



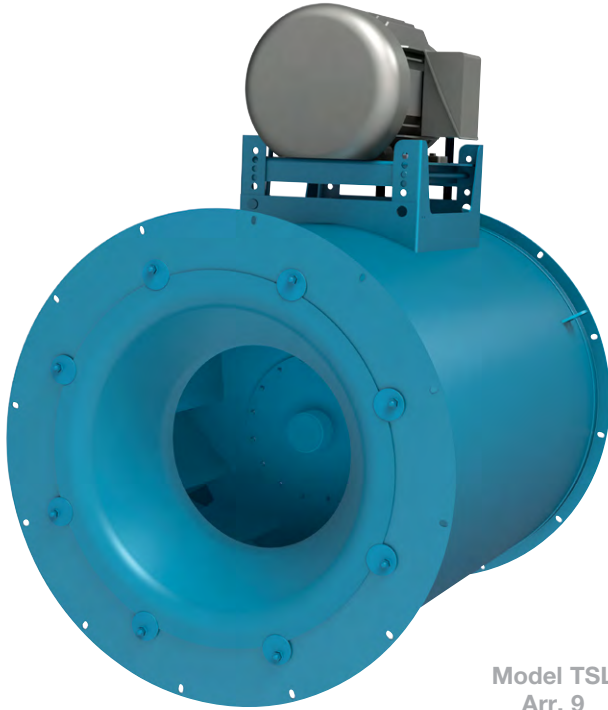
INDUSTRIAL PROCESS AND
COMMERCIAL VENTILATION SYSTEMS

TUBULAR CENTRIFUGAL INLINE FANS

MODEL TSL



Model TSL



Model TSL
Arr. 9

The TSL is an inline centrifugal flow fan featuring the reliable performance of a centrifugal fan with the space saving advantages of an axial type fan. The TSL offers high efficiencies in the commonly selected area. The TSL has a higher and broader efficiency range compared to competitive tubular fans and square inline fans. Lower operating speed for a given performance provides longer and more reliable operation. Also, higher efficiency leads to quieter operation. The unique wheel design allows air to flow with a minimum of turbulence and losses. Extra-wide blade design delivers a larger air volume. A removable discharge cone facilitates maintenance and service. Applications with larger motors utilize a pivot-style motor base for ease of belt tension adjustments.

Standard Specifications

- High efficient open back plate airfoil wheel, sizes 182 through 890 (patent #5,171,128)
- Average bearing life (AFBMA L-50) exceeds 200,000 hours at maximum class RPM
- Shaft diameters sized so that maximum operating speed does not exceed 70% of first critical speed
- Wheels are statically and dynamically balanced prior to assembly. Fans with motors and drives mounted by Twin City Fan are test run as a complete assembly and rechecked for balance at the specified operating speed.

Capabilities & Features

- Sizes 12.25" and 15" diameter with flat-blade backward inclined wheel
- Sizes 18.25" through 89" diameter with patented open back plate airfoil wheel
- Class I, II, and III construction
- Arrangements 1, 4 and 9
- Horizontal and vertical mounting arrangements
- Airflow to 221,700 CFM
- Static pressures to 9" w.g



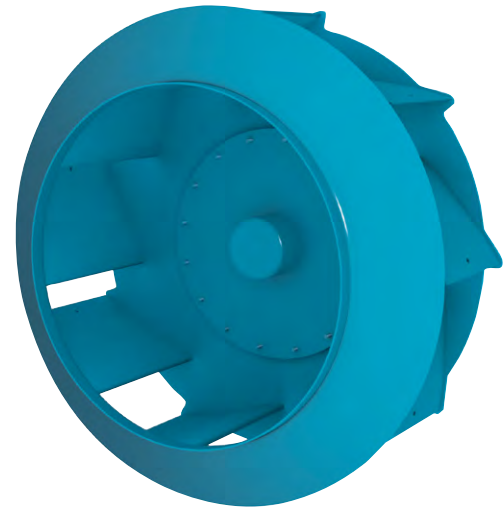
Twin City Fan & Blower certifies that the Model TSL fans shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program. See Catalog 1002 for sound ratings.



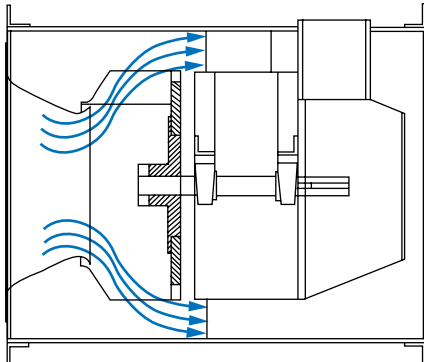
Model TSL is available with the UL/cUL 705 listing for electrical, File No. E158680.

WHEEL DESIGN

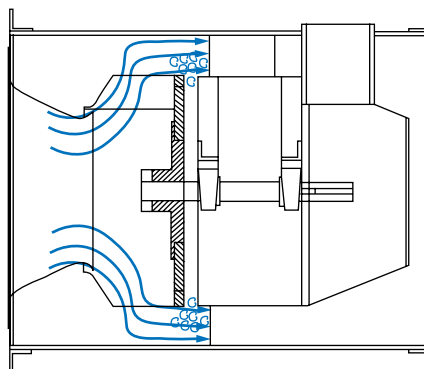
The TSL Tubular Centrifugal Fan employs a specially designed non-overloading airfoil wheel. In a tubular centrifugal fan, the air turns 90° after leaving the wheel. Twin City Fan & Blower's unique wheel design with open back plate (patent #5,171,128) allows this turn to be made with a minimum of turbulence and loss. Also, the extra-wide blade design helps deliver a larger air volume for a given diameter. The TSL wheel improves overall efficiency and reduces overall sound levels.



TSL Wheel

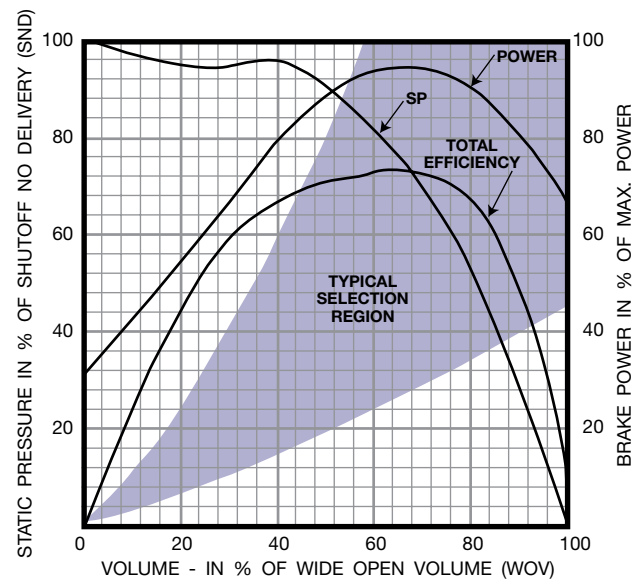


Model TSL by Twin City Fan & Blower: Streamlined airflow makes use of the open backplate wheel design.



Competition's Design: Turbulent airflow causes loss of efficiency.

Typical Non-overloading Characteristic Curve For Model TSL Tubular Centrifugal Fans



Performance Comparison — 36½" Wheel Diameter Tubular Centrifugal Fans

PERFORMANCE		TWIN CITY FAN TUBULAR CENTRIF.		MANUFACTURER A TUBULAR CENTRIF.		MANUFACTURER B TUBULAR CENTRIF.		MANUFACTURER C TUBULAR CENTRIF.		MANUFACTURER D TUBULAR CENTRIF.	
CFM	SP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
17330	1.5"	774	6.5	799	7.3	876	7.7	840	7.7	775	9.4
14660	1"	646	3.8	670	4.3	734	4.5	670	5.8	640	5.5
10660	2"	686	4.6	698	4.8	715	4.6	790	8.1	775	7.2
19990	3"	977	13.6	1004	14.9	1080	15.2	1062	16.1	N/A	N/A
33500	7"	1562	55.0	1610	60.4	1750	63.1	1700	65.0	N/A	N/A
31990	0.75"	1175	18.4	1234	22.8	1370	24.0	1230	18.7	N/A	N/A

ALL PERFORMANCE COMPARISONS ARE BASED ON MANUFACTURERS' PUBLISHED DATA.

APPLICATIONS & SELECTION

Tubular centrifugal fans such as the TSL are used primarily for low to medium pressure return air systems in heating, ventilating, and air conditioning applications. They are generally more compact than comparable scroll type centrifugal fans and often will fit into tight spaces or in overhead ductwork where other fans of the same duty may not. This is particularly true of the TSL inline fans, which were specifically engineered with a wider efficiency range. This allows selection of smaller fans while maintaining high efficiencies and low operating costs.

While there are many considerations that must be taken into account when selecting a fan for a particular application, the first and most obvious is the operating characteristic of the fan. The fan selected must be capable of moving the required amount of air against the calculated system static pressure. Fans selected at or just below the maximum static efficiency point (underlined figures in the performance tables) will provide the most efficient and quietest operation. This, however, does not necessarily mean that a fan selected at this point is the best fan for the job. The most efficient fan is usually the largest fan that can be chosen to provide stable operation for a given performance. Usually there is a trade-off between higher equipment cost vs. lower operating cost.

There are also many site specific considerations such as physical size and quiet operation which must be evaluated before a final selection is made.

This is one area where the unique features of the TSL fan can provide a real advantage over other inline fans. A smaller TSL fan operating further down from the maximum efficiency figures may be selected without significantly increasing the horsepower requirements, RPM, or sound power levels. This means you have less of a compromise to make between size and cost vs. operating cost and quiet operation. With the TSL fan, you can have both high efficiency and lower first cost.

All of the features that give the standard TSL its high efficiency are utilized on all styles and arrangements that Twin City Fan & Blower offers. When supplied with a curb cap, discharge cap, and weather cover, the TSL fan becomes a quiet, efficient, and stable upblast style roof exhauster. TSL fans can also be specified for many industrial applications, such as paint spray booths. These installations typically utilize special features such as clamshell or swingout construction, which allow easy access for cleaning and maintenance.

CONSTRUCTION FEATURES

Housings

All fans are constructed of heavy-gauge steel and continuously welded for strength and rigidity. The tubular shape of the housing provides a streamlined airflow giving TSL fans much higher efficiencies when compared to square inline fans. All TSL fans are provided with punched inlet and outlet flanges as standard. A sealed belt tube is also standard.

Straightening Vanes

Straightening vanes convert tangential velocity pressure into useful static pressure potential, reducing turbulence and increasing efficiency. Extensive testing of various shapes and locations has resulted in the most efficient aerodynamic design of the straightening vanes. This efficient construction, coupled with the new wheel design, is responsible for the higher and broader efficiency range in the most commonly selected region of the fan curve.

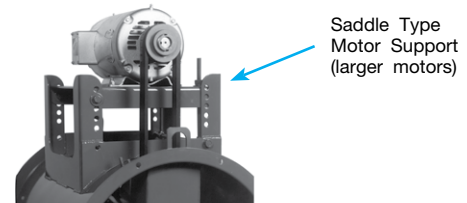
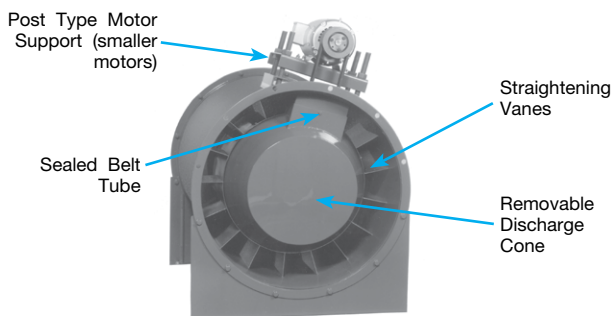
Inner Cylinder

The inner tube is rigidly constructed to support the shaft and bearings. The removable discharge cone provides full access to the shaft, bearings, and fan sheave. It is strongly recommended that an access door be provided in the ductwork adjacent to the discharge end of the fan for such service.

A rectangular belt tube encloses the drive. The rectangular design allows a larger fan sheave to be placed closer to the bearings and thus increase the drive side bearing life.

Motor Mounting Platform

Heavy duty design for handling large motors. Catalog drawings (pages 16-18) indicate the maximum frame size for different fan sizes. The motor mounting platform allows easy adjustment of belt tension. The motor mounting platform is offered in eight standard locations to allow for motor accessibility and space requirements. Both styles of motor bases allow for a large range of belt centers in case the v-belt drive has to be changed. See page 5 for available motor mounting locations.



Model TSL fans are available for horizontal and vertical mounting. Built in sizes 122 through 890, and in several styles as illustrated below, a wide variety of operating requirements are easily handled.

Arrangement 9 is widely used for tubular fans. In Arrangement 9, the motor is supported by a motor platform welded directly to the fan housing. Arrangement 1 is also available.

Horizontal Construction

Horizontal Base Mounted (HBM) — Support legs are provided at each end of the fan for floor mounting.

Horizontal Ceiling Hung (HCH) — For duct mounted fans, four suspension clips are welded to the fan casing to allow ceiling suspension using rod hangers.



HBM – Horizontal Base Mount

Vertical Construction

Vertical construction is available in sizes 122 through 542. Consult factory for larger sizes.

Floor or Ceiling Mounted — Four vertical brackets are welded to either end of the fan housing. Bracket location is determined by airflow direction and support details (see drawing below).

Roof Mounted — A curb cap provides weathertight seal for roof curb mounted fans. A discharge cap and weather cover are also available for the upblast style roof ventilator.

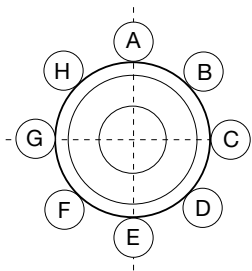


VRM – Vertical Roof Mount

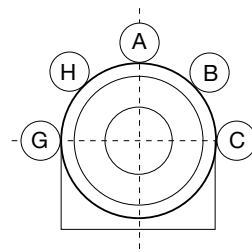
MOUNTING ARRANGEMENTS

Motor Positions

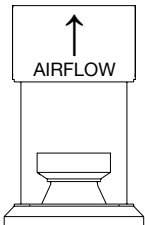
HCH
Viewed From
Outlet End



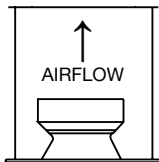
HBM
Viewed From
Outlet End



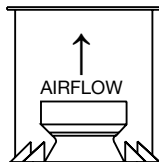
Discharge Designations for Vertical Flow Options



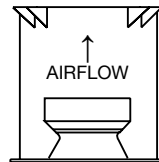
VRM
Vertical Roof Mount
(Usually Curb Mounted)



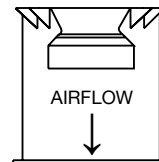
VUN
Vertical Up
No Brackets



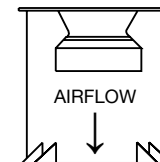
VUI
Discharge Up
Floor Mount
Support Brackets
On Inlet



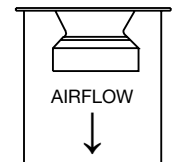
VUO
Discharge Up
Ceiling Hung
Support Brackets
On Outlet



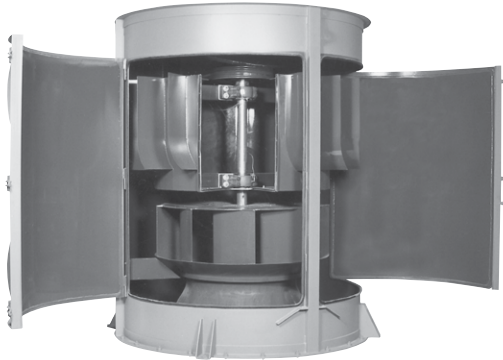
VDI
Discharge Down
Ceiling Hung
Support Brackets
On Inlet



VDO
Discharge Down
Floor Mount
Support Brackets
On Outlet



VDN
Vertical Down
No Brackets



Clamshell Design

Clamshell Design

Two clamshell style doors swing open to provide complete access to the interior of the fan for maintenance or cleaning without removal of ductwork. Heavy duty hinges, positive locking latches, and full gasketing provide a complete seal when doors are closed. An access door provides access to the bearings. Available on all fan sizes, typically vertical mount due to the weight of the doors.



Swingout Design

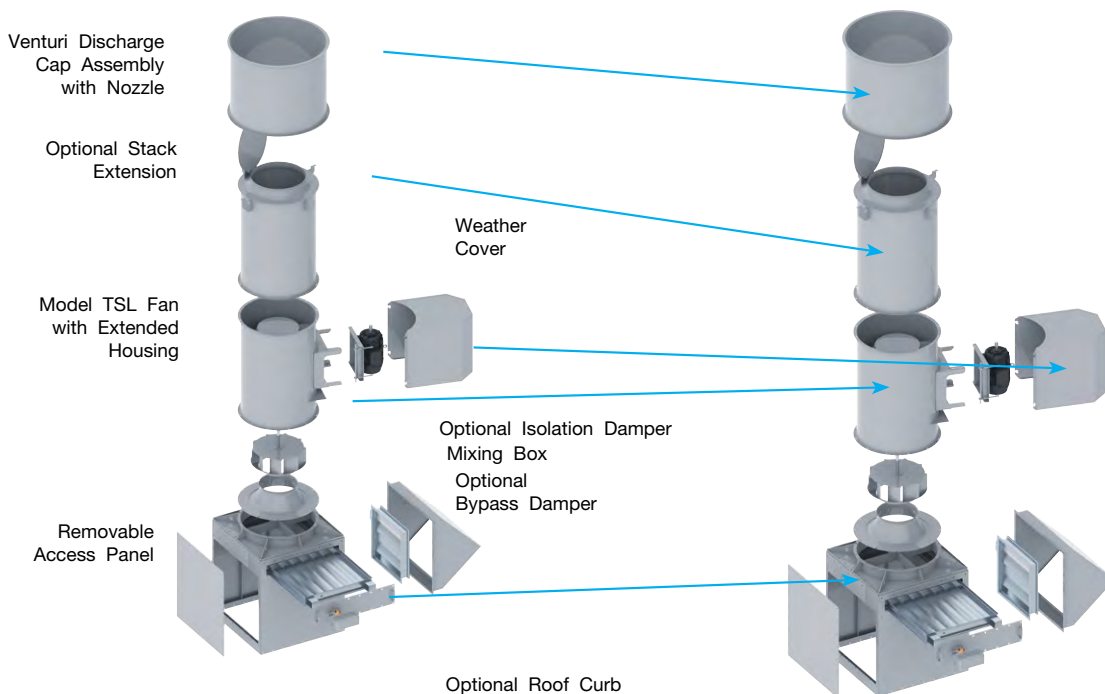
Swingout Design

Provides full access to the wheel and inner casing. The entire wheel/shaft/bearing assembly is mounted on a large swingout door. Since the inlet cone pivots with the door, fan performance is preserved. Ideal for systems requiring frequent cleaning without removal of ductwork. Swingout construction is available for vertical mounting only. Available on sizes 182 and larger.

Fumehood Exhaust Design

Twin City Fan & Blower offers a specially modified version of the TSL fan designated as "TFE" (Tubular Fume Exhaust) for laboratory fume hood exhaust applications, available in sizes 90 through 542. The TFE fan consists of a vertically mounted TSL unit with a reinforced curb cap and a modified discharge cap. The discharge cap includes an outlet venturi to permit the outlet velocity to meet the specific roof exhaust requirements. TFE fans in a standard configuration utilize an extended discharge with optional stack extensions available. The heavy duty curb cap will permit stack extensions up to 10 feet (120 inches) total height from the roof line without need for guide wires.

Refer to Catalog 1500 for selection and specifications.



Support Legs — Horizontal Flow

For horizontal flow with floor mounting, support legs are welded to the fan flange with bolt holes aligned for connection of ductwork.

Support Legs — Vertical Flow

For vertical flow with either floor or ceiling mounting, support legs are welded to the fan housing for four-point support.

Suspension Clips

For horizontal flow with ceiling mounting, four clips of formed angle are welded to the fan housing for suspension via tie rods to the ceiling support structure.

Discharge Cap

TSL units can be provided with a discharge cap for rooftop mounting. Discharge caps are designed for vertical discharge with butterfly type dampers to seal out the weather when the fan is shut off and minimal flow obstruction when the fan is operating. See page 9, Table 2 for minimum flow rates.

Curb Cap

TSL units can be supplied with a curb cap, attached to the fan's inlet flange for curb mounting.

Shaft Seal

To limit the air entering the inner cylinder and avoid contact of airstream contaminants with the bearings and V-belt drive, a shaft seal can be provided. The shaft seal consists of a non-asbestos rubbing ring held in place by a cover plate at the wheel end of the inner cylinder. Please note that a shaft seal does not make the inner cylinder gas tight.

Inlet and Outlet Screens

Safety screening can be provided for installation in the fan inlet or outlet.

Belt Guard

Available in Arrangement 9 belt driven fans, the belt guard encloses the motor sheave and V-belts. The guard is easily removable for inspection and maintenance.

Companion Flanges

For ease of installation of adjacent ductwork, companion flanges can be provided. Flanges are rolled angle rings, drilled to match the fan's inlet or outlet flange.

Spark-Resistant Construction

TSL fans are available with spark-resistant construction. Various grades of spark resistance are as dictated by AMCA: Types A, B and C.



Support Legs,
Horizontal



Support Legs,
Vertical



Discharge Cap



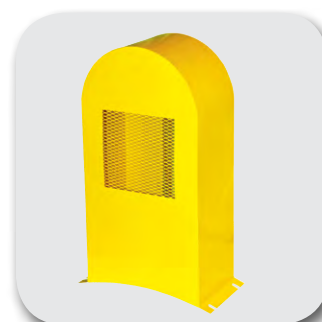
Curb Cap



Shaft Seal



Inlet/Outlet
Screens



Belt Guard



Companion Flange

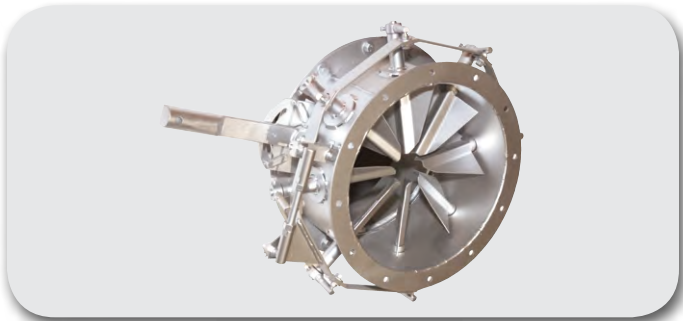
ACCESSORIES



Vibration Isolation



Weather Cover



Variable Inlet Vanes

Vibration Isolation

TSL fans can be provided with spring or rubber-in-shear isolators as an option. Spring isolators can be provided for floor mount or ceiling hung orientation.

Weather Cover

For outdoor installations, the weather cover completely encloses the motor and V-belt drive from the elements. Provided with slots for ventilation, the cover is easily removable for inspection and maintenance. Weather covers are available for either horizontal or vertical flow fans.

Inlet Vanes

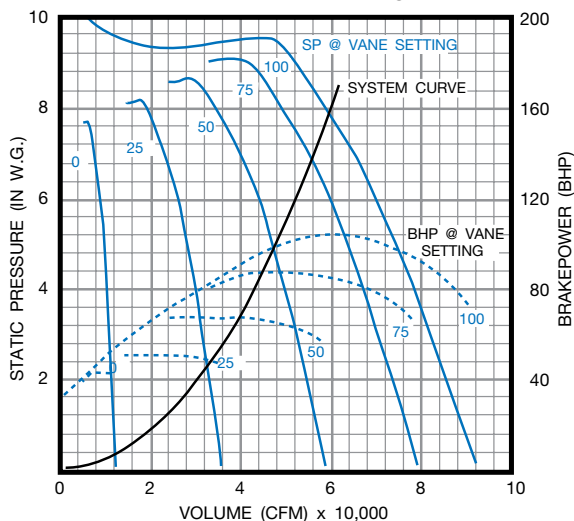
Variable inlet vanes provide economical, stable, and efficient air volume control for manual or motorized operation.

Variable inlet vanes are widely used to control air volumes at partial load conditions, resulting in substantial savings in energy. Inlet vane control offers wide range regulation, excellent operating cost savings, simplicity in operation, and long trouble-free operation at a relatively low initial cost.

Variable inlet vanes cause the air entering the fan to spin in the direction of wheel rotation, resulting in reduction in capacity, pressure, and brake horsepower. With the use of inlet vanes, the fan performance curve is repositioned from fully open to the closed position of inlet vanes as shown below.

Low maintenance, easy assembly, disassembly, and long life are prime features of this vane design. Blades are supported with fatigue resistant steel shafts and two needle roller bearings riding on a zone hardened surface to minimize the wear. Bearings are lubricated for life with high grade moisture-resistant grease and protected with special seals. The vane bearing housings are welded in position and stiffened with a welded-on support ring. The welded structure eliminates flutter and vibration while utilizing a cantilevered design.

Performance Curve at Different Vane Settings



Energy Savings Using Inlet Vanes

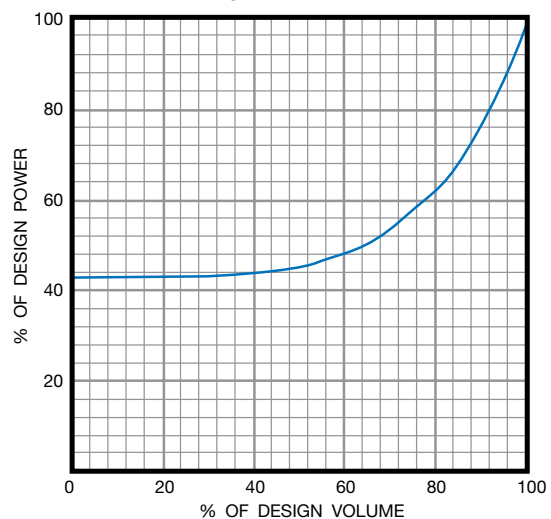


Table 1. Maximum RPM, Wheel Weights, and WR² (moment of inertia in lb-ft²)

FAN SIZE	CLASS I			CLASS II			CLASS III		
	MAX. RPM	WEIGHT LB	WR ² LB-FT ²	MAX. RPM	WEIGHT LB	WR ² LB-FT ²	MAX. RPM	WEIGHT LB	WR ² LB-FT ²
122	3583	14	1.8	4676	19	2.6	—	—	—
150	2927	20	4.3	3819	26	5.8	—	—	—
182	2237	32	9.3	2917	36	10	3689	57	15
200	2042	38	13	2662	41	14	3367	64	20
222	1835	62	23	2393	62	23	3026	92	35
245	1667	74	35	2173	74	35	2748	105	49
270	1486	86	51	1938	86	51	2441	121	71
300	1338	101	77	1745	119	95	2197	141	107
330	1216	123	114	1586	144	134	1998	183	179
365	1081	157	185	1410	181	216	1776	243	293
402	981	194	273	1279	216	321	1611	278	404
445	887	274	430	1157	328	563	1457	405	672
490	806	317	622	1051	384	822	1323	468	968
542	728	411	1060	949	480	1237	1195	576	1506
600	658	524	1705	858	573	1854	1081	680	2212
660	598	748	2573	780	807	2888	983	965	3576
730	541	944	4230	705	944	4250	888	1121	5039
807	489	1151	6595	638	1217	7080	833	1356	8032
890	444	1841	12706	579	1843	12606	729	1920	13674

Table 2. Minimum Volume Required to Open Discharge Cap

SIZE	CFM
122	1051
150	1707
182	2532
200	3527
222	3527
245	4693
270	6574
300	7605
330	8712
365	11158
402	15891
445	15891
490	20904
542	26613

Table 3. Bare Fan Weights (lb)

FAN SIZE	ARRANGEMENT I			ARRANGEMENT 9		
	CLASS I	CLASS II	CLASS III	CLASS I	CLASS II	CLASS III
122	—	—	—	220	240	—
150	—	—	—	240	260	—
182	355	391	430	273	300	330
200	396	436	479	330	363	379
222	460	506	556	360	396	435
245	540	594	653	405	446	490
270	680	748	822	490	539	598
300	1050	1155	1270	780	838	943
330	1450	1595	1754	1010	1111	1222
365	1600	1760	1936	1250	1375	1512
402	1990	2189	2407	1400	1540	1694
445	2465	2712	2983	1900	2090	2299
490	3000	3300	3630	2400	2640	2904
542	3700	4070	4477	3200	3520	3872
600	5200	5720	6292	4300	4730	5203
660	6500	7150	7865	5850	6435	7078
730	9000	9900	10890	7800	8580	9438
807	11000	12100	13810	9900	10890	11979
890	14500	15950	17545	13000	14300	15730

PERFORMANCE DATA

122 TSL

Wheel Type: Flat Blade BI

Inlet & Outlet Area: 1.51 ft²

Fan Efficiency Grade = FEG3

Wheel Dia.: 12.25"

Tip Speed FPM = 3.21 x RPM

Inlet & Outlet Dia.: 16.56"

Max. BHP = 0.073 (RPM÷1000)³

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
755	500	1193	0.12	<u>1483</u>	<u>0.23</u>																		
906	600	1321	0.17	1568	0.28																		
1057	700	1456	0.22	1679	0.35	<u>1885</u>	<u>0.49</u>	<u>2093</u>	<u>0.64</u>														
1208	800	1596	0.28	1804	0.43	1991	0.58	<u>2169</u>	<u>0.74</u>														
1359	900	1743	0.37	1937	0.52	2108	0.69	2272	0.86	2589	1.24												
1510	1000	1896	0.46	2073	0.63	2236	0.81	2386	1.00	<u>2676</u>	<u>1.39</u>	<u>2965</u>	<u>1.84</u>										
1661	1100	2053	0.58	2212	0.76	2370	0.96	2511	1.16	2781	1.57	<u>3039</u>	<u>2.02</u>										
1812	1200	2213	0.73	2357	0.91	2505	1.12	2642	1.34	2893	1.78	3136	2.25	<u>3372</u>	<u>2.75</u>								
2114	1400	2537	1.08	2660	1.28	2785	1.51	2912	1.76	3144	2.26	3358	2.78	<u>3568</u>	<u>3.32</u>	<u>3771</u>	<u>3.88</u>	<u>3974</u>	<u>4.49</u>				
2416	1600	2867	1.55	2974	1.77	3081	2.01	3192	2.28	3411	2.85	3609	3.42	<u>3796</u>	<u>4.01</u>	<u>3981</u>	<u>4.62</u>						
2718	1800	3200	2.14	3295	2.39	3390	2.65	3486	2.92	3684	3.54	3875	4.20										
3020	2000	3536	2.88	<u>3621</u>	<u>3.15</u>	<u>3707</u>	<u>3.43</u>	<u>3792</u>	<u>3.72</u>	3968	4.36												
3322	2200	<u>3874</u>	<u>3.78</u>	<u>3951</u>	<u>4.06</u>																		
3624	2400																						
3926	2600																						
4228	2800																						

MAXIMUM RPM: Class I — 3583 Class II — 4000

Legend:

- Class I = Regular face to left of Class II
- Class II = Regular face in light shaded area
- Class III = Bold face to right of Class II

Performance shown is for installation Type B: Free inlet, ducted outlet. Power rating (BHP) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). Underlined figures indicate maximum static efficiency.

150 TSL

Wheel Type: Flat Blade BI Inlet & Outlet Area: 2.25 ft² Fan Efficiency Grade = FEG60
 Wheel Dia.: 15.00" Tip Speed FPM = 3.93 x RPM Inlet & Outlet Dia.: 20.25" Max. BHP = 0.202 (RPM÷1000)³

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1125	500	971	0.18	1209	0.34																		
1350	600	1075	0.25	1277	0.42																		
1575	700	1184	0.33	1367	0.52	1536	0.72																
1800	800	1298	0.42	1468	0.63	1621	0.86	1768	1.10														
2025	900	1417	0.54	1576	0.78	1716	1.02	1851	1.28	2111	1.84												
2250	1000	1541	0.69	1686	0.94	1820	1.21	1943	1.48	2181	2.07	2419	2.74										
2475	1100	1668	0.86	1799	1.13	1928	1.42	2044	1.72	2265	2.34	2477	3.01										
2700	1200	1797	1.07	1916	1.35	2038	1.67	2150	1.98	2356	2.64	2555	3.34	2749	4.10								
3150	1400	2061	1.60	2161	1.90	2264	2.24	2369	2.61	2558	3.36	2734	4.12	2906	4.93	3073	5.78	3240	6.69				
3600	1600	2328	2.29	2416	2.62	2504	2.98	2595	3.37	2775	4.23	2937	5.08	3090	5.95	3242	6.87	3390	7.81	3535	8.79	3682	9.83
4050	1800	2598	3.16	2676	3.52	2754	3.91	2833	4.32	2996	5.25	3152	6.22	3295	7.17	3432	8.15	3568	9.17	3702	10.21		
4500	2000	2871	4.24	2941	4.64	3011	5.06	3081	5.49	3226	6.46	3372	7.52	3510	8.59	3639	9.65	3763	10.73				
4950	2200	3145	5.56	3208	5.99	3272	6.44	3336	6.91	3465	7.91	3598	9.02	3730	10.20								
5400	2400	3419	7.13	3478	7.60	3536	8.08	3594	8.57	3712	9.63												
5850	2600	3695	8.98	3749	9.48	3802	9.99																
6300	2800																						

MAXIMUM RPM: Class I — 2927 Class II — 3819

182 TSL

Wheel Type: Airfoil Inlet & Outlet Area: 3.34 ft² Fan Efficiency Grade = FEG71
 Wheel Dia.: 18.25" Tip Speed FPM = 4.78 x RPM Inlet & Outlet Dia.: 24.25" Max. BHP = 0.46 (RPM÷1000)³

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1670	500	766	0.21	975	0.41																		
2004	600	834	0.26	1022	0.49																		
2338	700	909	0.33	1079	0.58	1233	0.85																
2672	800	990	0.42	1145	0.69	1287	0.98	1420	1.30														
3006	900	1076	0.52	1216	0.81	1349	1.13	1473	1.47	1702	2.21												
3340	1000	1164	0.64	1293	0.96	1416	1.30	1532	1.66	1749	2.43	1949	3.28										
3674	1100	1255	0.79	1374	1.12	1488	1.49	1597	1.87	1802	2.69	1993	3.58										
4008	1200	1348	0.96	1458	1.31	1564	1.70	1667	2.11	1861	2.97	2044	3.90	2214	4.89								
4676	1400	1538	1.39	1634	1.79	1727	2.21	1818	2.66	1993	3.62	2158	4.63	2316	5.70	2467	6.82	2610	7.99				
5344	1600	1731	1.93	1816	2.38	1899	2.85	1980	3.34	2138	4.38	2289	5.49	2435	6.66	2574	7.85	2710	9.10	2840	10.40	2965	11.73
6012	1800	1927	2.63	2003	3.12	2078	3.63	2151	4.16	2294	5.29	2433	6.49	2567	7.74	2697	9.04	2823	10.37	2945	11.74	3065	13.16
6680	2000	2125	3.48	2194	4.02	2262	4.58	2329	5.16	2459	6.37	2586	7.64	2711	8.99	2832	10.38	2950	11.81	3064	13.26	3176	14.76
7348	2200	2324	4.51	2387	5.09	2449	5.70	2511	6.33	2631	7.62	2748	8.98	2863	10.40	2976	11.88	3087	13.41	3195	14.97	3300	16.56
8016	2400	2524	5.73	2582	6.37	2639	7.02	2696	7.69	2808	9.08	2917	10.53	3024	12.04	3129	13.59	3232	15.20	3334	16.85	3434	18.54
8684	2600	2725	7.17	2778	7.85	2832	8.56	2885	9.27	2988	10.74	3090	12.28	3190	13.88	3288	15.51	3385	17.20	3481	18.94	3576	20.73
9352	2800	2926	8.83	2976	9.56	3026	10.32	3075	11.08	3172	12.65	3268	14.28	3362	15.96	3454	17.68	3545	19.45	3635	21.27		

MAXIMUM RPM: Class I — 2237 Class II — 2917 Class III — 3689

200 TSL

Wheel Type: Airfoil Inlet & Outlet Area: 4.04 ft² Fan Efficiency Grade = FEG71
 Wheel Dia.: 20.00" Tip Speed FPM = 5.24 x RPM Inlet & Outlet Dia.: 27.13" Max. BHP = 0.73 (RPM÷1000)³

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2020	500	701	0.25	891	0.50																		
2424	600	763	0.32	934	0.59																		
2828	700	833	0.40	987	0.70	1128	1.03																
3232	800	908	0.51	1048	0.83	1178	1.19	1298	1.57														
3636	900	987	0.63	1114	0.98	1234	1.37	1347	1.78	1555	2.66												
4040	1000	1068	0.78	1185	1.16	1297	1.57	1402	2.01	1600	2.95	1781	3.97										
4444	1100	1152	0.96	1260	1.37	1363	1.80	1463	2.27	1649	3.26	1822	4.33										
4848	1200	1237	1.17	1337	1.60	1434	2.07	1527	2.56	1703	3.60	1869	4.72	2024	5.91								
5656	1400	1412	1.69	1499	2.17	1584	2.69	1666	3.23	1825	4.39	1975	5.61	2118	6.90	2256	8.26	2386	9.66				
6464	1600	1590	2.37	1667	2.90	1742	3.47	1816	4.07	1959	5.32	2096	6.66	2228	8.06	2355	9.50	2478	11.01	2597	12.58	2711	14.18
7272	1800	1770	3.21	1839	3.81	1907	4.43	1973	5.07	2103	6.43	2229	7.88	2351	9.39	2469	10.96	2583	12.56	2694	14.21	2803	15.92
8080	2000	1952	4.26	2014	4.91	2076	5.58	2137	6.29	2255	7.75	2370	9.28	2483	10.90	2593	12.58	2700	14.31	2805	16.08	2906	17.87
8888	2200	2135	5.52	2192	6.23	2248	6.96	2304	7.71	2413	9.28	2520	10.93	2624	12.64	2726	14.42	2827	16.27	2925	18.15	3021	20.07
9696	2400	2319	7.02	2371	7.78	2423	8.57	2475	9.39	2576	11.06	2675	12.82	2772	14.63	2867	16.50	2961	18.45	3054	20.45	3144	22.48
10504	2600	2503	8.78	2552	9.61	2600	10.45	2648	11.32	2743	13.12	2835	14.97	2925	16.88	3015	18.87	3102	20.89	3189	22.99	3275	25.15
11312	2800	2689	10.83	2734	11.71	2779	12.62	2824	13.55	2912	15.45	2998	17.40	3083	19.42	3167	21.51	3250	23.66	3332	25.85		

MAXIMUM RPM: Class I — 2042 Class II — 2662 Class III — 3367

Legend:

- Class I = Regular face to left of Class II
- Class II = Regular face in light shaded area
- Class III = Bold face to right of Class II

Performance shown is for installation Type B: Free inlet, ducted outlet.
 Power rating (BHP) does not include transmission losses.
 Performance ratings do not include the effects of appurtenances (accessories).
 Underlined figures indicate maximum static efficiency.

222 TSL

Wheel Type: Airfoil

Inlet & Outlet Area: 4.97 ft²

Fan Efficiency Grade = FEG71

Wheel Dia.: 22.25"

Tip Speed FPM = 5.83 x RPM

Inlet & Outlet Dia.: 30.19"

Max. BHP = 1.24 (RPM÷1000)³

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2485	500	629	0.31	800	0.61																		
2982	600	684	0.39	838	0.72																		
3479	700	746	0.50	885	0.86	<u>1012</u>	<u>1.27</u>																
3976	800	813	0.62	939	1.02	<u>1056</u>	<u>1.46</u>	1165	1.93														
4473	900	883	0.78	998	1.21	1107	1.68	<u>1208</u>	<u>2.18</u>	<u>1396</u>	<u>3.28</u>												
4970	1000	956	0.96	1061	1.42	1162	1.93	1257	2.47	<u>1435</u>	<u>3.62</u>	1599	4.89										
5467	1100	1031	1.18	1128	1.67	1221	2.21	1311	2.79	<u>1479</u>	<u>4.00</u>	1635	5.32										
5964	1200	1107	1.43	1197	1.96	1284	2.53	1368	3.14	<u>1527</u>	<u>4.42</u>	1677	5.81	1816	7.27								
6958	1400	1262	2.06	1341	2.66	1418	3.29	1492	3.96	1635	5.39	1771	6.90	1900	8.48	<u>2024</u>	<u>10.15</u>	<u>2141</u>	<u>11.88</u>				
7952	1600	1421	2.88	1491	3.55	1559	4.24	1625	4.97	1754	6.52	1879	8.18	1998	9.90	<u>2112</u>	<u>11.68</u>	<u>2224</u>	<u>13.56</u>	<u>2330</u>	<u>15.47</u>	<u>2433</u>	<u>17.45</u>
8946	1800	1582	3.91	1645	4.65	1706	5.41	1766	6.21	1883	7.88	1997	9.67	2107	11.53	2213	13.45	2316	15.42	<u>2417</u>	<u>17.48</u>	<u>2515</u>	<u>19.59</u>
9940	2000	1744	5.18	1801	5.98	<u>1857</u>	<u>6.82</u>	1912	7.68	2019	9.49	2123	11.39	2225	13.38	<u>2324</u>	<u>15.45</u>	<u>2421</u>	<u>17.58</u>	<u>2515</u>	<u>19.75</u>	<u>2606</u>	<u>21.96</u>
10934	2200	1908	6.72	1960	7.60	2011	8.50	2061	9.42	2160	11.36	2256	13.39	2350	15.49	<u>2443</u>	<u>17.70</u>	<u>2533</u>	<u>19.96</u>	<u>2622</u>	<u>22.29</u>	<u>2708</u>	<u>24.64</u>
11928	2400	2072	8.54	2120	9.49	2167	10.46	2213	11.45	2305	13.53	<u>2394</u>	<u>15.68</u>	<u>2482</u>	<u>17.92</u>	<u>2568</u>	<u>20.24</u>	<u>2653</u>	<u>22.63</u>	<u>2736</u>	<u>25.08</u>	<u>2818</u>	<u>27.60</u>
12922	2600	2237	10.68	2281	11.70	2325	12.75	2368	13.81	<u>2453</u>	<u>16.01</u>	<u>2537</u>	<u>18.31</u>	<u>2619</u>	<u>20.68</u>	<u>2699</u>	<u>23.10</u>	<u>2779</u>	<u>25.63</u>	<u>2857</u>	<u>28.20</u>	<u>2934</u>	<u>30.84</u>
13916	2800	<u>2403</u>	<u>13.17</u>	<u>2444</u>	<u>14.27</u>	<u>2484</u>	<u>15.37</u>	<u>2525</u>	<u>16.52</u>	<u>2604</u>	<u>18.85</u>	<u>2683</u>	<u>21.28</u>	<u>2760</u>	<u>23.78</u>	<u>2835</u>	<u>26.33</u>	<u>2910</u>	<u>28.98</u>	<u>2984</u>	<u>31.68</u>		

MAXIMUM RPM: Class I — 1835 Class II — 2393 Class III — 3026

245 TSL

Wheel Type: Airfoil

Inlet & Outlet Area: 6.01 ft²

Fan Efficiency Grade = FEG71

Wheel Dia.: 24.50"

Tip Speed FPM = 6.41 x RPM

Inlet & Outlet Dia.: 33.19"

Max. BHP = 2.00 (RPM÷1000)³

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3005	500	570	0.37	726	0.74																		
3606	600	620	0.47	761	0.88																		
4207	700	676	0.60	803	1.04	<u>918</u>	<u>1.53</u>																
4808	800	737	0.75	852	1.24	<u>958</u>	<u>1.76</u>	1057	2.34														
5409	900	800	0.93	905	1.46	1004	2.03	<u>1096</u>	<u>2.64</u>	<u>1267</u>	<u>3.97</u>												
6010	1000	866	1.16	962	1.72	1054	2.33	1141	2.99	<u>1303</u>	<u>4.39</u>	1452	5.92										
6611	1100	934	1.42	1023	2.02	1107	2.67	1189	3.37	<u>1342</u>	<u>4.84</u>	1484	6.44										
7212	1200	1003	1.73	1085	2.36	1164	3.05	1241	3.79	1386	5.35	1522	7.03	1648	8.79								
8414	1400	1144	2.49	1216	3.21	1285	3.97	1353	4.78	1483	6.51	1606	8.33	<u>1724</u>	<u>10.25</u>	<u>1837</u>	<u>12.28</u>	<u>1944</u>	<u>14.38</u>				
9616	1600	1288	3.48	1351	4.27	1413	5.12	1474	6.01	1591	7.88	1704	9.88	1812	11.96	<u>1916</u>	<u>14.11</u>	<u>2018</u>	<u>16.39</u>	<u>2115</u>	<u>18.72</u>	<u>2208</u>	<u>21.11</u>
10818	1800	1433	4.71	1490	5.60	1546	6.52	1601	7.49	1707	9.51	1811	11.67	1911	13.93	2008	16.26	2102	18.66	<u>2193</u>	<u>21.13</u>	<u>2282</u>	<u>23.68</u>
12020	2000	1580	6.24	1632	7.21	<u>1683</u>	<u>8.22</u>	1733	9.27	1830	11.44	1925	13.75	2017	16.15	<u>2108</u>	<u>18.67</u>	<u>2196</u>	<u>21.24</u>	<u>2281</u>	<u>23.86</u>	<u>2365</u>	<u>26.56</u>
13222	2200	1728	8.08	1775	9.14	1822	10.23	1868	11.36	1958	13.71	2045	16.15	2131	18.71	<u>2215</u>	<u>21.37</u>	<u>2297</u>	<u>24.10</u>	<u>2378</u>	<u>26.92</u>	<u>2457</u>	<u>29.80</u>
14424	2400	1877	10.28	1921	11.43	1963	12.60	2006	13.81	2089	16.31	2170	18.91	<u>2250</u>	<u>21.63</u>	<u>2328</u>	<u>24.42</u>	<u>2406</u>	<u>27.34</u>	<u>2482</u>	<u>30.32</u>	<u>2556</u>	<u>33.35</u>
15626	2600	2027	12.86	2067	14.10	2106	15.34	2146	16.65	<u>2223</u>	<u>19.30</u>	<u>2299</u>	<u>22.07</u>	<u>2374</u>	<u>24.94</u>	<u>2447</u>	<u>27.89</u>	<u>2519</u>	<u>30.92</u>	<u>2591</u>	<u>34.07</u>	<u>2661</u>	<u>37.26</u>
16828	2800	<u>2176</u>	<u>15.84</u>	<u>2214</u>	<u>17.18</u>	<u>2251</u>	<u>18.52</u>	<u>2288</u>	<u>19.91</u>	<u>2360</u>	<u>22.72</u>	<u>2431</u>	<u>25.64</u>	<u>2501</u>	<u>28.66</u>	<u>2570</u>	<u>31.77</u>	<u>2638</u>	<u>34.96</u>	<u>2705</u>	<u>38.23</u>		

MAXIMUM RPM: Class I — 1667 Class II — 2173 Class III — 2748

270 TSL

Wheel Type: Airfoil

Inlet & Outlet Area: 7.28 ft²

Fan Efficiency Grade = FEG75

Wheel Dia.: 27.00"

Tip Speed FPM = 7.07 x RPM

Inlet & Outlet Dia.: 36.56"

Max. BHP = 3.18 (RPM÷1000)³

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3640	500	508	0.42	651	0.84																		
4368	600	552	0.53	677	0.99																		
5096	700	599	0.66	715	1.17	<u>819</u>	<u>1.73</u>																
5824	800	652	0.83	758	1.38	<u>853</u>	<u>1.98</u>	943	2.64														
6552	900	709	1.04	804	1.62	894	2.28	<u>976</u>	<u>2.97</u>	1134	4.48												
7280	1000	767	1.28	852	1.89	938	2.60	1016	3.35	<u>1161</u>	<u>4.94</u>	1302	6.70										
8008	1100	827	1.57	905	2.23	983	2.96	1059	3.77	<u>1194</u>	<u>5.43</u>	1324	7.25										
8736	1200	888	1.91	960	2.61	1031	3.37	1103	4.22	1234	6.00	1355	7.90	1473	9.92								
10192	1400	1013	2.74	1077	3.56	1137	4.38	1198	5.28	1320	7.27	1430	9.33	<u>1534</u>	<u>11.51</u>	<u>1637</u>	<u>13.82</u>	<u>1738</u>	<u>16.23</u>				
11648	1600	1140	3.80	1197	4.74	1251	5.67	1304	6.62	1411	8.72	1517	11.04	1614	13.41	<u>1706</u>	<u>15.86</u>	<u>1796</u>	<u>18.41</u>	<u>1885</u>	<u>21.05</u>	<u>1974</u>	<u>23.83</u>
13104	1800	1268	5.13	1320	6.19	1370	7.25	1417	8.28	1511	10.49	1607	12.94	1701	15.56	1788	18.20	1871	20.92	<u>1951</u>	<u>23.70</u>	<u>2032</u>	<u>26.64</u>
14560	2000	1398	6.76	1445	7.93	<u>1491</u>	<u>9.12</u>	1535	10.29	1619	12.62	1704	15.15	1791	17.93	<u>1876</u>	<u>20.84</u>	<u>1955</u>	<u>23.74</u>	<u>2031</u>	<u>26.73</u>	<u>2105</u>	<u>29.80</u>
16016	2200	1529	8.74	1572	10.02	1614	11.32	1655	12.61	1733	15.16	1810	17.81	1887	20.64	<u>1966</u>	<u>23.70</u>	<u>2044</u>	<u>26.90</u>	<u>2117</u>	<u>30.08</u>	<u>2188</u>	<u>33.36</u>
17472	2400	1660	11.07	1700	12.48	1739	13.89	1777	15.30	1850	18.09	1921	20.91	<u>1991</u>	<u>23.83</u>	<u>2063</u>	<u>26.99</u>	<u>2135</u>	<u>30.31</u>	<u>2206</u>	<u>33.74</u>	<u>2275</u>	<u>37.24</u>
18928	2600	1792	13.81	1829	15.33	1865	16.85	1901	18.39	<u>1970</u>	<u>21.45</u>	<u>2036</u>	<u>24.46</u>	<u>2101</u>	<u>27.54</u>	<u>2166</u>	<u>30.75</u>	<u>2232</u>	<u>34.17</u>	<u>2299</u>	<u>37.77</u>	<u>2365</u>	<u>41.46</u>
20384	2800																						

300 TSL

Wheel Type: Airfoil

Inlet & Outlet Area: 9.00 ft²

Fan Efficiency Grade = FEG75

Wheel Dia.: 30.00"

Tip Speed FPM = 7.85 x RPM

Inlet & Outlet Dia.: 40.63"

Max. BHP = 5.39 (RPM÷1000)³

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
4500	500	457	0.52	586	1.03																		
5400	600	497	0.65	610	1.22																		
6300	700	540	0.82	644	1.44	737	2.14																
7200	800	587	1.02	683	1.71	768	2.45	849	3.26														
8100	900	638	1.28	724	2.00	805	2.81	879	3.67	1021	5.54												
9000	1000	691	1.59	768	2.35	845	3.22	915	4.14	<u>1045</u>	<u>6.10</u>	1172	8.28										
9900	1100	746	1.96	815	2.75	885	3.66	953	4.65	<u>1075</u>	<u>6.71</u>	<u>1192</u>	<u>8.96</u>										
10800	1200	801	2.37	865	3.23	929	4.17	993	5.21	1111	7.42	1220	9.77	1326	12.26								
12600	1400	913	3.40	970	4.40	1024	5.42	1079	6.53	1189	8.99	1288	11.55	<u>1382</u>	<u>14.25</u>	<u>1474</u>	<u>17.09</u>	1565	20.07				
14400	1600	1027	4.71	1079	5.88	1127	7.02	1175	8.20	1271	10.80	1366	13.65	1453	16.57	<u>1536</u>	<u>19.60</u>	<u>1617</u>	<u>22.76</u>	<u>1697</u>	<u>26.02</u>	<u>1777</u>	<u>29.45</u>
16200	1800	1143	6.36	1189	7.66	1234	8.97	1277	10.27	1361	12.97	1448	16.03	1532	19.24	1610	22.50	1685	25.88	<u>1757</u>	<u>29.32</u>	<u>1829</u>	<u>32.91</u>
18000	2000	1260	8.38	1302	9.83	<u>1343</u>	<u>11.28</u>	<u>1383</u>	<u>12.74</u>	1459	15.63	1535	18.75	1613	22.18	1689	25.75	<u>1761</u>	<u>29.39</u>	<u>1829</u>	<u>33.06</u>	<u>1895</u>	<u>36.82</u>
19800	2200	<u>1378</u>	<u>10.83</u>	<u>1417</u>	<u>12.43</u>	<u>1454</u>	<u>14.01</u>	<u>1491</u>	<u>15.61</u>	<u>1561</u>	<u>18.76</u>	<u>1630</u>	<u>22.03</u>	<u>1700</u>	<u>25.55</u>	<u>1771</u>	<u>29.33</u>	<u>1840</u>	<u>33.23</u>	<u>1907</u>	<u>37.23</u>	<u>1970</u>	<u>41.23</u>
21600	2400	1496	13.72	1532	15.46	1567	17.20	1601	18.94	1667	22.41	1730	25.85	1793	29.47	<u>1858</u>	<u>33.39</u>	<u>1923</u>	<u>37.50</u>	<u>1987</u>	<u>41.74</u>	<u>2049</u>	<u>46.07</u>
23400	2600	1615	17.12	1648	18.99	1681	20.89	1713	22.79	<u>1775</u>	<u>26.56</u>	<u>1834</u>	<u>30.27</u>	<u>1892</u>	<u>34.04</u>	<u>1951</u>	<u>38.05</u>	<u>2010</u>	<u>42.25</u>	<u>2070</u>	<u>46.68</u>	<u>2130</u>	<u>51.29</u>
25200	2800	1735	21.09	<u>1765</u>	<u>23.08</u>	<u>1796</u>	<u>25.13</u>	<u>1826</u>	<u>27.16</u>	<u>1884</u>	<u>31.22</u>	<u>1940</u>	<u>35.23</u>	<u>1995</u>	<u>39.28</u>	<u>2049</u>	<u>43.40</u>	<u>2103</u>	<u>47.68</u>	<u>2158</u>	<u>52.21</u>		

MAXIMUM RPM: Class I — 1338 Class II — 1745 Class III — 2197

330 TSL

Wheel Type: Airfoil

Inlet & Outlet Area: 10.89 ft²

Fan Efficiency Grade = FEG75

Wheel Dia.: 33.00"

Tip Speed FPM = 8.64 x RPM

Inlet & Outlet Dia.: 44.69"

Max. BHP = 8.68 (RPM÷1000)³

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
5445	500	416	0.63	533	1.25																		
6534	600	452	0.79	554	1.47																		
7623	700	491	0.99	585	1.74	670	2.58																
8712	800	534	1.24	621	2.07	698	2.96	772	3.95														
9801	900	580	1.55	658	2.42	732	3.41	799	4.44	928	6.70												
10890	1000	629	1.93	698	2.84	768	3.90	831	4.99	<u>950</u>	<u>7.38</u>	1065	10.00										
11979	1100	678	2.36	741	3.33	805	4.44	867	5.63	<u>978</u>	<u>8.14</u>	<u>1084</u>	<u>10.85</u>										
13068	1200	728	2.87	787	3.92	844	5.04	903	6.31	1010	8.97	1109	11.81	1206	14.85								
15246	1400	830	4.11	882	5.33	931	6.56	981	7.90	1081	10.88	1171	13.98	<u>1256</u>	<u>17.23</u>	<u>1340</u>	<u>20.68</u>	<u>1422</u>	<u>24.25</u>				
17424	1600	934	5.70	981	7.11	1025	8.50	1068	9.92	1156	13.08	1242	16.52	1321	20.05	<u>1396</u>	<u>23.70</u>	<u>1470</u>	<u>27.54</u>	<u>1543</u>	<u>31.50</u>	<u>1615</u>	<u>35.60</u>
19602	1800	1039	7.69	1081	9.27	1122	10.86	1161	12.42	1237	15.69	1316	19.38	1392	23.25	1464	27.25	1531	31.27	<u>1597</u>	<u>35.46</u>	<u>1663</u>	<u>39.84</u>
21780	2000	1146	10.16	1184	11.90	<u>1221</u>	<u>13.65</u>	<u>1257</u>	<u>15.40</u>	1326	18.90	1396	22.72	1466	26.81	1536	31.19	1601	35.56	<u>1663</u>	<u>40.02</u>	<u>1723</u>	<u>44.57</u>
23958	2200	<u>1253</u>	<u>13.11</u>	<u>1288</u>	<u>15.03</u>	<u>1322</u>	<u>16.95</u>	<u>1356</u>	<u>18.91</u>	<u>1419</u>	<u>22.69</u>	<u>1482</u>	<u>26.66</u>	<u>1546</u>	<u>30.95</u>	<u>1610</u>	<u>35.49</u>	<u>1673</u>	<u>40.22</u>	<u>1734</u>	<u>45.08</u>	<u>1791</u>	<u>49.89</u>
26136	2400	1360	16.60	1393	18.72	1424	20.79	1456	22.95	1515	27.09	1573	31.30	<u>1630</u>	<u>35.65</u>	<u>1689</u>	<u>40.39</u>	<u>1748</u>	<u>45.36</u>	<u>1806</u>	<u>50.48</u>	<u>1863</u>	<u>55.76</u>
28314	2600	1468	20.71	1498	22.97	1528	25.27	1557	27.56	<u>1613</u>	<u>32.10</u>	<u>1667</u>	<u>36.61</u>	<u>1720</u>	<u>41.19</u>	<u>1773</u>	<u>45.99</u>	<u>1827</u>	<u>51.10</u>	<u>1882</u>	<u>56.49</u>	<u>1936</u>	<u>62.02</u>
30492	2800	1577	25.51	<u>1605</u>	<u>27.94</u>	<u>1632</u>	<u>30.36</u>	<u>1660</u>	<u>32.87</u>	<u>1713</u>	<u>37.19</u>	<u>1764</u>	<u>42.66</u>	<u>1813</u>	<u>47.48</u>	<u>1862</u>	<u>52.45</u>	<u>1912</u>	<u>57.71</u>	<u>1962</u>	<u>63.19</u>		

MAXIMUM RPM: Class I — 1216 Class II — 1586 Class III — 1998

365 TSL

Wheel Type: Airfoil

Inlet & Outlet Area: 13.33 ft²

Fan Efficiency Grade = FEG75

Wheel Dia.: 36.50"

Tip Speed FPM = 9.56 x RPM

Inlet & Outlet Dia.: 49.44"

Max. BHP = 14.65 (RPM÷1000)³

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
6665	500	367	0.73																				
7998	600	395	0.90	493	1.73																		
9331	700	428	1.12	517	2.03																		
10664	800	465	1.39	544	2.37	619	3.47																
11997	900	503	1.72	575	2.77	644	3.94	709	5.19														
13330	1000	543	2.12	609	3.22	672	4.47	734	5.82	<u>844</u>	<u>8.59</u>												
14663	1100	584	2.58	646	3.76	703	5.06	760	6.47	868	9.52												
15996	1200	626	3.11	683	4.36	737	5.74	790	7.23	893	10.47	985	13.77										
18662	1400	711	4.38	762	5.86	810	7.35	856	8.97	946	12.47	1034	16.26	1116	20.19								
21328	1600	799	6.03	844	7.72	888	9.41	930	11.16	1009	14.89	1088	18.98	1165	23.29	1239	27.80	<u>1306</u>	<u>32.16</u>				
23994	1800	888	8.08	929	10.01	968	11.88	1006	13.76	1080	17.82	1150	22.15	1220	26.75	1289	31.58	1355	36.51	<u>1418</u>	<u>41.52</u>	<u>1478</u>	<u>46.53</u>
26660	2000	978	10.58	1015	12.72	1051	14.84	<u>1086</u>	<u>16.93</u>	1154	21.22	1218	25.78	1281	30.64	1344	35.73	1407	41.09	<u>1468</u>	<u>46.57</u>	<u>1527</u>	<u>52.15</u>
29326	2200	1068	13.56	1102	15.92	1136	18.31	1168	20.61	1231	25.23	1291	30.04	1349	35.15	1406	40.49	<u>1464</u>	<u>46.12</u>	<u>1521</u>	<u>51.89</u>	<u>1577</u>	<u>57.83</u>
31992	2400	1159	17.11	1191	19.72	1221	22.26	1252	24.86	1310	29.84	1367	34.97	<u>1422</u>	<u>40.37</u>	<u>1475</u>	<u>45.99</u>	<u>1527</u>	<u>51.78</u>	<u>1579</u>	<u>57.76</u>	<u>1632</u>	<u>64.04</u>
34658	2600	1251	21.30	1280	24.09	1308	26.85	<u>1337</u>	<u>29.68</u>	<u>1392</u>	<u>35.17</u>	<u>1445</u>	<u>40.60</u>	<u>1496</u>	<u>46.15</u>	<u>1547</u>	<u>52.12</u>	<u>1596</u>	<u>58.22</u>	<u>1644</u>	<u>64.47</u>	<u>1692</u>	<u>70.91</u>
37324	2800	1343	26.12	1370	29.13	1396	32.09	<u>1423</u>	<u>35.14</u>	<u>1475</u>	<u>41.13</u>	<u>1525</u>	<u>46.97</u>	<u>1573</u>	<u>52.80</u>	<u>1621</u>	<u>58.94</u>	<u>1667</u>	<u>65</u>				

402 TSL

Wheel Type: Airfoil

Inlet & Outlet Area: 16.16 ft² Fan Efficiency Grade = FEG75

Wheel Dia.: 40.25" Tip Speed FPM = 10.54 x RPM Inlet & Outlet Dia.: 54.44" Max. BHP = 23.89 (RPM÷1000)³

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
8080	500	332	0.88																				
9696	600	358	1.10	446	2.08																		
11312	700	388	1.36	469	2.47																		
12928	800	421	1.69	493	2.88	561	4.21																
14544	900	455	2.08	520	3.34	584	4.79	643	6.31														
16160	1000	491	2.55	551	3.89	609	5.42	665	7.06	<u>765</u>	<u>10.42</u>												
17776	1100	528	3.11	584	4.54	637	6.14	689	7.87	<u>786</u>	<u>11.52</u>												
19392	1200	566	3.75	618	5.27	667	6.94	715	8.75	809	12.69	893	16.73										
22624	1400	643	5.29	690	7.10	733	8.89	775	10.86	857	15.12	937	19.73	1011	24.46								
25856	1600	723	7.29	764	9.35	803	11.36	841	13.46	914	18.06	985	22.96	1056	28.28	1122	33.65	<u>1183</u>	<u>38.95</u>				
29088	1800	803	9.74	840	12.08	876	14.37	911	16.68	977	21.53	1041	26.80	1105	32.41	1167	38.21	1228	44.31	1285	50.36	1339	56.39
32320	2000	884	12.75	918	15.36	951	17.95	983	20.48	1044	25.64	1103	31.24	1160	37.12	1217	43.26	1274	49.74	1330	56.46	1383	63.16
35552	2200	966	16.37	997	19.24	1027	22.08	1057	24.92	1114	30.51	1169	36.39	1222	42.63	1273	49.02	1326	55.89	1377	62.80	1429	70.15
38784	2400	1048	20.64	1077	23.80	1105	26.92	1132	29.99	1186	36.13	1237	42.28	1287	48.84	1335	55.63	1383	62.76	1430	69.98	1478	77.58
42016	2600	1131	25.67	1157	29.03	1183	32.41	1209	35.82	1259	42.46	1307	49.03	1354	55.84	1400	63.03	1444	70.36	1488	78.00	1532	85.86
45248	2800	1214	31.48	1239	35.16	1263	38.78	1287	42.43	1334	49.65	1379	56.67	1424	63.92	1467	71.29	1509	78.98	1551	87.05	1591	95.08

MAXIMUM RPM: Class I — 981 Class II — 1279 Class III — 1611

445 TSL

Wheel Type: Airfoil

Inlet & Outlet Area: 19.80 ft² Fan Efficiency Grade = FEG75

Wheel Dia.: 44.50" Tip Speed FPM = 11.65 x RPM Inlet & Outlet Dia.: 60.25" Max. BHP = 39.47 (RPM÷1000)³

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
9900	500	301	1.08																				
11880	600	324	1.34	404	2.56																		
13860	700	351	1.67	424	3.02																		
15840	800	381	2.07	446	3.52	508	5.16																
17820	900	413	2.57	471	4.10	528	5.85	582	7.73														
19800	1000	445	3.14	499	4.78	551	6.63	602	8.65	<u>692</u>	<u>12.75</u>												
21780	1100	479	3.83	529	5.77	577	7.54	624	9.65	712	14.15												
23760	1200	513	4.61	560	6.48	605	8.55	648	10.75	732	15.53	808	20.48										
27720	1400	583	6.51	625	8.71	664	10.91	702	13.33	776	18.54	848	24.16	915	29.97								
31680	1600	655	8.95	692	11.47	728	13.97	762	16.53	828	22.17	892	28.17	956	34.67	1016	41.28	<u>1071</u>	<u>47.76</u>				
35640	1800	728	11.99	761	14.82	794	17.67	825	20.45	885	26.41	943	32.89	1000	39.68	1057	46.90	1111	54.21	1163	61.70	1212	69.11
39600	2000	801	15.66	832	18.88	862	22.06	890	25.10	946	31.49	999	38.32	1051	45.58	1102	53.05	1154	61.07	1204	69.20	1252	77.43
43560	2200	876	20.16	904	23.68	931	27.16	958	30.63	1009	37.43	1059	44.67	1106	52.18	1153	60.15	1200	68.41	1247	77.03	1293	85.85
47520	2400	950	25.39	976	29.24	1001	33.04	1026	36.86	1074	44.30	1121	51.96	1165	59.81	1209	68.22	1252	76.89	1295	85.83	1338	95.07
51480	2600	1025	31.56	1049	35.72	1073	39.93	1096	44.05	1141	52.18	1184	60.18	1227	68.60	1268	77.31	1308	86.34	1348	95.75	1387	105.21
55440	2800	1100	38.67	1123	43.23	1145	47.71	1166	52.09	1209	61.02	1250	69.69	1290	78.45	1329	87.51	1367	96.94	1404	106.61	1441	116.64

MAXIMUM RPM: Class I — 887 Class II — 1157 Class III — 1457

490 TSL

Wheel Type: Airfoil

Inlet & Outlet Area: 23.98 ft² Fan Efficiency Grade = FEG75

Wheel Dia.: 49.00" Tip Speed FPM = 12.83 x RPM Inlet & Outlet Dia.: 66.31" Max. BHP = 63.89 (RPM÷1000)³

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
11990	500	273	1.31																				
14388	600	294	1.63	367	3.11																		
16786	700	319	2.02	385	3.66																		
19184	800	346	2.51	405	4.27	461	6.24																
21582	900	374	3.08	428	4.98	480	7.11	528	9.34														
23980	1000	404	3.80	453	5.79	500	8.02	546	10.45	<u>628</u>	<u>15.42</u>												
26378	1100	434	4.61	480	6.73	523	9.09	566	11.66	<u>646</u>	<u>17.11</u>												
28776	1200	466	5.59	508	7.83	549	10.34	588	13.01	665	18.85	733	24.74										
33572	1400	529	7.88	567	10.53	603	13.23	637	16.12	704	22.41	770	29.28	831	36.34								
38368	1600	594	10.81	628	13.88	660	16.86	692	20.05	751	26.78	810	34.14	867	41.85	922	49.93	<u>972</u>	<u>57.78</u>				
43164	1800	660	14.46	691	17.97	720	21.33	749	24.78	803	31.95	856	39.83	908	48.08	959	56.70	1009	65.73	1056	74.75	1100	83.61
47960	2000	727	18.95	755	22.84	782	26.67	808	30.41	858	38.04	907	46.44	954	55.19	1000	64.18	1047	73.83	1093	83.80	1137	93.86
52756	2200	794	24.30	820	28.62	845	32.88	869	37.02	916	45.34	961	54.05	1004	63.21	1047	72.92	1089	82.78	1132	93.28	1174	104.02
57552	2400	862	30.70	885	35.30	908	39.93	931	44.59	975	53.67	1017	62.81	1058	72.53	1097	82.52	1136	92.99	1175	103.79	1215	115.24
62348	2600	930	38.16	952	43.23	973	48.20	994	53.21	1035	63.06	1075	72.93	1113	82.91	1151	93.63	1187	104.48	1223	115.77	1259	127.40
67144	2800	998	46.75	1019	52.29	1039	57.72	1058	63.01	1097	73.81	1134	84.25	1170	94.77	1206	105.88	1241	117.44	1275	129.28	1308	141.24

MAXIMUM RPM: Class I — 806 Class II — 1051 Class III — 1323

Legend:
 Class I = Regular face to left of Class II
 Class II = Regular face in light shaded area
 Class III = Bold face to right of Class II

Performance shown is for installation Type B: Free inlet, ducted outlet.
 Power rating (BHP) does not include transmission losses.
 Performance ratings do not include the effects of appurtenances (accessories).
 Underlined figures indicate maximum static efficiency.

542 TSL

Wheel Type: Airfoil

Inlet & Outlet Area: 29.36 ft²

Fan Efficiency Grade = FEG75

Wheel Dia.: 54.25"

Tip Speed FPM = 14.20 x RPM

Inlet & Outlet Dia.: 73.38"

Max. BHP = 106.28 (RPM ÷ 1000)³

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
14680	500	247	1.61																				
17616	600	265	1.98	331	3.7																		
20552	700	288	2.48	348	4.50																		
23488	800	312	3.06	366	5.24	416	7.63																
26424	900	338	3.79	386	6.08	433	8.68	477	11.46														
29360	1000	365	4.66	409	7.08	452	9.86	493	12.79	<u>567</u>	<u>18.88</u>												
32296	1100	392	5.65	434	8.28	472	11.11	511	14.27	<u>583</u>	<u>20.91</u>												
35232	1200	420	6.81	459	9.61	495	12.61	531	15.94	600	23.02	<u>662</u>	<u>30.31</u>										
41104	1400	477	9.61	512	12.90	544	16.17	575	19.73	636	27.48	695	35.81	<u>750</u>	<u>44.43</u>								
46976	1600	536	13.22	567	17.00	596	20.66	624	24.46	678	32.79	731	41.75	783	51.28	833	61.25	<u>878</u>	<u>70.82</u>				
52848	1800	596	17.72	623	21.91	650	26.12	676	30.61	725	39.12	772	48.62	820	58.91	866	69.46	911	80.47	953	91.38	993	102.29
58720	2000	656	23.17	681	27.89	705	32.52	729	37.16	775	46.65	818	56.68	861	67.51	903	78.61	945	90.30	987	102.64	1026	114.71
64592	2200	717	29.78	740	35.00	762	40.12	784	45.23	826	55.32	867	66.04	906	77.28	945	89.20	983	101.28	1022	114.20	1060	127.37
70464	2400	778	37.56	799	43.22	820	48.93	840	54.50	880	65.66	918	76.87	955	88.76	990	100.92	1026	113.98	1061	127.13	1097	141.10
76336	2600	839	46.61	859	52.84	878	58.93	897	65.07	<u>934</u>	<u>77.11</u>	970	89.15	1005	101.56	1039	114.60	1072	128.05	1104	141.69	1137	156.11
82208	2800	901	57.24	919	63.82	937	70.44	955	77.11	990	90.26	1023	102.91	1056	115.94	1088	129.35	1120	143.64	1150	157.84	1181	172.98

MAXIMUM RPM: Class I — 728 Class II — 949 Class III — 1195

600 TSL

Wheel Type: Airfoil

Inlet & Outlet Area: 35.94 ft²

Fan Efficiency Grade = FEG75

Wheel Dia.: 60.00"

Tip Speed FPM = 15.71 x RPM

Inlet & Outlet Dia.: 81.19"

Max. BHP = 175.88 (RPM ÷ 1000)³

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
17970	500	223	1.96																				
21564	600	240	2.43	299	4.62																		
25158	700	260	3.02	314	5.47																		
28752	800	282	3.74	331	6.41	376	9.32																
32346	900	306	4.65	349	7.43	392	10.66	431	13.99														
35940	1000	330	5.70	370	8.68	408	12.00	446	15.67	<u>513</u>	<u>23.14</u>												
39534	1100	355	6.95	392	10.10	427	13.62	462	17.46	528	25.71												
43128	1200	380	8.35	415	11.75	448	15.47	480	19.48	543	28.24	<u>599</u>	<u>37.16</u>										
50316	1400	432	11.81	463	15.79	492	19.79	520	24.14	575	33.61	629	43.94	<u>678</u>	<u>54.32</u>								
57504	1600	485	16.20	513	20.83	539	25.28	565	30.04	613	40.10	661	51.08	708	62.74	753	74.87	<u>794</u>	<u>86.69</u>				
64692	1800	539	21.69	564	26.90	588	31.99	611	37.03	656	47.95	699	59.71	741	71.94	783	84.96	824	98.54	862	111.92	898	125.21
71880	2000	593	28.32	616	34.15	638	39.88	660	45.62	701	57.11	740	69.43	779	82.73	817	96.35	855	110.67	892	125.39	928	140.48
79068	2200	648	36.37	669	42.78	690	49.29	709	55.35	748	67.97	784	80.79	820	94.80	855	109.32	890	124.39	924	139.66	959	156.08
86256	2400	704	46.05	723	52.98	742	59.99	760	66.78	796	80.40	830	94.00	864	108.75	896	123.79	928	139.55	960	155.83	992	172.66
93444	2600	759	57.10	777	64.71	794	72.12	812	79.86	845	94.48	877	109.01	909	124.34	940	140.41	969	156.48	999	173.71	1028	190.92
100632	2800	815	70.10	832	78.35	848	86.39	864	94.47	895	110.35	926	126.29	956	142.34	985	158.81	1013	175.85	1041	193.71	1068	211.67

MAXIMUM RPM: Class I — 658 Class II — 858 Class III — 1081

660 TSL

Wheel Type: Airfoil

Inlet & Outlet Area: 43.50 ft²

Fan Efficiency Grade = FEG75

Wheel Dia.: 66.00"

Tip Speed FPM = 17.28 x RPM

Inlet & Outlet Dia.: 89.31"

Max. BHP = 283.26 (RPM ÷ 1000)³

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
21750	500	203	2.38																				
26100	600	218	2.94	272	5.60																		
30450	700	237	3.68	286	6.65																		
34800	800	257	4.55	301	7.77	342	11.30																
39150	900	278	5.62	318	9.05	356	12.86	392	16.95														
43500	1000	300	6.90	337	10.56	371	14.53	406	19.04	<u>467</u>	<u>28.12</u>												
47850	1100	323	8.43	357	12.28	389	16.58	420	21.12	480	31.11												
52200	1200	346	10.15	377	14.19	407	18.68	436	23.51	493	34.04	<u>544</u>	<u>44.83</u>										
60900	1400	393	14.32	421	19.11	448	24.06	473	29.26	523	40.73	572	53.21	617	65.93								
69600	1600	441	19.61	466	25.14	490	30.59	513	36.21	558	48.71	601	61.83	644	76.05	685	90.78	<u>722</u>	<u>104.98</u>				
78300	1800	490	26.24	513	32.60	535	38.80	556	44.94	596	57.91	635	72.10	674	87.19	712	102.88	749	119.20	784	135.62	817	151.87
87000	2000	540	34.44	560	41.32	580	48.25	600	55.20	637	69.01	673	84.11	708	100.02	743	116.71	<u>777</u>	<u>133.77</u>	811	151.77	844	170.20
95700	2200	590	44.21	609	51.97	627	59.55	645	67.12	680	82.24	713	97.86	745	114.49	777	132.13	809	150.45	840	168.98	872	188.98
104400	2400	640	55.71	657	64.03	674	72.40	691	80.83	724	97.42	755	113.94	785	131.35	815	150.02	844	169.07	873	188.73	902	209.04
113100	2600	690	69.09	707	78.50	722	87.32	738	96.55	768	114.23	798	132.26	826	150.24	854	169.56	881	189.38	908	210.05	935	231.35
121800	2800	741	84.84	756	94.66	771	104.56	786	114.54	814	133.69	842	152.90	869	172.16	895	191.86	921	212.82	946	234.10	971	256.18

MAXIMUM RPM: Class I — 598 Class II — 780 Class III — 983

Legend:

- Class I = Regular face to left of Class II
- Class II = Regular face in light shaded area
- Class III = Bold face to right of Class II

Performance shown is for installation Type B: Free inlet, ducted outlet.
 Power rating (BHP) does not include transmission losses.
 Performance ratings do not include the effects of appurtenances (accessories).
 Underlined figures indicate maximum static efficiency.

730 TSL

Wheel Type: Airfoil

Inlet & Outlet Area: 53.25 ft²

Fan Efficiency Grade = FEG75

Wheel Dia.: 73.00"

Tip Speed FPM = 19.11 x RPM

Inlet & Outlet Dia.: 98.81"

Max. BHP = 468.90 (RPM ÷ 1000)³

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
26625	500	183	2.89																				
31950	600	197	3.59																				
37275	700	214	4.49	246	6.86																		
42600	800	232	5.54	272	9.49	310	13.93																
47925	900	251	6.84	287	11.02	322	15.75	354	20.67														
53250	1000	271	8.42	304	12.83	336	17.87	367	23.28	422	34.35												
58575	1100	292	10.31	323	15.06	351	20.16	380	25.90	434	38.08												
63900	1200	313	12.43	341	17.38	368	22.86	395	28.94	446	41.73	492	54.91										
74550	1400	355	17.47	381	23.45	405	29.42	428	35.88	473	49.87	517	65.05	558	80.74								
85200	1600	399	24.04	422	30.91	443	37.41	464	44.35	504	59.41	544	75.91	582	92.92	619	110.90	653	128.59				
95850	1800	443	32.10	464	39.93	484	47.55	503	55.07	539	70.90	574	88.14	609	106.47	644	126.02	677	145.72	709	166.05	739	186.08
106500	2000	488	42.07	507	50.76	525	59.22	543	67.72	576	84.45	609	103.15	640	122.29	672	142.93	703	164.01	734	186.26	763	208.18
117150	2200	533	53.95	550	63.37	567	72.89	583	82.03	615	100.70	645	119.91	674	140.32	703	161.97	731	183.73	760	207.18	788	230.86
127800	2400	579	68.28	595	78.71	610	88.84	625	99.00	655	119.40	683	139.62	710	160.85	737	183.62	763	206.76	789	230.62	816	256.19
138450	2600	625	85.00	639	95.93	653	106.92	668	118.51	695	140.12	722	162.13	747	183.93	773	208.12	797	232.08	821	257.01	846	283.66
149100	2800	670	103.81	684	116.05	697	127.86	711	140.32	737	164.23	762	187.57	786	210.85	810	235.39	833	260.62	856	287.07	878	313.48

MAXIMUM RPM: Class I — 541 Class II — 705 Class III — 888

807 TSL

Wheel Type: Airfoil

Inlet & Outlet Area: 65.17 ft²

Fan Efficiency Grade = FEG75

Wheel Dia.: 80.75"

Tip Speed FPM = 21.14 x RPM

Inlet & Outlet Dia.: 109.31"

Max. BHP = 776.60 (RPM ÷ 1000)³

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
32585	500	166	3.57																				
39102	600	178	4.39	223	8.47																		
45619	700	193	5.45	234	9.99																		
52136	800	210	6.81	246	11.62	280	17.00																
58653	900	227	8.38	260	13.57	291	19.26	320	25.29														
65170	1000	245	10.30	275	15.73	304	21.91	332	28.55	381	41.87												
71687	1100	264	12.61	292	18.43	318	24.83	344	31.82	392	46.47												
78204	1200	283	15.22	309	21.41	333	28.05	357	35.38	403	50.98	445	67.29										
91238	1400	321	21.39	344	28.58	366	35.96	387	43.93	428	61.19	467	79.40	504	98.54								
104272	1600	361	29.49	381	37.67	401	45.95	420	54.47	456	72.87	492	93.00	527	114.25	560	135.99	590	157.08	641	203.23	668	227.62
117306	1800	401	39.43	419	48.69	437	57.96	455	67.50	488	87.14	519	107.90	551	130.59	582	154.05	612	178.28	641	203.23	668	227.62
130340	2000	441	51.41	458	61.96	475	72.64	491	82.92	521	103.50	550	125.83	579	149.96	607	174.45	636	201.13	663	227.34	690	254.99
143374	2200	482	66.08	498	77.90	513	89.40	528	100.91	556	123.23	583	146.65	610	172.27	635	197.69	661	224.97	687	253.43	713	283.23
156408	2400	523	83.34	538	96.37	552	109.02	565	121.12	592	145.99	617	170.46	642	196.94	666	224.40	690	253.23	714	283.04	737	312.60
169442	2600	565	103.99	578	117.58	591	131.27	604	145.08	629	172.02	653	198.64	676	225.74	699	254.85	721	284.54	743	315.48	764	345.99
182476	2800	606	127.22	618	141.75	631	157.11	643	171.88	666	200.70	689	229.63	711	258.47	732	287.71	753	318.81	774	351.46	794	383.95

MAXIMUM RPM: Class I — 489 Class II — 638 Class III — 833

890 TSL

Wheel Type: Airfoil

Inlet & Outlet Area: 79.19 ft²

Fan Efficiency Grade = FEG75

Wheel Dia.: 89.00"

Tip Speed FPM = 23.30 x RPM

Inlet & Outlet Dia.: 120.50"

Max. BHP = 1263 (RPM ÷ 1000)³

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
39595	500	150	4.28																				
47514	600	162	5.38	202	10.24																		
55433	700	176	6.72	212	12.08																		
63352	800	191	8.33	223	14.08	254	20.64																
71271	900	206	10.19	236	16.50	264	23.39	291	30.93														
79190	1000	223	12.63	250	19.22	276	26.67	301	34.60	346	51.00												
87109	1100	239	15.22	265	22.40	288	30.00	312	38.61	356	56.61												
95028	1200	257	18.54	280	25.91	302	34.03	324	43.01	366	62.12	404	81.90										
110866	1400	292	26.18	312	34.68	332	43.66	351	53.31	388	74.14	424	96.65	457	119.49								
126704	1600	327	35.64	346	45.88	364	55.90	381	66.13	414	88.68	446	112.67	478	138.66	508	165.12	536	191.57	582	247.43	606	276.42
142542	1800	364	47.96	381	59.53	397	70.68	413	82.10	443	106.02	471	131.16	500	158.71	528	187.09	556	217.43	582	247.43	606	276.42
158380	2000	401	62.87	416	75.51	431	88.25	445	100.39	473	125.96	499	152.83	525	181.82	551	212.22	577	244.27	602	276.81	626	309.70
174218	2200	438	80.64	452	94.73	465	108.28	479	122.54	504	149.27	529	178.17	553	208.74	577	241.22	600	273.66	624	308.88	647	344.21
190056	2400	475	101.55	488	116.96	501	132.56	513	147.44	537	177.21	560	207.27	583	239.86	604	272.22	626	307.55	647	342.52	669	380.27
205894	2600	513	126.60	524	142.48	536	159.26	548	176.22	570	208.19	592	240.71	613	273.75	634	309.26	654	345.36	674	383.00	694	421.78
221732	2800	550	154.68	561	172.45	572	190.34	583	208.36	604	243.47	625	278.76	645	313.82	664	349.25	683	386.92	702	426.45	721	467.55

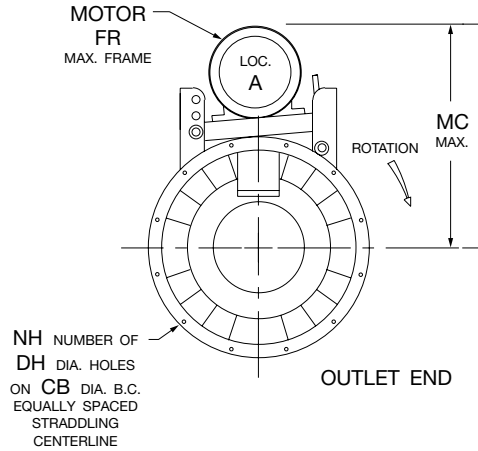
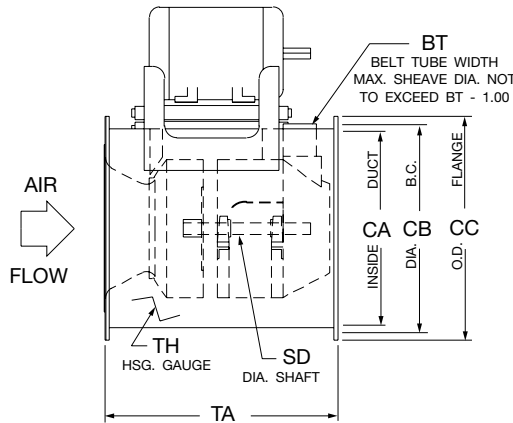
MAXIMUM RPM: Class I — 444 Class II — 579 Class III — 729

Legend:

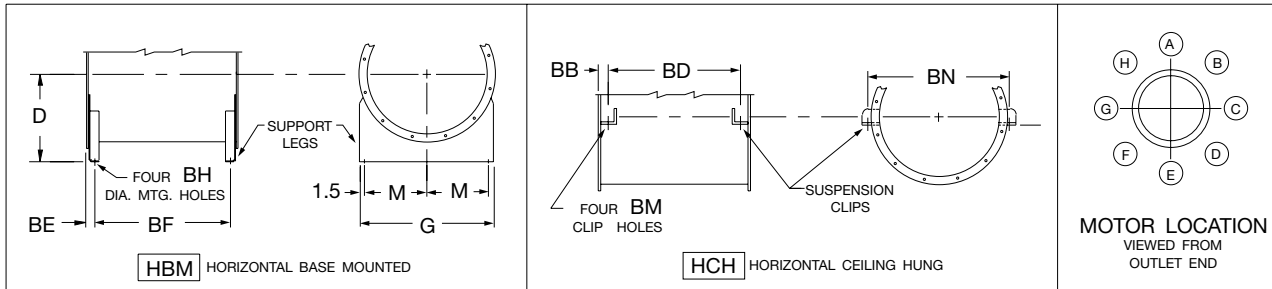
- Class I = Regular face to left of Class II
- Class II = Regular face in light shaded area
- Class III = Bold face to right of Class II

Performance shown is for installation Type B: Free inlet, ducted outlet. Power rating (BHP) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). Underlined figures indicate maximum static efficiency.

Horizontal



HOR - HORIZONTAL DISCHARGE

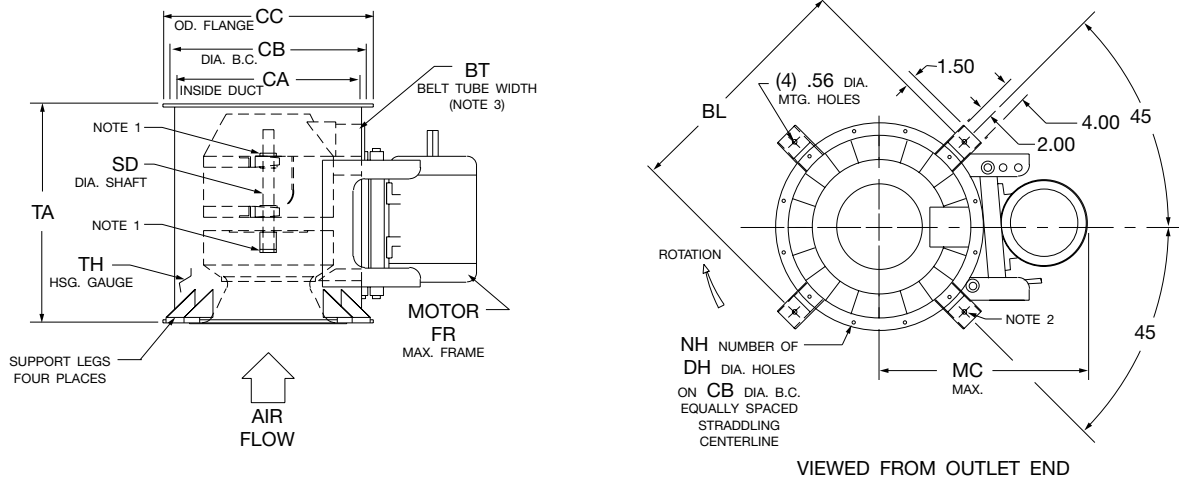


SIZE	BB	BD	BE	BF	BH	BM	BN	BT	CA	CB	CC	D	DH	FR	G	M	MC	NH	SD			TA	TH
																			CL I	CL II	CL III		
122	1.00	23.25	1.06	23.13	0.44	0.56	19.75	5.25	16.56	18.50	19.75	12.00	0.56	184T	19.75	8.38	23.13	8	1.000	1.000	—	25.25	10
150	1.00	27.75	1.06	27.63	0.44	0.56	23.50	6.50	20.25	22.13	23.38	14.00	0.56	215T	23.38	10.19	25.73	8	1.000	1.187	—	29.75	10
182	1.50	28.25	1.06	29.19	0.44	0.56	27.75	6.50	24.69	26.75	28.00	16.00	0.69	256T	28.00	12.50	34.45	12	1.187	1.437	1.437	31.25	12
200	1.50	31.50	1.06	32.44	0.56	0.56	30.13	7.25	27.06	29.13	30.31	18.00	0.81	256T	30.31	13.66	36.20	12	1.437	1.437	1.437	34.50	12
222	1.50	35.50	1.31	35.94	0.56	0.56	33.13	8.00	30.06	32.13	33.38	20.00	0.81	286T	33.38	15.19	39.15	12	1.437	1.437	1.437	38.50	12
245	1.50	40.75	1.31	41.19	0.56	0.81	36.25	8.93	33.13	35.13	36.38	21.00	0.81	365T	36.38	16.69	43.61	12	1.437	1.937	1.937	43.75	12
270	1.50	44.25	1.31	44.69	0.56	0.81	39.63	9.75	36.50	38.50	39.75	23.00	0.81	365T	39.75	18.38	46.41	12	1.687	1.937	2.187	47.25	12
300	1.50	49.50	1.31	49.88	0.56	0.81	43.75	10.93	40.56	43.13	44.88	25.00	0.81	365T	44.88	20.94	49.38	16	1.937	2.187	2.437	52.50	10
330	1.50	54.75	1.31	55.13	0.56	0.81	47.88	12.00	44.63	47.25	49.00	27.00	0.81	365T	49.00	23.00	50.81	16	1.937	2.187	2.437	57.75	10
365	2.00	60.25	1.56	61.13	0.56	0.81	52.56	13.25	49.38	52.00	53.75	29.00	0.81	365T	53.75	25.38	53.75	16	1.937	2.437	2.437	64.25	10
402	2.00	66.75	1.69	67.38	0.81	0.81	57.56	14.75	54.38	57.50	59.75	33.00	0.81	405T	59.75	28.38	61.77	16	2.187	2.437	2.937	70.75	10
445	2.00	74.63	1.69	75.25	0.81	0.81	63.38	16.25	60.19	63.25	65.50	36.00	0.81	445T	65.50	31.25	66.72	16	2.437	2.687	3.437	78.63	10
490	2.00	82.38	1.69	83.00	0.81	0.81	69.44	18.00	66.25	69.38	71.63	39.00	0.81	445T	71.63	34.31	70.18	24	2.687	2.937	3.437	86.38	10
542	2.00	91.63	2.44	90.75	0.81	1.06	76.56	19.88	73.38	77.00	79.75	43.00	0.81	445T	79.75	38.38	74.01	24	2.937	3.437	3.937	95.63	10
600	2.50	100.63	2.44	100.75	0.81	1.06	85.38	22.13	81.19	84.75	87.50	47.00	0.81	445T	87.50	42.25	78.41	24	2.937	3.437	3.937	105.63	10
660	2.50	111.38	2.44	111.50	1.06	1.06	93.56	24.25	89.31	92.88	95.63	52.00	0.81	445T	95.63	46.31	82.77	24	3.437	3.937	3.937	116.38	10
730	2.50	123.50	2.44	123.63	1.06	1.06	102.94	26.88	98.75	104.38	107.13	57.00	0.81	445T	107.13	52.06	87.76	24	3.437	3.937	4.437	128.50	10
807	2.56	137.00	2.44	137.25	1.06	1.06	115.50	29.50	109.25	114.63	117.63	62.00	0.81	445T	117.63	57.31	93.25	24	3.937	4.437	4.937	142.13	7
890	2.56	151.13	2.44	151.38	1.06	1.06	126.56	32.63	120.31	126.06	128.75	68.50	0.81	445T	128.75	62.88	99.06	24	3.937	4.937	5.437	156.25	7

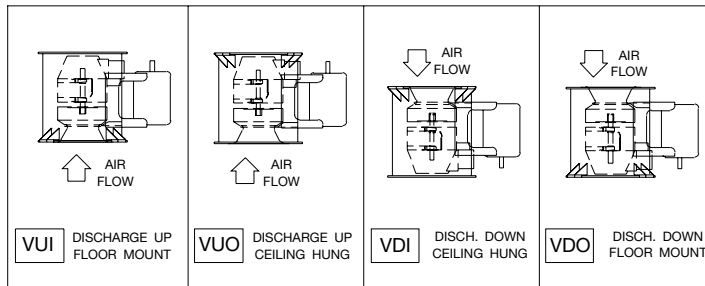
AC14028B

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

Vertical



VUI - VERTICAL UP DISCHARGE WITH FLOOR MOUNT SUPPORT LEGS (SEE NOTE 2)



NOTES:

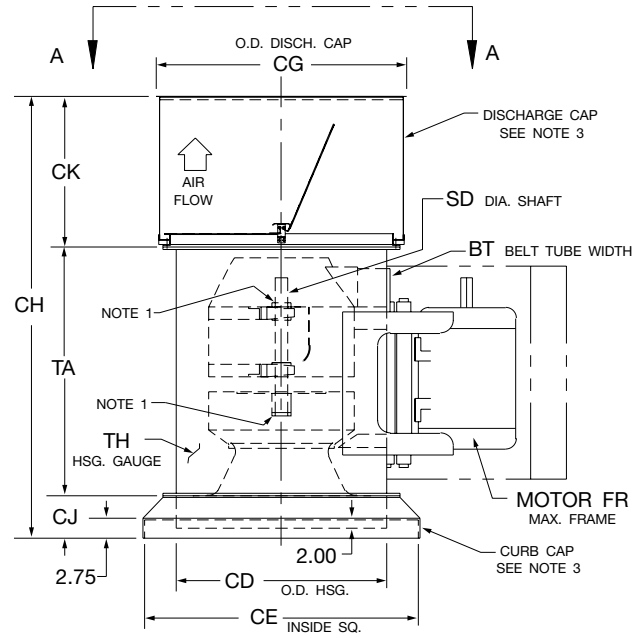
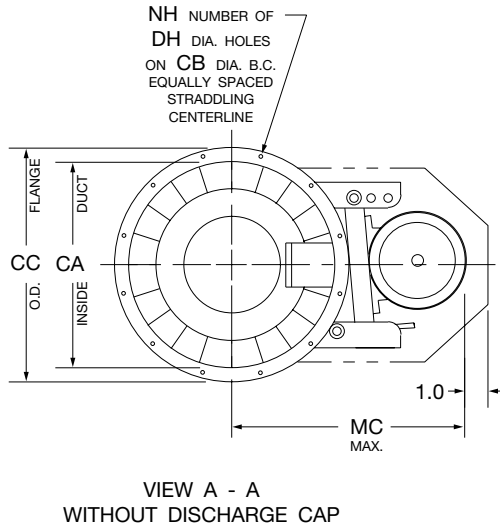
1. Two locking collars are included to prevent shifting of components.
2. Support legs shown are provided as an accessory.
3. Maximum sheave diameter not to exceed "BT" - 1.00.

SIZE	BL	BT	CA	CB	CC	DH	FR	MC	NH	SD			TA	TH
										CL I	CL II	CL III		
122	21.75	5.25	16.56	18.50	19.75	0.56	184T	23.13	8	1.000	1.000	—	25.25	10
150	25.38	6.50	20.25	22.13	23.38	0.56	215T	25.73	8	1.000	1.187	—	29.75	10
182	33.00	6.50	24.69	26.75	28.00	0.69	256T	34.45	12	1.187	1.437	1.437	31.25	12
200	35.38	7.25	27.06	29.13	30.31	0.81	256T	36.20	12	1.437	1.437	1.437	34.50	12
222	38.00	8.00	30.06	32.13	33.38	0.81	286T	39.15	12	1.437	1.437	1.437	38.50	12
245	41.38	8.93	33.13	35.13	36.38	0.81	365T	43.61	12	1.437	1.937	1.937	43.75	12
270	44.75	9.75	36.50	38.50	39.75	0.81	365T	46.41	12	1.687	1.937	2.187	47.25	12
300	49.88	10.93	40.56	43.13	44.88	0.81	365T	49.38	16	1.937	2.187	2.437	52.50	10
330	54.00	12.00	44.63	47.25	49.00	0.81	365T	50.81	16	1.937	2.187	2.437	57.75	10
365	58.75	13.25	49.38	52.00	53.75	0.81	365T	53.75	16	1.937	2.437	2.437	64.25	10
402	64.75	14.75	54.38	57.50	59.75	0.81	405T	61.77	16	2.187	2.437	2.937	70.75	10
445	70.50	16.25	60.19	63.25	65.50	0.81	445T	66.72	16	2.437	2.687	3.437	78.63	10
490	76.63	18.00	66.25	69.38	71.63	0.81	445T	70.18	24	2.687	2.937	3.437	86.38	10
542	84.75	19.88	73.38	77.00	79.75	0.81	445T	74.01	24	2.937	3.437	3.937	95.63	10

AC14029

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

Vertical w/Curb & Discharge Cap



VRM - VERTICAL DISCHARGE WITH DISCHARGE CAP AND CURB CAP

NOTES:

1. Two locking collars are included to prevent shifting of components.
2. Maximum sheave diameter not to exceed BT - 1.00.
3. Discharge cap and curb cap are optional accessories.

SIZE	BT	CA	CB	CC	CD	CE	CG	CH	CJ	CK	DH	FR	MC	NH	SD			TA	TH
															CL I	CL II	CL III		
122	5.25	16.56	18.50	19.75	16.81	23.75	27.00	45.75	5.50	15.00	0.56	184T	23.13	8	1.000	1.000	—	25.25	10
150	6.50	20.25	22.13	23.38	20.50	27.38	30.00	50.75	6.00	15.00	0.56	215T	25.73	8	1.000	1.187	—	29.75	10
182	6.50	24.69	26.75	28.00	24.88	34.88	34.00	55.88	6.63	18.00	0.69	256T	34.45	12	1.187	1.437	1.437	31.25	12
200	7.25	27.06	29.13	30.31	27.25	37.38	40.00	62.25	6.75	21.00	0.81	256T	36.20	12	1.437	1.437	1.437	34.50	12
222	8.00	30.06	32.13	33.38	30.25	40.38	40.00	66.25	6.75	21.00	0.81	286T	39.15	12	1.437	1.437	1.437	38.50	12
245	8.93	33.13	35.13	36.38	33.31	43.38	46.00	74.75	7.00	24.00	0.81	365T	43.61	12	1.437	1.937	1.937	43.75	12
270	9.75	36.50	38.50	39.75	36.69	46.75	46.00	78.50	7.25	24.00	0.81	365T	46.41	12	1.687	1.937	2.187	47.25	12
300	10.93	40.56	43.13	44.88	40.81	51.00	53.00	87.25	7.75	27.00	0.81	365T	49.38	16	1.937	2.187	2.437	52.50	10
330	12.00	44.63	47.25	49.00	44.88	55.13	59.00	95.50	7.75	30.00	0.81	365T	50.81	16	1.937	2.187	2.437	57.75	10
365	13.25	49.38	52.00	53.75	49.63	59.88	60.00	102.00	7.75	30.00	0.81	365T	53.75	16	1.937	2.437	2.437	64.25	10
402	14.75	54.38	57.50	59.75	54.63	64.88	67.00	111.75	8.00	33.00	0.81	405T	61.77	16	2.187	2.437	2.937	70.75	10
445	16.25	60.19	63.25	65.50	60.44	69.63	73.00	123.13	8.50	36.00	0.81	445T	66.72	16	2.437	2.687	3.437	78.63	10
490	18.00	66.25	69.38	71.63	66.50	78.00	80.00	135.38	9.00	40.00	0.81	445T	70.18	24	2.687	2.937	3.437	86.38	10
542	19.88	73.35	77.00	79.75	73.63	88.75	86.50	154.50	9.25	49.63	0.81	445T	74.01	24	2.937	3.437	3.937	95.63	10

AC14029D

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



Model

TSL

Fans shall be model TSL Tubular Centrifugal Inline Fans, of the non-overloading design, as manufactured by Twin City Fan & Blower, Minneapolis, Minnesota.

Fans shall be designed for maximum efficiency. Fans shall have a sharply rising pressure characteristic extending through the operating range and continuing to rise well beyond the efficiency peak to assure quiet and stable operation under all conditions. Horsepower characteristics shall be truly self-limiting and shall reach a peak in the normal selection area.

PERFORMANCE — Fans shall be tested in accordance with AMCA 211 and AMCA 311 test codes for air moving devices and shall be guaranteed by the manufacturer to deliver rated published performance levels. Fans shall be licensed to bear the AMCA certified ratings seal for both sound and air.

HOUSING — Housings shall be cylindrical and welded steel throughout. Inlets shall be fully streamlined. Housings shall be suitably braced to prevent vibration or pulsation.

WHEEL — Wheel diameters shall be in accordance with the standard sizes adopted by AMCA Standard 99-2414 for centrifugal tubular type fans. Fan wheel sizes 122 and 150 shall have single thickness plate-type blades. Fan wheel sizes 182 and larger shall have die-formed airfoil blades designed for maximum efficiency and quiet operation. Blades shall be continuously welded to the back plate and wheel cone. Partial welding is not acceptable. The wheel shall be specifically designed for inline fans to offer a higher and broader efficiency range. The back plate of the wheel shall be designed to offer lower resistance to the air leaving the wheel. Wheels shall be statically and dynamically balanced and the complete fan assembly shall be test balanced at or near the operating speed at the factory prior to shipment.

SHAFT — Shafts shall be AISI 1040 or 1045 hot rolled steel, accurately turned, ground, polished, and ring gauged for accuracy. Shafts shall be sized for the first critical speed of at least 1.43 times the maximum speed.

BEARINGS — Bearings shall be heavy duty, grease lubricated, anti-friction ball or roller, self-aligning, pillow block type and selected for an average bearing life (AFBMA L-50) in excess of 200,000 hours at the maximum fan RPM. Bearings shall be equipped with extended lubrication lines with grease fittings outside of the fan housing.

DRIVE — Motor sheaves shall be cast iron, variable pitch on applications 20 HP and smaller, and fixed pitch on 25 HP and larger.

INLET VANES — Inlet vanes, where specified, shall be of the external type for sizes 122 & 150 and nested for sizes 182 and larger. Inlet vanes shall be designed for economical, stable, and efficient air volume control at partial load conditions.

ACCESSORIES — When specified, accessories such as belt guards (standard or OSHA), weather covers, bolted or quick-opening access doors, inlet and outlet companion flanges, and other accessories as required by the application shall be provided by Twin City Fan & Blower to maintain one source responsibility.

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

FACTORY RUN TEST — All fans with motors and drives mounted by Twin City Fan shall be completely assembled and test run as a unit at the specified operating speed prior to shipment. Each wheel shall be statically and dynamically balanced in accordance with ANSI/AMCA 204-96 "Balance Quality and Vibration Levels for Fans" to Fan Application Category BV-3, Balance Quality Grade G6.3. Balance readings shall be taken by electronic type equipment in the axial, vertical, and horizontal directions on each of the bearings. Records shall be maintained and a written copy shall be available upon request.

GUARANTEE — The manufacturer shall guarantee the workmanship and materials for its TSL Tubular Centrifugal Inline Fans for at least one (1) year from startup or eighteen (18) months from shipment, whichever occurs first.

INDUSTRIAL PROCESS AND COMMERCIAL VENTILATION SYSTEMS

CENTRIFUGAL FANS | UTILITY SETS | PLENUM & PLUG FANS | INLINE CENTRIFUGAL FANS
MIXED FLOW FANS | TUBEAXIAL & VANEAXIAL FANS | PROPELLER WALL FANS | PROPELLER ROOF VENTILATORS
CENTRIFUGAL ROOF & WALL EXHAUSTERS | CEILING VENTILATORS | GRAVITY VENTILATORS | DUCT BLOWERS
RADIAL BLADED FANS | RADIAL TIP FANS | HIGH EFFICIENCY INDUSTRIAL FANS | PRESSURE BLOWERS
LABORATORY EXHAUST FANS | FILTERED SUPPLY FANS | MANCOOLERS | FIBERGLASS FANS | CUSTOM FANS



TWIN CITY FAN & BLOWER
WWW.TCF.COM

5959 TRENTON LANE N | MINNEAPOLIS, MN 55442 | PHONE: 763-551-7600 | FAX: 763-551-7601

©2018 Twin City Fan Companies, Ltd., Minneapolis, MN. All rights reserved. Catalog illustrations cover the general appearance of Twin City Fan & Blower products at the time of publication and we reserve the right to make changes in design and construction at any time without notice.