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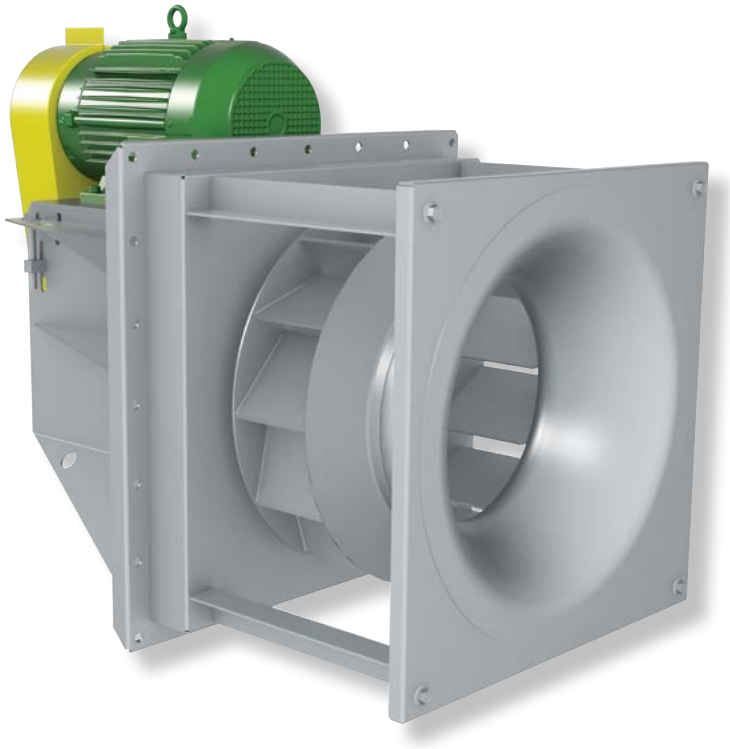
TWIN CITY FAN

INDUSTRIAL PROCESS AND
COMMERCIAL VENTILATION SYSTEMS

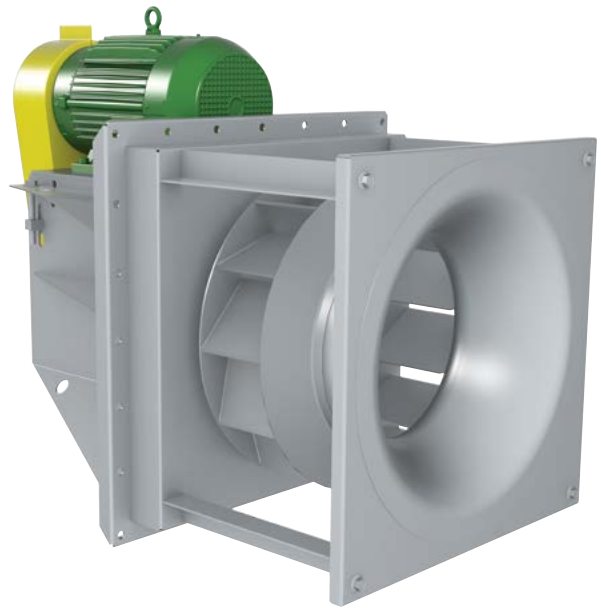
PLUG FANS

MODEL BCPL

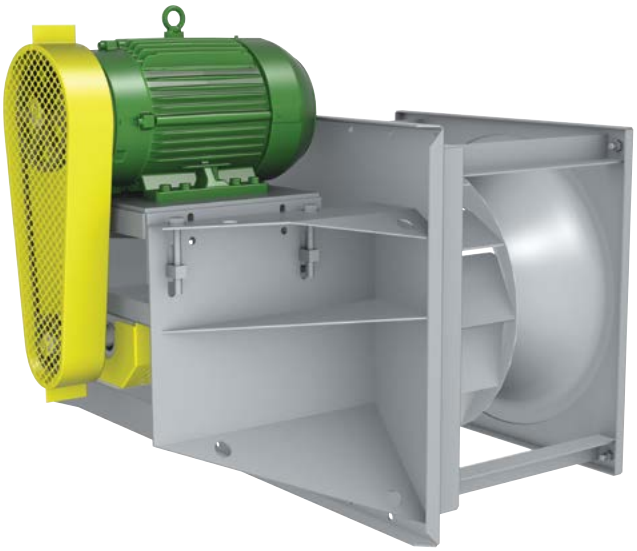


Overview

BCPL



Model BCPL,
Arrangement 9



Plug fans offer great versatility for complex system configurations. Equipped with a gusseted mounting panel, they are mounted directly to the plenum wall separating the motor and drive components from the process air. Plug fans provide high efficiency recirculation air with the benefit of easy installation and removal.

Typical Applications Include

Air Curtains, Dyers, Freezers, High Temperature, Kilns, Ovens, Process Applications, Product Cooling, Re-Circulation, Air Heaters, Ceiling, Wall and Floor Panel Plenums, Degreasers, Dryers, Dust Collectors, Evaporators, Packaged Air Handlers, Parts Washers, Penthouses, Smoke Houses, Space Heaters, Spray Booths and other High Temperature Applications

Impeller Types

Flat-Bladed Backward Inclined

Arrangements

Available in Arrangement 1P, 9 and 9P (Belt Driven) and Arrangement 4 and 8P (Direct Drive) configurations

Optional Construction

High-Temperature Construction to 1000° F, Insulated Plug, Pedestal Design for Floor Mounting, Spark Resistant Construction, Special Materials, All Welded Housing, Variable Inlet Vanes, Integral Inlet Cone Assembly, Shallow Depth Inlet Cone, Special Impeller Width and Diameter

Certifications

ATEX Construction

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For complete product performance, drawings and available accessories, download our Fan Selector program at tcf.com.

Overview

BCPL

BCPL plug fans from Twin City Fan & Blower are compact and versatile. Their versatility allows them to be used for air circulation in a variety of commercial and industrial applications including air curtains, air heaters, ceiling, wall and floor panel plenums, degreasers, dryers, dust collectors, evaporators, freezers, kilns, ovens, packaged air handlers, parts washers, penthouses, smoke houses, space heaters, spray booths and other high temperature applications.

Plug fans are housed in the customer's enclosure in applications where the system plenum acts as the fan housing. This configuration saves space since connecting ductwork and motor support pedestals are generally not needed. More space savings can be obtained by utilizing the impeller compartment as a pressurized chamber in lieu of a fan scroll. The use of multiple discharges from the pressurized chamber allows for additional savings by reducing ducting requirements.

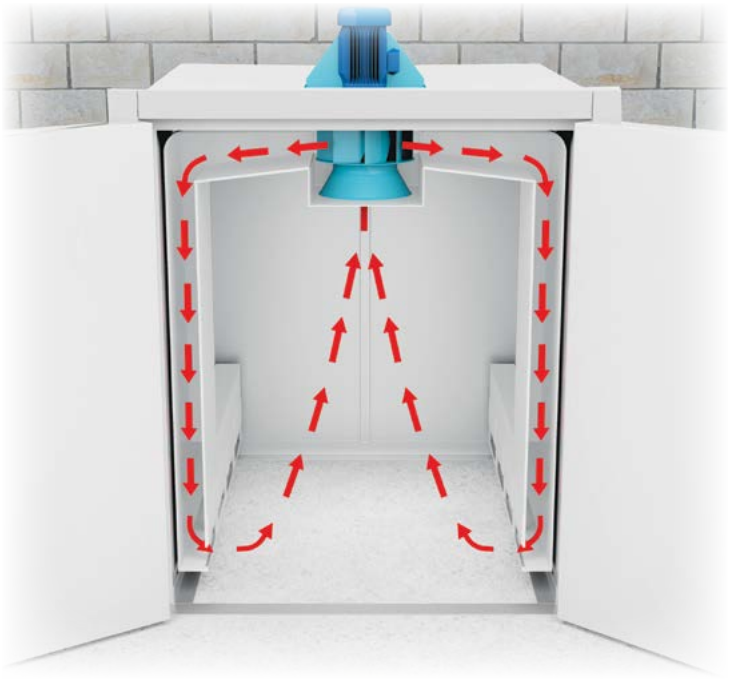
BCPL plug fans feature SWSI flat-blade backward inclined, non-overloading impellers.

The unit's welded construction can withstand most industrial applications. The plug fan's motor and drive are protected from high temperatures by the customer's chamber wall or the optional insulated plug. The motor and drive are mounted to the plug panel which may be bolted or welded in place. The plug assembly may be mounted with the shaft in either the vertical or horizontal position for maximum flexibility. An all welded housing is available as an option. Standard fan is suitable for both horizontal and vertical mounting.

Sizes and Performance

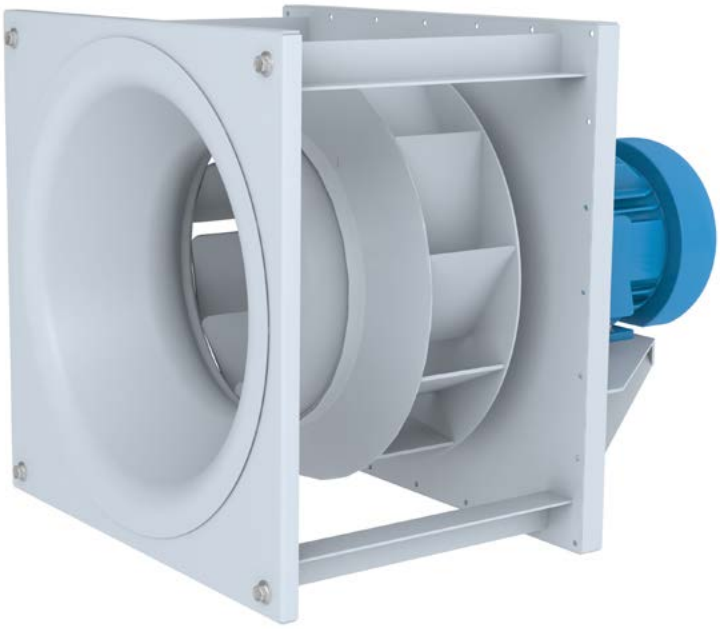
12.25" to 49" impeller diameters (315 mm to 1,245 mm)
Airflow to 57,900 CFM (98,400 m^3/hour)
Static pressure to 8" w.g. (1,990 Pa)

Paint Booth Ventilation

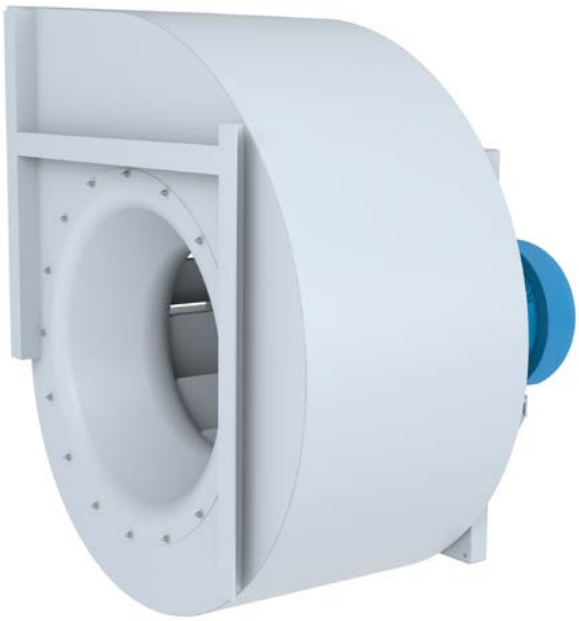


Oven Airflow

CONSTRUCTION FEATURES



Model BCPL, Arrangement 4
with Integrated Inlet Funnel



Model BCPL, Arrangement 4
with Housing

Plug Panel

Constructed of minimum 7-gauge steel with formed flanges to maintain flatness and rigidity. Panel is prepunched for bolt mounting. Panel assembly may also be welded in place. The “cross frame” bearing support is designed for maximum stability and load spreading. Bearings are serviceable without disassembly of panel or frame.

Plug Assembly

Available for both horizontal and vertical applications. Horizontal and vertical up construction is standard. Vertical down construction must be specified.

Adjustable Motor Base

The motor base is standard four point leveling and positive tension adjustment to ensure proper drive belt alignment. The motor base is heavy-gauge steel and prepunched to accept the standard motor frame specified.

Impellers

Impellers are constructed of heavy-gauge steel using flat single thickness blades, welded to both back plate and rim. Impellers are statically and dynamically balanced. Clockwise (standard) or counterclockwise rotation is available. Specify rotation as viewed from drive side.

Inlet Cones

Heavy-gauge and spun to match the impeller intake rim to ensure smooth airflow. Inlet cone flange is prepunched for mounting. Inlet cones are shipped loose as standard. An integral inlet cone with mounting panel is optional.

Shafts

Standard shaft diameters are sized for plug thicknesses to 6 inches and 1000°F operation.

Bearings

Either ball or spherical roller, heavy-duty, self-aligning, pillow block type bearings are provided. Bearing selection is based on L-10 minimum life of 40,000 hours or average life of 200,000 hours. Split roller bearings are not recommended.

High Temperature Construction

301-500°F: Includes high temperature grease, expansion and non-expansion bearings, ceramic shaft seal and shaft cooler.

501-800°F: Includes the modifications above with the addition of high temperature aluminum paint. Minimum 4" insulation is required and is available as an optional item from TCF. Be sure to apply derating factors for high temperature construction. See Table 7 on page 11.

801-1000°F: Includes the modifications above with the addition of 316 stainless steel impeller and shaft. Also includes shaft extension for the required 6" insulation. 6" insulated plug is available as an optional item. Be sure to apply stainless steel derating factors for temperature. See Table 7 on page 11.

Insulated Plug

Protects motor and drive components from heat. An insulated plug is recommended for temperatures above 300°F. Available in 4" and 6" thicknesses. Special thicknesses to match customer's insulated wall are available. Plug is assembled to mounting panel when ordered. See Table 1 on page 10 for maximum RPMs.

All Welded Housing

Heavy-gauge steel housing is provided with impeller opening on each side and weld studs on the inlet side for cone mounting. Specify rotation and discharge as viewed from drive side to ensure proper stud placement. Housing supports and attachments for wall mounting to be provided by others. See page 19 for dimensions.

Variable Inlet Vanes

Vane blades are cantilever design or center supported, equipped with permanently lubricated bearings and ball joints for smooth and easy operation. Vane assemblies are external type for sizes 122 through 150 and nested for sizes 165 through 490. Standard inlet vanes are applicable to 300°F. Consult factory for dimensions and higher temperatures.

Spark Resistant Construction

Fan applications may involve the handling of potentially explosive or flammable particles, fumes or vapors. Such applications require careful consideration by the system designer to ensure the safe handling of such gases. Twin City Fan & Blower offers the following classifications of spark resistant construction per AMCA Standard 99-0401-86. It is the specifier or the user's responsibility to specify the type of spark resistant construction with full recognition of the potential hazards and the degree of protection required.

Type C - The fan shall be so constructed that a shift of the impeller or shaft will not permit two ferrous parts of the fan to rub or strike. This is accomplished with an aluminum inlet cone and rub ring and is limited to 500°F. Construction to 800°F is available using a steel inlet cone with copper/bronze lining. Contact factory for construction to 1000°F.

Integral Inlet Cone Assembly

Includes four pieces of angle, welded to the insulated plug or mounting panel, which serve to pre-align the inlet funnel within the impeller. The entire unit can be installed or removed through the same hole in the customer's enclosure, without the need for additional mounting or alignment of the inlet cone.

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Arrangement 1P

Belt drive arrangement where the fan is mounted to grade and the motor is mounted separate from the fan. Typically used on larger fans and/or larger HP motors where the customer's wall may not be sufficient by itself. Mounting to the foundation also makes it better for meeting lower vibration requirements. Mounting panel is optional on arrangement 1P.

Arrangement 4

Direct drive arrangement where the impeller is mounted to the motor shaft. The design is more compact and requires less maintenance due to not having fan shaft, bearings or belts. High airstream temperatures may limit the use of this arrangement.

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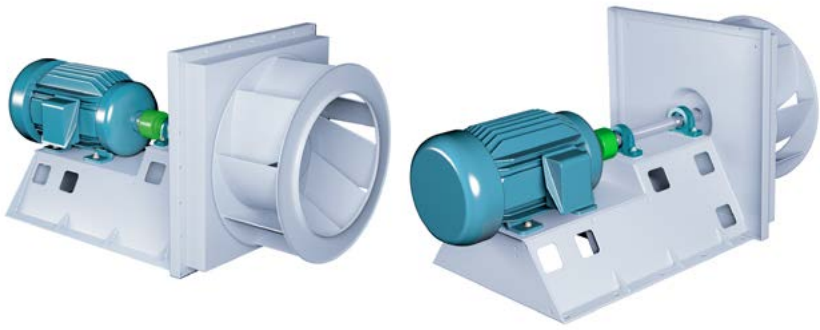
Arrangement 8P

Direct drive arrangement where the motor shaft is coupled to the fan shaft. The entire assembly is mounted to grade. Typically used on larger fans and/or larger HP motors where the customer's wall may not be sufficient by itself. Mounting to the foundation also makes it better for meeting lower vibration requirements. Mounting panel is optional.

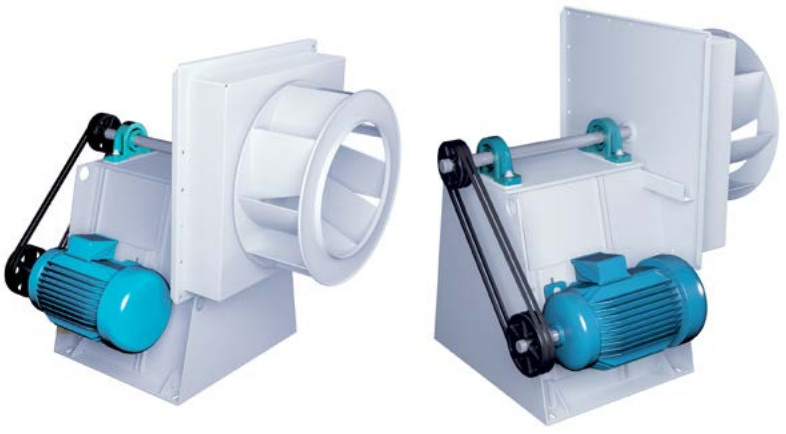


Arrangement 9

Arrangement 9 is the most common plug fan arrangement. It is fully supported by the customer's wall. Plug fans are housed in the customer's enclosure in applications where the system plenum acts as the fan housing. Unlike the plenum fan, motor, shaft and bearings are outside of the process airstream.

Arrangement 9P

Same as the arrangement 9 fan except the fan is mounted to grade. Typically used on larger fans and/or larger HP motors where the customer's wall may not be sufficient by itself. Mounting to the foundation also makes it better for meeting lower vibration requirements. Mounting panel is optional.



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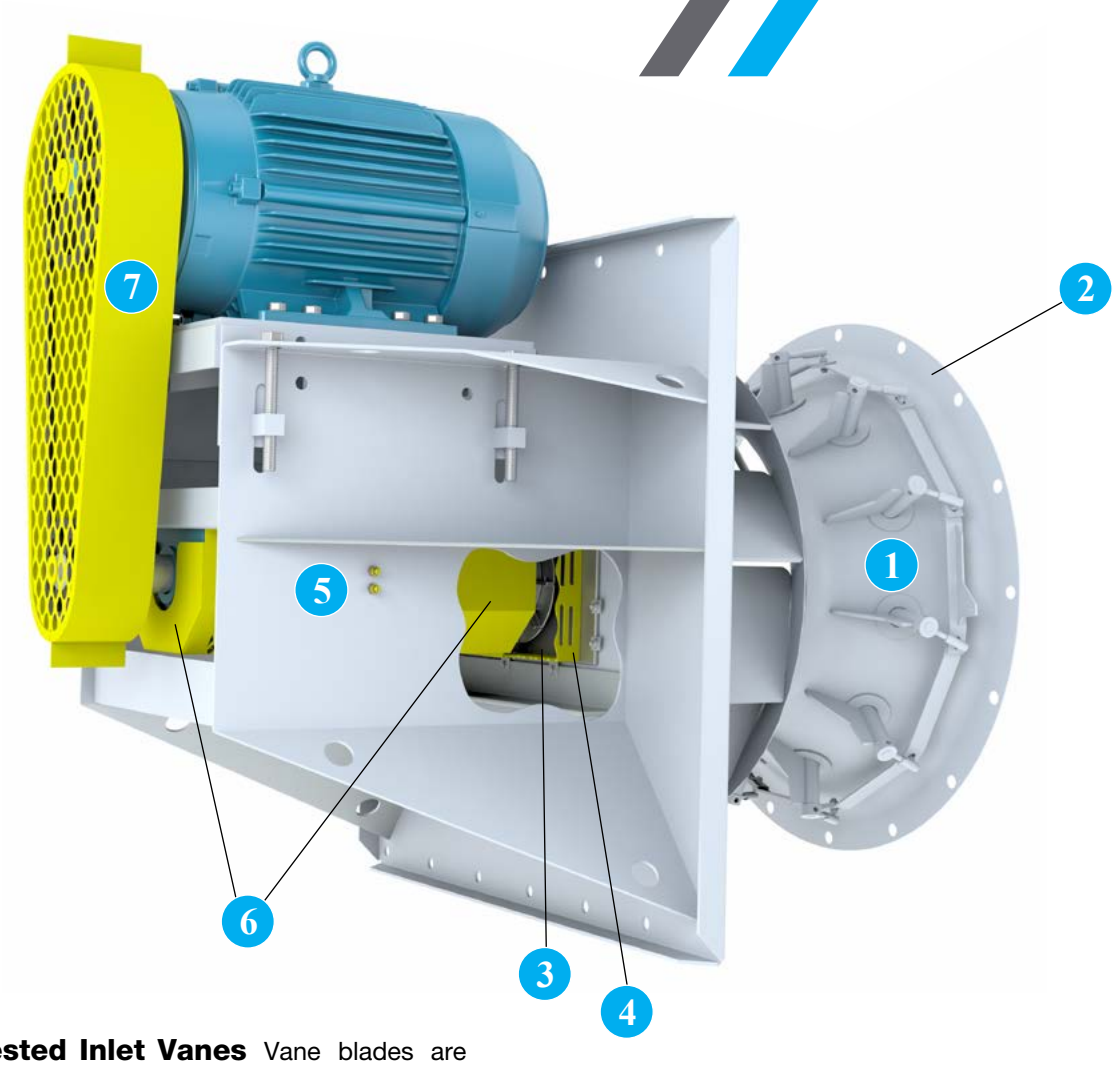
OPTIONS/ACCESSORIES



1 **Variable Nested Inlet Vanes** Vane blades are cantilever design or center supported, equipped with permanently lubricated bearings and ball joints for smooth and easy operation. See page 5 for more information.

2 **Inlet Cones** Heavy-gauge and spun to match the impeller intake rim to ensure smooth airflow. Inlet cone flange is prepunched for mounting. Inlet cones are shipped loose as standard. An integral inlet cone is optional.

3 **Shaft Coolers** Cast aluminum shaft cooler dissipates the heat transferred to the shaft from the airstream protecting the fan bearings. Recommended for applications over 300°F.

4 **Shaft Seals** reduce leakage and protect the bearings from a contaminated airstream. Standard seals are constructed of Tetraglas compressed between an aluminum cover plate and the fan housing. The standard shaft seal is not gas tight. Special seals are available for low leakage applications requiring more protection.

5 **Extended Lube Lines** Allow for easy lubrication of bearings on belt driven units without disassembly of guards by extending polyethylene lines from fan bearings to outside of guards or weather covers.

6 **Shaft and Bearing Guards** Sheet metal guards cover shaft and bearings and come with extended lube lines to a common point outside of the guard. A guard spanning the shaft between the bearings is available to provide open access to bearings for lubrication and vibration monitoring.

7 **Belt Guards** Belt guard protects personnel from the moving drive parts. OSHA and quick access guards are available.

Other Accessories Include:

- Piezometer Ring
- Inlet Screens
- Special Impeller Widths

Mounting is accomplished by providing a hole larger than the impeller diameter through the chamber wall. The impeller, shaft, motor and drive assembly is then positioned to the inlet cone (mounted in opposite wall) and secured in place. See Figure A.

Another method is to provide a hole sized only for the impeller drive shaft. The impeller is then positioned through the opening for the inlet cone after the drive and panel assembly has been securely mounted. See Figure B.

Plug fans may be applied with open impeller (unhoused) or with a housing as shown in Figure C. Performance data in this catalog is for unhoused impeller application.

Walls must be designed by the users to support the dynamic loads of the fan without resonance to eliminate vibration and bearing failure.

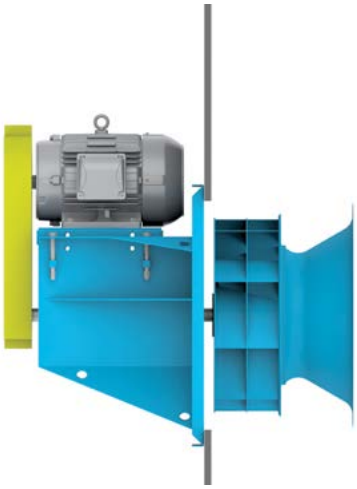


Figure A

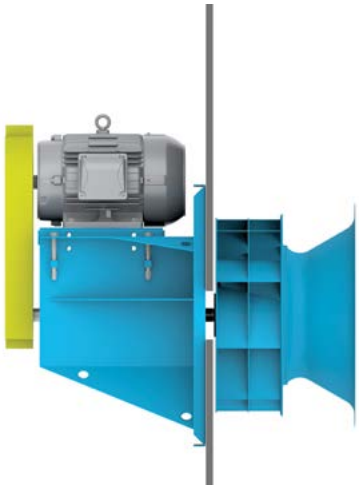


Figure B

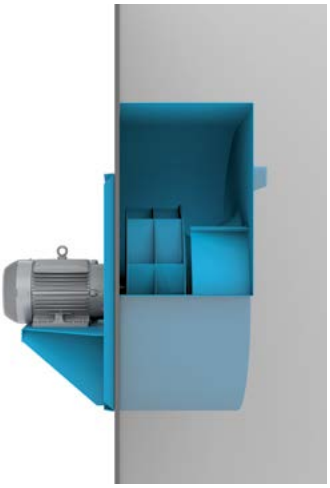
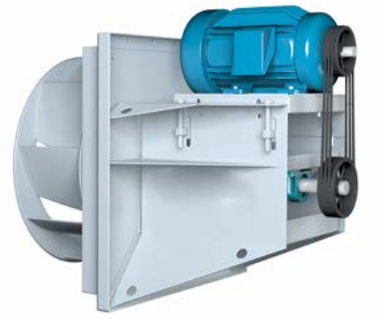


Figure C
(shown with optional housing)

MOUNTING ARRANGEMENTS



Horizontal

Vertical Down

Vertical Up

To ensure proper motor selection, consideration must be given to starting torque requirements (fan impeller inertia WR^2) along with the operating BHP. Table 1 lists the WR^2 factors for different impeller sizes to be used in evaluating the capability of a selected motor. In some cases it may be necessary to provide a larger horsepower motor, even though it may not be dictated by the operating BHP, to bring the fan to speed.

Table 1. Maximum Fan RPMs, Impeller Weights and WR^2

FAN SIZE	CLASS I					CLASS II				
	MAXIMUM RPM			IMPELLER WT. (LBS)	WR^2 (LBS-FT^2)	MAXIMUM RPM			IMPELLER WT. (LBS)	WR^2 (LBS-FT^2)
	STD.	4" PLUG	6" PLUG			STD.	4" PLUG	6" PLUG		
122	3167	3167	2512	15	1.7	4119	4119	3087	15	1.7
135	2874	2874	2364	17	2.4	3738	3738	2899	18	2.7
150	2587	2587	1908	20	3.7	3364	3364	2316	21	4.1
165	2352	2352	1779	24	5.7	3058	3058	2090	28	7.0
182	2118	2118	1520	31	8.8	2729	2729	2180	39	10.8
200	1932	1932	1800	38	12.5	2490	2490	2045	49	17.4
222	1737	1737	1419	66	23.6	2238	2238	1659	74	28.8
245	1577	1577	1247	81	38.3	2033	2033	1523	87	42.9
270	1397	1397	1397	94	56.4	1803	1803	1668	103	64.6
300	1257	1257	1257	113	88.8	1623	1623	1496	125	101
330	1143	1143	1097	151	149	1475	1475	1303	167	158
365	995	995	967	198	245	1283	1283	1283	214	260
402	903	903	903	244	361	1163	1163	1163	254	382
445	817	817	817	340	566	1052	1052	1052	392	692
490	742	742	742	393	816	956	956	956	455	1001

Table 2. Bare Fan and Accessory Weights

FAN SIZE	APPROXIMATE WEIGHTS (LBS.)				
	BARE FAN		INSULATED PLUG	HOUSING	INLET VANES
	CLASS II	CLASS III			
122	140	151	25	24	45
135	145	156	25	30	45
150	151	162	25	37	52
165	185	196	32	44	24
182	208	230	32	65	29
200	221	233	32	79	33
222	235	247	35	97	38
245	240	252	35	117	40
270	323	341	40	143	45
300	330	348	40	236	45
330	388	406	55	287	50
365	430	478	55	350	50
402	575	636	75	428	55
445	639	710	75	522	60
490	950	1040	95	634	65

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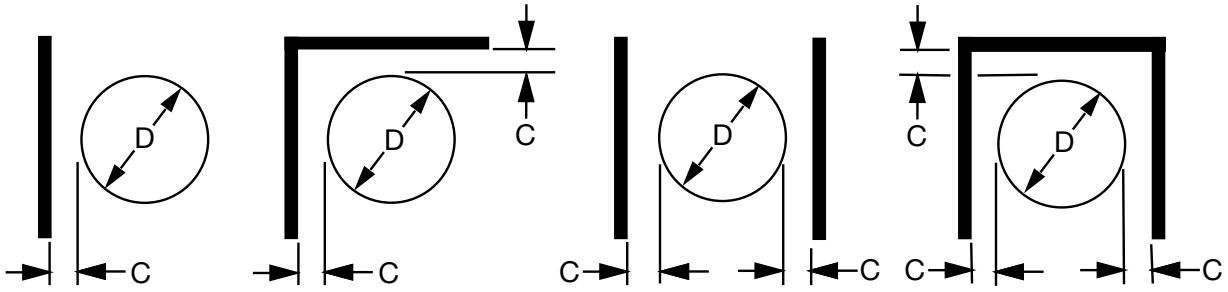
Table 3. High Temperature Applications

TEMP. RANGE	BEARING TYPE	LUBRICATION	OTHER REQUIREMENTS
TO 300°F	BALL OR ROLLER	GREASE	STANDARD CONSTRUCTION
301 TO 500°F	EXPANSION AND NON-EXPANSION	HIGH TEMPERATURE GREASE	CERAMIC SHAFT SEAL, SHAFT COOLER
501 TO 800°F	EXPANSION AND NON-EXPANSION	HIGH TEMPERATURE GREASE	HIGH TEMPERATURE ALUMINUM PAINT 4" MINIMUM INSULATION REQUIRED BY TCF OR CUSTOMER CERAMIC SHAFT SEAL, SHAFT COOLER
801 TO 1000°F	EXPANSION AND NON-EXPANSION	HIGH TEMPERATURE GREASE	316 STAINLESS STEEL IMPELLER AND SHAFT 6" MINIMUM INSULATION REQUIRED BY TCF OR CUSTOMER HIGH TEMPERATURE ALUMINUM PAINT CERAMIC SHAFT SEAL, SHAFT COOLER

Figure 1. Impeller and Plenum Arrangement



D = impeller diameter C = clearance

Table 4. Wall Proximity Factors

% WOV	FACTOR	C = D/8			C = D/4			C = D/2		
		ONE WALL	TWO WALL	THREE WALL	ONE WALL	TWO WALL	THREE WALL	ONE WALL	TWO WALL	THREE WALL
95	RPM	1.02	1.03	1.09	1.01	1.02	1.06	1.01	1.01	1.03
	BHP	1.06	1.08	1.29	1.04	1.06	1.20	1.02	1.02	1.08
85	RPM	1.02	1.02	1.08	1.01	1.02	1.06	1.01	1.01	1.03
	BHP	1.05	1.07	1.26	1.03	1.05	1.18	1.02	1.02	1.08
75	RPM	1.01	1.02	1.07	1.01	1.02	1.05	1.00	1.01	1.02
	BHP	1.04	1.06	1.23	1.03	1.05	1.16	1.01	1.02	1.07
65	RPM	1.01	1.02	1.06	1.01	1.01	1.04	1.00	1.01	1.02
	BHP	1.04	1.06	1.19	1.03	1.04	1.14	1.01	1.02	1.06
55	RPM	1.01	1.02	1.05	1.01	1.01	1.04	1.00	1.01	1.02
	BHP	1.03	1.05	1.16	1.02	1.03	1.12	1.01	1.02	1.05
45	RPM	1.01	1.01	1.04	1.01	1.01	1.03	1.00	1.00	1.01
	BHP	1.02	1.04	1.13	1.02	1.03	1.09	1.01	1.01	1.04

Table 5. WOV Factors

FAN SIZE	WOV FACTOR	D
122	1.18	12.25
135	1.58	13.50
150	2.16	15.00
165	2.88	16.50
182	3.87	18.25
200	5.09	20.00
222	7.01	22.25
245	9.36	24.50
270	12.58	27.00
300	17.26	30.00
330	22.97	33.00
365	31.40	36.50
402	42.11	42.25
445	56.91	44.50
490	75.97	49.00

Table 6. Temperature and Altitude Correction Factors

AIR TEMP °F	ALTITUDE IN FEET ABOVE SEA LEVEL												
	0	1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	15000	20000
	BAROMETRIC PRESSURE IN INCHES OF MERCURY												
	29.92	28.86	27.82	26.82	25.84	24.90	23.98	23.09	22.22	21.39	20.58	16.89	13.75
70	1.000	0.964	0.930	0.896	0.864	0.832	0.801	0.772	0.743	0.714	0.688	0.564	0.460
100	0.946	0.912	0.880	0.848	0.818	0.787	0.758	0.730	0.703	0.676	0.651	0.534	0.435
150	0.869	0.838	0.808	0.770	0.751	0.723	0.696	0.671	0.646	0.620	0.598	0.490	0.400
200	0.803	0.774	0.747	0.720	0.694	0.668	0.643	0.620	0.596	0.573	0.552	0.453	0.360
250	0.747	0.720	0.694	0.669	0.645	0.622	0.598	0.576	0.555	0.533	0.514	0.421	0.344
300	0.697	0.672	0.648	0.624	0.604	0.580	0.558	0.538	0.518	0.498	0.480	0.393	0.321
350	0.654	0.631	0.608	0.586	0.565	0.544	0.524	0.505	0.486	0.467	0.450	0.369	0.301
400	0.616	0.594	0.573	0.552	0.532	0.513	0.493	0.476	0.458	0.440	0.424	0.347	0.283
450	0.582	0.561	0.542	0.522	0.503	0.484	0.466	0.449	0.433	0.416	0.401	0.328	0.268
500	0.552	0.532	0.513	0.495	0.477	0.459	0.442	0.426	0.410	0.394	0.380	0.311	0.254
550	0.525	0.506	0.488	0.470	0.454	0.437	0.421	0.405	0.390	0.375	0.361	0.296	0.242
600	0.500	0.482	0.469	0.448	0.432	0.416	0.400	0.386	0.372	0.352	0.344	0.282	0.230
650	0.477	0.460	0.444	0.427	0.412	0.397	0.382	0.368	0.354	0.341	0.328	0.269	0.219
700	0.457	0.441	0.425	0.410	0.395	0.380	0.366	0.353	0.340	0.326	0.315	0.258	0.210
800	0.420	0.404	0.389	0.375	0.362	0.350	0.336	0.323	0.311	0.300	0.290	0.237	0.193

Table 7. Derating Factors For High Temperature

TEMP. (°F)	STEEL		STAINLESS STEEL
	CLASS II		CLASS II
	121-281	321-491	
70	1.00	1.00	1.00
200	0.99	0.97	1.00
250	0.98	0.96	1.00
300	0.97	0.95	1.00
400	0.96	0.93	1.00
500	0.93	0.90	0.97
600	0.90	0.87	0.94
700	0.88	0.84	0.90
800	0.83	0.81	0.87
1000	N/A	N/A	0.81

When operating fans at elevated temperatures, the maximum RPMs of the fan from Table 1 on page 10 must be corrected to the safe operating RPM limit for the application using the factors listed in the Table 7.

The performance tables in this catalog are based on fans handling standard air at a density of 0.075 pounds per cubic foot. This is equivalent to air at 70°F at sea level (29.92 Hg barometric pressure). When specified performance is at a density different than standard, it must be converted to the equivalent standard conditions before the fan can be selected from the performance tables. The performance data and examples in this catalog are for unhoused BCPL plug fans.

Example 1. Standard Density

Given: 10894 CFM at 2.5" TSP (system). Installation is a two-wall arrangement with a impeller-to-wall clearance of 6¾".

Step 1. Entering the performance tables we find that a 270 BCPL plug fan will deliver 10894 CFM at 2.5" SP operating at 1178 RPM with 6.84 BHP.

Step 2. Catalog performance must be corrected for impeller-to-wall arrangement. Determine the impeller and plenum type from the arrangements shown in Figure 1 on page 5. Determine the clearance "C" based upon the closest wall. Performance will not be affected by any additional walls spaced greater than C x 3 from the impeller.

The selected 270 BCPL fan has a impeller diameter of 27" ("D"). Application is two walls with 6¾" clearance ("C"). Therefore, C ÷ D = 6.75 ÷ 27 = 0.25 or ¼" which is equivalent to D ÷ 4.

Step 3. Next, determine the Percent of Wide Open Volume (% WOV) at which the fan is to operate. From Table 2 on page 5 find that the WOV factor is 12.58 for a 270 BCPL fan.

$$\%\ \text{WOV} = \frac{10894 \times 100}{1178 \times 12.48} = 73.5$$

Step 4. By interpolation from Table 1 on page 5, for the two wall column of D ÷ 4 at 73.5% WOV, we find the RPM factor of 1.02 and the BHP factor of 1.05.

Corrected unhoused performance for 10894 CFM at 2.5" SP standard air is:

RPM = 1178 x 1.02 = 1201

BHP = 6.84 x 1.05 = 7.18

Example 2. Nonstandard Density

Given: 10894 CFM at 2.5" TSP (system), 300°F, 3000 ft. altitude. Installation is a two-wall arrangement with a impeller-to-wall clearance of 6¾".

Step 1. To enter the performance tables the operating SP must be corrected to equivalent standard conditions. From Table 3 on page 5 find the correction factor of 0.624 for 300°F and 3000 feet altitude. The corrected equivalent static pressure is equal to:

$$\text{SP (Catalog)} = \frac{2.5"\ \text{TSP (system)}}{0.624} = 4.0$$

Fan selection is then made for 10894 CFM at 4" SP. Entering the performance tables, we find that a 270 BCPL fan will deliver 10894 CFM at 1355 RPM with 10.18 BHP. It must be remembered that this BHP is cataloged at standard 70°F air at sea level.

Steps 2, 3 and 4. Continue the correction procedure with Steps 2, 3 and 4 as shown in Example 1. Wall arrangement = D ÷ 4, % WOV = 63.9, RPM = 1368 and BHP = 10.58.

Step 5. Standard air BHP must now be converted to the design conditions BHP. The BHP at 300°F and 3000 ft. altitude equals 10.58 x the density factor of 0.624 = 6.6 BHP.

It must be remembered to provide consideration to motor HP for 70°F air at 3000 ft. altitude to avoid motor overload at startup. Multiplying the altitude factor of 0.896 (for 70°F at 3000 ft.) x BHP (10.58) gives us 9.47.

Therefore, performance for the 270 BCPL fan for 10894 CFM at 2.5" SP, 300°F and 3000 ft. altitude is 1368 RPM, 6.6 operating BHP and 9.47 startup BHP.

Step 6. Maximum impeller RPMs must be checked for all elevated temperature applications. The derating factors for high temperature listed in Table 4 on page 5 must be applied to the maximum Class I and Class II RPMs listed in Table 5 on page 6. In this example the derating factor for 300°F is 0.96 and the maximum RPM for a Class I Size 270 BCPL is 1397 RPM. Therefore, the maximum RPM for this impeller is 1397 x 0.96 = 1341 RPM. The fan as selected is to operate at 1368 RPM which does not fall within this derated Class I maximum RPM, so a Class II fan must be considered. The maximum speed for a Class II size 270 BCPL is 1803 RPM. 1803 x the derating factor of 0.96 = 1730 RPM. 1368 RPM falls within this range so a Class II fan may be used.

TCF
TWIN CITY FAN

122 BCPL

Impeller Dia.: 12.25"

CFM	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		4.5" SP		5" SP		6" SP		7" SP		8" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
688	1064	0.09	1393	0.19																						
860	1140	0.12	1456	0.23	1711	0.36	1941	0.50																		
1032	1234	0.15	1530	0.28	1774	0.42	1988	0.57	2187	0.73	2373	0.91														
1204	1338	0.19	1606	0.33	1848	0.49	2054	0.65	2240	0.82	2416	1.01	2583	1.20	2742	1.41	2895	1.62								
1376	1448	0.24	1697	0.39	1922	0.56	2128	0.74	2309	0.93	2475	1.12	2634	1.33	2786	1.54	2932	1.76	3072	1.99						
1548	1563	0.30	1797	0.47	2004	0.64	2201	0.84	2383	1.04	2547	1.25	2699	1.47	2843	1.69	2982	1.92	3117	2.16	3375	2.67	3619	3.20		
1720	1683	0.37	1904	0.55	2098	0.74	2280	0.94	2456	1.16	2621	1.39	2772	1.62	2912	1.86	3045	2.10	3174	2.35	3422	2.87	3658	3.43	3882	4.01
1892	1809	0.46	2013	0.65	2199	0.85	2369	1.06	2534	1.29	2694	1.53	2846	1.78	2987	2.04	3118	2.29	3243	2.56	3480	3.10	3707	3.67	3924	4.27
2064	1938	0.56	2126	0.76	2305	0.98	2467	1.21	2621	1.44	2772	1.69	2919	1.95	3060	2.22	3192	2.50	3317	2.78	3549	3.35	3767	3.94	3976	4.56
2236	2069	0.68	2242	0.89	2414	1.13	2570	1.36	2717	1.61	2858	1.87	2997	2.14	3133	2.42	3265	2.71	3391	3.01	3623	3.61	3836	4.23	4038	4.87
2408	2203	0.82	2363	1.04	2525	1.28	2677	1.54	2818	1.80	2953	2.07	3083	2.34	3213	2.63	3340	2.94	3463	3.25	3697	3.89	3910	4.54	4108	5.20
2580	2339	0.98	2487	1.20	2639	1.46	2786	1.73	2923	2.01	3052	2.28	3177	2.57	3299	2.87	3420	3.18	3539	3.50	3769	4.17	3984	4.86		
2752	2475	1.15	2615	1.39	2756	1.65	2897	1.94	3031	2.23	3156	2.53	3277	2.83	3393	3.13	3508	3.45	3621	3.78	3844	4.47	4057	5.19		
2924	2613	1.35	2744	1.60	2876	1.87	3010	2.17	3140	2.48	3263	2.79	3380	3.10	3492	3.42	3602	3.75	3710	4.08	3922	4.78				
3096	2752	1.57	2876	1.83	3000	2.11	3126	2.42	3251	2.74	3371	3.07	3485	3.40	3595	3.73	3701	4.07	3805	4.42	4008	5.14				
3268	2891	1.82	3009	2.09	3126	2.38	3245	2.69	3365	3.03	3482	3.37	3593	3.72	3700	4.07	3803	4.42	3904	4.78	4099	5.51				
3440	3032	2.10	3143	2.37	3254	2.67	3366	2.99	3480	3.33	3593	3.70	3703	4.06	3808	4.43	3908	4.80	4006	5.17						
3612	3172	2.40	3278	2.69	3384	2.99	3491	3.32	3599	3.67	3707	4.04	3814	4.43	3917	4.81	4015	5.20	4111	5.58						

135 BCPL

Impeller Dia.: 13.5"

CFM	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		4.5" SP		5" SP		6" SP		7" SP		8" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
840	967	0.11	1265	0.23	1516	0.38																				
1050	1036	0.14	1323	0.28	1554	0.44	1762	0.61																		
1260	1122	0.18	1390	0.34	1612	0.51	1806	0.69	1986	0.89	2154	1.11														
1470	1218	0.24	1460	0.40	1680	0.59	1866	0.79	2035	1.00	2194	1.23	2345	1.47	2490	1.72	2628	1.98								
1680	1319	0.30	1543	0.48	1747	0.68	1934	0.90	2098	1.13	2249	1.37	2392	1.62	2530	1.88	2662	2.15	2789	2.43	3033	3.03				
1890	1423	0.37	1635	0.57	1822	0.78	2001	1.02	2166	1.27	2315	1.53	2452	1.79	2582	2.06	2709	2.35	2831	2.64	3064	3.25	3285	3.90		
2100	1533	0.46	1733	0.68	1908	0.91	2073	1.15	2233	1.42	2382	1.69	2519	1.98	2646	2.27	2767	2.56	2883	2.86	3108	3.51	3321	4.18	3524	4.88
2310	1648	0.57	1833	0.80	2001	1.05	2155	1.30	2304	1.58	2449	1.87	2586	2.18	2714	2.49	2833	2.80	2946	3.12	3161	3.78	3367	4.48	3563	5.21
2520	1766	0.69	1936	0.94	2098	1.21	2245	1.48	2384	1.76	2520	2.06	2653	2.38	2781	2.71	2901	3.05	3014	3.39	3224	4.08	3422	4.81	3611	5.56
2730	1886	0.84	2042	1.09	2197	1.38	2339	1.67	2472	1.97	2599	2.28	2725	2.61	2848	2.95	2967	3.31	3081	3.67	3292	4.41	3485	5.16	3668	5.93
2940	2008	1.01	2152	1.27	2299	1.57	2436	1.89	2564	2.20	2686	2.53	2804	2.86	2921	3.22	3036	3.59	3148	3.97	3359	4.74	3553	5.54	3733	6.35
3150	2132	1.20	2266	1.47	2403	1.79	2536	2.12	2660	2.46	2777	2.80	2890	3.15	3000	3.51	3109	3.88	3217	4.28	3426	5.09	3620	5.93		
3360	2257	1.42	2382	1.70	2510	2.03	2637	2.38	2758	2.74	2872	3.10	2981	3.46	3087	3.84	3190	4.22	3292	4.62	3494	5.46	3687	6.34		
3570	2382	1.66	2501	1.96	2620	2.29	2741	2.66	2858	3.04	2970	3.42	3075	3.80	3177	4.19	3276	4.58	3374	4.99	3566	5.85				
3780	2509	1.94	2621	2.25	2733	2.59	2847	2.96	2960	3.36	3069	3.77	3172	4.17	3271	4.57	3367	4.98	3461	5.41	3644	6.28				
3990	2636	2.24	2742	2.57	2848	2.92	2955	3.30	3063	3.71	3169	4.13	3271	4.56	3367	4.99	3461	5.42	3551	5.85	3728	6.74				
4200	2764	2.58	2865	2.92	2965	3.28	3067	3.67	3169	4.09	3271	4.53	3371	4.98	3465	5.43	3557	5.88	3645	6.33						
4410	2893	2.95	2988	3.31	3084	3.68	3180	4.08	3278	4.51	3375	4.96	3472	5.43	3565	5.90	3655	6.37								

150 BCPL

Impeller Dia.: 15"

CFM	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		4.5" SP		5" SP		6" SP		7" SP		8" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1032	869	0.14	1138	0.29	1364	0.47																				
1290	931	0.18	1189	0.35	1398	0.54	1585	0.75																		
1548	1008	0.23	1249	0.42	1449	0.63	1624	0.85	1786	1.10	1938	1.36														
1806	1093	0.29	1312	0.49	1510	0.73	1678	0.98	1829	1.23	1973	1.51	2110	1.81	2240	2.11	2365	2.43								
2064	1183	0.36	1386	0.59	1570	0.84	1738	1.11	1886	1.39	2022	1.68	2151	1.99	2275	2.31	2394	2.64	2509	2.99	2728	3.72				
2322	1277	0.45	1468	0.70	1637	0.96	1798	1.25	1947	1.56	2080	1.87	2204	2.20	2322	2.54	2436	2.88	2546	3.25	2756	4.00	2956	4.81		
2580	1375	0.56	1555	0.83	1713	1.11	1862	1.41	2006	1.74	2141	2.08	2264	2.43	2379	2.79	2487	3.15	2592	3.52	2795	4.31	2987	5.14	3170	6.01
2838	1477	0.69	1645	0.98	1796	1.28	1935	1.60	2070	1.94	2201	2.30	2324	2.67	2439	3.05	2547	3.44	2649	3.83	2842	4.65	3028	5.51	3205	6.41
3096	1583	0.84	1737	1.15	1883	1.48	2015	1.81	2141	2.16	2264	2.53	2384	2.93	2499	3.33	2607	3.75	2709	4.16	2898	5.02	3076	5.90	3248	6.84
3354	1691	1.02	1832	1.34	1972	1.69	2100	2.05	2219	2.41	2335	2.80	2448	3.20	2559	3.63	2667	4.07	2769	4.51	2959	5.42	3133	6.34	3298	7.30
3612	1800	1.23	1930	1.55	2062	1.92	2187	2.31	2302	2.70	2412	3.10	2519	3.51	2624	3.95	2728	4.40	2829	4.87	3019	5.83	3193	6.80	3355	7.80
3870	1911	1.46	2032	1.80	2155	2.19	2276	2.60	2388	3.01	2493	3.43	2595	3.86	2695	4.30	2793	4.77	2891	5.25	3079	6.26	3254	7.29		
4128	2022	1.73	2136	2.08	2251	2.48	2366	2.91	2476	3.35	2578	3.79	2676	4.24	2772	4.70	2865	5.17	2958	5.67	3139	6.70	3313	7.78		
4386	2135	2.03	2242	2.40	2350	2.80	2459	3.25	2565	3.72	2665	4.18	2761	4.66	2853	5.14	2942	5.62	3030	6.12	3204	7.18				
4644	2248	2.36	2349	2.75	2450	3.16	2554	3.63	2656	4.11	2754	4.61	2847	5.10	2936	5.60	3023	6.11	3108	6.63	3273	7.70				
4902	2362	2.73	2458	3.14	2554	3.57	2651	4.04	2748	4.54	2844	5.06	2935	5.58	3022	6.10	3107	6.64	3189	7.17	3348	8.27				
5160	2477	3.15	2568	3.56	2659	4.01	2750	4.49	2843	5.00	2935	5.54	3025	6.10	3110	6.65	3193	7.20	3272	7.75						
5418	2592	3.60	2678	4.03	2765	4.50	2852	4.99	2940	5.51	3028	6.07	3115	6.64	3199	7.22	3280	7.80	3358	8.38						

Underlined figures indicate maximum static efficiency.
Power rating (BHP) does not include transmission losses.

Regular type face = Class I
Bold type face = Class II

165 BCPL

Impeller Dia.: 16.5"

CFM	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		4.5" SP		5" SP		6" SP		7" SP		8" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1256	791	0.17	1035	0.35	1241	0.57																				
1570	848	0.22	1083	0.42	1272	0.66	1442	0.91																		
1884	919	0.28	1138	0.51	1319	0.76	1478	1.04	1625	1.34	1763	1.66														
2198	997	0.35	1195	0.60	1375	0.89	1527	1.19	1665	1.50	1796	1.84	1919	2.19	2037	2.56	2150	2.95								
2512	1079	0.44	1263	0.72	1430	1.02	1583	1.35	1717	1.69	1840	2.05	1957	2.42	2070	2.81	2178	3.21	2283	3.64	2481	4.52				
2826	1165	0.55	1339	0.86	1491	1.17	1637	1.53	1773	1.90	1894	2.28	2006	2.67	2113	3.08	2216	3.50	2317	3.95	2508	4.87	2688	5.83		
3140	1255	0.69	1418	1.01	1562	1.36	1697	1.72	1827	2.12	1949	2.53	2062	2.96	2166	3.39	2264	3.83	2360	4.29	2543	5.24	2718	6.25	2884	7.30
3454	1349	0.85	1500	1.20	1638	1.57	1764	1.95	1886	2.36	2004	2.80	2116	3.25	2221	3.72	2319	4.19	2411	4.66	2587	5.65	2755	6.69	2916	7.79
3768	1446	1.04	1585	1.40	1717	1.80	1837	2.21	1951	2.63	2063	3.09	2171	3.56	2276	4.06	2374	4.56	2467	5.07	2639	6.11	2800	7.18	2955	8.31
4082	1544	1.25	1672	1.63	1799	2.07	1915	2.50	2023	2.95	2128	3.41	2230	3.90	2331	4.42	2428	4.95	2522	5.49	2694	6.59	2852	7.71	3002	8.88
4396	1644	1.51	1762	1.90	1882	2.35	1994	2.82	2099	3.30	2198	3.78	2295	4.28	2390	4.81	2485	5.36	2576	5.93	2749	7.09	2908	8.28	3055	9.49
4710	1746	1.80	1855	2.21	1967	2.67	2076	3.18	2178	3.68	2273	4.18	2366	4.71	2456	5.25	2545	5.81	2633	6.40	2804	7.62	2963	8.87		
5024	1848	2.12	1951	2.55	2055	3.03	2159	3.56	2258	4.09	2351	4.63	2440	5.18	2526	5.73	2611	6.31	2695	6.91	2859	8.16	3017	9.47		
5338	1951	2.49	2048	2.94	2145	3.43	2244	3.98	2340	4.54	2431	5.11	2517	5.68	2601	6.27	2682	6.86	2762	7.47	2919	8.75				
5652	2055	2.90	2146	3.37	2237	3.88	2331	4.44	2423	5.03	2512	5.63	2597	6.24	2678	6.84	2756	7.46	2833	8.09	2983	9.39				
5966	2159	3.36	2245	3.85	2332	4.37	2420	4.94	2508	5.55	2595	6.19	2677	6.82	2756	7.46	2833	8.10	2907	8.75	3052	10.09				
6280	2264	3.87	2346	4.38	2428	4.92	2511	5.50	2595	6.13	2678	6.78	2759	7.45	2837	8.12	2912	8.80	2984	9.47						
6594	2369	4.42	2447	4.95	2525	5.51	2604	6.11	2683	6.74	2763	7.42	2842	8.12	2918	8.82	2992	9.53								

182 BCPL

Impeller Dia.: 18.25"

CFM	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		4.5" SP		5" SP		6" SP		7" SP		8" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1536	706	0.19																								
1920	743	0.23	979	0.48	1174	0.75																				
2304	800	0.30	1008	0.56	1195	0.86	1359	1.18																		
2688	870	0.38	1047	0.65	1224	0.98	1382	1.33	1525	1.71	1659	2.10														
3072	948	0.49	1101	0.78	1257	1.11	1411	1.50	1550	1.90	1678	2.32	1799	2.75												
3456	1030	0.62	1166	0.93	1304	1.27	1443	1.67	1579	2.10	1705	2.56	1821	3.02	1932	3.50	2038	3.99	2141	4.50						
3840	1116	0.77	1238	1.11	1361	1.47	1486	1.87	1611	2.32	1734	2.80	1849	3.30	1957	3.81	2060	4.33	2159	4.87	2347	5.97				
4224	1204	0.96	1315	1.31	1426	1.70	1539	2.11	1653	2.57	1766	3.06	1879	3.59	1986	4.13	2087	4.69	2183	5.25	2366	6.42	2538	7.63		
4608	1294	1.17	1396	1.55	1497	1.96	1600	2.40	1704	2.86	1808	3.36	1912	3.89	2016	4.47	2117	5.06	2212	5.66	2390	6.87	2558	8.14	2718	9.46
4992	1386	1.42	1480	1.83	1574	2.26	1667	2.71	1763	3.20	1859	3.71	1955	4.25	2051	4.83	2147	5.43	2241	6.06	2418	7.36	2583	8.69		
5376	1478	1.71	1566	2.14	1653	2.59	1740	3.07	1827	3.57	1916	4.10	2006	4.66	2095	5.24	2183	5.84	2273	6.49	2448	7.85	2611	9.25		
5760	1571	2.04	1654	2.50	1735	2.97	1816	3.47	1897	3.99	1979	4.54	2063	5.11	2146	5.70	2229	6.32	2312	6.97	2479	8.36	2641	9.83		
6144	1665	2.41	1743	2.89	1820	3.40	1896	3.92	1971	4.46	2047	5.02	2125	5.62	2203	6.22	2281	6.85	2359	7.51	2514	8.90	2671	10.41		
6528	1760	2.82	1833	3.33	1905	3.86	1977	4.41	2048	4.97	2120	5.56	2192	6.17	2265	6.80	2338	7.44	2412	8.11	2558	9.51	2705	11.03		
6912	1855	3.29	1924	3.82	1993	4.38	2061	4.95	2128	5.54	2196	6.15	2263	6.77	2331	7.42	2400	8.09	2470	8.78	2609	10.21				
7296	1951	3.80	2016	4.36	2081	4.94	2146	5.54	2210	6.16	2274	6.79	2338	7.44	2402	8.10	2466	8.78	2532	9.50	2663	10.95				
7680	2047	4.38	2109	4.96	2171	5.57	2232	6.19	2294	6.83	2354	7.48	2415	8.15	2475	8.83	2536	9.54	2598	10.27	2722	11.76				
8064	2143	5.00	2202	5.61	2261	6.25	2320	6.90	2378	7.56	2436	8.23	2494	8.93	2552	9.64	2610	10.37	2668	11.11						

200 BCPL

Impeller Dia.: 20.00"

CFM	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		4.5" SP		5" SP		6" SP		7" SP		8" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1840	644	0.22																								
2300	677	0.28	893	0.57	1071	0.90																				
2760	729	0.36	919	0.67	1090	1.03	1240	1.42																		
3220	793	0.46	955	0.78	1117	1.18	1261	1.60	1391	2.04	1513	2.51														
3680	863	0.58	1004	0.93	1146	1.33	1287	1.79	1414	2.28	1531	2.78	1641	3.30												
4140	938	0.74	1062	1.11	1189	1.53	1316	2.00	1440	2.52	1555	3.06	1662	3.62	1763	4.19	1860	4.79	1953	5.39						
4600	1017	0.93	1128	1.32	1241	1.76	1355	2.24	1469	2.78	1582	3.36	1687	3.96	1785	4.56	1879	5.19	1970	5.84	2142	7.17				
5060	1097	1.14	1198	1.57	1299	2.03	1403	2.53	1507	3.08	1611	3.67	1714	4.30	1812	4.96	1904	5.62	1992	6.30	2159	7.70	2316	9.15		
5520	1178	1.40	1272	1.86	1364	2.34	1458	2.87	1554	3.43	1648	4.02	1744	4.67	1839	5.35	1931	6.06	2017	6.77	2181	8.25	2334	9.77	2480	11.35
5980	1262	1.70	1348	2.18	1434	2.70	1519	3.24	1607	3.83	1695	4.44	1782	5.08	1870	5.78	1958	6.51	2044	7.26	2206	8.82	2356	10.41		
6440	1346	2.04	1426	2.56	1506	3.10	1585	3.67	1665	4.27	1747	4.91	1829	5.57	1910	6.27	1991	7.00	2073	7.78	2233	9.41	2382	11.09		
6900	1431	2.43	1506	2.98	1581	3.55	1655	4.15	1729	4.78	1804	5.43	1880	6.11	1956	6.82	2032	7.56	2108	8.35	2261	10.02	2409	11.78		
7360	1516	2.87	1587	3.45	1657	4.05	1727	4.68	1796	5.33	1866	6.01	1936	6.71	2008	7.45	2080	8.21	2151	8.99	2293	10.67	2436	12.48		
7820	1602	3.37	1669	3.98	1735	4.61	1801	5.27	1866	5.94	1931	6.64	1997	7.37	2064	8.13	2131	8.90	2199	9.71	2333	11.40	2467	13.22		
8280	1689	3.92	1752	4.56	1815	5.23	1877	5.91	1939	6.62	2000	7.34	2062	8.10	2124	8.87	2187	9.67	2251	10.50	2378	12.21				
8740	1776	4.54	1836	5.21	1895	5.90	1954	6.62	2013	7.36	2071	8.11	2130	8.89	2188	9.68	2248	10.52	2307	11.35	2428	13.11				
9200	1863	5.21	1920	5.92	1977	6.65	2033	7.39	2089	8.16	2144	8.94	2200	9.75	2255	10.56	2311	11.41	2367	12.28	2481	14.08				
9660	1951	5.97	2005	6.70	2059	7.46	2113	8.24	2166	9.03	2219	9.84	2272	10.67	2325	11.53	2378	12.40	2431	13.29						

Underlined figures indicate maximum static efficiency.
Power rating (BHP) does not include transmission losses.

Regular type face = Class I
Bold type face = Class II

222 BCPL

Impeller Dia.: 22.25"

CFM	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		4.5" SP		5" SP		6" SP		7" SP		8" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2280	579	0.28																								
2850	609	0.35	803	0.71	963	1.11																				
3420	656	0.44	827	0.83	980	1.28	1115	1.76																		
3990	713	0.57	859	0.97	1004	1.46	1133	1.98	1251	2.54	1360	3.11														
4560	777	0.73	903	1.15	1031	1.65	1157	2.22	1271	2.82	1376	3.44	1475	4.09												
5130	844	0.92	955	1.37	1069	1.89	1183	2.48	1295	3.12	1398	3.80	1494	4.49	1585	5.20	1672	5.93	1756	6.68						
5700	915	1.15	1014	1.64	1116	2.18	1218	2.78	1321	3.44	1422	4.16	1516	4.89	1605	5.65	1690	6.43	1771	7.23	1925	8.87				
6270	987	1.42	1078	1.95	1169	2.52	1262	3.14	1355	3.81	1448	4.54	1541	5.33	1629	6.14	1711	6.95	1791	7.80	1941	9.53	2082	11.33		
6840	1060	1.74	1144	2.30	1227	2.90	1312	3.56	1397	4.24	1482	4.98	1568	5.78	1653	6.63	1736	7.51	1814	8.40	1960	10.21	2098	12.10	2229	14.05
7410	1135	2.11	1213	2.71	1290	3.35	1367	4.03	1445	4.74	1524	5.50	1603	6.31	1681	7.15	1761	8.07	1838	9.01	1983	10.92	2118	12.90		
7980	1211	2.53	1283	3.17	1355	3.85	1426	4.56	1498	5.30	1571	6.09	1644	6.90	1717	7.76	1790	8.67	1864	9.64	2008	11.67	2141	13.73		
8550	1287	3.02	1355	3.70	1422	4.41	1488	5.14	1555	5.92	1622	6.73	1691	7.58	1759	8.46	1828	9.39	1895	10.34	2033	12.42	2166	14.60		
9120	1364	3.56	1428	4.28	1491	5.03	1553	5.80	1615	6.61	1678	7.45	1742	8.33	1806	9.24	1870	10.17	1934	11.14	2062	13.22	2190	15.45		
9690	1442	4.18	1502	4.94	1561	5.72	1620	6.53	1679	7.38	1737	8.24	1796	9.14	1856	10.07	1917	11.05	1977	12.03	2097	14.12	2218	16.38		
10260	1520	4.87	1576	5.66	1633	6.49	1689	7.34	1744	8.21	1799	9.11	1855	10.05	1911	11.01	1967	11.99	2024	13.01	2139	15.15				
10830	1598	5.63	1652	6.47	1705	7.33	1758	8.21	1811	9.13	1863	10.05	1916	11.03	1968	12.01	2021	13.02	2075	14.08	2183	16.25				
11400	1677	6.48	1728	7.35	1778	8.24	1829	9.17	1879	10.12	1929	11.09	1979	12.09	2029	13.11	2079	14.16	2129	15.23	2232	17.47				
11970	1756	7.41	1804	8.32	1853	9.26	1901	10.22	1949	11.21	1997	12.22	2044	13.24	2091	14.29	2139	15.37	2186	16.46						

245 BCPL

Impeller Dia.: 24.5"

CFM	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		4.5" SP		5" SP		6" SP		7" SP		8" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2760	525	0.34																								
3450	553	0.42	729	0.86	874	1.34																				
4140	595	0.54	750	1.00	890	1.55	1012	2.13																		
4830	647	0.69	779	1.17	911	1.76	1029	2.40	1136	3.07	1235	3.77														
5520	705	0.88	819	1.39	936	2.00	1051	2.70	1154	3.42	1250	4.17	1340	4.96												
6210	766	1.11	867	1.66	971	2.29	1074	3.00	1176	3.79	1269	4.59	1356	5.42	1439	6.29	1518	7.18	1594	8.08						
6900	830	1.39	920	1.98	1013	2.64	1106	3.36	1199	4.17	1291	5.04	1377	5.93	1457	6.84	1534	7.78	1608	8.75	1748	10.74				
7590	895	1.71	978	2.35	1061	3.05	1145	3.80	1230	4.61	1315	5.50	1399	6.45	1479	7.43	1554	8.43	1626	9.44	1762	11.54	1890	13.71		
8280	962	2.10	1038	2.78	1113	3.51	1190	4.30	1268	5.14	1345	6.02	1423	6.99	1501	8.03	1576	9.09	1647	10.17	1780	12.37	1905	14.65	2024	17.01
8970	1029	2.54	1100	3.27	1170	4.05	1240	4.87	1311	5.73	1383	6.65	1455	7.63	1526	8.66	1598	9.76	1669	10.91	1801	13.24	1923	15.61		
9660	1098	3.06	1164	3.83	1229	4.65	1294	5.51	1359	6.41	1426	7.37	1492	8.35	1559	9.40	1625	10.50	1692	11.67	1823	14.12	1944	16.63		
10350	1167	3.64	1229	4.47	1290	5.33	1350	6.22	1411	7.16	1472	8.14	1534	9.16	1597	10.24	1659	11.35	1721	12.53	1845	15.02	1966	17.66		
11040	1237	4.30	1295	5.17	1352	6.07	1409	7.02	1466	8.00	1523	9.02	1580	10.06	1639	11.17	1697	12.30	1756	13.50	1872	16.01	1988	18.70		
11730	1308	5.05	1362	5.96	1416	6.91	1470	7.90	1523	8.91	1576	9.96	1630	11.06	1685	12.20	1740	13.37	1795	14.57	1904	17.10	2014	19.84		
12420	1378	5.88	1430	6.85	1481	7.84	1532	8.87	1582	9.92	1632	11.01	1683	12.15	1734	13.32	1785	14.50	1837	15.74	1941	18.32				
13110	1449	6.80	1498	7.81	1547	8.86	1595	9.93	1643	11.03	1690	12.15	1738	13.32	1786	14.53	1834	15.76	1883	17.03	1982	19.68				
13800	1520	7.81	1567	8.88	1613	9.96	1659	11.09	1705	12.24	1750	13.41	1795	14.60	1841	15.86	1886	17.11	1932	18.42	2025	21.12				
14490	1592	8.94	1636	10.04	1680	11.18	1724	12.35	1768	13.55	1811	14.76	1854	16.00	1897	17.27	1940	18.57	1984	19.92						

270 BCPL

Impeller Dia.: 27.00"

CFM	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		4.5" SP		5" SP		6" SP		7" SP		8" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3352	462	0.39																								
4190	493	0.50	636	0.98	755	1.54																				
5028	535	0.64	662	1.17	776	1.78	874	2.42																		
5866	584	0.83	695	1.39	802	2.05	898	2.76	983	3.50	1068	4.34														
6704	637	1.06	736	1.67	831	2.35	924	3.12	1008	3.93	1084	4.76	1158	5.66												
7542	692	1.34	781	1.99	868	2.72	952	3.52	1034	4.38	1111	5.30	1181	6.23	1247	7.19	1312	8.20	1378	9.31						
8380	750	1.68	831	2.38	910	3.15	987	3.98	1062	4.88	1137	5.85	1207	6.85	1272	7.87	1333	8.90	1392	9.98	1510	12.32				
9218	809	2.07	883	2.83	956	3.65	1027	4.52	1097	5.46	1165	6.44	1233	7.50	1299	8.61	1360	9.72	1418	10.85	1526	13.16	1633	15.70		
10056	870	2.55	938	3.36	1005	4.22	1071	5.14	1136	6.11	1199	7.12	1262	8.20	1325	9.35	1386	10.54	1444	11.74	1552	14.21	1651	16.72	1749	19.43
10894	931	3.09	994	3.95	1057	4.88	1118	5.84	1178	6.84	1238	7.91	1297	9.02	1355	10.18	1413	11.40	1470	12.67	1578	15.28	1677	17.94	1769	20.65
11732	993	3.71	1052	4.63	1110	5.60	1168	6.62	1224	7.67	1280	8.77	1336	9.93	1390	11.11	1444	12.36	1498	13.65	1604	16.38	1704	19.22	1795	22.05
12570	1056	4.42	1111	5.40	1166	6.43	1220	7.50	1273	8.60	1325	9.74	1378	10.94	1429	12.16	1480	13.43	1531	14.76	1631	17.53	1729	20.47		
13408	1119	5.22	1171	6.26	1222	7.34	1273	8.46	1323	9.61	1373	10.81	1422	12.04	1471	13.31	1520	14.64	1568	15.99	1662	18.80	1756	21.81		
14246	1182	6.12	1232	7.23	1280	8.36	1328	9.53	1376	10.74	1423	11.99	1469	13.25	1516	14.59	1562	15.94	1607	17.31	1697	20.20	1786	23.26		
15084	1246	7.12	1293	8.29	1339	9.49	1384	10.70	1430	11.98	1474	13.25	1518	14.57	1562	15.94	1606	17.34	1650	18.79	1736	21.76				
15922	1310	8.24	1355	9.47	1398	10.71	1442	12.01	1485	13.32	1527	14.65	1569	16.02	1611	17.43	1653	18.89	1694	20.35	1776	23.39				
16760	1375	9.49	1417	10.76	1459	12.08	1500	13.41	1541	14.79	1581	16.16	1622	17.61	1661	19.03	1701	20.53	1741	22.07						
17598	1439	10.83	1479	12.16	1519	13.54	1559	14.95	1598	16.37	1637	17.83	1675	19.29	1713	20.78	1751	22.32	1789	23.89						

Underlined figures indicate maximum static efficiency.
Power rating (BHP) does not include transmission losses.

Regular type face = Class I
Bold type face = Class II

300 BCPL

Impeller Dia.: 30.00"

CFM	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		4.5" SP		5" SP		6" SP		7" SP		8" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
4136	416	0.48																								
5170	444	0.61	572	1.21	680	1.90																				
6204	482	0.79	596	1.44	698	2.19	787	3.00																		
7238	525	1.02	626	1.72	722	2.53	808	3.41	885	4.33	961	5.35														
8272	573	1.31	662	2.05	748	2.90	831	3.85	907	4.85	976	5.88	1042	6.98												
9306	623	1.65	703	2.46	781	3.36	857	4.34	931	5.42	1000	6.54	1062	7.67	1122	8.86	1180	10.10	1240	11.48						
10340	675	2.07	747	2.93	819	3.89	888	4.91	956	6.02	1023	7.22	1086	8.45	1145	9.72	1200	11.00	1253	12.32	1359	15.21				
11374	728	2.56	795	3.50	860	4.50	924	5.58	987	6.73	1049	7.96	1110	9.26	1169	10.62	1224	11.99	1276	13.39	1373	16.23	1470	19.39		
12408	782	3.13	844	4.14	904	5.20	963	6.33	1022	7.54	1079	8.79	1136	10.13	1192	11.53	1247	13.00	1300	14.51	1396	17.51	1486	20.64	1574	23.98
13442	837	3.80	895	4.89	951	6.02	1006	7.20	1060	8.44	1114	9.75	1167	11.13	1219	12.55	1272	14.08	1323	15.64	1420	18.85	1509	22.14	1592	25.49
14476	893	4.57	947	5.73	999	6.91	1050	8.15	1101	9.46	1152	10.83	1202	12.25	1251	13.72	1300	15.27	1348	16.85	1443	20.19	1533	23.70	1616	27.24
15510	950	5.45	1000	6.67	1049	7.93	1097	9.23	1145	10.6	1192	12.01	1239	13.47	1286	15.01	1332	16.58	1377	18.19	1468	21.65	1556	25.26		
16544	1006	6.43	1053	7.71	1100	9.07	1145	10.42	1190	11.84	1235	13.32	1280	14.87	1324	16.44	1367	18.03	1411	19.73	1496	23.22	1580	26.91		
17578	1063	7.53	1108	8.91	1152	10.32	1195	11.76	1238	13.25	1280	14.77	1322	16.36	1364	17.99	1405	19.64	1446	21.35	1527	24.92	1607	28.70		
18612	1121	8.79	1163	10.22	1204	11.68	1246	13.23	1286	14.76	1326	16.34	1366	17.98	1406	19.68	1445	21.39	1484	23.15	1562	26.84				
19646	1179	10.17	1218	11.65	1258	13.22	1297	14.80	1336	16.43	1374	18.08	1412	19.77	1449	21.48	1487	23.29	1524	25.10	1598	28.86				
20680	1237	11.70	1274	13.25	1312	14.88	1349	16.53	1386	18.22	1423	19.96	1459	21.71	1495	23.50	1531	25.35	1566	27.20						
21714	1295	13.37	1331	15.01	1367	16.71	1402	18.41	1438	20.21	1472	21.95	1507	23.79	1542	25.67	1576	27.56	1610	29.49						

330 BCPL

Impeller Dia.: 33.00"

CFM	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		4.5" SP		5" SP		6" SP		7" SP		8" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
5008	378	0.58																								
6260	404	0.74	521	1.47	618	2.30																				
7512	438	0.96	542	1.75	635	2.65	715	3.62																		
8764	478	1.24	569	2.08	656	3.06	735	4.13	804	5.23	873	6.47														
10016	521	1.58	602	2.49	680	3.51	756	4.66	825	5.88	887	7.11	947	8.44												
11268	566	2.00	639	2.98	710	4.06	779	5.25	846	6.55	909	7.92	966	9.30	1020	10.73	1073	12.24	1127	13.89						
12520	614	2.51	680	3.56	744	4.70	807	5.94	869	7.29	930	8.73	988	10.25	1041	11.76	1091	13.32	1139	14.91	1236	18.43				
13772	662	3.10	723	4.24	782	5.45	840	6.75	897	8.14	953	9.62	1009	11.21	1062	12.83	1113	14.53	1160	16.20	1249	19.68	1336	23.44		
15024	712	3.81	768	5.03	822	6.30	876	7.68	929	9.12	981	10.64	1033	12.27	1084	13.97	1134	15.74	1182	17.57	1269	21.19	1351	24.99	1431	29.03
16276	762	4.62	814	5.92	865	7.29	915	8.73	964	10.23	1013	11.81	1061	13.47	1109	15.22	1156	17.03	1203	18.94	1291	22.81	1372	26.80	1448	30.89
17528	812	5.53	861	6.93	909	8.39	955	9.87	1002	11.48	1048	13.13	1093	14.83	1138	16.63	1182	18.48	1226	20.41	1312	24.45	1394	28.70	1469	32.97
18780	864	6.61	909	8.07	954	9.61	998	11.20	1041	12.83	1084	14.54	1127	16.33	1169	18.15	1211	20.06	1252	22.02	1335	26.22	1415	30.60		
20032	915	7.79	958	9.36	1000	10.97	1042	12.65	1083	14.37	1123	16.13	1164	18.01	1204	19.91	1243	21.83	1283	23.89	1360	28.10	1437	32.61		
21284	967	9.13	1008	10.80	1048	12.51	1087	14.25	1126	16.06	1164	17.89	1202	19.80	1240	21.77	1278	23.81	1315	25.87	1389	30.21	1461	34.73		
22536	1020	10.66	1058	12.39	1096	14.19	1133	16.01	1170	17.90	1206	19.80	1242	21.77	1278	23.81	1314	25.91	1350	28.07	1420	32.48				
23788	1072	12.31	1108	14.13	1144	16.00	1180	17.95	1215	19.90	1250	21.92	1284	23.95	1318	26.03	1352	28.19	1386	30.40	1453	34.94				
25040	1125	14.17	1159	16.06	1193	18.01	1227	20.03	1261	22.10	1294	24.17	1327	26.30	1360	28.49	1392	30.69	1424	32.94						
26292	1178	16.21	1211	18.21	1243	20.23	1275	22.30	1308	24.49	1339	26.61	1371	28.85	1402	31.07	1433	33.36	1464	35.71						

365 BCPL

Impeller Dia.: 36.5"

CFM	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		4.5" SP		5" SP		6" SP		7" SP		8" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
6128	328	0.69	447	1.47																						
7660	349	0.86	455	1.75	547	2.72																				
9192	379	1.10	469	2.04	556	3.16	633	4.33																		
10724	416	1.43	492	2.41	569	3.59	643	4.92	709	6.23	774	7.66														
12256	455	1.83	521	2.88	588	4.09	656	5.49	721	7.00	780	8.49	837	10.05	894	11.73										
13788	496	2.32	554	3.43	614	4.70	673	6.10	734	7.71	793	9.41	847	11.09	899	12.82	949	14.58	999	16.43						
15320	539	2.92	591	4.09	644	5.43	698	6.90	752	8.50	806	10.25	860	12.13	910	13.99	958	15.89	1004	17.79	1095	21.85				
16852	583	3.63	631	4.90	678	6.28	727	7.82	775	9.43	824	11.19	874	13.13	923	15.15	971	17.26	1016	19.34	1100	23.46	1183	27.88		
18384	628	4.48	672	5.82	715	7.27	759	8.86	803	10.53	848	12.34	893	14.27	938	16.32	984	18.53	1028	20.75	1112	25.31	1190	29.86	1265	34.52
19916	674	5.47	714	6.88	754	8.41	794	10.06	835	11.83	876	13.67	917	15.61	958	17.66	1000	19.87	1042	22.18	1125	27.08	1202	32.00	1274	36.89
21448	720	6.61	757	8.09	794	9.69	831	11.40	869	13.25	906	15.12	945	17.16	983	19.24	1022	21.48	1060	23.77	1138	28.75	1214	33.99		
22980	766	7.89	800	9.44	835	11.13	870	12.92	905	14.82	940	16.80	975	18.85	1011	21.02	1047	23.27	1083	25.62	1154	30.53	1227	35.95		
24512	813	9.37	845	11.01	877	12.74	910	14.62	942	16.54	975	18.61	1008	20.74	1041	22.94	1075	25.27	1108	27.61	1176	32.68	1243	38.04		
26044	860	11.02	890	12.74	920	14.55	951	16.49	982	18.54	1012	20.62	1043	22.83	1074	25.11	1105	27.44	1137	29.91	1200	34.98	1263	40.38		
27576	907	12.86	935	14.65	964	16.57	993	18.58	1022	20.68	1051	22.87	1080	25.14	1109	27.48	1138	29.87	1168	32.40	1227	37.55				
29108	954	14.90	981	16.80	1008	18.78	1036	20.90	1063	23.04	1090	25.26	1118	27.64	1145	30.01	1173	32.53	1201	35.11	1257	40.41				
30640	1001	17.14	1027	19.15	1053	21.23	1079	23.39	1105	25.63	1131	27.95	1157	30.35	1183	32.83	1209	35.37	1235	37.97						
32172	1049	19.66	1073	21.71	1098	23.90	1123	26.16	1147	28.41	1172	30.82	1197	33.31	1222	35.88	1247	38.52	1272	41.22						

Underlined figures indicate maximum static efficiency.
Power rating (BHP) does not include transmission losses.

Regular type face = Class I
Bold type face = Class II

402 BCPL

Impeller Dia.: 40.25"

CFM	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		4.5" SP		5" SP		6" SP		7" SP		8" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
7448	297	0.83																								
9310	316	1.04	413	2.13	496	3.31																				
11172	344	1.35	425	2.47	504	3.84	574	5.26																		
13034	377	1.74	446	2.93	516	4.37	583	5.97	643	7.58	702	9.32														
14896	412	2.21	472	3.49	533	4.96	595	6.68	654	8.51	708	10.35	759	12.21												
16758	450	2.82	503	4.18	556	5.70	611	7.44	666	9.39	719	11.43	768	13.48	815	15.57	861	17.74	906	19.98						
18620	489	3.55	536	4.98	584	6.60	633	8.39	681	10.29	731	12.46	780	14.76	826	17.06	869	19.33	911	21.67	993	26.56				
20482	529	4.42	572	5.95	615	7.64	659	9.50	703	11.47	747	13.60	792	15.93	837	18.42	880	20.94	921	23.48	998	28.56	1073	33.91		
22344	570	5.46	609	7.07	648	8.83	688	10.76	728	12.80	769	15.01	810	17.36	851	19.87	892	22.50	932	25.21	1008	30.73	1079	36.28	1147	41.95
24206	611	6.65	647	8.35	683	10.20	720	12.23	757	14.37	794	16.60	832	19.01	869	21.49	907	24.17	945	26.98	1020	32.91	1089	38.80	1155	44.82
26068	652	8.00	686	9.82	720	11.78	753	13.83	787	16.04	822	18.41	856	20.80	891	23.37	926	26.05	961	28.88	1032	34.96	1101	41.34		
27930	694	9.57	726	11.51	757	13.52	788	15.66	820	17.98	852	20.40	884	22.91	917	25.58	949	28.26	982	31.14	1047	37.17	1113	43.75		
29792	737	11.38	766	13.37	795	15.48	825	17.76	854	20.10	884	22.62	914	25.22	944	27.90	974	30.65	1005	33.59	1066	39.69	1127	46.23		
31654	779	13.36	807	15.49	834	17.68	862	20.03	890	22.51	918	25.10	946	27.78	974	30.54	1002	33.36	1031	36.36	1088	42.51	1146	49.19		
33516	822	15.61	848	17.83	874	20.14	900	22.56	926	25.09	952	27.72	979	30.54	1005	33.35	1032	36.33	1059	39.38	1113	45.70				
35378	865	18.11	889	20.39	914	22.83	939	25.37	963	27.93	988	30.68	1013	33.53	1038	36.47	1063	39.48	1089	42.68	1139	49.03				
37240	908	20.87	931	23.26	954	25.75	978	28.41	1001	31.07	1025	33.93	1049	36.89	1072	39.84	1096	42.98	1120	46.19						
39102	951	23.89	973	26.40	995	29.00	1018	31.77	1040	34.54	1062	37.40	1085	40.46	1107	43.50	1130	46.74	1153	50.06						

445 BCPL

Impeller Dia.: 44.5"

CFM	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		4.5" SP		5" SP		6" SP		7" SP		8" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
9112	269	1.02	367	2.19																						
11390	286	1.28	373	2.60	449	4.06																				
13668	311	1.64	385	3.04	456	4.70	519	6.42																		
15946	341	2.12	403	3.57	467	5.35	527	7.29	582	9.29	635	11.40														
18224	373	2.71	427	4.26	482	6.06	538	8.16	591	10.38	640	12.63	687	14.97	733	17.42										
20502	407	3.45	455	5.11	503	6.97	552	9.07	602	11.45	650	13.96	695	16.51	737	19.03	778	21.64	820	24.49						
22780	443	4.36	485	6.09	528	8.06	572	10.22	616	12.59	661	15.22	705	18.00	747	20.85	786	23.64	824	26.50	898	32.47				
25058	479	5.43	517	7.26	556	9.33	596	11.60	636	14.03	676	16.65	717	19.53	757	22.52	796	25.61	833	28.71	903	34.96	970	41.41		
27336	516	6.69	551	8.64	587	10.84	623	13.20	659	15.68	696	18.38	732	21.17	770	24.32	807	27.54	843	30.83	912	37.61	976	44.38	1038	51.39
29614	553	8.14	585	10.19	618	12.48	651	14.93	685	17.59	718	20.28	752	23.19	786	26.27	820	29.51	855	33.02	922	40.16	986	47.59	1045	54.86
31892	591	9.84	621	12.03	651	14.38	682	16.97	713	19.71	744	22.55	775	25.50	807	28.68	838	31.90	869	35.28	933	42.69	996	50.57		
34170	629	11.77	657	14.08	685	16.54	714	19.24	742	22.00	771	24.97	800	28.05	829	31.22	859	34.62	888	38.04	947	45.45	1007	53.54		
36448	667	13.93	693	16.35	720	18.99	746	21.69	773	24.62	800	27.69	827	30.86	854	34.12	882	37.60	909	41.06	964	48.49	1020	56.63		
38726	705	16.35	730	18.94	755	21.66	780	24.51	805	27.51	830	30.63	856	33.99	881	37.33	907	40.87	933	44.51	985	52.11	1036	60.04		
41004	744	19.12	767	21.79	791	24.66	815	27.67	838	30.71	862	33.98	886	37.38	910	40.89	934	44.48	958	48.15	1007	55.91				
43282	783	22.19	805	25.00	827	27.93	850	31.08	872	34.25	895	37.67	917	41.08	940	44.73	962	48.33	985	52.17	1031	60.07				
45560	822	25.57	843	28.53	864	31.59	885	34.77	906	38.05	928	41.59	949	45.12	971	48.90	992	52.63	1014	56.61						
47838	861	29.28	881	32.37	901	35.56	921	38.86	941	42.26	962	45.91	982	49.54	1002	53.28	1023	57.28	1043	61.21						

490 BCPL

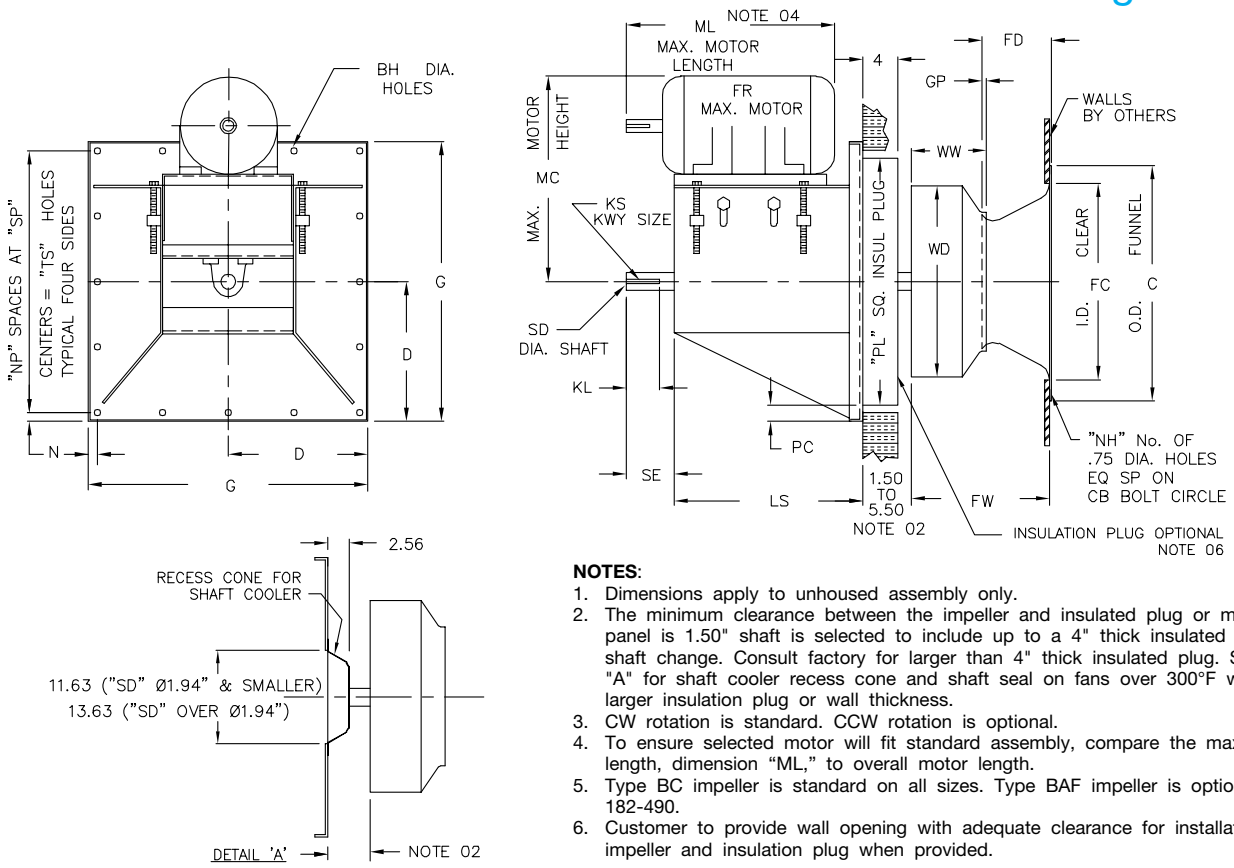
Impeller Dia.: 49.00"

CFM	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		4.5" SP		5" SP		6" SP		7" SP		8" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
11000	244	1.23																								
13760	260	1.55	339	3.15	408	4.92																				
16520	282	1.98	349	3.66	414	5.69	471	7.76																		
19280	309	2.56	366	4.33	424	6.48	479	8.85	528	11.21	577	13.82														
22040	338	3.27	387	5.14	438	7.36	488	9.85	537	12.59	581	15.28	624	18.13												
24800	369	4.16	413	6.19	457	8.46	501	10.97	547	13.90	590	16.88	631	19.97	669	23.01	707	26.25	744	29.56						
27560	401	5.24	440	7.37	479	9.74	519	12.36	560	15.30	600	18.42	640	21.79	678	25.22	714	28.66	748	32.05	815	39.24				
30320	434	6.53	469	8.77	505	11.32	541	14.05	577	16.96	614	20.19	651	23.65	687	27.23	723	31.04	756	34.71	820	42.33	881	50.16		
33080	467	8.03	500	10.46	532	13.07	565	15.94	598	18.97	631	22.17	665	25.69	699	29.43	733	33.38	766	37.41	828	45.52	886	53.69	943	62.29
35840	501	9.80	531	12.34	561	15.11	591	18.09	621	21.21	652	24.58	683	28.12	714	31.86	745	35.81	776	39.93	837	48.61	895	57.57	949	66.44
38600	535	11.82	563	14.52	591	17.43	618	20.45	646	23.73	675	27.26	703	30.81	732	34.64	761	38.66	789	42.72	847	51.67	904	61.17		
41360	570	14.18	596	17.02	621	19.96	647	23.18	673	26.59	700	30.26	726	33.93	753	37.87	779	41.79	806	46.04	860	55.08	914	64.77		
44120	605	16.83	629	19.80	653	22.93	677	26.25	701	29.73	726	33.50	750	37.26	775	41.28	800	45.42	825	49.68	875	58.69	926	68.56		
46880	640	19.81	662	22.87	685	26.19	708	29.68	731	33.35	753	37.04	776	41.00	800	45.25	823	49.43	846	53.72	894	63.06	941	72.81		
49640	675	23.12	696	26.36	717	29.74	739	33.40	760	37.09	782	41.08	804	45.23	825	49.33	847	53.71	869	58.18	914	67.67				
52400	710	26.78	730	30.19	750	33.73	771	37.56	791	41.39	812	45.55	832	49.68	853	54.12	873	58.48	894	63.15	936	72.76				
55160	745	30.82	764	34.38	784	38.22	803	42.05	822	46.02	842	50.30	861	54.55	881	59.14	900	63.64	920	68.46						
57920	781	35.38	799	39.10	817	42.93	836	47.06	854	51.15	872	55.36	891	59.92	909	64.41	928	69.23	947	74.18						

Underlined figures indicate maximum static efficiency.
Power rating (BHP) does not include transmission losses.

Regular type face = Class I
Bold type face = Class II

Arrangement 9



NOTES:

1. Dimensions apply to unhoused assembly only.
2. The minimum clearance between the impeller and insulated plug or mounting panel is 1.50" shaft is selected to include up to a 4" thick insulated plug without shaft change. Consult factory for larger than 4" thick insulated plug. See Detail "A" for shaft cooler recess cone and shaft seal on fans over 300°F with 4" or larger insulation plug or wall thickness.
3. CW rotation is standard. CCW rotation is optional.
4. To ensure selected motor will fit standard assembly, compare the maximum motor length, dimension "ML," to overall motor length.
5. Type BC impeller is standard on all sizes. Type BAF impeller is optional on sizes 182-490.
6. Customer to provide wall opening with adequate clearance for installation of impeller and insulation plug when provided.

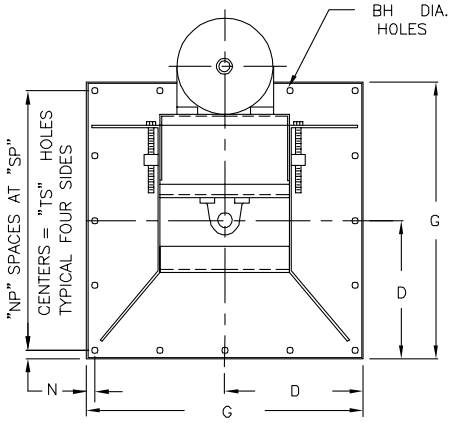
FAN SIZE	BH	C	CB	D	FC	FD	FR	FW	G	GP	KL	KS	
												CL I	CL II
122	0.56	15.75	14.75	11.38	13.25	4.33	213T	8.71	22.75	0.31	4.00	.38x.19	.38x.19
135	0.56	16.75	15.75	11.38	14.56	4.76	213T	9.67	22.75	0.34	4.00	.38x.19	.38x.19
150	0.56	18.25	17.25	11.38	16.19	5.29	215T	10.73	22.75	0.38	4.00	.38x.19	.38x.19
165	0.56	20.00	19.00	14.81	17.75	5.85	215T	11.73	29.63	0.38	4.00	.38x.19	.38x.19
182	0.56	22.00	21.00	14.81	19.50	6.44	254T	12.94	29.63	0.47	4.50	.38x.19	.50x.25
200	0.56	24.38	23.38	14.81	21.38	7.05	254T	14.12	29.63	0.52	4.50	.38x.19	.50x.25
222	0.56	26.63	25.50	16.00	23.75	7.83	256T	15.77	32.00	0.55	4.50	.38x.19	.50x.25
245	0.56	28.63	27.75	16.00	27.00	8.62	256T	17.36	32.00	0.59	4.50	.38x.19	.50x.25
270	0.69	31.00	29.75	18.31	29.00	9.45	284T	19.00	36.63	0.67	5.00	.50x.25	.50x.25
300	0.69	34.88	33.63	18.31	31.62	10.50	284T	21.13	36.63	0.75	5.00	.50x.25	.50x.25
330	0.69	38.50	37.25	21.81	34.75	11.57	286T	23.29	43.63	0.82	5.00	.50x.25	.50x.25
365	0.69	42.00	40.75	21.81	39.50	12.84	286T	26.06	43.63	0.72	5.50	.50x.25	.63x.31
402	0.69	45.38	44.13	27.50	42.50	14.28	326T	28.85	55.00	0.90	5.50	.50x.25	.63x.31
445	0.69	49.88	48.63	27.50	47.25	15.81	326T	31.91	55.00	1.00	5.50	.63x.31	.63x.31
490	0.69	54.38	53.13	27.50	52.00	17.38	326T	35.04	55.00	1.10	5.50	.63x.31	.63x.31

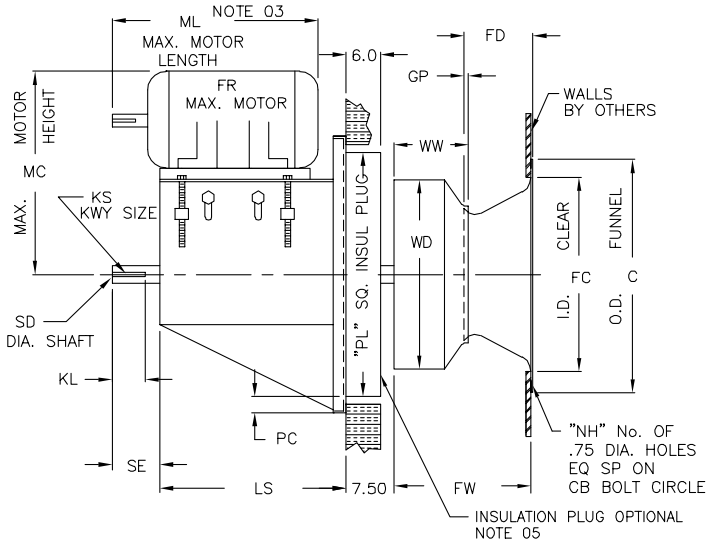
FAN SIZE	LS	MC	ML	N	NH	NP	PC	PL	SD		SE	SP	TS	WD	WW
									CL I	CL II					
122	17.50	24.25	19.13	1.00	8.00	4.00	1.75	19.25	1.437	1.687	5.00	5.19	20.75	12.25	4.75
135	17.50	24.25	19.13	1.00	8.00	4.00	1.75	19.25	1.437	1.687	5.00	5.19	20.75	13.50	5.31
150	18.50	24.25	20.13	1.00	8.00	4.00	1.75	19.25	1.437	1.687	5.00	5.19	20.75	15.00	5.88
165	18.50	24.25	20.13	1.00	8.00	4.00	1.81	26.00	1.437	1.687	5.00	6.91	27.63	16.50	6.38
182	21.00	27.50	24.13	1.00	8.00	4.00	1.81	26.00	1.437	1.937	5.50	6.91	27.63	18.25	7.12
200	21.00	27.50	24.13	1.00	8.00	4.00	1.81	26.00	1.687	1.937	5.50	6.91	27.63	20.00	7.75
222	22.50	27.50	25.50	1.00	8.00	4.00	1.88	28.25	1.687	1.937	5.50	7.50	30.00	22.25	8.69
245	22.50	27.50	25.50	1.00	8.00	4.00	1.88	28.25	1.687	1.937	5.50	7.50	30.00	24.50	9.56
270	23.00	29.50	26.63	1.00	8.00	6.00	2.25	32.13	1.937	2.187	6.00	5.77	34.63	27.00	10.50
300	23.00	29.50	26.63	1.00	16.00	6.00	2.25	32.13	1.937	2.187	6.00	5.77	34.63	30.00	11.69
330	24.50	29.50	28.13	1.00	16.00	6.00	2.38	38.88	1.937	2.187	6.00	6.94	41.63	33.00	12.88
365	24.50	29.50	28.13	1.00	16.00	6.00	2.38	38.88	1.937	2.437	6.50	6.94	41.63	36.50	14.25
402	27.50	33.00	31.25	1.00	16.00	6.00	3.38	48.25	2.187	2.437	6.50	8.83	53.00	40.25	15.69
445	27.50	33.00	31.25	1.00	16.00	6.00	3.38	48.25	2.437	2.687	6.50	8.83	53.00	44.50	17.31
490	27.50	33.00	31.25	1.00	16.00	6.00	2.50	50.00	2.437	2.687	6.50	8.83	53.00	49.00	19.00

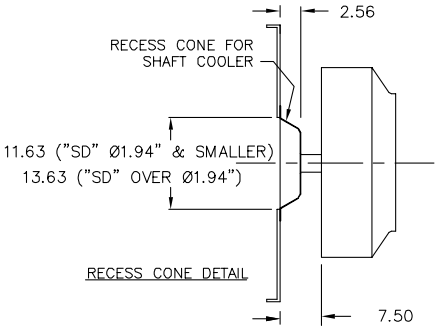
AC11107L

Dimensions are not to be used for construction. Certified drawings are available upon request.

Arrangement 9







NOTES:
1. Dimensions apply to unhoused assembly only.
2. CW rotation is standard. CCW rotation is optional.
3. To ensure selected motor will fit standard assembly, compare the maximum motor length, dimension "ML," to overall motor length.
4. Type BC impeller is standard on all sizes. Type BAF impeller is optional on sizes 182-490.
5. Customer to provide wall opening with adequate clearance for installation of impeller and insulation plug when provided.

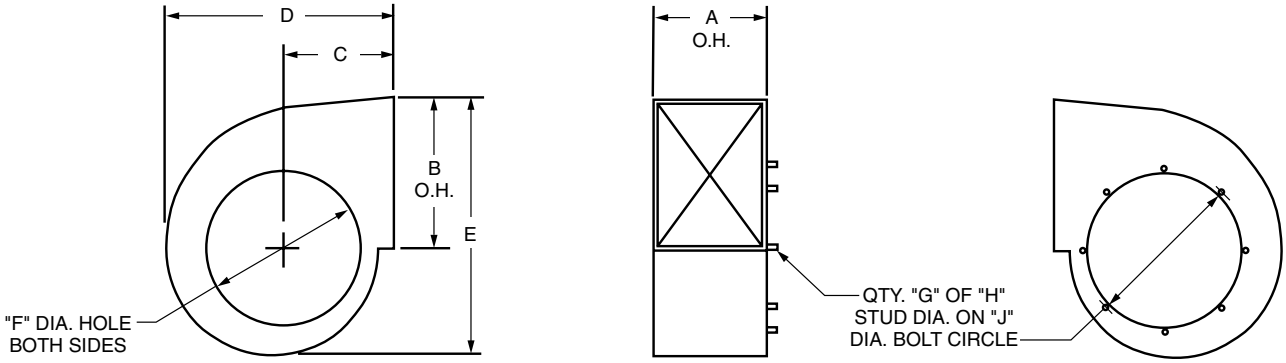
FAN SIZE	BH	C	CB	D	FC	FD	FR	FW	G	GP	KL	KS		LS
												CL I	CL II	
122	0.56	15.75	14.75	11.38	13.25	4.38	213T	8.69	22.75	0.31	4.00	.38x.19	.38x.19	17.50
135	0.56	16.75	15.75	11.38	14.56	4.81	213T	9.69	22.75	0.38	4.00	.38x.19	.38x.19	17.50
150	0.56	18.25	17.25	11.38	16.19	5.38	215T	10.81	22.75	0.38	4.00	.38x.19	.38x.19	18.50
165	0.56	20.00	19.00	14.81	17.75	5.94	215T	11.81	29.63	0.44	4.00	.38x.19	.38x.19	18.50
182	0.56	22.00	21.00	14.81	19.50	6.56	254T	13.06	29.63	0.56	4.50	.38x.19	.50x.25	21.00
200	0.56	24.38	23.38	14.81	21.38	7.19	254T	14.25	29.63	0.63	4.50	.38x.19	.50x.25	21.00
222	0.56	26.63	25.50	16.00	23.75	8.00	256T	15.94	32.00	0.69	4.50	.38x.19	.50x.25	22.50
245	0.56	28.63	27.75	16.00	27.00	8.81	256T	17.50	32.00	0.75	4.50	.38x.19	.50x.25	22.50
270	0.69	31.00	29.75	18.31	29.00	9.69	284T	19.31	36.63	0.88	5.00	.50x.25	.50x.25	23.00
300	0.69	34.88	33.63	18.31	31.62	10.75	284T	21.44	36.63	1.00	5.00	.50x.25	.50x.25	23.00
330	0.69	38.50	37.25	21.81	34.75	11.81	286T	23.56	43.63	1.06	5.00	.50x.25	.50x.25	24.50
365	0.69	42.00	40.75	21.81	39.50	13.06	286T	26.25	43.63	0.94	5.50	.50x.25	.63x.31	24.50
402	0.69	45.38	44.13	27.50	42.50	14.44	326T	28.94	55.00	1.06	5.50	.50x.25	.63x.31	27.50
445	0.69	49.88	48.63	27.50	47.25	15.94	326T	32.00	55.00	1.13	5.50	.63x.31	.63x.31	27.50
490	0.69	54.38	53.13	27.50	52.00	17.56	326T	35.31	55.00	1.25	5.50	.63x.31	.63x.31	27.50

FAN SIZE	MC	ML	N	NH	NP	PC	PL	SD		SE	SP	TS	WD	WW	MAX. SAFE SHAFT SPEED	
								CL I	CL II						CL I	CL II
122	24.25	19.13	1.00	8.00	4.00	1.75	19.25	1.437	1.687	5.00	5.19	20.75	12.25	4.69	2512	3087
135	24.25	19.13	1.00	8.00	4.00	1.75	19.25	1.437	1.687	5.00	5.19	20.75	13.50	5.31	2364	2899
150	24.25	20.13	1.00	8.00	4.00	1.75	19.25	1.437	1.687	5.00	5.19	20.75	15.00	5.88	1908	2316
165	24.25	20.13	1.00	8.00	4.00	1.81	26.00	1.437	1.687	5.00	6.91	27.63	16.50	6.38	1779	2090
182	27.50	24.13	1.00	8.00	4.00	1.81	26.00	1.437	1.937	5.50	6.91	27.63	18.25	7.13	1520	2180
200	27.50	24.13	1.00	8.00	4.00	1.81	26.00	1.687	1.937	5.50	6.91	27.63	20.00	7.75	1800	2045
222	27.50	25.50	1.00	8.00	4.00	1.88	28.25	1.687	1.937	5.50	7.50	30.00	22.25	8.69	1419	1659
245	27.50	25.50	1.00	8.00	4.00	1.88	28.25	1.687	1.937	5.50	7.50	30.00	24.50	9.50	1247	1523
270	29.50	26.63	1.00	8.00	6.00	2.25	32.13	1.937	2.187	6.00	5.77	34.63	27.00	10.56	1397	1668
300	29.50	26.63	1.00	16.00	6.00	2.25	32.13	1.937	2.187	6.00	5.77	34.63	30.00	11.75	1257	1496
330	29.50	28.13	1.00	16.00	6.00	2.38	38.88	1.937	2.187	6.00	6.94	41.63	33.00	12.88	1097	1303
365	29.50	28.13	1.00	16.00	6.00	2.38	38.88	1.937	2.437	6.50	6.94	41.63	36.50	14.19	967	1283
402	33.00	31.25	1.00	16.00	6.00	3.38	48.25	2.187	2.437	6.50	8.83	53.00	40.25	15.63	903	1163
445	33.00	31.25	1.00	16.00	6.00	3.38	48.25	2.437	2.687	6.50	8.83	53.00	44.50	17.25	817	1052
490	33.00	31.25	1.00	16.00	6.00	2.50	50.00	2.437	2.687	6.50	8.83	53.00	49.00	19.00	742	956

AC15384D

Dimensions are not to be used for construction. Certified drawings are available upon request.

Fan Housing Details



NOTE: Rotation must be specified as viewed from drive side to ensure proper location of inlet cone mounting studs. Studs provided on inlet side only.

FAN SIZE	HOUSING DIMENSIONS (IN.)								
	A	B	C	D	E	F	G	H	J
122	9 3/4	13	9 1/4	19 13/16	22 1/4	13 3/4	8	3/8	14 3/4
135	10 13/16	14 5/16	10 1/4	21 7/8	24 1/2	14 9/16	8	3/8	15 3/4
150	11 15/16	15 7/8	11 7/16	24 5/16	27 3/16	16 3/16	8	3/8	17 1/4
165	13 3/16	17 7/16	12 5/8	26 3/4	29 7/8	17 3/4	8	3/8	19
182	14 9/16	19 3/8	14	29 11/16	33 1/8	19 1/2	8	3/8	21
200	15 15/16	21 3/16	15 5/16	32 5/8	36 5/16	21 3/8	8	3/8	23 3/8
222	17 11/16	23 9/16	17 3/16	36 1/4	40 5/16	23 3/4	8	3/8	25 1/2
245	19 7/16	25 15/16	19	40	44 3/8	27	8	3/8	27 3/4
270	21 3/8	28 5/8	20 5/16	44 1/8	49	29	8	3/8	29 3/4
300	23	31 13/16	23 5/16	49 1/16	54 7/16	31 5/8	16	3/8	33 5/8
330	25 1/4	35 1/8	25 3/4	54 1/8	60	34 3/4	16	3/8	37 1/4
365	27 3/4	38 11/16	28 1/2	60	66 5/16	39 1/2	16	3/8	40 3/4
402	30 3/8	42 5/8	31 1/2	66 3/16	73 1/16	42 1/2	16	3/8	44 1/8
445	33 7/16	47 1/8	34 7/8	73 1/8	80 3/4	47 1/4	16	3/8	48 5/8
490	36 7/16	51 15/16	38 1/2	80 11/16	89	52	16	3/8	53 1/8

Dimensions are not to be used for construction. Certified drawings are available upon request.

Belt Centers

MOTOR FRAME SIZE	FAN SIZE							
	122-165		182-245		270-365		402-490	
	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
143T 145T	13	16 1/2	14	17 1/2	14 1/2	18	16	19 1/2
182T 184T	14	17 1/2	15	18 1/2	15 1/2	19	17	20 1/2
213T 215T	14 3/4	18 1/4	15 3/4	19 1/4	16 1/4	19 3/4	17 3/4	21 1/4
254T 256T			16 3/4	20 1/4	17 1/4	20 3/4	18 3/4	22 1/4
284T 286T					18	21 1/2	19 1/2	23
324T 326T							20 1/2	24

Recirculation Fans in Paint Finishing System

TCF
TWIN CITY FAN

Model

BCPL

Fans shall be Model BCPL Flat Blade BI SWSI Plug Fans, as manufactured by Twin City Fan & Blower, Minneapolis, Minnesota.

PERFORMANCE — Fans shall be tested and rated in accordance with industry accepted test codes and shall be guaranteed by the manufacturer to deliver rated published performance levels.

PLUG PANEL — Plug panel shall be of minimum 7 gauge steel with formed flanges to maintain flatness and rigidity. Panel shall be prepunched for bolt mounting. Panel assembly may also be welded in place. The “Cross Frame” bearing support is designed for maximum stability and load spreading. Bearings are serviceable without disassembly of panel or frame. Plug assembly is available for both horizontal and vertical application. Horizontal construction is standard. Vertical construction must be specified.

IMPELLER — BCPL impellers shall be backward inclined, non-overloading, single thickness plate type, designed for maximum efficiency and quiet operation. Impellers shall be constructed of heavy-gauge steel, welded to both the back plate and rim. Impellers shall have tapered spun impeller cones or shrouds, providing stable flow and high rigidity.

Optional backward inclined airfoil blade impellers shall use die-formed airfoil blades continuously welded to the rim and back plate. Clockwise or counterclockwise rotation is available. Specify rotation as viewed from drive side.

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 a first critical speed of at least 1.43 times the maximum speed for the class.

BEARINGS — Bearings shall be either ball or spherical roller, heavy-duty, self-aligning, pillow block type. Bearing selection is based upon L-10 minimum life of 40,000 hours or average life of 200,000 hours.

OPTIONAL ALL WELDED HOUSING — Housing shall be of heavy-gauge steel. Housing shall be provided with impeller opening on each side and weld studs on inlet side for cone mounting. Specify rotation and discharge as viewed from drive side to ensure proper stud placement. Housing supports and attachments for wall mounting to be provided by others.

ADJUSTABLE MOTOR BASE — Adjustable motor base is standard and shall have a four point leveling and tension adjustment to ensure proper drive belt alignment. The motor base shall be heavy-gauge steel and prepunched to accept standard motor frame specified.

OPTIONAL INLET VANES — Inlet vane blades are cantilever design with supports equipped with permanently lubricated needle bearings and ball joints for smooth and easy operation. Vane assemblies are external type for sizes 122 through 150 and nested for sizes 165 through 490. Standard inlet vanes are applicable to 300°F. Consult factory for higher temperatures and dimensions.

FACTORY RUN TEST — All fans prior to shipment shall be completely assembled and test run as a unit at the specified operating speed or maximum RPM allowed for the particular construction type. Each impeller 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 BCPL Flat Blade BI SWSI Plug Fans for at least one (1) year from startup or eighteen (18) months from shipment, whichever occurs first.

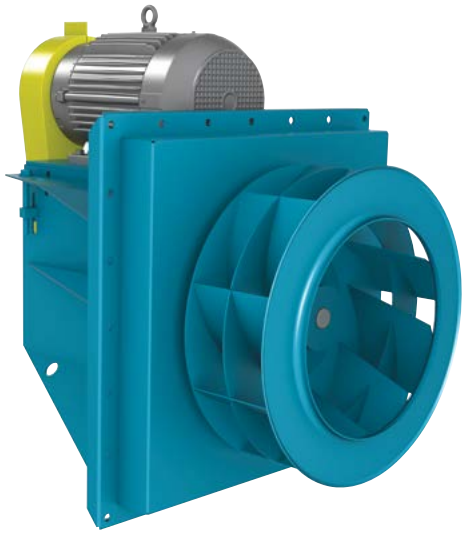
Model
BEPL (High Efficiency Plug Fans)

Sizes
12" to 49" impeller diameters (305 mm to 1,245 mm)

Performance
Airflow to 76,000 CFM (129,100 m^3/hour)
Static pressure to 12" w.g. (2,980 Pa)

Features
SWSI backward curved, non-overloading, single thickness airfoil type impellers

See Catalog 355 for more information



BEPL Arrangement 9 – Pedestal Plug Fan

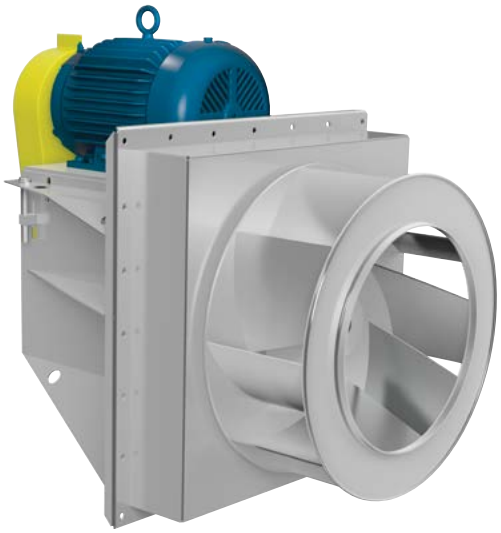
Model
BFPL (Plug Fans)

Sizes
12.4" to 49.21" impeller diameters (315 mm to 1,250 mm)

Performance
Airflow to 76,000 CFM (129,100 m^3/hour)
Static pressure to 12" w.g. (2,980 Pa)

Features
SWSI backward curved, non-overloading, single thickness airfoil type impellers

See Catalog 360 for more information



BFPL Arrangement 9

TCF
TWIN CITY FAN

INDUSTRIAL PROCESS AND COMMERCIAL VENTILATION SYSTEMS

CENTRIFUGAL FANS | UTILITY SETS | PLENUM & PLUG FANS | INLINE CENTRIFUGAL FANS

MIXED FLOW FANS | TUBEAXIAL & VANEAXIAL FANS | WALL MOUNTED FANS | 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

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