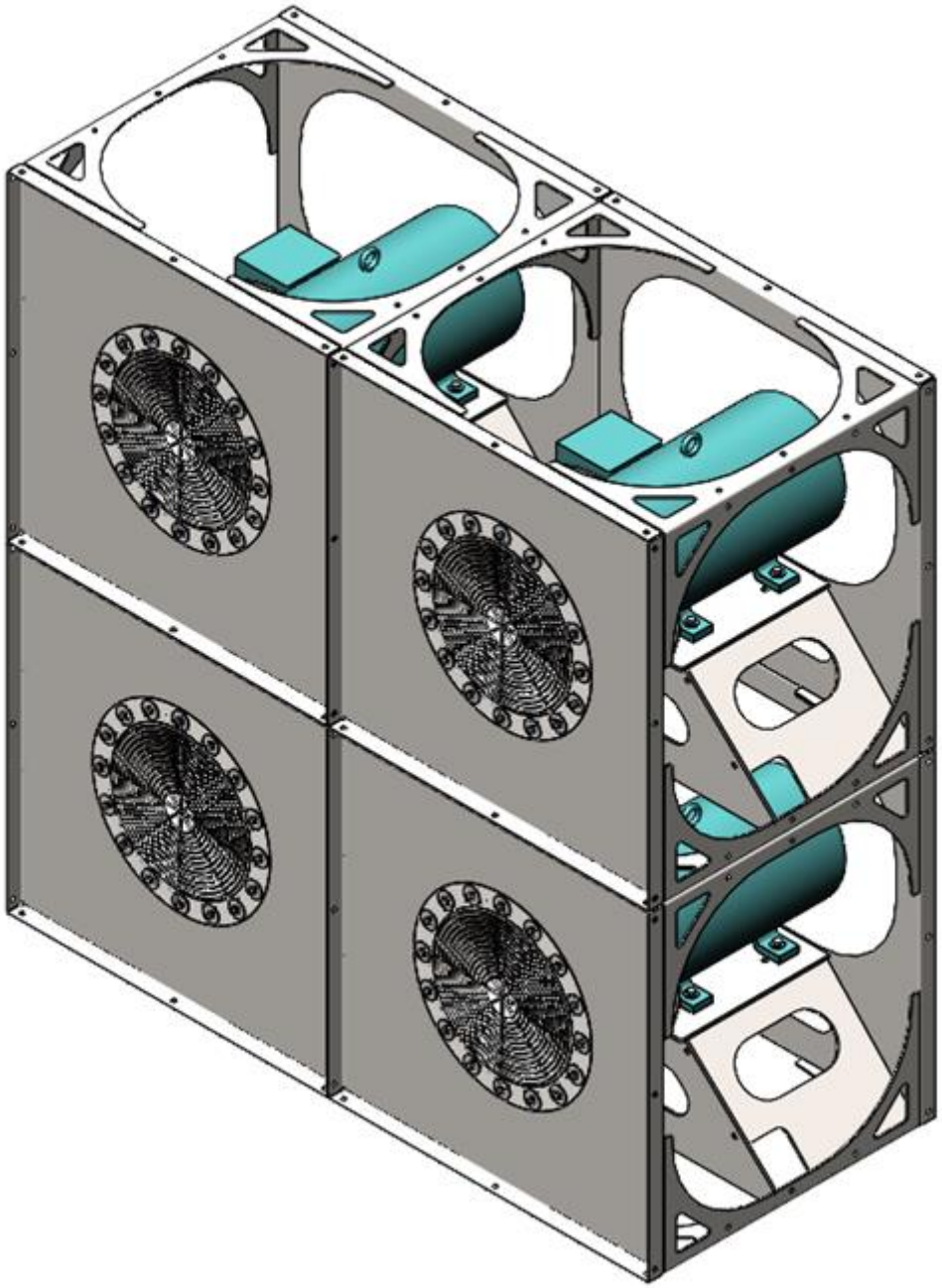
Plenum Array Benefits:

- Modular Boxed Housing for use in a fan array, allows stacking and bolting of fans together
- Fans assembled, tested and shipped as a full array
- Arrays provide N-1 redundancy
- Fan arrays allow for performance flexibility by having the ability to add and subtract fans or turn fans on and off
- Arrays allow for easier maintenance and less downtime
- Arrays allow for creative layouts and footprints

Modular Housing

The modular boxed housing for the D81 expands installation flexibility, providing a wide range of mounting configurations to support virtually any fan array layout. Available in both insulated and non-insulated options, the housing also offers an effective solution for reducing sound levels.

Constructed from welded steel for strength and durability, the housing features integrated mounting points on all sides, enabling fans to be arranged above, below, or side-by-side with ease. Engineered for stability, the design ensures smooth, low-vibration operation regardless of the number of fans in the array.

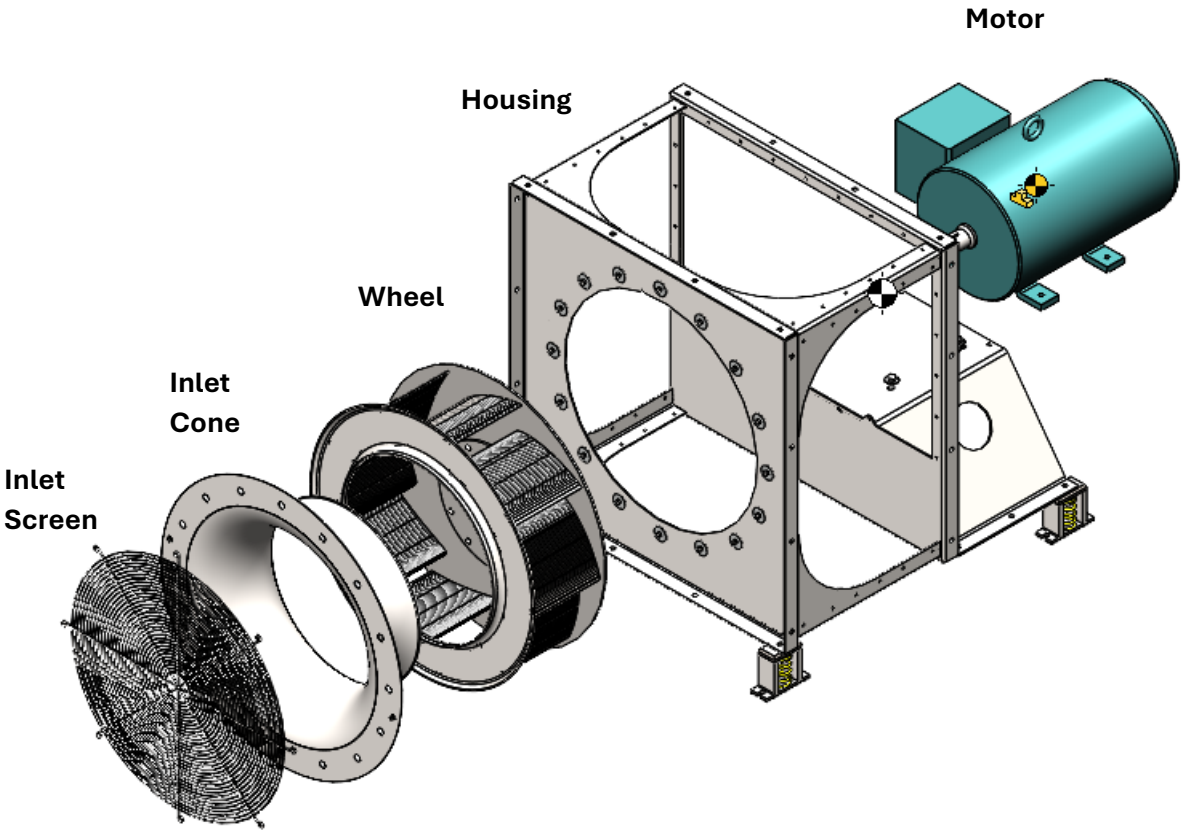


Construction

Wheel - Steel construction, continuously welded with a spun wheel cone. The hubs are cast iron or fabricated through size 402 and cast or fabricated steel on sizes 445 through 660. Blade weep holes in each trailing edge reduce the possibility of moisture entrapment in hollow airfoil blades. Wheels will be balanced to G6.3 unless otherwise specified on the order.

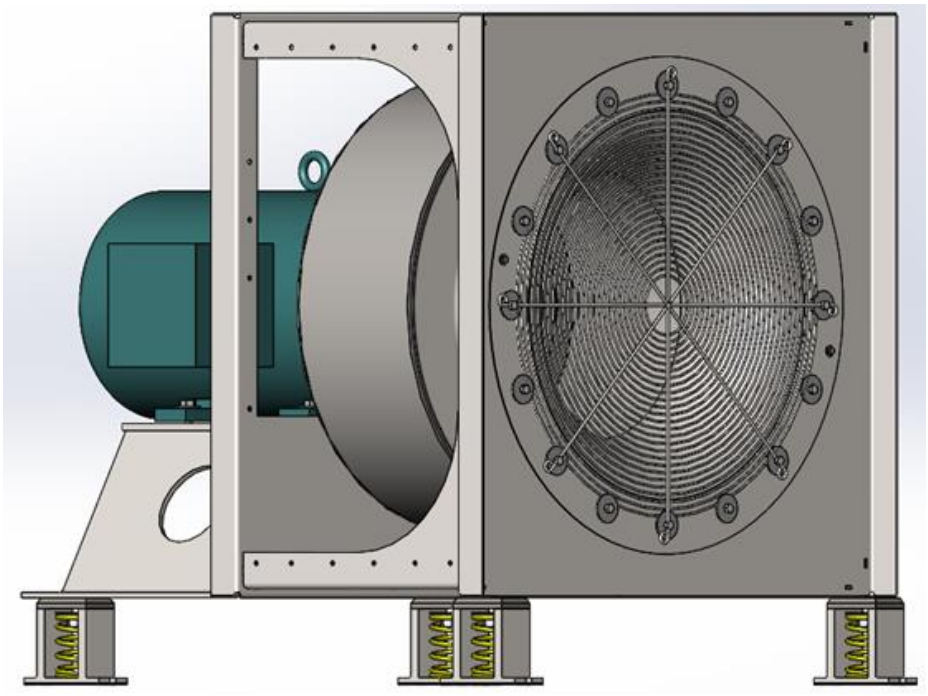
Housing - Heavy gauge steel housings are welded by AWS welders to assure structural integrity with extended durability.

Inlet Cone - Streamlined, spun steel inlet cone optimizes the smooth stable air flow across the entire operating range.

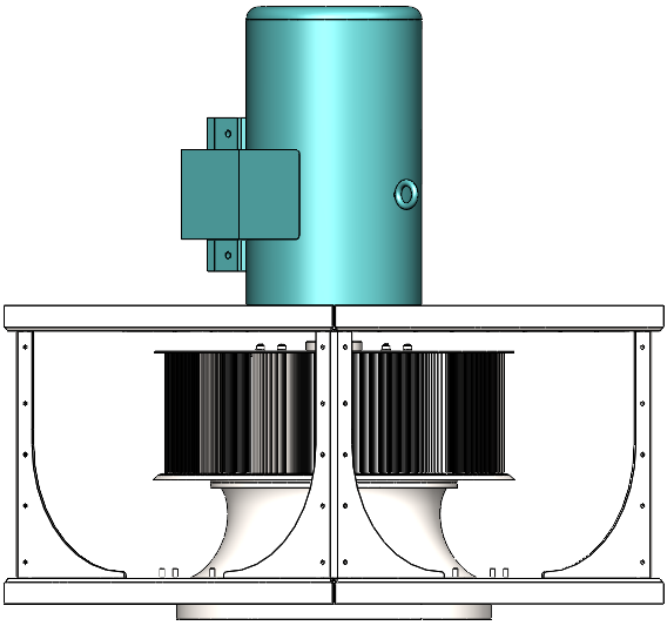


Mounting Options

Isolators - Used to reduce the transmission of vibration from the fan to its supporting structure. By absorbing and dampening mechanical vibrations, they help protect surrounding equipment, improve operational stability, and extend the lifespan of both the fan and its mounting components. Available in spring or rubber



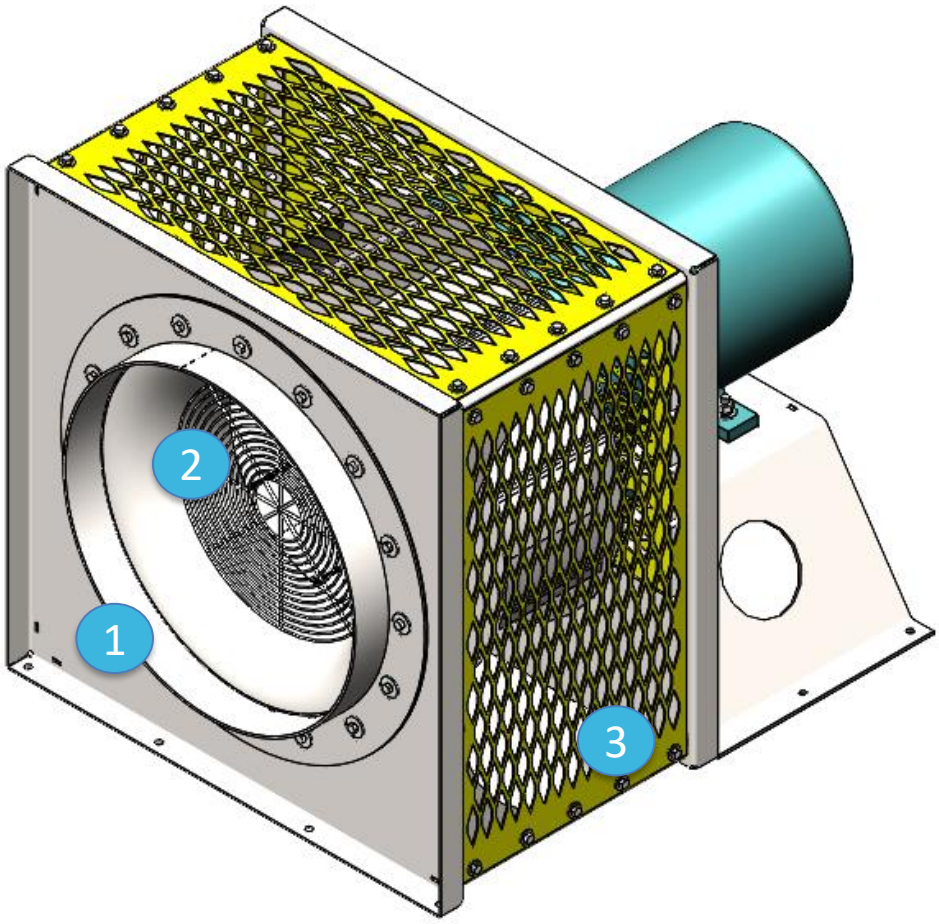
**Spring Isolators shown in image above*



Vertical Mount Housing Brackets - Qty (4) brackets welded near each corner of the inlet of the fan panel. Brackets are used to either mount the fan to the top of equipment or to mount isolators in vertical applications

Vertical Mount Housing Flange - Flange on the inlet panel of the fan. Provided with holes to mount onto customer equipment.

Accessories



1 **Slip Inlet Collar -** Angle ring bolted to fan to provide a slip inlet for ductwork.

Flanged Inlet - A rolled channel or two rolled angles welded together, punched and bolted to fan. (not pictured)

2 **Inlet Screen -** Welded steel wire or equal. Screen for inlet volume control is outside of control louvers and is horizontally split. Inlet screen is either nested inside the inlet cone of the fan or an oversize option mounted to the face of the inlet cone.

3 **Wheel Guard (Screen) -** Heavy duty expanded metal surrounds the fan. Panels are removable for access to the wheel.

Modular Boxed Housing - With options for insulated and non-insulated, once added, each module incorporates a high-efficiency, Design 81 Plenum fan housed within a rigid steel plenum to ensure structural integrity, minimal vibration, and uniform air distribution. The modular architecture enables seamless integration into multi-unit arrays, allowing system designers to match capacity requirements with exceptional flexibility. Optimized for low sound levels and reduced maintenance, the array supports redundancy and energy efficiency while maintaining consistent performance under varying load conditions. (Pictured on page 4)

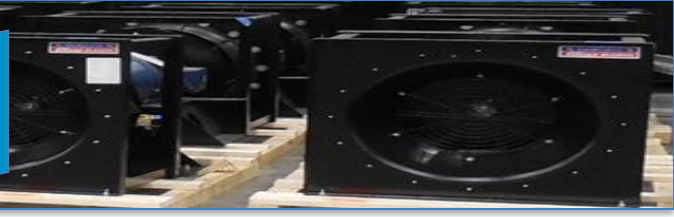
Flow Accessories

Inlet Cone with Piezometer Ring and Panel Pressure Taps - Mounted at the throat of the inlet cone spinning with pressure tap mounted to the inlet cone flange. Uses flow nozzle principles for accurate measurement of airflow in the fan without obstructing the inlet.

VoluProbe - The *VoluProbe* is a multi-point, self-averaging Pitot airflow traverse probe used to measure air or gas flow in fan inlets. It contains multiple total and static pressure sensing ports along its length that average pressures across the duct cross-section, providing a velocity pressure signal that can be correlated to actual airflow with typical accuracy around ±2–3 % of true flow. Mounted in the throat of the inlet cone. Available in galvanized or stainless steel

Veltron DPT 2500+ Transmitter - The *Veltron DPT 2500* is an ultra-low differential pressure and flow transmitter that converts static or differential pressure signals from the VoluProbe into a standardized analog output (e.g., 4–20 mA) proportional to pressure or, with an integral square-root function, to flow velocity/volume. It is used for pressure and/or flow measurement and transmission.

Inlet Volume Control Damper - Variable inlet vanes suitable for manual or automatic operation - specify which. Included lever and quadrant for manual operation. Construction is suitable for the fan A/4 and 4V, maximum of 200°F.



Selection Corrections

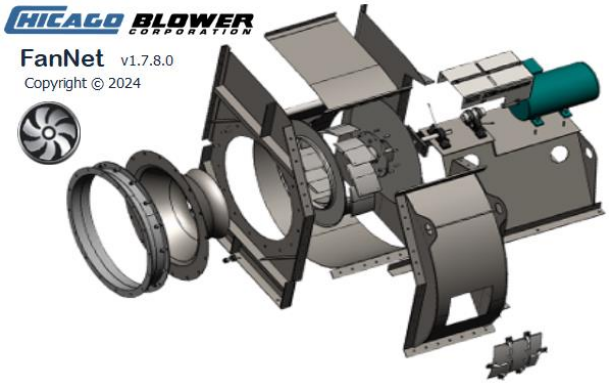
The following pages contain multi-rating tables for Design 81 Plenum fans. Each section provides data for a particular motor speed. Under each pressure (SP) rating, the volume (CFM) and horsepower (BHP) is listed for each fan size. For pressures not provided in the tables, simply interpolate between two given pressures.

Air Temp (F)	0 ft (29.92)	500 ft (29.38)	1000 ft (28.86)	1500 ft (28.33)	2000 ft (27.82)	2500 ft (27.31)	3000 ft (26.82)	3500 ft (26.32)	4000 ft (25.84)	5000 ft (24.90)
-15	0.79	0.81	0.82	0.84	0.85	0.87	0.88	0.90	0.96	1.00
0	0.87	0.88	0.90	0.92	0.93	0.95	0.97	0.99	1.00	1.04
70	1.00	1.02	1.04	1.06	1.08	1.10	1.12	1.14	1.16	1.20
100	1.06	1.08	1.10	1.12	1.14	1.16	1.18	1.20	1.22	1.27
150	1.15	1.17	1.19	1.22	1.24	1.26	1.28	1.31	1.33	1.38
200	1.24	1.27	1.29	1.32	1.34	1.36	1.39	1.42	1.44	1.50

Correction factors for temperature (F) and altitude (above sea level): Standard air = .075 lbs. per cubic foot at sea level, 29.92" barometric pressure at 70° F

Example: 5,000CFM, 150°F, 1000' elevation, 5" WG SP

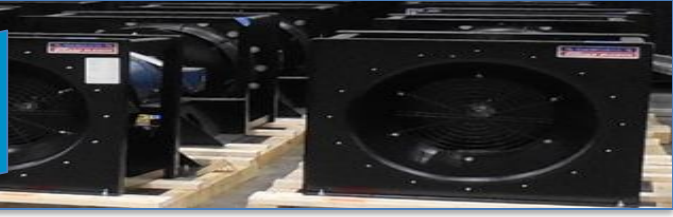
1. From the correction table, the correction factor for 150°F and 1000' elevation is 1.19 (Rounded to 1.20 for easy conversion.)
2. The equivalent SP at 70°F and sea level equals 5" SP x 1.20 = 6"SP.
3. Enter the table at 6"SP. You would select a size 165 at 3169RPM at 5,000 CFM, requiring 7.77 BHP with VFD set at 53.56 HZ
4. To correct BHP to 150F and 1000' elevation, divide by the same correction factor 7.77/1.20 = 6.48 BHP.



Refer to Chicago Blower's FanNet for performance, fan curves and sound data.

For software and assistance, visit www.chicagoblower.com

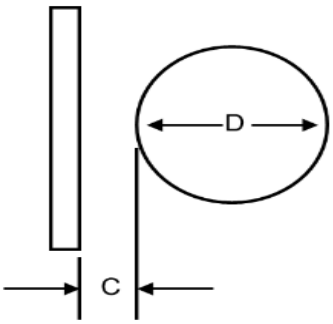
Plenum Wall



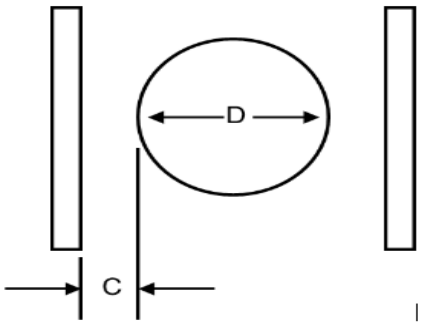
Plenum wall affects refer to the influence that the walls of a plenum chamber have on the performance and behavior of air moving equipment within the chamber. The walls of the plenum can affect airflow patterns, pressure distribution, noise levels, and overall system efficiency.

% WOV	FACTOR	C = D/8			C = D/4			C = D/2		
		ONE WALL	TWO WALL	THREE WALL	ONE WALL	TWO WALL	THREE WALL	ONE WALL	TWO WALL	THREE WALL
95	CFM	1.02	1.03	1.09	1.01	1.02	1.06	1.02	1.01	1.03
	SP	1.04	1.05	1.19	1.03	1.04	1.13	1.01	1.01	1.05
85	CFM	1.02	1.02	1.08	1.01	1.02	1.06	1.01	1.01	1.03
	SP	1.03	1.05	1.17	1.02	1.03	1.12	1.01	1.01	1.05
75	CFM	1.01	1.02	1.07	1.01	1.02	1.05	1.00	1.01	1.02
	SP	1.03	1.04	1.15	1.02	1.03	1.10	1.01	1.01	1.05
65	CFM	1.01	1.02	1.06	1.01	1.01	1.04	1.00	1.01	1.02
	SP	1.03	1.04	1.12	1.02	1.03	1.09	1.01	1.01	1.04
55	CFM	1.01	1.02	1.05	1.01	1.01	1.04	1.00	1.01	1.02
	SP	1.02	1.03	1.10	1.01	1.02	1.08	1.01	1.01	1.03
45	CFM	1.01	1.01	1.04	1.01	1.01	1.03	1.00	1.00	1.01
	SP	1.01	1.03	1.08	1.01	1.02	1.06	1.01	1.01	1.03

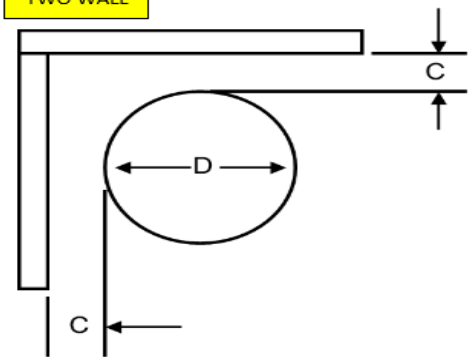
ONE WALL



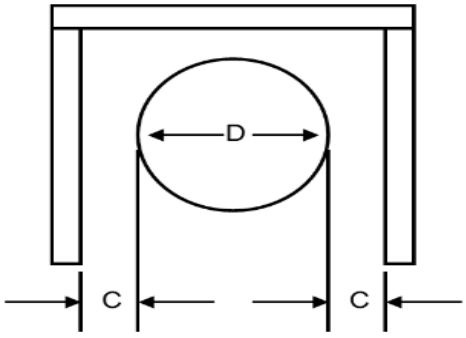
TWO WALL



TWO WALL



THREE WALL



*Before selecting your fan, refer to the table above.

Using the table calculate your WOV% based on your flow, compared to max flow at 0"SP.

Using your number of walls, C to D ratio, and WOV on the chart above, you will be provided with factors to add to your performance values before making a selection to account for these effects.

This table can be used for belt drive selections as well. Refer to your local Chicago Blower Representative, or the factory, to learn more.

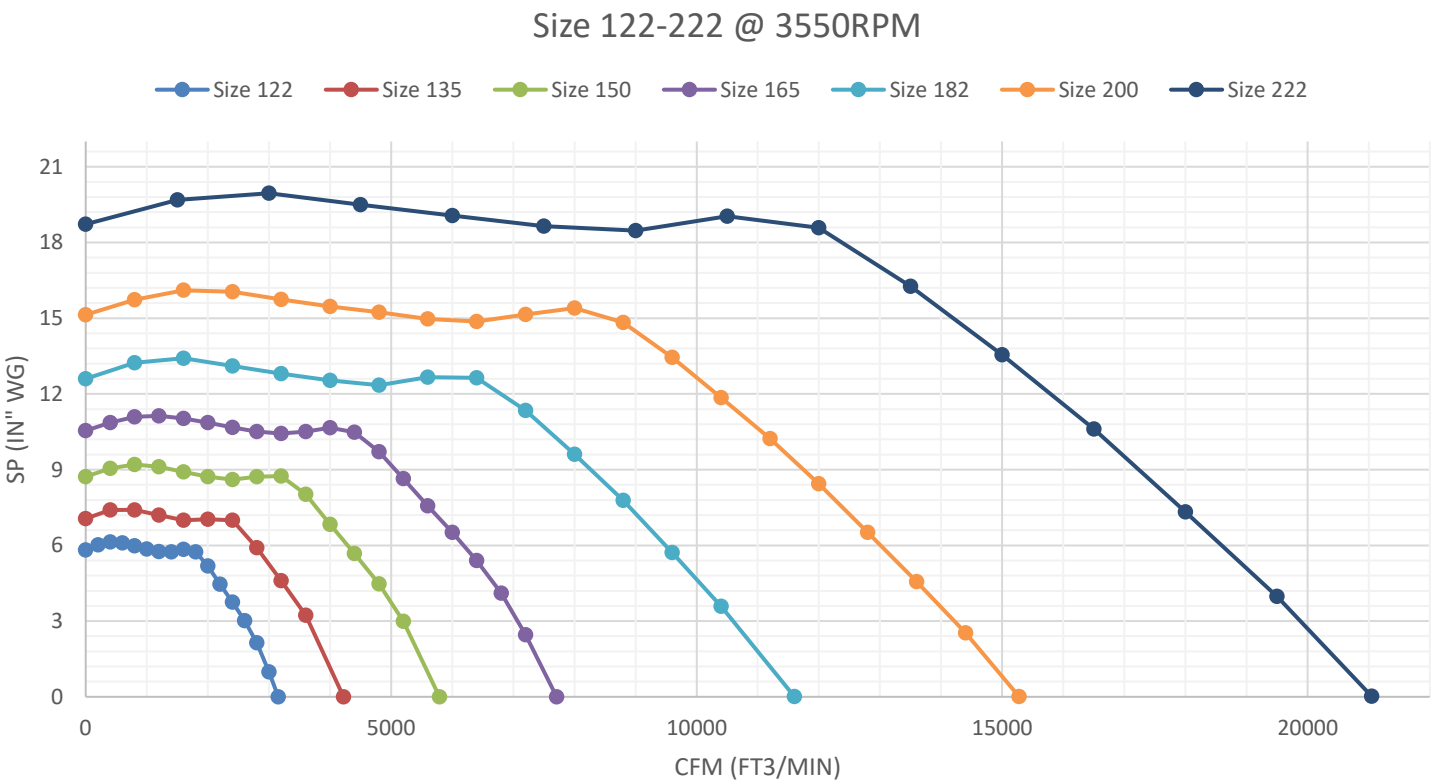
D= Wheel Diameter C = Clearance from plenum wall
WOV = Wide open volume

Performance

The performance tables on the following pages show performance at 100% width. On direct drive fans, fan manufacturers will vary the width on the fan in order to provide selections for fans due to the fan being driven at motor speed.

By varying the width of the fan, the fan curve is adjusted and able to achieve points not able to be met with a 100% width fan.

For performances unable to be achieved with a 100% width fan, inquire with your local representative, our FanNet selection software ,or directly with the Chicago Blower factory.

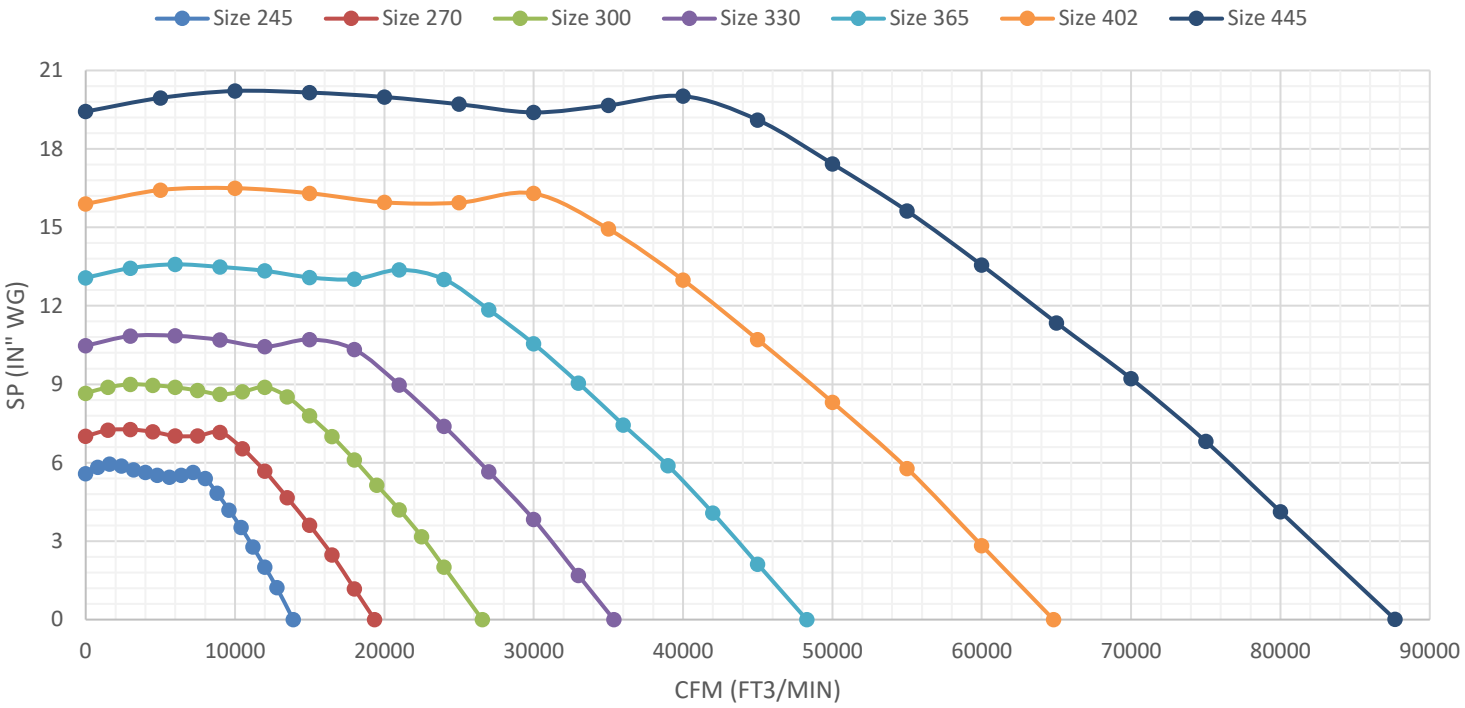


* All selections made on this page and the next are at 70deg F and Sea Level, .075lb/ft3 density. Consult the selection correction page, FanNet, your representative or the factory for curves, performance points and other information at other densities

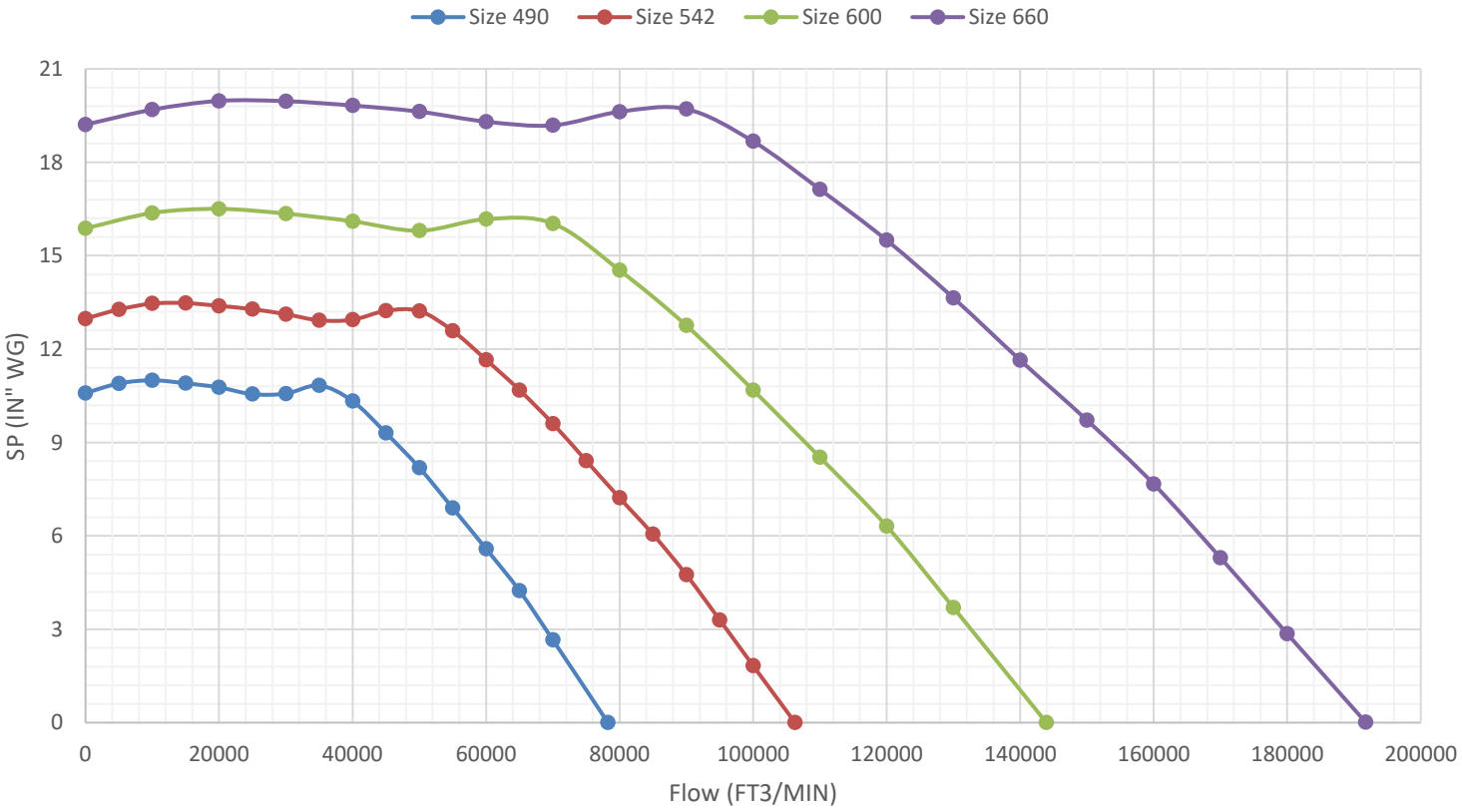
** *Caution: All Design 81 fans must NOT operate left of peak pressure, except for start up*

Performance

Size 245-445 @ 1760RPM



Size 490-660 @ 1180RPM



Performance 3600RPM

Below are performance ratings for the Design 81 Plenum Fan. As many fans are run using a VFD, provided are these flow and pressure points accompanied by the RPM and BHP. An estimate of frequency (HZ) to achieve this point with a VFD is also provided for convenience. All selections below are at 100% width, consult your rep or the factory for other width performance points. Note: HZ value is a calculation and may vary in real world experience.

Fan Size	Wheel Dia (In)	SP (IN WG)	1/2"			1"			2"			3"			4"			5"		
		CFM	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP
		2000	2385	40.31	0.57	2514	42.49	0.74	2795	47.24	1.13	3064	51.79	1.57	3301	55.79	2.03	3512	59.36	2.48
		2250	2652	44.82	0.76	2765	46.73	0.94	3009	50.86	1.36	3259	55.08	1.83	3490	58.99	2.34			
122	12.25	2500	2922	49.39	0.99	3024	51.11	1.19	3236	54.69	1.64	3463	58.53	2.13						
		2750	3193	53.97	1.27	3286	55.54	1.49	3474	58.72	1.97									
		3000	3466	58.58	1.6	3551	60.02	1.84												

Fan Size	Wheel Dia (In)	SP (IN WG)	1/2"			1"			2"			3"			4"			5"		
		CFM	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP
		2750	2420	40.90	0.93	2523	42.64	1.16	2741	46.33	1.67	2968	50.16	2.24	3177	53.70	2.86	3366	56.89	3.49
		3000	2622	44.32	1.16	2716	45.90	1.41	2911	49.20	1.95	3120	52.73	2.55	3321	56.13	3.19	3507	59.27	3.87
		3250	2825	47.75	1.43	2911	49.20	1.7	3088	52.19	2.26	3278	55.40	2.89	3468	58.61	3.56			
		3500	3028	51.18	1.74	3109	52.55	2.03	3271	55.28	2.63	3443	58.19	3.27						
135	13.5	3750	3233	54.64	2.1	3308	55.91	2.4	3458	58.45	3.03									
		4000	3438	58.11	2.51	3508	59.29	2.82												

SP (IN WG)	6"		
CFM	RPM	HZ	BHP
2750	3537	59.78	4.11

Fan Size	Wheel Dia (In)	SP (IN WG)	1/2"			1"			2"			3"			4"			5"		
		CFM	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP
		3750	2388	40.36	1.48	2471	41.76	1.79	2643	44.67	2.46	2829	47.81	3.2	3009	50.86	4.01	3175	53.66	4.85
		4000	2535	42.85	1.76	2613	44.16	2.08	2773	46.87	2.78	2944	49.76	3.55	3116	52.66	4.38	3280	55.44	5.26
		4250	2684	45.36	2.06	2757	46.60	2.41	2906	49.12	3.14	3064	51.79	3.93	3227	54.54	4.78	3386	57.23	5.7
		4500	2832	47.86	2.4	2902	49.05	2.76	3041	51.40	3.53	3188	53.88	4.35	3341	56.47	5.23	3494	59.05	6.17
		4750	2982	50.40	2.78	3048	51.52	3.16	3179	53.73	3.96	3315	56.03	4.8	3458	58.45	5.71			
		5000	3131	52.92	3.2	3194	53.98	3.6	3318	56.08	4.43	3445	58.23	5.31	3579	60.49	6.24			
		5250	3281	55.45	3.66	3341	56.47	4.08	3459	58.46	4.94	3578	60.47	5.85						
150	15	5500	3431	57.99	4.17	3489	58.97	4.6	3600	60.85	5.5									
		5750	3582	60.54	4.72															

SP (IN WG)	6"			7"		
CFM	RPM	HZ	BHP	RPM	HZ	BHP
3750	3329	56.26	5.71	3471	58.66	6.55
4000	3432	58.01	6.17	3573	60.39	7.08
4250	3535	59.75	6.65			

Performance 3600RPM

Fan Size	Wheel Dia (In)	SP (IN WG)	1"			2"			3"			4"			5"			6"		
165	16.5	CFM	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP
		5000	2445	41.32	2.72	2584	43.67	3.59	2733	46.19	4.53	2886	48.78	5.55	3032	51.25	6.64	3169	53.56	7.77
		5500	2662	44.99	3.43	2787	47.10	4.36	2919	49.34	5.36	3057	51.67	6.43	3195	54.00	7.57	3327	56.23	8.77
		6000	2882	48.71	4.26	2995	50.62	5.26	3113	52.61	6.32	3236	54.69	7.44	3363	56.84	8.63	3488	58.95	9.88
		6500	3103	52.45	5.24	3207	54.20	6.3	3313	55.99	7.42	3424	57.87	8.59	3539	59.81	9.83			
		7000	3325	56.20	6.36	3422	57.84	7.49	3519	59.48	8.67									
		7500	3547	59.95	7.64															

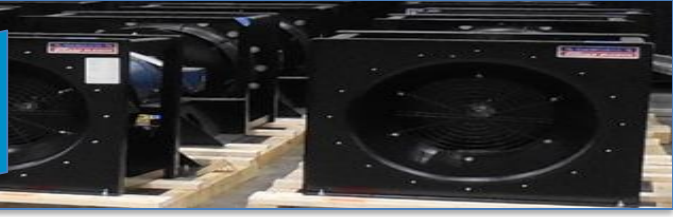
SP (IN WG)	7"			8"			9"		
CFM	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP
5000	3297	55.72	8.9	3417	57.75	10.03	3530	59.66	11.16
5500	3452	58.34	10	3570	60.34	11.24			

Fan Size	Wheel Dia (In)	SP (IN WG)	1"			3"			5"			7"			9"			11"		
182	18.25	CFM	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP
		7500	2443	41.29	4.27	2720	45.97	6.96	2958	49.99	9.64	3180	53.75	12.59	3388	57.26	15.75	3578	60.47	18.89
		8000	2586	43.71	4.99	2850	48.17	7.86	3080	52.06	10.69	3291	55.62	13.69	3492	59.02	16.98			
		8500	2731	46.16	5.8	2981	50.38	8.82	3203	54.14	11.83	3406	57.57	14.91	3599	60.83	18.28			
		9000	2876	48.61	6.7	3113	52.61	9.86	3329	56.26	13.08	3524	59.56	16.27						
		9500	3022	51.08	7.71	3247	54.88	10.99	3456	58.41	14.41									
		10000	3169	53.56	8.81	3382	57.16	12.22	3585	60.59	15.84									
		10500	3316	56.05	10.02	3519	59.48	13.57												
		11000	3463	58.53	11.36															

Fan Size	Wheel Dia (In)	SP (IN WG)	1"			3"			5"			7"			9"			11"		
200	20	CFM	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP
		10000	2446	41.34	6.61	2678	45.26	10.18	2884	48.74	13.73	3071	51.90	17.38	3250	54.93	21.41	3419	57.79	25.62
		10500	2557	43.22	7.48	2778	46.95	11.18	2978	50.33	14.91	3160	53.41	18.69	3333	56.33	22.76	3498	59.12	27.13
		11000	2667	45.08	8.42	2880	48.68	12.27	3074	51.95	16.2	3251	54.95	20.09	3418	57.77	24.22	3579	60.49	28.68
		11500	2778	46.95	9.45	2982	50.40	13.43	3171	53.59	17.56	3343	56.50	21.59	3504	59.22	25.79			
		12000	2889	48.83	10.55	3084	52.12	14.66	3269	55.25	19	3436	58.07	23.19	3594	60.74	27.49			
		12500	3001	50.72	11.77	3188	53.88	15.99	3368	56.92	20.5	3531	59.68	24.89						
		13000	3113	52.61	13.06	3293	55.66	17.4	3467	58.60	22.09									
		13500	3225	54.51	14.45	3398	57.43	18.91	3566	60.27	23.75									
		14000	3337	56.40	15.95	3503	59.21	20.52												
		14500	3450	58.31	17.56															
		15000	3562	60.20	19.26															

SP (IN WG)	13"		
CFM	RPM	HZ	BHP
10000	3577	60.46	29.8

Performance 3600RPM



Fan Size	Wheel Dia (In)	SP (IN WG)	1"			2"			4"			6"			8"			10"		
222	22.25	CFM	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP
		14000	2460	41.58	11.2	2553	43.15	13.54	2734	46.21	18.6	2897	48.96	23.55	3048	51.52	28.55	3192	53.95	33.91
		14750	2581	43.62	12.84	2670	45.13	15.28	2843	48.05	20.57	3001	50.72	25.78	3147	53.19	30.98	3285	55.52	36.42
		15500	2702	45.67	14.63	2786	47.09	17.16	2952	49.89	22.66	3106	52.50	28.2	3248	54.90	33.62	3381	57.14	39.18
		16250	2824	47.73	16.59	2904	49.08	19.19	3063	51.77	24.94	3212	54.29	30.75	3350	56.62	36.43	3480	58.82	42.16
		17000	2946	49.79	18.74	3022	51.08	21.43	3175	53.66	27.35	3320	56.11	33.48	3454	58.38	39.43	3580	60.51	45.36
		17750	3069	51.87	21.08	3141	53.09	23.86	3286	55.54	29.94	3427	57.92	36.34	3558	60.14	42.59			
		18500	3192	53.95	23.62	3261	55.12	26.48	3400	57.46	32.74	3536	59.76	39.37						
		19250	3314	56.01	26.34	3380	57.13	29.29	3514	59.39	35.72									
		20000	3437	58.09	29.28	3501	59.17	32.33												
		20750	3560	60.17	32.45															

SP (IN WG)	12"			14"			16"		
CFM	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP
14000	3332	56.32	39.64	3464	58.55	45.51	3590	60.68	51.36
14750	3420	57.80	42.25	3550	60.00	48.36			
15500	3511	59.34	45.08						

*** Caution: All plenum fans must NOT operate left of peak pressure, except for start up*

Performance 1800RPM

Fan Size	Wheel Dia (In)	SP (IN WG)	1/2"			1"			2"			3"			4"			5"		
245	24.5	CFM	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP
		9000	1223	41.69	2.36	1302	44.39	3.18	1443	49.19	4.79	1570	53.52	6.53	1688	57.55	8.45	1795	61.19	10.34
		9750	1310	44.66	2.85	1385	47.22	3.72	1520	51.82	5.49	1640	55.91	7.29	1753	59.76	9.28			
		10500	1400	47.73	3.42	1470	50.11	4.35	1599	54.51	6.25	1713	58.40	8.13						
		11250	1491	50.83	4.08	1556	53.05	5.05	1679	57.24	7.09	1789	60.99	9.09						
		12000	1581	53.90	4.81	1642	55.98	5.82	1760	60.00	8.01									
		12750	1673	57.03	5.64	1730	58.98	6.7												
		13500	1764	60.14	6.56															

Fan Size	Wheel Dia (In)	SP (IN WG)	1/2"			1"			2"			3"			4"			5"		
270	27	CFM	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP
		12000	1173	39.99	2.68	1242	42.34	3.61	1372	46.77	5.64	1493	50.90	7.96	1599	54.51	10.28	1697	57.85	12.65
		13000	1259	42.92	3.24	1324	45.14	4.24	1444	49.23	6.32	1560	53.18	8.77	1665	56.76	11.31	1759	59.97	13.82
		14000	1344	45.82	3.86	1407	47.97	4.95	1519	51.78	7.14	1629	55.53	9.66	1732	59.05	12.38			
		15000	1431	48.78	4.59	1490	50.80	5.73	1597	54.44	8.06	1699	57.92	10.62	1799	61.33	13.49			
		16000	1517	51.72	5.38	1574	53.66	6.62	1676	57.14	9.08	1772	60.41	11.69						
		17000	1605	54.72	6.29	1659	56.56	7.6	1757	59.90	10.21									
		18000	1693	57.72	7.3	1744	59.45	8.67												
		19000	1780	60.68	8.42															

SP (IN WG)	6"		
CFM	RPM	HZ	BHP
12000	1791	61.06	15.15

Fan Size	Wheel Dia (In)	SP (IN WG)	1"			2"			3"			4"			5"			6"		
300	30	CFM	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP
		15000	1129	38.49	4.56	1244	42.41	7.07	1353	46.13	9.98	1448	49.36	12.87	1536	52.36	15.85	1620	55.23	18.94
		16500	1219	41.56	5.53	1324	45.14	8.17	1427	48.65	11.24	1520	51.82	14.43	1604	54.68	17.62	1684	57.41	20.88
		18000	1310	44.66	6.66	1408	48.00	9.46	1503	51.24	12.61	1594	54.34	16.07	1676	57.14	19.55	1752	59.73	23.02
		19500	1402	47.80	7.95	1494	50.93	10.94	1582	53.93	14.16	1668	56.86	17.78	1750	59.66	21.58			
		21000	1494	50.93	9.38	1582	53.93	12.61	1663	56.69	15.93	1744	59.45	19.65						
		22500	1587	54.10	11.03	1671	56.97	14.49	1747	59.56	17.96									
		24000	1681	57.31	12.87	1760	60.00	16.56												
		25500	1774	60.48	14.91															

SP (IN WG)	7"			8"		
CFM	RPM	HZ	BHP	RPM	HZ	BHP
15000	1700	57.95	22.11	1776	60.55	25.31
16500	1760	60.00	24.27			

Performance 1800RPM

Fan Size	Wheel Dia (In)	SP (IN WG)	1"			2"			4"			6"			8"			10"		
		CFM	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP
		20000	1110	37.84	6.73	1205	41.08	9.9	1383	47.15	17.5	1532	52.23	25.33	1669	56.90	33.64	1795	61.19	42.15
		22000	1201	40.94	8.23	1289	43.94	11.64	1457	49.67	19.68	1601	54.58	28.19	1730	58.98	36.94			
		24000	1293	44.08	9.97	1376	46.91	13.67	1532	52.23	22.03	1673	57.03	31.28	1797	61.26	40.55			
330	33	26000	1386	47.25	11.99	1464	49.91	15.95	1609	54.85	24.57	1746	59.52	34.5						
		28000	1479	50.42	14.27	1554	52.98	18.57	1688	57.55	27.45									
		30000	1573	53.63	16.86	1644	56.05	21.46	1771	60.38	30.76									
		32000	1667	56.83	19.75	1735	59.15	24.65												
		34000	1762	60.07	23															

Fan Size	Wheel Dia (In)	SP (IN WG)	1"			2"			4"			6"			8"			10"		
		CFM	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP
		28000	1115	38.01	10.89	1192	40.64	15.19	1339	45.65	25.09	1467	50.01	35.84	1580	53.86	46.66	1688	57.55	58.12
		30000	1182	40.30	12.71	1256	42.82	17.29	1394	47.52	27.46	1520	51.82	38.94	1630	55.57	50.37	1733	59.08	62.25
		32000	1250	42.61	14.75	1321	45.03	19.61	1450	49.43	30.02	1574	53.66	42.15	1682	57.34	54.3	1781	60.72	66.66
		34000	1319	44.97	17	1386	47.25	22.15	1509	51.44	32.89	1628	55.50	45.43	1735	59.15	58.44			
		36000	1388	47.32	19.51	1452	49.50	24.95	1569	53.49	36.07	1683	57.38	48.91	1789	60.99	62.68			
		38000	1456	49.64	22.21	1519	51.78	27.98	1631	55.60	39.61	1738	59.25	52.59						
365	36.5	40000	1525	51.99	25.22	1586	54.07	31.31	1693	57.72	43.46	1795	61.19	56.59						
		42000	1595	54.38	28.56	1653	56.35	34.92	1757	59.90	47.63									
		44000	1665	56.76	32.2	1721	58.67	38.84												
		46000	1735	59.15	36.11															

SP (IN WG)	12"		
CFM	RPM	HZ	BHP
28000	1789	60.99	69.85

Fan Size	Wheel Dia (In)	SP (IN WG)	1"			3"			5"			7"			9"			11"		
		CFM	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP
		37000	1085	36.99	15.93	1213	41.35	27.42	1334	45.48	41.12	1440	49.09	55.15	1535	52.33	69.48	1625	55.40	84.31
		40000	1161	39.58	19.09	1282	43.70	31.36	1395	47.56	45.32	1500	51.14	60.73	1592	54.27	75.82	1678	57.20	91.36
		43000	1238	42.20	22.66	1353	46.13	35.78	1458	49.70	50.15	1560	53.18	66.31	1651	56.28	82.68	1734	59.11	98.98
		46000	1315	44.83	26.72	1425	48.58	40.75	1523	51.92	55.32	1620	55.23	72.19	1710	58.30	89.74	1792	61.09	107.1
		49000	1393	47.49	31.26	1497	51.03	46.07	1590	54.20	61.31	1682	57.34	78.43	1770	60.34	97.01			
		52000	1471	50.15	36.35	1570	53.52	52.08	1659	56.56	67.95	1745	59.49	85.28						
		55000	1549	52.81	42.05	1644	56.05	58.56	1729	58.94	75.2									
402	40.25	58000	1627	55.47	48.21	1718	58.57	65.68	1800	61.36	83.15									
		61000	1705	58.13	55.07	1793	61.13	73.39												
		64000	1783	60.78	62.6															

SP (IN WG)	13"			15"		
CFM	RPM	HZ	BHP	RPM	HZ	BHP
37000	1712	58.36	99.73	1794	61.16	115.3
40000	1761	60.03	107.5			

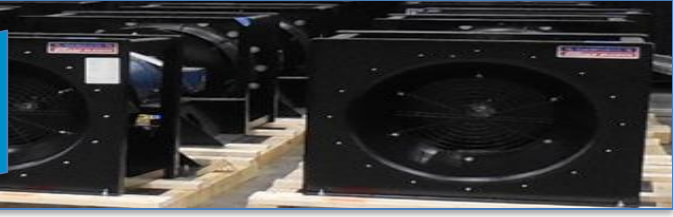
Performance 1800RPM

Fan Size	Wheel Dia (In)	SP (IN WG)	1"			2"			4"			6"			8"			10"		
445	44.5	CFM	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP
		50000	1071	36.51	24.59	1127	38.42	32.2	1229	41.90	48.07	1328	45.27	66.74	1415	48.24	85.68	1494	50.93	104.6
		54000	1148	39.14	29.65	1200	40.91	37.84	1296	44.18	54.56	1388	47.32	73.63	1475	50.28	94.22	1552	52.91	114.5
		58000	1224	41.73	35.34	1274	43.43	44.15	1364	46.50	61.77	1450	49.43	81.2	1534	52.30	102.9	1611	54.92	125
		62000	1300	44.32	41.67	1348	45.95	51.09	1433	48.85	69.79	1513	51.58	89.62	1594	54.34	112	1669	56.90	135.5
		66000	1377	46.94	48.97	1422	48.48	58.86	1505	51.31	78.94	1580	53.86	99.2	1654	56.39	121.8	1728	58.91	146.5
		70000	1455	49.60	57.12	1497	51.03	67.54	1576	53.73	88.62	1647	56.15	109.9	1717	58.53	132.7	1788	60.95	157.9
		74000	1532	52.23	65.99	1572	53.59	77	1648	56.18	99.34	1716	58.50	121.6	1783	60.78	144.8			
		78000	1609	54.85	75.91	1648	56.18	87.57	1720	58.64	110.9	1786	60.89	134.2						
		82000	1687	57.51	86.77	1723	58.74	98.91	1793	61.13	123.6									
		86000	1764	60.14	98.67	1799	61.33	111.3												

SP (IN WG)	14"			18"		
CFM	RPM	HZ	BHP	RPM	HZ	BHP
50000	1643	56.01	144.6	1779	60.65	186.2
54000	1693	57.72	156.3			
58000	1747	59.56	168.8			

*** Caution: All plenum fans must NOT operate left of peak pressure, except for start up*

Performance 1200RPM



Fan Size	Wheel Dia (In)	SP (IN WG)	1"			2"			4"			6"			8"			10"		
		CFM	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP
		44000	741	37.68	14.67	805	40.93	21.57	925	47.03	38.2	1024	52.07	55.17	1116	56.75	73.23	1200	61.02	91.91
		48000	796	40.47	17.61	856	43.53	25	970	49.32	42.5	1066	54.20	60.83	1153	58.63	79.9			
		52000	852	43.32	20.95	909	46.22	28.94	1015	51.61	46.98	1110	56.44	66.87	1192	60.61	86.86			
490	49	56000	908	46.17	24.77	962	48.92	33.35	1061	53.95	51.96	1154	58.68	73.33						
		60000	965	49.07	29.17	1015	51.61	38.23	1109	56.39	57.39	1198	60.92	79.73						
		64000	1021	51.92	33.93	1070	54.41	43.77	1158	58.88	63.61									
		68000	1078	54.81	39.31	1125	57.20	49.72												
		72000	1136	57.76	45.4	1180	60.00	56.32												
		76000	1192	60.61	52.01															

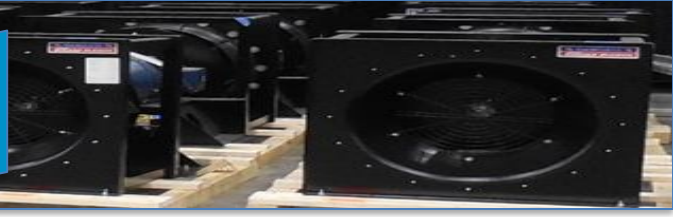
Fan Size	Wheel Dia (In)	SP (IN WG)	1"			2"			4"			6"			8"			10"		
		CFM	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP
		60000	731	37.17	22.43	785	39.92	31.77	885	45.00	53.3	972	49.42	76.32	1050	53.39	99.96	1123	57.10	124.6
		65000	782	39.76	26.84	833	42.36	36.79	927	47.14	59.08	1012	51.46	83.92	1087	55.27	108.9	1158	58.88	134.9
		70000	834	42.41	31.84	882	44.85	42.43	970	49.32	65.37	1054	53.59	91.97	1127	57.31	118.6	1193	60.66	145.7
		75000	886	45.05	37.4	932	47.39	48.87	1015	51.61	72.58	1094	55.63	100.1	1167	59.34	129			
		80000	939	47.75	43.67	982	49.93	55.82	1060	53.90	80.51	1136	57.76	108.8						
		85000	991	50.39	50.69	1033	52.53	63.64	1107	56.29	89.53	1179	59.95	118.3						
542	54.25	90000	1044	53.08	58.46	1084	55.12	72.17	1155	58.73	99.23									
		95000	1097	55.78	67.02	1135	57.71	81.27												
		100000	1150	58.47	76.59	1186	60.31	91.48												
		105000	1200	61.02	86.93															

SP (IN WG)	12"		
CFM	RPM	HZ	BHP
60000	1192	60.61	150.1

Fan Size	Wheel Dia (In)	SP (IN WG)	1"			2"			4"			6"			8"			10"		
		CFM	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP
		85000	749	38.08	38.15	793	40.32	51.25	873	44.39	79.13	949	48.25	111.5	1015	51.61	143.7	1076	54.71	176.9
		90000	788	40.07	43.72	830	42.20	57.44	906	46.07	86.07	979	49.78	119.7	1045	53.14	154.2	1104	56.14	188.3
		95000	827	42.05	49.76	867	44.08	64.11	939	47.75	93.81	1010	51.36	128.3	1075	54.66	164.5	1133	57.61	200.4
		100000	866	44.03	56.38	904	45.97	71.43	974	49.53	102.2	1041	52.93	137	1104	56.14	174.9	1162	59.08	212.7
		105000	904	45.97	63.55	942	47.90	79.44	1008	51.25	111.3	1072	54.51	146.7	1135	57.71	185.9	1192	60.61	225.7
		110000	943	47.95	71.33	979	49.78	87.88	1044	53.08	121.5	1105	56.19	156.9	1165	59.24	197.1			
		115000	983	49.98	79.86	1017	51.71	97.31	1080	54.92	131.9	1138	57.86	168.3	1196	60.81	209.3			
		120000	1022	51.97	89.19	1055	53.64	107.2	1116	56.75	143.2	1172	59.59	180.5						
		125000	1061	53.95	99.08	1094	55.63	117.9	1152	58.58	155.2									
600	60	130000	1100	55.93	109.5	1131	57.51	129.1	1189	60.46	168.5									
		135000	1140	57.97	121	1170	59.49	141.2												
		140000	1179	59.95	133.2															

SP (IN WG)	12"			14"		
CFM	RPM	HZ	BHP	RPM	HZ	BHP
85000	1134	57.66	211.2	1190	60.51	246.6
90000	1160	58.98	223.8			
95000	1187	60.36	236.9			

Performance 1200RPM

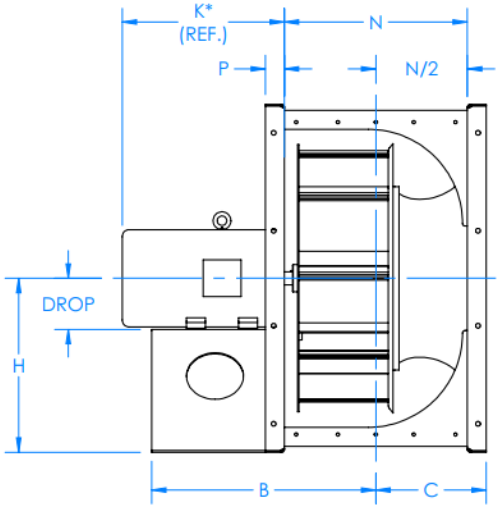


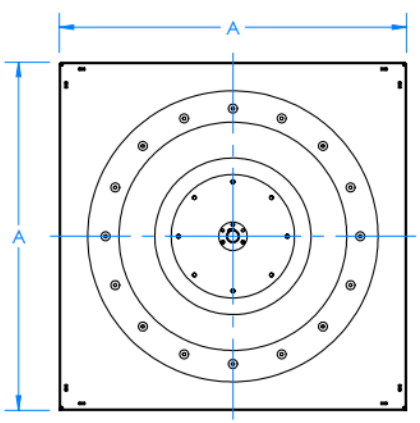
Fan Size	Wheel Dia (In)	SP (IN WG)	1"			2"			4"			6"			8"			10"		
660	66	CFM	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP	RPM	HZ	BHP
		110000	723	36.76	54.13	761	38.69	71.06	829	42.15	105.9	895	45.51	146.8	955	48.56	188.6	1008	51.25	230.5
		118000	769	39.10	63.91	805	40.93	81.92	869	44.19	118.5	932	47.39	160.6	991	50.39	205.7	1043	53.03	250.4
		126000	816	41.49	75.17	850	43.22	94.26	911	46.32	132.9	970	49.32	175.3	1027	52.22	222.8	1079	54.86	270.6
		134000	863	43.88	87.64	895	45.51	108	954	48.51	148.5	1009	51.31	192.1	1063	54.05	240.7	1115	56.69	291.5
		142000	910	46.27	101.9	941	47.85	123.3	997	50.69	166.2	1049	53.34	210.7	1101	55.98	259.8	1151	58.53	313.3
		150000	958	48.71	117.4	987	50.19	140	1041	52.93	185.1	1090	55.42	230.8	1139	57.92	280.8	1187	60.36	335.9
		158000	1005	51.10	134.2	1033	52.53	157.7	1085	55.17	205.7	1132	57.56	253.5	1178	59.90	304.2			
		166000	1052	53.49	152.7	1079	54.86	178	1129	57.41	227.3	1175	59.75	277.7						
		174000	1099	55.88	173.1	1125	57.20	199.2	1173	59.64	251.5									
		182000	1147	58.32	195.6	1172	59.59	222.4												
		190000	1194	60.71	219.6															

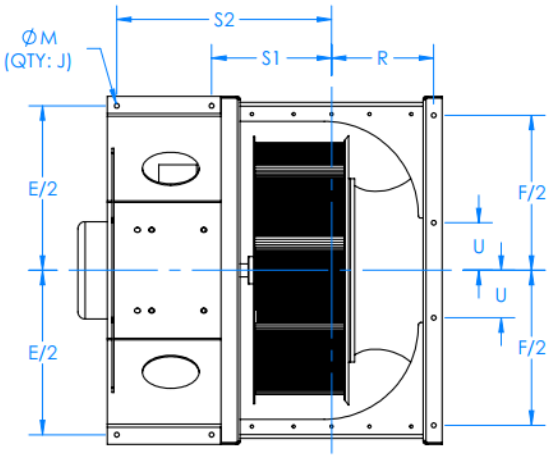
SP (IN WG)	14"			18"		
CFM	RPM	HZ	BHP	RPM	HZ	BHP
110000	1108	56.34	318.5	1199	60.96	409.5
118000	1138	57.86	341.1			
126000	1171	59.54	365.9			

*** Caution: All plenum fans must NOT operate left of peak pressure, except for start up*

Dimensions





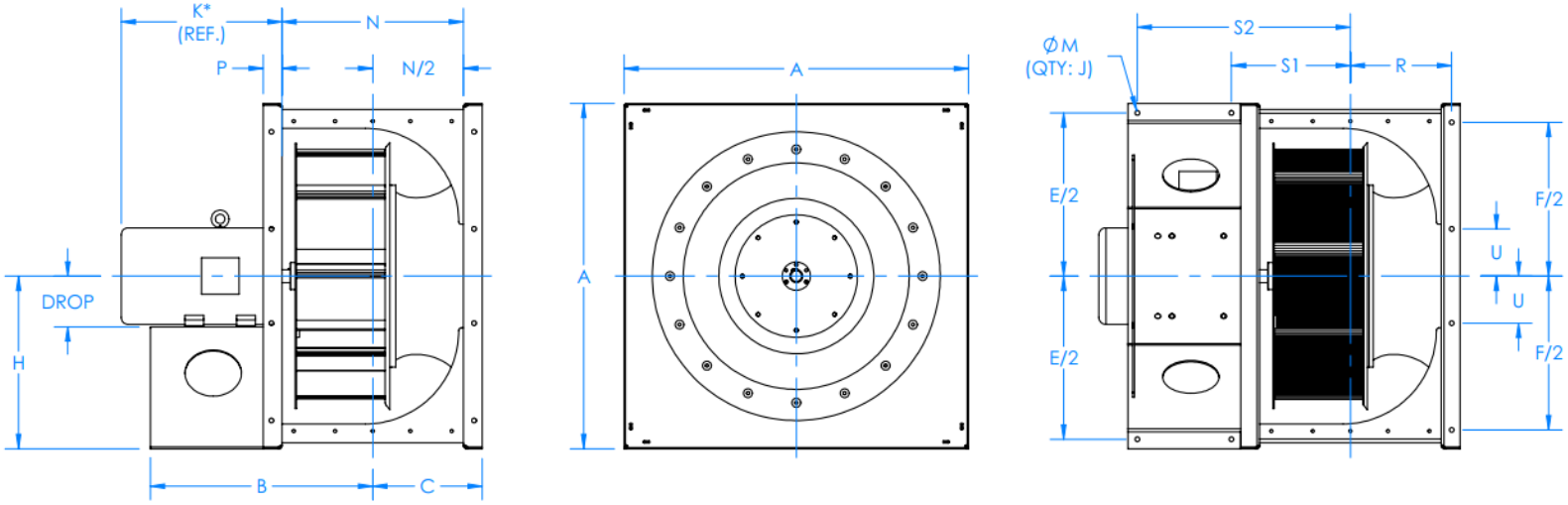


SIZE	MOTOR	DROP	A	B*	C*	E/2	F/2	H	J	K*	M	N*	N/2*	P	R*	S*	S2*	U
122	48	3 1/8	19 3/8	13 3/4	6 13/16	8 11/16	7 11/16	9 11/16	6	11 9/16	1/2	9 9/16	4 13/16	2	5 15/16	7 13/16	12 3/4	-
122	56	3 5/8		13 3/4						12 1/16							12 3/4	
122	143T & 145T	3 5/8		15 3/8						12 3/16							14 3/8	
122	182T & 184T	4 5/8		16 5/16						15 7/16							15 5/16	
135	56	3 5/8	21	14 1/8	7 3/16	9 1/2	8 1/2	10 1/2	6	12 1/16	1/2	10 3/8	5 3/16	2	6 5/16	8 3/16	13 1/8	-
135	143T & 145T	3 5/8		15 3/4						12 3/16							14 3/4	
135	182T & 184T	4 5/8		16 11/16						15 7/16							15 11/16	
150	56	3 5/8	22	14 5/8	7 11/16	10	9	11	6	12 1/16	1/2	11 3/8	5 11/16	2	6 13/16	8 11/16	13 5/8	-
150	143T & 145T	3 5/8		16 1/4						12 3/16							15 1/4	
150	182T & 184T	4 5/8		17 3/16						15 7/16							16 3/16	
150	213T & 215T	5 3/8		19 5/8						17 1/8							18 5/8	
165	56	3 5/8	24	15 1/8	8 3/16	11	10	12	6	12 1/16	1/2	12 3/8	6 3/16	2	7 5/16	9 3/16	14 1/8	-
165	143T & 145T	3 5/8		16 3/4						12 3/16							15 3/4	
165	182T & 184T	4 5/8		17 11/16						15 7/16							16 11/16	
165	213T & 215T	5 3/8		20 1/8						17 1/8							19 1/8	
165	254T & 256T	6 3/8		24						22							23	
182	143T & 145T	3 5/8	26	17 3/8	8 13/16	12	11	13	6	12 3/16	1/2	13 9/16	6 13/16	2	7 15/16	9 13/16	16 3/8	-
182	182T & 184T	4 5/8		18 5/16						15 7/16							17 5/16	
182	213T & 215T	5 3/8		20 3/4						17 1/8							19 3/4	
182	254T & 256T	6 3/8		24 5/8						22							23 5/8	
200	143T & 145T	3 5/8	28 5/8	17 15/16	9 3/8	13 5/16	12 5/16	14 5/16	6	12 3/16	1/2	14 11/16	7 3/8	2	8 1/2	10 3/8	16 15/16	-
200	182T & 184T	4 5/8		18 7/8						15 7/16							17 7/8	
200	213T & 215T	5 3/8		21 5/16						17 1/8							20 5/16	
200	254T & 256T	6 3/8		25 3/16						22							24 3/16	
200	284TS & 286TS	7 1/8		26 3/4						24 1/8							25 3/4	

**N, N/2, B, C, R, S1 and S2 DENOTES 100% WIDTH*

***K IS LARGER OF TEFC MOTOR LISTED*

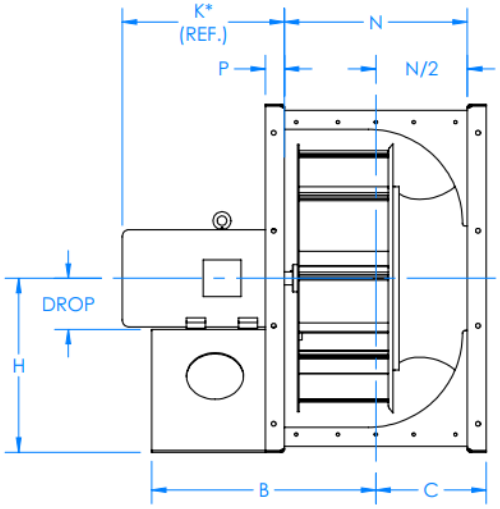
Dimensions

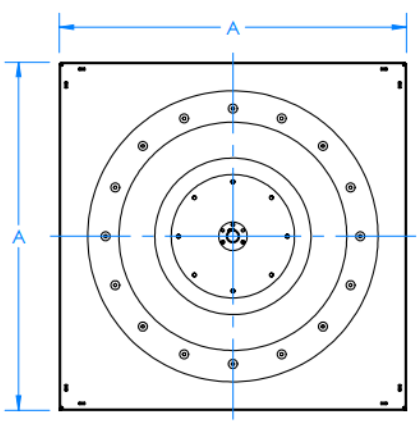


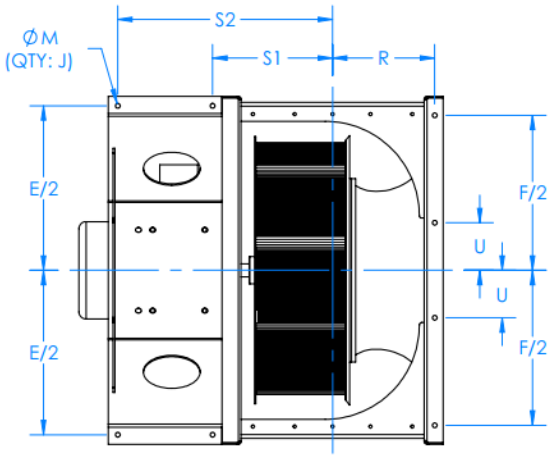
SIZE	MOTOR	DROP	A	B*	C*	E/2	F/2	H	J	K*	M	N*	N/2*	P	R*	S1*	S2*	U
222	182T & 184T	4 5/8		19 5/8						15 7/16							18 5/8	
222	213T & 215T	5 3/8		22 1/8						17 1/8							21 1/8	
222	254T & 256T	6 3/8	31 1/8	25 15/16	10 1/8	14 9/16	13 9/16	15 9/16	6	22	1/2	16 3/16	8 1/8	2	9 1/4	11 1/8	24 15/16	-
222	284TS & 286TS	7 1/8		27 1/2						24 1/8							26 1/2	
222	324TS & 326TS	8 1/8		29 9/16						27 3/8							28 9/16	
245	182T & 184T	4 5/8		20 3/8						15 7/16							19 3/8	
245	213T & 215T	5 3/8	33 3/4	22 7/8	10 7/8	15 7/8	14 7/8	16 7/8	6	17 1/8	1/2	17 11/16	8 7/8	2	10	11 7/8	21 7/8	-
245	254T & 256T	6 3/8		26 11/16						22							25 11/16	
270	213T & 215T	5 3/8		23 11/16						17 1/8							22 11/16	
270	254T & 256T	6 3/8	36 5/8	27 9/16	11 11/16	17 5/16	16 5/16	18 5/16	8	22	1/2	19 5/16	9 11/16	2	10 13/16	12 11/16	26 9/16	5
270	284T & 286T	7 1/8		29 7/8						25 3/8							28 7/8	
300	213T & 215T	5 3/8		24 11/16						17 1/8							23 1/2	
300	254T & 256T	6 3/8	40 1/4	28 9/16	13 3/16	18 15/16	18 1/8	20 1/8	8	22	5/8	21 5/16	10 11/16	2 1/2	12 1/16	14 3/8	27 3/8	6
300	284T & 286T	7 1/8		30 7/8						25 3/8							29 11/16	
300	324T & 326T	8 1/8		32 1/2						28 1/8							31 5/16	
330	254T & 256T	6 3/8		29 1/2						22							28 5/16	
330	284T & 286T	7 1/8	43 3/4	31 13/16	14 1/8	20 11/16	19 7/8	21 7/8	8	25 3/8	5/8	23 ¼	11 5/8	2 1/2	13	15 5/16	30 5/8	6 1/2
330	324T & 326T	8 1/8		33 7/16						28 1/8							32 1/4	
365	284T & 286T	7 1/8		32 15/16						25 3/16							31 3/4	
365	324T & 326T	8 1/8	47	34 9/16	15 7/16	22 5/16	21 1/2	23 1/2	8	27 15/16	5/8	25 13/16	12 15/16	2 1/2	14 5/16	16 5/8	33 3/8	7
365	364T & 365T	9 1/8		35 15/16						29 15/16							34 3/4	
365	404T & 405T	10 1/8		38						35 9/16							36 13/16	

**N, N/2, B, C, R, S1 and S2 DENOTES 100% WIDTH*
***K IS LARGER OF TEFC MOTOR LISTED*

Dimensions



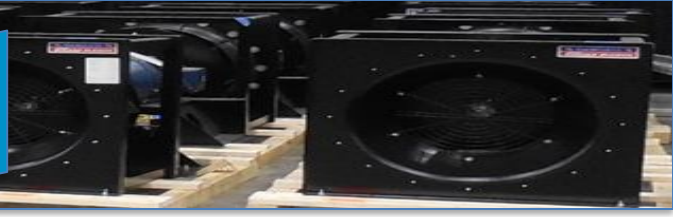




SIZE	MOTOR	DROP	A	B*	C*	E/2	F/2	H	J	K*	M	N*	N/2*	P	R*	S1*	S2*	U
402	284T & 286T	7 1/8	51	34 3/16	17 1/8	24 1/8	23 1/2	25 1/2	8	25 3/16	3/4	28 1/4	14 1/8	3	15 7/8	18 1/2	32 13/16	8
402	324T & 326T	8 1/8		35 13/16						27 15/16							34 7/16	
402	364T & 365T	9 1/8		37 3/16						29 15/16							35 13/16	
402	404T & 405T	10 1/8		39 1/4						35 9/16							37 7/8	
445	324T & 326T	8 1/8	57	37 1/4	18 5/8	27 1/8	26 1/2	28 1/2	8	27 13/16	3/4	31 3/16	15 5/8	3	17 3/8	20	35 7/8	9
445	364T & 365T	9 1/8		38 9/16						29 13/16							37 3/16	
445	404T & 405T	10 1/8		40 11/16						35 7/16							39 5/16	
490	324T & 326T	8 1/8	61	38 11/16	20 1/16	29 1/8	28 1/2	30 1/2	8	27 13/16	3/4	34 1/8	17 1/16	3	18 13/16	21 7/16	37 5/16	10
490	364T & 365T	9 1/8		40						29 13/16							38 5/8	
490	404T & 405T	10 1/8		42 1/8						35 7/16							40 3/4	
490	444T & 445T	11 1/8		46 5/16						42 1/16							44 15/16	
542	364T & 365T	9 1/8	68 1/2	41 11/16	22 7/8	32 7/8	32 1/4	34 1/4	8	29 11/16	3/4	37 11/16	18 7/8	4	21 3/8	24 1/4	40 5/16	11
542	404T & 405T	10 1/8		43 13/16						35 5/16							42 7/16	
542	444T & 445T	11 1/8		48						41 15/16							46 5/8	
600	364T & 365T	9 1/8	73 1/2	43 5/8	24 13/16	35 3/8	34 3/4	36 3/4	8	29 11/16	3/4	41 9/16	20 13/16	4	23 5/16	26 3/16	42 1/4	12
600	404T & 405T	10 1/8		45 3/4						35 5/16							44 3/8	
600	444T & 445T	11 1/8		49 15/16						41 15/16							48 9/16	
660	364T & 365T	9 1/8	REFER TO FACTORY.															
660	404T & 405T	10 1/8																
660	444T & 445T	11 1/8																

**N, N/2, B, C, R, S1 and S2 DENOTES 100% WIDTH*
***K IS LARGER OF TEFC MOTOR LISTED*

Construction Data



Maximum RPM, Wheel Weight & WR2 for the Design 81

Size	Wheel Diameter (in)	RPM Limit	Min Motor Frame	Max Frame Size	Wheel Weight (lbs)	WR2 (lb-ft2)
122	12.25	3600	48	184T	15	1.5
135	13.50	3600	56	184T	17	2.2
150	15.00	3600	56	215T	22	3.5
165	16.50	3600	56	256T	24	5.6
182	18.25	3600	143T	256T	44	9.1
200	20.00	3600	143T	286TS	50	12.7
222	22.25	3600	182T	326TS	62	20.9
245	24.50	1800	182T	256T	66	24.1
270	27.00	1800	213T	286T	77	42.9
300	30.00	1800	213T	326T	103	67.5
330	33.00	1800	254T	326T	159	125.6
365	36.50	1800	284T	405T	190	173.6
402	40.25	1800	284T	405T	302	337.9
445	44.50	1800	324T	405T	451	578.2
490	49.00	1200	324T	445T	503	1154.9
542	54.25	1200	364T	445T	624	1221.1
600	60.00	1200	364T	445T	748	1807.2
660	66.00	1200	364T	445T	R.F.	R.F.

Estimated Fan Weights

Fan Size	Frame	Est. Weight
Size 122	48	115
	56	115
	143/145T	125
	182/184T	165
Size 135	56	125
	143/145T	130
	182/184T	170
Size 150	56	135
	143/145T	140
	182/184T	180
	213/215T	270
Size 165	56	145
	143/145T	155
	182/184T	195
	213/215T	285
	254/256T	420

Fan Size	Frame	Est. Weight
Size 182	143/145T	185
	182/184T	225
	213/215T	310
	254/256T	450
Size 200	143/145T	200
	182/184T	240
	213/215T	330
	254/256T	465
	284/286TS	655
Size 222	182/184T	280
	213/215T	375
	254/256T	510
	284/286TS	695
	324/326TS	905
Size 245	182/184T	315
	213/215T	420
	254/256T	575

Fan Size	Frame	Est. Weight
Size 270	213/215T	450
	254/256T	625
	284/286T	805
Size 300	213/215T	515
	254/256T	695
	284/286T	875
	324/326T	1065
Size 330	254/256T	820
	284/286T	1000
	324/326T	1190
Size 365	284/286T	1050
	324/326T	1265
	364/365T	1540
	404/405T	1950
Size 402	284/286T	1300
	324/326T	1490
	364/365T	1770
	404/405T	2185

Fan Size	Frame	Est. Weight
Size 445	324/326T	1845
	364/365T	2100
	404/405T	2515
Size 490	324/326T	1900
	364/365T	2105
	404/405T	2650
	444/445T	3635
Size 542	364/365T	2540
	404/405T	3095
	444/445T	4060
Size 600	364/365T	2790
	404/405T	3345
	444/445T	4315
Size 660	All Frame	R.F.

**All Weights in Lbs.*
***Includes Motor Weight*

Engineering Spec

GENERAL: Provide a high performance, low maintenance, centrifugal fan with airfoil wheel and spun style wheel cone. Fan shall be tested according to AMCA Standard 210 for air performance, and AMCA Standard 300 for sound performance. Fans must be manufactured and assembled in the U.S.A. Fans must bear the AMCA seal for air and sound performance. Acceptable vendors: Chicago Blower Corporation.

PERFORMANCE: Performance shall include steep pressure and non-overloading horsepower characteristics. Wheel inlet cone to be designed to ensure smooth, stable air flow across the entire operating range. System static pressure changes of 30% shall result in no more than 10% volume change.

FRAME STRUCTURE: Heavy gauge, laser cut inlet, side and drive panels shall be welded together with housing support angles. Integral motor pedestal welded to drive panel.

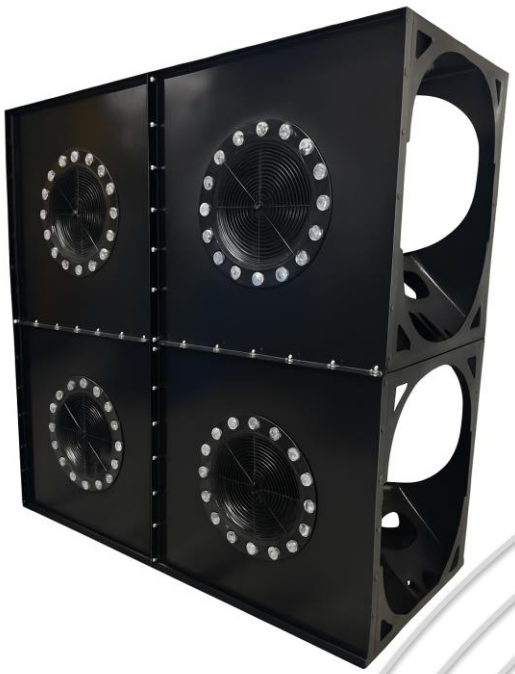
ROTOR: Wheel shall have cast iron or fabricated steel hub lock-bolted to a heavy backplate. A minimum of nine blades must be double-skinned airfoil continuously welded to the backplate and spun wheel cone. Wheels to be dynamically balanced to G 6.3 standards in accordance with ISO 1940/ANSI S2.19 specifications.

MOUNTING: Housing assembly complete with integral mounting angles and motor pedestal for connection to the foundation.

FACTORY MOUNTED MOTORS: Motors to be factory mounted. Unit to be tested at running speed for vibration and balance. Filtered vibration readings not to exceed 0.15 inches per second over the entire frequency spectrum.

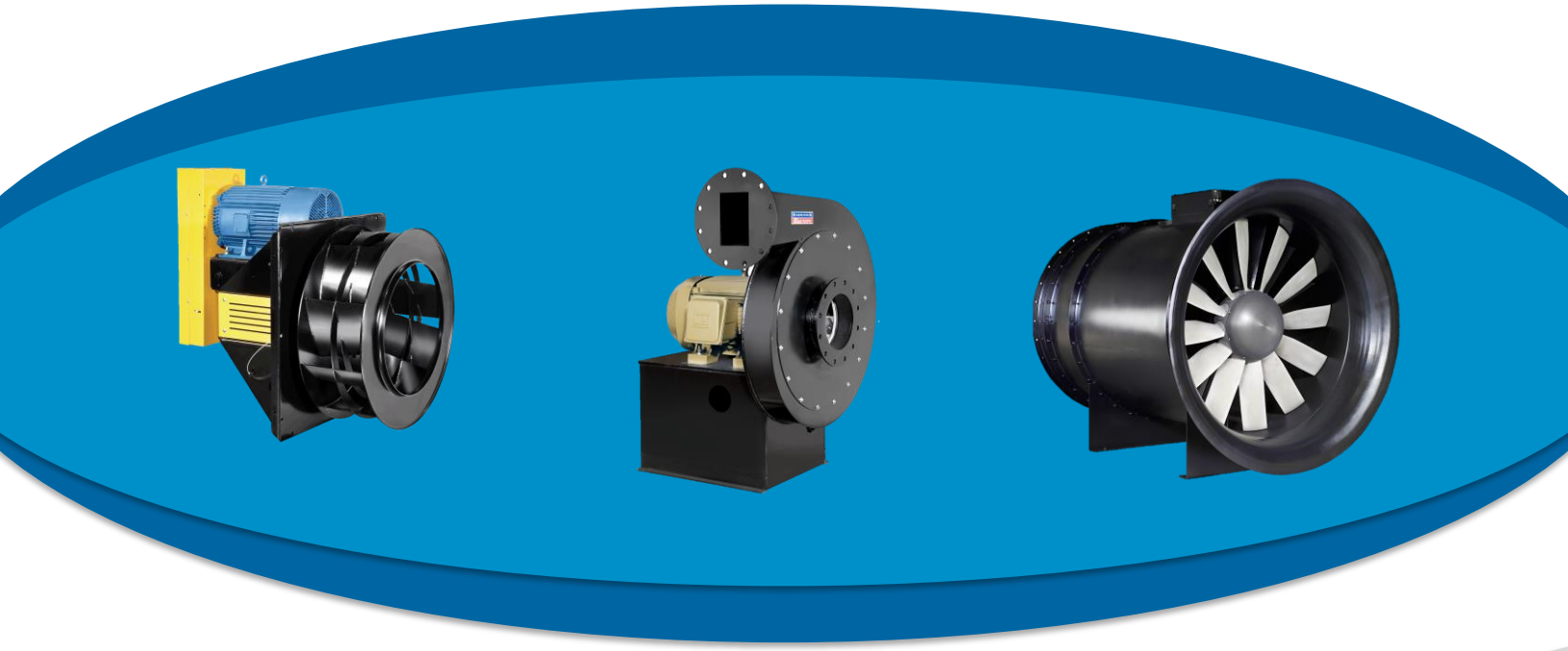
INLET VOLUME CONTROL: (As Required) Inlet volume control (IVC) device shall be totally enclosed within the inlet cone. IVC device shall be 7-bladed, and pre-spin the incoming air to control volume and pressure. Operation of IVC shall be smooth without fluttering of blades. Performance control shall be repeatable and consistent without slip or hunting for required duty.

ACCESSORIES:
Slip fit inlet, Flanged Inlet, Inlet Screen, Wheel Guard, Vibration Isolators – Spring or Rubber-In-Shear, Piezometer Ring, Inlet Volume Control Damper, Modular Boxed Housing, Height Saving Brackets



Chicago Blower Fans are also manufactured worldwide:

Argentina	Netherlands
Australia	New Zealand
Brazil	Norway
Chile	Singapore
China	South Africa
Estonia	South Korea
Germany	Spain
India	Sweden
Indonesia	Thailand
Israel	Taiwan
Malaysia	Venezuela



CHICAGO BLOWER CORPORATION

1675 Glen Ellyn Road • Glendale Heights, Illinois 60139
Phone: (630) 858-2600 • Fax: (630) 858-7172
www.chicagoblower.com • email: fans@chicagoblower.com