

BULLETIN BCHP 100
May 2015

Design 95

High Pressure Backward Curved Fans



An ISO 9001 Company

HICAGO **BLOWER**
CORPORATION

Reliability

Chicago Blower's Design 95 is an industrial backward curved fan with well-known durability and established performance. With hundreds of installed fans over 25 years, the Design 95's track record speaks to Chicago Blower's exceptional quality standards. Select the Design 95 for worry-free operation and reliability in today's industrial applications.

Flexibility

Whatever your needs are the Design 95 has the flexibility to fit your application. The wheel uses heavy backward curved blades designed to handle dusty and harsh environments up to 800°F.

The solid steel blades are also ideal for custom applied corrosion resistant coatings making the Design 95 even more versatile. Typical applications include dust collectors, thermal oxidizers, emission control systems, fume exhausters, and air filtration systems. The Design 95 can also be used in clean air applications, such as general ventilation, exhaust, forced or induced mechanical draft, air recirculation, and drying.

Efficiency

Chicago's backward curved wheel features blades which are formed into the same shape as the top skin of an airfoil profile. With a streamlined inlet cone that is designed to ensure smooth airflow into the fan inlet and over the airfoil shaped blades, the Design 95 provides maximum efficiency. This high efficiency allows for the use of smaller, lower horsepower motors and reduces electricity costs during normal operation.

Availability

Chicago Blower's Design 95 Backward Curved fan is now readily available as a standard pre-engineered fan. A pre-engineered fan line is fully developed and refined allowing Chicago Blower to lower costs to you. An additional benefit is quicker delivery of the fan to the job site since engineering processing times are decreased and manufacturing of the fan can begin sooner.

Fan Construction

- **Seventeen Fan Sizes: 182 through 890**
- **Volumes to 385,000 CFM**
- **Static Pressures to 40" W.G.**
- **Arrangements 1, 3, 3S1, 4, 7, 7S1, 8, 9S, 9H**
- **Construction Classes 2, 3, 4, 5**
- **Temperatures to 800°F**



Design Features

Rugged Steel Housing and Pedestal

The high grade steel housing and drivetrain pedestal is continuously welded by welders certified to American Welding Society (AWS) code standards for maximum strength and rigidity. Structural steel stiffeners are added to further increase strength. The drivetrain pedestal is an A-frame design that is wider at the bottom than at the top to increase stability in the foundation and resist vibration.

Long Bearing Life

The bearings are anti-friction ball or spherical roller with pillow block housings and are available with grease or oil lubrication. They are sized for a minimum L-10 life of 40,000 hours at class maximum speed and motor horsepower. Since most applications do not operate at either class maximum speed or motor horsepower, the actual bearing life is much longer.

Maximum Fan Efficiency Grade **FEG**

The Design 95 is rated with the highest Fan Efficiency Grade (FEG) of 90, in accordance with the Air Movement Control Association (AMCA) Publication 205. FEG is a classification for industrial fans which grades the fan's peak mechanical efficiency relative to its wheel diameter. A higher FEG means a more efficient fan. Each performance table on pages 8 through 16 is labeled with the FEG 90 rating.

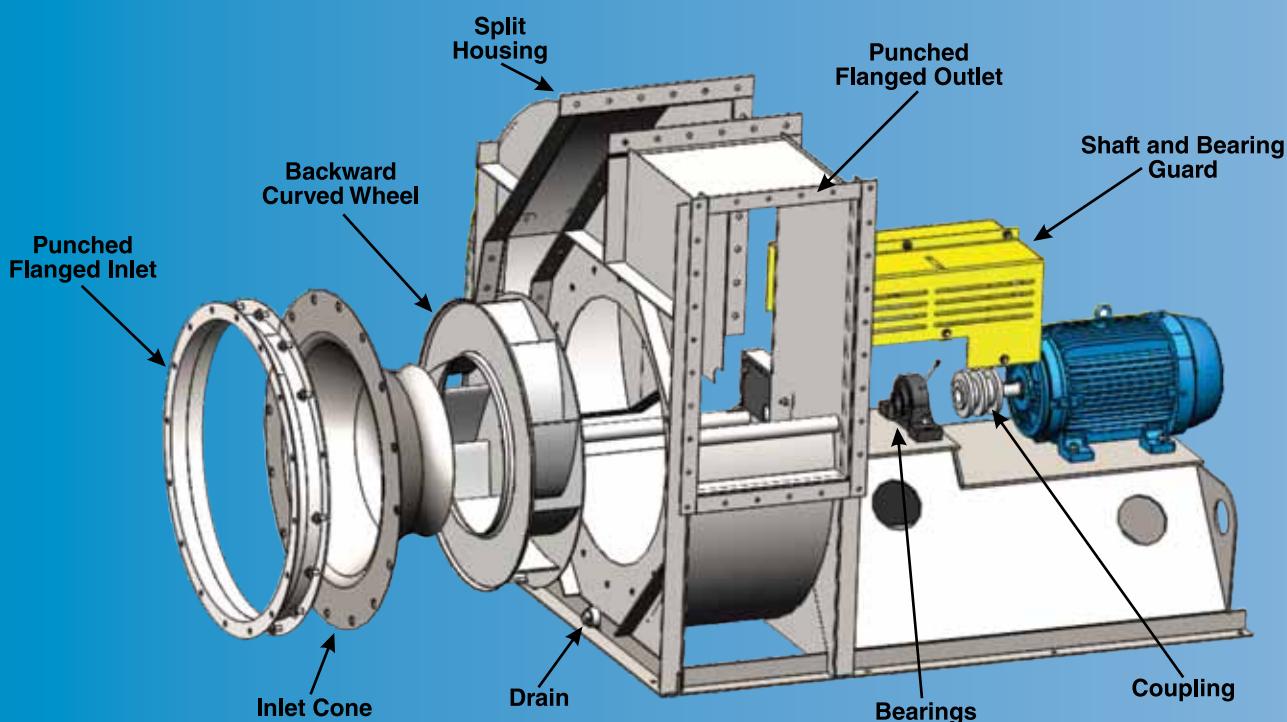
Precision Shafts

All shafts are made from 1045 cold rolled steel or equivalent. The shafts are turned, ground, and polished to assure tight bearing and hub fit. Shafts are sized so the fan running speed is 30% or more below the first critical speed to avoid resonance and minimize vibration.

Backward Curved Advantage

Chicago's backward curved wheel consists of solid steel blades continuously welded to a streamlined wheel sideplate and heavy steel backplate. They can withstand temperatures to 800°F.

The backward curved wheels have true non-overloading horsepower characteristics with a steep stable pressure curve and mechanical efficiencies over 84%.



Options

- **Inlet Volume Control**

The Inlet Volume Control (IVC) provides precise air control and more efficient performance for varying or partial load applications. Adjustable guide vanes pre-spin the incoming air in the same rotation as the wheel to produce the desired volume of air with substantial horsepower savings. Vanes are mounted entirely within the inlet cone. The IVC is available with a control handle for manual operation. Automatic operation is also available by adding a pneumatic or electric actuator. The IVC is suitable to 650°F for minimally varying application. For constantly varying applications, the maximum temperature is 350°F.



- **Slip Inlet**

A rolled structural angle ring mounted to the fan inlet which allows for ductwork or expansion joints to connect to the fan inlet by slipping over it.

- **Punched Flanged Inlet**

Formed ring inlet with a punched flange for bolted connection of inlet ductwork, expansion joints, inlet damper, or bolt-on inlet box.

- **Punched Flanged Outlet**

Heavy steel angle flange welded to the outlet and punched for bolted connection of outlet ductwork, expansion joints, or outlet damper.

- **Inlet Screen**

Typically used on open inlet applications to prevent trash from entering the fan or for personnel protection against the rotating wheel. Welded steel wire screen mounts within the inlet cone or outside the inlet vanes when furnished with an Inlet Volume Control.



- **Housing Drain**

A 1-1/2" diameter threaded drain welded to the lowest point of the housing to prevent water from building up in the fan housing. Available with or without threaded drain plug.

- **Shaft Seals**

A non-contact seal which reduces leakage through the opening in the housing for the shaft. Typically used on high temperature applications or on high pressure fans. The shaft seal is made of compressible gasket material held in place on the housing by a bolted steel or aluminum retainer plate. Contact shaft seals that reduce leakage even further are also available.

- **Shaft Cooler**

Aluminum or stainless steel shaft cooling wheel, mounted to the fan shaft to dissipate heat from the bearings. It raises the allowable temperature limit for arrangements 1, 3S1, 7S1, 8, 9S, or 9H fans from 300°F to 650°F. Adding a shaft seal in addition to the shaft cooler extends the limit to 800°F.

- **Shaft and Bearing Guard**

Used for personnel protection against the rotating drive train. The sheet metal guard with ventilation slots fully encloses the shaft and bearings and encloses the coupling on direct drive fans. For easier lubrication, extended grease fittings are recommended. Shaft and bearing guard is painted safety yellow.

- **Inspection Door**

The flush mounted door is secured by quick opening tension clamps or is bolted to the housing. Door is sealed with gasket to prevent air leaks. Also available is a plug type door that is raised 4" off the housing so it clears thermal insulation added to high temperature fans.



- **Extended Grease Fittings**

Grease fittings allow for easy access to bearing lubrication points without removing the shaft and bearing guard.

- **Belt Guard**

Used for personnel protection against the rotating v-belt drive. The sheet metal guard with ventilation slots fully encloses the v-belt drive. The front panel of the guard is easily removable for servicing the belts and sheaves. Belt guard is painted safety yellow.

• Bolt-on Inlet Box

The inlet box simplifies ductwork connection when a 90° turn at the fan inlet is required. Chicago Blower's streamlined inlet box design assures dependable fan performance. The inlet box is bolted to the fan's punched flanged inlet accessory. The non-fan end of the inlet box includes its own flange with punched bolt pattern for easy connection to ductwork and can also support the weight of a pre-spin inlet damper for variable systems.



• Integral Inlet Box

Same as the bolt-on inlet box except the integral inlet box is welded to the fan housing instead of bolted to the punched flanged inlet. Used on Arrangement 3S1 and 7S1 fans to move the inboard bearing outside the airstream and increase their temperature capability to 800°F.

• Mixing Box

Available as a bolt-on extension to an inlet box. Mixing Box is standard with a circular, flanged port for flue gas recirculation on burner systems. The flue gas is mixed with fresh air in the mixing box and re-circulated back through the fan's inlet. The mixing box size matches the inlet box area and flange pattern. It is shipped loose with the fan for field installation.

• Spark Resistant Construction

AMCA Type C spark resistant construction consists of an aluminum inlet cone with steel wheel and an aluminum buffer tube between the wheel backplate and housing. Type C construction is typically used in clean air applications. The maximum temperature for Type C is 650°F. Type C construction is not available with the Inlet Volume Control accessory. The user must electrically ground the fan.

AMCA Type B spark resistant construction is also available. Type B construction consists of steel inlet cone with aluminum wheel and an aluminum buffer tube between the wheel backplate and housing. Type B construction is typically used when there is a trace amount of ferrous solids in the airstream. The maximum temperature for Type B is 200°F. Type B construction is not available with the Inlet Volume Control accessory. The user must electrically ground the fan.

• Vibration Base

Fan is welded onto a base of continuously welded structural steel channel for mounting to rubber-in-shear or spring isolators.

• AWS Code Welding

Chicago Blower's welding criteria meets or exceeds most specifications, but there are times when more stringent applications require extra welding control. In order to provide this, the AWS code defines welding machine settings, weld positions, and the steel used for construction. AWS code welding is also an equivalent standard to ASME Section IX welding. Non-rotating fan parts are welded to AWS Code D1.1. Rotating parts are welded to AWS Code D14.6.

• Special Coatings

Chicago's standard black enamel paint is an excellent coating that provides protection in most indoor and outdoor environments. Numerous special paint and corrosion resistant coatings are also available to meet the most stringent requirements and provide extra protection to the steel fan components.

• Split Housing

Housings can be furnished with either pie-shaped wedge split or a housing that is split along the horizontal centerline. Pie wedge split can be unbolted from the main housing and allow easy removal of the wheel and shaft for service or repair without disconnecting the inlet or outlet ductwork. Horizontal split can be unbolted from the main housing and shipped loose with the fan. This is done to reduce overall fan height and can decrease shipping costs to you. The horizontal split is standard on sizes 660 and above.

• Insulation Studs

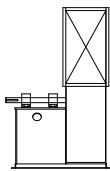
Side notched steel rectangular studs that are welded to the fan housing. The studs allow for field attachment of thermal or acoustical insulation onto the fan housing.

• Industrial Dampers

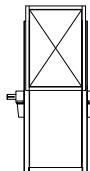
Dampers provide precise air control for varying or partial load applications. Pre-spin type inlet dampers are mounted to the inlet box and control the incoming air similar to an Inlet Volume Control. Outlet Dampers offer an economical solution to Inlet Volume Control; however, they require substantially more horsepower at reduced air volumes. Dampers are available with a control handle for manual operation. Automatic operation is also available by adding a pneumatic or electric actuator. Dampers are suitable to 800°F.



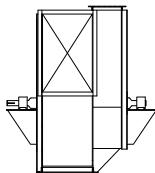
Multiple Arrangements



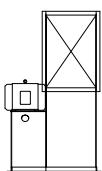
Arrangement 1: Two bearings are mounted on a pedestal and the wheel is overhung to one side. Often referred to as a bare fan, Arrangement 1 allows the user to independently mount their motor alongside the fan and attach a v-belt drive. The motor can also be independently mounted in line with and directly coupled to the fan shaft with a flexible steel coupling for direct drive. Maximum airstream temperature is 800°F.



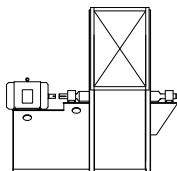
Arrangement 3: The bearings are bracket mounted on each side of the housing, and the wheel is centerhung between them making the fan more compact than Arrangement 1. As a bare fan arrangement, it allows the user to independently mount their motor alongside the fan and attach a v-belt drive. The motor can also be independently mounted in line with and directly coupled to the fan shaft with a flexible steel coupling for direct drive. Since the inlet side bearing is mounted in the airstream, the maximum temperature is limited to 150°F, and the fan is suitable for clean air only.



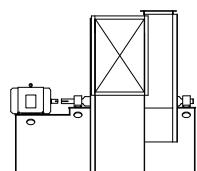
Arrangement 3S1: Same as Arrangement 3, but with the integral inlet box accessory, which allows the shaft to be extended and the inlet bearing to be moved outside the airstream. With the bearing outside the airstream, the maximum temperature is increased to 800°F, and the fan is suitable for dusty or dirty applications.



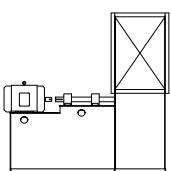
Arrangement 4: This is commonly known as a packaged fan. The fan wheel is mounted directly onto the motor shaft without a fan shaft, bearings, v-belt drives, or couplings. Large maintenance costs are eliminated, and the fan is more compact, allowing it to fit in smaller spaces. This arrangement includes a factory run test prior to shipment if the motor is mounted by Chicago. Maximum temperature is 180°F because the motor shaft is located in the airstream.



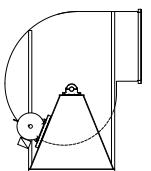
Arrangement 7: An Arrangement 3 fan with a motor pedestal fully attached and welded to the existing bearing pedestal. The motor is then factory mounted and directly coupled to the fan shaft with a flexible steel coupling for direct drive, simplifying fan installation at the job site. Directly coupled fans are typically used in lieu of belt drive fans when the motor exceeds 250 horsepower. This arrangement includes a factory run test prior to shipment if motor and coupling are mounted by Chicago.



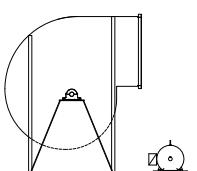
Arrangement 7S1: An Arrangement 3S1 fan with a motor pedestal fully attached and welded to the existing bearing pedestal. The motor is then factory mounted and directly coupled to the fan shaft with a flexible steel coupling for direct drive, simplifying fan installation at the job site. Directly coupled fans are typically used in lieu of belt drive fans when the motor exceeds 250 horsepower. This arrangement includes a factory run test prior to shipment if motor and coupling are mounted by Chicago.



Arrangement 8: An Arrangement 1 with a motor pedestal fully attached and welded to the existing bearing pedestal. The motor is then factory mounted and directly coupled to the fan shaft with a flexible steel coupling for direct drive, simplifying fan installation at the job site. Directly coupled fans are typically used in lieu of belt drive fans when the motor exceeds 250 horsepower. This arrangement includes a factory run test prior to shipment if motor and coupling are mounted by Chicago.



Arrangement 9S: An Arrangement 1 belt driven fan with the motor mounted on the side of the bearing pedestal. The motor shaft is attached to the fan shaft with v-belt drives. The motor mounted onto the bearing pedestal provides a compact fan with a smaller footprint that is ideal for smaller spaces. This arrangement includes a factory run test prior to shipment if the motor and v-belt drives are mounted by Chicago.



Arrangement 9H: This arrangement is used for larger horsepower motors that are too large for Arrangement 9S fans. The fan and motor are mounted on a structural steel channel base. This arrangement includes a factory run test prior to shipment if the motor and v-belt drives are mounted by Chicago.

Fan Selection

Fan capacity rating tables are based on standard air at 70°F and sea level elevation. For other operating conditions, correct the Static Pressure (SP) before using the rating tables. The Brake Horsepower (BHP) is corrected after the fan selection has been made. Finally determine fan class by comparing the fan selection RPM to the maximum safe speeds listed for each class in the table on page 17.

EXAMPLE:

Select a Design 95 fan to handle 18,000 CFM at 9" SP. Temperature is 600°F and the installation site is 500 feet above sea level.

- Refer to Table I. At 500 feet and 600°F the correction factor is 2.04. To simplify the calculations, use 2.00. The corrected SP is 2.00 X 9" SP = 18" SP for 70°F and sea level.
- Using the fan rating tables, one fan selection for 18,000 CFM at 18" SP is a Size 270. The fan will run at 2667 RPM and require 63.6 BHP at 70°F and sea level. (The actual RPM and BHP were calculated by interpolating between the 17,212 and 18,168 CFM values given in the rating table).
- Correct the BHP. Dividing 63.6 by the correction factor from step 1 (2.00). $63.6 \div 2.00 = 31.8$ BHP at 600°F and 500 feet elevation.
- To determine fan class the wheel must be checked for maximum RPM using the Fan Data table on page 17 and the Speed Deration factors in Table II at right.
 - Divide fan operating RPM by the Speed Deration factor for 600°F found in Table II. Wheel RPM at 70°F is $2667 \div .88 = 3031$.
 - For a belt drive fan divide the fan operating RPM by the Shaft Deration factor for 600°F found in Table II. Shaft RPM at 70°F is $2667 \div 0.96 = 2778$.
 - Check the Fan Data table on page 17 for maximum wheel RPM for a Size 270 fan. The required wheel RPM of 3031 is within the limits of Class IV.
 - For a belt drive fan, check the Fan Data table on page 17 for maximum shaft RPM for a Size 270 Fan. The required shaft RPM of 2778 is also within the limits of Class IV.
 - Both the wheel and shaft are within the Class IV RPM limit. The required fan construction is Class IV.

NOTE: For Direct Drive fans the maximum shaft RPM listed are at motor synchronous speeds at 60 Hz power. Those speeds do not need to be checked since they are already sized for the max temp of 800°F.

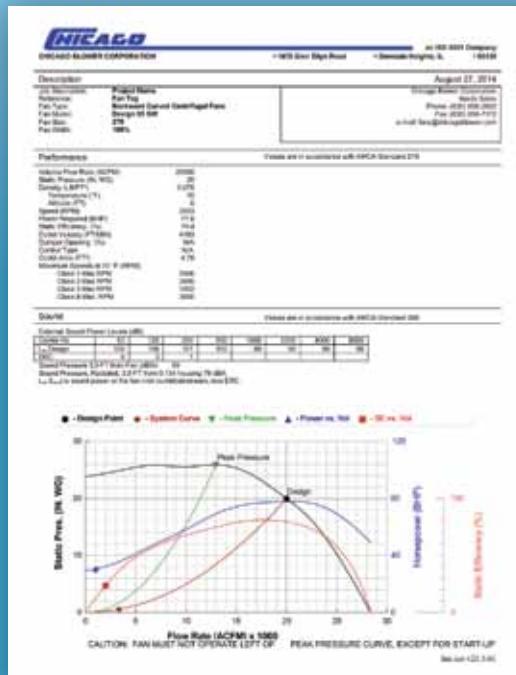
TABLE I - TEMPERATURE AND ALTITUDE CORRECTION

AIR TEMP (°F)	ALTITUDE (FT) AND BAROMETRIC PRESSURE (IN HG)									
	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	1.25	1.27	1.29	1.32	1.34	1.36	1.39	1.42	1.44	1.50
250	1.34	1.36	1.39	1.41	1.44	1.47	1.49	1.52	1.55	1.61
300	1.43	1.46	1.49	1.51	1.54	1.57	1.60	1.63	1.66	1.72
350	1.53	1.56	1.58	1.61	1.64	1.67	1.70	1.74	1.77	1.84
400	1.62	1.65	1.68	1.71	1.75	1.78	1.81	1.84	1.88	1.95
500	1.81	1.84	1.88	1.91	1.95	1.98	2.02	2.06	2.10	2.18
600	2.00	2.04	2.07	2.11	2.15	2.19	2.23	2.27	2.32	2.40
650	2.09	2.13	2.17	2.21	2.25	2.29	2.34	2.38	2.43	2.52
700	2.19	2.23	2.27	2.31	2.35	2.40	2.44	2.49	2.53	2.63
800	2.38	2.42	2.48	2.51	2.56	2.60	2.65	2.70	2.75	2.86

TABLE II - SPEED DERATION

TEMP (°F)	WHEEL ALL CL.	SHAFT ALL CL.
-15	1.00	1.00
0	1.00	1.00
70	1.00	1.00
100	0.99	1.00
150	0.96	1.00
200	0.95	0.99
250	0.95	0.98
300	0.94	0.98
350	0.93	0.97
400	0.92	0.97
500	0.90	0.96
600	0.88	0.96
650	0.87	0.95
700	0.86	0.94
800	0.83	0.93

Percent width selections are also available for the Design 95. Refer to Chicago Blower's fan.net selection software for exact selections.



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

For software and assistance, visit www.ChicagoBlower.com



CHICAGO BLOWER CORPORATION: Design 95

Size 182

19-1/8 in. Wheel Dia.

• Outlet Area = 2.125 ft²

• Tip Speed (FPM) = 5.01 X RPM

FEG 90

Maximum Safe Speed

RPM

Class II

2949

Class III

4020

Class IV

4500

CFM	OV	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP		
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP											
2550	1200	1084	0.56	1311	0.99	1508	1.49	1699	2.05	1894	2.80															
2763	1300	1138	0.63	1350	1.09	1541	1.60	1719	2.17	1910	2.95															
2975	1400	1196	0.72	1392	1.20	1578	1.73	1746	2.31	1910	2.95															
3188	1500	1255	0.81	1436	1.31	1617	1.87	1780	2.47	1933	3.12	2086	3.82	2249	4.77	2403	5.80									
3400	1600	1316	0.91	1484	1.44	1657	2.02	1816	2.64	1963	3.30	2134	4.22	2269	4.99											
3613	1700	1378	1.03	1535	1.58	1698	2.18	1855	2.82	1998	3.50															
3825	1800	1442	1.15	1588	1.72	1741	2.34	1895	3.01	2035	3.71	2167	4.45	2295	5.22	2422	6.05	2549	6.91							
4038	1900	1506	1.29	1645	1.89	1788	2.53	1935	3.22	2074	3.94	2202	4.69	2325	5.48	2446	6.31	2568	7.19	2688	8.11	2706	8.41	2820	9.38	
4250	2000	1570	1.43	1703	2.06	1837	2.72	1977	3.43	2113	4.18	2240	4.95	2360	5.76	2476	6.60	2592	7.49							
4675	2200	1702	1.76	1823	2.45	1943	3.45	2068	3.91	2195	4.70	2318	5.52	2435	6.37	2545	7.24	2653	8.15	2758	9.09	2862	10.07	2949	11.00	
5100	2400	1835	2.15	1947	2.89	2057	3.65	2168	4.44	2284	5.28	2400	6.14	2514	7.04	2622	7.96	2725	8.90	2824	9.87	2922	10.88	307	11.91	
5525	2600	1969	2.60	2073	3.40	2175	4.21	2277	5.05	2381	5.92	2487	6.82	2595	7.77	2701	8.74	2803	9.73	2898	10.74	2993	11.77	3083	12.84	
5950	2800	2105	3.11	2203	3.97	2297	4.84	2391	5.73	2486	6.64	2584	7.59	2683	8.56	2783	9.58	2883	10.62	2977	11.68	3070	12.76	3157	13.85	
6375	3000	2241	3.69	2333	4.60	2422	5.53	2510	6.48	2598	7.44	2687	8.43	2779	9.45	2871	10.49	2966	11.58	3057	12.69	3149	13.82	3235	14.96	
6800	3200	2378	4.34	2465	5.32	2549	6.30	2632	7.30	2715	8.32	2797	9.35	2881	10.41	2967	11.51	3056	12.64	3141	13.77	3230	14.95	3314	16.14	
7225	3400	2516	5.08	2599	6.11	2679	7.15	2757	8.21	2834	9.28	2912	10.36	2990	11.47	3069	12.60	3152	13.77	3233	14.96	3315	16.16	3397	17.41	
7650	3600	2655	5.90	2733	6.99	2809	8.09	2883	9.20	2957	10.33	3030	11.46	3103	12.62	3177	13.80	3250	15.00	3329	16.23	3408	17.49	3483	18.76	
8075	3800	2794	6.81	2868	7.95	2940	9.11	3011	10.28	3081	11.47	3151	12.66	3220	13.86	3289	15.09	3361	16.33	3431	17.61	3505	18.91	3577	20.23	
CFM	OV	13" SP	14" SP	15" SP	16" SP	17" SP	18" SP	19" SP	20" SP	22" SP	24" SP	26" SP	28" SP													
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP											
5525	2600	3174	13.93	3261	15.04	3351	16.20	3437	17.39	3527	18.60	3613	19.85	3702	21.12	3787	22.42	3819	23.61	3982	26.33					
5950	2800	3244	14.98	3327	16.13	3412	17.30	3492	18.50	3576	19.74	2656	21.00	3740	22.90	3819	23.61	3982	26.33	4171	30.55	4323	33.50	4473	36.53	
6375	3000	3320	16.12	3400	17.31	3482	18.51	3559	19.75	3638	21.00	3714	22.29	3792	23.59	3867	34.93	4019	27.68							
6800	3200	3399	17.36	3478	18.59	3557	19.83	3632	21.09	3709	22.38	3781	23.69	3856	25.03	3927	26.39	4070	29.17	4214	32.07	4356	35.06	4499	38.15	
7225	3400	3479	18.67	3557	19.95	3636	21.23	3710	22.55	3785	23.87	3855	25.22	3927	26.58	3995	27.97	4133	30.81	4268	33.73	4403	36.77			
7650	3600	3563	20.06	3638	21.39	3716	22.74	3789	24.10	3864	25.48	3933	26.86	4003	28.26	4069	29.68	4203	32.58	4333	35.57	4462	38.63			
8075	3800	3650	21.55	3723	22.92	3799	24.32	3869	25.72	3943	27.14	4012	28.59	4082	30.05	4147	31.51	4277	34.48	4404	37.52					
8500	4000	3746	23.18	3816	24.59	3885	25.99	3955	27.45	4025	28.92	4092	30.41	4161	31.91	4226	33.43	4356	36.50	4479	42.81					
8925	4200	3845	24.89	3911	26.35	3977	27.82	4043	29.28	4110	30.79	4175	32.33	4243	33.89	4307	35.45	4435	38.62							
9350	4400	3949	26.73	4011	28.22	4074	29.73	4137	31.27	4201	32.82	4262	34.36	4327	35.95	4389	37.57									
9775	4600	4058	28.69	4116	30.22	4175	31.76	4235	33.35	4296	34.94	4355	36.56	4416	38.15	4475	39.80									
10200	4800	4170	30.78	4225	32.35	4281	33.94	4338	35.56	4395	37.19	4451	38.85													
10625	5000	4285	33.00	4338	34.61	4391	36.25	4445	37.91	4499	39.58															
11050	5200	4403	35.35	4453	37.01																					

If V-Belt driven over 3600 RPM, consult factory.

FEG 90

Size 200

21-9/32 in. Wheel Dia.

• Outlet Area = 2.630 ft²

• Tip Speed (FPM) = 5.53 X RPM

Maximum Safe Speed

RPM

Class II

2650

Class III

3613

Class IV

4182

CFM	OV	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP										
3156	1200	975	0.69	1179	1.23	1357	1.84	1528	2.54																
3419	1300	1024	0.78	1215	1.35	1386	1.99	1546	2.69	1703	3.47														
3682	1400	1075	0.89	1252	1.48	1420	2.14	1570	2.86	1718	3.65														
3945	1500	1129	1.00	1291	1.62	1455	2.32	1601	3.05	1739	3.86	1876	4.73												
4208	1600	1184	1.13	1334	1.78	1490	2.65	1634	3.26	1															

CHICAGO BLOWER CORPORATION: Design 95

Size 222		23-7/16 in. Wheel Dia.				• Outlet Area = 3.189 ft ²				• Tip Speed (FPM) = 6.09 X RPM				FEG 90												
CFM	OV	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		10" SP		12" SP		14" SP		16" SP		
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	
3827	1200	885	0.83	1070	1.49	1231	2.23	1387	3.07	1546	4.21															
4146	1300	929	0.95	1102	1.64	1258	2.41	1403	3.26	1559	4.43															
4465	1400	976	1.07	1136	1.80	1288	2.60	1425	3.47																	
4784	1500	1025	1.21	1172	1.97	1320	2.81	1453	3.70	1578	4.68	1703	5.73	1836	7.16	1852	7.48	1962	8.71							
5102	1600	1075	1.37	1211	2.16	1353	3.03	1483	3.96	1603	4.95	1720	6.02													
5421	1700	1125	1.54	1253	2.36	1386	3.27	1514	4.23	1631	5.25	1742	6.33													
5740	1800	1177	1.73	1297	2.59	1422	3.52	1547	4.52	1661	5.57	1969	6.67	1873	7.84	1977	9.08									
6059	1900	1229	1.93	1343	2.83	1460	3.80	1579	4.83	1693	5.91	1798	7.04	1898	8.23	1997	9.48	2194	12.16							
6378	2000	1282	2.15	1390	3.09	1500	4.09	1614	5.15	1725	6.27	1828	7.43	1926	8.64	2021	9.91	2209	12.62							
7016	2200	1389	2.65	1488	3.67	1586	4.74	1688	5.87	1792	7.05	1893	8.28	1988	9.55	2078	10.87	2252	13.64	2408	16.50					
7654	2400	1498	3.23	1589	4.34	1679	5.48	1770	6.67	1864	7.92	1959	9.22	2052	10.56	2140	11.94	2305	14.82	2463	17.87	2619	21.14	2806	26.09	
8291	2600	1608	3.90	1693	5.10	1776	6.32	1856	7.58	1944	8.89	2031	10.24	2119	11.66	2205	13.11	2366	16.11	2517	19.26	2662	22.57			
8929	2800	1718	4.66	1798	5.95	1876	7.26	1952	8.59	2030	9.97	2110	11.39	2190	12.85	2272	14.37	2431	17.53	2577	20.79	2716	24.20	2851	27.76	
9567	3000	1830	5.54	1905	6.91	1978	8.30	2049	9.72	2121	11.16	2194	12.65	2269	14.19	2344	15.75	2496	19.04	2641	22.46	2776	25.97	2906	29.63	
10205	3200	1942	6.52	2013	7.98	2081	9.46	2149	10.96	2216	12.48	2284	14.03	2352	15.63	2423	17.28	2564	20.67	2705	24.22	2840	27.90	2965	31.66	
10843	3400	2054	7.62	2121	9.17	2187	10.74	2251	12.32	2314	13.92	2377	15.55	2441	17.21	2506	18.92	2639	22.46	2773	26.13	2904	29.94	3029	33.85	
11480	3600	2167	8.85	2231	10.48	2293	12.14	2354	13.81	2414	15.50	2474	17.20	2533	18.94	2594	20.70	2717	24.36	2884	28.15	2970	32.11	3093	36.16	
12118	3800	2281	10.22	2341	11.93	2401	13.68	2459	15.43	2516	17.21	2572	19.00	2629	20.81	2686	22.64	2801	26.42	2920	30.36	3039	34.40	3159	38.60	
CFM		18" SP		20" SP		22" SP		24" SP		26" SP		28" SP		30" SP		32" SP		34" SP		36" SP		38" SP		40" SP		
CFM	OV	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	
8291	2600	2949	29.79	3092	33.65																					
8929	2800	2985	31.52	3118	35.44	3251	39.52																			
9567	3000	3032	33.44	3157	37.41	3281	41.55	3405	45.84	3529	50.30	3651	54.80													
10205	3200	3087	35.56	3206	39.60	3323	43.77	3440	48.12	3556	52.60	3673	57.30													
10843	3400	3147	37.84	3262	41.98	3374	46.24	3484	50.60	3595	55.20	3705	59.90	3814	64.70	3923	69.70									
11480	3600	3210	40.31	3322	44.54	3431	48.89	3538	53.40	3643	58.00	3746	62.70	3850	67.60	3954	72.60	4058	77.80	4161	83.00					
12118	3800	3275	42.91	3386	47.29	3492	51.70	3595	56.30	3697	61.00	3797	65.80	3895	70.70	3994	75.80	4093	81.00	4191	86.30	4289	91.80	4386	97.30	
12756	4000	3341	45.64	3450	50.20	3558	54.80	3657	59.50	3756	64.20	3853	69.10	3948	74.20	4043	79.30	4136	84.50	4230	89.90	4323	95.40	4416	101.00	
13394	4200	3408	48.51	3516	53.20	3620	58.00	3721	62.80	3818	67.70	3912	72.70	4005	77.80	4097	83.00	4187	88.30	4276	93.70	4366	99.30			
14032	4400	3479	51.60	3583	56.40	3686	61.30	3786	66.30	3882	71.30	3975	76.40	4066	81.60	4155	86.90	4243	92.40	4330	97.90					
14669	4600	3555	54.90	3654	59.70	3753	64.80	3851	69.90	3947	75.10	4039	80.40	4129	85.70	4217	91.10	4303	96.60	4387	102.20					
15307	4800	3634	58.30	3729	63.40	3823	68.40	3919	73.70	4012	79.10	4104	84.50	4193	90.00	4281	95.50	4365	101.10							
15945	5000	3716	61.90	3807	67.10	3898	72.40	3988	77.70	4080	83.20	4170	88.80	4258	94.40	4345	100.20									
16583	5200	3802	65.80	3888	71.10	3975	76.50	4061	81.90	4149	87.50	4238	93.30	4324	99.00	4410	104.90									
17221	5400	3890	69.90	3972	75.30	4055	80.80	4139	86.50	4222	92.10	4308	97.90	4392	103.90											
17858	5600	3982	74.20	4060	79.70	4139	85.40	4219	91.10	4300	97.00	4380	102.80													
18496	5800	4075	78.70	4150	84.40	4225	90.20	4302	96.00	4380	102.00															
19134	6000	4170	83.50	4242	89.30	4315	95.20	4388	101.20																	
If V-Belt driven over 3600 RPM, consult factory.																										

Size 245		25-13/16 in. Wheel Dia.				• Outlet Area = 3.873 ft ²				• Tip Speed (FPM) = 6.71 X RPM				FEG 90										
CFM	OV	Maximum Safe Speed		RPM		Class II		2161		Class III		2932		Class IV		3266		Class V						
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP			
4648	1200	803	1.01	971	1.81	1117	2.71	1258	3.73	1403	5.11													
5035	1300	843	1.15	1000	1.99	1142	2.92	1273	3.96															
5422	1400	886	1.30	1031	2.18	1169	3.16	1293	4.21	1415														

CHICAGO BLOWER CORPORATION: Design 95

- Performance ratings are for installation Type B - Free Inlet, Ducted Outlet.
- Power ratings (BHP) do not include transmission losses.

- Performance ratings do not include the effects of appurtenances (accessories).
- Performance ratings at 0.075 lbs/ft³ Density, 70°F, Sea Level Elevation.

CHICAGO BLOWER CORPORATION: Design 95

- Performance ratings are for installation Type B - Free Inlet, Ducted Outlet.

- Power ratings (BHP) do not include transmission losses.

- Performance ratings do not include the effects of appurtenances (accessories).

- Performance ratings at 0.075 lbs/ft³ Density, 70°F, Sea Level Elevation.

CHICAGO BLOWER CORPORATION: Design 95

Size 402

42-9/16 in. Wheel Dia. • Outlet Area = 10.520 ft² • Tip Speed (FPM) = 11.14 X RPM

FEG 90

Maximum Safe Speed	RPM	Class II	1325	Class III	1807	Class IV	2091	Class V	2446
--------------------	-----	----------	------	-----------	------	----------	------	---------	------

CFM	OV	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		10" SP		12" SP		14" SP		16" SP		
		RPM	BHP																							
12624	1200	487	2.75	589	4.92	678	7.37	763	10.14	851	13.87															
13676	1300	511	3.12	607	5.41	693	7.94	772	10.76	882	16.33	947	19.84	1011	23.61	1019	24.69	1080	27.72							
14728	1400	537	3.54	625	5.93	709	8.57	784	11.45	858	14.61															
15780	1500	564	4.01	645	6.49	727	9.26	799	12.22	869	15.43	937	18.90													
16832	1600	591	4.52	667	7.12	744	9.99	816	13.05	882	16.33	947	19.84	1011	23.61	1019	24.69	1080	27.72							
17884	1700	619	5.08	689	7.80	763	10.77	833	13.96	897	17.31	959	20.87													
18936	1800	648	5.69	714	8.54	782	11.61	851	14.91	914	18.36	973	22.01	1031	25.85	1088	29.94									
19988	1900	676	6.36	739	9.34	803	12.52	869	15.92	932	19.50	989	23.22	1045	27.14	1099	31.26	1207	40.13							
21040	2000	706	7.09	765	10.20	825	13.49	888	16.99	949	20.69	1006	24.51	1060	28.51	1112	32.69	1216	41.64							
23144	2200	764	8.74	819	12.12	873	15.63	929	19.35	986	23.25	1042	27.33	1094	31.52	1143	35.85	1239	45.00	1326	54.40					
25248	2400	824	10.65	875	14.32	924	18.08	974	22.00	1026	26.13	1078	30.41	1129	34.84	1178	39.40	1269	48.87	1355	58.90	1441	69.70		86.10	
27352	2600	885	12.86	931	16.81	977	20.85	1023	25.00	1070	29.32	1117	33.77	1166	38.46	1213	43.25	1302	53.20	1385	63.50	1465	74.50	1544		
29456	2800	946	15.39	990	19.63	1032	23.95	1074	28.34	1117	32.87	1161	37.58	1205	42.39	1250	47.42	1338	57.80	1418	68.60	1495	79.80	1569	91.60	
31560	3000	1007	18.26	1048	22.79	1088	27.39	1128	32.06	1167	36.82	1207	41.72	1249	46.79	1290	52.00	1374	62.80	1453	74.10	1528	85.70	1599	97.80	
33664	3200	1069	21.51	1108	26.32	1145	31.20	1183	36.15	1220	41.17	1257	46.30	1294	51.60	1333	57.00	1411	68.20	1489	79.90	1563	92.00	1632	104.40	
35768	3400	1131	25.15	1167	30.24	1203	35.42	1239	40.64	1273	45.93	1308	51.30	1343	56.80	1379	62.40	1452	74.10	1526	86.20	1598	98.80	1667	111.70	
37872	3600	1193	29.20	1228	34.59	1262	40.04	1295	45.56	1328	51.10	1361	56.80	1394	62.50	1495	80.40	1565	92.90	1635	105.90	1702	119.30			
39976	3800	1255	33.70	1288	39.37	1321	45.11	1353	50.90	1384	56.80	1416	62.70	1447	68.60	1478	74.70	1541	87.20	1607	100.20	1673	113.50	1738	127.30	
CFM	OV	18" SP		20" SP		22" SP		24" SP		26" SP		28" SP		30" SP		32" SP		34" SP		36" SP		38" SP		40" SP		
		RPM	BHP																							
27352	2600	1623	98.30	1701	111.00																					
29456	2800	1643	104.00	1716	116.90	1789	130.40																			
31560	3000	1669	110.30	1737	123.40	1806	137.10	1874	151.20	1942	165.80	2009	180.80													
33664	3200	1699	117.30	1764	130.60	1829	144.40	1893	158.70	1957	173.60	2021	188.90													
35768	3400	1732	124.80	1795	138.50	1857	152.50	1917	167.00	1978	182.00	2039	197.50	2099	213.40	2159	229.80									
37872	3600	1767	133.00	1828	146.90	1888	161.30	1947	176.10	2005	191.30	2062	206.80	2119	223.00	2176	239.50	2233	256.50	2290	273.90					
39976	3800	1802	141.50	1863	156.00	1922	170.70	1979	185.80	2034	201.20	2089	217.10	2144	233.30	2198	250.10	2252	267.20	2306	284.80	2360	302.70	2414	321.10	
42080	4000	1838	150.60	1899	165.50	1957	180.70	2012	196.10	2067	211.90	2120	228.10	2173	244.60	2225	261.50	2276	278.70	2328	296.50	2379	314.60	2430	333.20	
44184	4200	1875	160.00	1935	175.50	1992	191.20	2048	207.20	2101	223.30	2153	239.80	2204	256.60	2255	273.80	2304	291.30	2353	309.10	2403	327.50			
46288	4400	1915	170.10	1972	186.00	2028	202.20	2083	218.60	2136	235.20	2188	252.20	2236	269.30	2287	286.80	2335	304.70	2383	322.80					
48392	4600	1956	181.00	2011	197.00	2065	213.70	2119	230.70	2172	247.80	2223	265.10	2272	282.80	2321	300.60	2368	318.80	2444	337.20					
50496	4800	2000	192.30	2052	209.00	2104	225.80	2156	243.30	2208	260.90	2259	278.80	2307	296.70	2356	315.20	2402	333.70							
52600	5000	2045	204.30	2095	221.40	2145	238.90	2195	256.40	2245	274.60	2295	292.90	2343	311.50	2391	330.40									
54704	5200	2092	217.10	2139	234.50	2187	252.40	2235	270.20	2283	288.70	2332	307.70	2380	326.70	2427	346.00									
56808	5400	2141	230.50	2186	248.40	2232	266.60	2278	285.20	2324	303.70	2371	323.10	2417	342.60											
58912	5600	2191	244.70	2234	263.00	2277	281.60	2322	300.60	2367	319.90	2411	339.10													
61016	5800	2243	259.70	2284	278.30	2325	297.40	2367	316.60	2410	336.50															
63120	6000	2295	275.40	2335	394.60	2374	314.00	2415	333.80																	

Size 445

46-7/8 in. Wheel Dia. • Outlet Area = 12.755 ft² • Tip Speed (FPM) = 12.27 X RPM

FEG 90

Maximum Safe Speed	RPM	Class II	1203	Class III	1640	Class IV	1899	Class V	2221
--------------------	-----	----------	------	-----------	------	----------	------	---------	------

CFM	OV	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		10" SP		12" SP		14" SP		16" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
15306	1200	443	3.33	536	5.97	616	8.93	694	12.30	774	16.82														
16582	1300	465	3.79	552	6.55	630	9.63	702	13.05	774	18.7														

CHICAGO BLOWER CORPORATION: Design 95

- Performance ratings are for installation Type B - Free Inlet, Ducted Outlet.
- Power ratings (BHP) do not include transmission losses.

- Performance ratings do not include the effects of appurtenances (accessories).
- Performance ratings at 0.075 lbs/ft³ Density, 70°F, Sea Level Elevation.

CHICAGO BLOWER CORPORATION: Design 95

Size 600		63-1/8 in. Wheel Dia.				• Outlet Area = 23.140 ft ²				• Tip Speed (FPM) = 16.53 X RPM				FEG 90											
CFM	OV	Maximum Safe Speed		RPM		Class II		893		Class III		1215		Class IV		1410		Class V							
		1" SP	2" SP	3" SP	4" SP	5" SP	6" SP	7" SP	8" SP	10" SP	12" SP	14" SP	16" SP												
RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP						
27768	1200	329	6.05	398	10.83	458	16.21	516	22.31																
30082	1300	345	6.87	410	11.89	468	17.47	522	23.67	575	30.52														
32396	1400	363	7.79	422	13.04	479	18.86	530	25.18	580	32.14														
34710	1500	381	8.81	436	14.28	491	20.37	540	26.88	587	33.93	633	41.58												
37024	1600	399	9.94	450	15.67	503	21.97	551	28.71	596	35.92	639	43.65	683	51.90										
39338	1700	418	11.17	466	17.16	515	23.70	563	30.70	606	38.07	648	45.91	689	54.30	729	63.20								
41652	1800	438	12.53	482	18.78	529	25.53	575	32.80	618	40.40	658	48.41	696	56.90	735	65.90								
43966	1900	457	14.00	499	20.54	543	27.54	587	35.01	629	42.89	668	51.10	706	59.70	742	68.80	815	88.30						
46280	2000	477	15.60	517	22.43	558	29.66	600	37.36	641	45.51	680	53.90	716	62.70	751	71.90	820	91.60						
50908	2200	516	19.21	553	26.66	590	34.38	628	42.56	666	21.10	704	60.10	739	69.30	772	78.90	836	99.00						
55536	2400	557	23.42	591	34.50	624	39.78	658	48.40	693	57.50	728	66.90	763	76.60	796	86.70	857	107.50						
60164	2600	598	28.28	629	36.97	660	45.86	691	55.00	723	64.50	755	74.30	788	84.60	820	95.10	880	116.90						
64792	2800	639	33.84	668	43.18	697	52.70	726	62.30	755	72.30	784	82.70	814	93.20	845	104.30	904	127.20						
69420	3000	680	40.17	708	50.10	735	60.20	762	70.50	789	81.00	816	91.80	843	102.90	871	114.30	928	138.20						
74048	3200	722	47.30	748	57.90	774	68.60	799	79.50	824	90.60	849	101.80	874	113.40	901	125.30	953	149.90						
78676	3400	764	55.30	789	66.50	813	77.90	837	89.40	860	101.00	884	112.80	907	124.90	931	137.30	981	162.90						
83304	3600	806	64.20	829	76.10	852	88.10	875	100.20	897	112.40	920	124.80	942	137.40	964	150.20	1010	176.80						
87932	3800	848	74.10	870	86.60	892	99.20	914	112.00	935	124.90	956	137.80	977	151.00	998	164.30	1041	191.70						
CFM		18" SP		20" SP		22" SP		24" SP		26" SP		28" SP		30" SP		32" SP		34" SP		36" SP		38" SP		40" SP	
RPM		BHP		RPM		BHP		RPM		BHP		RPM		BHP		RPM		BHP		RPM		BHP			
60164	2600	1097	216.20																						
64792	2800	1110	228.70	1159	257.20	1209	286.80																		
69420	3000	1127	242.70	1174	271.50	1220	301.50	1266	332.60	1312	364.80	1358	397.80												
74048	3200	1148	258.00	1192	287.30	1235	317.60	1279	349.20	1322	381.80	1365	415.50												
78676	3400	1170	274.60	1213	304.60	1254	335.50	1295	367.30	1336	400.40	1377	434.40	1418	469.50	1459	505.40								
83304	3600	1194	292.50	1265	323.20	1276	354.80	1315	387.30	1354	420.70	1393	455.00	1432	190.40	1470	526.80	1509	564.20	1547	602.40				
87932	3800	1218	311.40	1259	343.10	1298	375.40	1337	408.60	1374	442.70	1412	477.60	1448	513.10	1485	550.00	1522	587.70	1558	626.40	1594	665.90	1631	706.20
92560	4000	1242	331.20	1283	364.0	1322	397.50	1360	431.40	1396	466.10	1432	501.70	1468	538.10	1503	575.30	1538	613.10	1573	652.20	1607	692.00	1642	732.80
97188	4200	1267	352.00	1307	386.00	1346	420.60	1383	455.70	1419	491.10	1455	527.40	1489	564.40	1523	602.20	1557	640.80	1590	679.80	1623	720.40		
101816	4400	1293	374.10	1322	409.10	1370	448.40	1407	480.90	1443	517.40	1478	554.60	1512	592.40	1545	630.90	1578	670.10	1610	710.10				
106444	4600	1322	398.10	1358	433.0	1395	470.10	1432	507.30	1467	545.10	1502	583.10	1535	622.00	1568	661.20	1600	701.20	1631	741.80				
111072	4800	1351	423.00	1386	459.70	1421	496.70	1457	535.10	1492	573.80	1526	613.10	1559	652.70	1591	693.30	1623	733.90						
115700	5000	1381	449.50	1415	487.00	1449	525.40	1483	564.00	1517	603.90	1550	644.20	1583	685.10	1615	726.70								
120328	5200	1413	477.40	1445	515.90	1478	555.10	1510	594.30	1543	635.00	1575	676.70	1608	718.60	1639	761.00								
124956	5400	1446	507.00	1477	546.30	1508	586.50	1539	627.40	1570	670.60	1602	717.00	1633	753.50										
129584	5600	1480	538.30	1509	578.50	1539	619.30	1569	661.20	1599	703.70	1629	746.00												
134212	5800	1515	571.20	1543	612.20	1571	654.20	1599	696.50	1628	740.20														
138840	6000	1550	605.70	1577	647.90	1604	690.70	1631	734.20																

Size 660		69-13/16 in. Wheel Dia.				• Outlet Area = 28.309 ft ²				• Tip Speed (FPM) = 18.28 X RPM				FEG 90									
CFM	OV	Maximum Safe Speed		RPM		Class II		808		Class III		1101		Class IV		1275		Class V					
		1" SP	2" SP	3" SP	4" SP	5" SP	6" SP	7" SP	8" SP	10" SP	12" SP	14" SP	16" SP										
RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP				
33971	1200	297	7.40	359	13.25	413	19.83	465	27.29														
36802	1300	312	8.41	370	14.55	422	21.37	471	28.95	519	37.33												
39633	1400	328	9.53	381	15.95	432	23.07	478	30.80	523	39.32												
42464	1500	344	10.78	393	17.47	443	24.92	488	32.88	530	41.51	571	50.90										
45294	1600	361	12.16	407	19.17	454	26.88	498	35.13	538	43.94	577	53.40	616	63.50								
48125	1700	378	13.67	420	20.99	465	28.99	508	37.56	547	46.58	585	56.20	622	66.40	658	77.30			</			

CHICAGO BLOWER CORPORATION: Design 95

Size 730		77-7/32 in. Wheel Dia.				• Outlet Area = 34.639 ft ²				• Tip Speed (FPM) = 20.21 X RPM				FEG 90			
CFM	OV	Maximum Safe Speed		RPM	Class II		731	Class III		984	Class IV		1153	Class V		1348	
		1" SP	2" SP	3" SP	4" SP	5" SP	6" SP	7" SP	8" SP	10" SP	12" SP	14" SP	16" SP				
RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
41567	1200	269	9.06	325	16.22	374	24.26	422	33.40	470	45.68	518	62.20	558	77.70	596	94.60
45031	1300	282	10.29	335	17.80	383	26.15	427	35.43	474	48.12	523	65.30	563	81.30	596	94.60
48495	1400	297	11.67	345	19.52	392	28.23	433	37.69	474	48.12	530	68.70	596	94.60	596	94.60
51959	1500	311	13.19	356	21.38	401	30.49	442	40.24	480	50.80	518	62.20	558	77.70	596	94.60
55422	1600	327	14.88	368	23.45	411	32.89	451	42.98	487	53.80	538	65.30	614	87.80	666	132.10
58886	1700	342	16.73	381	25.68	421	35.47	460	45.96	496	57.00	524	68.10	617	107.60	671	137.10
62350	1800	358	18.75	394	28.11	432	38.22	470	49.10	505	60.50	538	72.50	569	85.10	601	98.60
65814	1900	374	20.95	408	30.74	444	41.22	480	52.40	515	64.20	546	76.50	577	89.40	607	102.90
69278	2000	390	23.35	423	33.58	456	44.40	490	55.90	524	68.10	556	80.70	591	93.90	614	107.60
72626	2200	422	28.76	452	39.91	482	51.50	513	63.70	545	76.60	575	90.00	604	103.80	632	118.10
83134	2400	455	35.06	483	47.15	510	59.50	538	72.40	567	86.00	596	100.10	624	114.70	651	129.70
90061	2600	489	42.34	515	55.30	540	68.60	565	82.30	591	96.50	617	112.20	644	126.60	670	142.40
96989	2800	522	50.70	547	64.60	570	78.80	593	93.30	617	108.20	641	123.70	666	139.60	691	156.10
103917	3000	556	27.20	579	75.00	601	90.20	623	105.50	645	121.20	667	137.40	690	154.10	712	171.10
110845	3200	590	70.80	612	86.70	633	102.70	653	119.00	674	135.60	694	152.40	715	169.80	736	187.60
117773	3400	624	82.80	645	99.60	665	116.60	684	133.80	703	151.20	723	168.90	742	187.00	762	205.50
124700	3600	659	96.10	678	113.90	697	131.80	716	150.00	734	168.30	752	186.90	770	205.70	788	224.90
131628	3800	693	11.00	712	129.60	730	148.50	747	167.60	765	186.90	782	206.30	799	226.00	816	245.90
CFM	OV	18" SP		20" SP		22" SP		24" SP		26" SP		28" SP		30" SP		32" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
90061	2600	897	323.60	940	365.50					110	595.50						
96989	2800	907	342.30	348	384.90	988	429.30										
103917	3000	922	363.30	960	406.40	997	451.30	1035	497.90	1073	546.10						
110845	3200	938	386.20	975	430.10	1010	475.50	1046	522.70	1081	571.60	1116	621.90				
117773	3400	957	411.10	992	456.00	1026	502.30	1059	549.80	1093	599.30	1126	650.20	1159	702.70	1193	756.60
124700	3600	976	437.80	1010	483.80	1043	531.10	1075	579.70	1107	629.80	1139	681.10	1170	734.10	1202	788.60
131628	3800	996	466.10	1029	513.60	1061	562.00	1093	611.70	1154	714.90	1184	768.10	1214	823.40	1244	879.70
138556	4000	1015	495.70	1049	545.00	1081	595.00	1112	645.80	1142	967.80	1171	751.00	1200	805.40	1229	861.10
145484	4200	1036	526.90	1069	577.90	1100	629.60	1131	682.10	1161	735.20	1189	789.40	1218	844.90	1245	901.50
152412	4400	1058	560.00	1089	612.40	1120	665.80	1151	719.90	1180	774.50	1208	830.30	1236	886.80	1263	944.40
159339	4600	1081	595.90	1111	648.80	1141	703.80	1171	759.50	1200	816.00	1228	872.90	1255	931.10	1282	989.80
166267	4800	1105	633.30	1133	688.20	1162	743.50	1191	800.90	1220	859.00	1248	917.80	1275	977.10	1301	1037.8
173195	5000	1130	672.80	1157	729.10	1185	786.50	1212	844.30	1240	904.00	1268	964.40	1294	1025.6	1321	1087.8
180123	5200	1156	714.70	1182	772.20	1208	831.00	1234	889.60	1261	950.60	1288	1013.0	1314	1075.7	1339	1110.4
187051	5400	1183	759.00	1207	817.80	1233	877.90	1258	939.10	1283	1000.00	1309	1063.8	1335	1128.0	1363	1180.0
193978	5600	1210	805.80	1234	866.00	1258	927.10	1283	989.80	1307	1053.4	1332	1116.7				
200906	5800	1239	855.00	1261	916.50	1284	979.20	1308	1042.6	1331	1108.0						
207834	6000	1268	906.80	1290	969.90	1312	1033.9	1334	1099.0								

Size 807		85-1/8 in. Wheel Dia.				• Outlet Area = 42.078 ft ²				• Tip Speed (FPM) = 22.29 X RPM				FEG 90			
CFM	OV	Maximum Safe Speed		RPM	Class II		663	Class III		903	Class IV		1023	Class V		1223	
		1" SP	2" SP	3" SP	4" SP	5" SP	6" SP	7" SP	8" SP	10" SP	12" SP	14" SP	16" SP				
RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
50494	1200	244	11.00	295	19.70	340	29.47	382	40.57	426	55.50						
54701	1300	256	12.50	304	21.62	347	31.77	387	43.04	426	55.50						
58909	1400	269	14.17	313	23.71	355	34.29	393	45.78	430	58.50						
63117	1500	283	16.03	323	25.97	364	37.04	401	48.88	435	61.70	469	75.60				
67325	1600	296	18.07	334	28.49	373	39.95	409	52.20	442	65.30	474	79.40	506	94.40		
71533	1700	310	20.32	345	31.20	382	43.09	418	55.80	450	69.20	480	83.50	511	114.90		
75740	1800	325	22.78	358	34.15	392	46.42	426	59.60	458	73.50	488	88.00	516	103.40	545	119.70
79948	1900	339	25.45	370	37.34	403	50.10	435	63.70	467	78.00	496	92.90	523	108.60	551	125.00
84156	2000	353	28.37	383	40.80	414	53.90	445	67.90	476	82.80	504	98.10	531	114.00	557	130.80
92572	2200	383	34.94	410	48.48	437	62.50	465	77.40	494	93.00	522	109.30	548	126.10	573	143.40
100987	2400	413	37.30	438	53.70	463	72.30	488	88.00	514	104.50	540	121.60	566	139.40	590	157.60
109403	2600	443	51.40	467	67.20	490	83.40	512	100.00	536	117.30	560	135.10	584	153.80	608	173.00
117818	2800	474	61.50	496	78.50	517	95.80	538	113.40	560	131.50	582	150.30	604	169.60	626	189.70
126234	3000	504	73.00	525	91.20	545	106.60	565	128.20	585	147.30	605	166.90	626	187.20	646	207.80
134650	3200	535	86.00	555	105.30	574	124.80	593	144.60	611	164.70						

CHICAGO BLOWER CORPORATION: Design 95

Size 890

93-23/32 in. Wheel Dia. • Outlet Area = 51.019 ft² • Tip Speed (FPM) = 24.54 X RPM

FEG 90

Maximum Safe Speed	RPM	Class II	602	Class III	820	Class IV	950	Class V	1110
--------------------	-----	----------	-----	-----------	-----	----------	-----	---------	------

CFM	OV	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		10" SP		12" SP		14" SP		16" SP				
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP																	
61223	1200	229	13.34	267	23.88	308	35.73	346	49.19																			
66325	1300	232	15.15	275	26.22	314	38.52	350	52.20	386	67.30																	
71427	1400	244	17.18	284	28.74	322	41.58	356	55.50	389	70.90																	
76529	1500	256	19.43	293	31.49	330	44.91	363	59.30	394	74.80	425	91.70															
81630	1600	268	21.91	302	34.55	338	48.44	370	63.30	400	79.20	430	96.20	459	114.50													
86732	1700	281	24.64	313	37.83	346	52.20	378	67.70	407	83.90	435	101.20	463	119.70	409	139.30											
91834	1800	294	27.62	324	41.40	355	56.30	386	72.30	415	89.10	442	106.70	468	125.40	494	145.20											
96936	1900	307	30.86	335	45.28	365	60.70	394	77.20	423	94.60	449	112.60	474	131.60	499	151.60	548	193.90									
102038	2000	320	34.39	347	49.46	375	65.40	403	82.40	431	100.30	457	118.90	481	138.30	505	158.50	552	202.00									
112242	2200	347	42.36	372	58.80	396	75.80	422	93.80	447	112.80	473	132.50	496	152.90	519	173.90	562	218.30	602	264.00							
122446	2400	374	51.60	397	69.40	419	87.70	442	106.70	466	126.70	489	147.50	512	169.00	535	191.10	576	237.00	615	285.90	654	338.20		701	417.40		
132649	2600	401	62.40	423	81.50	443	101.10	464	124.20	485	142.20	507	163.80	529	186.50	551	209.70	591	257.80	629	308.20	665	361.20					
142853	2800	429	74.60	449	95.20	468	116.10	488	137.50	507	159.40	527	182.20	547	205.60	567	230.00	607	280.50	644	332.60	678	387.20	712	444.10			
153057	3000	457	88.60	476	110.50	494	132.80	512	155.50	530	178.60	548	202.30	567	226.90	585	251.90	623	304.60	659	359.30	693	415.50	726	474.10			
163261	3200	485	104.30	503	127.60	520	151.30	537	175.30	553	199.70	570	224.50	587	250.00	605	276.40	640	330.60	676	387.50	709	446.40	741	506.50			
173465	3400	513	121.90	530	146.70	546	171.80	562	197.10	578	222.70	594	248.80	610	275.40	626	302.60	659	359.20	692	416.00	725	478.90	756	541.50			
183668	3600	541	141.60	557	167.70	573	194.20	588	220.90	603	247.90	618	275.20	633	303.00	648	331.20	679	388.90	710	450.30	742	513.70	772	578.60			
193872	3800	570	163.40	585	190.90	599	218.80	614	246.90	628	275.30	642	303.90	656	332.80	671	362.20	699	422.70	729	785.70	759	550.40	789	617.60			
CFM	OV	18" SP		20" SP		22" SP		24" SP		26" SP		28" SP		30" SP		32" SP		34" SP		36" SP		38" SP		40" SP				
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP																	
132649	2600	737	476.60	772	538.30																							
142853	2800	745	504.20	779	567.00	812	632.30																					
153057	3000	757	535.10	788	598.50	819	664.70	850	733.40	881	804.30	912	877.00															
163261	3200	771	568.90	800	633.50	830	700.30	859	769.90	888	841.80	917	916.00															
173465	3400	786	605.50	815	671.60	843	739.80	870	809.80	898	882.70	925	957.70	953	1035.1	980	1114.4											
183668	3600	802	644.90	833	72.50	857	782.20	883	853.90	910	927.60	936	1003.1	962	1081.3	987	116.16	1013	1243.9	1039	1328.1							
193872	3800	818	686.50	846	756.50	872	827.70	898	900.90	923	976.00	948	1052.9	973	1131.3	998	12.12.7	1022	1295.8	1047	1381.0	1071	1468.1	1095	1557.0			
204076	4000	834	730.10	862	802.70	888	876.40	913	951.10	938	1027.7	962	1106.1	986	1186.3	1010	1268.3	1033	1351.8	1056	1437.9	1080	1525.8	1103	1615.7			
214280	4200	851	776.10	878	851.10	904	927.30	929	1004.7	953	1082.8	977	1162.8	1000	1244.4	1023	1327.8	1046	1412.9	1068	1498.9	1090	1588.3					
224484	4400	869	824.90	895	902.10	920	980.60	945	1060.3	969	1140.8	993	1222.9	1015	1306.1	1038	1391.0	1060	1477.5	1081	1565.6							
234687	4600	888	877.80	912	955.60	937	1036.6	962	1118.6	986	1201.8	1009	1285.6	1031	1371.4	1053	1457.9	1075	1545.9	1096	1635.5							
244891	4800	907	932.70	931	1013.7	955	1095.0	979	1179.7	1002	1265.2	1025	1351.9	1047	1439.1	1069	1528.6	1090	1618.2									
255095	5000	928	991.00	951	1073.8	973	1158.5	996	1243.5	1019	1331.5	1041	1420.4	1063	1510.5	1085	1602.2	1101	1677.8									
265299	5200	949	1052.6	971	1137.4	993	124.0	1014	1310.2	1036	1400.1	1058	1492.1	1080	1584.3													
275503	5400	972	1117.9	992	1204.5	1013	1293.0	1034	1383.2	1054	1472.8	1076	1566.8	1097	1661.4													
285706	5600	994	1186.8	1014	1275.4	1034	1365.4	1054	1457.9	1074	1551.6	1094	1644.7															
295910	5800	1018	1259.3	1036	1349.9	1055	1442.3	1074	1535.6	1094	1632.0																	
306114	6000	1041	1335.5	1059	1428.5	1077	1522.8	1096	1618.7																			

• Performance ratings are for installation Type B - Free Inlet, Ducted Outlet.

• Performance ratings do not include the effects of appurtenances (accessories).

• Power ratings (BHP) do not include transmission losses.

• Performance ratings at 0.075 lbs/ft³ Density, 70°F, Sea Level Elevation.

Sound Levels

Table lists estimated sound levels (dBA) for each size at various speeds within the fan's normal operating range. To determine dBA for a selected fan, locate the intersection of the fan size and the closest RPM.

NOTES:

1. Sound levels are based on tests conducted in accordance with AMCA Standard 300.
2. Sound level computations are based on a distance of 3' from the fan's open inlet in a free field environment.
3. Specific octave band sound power levels and sound pressure levels available on request.
4. Sound levels of installed fans can vary greatly from laboratory tests. The dBA ratings are only to be used as estimates. Any comparisons and any detailed calculations should be based on sound power levels, which are independent of the installation.
5. Refer to Chicago Blower's fan.net selection software for complete sound data.

FAN SIZE	FAN SPEED - RPM												
	700	800	900	1000	1200	1400	1600	1800	2000	2400	2800	3200	3600
182	54	57	60	62	67	70	73	76	78	83	86	89	92
200	57	61	63	66	70	73	77	79	82	86	89	93	95
222	60	63	66	69	73	76	80	82	85	89	92	96	98
245	63	66	69	72	76	79	83	85	88	92	95	99	101
270	66	70	72	75	79	83	86	89	91	95	99	102	

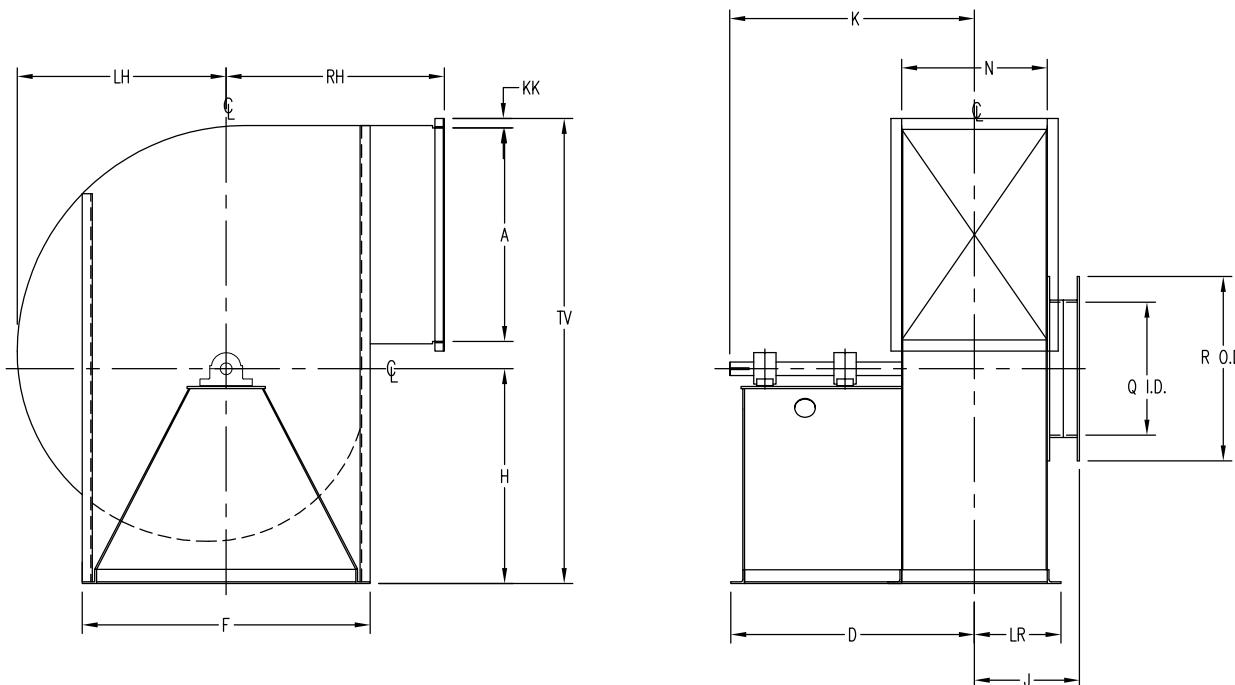
Design 95 Fan Data

FAN SIZE	WHEEL DIA.	CLASS	WHEEL MAX RPM @ 70°F	WHEEL WR ² (Lb-Ft ²)	WHEEL WEIGHT (Lbs)	DIRECT DRIVE			BELT DRIVE		
						MAX MOTOR HP	MAX MOTOR FRAME	MAX SHAFT RPM @ 800°F	MAX MOTOR HP	MAX MOTOR FRAME	MAX SHAFT RPM @ 70°F
182	19-1/8	II	3086	12	49	15	254T	3000	15	254T	3086
		III	4178	13	52	30	286TS	3600	30	286T	3650
		IV	4500	18	64	40	324TS	3600	40	324T	3913
200	21-9/32	II	2749	21	62	20	256T	1800	20	256T	2749
		III	3713	21	62	40	324TS	3600	30	286T	3650
		IV	4268	25	68	40	324TS	3600	40	324T	3600
222	23-7/16	II	2433	31	69	20	256T	1800	20	256T	2433
		III	3294	41	74	20	256T	1800	50	326T	2808
		IV	3793	41	84	60	364TS	3600	60	364T	3600
		V	4342	57	107	75	365TS	3600	RF	RF	RF
245	25-13/16	II	2161	45	78	20	256T	1800	20	256T	2161
		III	2932	53	88	20	256T	1800	50	326T	2626
		IV	3266	66	103	75	265TS	3000	60	364T	3266
		V	4150	100	144	100	405TS	3600	RF	RF	RF
		II	1906	58	82	30	286T	1800	30	286T	1906
270	28-11/16	III	2798	79	104	50	326T	1800	75	365T	2798
		IV	3128	103	124	100	405TS	3000	100	405T	3000
		V	3600	151	171	150	445TS	3600	RF	RF	RF
		II	1769	112	144	40	326T	1200	40	324T	1769
300	31-9/16	III	2493	137	165	50	326T	1800	100	405T	2493
		IV	2788	155	177	50	326T	1800	150	445T	2788
		V	3407	285	288	150	445TS	3000	RF	RF	RF
		II	1582	192	179	40	326T	1200	40	324T	1582
330	34-29/32	III	2143	240	217	60	364T	1800	100	405T	2143
		IV	2526	276	237	60	364T	1800	150	445T	2526
		V	3035	395	316	75	365T	1800	RF	RF	RF
		II	1475	293	209	50	364T	1200	50	326T	1475
365	38-1/2	III	1997	365	256	100	405T	1800	125	444T	1997
		IV	2328	447	294	100	405T	1800	150	445T	2328
		V	2723	697	435	100	405T	1800	RF	RF	RF
		II	1595	513	324	50	364T	1200	60	364T	1377
402	42-9/16	III	2006	614	371	150	445T	1800	150	445T	1991
		IV	2108	739	418	150	445T	1800	200	447T	2108
		V	2494	849	480	150	445T	1800	RF	RF	RF
		II	1541	839	410	75	405T	1200	75	365T	1418
445	46-7/8	III	1732	981	465	75	405T	1200	200	447T	1799
		IV	1830	1163	533	250	449T	1800	250	449T	1830
		V	2320	1504	686	250	449T	1800	RF	RF	RF
		II	1382	1114	491	75	444T	900	100	405T	1382
490	51-7/8	III	1569	1326	558	125	445T	1200	250	449T	1569
		IV	1934	1910	736	400	Note 3	1800	250	449T	1934
		V	2073	2274	873	400	Note 3	1800	RF	RF	RF
		II	1216	2184	686	100	445T	900	125	444T	1216
542	57-3/8	III	1461	2968	917	200	449T	1200	250	449T	1360
		IV	1591	2999	923	200	449T	1200	RF	RF	RF
		V	1904	3399	1056	500	Note 3	1800	RF	RF	RF
		II	1021	3217	871	125	447T	900	125	444T	1021
600	63-1/8	III	1215	3505	941	125	447T	900	250	449T	1215
		IV	1445	4419	1184	300	Note 3	1200	RF	RF	RF
		V	1680	4969	1289	300	Note 3	1200	RF	RF	RF
		II	1012	5267	1104	125	449T	720	150	445T	1012
660	69-13/16	III	1161	5968	1189	200	449T	900	250	449T	1161
		IV	1308	6641	1396	500	Note 3	1200	RF	RF	RF
		V	1509	8322	1695	500	Note 3	1200	RF	RF	RF
		II	852	8780	1403	200	Note 3	720	200	447T	852
730	77-7/32	III	984	10711	1717	350	Note 3	900	250	449T	1071
		IV	1220	10726	1743	500	Note 3	1200	RF	RF	RF
		V	1433	12670	2036	500	Note 3	1200	RF	RF	RF
		II	824	13945	1981	200	Note 3	600	250	449T	824
807	85-1/8	III	963	15844	2235	300	Note 3	720	RF	RF	RF
		IV	1023	15869	2282	500	Note 3	900	RF	RF	RF
		V	1266	19670	2791	500	Note 3	1200	RF	RF	RF
		II	691	21909	2682	300	Note 3	600	250	449T	691
890	93-23/32	III	861	24699	2990	500	Note 3	720	RF	RF	RF
		IV	1013	27523	3372	500	Note 3	900	RF	RF	RF
		V	1156	30317	3680	500	Note 3	900	RF	RF	RF

NOTES:

1. "RF" above is Refer to Factory.
2. For HP that are higher than shown in max motor HP columns, Refer to factory.
3. Motors with frames larger than 449 are per motor manufacturer's standard.

Dimensions: Arrangement 1 & 95

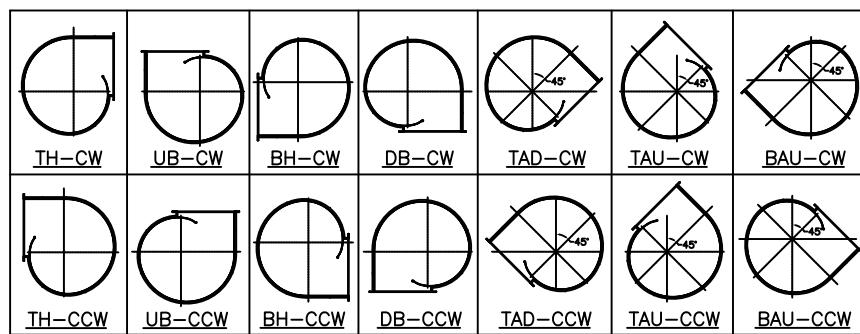


CW Rotation, TH Discharge Shown

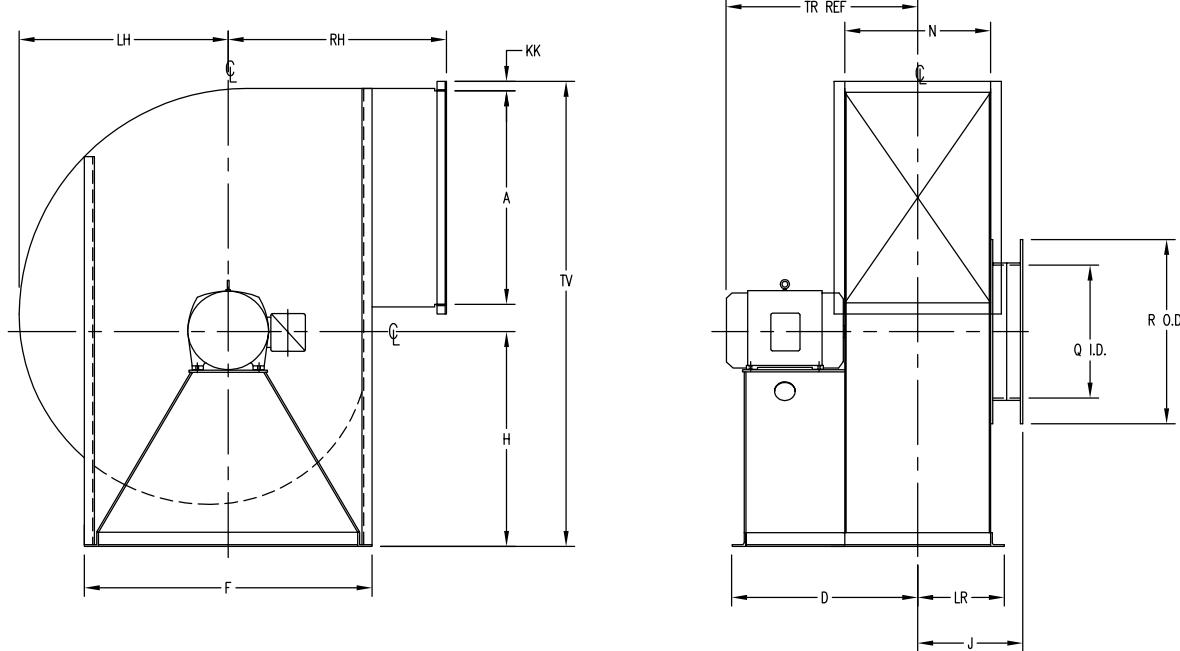
DIMENSIONS - INCHES														*EST. WEIGHT (LBS.)	
FAN SIZE	A	D (MAX)	F	H	J	K (MAX)	N	Q	R	RH	LH	LR	TV	KK	
182	22-3/4	35-7/8	31	19	10-7/8	38-3/8	13-3/4	23-1/4	27-1/4	18-1/4	20-7/16	8-7/8	43-1/8	1-1/2	509
200	25-5/16	38-15/16	34	20-13/16	11-11/16	41-11/16	15-3/8	25-1/4	29-1/4	19-1/4	22-5/8	9-5/8	51-9/16	1-1/2	626
222	27-7/8	40-15/16	37-3/4	23-3/16	12-7/16	42-15/16	16-7/8	28-3/4	32-3/4	21-1/8	24-3/4	10-15/16	53	2	858
245	30-11/16	41-3/4	40-3/4	25-1/4	13-1/4	43-3/4	18-1/2	31-3/4	35-3/4	22-5/8	27-3/16	11-3/4	58	2	965
270	34-1/8	44-7/16	44-1/2	27-5/8	14-1/4	47-7/16	20-1/2	34-3/4	38-3/4	24-3/8	29-5/8	12-3/4	63-3/4	2	1226
300	37-9/16	46-3/4	47-3/4	30-1/16	15-15/16	53-1/2	22-7/8	38-1/4	42-1/4	26-1/8	32-9/16	13-7/8	69-5/8	2	1519
330	41-1/2	48-3/8	51	33-3/8	18-1/2	55-5/8	25	41	46	27-3/4	35-7/8	15-1/2	76-15/16	2	1741
365	45-13/16	55-7/16	55	36-3/8	19-7/8	61-9/16	27-3/4	45-1/4	50-1/4	30-3/4	39-9/16	16-7/8	84-3/16	2	2291
402	50-5/8	57-1/4	60-1/2	39-3/4	21-5/16	63-3/8	30-5/8	50-1/2	55-1/2	33-1/8	43-11/16	18-5/16	92-3/8	2	2514
445	55-3/4	58-3/4	66-1/4	43-7/16	22-13/16	65	33-5/8	51-1/4	56-1/4	36-7/16	48-1/8	19-13/16	101-1/4	2	3085
490	61-11/16	59-3/4	72-1/2	52-11/16	24-9/16	66	37-1/8	53-1/4	58-1/4	40-5/16	53-3/16	20-13/16	116-7/16	2	4114
542	68-1/4	61-1/4	79-1/2	57-1/4	26-5/8	67	41-1/4	59	64	44-1/2	58-3/4	22-7/8	128-1/2	3	4996
600	75-1/16	62-1/2	84	62-1/16	28-11/16	68-3/4	45-3/8	65-3/8	71-3/8	48-15/16	64-9/16	24-15/16	140-1/8	3	5423
660	83	64-15/16	91-1/2	69-5/8	31-1/16	70-13/16	50-1/8	71-3/8	77-3/8	54-1/8	71-5/16	27-5/8	155-5/8	3	7740
730	91-3/4	70-1/4	104	75-13/16	33-5/8	76-5/8	55-1/4	79	85	59-3/4	78-13/16	30-1/4	171-9/16	4	9599
807	101-1/4	73-3/4	113-1/2	82-9/16	36-5/8	80-1/8	61-1/4	87-3/4	93-3/4	65-3/4	86-15/16	33-7/16	187-13/16	4	10988
890	111-9/16	76-13/16	125	89-7/8	39-11/16	82-7/8	67-3/8	96-5/8	102-5/8	72-1/2	95-3/4	36-1/4	205-7/16	4	13308

• Estimated weight does not include motors, drives, couplings, or accessories.

• Dimensions shown are not certified for construction.



Dimensions: Arrangement 4

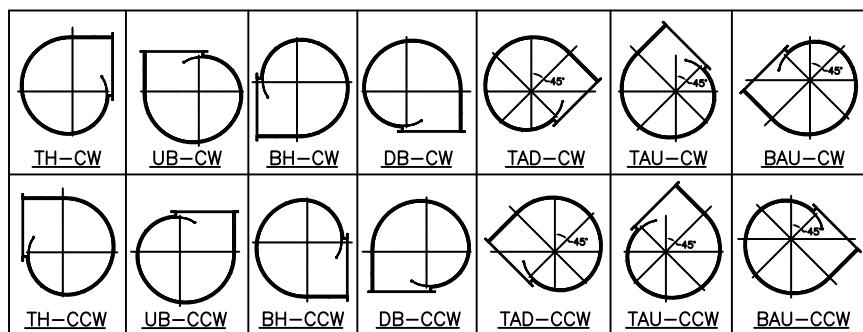


CW Rotation, TH Discharge Shown

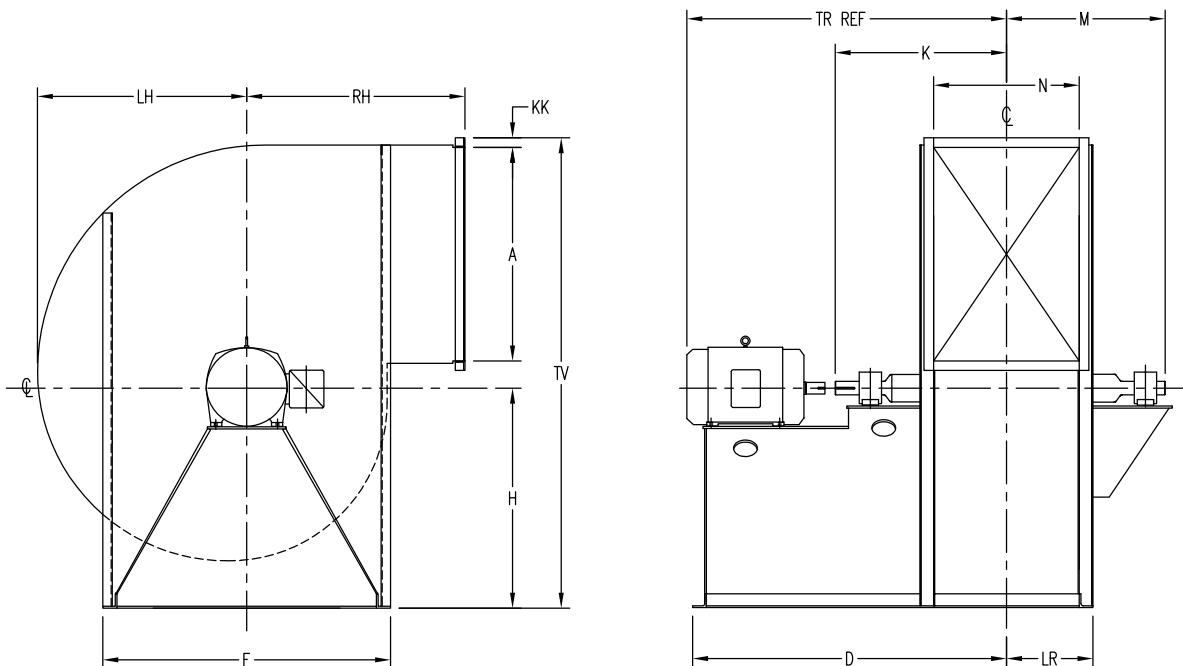
DIMENSIONS - INCHES															*EST. WEIGHT (LBS.)
FAN SIZE	A	D (MAX)	F	H	J	N	Q	R	RH	LH	LR	TV	TR (MAX)	KK	
182	22-3/4	27-9/16	31	16-3/4	10-7/8	13-3/4	23-1/4	27-1/4	18-1/4	20-7/16	8-7/8	41	31-1/2	1-1/2	484
200	25-5/16	29	34	18-1/2	11-11/16	15-3/8	25-1/4	29-1/4	19-1/4	22-5/8	9-5/8	45-5/16	35-7/8	1-1/2	595
222	27-7/8	36-7/16	37-3/4	20-1/4	12-7/16	16-7/8	28-3/4	32-3/4	21-1/8	24-3/4	10-15/16	50.125	42-3/8	2	815
245	30-11/16	37-1/4	40-3/4	22-1/4	13-1/4	18-1/2	31-3/4	35-3/4	22-5/8	27-3/16	11-3/4	54.9375	45-1/8	2	917
270	34-1/8	38-1/4	44-1/2	24-3/4	14-1/4	20-1/2	34-3/4	38-3/4	24-3/8	29-5/8	12-3/4	60-7/8	46-1/8	2	1165
300	37-9/16	33-3/16	47-3/4	27-1/8	15-15/16	22-7/8	38-1/4	42-1/4	26-1/8	32-9/16	13-7/8	66-11/16	38-1/2	2	1443
330	41-1/2	37-3/8	51	29-7/8	18-1/2	25	41	46	27-3/4	35-7/8	15-1/2	73-3/8	43-3/8	2	1654
365	45-13/16	45-7/8	55	32-7/8	19-7/8	27-3/4	45-1/4	50-1/4	30-3/4	39-9/16	16-7/8	80-11/16	56-1/2	2	2176
402	50-5/8	52-5/16	60-1/2	37-13/16	21-5/16	30-5/8	50-1/2	55-1/2	33-1/8	43-11/16	18-5/16	89-15/16	60-5/16	2	2388
445	55-3/4	53-13/16	66-1/4	42-3/8	22-13/16	33-5/8	51-1/4	56-1/4	36-7/16	48-1/8	19-13/16	101-1/4	61-13/16	2	2931
490	61-11/16	55-9/16	72-1/2	46-15/16	24-9/16	37-1/8	53-1/4	58-1/4	40-5/16	53-3/16	20-13/16	116-7/16	63-9/16	2	3908

• Estimated weight does not include motors, drives, couplings, or accessories.

• Dimensions shown are not certified for construction.



Dimensions: Arrangement 7

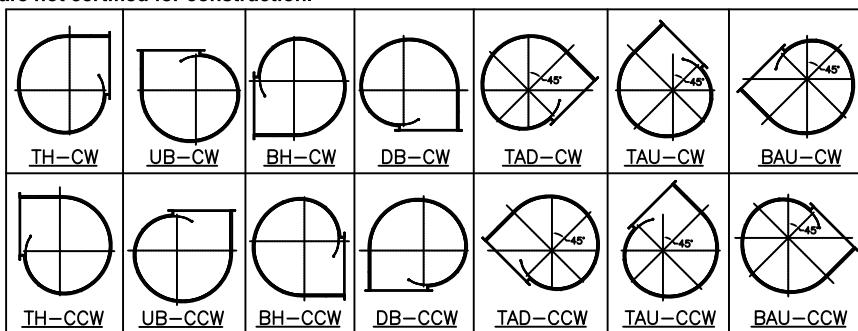


CW Rotation, TH Discharge Shown

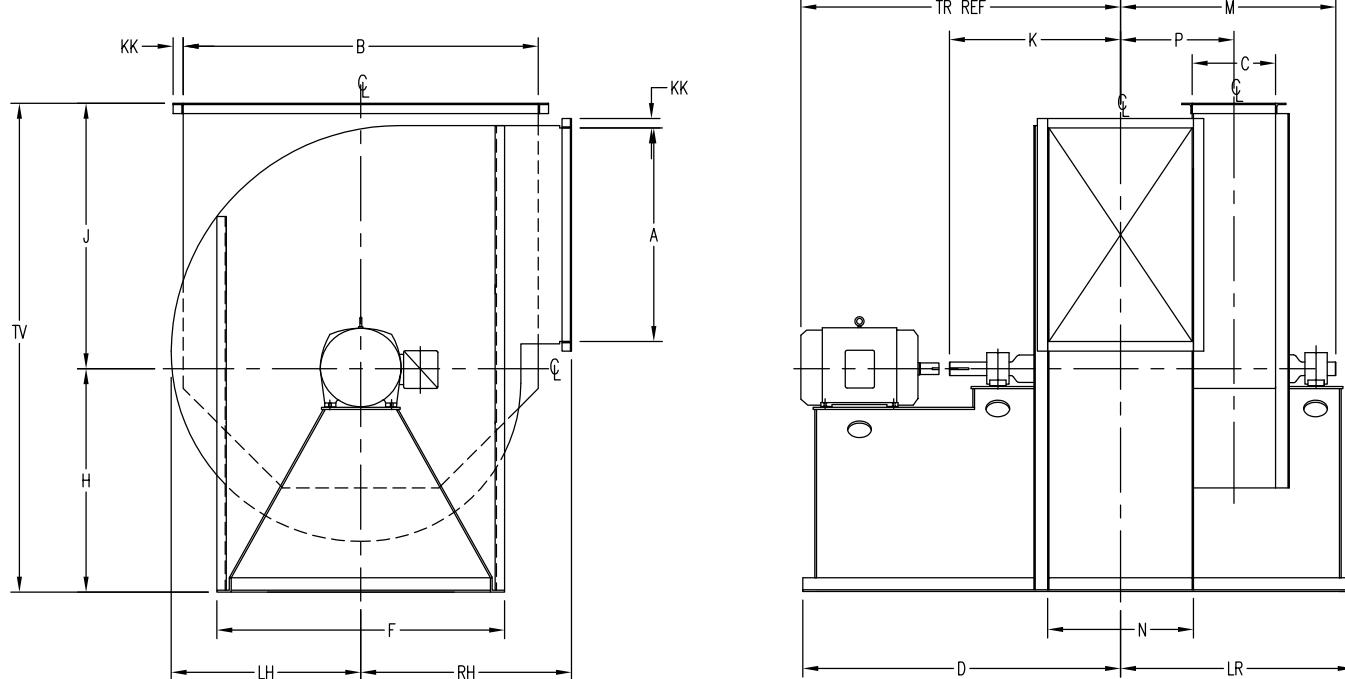
FAN SIZE	DIMENSIONS - INCHES													*EST. WEIGHT (LBS.)
	A	D (MAX)	F	H	K (MAX)	M	N	RH	LH	LR	TV	TR (MAX)	KK	
182	22-3/4	39-3/16	31	19	15-1/16	10-1/16	13-3/4	18-1/4	20-7/16	16-1/8	43-1/8	40-7/8	1-1/2	509
200	25-5/16	40-3/16	34	20-13/16	16-1/16	11-5/16	15-3/8	19-1/4	22-5/8	17-1/2	47-9/16	41-7/8	1-1/2	604
222	27-7/8	44-3/4	37-3/4	23-3/16	17-3/4	13-1/16	16-7/8	21-1/8	24-3/4	20	53	45-7/16	2	926
245	30-11/16	49-7/16	40-3/4	25-1/4	19-11/16	13-7/8	18-1/2	22-5/8	27-3/16	21-5/16	58	51-1/16	2	1128
270	34-1/8	55-5/16	44-1/2	27-5/8	21-7/16	15-1/4	20-1/2	24-3/8	29-5/8	23-1/16	63-3/4	57-11/16	2	1371
300	37-9/16	56-11/16	47-3/4	30-1/16	22-13/16	16-3/8	22-7/8	26-1/8	32-9/16	24-13/16	69-5/8	59-1/16	2	1754
330	41-1/2	52-3/16	51	33-3/4	23-9/16	17-7/16	25	27-3/4	35-7/8	27-3/8	76-15/16	56-7/8	2	1796
365	45-13/16	58	55	36-3/8	24-3/4	18-15/16	27-3/4	30-3/4	39-9/16	29-5/8	84-3/16	66-9/16	2	2376
402	50-5/8	65-3/16	60-1/2	39-3/4	27-1/16	20-3/4	30-5/8	33-1/8	43-11/16	31-13/16	92-3/8	75-7/8	2	2940
445	55-3/4	75-1/8	66-1/4	42-3/8	28-9/16	22-5/16	33-5/8	36-7/16	48-1/8	32-1/4	100-3/16	83-5/16	2	3810
490	61-11/16	86-3/8	72-1/2	46-15/16	32-5/16	24-1/31	37-1/8	40-5/16	53-3/16	35	110-11/16	93-5/8	2	5697
542	68-1/4	90-3/8	79-1/2	51-1/2	36-5/16	28-1/4	41-1/4	44-1/2	58-3/4	41	122-3/4	97-5/8	3	6460
600	75-1/16	90-9/16	84	56-5/16	38-1/2	28-7/8	45-3/8	48-15/16	64-9/16	43-1/8	134-3/8	97-13/16	3	7291
660	83	95-5/16	91-1/2	62-1/4	40-7/8	34-1/16	50-1/8	54-1/8	71-5/16	49-1/16	148-1/4	102-3/16	3	11920
730	91-3/4	98-5/16	104	68-7/16	43-7/8	35-3/4	55-1/4	59-3/4	78-13/16	52-13/16	164-3/16	105-3/16	4	14122
807	101-1/4	102-9/16	113-1/2	75-3/16	48-3/16	40-1/4	61-1/4	65-3/4	86-15/16	58-3/4	180-7/16	109-7/16	4	16346
890	111-9/16	104-15/16	125	82-1/2	50-9/16	42-13/16	67-3/8	72-1/2	95-3/4	63-3/16	198-11/16	111-13/16	4	21881

• Estimated weight does not include motors, drives, couplings, or accessories.

• Dimensions shown are not certified for construction.



Dimensions: Arrangement 7S1

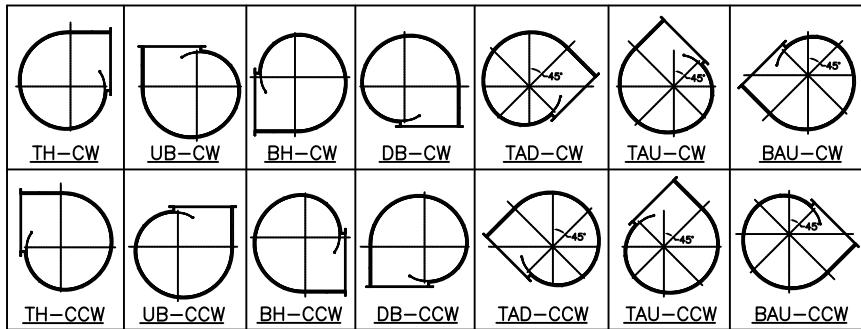


CW Rotation, TH Discharge Shown

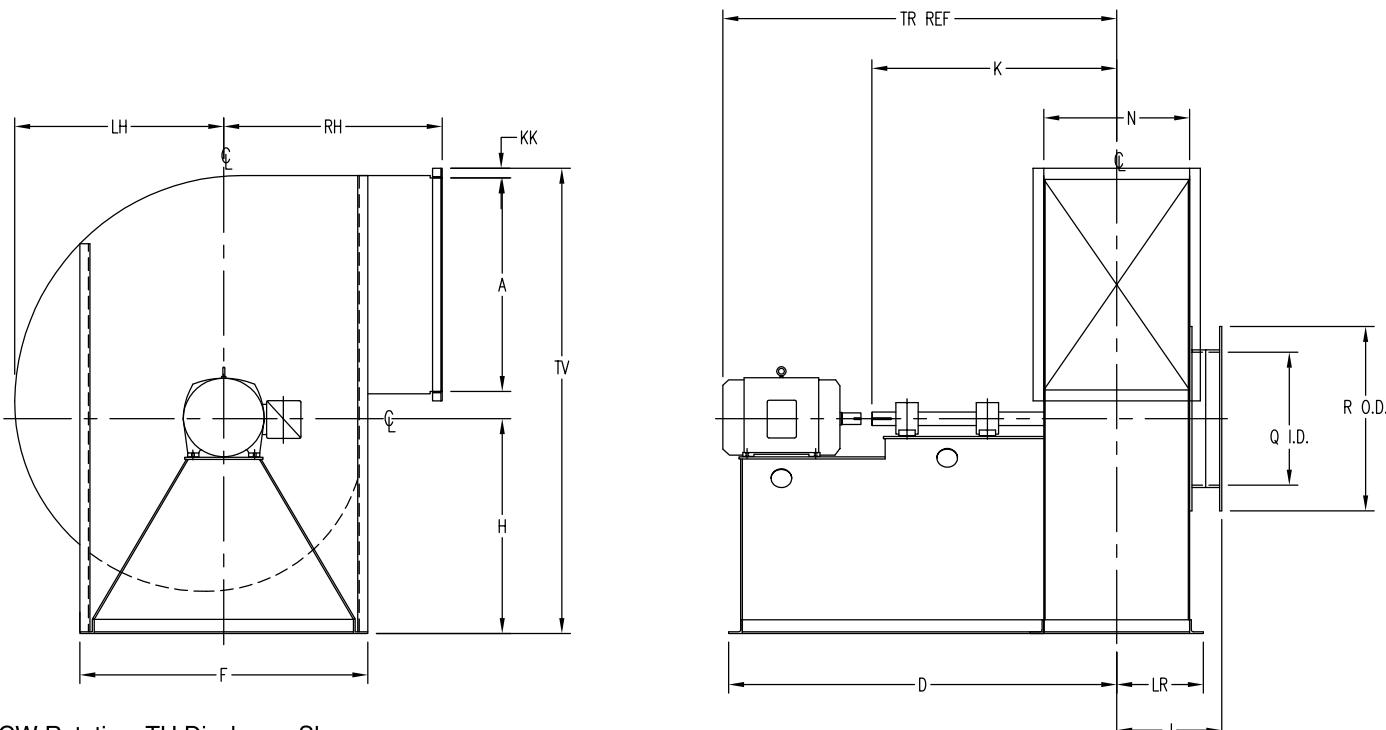
FAN SIZE	DIMENSIONS - INCHES															*EST. WEIGHT (LBS.)		
	A	B	C	D (MAX)	F	H	J	K (MAX)	M	N	P	RH	LH	LR	TV	TR (MAX)	KK	
182	22-3/4	36	7-5/8	42-13/16	31	19	25-5/8	18-11/16	21-1/2	13-3/4	10-9/16	23-1/4	19-13/16	27-3/16	44-5/8	44-1/2	1-1/2	763
200	25-5/16	40	8-5/8	43-13/16	34	20-13/16	28-1/4	19-11/16	23-1/2	15-3/8	11-7/8	25-1/4	22	29-9/16	49-5/8	45-1/2	1-1/2	917
222	27-7/8	44	9-3/8	47-3/4	37-3/4	23-3/16	31-13/16	20-3/4	26-1/16	16-7/8	12-15/16	24-1/4	33-1/8	55	48-3/8	48-3/8	2	1372
245	30-11/16	48-1/2	10-3/8	52-13/16	40-3/4	25-1/4	34-3/4	23-1/16	28-13/16	18-1/2	14-1/4	30	26-3/4	36-1/4	60	54-7/16	2	1699
270	34-1/8	54	11-3/8	59-1/16	44-1/2	27-5/8	38-1/8	25-3/16	31-3/4	20-1/2	15-11/16	32-3/4	29-5/8	39-7/16	65-3/4	61-7/16	2	2049
300	37-9/16	59-1/2	12-5/8	60-3/8	47-3/4	30-1/16	41-9/16	26-1/2	34	22-7/8	17-7/16	35-1/2	32-9/16	42-3/16	62-3/4	62-3/4	2	2615
330	41-1/2	65-3/4	13-15/16	56-3/4	51	33-3/8	45-9/16	27-1/8	35-5/8	25	19-1/4	38-5/8	35-15/16	44-15/16	78-15/16	61-7/16	2	2751
365	45-13/16	73	15-1/2	63-3/8	55	36-3/8	49-13/16	30-1/8	39-5/8	27-3/4	21-7/16	42-1/4	39-9/16	49-13/16	86-3/16	71-11/16	2	3606
402	50-5/8	80	17	70-3/4	60-1/2	39-3/4	54-5/8	32-9/16	42-7/8	30-5/8	23-9/16	45-3/4	43-11/16	53-13/16	94-3/8	81-7/16	2	4399
445	55-3/4	88-1/4	18-3/4	79-1/2	66-1/4	42-3/8	59-13/16	34-15/16	45-3/4	33-5/8	25-15/16	49-7/8	48-1/8	55-11/16	102-3/16	87-11/16	2	5262
490	61-11/16	98	20-3/4	90-15/16	72-1/2	46-15/16	65-3/4	36-7/8	49-7/8	37-1/8	28-11/16	54-3/4	53-3/16	61-5/8	112-11/16	98-3/16	2	8224
542	68-1/4	108	22-3/4	94-5/16	79-1/2	51-1/2	74-1/4	40-3/16	56	41-1/4	31-11/16	60-3/4	58-3/4	68-3/4	125-3/4	101-1/2	3	10108
600	75-1/16	118-1/2	25-1/8	93-5/8	84	56-5/16	81-1/16	39-9/16	58	45-3/8	35	66	64-9/16	71-7/16	137-3/8	100-7/8	3	11046
660	83	131-1/2	27-7/8	99-5/16	91-1/2	62-1/4	89	44-7/8	65-5/8	50-1/8	38-3/4	72-1/2	71-5/16	81	151-1/4	106-3/16	3	15693
730	91-3/4	145-1/2	30-7/8	101-11/16	104	68-7/16	99-3/4	47-5/16	70-7/8	55-1/4	42-11/16	80-3/8	78-13/16	87-15/16	168-3/16	108-9/16	4	18793
807	101-1/4	160	33-7/8	105-3/8	113-1/2	75-3/16	109-1/4	51	77-3/8	61-1/4	47-1/16	87-3/4	86-15/16	96-1/4	184-7/16	112-1/4	4	21263
890	111-9/16	176-1/2	37-1/8	108-1/16	125	82-1/2	119-9/16	53-11/16	83-15/16	67-3/8	51-7/8	96	95-3/4	104-5/16	202-1/16	114-15/16	4	26232

- Estimated weight does not include motors, drives, couplings, or accessories.

- Dimensions shown are not certified for construction.



Dimensions: Arrangement 8

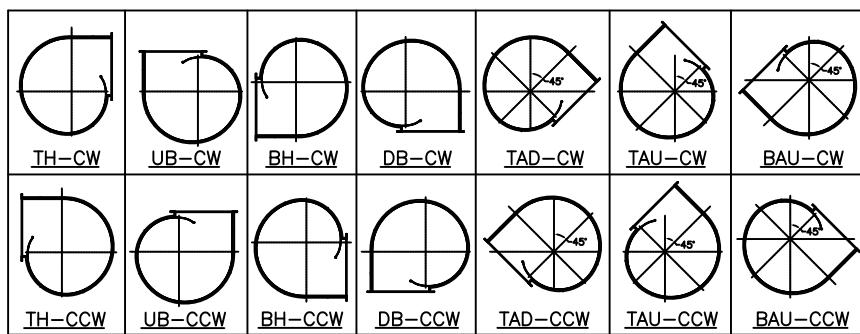


CW Rotation, TH Discharge Shown

FAN SIZE	DIMENSIONS - INCHES														*EST. WEIGHT (LBS.)	
	A	D (MAX)	F	H	J	K (MAX)	N	Q	R	RH	LH	LR	TV	TR (MAX)	KK	
182	22-3/4	53-13/16	31	19	10-7/8	29-11/16	13-3/4	23-1/4	27-1/4	18-1/4	20-7/16	8-7/8	43-1/8	55-1/2	1-1/2	565
200	25-5/16	55-7/16	34	20-13/16	11-11/16	31-3/8	15-3/8	25-1/4	29-1/4	19-1/4	22-5/8	9-5/8	51-9/16	57-3/16	1-1/2	714
222	27-7/8	60-7/16	37-3/4	23-3/16	12-7/16	33-7/16	16-7/8	28-3/4	32-3/4	21-1/8	24-3/4	10-15/16	53	61-1/8	2	1000
245	30-11/16	64-3/8	40-3/4	25-1/4	13-1/4	34-5/8	18-1/2	31-3/4	35-3/4	22-5/8	27-3/16	11-3/4	58	66	2	1188
270	34-1/8	70-11/16	44-1/2	27-5/8	14-1/4	36-13/16	20-1/2	34-3/4	38-3/4	24-3/8	29-5/8	12-3/4	63-3/4	73-1/16	2	1539
300	37-9/16	71-9/16	47-3/4	30-1/16	15-15/16	37-11/16	22-7/8	38-1/4	42-1/4	26-1/8	32-9/16	13-7/8	69-5/8	73-15/16	2	1807
330	41-1/2	69-5/8	51	33-3/8	18-1/2	40	25	41	46	27-3/4	35-7/8	15-1/2	76-15/16	74-5/16	2	1851
365	45-13/16	77-13/16	55	36-3/8	19-7/8	44-9/16	27-3/4	45-1/4	50-1/4	30-3/4	39-9/16	16-7/8	84-3/16	86-1/8	2	2390
402	50-5/8	83-11/16	60-1/2	39-3/4	21-5/16	45-1/2	30-5/8	50-1/2	55-1/2	33-1/8	43-11/16	18-5/16	92-3/8	94-3/8	2	2883
445	55-3/4	87-11/16	66-1/4	43-7/16	22-13/16	50-9/16	33-5/8	51-1/4	56-1/4	36-7/16	48-1/8	19-13/16	101-1/4	105-3/8	2	3899
490	61-11/16	107-7/16	72-1/2	52-11/16	24-9/16	53-3/8	37-1/8	53-1/4	58-1/4	40-5/16	53-3/16	20-13/16	116-7/16	114-11/16	2	6098
542	68-1/4	115-7/16	79-1/2	57-1/4	26-5/8	61-3/8	41-1/4	59	64	44-1/2	58-3/4	22-7/8	128-1/2	122-11/16	3	7685
600	75-1/16	116-3/4	84	62-1/16	28-11/16	62-11/16	45-3/8	65-3/8	71-3/8	48-15/16	64-9/16	24-15/16	140-1/8	124	3	7556
660	83	123-1/16	91-1/2	69-5/8	31-1/16	68-5/8	50-1/8	71-3/8	77-3/8	54-1/8	71-5/16	27-5/8	155-5/8	129-15/16	3	12309
730	91-3/4	127-5/8	104	75-13/16	33-5/8	73-3/16	55-1/4	79	85	59-3/4	78-13/16	30-1/4	171-9/16	134-1/2	4	14397
807	101-1/4	131-13/16	113-1/2	82-9/16	36-5/8	77-3/8	61-1/4	87-3/4	93-3/4	65-3/4	86-15/16	33-7/16	187-13/16	138-11/16	4	16312
890	111-9/16	134-7/8	125	89-7/8	39-11/16	80-7/16	67-3/8	96-5/8	102-5/8	72-1/2	95-3/4	36-1/4	205-7/16	141-3/4	4	19244

- Estimated weight does not include motors, drives, couplings, or accessories.

- Dimensions shown are not certified for construction.





Design 95

Engineering Specifications

GENERAL

Provide a high performance, low maintenance, centrifugal fan with backward curved wheel and spun radial sideplate. Air performance and sound ratings shall be based on tests and procedures in accordance with AMCA Publication 210 and AMCA Publication 300. Fans must be manufactured and assembled in the U.S.A.
Acceptable suppliers: Chicago Blower Corporation.

PERFORMANCE

Performance shall include a steep pressure curve with non-overloading horsepower characteristics. Peak mechanical efficiency shall be no less than 84%. Wheel inlet to be designed to ensure smooth, stable air flow across the fan's entire operating range. System static pressure changes of 30% shall result in an approximate 10% volume reduction.

HOUSING

Fan housing shall be of welded, heavy gauge construction with seven common discharge positions. Scroll is to be continuously welded. Housing stiffeners and base to be welded construction only. Bolted stiffeners and construction of structural members is strictly prohibited. All welders shall be certified to AWS code standards.

ROTOR

Wheel shall be welded steel construction. Steel wheel shall have cast iron hub or steel hub that is permanently welded or fastened to heavy gauge backplate using Huck lock bolts and collars. Threaded fasteners are not allowed. Steel backward curved blades must be single sheet, die formed, high strength low alloy, or equivalent steel and continuously welded to backplate and wheel sideplate. All welders shall be certified to AWS code standards. Wheels to be statically and dynamically balanced to G6.3 standards in accordance with ISO 1940 and ANSI S2.19 specifications. Shaft shall be turned, ground, and polished 1045 SAE cold rolled steel and straightened to a maximum T.I.R. of 0.002 inches. Shafts shall be sized so the fan running speed is 30% or more below the first critical speed.

MOUNTING

Housing and base assembly complete with integral mounting angles or structural steel channel for connection to foundation. For belt drive fans, the adjustable motor base to be welded to the bearing pedestal or steel channel base. For direct drive fans, an integral bearing and motor pedestal shall be welded to the housing.

FACTORY MOUNTED MOTORS

AND COUPLING OR DRIVES (As Required)

Motors and coupling or drives shall be factory mounted. Fan to be tested at running speed for vibration and balance. Filtered vibration readings, taken at the motor bearings and fan bearings, not to exceed 0.15 inches per second, in accordance with AMCA Publication 204 "Balance Quality and Vibration Levels for Fans."

INLET VOLUME CONTROL (As Required)

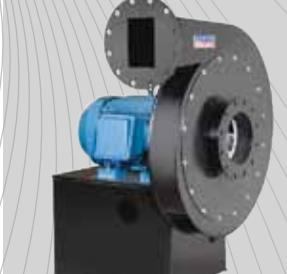
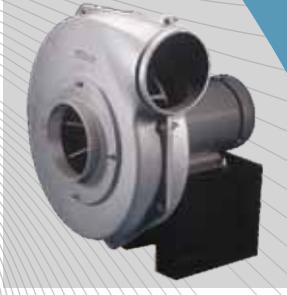
Inlet volume control (IVC) device shall be totally enclosed within the inlet cone. IVC device shall be 7-bladed, and pre-spin the incoming air to control volume and pressure. Operation of IVC shall be smooth without fluttering of blades. Performance control shall be repeatable and consistent without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

ACCESSORIES

- Slip-fit Inlet/Outlet
- Punched, Flanged Inlet/Outlet
- Type B or C AMCA Spark Resistant Construction
- 1-1/2" NPT Housing Drain
- Shaft Seal
- Access Door – Quick Clamp, Flush Bolted, or Insulated Plug Type
- Shaft Cooler (Required from 301°F and above)
- Inlet Screen
- Shaft and Bearing Guard – painted OSHA yellow
- Totally Enclosed Belt Guard – painted OSHA yellow
- Adjustable Motor Base
- Extended Grease Fittings
- Constant or Adjustable Speed V-Belt Drives, Min 1.3 S.F.
- Flexible Steel Couplings
- Bolt-on or Integral Inlet Box
- Mixing Box with FGR Port
- AWS Code Welding
- Inlet or Outlet Dampers – Parallel or Opposed Bladed, Manual or Automatic Operation
- Split Housing – Horizontal or Wedge
- Vibration or Unitary Base

Chicago Blower Fans are also manufactured worldwide:

Argentina, Australia, Brazil, Chile, China, Colombia, Denmark, Germany, Greece, Holland, Hong Kong, India, Indonesia, Israel, Italy, Japan, Korea, Malaysia, New Zealand, Norway, Philippines, Portugal, Saudi Arabia, Singapore, South Africa, Spain, Sweden, Thailand, Taiwan, Turkey, Venezuela.



Your Primary Source For Every Fan Requirement...

General Duty -

Airfoil and vane axial fans for clean exhaust or supply air

Industrial Duty -

Fans to handle dirty and corrosive environments

Heavy Duty -

Custom engineered fans for specific applications

To locate our
representative near you,
use this code



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

