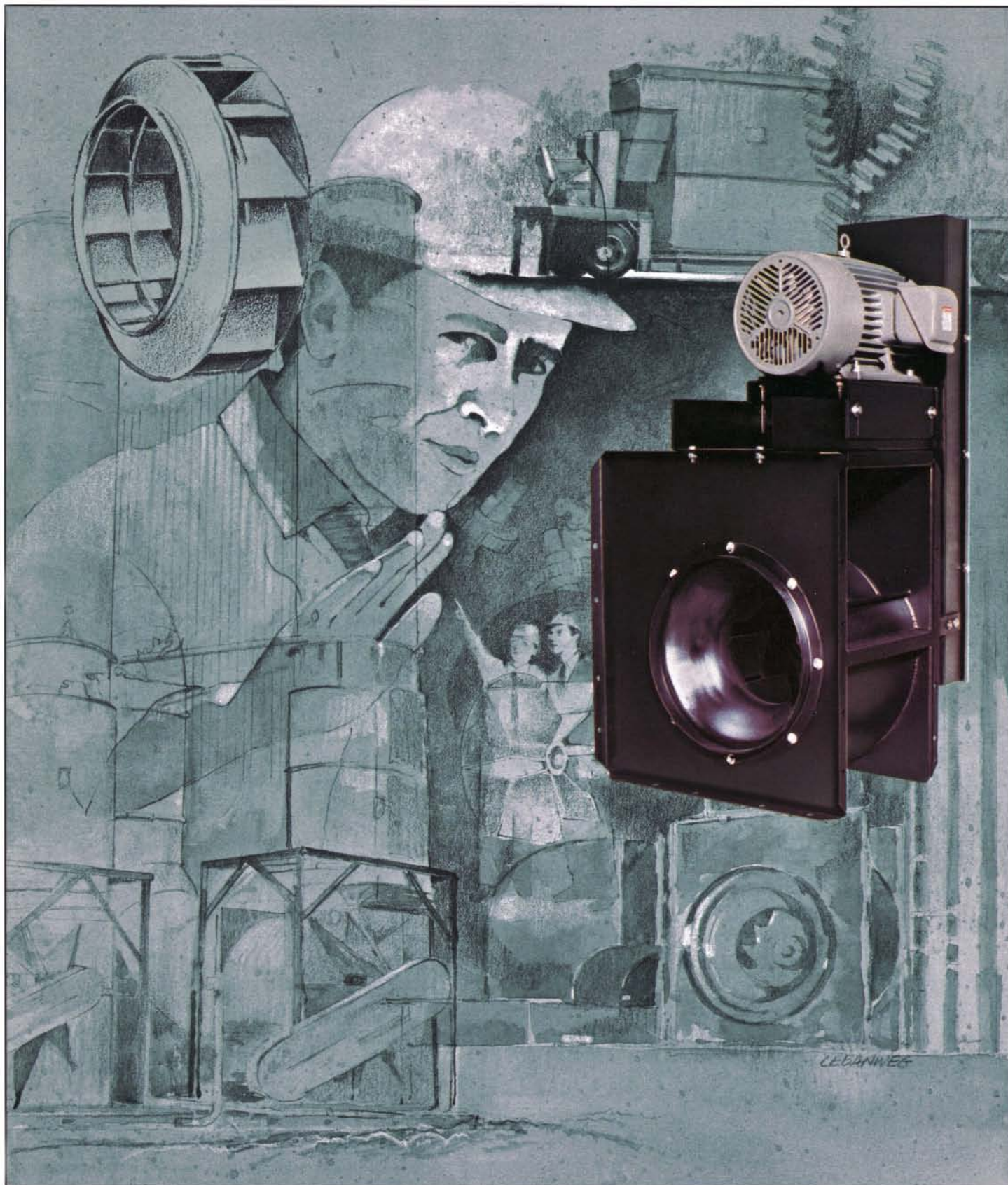


**CHICAGO**



**SQB** CENTRIFUGAL FANS

HIGH QUALITY  
HIGH EFFICIENCY



## SQB "B" BLADED CENTRIFUGAL FANS

Exceptional Reliability  
in Dirty or Corrosive  
Industrial Environments

Chicago Blower's SQB is regarded as a high performance, trouble free fan proven in a myriad of industrial applications. With its backward inclined wheel and square housing design, the SQB is efficient, economical and versatile. It is also quickly available through Chicago's Stock Fan program. "Packaged" fans, those furnished with motor, V-belt drive, belt guard and other options, are factory aligned, run tested and shipped ready to install. By eliminating jobsite assembly, the packaged SQB fan can substantially reduce overall installation cost.

### UNIVERSAL APPLICATIONS

The SQB Type "B" wheel has backward inclined blades designed to handle corrosive or dusty airstreams. Typical applications include oven circulators, dust collector exhaust fans, fume exhausters and emissions control systems. Since the blades are solid steel, the "B" wheel is ideal for custom applied corrosion resistant coatings. The SQB is also suited for high temperature gasses and air to 650°. For greater safety in explosive environments, spark resistant construction is offered. The versatile SQB is furnished in 14 sizes in Arrangements 1, 9 or 9H and in three classes of construction.

### CHICAGO QUALITY

The experience gained as a leading supplier of all types of industrial and custom heavy-duty fans is reflected in the rugged construction of all Chicago built fans. It's called "Industrial Quality" and guarantees exceptional performance and reliability. If you are unsure of the suitability of a particular fan for a specific application, the Chicago air moving professionals will evaluate your needs and provide recommendations. Chicago Blower offices are located throughout North America and around the world.



*The building of all Chicago "SQ" Fans is monitored by stringent Quality Control and Quality Assurance Programs. Chicago's Stock*

*Fan program assures expediency without sacrificing quality and reliability. "Our fan's most important feature is the reliability we are able to add to your product or system."*

**AMCA  
CERTIFIED  
RATINGS**

**AIR  
PERFORMANCE**

**AIR  
MOVEMENT  
AND CONTROL  
ASSOCIATION, INC.**

MEMBER OF THE AMCA GROUP OF COMPANIES

*Chicago Blower Corporation certifies that the SQB Fans shown or herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.*



## BACKWARDLY INCLINED WHEELS



### Rugged, Class III Wheels

Class III wheels have reinforced blades plus heavy shafts and bearings to extend the rated duty to 15" static pressure. Sizes 20 to 44-1/2.



Class II wheels are available in Sizes 16-1/2 to 44-1/2 for pressures through 9". Class IIS duty substitutes heavier shaft or bearings to raise pressure capacity to 10". Sizes 12-1/4 to 36-1/2.

### CHICAGO TYPE "B" WHEEL

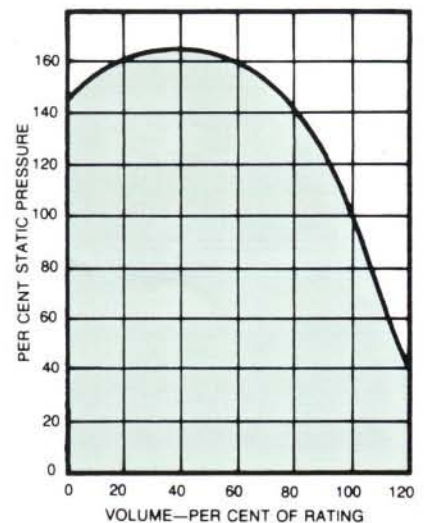
The TYPE "B" wheel consists of backwardly inclined solid steel blades continuously welded to a streamlined wheel cone and a heavy steel backplate. They can withstand temperatures to 650° using a shaft cooler. Type "B" wheels have true non-overloading horse power characteristics, mechanical efficiency over 80% and a steep stable pressure curve. All Chicago type "B" wheels exceed AMCA standards.

### GREATER EFFICIENCY

Chicago SQB will perform reliably in many installations that are now using radial bladed fans. The SQB is more efficient than a radial blade fan, allowing the use of smaller, lower horsepower motors properly sized for the operating horsepower of the fan.

### STEEP PRESSURE CHARACTERISTICS

Chicago's SQB fan with its steep pressure characteristics is ideal for applications with pressure variations. Even if actual system pressure should reach 30% higher than anticipated, delivered volume would be typically reduced by only 10%.



## Designed for easy versatile installation Built for reliable trouble-free service

### ADJUSTABLE DISCHARGE POSITIONS

Chicago's SQB fans operate equally well in any of the four discharge positions. The unique square housings are easily rotated without disassembly to simplify installation and relocation. The base has prepunched mounting holes for each discharge position.

### RUGGED STEEL HOUSING

The heavy gauge housing features continuously welded air-tight seams. Edges are flanged for exceptional rigidity.

### FLANGED OUTLET

A standard feature of the SQB fan is the flanged outlet to facilitate duct connection. Also available is the flanged outlet pre-punched to match the optional outlet damper.

### REMOVABLE BEARING BRACKETS

To simplify bearing or shaft maintenance, the rigid steel bearing brackets are bolted to the support structure rather than welded.

### PRECISION SHAFTS

Made from selected medium carbon steel, the shafts are turned, ground and polished to assure a tight bearing and hub fit. Shafts are sized to operate 20% or more below the first critical speed for each class of duty.

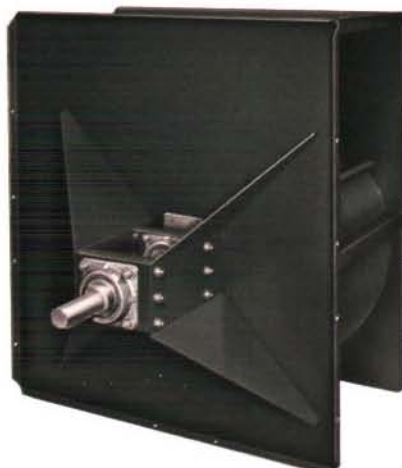
### ADJUSTABLE MOTOR BASES

Heavy gauge bases on Arrangement 9 fans are prepunched for all popular motor frames. The compact motor bases are designed to save floor space by mounting on top or either side of the housing. Bases feature threaded belt tension adjustment and positive locking.



### FOUR-WAY GUSSET

An example of Chicago's industrial quality is the four-way gusset that maintains structural housing stability and precise shaft alignment regardless of motor location or direction of shaft pull.



### Hyperbolic Spun Steel Wheel Cone

Chicago's quality engineered wheel cone optimizes the smooth stable air flow across the entire operating range. Precision balancing assures quiet vibration-free operation and adds to the reliability of Chicago fans.

## Performance and Convenience Options



### Inlet Volume Control

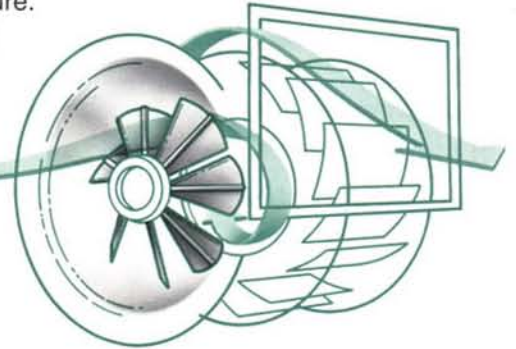
Chicago's IVC provides precise air control and superior efficiency. Air volume can be controlled either manually, or automatically by electric or pneumatic actuator.

### INLET VOLUME CONTROL

When the fan is used for varying or partial load applications, the Inlet Volume Control (IVC) provides precise air control and more efficient operation. Adjustable guide vanes pre-spin the incoming air in the same rotation as the wheel to produce the desired volume of air at the exact pressure.

The vanes are mounted entirely within the inlet cone.

Chicago's IVC is available as a standard option on Sizes 12-1/4 through 44-1/2. Automatic control is achieved by adding an electric or pneumatic actuator. The IVC is suitable for manual operation to 650°F and automatic operation to 350°F.



### INLETS

Open inlets, slip fit inlets and punched flanged inlets are available to meet installation requirements.

### PUNCHED FLANGED OUTLET

Necessary for damper mounting, punched holes match outlet damper.

### HOUSING DRAIN

A half coupling is welded to the lowest point of the housing. Drain plug is also available.

### ACCESS DOOR

The flush mounted door features quick opening tension clamps and gasket. Bolted access door is also available.

### PLUG TYPE ACCESS DOOR

The bolted door is raised off the scroll to provide clearance for insulation.

### SHAFT and BEARING GUARD

The expanded metal guard encloses the shaft and bearings. For easier lubrication, extended grease fittings are recommended.

### EXTENDED GREASE FITTINGS

For accessibility, the fittings are mounted on the bearing support gussets with lube lines run to the bearings.

### BELT GUARD

Three sides are fully enclosed while the other side has an expanded metal guard for ventilation and visual inspection.

### SHAFT SEAL

The standard seal reduces leakage through the shaft opening in the housing. Leak-resistant shaft seals are also available.



## HIGH TEMPERATURE SHAFT COOLER

In applications where temperature will exceed 300°F, a shaft cooler must be used to dissipate the heat. Maximum temperature limit is 650°F.

### INLET SCREEN

The welded steel wire screen mounts either in the inlet cone or outside the Inlet Volume Control, when furnished.

### SPARK RESISTANT CONSTRUCTION

AMCA Type B and C spark resistant construction is available in Sizes 12-1/4 through 44-1/2.

### UNITARY BASE

Fan and adjustable motor base is welded onto a unitary base of continuously welded structural steel channel. Can be provided with vibration isolators. (Refer to page 24 for dimensions.)

### BASE RAILS (Type "T")

Channel rails are fitted with rubber-in-shear or spring isolators. Available only on Arrangements 9T and 9S.

### OUTLET DAMPERS

Outlet dampers are often selected for their low initial cost and simple operation. However, they do require substantially more horsepower at reduced air volume than Inlet Volume Controls. Dampers have punched flanges on both ends to simplify fan and duct connections. Parallel acting blade design is standard with opposed acting blades available. To mount the damper, a matching punched flanged outlet is needed.

This SQB fan is equipped with belt guard painted OSHA yellow, shaft/ bearing guard, cooling wheel and copper lube lines for high temperature application.

Typical "packaged" SQB fan factory aligned, run tested and ready to install. Includes belt guard and shaft/bearing guard with extended lube lines.

7

## FAN SELECTION

Fan capacity tables are based on standard air at 70°F and sea level. For other operating conditions, correct the required Static Pressure (SP) before using the rating tables. The Brake Horsepower (BHP) is corrected after the fan selection has been made. Finally, determine the Class of fan.

### EXAMPLE:

**Select an SQB fan to handle 18,800 CFM at 3" SP at 500°F and at 2500 feet above sea level.**

1. Refer to Table 1. At 2500 feet and 500°F, the correction factor is 1.98. To simplify the calculations, use 2.00. Corrected SP is 2.00 X 3" SP = 6.00" SP at 70°F and sea level.

2. Using the fan rating tables, one fan selection for 18,800 CFM at 6" SP is a Size 30. The fan will run at 1500 RPM and require 28.4 BHP at 70°F and sea level. (The actual RPM and BHP was calculated by interpolating between the 17,918 and 18,972 CFM given in the rating tables.)
3. Correct the BHP. Dividing 28.4 by the correction factor (2.00).  $28.4 \div 2.00 = 14.2$  BHP at 500°F at 2500' altitude.
4. To determine fan construction Class, the wheel and shaft must be checked for maximum RPM using Table II and for temperature deration factors in Table III.

- a. Table III. Divide wheel operating RPM by the Wheel Deration factor for 500°. Wheel RPM at 70°F is  $1500 \div .82 = 1829$ . Then divide the wheel operating RPM by the Shaft Deration factor for 500°. Shaft RPM at 70°F is  $1500 \div .97 = 1546$ .
- b. Check Table II for maximum RPMs for a Size 30 fan. While the required wheel RPM of 1829 is within safe limits for a Class I fan, the required shaft RPM of 1546 is not. The Class II fan is needed because of high duty temperature.

**For Sound Levels and Bearing Life Data, see Page 23.**

**TABLE I – Temperature and Altitude Correction**

AIR TEMP (F°)	ALTITUDE (feet) with BAROMETRIC PRESSURE (HG)							
	0'	500'	1000'	1500'	2000'	2500'	3000'	3500'
	29.92	29.38	28.86	28.33	27.82	27.31	26.82	26.32
-15	.79	.81	.82	.84	.85	.87	.88	.90
0	.87	.88	.90	.92	.93	.95	.97	.99
70	1.00	1.02	1.04	1.06	1.08	1.10	1.12	1.14
100	1.06	1.08	1.10	1.12	1.14	1.16	1.18	1.20
150	1.15	1.17	1.19	1.22	1.24	1.26	1.28	1.31
200	1.25	1.27	1.29	1.32	1.34	1.36	1.39	1.42
250	1.34	1.36	1.39	1.41	1.44	1.47	1.49	1.52
300	1.43	1.46	1.49	1.51	1.54	1.57	1.60	1.63
350	1.53	1.56	1.58	1.61	1.64	1.67	1.70	1.74
400	1.62	1.65	1.68	1.71	1.75	1.78	1.81	1.84
500	1.81	1.84	1.88	1.91	1.95	1.98	2.02	2.06
600	2.00	2.04	2.07	2.11	2.15	2.19	2.23	2.27
650	2.09	2.13	2.17	2.21	2.25	2.29	2.34	2.38

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

**TABLE II – Maximum RPM at 70° F**

Note: For temperature deration only, not for air performance.

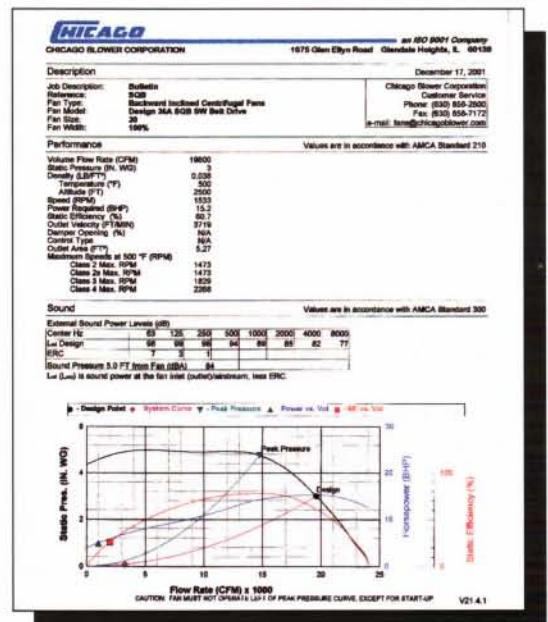
FAN SIZE	CLASS II		CLASS IIS		CLASS III	
	Shaft	Wheel	Shaft	Wheel	Shaft	Wheel
12-1/4	N.A.	N.A.	4036	4060	N.A.	N.A.
13-1/2	N.A.	N.A.	3752	3752	N.A.	N.A.
15	N.A.	N.A.	3452	3730	N.A.	N.A.
16-1/2	2925	3200	3141	3200	N.A.	N.A.
18-1/4	2645	2850	2847	2850	N.A.	N.A.
20	2546	2860	2739	2860	3040	3260
22-1/4	2112	2430	2374	2430	2668	2760
24-1/2	1944	2112	2103	2112	2423	2423
27	1833	2030	1956	2030	2198	2320
30	1595	1788	1788	1788	2038	2220
33	1440	1577	1560	1577	1853	1939
36-1/2	1242	1376	1332	1376	1612	1690
40-1/4	1126	1211	N.A.	N.A.	1461	1461
44-1/2	1019	1127	N.A.	N.A.	1321	1431

**TABLE III – Speed Deration**

TEMP (F°)	Deration Factors	
	Steel Wheel	Steel Shaft
70	1.00	1.00
200	.94	1.00
300	.90	.99
400	.86	.98
500	.82	.97
600	.79	.96
650	.78	.95

Refer to [Chicago Blower's fan.net](http://Chicago Blower's fan.net) for performance, fan curves and sound data.

For software and assistance, contact your local Chicago Blower sales engineer.





Class IIS

RPM **4036**

Outlet Area: .88 sq. ft.

Maximum BHP =  $.104 (\text{rpm} \div 1000)^3$

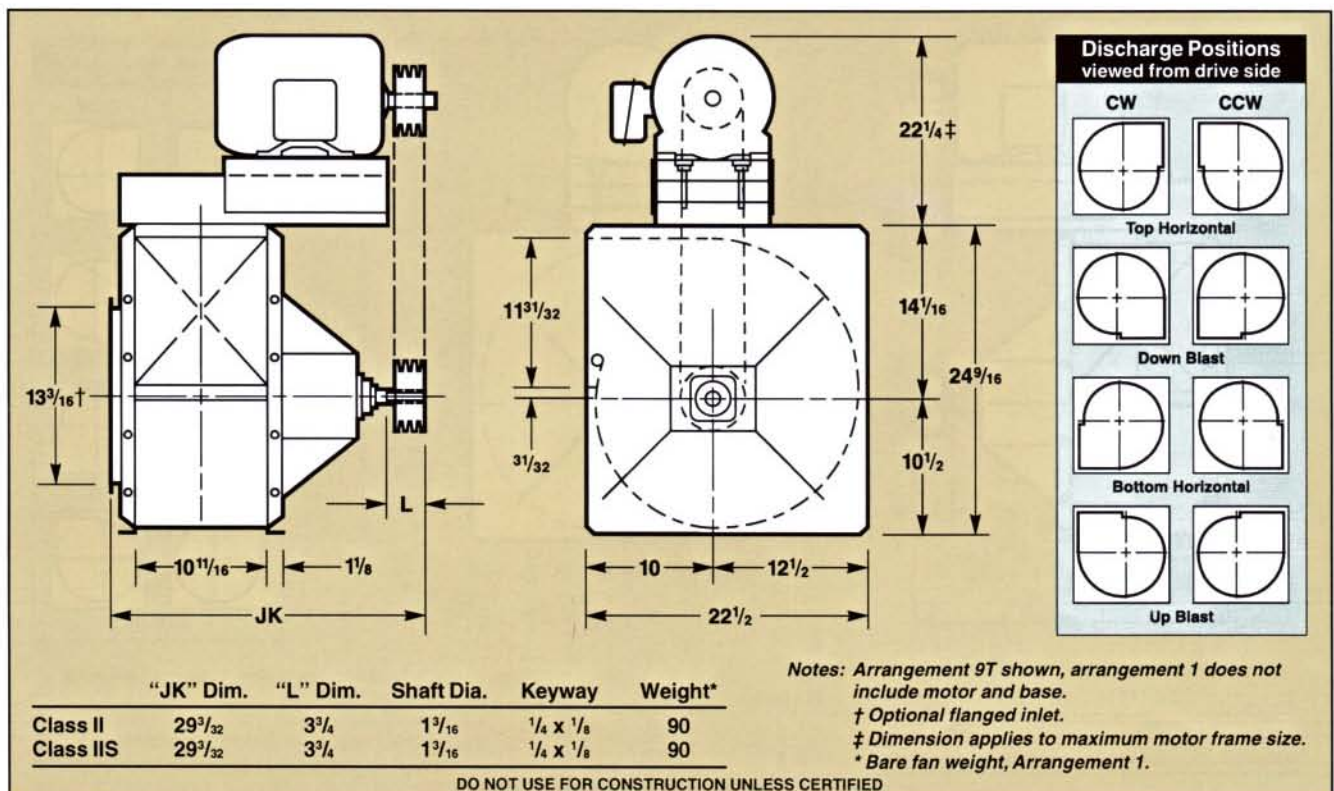
Tip Speed (fpm) =  $3.46 \times \text{rpm}$

SIZE **12 1/4**

CFM	OV FPM	1/4" SP		1/2" SP		3/4" SP		1" SP		1-1/2" SP		2" SP		2-1/2" SP		3" SP		3-1/2" SP		4" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
528	600	688	.03	862	.06																
616	700	747	.04	896	.07	1048	.11														
704	800	811	.05	945	.09	1075	.12	1208	.17												
792	900	877	.07	1003	.10	1116	.14	1233	.18												
880	1000	948	.09	1063	.12	1168	.16	1271	.21	1483	.31										
968	1100	1021	.11	1126	.15	1227	.19	1319	.23	1509	.34	1703	.46								
1056	1200	1096	.13	1191	.17	1287	.22	1375	.27	1546	.37	1723	.49								
1144	1300	1173	.16	1259	.20	1349	.25	1434	.31	1590	.41	1753	.53	1917	.67						
1232	1400	1250	.19	1330	.24	1413	.29	1494	.35	1644	.46	1792	.58	1942	.71	2095	.87				
1320	1500	1328	.23	1403	.28	1479	.33	1557	.39	1702	.51	1836	.63	1976	.76	2118	.92	2261	1.09		
1408	1600	1408	.27	1476	.32	1547	.38	1621	.44	1761	.57	1889	.69	2018	.83	2149	.98	2283	1.14	2416	1.33
1496	1700	1487	.32	1552	.37	1619	.43	1687	.49	1821	.63	1947	.76	2065	.90	2188	1.05	2312	1.21	2438	1.39
1584	1800	1567	.37	1629	.43	1691	.49	1753	.55	1883	.69	2005	.84	2118	.98	2231	1.12	2348	1.29	2466	1.46
1672	1900	1647	.42	1706	.49	1764	.55	1824	.62	1947	.76	2065	.91	2176	1.06	2282	1.21	2391	1.38	2500	1.55
1760	2000	1728	.49	1784	.55	1838	.62	1896	.69	2012	.84	2126	1.00	2235	1.16	2337	1.31	2437	1.47	2542	1.65
1936	2200	1890	.63	1941	.71	1991	.78	2041	.85	2144	1.01	2252	1.18	2355	1.35	2453	1.53	2547	1.70	2638	1.87
2112	2400	2052	.81	2100	.89	2146	.97	2192	1.05	2286	1.21	2383	1.39	2479	1.58	2573	1.77	2664	1.96	2750	2.15
2288	2600	2216	1.01	2260	1.10	2302	1.19	2345	1.27	2431	1.45	2517	1.63	2609	1.83	2697	2.03	2784	2.24	2868	2.44
2464	2800	2379	1.25	2421	1.34	2461	1.44	2500	1.53	2578	1.71	2661	1.91	2741	2.11	2827	2.33	2908	2.55	2989	2.77
2640	3000	2543	1.52	2582	1.62	2620	1.72	2657	1.82	2731	2.02	2806	2.22	2881	2.44	2958	2.66	3037	2.89	3113	3.12
CFM	OV FPM	4-1/2" SP		5" SP		5-1/2" SP		6" SP		6-1/2" SP		7" SP		7-1/2" SP		8" SP		9" SP		10" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1496	1700	2563	1.59																		
1584	1800	2585	1.66	2703	1.86																
1672	1900	2612	1.74	2725	1.94	2838	2.16														
1760	2000	2646	1.83	2752	2.03	2860	2.25	2967	2.47	3073	2.71										
1936	2200	2730	2.06	2827	2.26	2922	2.47	3018	2.69	3116	2.92	3212	3.16	3310	3.42	3405	3.68				
2112	2400	2834	2.33	2918	2.53	3005	2.73	3092	2.95	3179	3.18	3268	3.42	3357	3.67	3446	3.93	3624	4.48		
2288	2600	2949	2.65	3027	2.85	3105	3.06	3181	3.27	3263	3.50	3343	3.73	3423	3.98	3506	4.23	3669	4.77	3833	5.35
2464	2800	3068	2.99	3143	3.22	3217	3.43	3288	3.65	3361	3.87	3431	4.10	3508	4.35	3583	4.60	3733	5.13	3883	5.70
2640	3000	3189	3.36	3263	3.60	3334	3.84	3404	4.08	3472	4.31	3538	4.54	3606	4.78	3672	5.03	3813	5.56	3951	6.12
2816	3200	3314	3.77	3384	4.02	3454	4.27	3522	4.53	3588	4.79	3653	5.03	3716	5.28	3779	5.53	3904	6.05	4036	6.61
2992	3400	3443	4.21	3510	4.47	3567	4.74	3643	5.01	3708	5.28	3771	5.55	3832	5.83	3893	6.09	4011	6.62		
3168	3600	3574	4.69	3640	4.97	3703	5.25	3765	5.53	3829	5.82	3891	6.10	3951	6.39	4010	6.68				
3344	3800	3707	5.22	3771	5.51	3833	5.81	3894	6.10	3953	6.40	4012	6.70								
3520	4000	3847	5.81	3904	6.10	3965	6.40	4024	6.71												
3696	4200	3991	6.45																		

Performance shown is for installation type B: Free inlet, Ducted outlet.  
Power ratings (BHP) do not include drive losses.

Performance ratings do not include the effects of appurtenances in the air stream.



Class IIS

RPM **3752**

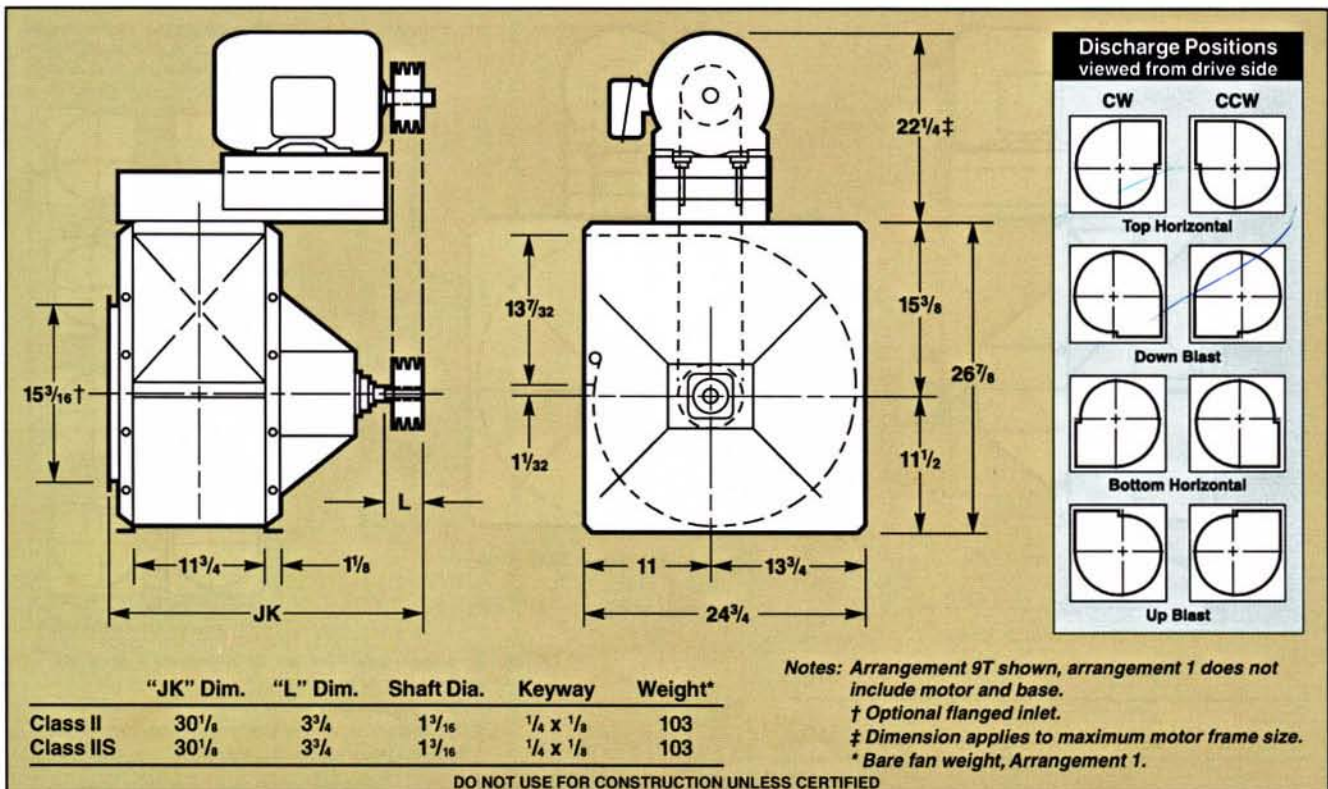
Outlet Area: 1.07 sq. ft.  
Maximum BHP = .168 (rpm ÷ 1000)<sup>3</sup>  
Tip Speed (fpm) = 3.81 x rpm

SIZE **13 1/2**

CFM	OV FPM	1/4" SP		1/2" SP		3/4" SP		1" SP		1-1/2" SP		2" SP		2-1/2" SP		3" SP		3-1/2" SP		4" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
642	600	625	.04	782	.07																
749	700	679	.05	814	.09	951	.13														
856	800	737	.07	858	.11	976	.15	1097	.20												
963	900	797	.08	911	.13	1013	.17	1119	.22												
1070	1000	862	.11	966	.15	1061	.20	1154	.25	1347	.38										
1177	1100	928	.13	1023	.18	1114	.23	1198	.29	1370	.41	1546	.56								
1284	1200	996	.16	1083	.21	1169	.27	1249	.33	1404	.45	1565	.60								
1391	1300	1066	.19	1144	.25	1225	.31	1303	.37	1445	.50	1592	.64	1740	.81						
1498	1400	1136	.23	1209	.29	1284	.35	1358	.42	1494	.55	1627	.70	1763	.87	1902	1.06				
1605	1500	1208	.28	1275	.34	1344	.40	1414	.48	1546	.62	1668	.76	1794	.93	1923	1.12	2052	1.32		
1712	1600	1280	.33	1342	.39	1406	.46	1473	.54	1600	.69	1716	.84	1833	1.01	1952	1.19	2073	1.39	2193	1.61
1819	1700	1352	.38	1411	.45	1471	.52	1533	.60	1655	.76	1768	.93	1876	1.09	1987	1.27	2099	1.47	2213	1.69
1926	1800	1425	.45	1481	.52	1537	.59	1593	.67	1711	.84	1822	1.02	1924	1.19	2026	1.37	2132	1.57	2239	1.78
2033	1900	1498	.52	1551	.59	1603	.67	1658	.75	1769	.93	1876	1.11	1977	1.29	2073	1.48	2171	1.67	2270	1.88
2140	2000	1571	.59	1621	.68	1671	.76	1723	.84	1828	1.02	1931	1.21	2030	1.41	2123	1.59	2214	1.79	2309	2.00
2354	2200	1718	.77	1764	.86	1810	.95	1856	1.04	1949	1.23	2046	1.44	2139	1.65	2229	1.86	2314	2.07	2397	2.28
2568	2400	1866	.98	1909	1.08	1951	1.18	1992	1.27	2078	1.48	2165	1.69	2253	1.92	2338	2.15	2420	2.38	2499	2.61
2782	2600	2014	1.23	2054	1.34	2093	1.44	2132	1.55	2210	1.76	2288	1.99	2371	2.23	2451	2.47	2530	2.72	2606	2.98
2996	2800	2163	1.52	2201	1.64	2237	1.75	2273	1.86	2344	2.09	2418	2.33	2491	2.57	2569	2.83	2642	3.10	2716	3.37
3210	3000	2312	1.86	2348	1.98	2382	2.10	2415	2.22	2482	2.46	2550	2.71	2618	2.97	2688	3.24	2760	3.52	2829	3.80
CFM	OV FPM	4-1/2" SP		5" SP		5-1/2" SP		6" SP		6-1/2" SP		7" SP		7-1/2" SP		8" SP		9" SP		10" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1819	1700	2327	1.93																		
1926	1800	2347	2.01	2454	2.26																
2033	1900	2372	2.11	2474	2.36	2576	2.62														
2140	2000	2403	2.23	2499	2.47	2597	2.73	2693	3.01	2789	3.29										
2354	2200	2480	2.50	2567	2.75	2653	3.00	2741	3.26	2829	3.55	2916	3.84	3005	4.15	3091	4.47				
2568	2400	2575	2.80	2650	3.07	2729	3.33	2809	3.59	2887	3.87	2968	4.16	3048	4.48	3129	4.77	3290	5.44		
2782	2600	2679	3.23	2750	3.47	2820	3.72	2889	3.98	2963	4.25	3037	4.54	3108	4.83	3183	5.15	3332	5.80	3480	6.50
2996	2800	2787	3.64	2856	3.91	2922	4.18	2987	4.44	3053	4.71	3117	4.99	3186	5.29	3254	5.60	3390	6.24	3526	6.92
3210	3000	2897	4.09	2964	4.38	3029	4.67	3092	4.96	3154	5.24	3214	5.53	3276	5.82	3335	6.12	3463	6.76	3588	7.44
3424	3200	3011	4.58	3075	4.89	3138	5.20	3200	5.51	3260	5.82	3319	6.12	3376	6.42	3433	6.73	3546	7.36	3665	8.04
3638	3400	3129	5.12	3189	5.45	3249	5.77	3310	6.10	3369	6.43	3426	6.76	3482	7.09	3537	7.41	3644	8.05	3751	8.72
3852	3600	3248	5.72	3307	6.05	3365	6.39	3421	6.74	3479	7.08	3535	7.43	3590	7.78	3644	8.13	3748	8.81		
4066	3800	3369	6.36	3427	6.71	3483	7.07	3538	7.43	3592	7.79	3646	8.15	3700	8.52	3752	8.89				
4280	4000	3497	7.07	3547	7.43	3603	7.80	3658	8.17	3709	8.55										
4494	4200	3627	7.85	3675	8.22	3723	8.59														

Performance shown is for installation type B: Free inlet, Ducted outlet.  
Power ratings (BHP) do not include drive losses.

Performance ratings do not include the effects of apertures in the air stream.



**Class IIS**  
**RPM 3452**

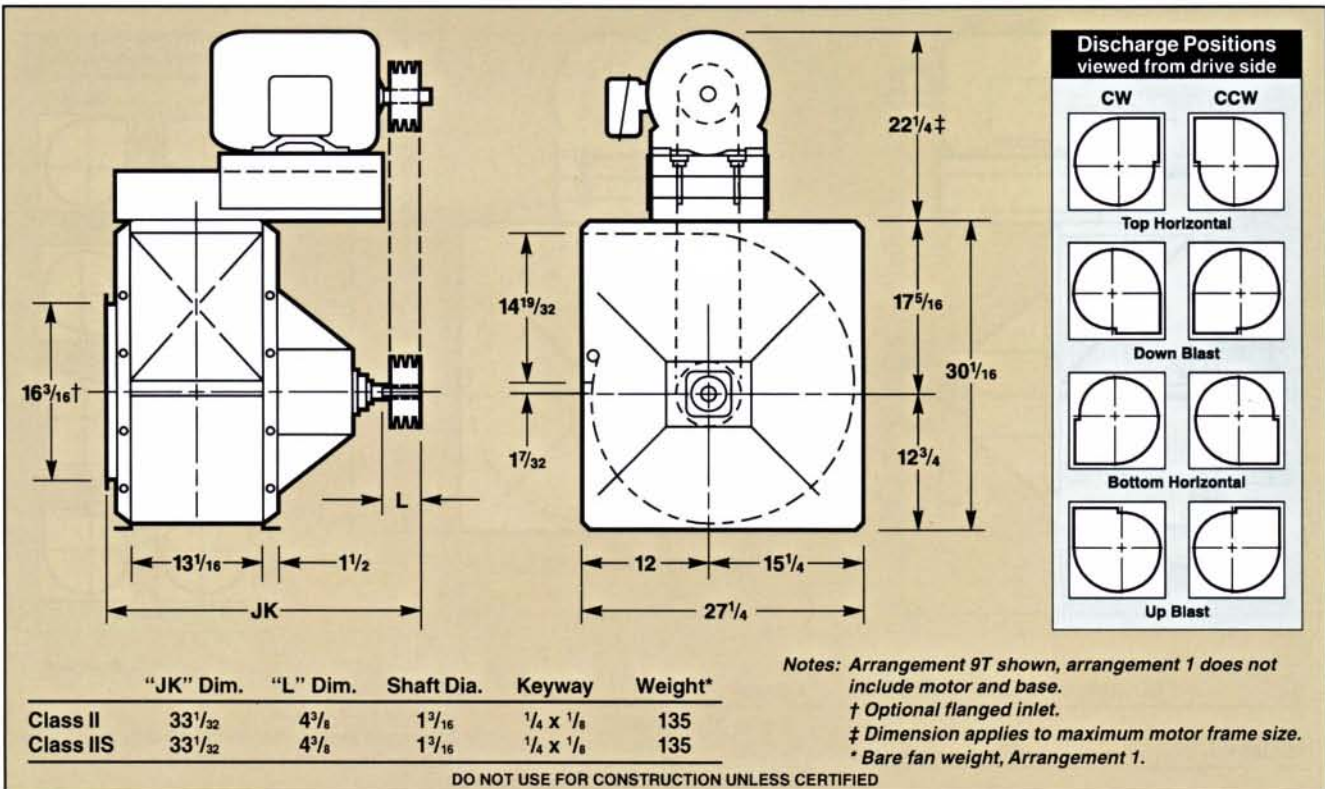
Outlet Area: 1.32 sq. ft.  
Maximum BHP = .286 (rpm ÷ 1000)<sup>3</sup>  
Tip Speed (fpm) = 4.24 x rpm

**SIZE**  
**15**

CFM	OV FPM	1/4" SP		1/2" SP		3/4" SP		1" SP		1-1/2" SP		2" SP		2-1/2" SP		3" SP		3-1/2" SP		4" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
792	600	562	.05	704	.09																
924	700	610	.06	732	.11	855	.16														
1056	800	682	.08	772	.13	878	.18	987	.25												
1188	900	716	.10	819	.16	911	.21	1007	.27												
1320	1000	774	.13	868	.19	954	.25	1038	.31	1211	.46										
1452	1100	834	.16	920	.22	1002	.29	1077	.35	1232	.50	1390	.69								
1584	1200	895	.20	973	.26	1051	.33	1123	.40	1263	.55	1407	.74								
1716	1300	9658	.24	1028	.31	1101	.38	1171	.46	1299	.61	1431	.79	1565	1.00						
1848	1400	1021	.29	1086	.36	1154	.44	1220	.52	1343	.68	1463	.86	1586	1.07	1711	1.30				
1980	1500	1085	.34	1146	.42	1208	.50	1271	.59	1390	.76	1499	.94	1613	1.15	1730	1.38	1846	1.63		
2112	1600	1150	.40	1206	.48	1264	.57	1324	.66	1438	.85	1543	1.04	1648	1.24	1755	1.47	1864	1.72	1973	1.99
2244	1700	1215	.47	1268	.56	1322	.65	1378	.74	1488	.94	1590	1.14	1686	1.34	1787	1.57	1888	1.82	1991	2.09
2376	1800	1280	.55	1330	.64	1381	.73	1432	.83	1538	1.04	1638	1.25	1730	1.46	1822	1.68	1917	1.93	2013	2.20
2508	1900	1345	.64	1393	.73	1441	.83	1490	.93	1590	1.14	1687	1.37	1777	1.59	1864	1.82	1952	2.06	2042	2.32
2640	2000	1411	.73	1457	.83	1501	.93	1548	1.04	1643	1.26	1736	1.49	1825	1.73	1908	1.97	1990	2.21	2076	2.47
2904	2200	1543	.95	1585	1.06	1626	1.17	1667	1.28	1751	1.52	1839	1.77	1923	2.03	2003	2.29	2080	2.55	2155	2.81
3168	2400	1676	1.21	1715	1.33	1753	1.45	1790	1.57	1867	1.82	1946	2.09	2025	2.37	2102	2.65	2176	2.94	2246	3.22
3432	2600	1810	1.52	1846	1.65	1880	1.78	1915	1.91	1986	2.17	2056	2.45	2131	2.74	2203	3.05	2274	3.36	2342	3.67
3696	2800	1943	1.87	1977	2.01	2010	2.15	2042	2.29	2106	2.57	2173	2.87	2239	3.17	2309	3.49	2375	3.82	2441	4.15
3960	3000	2077	2.28	2109	2.43	2140	2.58	2170	2.73	2230	3.03	2291	3.34	2353	3.66	2416	3.99	2481	4.34	2542	4.69
CFM	OV FPM	4-1/2" SP		5" SP		5-1/2" SP		6" SP		6-1/2" SP		7" SP		7-1/2" SP		8" SP		9" SP		10" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2244	1700	2093	2.38																		
2376	1800	2111	2.49	2208	2.79																
2508	1900	2133	2.61	2225	2.91	2317	3.24														
2640	2000	2161	2.75	2248	3.05	2336	3.37	2423	3.71	2509	4.07										
2904	2200	2230	3.09	2309	3.29	2386	3.70	2465	4.03	2545	4.38	2623	4.74	2703	5.13	2781	5.52				
3168	2400	2315	3.50	2383	3.79	2454	4.10	2525	4.43	2596	4.77	2669	5.13	2741	5.50	2814	5.89	2960	6.72		
3432	2600	2408	3.98	2472	4.28	2535	4.59	2598	4.90	2664	5.25	2730	5.60	2795	5.96	2863	6.35	2997	7.16	3130	8.02
3696	2800	2505	4.49	2567	4.83	2627	5.15	2685	5.47	2745	5.81	2802	6.15	2864	6.52	2926	6.91	3048	7.70	3171	8.54
3960	3000	2604	5.04	2665	5.40	2723	5.76	2780	6.11	2835	6.46	2890	6.81	2945	7.18	2999	7.54	3114	8.34	3227	9.17
4224	3200	2706	5.65	2764	6.03	2821	6.41	2877	6.79	2930	7.18	2983	7.55	3035	7.92	3086	8.30	3188	9.07	3296	9.92
4488	3400	2812	6.32	2867	6.71	2921	7.11	2975	7.52	3028	7.92	3080	8.33	3130	8.74	3179	9.13	3276	9.92	3372	10.75
4752	3600	2919	7.04	2973	7.46	3024	7.88	3075	8.30	3127	8.73	3178	9.16	3227	9.59	3275	10.02	3369	10.86		
5016	3800	3027	7.83	3080	8.27	3131	8.71	3180	9.15	3228	9.60	3277	10.05	3326	10.50	3373	10.95				
5280	4000	3142	8.71	3188	9.15	3238	9.61	3286	10.07	3334	10.54	3380	11.00	3425	11.48						
5544	4200	3259	9.67	3303	10.12	3346	10.58	3394	11.06												
5808	4400	3378	10.73	3409	11.12	3450	11.59														

Performance shown is for installation type B: Free inlet, Ducted outlet.  
Power ratings (BHP) do not include drive losses.

Performance ratings do not include the effects of appurtenances in the air stream.



Class II Class IIS

RPM **2925** **3141**

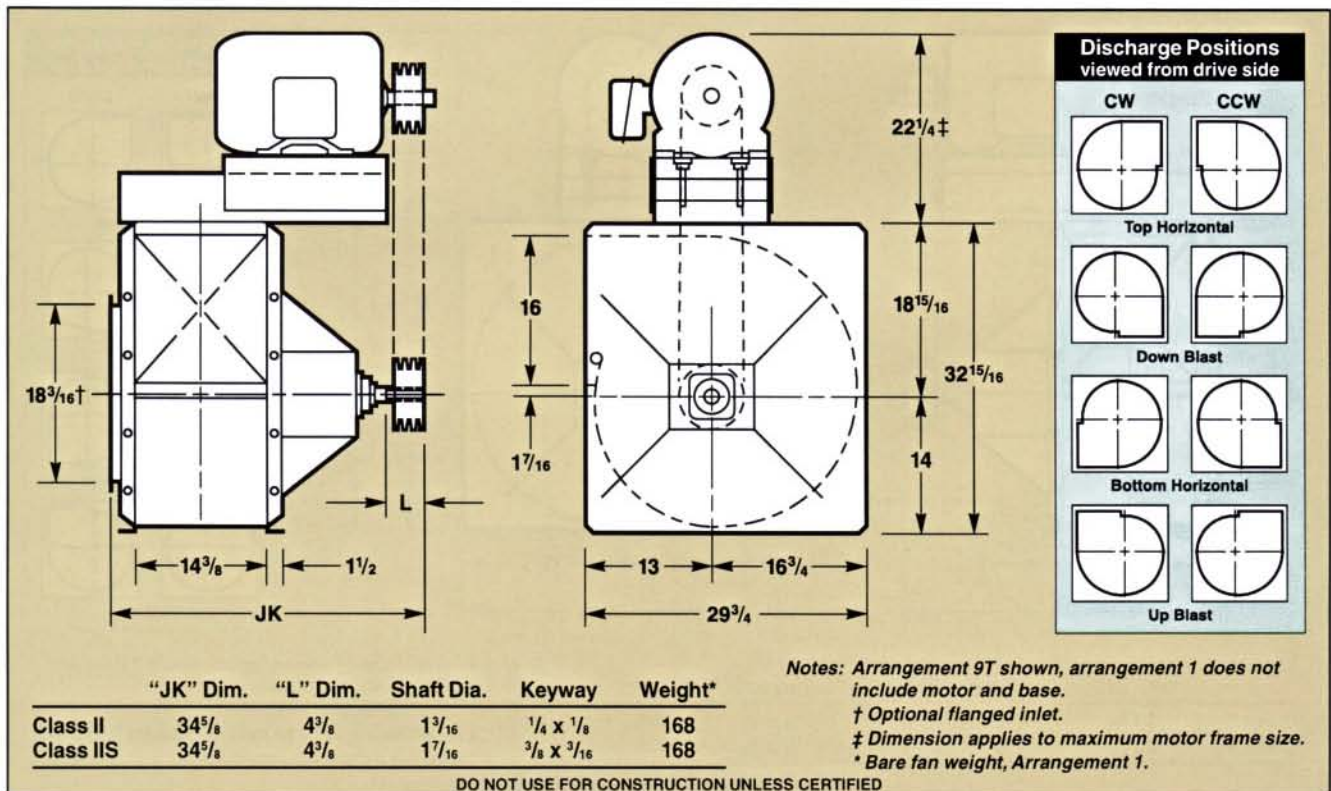
Outlet Area: 1.59 sq. ft.  
Maximum BHP =  $.461 (\text{rpm} \div 1000)^3$   
Tip Speed (fpm) =  $4.66 \times \text{rpm}$

**SIZE** **16 1/2**

CFM	OV FPM	1/4" SP		1/2" SP		3/4" SP		1" SP		1-1/2" SP		2" SP		2-1/2" SP		3" SP		3-1/2" SP		4" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
954	600	509	.06	639	.11																
1113	700	553	.08	664	.13	777	.20														
1272	800	600	.10	700	.16	797	.22	896	.30												
1431	900	649	.12	742	.19	827	.25	914	.33												
1590	1000	701	.16	787	.22	865	.30	942	.37	1100	.56										
1749	1100	755	.19	833	.27	908	.34	977	.42	1119	.61										
1908	1200	810	.23	881	.31	952	.40	1018	.48	1146	.67	1278	.89								
2067	1300	867	.29	931	.37	998	.46	1062	.55	1178	.74	1299	.96	1422	1.21						
2226	1400	924	.34	984	.43	1046	.52	1106	.62	1218	.82	1328	1.04	1440	1.29	1554	1.57				
2385	1500	982	.41	1037	.50	1094	.60	1152	.70	1260	.92	1360	1.13	1465	1.38	1571	1.66	1677	1.97		
2544	1600	1040	.48	1091	.58	1144	.68	1200	.79	1304	1.02	1399	1.25	1495	1.49	1593	1.77	1693	2.07	1792	2.40
2703	1700	1099	.57	1147	.67	1197	.77	1248	.89	1348	1.13	1441	1.37	1529	1.62	1621	1.89	1714	2.19	1808	2.52
2862	1800	1158	.66	1204	.77	1250	.88	1297	.99	1393	1.25	1484	1.51	1611	1.76	1653	2.03	1740	2.32	1828	2.65
3021	1900	1217	.76	1261	.88	1304	.99	1349	1.11	1441	1.37	1529	1.64	1654	1.92	1690	2.19	1771	2.48	1853	2.80
3180	2000	1277	.87	1318	1.00	1359	1.11	1402	1.24	1489	1.51	1573	1.79	1743	2.08	1730	2.36	1805	2.65	1884	2.98
3498	2200	1396	1.14	1434	1.27	1472	1.40	1509	1.53	1586	1.82	1666	2.13	1835	2.44	1816	2.76	1886	3.06	1954	3.38
3616	2400	1516	1.45	1552	1.59	1586	1.74	1620	1.88	1691	2.18	1763	2.50	1931	2.84	1905	3.18	1972	3.53	2036	3.87
4134	2600	1637	1.81	1670	1.97	1702	2.13	1734	2.28	1798	2.60	1862	2.94	2028	3.29	1996	3.66	2061	4.03	2123	4.41
4452	2800	1758	2.24	1789	2.41	1818	2.58	1848	2.74	1906	3.08	1968	3.43	2102	3.80	2092	4.19	2152	4.59	2212	4.99
4770	3000	1879	2.73	1908	2.91	1936	3.09	1963	3.27	2019	3.63	2075	4.00	2131	4.38	2189	4.79	2247	5.20	2304	5.63
CFM	OV FPM	4-1/2" SP		5" SP		5-1/2" SP		6" SP		6-1/2" SP		7" SP		7-1/2" SP		8" SP		9" SP		10" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2703	1700	1901	2.87																		
2852	1800	1917	3.00	2005	3.37																
3021	1900	1936	3.14	2021	3.51	2105	3.91														
3180	2000	1962	3.32	2040	3.68	2121	4.07	2201	4.48	2279	4.91										
3498	2200	2023	3.72	2095	4.08	2166	4.46	2237	4.85	2311	5.28	2382	5.72	2455	6.19						
3616	2400	2183	4.21	2161	4.56	2226	4.94	2292	5.33	2357	5.75	2423	6.18	2489	6.63	2556	7.11	2688	8.11		
4134	2600	2271	4.78	2241	5.14	2299	5.51	2356	5.90	2417	6.32	2478	6.74	2537	7.19	2599	7.65	2721	8.63	2843	9.68
4452	2800	2274	5.39	2327	5.80	2382	6.18	2435	6.58	2489	6.99	2541	7.40	2599	7.85	2655	8.31	2767	9.28	2880	10.30
4770	3000	2360	6.05	2415	6.49	2468	6.92	2520	7.35	2570	7.76	2620	8.19	2671	8.63	2719	9.07	2826	10.04	2929	11.05
5088	3200	2452	6.78	2505	7.24	2557	7.70	2607	8.16	2657	8.62	2705	9.07	2752	9.52	2799	9.97	2892	10.91	2991	11.94
5406	3400	2548	7.58	2597	8.06	2647	8.54	2696	9.03	2745	9.52	2791	10.01	2837	10.50	2882	10.97	2971	11.93	3058	12.92
5724	3600	2644	8.45	2693	8.95	2740	9.46	2787	9.97	2834	10.48	2880	11.00	2925	11.52	2969	12.05	3055	13.05	3138	14.07
6042	3800	2742	9.40	2790	9.92	2836	10.45	2881	10.99	2925	11.52	2970	12.07	3014	12.61	3057	13.16	3141	14.26		
6360	4000	2845	10.45	2888	10.98	2933	11.53	2977	12.09	3020	12.65	3062	13.21	3104	13.78						
6678	4200	2951	11.59	2991	12.13	3031	12.69	3074	13.27	3117	13.86										
6996	4400	3060	12.85	3089	13.33	3126	13.89														

Performance shown is for installation type B: Free inlet, Ducted outlet.  
Power ratings (BHP) do not include drive losses.

Performance ratings do not include the effects of appurtenances in the air stream.



Class II Class IIS  
**RPM 2645 2847**

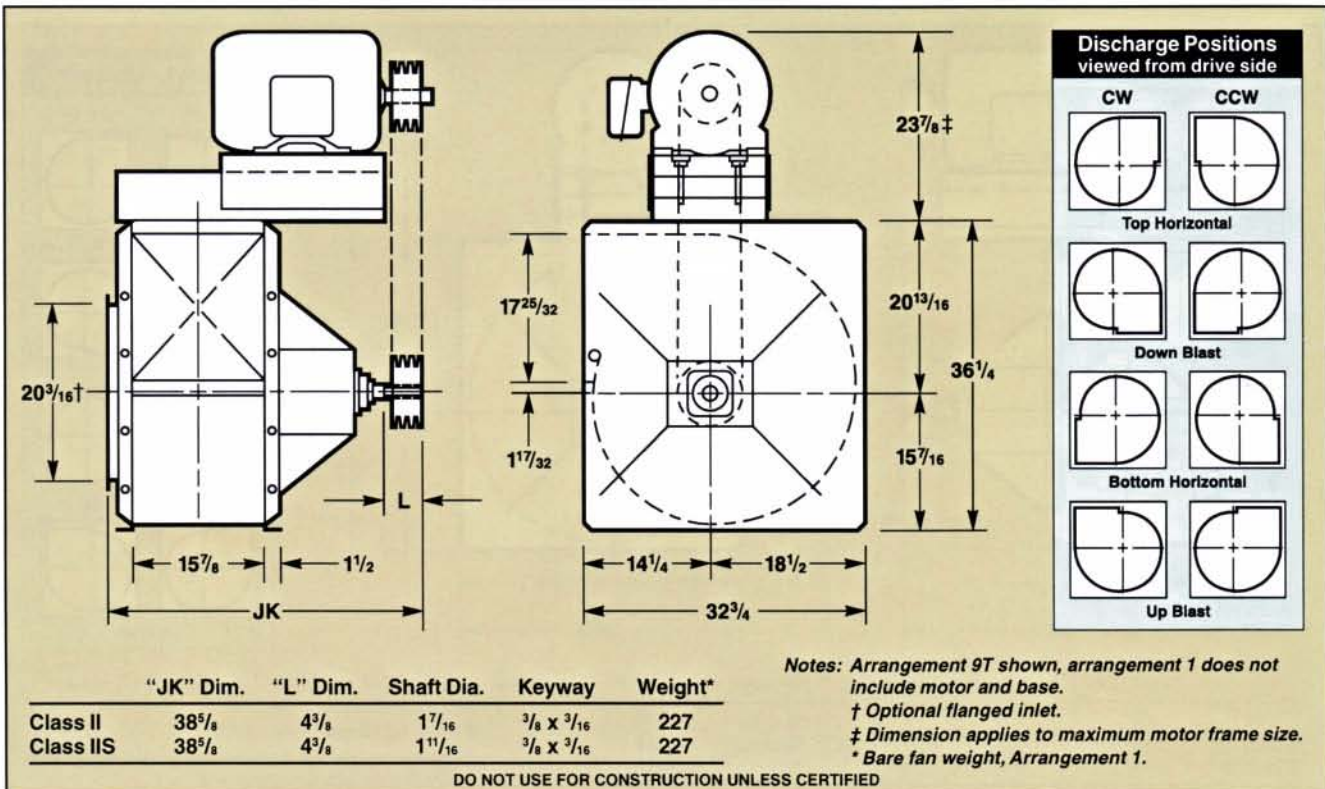
Outlet Area: 1.95 sq. ft.  
 Maximum BHP = .761 (rpm ÷ 1000)<sup>3</sup>  
 Tip Speed (fpm) = 5.15 x rpm

**SIZE 18 1/4**

CFM	OV FPM	1/4" SP		1/2" SP		3/4" SP		1" SP		1-1/2" SP		2" SP		2-1/2" SP		3" SP		3-1/2" SP		4" SP		
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	
1170	600	461	.07	578	.14																	
1365	700	501	.10	601	.16	703	.24															
1560	800	544	.12	634	.19	721	.27	811	.37													
1755	900	588	.15	673	.23	749	.31	828	.41													
1950	1000	636	.19	713	.28	784	.36	853	.46	996	.69											
2145	1100	685	.24	756	.33	823	.42	885	.52	1013	.74											
2340	1200	735	.29	799	.38	863	.49	923	.59	1038	.82	1157	1.09									
2535	1300	787	.35	845	.45	905	.56	962	.68	1067	.90	1177	1.17	1287	1.48							
2730	1400	839	.42	893	.53	948	.64	1003	.77	1103	1.01	1203	1.28	1304	1.58	1407	1.92					
2925	1500	891	.50	941	.62	993	.74	1044	.86	1142	1.13	1232	1.39	1326	1.69	1422	2.03	1518	2.41			
3120	1600	944	.60	990	.71	1038	.84	1088	.97	1182	1.25	1268	1.53	1354	1.83	1443	2.17	1532	2.54	1622	2.94	
3315	1700	998	.70	1041	.82	1086	.95	1132	1.09	1222	1.39	1306	1.68	1386	1.98	1469	2.32	1552	2.68	1636	3.08	
3510	1800	1051	.81	1093	.94	1135	1.08	1176	1.22	1263	1.53	1346	1.85	1422	2.16	1497	2.49	1576	2.85	1655	3.25	
3705	1900	1105	.94	1144	1.08	1184	1.22	1224	1.37	1306	1.69	1386	2.02	1460	2.35	1532	2.69	1605	3.05	1678	3.43	
3900	2000	1159	1.08	1196	1.23	1233	1.37	1272	1.53	1350	1.86	1426	2.21	1500	2.56	1568	2.90	1636	3.26	1706	3.65	
4290	2200	1268	1.40	1302	1.56	1336	1.73	1370	1.89	1439	2.24	1511	2.61	1580	3.00	1646	3.39	1709	3.77	1771	4.15	
4680	2400	1377	1.79	1409	1.96	1440	2.14	1470	2.32	1534	2.69	1599	3.08	1664	3.49	1727	3.91	1788	4.34	1846	4.75	
5070	2600	1486	2.24	1516	2.43	1545	2.62	1573	2.81	1631	3.20	1689	3.61	1751	4.05	1810	4.50	1868	4.95	1925	5.41	
5460	2800	1596	2.76	1624	2.97	1651	3.18	1677	3.38	1730	3.79	1785	4.23	1839	4.68	1897	5.16	1951	5.64	2006	6.13	
5850	3000	1706	3.37	1732	3.59	1758	3.81	1782	4.03	1832	4.47	1882	4.92	1933	5.39	1985	5.89	2038	6.40	2089	6.92	
CFM	OV FPM	4-1/2" SP		5" SP		5-1/2" SP		6" SP		6-1/2" SP		7" SP		7-1/2" SP		8" SP		9" SP		10" SP		
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	
3315	1700	1721	3.51																			
3510	1800	1735	3.67	1815	4.13																	
3705	1900	1753	3.85	1829	4.31	1905	4.79															
3900	2000	1776	4.06	1848	4.51	1920	4.98	1992	5.48	2063	6.01											
4290	2200	1833	4.56	1897	5.00	1961	5.46	2026	5.95	2092	6.47	2156	7.00	2222	7.58							
4680	2400	1902	5.17	1958	5.60	2017	6.06	2076	6.54	2134	7.05	2194	7.58	2253	8.13	2314	8.71	2433	9.93	2574	11.86	
5070	2600	1979	5.87	2031	6.31	2084	6.77	2135	7.24	2190	7.75	2244	8.28	2298	8.81	2353	9.38	2463	10.58	2607	12.63	
5460	2800	2059	6.62	2109	7.12	2159	7.60	2207	8.08	2256	8.58	2303	9.08	2354	9.64	2405	10.20	2506	11.38	2652	13.55	
5850	3000	2140	7.44	2189	7.97	2238	8.51	2284	9.03	2330	9.54	2375	10.06	2420	10.59	2464	11.13	2560	12.32	2709	14.65	
6240	3200	2223	8.34	2271	8.90	2318	9.46	2364	10.03	2408	10.60	2452	11.14	2494	11.69	2536	12.25	2620	13.39	2769	16.65	
6630	3400	2310	9.32	2355	9.91	2400	10.50	2445	11.10	2488	11.70	2530	12.30	2572	12.90	2613	13.48	2692	14.65	2772	15.87	
7020	3600	2398	10.39	2442	11.01	2485	11.63	2527	12.26	2569	12.88	2611	13.52	2652	14.16	2691	14.80	2769	16.04	2844	17.28	
7410	3800	2487	11.56	2530	12.21	2572	12.86	2613	13.51	2652	14.17	2693	14.83	2733	15.50	2772	16.17	2847	17.52			
7800	4000	2581	12.86	2619	13.50	2660	14.18	2700	14.86	2739	15.55	2777	16.24	2815	16.94							
8190	4200	2678	14.27	2713	14.94	2749	15.61	2788	16.33	2826	17.04											
8580	4400	2772	15.81	2798	16.40	2831	17.08															

Performance shown is for installation type B: Free inlet, Ducted outlet.  
 Power ratings (BHP) do not include drive losses.

Performance ratings do not include the effects of appurtenances in the air stream.



Class II **2546** Class IIS **2739** Class III **3016**

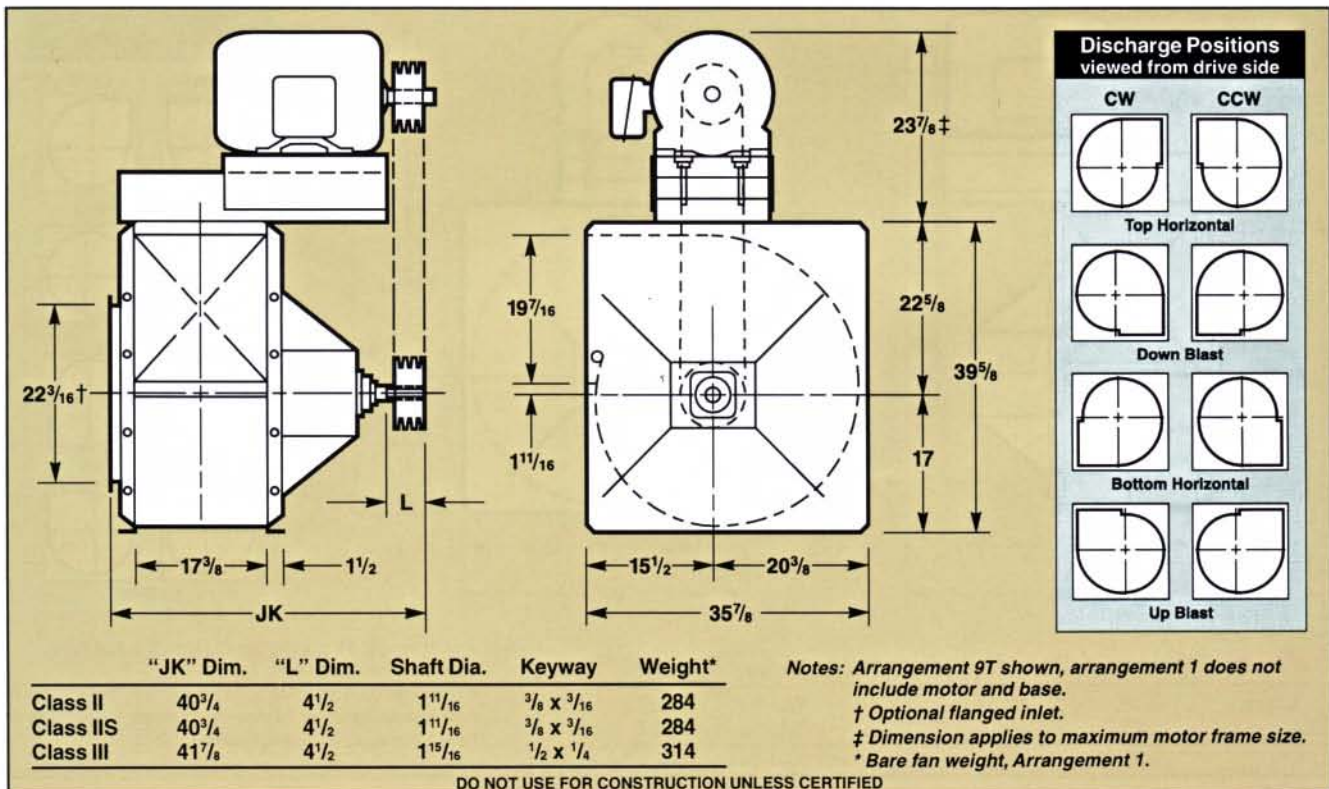
Outlet Area: 2.34 sq. ft.  
Maximum BHP = 1.20 (rpm ÷ 1000)<sup>3</sup>  
Tip Speed (fpm) = 5.65 x rpm

**SIZE**  
**20**

CFM	OV FPM	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		5" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1872	800	578	.23	740	.44																
2106	900	613	.28	755	.49																
2340	1000	650	.33	777	.55	908	.82														
2574	1100	688	.39	807	.62	924	.89														
2808	1200	728	.46	841	.71	946	.98	1055	1.31												
3042	1300	770	.54	877	.81	973	1.09	1073	1.41	1173	1.78										
3276	1400	813	.63	914	.92	1006	1.21	1096	1.53	1189	1.89	1283	2.31								
3510	1500	857	.74	952	1.04	1041	1.35	1123	1.67	1209	2.03	1296	2.44	1384	2.89						
3744	1600	902	.85	991	1.17	1077	1.51	1156	1.84	1234	2.19	1315	2.60	1397	3.04	1479	3.53				
3978	1700	949	.98	1031	1.31	1114	1.67	1191	2.02	1263	2.38	1338	2.78	1415	3.22	1492	3.70	1569	4.22		
4212	1800	995	1.13	1072	1.47	1152	1.84	1227	2.22	1296	2.59	1365	2.98	1437	3.42	1509	3.89	1582	4.40	1655	4.95
4446	1900	1043	1.29	1115	1.64	1190	2.02	1263	2.43	1331	2.82	1396	3.22	1462	3.65	1530	4.12	1599	4.62	1668	5.17
4680	2000	1090	1.47	1158	1.83	1229	2.22	1300	2.65	1367	3.07	1430	3.48	1491	3.91	1554	4.37	1620	4.88	1685	5.41
5148	2200	1186	1.88	1248	2.26	1311	2.68	1376	3.13	1440	3.60	1501	4.06	1558	4.52	1614	4.97	1670	5.46	1729	5.99
5616	2400	1283	2.36	1340	2.77	1397	3.21	1456	3.69	1516	4.18	1574	4.70	1630	5.21	1683	5.70	1734	6.19	1785	6.71
6084	2600	1381	2.91	1433	3.37	1485	3.83	1539	4.33	1594	4.85	1649	5.39	1703	5.95	1755	6.50	1804	7.04	1852	7.57
6552	2800	1479	3.56	1528	4.05	1576	4.54	1625	5.06	1676	5.61	1727	6.17	1778	6.76	1828	7.36	1876	7.96	1923	8.54
7020	3000	1578	4.30	1624	4.83	1669	5.35	1714	5.89	1761	6.46	1808	7.05	1856	7.66	1904	8.29	1950	8.93	1996	9.57
7488	3200	1677	5.14	1720	5.71	1763	6.26	1805	6.83	1848	7.41	1892	8.03	1936	8.67	1981	9.32	2026	9.99	2070	10.67
7956	3400	1777	6.09	1818	6.69	1858	7.29	1897	7.88	1937	8.49	1978	9.12	2019	9.79	2061	10.46	2104	11.16	2146	11.87
8424	3600	1876	7.15	1915	7.79	1953	8.42	1991	9.05	2028	9.68	2066	10.34	2105	11.02	2144	11.72	2184	12.44	2224	13.18
OV	FPM	6" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP		13" SP		14" SP		15" SP	
CFM		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
5148	2200	1847	7.14	1967	8.41			2219	11.91												
5616	2400	1891	7.84	2000	9.08	2109	10.44	2219	11.91												
6084	2600	1946	8.68	2045	9.91	2145	11.25	2246	12.69	2347	14.23	2447	15.87								
6552	2800	2012	9.69	2099	10.89	2191	12.22	2284	13.64	2377	15.15	2471	16.76	2565	18.47						
7020	3000	2082	10.83	2165	12.06	2246	13.35	2332	14.75	2419	16.26	2505	17.84	2593	19.52	2681	21.29	2768	23.15		
7488	3200	2155	12.04	2235	13.37	2312	14.68	2388	16.06	2468	17.53	2549	19.12	2630	20.77	2712	22.51	2794	24.33	2876	26.24
7956	3400	2228	13.32	2307	14.77	2382	16.17	2454	17.57	2526	19.02	2600	20.56	2676	22.22	2753	23.94	2830	25.74	2906	27.61
8424	3600	2303	14.69	2380	16.23	2453	17.76	2524	19.24	2592	20.72	2660	22.24	2729	23.85	2801	25.57	2873	27.36	2946	29.22
8892	3800	2380	16.18	2454	17.79	2526	19.42	2596	21.02	2662	22.58	2727	24.14	2791	25.74	2857	27.42	2923	29.18	2992	31.04
9360	4000	2458	17.80	2530	19.47	2600	21.17	2668	22.88	2734	24.57	2797	26.21	2859	27.85	2920	29.52	2981	31.25		
9828	4200	2539	19.55	2608	21.27	2676	23.04	2742	24.83	2807	26.63	2869	28.39	2930	30.12	2989	31.84				
10296	4400	2622	21.45	2687	23.22	2753	25.04	2817	26.90	2890	28.78	2942	30.66	3002	32.51						
10764	4600	2707	23.50	2769	25.32	2831	27.19	2894	29.11	2955	31.05	3016	33.02								
11232	4800	2793	25.71	2852	27.58	2912	29.50	2972	31.47												

Performance shown is for installation type B: Free inlet, Ducted outlet.  
Power ratings (BHP) do not include drive losses.

Performance ratings do not include the effects of appurtenances in the air stream.



Class II **2112** Class IIS **2374** Class III **2668**

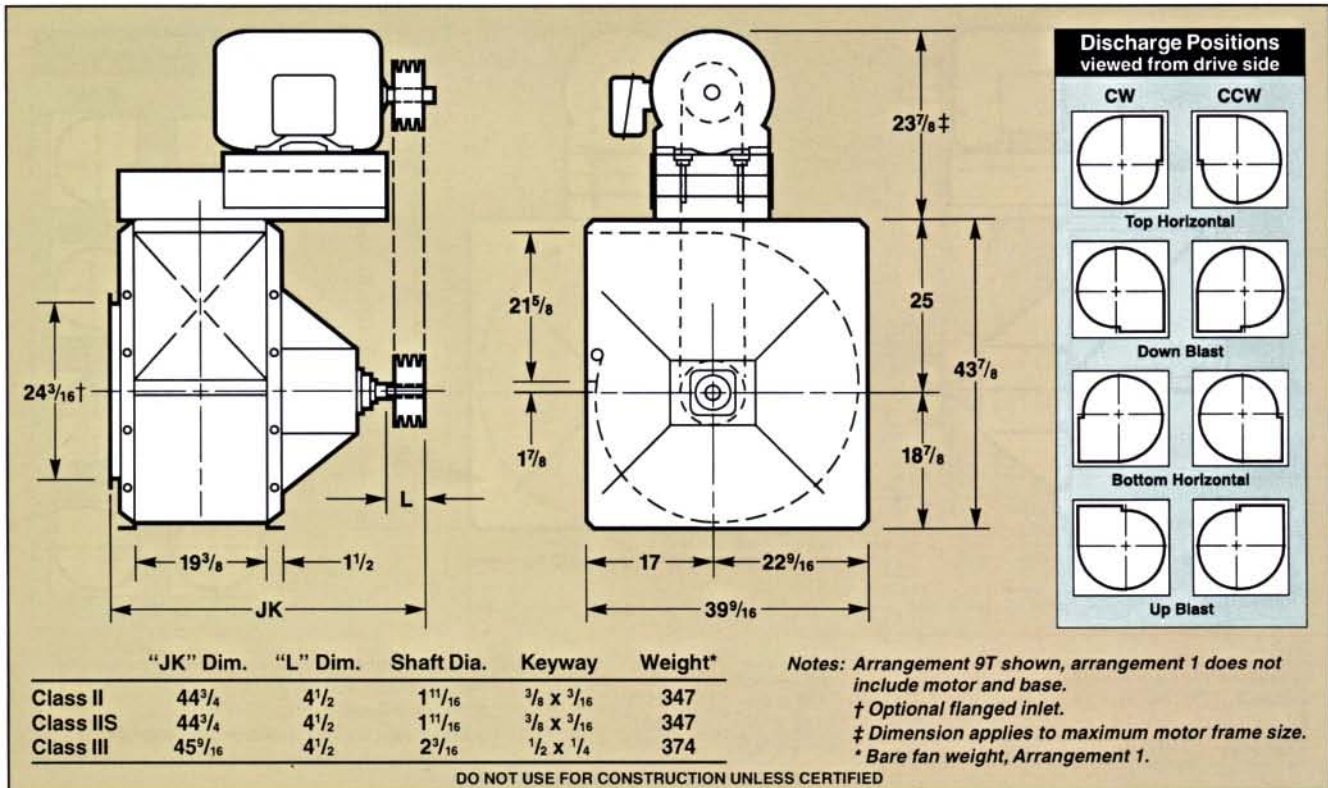
Outlet Area: 2.90 sq. ft.  
Maximum BHP = 1.94 (rpm ÷ 1000)<sup>3</sup>  
Tip Speed (fpm) = 6.28 x rpm

SIZE **22 1/4**

CFM	OV FPM	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		5' SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2900	1000	563	.34	681	.59																
3190	1100	594	.41	705	.67	807	.96														
3480	1200	627	.48	732	.76	828	1.06														
3770	1300	662	.56	761	.85	852	1.17	938	1.51												
4060	1400	699	.65	791	.96	878	1.30	960	1.66	1038	2.03										
4350	1500	737	.76	822	1.08	906	1.43	984	1.81	1059	2.20	1130	2.60								
4640	1600	776	.88	855	1.21	935	1.58	1009	1.97	1081	2.38	1151	2.80								
4930	1700	815	1.01	888	1.36	965	1.74	1037	2.15	1105	2.57	1172	3.01	1237	3.46						
5220	1800	855	1.16	923	1.52	996	1.91	1065	2.33	1131	2.78	1196	3.23	1258	3.70	1319	4.18				
5510	1900	896	1.32	959	1.70	1027	2.10	1095	2.54	1159	3.00	1220	3.47	1281	3.96	1340	4.45	1397	4.96		
5800	2000	937	1.50	996	1.89	1060	2.31	1125	2.76	1187	3.23	1247	3.72	1305	4.23	1362	4.74	1418	5.26	1472	5.80
6380	2200	1019	1.91	1073	2.34	1129	2.78	1188	3.25	1247	3.75	1303	4.28	1358	4.81	1411	5.36	1463	5.92	1515	6.49
6960	2400	1102	2.38	1152	2.86	1201	3.33	1254	3.83	1309	4.35	1363	4.90	1415	5.47	1465	6.05	1514	6.65	1562	7.25
7540	2600	1185	2.94	1232	3.46	1277	3.96	1325	4.49	1374	5.04	1425	5.61	1475	6.21	1522	6.82	1569	7.45	1615	8.09
8120	2800	1269	3.57	1313	4.14	1355	4.69	1398	5.24	1443	5.81	1490	6.41	1537	7.03	1583	7.68	1627	8.33	1671	9.00
8700	3000	1353	4.30	1395	4.92	1435	5.51	1474	6.09	1515	6.69	1557	7.31	1601	7.96	1645	8.63	1688	9.31	1730	10.01
9280	3200	1438	5.13	1477	5.79	1515	6.43	1552	7.05	1589	7.68	1628	8.33	1668	8.99	1709	9.69	1750	10.40	1791	11.13
9860	3400	1523	6.06	1560	6.77	1596	7.45	1631	8.12	1666	8.78	1701	9.45	1738	10.15	1776	10.86	1815	11.60	1853	12.35
10440	3600	1608	7.11	1644	7.86	1678	8.59	1711	9.30	1744	10.00	1777	10.70	1811	11.42	1846	12.16	1882	12.92	1918	13.69
11020	3800	1693	8.27	1727	9.06	1760	9.84	1792	10.59	1823	11.34	1854	12.07	1885	12.82	1918	13.58	1951	14.37	1985	15.17
CFM	OV FPM	6' SP		7' SP		8' SP		9' SP		10' SP		11' SP		12' SP		13' SP		14' SP		15' SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
6380	2200	1614	7.66																		
6960	2400	1657	8.49	1748	9.76																
7540	2600	1704	9.40	1791	10.74	1876	12.11	1958	13.50												
8120	2800	1756	10.38	1839	11.80	1920	13.24	1999	14.71	2076	16.21										
8700	3000	1811	11.45	1890	12.94	1967	14.45	2043	16.00	2117	17.57	2190	19.16	2260	20.77						
9280	3200	1869	12.62	1945	14.17	2019	15.76	2091	17.38	2162	19.02	2233	20.69	2301	22.38	2368	24.09				
9860	3400	1929	13.90	2002	15.51	2073	17.16	2143	18.85	2211	20.56	2278	22.31	2345	24.07	2410	25.86	2474	27.66	2536	29.48
10440	3600	1991	15.30	2062	16.96	2130	18.68	2197	20.43	2263	22.21	2327	24.03	2391	25.86	2454	27.72	2516	29.60	2577	31.50
11020	3800	2054	16.82	2123	18.54	2190	20.31	2254	22.12	2318	23.97	2380	25.85	2441	27.76	2502	29.70	2562	31.65	2621	33.63
11600	4000	2120	18.48	2186	20.25	2251	22.08	2313	23.94	2375	25.86	2435	27.80	2494	29.78	2552	31.78	2610	33.81	2668	35.86
12180	4200	2188	20.29	2250	22.10	2313	23.98	2374	25.91	2434	27.87	2492	29.88	2549	31.92	2606	33.99	2662	36.09		
12760	4400	2257	22.24	2316	24.10	2376	26.03	2436	28.01	2494	30.04	2551	32.10	2607	34.20	2661	36.34				
13340	4600	2329	24.36	2385	26.27	2442	28.24	2499	30.27	2556	32.35	2611	34.47	2666	36.63						
13920	4800	2403	26.63	2455	28.59	2509	30.61	2564	32.69	2618	34.82										

Performance shown is for installation type B: Free inlet, Ducted outlet.  
Power ratings (BHP) do not include drive losses.

Performance ratings do not include the effects of apertures in the air stream.



Class II Class IIS Class III  
**RPM 1944 2103 2423**

Outlet Area: 3.52 sq. ft.  
 Maximum BHP = 3.14 (rpm ÷ 1000)<sup>3</sup>  
 Tip Speed (fpm) = 6.92 x rpm

**SIZE 24 1/2**

CFM	OV FPM	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		5' SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3520	1000	511	.42	619	.72																
3872	1100	540	.49	641	.81	733	1.16														
4224	1200	570	.58	665	.92	753	1.29														
4576	1300	602	.68	692	1.04	774	1.43	852	1.84												
4928	1400	635	.80	719	1.17	798	1.58	872	2.01	943	2.46										
5280	1500	670	.93	747	1.31	823	1.74	894	2.19	962	2.67	1027	3.15								
5632	1600	705	1.07	777	1.47	849	1.92	917	2.39	982	2.89	1045	3.40								
5984	1700	741	1.23	807	1.65	877	2.11	942	2.60	1004	3.12	1065	3.65	1124	4.20						
6336	1800	778	1.41	839	1.85	905	2.32	968	2.83	1028	3.37	1086	3.92	1143	4.49	1198	5.07				
6688	1900	814	1.61	872	2.06	933	2.55	995	3.08	1053	3.64	1109	4.21	1164	4.80	1217	5.40	1269	6.02		
7040	2000	851	1.83	905	2.30	963	2.81	1022	3.35	1079	3.92	1133	4.52	1186	5.13	1237	5.75	1288	6.39	1337	7.04
7744	2200	926	2.32	975	2.84	1026	3.38	1080	3.95	1133	4.56	1184	5.19	1234	5.84	1282	6.51	1329	7.19	1376	7.88
8448	2400	1001	2.90	1047	3.47	1092	4.05	1140	4.65	1190	5.29	1238	5.95	1285	6.64	1331	7.35	1375	8.07	1419	8.81
9152	2600	1077	3.57	1120	4.20	1161	4.82	1204	5.45	1249	6.12	1295	6.82	1340	7.54	1383	8.28	1426	9.04	1467	9.82
9856	2800	1153	4.35	1193	5.04	1232	5.70	1270	6.36	1311	7.06	1354	7.79	1396	8.54	1438	9.32	1479	10.12	1518	10.93
10560	3000	1230	5.23	1268	5.98	1304	6.70	1340	7.40	1377	8.13	1415	8.89	1455	9.67	1495	10.48	1534	11.31	1572	12.16
11264	3200	1307	6.24	1343	7.04	1377	7.81	1410	8.57	1444	9.33	1479	10.11	1516	10.93	1553	11.77	1590	12.63	1627	13.51
11968	3400	1384	7.37	1418	8.23	1451	9.06	1482	9.86	1514	10.67	1546	11.48	1580	12.33	1614	13.19	1649	14.08	1684	15.00
12672	3600	1462	8.64	1494	9.55	1525	10.44	1555	11.30	1585	12.15	1615	13.00	1646	13.87	1677	14.77	1710	15.69	1743	16.63
13376	3800	1539	10.05	1570	11.01	1600	11.96	1629	12.88	1657	13.78	1685	14.67	1714	15.58	1743	16.50	1773	17.45	1804	18.42
CFM	OV FPM	6' SP		7' SP		8' SP		9' SP		10' SP		11' SP		12' SP		13' SP		14' SP		15' SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
7744	2200	1466	9.29																		
8448	2400	1505	10.31	1588	11.85																
9152	2600	1548	11.41	1627	13.04	1704	14.70	1779	16.39												
9856	2800	1595	12.60	1670	14.32	1744	16.07	1816	17.86	1886	19.67										
10560	3000	1646	13.91	1717	15.71	1787	17.55	1856	19.42	1924	21.33	1989	23.26	2053	25.22						
11264	3200	1698	15.33	1767	17.21	1834	19.13	1900	21.10	1965	23.09	2028	25.12	2090	27.16	2151	29.24				
11968	3400	1753	16.89	1819	18.83	1884	20.84	1947	22.88	2009	24.97	2070	27.08	2130	29.22	2189	31.39	2247	33.58	2304	35.79
12672	3600	1809	18.58	1874	20.60	1936	22.68	1996	24.80	2056	26.97	2114	29.17	2172	31.40	2230	33.65	2286	35.94	2341	38.24
13376	3800	1867	20.43	1929	22.52	1990	24.66	2048	26.86	2106	29.11	2162	31.39	2218	33.70	2273	36.05	2327	38.42	2381	40.82
14080	4000	1926	22.45	1986	24.60	2045	26.81	2102	29.08	2158	31.40	2212	33.76	2266	36.16	2319	38.58	2371	41.05	2423	43.53
14784	4200	1988	24.64	2045	26.85	2101	29.12	2157	31.46	2211	33.85	2264	36.28	2316	38.76	2367	41.27	2418	43.82		
15488	4400	2052	27.02	2105	29.28	2159	31.62	2213	34.02	2266	36.48	2318	38.98	2368	41.53	2418	44.12				
16192	4600	2117	29.59	2167	31.91	2219	34.30	2271	36.76	2322	39.29	2373	41.86	2422	44.48						
16896	4800	2184	32.36	2231	34.74	2280	37.19	2330	39.71	2379	42.29										

Performance shown is for installation type B: Free inlet, Ducted outlet.  
 Power ratings (BHP) do not include drive losses.

Performance ratings do not include the effects of apertures in the air stream.

**Discharge Positions viewed from drive side**

CW	CCW

**Notes:** Arrangement 9T shown, arrangement 1 does not include motor and base.  
 † Optional flanged inlet.  
 ‡ Dimension applies to maximum motor frame size.  
 \* Bare fan weight, Arrangement 1.

	"JK" Dim.	"L" Dim.	Shaft Dia.	Keyway	Weight*
Class II	46 <sup>23</sup> / <sub>32</sub>	4 1/2	1 <sup>11</sup> / <sub>16</sub>	3/8 x 3/16	420
Class IIS	46 <sup>23</sup> / <sub>32</sub>	4 1/2	1 <sup>15</sup> / <sub>16</sub>	1/2 x 1/4	420
Class III	47 <sup>17</sup> / <sub>32</sub>	4 1/2	2 <sup>3</sup> / <sub>16</sub>	1/2 x 1/4	450

DO NOT USE FOR CONSTRUCTION UNLESS CERTIFIED



Class II **1833** Class IIS **1956** Class III **2198**

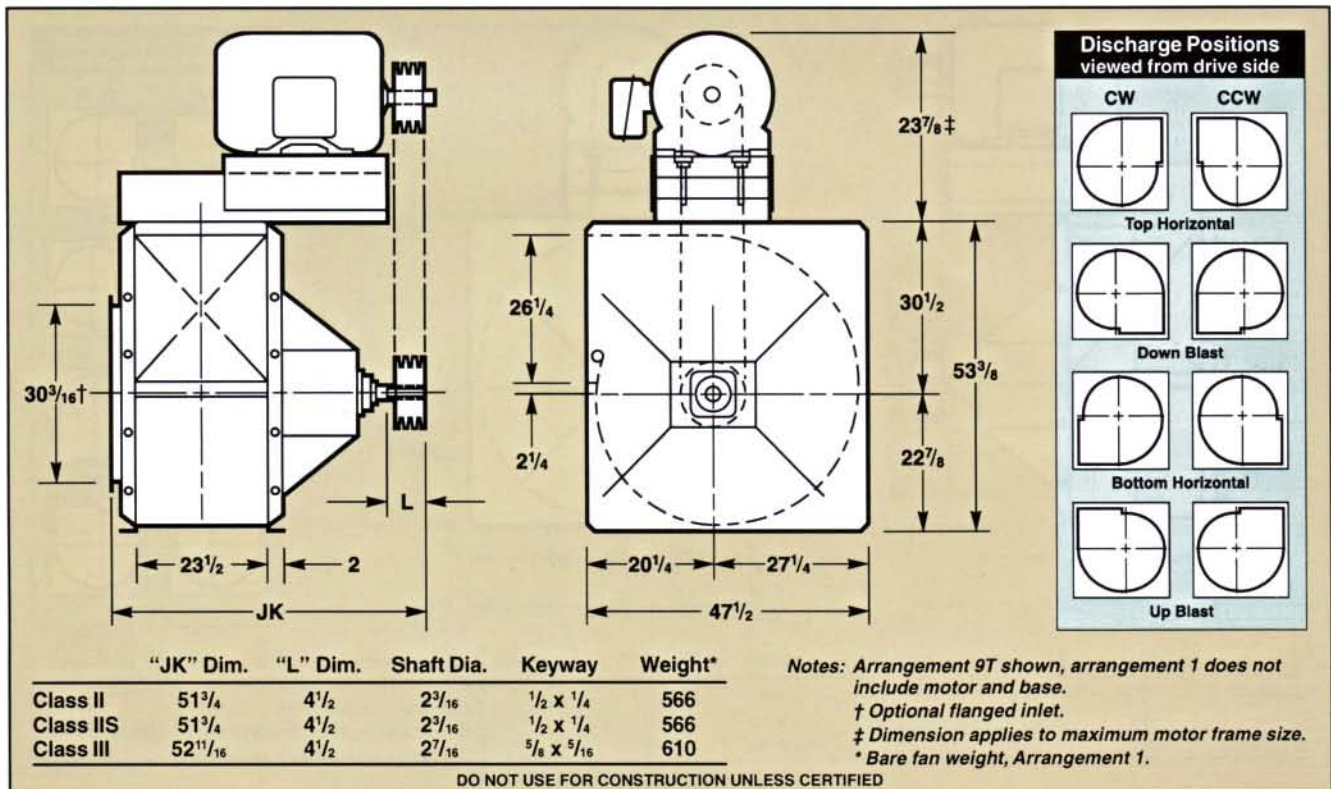
Outlet Area: 4.27 sq. ft.  
Maximum BHP = 5.10 (rpm ÷ 1000)<sup>3</sup>  
Tip Speed (fpm) = 7.62 x rpm

**SIZE**  
**27**

CFM	OV FPM	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		5' SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
4270	1000	464	.51	561	.87																
4697	1100	490	.60	581	.99																
5124	1200	517	.70	604	1.11	665	1.41														
5551	1300	546	.83	627	1.26	702	1.73	773	2.23												
5978	1400	576	.96	652	1.41	723	1.91	791	2.44	855	2.98										
6405	1500	607	1.12	678	1.59	746	2.11	811	2.66	872	3.23	931	3.82								
6832	1600	639	1.30	704	1.78	770	2.32	832	2.90	891	3.50	948	4.12								
7259	1700	672	1.49	732	2.00	795	2.56	854	3.16	911	3.78	966	4.43	1019	5.09						
7686	1800	705	1.71	761	2.24	820	2.82	878	3.44	932	4.09	985	4.76	1037	5.45	1087	6.15				
8113	1900	738	1.95	790	2.50	846	3.10	902	3.74	955	4.41	1006	5.11	1056	5.83	1104	6.56	1151	7.30		
8540	2000	772	2.21	821	2.79	873	3.40	927	4.06	978	4.76	1028	5.48	1075	6.22	1122	6.98	1168	7.75	1213	8.54
9394	2200	839	2.81	884	3.44	930	4.09	979	4.79	1028	5.53	1074	6.29	1119	7.09	1163	7.89	1206	8.72	1248	9.56
10248	2400	908	3.51	949	4.21	990	4.90	1034	5.63	1079	6.41	1123	7.22	1166	8.05	1207	8.91	1248	9.79	1287	10.68
11102	2600	976	4.32	1015	5.09	1052	5.84	1092	6.61	1133	7.41	1174	8.26	1215	9.14	1255	10.04	1293	10.97	1331	11.91
11956	2800	1046	5.26	1082	6.10	1117	6.90	1152	7.71	1189	8.56	1227	9.44	1266	10.36	1304	11.30	1341	12.27	1377	13.26
12810	3000	1115	6.34	1149	7.24	1182	8.11	1215	8.97	1248	9.85	1283	10.77	1319	11.72	1355	12.70	1391	13.71	1425	14.74
13664	3200	1185	7.56	1217	8.53	1248	9.47	1279	10.38	1309	11.30	1341	12.26	1375	13.24	1408	14.26	1442	15.31	1476	16.38
14518	3400	1255	8.93	1286	9.96	1315	10.97	1344	11.95	1373	12.92	1402	13.92	1432	14.94	1464	15.99	1495	17.07	1527	18.18
15372	3600	1325	10.46	1354	11.57	1383	12.64	1410	13.69	1437	14.72	1464	15.75	1492	16.81	1521	17.90	1551	19.02	1581	20.16
16226	3800	1395	12.17	1423	13.34	1450	14.48	1476	15.60	1502	16.69	1528	17.78	1554	18.87	1580	20.00	1608	21.15	1636	22.33
CFM	OV FPM	6' SP		7' SP		8' SP		9' SP		10' SP		11' SP		12' SP		13' SP		14' SP		15' SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
9394	2200	1330	11.27																		
10248	2400	1365	12.50	1441	14.37																
11102	2600	1404	13.84	1476	15.81	1546	17.83	1613	19.88												
11956	2800	1447	15.29	1515	17.37	1582	19.50	1647	21.66	1710	23.86										
12810	3000	1492	16.86	1557	19.05	1621	21.28	1684	23.56	1745	25.87	1805	28.22	1863	30.59						
13664	3200	1540	18.59	1603	20.87	1663	23.20	1723	25.58	1782	28.01	1840	30.46	1896	32.95	1951	35.47				
14518	3400	1590	20.47	1650	22.84	1708	25.27	1766	27.75	1822	30.28	1877	32.84	1932	35.44	1986	38.07	2038	40.73	2090	43.41
15372	3600	1641	22.53	1699	24.98	1756	27.50	1811	30.08	1865	32.70	1918	35.37	1971	38.08	2022	40.82	2074	43.59	2124	46.39
16226	3800	1693	24.77	1750	27.30	1804	29.90	1858	32.57	1910	35.30	1961	38.07	2011	40.87	2062	43.72	2111	46.60	2160	49.51
17080	4000	1747	27.21	1801	29.82	1855	32.50	1906	35.26	1957	38.07	2006	40.94	2055	43.85	2103	46.79	2151	49.78	2198	52.80
17934	4200	1803	29.87	1854	32.54	1906	35.31	1956	38.14	2005	41.04	2053	44.00	2101	47.00	2147	50.05	2193	53.14		
18788	4400	1860	32.75	1909	35.49	1958	38.33	2007	41.24	2055	44.22	2102	47.26	2148	50.36	2193	53.50				
19642	4600	1919	35.86	1965	38.67	2012	41.58	2059	44.57	2106	47.63	2152	50.75	2197	53.93						
20496	4800	1980	39.21	2023	42.10	2067	45.07	2113	48.13	2158	51.27										

Performance shown is for installation type B: Free inlet, Ducted outlet.  
Power ratings (BHP) do not include drive losses.

Performance ratings do not include the effects of apertures in the air stream.



Class II **1595** RPM  
 Class IIS **1788** RPM  
 Class III **2038** RPM

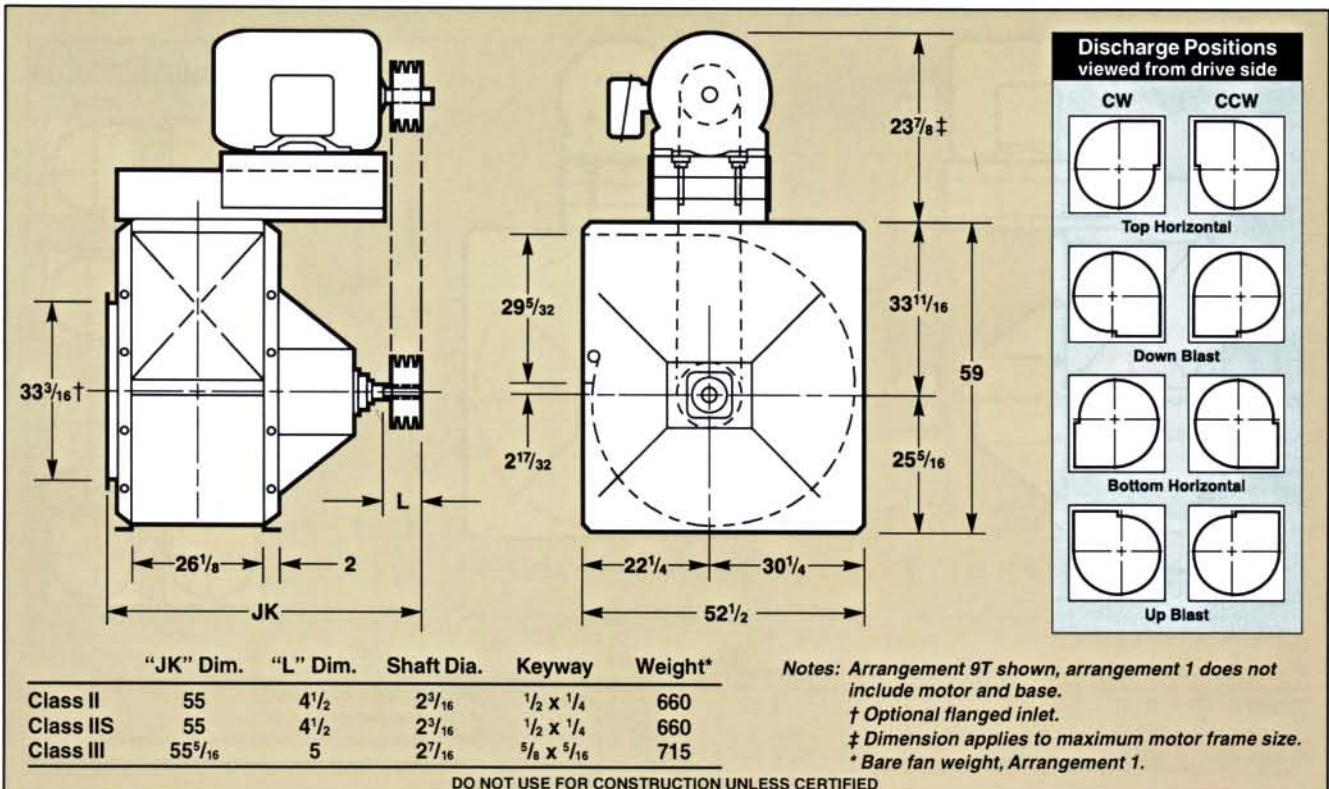
Outlet Area: 5.27 sq. ft.  
 Maximum BHP = 8.41 (rpm ÷ 1000)<sup>3</sup>  
 Tip Speed (fpm) = 8.48 x rpm

SIZE **30**

CFM	OV FPM	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		5' SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
5270	1000	425	.65	512	1.07																
5797	1100	451	.77	529	1.21																
6324	1200	478	.91	550	1.38	623	1.92														
6851	1300	505	1.07	573	1.58	639	2.12	708	2.78												
7378	1400	533	1.24	598	1.80	659	2.36	722	3.00												
7905	1500	563	1.44	623	2.04	681	2.63	738	3.26	798	4.00										
8432	1600	592	1.66	649	2.30	704	2.93	757	3.57	812	4.30	868	5.13								
8959	1700	622	1.90	676	2.58	729	3.25	779	3.92	829	4.64	882	5.45	934	6.36						
9486	1800	653	2.17	704	2.89	754	3.61	802	4.31	849	5.04	898	5.84	947	6.73						
10013	1900	683	2.46	732	3.22	780	3.98	826	4.73	870	5.48	916	6.28	962	7.15	1009	8.11				
10540	2000	714	2.79	760	3.59	806	4.39	851	5.18	893	5.96	936	6.77	979	7.63	1024	8.58	1068	9.60		
11594	2200	777	3.53	819	4.40	861	5.28	902	6.16	942	7.03	981	7.89	1019	8.77	1059	9.70	1099	10.69	1139	11.76
12648	2400	840	4.41	879	5.35	917	6.31	955	7.27	993	8.23	1029	9.17	1065	10.11	1100	11.06	1136	12.06	1172	13.10
13702	2600	904	5.43	939	6.45	975	7.48	1010	8.52	1045	9.57	1080	10.60	1114	11.62	1147	12.64	1179	13.66	1212	14.72
14756	2800	968	6.60	1001	7.70	1034	8.81	1067	9.93	1100	11.05	1132	12.17	1165	13.29	1196	14.38	1227	15.48	1257	16.58
15810	3000	1032	7.95	1064	9.12	1094	10.30	1125	11.50	1156	12.70	1186	13.91	1217	15.11	1247	16.30	1276	17.48	1305	18.65
16864	3200	1097	9.48	1126	10.72	1155	11.98	1184	13.25	1213	14.53	1242	15.81	1270	17.10	1299	18.38	1327	19.65	1355	20.92
17918	3400	1162	11.20	1190	12.52	1217	13.85	1244	15.20	1271	16.55	1298	17.91	1325	19.28	1352	20.64	1379	22.00	1406	23.36
18972	3600	1227	13.13	1253	14.52	1279	15.93	1305	17.35	1331	18.78	1356	20.22	1382	21.66	1407	23.11	1433	24.55	1458	25.99
20026	3800	1292	15.27	1317	16.74	1342	18.22	1366	19.71	1391	21.22	1415	22.73	1439	24.25	1463	25.78	1488	27.31	1512	28.83
CFM	OV FPM	6' SP		7' SP		8' SP		9' SP		10' SP		11' SP		12' SP		13' SP		14' SP		15' SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
12648	2400	1246	15.39	1320	17.97																
13702	2600	1279	16.97	1347	19.46	1416	22.22														
14756	2800	1318	18.85	1380	21.30	1444	23.98	1507	26.90												
15810	3000	1361	21.01	1418	23.47	1476	26.10	1536	28.94	1595	32.01										
16864	3200	1408	23.41	1461	25.94	1515	28.58	1569	31.38	1625	34.37	1681	37.58	1736	41.01						
17918	3400	1457	26.02	1508	28.68	1557	31.38	1608	34.19	1659	37.15	1711	40.29	1764	43.62	1816	47.17	1868	50.91		
18972	3600	1508	28.85	1556	31.67	1603	34.48	1650	37.34	1698	40.31	1746	43.42	1795	46.69	1845	50.15	1894	53.80	1944	57.65
20026	3800	1559	31.87	1606	34.87	1652	37.84	1696	40.81	1741	43.83	1786	46.95	1831	50.21	1878	53.61	1925	57.19	1972	60.94
21080	4000	1612	35.10	1657	38.28	1701	41.43	1744	44.55	1787	47.69	1829	50.87	1872	54.14	1915	57.53	1959	61.06	2003	64.75
22134	4200	1666	38.56	1709	41.92	1752	45.26	1794	48.55	1835	51.83	1875	55.12	1915	58.45	1956	61.87	1997	65.38	2038	69.05
23188	4400	1721	42.27	1763	45.80	1804	49.31	1844	52.80	1884	56.24	1923	59.68	1962	63.12	2000	66.61				
24242	4600	1777	46.24	1817	49.94	1857	53.62	1896	57.28	1935	60.92	1972	64.51	2010	68.11						
25296	4800	1834	50.48	1872	54.33	1910	58.19	1948	62.03	1986	65.85	2023	69.64								

Performance shown is for installation type B: Free inlet, Ducted outlet.  
 Power ratings (BHP) do not include drive losses.

Performance ratings do not include the effects of appurtenances in the air stream.



Class II **1440** RPM  
 Class IIS **1560** RPM  
 Class III **1853** RPM

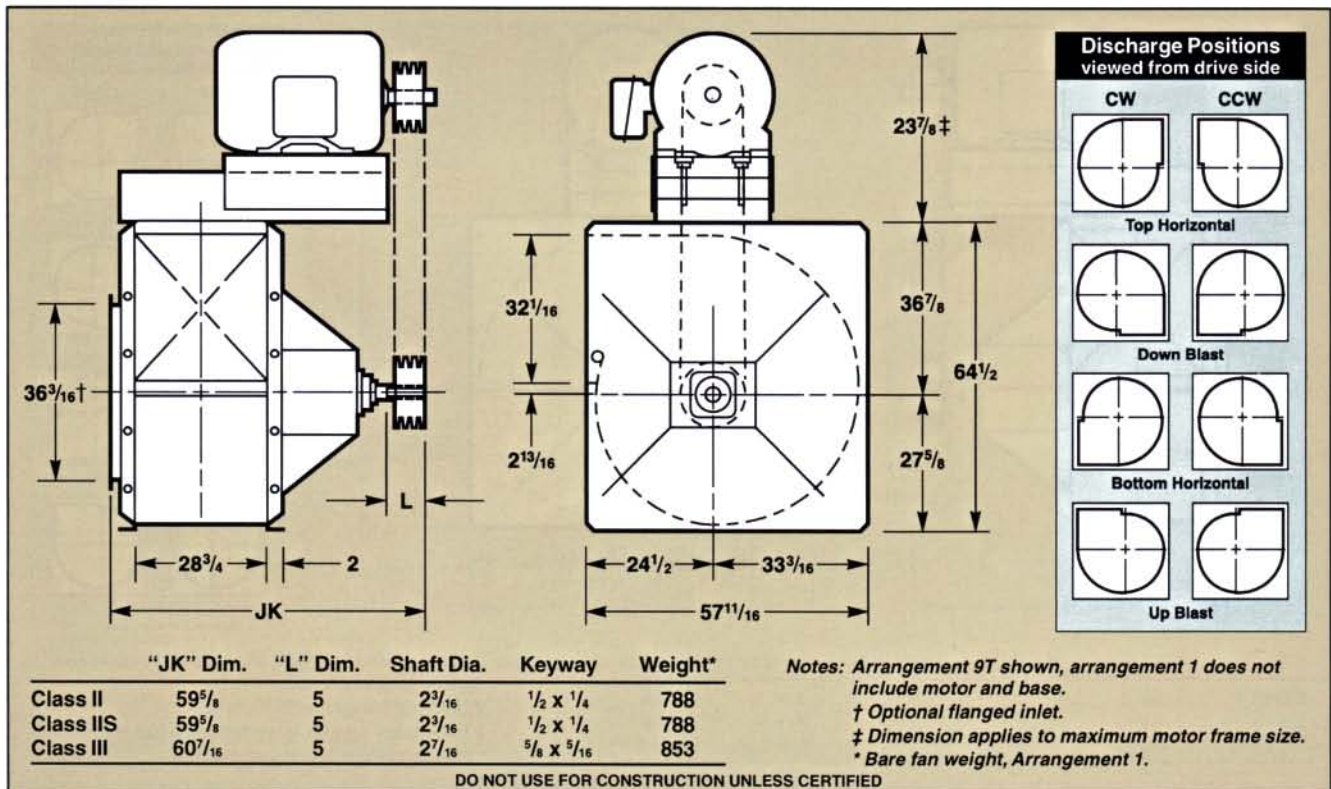
Outlet Area: 6.38 sq. ft.  
 Maximum BHP = 13.5 (rpm ÷ 1000)<sup>3</sup>  
 Tip Speed (fpm) = 9.31 x rpm

**SIZE**  
**33**

CFM	OV FPM	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		5' SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
6380	1000	387	.78	465	1.30																
7018	1100	410	.93	481	1.47																
7656	1200	434	1.10	500	1.67	567	2.33														
8294	1300	459	1.29	521	1.91	581	2.57	644	3.36												
8932	1400	485	1.50	544	2.18	599	2.85	656	3.63												
9570	1500	512	1.74	567	2.47	619	3.18	671	3.95	725	4.84										
10208	1600	538	2.01	591	2.78	640	3.54	689	4.33	739	5.20	789	6.21								
10846	1700	566	2.30	615	3.13	663	3.94	708	4.75	754	5.62	802	6.60	849	7.70						
11484	1800	593	2.63	640	3.50	686	4.37	729	5.22	772	6.10	816	7.07	861	8.14						
12122	1900	621	2.99	665	3.90	709	4.82	751	5.73	791	6.64	833	7.60	875	8.65	918	9.82				
12760	2000	650	3.38	691	4.34	733	5.31	774	6.27	812	7.22	851	8.19	890	9.24	931	10.38	971	11.63		
14036	2200	706	4.28	745	5.33	783	6.40	820	7.47	857	8.51	892	9.56	927	10.62	962	11.74	999	12.95	1036	14.24
15312	2400	764	5.34	799	6.48	834	7.64	869	8.81	903	9.97	936	11.11	968	12.24	1001	13.40	1033	14.60	1066	15.86
16588	2600	822	6.57	854	7.81	887	9.06	919	10.32	951	11.58	982	12.84	1013	14.07	1043	15.30	1072	16.54	1102	17.82
17864	2800	880	8.00	911	9.32	941	10.67	970	12.02	1000	13.39	1030	14.74	1059	16.09	1087	17.42	1115	18.74	1143	20.07
19140	3000	939	9.63	967	11.05	995	12.48	1023	13.93	1051	15.38	1079	16.84	1106	18.30	1134	19.74	1160	21.17	1186	22.58
20416	3200	998	11.48	1024	12.99	1051	14.51	1077	16.05	1103	17.60	1129	19.15	1155	20.71	1181	22.26	1207	23.80	1232	25.33
21692	3400	1057	13.57	1082	15.16	1107	16.78	1132	18.41	1156	20.05	1181	21.70	1205	23.35	1230	25.00	1254	26.65	1278	28.29
22968	3600	1116	15.91	1140	17.59	1164	19.29	1187	21.01	1210	22.74	1233	24.48	1257	26.23	1280	27.98	1303	29.73	1326	31.47
24244	3800	1175	18.50	1198	20.28	1221	22.07	1243	23.88	1265	25.70	1287	27.54	1309	29.38	1331	31.22	1353	33.07	1375	34.92
CFM	OV FPM	6' SP		7' SP		8' SP		9' SP		10' SP		11' SP		12' SP		13' SP		14' SP		15' SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
15312	2400	1133	18.64	1200	21.76																
16588	2600	1163	20.55	1225	23.56	1287	26.90														
17864	2800	1198	22.82	1255	25.79	1313	29.03	1370	32.56												
19140	3000	1238	25.44	1289	28.42	1342	31.60	1396	35.04	1450	38.75										
20416	3200	1281	28.35	1329	31.41	1377	34.61	1427	37.99	1477	41.61	1528	45.50	1578	49.65						
21692	3400	1325	31.52	1371	34.74	1416	38.00	1462	41.39	1508	44.98	1556	48.78	1604	52.81	1651	57.10	1698	61.63		
22968	3600	1371	34.93	1415	38.35	1458	41.75	1501	45.22	1544	48.81	1588	52.57	1632	56.53	1677	60.72	1722	65.13	1767	69.79
24244	3800	1418	38.59	1461	42.23	1502	45.82	1543	49.42	1583	53.08	1624	56.85	1665	60.79	1707	64.91	1750	69.24	1793	73.78
25520	4000	1466	42.51	1507	46.36	1547	50.17	1586	53.95	1625	57.75	1663	61.60	1702	65.55	1741	69.65	1781	73.93	1821	78.39
26796	4200	1515	46.70	1555	50.77	1593	54.81	1631	58.79	1668	62.77	1705	66.75	1742	70.78	1778	74.92	1816	79.17	1853	83.61
28072	4400	1565	51.20	1603	55.47	1640	59.72	1677	63.94	1713	68.10	1749	72.27	1784	76.44	1819	80.66				
29348	4600	1616	56.00	1652	60.48	1688	64.94	1724	69.37	1759	73.77	1793	78.12	1827	82.48						
30624	4800	1668	61.14	1702	65.80	1737	70.48	1772	75.12	1806	79.75	1839	84.33								

Performance shown is for installation type B: Free inlet, Ducted outlet.  
 Power ratings (BHP) do not include drive losses.

Performance ratings do not include the effects of appurtenances in the air stream.



Class II **1242** RPM  
 Class IIS **1332** RPM  
 Class III **1612** RPM

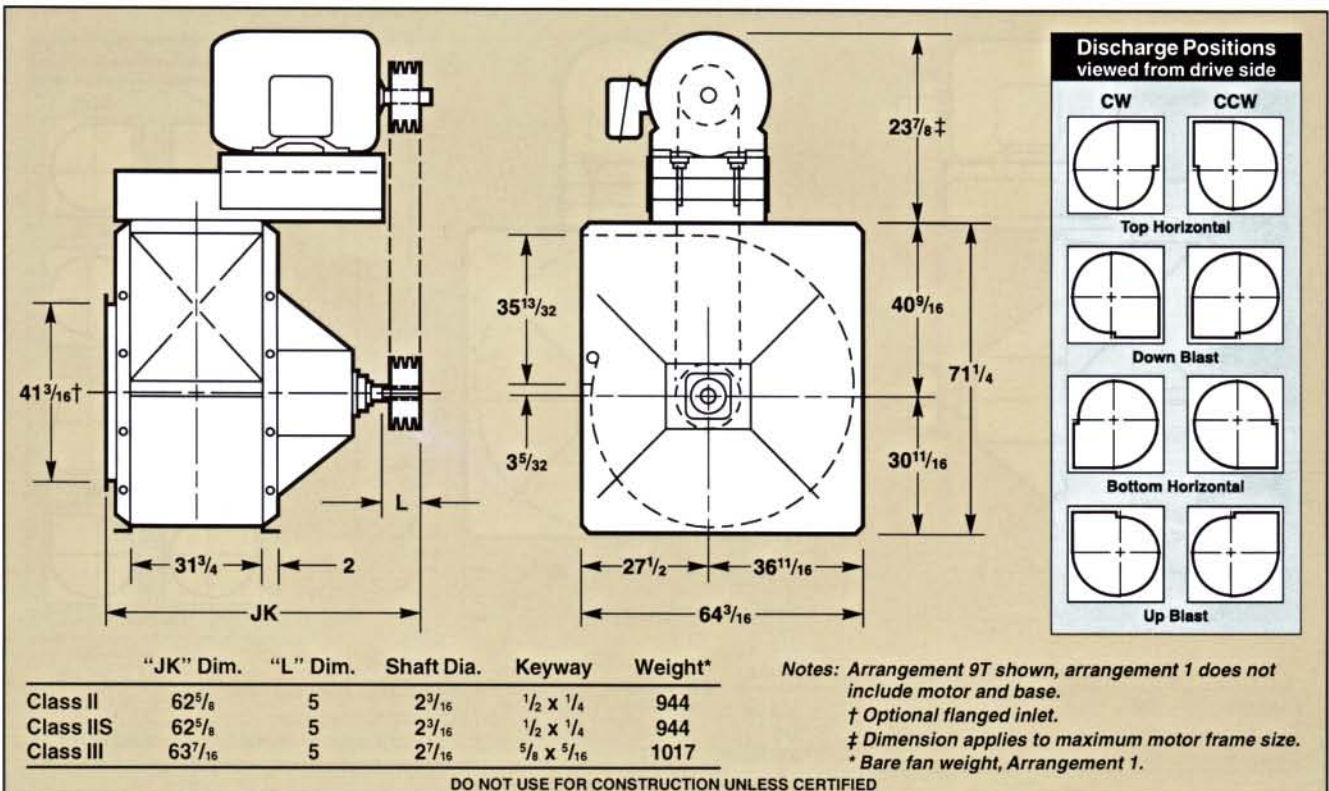
Outlet Area: 7.80 sq. ft.  
 Maximum BHP = 24.2 (rpm ÷ 1000)<sup>3</sup>  
 Tip Speed (fpm) = 10.3 x rpm

SIZE **36 1/2**

CFM	OV FPM	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		5' SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
7800	1000	336	.9	412	1.6																
8580	1100	356	1.1	424	1.8	492	2.6														
9360	1200	376	1.3	438	2.0	503	2.8	560	3.8												
10140	1300	396	1.5	455	2.2	514	3.1	571	4.1												
10920	1400	416	1.7	473	2.5	526	3.4	582	4.4	633	5.5										
11700	1500	438	2.0	492	2.9	541	3.8	593	4.8	644	5.9	690	7.0								
12480	1600	460	2.3	512	3.2	558	4.2	605	5.2	654	6.3	700	7.5	743	8.8						
13260	1700	483	2.6	532	3.6	577	4.6	620	5.6	666	6.8	711	8.1	753	9.3	793	10.6				
14040	1800	506	3.0	552	4.1	596	5.1	636	6.1	678	7.3	722	8.6	764	9.9	804	11.3	840	12.7		
14820	1900	530	3.4	572	4.5	615	5.6	654	6.7	693	7.9	734	9.2	775	10.5	814	12.0	851	13.4	886	14.9
15600	2000	554	3.8	593	5.0	635	6.2	673	7.3	709	8.5	747	9.8	786	11.2	825	12.7	862	14.2	897	15.7
17160	2200	602	4.8	636	6.1	675	7.4	712	8.7	745	10.0	778	11.3	813	12.7	848	14.2	884	15.7	918	17.4
18720	2400	652	6.0	682	7.4	716	8.8	752	10.3	784	11.6	815	13.0	845	14.4	876	15.9	908	17.5	941	19.2
20280	2600	702	7.4	728	8.9	759	10.4	792	12.0	824	13.5	853	15.0	881	16.5	909	18.0	938	19.6	967	21.3
21840	2800	753	9.1	776	10.6	803	12.2	833	13.9	864	15.6	893	17.2	920	18.8	946	20.4	972	22.0	998	23.7
23400	3000	803	10.9	825	12.5	849	14.2	876	16.0	904	17.8	933	19.6	959	21.3	985	23.0	1009	24.7	1033	26.5
24960	3200	854	13.0	874	14.7	896	16.5	920	18.3	946	20.3	973	22.2	999	24.1	1024	26.0	1048	27.8	1071	29.6
26520	3400	905	15.4	924	17.2	944	19.0	965	21.0	989	23.0	1014	25.0	1039	27.1	1064	29.1	1088	31.1	1110	33.0
28080	3600	956	18.1	974	19.9	992	21.9	1012	23.9	1033	26.0	1056	28.1	1080	30.3	1104	32.5	1127	34.6	1150	36.7
29640	3800	1007	21.0	1024	23.0	1041	25.0	1059	27.1	1079	29.3	1100	31.5	1122	33.8	1145	36.1	1167	38.4	1189	40.7
CFM	OV FPM	6' SP		7' SP		8' SP		9' SP		10' SP		11' SP		12' SP		13' SP		14' SP		15' SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
17160	2200	984	20.7	1043	24.1																
18720	2400	1005	22.7	1065	26.4	1121	30.0														
20280	2600	1027	24.9	1086	28.7	1142	32.7	1195	36.6												
21840	2800	1053	27.3	1109	31.3	1164	35.4	1216	39.6	1266	43.9	1312	48.2								
23400	3000	1082	30.1	1134	34.1	1186	38.3	1237	42.7	1287	47.2	1334	51.8	1379	56.3	1422	61.0				
24960	3200	1116	33.3	1163	37.3	1211	41.5	1260	46.0	1308	50.7	1356	55.5	1401	60.3	1444	65.2	1485	70.1		
26520	3400	1153	36.9	1196	40.9	1240	45.1	1285	49.7	1331	54.4	1377	59.4	1422	64.4	1465	69.5	1507	74.7	1547	79.8
28080	3600	1192	40.8	1232	44.9	1272	49.2	1314	53.7	1357	58.5	1401	63.5	1444	68.7	1487	74.1	1528	79.4	1568	84.8
29640	3800	1231	45.0	1270	49.4	1308	53.7	1346	58.2	1386	63.0	1426	68.1	1468	73.4	1509	78.8	1550	84.4	1590	90.0
31200	4000	1271	49.6	1309	54.1	1345	58.7	1382	63.3	1418	68.1	1456	73.1	1494	78.4	1533	83.9	1573	89.6	1612	95.4
32760	4200	1310	54.4	1348	59.2	1384	64.0	1419	68.8	1453	73.6	1488	78.7	1524	83.9	1560	89.4	1598	95.2		
34320	4400	1350	59.4	1388	64.7	1424	69.7	1458	74.7	1491	79.7	1524	84.8	1557	90.0	1591	95.5				
35880	4600	1391	64.8	1428	70.4	1463	75.7	1497	81.0	1529	86.2	1561	91.4	1592	96.8						
37440	4800	1432	70.5	1468	76.4	1503	82.1	1536	87.6	1568	93.1	1599	98.5								

Performance shown is for installation type B: Free inlet, Ducted outlet.  
 Power ratings (BHP) do not include drive losses.

Performance ratings do not include the effects of apertures in the air stream.



Class II    Class III  
**RPM 1126    1461**

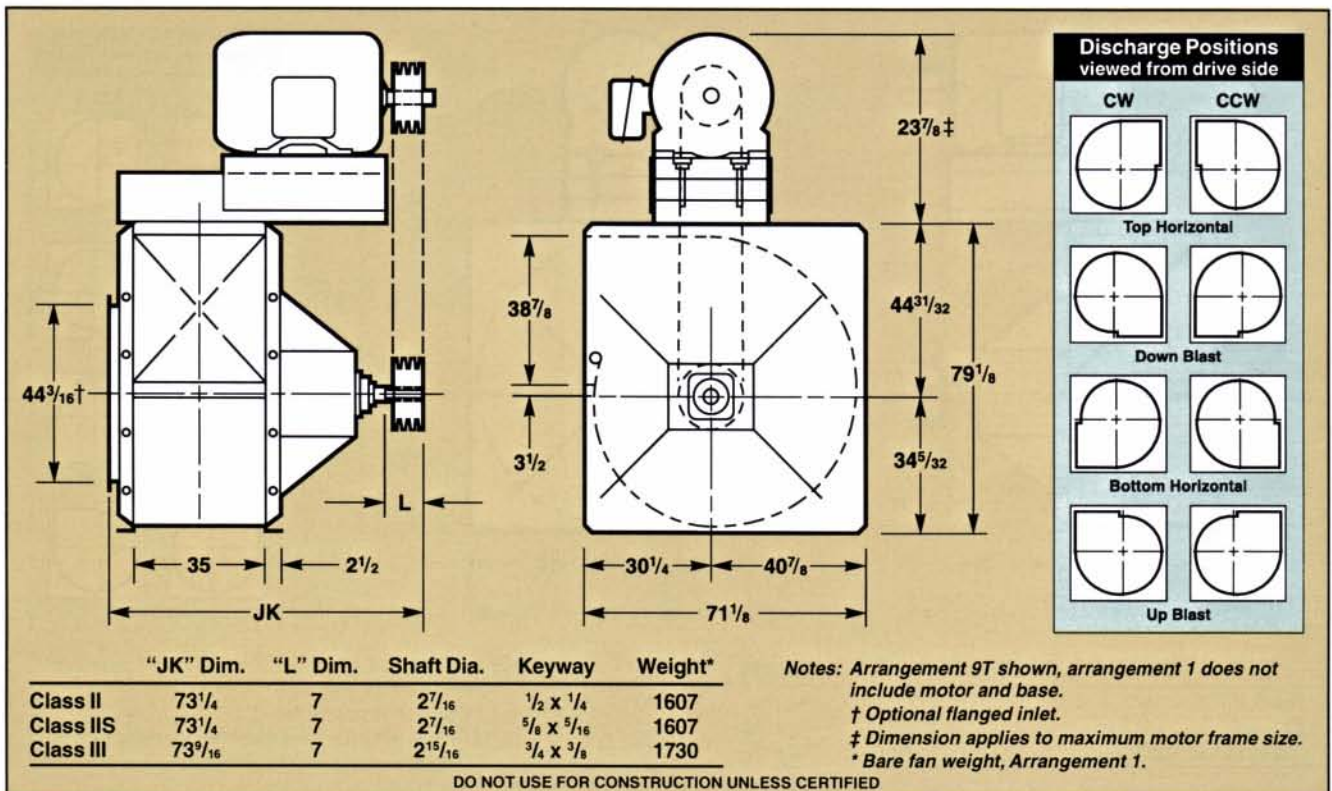
Outlet Area: 9.48 sq. ft.  
 Maximum BHP = 39.5 (rpm ÷ 1000)<sup>3</sup>  
 Tip Speed (fpm) = 11.37 x rpm

**SIZE 40 1/4**

CFM	OV FPM	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		5" SP			
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP		
9480	1000	305	1.1	374	1.9																		
10428	1100	323	1.3	385	2.2	446	3.1																
11376	1200	341	1.6	397	2.4	456	3.5	508	4.6														
12324	1300	359	1.8	412	2.7	466	3.8	518	5.0														
13272	1400	378	2.1	429	3.1	477	4.2	528	5.4	574	6.7												
14220	1500	397	2.4	446	3.5	491	4.6	538	5.8	583	7.2	625	8.6										
15168	1600	417	2.8	464	3.9	506	5.1	549	6.3	593	7.7	635	9.2	673	10.6								
16116	1700	437	3.2	482	4.4	523	5.6	562	6.9	604	8.3	645	9.8	683	11.3	719	12.9						
17064	1800	459	3.6	500	4.9	540	6.2	577	7.5	615	8.9	655	10.4	693	12.1	729	13.7						
18012	1900	480	4.1	519	5.5	558	6.8	593	8.2	628	9.6	665	11.1	703	12.8	738	14.5	762	15.4	772	16.3	804	18.1
18960	2000	502	4.7	538	6.1	576	7.5	610	8.9	643	10.3	677	11.9	713	13.6	748	15.4	782	17.2			813	19.0
20856	2200	546	5.9	577	7.4	612	9.0	645	10.6	676	12.1	706	13.7	737	15.4	769	17.2	801	19.1			833	21.1
22752	2400	591	7.3	618	9.0	649	10.7	681	12.5	711	14.1	738	15.8	766	17.5	794	19.3	823	21.3			853	23.3
24648	2600	636	9.0	660	10.8	688	12.6	718	14.5	747	16.4	773	18.2	799	20.0	824	21.9	850	23.8			877	25.9
26544	2800	682	11.0	704	12.8	728	14.8	755	16.8	783	18.9	809	20.9	834	22.8	858	24.8	881	26.7			905	28.8
28440	3000	728	13.3	748	15.2	769	17.2	794	19.4	820	21.6	845	23.8	870	25.9	893	28.0	915	30.1			937	32.2
30336	3200	774	15.8	792	17.9	812	20.0	834	22.3	857	24.6	882	27.0	906	29.3	929	31.6	950	33.8			971	36.0
32232	3400	820	18.7	837	20.9	855	23.1	875	25.4	897	27.9	919	30.4	942	32.9	965	35.4	986	37.8			1006	40.1
34128	3600	867	21.9	882	24.2	899	26.5	917	29.0	937	31.5	958	34.2	979	36.8	1001	39.5	1022	42.1			1042	44.6
36024	3800	913	25.5	928	27.9	944	30.4	960	32.9	978	35.5	997	38.3	1017	41.1	1038	43.9	1058	46.7			1078	49.4
CFM	OV FPM	6" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP		13" SP		14" SP		15" SP			
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP		
20856	2200	892	25.1	946	29.3																		
22752	2400	911	27.6	966	32.0	1016	36.5																
24648	2600	931	30.3	985	34.9	1036	39.7	1083	44.5														
26544	2800	954	33.2	1005	38.0	1055	43.0	1103	48.1	1148	53.3	1190	58.5										
28440	3000	981	36.6	1028	41.4	1075	46.6	1122	51.9	1167	57.4	1210	62.9	1250	68.5	1289	74.1						
30336	3200	1012	40.5	1054	45.3	1098	50.5	1142	56.0	1186	61.6	1229	67.4	1270	73.3	1309	79.2	1347	85.2				
32232	3400	1045	44.8	1084	49.7	1124	54.8	1165	60.4	1207	66.2	1249	72.2	1289	78.3	1329	84.5	1366	90.8			1403	97.0
34128	3600	1080	49.6	1117	54.6	1153	59.8	1191	65.3	1230	71.1	1270	77.2	1309	83.6	1348	90.0	1386	96.5			1422	103.1
36024	3800	1116	54.7	1151	60.0	1186	65.3	1221	70.8	1256	76.6	1293	82.7	1331	89.2	1368	95.8	1405	102.5			1441	109.4
37920	4000	1152	60.2	1186	65.8	1220	71.3	1253	76.9	1286	82.7	1320	88.8	1355	95.2	1390	101.9	1426	108.9			1461	115.9
39816	4200	1188	66.1	1222	72.0	1255	77.8	1286	83.6	1318	89.5	1349	95.6	1382	102.0	1415	108.7	1449	115.6				
41712	4400	1224	72.2	1258	78.6	1291	84.7	1321	90.7	1351	96.8	1381	103.0	1411	109.4	1442	116.1						
43608	4600	1261	78.7	1295	85.5	1327	92.0	1357	98.4	1386	104.7	1415	111.1	1443	117.6								
45504	4800	1298	85.7	1331	92.8	1363	99.7	1393	106.5	1422	113.1	1449	119.7										

Performance shown is for installation type B: Free inlet, Ducted outlet.  
 Power ratings (BHP) do not include drive losses.

Performance ratings do not include the effects of apertures in the air stream.



Class II **1019** Class III **1321**

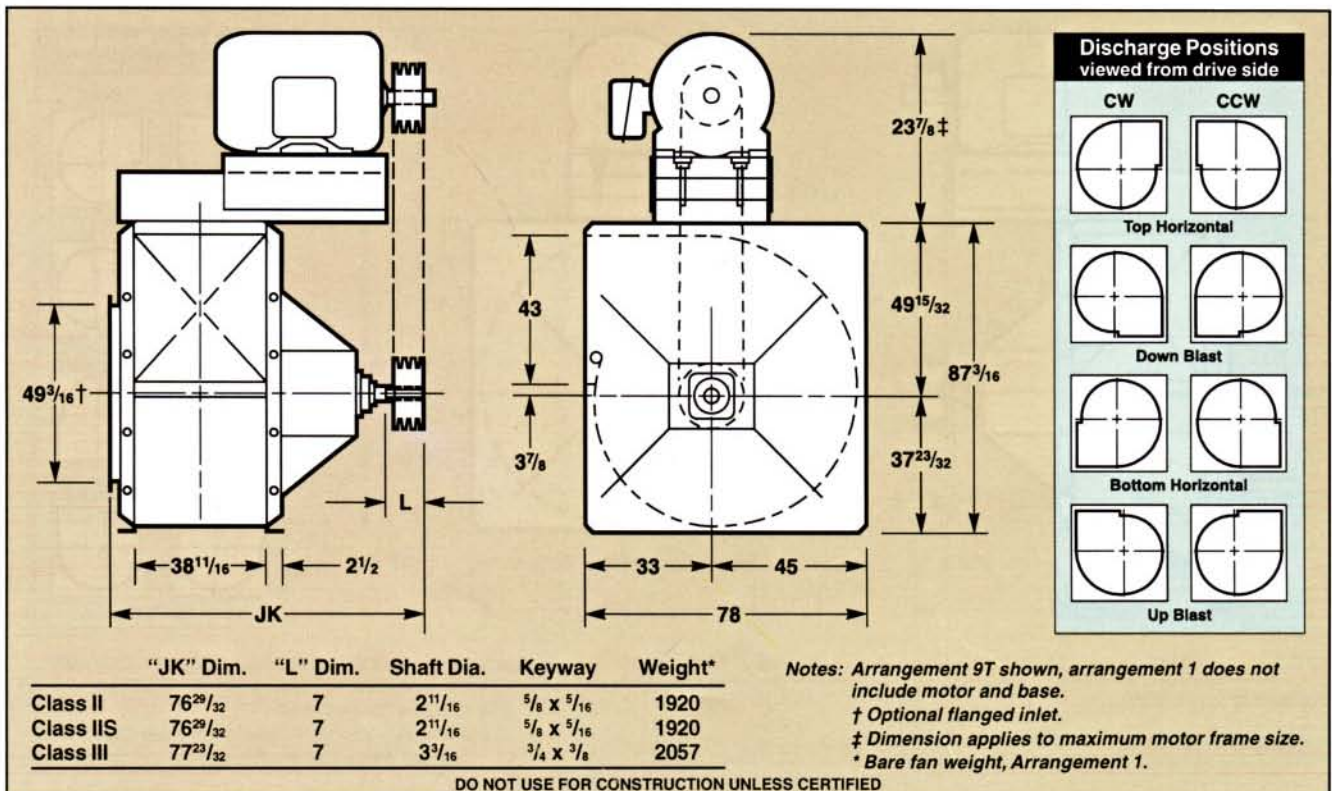
Outlet Area: 11.58 sq. ft.  
Maximum BHP = 65.1 (rpm ÷ 1000)<sup>3</sup>  
Tip Speed (fpm) = 12.57 x rpm

SIZE **44 1/2**

CFM	OV FPM	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		5' SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
11580	1000	276	1.4	338	2.3																
12738	1100	292	1.6	348	2.6	403	3.8														
13896	1200	308	1.9	359	3.0	412	4.2	459	5.6												
15054	1300	324	2.2	373	3.3	421	4.6	468	6.1												
16212	1400	341	2.6	388	3.8	432	5.1	477	6.6	519	8.1										
17370	1500	359	3.0	404	4.3	444	5.6	486	7.1	528	8.8	565	10.5								
18528	1600	377	3.4	420	4.8	458	6.2	496	7.7	536	9.4	574	11.2	609	13.0						
19686	1700	395	3.9	436	5.4	473	6.8	508	8.4	546	10.1	583	12.0	618	13.9	650	15.8				
20844	1800	415	4.4	452	6.0	488	7.6	522	9.1	556	10.9	592	12.8	627	14.7	659	16.8	689	18.8		
22002	1900	434	5.0	469	6.7	504	8.4	536	10.0	568	11.7	602	13.6	635	15.7	668	17.8	698	19.9	727	22.1
23160	2000	454	5.7	486	7.4	521	9.2	551	10.9	581	12.6	613	14.5	645	16.6	676	18.8	707	21.0	736	23.3
25476	2200	494	7.2	522	9.0	553	11.0	583	12.9	611	14.8	638	16.7	666	18.8	695	21.0	725	23.4	753	25.8
27792	2400	534	9.0	559	10.9	587	13.1	616	15.2	643	17.3	668	19.3	693	21.4	718	23.6	745	26.0	772	28.5
30108	2600	575	11.0	597	13.1	622	15.4	649	17.7	675	20.0	699	22.2	722	24.4	745	26.7	769	29.1	793	31.6
32424	2800	617	13.4	636	15.7	658	18.1	683	20.6	708	23.1	732	25.5	754	27.9	775	30.2	797	32.6	818	35.1
34740	3000	658	16.2	676	18.5	696	21.0	718	23.7	741	26.4	764	29.1	786	31.7	807	34.2	827	36.7	847	39.3
37056	3200	700	19.3	716	21.8	734	24.4	754	27.2	775	30.0	797	32.9	819	35.8	840	38.5	859	41.2	878	43.9
39372	3400	742	22.8	757	25.5	773	28.2	791	31.1	811	34.1	831	37.1	852	40.2	872	43.2	891	46.1	910	49.0
41688	3600	783	26.8	798	29.5	813	32.4	829	35.4	847	38.5	866	41.7	885	44.9	905	48.2	924	51.4	942	54.5
44004	3800	825	31.2	839	34.1	853	37.1	868	40.2	884	43.4	902	46.7	920	50.1	938	53.6	957	57.0	975	60.3
CFM	OV FPM	6' SP		7' SP		8' SP		9' SP		10' SP		11' SP		12' SP		13' SP		14' SP		15' SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
25476	2200	807	30.7	856	35.7																
27792	2400	824	33.8	873	39.1	919	44.6														
30108	2600	842	37.0	891	42.7	937	48.5	980	54.4												
32424	2800	863	40.6	909	46.5	954	52.6	997	58.8	1038	65.1	1076	71.5								
34740	3000	887	44.7	930	50.6	972	56.9	1015	63.4	1055	70.1	1094	76.8	1131	83.6	1166	90.5				
37056	3200	915	49.4	953	55.3	993	61.6	1033	68.4	1073	75.3	1112	82.4	1149	89.5	1184	96.8	1218	104.0		
39372	3400	945	54.7	980	60.6	1016	67.0	1054	73.7	1092	80.8	1129	88.2	1166	95.7	1202	103.2	1236	110.9	1268	118.6
41688	3600	977	60.5	1010	66.6	1043	73.0	1077	79.7	1113	86.8	1148	94.3	1184	102.1	1219	109.9	1253	117.9	1286	126.0
44004	3800	1009	66.8	1041	73.2	1072	79.7	1104	86.4	1136	93.5	1170	101.0	1203	108.9	1237	117.0	1271	125.3	1304	133.6
46320	4000	1041	73.5	1073	80.3	1103	87.0	1133	93.9	1163	101.0	1193	108.5	1225	116.3	1257	124.5	1289	133.0	1321	141.6
48636	4200	1074	80.7	1105	87.9	1135	95.0	1163	102.0	1192	109.3	1220	116.7	1249	124.5	1279	132.7	1310	141.3		
50952	4400	1107	88.2	1138	95.9	1167	103.4	1195	110.8	1222	118.2	1249	125.8	1276	133.6	1304	141.8				
53268	4600	1140	96.1	1170	104.4	1199	112.3	1227	120.1	1253	127.9	1279	135.6	1305	143.6						
55584	4800	1174	104.6	1203	113.3	1232	121.8	1259	130.0	1285	138.1	1311	146.2								

Performance shown is for installation type B: Free inlet, Ducted outlet.  
Power ratings (BHP) do not include drive losses.

Performance ratings do not include the effects of appurtenances in the air stream.



## Sound Level Table

FAN SIZE	FAN SPEED - RPM												
	700	800	900	1000	1200	1400	1600	1800	2000	2400	2800	3200	3600
12-1/4	30	34	37	39	44	48	52	55	58	63	67	71	74
13-1/2	33	37	40	43	47	52	55	58	61	66	70	74	77
15	36	40	43	46	51	54	58	62	65	70	74	78	81
16-1/2	39	43	46	49	54	58	62	65	68	73	77	81	—
18-1/4	43	46	49	52	57	61	65	68	71	76	80	84	—
20	46	49	52	55	60	64	68	71	74	79	83	87	—
22-1/4	49	52	56	58	63	67	71	74	77	82	86	—	—
24-1/2	52	55	59	61	66	70	74	77	80	85	89	—	—
27	55	58	62	64	69	73	77	80	83	88	—	—	—
30	58	62	65	68	73	77	80	84	87	92	—	—	—
33	61	65	68	71	76	80	83	87	90	—	—	—	—
36-1/2	64	68	71	74	79	83	87	90	—	—	—	—	—
40-1/4	67	71	74	77	82	86	90	—	—	—	—	—	—
44-1/2	70	74	77	80	85	89	93	—	—	—	—	—	—

## 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, Set-Up No.1.
2. Sound level computations are based on a distance of 10' 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 upon sound power levels, which are independent of the installation.
5. AMCA Certified Ratings Seal applies to air performance only.

## Design Speeds/Pitch Diameters

FAN SIZE	CLASS II		CLASS IIS		CLASS III	
	RPM	Pitch Dia.*	RPM	Pitch Dia.*	RPM	Pitch Dia.*
12-1/4	N.A.	N.A.	4036	3.8	N.A.	N.A.
13-1/2	N.A.	N.A.	3752	4.1	N.A.	N.A.
15	N.A.	N.A.	3425	4.5	N.A.	N.A.
16-1/2	2925	5.3	3141	4.9	N.A.	N.A.
18-1/4	2645	5.8	2847	5.4	N.A.	N.A.
20	2546	6.0	2739	5.6	3040	4.7
22-1/4	2112	7.2	2374	6.5	2668	5.2
24-1/2	1944	7.9	2103	7.3	2423	5.7
27	1833	8.3	1956	7.8	2198	6.3
30	1595	9.6	1788	8.6	2038	7.1
33	1440	10.9	1560	9.8	1853	7.8
36-1/2	1242	12.8	1332	11.5	1612	9.0
40-1/4	1126	9.9	N.A.	N.A.	1461	9.9
44-1/2	1019	11.0	N.A.	N.A.	1321	11.0

\* Fan Sheave Pitch Diameter

## BEARING LIFE

Bearing life may be substantially increased or decreased by variations in the operating speed or changes in the V-belt drive. The table at left 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 22-1/4 Class II fan operating at 1480 RPM. Assume the fan sheave pitch diameter used on this fan is 7.9 inches.

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

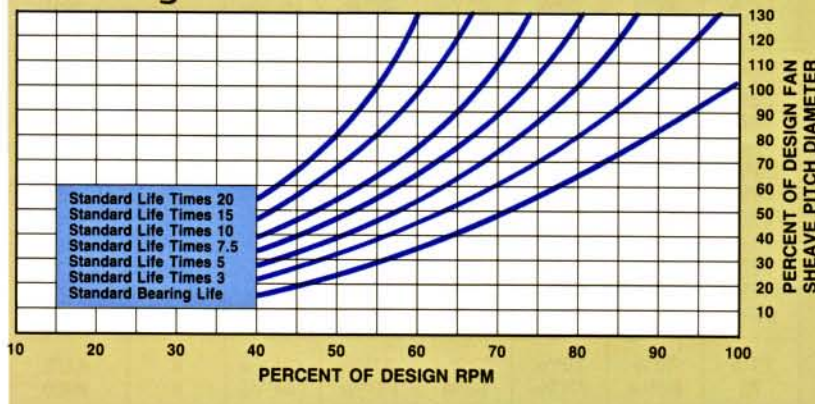
$$1480 \text{ RPM} \div 2112 \text{ RPM} = .701 \times 100 = 70.1\%. \text{ (Use 70\%)}$$

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

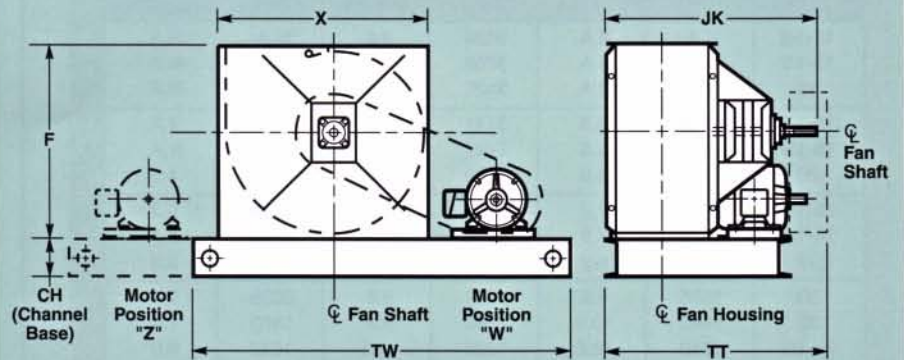
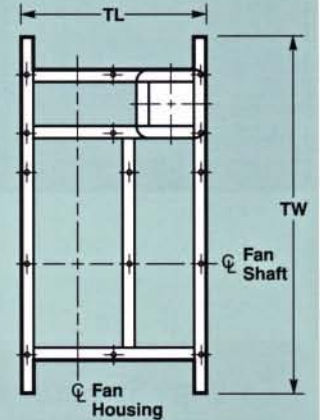
$$7.9" \div 7.2" = 1.097 \times 100 = 109.7\% \text{ (Use 110\%)}$$

3. Locate the intersection of 70% of design RPM and 110% of design fan sheave pitch diameter in the graph. The increased bearing life is 10 times the design minimum bearing life or 750,000 hours minimum average life.

## Bearing Life Chart



## UNITARY BASE



### NOTES:

Dimensions shown (in inches) are for clockwise rotation, upblast discharge fans with maximum motor frame in position "W".

Dimensions for counterclockwise rotation, other discharge positions or 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 center data, see your CBC sales engineer.

SIZE	F	X	JK	TL	TT	TW	CH	Weight-lbs.
12 <sup>1</sup> / <sub>4</sub>	22 <sup>1</sup> / <sub>2</sub>	24 <sup>9</sup> / <sub>16</sub>	29 <sup>3</sup> / <sub>32</sub>	24 <sup>1</sup> / <sub>2</sub>	35 <sup>19</sup> / <sub>32</sub>	57 <sup>3</sup> / <sub>16</sub>	6	410
13 <sup>1</sup> / <sub>2</sub>	24 <sup>3</sup> / <sub>4</sub>	26 <sup>7</sup> / <sub>8</sub>	30 <sup>1</sup> / <sub>8</sub>	25 <sup>1</sup> / <sub>16</sub>	37 <sup>1</sup> / <sub>8</sub>	58 <sup>13</sup> / <sub>16</sub>	6	450
15	27 <sup>1</sup> / <sub>4</sub>	30 <sup>1</sup> / <sub>16</sub>	33 <sup>1</sup> / <sub>32</sub>	27 <sup>3</sup> / <sub>16</sub>	40 <sup>1</sup> / <sub>32</sub>	64 <sup>11</sup> / <sub>16</sub>	6	585
16 <sup>1</sup> / <sub>2</sub>	29 <sup>3</sup> / <sub>4</sub>	32 <sup>15</sup> / <sub>16</sub>	34 <sup>5</sup> / <sub>8</sub>	28 <sup>7</sup> / <sub>16</sub>	41 <sup>5</sup> / <sub>8</sub>	67 <sup>1</sup> / <sub>2</sub>	6	620
18 <sup>1</sup> / <sub>4</sub>	32 <sup>3</sup> / <sub>4</sub>	36 <sup>1</sup> / <sub>4</sub>	38 <sup>5</sup> / <sub>8</sub>	32 <sup>3</sup> / <sub>16</sub>	45 <sup>5</sup> / <sub>8</sub>	70 <sup>11</sup> / <sub>16</sub>	6	730
20	35 <sup>7</sup> / <sub>8</sub>	39 <sup>5</sup> / <sub>8</sub>	41 <sup>7</sup> / <sub>8</sub>	34 <sup>15</sup> / <sub>16</sub>	48 <sup>7</sup> / <sub>8</sub>	80 <sup>11</sup> / <sub>16</sub>	6	1275
22 <sup>1</sup> / <sub>4</sub>	39 <sup>9</sup> / <sub>16</sub>	43 <sup>7</sup> / <sub>8</sub>	45 <sup>9</sup> / <sub>16</sub>	39	52 <sup>9</sup> / <sub>16</sub>	84 <sup>3</sup> / <sub>8</sub>	6	1360
24 <sup>1</sup> / <sub>2</sub>	43 <sup>5</sup> / <sub>16</sub>	48 <sup>1</sup> / <sub>8</sub>	47 <sup>17</sup> / <sub>32</sub>	40 <sup>15</sup> / <sub>16</sub>	54 <sup>17</sup> / <sub>32</sub>	90	6	1525
27	47 <sup>1</sup> / <sub>2</sub>	53 <sup>3</sup> / <sub>8</sub>	52 <sup>11</sup> / <sub>16</sub>	45 <sup>9</sup> / <sub>16</sub>	60 <sup>3</sup> / <sub>16</sub>	99	6	1970
30	52 <sup>1</sup> / <sub>2</sub>	59	55 <sup>5</sup> / <sub>16</sub>	48 <sup>3</sup> / <sub>16</sub>	62 <sup>13</sup> / <sub>16</sub>	104 <sup>9</sup> / <sub>16</sub>	6	2210
33	57 <sup>11</sup> / <sub>16</sub>	64 <sup>1</sup> / <sub>2</sub>	60 <sup>7</sup> / <sub>16</sub>	52 <sup>13</sup> / <sub>16</sub>	67 <sup>15</sup> / <sub>16</sub>	116 <sup>1</sup> / <sub>2</sub>	6	2740
36 <sup>1</sup> / <sub>2</sub>	64 <sup>3</sup> / <sub>16</sub>	71 <sup>1</sup> / <sub>4</sub>	63 <sup>7</sup> / <sub>16</sub>	55 <sup>1</sup> / <sub>2</sub>	71 <sup>3</sup> / <sub>16</sub>	129 <sup>15</sup> / <sub>16</sub>	6	3280
40 <sup>1</sup> / <sub>4</sub>	71 <sup>1</sup> / <sub>8</sub>	79 <sup>1</sup> / <sub>8</sub>	73 <sup>9</sup> / <sub>16</sub>	62 <sup>11</sup> / <sub>16</sub>	81 <sup>5</sup> / <sub>16</sub>	135 <sup>1</sup> / <sub>16</sub>	8	4175
44 <sup>1</sup> / <sub>2</sub>	78	87 <sup>3</sup> / <sub>16</sub>	77 <sup>23</sup> / <sub>32</sub>	66 <sup>3</sup> / <sub>4</sub>	85 <sup>23</sup> / <sub>32</sub>	144 <sup>15</sup> / <sub>16</sub>	8	4900



# BELT CENTERS Chicago Blower Fans - Arrangement 9T and 9S, SISW

Fan Size	Motor Frame	Discharge Position/Rotation			
		Group A	Group B	Group C	Group D
8¾	48	20 <sup>7</sup> / <sub>8</sub>	18 <sup>1</sup> / <sub>8</sub>	19 <sup>9</sup> / <sub>16</sub>	N/A
	56, 143-145	21 <sup>3</sup> / <sub>8</sub>	18 <sup>5</sup> / <sub>8</sub>	20 <sup>1</sup> / <sub>16</sub>	
	182-184	22 <sup>3</sup> / <sub>8</sub>	19 <sup>5</sup> / <sub>8</sub>	21 <sup>1</sup> / <sub>16</sub>	
10	48	22 <sup>3</sup> / <sub>16</sub>	19 <sup>1</sup> / <sub>8</sub>	20 <sup>13</sup> / <sub>16</sub>	N/A
	56, 143-145	22 <sup>9</sup> / <sub>16</sub>	19 <sup>5</sup> / <sub>8</sub>	21 <sup>5</sup> / <sub>16</sub>	
	182-184	23 <sup>9</sup> / <sub>16</sub>	20 <sup>5</sup> / <sub>8</sub>	22 <sup>5</sup> / <sub>16</sub>	
12¼	48	N/A	N/A	N/A	24¼
	56, 143-145	25 <sup>1</sup> / <sub>16</sub>	21½	23½	24¼
	182-184	26 <sup>1</sup> / <sub>16</sub>	22½	24½	24¼
	213-215	26 <sup>13</sup> / <sub>16</sub>	23¼	25¼	N/A
	254-256	27 <sup>13</sup> / <sub>16</sub>	24¼	26¼	N/A
13½	56, 143-145	26 <sup>7</sup> / <sub>8</sub>	22½	24¾	N/A
	182-184	27 <sup>7</sup> / <sub>8</sub>	23½	25¾	
	213-215	28 <sup>7</sup> / <sub>8</sub>	24¼	26½	
	254-256	29 <sup>7</sup> / <sub>8</sub>	25¼	27½	
15	56, 143-145	28 <sup>9</sup> / <sub>16</sub>	23¾	26¼	N/A
	182-184	29 <sup>9</sup> / <sub>16</sub>	24¾	27¼	
	213-215	30 <sup>1</sup> / <sub>16</sub>	25½	28	
	254-256	31 <sup>1</sup> / <sub>16</sub>	26½	29	
16½	56, 143-145	29 <sup>15</sup> / <sub>16</sub>	25	27¾	25¼
	182-184	30 <sup>15</sup> / <sub>16</sub>	26	28¾	26 <sup>1</sup> / <sub>16</sub>
	213-215	31 <sup>11</sup> / <sub>16</sub>	26¾	29½	26¾
	254-256	32 <sup>11</sup> / <sub>16</sub>	27¾	30½	27¾
18¼	56, 143-145	31 <sup>13</sup> / <sub>16</sub>	26 <sup>7</sup> / <sub>16</sub>	29½	26 <sup>13</sup> / <sub>16</sub>
	182-184	32 <sup>13</sup> / <sub>16</sub>	27 <sup>7</sup> / <sub>16</sub>	30½	27 <sup>13</sup> / <sub>16</sub>
	213-215	33 <sup>9</sup> / <sub>16</sub>	28 <sup>9</sup> / <sub>16</sub>	31¾	28 <sup>9</sup> / <sub>16</sub>
	254-256	34 <sup>9</sup> / <sub>16</sub>	29 <sup>9</sup> / <sub>16</sub>	32¼	29 <sup>9</sup> / <sub>16</sub>
20	56, 143-145	33 <sup>5</sup> / <sub>8</sub>	28	31 <sup>3</sup> / <sub>8</sub>	28 <sup>7</sup> / <sub>16</sub>
	182-184	34 <sup>5</sup> / <sub>8</sub>	29	32 <sup>3</sup> / <sub>8</sub>	28 <sup>13</sup> / <sub>16</sub>
	213-215	35 <sup>5</sup> / <sub>8</sub>	29¾	33 <sup>3</sup> / <sub>8</sub>	29 <sup>9</sup> / <sub>16</sub>
	254-256	36 <sup>5</sup> / <sub>8</sub>	30¾	34 <sup>3</sup> / <sub>8</sub>	30½
	284-286	37 <sup>5</sup> / <sub>8</sub>	31½	35	31½

Fan Size	Motor Frame	Discharge Position/Rotation			
		Group A	Group B	Group C	Group D
22¼	56, 143-145	36	29 <sup>7</sup> / <sub>8</sub>	33 <sup>9</sup> / <sub>16</sub>	29 <sup>9</sup> / <sub>16</sub>
	182-184	37	30 <sup>7</sup> / <sub>8</sub>	34 <sup>9</sup> / <sub>16</sub>	30 <sup>9</sup> / <sub>16</sub>
	213-215	37¾	31 <sup>5</sup> / <sub>8</sub>	35 <sup>5</sup> / <sub>16</sub>	31 <sup>1</sup> / <sub>16</sub>
	254-256	38¾	32 <sup>5</sup> / <sub>8</sub>	36 <sup>5</sup> / <sub>16</sub>	32 <sup>1</sup> / <sub>16</sub>
	284-286	39½	33 <sup>3</sup> / <sub>8</sub>	37 <sup>1</sup> / <sub>16</sub>	33 <sup>3</sup> / <sub>16</sub>
24½	56, 143-145	38 <sup>3</sup> / <sub>8</sub>	31¾	35 <sup>13</sup> / <sub>16</sub>	30 <sup>13</sup> / <sub>16</sub>
	182-184	39 <sup>3</sup> / <sub>8</sub>	32¾	36 <sup>13</sup> / <sub>16</sub>	31¾
	213-215	40 <sup>1</sup> / <sub>8</sub>	33½	37 <sup>9</sup> / <sub>16</sub>	32 <sup>7</sup> / <sub>16</sub>
	254-256	41 <sup>1</sup> / <sub>8</sub>	34½	38 <sup>9</sup> / <sub>16</sub>	33 <sup>7</sup> / <sub>16</sub>
	284-286	41 <sup>7</sup> / <sub>8</sub>	35¼	39 <sup>5</sup> / <sub>16</sub>	34 <sup>5</sup> / <sub>16</sub>
27	56, 143-145	41½	33 <sup>7</sup> / <sub>8</sub>	38¼	32½
	182-184	42½	34 <sup>7</sup> / <sub>8</sub>	39¼	33 <sup>7</sup> / <sub>16</sub>
	213-215	43¼	35 <sup>5</sup> / <sub>8</sub>	40	34 <sup>9</sup> / <sub>16</sub>
	254-256	44¼	36 <sup>5</sup> / <sub>8</sub>	41	35 <sup>9</sup> / <sub>16</sub>
	284-286	45	37 <sup>3</sup> / <sub>8</sub>	41¾	38
30	56, 143-145	44 <sup>11</sup> / <sub>16</sub>	36 <sup>5</sup> / <sub>16</sub>	42¾	34 <sup>7</sup> / <sub>16</sub>
	182-184	45 <sup>11</sup> / <sub>16</sub>	37 <sup>5</sup> / <sub>16</sub>	43¾	35 <sup>7</sup> / <sub>16</sub>
	213-215	46 <sup>7</sup> / <sub>16</sub>	38 <sup>1</sup> / <sub>16</sub>	44½	36 <sup>3</sup> / <sub>16</sub>
	254-256	47 <sup>7</sup> / <sub>16</sub>	39 <sup>1</sup> / <sub>16</sub>	45½	37 <sup>3</sup> / <sub>16</sub>
	284-286	48 <sup>3</sup> / <sub>16</sub>	39 <sup>13</sup> / <sub>16</sub>	46¼	40 <sup>1</sup> / <sub>16</sub>
33	182-184	48 <sup>7</sup> / <sub>8</sub>	39 <sup>5</sup> / <sub>8</sub>	45 <sup>3</sup> / <sub>16</sub>	37 <sup>9</sup> / <sub>16</sub>
	213-215	49 <sup>5</sup> / <sub>8</sub>	40 <sup>3</sup> / <sub>8</sub>	45 <sup>15</sup> / <sub>16</sub>	38 <sup>3</sup> / <sub>16</sub>
	254-256	50 <sup>3</sup> / <sub>8</sub>	41 <sup>3</sup> / <sub>8</sub>	46 <sup>15</sup> / <sub>16</sub>	39 <sup>3</sup> / <sub>16</sub>
	284-286	51 <sup>3</sup> / <sub>8</sub>	42 <sup>1</sup> / <sub>8</sub>	47 <sup>11</sup> / <sub>16</sub>	42 <sup>9</sup> / <sub>16</sub>
36½	182-184	52 <sup>9</sup> / <sub>16</sub>	42 <sup>11</sup> / <sub>16</sub>	48 <sup>11</sup> / <sub>16</sub>	40 <sup>9</sup> / <sub>16</sub>
	213-215	53 <sup>5</sup> / <sub>16</sub>	43 <sup>7</sup> / <sub>16</sub>	49 <sup>7</sup> / <sub>16</sub>	41 <sup>5</sup> / <sub>16</sub>
	254-256	54 <sup>5</sup> / <sub>16</sub>	44 <sup>7</sup> / <sub>16</sub>	50 <sup>7</sup> / <sub>16</sub>	42 <sup>5</sup> / <sub>16</sub>
	284-286	55 <sup>1</sup> / <sub>16</sub>	45 <sup>3</sup> / <sub>16</sub>	51 <sup>3</sup> / <sub>16</sub>	45¾
40¼	182-184	57	46 <sup>1</sup> / <sub>8</sub>	52 <sup>7</sup> / <sub>8</sub>	43¼
	213-215	57¾	46 <sup>7</sup> / <sub>8</sub>	53 <sup>3</sup> / <sub>8</sub>	44
	254-256	58¾	47 <sup>7</sup> / <sub>8</sub>	54 <sup>3</sup> / <sub>8</sub>	45 <sup>3</sup> / <sub>16</sub>
	284-286	59½	48 <sup>5</sup> / <sub>8</sub>	55 <sup>3</sup> / <sub>8</sub>	48 <sup>11</sup> / <sub>16</sub>
44½	182-184	61½	49¾	57	45 <sup>15</sup> / <sub>16</sub>
	213-215	62¼	50½	57¾	46 <sup>1</sup> / <sub>16</sub>
	254-256	63¼	51½	58¾	47 <sup>5</sup> / <sub>8</sub>
	284-286	64	52½	59½	51 <sup>5</sup> / <sub>8</sub>

Belt centers include allowances for belt mounting and tensioning.

Motor Frames can be either "U" or "T" frame.

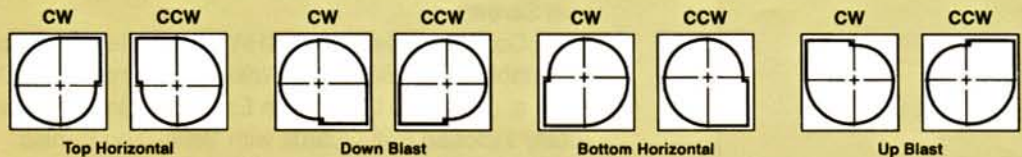
"T" Base (56-256) is available on sizes 12 1/4 - 44 1/2 SISW.

"T" Base (284-286) is available on sizes 20 - 44 1/2 SISW.

Refer to factory for Arrangement 9H.

Discharge Position/Rotation	Group A	Group B	Group C	Group D	
TH	CW, CCW - TOP	BH	CW, CCW - TOP	DB	CW, CCW - TOP
DB	CCW - SL	DB	CCW - SR	TH	CCW - SR
DB	CW - SR	DB	CW - SL	TH	CW - SL
UB	CCW - SR	UB	CCW - SL	BH	CCW - SL
UB	CW - SL	UB	CW - SR	UB	CW - SR
				UB	CW, CCW - TOP OFFSET MOTOR BASE

Positions of Discharge and Rotation (viewed from drive side)



## Engineering Specifications Centrifugal SQB Fans

- a. **GENERAL:**

Provide a high performance, low maintenance, centrifugal fan with backward inclined wheel and hyperbolic wheel cone. Fan shall be licensed to bear the AMCA Certified Ratings Seal for Air Performance based on tests and procedures in accordance with AMCA standard 211. Fans must be manufactured and assembled in the U.S.A.  
Acceptable vendors: Chicago Blower Corporation
- b. **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% CFM reduction.
- c. **HOUSING:**

Fan housing shall be rectangular and of welded, heavy gauge construction with four common discharge positions. Scroll is to be continuously welded air-tight, with flanged housing sides and outlet for added stiffness. Bearing brackets are to be bolted to allow bearing service without removing wheel.
- d. **ROTOR:**

Wheel shall have cast iron hub (steel hubs on sizes 40-1/4 and 44-1/2) lock-bolted to a heavy backplate. Blades must be single sheet, high strength, low alloy, ASTM A242 Corten steel, continuously welded to the backplate and hyperbolic wheel cone. Wheels to be statically and dynamically balanced to G 6.3 standards in accordance with ISO 1940 and 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 4-bolt flange bearings. Shaft critical speed shall not be less than 1.2 times class maximum RPM.
- e. **MOUNTING:**

Housing flanged to be integral to foundation. Housing and adjustable motor base to be welded to unitary base (accessory). (Arrangement 9T and 9S fans to have motor mounted on adjustable motor base.)
- f. **FACTORY MOUNTED MOTORS AND DRIVES (Accessory)**

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.
- g. **INLET VOLUME CONTROL (Accessory)**

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 pressure.
- h. **ACCESSORIES (Choose from the following accessories)**
  - Slip-fit Inlet
  - Flanged Inlet - Punched Holes
  - Flanged Outlet - Punched Holes
  - Companion Flange - Punched or Unpunched - Inlet, Outlet or Both
  - Type "C" AMCA Spark Resistant Construction
  - 1-1/2" NPT Housing Drain
  - Shaft Seal
  - Quick Clamp or Flush Bolted Access Door
  - Inlet Screen
  - Shaft Cooling Wheel with OSHA Guard (Required from 300° - 650°)
  - Adjustable Motor Base compatible with sizes: 56 - 184T, 213T - 256T, 284T - 286T
  - Shaft and Bearing Guard with Extended Grease Tube Fittings
  - Totally Inclosed Belt Guards with Ventilation Panels
  - Constant or Adjustable Speed V-Belt Drives, minimum 1.2 S.F.
  - Outlet Damper - Parallel or Opposed Blades. Manual Operation with Locking Quadrant

## CHICAGO SQUARE FANS for EVERY APPLICATION

### SQA FANS

The airfoil bladed fan is the most efficient wheel type and is recommended primarily for clean air applications. Like all Chicago Square Fans, the SQA has flanged edges on all four sides for added strength and for mounting in any of the four discharge positions. Stock sizes range from 8-3/4 to 44-1/2 with volumes to 55,600 CFM and pressures to 16" wg. Ask for Bulletin SQA.

### SQAD and SQBD FANS

Chicago's square fans are available in a compact direct connected design, primarily use in packaged supply, combustion air and exhaust applications. Choice of 12 sizes and motor speeds covers a wide range of performance. The fans feature all welded construction with rugged steel plate motor base. Ask for Bulletin SQD.

### SQI FANS

Using industrial duty radial blades that resist material build-up, the SQI fan is especially recommended for sticky, heavy or abrasive applications. With welded heavy steel plate housing, steel wheels and oversized bearings, the SQI is a hard working industrial fan designed for pressures to 18" wg. Inlet diameter sizes from 5" to 17". Options include finishes to meet customer specifications. Ask for Bulletin SQI.



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