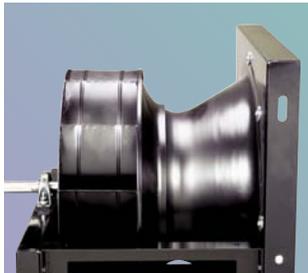


DESIGN 5120 PLENUM FANS



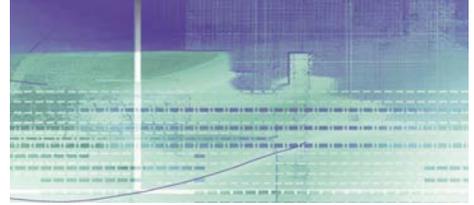


**Chicago's
5120 PLENUM FAN
widens the
performance
envelope,
sets new
structural
and cost
efficiency
standards**

Leave it to Chicago Blower to take a perfectly reliable fan and offer a quieter, more efficient, less costly alternative. It's the new Design 5120 plenum fan that widens the performance envelope. It simply packs more power in a smaller footprint.

The Design 5120 plenum is a rugged fan built to Chicago's industrial level of quality and long-term dependability. You can rely on the performance and durability of Chicago Airfoil Plenum Fans. For application assistance contact one of our sales engineers located throughout North America and around the world. You'll enjoy working with Chicago Blower.





CHICAGO BLOWER CORPORATION 5120 PLENUM FANS

Why DESIGN 5120

The 5120 plenum fan offers a practical design option for air handling systems. The airfoil bladed wheel installs directly within the plenum to deliver the required performance in less space, ideal for system expansion.

The 5120 provides increased volume and slower, more desirable fan running speed when compared to other same size plenum fans. This is accomplished by re-engineering the wheel, which increases the overall fan width only fractionally. Think of the possibilities this affords the HVAC system designer.

Greater CFM in the same space. Older, less efficient fans are easily replaced by the energy saving 5120 plenum fan. Systems requiring expansion will use the fan to increase the volume without affecting the mechanical configuration of the system.

Or, maintain the needed CFM in a more compact package with a smaller, and more economical, fan size.

When energy efficiency and sound levels are of primary importance, select a 5120 plenum fan running at a slower speed requiring less horsepower.



Application Versatility

Plenum fans are specified for both field built-up units and factory built air handlers, and can be installed either horizontally or vertically. Applications include supply air, return air, and exhaust. Chicago now catalogs the widest selection of plenum fans. The Design 5120 is available in sizes from 135 to 807, including Class III fans in sizes thru 600. Fan capacities are to 190,000 CFM with pressures to 18" SP. Maximum recommended temperature is 150°F.



Chicago Blower Corporation certifies that the Design 5120 Airfoil Fans shown herein are licensed to bear the AMCA Seal. Ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.

Refer to Bulletin 5120-200 for sound power levels.

Quieter... More Efficient

Chicago's 12-bladed airfoil wheel improves upon the wheel type widely recognized for design efficiency. With the 5120 plenum fan, not only is performance optimized, sound levels are substantially lower. Chicago's fan.net Selection Program has complete performance, fan curves and sound data.

Chicago's airfoil wheel has ideal characteristics for variable air volume systems. With a smooth, steep pressure curve, major changes in pressure will cause only minor changes in volume. The broad high-efficiency curve offers a wide operating range.

To maintain consistent quality and thereby assure consistent performance, wheels are tooled to extremely stringent tolerances. From one fan to the next, you can rely on Chicago Blower performance.

Airfoil Blades

Chicago 5120 wheels use hollow airfoil blades with weep holes to prevent moisture build-up inside the blade. Three construction classes are available to meet specific application requirements.

- CLASS I** Continuous welding standard.
- CLASS II** Adds blade reinforcing on sizes over 445.
- CLASS III** All sizes have reinforced blades.



ARRANGEMENT 3

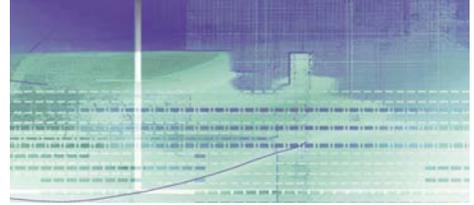


ARRANGEMENT 3T



ARRANGEMENT 3V





CHICAGO BLOWER CORPORATION 5120 PLENUM FANS

Structural Integrity

Strong aircraft grade fasteners secure the heavy steel face and bracing to the rugged frame. These high grade bolts form a permanent bond, stronger than rivets, virtually vibration-proof. With this type of construction, the Design 5120 fans are now recommended for Class III applications. Solid heavy-gauge drive panels and oversize bearing supports increase the structural integrity of the fan. The resultant frame assembly resists distortion caused by sudden air flow variations.



Low-Vibration Model

The low-vibration plenum fan was developed for sound and vibration sensitive applications. Rotors are precision balanced to levels below normal ISO/ANSI requirements.

Hyperbolic Wheel Cone

The unique hyperbolic spun steel wheel cone along with the deep spun inlet optimizes the smooth stable air flow across the entire operating range, adding to the fan's efficiency and low noise levels.



Precision Shafts

The precision shafts of Chicago's Design 5120 fans are made from the finest select grade, turned, ground and polished SAE 1045 steel. Shafts are straightened to a maximum of 0.002 total inches of runout for a true running fan every time.

Performance and Convenience Options

INLET VOLUME CONTROL

The Inlet Volume Control (IVC) provides precise air control and more efficient performance at partial loads. Adjustable guide vanes, mounted entirely within the inlet cone, pre-spin the incoming air in the same rotation as the wheel to produce the desired volume of air at the exact pressure. Chicago's IVC is suitable for manual or automatic operation.



UNITARY BASE

Fan and adjustable motor base are welded onto a unitary base of continuously welded structural steel channel. The height-saving brackets option is recommended for use with available vibration isolators. (Refer to page 19 for unitary base dimensions.)

SAFETY WHEEL GUARD

A strong expanded steel "cage" surrounds the fan and affords maximum protection for equipment and personnel. The two-piece design allows servicing of the fan from either side.



SLIP INLET

Slip inlet facilitates the attachment of flexible connectors, dampers or ductwork to the fan inlet.

INLET SCREEN

Welded steel wire screen mounts within the inlet cone or outside the inlet vanes when furnished with Inlet Volume Control.

BELT GUARD

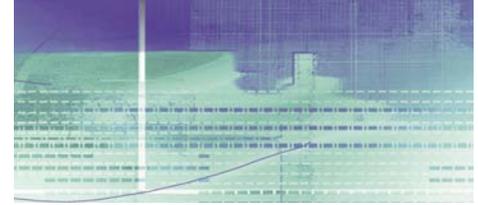
Three sides of the guard are fully enclosed with expanded metal on the fourth side for ventilation and visual inspection. Easily removed for drive servicing.

EXTENDED GREASE FITTINGS

Both fittings are extended to the drive side of fan to speed up and simplify lubrication. Extended fittings are especially recommended for all continuous operation installations.

SPECIAL PAINT AND COATINGS

Numerous paint and corrosion resistant coatings are available to meet the most stringent applications. Special materials, such as aluminum or stainless steel, can be provided for most duties.



5120 PLENUM FANS

Fan Selection

Fan capacity tables are based on the fan handling standard air at 70°F and sea level. For operating conditions other than these, correct the HP of the fan and correct entrance loss.

EXAMPLE:

Performance of 20,000 CFM at 3.5" SP at 150°F and 2000' altitude with radial discharge to a 3 ft. diameter duct with bellmouth.

1. Correct system static pressure for duct entrance losses from a plenum if not included in design conditions.

$$\text{Duct area} = (3^2 \times \pi) \div 4 = 7.06 \text{ ft}^2$$

$$\text{Duct Velocity} = 20,000 \text{ CFM} \div 7.06 \text{ ft}^2 = 2833 \text{ FPM}$$

$$\text{Duct Velocity Pressure} = (2833 \text{ FPM} \div 4005)^2 = .5 \text{ at standard conditions. Entrance loss correction factor} = 1.1 \times .5 = .55$$

$$\text{Corrected SP } 3.5 + .55 = 4.05" \text{ SP}$$

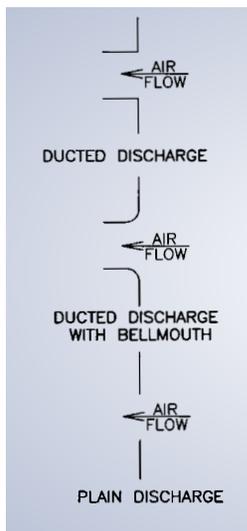
Thus, corrected performance is 20,000 CFM at 4.05" SP

2. Next correct performance for standard conditions. Refer to Temp/Alt table. At 2000 feet altitude and 150° F, the correction factor is 1.24.
3. Corrected SP is $1.24 \times 4.05" = 5.0" \text{ SP}$ at 70°F and sea level.
4. Using the fan rating tables, selection of the proper size fan is now based on 20,000 CFM at 5.0" SP. These specifications indicate that one selection available through interpolation is the size 365 Class II fan which shows a performance of 5450 CFM at 5" SP, requiring 24.78 BHP at 1241 RPM.
5. To correct the BHP, divide 24.8 by $1.24 = 19.98 \text{ BHP}$, which is the corrected BHP at 150°F and 2000 feet altitude.

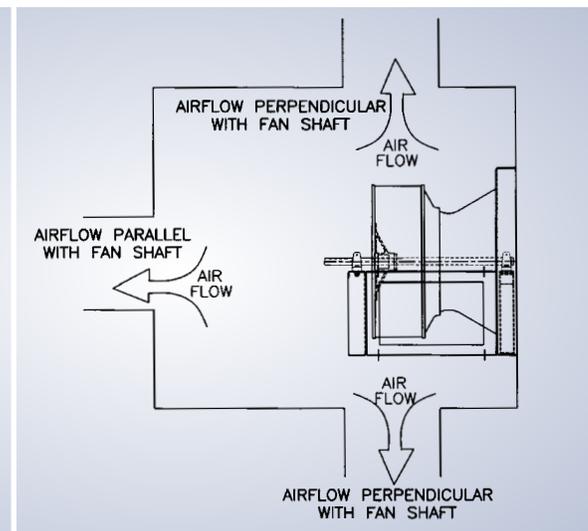
DUCT ENTRANCE LOSS CORRECTIONS

When calculating for performance, the losses incurred when the fan is mounted in relationship to its discharge duct must be considered. Added pressure must be included due to the velocity pressure loss of air funneling down into a duct or opening. The chart below covers the typical location of ductwork and the factors used in the selection of the correct fan.

DISCHARGE TYPE



APPLICATION DIAGRAM



CORRECTION FACTORS

- | | |
|--|---|
| 1. Radial and ducted discharge.
(1.4 Opening Velocity Pressure) | ducted discharge.
(1.8 Opening Velocity Pressure) |
| 2. Radial and ducted bellmouth.
(1.1 Opening Velocity Pressure) | 5. Flow parallel to fan shaft and ducted with bellmouth.
(1.6 Opening Velocity Pressure) |
| 3. Radial and plain discharge.
(1.8 Opening Velocity Pressure) | 6. Flow parallel and plain discharge
(2.4 Opening Velocity Pressure) |
| 4. Flow parallel to fan shaft and | |

TEMPERATURE AND ALTITUDE CORRECTION

AIR TEMP (F°)	ALTITUDE (feet) with BAROMETRIC PRESSURE (HG)									
	0' 29.92	500' 29.38	1000' 28.86	1500' 28.33	2000' 27.82	2500' 27.31	3000' 26.82	3500' 26.32	4000' 25.84	5000' 24.90
-40	.79	.81	.82	.84	.85	.87	.88	.90	.92	.95
-15	.84	.86	.87	.89	.90	.92	.94	.95	.97	1.01
0	.87	.88	.90	.92	.93	.95	.97	.99	1.00	1.04
40	.94	.96	.96	1.00	1.01	1.03	1.05	1.07	1.09	1.13
70	1.00	1.02	1.04	1.06	1.08	1.10	1.12	1.14	1.16	1.20
80	1.02	1.04	1.06	1.08	1.10	1.12	1.14	1.16	1.18	1.22
100	1.06	1.08	1.10	1.12	1.14	1.16	1.18	1.20	1.22	1.27
120	1.09	1.11	1.13	1.16	1.18	1.20	1.22	1.24	1.27	1.31
150	1.15	1.17	1.19	1.22	1.24	1.26	1.28	1.31	1.33	1.38

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

The Quiet Advantage

Design 5120 Plenum Fans are an evolution of Chicago Blower's plenum predecessors, the Design 10A and Design 51. The Design 5120 unites the qualities of the Design 10A, often specified for its' best sound quality, and Design 51, known for its' low sound power levels, into a single cost effective plenum fan. The result is that the 5120 not only distributes the noise more equally across all frequencies, for improved sound quality, but also offers the lowest overall A-weighted sound power levels. The plenum fan comparison table below emphasizes the sound advantage of Chicago's Design 5120.

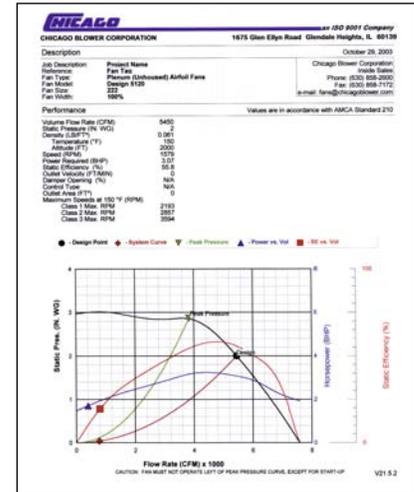
MANUFACTURER	CFM	SP	FREQUENCY, Hz								LwA
			63	125	250	500	1000	2000	4000	8000	
CBC Design 5120	19,000	3	85	92	92	84	80	79	75	70	88
CBC Design 10A			84	89	95	88	81	76	73	69	89
CBC Design 51			86	96	91	86	83	82	76	71	89
Manufacturer A			90	91	93	90	88	82	76	71	92
Manufacturer B			93	97	102	101	96	90	85	80	101
Manufacturer C			92	97	92	87	85	81	77	72	91

Refer to Bulletin 5120-200 or fan.net for complete sound data.

Chicago's fan.net Computer Program



Refer to Chicago's fan.net for performance, fan curves and sound data. For software and assistance, contact your local Chicago Blower sales engineer.



SIZE	5120 AIRFOIL PLENUM FAN		CLASS I		CLASS II		CLASS III													
	135	13-7/32 In. Wheel Diameter Peak BHP = 0.093 (RPM ÷ 1000) ³ Tip Speed (fpm) = 3.46 x RPM	3509 Max.RPM	4573 Max.RPM	5000 Max.RPM															
CFM	1/4" SP		1/2" SP		1" SP		1-1/2" SP		2" SP		2-1/2" SP		3" SP		3-1/2" SP		4" SP		4-1/2" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
600	772	0.04	959	0.08	1431	0.27	1645	0.40	2015	0.76	2170	0.94	2319	1.13	2469	1.33				
1000	1061	0.10	1192	0.15	1431	0.27	1645	0.40	2015	0.76	2170	0.94	2319	1.13	2469	1.33				
1400	1387	0.20	1490	0.27	1675	0.42	1849	0.58	2215	1.04	2381	1.25	2511	1.47	2637	1.66	2748	1.90	2857	2.16
1800	1728	0.37	1812	0.46	1967	0.65	2110	0.84	2247	1.04	2381	1.25	2511	1.47	2637	1.66	2748	1.90	2857	2.16
2200	2076	0.63	2148	0.74	2281	0.96	2405	1.19	2523	1.42	2637	1.66	2748	1.90	2857	2.16	2965	2.42	3071	2.69
2600	2429	0.99	2491	1.11	2607	1.37	2717	1.64	2822	1.90	2923	2.18	3021	2.46	3116	2.74	3210	3.03	3303	3.32
3000	2785	1.47	2839	1.61	2942	1.91	3041	2.21	3135	2.51	3226	2.82	3314	3.14	3400	3.45	3484	3.77	3567	4.10
3400	3142	2.09	3190	2.25	3283	2.58	3372	2.92	3458	3.26	3541	3.61	3621	3.96	3700	4.31	3777	4.67	3852	5.03
3800	3501	2.87	3544	3.05	3628	3.42	3709	3.79	3788	4.17	3864	4.55	3938	4.94	4011	5.33	4081	5.72	4151	6.11
4200	3860	3.83	3900	4.03	3977	4.43	4051	4.85	4123	5.26	4193	5.68	4262	6.10	4329	6.52	4395	6.95	4460	7.38
4600	4221	4.99	4257	5.20	4327	5.65	4396	6.10	4463	6.55	4528	7.00	4592	7.46	4655	7.92	4716	8.38	4776	8.85
5000	4582	6.36	4615	6.60	4680	7.08	4744	7.56	4806	8.05	4867	8.54	4926	9.03	4985	9.53				
5400	4943	7.97	4974	8.22																
CFM	5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP		13" SP		14" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1650	2944	2.24																		
1900	3029	2.54	3247	3.07	3473	3.64														
2150	3149	2.89	3348	3.45	3541	4.02	3734	4.63	3935	5.29										
2400	3281	3.28	3470	3.88	3651	4.49	3825	5.12	3997	5.78	4171	6.46	4350	7.18						
2650	3425	3.72	3603	4.35	3776	5.01	3943	5.68	4102	6.36	4259	7.06	4414	7.79	4571	8.54	4732	9.32	4898	10.15
2900	3582	4.21	3748	4.88	3911	5.57	4070	6.28	4224	7.00	4373	7.74	4518	8.49	4660	9.26	4802	10.05	4945	10.86
3150	3750	4.77	3904	5.47	4057	6.19	4207	6.93	4355	7.70	4498	8.48	4638	9.27	4773	10.07	4906	10.88		
3400	3926	5.39	4071	6.12	4214	6.88	4354	7.65	4494	8.45	4631	9.27	4766	10.10	4897	10.94				
3650	4108	6.07	4245	6.85	4380	7.64	4512	8.44	4643	9.27	4773	10.12	4901	10.99						
3900	4294	6.82	4425	7.64	4553	8.47	4678	9.31	4802	10.17	4924	11.05								
4150	4485	7.64	4610	8.50	4732	9.38	4851	10.26	4968	11.16										
4400	4678	8.54	4798	9.45	4915	10.36														
4650	4875	9.52	4990	10.47																

Performance shown is for installation Type A; Free inlet, free outlet. Power ratings (BHP) do not include drive losses. Performance ratings do not include the effects of appurtenances in the air stream. Performance based on floor or wall to fan centerline height of 10-3/16 for size 135.



SIZE 5120 AIRFOIL PLENUM FAN
150 14-9/16 In. Wheel Diameter
 Peak BHP = 0.152 (RPM ÷ 1000)³
 Tip Speed (fpm) = 3.81 x RPM

CLASS I 3203 Max. RPM	CLASS II 4175 Max. RPM	CLASS III 4950 Max. RPM
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CHICAGO BLOWER CORPORATION
5120 PLENUM FANS

CFM	1/4" SP		1/2" SP		1" SP		1-1/2" SP		2" SP		2-1/2" SP		3" SP		3-1/2" SP		4" SP		4-1/2" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
900	784	0.07	933	0.12	1196	0.24														
1400	1071	0.16	1178	0.23	1372	0.39	1553	0.57	1719	0.75	1886	0.96	2166	1.53	2288	1.78	2408	2.04	2531	2.32
1900	1381	0.32	1466	0.42	1622	0.61	1766	0.82	1905	1.05	2039	1.28								
2400	1702	0.57	1772	0.69	1903	0.94	2025	1.19	2141	1.45	2253	1.72	2364	2.00	2472	2.29	2577	2.59	2678	2.90
2900	2028	0.95	2088	1.09	2201	1.38	2308	1.68	2409	1.98	2506	2.29	2600	2.62	2693	2.93	2785	3.26	2876	3.61
3400	2358	1.46	2410	1.63	2509	1.96	2604	2.31	2694	2.66	2781	3.01	2865	3.37	2947	3.73	3027	4.10	3106	4.48
3900	2690	2.15	2736	2.34	2824	2.72	2909	3.11	2990	3.50	3069	3.90	3145	4.30	3219	4.71	3292	5.12	3363	5.54
4400	3023	3.03	3064	3.24	3144	3.67	3220	4.10	3294	4.54	3366	4.98	3436	5.43	3504	5.89	3571	6.34	3636	6.80
4900	3357	4.12	3395	4.36	3467	4.83	3537	5.31	3605	5.80	3671	6.29	3735	6.78	3798	7.28	3859	7.78	3920	8.28
5400	3692	5.46	3726	5.72	3793	6.24	3857	6.77	3919	7.30	3980	7.83	4040	8.37	4098	8.91	4155	9.46	4212	10.0
5900	4028	7.07	4059	7.35	4120	7.92	4180	8.49	4237	9.07	4294	9.65	4350	10.23	4404	10.82	4457	11.41	4510	12.0
6400	4364	8.97	4393	9.27	4450	9.89	4505	10.50	4559	11.13	4611	11.75	4663	12.38	4714	13.01	4764	13.65	4813	14.2
6900	4701	11.19	4728	11.51	4780	12.17	4832	12.84	4882	13.51	4931	14.18								

CFM	5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP		13" SP		14" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2100	2686	2.83																		
2450	2793	3.28	2980	3.93	3168	4.62	3363	5.37												
2800	2925	3.80	3100	4.51	3267	5.23	3430	5.99	3594	6.78	3762	7.61								
3150	3071	4.39	3235	5.15	3394	5.93	3546	6.73	3693	7.56	3837	8.40	3982	9.28	4130	10.20	4282	11.16		
3500	3233	5.07	3384	5.87	3533	6.71	3678	7.57	3818	8.44	3953	9.34	4085	10.25	4215	11.18	4345	12.14	4476	13.1
3850	3408	5.84	3547	6.69	3685	7.57	3820	8.48	3954	9.41	4084	10.37	4210	11.33	4332	12.31	4452	13.30	4570	14.3
4200	3592	6.72	3722	7.62	3849	8.55	3975	9.50	4100	10.48	4223	11.48	4344	12.50	4462	13.54	4578	14.59	4690	15.6
4550	3783	7.70	3905	8.66	4025	9.64	4142	10.64	4259	11.66	4374	12.71	4488	13.78	4601	14.87	4712	15.97	4821	17.0
4900	3979	8.79	4095	9.82	4208	10.85	4319	11.90	4428	12.97	4536	14.06	4643	15.18	4749	16.31	4855	17.47		
5250	4180	10.00	4290	11.09	4397	12.19	4502	13.30	4605	14.42	4707	15.56	4808	16.71	4908	17.89				
5600	4384	11.34	4489	12.49	4591	13.65	4692	14.82	4790	16.00	4886	17.19								
5950	4591	12.82	4692	14.03	4790	15.25	4885	16.48												
6300	4801	14.44	4897	15.71																

SIZE 5120 AIRFOIL PLENUM FAN
165 16-3/16 In. Wheel Diameter
 Peak BHP = 0.247 (RPM ÷ 1000)³
 Tip Speed (fpm) = 4.24 x RPM

CLASS I 2886 Max. RPM	CLASS II 3713 Max. RPM	CLASS III 4250 Max. RPM
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CFM	1/4" SP		1/2" SP		1" SP		1-1/2" SP		2" SP		2-1/2" SP		3" SP		3-1/2" SP		4" SP		4-1/2" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1000	664	0.07	808	0.13																
1600	907	0.17	1008	0.25	1194	0.44	1363	0.64	1524	0.87										
2200	1174	0.34	1255	0.45	1402	0.68	1538	0.93	1670	1.20	1794	1.48	1912	1.77	2028	2.07	2146	2.40		
2800	1453	0.61	1519	0.75	1643	1.04	1757	1.34	1865	1.64	1971	1.97	2075	2.30	2176	2.65	2273	3.01	2366	3.37
3400	1737	1.01	1793	1.18	1900	1.52	1999	1.88	2094	2.23	2184	2.60	2273	2.98	2360	3.37	2447	3.77	2531	4.18
4000	2024	1.58	2073	1.77	2166	2.17	2255	2.58	2339	2.99	2420	3.41	2498	3.83	2574	4.27	2650	4.71	2724	5.16
4600	2314	2.33	2357	2.55	2440	3.00	2519	3.46	2595	3.93	2668	4.40	2739	4.88	2808	5.37	2875	5.86	2942	6.35
5200	2604	3.29	2643	3.54	2718	4.05	2789	4.57	2858	5.09	2925	5.62	2990	6.15	3053	6.69	3115	7.23	3176	7.78
5800	2896	4.50	2931	4.78	2999	5.34	3064	5.91	3127	6.49	3189	7.07	3248	7.66	3307	8.25	3364	8.85	3420	9.45
6400	3189	5.98	3221	6.29	3282	6.90	3342	7.53	3401	8.16	3457	8.80	3513	9.44	3567	10.09	3620	10.73	3672	11.39
7000	3482	7.76	3511	8.09	3568	8.77	3623	9.45	3677	10.13	3730	10.82	3782	11.52	3832	12.22	3882	12.92	3930	13.63
7600	3776	9.87	3802	10.23	3855	10.96	3907	11.69	3957	12.43	4006	13.18	4054	13.93	4101	14.68	4148	15.44	4193	16.20
8200	4069	12.33	4094	12.72	4143	13.50	4191	14.29	4238	15.09										

CFM	5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP		13" SP		14" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2600	2417	3.50																		
3000	2505	4.01	2675	4.82	2846	5.67														
3400	2614	4.60	2773	5.46	2925	6.35	3074	7.28	3225	8.25	3381	9.29								
3800	2733	5.26	2884	6.19	3028	7.14	3166	8.11	3300	9.12	3433	10.16	3568	11.24	3706	12.37				
4200	2865	6.01	3005	6.99	3141	8.00	3274	9.04	3401	10.11	3524	11.19	3645	12.30	3765	13.44	3886	14.62	4009	15.85
4600	3007	6.86	3136	7.89	3264	8.96	3389	10.06	3511	11.19	3630	12.33	3745	13.50	3857	14.69	3967	15.90	4077	17.13
5000	3158	7.81	3278	8.90	3397	10.02	3514	11.17	3630	12.36	3743	13.57	3854	14.80	3962	16.05	4068	17.32	4170	18.60
5400	3314	8.88	3428	10.03	3539	11.20	3648	12.41	3757	13.64	3864	14.91	3970	16.20	4074	17.51	4176	18.84		
5800	3475	10.05	3583	11.27	3688	12.51	3791	13.77	3892	15.06	3994	16.37	4094	17.72	4193	19.08				
6200	3640	11.35	3742	12.64	3842	13.95	3940	15.27	4036	16.61	4131	17.98	4226	19.37						
6600	3808	12.78	3906	14.14	4001	15.52	4094	16.90	4186	18.31										
7000	3978	14.34	4072	15.78	4163	17.22														
7400	4151	16.05	4241	17.56																

Performance shown is for installation Type A; Free inlet, free outlet. Power ratings (BHP) do not include drive losses.
 Performance ratings do not include the effects of appurtenances in the air stream.
 Performance based on floor or wall to fan centerline height of 11-5/16 for size 150 and 12-7/16 for size 165.



SIZE 5120 AIRFOIL PLENUM FAN
182 17-13/16 In. Wheel Diameter
 Peak BHP = 0.435 (RPM ÷ 1000)³
 Tip Speed (fpm) = 4.66 x RPM

CLASS I 2496 Max.RPM	CLASS II 3252 Max.RPM	CLASS III 3848 Max.RPM
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CHICAGO BLOWER CORPORATION
5120 PLENUM FANS

CFM	1/4" SP		1/2" SP		1" SP		1-1/2" SP		2" SP		2-1/2" SP		3" SP		3-1/2" SP		4" SP		4-1/2" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1100	563	0.08	710	0.15																
1900	778	0.16	882	0.28	1059	0.51	1229	0.80												
2700	1023	0.32	1104	0.47	1250	0.79	1379	1.11	1500	1.46	1619	1.85	1739	2.27						
3500	1282	0.60	1347	0.75	1468	1.16	1581	1.57	1686	1.98	1783	2.39	1877	2.84	1969	3.31	2060	3.81	2152	4.34
4300	1547	1.02	1601	1.19	1704	1.63	1802	2.14	1894	2.65	1982	3.15	2066	3.64	2147	4.15	2224	4.68	2300	5.23
5100	1815	1.62	1862	1.82	1951	2.27	2036	2.82	2118	3.43	2197	4.04	2274	4.64	2347	5.23	2419	5.81	2488	6.40
5900	2086	2.43	2127	2.66	2205	3.14	2280	3.71	2353	4.35	2425	5.05	2494	5.76	2561	6.47	2627	7.16	2691	7.84
6700	2358	3.49	2394	3.74	2464	4.27	2531	4.85	2597	5.52	2661	6.25	2724	7.03	2786	7.83	2846	8.65	2905	9.45
7500	2631	4.83	2664	5.10	2727	5.68	2788	6.30	2847	6.98	2905	7.72	2963	8.53	3019	9.39	3075	10.28	3129	11.19
8300	2905	6.48	2935	6.78	2992	7.40	3047	8.06	3102	8.77	3155	9.53	3208	10.35	3259	11.24	3311	12.17	3361	13.13
9100	3180	8.47	3207	8.80	3259	9.47	3310	10.18	3360	10.92	3409	11.70	3457	12.54	3505	13.44	3552	14.39	3599	15.39
9900	3455	10.84	3479	11.20	3528	11.92	3575	12.67	3621	13.45	3666	14.27	3711	15.13	3755	16.04	3799	17.00	3843	18.02
10700	3730	13.62	3753	14.00	3797	14.78	3841	15.58												

CFM	5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP		13" SP		14" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3300	2227	4.73																		
3750	2277	5.14	2449	6.34																
4200	2355	5.67	2507	6.88	2660	8.18	2816	9.58												
4650	2450	6.29	2588	7.52	2725	8.84	2863	10.24	3002	11.72	3143	13.31								
5100	2554	7.01	2684	8.28	2809	9.62	2934	11.03	3059	12.52	3185	14.09	3312	15.74	3441	17.48				
5550	2664	7.82	2788	9.13	2906	10.51	3022	11.95	3137	13.46	3251	15.04	3366	16.69	3482	18.42	3599	20.22	3717	22.10
4000	2779	8.72	2897	10.09	3011	11.51	3121	12.99	3228	14.53	3334	16.13	3440	17.80	3545	19.53	3652	21.33	3759	23.20
6450	2896	9.68	3010	11.15	3120	12.62	3226	14.14	3328	15.72	3428	17.36	3527	19.05	3625	20.81	3723	22.62	3821	24.49
6900	3017	10.69	3127	12.28	3233	13.84	3335	15.42	3433	17.04	3529	18.72	3623	20.44	3716	22.22	3808	24.06		
7350	3141	11.74	3247	13.47	3349	15.15	3447	16.81	3543	18.49	3636	20.21	3726	21.97	3814	23.79				
7800	3268	12.83	3369	14.70	3468	16.52	3563	18.30	3655	20.06	3746	21.84	3833	23.64						
8250	3396	13.99	3494	15.98	3589	17.95	3681	19.85	3771	21.72										
8700	3527	15.23	3621	17.32	3713	19.41	3802	21.47												

SIZE 5120 AIRFOIL PLENUM FAN
200 19-11/16 In. Wheel Diameter
 Peak BHP = 0.646 (RPM ÷ 1000)³
 Tip Speed (fpm) = 5.15 x RPM

CLASS I 2345 Max.RPM	CLASS II 3055 Max.RPM	CLASS III 3450 Max.RPM
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CFM	1/4" SP		1/2" SP		1" SP		1-1/2" SP		2" SP		2-1/2" SP		3" SP		3-1/2" SP		4" SP		4-1/2" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1500	561	0.11	681	0.20																
2350	748	0.21	841	0.35	1000	0.64	1148	0.97												
3200	955	0.39	1029	0.56	1163	0.94	1282	1.32	1392	1.73	1501	2.18	1610	2.68	1721	3.23				
4050	1172	0.68	1232	0.86	1346	1.33	1451	1.81	1548	2.28	1639	2.76	1726	3.28	1812	3.83	1897	4.42	1983	5.04
4900	1394	1.11	1445	1.31	1542	1.81	1635	2.40	1722	2.99	1804	3.55	1883	4.11	1958	4.70	2031	5.31	2102	5.95
5750	1618	1.71	1663	1.93	1748	2.46	1829	3.09	1907	3.79	1982	4.48	2055	5.15	2124	5.80	2191	6.46	2256	7.14
6600	1845	2.51	1884	2.76	1959	3.31	2032	3.97	2102	4.71	2170	5.50	2236	6.30	2300	7.09	2363	7.85	2423	8.60
7450	2073	3.53	2108	3.81	2175	4.40	2240	5.08	2304	5.84	2366	6.69	2427	7.58	2486	8.48	2544	9.38	2600	10.25
8300	2302	4.81	2333	5.11	2394	5.76	2453	6.46	2511	7.24	2568	8.11	2624	9.04	2678	10.02	2732	11.02	2784	12.03
9150	2531	6.37	2560	6.70	2616	7.40	2670	8.14	2723	8.94	2775	9.82	2826	10.78	2876	11.80	2926	12.86	2975	13.96
10000	2761	8.24	2787	8.60	2839	9.35	2888	10.14	2937	10.97	2985	11.87	3033	12.84	3079	13.88	3126	14.98	3171	16.13
10850	2991	10.46	3015	10.85	3063	11.65	3109	12.48	3155	13.36	3199	14.29	3243	15.27	3287	16.32	3329	17.44	3372	18.62
11700	3221	13.04	3244	13.46	3288	14.32	3331	15.20	3374	16.12	3415	17.08								

CFM	5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP		13" SP		14" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3900	2060	5.56																		
4400	2105	6.03	2264	7.44																
4900	2173	6.62	2314	8.03	2456	9.55	2601	11.20												
5400	2256	7.30	2384	8.74	2512	10.28	2641	11.91	2771	13.66	2903	15.51								
5900	2347	8.08	2467	9.56	2585	11.13	2701	12.78	2818	14.52	2937	16.36	3056	18.30	3177	20.34				
6400	2443	8.97	2558	10.49	2668	12.10	2777	13.78	2884	15.54	2992	17.39	3100	19.32	3209	21.35	3319	23.46	3430	25.67
6900	2542	9.95	2653	11.53	2759	13.18	2861	14.91	2962	16.70	3061	18.57	3161	20.52	3261	22.54	3361	24.65		
7400	2644	11.00	2751	12.68	2854	14.39	2952	16.16	3048	17.99	3142	19.90	3234	21.87	3327	23.91	3420	26.03		
7900	2750	12.11	2853	13.92	2952	15.71	3047	17.53	3139	19.41	3229	21.36	3317	23.37	3404	25.44				
8400	2857	13.26	2956	15.22	3052	17.13	3144	19.03	3234	20.97	3320	22.96	3405	25.01						
8900	2967	14.45	3063	16.57	3155	18.62	3245	20.64	3331	22.66	3416	24.70								
9400	3079	15.70	3171	17.97	3261	20.18	3347	22.34	3432	24.46										
9900	3193	17.03	3282	19.41	3368	21.79														

Performance shown is for installation Type A; Free inlet, free outlet. Power ratings (BHP) do not include drive losses.
 Performance ratings do not include the effects of appurtenances in the air stream.
 Performance based on floor or wall to fan centerline height of 12-11/16 for size 182 and 13-15/16 for size 200.



SIZE 5120 AIRFOIL PLENUM FAN
222 21-9/16 In. Wheel Diameter
 Peak BHP = 1.019 (RPM ÷ 1000)³
 Tip Speed (fpm) = 5.65 x RPM

CLASS I 2193 Max. RPM	CLASS II 2857 Max. RPM	CLASS III 3594 Max. RPM
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CHICAGO BLOWER CORPORATION
5120 PLENUM FANS

CFM	1/4" SP		1/2" SP		1" SP		1-1/2" SP		2" SP		2-1/2" SP		3" SP		3-1/2" SP		4" SP		4-1/2" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1700	498	0.12	612	0.23																
2950	706	0.27	788	0.45	930	0.80	1060	1.21	1191	1.69										
4200	941	0.57	1004	0.78	1119	1.29	1223	1.77	1319	2.28	1410	2.84	1500	3.44	1591	4.09	1684	4.79		
5450	1187	1.09	1237	1.32	1332	1.91	1421	2.57	1504	3.21	1583	3.83	1657	4.48	1729	5.17	1799	5.88	1868	6.64
6700	1438	1.89	1480	2.16	1559	2.78	1635	3.54	1708	4.35	1778	5.15	1845	5.92	1909	6.68	1971	7.46	2031	8.26
7950	1691	3.04	1727	3.34	1795	4.01	1861	4.80	1925	5.69	1987	6.64	2047	7.61	2106	8.55	2163	9.47	2218	10.37
9200	1946	4.60	1978	4.94	2038	5.67	2096	6.48	2152	7.41	2207	8.43	2261	9.51	2314	10.63	2366	11.74	2417	12.84
10450	2203	6.63	2230	7.01	2284	7.81	2336	8.68	2386	9.63	2436	10.68	2484	11.81	2532	13.01	2579	14.26	2626	15.52
11700	2460	9.19	2485	9.62	2533	10.50	2579	11.42	2625	12.41	2670	13.49	2714	14.64	2758	15.89	2801	17.20	2843	18.56
12950	2717	12.36	2740	12.83	2783	13.78	2826	14.78	2867	15.83	2908	16.94	2949	18.12	2989	19.38	3028	20.72	3067	22.13
14200	2976	16.19	2996	16.70	3036	17.74	3075	18.81	3113	19.92	3150	21.08	3188	22.30	3224	23.58	3260	24.94	3296	26.37
15450	3234	20.75	3253	21.30	3289	22.43	3325	23.57	3360	24.75	3395	25.98	3429	27.24	3463	28.56	3497	29.94	3530	31.39
16700	3492	26.10	3510	26.70	3543	27.90	3577	29.13												

CFM	5" SP		5" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP		13" SP		14" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
4700	1882	6.69																		
5550	1948	7.54	2085	9.22	2225	11.06														
6400	2049	8.64	2168	10.37	2286	12.21	2405	14.17	2525	16.26										
7250	2168	9.99	2276	11.78	2381	13.67	2485	15.66	2589	17.76	2694	19.96	2800	22.28	2907	24.72				
8100	2294	11.58	2396	13.46	2494	15.41	2589	17.47	2682	19.61	2775	21.84	2868	24.17	2962	26.59	3055	29.12	3150	31.75
8950	2426	13.35	2523	15.39	2616	17.45	2706	19.57	2793	21.78	2878	24.07	2962	26.44	3046	28.90	3130	31.44	3214	34.06
9800	2563	15.26	2655	17.53	2744	19.75	2830	21.99	2912	24.27	2993	26.63	3071	29.07	3149	31.58	3226	34.16	3302	36.83
10650	2705	17.27	2792	19.80	2877	22.26	2959	24.68	3038	27.09	3115	29.54	3190	32.05	3263	34.63	3335	37.28	3406	39.99
11500	2850	19.41	2933	22.19	3014	24.92	3092	27.58	3168	30.18	3242	32.77	3314	35.39	3384	38.05	3453	40.77	3520	43.55
12350	2999	21.77	3077	24.72	3154	27.70	3229	30.63	3302	33.47	3373	36.27	3442	39.05	3510	41.84	3576	44.65		
13200	3150	24.39	3225	27.46	3298	30.62	3369	33.80	3439	36.92	3507	39.98	3574	42.97						
14050	3304	27.32	3375	30.47	3445	33.75	3513	37.12	3580	40.49										
14900	3461	30.59	3528	33.78																

SIZE 5120 AIRFOIL PLENUM FAN
245 24 In. Wheel Diameter
 Peak BHP = 1.837 (RPM ÷ 1000)³
 Tip Speed (fpm) = 6.28 x RPM

CLASS I 1793 Max. RPM	CLASS II 2278 Max. RPM	CLASS III 2863 Max. RPM
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CFM	1/4" SP		1/2" SP		1" SP		1-1/2" SP		2" SP		2-1/2" SP		3" SP		3-1/2" SP		4" SP		4-1/2" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1800	394	0.11																		
3400	541	0.27	626	0.45	773	0.84														
5000	723	0.57	786	0.81	903	1.33	1010	1.89	1107	2.48	1196	3.09	1284	3.73						
6600	919	1.09	967	1.38	1061	2.02	1150	2.71	1234	3.42	1315	4.17	1391	4.94	1463	5.73	1530	6.52	1596	7.33
8200	1120	1.90	1159	2.24	1236	2.99	1311	3.80	1383	4.65	1453	5.51	1521	6.39	1587	7.31	1650	8.26	1711	9.22
9800	1325	3.07	1358	3.48	1422	4.32	1486	5.24	1548	6.21	1610	7.20	1669	8.21	1728	9.24	1784	10.29	1840	11.37
11400	1530	4.67	1559	5.14	1615	6.09	1670	7.11	1724	8.18	1778	9.29	1831	10.44	1884	11.60	1935	12.77	1985	13.96
13000	1737	6.77	1763	7.30	1812	8.37	1860	9.48	1908	10.65	1956	11.87	2003	13.12	2050	14.41	2096	15.72	2142	17.04
14600	1945	9.45	1968	10.03	2012	11.21	2055	12.43	2098	13.70	2140	15.01	2182	16.37	2225	17.76	2266	19.19	2308	20.64
16200	2153	12.75	2174	13.40	2214	14.70	2253	16.03	2291	17.40	2329	18.81	2367	20.25	2406	21.75	2443	23.28	2481	24.83
17800	2362	16.77	2381	17.47	2417	18.90	2453	20.34	2488	21.82	2523	23.33	2557	24.87	2592	26.45	2626	28.08	2661	29.73
19400	2571	21.57	2588	22.33	2622	23.87	2654	25.43	2687	27.02	2719	28.63	2750	30.28	2782	31.96	2813	33.67	2845	35.42
21000	2780	27.22	2796	28.03	2827	29.69	2857	31.37												

CFM	5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP		13" SP		14" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
7000	1685	8.63	1811	10.43																
8000	1755	9.92	1867	11.83	1976	13.81	2087	15.89												
9000	1831	11.29	1939	13.41	2040	15.54	2138	17.71	2234	19.95	2333	22.30								
10000	1911	12.78	2015	15.07	2114	17.41	2207	19.77	2297	22.15	2384	24.56	2471	27.05	2559	29.62				
11000	1998	14.44	2096	16.87	2191	19.37	2282	21.93	2369	24.51	2452	27.11	2533	29.72	2612	32.37	2691	35.09	2770	37.87
12000	2090	16.31	2183	18.87	2273	21.50	2360	24.21	2445	26.98	2526	29.78	2605	32.60	2680	35.42	2754	38.26	2826	41.14
13000	2186	18.38	2274	21.08	2359	23.84	2443	26.68	2524	29.59	2603	32.57	2680	35.58	2754	38.61	2826	41.66		
14000	2287	20.65	2370	23.51	2451	26.42	2530	29.39	2607	32.43	2683	35.54	2757	38.70	2830	41.92				
15000	2391	23.13	2469	26.17	2546	29.24	2621	32.35	2695	35.52	2768	38.75	2839	42.04						
16000	2497	25.85	2572	29.05	2645	32.29	2717	35.57	2787	38.88	2856	42.24								
17000	2606	28.83	2677	32.17	2747	35.59	2815	39.03												
18000	2717	32.10	2785	35.58	2851	39.14														
19000	2830	35.68																		

Performance shown is for installation Type A; Free inlet, free outlet. Power ratings (BHP) do not include drive losses.
 Performance ratings do not include the effects of appurtenances in the air stream.
 Performance based on floor or wall to fan centerline height of 15-15/32 for size 222 and 15-3/4 for size 245.



SIZE 5120 AIRFOIL PLENUM FAN
270 26-7/16 In. Wheel Diameter
 Peak BHP = 2.985 (RPM ÷ 1000)³
 Tip Speed (fpm) = 6.92 x RPM

CLASS I	CLASS II	CLASS III
1589 Max.RPM	2069 Max.RPM	2589 Max.RPM

CHICAGO BLOWER CORPORATION
5120 PLENUM FANS

CFM	1/4" SP		1/2" SP		1" SP		1-1/2" SP		2" SP		2-1/2" SP		3" SP		3-1/2" SP		4" SP		4-1/2" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2400	370	0.15	475	0.30																
4300	505	0.35	580	0.57	712	1.07	825	1.60												
6200	668	0.72	724	1.01	829	1.66	925	2.35	1013	3.09	1092	3.83	1170	4.61						
8100	843	1.36	886	1.71	970	2.50	1050	3.34	1126	4.21	1199	5.13	1268	6.08	1333	7.04	1394	8.00	1454	8.99
10000	1022	2.34	1057	2.76	1126	3.67	1194	4.66	1260	5.68	1323	6.73	1384	7.81	1443	8.93	1501	10.08	1556	11.25
11900	1203	3.73	1233	4.23	1292	5.25	1349	6.37	1406	7.54	1462	8.75	1516	9.98	1569	11.23	1620	12.50	1671	13.81
13800	1386	5.63	1412	6.19	1463	7.35	1513	8.58	1562	9.88	1612	11.23	1660	12.62	1707	14.02	1754	15.44	1799	16.88
15700	1570	8.11	1593	8.74	1638	10.03	1682	11.38	1726	12.79	1769	14.26	1812	15.78	1855	17.35	1897	18.93	1939	20.53
17600	1754	11.24	1775	11.95	1815	13.38	1855	14.86	1894	16.38	1933	17.96	1971	19.61	2010	21.29	2048	23.01	2086	24.76
19500	1939	15.12	1958	15.89	1995	17.46	2031	19.07	2066	20.72	2101	22.42	2135	24.17	2170	25.97	2205	27.81	2239	29.69
21400	2125	19.81	2142	20.65	2175	22.36	2208	24.10	2240	25.88	2272	27.70	2304	29.57	2335	31.48	2367	33.43	2398	35.43
23300	2311	25.39	2326	26.31	2357	28.16	2387	30.04	2417	31.95	2446	33.89	2475	35.88	2504	37.89	2533	39.96	2562	42.07
25200	2496	31.96	2511	32.94	2539	34.93	2567	36.95												

CFM	5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP		13" SP		14" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
8200	1517	10.12																		
9400	1576	11.63	1679	13.89	1782	16.27														
10600	1643	13.25	1742	15.75	1835	18.28	1926	20.87	2017	23.57										
11800	1714	14.99	1810	17.72	1900	20.49	1986	23.28	2068	26.11	2149	29.00	2231	32.00	2315	35.12				
13000	1790	16.92	1881	19.82	1969	22.81	2052	25.85	2132	28.91	2208	31.99	2282	35.10	2355	38.28	2429	41.55	2504	44.92
14200	1872	19.09	1957	22.14	2041	25.30	2121	28.54	2199	31.84	2273	35.16	2345	38.50	2414	41.86	2481	45.25	2548	48.69
15400	1957	21.50	2038	24.72	2117	28.02	2194	31.42	2269	34.91	2341	38.46	2411	42.04	2479	45.65	2544	49.25		
16600	2047	24.14	2123	27.56	2198	31.03	2271	34.58	2342	38.22	2412	41.94	2480	45.73	2546	49.56				
17800	2139	27.04	2212	30.66	2282	34.32	2352	38.03	2420	41.82	2487	45.69	2552	49.64						
19000	2233	30.21	2303	34.02	2370	37.88	2436	41.79	2501	45.75	2565	49.77								
20200	2331	33.67	2396	37.66	2461	41.73	2524	45.84	2586	49.99										
21400	2430	37.47	2492	41.63	2553	45.89														
22600	2531	41.61																		

SIZE 5120 AIRFOIL PLENUM FAN
300 29-1/8 In. Wheel Diameter
 Peak BHP = 4.831 (RPM ÷ 1000)³
 Tip Speed (fpm) = 7.63 x RPM

CLASS I	CLASS II	CLASS III
1451 Max.RPM	1890 Max.RPM	2377 Max.RPM

CFM	1/4" SP		1/2" SP		1" SP		1-1/2" SP		2" SP		2-1/2" SP		3" SP		3-1/2" SP		4" SP		4-1/2" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2800	331	0.18																		
5100	451	0.40	521	0.67	641	1.27	747	1.91												
7400	598	0.84	650	1.20	746	1.97	834	2.80	914	3.68	987	4.57	1059	5.51						
9700	756	1.59	795	2.02	873	2.97	946	3.97	1016	5.02	1083	6.13	1145	7.27	1204	8.42	1260	9.58	1315	10.77
12000	918	2.75	950	3.26	1014	4.35	1076	5.55	1136	6.78	1194	8.04	1250	9.34	1304	10.69	1356	12.07	1407	13.48
14300	1082	4.41	1109	5.00	1163	6.24	1216	7.58	1268	9.00	1319	10.45	1368	11.93	1417	13.43	1464	14.97	1510	16.55
16600	1248	6.67	1271	7.34	1318	8.74	1363	10.22	1409	11.78	1454	13.41	1498	15.09	1541	16.78	1584	18.49	1625	20.23
18900	1414	9.62	1435	10.38	1476	11.94	1516	13.56	1556	15.26	1596	17.04	1636	18.88	1675	20.76	1713	22.67	1751	24.60
21200	1581	13.36	1600	14.20	1637	15.93	1673	17.71	1708	19.55	1744	21.46	1779	23.44	1814	25.48	1849	27.56	1884	29.68
23500	1749	17.98	1766	18.91	1799	20.81	1831	22.74	1864	24.74	1896	26.78	1928	28.89	1959	31.07	1991	33.30	2022	35.57
25800	1916	23.58	1932	24.60	1962	26.66	1992	28.76	2022	30.91	2051	33.10	2080	35.36	2108	37.66	2137	40.03	2166	42.44
28100	2084	30.25	2099	31.37	2127	33.59	2154	35.85	2181	38.16	2208	40.51	2234	42.91	2261	45.35	2287	47.85	2314	50.39
30400	2253	38.10	2266	39.30	2292	41.70	2317	44.13	2342	46.60	2367	49.10								

CFM	5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP		13" SP		14" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
10200	1385	12.58	1491	15.22																
11600	1439	14.36	1531	17.15	1623	20.04	1717	23.12												
13000	1497	16.27	1587	19.34	1671	22.43	1753	25.59	1834	28.87	1919	32.32								
14400	1560	18.31	1646	21.64	1728	25.02	1806	28.42	1880	31.87	1953	35.39	2027	39.02	2103	42.81				
15800	1626	20.58	1709	24.10	1788	27.73	1864	31.42	1936	35.14	2005	38.88	2072	42.66	2139	46.53	2205	50.49	2274	54.58
17200	1697	23.11	1775	26.80	1851	30.63	1924	34.56	1995	38.55	2062	42.59	2127	46.63	2190	50.69	2251	54.80	2312	58.99
18600	1772	25.91	1846	29.80	1917	33.79	1987	37.92	2055	42.13	2121	46.42	2185	50.76	2247	55.11	2306	59.47	2364	63.86
20000	1849	28.97	1919	33.08	1988	37.28	2054	41.57	2119	45.96	2183	50.46	2245	55.04	2305	59.66	2364	64.31		
21400	1930	32.31	1996	36.67	2061	41.08	2124	45.55	2187	50.13	2248	54.80	2307	59.57	2366	64.43				
22800	2012	35.95	2075	40.54	2137	45.18	2198	49.88	2257	54.64	2315	59.49	2373	64.43						
24200	2096	39.92	2156	44.73	2216	49.61	2274	54.53	2330	59.51										
25600	2182	44.26	2240	49.25	2296	54.36	2352	59.54												
27000	2270	48.99	2324	54.17																

Performance shown is for installation Type A; Free inlet, free outlet. Power ratings (BHP) do not include drive losses.
 Performance ratings do not include the effects of appurtenances in the air stream.
 Performance based on floor or wall to fan centerline height of 17-3/8 for size 270 and 19-9/32 for size 300.



SIZE 5120 AIRFOIL PLENUM FAN
402 39-3/8 In. Wheel Diameter
 Peak BHP = 21.352 (RPM ÷ 1000)³
 Tip Speed (fpm) = 10.31 x RPM

CLASS I 1052 Max.RPM	CLASS II 1369 Max.RPM	CLASS III 1721 Max.RPM
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CHICAGO BLOWER CORPORATION
5120 PLENUM FANS

CFM	1/4" SP		1/2" SP		1" SP		1-1/2" SP		2" SP		2-1/2" SP		3" SP		3-1/2" SP		4" SP		4-1/2" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
6000	257	0.4	321	0.7																
10300	354	0.8	400	1.3	484	2.4	554	3.6												
14600	467	1.7	501	2.4	566	3.8	628	5.3	685	6.8	736	8.5	783	10.2	831	12.0				
18900	586	3.2	613	4.0	665	5.7	715	7.5	764	9.4	811	11.4	856	13.4	898	15.4	937	17.5	974	19.7
23200	708	5.4	730	6.4	773	8.5	815	10.6	856	12.7	897	14.9	936	17.3	975	19.7	1012	22.1	1048	24.6
27500	831	8.5	850	9.7	887	12.1	923	14.6	958	17.0	993	19.5	1028	22.1	1061	24.8	1095	27.5	1128	30.4
31800	956	12.7	972	14.1	1004	16.9	1035	19.7	1066	22.5	1097	25.3	1127	28.2	1157	31.1	1187	34.1	1216	37.1
36100	1081	18.2	1095	19.7	1124	22.9	1151	26.0	1179	29.2	1206	32.4	1233	35.6	1259	38.8	1286	42.0	1312	45.3
40400	1206	25.1	1219	26.8	1245	30.3	1269	33.8	1294	37.3	1318	40.8	1342	44.4	1366	47.9	1390	51.5	1414	55.1
44700	1332	33.5	1343	35.4	1367	39.2	1389	43.1	1411	47.0	1433	50.9	1455	54.8	1477	58.7	1499	62.6	1520	66.6
49000	1457	43.7	1468	45.8	1489	50.0	1510	54.2	1530	58.4	1550	62.7	1570	66.9	1590	71.2	1610	75.5	1630	79.8
53300	1583	55.9	1593	58.1	1613	62.6	1632	67.2	1650	71.8	1669	76.4	1687	81.0	1706	85.6				
57600	1710	70.1	1719	72.5																

CFM	5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP		13" SP		14" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
18000	998	20.9																		
20700	1040	23.9	1106	28.7	1173	33.8														
23400	1086	27.3	1151	32.5	1211	37.8	1269	43.3	1329	49.1	1392	55.1								
26100	1134	31.1	1197	36.7	1257	42.3	1312	48.1	1364	54.1	1417	60.3	1470	66.7	1526	73.4				
28800	1184	35.2	1245	41.3	1303	47.3	1358	53.5	1410	59.8	1459	66.2	1506	72.9	1553	79.7	1601	86.7	1650	93.9
31500	1239	39.8	1296	46.2	1351	52.8	1405	59.4	1456	66.0	1505	72.8	1551	79.7	1595	86.8	1639	94.0	1682	101.4
34200	1296	44.8	1350	51.5	1402	58.6	1453	65.6	1503	72.8	1551	80.0	1597	87.3	1641	94.6	1684	102.2		
36900	1356	50.5	1407	57.5	1456	64.8	1505	72.3	1552	79.9	1599	87.6	1644	95.3	1687	103.1				
39600	1419	56.8	1466	64.1	1513	71.6	1559	79.5	1604	87.5	1648	95.7	1692	103.9						
42300	1483	63.7	1528	71.4	1572	79.2	1615	87.3	1658	95.7	1701	104.2								
45000	1549	71.4	1591	79.4	1633	87.6	1674	96.0	1715	104.5										
47700	1616	79.8	1656	88.2	1696	96.7														
50400	1685	88.9																		

SIZE 5120 AIRFOIL PLENUM FAN
445 43-7/16 In. Wheel Diameter
 Peak BHP = 32.822 (RPM ÷ 1000)³
 Tip Speed (fpm) = 11.37 x RPM

CLASS I 1014 Max.RPM	CLASS II 1320 Max.RPM	CLASS III 1659 Max.RPM
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CFM	1/4" SP		1/2" SP		1" SP		1-1/2" SP		2" SP		2-1/2" SP		3" SP		3-1/2" SP		4" SP		4-1/2" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
5600	224	0.4	296	0.8																
11300	311	0.9	361	1.5	450	3.0	525	4.5	593	6.2	655	8.1	714	10.1						
17000	419	2.0	458	2.8	526	4.7	589	6.7	647	8.9	701	11.1	752	13.5	799	15.9	845	18.4	888	21.0
22700	535	3.8	566	4.9	623	7.2	675	9.7	723	12.2	769	14.9	815	17.8	858	20.7	899	23.7	939	26.7
28400	655	6.6	680	8.0	728	10.8	774	13.8	816	16.8	856	19.9	894	23.0	932	26.4	968	29.8	1004	33.4
34100	777	10.7	798	12.3	839	15.7	879	19.1	917	22.6	953	26.2	987	29.8	1020	33.5	1052	37.3	1083	41.2
39800	900	16.4	919	18.2	954	22.1	989	26.0	1023	30.0	1055	34.1	1087	38.3	1117	42.4	1146	46.6	1174	50.9
45500	1024	23.8	1040	25.9	1072	30.3	1102	34.7	1132	39.2	1162	43.8	1191	48.4	1219	53.1	1246	57.8	1272	62.6
51200	1148	33.3	1163	35.7	1191	40.5	1218	45.4	1245	50.4	1272	55.5	1298	60.6	1324	65.8	1349	71.0	1374	76.3
56900	1273	45.1	1286	47.7	1311	53.0	1336	58.4	1361	63.9	1385	69.5	1409	75.1	1432	80.8	1455	86.5	1478	92.3
62600	1398	59.4	1410	62.2	1433	68.1	1455	74.0	1478	80.0	1500	86.0	1521	92.1	1543	98.3	1565	104.5	1586	110.7
68300	1523	76.5	1534	79.6	1555	85.9	1576	92.3	1596	98.8	1617	105.3	1637	111.9	1656	118.6				
74000	1648	96.7	1658	100.0																

CFM	5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP		13" SP		14" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
17000	931	23.7	1012	29.4	1088	35.6														
20800	959	27.6	1034	33.7	1104	40.1	1172	46.8	1238	53.9	1301	61.3	1362	69.1						
24600	996	32.1	1067	38.8	1134	45.6	1197	52.8	1258	60.2	1317	67.8	1374	75.8	1430	84.1	1484	92.6	1537	101.4
28400	1039	37.0	1107	44.3	1170	51.9	1231	59.6	1289	67.5	1345	75.6	1399	83.9	1451	92.5	1502	101.3	1552	110.3
32200	1088	42.3	1151	50.4	1212	58.6	1270	66.9	1326	75.5	1379	84.2	1431	93.0	1481	102.1	1530	111.3	1577	120.7
36000	1143	48.4	1201	56.9	1258	65.7	1314	74.9	1367	84.1	1419	93.4	1468	102.9	1517	112.5	1564	122.3	1609	132.3
39800	1202	55.3	1256	64.3	1310	73.6	1362	83.2	1413	93.2	1462	103.2	1510	113.4	1557	123.7	1602	134.2	1646	144.7
43600	1265	63.1	1316	72.6	1366	82.4	1414	92.5	1462	102.9	1509	113.6	1555	124.5	1600	135.5	1644	146.6		
47400	1331	71.9	1379	81.9	1426	92.2	1471	102.8	1516	113.6	1560	124.8	1604	136.2	1647	147.8				
51200	1398	81.6	1444	92.3	1488	103.1	1532	114.2	1574	125.5	1615	137.1	1657	148.9						
55000	1466	92.3	1511	103.7	1553	115.1	1595	126.8	1635	138.6										
58800	1536	104.1	1579	116.1	1620	128.3														
62600	1607	117.0	1648	129.7																

Performance shown is for installation Type A; Free inlet, free outlet. Power ratings (BHP) do not include drive losses.
 Performance ratings do not include the effects of appurtenances in the air stream.
 Performance based on floor or wall to fan centerline height of 25-5/8 for size 402 and 27-3/8 for size 445.



SIZE 5120 AIRFOIL PLENUM FAN **CLASS I** **CLASS II** **CLASS III** **CHICAGO BLOWER CORPORATION**
490 48 In. Wheel Diameter **915** **1192** **1498**
 Peak BHP = 54.225 (RPM ÷ 1000)³ Max. RPM Max. RPM Max. RPM
 Tip Speed (fpm) = 12.57 x RPM **5120 PLENUM FANS**

CFM	1/4" SP		1/2" SP		1" SP		1-1/2" SP		2" SP		2-1/2" SP		3" SP		3-1/2" SP		4" SP		4-1/2" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
7000	204	0.5	269	1.0																
13700	280	1.1	326	1.8	406	3.6	475	5.5	536	7.6	592	9.8	646	12.3						
20400	374	2.3	410	3.3	472	5.6	529	8.0	582	10.7	632	13.4	678	16.2	721	19.1	762	22.1	802	25.3
27100	475	4.4	503	5.7	556	8.5	603	11.4	647	14.5	690	17.8	731	21.2	771	24.7	809	28.3	845	31.9
33800	579	7.6	602	9.2	647	12.6	689	16.1	727	19.7	764	23.4	799	27.2	834	31.3	868	35.4	901	39.7
40500	685	12.2	705	14.1	743	18.1	780	22.2	814	26.3	847	30.6	879	34.9	909	39.4	939	43.9	968	48.6
47200	792	18.4	809	20.7	842	25.2	874	29.9	906	34.7	936	39.6	965	44.5	993	49.4	1019	54.5	1046	59.6
53900	900	26.7	915	29.2	944	34.4	973	39.6	1001	45.0	1028	50.4	1055	55.9	1080	61.5	1105	67.1	1130	72.8
60600	1008	37.2	1022	40.0	1048	45.7	1073	51.6	1098	57.5	1123	63.6	1148	69.7	1171	75.8	1195	82.0	1217	88.3
67300	1117	50.2	1129	53.3	1152	59.6	1176	66.0	1198	72.5	1221	79.1	1243	85.8	1265	92.6	1287	99.4	1308	106.2
74000	1225	66.0	1236	69.4	1258	76.3	1279	83.3	1300	90.4	1320	97.6	1341	104.8	1361	112.1	1381	119.5	1401	126.9
80700	1334	84.9	1344	88.6	1364	96.0	1384	103.6	1403	111.3	1422	119.0	1440	126.8	1459	134.7	1477	142.7	1496	150.7
87400	1443	107.1	1453	111.1	1471	119.2	1489	127.3												

CFM	5" SP		5" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP		13" SP		14" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
17000	832	25.9																		
22000	848	30.1	919	37.2	987	44.8	1052	52.8												
27000	879	35.5	945	43.2	1007	51.2	1067	59.5	1125	68.3	1181	77.4	1235	87.0	1287	96.9	1339	107.2		
32000	917	41.7	980	50.1	1039	58.8	1095	67.8	1149	77.1	1201	86.7	1252	96.6	1301	106.8	1349	117.3	1395	128.2
37000	962	48.3	1021	57.8	1077	67.4	1131	77.2	1182	87.2	1232	97.4	1280	107.9	1326	118.6	1371	129.6	1415	140.8
42000	1013	55.8	1067	66.0	1121	76.5	1172	87.2	1221	98.2	1268	109.2	1314	120.5	1358	131.9	1401	143.6	1443	155.4
47000	1069	64.5	1119	75.2	1169	86.4	1217	98.0	1264	109.9	1309	121.9	1353	134.0	1396	146.3	1437	158.7	1478	171.4
52000	1130	74.4	1176	85.8	1222	97.6	1267	109.8	1311	122.4	1354	135.2	1396	148.3	1437	161.6	1477	174.9		
57000	1193	85.6	1237	97.8	1280	110.2	1321	123.0	1362	136.1	1403	149.7	1443	163.5	1482	177.6				
62000	1258	98.2	1300	111.2	1341	124.4	1380	137.8	1418	151.6	1456	165.6	1493	180.0						
67000	1325	112.2	1365	126.1	1404	140.1	1441	154.3	1478	168.7										
72000	1393	127.8	1431	142.5	1468	157.3														
77000	1462	144.9																		

SIZE 5120 AIRFOIL PLENUM FAN **CLASS I** **CLASS II** **CLASS III**
542 52-7/8 In. Wheel Diameter **833** **1085** **1364**
 Peak BHP = 87.922 (RPM ÷ 1000)³ Max. RPM Max. RPM Max. RPM
 Tip Speed (fpm) = 13.84 x RPM

CFM	1/4" SP		1/2" SP		1" SP		1-1/2" SP		2" SP		2-1/2" SP		3" SP		3-1/2" SP		4" SP		4-1/2" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
8500	186	0.6	244	1.2																
16600	254	1.3	295	2.2	368	4.3	431	6.6	486	9.2	538	11.9	586	14.9						
24700	339	2.8	371	4.0	428	6.7	480	9.7	528	12.9	573	16.2	615	19.6	654	23.1	692	26.8	728	30.7
32800	430	5.3	456	6.9	504	10.3	547	13.8	587	17.5	626	21.5	664	25.7	699	29.9	733	34.2	766	38.6
40900	524	9.1	545	11.1	586	15.2	624	19.4	659	23.8	692	28.3	724	32.9	756	37.8	787	42.8	817	48.0
49000	620	14.6	638	17.0	673	21.8	706	26.7	738	31.8	768	37.0	796	42.2	824	47.6	851	53.1	877	58.8
57100	717	22.2	733	24.9	763	30.4	792	36.1	820	41.9	848	47.7	874	53.7	899	59.7	924	65.8	948	72.0
65200	814	32.1	828	35.1	855	41.4	881	47.7	906	54.2	931	60.8	955	67.5	979	74.2	1002	81.0	1024	87.9
73300	912	44.7	925	48.1	948	55.0	972	62.1	994	69.3	1017	76.6	1039	84.0	1061	91.4	1082	99.0	1103	106.5
81400	1010	60.3	1021	64.1	1043	71.7	1064	79.5	1085	87.4	1105	95.4	1125	103.5	1146	111.6	1165	119.8	1184	128.1
89500	1109	79.3	1119	83.4	1139	91.8	1158	100.3	1177	108.8	1195	117.6	1214	126.3	1232	135.2	1250	144.0	1268	153.1
97600	1207	102.0	1216	106.4	1235	115.5	1252	124.7	1270	133.9	1287	143.3	1304	152.8	1321	162.3	1338	171.9	1354	181.6
105700	1306	128.7	1314	133.5	1331	143.3	1348	153.2	1364	163.1										

CFM	5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP		13" SP		14" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
20700	756	31.4																		
26800	770	36.6	835	45.3	896	54.4	955	64.2												
32900	798	43.3	858	52.6	915	62.3	969	72.5	1022	83.1	1072	94.2	1121	105.8	1169	117.9	1215	130.4		
39000	834	50.8	891	61.1	944	71.7	995	82.6	1044	93.9	1091	105.5	1137	117.5	1181	129.9	1225	142.7	1267	155.9
45100	875	58.9	928	70.4	979	82.1	1028	94.0	1074	106.2	1119	118.7	1163	131.4	1205	144.5	1245	157.8	1285	171.5
51200	921	68.1	971	80.5	1019	93.3	1065	106.4	1110	119.7	1153	133.1	1194	146.8	1234	160.7	1273	174.9	1311	189.3
57300	973	78.7	1018	91.8	1063	105.4	1107	119.5	1149	133.9	1190	148.6	1230	163.4	1269	178.3	1306	193.5	1343	208.8
63400	1028	90.9	1070	104.8	1112	119.2	1152	133.9	1192	149.2	1231	164.9	1269	180.9	1307	197.0				
69500	1086	104.7	1126	119.5	1165	134.7	1202	150.2	1239	166.2	1276	182.6	1312	199.5	1348	216.6				
75600	1146	120.1	1184	136.0	1220	152.0	1256	168.4	1291	185.1	1325	202.2	1359	219.7						
81700	1206	137.3	1243	154.3	1278	171.3	1312	188.6	1345	206.1										
87800	1269	156.4	1304	174.4	1337	192.5														
93900	1332	177.5																		

Performance shown is for installation Type A; Free inlet, free outlet. Power ratings (BHP) do not include drive losses.
 Performance ratings do not include the effects of appurtenances in the air stream.
 Performance based on floor or wall to fan centerline height of 30-1/8 for size 490 and 33-11/32 for size 542.



SIZE 5120 AIRFOIL PLENUM FAN
600 58-1/2 In. Wheel Diameter
 Peak BHP = 145.892 (RPM ÷ 1000)³
 Tip Speed (fpm) = 15.32 x RPM

CLASS I	CLASS II	CLASS III
753 Max.RPM	980 Max.RPM	1233 Max.RPM

CHICAGO BLOWER CORPORATION
5120 PLENUM FANS

CFM	1/4" SP		1/2" SP		1" SP		1-1/2" SP		2" SP		2-1/2" SP		3" SP		3-1/2" SP		4" SP		4-1/2" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
12000	175	0.8	226	1.6	306	3.5														
21800	240	1.8	276	3.0	340	5.7	395	8.6	444	11.8	489	15.2	532	18.9	572	22.8				
31600	317	3.7	346	5.3	396	8.7	441	12.5	484	16.5	524	20.6	561	24.9	596	29.4	630	34.0	662	38.7
41400	399	6.9	422	9.0	464	13.2	502	17.7	538	22.3	573	27.3	606	32.5	638	37.8	669	43.2	698	48.7
51200	484	11.8	502	14.3	538	19.4	572	24.7	604	30.1	633	35.7	662	41.5	690	47.5	717	53.8	744	60.2
61000	570	18.7	585	21.6	616	27.6	646	33.8	674	40.1	701	46.5	727	53.0	752	59.6	776	66.5	799	73.5
70800	656	28.1	670	31.5	697	38.3	723	45.3	749	52.5	773	59.8	797	67.1	819	74.6	841	82.1	863	89.8
80600	743	40.4	755	44.2	779	51.9	802	59.7	825	67.7	848	75.9	869	84.1	891	92.4	911	100.8	931	109.3
90400	831	55.9	842	60.1	863	68.7	884	77.4	904	86.2	925	95.2	944	104.3	964	113.5	983	122.8	1002	132.1
100200	918	75.1	928	79.7	948	89.1	967	98.7	985	108.4	1004	118.1	1022	128.1	1040	138.1	1057	148.2	1075	158.4
110000	1006	98.2	1015	103.3	1033	113.6	1050	124.0	1067	134.5	1084	145.2	1101	156.0	1117	166.9	1134	177.7	1150	188.9
119800	1094	125.8	1102	131.3	1119	142.5	1135	153.7	1150	165.1	1166	176.6	1181	188.2	1196	199.8	1212	211.7	1227	223.6
129600	1182	158.3	1190	164.2	1205	176.2	1220	188.3												

CFM	5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP		13" SP		14" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
31500	693	43.6	752	54.0	809	65.2	863	77.1												
38500	715	50.9	770	62.1	822	73.8	872	86.1	920	99.0	967	112.5	1012	126.6	1056	141.3				
45500	744	59.3	796	71.5	845	84.1	892	97.2	937	110.7	980	124.7	1022	139.2	1063	154.3	1103	169.8	1142	185.8
52500	777	68.4	826	82.0	873	95.8	918	109.9	961	124.4	1002	139.2	1042	154.5	1080	170.1	1118	186.2	1155	202.7
59500	814	78.4	861	93.1	905	108.3	948	123.6	989	139.3	1028	155.2	1067	171.5	1104	188.1	1140	205.0	1175	222.2
66500	856	89.8	899	105.4	941	121.6	981	138.3	1021	155.3	1059	172.5	1095	189.9	1131	207.6	1166	225.6	1199	243.7
73500	901	102.8	941	119.3	980	136.3	1018	154.0	1056	172.2	1092	190.8	1127	209.5	1162	228.4	1195	247.6	1228	266.9
80500	949	117.6	987	135.0	1023	152.9	1059	171.4	1094	190.5	1128	210.0	1162	230.1	1195	250.3	1227	270.7		
87500	999	134.1	1034	152.6	1069	171.5	1102	190.8	1135	210.6	1167	231.0	1199	252.0	1231	273.3				
94500	1050	152.4	1084	172.1	1117	192.0	1148	212.4	1179	233.1	1210	254.3								
101500	1102	172.6	1134	193.5	1166	214.6	1196	236.1	1226	257.8										
108500	1154	194.9	1186	217.1	1216	239.3														
115500	1208	219.3																		

SIZE 5120 AIRFOIL PLENUM FAN
660 64-3/4 In. Wheel Diameter
 Peak BHP = 242.182 (RPM ÷ 1000)³
 Tip Speed (fpm) = 16.95 x RPM

CLASS I	CLASS II
678 Max.RPM	883 Max.RPM

CFM	1/4" SP		1/2" SP		1" SP		1-1/2" SP		2" SP		2-1/2" SP		3" SP		3-1/2" SP		4" SP		4-1/2" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
21500	189	1.6	227	2.8	290	5.7	344	8.9	392	12.5	436	16.5								
30400	238	2.8	268	4.4	321	8.0	368	11.9	411	16.1	449	20.5	486	25.1	521	30.1	554	35.3	586	40.8
39300	290	4.7	316	6.7	360	10.9	401	15.5	439	20.5	475	25.7	509	31.0	540	36.4	570	42.1	599	48.0
48200	345	7.5	366	9.9	406	14.9	441	20.1	475	25.7	507	31.6	538	37.7	568	44.0	596	50.4	623	56.9
57100	401	11.4	419	14.1	455	19.9	487	25.9	517	32.1	545	38.5	573	45.3	600	52.4	626	59.5	652	66.9
66000	458	16.5	474	19.7	505	26.3	535	33.0	562	39.9	588	47.0	613	54.3	638	61.9	662	69.8	685	77.9
74900	516	23.1	530	26.6	558	34.0	585	41.6	610	49.3	635	57.2	658	65.1	680	73.3	702	81.7	723	90.3
83800	574	31.3	587	35.3	612	43.4	636	51.8	660	60.3	682	68.9	704	77.7	725	86.5	745	95.6	765	104.8
92700	632	41.5	644	45.8	666	54.7	689	63.8	710	73.1	732	82.6	752	92.1	772	101.8	791	111.5	810	121.4
101600	690	53.6	701	58.4	722	68.0	742	77.9	762	88.0	782	98.2	801	108.6	820	119.0	838	129.5	856	140.1
110500	749	68.1	759	73.2	778	83.6	797	94.3	816	105.1	834	116.1	852	127.2	870	138.5				
119400	808	84.9	817	90.5	835	101.7	852	113.1	870	124.7										
128300	866	104.4	875	110.3																

CFM	5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP		13" SP		14" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
30400	617	46.7																		
36400	622	51.4	650	57.6	677	64.0	704	70.7	730	77.6										
42400	634	57.2	660	63.6	685	70.3	710	77.1	735	84.2	758	91.5	782	99.0	805	106.6	827	114.5	849	122.6
48400	649	63.8	674	70.6	699	77.6	722	84.8	745	92.1	768	99.6	790	107.3	812	115.1	833	123.1	854	131.3
54400	667	71.0	692	78.3	715	85.7	738	93.3	760	101.0	781	108.8	802	116.8	823	124.9	843	133.2	863	141.7
60400	688	78.6	711	86.5	733	94.4	755	102.5	777	110.7	798	118.9	818	127.3	838	135.9	857	144.5	877	153.3
66400	710	86.6	732	95.1	754	103.6	775	112.3	796	120.9	816	129.7	835	138.6	855	147.6	874	156.6		
72400	733	95.3	755	104.2	776	113.2	796	122.4	816	131.7	836	141.1	855	150.5	874	160.0				
78400	759	104.8	779	114.1	799	123.5	819	133.2	838	143.0	857	152.9	876	163.0						
84400	787	115.2	806	124.8	825	134.7	843	144.7	862	154.9	880	165.3								
90400	816	126.7	834	136.7	852	146.8	870	157.3												
96400	846	139.2	864	149.6	881	160.2														
102400	877	152.7																		

Performance shown is for installation Type A; Free inlet, free outlet. Power ratings (BHP) do not include drive losses.
 Performance ratings do not include the effects of appurtenances in the air stream.
 Performance based on floor or wall to fan centerline height of 36-15/16 for size 600 and 40-5/8 for size 660.



SIZE 5120 AIRFOIL PLENUM FAN
730 71-3/16 In. Wheel Diameter
 Peak BHP = 389.203 (RPM ÷ 1000)³
 Tip Speed (fpm) = 18.64 x RPM

CLASS I	CLASS II
619 Max. RPM	806 Max. RPM

CHICAGO BLOWER CORPORATION
5120 PLENUM FANS

CFM	1/4" SP		1/2" SP		1" SP		1-1/2" SP		2" SP		2-1/2" SP		3" SP		3-1/2" SP		4" SP		4-1/2" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
26000	173	1.9	206	3.4	264	6.9	313	10.8	357	15.1	397	20.0	442	30.5	474	36.5	504	42.8	533	49.5
36900	217	3.4	244	5.4	292	9.7	335	14.5	374	19.5	409	24.8	463	37.6	492	44.3	519	51.2	546	58.3
47800	265	5.8	288	8.2	329	13.3	366	18.9	401	25.0	433	31.2	463	44.3	492	51.2	519	58.3	546	58.3
58700	316	9.2	335	12.2	371	18.2	403	24.6	433	31.3	463	38.5	491	46.0	518	53.6	543	61.3	567	69.2
69600	368	14.0	384	17.4	416	24.5	445	31.8	472	39.3	498	47.1	523	55.3	548	63.9	571	72.6	594	81.5
80500	420	20.4	435	24.3	463	32.3	490	40.6	514	49.0	538	57.6	561	66.5	582	75.7	604	85.3	625	95.1
91400	473	28.6	486	33.0	511	42.0	535	51.2	559	60.6	581	70.1	601	79.9	622	89.8	641	100.0	661	110.5
102300	527	38.9	538	43.8	561	53.7	583	63.8	604	74.2	625	84.8	644	95.4	663	106.2	682	117.2	699	128.4
113200	580	51.6	591	56.9	612	67.7	632	78.9	651	90.2	670	101.7	689	113.4	707	125.1	724	136.9	741	149.0
124100	634	66.8	644	72.6	663	84.4	681	96.4	699	108.7	717	121.2	734	133.8	751	146.5	768	159.4	784	172.3
135000	688	84.8	697	91.1	715	103.9	732	116.8	748	130.1	765	143.4	781	157.1	797	170.7				
145900	742	105.9	751	112.6	767	126.3	783	140.3												
156800	797	130.3	804	137.5																

CFM	5" SP		5" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP		13" SP		14" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
40000	562	58.8	589	66.2	618	80.4	642	88.5	665	96.9	687	105.6	709	114.5						
47000	570	64.9	594	72.5	627	88.2	650	96.6	671	105.2	693	114.1	713	123.2	734	132.5	754	142.1	773	151.9
54000	581	72.1	605	80.0																
61000	596	80.0	619	88.5	640	97.1	661	105.9	682	114.9	702	124.1	722	133.5	741	143.1	760	152.8	779	162.9
68000	613	88.6	634	97.6	655	106.8	676	116.1	696	125.6	715	135.2	734	145.0	753	155.0	771	165.1	789	175.5
75000	631	97.6	652	107.3	672	117.1	692	127.1	711	137.1	730	147.3	748	157.6	766	168.0	784	178.6	801	189.3
82000	651	107.2	671	117.5	690	128.0	709	138.6	728	149.3	746	160.1	764	170.9	782	181.9	799	193.0		
89000	672	117.4	691	128.3	710	139.4	728	150.6	746	162.0	764	173.4	781	184.9	798	196.6				
96000	695	128.7	713	140.0	731	151.5	748	163.3	766	175.3	783	187.3	800	199.6						
103000	719	141.1	737	152.7	753	164.7	770	176.9	787	189.3	803	202.0								
110000	745	154.6	761	166.7	777	179.1	793	191.6												
117000	772	169.3	787	181.9	803	194.7														
124000	799	185.1																		

SIZE 5120 AIRFOIL PLENUM FAN
807 78-3/4 In. Wheel Diameter
 Peak BHP = 645.477 (RPM ÷ 1000)³
 Tip Speed (fpm) = 20.62 x RPM

CLASS I	CLASS II
559 Max. RPM	728 Max. RPM

CHICAGO BLOWER CORPORATION
5120 PLENUM FANS

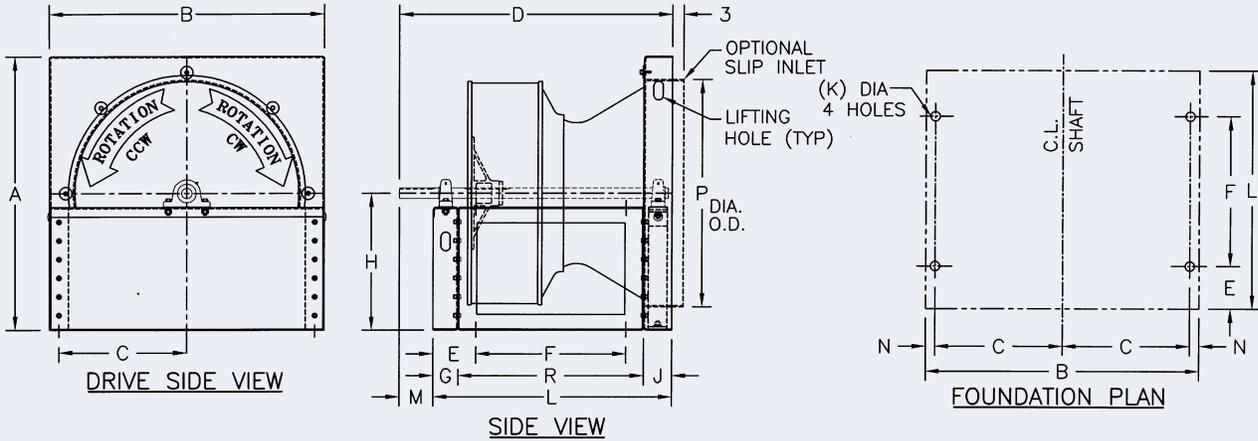
CFM	1/4" SP		1/2" SP		1" SP		1-1/2" SP		2" SP		2-1/2" SP		3" SP		3-1/2" SP		4" SP		4-1/2" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
30000	151	2.1	183	3.9	236	8.0	281	12.6	321	17.9	367	23.3	398	36.1	427	43.3	454	51.0	481	59.1
43000	189	3.8	215	6.1	259	11.2	299	16.9	335	22.9	377	29.3	415	44.3	441	52.2	466	60.5	490	69.0
56000	232	6.5	253	9.3	291	15.4	325	22.1	357	29.2	387	36.6	415	44.3	441	52.2	466	60.5	490	69.0
69000	276	10.3	294	13.7	327	20.9	357	28.5	385	36.5	412	45.1	438	54.0	463	63.0	486	72.3	508	81.7
82000	321	15.6	337	19.6	366	28.0	393	36.6	418	45.5	442	54.9	466	64.8	488	75.0	510	85.5	531	96.1
95000	367	22.7	381	27.3	407	36.8	432	46.6	455	56.6	476	66.9	497	77.5	518	88.6	538	100.0	558	111.8
108000	414	31.9	426	37.1	449	47.7	472	58.6	493	69.8	514	81.2	533	92.8	551	104.6	570	116.9	587	129.4
121000	461	43.4	472	49.2	493	60.9	513	73.0	533	85.3	552	97.8	570	110.4	588	123.4	604	136.5	621	149.9
134000	508	57.5	518	63.8	537	76.6	556	90.0	574	103.4	592	117.1	609	130.9	625	144.8	641	159.1	657	173.4
147000	555	74.5	565	81.5	582	95.4	599	109.8	616	124.4	633	139.1	649	154.2	664	169.3	679	184.6	694	200.0
160000	603	94.7	611	102.1	628	117.3	643	132.8	659	148.5	674	164.5	690	180.6	704	196.9	719	213.4		
173000	651	118.3	658	126.4	674	142.7	688	159.2	703	176.1										
186000	698	145.7	706	154.4	720	171.8														

CFM	5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP		13" SP		14" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
54500	512	76.6	535	85.8	557	95.3	579	105.2	600	115.4										
62500	521	84.4	542	93.9	563	103.7	584	113.8	604	124.3	624	135.1	643	146.1	662	157.4	680	169.1	698	181.1
70500	532	93.1	553	103.1	573	113.4	592	123.9	611	134.7	630	145.8	648	157.0	666	168.6	684	180.4	701	192.6
78500	545	102.5	565	113.2	585	124.0	603	135.1	622	146.4	640	157.8	657	169.5	674	181.4	691	193.6	708	206.0
86500	560	112.6	579	124.0	598	135.4	616	147.1	634	159.0	651	171.0	668	183.3	685	195.6	701	208.3	717	221.0
94500	576	123.1	594	135.3	613	147.5	630	159.8	647	172.4	664	185.1	681	197.9	697	210.9	713	224.1		
102500	593	134.2	611	147.1	628	160.1	645	173.3	662	186.5	679	199.9	694	213.4	710	227.0	725	240.8		
110500	611	146.2	628	159.5	645	173.2	662	187.1	678	201.2	694	215.3	709	229.6	725	244.0				
118500	631	159.2	647	173.0	663	187.2	679	201.8	695	216.4	710	231.3	725	246.4						
126500	652	173.5	667	187.8	682	202.4	697	217.4	712	232.6	727	248.2								
134500	673	188.9	688	203.8	703	218.9	717	234.2												
142500	696	205.7	710	221.0	724	236.7														
150500	718	223.6																		

Performance shown is for installation Type A; Free inlet, free outlet. Power ratings (BHP) do not include drive losses.
 Performance ratings do not include the effects of appurtenances in the air stream.
 Performance based on floor or wall to fan centerline height of 44-15/16 for size 730 and 49-5/8 for size 807.

Dimensions

ARRANGEMENT 3 - CHICAGO BLOWER 5120 PLENUM FAN

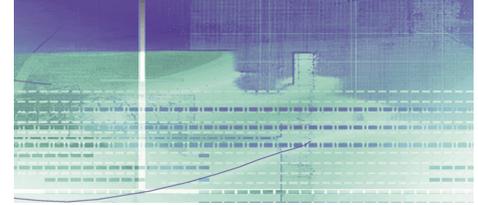


FAN SIZE	A	B	C	E	F	G	H	J	L	N	P	R
135	20-3/8	20-3/8	9-3/16	4-9/16	8	2-1/2	10-3/16	3	17-5/8	1	13-7/8	12-1/8
150	21-3/4	21-3/4	9-7/8	4-1/8	10	2-1/2	10-7/8	3	18-3/4	1	15-3/8	13-1/4
165	23-3/8	23-3/8	10-11/16	4-11/16	10	2-1/2	11-11/16	4	20-7/8	1	17	14-3/8
182	25-3/8	25-3/8	11-11/16	4-5/16	12	2-1/2	12-11/16	4	22-1/8	1	18-3/4	15-5/8
200	27-1/4	27-1/4	12-1/8	4-5/8	14	3	13-5/8	4	24-1/4	1-1/2	20-1/2	17-1/4
222	29-1/4	29-1/4	13-1/8	4-7/8	15	3	14-5/8	4	25-3/4	1-1/2	22-7/16	18-3/4
245	31-1/2	31-1/2	14-1/4	5-1/4	16	3	15-3/4	4	27-1/2	1-1/2	24-7/8	20-1/2
270	34	34	15-1/2	5-7/32	18	3	17	4	29-7/16	1-1/2	27-3/8	22-7/16
300	37-1/8	37-1/8	17-1/16	6-11/32	18	3	18-9/16	4	31-11/16	1-1/2	30-1/8	24-11/16
330	40-1/2	40-1/2	18-3/4	6-1/16	21	3	20-1/4	4	34-1/8	1-1/2	33-3/8	27-1/8
365	43-7/8	43-7/8	20-7/16	6-13/16	24	4	21-15/16	4-1/2	38-1/8	1-1/2	36-11/16	29-5/8
402	51-1/4	51-1/4	24-1/8	8-1/2	24	4	25-5/8	4-1/2	41-1/2	1-1/2	40-3/8	33
445	54-3/4	54-3/4	25-3/8	6-5/16	32	4	27-3/8	5	45-5/8	2	44-3/8	36-5/8
490	59-1/2	59-1/2	27-3/4	5-7/8	36	4	29-3/4	5	48-3/4	2	49-1/8	39-3/4
542	64-1/4	66-3/4	31-3/8	7-15/16	36	4	32-1/8	5	52-7/8	2	54-1/8	43-7/8
600	70	72-1/2	34-1/4	7-5/32	42	4	35	5	57-9/32	2	59-5/8	48-9/32
660	76-1/4	78-3/4	37-3/8	8-15/32	45	4	38-1/8	5	62-29/32	2	66-1/8	53-29/32
730	83	85-1/2	40-3/4	10-7/32	48	5	41-1/2	5	68-7/16	2	72-1/8	58-7/16
807	90-1/2	93	44-1/2	13-7/32	48	5	45-1/4	5	74-3/8	2	79-3/4	64-3/8

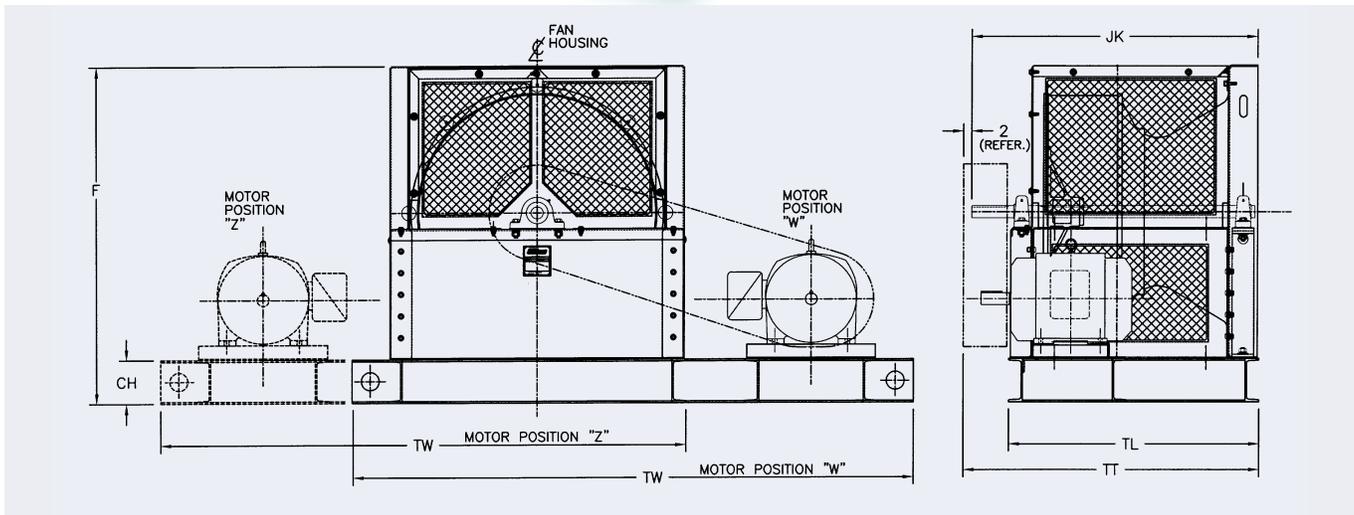
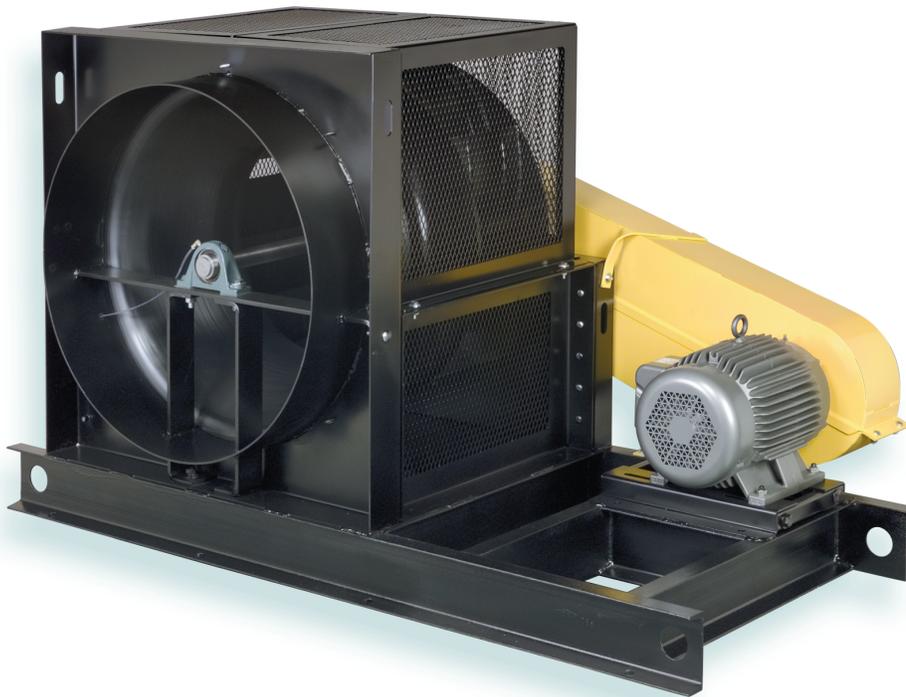
ALL DIMENSIONS IN INCHES

FAN SIZE	CLASS I					CLASS II					CLASS III				
	SHAFT DIA.	KEYWAY	D	K	M	SHAFT DIA.	KEYWAY	D	K	M	SHAFT DIA.	KEYWAY	D	K	M
135	1-3/16	1/4 x 1/8 x 3	21-13/16	1/2	3-13/16	1-3/16	1/4 x 1/8 x 4	22-13/32	1/2	4-13/16	1-3/16	1/4 x 1/8 x 4	22-13/32	1/2	4-13/16
150	1-3/16	1/4 x 1/8 x 3	22-17/32	1/2	3-13/16	1-3/16	1/4 x 1/8 x 4	23-17/32	1/2	4-13/16	1-7/16	3/8 x 3/16 x 4-1/2	23-17/32	1/2	5-9/16
165	1-3/16	1/4 x 1/8 x 3	24-21/32	1/2	3-13/16	1-3/16	1/4 x 1/8 x 4-1/2	26-5/32	1/2	5-5/16	1-7/16	3/8 x 3/16 x 4-1/2	26-13/32	1/2	5-9/16
182	1-3/16	1/4 x 1/8 x 4	26-29/32	1/2	4-25/32	1-7/16	3/8 x 3/16 x 4-1/2	27-21/32	1/2	5-17/32	1-11/16	3/8 x 3/16 x 4-1/2	27-3/4	1/2	5-5/8
200	1-3/16	1/4 x 1/8 x 4	28-25/32	1/2	4-17/32	1-7/16	3/8 x 3/16 x 4-1/2	29-17/32	1/2	5-9/32	1-11/16	3/8 x 3/16 x 4-1/2	29-5/8	1/2	5-3/8
222	1-3/16	1/4 x 1/8 x 4-1/2	30-13/16	1/2	5-1/16	1-11/16	3/8 x 3/16 x 5	31-5/8	1/2	5-7/8	1-11/16	3/8 x 3/16 x 6	33-13/16	5/8	7-21/32
245	1-7/16	3/8 x 3/16 x 4-1/2	32-25/32	1/2	5-9/32	1-11/16	3/8 x 3/16 x 5	33-3/8	1/2	5-7/8	1-11/16	3/8 x 3/16 x 6	35-9/16	5/8	7-21/32
270	1-7/16	3/8 x 3/16 x 4-1/2	34-23/32	1/2	5-9/32	1-11/16	3/8 x 3/16 x 6	36-5/16	1/2	6-7/8	1-11/16	3/8 x 3/16 x 6	37-1/2	5/8	7-21/32
300	1-7/16	3/8 x 3/16 x 4-1/2	36-31/32	5/8	5-9/32	2-3/16	1/2 x 1/4 x 6	38-23/32	5/8	7-1/32	1-15/16	1/2 x 1/4 x 7	40-13/16	3/4	8-23/32
330	1-11/16	3/8 x 3/16 x 4-1/2	39-1/2	5/8	5-3/8	2-3/16	1/2 x 1/4 x 6	41-5/32	5/8	7-1/32	1-15/16	1/2 x 1/4 x 7	43-1/4	3/4	8-23/32
365	1-11/16	3/8 x 3/16 x 5	43-1/2	5/8	5-3/8	2-7/16	5/8 x 5/16 x 7	45-7/8	5/8	7-3/4	2-3/16	1/2 x 1/4 x 8	47-13/16	3/4	9-3/8
402	1-11/16	3/8 x 3/16 x 5	46-7/8	3/4	5-3/8	2-11/16	5/8 x 5/16 x 7	49-11/32	3/4	7-27/32	2-7/16	5/8 x 5/16 x 8	51-9/16	3/4	9-5/8
445	2-3/16	1/2 x 1/4 x 5	51-5/32	3/4	5-17/32	2-3/16	1/2 x 1/4 x 7	54	3/4	8-3/8	2-11/16	5/8 x 5/16 x 8	55-15/16	3/4	9-7/8
490	2-7/16	5/8 x 5/16 x 6	55-1/2	3/4	6-3/4	2-7/16	5/8 x 5/16 x 8	58-9/16	3/4	9-5/8	2-15/16	3/4 x 3/8 x 8	59-1/8	3/4	9-15/16
542	2-7/16	5/8 x 5/16 x 6	59-5/8	3/4	6-3/4	2-11/16	5/8 x 5/16 x 8	63-3/16	3/4	9-7/8	2-15/16	3/4 x 3/8 x 8	63-1/4	3/4	9-15/16
600	2-7/16	5/8 x 5/16 x 6	65-3/32	3/4	7-5/8	2-11/16	5/8 x 5/16 x 8	67-19/32	3/4	9-7/8	2-15/16	3/4 x 3/8 x 8	67-21/32	3/4	9-15/16
660	2-7/16	5/8 x 5/16 x 7	71-23/32	3/4	8-5/8	2-15/16	3/4 x 3/8 x 8	73-9/32	3/4	9-15/16					
730	2-11/16	5/8 x 5/16 x 7	77-1/4	3/4	8-3/8	3-7/16	7/8 x 7/16 x 8	78-3/4	3/4	9-11/16					
807	2-15/16	3/4 x 3/8 x 7	83-1/4	3/4	8-7/16	3-7/16	7/8 x 7/16 x 8	85-1/4	3/4	9-23/32					

DO NOT USE FOR CONSTRUCTION UNLESS CERTIFIED BY CHICAGO BLOWER CORPORATION. AUTOCAD DRAWINGS ARE AVAILABLE UPON REQUEST



CHICAGO BLOWER CORPORATION
5120 PLENUM FANS



FAN SIZE	F	JK	TT	TL	CH	TW	Weight (lbs.)	Max. Motor Frame
135	26-3/8	22-13/32	24-21/32	18-1/8	6	56	532	254T
150	27-3/4	26-13/32	28-21/32	19-1/4	6	57-3/8	655	256T
165	29-3/8	26-13/32	28-21/32	21-3/8	6	59	676	256T
182	31-3/8	27-3/4	30	22-5/8	6	63-1/8	763	284T
200	33-1/4	29-5/8	31-7/8	24-3/4	6	64-3/4	837	286T
222	35-1/4	33-13/16	36-1/16	26-1/4	6	71-1/8	1156	326T
245	37-1/2	35-9/16	37-13/16	28	6	73-3/8	1189	326T
270	40	37-1/2	39-3/4	29-15/16	6	80-1/4	1391	364T
300	43-1/8	40-13/16	43-1/16	32-3/16	6	83-3/8	1547	365T
330	46-1/2	43-1/4	45-1/2	34-5/8	6	86-3/4	1613	365T
365	51-7/8	47-13/16	50-1/16	38-5/8	8	92-3/4	2159	405T
402	59-1/4	51-9/16	53-13/16	42	8	105-3/8	2949	444T
445	62-3/4	55-15/16	58-3/16	46-1/8	8	108-7/8	3336	445T
490	67-1/2	59-1/8	61-3/8	49-1/4	8	113-5/8	3592	445T
542	74-3/4	63-1/4	65-1/2	53-3/8	8	120-7/8	4302	447T
600	78	67-21/32	69-29/32	57-25/32	8	126-5/8	4585	447T
660	84-1/4	73-9/32	75-17/32	63-13/32	8	132-7/8	5397	447T
730	91	78-3/4	81	68-15/16	8	139-5/8	6101	447T
807	98-1/2	85-1/4	87-1/2	74-7/8	8	147-1/8	6601	447T

ALL DIMENSIONS IN INCHES

NOTES:

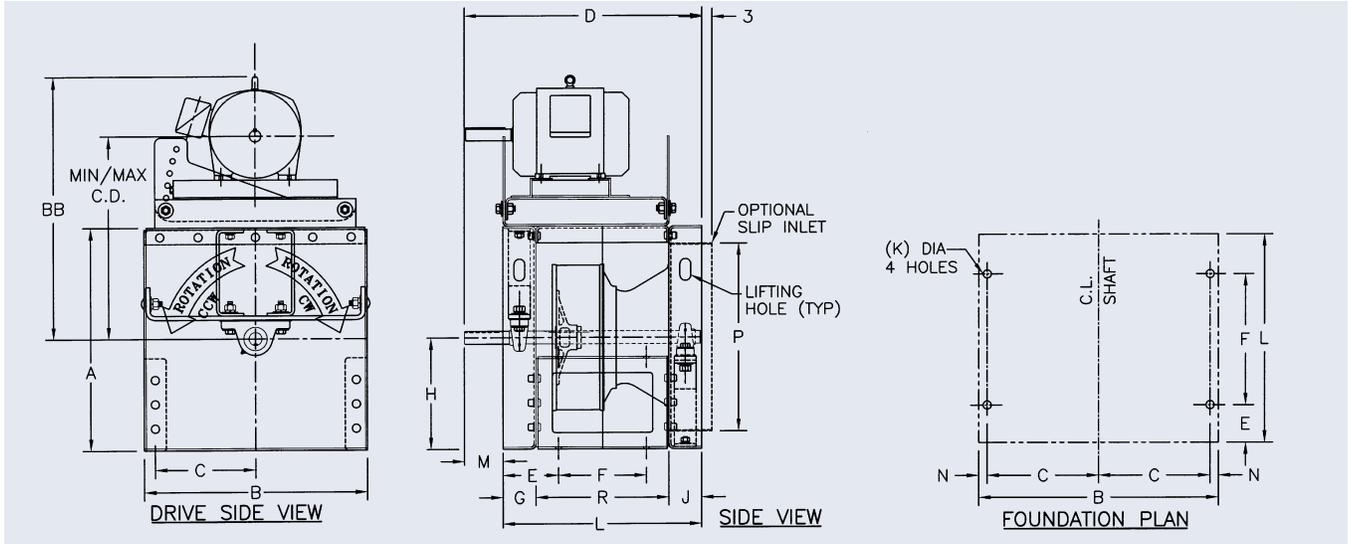
Dimensions shown are for fans with maximum motor frame in position "Z".

Dimensions for other motor frames will vary. Dimensions are not for construction unless certified.

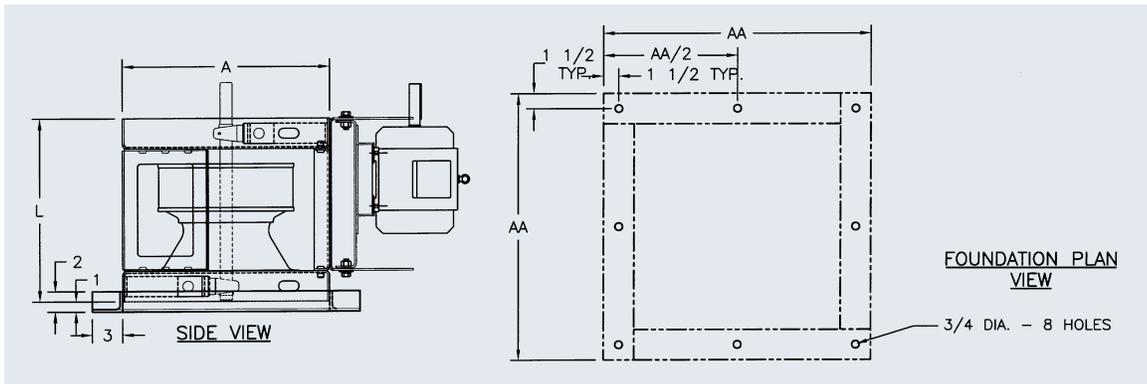
Approximate weights include fan, base, motor, V-belt drive, and belt guard. For belt drive centers, consult your Chicago sales engineer.

Dimensions

ARRANGEMENT 3T - CHICAGO BLOWER 5120 PLENUM FAN



ARRANGEMENT 3V

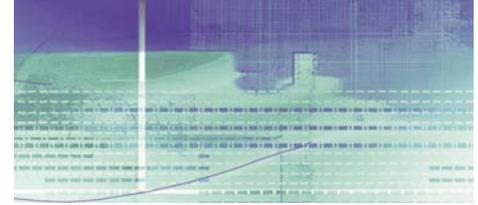


ALL DIMENSIONS IN INCHES

FAN SIZE	A	B	C	E	F	G	H	J	L	N	P	AA	AA/2	BB
135	20-3/8	20-3/8	9-3/16	5-1/16	8	3	10-3/16	3	18-1/8	1	13-7/8	26-3/8	13-3/16	29-1/2
150	21-3/4	21-3/4	9-7/8	4-5/8	10	3	10-7/8	3	19-1/4	1	15-3/8	27-3/4	13-7/8	30-1/8
165	23-3/8	23-3/8	10-11/16	6-3/16	10	4	11-11/16	4	22-3/8	1	17	29-3/8	14-11/16	33-1/4
182	25-3/8	25-3/8	11-11/16	5-13/16	12	4	12-11/16	4	23-5/8	1	18-3/4	31-3/8	15-11/16	34-5/16
200	27-1/4	27-1/4	12-1/8	5-5/8	14	4	13-5/8	4	25-1/4	1-1/2	20-1/2	33-1/4	16-5/8	35-3/16
222	29-1/4	29-1/4	13-1/8	5-7/8	15	4	14-5/8	4	26-3/4	1-1/2	22-7/16	35-1/4	17-5/8	39-7/16
245	31-1/2	31-1/2	14-1/4	6-1/4	16	4	15-3/4	4	28-1/2	1-1/2	24-7/8	37-1/2	18-3/4	40-9/16
270	34	34	15-1/2	6-7/32	18	4	17	4	30-7/16	1-1/2	27-3/8	40	20	44-11/32
300	37-1/8	37-1/8	17-1/16	7-11/32	18	4	18-9/16	4	32-11/16	1-1/2	30-1/8	43-1/8	21-9/16	45-15/16
330	40-1/2	40-1/2	18-3/4	7-1/16	21	4	20-1/4	4	35-1/8	1-1/2	33-3/8	46-1/2	23-1/4	47-5/8
365	43-7/8	43-7/8	20-7/16	7-5/16	24	4-1/2	21-15/16	4-1/2	38-5/8	1-1/2	36-11/16	49-7/8	24-15/16	49-1/16
402	51-1/4	51-1/4	24-1/8	9	24	4-1/2	25-5/8	4-1/2	42	1-1/2	40-3/8	57-1/4	28-5/8	46-13/16

FAN SIZE	CLASS I					CLASS II					CLASS III				
	SHAFT DIA.	KEYWAY	D	K	M	SHAFT DIA.	KEYWAY	D	K	M	SHAFT DIA.	KEYWAY	D	K	M
135	1-3/16	1/4 x 1/8 x 3	21-5/8	1/2	3-1/2	1-3/16	1/4 x 1/8 x 4	22-21/32	1/2	4-9/16	1-3/16	1/4 x 1/8 x 4	22-21/32	1/2	4-9/16
150	1-3/16	1/4 x 1/8 x 3	23-11/16	1/2	3-13/16	1-3/16	1/4 x 1/8 x 4	23-25/32	1/2	4-9/16	1-3/16	1/4 x 1/8 x 4	23-25/32	1/2	4-9/16
165	1-3/16	1/4 x 1/8 x 3	25-7/16	1/2	3-1/16	1-3/16	1/4 x 1/8 x 4-1/2	26-29/32	1/2	4-9/16	1-7/16	3/8 x 3/16 x 4-1/2	27-5/32	1/2	4-13/16
182	1-3/16	1/4 x 1/8 x 4	27-11/16	1/2	4-1/32	1-7/16	3/8 x 3/16 x 4-1/2	28-13/32	1/2	4-25/32	1-11/16	3/8 x 3/16 x 4-1/2	28-1/2	1/2	4-7/8
200	1-3/16	1/4 x 1/8 x 4	29-9/32	1/2	4-1/32	1-7/16	3/8 x 3/16 x 4-1/2	30-1/32	1/2	4-25/32	1-11/16	3/8 x 3/16 x 4-1/2	30-5/32	1/2	4-29/32
222	1-3/16	1/4 x 1/8 x 4-1/2	31-5/16	1/2	4-17/32	1-11/16	3/8 x 3/16 x 5	32-1/8	1/2	5-3/8	1-11/16	3/8 x 3/16 x 6	34-5/16	1/2	7-5/32
245	1-7/16	3/8 x 3/16 x 4-1/2	33-5/16	1/2	4-25/32	1-11/16	3/8 x 3/16 x 5	33-7/8	1/2	5-3/8	1-11/16	3/8 x 3/16 x 6	36-1/16	1/2	7-5/32
270	1-7/16	3/8 x 3/16 x 4-1/2	35-7/32	1/2	4-25/32	1-11/16	3/8 x 3/16 x 6	36-13/16	1/2	6-3/8	1-11/16	3/8 x 3/16 x 6	38	1/2	7-5/32
300	1-7/16	3/8 x 3/16 x 4-1/2	37-15/32	5/8	4-25/32	2-3/16	1/2 x 1/4 x 6	39-7/32	5/8	6-17/32	1-15/16	1/2 x 1/4 x 7	41-11/32	5/8	8-1/4
330	1-11/16	3/8 x 3/16 x 4-1/2	40	5/8	4-7/8	2-3/16	1/2 x 1/4 x 6	41-21/32	5/8	6-17/32	1-15/16	1/2 x 1/4 x 7	43-3/4	5/8	8-7/32
365	1-11/16	3/8 x 3/16 x 5	43-3/4	5/8	5-1/8	2-7/16	5/8 x 5/16 x 7	46-1/8	5/8	7-1/2	2-3/16	1/2 x 1/4 x 8	48-1/16	5/8	9-1/8
402	1-11/16	3/8 x 3/16 x 5	47-1/8	3/4	5-1/8	2-11/16	5/8 x 5/16 x 7	49-5/8	3/4	7-5/8	2-7/16	5/8 x 5/16 x 8	51-25/32	3/4	9-3/8

DO NOT USE FOR CONSTRUCTION UNLESS CERTIFIED BY CHICAGO BLOWER CORPORATION. AUTOCAD DRAWINGS ARE AVAILABLE UPON REQUEST



CHICAGO BLOWER CORPORATION 5120 PLENUM FANS

ARRANGEMENT 3T/3V BELT CENTERS

FAN SIZE	56		143T - 145T		182T - 184T		213T - 215T		254T - 256T		284T - 286T		324T - 326T	
	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
135	17.9	19.9	17.9	19.9	19.3	21.3	20.3	22.3	-	-	-	-	-	-
150	18.6	20.6	18.6	20.6	20	21.9	21	22.9	-	-	-	-	-	-
165	19.4	21.4	19.4	21.4	20.7	22.7	21.8	23.8	23.1	25	-	-	-	-
182	20.4	22.4	20.4	22.4	21.7	23.8	22.8	24.8	24.1	26.1	-	-	-	-
200	21.4	23.4	21.4	23.4	22.8	24.7	23.7	25.7	25	27	-	-	-	-
222	22.4	24.4	22.4	24.4	23.8	25.8	24.7	26.7	26	28	27.3	29.3	-	-
245	23.5	25.5	23.5	25.5	24.9	26.8	25.9	27.8	27.1	29.1	28.4	30.5	-	-
270	24.8	26.7	24.8	26.7	26.1	28.1	27.1	29.1	28.4	30.3	30.1	31.7	31.2	33.0
300	26.3	28.3	26.3	28.3	27.7	29.6	28.7	30.6	29.9	31.9	31.3	33.3	32.8	34.8
330	28	30	28	30	29.4	31.3	30.4	32.3	31.6	33.6	32.9	35	34.4	36.5
365	29.7	31.7	29.7	31.7	31.1	33	32.1	34	33.3	35.3	34.6	36.7	36.1	38.2
402	33.4	35.4	33.4	35.4	34.8	36.7	35.7	37.7	37	39	38.3	40.3	39.8	41.9

MAXIMUM ARRANGEMENT 3T/3V MOTOR FRAME SIZES

FAN SIZE	CLASS	3T MAX FRAME	3V MAX FRAME	FAN SIZE	CLASS	3T MAX FRAME	3V MAX FRAME	FAN SIZE	CLASS	3T MAX FRAME	3V MAX FRAME	FAN SIZE	CLASS	3T MAX FRAME	3V MAX FRAME
135	1	184T	184T	182	1	213T	213T	245	1	215T	215T	330	1	256T	256T
	2	215T	215T		2	254T	254T		2	284T	284T		2	324T	284T
	3	215T	215T		3	254T	254T		3	286T	286T		3	324T	324T
150	1	184T	184T	200	1	215T	215T	270	1	254T	254T	365	1	284T	256T
	2	215T	215T		2	254T	254T		2	286T	256T		2	326T	324T
	3	215T	215T		3	254T	254T		3	324T	324T		3	326T	326T
165	1	213T	213T	222	1	254T	254T	300	1	254T	254T	402	1	284T	256T
	2	254T	254T		2	284T	284T		2	324T	286T		2	326T	324T
	3	254T	254T		3	284T	284T		3	324T	324T		3	326T	326T

BEARING LIFE

Bearing life may be substantially increased or decreased by variations in the operating speed. The table at right lists the design speeds (RPM) and fan sheave pitch diameters. The graph below plots the increase or decrease in bearing life when the RPM or fan sheave pitch diameter is changed from the values in the table. Minimum average bearing life is 75,000 hours.

EXAMPLE:

Determine the increased bearing life of a Size 402 Class I fan operating at 831 RPM. Assume fan sheave pitch diameter of 23 in.

- Calculate operating RPM as a percent of the design RPM.

$$831 \text{ RPM} \div 1052 \text{ RPM} = .789 \times 100 = 78.9\%. \text{ (Use 79\%)}$$

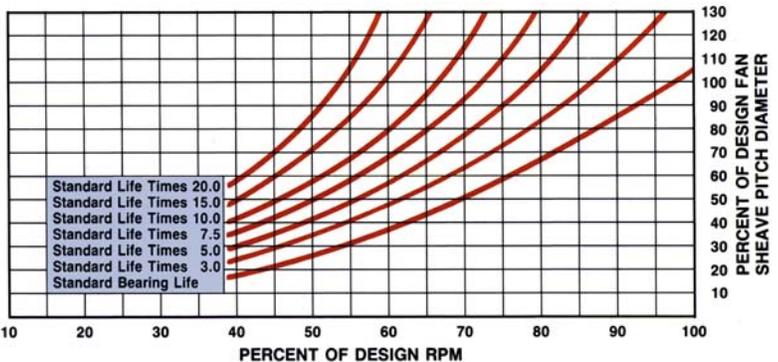
- Calculate actual fan sheave pitch diameter as a percent of the design fan sheave pitch diameter in the table.

$$23" \div 18.2" = 1.26 \times 100 = 126\%$$

- Locate the intersection of 79% of design RPM and 126% of the design fan sheave pitch diameter in the graph. Increased bearing life is 7.5 times the design minimum or 493,000 L10 hours, or 2,465,000 minimum average life.

FAN SIZE	CLASS I		CLASS II		CLASS III	
	RPM	FAN SHEAVE PITCH DIA.	RPM	FAN SHEAVE PITCH DIA.	RPM	FAN SHEAVE PITCH DIA.
135	3509	5.4	4573	4.2	5000	3.8
150	3203	6	4175	4.6	4950	3.9
165	2886	6.6	3713	5.1	4250	4.5
182	2496	7.7	3252	5.9	3848	5
200	2345	8.1	3055	6.3	3450	5.5
222	2193	8.7	2857	8	3594	5.3
245	1793	10.7	2278	8.4	2863	6.7
270	1589	12	2069	9.2	2589	7.3
300	1451	13.2	1890	10.1	2377	8
330	1294	14.8	1684	11.3	2096	9.1
365	1184	16.1	1541	15	1937	9.9
402	1052	18.2	1369	12.9	1721	10.2
445	1014	18.8	1320	14.5	1659	11.5
490	915	20.9	1192	16	1498	12.7
542	833	22.9	1085	17.6	1364	16
600	753	25.4	980	19.5	1233	20.5
660	678	28.2	883	24	RF	RF
730	619	30.9	806	23.7	RF	RF
807	559	34.2	728	26.2	RF	RF

RF - Refer to factory



Engineering Specifications

GENERAL:

Provide a high performance, low maintenance, centrifugal fan with airfoil wheel and hyperbolic 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. Mechanical efficiency shall be no less than 80%. 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 bolted together with aircraft grade fasteners. Integral lifting lugs to be located on both inlet and drive panels.

ROTOR:

Wheel shall have cast iron hub lock-bolted to a heavy backplate. A minimum of twelve blades must be double skinned airfoil continuously welded to the backplate and hyperbolic wheel cone. Wheels to be dynamically balanced to G 6.3 standards in accordance with ISO 1940/ANSI S2.19 specifications. Shaft shall be turned, ground and polished 1045 hot rolled steel straightened to a maximum T.I.R. of .002 inches and mounted using pillow block bearings. Shaft critical speed shall not be less than 1.2 times class maximum RPM.

MOUNTING:

Housing assembly complete with integral mounting angles for connection to the foundation.

FACTORY MOUNTED MOTORS AND DRIVES: (As Required)

Motors and drives to be factory mounted. Unit to be tested at running speed for vibration and balance. Filtered vibration readings, taken at bearings, not to exceed .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
- Inlet Screen
- Wheel Guard
- Adjustable Motor Base
- Extended Grease Fittings
- Totally Enclosed Belt Guard with Ventilation Panel
- Constant or Adjustable Speed V-Belt Drives - minimum 1.2 S.F.
- Unitary Base: Heavy channel construction, continuously welded, with fan and motor base welded to insure vibration-free service. Optional height-saving brackets are recommended for use with spring isolators.

**Centrifugal
Airfoil
Plenum Fans
Design 5120
Single Width**

The logo for Chicago, featuring the word "CHICAGO" in a bold, blue, italicized sans-serif font, with a white outline and a blue shadow effect.

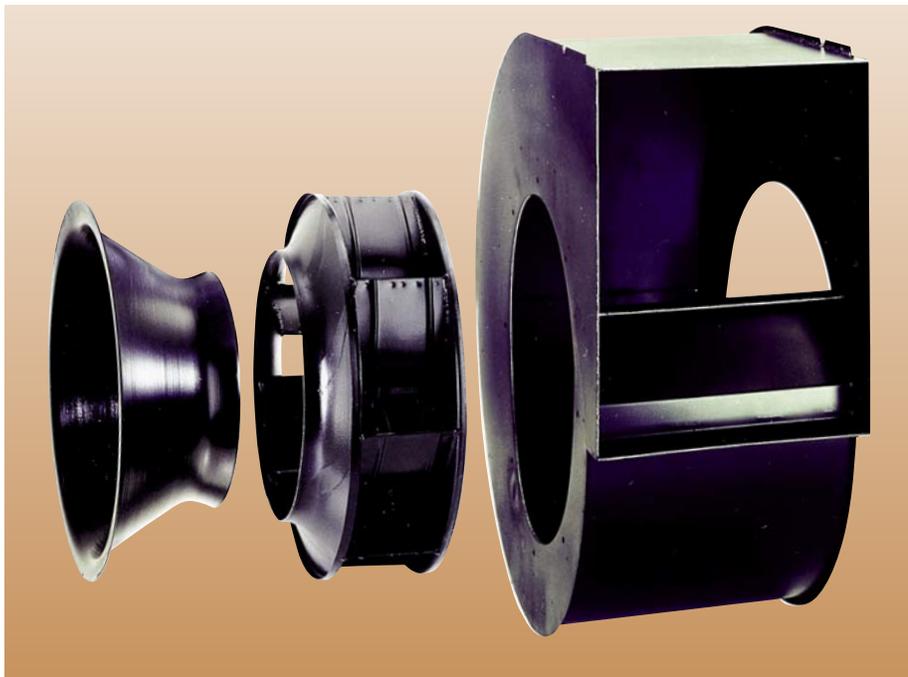
Additional Airfoil Fans

Chicago's Design 51 Airfoil scroll type fans are available in both single width and double width configurations. They are ideal for high volume heating, ventilating and air conditioning, plus most industrial supply and exhaust systems.

Chicago catalogs a wider range of airfoil wheel sizes from 135 to 890 that supply volumes from 225 to 340,000 CFM at pressures from 1/2" to 20" wg.

Many performance and convenience options extend the flexibility of Chicago's standard Design 51 fan; inlet screens, outlet dampers, unitary and integral bases, and special finishes for example. Chicago's own Inlet Volume Control provides precise air control at partial loads for more economical operation.

DESIGN 51 AIRFOIL FANS



AIRFOIL FAN KITS

Chicago's Airfoil Fan Kits are available as both single width and double width models in both standard and return air configurations. They are used extensively in high capacity variable air volume HVAC systems and industrial supply and exhaust applications.

Fan wheels, housings, inlet cones, cooling wheels, and IVC controls are offered to allow customers to build up units to suit. Kits are available in 16 wheel sizes from 100 to 490 with volumes to 140,000 CFM, pressures to 20" SP, and temperatures to 800°F.

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For Quality*

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