

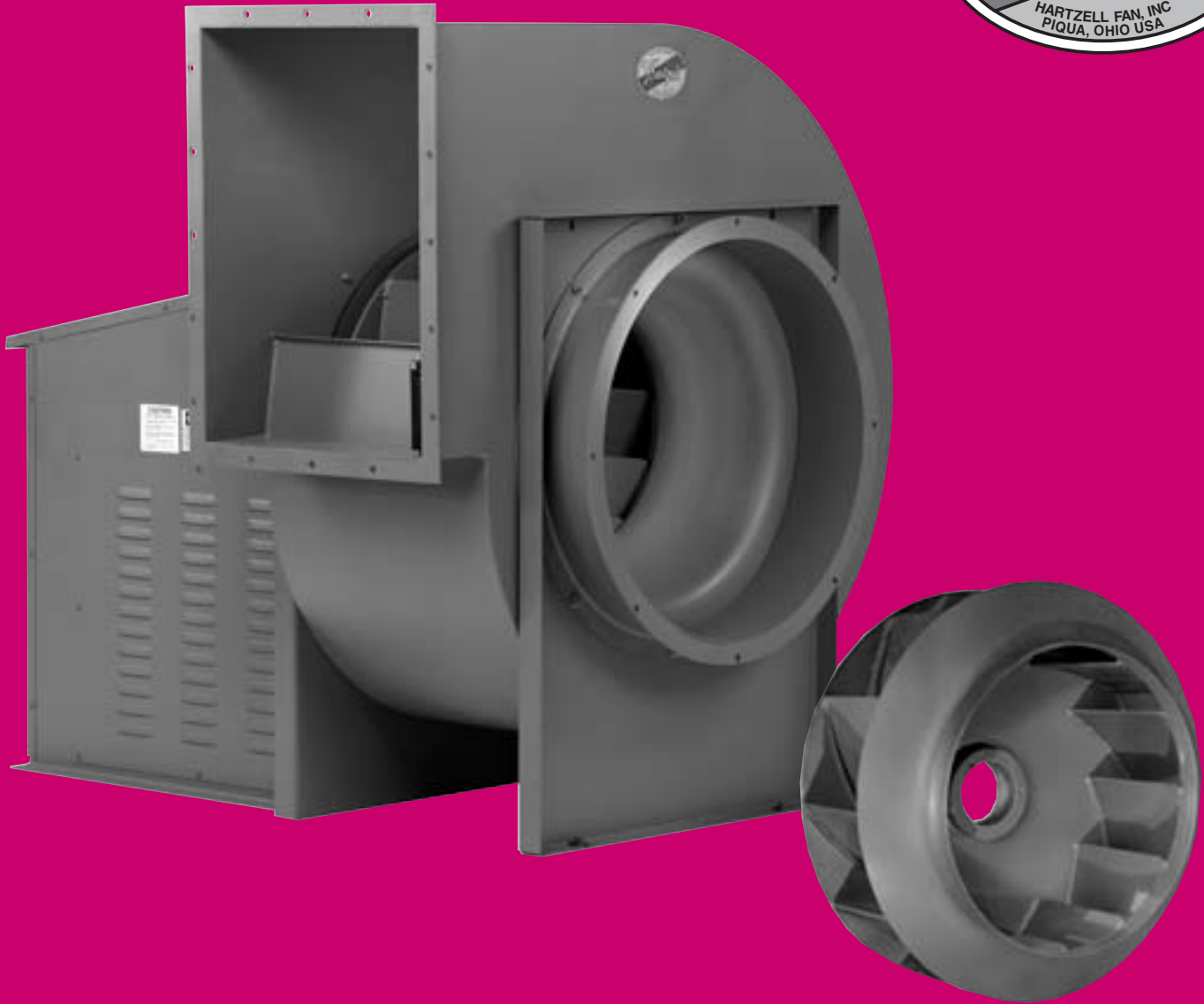
# Backward Curved Centrifugal Fans

Series 03  
Series 03S

Series 03P  
Series 03Q

Series 03U  
Series 03F

Series 13  
Series 11



# HARTZELL®

Hartzell Fan, Inc., Piqua, Ohio 45356  
[www.hartzellfan.com](http://www.hartzellfan.com)

# Index

Hartzell Model Code Explanation .....Page 2  
 Pictorial Table of Contents .....Page 3  
 Hartzell Backward Curved Centrifugal Fans .....Page 4  
 Temperature & Altitude Corrections .....Page 5  
 Centrifugal Fan Classifications  
 and Mounting Arrangements .....Page 6  
 Material Specifications .....Page 7  
 Series 03U Backward Curved Utility Set.....Page 8  
 Series 03- Backward Curved Centrifugal Fan ....Page 9  
 Dimensions – Series 03- .....Pages 10-11  
 Series 03P Packaged Centrifugal Fan .....Page 12

Dimensions – Series 03P .....Page 13  
 Series 03- Direct Drive – Dim. & Rating Table ..Page 14  
 Rating Tables Series 03-, Series 03P .....Pages 15-27  
 Series 13 – Backward Curved  
 Centrifugal Fan, DWDI .....Page 28  
 Dimensions – Series 13, DWDI.....Page 29  
 Construction Option – Series 03S .....Page 30  
 Construction Option – Series 03Q .....Page 31  
 Construction Options – Series 03F, Series 11 ..Page 32  
 Specifications .....Page 33  
 Options and Accessories .....Pages 34-35



## Certified Ratings for Air and Sound Performance

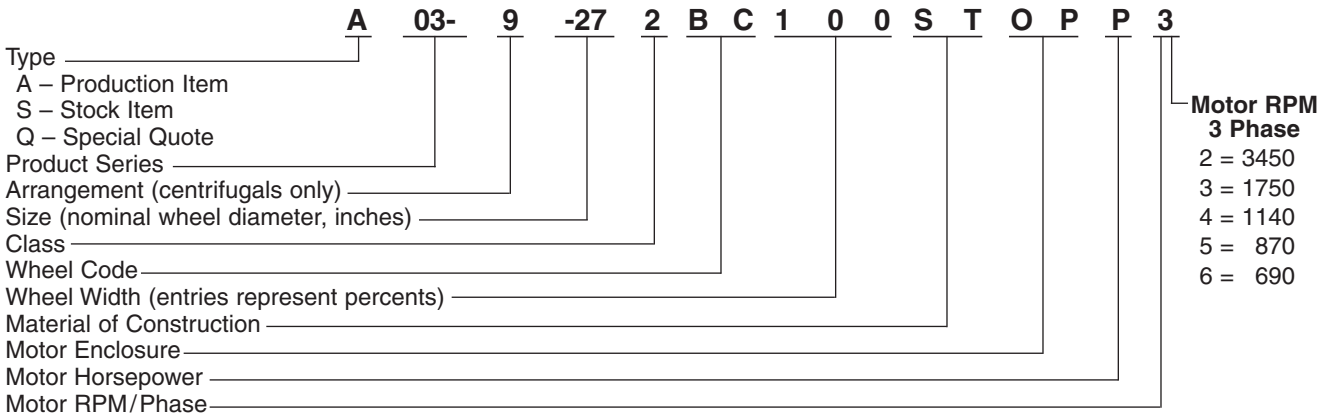
Hartzell Fan, Inc. certifies that the Backward Curved Centrifugal Fans, Series 03, and Series 03P with type BC wheels shown on pages 14 through 27, and Backward Curved Utility Set, Series 03U with type BU wheels shown on page 8, are licensed to bear the AMCA seal for air and sound performance. The ratings 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.

Sound performance data is available upon request. Please contact the factory and ask for Engineering Publication #SD-147 for the Series 03 and 03P and Engineering Publication #SD-03U for Series 03U.



Hartzell Fan, Inc. certifies that the Series 03 Backward Curved Centrifugal Fan, shown on page 16, is authorized to bear CE Marking in accordance with Machinery Safety Directive 98/37/EC of the European Union. Reference Technical File E.S. 13.2.1.

## Hartzell Model Code Explanation



### Motor Horsepower

Horsepower	1/4	1/3	1/2	3/4	1	1 1/2	2	3	5	7 1/2	10	15	20	25	30	40	50	60	75	100	125	150	200
Code Letter	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z

### Example:

Assume a required performance of 12,000 CFM at 7" S.P.W.G., at standard conditions is required. Reading Rating Table on page 19, we find Series 03 Backward Curved Centrifugal Fan Arrangement 9, 27 inch wheel diameter with 100% wheel width. Class II construction. 12,000 CFM at 7" S.P., 1,635 RPM,

18.4 BHP, with outlet velocity of 2,712 FPM. Standard construction. Open, protected motor enclosure. Motor horsepower required is 20; therefore, horsepower code is "P." Motor RPM required is 1750; therefore, motor RPM code is "3."

This bulletin lists Hartzell's complete line of Series 03 Backward Curved Centrifugal Fans and accessories. More than 70 Hartzell offices can provide specific performance and installation data to meet your requirements. Call your Hartzell representative for assistance. Visit our website ([www.hartzellfan.com](http://www.hartzellfan.com)) or call toll-free (1-800-336-3267) for the name of your Hartzell representative.

Certificates of Design Assessment are issued by the American Bureau of Shipping. The assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. The certificates, by itself, do not reflect that the products are Type Approved.



# Backward Curved Centrifugal Fans



**Series 03U  
Backward Curved  
Utility Set  
Page 8**



**Series 03 – Type BA & BC  
Backward Curved  
Centrifugals  
Page 9**



**Series 03, Arrg. 1  
Backward Curved  
Centrifugals  
Page 9**



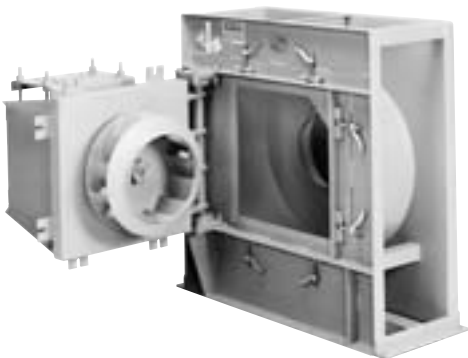
**Series 03P  
Packaged Centrifugals  
Page 12**



**Series 03  
Direct Drive Centrifugals  
Page 14**



**Series 13  
Double Width Centrifugal Fan  
Page 28**



**Series 03S  
Swing Out Type  
Page 30**



**Series 03Q  
Square Type Fans  
Page 31**



**Series 03F, Series 11  
Flange Mount and Plug Fans  
Page 32**



# General Construction Features

The Hartzell backward curved centrifugal fans are designed to provide maximum performance and efficiency for clean air applications. These blowers are available in direct drive and belt drive configurations in a variety of arrangements and construction to meet your requirements. Air delivery ranges from 500 CFM to 186,000 CFM (depending on series), with static pressure capabilities to 14" and higher.

The Hartzell Type BC and BA (airfoil) wheels have non-overloading horsepower characteristics. Efficient airflow is provided over a broad range of pressures (maximum total efficiencies exceeding 80%). Designed for quiet operation, the Hartzell backward curved centrifugal blowers provide lower sound levels in the highest efficiency ranges.

**Standard Construction** – Our standard construction is built for reliable service in standard applications with continuously welded hot rolled steel housings. Bearing base/motor pedestal is constructed of hot rolled steel and structural steel. Standard construction also includes precision balancing and shafts, long life bearings and drives, industrial duty enamel finish, motor out of the airstream, easy installation, maintenance and system access.

**Stock** – Many sizes of the Series 03P and Series 03U are available from stock.

**Your Special Features and Options** – Hartzell Fan has a wide range of designs, configurations, performances, sizes, materials, finishes, and motors in-stock and from production to fit your ventilation requirements. Construction is available for high temperature, spark resistance, leak resistant, and special materials. Accessories including guards, companion flanges, dampers, louvers, inlet bells, sub-bases, vibration isolators, lifting lugs, and sound mufflers are available.

**Series 03-**  
Shown with  
optional equipment



## Series, Sizes, Classes, Arrangements, and Features

**Series 03** – Backward Curved Centrifugal Fans (SWSI), incorporate Heavy Industrial Duty Construction and are available in single width, single inlet wheel diameter sizes 12"–60", in Class I, II, or III, Arrangements 1, 3, 4, 8, 9, 9M, or 10. See page 9 for details.

**Series 03P** – Backward Curved Centrifugal Fans, Packaged, incorporate Industrial Duty Construction and are available in wheel diameter sizes 12"–36", (SWSI), Class II, Arrangement 10 packaged with guards and covers. See page 12 for details.

**Series 03U** – Backward Curved Utility Set is designed for General Industrial Service with value, application, and performance range taken together and is available in wheel diameter sizes 10"–30" (SWSI), Arrangement 10. Applications are limited by selection point and motor horsepower, see page 8 for details.

**Series 13** – Backward Curved Centrifugal Fans (DWDI), incorporate Heavy Industrial Duty Construction and are available in double width, double inlet wheel diameter sizes 10"–60", in Class I, II, or III, Arrangements 1 or 3. See page 28 for details.

**Series 03S, Series 03Q, Series 03F, Series 11** – Hartzell fan offers backward curved centrifugal fans in a variety of configurations to meet your requirements. See pages 30–32 for additional details on these series.

## Wheel Design



Type BC Wheel



Type BA Wheel

### Type BC Wheel

The Hartzell backward curved centrifugal Type BC wheels have single thickness airfoil blades. The heavy-duty steel construction is reinforced depending on size and class of construction. The wheel's inlet rim is a tapered spun orifice. The inlet rim is overlapped by the fan's spun inlet cone with closely held tolerances to ensure maximum performance and efficiency.

### Type BA Wheel (Airfoil)

The Hartzell backward curved centrifugal Type BA wheels have double thickness hollow airfoil blades. These blades are die formed in a true airfoil shape. The backplate and inlets on the Type BA wheels are the same configuration as the Type BC.

The wheels are individually precision balanced prior to assembly. Below illustrates the dynamic balance operation on a Hartzell Series 03 Type BC wheel. Equipment at this Hartzell Quality Assurance Station balances in two places.



# Hartzell Centrifugal Fan Classifications

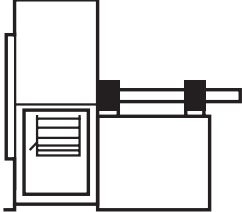
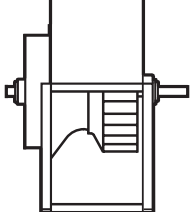
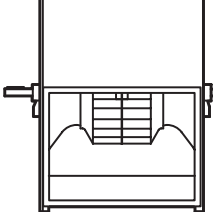
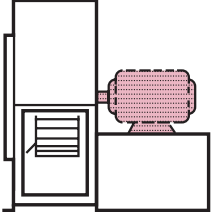
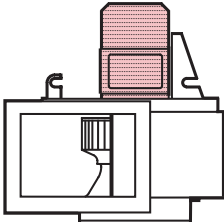
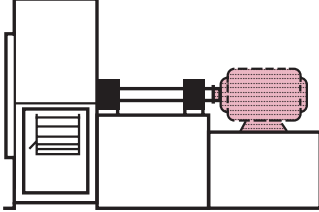
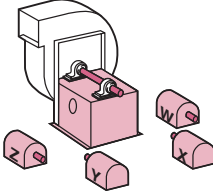
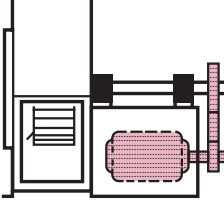
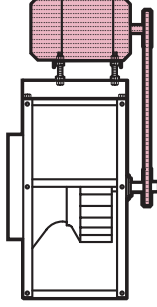
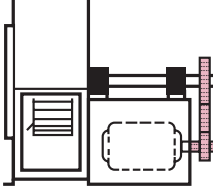
Hartzell Series 03 Backward Curved Centrifugal Fans are designed and classified to perform within the centrifugal fan classification parameters established by AMCA Standard No. 2408; AMCA

Publication 99. Hartzell Series 03 Backward Curved Centrifugal Fans are available in Class I, II and III construction. These parameters are explained in the following table.

FAN CLASS	PERFORMANCE RANGE*	TABLE SHADING
I	5" @ 2300 FPM To 2 1/2" @ 3200 FPM	
II	8 1/2" @ 3000 FPM To 4 1/4" @ 4175 FPM	
III	13 1/2" @ 3780 FPM To 6 3/4" @ 5260 FPM	

\* At standard air conditions (70°F., 29.92 in. HG barometric pressure, .075 lbs./ft.3).  
Static pressure shown in inches of water; outlet velocity shown in feet per minute.

## Centrifugal Fan Arrangements

 <p><b>Arrangement 1</b> Unit furnished with shaft and bearings, less motor and drive. Designed to be driven by a separately mounted motor. Impeller is overhung – two bearings on base. Temperature limitations: Standard fan to 300°F, heat fan to 800°F.</p>	 <p><b>Arrangement 3</b> Series 03 – Unit furnished with shaft and bearings, for belt drive configuration. One bearing on each side and supported by fan housing. Temperature limitations: Standard fan to 150° F.</p>	 <p><b>Arrangement 3</b> Series 13 – Double Width, Double Inlet Unit furnished with shaft and bearings, for belt drive configuration. One bearing on each side and supported by fan housing. Temperature limitations: Standard to 200° F.</p>	 <p><b>Arrangement 4</b> Direct drive packaged unit, wheel is overhung and attached to the shaft of the electric motor. No bearings on fan. Temperature limitations: Standard fan to 200°F.</p>
 <p><b>Arr. 4 Flange Mount</b> Series 03F – Direct drive unit for mounting on fan inlet flange, wheel is overhung and attached to the shaft of the electric motor. No bearings on fan. Temperature limitations: Standard fan to 200° F.</p>	 <p><b>Arrangement 8</b> Direct Coupled configuration with motor mounted to common fan base. Impeller is overhung and supported by two bearings on fan base. Temperature Limitations: 800°F.</p>	<p><b>Motor Position Designation</b> Motor position designation is necessary when ordering the following for Arrangement 1 fans – 1 – V Belt Drive. 2 – Vibration Bases. 3 – Belt Guards. <b>Note:</b> Location of motor is determined by facing the drive side of the fan and designating the motor position by letters W, X, Y, or Z.</p> 	
 <p><b>Arrangement 9</b> Series 03 – Belt drive configuration with motor mounted on outside of bearing base support. Packaged unit, wheel is overhung, slide rail motor base permits easy adjustment of belt tension. Available on either left or right hand side of base (when facing drive end of shaft). Temperature limitations: Standard fan to 300°F, heat fan to 800°F.</p>	 <p><b>Arrangement 9</b> Series 03Q – Belt drive configuration with motor mounted and fan housing. Bearings are out of airstream, (Arrangement 2), wheel is overhung, motor base permits easy adjustment of belt tension. See page 31 for motor positions. Temperature limitations: Standard fan to 200° F.</p>	 <p><b>Arrangement 10</b> Series 03, 03P, 03U – Belt drive configuration with motor mounted inside base. Packaged unit, wheel is overhung. Temperature limitations: Standard fan to 250°F, heat fan to 600°F.</p>	

Adapted from AMCA Standard 99-2404-03, *Drive Arrangements for Centrifugal Fans*, and AMCA Standard 99-2407-03, *Motor Positions for Belt or Chain Drive Centrifugal Fans*, with written permission from Air Movement and Control Association International, Inc.



# Temperature/Altitude Applications

When a fan operates in ambient conditions, generally it is handling standard air at 70°, 29.92" barometric pressure, weighing 0.075 lbs./cu. ft. For an application where the fan operates at other than ambient conditions (temperature, altitude, or both), correction factors must be applied to the selection of the fan. In addition, the standard construction of the fan must be modified. These modifications are explained on page 7 and illustrated as options on page 34-35.

Correction factors for temperatures and altitudes are provided in Table 1. When a fan operates at other than ambient conditions, the correction factors in Table 1 will be required to correct static pressure and horsepower.

**Table 1 Altitude/Temperature Correction Factors**

Temp. ① (°F)	-25	0	25	50	70	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
Factor	0.82	0.87	0.91	0.96	1.00	1.06	1.15	1.25	1.34	1.43	1.53	1.62	1.72	1.81	1.91	2.00	2.09	2.19	2.29	2.38

Alt. ② (Ft.)	0	1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000	12000
Factor	1.00	1.04	1.08	1.12	1.16	1.20	1.25	1.30	1.35	1.40	1.46	1.51	1.57

Above table has inverted values. Actual density is the reciprocal of the above values. ① At sea level. ② At 70°F.

For corrections involving both temperature and altitude, correction factors should be multiplied.

Example: 150°F at 7000 ft. Temperature factor 1.15 x altitude factor 1.30 = 1.50 combined correction factor.

**Table 2 Maximum Safe Speeds @ 70°F**

Size	Maximum Speed (RPM)		
	Class I	Class II	Class III
12	3430	4365	5610
15	2730	3480	4470
18	2270	2890	3715
22	1855	2365	3040
24	1705	2170	2790
27	1520	1935	2490
30	1400	1780	2290
33	1275	1620	2085
36	1165	1485	1910
40	1045	1330	1710
44	945	1200	1545
49	855	1090	1405
54	775	985	1265
60	700	890	1145

NOTE: Maximum safe speeds are usually different than AMCA defined limits (see page 3). Tabular performance table shadings reflect AMCA limits. Hartzell Fanselct (Computer Fan Selection Software) reflects maximum RPM's shown in Table 2.

## Use of Altitude – Temperature Correction Table

First select size, RPM and BHP of the blower needed.

If temperature or altitude is involved, correct to standard air. Example: Assume the required performance to be 24,000 CFM at 6.7" SP, 150°F and 7000 feet altitude.

1. Temperature factor 1.15 x altitude factor 1.30 = 1.50 combine correction factor.
2. 6.7" SP x 1.50 = 10" SP for 70°F at sea level.
3. A Series 03, Class III, 36" belt drive backward curved centrifugal, selected from the rating tables (page 22) for the new condition shows 24,000 CFM at 10" SP, 1,476 RPM and 48.6 BHP.
4. Correct the horsepower and static pressure in item 3 to nonstandard performance by dividing by factor: 10" SP divided by 1.50 = 6.7" SP; 48.6 BHP divided by 1.50 = 32.4 BHP.

Table 2 shows the maximum safe operating speeds for each size fan wheel, at each class of construction. In addition, this table also shows the maximum safe operating temperature for each fan arrangement.

At high temperatures, these maximum safe operating speeds should be derated. Deration varies according to material of construction. Table 3 provides maximum safe speed correction factors by temperature and material construction.

An example on the use of these tables appears at the bottom of this page.

**Table 3 Maximum Safe Speed Correction Factors\***

Material Code	Spark Resistance	Material of Construction	Temperature °F.								
			0°F.	70°F.	200°F.	300°F.	400°F.	500°F.	600°F.	700°F.	800°F.
ST	None	Steel Wheel & Housing	1.000	1.000	1.000	0.966	0.930	0.890	0.860	0.820	0.77
AA	AMCA "A"	Aluminum Wheel, Aluminum Housing	0.966	0.948	0.837	0.733	-	-	-	-	-
AB	AMCA "B"	Aluminum Wheel, Steel Housing	0.966	0.948	0.837	0.733	-	-	-	-	-
AC	AMCA "C"	Steel Wheel & Housing Aluminum Buffer	1.000	1.000	1.000	0.966	0.930	0.890	0.860	0.820	0.77
CT	None	Corten Wheel, Steel Housing	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.96
S4	None	304SS Wheel & Housing	1.000	1.000	1.000	0.938	0.896	0.852	0.830	0.806	0.792
S6	None	316SS Wheel & Housing	1.000	1.000	1.000	0.987	0.950	0.913	0.894	0.876	0.861
4L	None	304LSS Wheel & Housing	1.000	1.000	1.000	0.938	0.896	0.852	0.830	0.806	0.792
6L	None	316LSS Wheel & Housing	1.000	1.000	1.000	0.987	0.950	0.913	0.894	0.876	0.861

\*NOTES: To correct maximum operating speeds (Table 2) for high temperatures, multiply those speeds by correction factor from Table 3. See also: Arrangement & Accessory Maximum Temperatures and High Temperature modifications shown on page 7.

5. Check the maximum safe speed. Maximum speed at 70°F for fan size 36", Class III is 1740 RPM. Using the maximum safe speed factor table and interpolating at 150°F for aluminum construction yields a safe speed factor of .985. The maximum safe speed is 1740 x .985 = 1714 RPM; thus operation at 1,476 RPM at 150°F is satisfactory.

6. Final performance of the unit at the assumed conditions: 24,000 CFM at 6.7" SP, 1,476 RPM, 32.4 BHP at 150°F and 7000 feet altitude.

7. Size motor for cold startups and use a special high altitude motor if altitude exceeds 3300 feet.



# Material Specifications/Weight

## Material Specifications – Gauge – All Sizes

Class	Size	Housing (Thickness)					Shaft & Bearings		*Maximum Motor Frame		BC Wheel		BA Wheel		Installation Weights (Lbs.) (Less Motor)		
		Scroll	Side	Side Angle	Flanges		Size & Type Arr. #1 & #9 & #10	Arr. #4	Arr. #9 & #10	(Lb.- Ft. <sup>2</sup> ) WR <sup>2</sup>	(Lbs.) Wgt.	(Lb.- Ft. <sup>2</sup> ) WR <sup>2</sup>	(Lbs.) Wgt.	Arr.#1	Arr.#4	Arr.#9 & #10	
					① Inlet	① Outlet											TEFC
I	12	12GA	12GA	—	2 x 1/4	1 1/2 x 7GA	1	P3U-216	184T	182T	2.8	16.0			183	159	193
	15	12GA	12GA	—	2 x 1/4	1 1/2 x 7GA	1 3/16	P3U-219	256T	184T	6.0	23.9			256	263	269
	18	12GA	12GA	—	2 x 1/4	1 1/2 x 7GA	1 7/16	P3U-219	286T	184T	12.0	37.7	12.5	39.2	377	390	390
	22	12GA	10GA	—	2 x 1/4	1 1/2 x 7GA	1 7/16	P3U-223	286T	213T	28.0	61.4	29.1	63.9	562	566	580
	24	12GA	10GA	—	2 x 1/4	1 1/2 x 7GA	1 7/16	P3U-223	286T	215T	50.0	89.2	52.0	92.8	699	667	717
	27	12GA	10GA	—	2 x 1/4	1 1/2 x 7GA	1 11/16	P3U-227	286T	254T	81.0	112	84.2	116.5	838	794	856
	30	12GA	10GA	—	2 x 1/4	1 1/2 x 7GA	1 15/16	P3U-231	326T	254T	112	138	116.5	143.5	1053	1007	1077
	33	12GA	10GA	—	2 1/2 x 1/4	1 1/2 x 7GA	1 15/16	P3U-231	365T	254T	173	196	179.9	203.8	1286	1242	1310
	36	10GA	10GA	3 x 3 x 5/16	2 1/2 x 3/8	2 x 7GA	2 3/16	P3U-235	—	256T	277	250	288.1	260.0	1787	—	1811
	40	10GA	10GA	3 x 3 x 5/16	2 1/2 x 3/8	2 x 7GA	2 3/16	P3U-235	—	284T	438	312	455.5	324.5	2152	—	2179
	44	10GA	10GA	3 x 3 x 5/16	2 1/2 x 3/8	2 x 7GA	2 7/16	P3U-239	—	286T	651	377	677.0	392.1	2654	—	2681
	49	10GA	10GA	3 x 3 x 5/16	2 1/2 x 3/8	2 x 7GA	2 7/16	PB-22439	—	324T	1233	583	1282.3	606.3	3160	—	3187
54	10GA	10GA	3 x 3 x 5/16	2 1/2 x 3/8	2 1/2 x 1/4	2 7/16	PB-22439	—	364T	1290	720	1340	760	3550	—	3580	
60	10GA	10GA	3 x 3 x 5/16	2 1/2 x 3/8	2 1/2 x 1/4	2 11/16	PB-22443	—	364T	2300	920	2390	990	3940	—	3970	
II	12	12GA	12GA	—	2 x 1/4	1 1/2 x 7GA	1 7/16	P3U-219	184T	184T	2.8	16.0			189	159	202
	15	12GA	12GA	—	2 x 1/4	1 1/2 x 7GA	1 7/16	P3U-223	256T	215T	6.0	23.9			262	261	275
	18	12GA	12GA	—	2 x 1/4	1 1/2 x 7GA	1 11/16	P3U-227	286T	254T	12.0	37.7	12.5	39.2	377	387	390
	22	12GA	10GA	—	2 x 1/4	1 1/2 x 7GA	1 11/16	P3U-227	286T	256T	28.0	61.4	29.1	63.9	572	566	595
	24	12GA	10GA	—	2 x 1/4	1 1/2 x 7GA	1 15/16	P3U-231	286T	284T	50.0	89.2	52.0	92.8	719	669	742
	27	12GA	10GA	—	2 x 1/4	1 1/2 x 7GA	2 3/16	P3U-235	286T	286T	81.0	112	84.2	116.5	858	765	881
	30	12GA	10GA	—	2 x 1/4	1 1/2 x 7GA	1 15/16	PB-22431	326T	286T	122	148	126.9	153.9	1071	1019	1095
	33	12GA	10GA	—	2 1/2 x 1/4	1 1/2 x 7GA	2 7/16	PB-22435	365T	324T	189	208	196.6	216.3	1294	1241	1318
	36	10GA	10GA	3 x 3 x 5/16	2 1/2 x 3/8	2 x 7GA	2 3/16	PB-22435	—	326T	299	268	311.0	278.7	1854	—	1880
	40	10GA	10GA	3 x 3 x 5/16	2 1/2 x 3/8	2 x 7GA	2 7/16	PB-22439	—	364T	472	335	490.9	348.4	2219	—	2246
	44	10GA	10GA	3 x 3 x 5/16	2 1/2 x 3/8	2 x 7GA	2 7/16	PB-22439	—	365T	700	405	728.0	421.2	2727	—	2754
	49	10GA	10GA	3 x 3 x 5/16	2 1/2 x 3/8	2 x 7GA	2 15/16	PB-22447	—	365T	1310	616	1362.4	640.6	3281	—	3308
54	10GA	10GA	3 x 3 x 5/16	2 1/2 x 3/8	2 1/2 x 1/4	2 15/16	PB-22447	—	405T*	1410	800	1470	850	3770	—	3800	
60	10GA	10GA	3 x 3 x 5/16	2 1/2 x 3/8	2 1/2 x 1/4	3 1/16	PB-22451	—	405T*	2500	1050	2610	1110	3940	—	3970	
III	12	10GA	10GA	—	2 x 1/4	1 1/2 x 7GA	1 11/16	P3U-227	184T	184T	3.0	17.2			200	160	213
	15	10GA	10GA	—	2 x 1/4	1 1/2 x 7GA	1 11/16	P3U-227	256T	215T	6.0	26.3			286	277	301
	18	10GA	10GA	—	2 x 1/4	1 1/2 x 7GA	1 15/16	P3U-231	286T	256T	12.0	40.1	12.5	41.7	420	408	435
	22	10GA	10GA	—	2 x 1/4	1 1/2 x 7GA	1 15/16	PB-22431	286T	256T	30.0	67.4	31.2	70.1	613	591	636
	24	10GA	10GA	—	2 x 1/4	1 1/2 x 7GA	1 15/16	PB-22431	286T	286T	53.0	95.2	55.1	99.0	744	694	769
	27	10GA	10GA	—	2 x 1/4	1 1/2 x 7GA	2 7/16	PB-22435	286T	286T	87.0	120	90.5	124.8	904	799	929
	30	10GA	10GA	—	2 x 1/4	1 1/2 x 7GA	2 11/16	PB-22443	326T	286T	122	148	126.9	153.9	1134	1015	1160
	33	7GA	7GA	—	2 1/2 x 1/4	1 1/2 x 7GA	2 15/16	PB-22447	365T	326T	189	208	196.6	216.3	1471	1409	1497
	36	7GA	7GA	3 x 3 x 5/16	2 1/2 x 3/8	2 x 7GA	2 15/16	PB-22447	—	326T	299	268	311.0	278.7	2017	—	2043
	40	7GA	7GA	3 x 3 x 5/16	2 1/2 x 3/8	2 x 7GA	2 7/16	PB-22447	—	364T	472	335	490.9	348.4	2421	—	2453
	44	7GA	7GA	3 x 3 x 5/16	2 1/2 x 3/8	2 x 7GA	2 15/16	PB-22447	—	365T	700	405	728.0	421.2	2869	—	2901
	49	7GA	7GA	3 x 3 x 5/16	2 1/2 x 3/8	2 x 7GA	2 15/16	PB-22447	—	365T	1310	616	1362.4	640.6	3636	—	3668
54	7GA	7GA	3 x 3 x 5/16	2 1/2 x 3/8	2 1/2 x 1/4	3 1/16	PB-22451	—	405T*	1410	800	1470	850	4100	—	4140	
60	7GA	7GA	3 x 3 x 5/16	2 1/2 x 3/8	2 1/2 x 1/4	3 1/16	PB-22455	—	405T*	2500	1050	2610	1110	4800	—	4840	

① Inlet and outlet flanges are optional, with or without holes. \*Arrangement #10 maximum frame size is 365T. Motor frames exceeding these values must be Arrangement 9M, Arrangement 1, or Arrangement 8. For other Arrangement maximum motor frame size and dimensions please contact factory. Dimensions and specifications are subject to change. Certified prints are available.

### Arrangement & Accessory Maximum Temperatures\*

Description	Maximum Temperature
Arrangement 1, 8, & 9	800° F
Arrangement 3	150° F
Arrangement 4	200° F
Arrangement 10	600° F
Aluminum Spark Resistant Construction	350° F
Weather Cover Arrangement 9	500° F
Weather Cover Arrangement 10, Arrangement 9M	250° F

\*Use in conjunction with High Temperature Modifications table.

### High Temperature Modifications\*\*

Maximum Design Temperature	High Temperature Modifications Required
70 - 300° F	Standard Construction, none required.
301 - 600° F	Heat Slinger (must be supplied with heat slinger guard or shaft guard), high temperature shaft seal, high temperature paint, special bearing lubricant, fiberglass gasket material, motor heat shield on arrangement 9 or 10.
601 - 800° F	In addition to above, bearing heat shield.
801 - 1000° F	Contact Factory

\*\*Use in conjunction with Arrangement & Accessory Maximum Temperatures table.

NOTE: High temperature applications require air density correction and fan accessory items. See pages 6 and 34-35.



# Series 03U Backward Curved Utility Set

Stock Models Available in Hartzell's HRS Program



ABS Certificate of Design Assessment Received



Hartzell Fan, Inc. certifies that the Backward Curved Utility Set, Series 03U with type BU wheels shown here in a licensed to bear the AMCA seal for air and sound performance. 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.

Sound and Air Performance Data is available in Hartzell ESP (Electronic Support Package). Please visit [www.hartzellfan.com](http://www.hartzellfan.com) to request a copy.

The Hartzell Series 03U Backward Curved Utility Set with single thickness airfoil blades has been designed for clean air applications. The wheel's inlet rim is a tapered spun orifice. The inlet rim is overlapped by the fan's spun inlet cone with closely held tolerances to provide maximum performance and efficiency. The Series 03U Utility Set, like all Hartzell products, is test run and balanced prior to shipment. In addition, the wheels are individually precision balanced prior to assembly.

## Features

- **Sizes** – 10", 12", 13", 15", 16", 18", 20", 22", 24", 27" and 30" wheel diameters. SWSI only.
- **Arrangement** 10 packaged unit only.
- **Temperature Limitations** – suitable for temperatures up to 200°F.
- **Performance** – 530 CFM to 15,600 CFM; static pressures to 4" W.G.
- **Rotation and Discharge** – Clockwise or counterclockwise rotation in all eight discharge positions. Drawings and dimensions on page 4. Rotatable housing.
- **Wheels** – Type "BU" non-overloading backward curved, aluminum with single thickness airfoil blades.
- **Drive Assembly** – Belts are oil, heat and static resistant type. Shafts are turned, ground and polished, keyed at both ends.
- **Easy installation and maintenance** – Motor, drive and bearings are readily accessible for ease in wiring, installation, adjustment and lubrication.
- **AMCA Type "B" spark resistant construction** – Units are built to meet AMCA Type "B" construction as standard. AMCA Type "A" construction is available as an option.
- **Fan inlets and outlets** – Straight inlet and outlet connections are provided for easy "slip-fit" connection to ducting. Optional drilled or undrilled outlet flanges are available.
- **Neoprene shaft seal** standard on all sizes.
- **Options and Accessories** – See page 34-35.

## Application Range – Series 03U

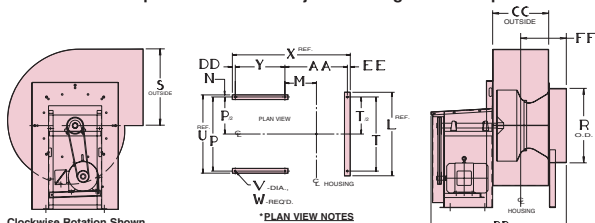
Size	Model	Max BHP	Max Motor Frame	Fan RPM Range	CFM @ S.P.					Ship Weight Less Motor and Acc.
					½"	1"	2"	3"	4"	
10	03U0-10-BU100BN----	1½	145T	1375-3500	520-1755	515-1690	520-1495	520-1300	585-1105	137
12	03U0-12-BU100BN----	2	145T	1100-2835	700-2440	700-2440	780-2175	960-1910	1045-1475	147
13	03U0-13-BU100BN----	2	145T	985-2570	850-3050	850-3000	950-2650	1050-2350	1250-1800	153
15	03U0-15-BU100BN----	3	182T	900-2265	1095-3700	1095-3700	1235-3560	1510-3014	1780-2465	194
16	03U0-16-BU100BN----	3	182T	810-2100	1250-4600	1260-4400	1400-4100	1750-3500	2050-2850	218
18	03U0-18-BU100BN----	5	184T	800-1885	1590-5950	1590-5950	1785-5550	2180-4960	2580-3970	256
20	03U0-20-BU100BN----	5	184T	650-1740	1850-6950	1850-6950	2100-6250	2550-5550	3000-4400	287
22	03U0-22-BU100BN----	7½	184T	700-1535	2375-8900	2375-8900	2670-8300	3265-7120	3855-5930	319
24	03U0-24-BU100BN----	7½	213T	600-1410	2810-10550	2810-10550	3160-10200	3870-9140	4570-7380	351
27	03U0-27-BU100BN----	10	215T	500-1260	3540-13270	3540-13270	3890-12830	4870-11500	5750-9290	497
30	03U0-30-BU100BN----	10	215T	415-1150	4200-15600	4200-15600	4700-15150	5750-13550	6800-10950	555

Sound and Air Performance Data is available in Hartzell ESP (Electronic Support Package). Please visit [www.hartzellfan.com](http://www.hartzellfan.com) to request a copy. Performance certified is for Installation Type D: Ducted Inlet/Ducted Outlet. Power ratings (BHP) do not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). Shaded units are available from stock. To complete model code, add class of construction, motor enclosure code, motor horsepower code and motor speed code. Refer to page 2 for more information.

## Principal Dimensions (Inches)

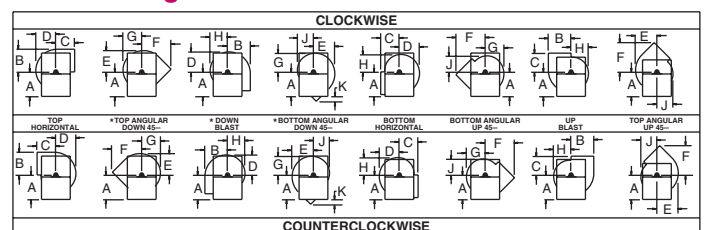
FAN SIZE	A	B	C	D	R	S	U	X	BB	CC	FF
10	18 <sup>1</sup> / <sub>16</sub>	11 <sup>3</sup> / <sub>8</sub>	12 <sup>1</sup> / <sub>4</sub>	10 <sup>1</sup> / <sub>16</sub>	11 <sup>1</sup> / <sub>16</sub>	11 <sup>3</sup> / <sub>8</sub>	21 <sup>1</sup> / <sub>4</sub>	27 <sup>3</sup> / <sub>16</sub> *	35 <sup>1</sup> / <sub>8</sub>	8 <sup>5</sup> / <sub>16</sub>	10 <sup>1</sup> / <sub>4</sub>
12	18 <sup>1</sup> / <sub>16</sub>	13 <sup>3</sup> / <sub>4</sub>	14 <sup>1</sup> / <sub>4</sub>	11 <sup>11</sup> / <sub>16</sub>	12 <sup>13</sup> / <sub>16</sub>	13 <sup>3</sup> / <sub>4</sub>	21 <sup>1</sup> / <sub>4</sub>	28 <sup>9</sup> / <sub>16</sub> *	36 <sup>1</sup> / <sub>2</sub>	9 <sup>1</sup> / <sub>16</sub>	10 <sup>15</sup> / <sub>16</sub>
13	18 <sup>1</sup> / <sub>16</sub>	14 <sup>9</sup> / <sub>16</sub>	15 <sup>3</sup> / <sub>4</sub>	12 <sup>7</sup> / <sub>8</sub>	14 <sup>1</sup> / <sub>8</sub>	14 <sup>5</sup> / <sub>8</sub>	21 <sup>1</sup> / <sub>4</sub>	29 <sup>1</sup> / <sub>2</sub> *	37 <sup>7</sup> / <sub>16</sub>	10 <sup>11</sup> / <sub>16</sub>	11 <sup>7</sup> / <sub>16</sub>
15	23	16 <sup>19</sup> / <sub>32</sub>	16 <sup>9</sup> / <sub>16</sub>	14 <sup>11</sup> / <sub>16</sub>	16 <sup>1</sup> / <sub>16</sub>	16 <sup>5</sup> / <sub>8</sub>	22 <sup>1</sup> / <sub>4</sub>	31 <sup>1</sup> / <sub>16</sub> *	38 <sup>15</sup> / <sub>16</sub>	12 <sup>1</sup> / <sub>8</sub>	12 <sup>9</sup> / <sub>16</sub>
16	23	17 <sup>13</sup> / <sub>16</sub>	17 <sup>3</sup> / <sub>4</sub>	15 <sup>3</sup> / <sub>4</sub>	17 <sup>1</sup> / <sub>4</sub>	17 <sup>7</sup> / <sub>8</sub>	22 <sup>1</sup> / <sub>4</sub>	31 <sup>15</sup> / <sub>16</sub> *	39 <sup>13</sup> / <sub>16</sub>	12 <sup>15</sup> / <sub>16</sub>	12 <sup>9</sup> / <sub>16</sub>
18	23	20	18 <sup>7</sup> / <sub>8</sub>	17 <sup>11</sup> / <sub>16</sub>	19 <sup>3</sup> / <sub>8</sub>	20 <sup>1</sup> / <sub>16</sub>	22 <sup>1</sup> / <sub>4</sub>	33 <sup>1</sup> / <sub>2</sub>	41 <sup>3</sup> / <sub>8</sub>	14 <sup>1</sup> / <sub>2</sub>	13 <sup>3</sup> / <sub>8</sub>
20	29	21 <sup>5</sup> / <sub>8</sub>	20 <sup>7</sup> / <sub>16</sub>	19 <sup>1</sup> / <sub>8</sub>	20 <sup>7</sup> / <sub>8</sub>	21 <sup>11</sup> / <sub>16</sub>	22 <sup>1</sup> / <sub>4</sub>	34 <sup>3</sup> / <sub>4</sub>	42 <sup>5</sup> / <sub>8</sub>	15 <sup>3</sup> / <sub>4</sub>	14
22	29	24 <sup>3</sup> / <sub>8</sub>	22	21 <sup>9</sup> / <sub>16</sub>	23 <sup>5</sup> / <sub>8</sub>	24 <sup>1</sup> / <sub>2</sub>	22 <sup>1</sup> / <sub>4</sub>	36 <sup>3</sup> / <sub>4</sub>	44 <sup>5</sup> / <sub>8</sub>	17 <sup>13</sup> / <sub>16</sub>	15
24	29	26 <sup>9</sup> / <sub>16</sub>	23 <sup>7</sup> / <sub>16</sub>	23 <sup>7</sup> / <sub>16</sub>	25 <sup>1</sup> / <sub>16</sub>	26 <sup>11</sup> / <sub>16</sub>	22 <sup>1</sup> / <sub>4</sub>	38 <sup>5</sup> / <sub>16</sub>	46 <sup>3</sup> / <sub>16</sub>	19 <sup>3</sup> / <sub>8</sub>	15 <sup>13</sup> / <sub>16</sub>
27	36	29 <sup>3</sup> / <sub>4</sub>	25 <sup>3</sup> / <sub>4</sub>	26 <sup>5</sup> / <sub>16</sub>	28 <sup>7</sup> / <sub>8</sub>	29 <sup>7</sup> / <sub>8</sub>	33 <sup>1</sup> / <sub>2</sub>	43 <sup>15</sup> / <sub>16</sub>	51 <sup>1</sup> / <sub>2</sub>	21 <sup>11</sup> / <sub>16</sub>	16 <sup>15</sup> / <sub>16</sub>
30	36	32 <sup>5</sup> / <sub>16</sub>	27 <sup>1</sup> / <sub>2</sub>	28 <sup>9</sup> / <sub>16</sub>	31 <sup>5</sup> / <sub>16</sub>	32 <sup>3</sup> / <sub>8</sub>	33 <sup>1</sup> / <sub>2</sub>	45 <sup>1</sup> / <sub>2</sub>	53 <sup>3</sup> / <sub>8</sub>	23 <sup>9</sup> / <sub>16</sub>	17 <sup>7</sup> / <sub>8</sub>

Dimensions and specifications are subject to change. Certified prints are available.



Refer to sales drawings for additional dimensions.

## Fan Discharges





# Series 03 Backward Curved Centrifugal Fan Type BA and Type BC



ABS Certificate of Design Assessment Received



Hartzell Fan, Inc. certifies that the Backward Curved Centrifugal Fan, Series 03 with type BC wheels shown herein is licensed to bear the AMCA seal for air and sound performance. 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.

Sound performance data is available upon request. Please contact the factory and ask for Engineering Publication #SD-147.



Hartzell Fan, Inc. certifies that the Backward Curved Centrifugal Fans, Series 03, shown herein, is authorized to bear CE Marking in accordance with Machinery Safety Directive 98/37/EC of the European Union. Reference Technical File E.S. 13.2.1.



**Type BC –  
SWSI Backward Curved Wheel**



**Type BA –  
SWSI Backward Curved  
Airfoil Wheel**

The Hartzell Series 03 Backward Curved Centrifugal Fans are designed to provide maximum performance and efficiency. These versatile and dependable units are suited for handling clean air and industrial fumes. These blowers are available in direct drive and belt drive configurations.

The Hartzell Type BC and BA (airfoil) wheels have non-overloading horsepower characteristics. Efficient airflow is provided over a broad range of pressures (maximum total efficiencies exceeding 80%). Designed for quiet operation, the Hartzell backward curved centrifugal fans provide lower sound levels in the highest efficiency ranges. Accurate and reliable air performance and sound power rating, in eight octave bands, in accordance with industry standards, tests, and procedures is available. Air delivery ranges from 700 CFM to 104,000 CFM; static pressure capabilities to 14" and higher.

## Features

- **Sizes, Classes, and Arrangements** – available in single width, single inlet wheel diameter sizes 12" - 60", in Class I, II, or III, Belt Drive Arrangements #1, #9, #9M, and #10, Direct Drive Arr. #4 and Direct Coupled Arr. #8. Contact Factory for others.
- **Rotation and Discharge Positions** – Available in both clockwise and counterclockwise rotations and in standard discharge positions. Housing discharge position can be changed on fan sizes 12" through 33". Size 36" through 60" are fixed position and are non-rotatable.
- **Standard Construction** – The Hartzell Series 03 Backward Curved Centrifugal Fans, (SWSI), incorporate Heavy Industrial Duty Construction - Designed for Heavyweight Service with ruggedness, use, long life, reliability, and performance taken together. Housings are continuously welded rolled steel and bearing base/motor pedestal bases are built of heavy gauge hot rolled steel and structural steel. See material specification tables for construction details.
- **Fan Inlets and Outlets** – Straight inlet and outlet connections are provided for easy "slip-fit" connection to ducting. Optional continuously welded flanges are available.
- **Wheels** – Type BC wheels have single thickness airfoil blades, and Type BA wheels have double thickness hollow airfoil blades. The heavy-duty steel construction is reinforced depending on size and class of construction. The wheel's inlet rim is a tapered spun orifice. The inlet rim is overlapped by the fan's spun inlet cone with closely held tolerances to ensure maximum performance and efficiency.
- **Balancing** – Fans are electronically statically and dynamically balanced to the requirements of Fan Application Category BV-3 of AMCA/ANSI Std. 204-96 and whenever possible receive an Operational Test and Inspection prior to shipment.
- **Bearings** – Fan Bearings are heavy-duty, self-aligning, shielded and mechanically sealed, ball or roller type, in cast iron or malleable pillow block housings. Bearings are selected for minimum L-50 Life of 250,000 hours at maximum catalog speed, horsepower, and static pressure. Lubrication fittings are extended as standard for easy relubrication.
- **Shafts and Drives** – Shafts are turned, ground, polished, keyed at both ends, and sized to operate well below critical speed. V-Belt Drives are oversized for long life and continuous duty and are fixed pitch as standard option. Variable pitch drives are available upon request. Belts are oil, heat, and static resistant type.
- **Standard Finish** – Standard fans and accessories are pretreated and painted with blue industrial duty air dry enamel. Alternate coatings are available for high temperature and corrosive environments.
- **Motor Out of the Airstream** – Exterior motor mounting for easy electrical connection, adjustment of belts, and lubrication is standard. An adjustable motor slide base in belt drive models is standard. Motors can be furnished as TEFC, ODP, Mill and Chemical Duty, or to specifications upon request. Motor HP and frame size limits are identified in Dimensions and Material Specifications table.
- **High Temperature Fans and Systems** – Standard construction operates to 300°F (except Arrangement 4). Construction is available for operation up to 800°F in most arrangements. (See Pages 6-7).
- **Spark Resistant Construction** – AMCA Type A, B, and C is available, Membrane Type shaft seal is standard with AMCA Spark Resistant Construction. Explosion Proof Motors are also available.
- **Special Materials of Construction** – Alternate materials of construction; stainless steel, aluminum, fiberglass housing, and other materials are available upon request.
- **Your Special Features and Options** – Hartzell Fan has a wide range of designs, configurations, performances, sizes, materials, finishes, and motors in-stock and from production to fit your ventilation requirements. Accessories including guards, companion flanges, dampers, louvers, inlet bells, sub-bases, vibration isolators, lifting lugs, leak resistant construction, and sound mufflers are available.



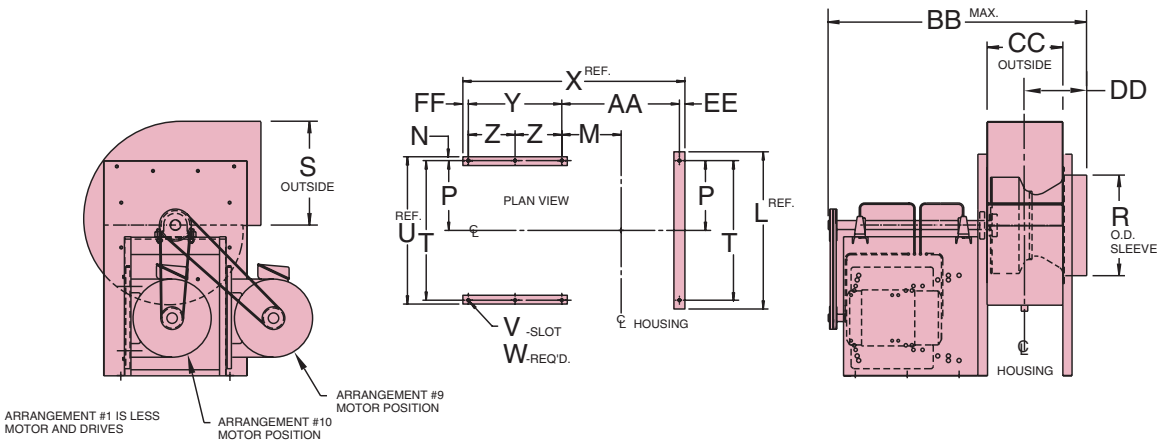
# Dimensions – Arrangements 1, 9, or 10

## SERIES 03

Sizes 12 BC Through 33 BC, Rotatable Housing

Standard Construction – Classes I, II and III, Maximum Temperature – 800°F.

Clockwise Shown. Counterclockwise Opposite.



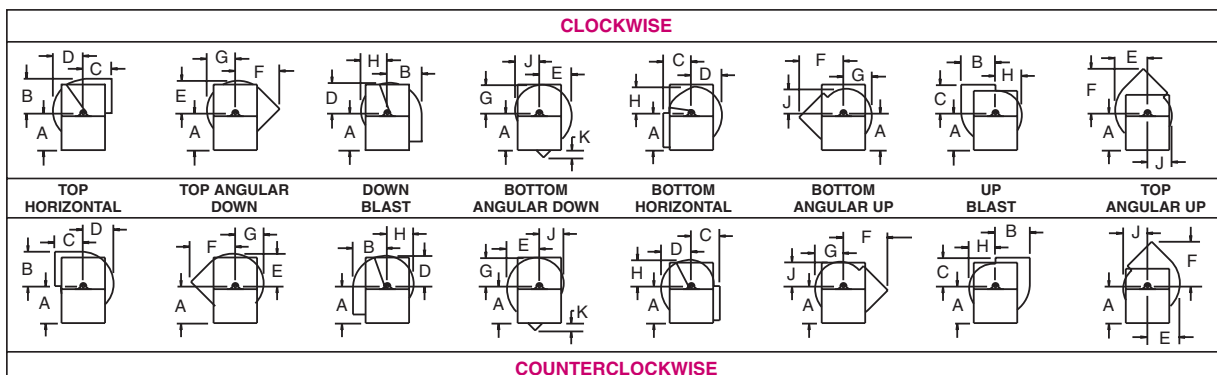
### Principal Dimensions (Inches) – Sizes 12" – 33"

FAN SIZE	A	B	C	D	E	F	G	H	J	K	L	M	N
12	18 <sup>1</sup> / <sub>2</sub>	13 <sup>5</sup> / <sub>16</sub>	14 <sup>1</sup> / <sub>4</sub>	11 <sup>3</sup> / <sub>4</sub>	12 <sup>9</sup> / <sub>16</sub>	19 <sup>1</sup> / <sub>2</sub>	11	10 <sup>1</sup> / <sub>4</sub>	9 <sup>1</sup> / <sub>2</sub>	1	*18 <sup>3</sup> / <sub>4</sub>	7 <sup>1</sup> / <sub>4</sub>	1
15	21 <sup>1</sup> / <sub>2</sub>	16 <sup>11</sup> / <sub>16</sub>	16 <sup>9</sup> / <sub>16</sub>	14 <sup>3</sup> / <sub>4</sub>	15 <sup>1</sup> / <sub>4</sub>	23 <sup>1</sup> / <sub>2</sub>	13 <sup>13</sup> / <sub>16</sub>	12 <sup>13</sup> / <sub>16</sub>	11 <sup>7</sup> / <sub>8</sub>	2	*20 <sup>3</sup> / <sub>4</sub>	8 <sup>1</sup> / <sub>2</sub>	1
18	24 <sup>1</sup> / <sub>4</sub>	20	18 <sup>7</sup> / <sub>8</sub>	17 <sup>11</sup> / <sub>16</sub>	18 <sup>7</sup> / <sub>8</sub>	27 <sup>1</sup> / <sub>2</sub>	16 <sup>9</sup> / <sub>16</sub>	15 <sup>3</sup> / <sub>8</sub>	14 <sup>1</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>4</sub>	27 <sup>3</sup> / <sub>4</sub>	11 <sup>3</sup> / <sub>16</sub>	1 <sup>15</sup> / <sub>16</sub>
22	30	24 <sup>7</sup> / <sub>16</sub>	22	21 <sup>5</sup> / <sub>8</sub>	23 <sup>1</sup> / <sub>16</sub>	32 <sup>7</sup> / <sub>8</sub>	20 <sup>3</sup> / <sub>16</sub>	18 <sup>3</sup> / <sub>16</sub>	17 <sup>3</sup> / <sub>8</sub>	2 <sup>7</sup> / <sub>8</sub>	28 <sup>1</sup> / <sub>8</sub>	11 <sup>1</sup> / <sub>4</sub>	1
24	33 <sup>15</sup> / <sub>16</sub>	26 <sup>5</sup> / <sub>8</sub>	23 <sup>9</sup> / <sub>16</sub>	23 <sup>1</sup> / <sub>2</sub>	25 <sup>1</sup> / <sub>16</sub>	35 <sup>1</sup> / <sub>2</sub>	22	20 <sup>7</sup> / <sub>16</sub>	18 <sup>15</sup> / <sub>16</sub>	1 <sup>9</sup> / <sub>16</sub>	30	12	1
27	32 <sup>5</sup> / <sub>8</sub>	29 <sup>13</sup> / <sub>16</sub>	25 <sup>3</sup> / <sub>4</sub>	26 <sup>3</sup> / <sub>8</sub>	28 <sup>1</sup> / <sub>8</sub>	39 <sup>5</sup> / <sub>16</sub>	24 <sup>5</sup> / <sub>8</sub>	22 <sup>15</sup> / <sub>16</sub>	21 <sup>3</sup> / <sub>16</sub>	6 <sup>11</sup> / <sub>16</sub>	33 <sup>3</sup> / <sub>8</sub>	13 <sup>3</sup> / <sub>16</sub>	1
30	37	32 <sup>3</sup> / <sub>8</sub>	27 <sup>1</sup> / <sub>2</sub>	28 <sup>9</sup> / <sub>16</sub>	30 <sup>1</sup> / <sub>2</sub>	42 <sup>9</sup> / <sub>16</sub>	26 <sup>11</sup> / <sub>16</sub>	24 <sup>13</sup> / <sub>16</sub>	22 <sup>15</sup> / <sub>16</sub>	5 <sup>5</sup> / <sub>16</sub>	43 <sup>3</sup> / <sub>4</sub>	16 <sup>13</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>8</sub>
33	40	35 <sup>9</sup> / <sub>16</sub>	30	31 <sup>7</sup> / <sub>16</sub>	33 <sup>1</sup> / <sub>2</sub>	46 <sup>3</sup> / <sub>8</sub>	29 <sup>9</sup> / <sub>8</sub>	27 <sup>9</sup> / <sub>16</sub>	25 <sup>1</sup> / <sub>4</sub>	6 <sup>3</sup> / <sub>8</sub>	47 <sup>1</sup> / <sub>4</sub>	18 <sup>1</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>8</sub>

FAN SIZE	P	R	S	T	U	V	W	X	Y	Z	AA	BB	CC	DD	EE	FF
12	8 <sup>1</sup> / <sub>8</sub>	12 <sup>15</sup> / <sub>16</sub>	13 <sup>3</sup> / <sub>8</sub>	16 <sup>1</sup> / <sub>4</sub>	18 <sup>1</sup> / <sub>4</sub>	1 <sup>11</sup> / <sub>16</sub> X 1 <sup>1</sup> / <sub>16</sub>	4	*28 <sup>5</sup> / <sub>16</sub>	12 <sup>3</sup> / <sub>4</sub>	–	*13 <sup>9</sup> / <sub>16</sub>	36 <sup>5</sup> / <sub>16</sub>	9 <sup>3</sup> / <sub>4</sub>	11 <sup>3</sup> / <sub>16</sub>	*1	1 <sup>1</sup> / <sub>4</sub>
15	9 <sup>1</sup> / <sub>8</sub>	16 <sup>3</sup> / <sub>16</sub>	16 <sup>3</sup> / <sub>4</sub>	18 <sup>1</sup> / <sub>4</sub>	20 <sup>1</sup> / <sub>4</sub>	1 <sup>11</sup> / <sub>16</sub> X 1 <sup>1</sup> / <sub>16</sub>	4	*33 <sup>11</sup> / <sub>16</sub>	15 <sup>3</sup> / <sub>4</sub>	–	*15 <sup>11</sup> / <sub>16</sub>	41 <sup>11</sup> / <sub>16</sub>	12 <sup>2</sup> / <sub>32</sub>	12 <sup>9</sup> / <sub>16</sub>	*1	1 <sup>1</sup> / <sub>4</sub>
18	12 <sup>11</sup> / <sub>16</sub>	19 <sup>1</sup> / <sub>2</sub>	20 <sup>1</sup> / <sub>16</sub>	25 <sup>3</sup> / <sub>8</sub>	27 <sup>1</sup> / <sub>4</sub>	1 <sup>11</sup> / <sub>16</sub> X 1 <sup>1</sup> / <sub>16</sub>	8	40 <sup>3</sup> / <sub>4</sub>	18 <sup>3</sup> / <sub>4</sub>	9 <sup>3</sup> / <sub>8</sub>	19 <sup>3</sup> / <sub>4</sub>	49 <sup>1</sup> / <sub>4</sub>	14 <sup>19</sup> / <sub>32</sub>	13 <sup>5</sup> / <sub>8</sub>	1	1 <sup>1</sup> / <sub>4</sub>
22	12 <sup>11</sup> / <sub>16</sub>	23 <sup>3</sup> / <sub>4</sub>	24 <sup>1</sup> / <sub>2</sub>	25 <sup>3</sup> / <sub>8</sub>	27 <sup>3</sup> / <sub>8</sub>	1 <sup>11</sup> / <sub>16</sub> X 1 <sup>1</sup> / <sub>16</sub>	8	43 <sup>3</sup> / <sub>4</sub>	20 <sup>1</sup> / <sub>4</sub>	10 <sup>1</sup> / <sub>8</sub>	21 <sup>1</sup> / <sub>4</sub>	52 <sup>1</sup> / <sub>4</sub>	17 <sup>7</sup> / <sub>8</sub>	15 <sup>1</sup> / <sub>4</sub>	1	1 <sup>1</sup> / <sub>4</sub>
24	12 <sup>11</sup> / <sub>16</sub>	25 <sup>13</sup> / <sub>16</sub>	26 <sup>11</sup> / <sub>16</sub>	25 <sup>3</sup> / <sub>8</sub>	27 <sup>3</sup> / <sub>8</sub>	1 <sup>11</sup> / <sub>16</sub> X 1 <sup>1</sup> / <sub>16</sub>	8	47 <sup>5</sup> / <sub>8</sub>	22 <sup>1</sup> / <sub>2</sub>	11 <sup>1</sup> / <sub>4</sub>	22 <sup>7</sup> / <sub>8</sub>	56 <sup>5</sup> / <sub>8</sub>	19 <sup>7</sup> / <sub>16</sub>	16	1	1 <sup>1</sup> / <sub>4</sub>
27	11	28 <sup>15</sup> / <sub>16</sub>	30 <sup>1</sup> / <sub>16</sub>	22	24	1 <sup>11</sup> / <sub>16</sub> X 1 <sup>1</sup> / <sub>16</sub>	8	49 <sup>15</sup> / <sub>16</sub>	22 <sup>1</sup> / <sub>2</sub>	11 <sup>1</sup> / <sub>4</sub>	25 <sup>3</sup> / <sub>16</sub>	61 <sup>15</sup> / <sub>16</sub>	21 <sup>3</sup> / <sub>4</sub>	17 <sup>3</sup> / <sub>16</sub>	1	1 <sup>1</sup> / <sub>4</sub>
30	16 <sup>7</sup> / <sub>8</sub>	31 <sup>3</sup> / <sub>8</sub>	32 <sup>7</sup> / <sub>16</sub>	33 <sup>3</sup> / <sub>4</sub>	38	1 <sup>13</sup> / <sub>16</sub> X 1 <sup>1</sup> / <sub>4</sub>	9	56 <sup>5</sup> / <sub>16</sub>	22 <sup>3</sup> / <sub>4</sub>	11 <sup>3</sup> / <sub>8</sub>	30 <sup>1</sup> / <sub>16</sub>	64 <sup>1</sup> / <sub>8</sub>	23 <sup>9</sup> / <sub>16</sub>	18 <sup>3</sup> / <sub>32</sub>	1 <sup>1</sup> / <sub>2</sub>	2
33	16 <sup>7</sup> / <sub>8</sub>	34 <sup>1</sup> / <sub>2</sub>	35 <sup>11</sup> / <sub>16</sub>	33 <sup>3</sup> / <sub>4</sub>	38	1 <sup>13</sup> / <sub>16</sub> X 1 <sup>1</sup> / <sub>4</sub>	9	61 <sup>13</sup> / <sub>16</sub>	25 <sup>3</sup> / <sub>4</sub>	12 <sup>7</sup> / <sub>8</sub>	32 <sup>9</sup> / <sub>16</sub>	70 <sup>15</sup> / <sub>16</sub>	26 <sup>1</sup> / <sub>32</sub>	19 <sup>9</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>2</sub>	2

\*PLAN VIEW NOTES: An inlet support and the dimensions indicated by an asterisk (\*) are not standard for sizes 12-15 except when vibration isolators are specified. All dimensions listed for 18 thru 33 are standard with or without vibration isolators. Dimensions and specifications are subject to change. Certified prints are available.

### Fan Discharges



NOTE: For bottom angular down, top angular down, and/or down blast, contact factory when discharge flanges are required.



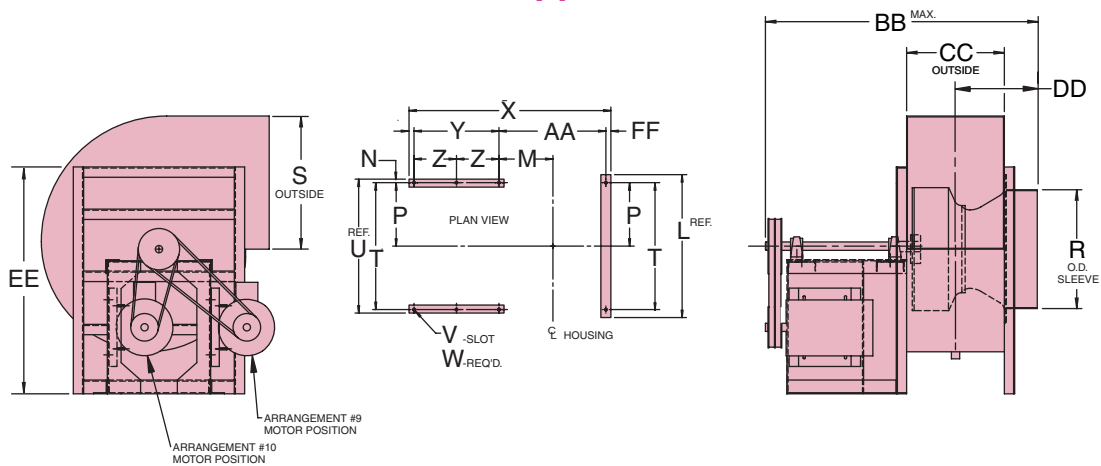
# Dimensions – Arrangements 1, 9, or 10

**SERIES 03-**

**Sizes 36 Through 60**

**Standard Construction – Classes I, II and III, Maximum Temperature – 800°F.**

**Clockwise Shown. Counterclockwise Opposite.**



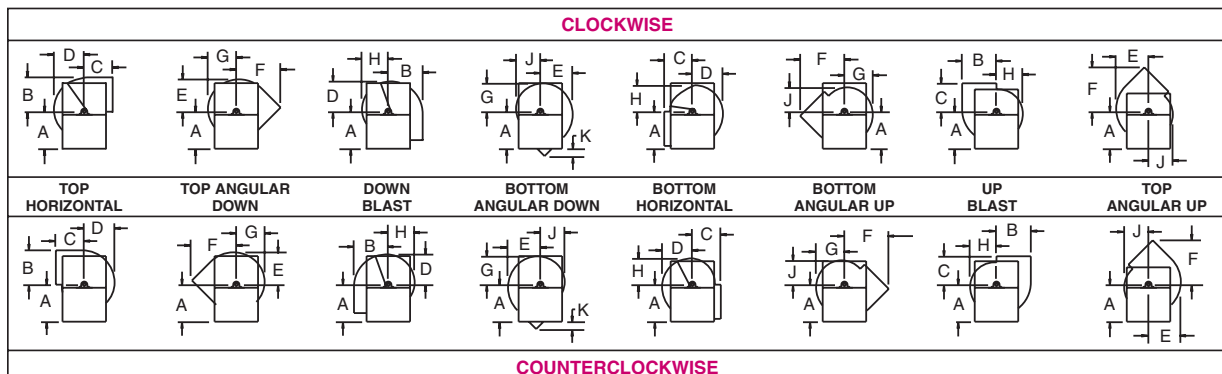
## Principal Dimensions (Inches) – Sizes 36" – 60"

FAN SIZE	A			B	C	D	E	F	G	H	J	K	L	M
	TAD/TH	TAU/UB	BAU/BH/DB											
36	42	42	42	38 <sup>3</sup> / <sub>4</sub>	38	34 <sup>5</sup> / <sub>16</sub>	36 <sup>9</sup> / <sub>16</sub>	54 <sup>5</sup> / <sub>16</sub>	32 <sup>1</sup> / <sub>32</sub>	29 <sup>13</sup> / <sub>16</sub>	27 <sup>9</sup> / <sub>16</sub>	12 <sup>5</sup> / <sub>16</sub>	50 <sup>3</sup> / <sub>4</sub>	19 <sup>1</sup> / <sub>8</sub>
40	47	47	47	43 <sup>3</sup> / <sub>8</sub>	41 <sup>3</sup> / <sub>4</sub>	38 <sup>5</sup> / <sub>16</sub>	40 <sup>7</sup> / <sub>8</sub>	60 <sup>3</sup> / <sub>16</sub>	35 <sup>13</sup> / <sub>16</sub>	33 <sup>5</sup> / <sub>16</sub>	30 <sup>13</sup> / <sub>16</sub>	13 <sup>3</sup> / <sub>16</sub>	55 <sup>1</sup> / <sub>4</sub>	20 <sup>13</sup> / <sub>16</sub>
44	51 <sup>1</sup> / <sub>4</sub>	51 <sup>1</sup> / <sub>4</sub>	51 <sup>1</sup> / <sub>4</sub>	47 <sup>15</sup> / <sub>16</sub>	44 <sup>1</sup> / <sub>32</sub>	42 <sup>3</sup> / <sub>8</sub>	45 <sup>1</sup> / <sub>8</sub>	65 <sup>1</sup> / <sub>16</sub>	39 <sup>5</sup> / <sub>8</sub>	36 <sup>13</sup> / <sub>16</sub>	34	13 <sup>13</sup> / <sub>16</sub>	59 <sup>5</sup> / <sub>8</sub>	22 <sup>7</sup> / <sub>16</sub>
49	56	56	56	52 <sup>3</sup> / <sub>4</sub>	48 <sup>1</sup> / <sub>32</sub>	46 <sup>5</sup> / <sub>8</sub>	49 <sup>11</sup> / <sub>16</sub>	71 <sup>1</sup> / <sub>4</sub>	43 <sup>9</sup> / <sub>16</sub>	40 <sup>1</sup> / <sub>2</sub>	37 <sup>7</sup> / <sub>16</sub>	15 <sup>1</sup> / <sub>4</sub>	64 <sup>1</sup> / <sub>2</sub>	24 <sup>3</sup> / <sub>16</sub>
54	47 <sup>3</sup> / <sub>4</sub>	54 <sup>1</sup> / <sub>4</sub>	61	60 <sup>15</sup> / <sub>16</sub>	53 <sup>1</sup> / <sub>16</sub>	51 <sup>11</sup> / <sub>16</sub>	55 <sup>5</sup> / <sub>16</sub>	78 <sup>7</sup> / <sub>8</sub>	48 <sup>5</sup> / <sub>16</sub>	44 <sup>15</sup> / <sub>16</sub>	41 <sup>1</sup> / <sub>2</sub>	---	69 <sup>1</sup> / <sub>2</sub>	27
60	52 <sup>1</sup> / <sub>2</sub>	60	67 <sup>1</sup> / <sub>2</sub>	67 <sup>1</sup> / <sub>8</sub>	58 5/8	57 <sup>1</sup> / <sub>8</sub>	60 <sup>7</sup> / <sub>8</sub>	87 <sup>1</sup> / <sub>4</sub>	53 <sup>3</sup> / <sub>8</sub>	49 <sup>5</sup> / <sub>8</sub>	45 <sup>7</sup> / <sub>8</sub>	---	75 <sup>1</sup> / <sub>2</sub>	29 <sup>1</sup> / <sub>4</sub>

FAN SIZE	N	P	R	S	T	U	V	W	X	Y	Z	AA	BB	CC	DD	EE*	FF
36	2 <sup>1</sup> / <sub>8</sub>	16 <sup>7</sup> / <sub>8</sub>	37 <sup>5</sup> / <sub>8</sub>	38 <sup>15</sup> / <sub>16</sub>	33 <sup>3</sup> / <sub>4</sub>	38	1 <sup>3</sup> / <sub>16</sub> X 1 <sup>1</sup> / <sub>4</sub>	9	64	25 <sup>3</sup> / <sub>4</sub>	12 <sup>7</sup> / <sub>8</sub>	34 <sup>3</sup> / <sub>4</sub>	73 <sup>5</sup> / <sub>16</sub>	28 <sup>1</sup> / <sub>4</sub>	20 <sup>1</sup> / <sub>4</sub>	---	1 <sup>1</sup> / <sub>2</sub>
40	2	22	42 <sup>1</sup> / <sub>8</sub>	43 <sup>1</sup> / <sub>2</sub>	44	48	1 <sup>3</sup> / <sub>16</sub> X 1 <sup>1</sup> / <sub>4</sub>	9	69 <sup>9</sup> / <sub>16</sub>	27 <sup>3</sup> / <sub>4</sub>	13 <sup>7</sup> / <sub>8</sub>	38 <sup>1</sup> / <sub>16</sub>	78 <sup>5</sup> / <sub>8</sub>	31 <sup>9</sup> / <sub>16</sub>	21 <sup>15</sup> / <sub>16</sub>	---	1 <sup>1</sup> / <sub>2</sub>
44	2	22	46 <sup>5</sup> / <sub>8</sub>	48 <sup>1</sup> / <sub>16</sub>	44	48	1 <sup>3</sup> / <sub>16</sub> X 1 <sup>1</sup> / <sub>4</sub>	9	72 <sup>5</sup> / <sub>8</sub>	27 <sup>3</sup> / <sub>4</sub>	13 <sup>7</sup> / <sub>8</sub>	41 <sup>3</sup> / <sub>8</sub>	82 <sup>7</sup> / <sub>16</sub>	34 <sup>1</sup> / <sub>8</sub>	23 <sup>5</sup> / <sub>8</sub>	---	1 <sup>1</sup> / <sub>2</sub>
49	2	22	51 <sup>3</sup> / <sub>16</sub>	52 <sup>7</sup> / <sub>8</sub>	44	48	1 <sup>3</sup> / <sub>16</sub> X 1 <sup>1</sup> / <sub>4</sub>	9	76 <sup>1</sup> / <sub>8</sub>	27 <sup>3</sup> / <sub>4</sub>	13 <sup>7</sup> / <sub>8</sub>	44 <sup>7</sup> / <sub>8</sub>	86 <sup>15</sup> / <sub>16</sub>	38 <sup>3</sup> / <sub>8</sub>	25 <sup>3</sup> / <sub>8</sub>	---	1 <sup>1</sup> / <sub>2</sub>
54	2	27	56 <sup>3</sup> / <sub>4</sub>	58 <sup>5</sup> / <sub>8</sub>	54	58	1 <sup>3</sup> / <sub>16</sub>	9	85 <sup>5</sup> / <sub>16</sub>	32	16	49 <sup>5</sup> / <sub>16</sub>	97 <sup>1</sup> / <sub>16</sub>	42 <sup>9</sup> / <sub>16</sub>	27 <sup>3</sup> / <sub>8</sub>	91 <sup>3</sup> / <sub>4</sub>	1 <sup>3</sup> / <sub>8</sub>
60	2	27	62 <sup>3</sup> / <sub>4</sub>	64 <sup>13</sup> / <sub>16</sub>	54	58	1 <sup>3</sup> / <sub>16</sub>	9	89 <sup>3</sup> / <sub>4</sub>	32	16	54 <sup>3</sup> / <sub>8</sub>	101 <sup>1</sup> / <sub>2</sub>	47	29 <sup>5</sup> / <sub>8</sub>	101 <sup>3</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>8</sub>

NOTE: \*For top angular up discharge only 54" and 60", dimension is for location of removable split scroll to allow for shipping. Assembly required in field. Dimensions and specifications are subject to change. Certified prints are available.

## Fan Discharges



NOTE: For bottom angular down, top angular down, and/or down blast, contact factory when discharge flanges are required.



# Series 03P Backward Curved Centrifugal Fan, Packaged



**Series 03P**

Shown with optional equipment



Hartzell Fan, Inc. certifies that the Backward Curved Centrifugal Fan, Packaged, Series 03P, with type BC wheels shown herein is licensed to bear the AMCA seal for air and sound performance. 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.

Sound performance data is available upon request. Please contact the factory and ask for Engineering Publication #SD-147.

ABS Certificate  
of Design Assessment  
Received



**Type BC Wheel**

Type BA Wheel also available

Series 03P – Backward Curved Centrifugal Fans, Packaged, is built for reliable service in standard applications and is designed to provide maximum performance and efficiency in a compact, packaged, Class II design. These versatile and dependable units are suited for handling clean air and industrial fumes, and incorporate Industrial Duty Construction.

Developed to perform throughout the entire Class II Performance Range, the Series 03P utilize the Hartzell Type BC And BA (airfoil) wheels and have non-overloading horsepower characteristics. Efficient airflow is provided over a broad range of pressures (maximum total efficiencies exceeding 80%). Designed for quiet operation, the Series 03P provides lower sound levels in the highest efficiency ranges.

**Sizes and Performance** – wheel diameter sizes **12" – 36"**, (SWSI), Class II, Arrangement 10. Air delivery ranges from **700 CFM to 35,000 CFM**; static pressure capabilities to **10" W.G.**

## Features

- **Construction** – Housings are continuously welded rolled steel and bearing base/motor pedestal bases are built of heavy gauge hot rolled steel. Base is sized to accept maximum motor frame size required for Class II operation. See material specification tables construction details.
- **Rotation and Discharge Positions** – Available in both clockwise and counter-clockwise rotations and in all standard discharge positions. Housing discharge position can be changed on all sizes.
- **Stock** – Most sizes of the Series 03P are available from stock.
- **Standard Shaft Seal** – A shaft seal is placed where the shaft leaves the housing to minimize leakage. Seal is not gas tight.
- **Bearings** – Bearings are heavy duty, self-aligning, ball or roller type, in cast iron pillow block housings, selected for long life at maximum class II construction limits, and include extended lubrication fittings as standard.
- **Shafts and Drives** – Shafts are turned, ground, polished, keyed at both ends, and sized to operate well below critical speed. V-Belt Drives are oversized for long life and continuous duty and are fixed pitch as standard option. Variable pitch drives for sizes 24" through 36" are available upon request. Belts are oil, heat, and static resistant type. Weather cover is standard.
- **Balancing** – Fans are electronically statically and dynamically balanced to the requirements of Fan Application Category BV-3 of AMCA ANSI Std. 204-96 and whenever possible receive an Operational Test and Inspection prior to shipment.
- **Fan Inlets and Outlets** – Straight inlet and outlet connections are provided for easy "slip-fit" connection to ducting. Optional continuously welded flanges are available. Flange bolt holes are optional.
- **Motor Out of the Airstream** – Exterior motor mounting for easy electrical connection, adjustment of belts, and lubrication of Drip Proof Protected motor on an adjustable motor pivot base is standard. Motors can be furnished as TEFC, Mill and Chemical Duty, or to specifications upon request. Motor HP and frame size limits are identified in Dimensions and Material Specifications table.
- **Easy Installation and Maintenance** – Motor, drives and bearings are readily accessible for ease in wiring, installation, adjustment, and lubrication.
- **Standard Finish** – Standard fans and accessories are pretreated and painted with blue industrial duty air dry enamel. Alternate coatings are available for high temperature and corrosive environments.
- **High Temperature Fans and Systems** – Standard construction operates to 250°F. Construction is available for operation up to 600°F with high temperature options. (See Pages 6-7).
- **Spark Resistant Construction** – AMCA Type A, B, and C is available, Membrane Type shaft seal is standard with AMCA Spark Resistant Construction. Explosion Proof Motors are also available.
- **Options and Accessories** – Accessories including companion flanges, dampers, louvers, inlet bells, sub-bases, vibration isolators, lifting lugs, leak resistant construction, and sound mufflers are available. See pages 34 and 35.



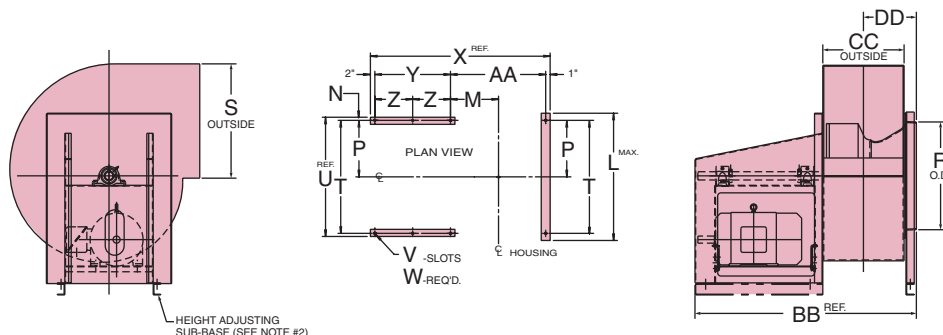
# Dimensions – Arrangement 10

**SERIES 03P**

**Sizes 12 Through 36**

**Standard Construction – Class II, Standard Maximum Temperature – 250°F.**

**Maximum Temperature – 600°F. Clockwise Shown. Counterclockwise Opposite.**



Refer to sales drawings for additional dimensions.

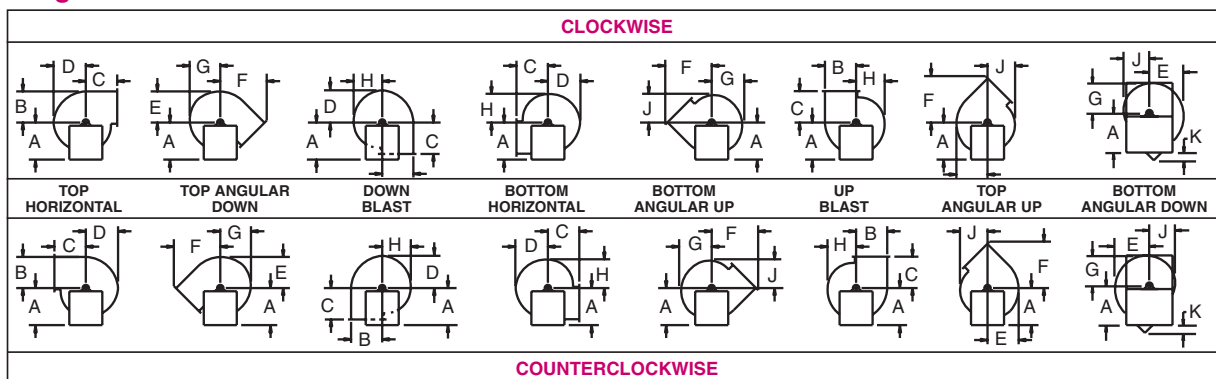
## Principal Dimensions (Inches) – Sizes 12" – 33"

FAN SIZE	A	B	C	D	H	R	S	BB	CC	DD	Max Mtr Frame
12	17	13 <sup>5</sup> / <sub>16</sub>	14 <sup>1</sup> / <sub>4</sub>	11 <sup>3</sup> / <sub>4</sub>	10 <sup>1</sup> / <sub>4</sub>	12 <sup>15</sup> / <sub>16</sub>	13 <sup>7</sup> / <sub>16</sub>	40 <sup>3</sup> / <sub>4</sub>	9 <sup>3</sup> / <sub>4</sub>	11 <sup>1</sup> / <sub>8</sub>	215T
15	17	16 <sup>11</sup> / <sub>16</sub>	16 <sup>9</sup> / <sub>16</sub>	14 <sup>3</sup> / <sub>4</sub>	12 <sup>13</sup> / <sub>16</sub>	16 <sup>3</sup> / <sub>16</sub>	16 <sup>3</sup> / <sub>4</sub>	43 <sup>1</sup> / <sub>4</sub>	12 <sup>1</sup> / <sub>4</sub>	12 <sup>3</sup> / <sub>8</sub>	215T
18	20	20	18 <sup>7</sup> / <sub>8</sub>	17 <sup>11</sup> / <sub>16</sub>	15 <sup>3</sup> / <sub>8</sub>	19 <sup>7</sup> / <sub>16</sub>	20 <sup>1</sup> / <sub>8</sub>	50 <sup>1</sup> / <sub>4</sub>	14 <sup>5</sup> / <sub>8</sub>	13 <sup>9</sup> / <sub>16</sub>	254T
22	24 <sup>3</sup> / <sub>4</sub>	24 <sup>7</sup> / <sub>16</sub>	22	21 <sup>5</sup> / <sub>8</sub>	18 <sup>13</sup> / <sub>16</sub>	23 <sup>3</sup> / <sub>4</sub>	24 <sup>9</sup> / <sub>16</sub>	53 <sup>7</sup> / <sub>16</sub>	17 <sup>13</sup> / <sub>16</sub>	15 <sup>5</sup> / <sub>32</sub>	256T
24	27	26 <sup>5</sup> / <sub>8</sub>	23 <sup>9</sup> / <sub>16</sub>	23 <sup>1</sup> / <sub>2</sub>	20 <sup>7</sup> / <sub>16</sub>	25 <sup>13</sup> / <sub>16</sub>	26 <sup>11</sup> / <sub>16</sub>	55	19 <sup>9</sup> / <sub>8</sub>	16	256T
27	28 <sup>1</sup> / <sub>2</sub>	29 <sup>13</sup> / <sub>16</sub>	25 <sup>3</sup> / <sub>4</sub>	26 <sup>3</sup> / <sub>8</sub>	22 <sup>15</sup> / <sub>16</sub>	28 <sup>15</sup> / <sub>16</sub>	29 <sup>15</sup> / <sub>16</sub>	61 <sup>13</sup> / <sub>16</sub>	21 <sup>3</sup> / <sub>4</sub>	17 <sup>7</sup> / <sub>16</sub>	286T
30	30 <sup>1</sup> / <sub>2</sub>	32 <sup>5</sup> / <sub>8</sub>	27 <sup>1</sup> / <sub>2</sub>	28 <sup>9</sup> / <sub>16</sub>	24 <sup>13</sup> / <sub>16</sub>	31 <sup>3</sup> / <sub>8</sub>	32 <sup>1</sup> / <sub>2</sub>	67 <sup>1</sup> / <sub>16</sub>	23 <sup>9</sup> / <sub>16</sub>	18 <sup>1</sup> / <sub>8</sub>	324T
33	37	35 <sup>9</sup> / <sub>16</sub>	30	31 <sup>7</sup> / <sub>16</sub>	27 <sup>5</sup> / <sub>16</sub>	34 <sup>7</sup> / <sub>16</sub>	35 <sup>11</sup> / <sub>16</sub>	69 <sup>7</sup> / <sub>16</sub>	25 <sup>15</sup> / <sub>16</sub>	19 <sup>9</sup> / <sub>16</sub>	324T
36	37	38 <sup>3</sup> / <sub>4</sub>	38	34 <sup>5</sup> / <sub>16</sub>	29 <sup>13</sup> / <sub>16</sub>	37 <sup>11</sup> / <sub>16</sub>	38 <sup>15</sup> / <sub>16</sub>	71 <sup>3</sup> / <sub>4</sub>	28 <sup>1</sup> / <sub>4</sub>	20 <sup>7</sup> / <sub>16</sub>	326T

1. Clockwise rotation shown, counter clockwise rotation is opposite as shown.

2. Scrolls are rotatable. BH and BAU rotations require a 3" tall height adjusting sub-base. B.A.D. requires special consideration. Contact factory.

## Fan Discharges



NOTE: For bottom angular down, top angular down, and/or down blast, contact factory when discharge flanges are required.

## Series 03P – Material Specifications

FAN SIZE	HOUSING		FLANGES*		SHAFTS AND BEARINGS			BC WHEEL		BA WHEEL		MAX FRAME SIZE	INST WGT
	SCROLL	SIDE	INLET	OUTLET	SIZE	DRIVE SIDE	WHEEL SIDE	(LB.-FT.) WR	(LBS.) WGT.	(LB.-FT.) WR	(LBS.) WGT.		
12	12GA	12GA	2 x 1/4	1 1/2 x 7GA	1 7/16	P3-U223	P3-U223	2.8	16	---	---	215T	249
15	12GA	12GA	2 x 1/4	1 1/2 x 7GA	1 7/16	P3-U223	P3-U223	6	23.9	---	---	215T	295
18	12GA	12GA	2 x 1/4	1 1/2 x 7GA	1 11/16	P3-U227	P3-U227	12	37.7	12.5	39.2	254T	403
22	12GA	10GA	2 x 1/4	1 1/2 x 7GA	1 11/16	P3-U227	P3-U227	28	61.4	29.1	63.9	256T	546
24	12GA	10GA	2 x 1/4	1 1/2 x 7GA	1 11/16	P3-U227	P3-U227	50	89.2	52	92.8	256T	631
27	12GA	10GA	2 x 1/4	1 1/2 x 7GA	1 15/16	P3-U231	P3-U231	81	112	84.2	116.5	286T	845
30	12GA	10GA	2 x 1/4	1 1/2 x 7GA	2 3/16	P-B22435	P3-U235	122	148	126.9	153.9	324T	1002
33	12GA	10GA	2 1/2 x 1/4	1 1/2 x 7GA	2 3/16	P3-U235	P3-U235	189	208	196.6	216.3	324T	1173
36	10GA	10GA	2 1/2 x 1/4	2 x 7GA	2 3/16	P3-U235	P3-U235	299	268	311	278.7	326T	1464

\*Inlet and outlet flanges are optional, with or without holes. Dimensions and specifications are subject to change. Certified prints are available.



# Series 03, Direct Drive Centrifugal, Arrg. 4



**Series 03**  
Arrangement 4 Construction



Hartzell Fan, Inc. certifies that the Backward Curved Centrifugal Fan, Series 03 with type BC wheels shown herein is licensed to bear the AMCA seal for air and sound performance. 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.

Sound performance data is available upon request. Please contact the factory and ask for Engineering Publication #SD-147.

**Applications** – Compact direct drive applications handling clean air and industrial fumes requiring performance from **750 CFM to 24,000 CFM** and pressures to **10"SP** at temperatures not exceeding 200°F, designed for foot mounting in horizontal position. Available in **sizes 12" to 33"**, in clockwise or counterclockwise rotations, and in all standard discharge positions. Housing discharge position can be changed on all sizes.

**Housings** – Are continuously welded heavy gauge, hot rolled steel with **Internal cone** designed to ensure maximum efficiency with minimal turbulence and finished with blue industrial duty enamel.

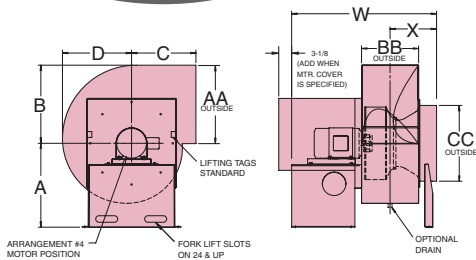
**Wheels** – Centrifugal wheels are Type BC or Type BA (airfoil) and have non-overloading horsepower characteristics. Efficient airflow is provided over a broad range. Fans are electronically statically and dynamically balanced to BV-3 and receive an Operational Test and Inspection prior to shipment. Type BC performance is shown below.

**Motor Out of the Airstream** – Exterior motor mounting for easy electrical connection and lubrication of motor is standard. Motors can be furnished as Drip Proof Protected, TEFC, Mill and Chemical Duty, or to specifications upon request. Motors supplied with re-lubricable bearings include extended lubrication tubes when required for access as standard. Fractional HP and small motors are supplied with permanently lubricated bearings for maintenance free installation.

**Fan Inlets and Outlets** – Straight inlet and outlet connections are standard. Optional continuously welded flanges are available. Flange bolt holes are optional.

**Special Features and Options** – Accessories including guards, companion flanges, dampers, louvers, inlet bells, sub-bases, vibration isolators, lifting lugs, special coatings, Spark Resistant Construction, leak resistant construction, and sound mufflers are available. See pages 34 and 35.

ABS Certificate  
of Design Assessment  
Received



## Principal Dimensions (Inches) – Sizes 12" – 33"

FAN SIZE	A	B	C	D	W	X	AA	BB	CC	FRAME SIZE		WT.# LESS MOTOR
										MIN.	MAX.	
12	16	13 <sup>1</sup> / <sub>4</sub>	14 <sup>1</sup> / <sub>4</sub>	11 <sup>3</sup> / <sub>4</sub>	30 <sup>3</sup> / <sub>16</sub>	10 <sup>7</sup> / <sub>8</sub>	13 <sup>3</sup> / <sub>8</sub>	9 <sup>3</sup> / <sub>4</sub>	12 <sup>15</sup> / <sub>16</sub>	56	184T	160
15	18 <sup>3</sup> / <sub>4</sub>	16 <sup>5</sup> / <sub>8</sub>	16 <sup>9</sup> / <sub>16</sub>	14 <sup>3</sup> / <sub>4</sub>	39 <sup>5</sup> / <sub>8</sub>	12 <sup>1</sup> / <sub>16</sub>	16 <sup>13</sup> / <sub>16</sub>	12 <sup>3</sup> / <sub>16</sub>	16 <sup>3</sup> / <sub>16</sub>	143T	256T	277
18	22	20	18 <sup>7</sup> / <sub>8</sub>	17 <sup>11</sup> / <sub>16</sub>	44 <sup>9</sup> / <sub>16</sub>	13 <sup>5</sup> / <sub>16</sub>	20 <sup>1</sup> / <sub>8</sub>	14 <sup>9</sup> / <sub>16</sub>	19 <sup>1</sup> / <sub>2</sub>	143T	286T	408
22	26 <sup>3</sup> / <sub>4</sub>	24 <sup>7</sup> / <sub>16</sub>	22	21 <sup>9</sup> / <sub>16</sub>	47 <sup>7</sup> / <sub>8</sub>	14 <sup>15</sup> / <sub>16</sub>	24 <sup>9</sup> / <sub>16</sub>	17 <sup>7</sup> / <sub>8</sub>	23 <sup>3</sup> / <sub>4</sub>	213T	286T	591
24	28 <sup>1</sup> / <sub>2</sub>	26 <sup>9</sup> / <sub>16</sub>	23 <sup>9</sup> / <sub>16</sub>	23 <sup>1</sup> / <sub>2</sub>	49 <sup>7</sup> / <sub>16</sub>	15 <sup>11</sup> / <sub>16</sub>	26 <sup>3</sup> / <sub>4</sub>	19 <sup>7</sup> / <sub>16</sub>	25 <sup>13</sup> / <sub>16</sub>	213T	286T	694
27	32 <sup>1</sup> / <sub>4</sub>	29 <sup>13</sup> / <sub>16</sub>	25 <sup>3</sup> / <sub>4</sub>	26 <sup>3</sup> / <sub>8</sub>	51 <sup>3</sup> / <sub>4</sub>	16 <sup>7</sup> / <sub>8</sub>	29 <sup>15</sup> / <sub>16</sub>	21 <sup>3</sup> / <sub>4</sub>	28 <sup>15</sup> / <sub>16</sub>	213T	286T	799
30	34 <sup>3</sup> / <sub>4</sub>	32 <sup>3</sup> / <sub>8</sub>	27 <sup>1</sup> / <sub>2</sub>	28 <sup>5</sup> / <sub>8</sub>	56 <sup>1</sup> / <sub>4</sub>	17 <sup>13</sup> / <sub>16</sub>	32 <sup>1</sup> / <sub>2</sub>	23 <sup>5</sup> / <sub>8</sub>	31 <sup>3</sup> / <sub>8</sub>	254T	326T	1019
33	38	35 <sup>5</sup> / <sub>8</sub>	30	31 <sup>1</sup> / <sub>2</sub>	60 <sup>7</sup> / <sub>8</sub>	19	35 <sup>13</sup> / <sub>16</sub>	25 <sup>15</sup> / <sub>16</sub>	34 <sup>1</sup> / <sub>2</sub>	254T	365T	1409

NOTE: Dimensions and specifications are subject to change. Certified prints are available. Inlet support leg is optional on sizes 12 and 15. Weight is approximate.

## Rating Table – Series 03 – Direct Drive Centrifugal, A03-4-\_\_ \_BC100ST\_ \_ \_ \_

Size	Model	Fan (Motor)		Peak Fan BHP	Cubic Feet Per Minute vs. Static Pressure														
		HP	RPM		0"	1/2"	1"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	7"	8"	9"	10"	
12	03-4-121BC100ST__F3	1/2	1750	0.39	1700	1482	1285	970											
	03-4-121BC100ST__K2	3	3450	2.95	3351	3217	3102	3003	2912	2819	2719	2508	2239	1851					
15	03-4-151BC100ST__I3	1 1/2	1750	1.22	3620	3366	3084	2759	2391	1875									
	03-4-152BC100ST__N2	10	3450	9.35	7136	7012	6885	6755	6621	6484	6342	6045	5725	5376	4987	4634	4154	3535	
18	03-4-181BC100ST__G4	3/4	1160	0.83	4070	3681	3216	2513											
	03-4-181BC100ST__K3	3	1750	2.86	6139	5891	5629	5337	5035	4682	4224	2829							
	03-4-183BC100ST__P2	20	3450	21.9									10780	10468	10162	9854	9508	9108	
22	03-4-221BC100ST__J4	2	1160	2.28	7444	6980	6455	5876	5072	3863									
	03-4-221BC100ST__M3	7 1/2	1750	7.83	11230	10929	10617	10294	9946	9568	9203	8285	7095	5131					
24	03-4-241BC100ST__L4	5	1160	3.83	10023	9499	8923	8358	7633	6669	5430								
	03-4-242BC100ST__O3	15	1750	13.1	15121	14768	14425	14072	13673	13299	12933	12095	10959	9641	7809				
27	03-4-271BC100ST__K5	3	870	2.87	10613	9818	8961	7852	6311										
	03-4-271BC100ST__M4	7 1/2	1160	6.80	14150	13560	12940	12302	11643	10809	9745	6796							
	03-4-272BC100ST__Q3	25	1750	23.3	21348	20952	20562	20179	19769	19319	18894	18066	17112	15890	14447	12869	10534		
30	03-4-301BC100ST__L5	5	870	4.33	13592	12741	11808	10795	9329	7389									
	03-4-301BC100ST__N4	10	1160	10.3	18123	17479	16835	16113	15440	14682	13733	11328	7209						
	03-4-302BC100ST__S3	40	1750	35.3	27341	26910	26484	26069	25648	25182	24692	23793	22866	21795	20465	18913	17270	15175	
33	03-4-331BC100ST__M5	7 1/2	870	6.87	18169	17258	16256	15192	13964	12332	10607								
	03-4-331BC100ST__O4	15	1160	16.3	24225	23554	22851	22105	21323	20528	19692	17619	15008	10630					
	03-4-333BC100ST__U3	60	1750	55.9								34257	33765	32746	31698	30634	29507	28217	26745

Performance certified for installation Type D: ducted inlet/ducted outlet. Power ratings (BHP) do not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). Performance data is based on standard air conditions (0.075 lb/cu. ft.). To complete model code, add motor enclosure code. Refer to page 2 for additional model code information.



# Performance Data

## Size 12 A03-\_-12\_BC100 \_\_\_\_\_ or A03PO-122BC100 \_\_\_\_\_

Wheel Diameter – 12.25 in.  
Outlet Area – 0.87 sq. ft.

CFM	Outlet Velocity FPM	STATIC PRESSURE															
		½"		1"		1½"		2"		2½"		3"		3½"		4"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
600	690	1033	0.08	1338	0.15												
900	1034	1231	0.13	1490	0.23	1712	0.33	1912	0.45	2097	0.57	2270	0.69				
1200	1379	1488	0.23	1682	0.32	1875	0.45	2067	0.60	2230	0.74	2386	0.89	2534	1.05	2676	1.20
1500	1724	1767	0.39	1931	0.49	2084	0.62	2233	0.76	2395	0.94	2549	1.13	2684	1.31	2811	1.49
1800	2069	2056	0.62	2197	0.74	2333	0.87	2461	1.02	2585	1.18	2711	1.36	2847	1.58	2981	1.81
2100	2414	2349	0.93	2479	1.08	2597	1.22	2713	1.37	2824	1.54	2931	1.72	3036	1.91	3144	2.12
2400	2759	2642	1.32	2767	1.52	2873	1.67	2976	1.83	3078	2.00	3177	2.19	3271	2.39	3364	2.60
2700	3103	2938	1.80	3058	2.06	3158	2.24	3250	2.41	3342	2.59	3433	2.79	3522	2.99	3608	3.21
3000	3448	3235	2.39	3351	2.70	3447	2.94	3534	3.13	3617	3.32	3699	3.52	3782	3.74	3862	3.96
3300	3793	3533	3.10	3644	3.46	3739	3.76	3822	3.99	3900	4.20	3975	4.41	4050	4.63	4125	4.86
3600	4138	3833	3.94	3939	4.36	4032	4.71	4112	4.99	4187	5.24	4258	5.47	4326	5.70	4395	5.93
3900	4483	4134	4.92	4235	5.39	4324	5.80	4405	6.15	4476	6.43	4544	6.69	4610	6.94	4673	7.19
4200	4828	4436	6.05	4532	6.58	4618	7.04	4697	7.45	4768	7.79	4834	8.09	4897	8.37	4957	8.64
4500	5172	4738	7.35	4831	7.93	4914	8.45	4990	8.91	5061	9.32	5125	9.67	5186	9.98	5244	10.3
CFM	OV FPM	5"		6"		7"		8"		10"		12"		14"		16"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1500	1724	3057	1.86	3289	2.25	3508	2.64	3716	3.05								
1750	2011	3184	2.18	3399	2.60	3606	3.04	3805	3.49	4178	4.42	4526	5.38				
2000	2299	3326	2.51	3535	2.99	3727	3.47	3915	3.97	4271	4.98	4605	6.03	4921	7.11		
2250	2586	3456	2.82	3673	3.39	3870	3.94	4048	4.48	4384	5.58	4704	6.71	5007	7.88	5297	9.08
2500	2874	3622	3.24	3806	3.77	4002	4.38	4192	5.02	4517	6.22	4819	7.44	5111	8.69	5391	9.97
2750	3161	3814	3.79	3976	4.29	4141	4.85	4319	5.51	4660	6.90	4954	8.21	5230	9.54	5499	10.9
3000	3448	4019	4.43	4168	4.94	4317	5.49	4466	6.08	4790	7.51	5098	9.03	5368	10.5	5622	11.9
3250	3736	4229	5.18	4372	5.70	4510	6.26	4647	6.85	4927	8.17	5229	9.77	5512	11.4		
3500	4023	4445	6.05	4582	6.58	4714	7.15	4842	7.75	5096	9.03	5362	10.5	5642	12.3		
3750	4310	4666	7.04	4796	7.59	4923	8.16	5046	8.77	5285	10.1	5522	11.5				
4000	4598	4891	8.16	5015	8.73	5137	9.31	5255	9.93	5483	11.2						
4250	4885	5122	9.44	5238	10.0	5355	10.6	5469	11.2								
4500	5172	5357	10.9	5466	11.4	5577	12.0										
4750	5460	5594	12.4														

## Size 15 A03-\_-15\_BC100 \_\_\_\_\_ or A03PO-152BC100 \_\_\_\_\_

Wheel Diameter – 15.375 in.  
Outlet Area – 1.371 sq. ft.

CFM	Outlet Velocity FPM	STATIC PRESSURE															
		½"		1"		1½"		2"		2½"		3"		3½"		4"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1000	729	818	0.12	1065	0.23												
1500	1094	978	0.21	1178	0.37	1367	0.52	1525	0.69	1669	0.86	1806	1.06				
2000	1459	1165	0.35	1343	0.55	1492	0.75	1636	0.96	1779	1.17	1904	1.39	2021	1.61	2131	1.84
2500	1823	1370	0.55	1520	0.79	1661	1.04	1787	1.30	1899	1.55	2016	1.81	2132	2.07	2244	2.34
3000	2188	1587	0.83	1716	1.10	1838	1.39	1957	1.70	2068	2.01	2168	2.32	2260	2.62	2356	2.92
3500	2553	1810	1.21	1923	1.52	2032	1.84	2136	2.18	2237	2.53	2337	2.90	2431	3.27	2515	3.62
4000	2918	2038	1.70	2138	2.05	2235	2.41	2329	2.78	2421	3.17	2510	3.57	2599	3.98	2685	4.40
4500	3282	2268	2.31	2358	2.70	2446	3.10	2532	3.51	2615	3.94	2697	4.37	2777	4.81	2856	5.26
5000	3647	2501	3.07	2583	3.50	2663	3.94	2741	4.39	2818	4.85	2893	5.32	2967	5.80	3040	6.28
5500	4012	2735	4.00	2810	4.46	2883	4.94	2955	5.43	3026	5.92	3096	6.43	3165	6.94	3232	7.47
6000	4376	2971	5.09	3040	5.60	3107	6.11	3174	6.64	3240	7.17	3305	7.72	3369	8.27	3432	8.83
6500	4741	3207	6.38	3271	6.93	3334	7.48	3396	8.05	3457	8.62	3518	9.20	3578	9.79	3637	10.4
7000	5106	3445	7.88	3504	8.46	3562	9.06	3620	9.66	3678	10.3	3734	10.9	3791	11.5	3846	12.1
7500	5470	3682	9.59	3738	10.2	3793	10.9	3847	11.5	3901	12.1	3954	12.8	4007	13.5	4060	14.1
CFM	OV FPM	5"		6"		7"		8"		10"		12"		14"		16"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2400	1751	2417	2.76	2600	3.31	2775	3.91										
2800	2042	2510	3.28	2687	3.88	2851	4.50	3008	5.14	3307	6.55						
3200	2334	2595	3.85	2776	4.53	2943	5.21	3095	5.90	3377	7.34	3643	8.90	3897	10.6		
3600	2626	2706	4.49	2866	5.23	3029	5.99	3186	6.76	3465	8.31	3719	9.91	3959	11.6	4191	13.4
4000	2918	2842	5.23	2983	6.02	3125	6.84	3272	7.67	3557	9.38	3809	11.1	4041	12.9	4262	14.7
4400	3209	2978	6.01	3120	6.91	3249	7.79	3375	8.67	3641	10.5	3900	12.4	4132	14.3	4348	16.2
4800	3501	3113	6.84	3255	7.85	3386	8.84	3506	9.80	3740	11.7	3985	13.7	4222	15.8	4440	17.8
5200	3793	3254	7.77	3390	8.84	3521	9.93	3644	11.0	3864	13.1	4082	15.2	4307	17.4		
5600	4085	3403	8.81	3530	9.92	3656	11.1	3778	12.3	4000	14.6	4200	16.8	4404	19.1		
6000	4376	3556	9.97	3677	11.1	3795	12.3	3913	13.6	4137	16.1	4335	18.5				
6400	4668	3713	11.3	3828	12.5	3941	13.7	4052	15.0	4271	17.7	4474	20.4				
6800	4960	3874	12.7	3984	14.0	4092	15.3	4198	16.6	4406	19.4						
7200	5252	4038	14.2	4143	15.6	4246	17.0	4348	18.4								
7600	5543	4205	15.9	4305	17.3	4404	18.8	4502	20.2								

Performance certified for installation Type D: ducted inlet/ducted outlet. Power ratings (BHP) do not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). Performance data is based on standard air conditions (0.075 lb/cu. ft.). To complete model code, add motor enclosure code. Refer to page 2 for additional model code information.



# Performance Data

## Size 18 A03-\_-18\_BC100\_ \_ \_ \_ \_ or A03PO-182BC100\_ \_ \_ \_ \_

Wheel Diameter – 18.5 in.  
Outlet Area – 1.984 sq. ft.

CFM	Outlet Velocity FPM	STATIC PRESSURE															
		½"		1"		1½"		2"		2½"		3"		3½"		4"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1400	706	663	0.15	874	0.31												
2100	1058	784	0.26	954	0.46	1110	0.66	1247	0.90	1371	1.17	1486	1.46				
2800	1411	942	0.44	1076	0.66	1205	0.93	1326	1.20	1443	1.48	1551	1.78	1652	2.10	1747	2.45
3500	1764	1114	0.71	1223	0.97	1331	1.26	1438	1.59	1536	1.93	1633	2.27	1729	2.60	1821	2.95
4200	2117	1295	1.06	1391	1.40	1479	1.72	1568	2.06	1659	2.44	1746	2.84	1827	3.25	1908	3.66
4900	2470	1481	1.57	1563	1.95	1644	2.33	1719	2.69	1795	3.08	1873	3.51	1951	3.96	2025	4.43
5600	2823	1671	2.24	1742	2.62	1814	3.09	1885	3.52	1950	3.93	2016	4.36	2083	4.82	2152	5.32
6300	3175	1862	3.10	1927	3.47	1990	3.98	2054	4.50	2117	4.98	2175	5.44	2233	5.91	2292	6.41
7000	3528	2055	4.16	2114	4.55	2171	5.05	2228	5.55	2286	6.20	2343	6.74	2395	7.25	2447	7.76
7700	3881	2249	5.45	2303	5.87	2355	6.33	2407	6.95	2459	7.61	2512	8.23	2564	8.82	2612	9.39
8400	4234	2445	6.98	2494	7.44	2542	7.92	2590	8.50	2637	9.20	2685	9.92	2733	10.6	2781	11.2
9100	4587	2640	8.79	2686	9.29	2731	9.79	2775	10.3	2819	11.0	2863	11.8	2907	12.6	2952	13.3
9800	4940	2836	10.9	2879	11.4	2921	12.0	2962	12.5	3003	13.2	3044	13.9	3085	14.8	3125	15.6
10500	5292	3034	13.3	3073	13.9	3112	14.5	3151	15.0	3190	15.7	3228	16.4	3266	17.2	3304	18.1
CFM	OV FPM	5"		6"		7"		8"		10"		12"		14"		16"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
		1764	1990	3.72	2147	4.56	2294	5.46	2433	6.41							
4000	2016	2045	4.22	2198	5.07	2340	5.99	2475	6.97	2726	9.07						
4500	2268	2106	4.85	2254	5.72	2394	6.64	2525	7.64	2770	9.78	2996	12.1	3208	14.6		
5000	2520	2181	5.52	2317	6.49	2451	7.45	2581	8.43	2819	10.6	3041	13.0	3248	15.5	3444	18.2
5500	2772	2268	6.22	2393	7.29	2516	8.36	2639	9.42	2875	11.6	3091	14.0	3294	16.6	3486	19.3
6000	3024	2357	6.99	2480	8.14	2594	9.30	2707	10.5	2932	12.8	3147	15.2	3345	17.8	3533	20.6
6500	3276	2451	7.86	2569	9.05	2682	10.3	2788	11.6	2997	14.1	3203	16.6	3401	19.2	3585	22.0
7000	3528	2553	8.86	2662	10.1	2772	11.4	2876	12.7	3072	15.4	3266	18.1	3457	20.8	3642	23.6
7500	3780	2662	10.0	2761	11.2	2863	12.5	2966	13.9	3157	16.8	3338	19.7	3520	22.6	3698	25.5
8000	4032	2776	11.3	2868	12.5	2962	13.9	3058	15.3	3247	18.3	3421	21.4	3590	24.5		
8500	4284	2895	12.8	2980	14.0	3067	15.4	3155	16.8	3337	19.8	3509	23.1	3671	26.4		
9000	4536	3015	14.4	3097	15.7	3178	17.0	3260	18.5	3429	21.5	3600	24.9				
9500	4788	3136	16.1	3216	17.5	3293	18.9	3370	20.3	3527	23.4	3690	26.8				
10000	5040	3257	17.9	3337	19.5	3411	20.9	3484	22.4	3632	25.5						

## Size 18 A03-\_-18\_BA100\_ \_ \_ \_ \_ or A03PO-182BA100\_ \_ \_ \_ \_

Wheel Diameter – 18.5 in.  
Outlet Area – 1.984 sq. ft.

CFM	Outlet Velocity FPM	STATIC PRESSURE															
		½"		1"		1½"		2"		2½"		3"		3½"		4"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1400	706	690	0.16	915	0.33												
2100	1058	807	0.27	995	0.48	1154	0.69	1303	0.96	1439	1.25						
2800	1411	961	0.44	1109	0.70	1256	1.00	1381	1.25	1500	1.53	1615	1.86	1725	2.22	1830	2.61
3500	1764	1128	0.69	1255	0.99	1371	1.33	1491	1.70	1603	2.06	1702	2.37	1797	2.69	1892	3.07
4200	2117	1307	1.04	1415	1.40	1518	1.76	1615	2.16	1713	2.60	1813	3.05	1906	3.48	1991	3.85
4900	2470	1491	1.50	1583	1.92	1676	2.33	1764	2.76	1848	3.22	1930	3.71	2016	4.23	2101	4.76
5600	2823	1678	2.10	1761	2.56	1841	3.05	1922	3.52	1999	4.01	2073	4.53	2145	5.06	2217	5.62
6300	3175	1868	2.86	1943	3.36	2014	3.91	2086	4.45	2158	4.98	2227	5.53	2293	6.10	2358	6.69
7000	3528	2059	3.81	2128	4.34	2193	4.93	2257	5.55	2322	6.14	2387	6.73	2449	7.33	2510	7.95
7700	3881	2251	4.95	2315	5.52	2376	6.15	2434	6.81	2492	7.50	2551	8.15	2610	8.79	2668	9.44
8400	4234	2444	6.32	2503	6.92	2560	7.58	2615	8.29	2668	9.02	2721	9.77	2775	10.5	2829	11.2
9100	4587	2638	7.93	2693	8.57	2746	9.26	2798	10.00	2848	10.8	2897	11.6	2946	12.4	2996	13.2
9800	4940	2833	9.80	2884	10.5	2934	11.2	2983	12.0	3030	12.8	3076	13.6	3122	14.5	3167	15.4
10500	5292	3028	12.0	3076	12.7	3123	13.4	3169	14.2	3214	15.1	3258	16.0	3301	16.9	3343	17.81
CFM	OV FPM	5"		6"		7"		8"		10"		12"		14"		16"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
		1764	2075	3.92	2246	4.85	2407	5.83									
4000	2016	2125	4.38	2288	5.31	2443	6.34	2591	7.42	2862	9.62						
4500	2268	2195	5.07	2342	5.91	2489	6.92	2631	8.02	2898	10.4	3145	12.9				
5000	2520	2275	5.90	2415	6.80	2548	7.69	2682	8.76	2939	11.2	3180	13.8	3407	16.6		
5500	2772	2352	6.68	2496	7.80	2624	8.79	2747	9.77	2988	12.1	3221	14.7	3443	17.6	3653	20.6
6000	3024	2433	7.44	2573	8.74	2705	9.98	2825	11.1	3049	13.2	3270	15.8	3485	18.7	3690	21.8
6500	3276	2525	8.29	2653	9.64	2782	11.0	2906	12.4	3125	14.8	3330	17.1	3535	20.0	3733	23.1
7000	3528	2628	9.26	2743	10.6	2862	12.1	2982	13.6	3206	16.4	3404	18.9	3594	21.5		
7500	3780	2735	10.3	2843	11.8	2951	13.2	3062	14.8	3284	18.1	3484	20.9	3668	23.6		
8000	4032	2845	11.5	2949	13.0	3050	14.5	3151	16.1	3361	19.6	3566	23.0	3747	25.9		
8500	4284	2958	12.9	3058	14.4	3155	16.0	3250	17.6	3443	21.1	3641	24.8				
9000	4536	3073	14.4	3169	15.9	3263	17.5	3354	19.2	3534	22.7	3720	26.6				
9500	4788	3189	16.0	3283	17.6	3374	19.3	3462	21.0	3633	24.6						
10000	5040	3307	17.7	3398	19.4	3486	21.1	3572	22.9	3737	26.6						

Performance certified for installation Type D: ducted inlet/ducted outlet. Power ratings (BHP) do not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). Performance data is based on standard air conditions (0.075 lb/cu. ft.). To complete model code, add motor enclosure code. Refer to page 2 for additional model code information.





# Performance Data

## Size 22 A03-\_-22\_BC100 \_\_\_\_\_ or A03PO-222BC100 \_\_\_\_\_

Wheel Diameter – 22.625 in.  
Outlet Area – 2.967 sq. ft.

CFM	Outlet Velocity FPM	STATIC PRESSURE															
		½"		1"		1½"		2"		2½"		3"		3½"		4"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2000	674	536	0.21	710	0.44												
3000	1011	626	0.36	769	0.65	899	0.95	1012	1.30	1115	1.70						
4000	1348	746	0.60	861	0.93	968	1.32	1071	1.70	1168	2.11	1257	2.56	1341	3.04	1420	3.55
5000	1685	879	0.96	971	1.33	1064	1.76	1153	2.24	1236	2.73	1319	3.21	1399	3.69	1474	4.22
6000	2022	1018	1.43	1100	1.91	1175	2.36	1252	2.86	1329	3.43	1400	4.01	1469	4.59	1539	5.17
7000	2359	1163	2.08	1233	2.64	1301	3.18	1365	3.70	1431	4.27	1498	4.91	1563	5.57	1624	6.25
8000	2696	1310	2.96	1371	3.53	1433	4.19	1492	4.79	1547	5.38	1604	6.02	1663	6.71	1722	7.45
9000	3033	1459	4.08	1514	4.64	1568	5.40	1624	6.11	1675	6.77	1724	7.44	1775	8.14	1826	8.88
10000	3370	1610	5.47	1659	6.03	1708	6.80	1757	7.64	1807	8.42	1853	9.17	1898	9.90	1943	10.7
11000	3707	1761	7.15	1806	7.75	1851	8.48	1895	9.40	1940	10.3	1985	11.2	2028	12.0	2069	12.8
12000	4044	1913	9.16	1955	9.81	1996	10.5	2037	11.4	2077	12.4	2119	13.4	2160	14.4	2200	15.3
13000	4382	2066	11.5	2105	12.2	2143	13.0	2181	13.8	2218	14.9	2255	16.0	2294	17.0	2332	18.1
14000	4719	2219	14.3	2255	15.0	2291	15.8	2326	16.6	2361	17.6	2396	18.8	2430	20.0	2466	21.1
15000	5056	2372	17.4	2406	18.3	2439	19.1	2473	19.9	2506	20.8	2538	22.0	2570	23.3	2603	24.6
CFM	OV FPM	5"		6"		7"		8"		10"		12"		14"		16"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
		4800	1618	1603	5.20	1734	6.44	1857	7.76								
5600	1887	1649	5.91	1775	7.17	1893	8.53	2005	9.97								
6400	2157	1699	6.83	1823	8.09	1937	9.48	2046	11.0	2248	14.1	2436	17.6				
7200	2427	1759	7.88	1874	9.27	1986	10.7	2093	12.1	2290	15.4	2472	18.9	2643	22.7	2805	26.7
8000	2696	1832	8.98	1936	10.5	2040	12.1	2143	13.6	2337	16.9	2514	20.5	2681	24.3	2839	28.4
8800	2966	1911	10.2	2011	11.9	2105	13.6	2200	15.3	2386	18.7	2562	22.3	2725	26.2	2879	30.3
9600	3236	1991	11.5	2089	13.3	2181	15.1	2268	17.0	2441	20.7	2611	24.4	2773	28.3	2924	32.5
10400	3505	2079	13.1	2169	14.9	2259	16.8	2345	18.8	2506	22.9	2666	26.9	2823	30.9	2973	35.1
11200	3775	2174	14.9	2256	16.7	2340	18.7	2423	20.8	2580	25.1	2728	29.5	2877	33.8	3023	38.1
12000	4044	2274	17.0	2349	18.9	2426	20.8	2504	22.9	2659	27.4	2801	32.1	2939	36.7		
12800	4314	2378	19.4	2448	21.3	2518	23.2	2590	25.3	2737	29.9	2878	34.8	3010	39.8		
13600	4584	2484	22.0	2550	24.0	2616	26.0	2682	28.1	2819	32.7	2957	37.7				
14400	4853	2589	24.7	2655	26.9	2717	29.0	2779	31.2	2906	35.8	3036	40.9				
15200	5123	2696	27.8	2761	30.1	2821	32.3	2880	34.6	2998	39.2						

## Size 22 A03-\_-22\_BA100 \_\_\_\_\_ or A03PO-222BA100 \_\_\_\_\_

Wheel Diameter – 22.625 in.  
Outlet Area – 2.967 sq. ft.

CFM	Outlet Velocity FPM	STATIC PRESSURE															
		½"		1"		1½"		2"		2½"		3"		3½"		4"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2000	674	557	0.22	745	0.47												
3000	1011	645	0.38	802	0.67	936	1.00	1060	1.39	1170	1.80						
4000	1348	762	0.60	888	0.99	1010	1.40	1114	1.76	1215	2.20	1312	2.70	1403	3.23	1489	3.79
5000	1685	891	0.94	998	1.38	1098	1.87	1200	2.41	1290	2.88	1372	3.32	1454	3.83	1534	4.41
6000	2022	1029	1.40	1121	1.91	1208	2.44	1290	3.03	1376	3.67	1459	4.31	1533	4.86	1603	5.40
7000	2359	1172	2.00	1251	2.61	1329	3.20	1403	3.83	1474	4.50	1546	5.22	1619	5.97	1691	6.72
8000	2696	1317	2.79	1387	3.47	1456	4.15	1524	4.83	1589	5.55	1652	6.30	1713	7.09	1777	7.93
9000	3033	1465	3.79	1528	4.52	1589	5.31	1651	6.07	1711	6.83	1769	7.63	1825	8.46	1880	9.33
10000	3370	1613	5.02	1672	5.80	1727	6.66	1782	7.54	1838	8.37	1892	9.22	1945	10.1	1996	11.0
11000	3707	1763	6.52	1817	7.35	1869	8.26	1918	9.22	1968	10.2	2019	11.1	2069	12.0	2117	13.0
12000	4044	1913	8.31	1964	9.18	2012	10.1	2058	11.2	2104	12.2	2149	13.3	2196	14.3	2242	15.3
13000	4382	2065	10.4	2111	11.3	2157	12.3	2200	13.4	2243	14.5	2284	15.7	2327	16.8	2370	17.9
14000	4719	2216	12.9	2260	13.8	2303	14.9	2344	16.0	2384	17.2	2423	18.4	2462	19.7	2501	20.9
15000	5056	2369	15.7	2410	16.7	2450	17.8	2489	19.0	2527	20.2	2564	21.5	2600	22.8	2636	24.1
CFM	OV FPM	5"		6"		7"		8"		10"		12"		14"		16"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
		4800	1618	1677	5.53	1820	6.88										
5600	1887	1715	6.17	1852	7.58	1982	9.08	2104	10.7								
6400	2157	1767	7.06	1894	8.42	2017	9.94	2136	11.6	2358	15.1						
7200	2427	1835	8.35	1951	9.63	2064	11.0	2176	12.7	2390	16.3	2590	20.2	2774	24.2		
8000	2696	1905	9.65	2020	11.2	2126	12.6	2228	14.1	2430	17.6	2623	21.6	2806	25.9	2979	30.4
8800	2966	1973	10.9	2089	12.8	2197	14.5	2295	16.1	2480	19.3	2664	23.2	2841	27.5	3010	32.2
9600	3236	2052	12.2	2158	14.2	2265	16.3	2366	18.2	2545	21.7	2714	25.2	2883	29.5	3046	34.2
10400	3505	2141	13.7	2235	15.8	2334	18.0	2433	20.2	2615	24.4	2778	28.1	2934	31.9		
11200	3775	2234	15.4	2323	17.5	2411	19.8	2502	22.1	2684	27.0	2847	31.2	2998	35.2		
12000	4044	2330	17.4	2415	19.6	2498	21.8	2580	24.2	2751	29.3	2918	34.5	3067	38.9		
12800	4314	2429	19.5	2511	21.8	2590	24.1	2667	26.6	2824	31.8	2985	37.3				
13600	4584	2530	21.9	2609	24.3	2685	26.7	2759	29.2	2904	34.5	3054	40.2				
14400	4853	2632	24.6	2709	27.0	2782	29.5	2853	32.1	2992	37.5						
15200	5123	2736	27.4	2810	30.0	2881	32.6	2950	35.2								

Performance certified for installation Type D: ducted inlet/ducted outlet. Power ratings (BHP) do not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). Performance data is based on standard air conditions (0.075 lb/cu. ft.). To complete model code, add motor enclosure code. Refer to page 2 for additional model code information.



# Performance Data

## Size 24 A03-\_-24\_BC100 \_\_\_\_\_ or A03PO-242BC100 \_\_\_\_\_

Wheel Diameter – 24.625 in.  
Outlet Area – 3.516 sq. ft.

CFM	Outlet Velocity FPM	STATIC PRESSURE															
		½"		1"		1½"		2"		2½"		3"		3½"		4"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2400	683	482	0.26	639	0.49												
3600	1024	563	0.44	693	0.79	809	1.09	912	1.45	1004	1.86						
4800	1365	667	0.71	775	1.14	874	1.60	965	2.05	1052	2.43	1132	2.88	1207	3.37	1279	3.90
6000	1706	788	1.13	871	1.59	958	2.16	1040	2.71	1115	3.32	1188	3.88	1259	4.36	1327	4.85
7200	2048	913	1.71	984	2.25	1054	2.82	1127	3.50	1197	4.18	1263	4.85	1326	5.59	1386	6.31
8400	2389	1040	2.46	1106	3.13	1164	3.75	1224	4.42	1286	5.19	1349	6.02	1408	6.79	1465	7.57
9600	2730	1171	3.47	1230	4.23	1283	4.94	1335	5.66	1387	6.42	1441	7.26	1496	8.19	1550	9.13
10800	3072	1304	4.74	1356	5.54	1407	6.41	1453	7.20	1498	8.01	1545	8.86	1592	9.76	1641	10.8
12000	3413	1438	6.31	1484	7.15	1532	8.13	1576	9.06	1617	9.93	1658	10.8	1699	11.8	1742	12.7
13200	3754	1573	8.20	1615	9.12	1657	10.1	1701	11.2	1740	12.2	1777	13.2	1814	14.1	1851	15.2
14400	4096	1708	10.5	1747	11.5	1785	12.5	1826	13.7	1865	14.8	1900	15.9	1934	16.9	1968	18.0
15600	4437	1844	13.1	1881	14.2	1916	15.3	1952	16.5	1989	17.8	2024	19.0	2057	20.2	2088	21.3
16800	4778	1980	16.2	2015	17.4	2048	18.5	2080	19.7	2114	21.1	2149	22.5	2181	23.8	2211	25.1
18000	5119	2117	19.7	2150	21.0	2180	22.2	2210	23.5	2241	24.8	2274	26.3	2306	27.8	2336	29.3
CFM	OV FPM	5"		6"		7"		8"		10"		12"		14"		16"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
		1792	1466	6.30	1581	7.58	1690	8.98	1792	10.5							
7200	2048	1506	7.49	1619	8.69	1724	10.1	1823	11.6	2009	14.9						
8100	2304	1553	8.89	1660	10.3	1763	11.5	1860	13.0	2040	16.3	2207	19.9	2364	23.8		
9000	2560	1611	10.0	1709	11.9	1806	13.5	1900	14.9	2077	18.0	2240	21.6	2393	25.6	2537	29.8
9900	2816	1673	11.4	1767	13.3	1857	15.3	1945	17.2	2117	20.3	2277	23.8	2426	27.7	2568	32.0
10800	3072	1738	12.9	1830	14.9	1916	16.9	1999	19.1	2160	23.2	2317	26.5	2464	30.3	2603	34.5
11700	3328	1805	14.4	1895	16.6	1979	18.8	2059	21.0	2211	25.8	2360	30.0	2505	33.6	2641	37.6
12600	3584	1877	16.0	1961	18.4	2044	20.9	2122	23.2	2270	28.1	2409	33.2	2547	37.6	2682	41.5
13500	3840	1955	18.0	2032	20.4	2110	23.0	2187	25.6	2331	30.6	2466	36.0	2595	41.4	2724	46.1
14400	4096	2036	20.2	2107	22.6	2180	25.2	2253	28.0	2395	33.5	2527	38.8	2652	44.7	2773	50.5
15300	4352	2122	22.7	2187	25.1	2254	27.7	2323	30.5	2460	36.5	2589	42.1	2712	47.9		
16200	4608	2210	25.5	2271	28.0	2333	30.6	2396	33.3	2527	39.5	2654	45.7	2774	51.6		
17100	4863	2300	28.5	2357	31.1	2415	33.7	2474	36.5	2596	42.6	2720	49.3				
18000	5119	2392	31.9	2446	34.5	2500	37.2	2556	40.0	2670	46.1	2787	52.9				

## Size 24 A03-\_-24\_BA100 \_\_\_\_\_ or A03PO-242BA100 \_\_\_\_\_

Wheel Diameter – 24.625 in.  
Outlet Area – 3.516 sq. ft.

CFM	Outlet Velocity FPM	STATIC PRESSURE															
		½"		1"		1½"		2"		2½"		3"		3½"		4"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2400	683	499	0.25	679	0.53												
3600	1024	575	0.41	716	0.75	846	1.14	965	1.58	1068	2.02						
4800	1365	678	0.67	791	1.08	898	1.52	999	1.99	1097	2.52	1190	3.09	1277	3.68	1358	4.27
6000	1706	795	1.05	888	1.52	978	2.04	1065	2.59	1148	3.15	1229	3.73	1308	4.38	1386	5.05
7200	2048	920	1.59	997	2.12	1074	2.69	1150	3.32	1224	3.98	1295	4.63	1364	5.30	1432	6.00
8400	2389	1049	2.32	1115	2.90	1182	3.54	1248	4.22	1313	4.94	1377	5.69	1440	6.46	1501	7.22
9600	2730	1181	3.25	1239	3.91	1297	4.60	1356	5.35	1413	6.12	1470	6.93	1527	7.77	1583	8.64
10800	3072	1315	4.43	1367	5.19	1418	5.91	1470	6.72	1522	7.56	1573	8.42	1624	9.32	1675	10.3
12000	3413	1450	5.87	1497	6.73	1543	7.54	1590	8.37	1636	9.28	1683	10.2	1729	11.2	1775	12.1
13200	3754	1585	7.61	1629	8.56	1671	9.48	1713	10.4	1755	11.3	1798	12.3	1840	13.3	1882	14.4
14400	4096	1721	9.69	1762	10.7	1801	11.8	1840	12.7	1878	13.7	1917	14.7	1956	15.8	1995	16.9
15600	4437	1858	12.1	1896	13.2	1933	14.4	1968	15.5	2004	16.5	2039	17.5	2075	18.7	2111	19.8
16800	4778	1995	15.0	2031	16.1	2065	17.4	2099	18.6	2132	19.7	2165	20.8	2197	21.9	2231	23.2
18000	5119	2133	18.2	2166	19.5	2199	20.8	2230	22.1	2261	23.4	2292	24.5	2323	25.7	2353	26.9
CFM	OV FPM	5"		6"		7"		8"		10"		12"		14"		16"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
		1792	1538	6.73	1672	8.27	1795	9.83	1907	11.4							
7200	2048	1565	7.50	1693	9.14	1814	10.9	1930	12.6	2136	16.2						
8100	2304	1603	8.44	1722	10.1	1838	11.9	1949	13.8	2158	17.7	2346	21.7				
9000	2560	1654	9.57	1763	11.3	1869	13.1	1975	15.0	2178	19.2	2367	23.6	2541	28.0	2699	32.5
9900	2816	1711	10.8	1814	12.6	1914	14.5	2011	16.4	2203	20.7	2387	25.3	2560	30.1	2724	35.0
10800	3072	1774	12.2	1871	14.1	1966	16.1	2058	18.2	2236	22.4	2412	27.1	2581	32.1	2741	37.3
11700	3328	1843	13.7	1934	15.8	2024	17.9	2111	20.0	2280	24.5	2444	29.1	2606	34.3	2763	39.6
12600	3584	1915	15.3	2002	17.5	2086	19.8	2170	22.1	2331	26.7	2487	31.5	2639	36.6	2789	42.1
13500	3840	1992	17.1	2073	19.4	2153	21.8	2233	24.2	2387	29.2	2536	34.2	2680	39.4		
14400	4096	2072	19.2	2148	21.6	2224	24.0	2300	26.6	2447	31.8	2590	37.0	2728	42.4		
15300	4352	2155	21.5	2227	23.9	2299	26.4	2370	29.1	2511	34.5	2648	40.1	2781	45.7		
16200	4608	2240	23.9	2308	26.5	2377	29.1	2445	31.8	2579	37.5	2711	43.3				
17100	4863	2327	26.6	2392	29.3	2457	32.0	2522	34.8	2650	40.6	2776	46.7				
18000	5119	2416	29.6	2478	32.4	2540	35.2	2601	38.0	2724	44.0						

Performance certified for installation Type D: ducted inlet/ducted outlet. Power ratings (BHP) do not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). Performance data is based on standard air conditions (0.075 lb/cu. ft.). To complete model code, add motor enclosure code. Refer to page 2 for additional model code information.



# Performance Data

## Size 27 A03-\_-27\_BC100 \_\_\_\_\_ or A03PO-272BC100 \_\_\_\_\_

Wheel Diameter – 27.625 in.  
Outlet Area – 4.425 sq. ft.

CFM	Outlet Velocity FPM	STATIC PRESSURE															
		½"		1"		1½"		2"		2½"		3"		3½"		4"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3000	678	429	0.32	569	0.61												
4500	1017	501	0.55	617	0.98	721	1.36	812	1.81	895	2.33						
6000	1356	592	0.88	689	1.42	777	2.00	858	2.56	936	3.03	1008	3.60	1075	4.22	1139	4.88
7500	1695	699	1.40	773	1.98	852	2.69	925	3.38	992	4.14	1057	4.84	1121	5.43	1181	6.05
9000	2034	809	2.12	873	2.79	935	3.51	1001	4.36	1064	5.21	1123	6.05	1179	6.98	1233	7.87
10500	2373	922	3.05	980	3.88	1033	4.66	1087	5.50	1143	6.47	1199	7.50	1252	8.47	1302	9.44
12000	2712	1038	4.29	1091	5.24	1138	6.13	1184	7.03	1231	7.99	1280	9.04	1329	10.2	1378	11.4
13500	3051	1155	5.85	1202	6.86	1248	7.95	1289	8.93	1329	9.94	1371	11.0	1414	12.1	1458	13.4
15000	3390	1274	7.79	1315	8.85	1358	10.1	1397	11.2	1434	12.3	1471	13.4	1508	14.6	1546	15.8
16500	3729	1393	10.1	1431	11.3	1469	12.5	1508	13.9	1543	15.1	1576	16.3	1609	17.6	1643	18.8
18000	4068	1513	12.9	1548	14.2	1582	15.4	1618	16.9	1653	18.4	1684	19.7	1715	21.0	1745	22.4
19500	4407	1633	16.2	1666	17.5	1697	18.9	1730	20.4	1763	22.0	1795	23.6	1824	25.0	1852	26.4
21000	4746	1754	20.0	1785	21.4	1814	22.9	1843	24.4	1874	26.1	1905	27.9	1934	29.5	1961	31.1
22500	5085	1875	24.3	1904	25.9	1932	27.5	1959	29.0	1987	30.7	2016	32.6	2044	34.5	2071	36.3
CFM	OV FPM	5"		6"		7"		8"		10"		12"		14"		16"	
7200	1627	1286	7.23	1391	8.84												
8400	1898	1321	8.47	1423	10.1	1518	11.8	1608	13.7								
9600	2169	1361	10.3	1460	11.8	1553	13.5	1640	15.4	1803	19.5	1954	24.0				
10800	2441	1411	12.0	1502	14.1	1591	15.8	1677	17.5	1836	21.6	1983	26.2	2120	31.1		
12000	2712	1469	13.6	1554	16.0	1635	18.4	1717	20.5	1873	24.3	2016	28.8	2150	33.7	2278	39.1
13200	2983	1529	15.5	1612	18.0	1689	20.6	1764	23.3	1912	27.9	2053	32.1	2184	37.0	2309	42.3
14400	3254	1592	17.5	1672	20.3	1748	22.9	1820	25.7	1957	31.6	2092	36.5	2222	40.9	2344	46.2
15600	3525	1658	19.7	1735	22.7	1808	25.7	1879	28.5	2011	34.7	2137	40.9	2261	46.1	2382	50.9
16800	3797	1730	22.2	1800	25.2	1871	28.5	1940	31.7	2069	37.9	2189	44.7	2306	51.4	2422	57.0
18000	4068	1807	25.1	1871	28.1	1936	31.4	2002	34.9	2128	41.7	2247	48.4	2358	55.8	2467	63.0
19200	4339	1888	28.4	1946	31.5	2006	34.7	2067	38.2	2190	45.7	2305	52.8	2415	60.1		
20400	4610	1971	32.1	2025	35.2	2080	38.5	2137	41.9	2253	49.7	2366	57.5	2473	65.0		
21600	4881	2056	36.2	2107	39.4	2158	42.7	2211	46.2	2319	53.9	2429	62.4				
22800	5153	2143	40.7	2191	44.0	2239	47.4	2288	51.0	2389	58.6	2493	67.2				

## Size 27 A03-\_-27\_BA100 \_\_\_\_\_ or A03PO-272BA100 \_\_\_\_\_

Wheel Diameter – 27.625 in.  
Outlet Area – 4.425 sq. ft.

CFM	Outlet Velocity FPM	STATIC PRESSURE															
		½"		1"		1½"		2"		2½"		3"		3½"		4"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3000	678	445	0.31	605	0.67												
4500	1017	511	0.52	637	0.94	754	1.43	860	1.98	952	2.53						
6000	1356	601	0.83	703	1.35	799	1.90	889	2.49	977	3.16	1060	3.87	1138	4.60	1210	5.35
7500	1695	705	1.30	788	1.89	869	2.54	947	3.23	1022	3.93	1094	4.67	1165	5.47	1234	6.33
9000	2034	815	1.97	885	2.63	954	3.35	1022	4.14	1088	4.96	1152	5.78	1214	6.62	1274	7.49
10500	2373	930	2.87	989	3.59	1049	4.40	1108	5.25	1166	6.16	1224	7.10	1280	8.06	1334	9.01
12000	2712	1047	4.02	1099	4.84	1151	5.71	1203	6.65	1255	7.62	1306	8.63	1357	9.69	1407	10.8
13500	3051	1165	5.47	1212	6.42	1257	7.33	1304	8.35	1350	9.40	1396	10.5	1442	11.6	1488	12.8
15000	3390	1284	7.25	1327	8.33	1368	9.33	1410	10.4	1452	11.5	1493	12.7	1535	13.9	1576	15.1
16500	3729	1404	9.40	1443	10.6	1481	11.7	1519	12.8	1557	14.0	1595	15.3	1633	16.5	1671	17.8
18000	4068	1524	12.0	1561	13.3	1596	14.6	1631	15.7	1665	16.9	1700	18.3	1735	19.6	1770	21.0
19500	4407	1645	15.0	1680	16.4	1712	17.8	1745	19.1	1776	20.4	1808	21.7	1840	23.2	1873	24.6
21000	4746	1767	18.5	1799	20.0	1830	21.5	1860	23.0	1889	24.4	1919	25.8	1948	27.2	1978	28.7
22500	5085	1889	22.5	1919	24.1	1948	25.7	1976	27.3	2004	28.9	2032	30.4	2059	31.9	2087	33.4
CFM	OV FPM	5"		6"		7"		8"		10"		12"		14"		16"	
7200	1627	1360	7.88	1479	9.67												
8400	1898	1380	8.85	1498	10.9	1608	12.9	1709	15.0								
9600	2169	1409	9.95	1520	12.1	1626	14.3	1728	16.6	1915	21.4						
10800	2441	1452	11.4	1553	13.5	1652	15.7	1749	18.2	1933	23.3	2103	28.6	2255	34.0		
12000	2712	1504	13.0	1598	15.2	1689	17.5	1778	19.9	1954	25.2	2120	30.9	2276	36.8	2420	42.8
13200	2983	1562	14.7	1650	17.1	1735	19.6	1819	22.1	1982	27.4	2142	33.3	2294	39.5	2438	45.9
14400	3254	1625	16.6	1708	19.2	1789	21.9	1868	24.5	2021	30.0	2170	35.9	2316	42.3	2457	49.0
15600	3525	1692	18.8	1770	21.5	1847	24.4	1922	27.2	2067	33.0	2207	39.0	2345	45.4	2481	52.3
16800	3797	1764	21.2	1837	24.0	1909	27.0	1981	30.1	2119	36.2	2253	42.4	2383	48.9	2510	55.8
18000	4068	1839	23.9	1908	26.8	1976	29.9	2043	33.1	2176	39.7	2303	46.2	2427	53.0		
19200	4339	1917	26.9	1982	29.9	2046	33.1	2110	36.4	2236	43.3	2358	50.3	2477	57.3		
20400	4610	1997	30.2	2058	33.4	2119	36.7	2180	40.1	2299	47.2	2417	54.6				
21600	4881	2080	33.8	2138	37.1	2195	40.5	2253	44.1	2367	51.4	2479	59.1				
22800	5153	2164	37.7	2219	41.3	2274	44.8	2328	48.4	2437	56.0						

Performance certified for installation Type D: ducted inlet/ducted outlet. Power ratings (BHP) do not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). Performance data is based on standard air conditions (0.075 lb/cu. ft.). To complete model code, add motor enclosure code. Refer to page 2 for additional model code information.



# Performance Data

## Size 30 A03-\_-30\_BC100\_ \_ \_ \_ \_ or A03PO-302BC100\_ \_ \_ \_ \_

Wheel Diameter – 30.0 in.  
Outlet Area – 5.218 sq. ft.

CFM	Outlet Velocity FPM	STATIC PRESSURE															
		½"		1"		1½"		2"		2½"		3"		3½"		4"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
4000	767	410	0.44	534	0.80	636	1.25										
6000	1150	491	0.77	592	1.34	681	1.90	763	2.40	837	3.01	906	3.68				
8000	1533	596	1.33	673	1.99	750	2.75	820	3.54	886	4.29	951	4.90	1011	5.62	1068	6.40
10000	1916	710	2.18	771	2.93	833	3.77	897	4.74	956	5.66	1011	6.66	1065	7.67	1118	8.52
12000	2300	826	3.33	881	4.27	931	5.17	982	6.16	1036	7.30	1088	8.45	1138	9.56	1185	10.7
14000	2683	946	4.92	996	6.03	1039	7.06	1082	8.12	1126	9.25	1172	10.5	1218	11.9	1262	13.2
16000	3066	1069	7.00	1111	8.19	1154	9.48	1191	10.6	1228	11.8	1267	13.1	1306	14.4	1346	15.9
18000	3450	1192	9.64	1229	10.9	1268	12.4	1305	13.8	1338	15.1	1371	16.4	1405	17.8	1439	19.3
20000	3833	1317	12.9	1350	14.3	1384	15.8	1420	17.5	1451	19.0	1481	20.4	1511	21.9	1541	23.4
22000	4216	1442	16.8	1473	18.4	1503	19.9	1535	21.7	1567	23.5	1595	25.2	1622	26.8	1650	28.4
24000	4599	1567	21.5	1596	23.2	1624	24.9	1652	26.6	1681	28.6	1710	30.6	1737	32.4	1762	34.2
26000	4983	1693	27.1	1720	28.9	1746	30.7	1771	32.5	1798	34.5	1825	36.7	1852	38.9	1876	40.8
28000	5366	1819	33.5	1844	35.5	1869	37.4	1892	39.3	1916	41.3	1941	43.6	1967	45.9	1991	48.3
30000	5749	1945	40.9	1969	43.0	1992	45.1	2015	47.1	2037	49.2	2059	51.4	2083	53.9	2106	56.4
CFM	OV FPM	5"		6"		7"		8"		10"		12"		14"		16"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
9000	1725	1195	9.00	1291	10.9	1381	13.0										
10500	2012	1232	10.8	1324	12.6	1411	14.7	1493	16.9	1646	21.8						
12000	2300	1274	13.2	1362	15.2	1447	17.0	1526	19.2	1674	24.1	1811	29.5				
13500	2587	1328	15.1	1408	17.9	1486	20.3	1563	22.5	1708	27.1	1842	32.4	1967	38.3	2085	44.6
15000	2875	1385	17.4	1462	20.2	1535	23.3	1606	26.2	1746	31.1	1876	36.2	1998	42.0	2114	48.3
16500	3162	1446	19.9	1520	23.0	1591	26.0	1658	29.4	1787	35.8	1914	41.1	2034	46.6	2147	52.8
18000	3450	1509	22.4	1581	26.0	1649	29.4	1714	32.7	1837	39.9	1955	46.8	2072	52.6	2184	58.3
19500	3737	1578	25.5	1644	29.0	1710	32.9	1773	36.6	1893	43.8	2005	51.8	2114	59.3	2222	65.6
21000	4025	1652	29.1	1712	32.5	1773	36.4	1834	40.6	1951	48.4	2060	56.4	2163	65.0	2264	73.2
22500	4312	1730	33.1	1785	36.7	1840	40.5	1898	44.7	2011	53.5	2117	61.7	2218	70.4	2314	79.6
24000	4599	1811	37.7	1861	41.4	1913	45.2	1965	49.3	2072	58.4	2177	67.6	2275	76.5		
25500	4887	1894	42.8	1941	46.6	1989	50.5	2037	54.6	2137	63.7	2238	73.7				
27000	5174	1979	48.4	2023	52.4	2068	56.4	2113	60.6	2205	69.6	2300	79.7				
28500	5462	2065	54.6	2107	58.7	2149	62.9	2191	67.2	2277	76.3						

## Size 30 A03-\_-30\_BA100\_ \_ \_ \_ \_ or A03PO-302BA100\_ \_ \_ \_ \_

Wheel Diameter – 30.0 in.  
Outlet Area – 5.218 sq. ft.

CFM	Outlet Velocity FPM	STATIC PRESSURE															
		½"		1"		1½"		2"		2½"		3"		3½"		4"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
4000	767	422	0.42	562	0.86												
6000	1150	501	0.74	608	1.28	706	1.87	800	2.55	886	3.29	963	4.03				
8000	1533	603	1.24	687	1.90	768	2.62	844	3.36	917	4.15	990	5.02	1059	5.95	1125	6.91
10000	1916	715	2.02	783	2.77	850	3.60	916	4.49	979	5.40	1040	6.33	1100	7.29	1158	8.30
12000	2300	833	3.13	890	3.96	946	4.90	1002	5.88	1057	6.93	1112	8.02	1164	9.11	1216	10.2
14000	2683	954	4.62	1003	5.57	1051	6.59	1100	7.68	1148	8.82	1196	10.0	1243	11.2	1289	12.5
16000	3066	1077	6.54	1120	7.67	1162	8.74	1205	9.94	1248	11.2	1290	12.5	1332	13.8	1373	15.2
18000	3450	1202	8.96	1240	10.3	1278	11.5	1315	12.7	1353	14.1	1391	15.5	1429	16.9	1466	18.3
20000	3833	1327	12.0	1362	13.4	1396	14.8	1430	16.1	1464	17.5	1498	19.0	1532	20.6	1566	22.1
22000	4216	1452	15.6	1485	17.2	1516	18.8	1547	20.2	1578	21.7	1609	23.2	1640	24.9	1671	26.6
24000	4599	1579	19.9	1609	21.6	1638	23.4	1666	25.1	1695	26.7	1723	28.2	1751	29.9	1779	31.7
26000	4983	1705	25.0	1733	26.8	1761	28.7	1787	30.6	1813	32.4	1839	34.1	1865	35.8	1891	37.6
28000	5366	1832	30.9	1858	32.9	1884	34.9	1909	36.9	1933	38.9	1958	40.9	1982	42.7	2006	44.5
30000	5749	1959	37.7	1984	39.8	2008	42.0	2032	44.1	2055	46.3	2077	48.5	2100	50.5	2122	52.4
CFM	OV FPM	5"		6"		7"		8"		10"		12"		14"		16"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
9000	1725	1258	9.70	1369	11.9	1468	14.1										
10500	2012	1281	11.0	1387	13.4	1487	15.9	1582	18.5	1751	23.7						
12000	2300	1316	12.5	1413	15.0	1508	17.6	1600	20.4	1771	26.3	1926	32.2				
13500	2587	1362	14.4	1451	16.9	1538	19.6	1624	22.5	1790	28.7	1944	35.2	2088	42.0	2218	48.6
15000	2875	1416	16.5	1499	19.3	1580	22.1	1659	25.0	1814	31.3	1963	38.1	2105	45.3	2239	52.7
16500	3162	1476	18.8	1554	21.8	1630	24.8	1704	27.9	1848	34.3	1989	41.3	2125	48.7	2256	56.6
18000	3450	1540	21.4	1613	24.6	1685	27.9	1755	31.2	1891	37.9	2022	44.9	2151	52.4	2278	60.5
19500	3737	1609	24.3	1678	27.7	1745	31.1	1812	34.7	1940	41.8	2065	49.1	2185	56.7	2305	64.8
21000	4025	1682	27.6	1746	31.1	1809	34.7	1872	38.4	1995	46.1	2113	53.8	2228	61.7		
22500	4312	1758	31.3	1818	34.9	1877	38.7	1937	42.5	2053	50.6	2166	58.8	2276	67.1		
24000	4599	1836	35.4	1893	39.2	1949	43.0	2005	47.1	2115	55.4	2223	64.2				
25500	4887	1916	39.9	1970	43.9	2023	47.9	2076	52.0	2180	60.7	2284	69.8				
27000	5174	1998	44.9	2049	49.0	2099	53.2	2149	57.5	2249	66.4						
28500	5462	2082	50.4	2130	54.7	2178	59.1	2226	63.5								

Performance certified for installation Type D: ducted inlet/ducted outlet. Power ratings (BHP) do not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). Performance data is based on standard air conditions (0.075 lb/cu. ft.). To complete model code, add motor enclosure code. Refer to page 2 for additional model code information.



# Performance Data

## Size 33 A03-\_-33\_BC100 \_\_\_\_\_ or A03PO-332BC100 \_\_\_\_\_

Wheel Diameter – 33.0 in.  
Outlet Area – 6.314 sq. ft.

CFM	Outlet Velocity FPM	STATIC PRESSURE															
		½"		1"		1½"		2"		2½"		3"		3½"		4"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
6000	950	403	0.68	499	1.18	588	1.79	669	2.46								
8000	1267	472	1.08	556	1.79	629	2.46	696	3.14	763	3.95	825	4.82	885	5.73	942	6.68
10000	1584	552	1.68	620	2.47	687	3.38	749	4.30	803	5.04	856	5.88	911	6.88	963	7.92
12000	1901	637	2.49	694	3.41	750	4.39	806	5.46	861	6.63	910	7.64	954	8.53	998	9.46
14000	2217	724	3.57	775	4.65	823	5.72	871	6.87	919	8.10	967	9.43	1013	10.8	1055	12.0
16000	2534	813	4.97	859	6.18	903	7.41	944	8.64	986	9.95	1028	11.3	1070	12.8	1112	14.3
18000	2851	904	6.74	945	8.07	985	9.46	1023	10.8	1060	12.2	1097	13.7	1135	15.2	1172	16.8
20000	3168	995	8.91	1033	10.4	1069	11.9	1105	13.4	1139	14.9	1172	16.5	1205	18.1	1239	19.8
22000	3484	1088	11.5	1122	13.1	1155	14.7	1188	16.4	1220	18.1	1251	19.8	1281	21.5	1311	23.2
24000	3801	1181	14.7	1212	16.3	1243	18.1	1274	19.9	1304	21.8	1333	23.6	1361	25.5	1389	27.3
26000	4118	1274	18.3	1303	20.1	1332	22.0	1360	24.0	1388	26.0	1416	28.0	1443	30.0	1469	31.9
28000	4435	1368	22.6	1395	24.5	1421	26.5	1448	28.6	1474	30.7	1500	32.9	1526	35.0	1551	37.2
30000	4751	1462	27.5	1487	29.6	1512	31.7	1537	33.8	1561	36.1	1586	38.4	1610	40.7	1634	43.0
32000	5068	1556	33.1	1580	35.3	1603	37.5	1626	39.8	1650	42.1	1673	44.5	1696	47.0	1718	49.5
CFM	OV FPM	5"		6"		7"		8"		10"		12"		14"		16"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
		10500	1663	1067	10.5	1159	12.9	1245	15.4								
12000	1901	1089	11.8	1176	14.3	1258	16.9	1337	19.7								
13500	2138	1118	13.3	1199	15.9	1278	18.7	1353	21.5	1496	27.6	1629	34.1				
15000	2376	1160	15.6	1230	17.9	1303	20.6	1375	23.6	1511	29.9	1640	36.7	1762	43.8		
16500	2613	1204	18.1	1272	20.7	1337	23.1	1402	25.9	1533	32.5	1657	39.5	1774	46.9	1887	54.6
18000	2851	1246	20.2	1317	23.7	1380	26.5	1439	29.1	1558	35.3	1678	42.6	1792	50.2	1901	58.1
19500	3088	1291	22.4	1359	26.2	1424	29.9	1483	33.0	1592	38.9	1703	45.9	1813	53.8	1919	62.0
21000	3326	1339	25.0	1403	28.8	1466	32.9	1527	36.9	1634	43.5	1735	49.8	1838	57.6	1941	66.2
22500	3564	1390	27.9	1450	31.8	1510	35.9	1569	40.2	1679	48.5	1775	55.2	1869	62.1	1966	70.6
24000	3801	1444	31.1	1500	35.1	1557	39.3	1612	43.7	1722	53.0	1819	61.2	1909	68.3	1997	75.7
25500	4039	1501	34.7	1553	38.8	1606	43.1	1659	47.6	1764	57.2	1864	67.1	1953	75.1	2036	82.6
27000	4276	1559	38.6	1608	42.8	1658	47.3	1708	51.9	1808	61.6	1906	72.1	1998	82.1	2080	90.4
28500	4514	1619	42.9	1666	47.3	1712	51.8	1760	56.6	1855	66.5	1948	77.1	2040	88.3		
30000	4751	1680	47.6	1725	52.2	1769	56.8	1814	61.7	1904	71.8	1993	82.6	2082	94.1		

## Size 33 A03-\_-33\_BA100 \_\_\_\_\_ or A03PO-332BA100 \_\_\_\_\_

Wheel Diameter – 33.0 in.  
Outlet Area – 6.314 sq. ft.

CFM	Outlet Velocity FPM	STATIC PRESSURE															
		½"		1"		1½"		2"		2½"		3"		3½"		4"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
6000	950	410	0.64	510	1.18	610	1.83	698	2.57								
8000	1267	486	1.04	563	1.66	638	2.36	715	3.16	789	4.03	858	4.96	924	5.98	983	7.01
10000	1584	571	1.64	635	2.36	696	3.14	756	3.98	816	4.90	878	5.91	939	6.97	997	8.09
12000	1901	660	2.46	715	3.31	768	4.19	819	5.12	869	6.10	918	7.13	969	8.24	1021	9.42
14000	2217	752	3.53	801	4.54	847	5.53	892	6.56	937	7.64	980	8.76	1023	9.91	1064	11.1
16000	2534	844	4.90	890	6.08	931	7.22	972	8.35	1011	9.52	1050	10.7	1088	12.0	1126	13.3
18000	2851	937	6.61	980	7.96	1019	9.26	1055	10.5	1091	11.8	1126	13.1	1161	14.5	1195	15.9
20000	3168	1030	8.70	1072	10.2	1108	11.7	1141	13.1	1174	14.5	1206	16.0	1238	17.4	1270	18.9
22000	3484	1124	11.2	1164	12.9	1199	14.6	1230	16.1	1260	17.7	1290	19.3	1320	20.8	1348	22.4
24000	3801	1218	14.2	1257	16.1	1290	17.9	1320	19.6	1349	21.4	1376	23.1	1404	24.8	1431	26.5
26000	4118	1313	17.7	1350	19.7	1383	21.7	1411	23.7	1439	25.5	1465	27.4	1490	29.3	1515	31.1
28000	4435	1408	21.7	1443	24.0	1475	26.1	1503	28.2	1529	30.3	1554	32.3	1578	34.3	1602	36.3
30000	4751	1503	26.3	1537	28.8	1567	31.1	1596	33.4	1621	35.6	1645	37.8	1668	40.0	1690	42.1
32000	5068	1598	31.5	1631	34.2	1660	36.7	1688	39.2	1713	41.6	1736	44.0	1758	46.3	1780	48.6
CFM	OV FPM	5"		6"		7"		8"		10"		12"		14"		16"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
		10500	1663	1109	10.8	1210	13.4										
12000	1901	1122	11.9	1219	14.6	1310	17.5	1396	20.6								
13500	2138	1143	13.2	1233	16.1	1321	19.0	1405	22.1	1561	28.9						
15000	2376	1173	14.8	1255	17.6	1337	20.7	1418	23.9	1570	30.8	1712	38.3	1840	46.0		
16500	2613	1215	16.6	1287	19.5	1361	22.6	1436	26.0	1583	33.0	1720	40.5	1850	48.7	1971	57.2
18000	2851	1263	18.7	1329	21.7	1394	24.9	1463	28.2	1600	35.5	1733	43.3	1860	51.5	1980	60.2
19500	3088	1314	21.1	1376	24.2	1437	27.5	1497	30.9	1623	38.2	1749	46.2	1872	54.7	1990	63.5
21000	3326	1368	23.7	1427	27.0	1484	30.4	1541	33.9	1654	41.3	1772	49.4	1889	58.1	2003	67.2
22500	3564	1425	26.7	1480	30.1	1535	33.6	1589	37.3	1694	44.8	1801	53.0	1911	61.8	2020	71.1
24000	3801	1484	29.9	1536	33.5	1588	37.2	1639	41.0	1739	48.8	1837	57.0	1939	65.9	2042	75.4
25500	4039	1544	33.5	1594	37.2	1643	41.0	1692	45.0	1787	53.1	1880	61.6	1973	70.5	2069	80.0
27000	4276	1607	37.5	1654	41.3	1700	45.3	1747	49.3	1838	57.8	1927	66.5	2015	75.6	2103	85.2
28500	4514	1670	41.8	1715	45.8	1760	49.9	1804	54.1	1891	62.8	1977	71.9	2061	81.2		
30000	4751	1734	46.4	1778	50.7	1820	54.9	1862	59.3	1946	68.2	2028	77.6				

Performance certified for installation Type D: ducted inlet/ducted outlet. Power ratings (BHP) do not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). Performance data is based on standard air conditions (0.075 lb/cu. ft.). To complete model code, add motor enclosure code. Refer to page 2 for additional model code information.



# Performance Data

## Size 36 A03-\_-36\_BC100 \_\_\_\_\_ or A03PO-362BC100 \_\_\_\_\_

Wheel Diameter – 36.0 in.  
Outlet Area – 7.514 sq. ft.

CFM	Outlet Velocity FPM	STATIC PRESSURE															
		½"		1"		1½"		2"		2½"		3"		3½"		4"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
5000	665	<b>323</b>	<b>0.49</b>	433	1.03												
7500	998	378	0.87	465	1.51	<b>543</b>	<b>2.22</b>	615	3.03	682	3.92						
10000	1331	447	1.41	520	2.27	587	3.17	<b>645</b>	<b>3.94</b>	<b>705</b>	<b>4.92</b>	<b>761</b>	<b>5.96</b>	815	7.07	866	8.22
12500	1664	526	2.22	584	3.19	643	4.28	700	5.49	749	6.48	<b>795</b>	<b>7.42</b>	<b>843</b>	<b>8.57</b>	<b>890</b>	<b>9.85</b>
15000	1996	608	3.32	658	4.47	707	5.66	756	6.96	805	8.39	851	9.82	891	11.0	930	12.1
17500	2329	692	4.79	738	6.14	780	7.47	821	8.87	864	10.4	905	11.9	947	13.7	986	15.3
20000	2662	779	6.71	819	8.21	858	9.75	894	11.3	930	12.9	967	14.6	1004	16.3	1040	18.1
22500	2994	866	9.13	903	10.8	938	12.5	971	14.2	1004	15.9	1036	17.7	1069	19.6	1102	21.5
25000	3327	955	12.1	988	13.9	1020	15.8	1051	17.7	1081	19.6	1110	21.5	1139	23.5	1169	25.5
27500	3660	1044	15.7	1074	17.7	1103	19.7	1132	21.8	1161	23.9	1188	26.0	1215	28.1	1241	30.2
30000	3993	1134	20.0	1161	22.1	1188	24.3	1215	26.5	1242	28.9	1268	31.2	1293	33.5	1317	35.7
32500	4325	1224	25.1	1249	27.3	1274	29.6	1299	32.0	1324	34.5	1348	37.0	1372	39.6	1395	42.0
35000	4658	1315	30.9	1338	33.3	1361	35.8	1385	38.3	1408	41.0	1430	43.6	1453	46.4	1475	49.1
37500	4991	1405	37.7	1427	40.2	1449	42.8	1471	45.5	1492	48.3	1514	51.1	1535	54.0	1556	56.9
CFM	OV FPM	5"		6"		7"		8"		10"		12"		14"		16"	
14000	1863	<b>995</b>	<b>13.8</b>	<b>1075</b>	<b>16.7</b>	1151	19.8	1224	23.1								
16000	2129	<b>1024</b>	<b>15.8</b>	<b>1098</b>	<b>18.8</b>	<b>1170</b>	<b>22.1</b>	<b>1240</b>	<b>25.5</b>	1370	32.8						
18000	2396	1067	18.8	<b>1131</b>	<b>21.5</b>	<b>1196</b>	<b>24.7</b>	<b>1262</b>	<b>28.3</b>	<b>1387</b>	<b>35.9</b>	1505	43.9	1616	52.4		
20000	2662	1112	22.0	1175	25.3	1233	28.3	<b>1291</b>	<b>31.5</b>	<b>1410</b>	<b>39.4</b>	<b>1522</b>	<b>47.7</b>	1629	56.5	1732	65.8
22000	2928	1155	24.8	1220	29.1	1278	32.9	1332	36.1	<b>1437</b>	<b>43.2</b>	<b>1545</b>	<b>51.9</b>	<b>1648</b>	<b>61.1</b>	<b>1747</b>	<b>70.6</b>
24000	3194	1202	28.0	1263	32.5	1323	37.2	1377	41.4	1476	48.6	<b>1573</b>	<b>56.5</b>	<b>1672</b>	<b>66.0</b>	<b>1767</b>	<b>75.9</b>
26000	3460	1254	31.7	1310	36.2	1366	41.1	1421	46.2	1521	55.1	1611	62.8	<b>1700</b>	<b>71.5</b>	<b>1792</b>	<b>81.6</b>
28000	3726	1308	35.8	1361	40.5	1413	45.5	1465	50.6	1566	61.5	1655	70.5	1738	78.8	<b>1821</b>	<b>88.0</b>
30000	3993	1365	40.4	1414	45.3	1463	50.4	1512	55.7	1609	67.1	1701	78.6	1782	87.7	1859	96.6
32000	4259	1425	45.6	1470	50.6	1516	55.9	1563	61.4	1654	72.9	1744	85.4	1828	97.1	1903	107
34000	4525	1487	51.3	1529	56.6	1572	62.0	1615	67.6	1702	79.4	1788	92.0	1872	105		
36000	4791	1549	57.6	1590	63.1	1630	68.7	1671	74.4	1753	86.6	1834	99.4	1915	113		
38000	5057	1613	64.5	1652	70.2	1690	76.0	1728	82.0	1806	94.4	1883	108				
40000	5323	1677	71.9	1715	78.0	1752	84.1	1788	90.2	1861	103						

## Size 36 A03-\_-36\_BA100 \_\_\_\_\_ or A03PO-362BA100 \_\_\_\_\_

Wheel Diameter – 36.0 in.  
Outlet Area – 7.514 sq. ft.

CFM	Outlet Velocity FPM	STATIC PRESSURE															
		½"		1"		1½"		2"		2½"		3"		3½"		4"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
5000	665	<b>330</b>	<b>0.49</b>	452	1.08												
7500	998	385	0.82	<b>473</b>	<b>1.47</b>	<b>561</b>	<b>2.26</b>	641	3.15	712	4.12						
10000	1331	461	1.37	529	2.12	<b>593</b>	<b>2.96</b>	<b>660</b>	<b>3.93</b>	<b>727</b>	<b>4.99</b>	790	6.11	849	7.32	904	8.61
12500	1664	544	2.17	600	3.06	654	4.02	706	5.05	<b>758</b>	<b>6.15</b>	<b>812</b>	<b>7.36</b>	<b>866</b>	<b>8.64</b>	<b>918</b>	<b>10.00</b>
15000	1996	630	3.27	679	4.35	725	5.42	771	6.57	815	7.77	<b>858</b>	<b>9.02</b>	<b>901</b>	<b>10.3</b>	<b>946</b>	<b>11.8</b>
17500	2329	719	4.74	763	6.00	803	7.25	843	8.50	882	9.83	920	11.2	958	12.6	995	14.1
20000	2662	808	6.60	849	8.08	885	9.51	921	10.9	956	12.4	990	13.9	1024	15.4	1057	17.0
22500	2994	897	8.93	937	10.6	971	12.3	1003	13.9	1034	15.5	1065	17.1	1096	18.7	1126	20.4
25000	3327	987	11.8	1025	13.7	1057	15.6	1087	17.4	1116	19.1	1144	20.9	1172	22.7	1200	24.5
27500	3660	1078	15.2	1114	17.4	1145	19.4	1173	21.4	1200	23.4	1226	25.4	1252	27.3	1278	29.3
30000	3993	1169	19.3	1204	21.7	1234	24.0	1261	26.2	1286	28.4	1310	30.5	1334	32.6	1358	34.8
32500	4325	1260	24.1	1293	26.7	1323	29.2	1349	31.6	1373	34.0	1396	36.4	1419	38.7	1441	41.0
35000	4658	1352	29.6	1383	32.5	1412	35.2	1438	37.9	1461	40.5	1483	43.0	1504	45.5	1525	48.0
37500	4991	1444	35.9	1474	39.0	1501	42.0	1526	44.9	1549	47.7	1571	50.5	1591	53.2	1611	55.9
CFM	OV FPM	5"		6"		7"		8"		10"		12"		14"		16"	
14000	1863	<b>1027</b>	<b>14.0</b>	1116	17.2	1200	20.6	1278	24.2								
16000	2129	<b>1047</b>	<b>15.7</b>	<b>1130</b>	<b>19.0</b>	1211	22.6	1287	26.2	1431	34.3						
18000	2396	<b>1078</b>	<b>17.7</b>	<b>1153</b>	<b>21.2</b>	<b>1228</b>	<b>24.8</b>	<b>1301</b>	<b>28.7</b>	1440	36.8	1570	45.7	1688	55.0		
20000	2662	1122	20.3	<b>1187</b>	<b>23.7</b>	<b>1253</b>	<b>27.5</b>	<b>1321</b>	<b>31.4</b>	<b>1453</b>	<b>39.9</b>	1579	48.9	1698	58.5	1809	68.9
22000	2928	1172	23.2	1232	26.8	<b>1290</b>	<b>30.6</b>	<b>1350</b>	<b>34.6</b>	<b>1473</b>	<b>43.3</b>	<b>1593</b>	<b>52.6</b>	1708	62.5	1817	72.7
24000	3194	1226	26.5	1282	30.3	1336	34.2	<b>1390</b>	<b>38.3</b>	<b>1500</b>	<b>47.1</b>	<b>1612</b>	<b>56.7</b>	<b>1722</b>	<b>66.8</b>	1829	77.5
26000	3460	1283	30.2	1335	34.2	1387	38.3	1437	42.6	1535	51.5	<b>1638</b>	<b>61.2</b>	<b>1742</b>	<b>71.6</b>	<b>1844</b>	<b>82.6</b>
28000	3726	1343	34.3	1392	38.5	1440	42.9	1488	47.3	1581	56.5	<b>1673</b>	<b>66.3</b>	<b>1768</b>	<b>76.9</b>	<b>1865</b>	<b>88.0</b>
30000	3993	1405	39.0	1451	43.4	1496	47.9	1541	52.6	1630	62.2	<b>1716</b>	<b>72.2</b>	<b>1802</b>	<b>82.8</b>	<b>1891</b>	<b>94.1</b>
32000	4259	1468	44.2	1512	48.8	1555	53.5	1597	58.3	1681	68.3	1764	78.7	<b>1844</b>	<b>89.5</b>	<b>1925</b>	<b>101</b>
34000	4525	1533	49.9	1575	54.8	1615	59.6	1656	64.6	1736	75.0	1814	85.8	1891	97.0		
36000	4791	1599	56.2	1639	61.3	1678	66.4	1716	71.6	1792	82.3	1867	93.5				
38000	5057	1667	63.0	1705	68.4	1742	73.8	1779	79.2	1851	90.3	1923	102				
40000	5323	1735	70.4	1771	76.1	1807	81.8	1842	87.5	1911	98.9						

Performance certified for installation Type D: ducted inlet/ducted outlet. Power ratings (BHP) do not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). Performance data is based on standard air conditions (0.075 lb/cu. ft.). To complete model code, add motor enclosure code. Refer to page 2 for additional model code information.



# Performance Data

## Size 40 A03--40\_BC100

Wheel Diameter – 40.25 in.  
Outlet Area – 9.393 sq. ft.

CFM	Outlet Velocity FPM	STATIC PRESSURE															
		½"		1"		1½"		2"		2½"		3"		3½"		4"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
9000	958	332	1.03	410	1.78	483	2.68	548	3.68								
12000	1278	389	1.63	457	2.69	517	3.71	572	4.70	626	5.92	677	7.21	726	8.57	772	9.99
15000	1597	456	2.54	510	3.72	565	5.07	616	6.47	660	7.60	703	8.83	748	10.3	790	11.9
18000	1916	526	3.78	572	5.16	618	6.62	663	8.22	708	9.97	748	11.5	785	12.9	821	14.2
21000	2236	598	5.42	640	7.03	679	8.64	718	10.4	757	12.2	795	14.2	833	16.2	868	18.0
24000	2555	672	7.55	709	9.37	744	11.2	778	13.1	812	15.0	847	17.1	881	19.2	915	21.5
27000	2874	747	10.2	780	12.2	813	14.3	844	16.4	874	18.5	904	20.6	934	22.9	965	25.3
30000	3194	822	13.6	853	15.7	883	18.0	911	20.3	939	22.6	966	24.9	993	27.3	1021	29.8
33000	3513	899	17.6	926	19.9	954	22.4	981	24.9	1007	27.5	1032	30.0	1056	32.5	1081	35.1
36000	3833	976	22.3	1001	24.8	1026	27.5	1051	30.2	1076	33.0	1099	35.8	1122	38.5	1145	41.3
39000	4152	1053	27.9	1076	30.6	1100	33.4	1123	36.4	1146	39.3	1168	42.4	1190	45.4	1211	48.3
42000	4471	1130	34.4	1152	37.3	1174	40.3	1196	43.4	1217	46.6	1238	49.8	1259	53.1	1279	56.3
45000	4791	1208	41.9	1229	45.0	1249	48.1	1269	51.4	1289	54.7	1309	58.2	1329	61.6	1348	65.1
48000	5110	1286	50.4	1305	53.7	1324	57.0	1343	60.4	1362	63.9	1381	67.6	1400	71.2	1418	74.9
CFM	OV FPM	5"		6"		7"		8"		10"		12"		14"		16"	
17500	1863	890	17.2	961	20.9	1030	24.8	1095	28.9								
20000	2129	916	19.7	982	23.5	1047	27.7	1109	31.9	1226	41.0						
22500	2395	954	23.6	1011	26.9	1070	30.9	1129	35.4	1240	44.8	1346	54.9	1445	65.5		
25000	2662	994	27.6	1051	31.7	1103	35.4	1155	39.4	1261	49.2	1361	59.6	1457	70.7	1549	82.2
27500	2928	1033	31.0	1091	36.4	1143	41.1	1191	45.2	1286	54.0	1382	64.9	1474	76.3	1563	88.3
30000	3194	1075	35.0	1130	40.6	1183	46.5	1232	51.8	1320	60.8	1407	70.7	1495	82.5	1581	94.9
32500	3460	1121	39.6	1172	45.3	1222	51.3	1271	57.7	1360	68.9	1440	78.5	1521	89.3	1602	102
35000	3726	1170	44.7	1217	50.6	1264	56.8	1310	63.3	1401	76.9	1480	88.2	1554	98.5	1629	110
37500	3992	1221	50.5	1265	56.6	1309	63.0	1353	69.6	1439	83.9	1521	98.2	1594	110	1663	121
40000	4258	1275	57.0	1315	63.3	1356	69.9	1398	76.7	1479	91.1	1560	107	1635	121	1702	134
42500	4525	1330	64.1	1368	70.7	1406	77.4	1445	84.5	1522	99.3	1599	115	1674	132		
45000	4791	1386	72.0	1422	78.9	1458	85.8	1494	93.0	1568	108	1640	124	1713	141		
47500	5057	1443	80.6	1478	87.8	1512	95.1	1546	102	1615	118	1684	134				
50000	5323	1500	89.8	1534	97.5	1567	105	1599	113	1664	129						

## Size 40 A03--40\_BA100

Wheel Diameter – 40.25 in.  
Outlet Area – 9.393 sq. ft.

CFM	Outlet Velocity FPM	STATIC PRESSURE															
		½"		1"		1½"		2"		2½"		3"		3½"		4"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
9000	958	337	0.96	419	1.77	500	2.74	573	3.85								
12000	1278	400	1.58	463	2.50	524	3.54	587	4.73	647	6.04	704	7.42	758	8.94	807	10.5
15000	1597	471	2.48	523	3.56	573	4.73	621	5.98	671	7.36	721	8.85	770	10.4	818	12.1
18000	1916	545	3.72	590	5.01	633	6.31	675	7.71	715	9.18	755	10.7	796	12.4	838	14.1
21000	2236	621	5.36	661	6.87	699	8.37	735	9.89	771	11.5	807	13.2	841	14.9	875	16.7
24000	2555	697	7.45	734	9.21	768	10.9	801	12.6	833	14.4	865	16.2	896	18.1	927	20.0
27000	2874	774	10.0	809	12.1	840	14.0	870	15.9	899	17.9	928	19.8	956	21.8	984	23.9
30000	3194	851	13.2	885	15.5	915	17.7	942	19.9	969	22.0	995	24.1	1021	26.3	1046	28.5
33000	3513	928	17.0	962	19.6	990	22.1	1015	24.5	1040	26.8	1064	29.2	1088	31.5	1112	33.9
36000	3833	1006	21.6	1038	24.4	1065	27.2	1090	29.8	1113	32.4	1135	34.9	1158	37.5	1180	40.1
39000	4152	1085	26.9	1115	30.0	1142	33.0	1165	35.9	1187	38.7	1209	41.5	1229	44.3	1250	47.1
42000	4471	1163	33.0	1192	36.4	1218	39.7	1241	42.9	1262	45.9	1283	49.0	1302	52.0	1322	55.0
45000	4791	1242	40.0	1270	43.7	1295	47.3	1318	50.7	1338	54.1	1358	57.3	1376	60.6	1395	63.8
48000	5110	1321	48.0	1347	52.0	1371	55.9	1394	59.6	1414	63.2	1433	66.7	1451	70.2	1469	73.7
CFM	OV FPM	5"		6"		7"		8"		10"		12"		14"		16"	
17500	1863	918	17.5	998	21.5	1073	25.7	1143	30.3								
20000	2129	936	19.6	1011	23.8	1083	28.2	1152	32.8	1280	42.8						
22500	2395	964	22.2	1031	26.5	1098	31.0	1164	35.9	1288	46.0	1404	57.2	1509	68.8		
25000	2662	1004	25.3	1061	29.6	1121	34.3	1181	39.3	1300	49.9	1412	61.1	1518	73.2	1618	86.1
27500	2928	1049	29.0	1102	33.5	1154	38.2	1208	43.2	1317	54.1	1425	65.8	1528	78.1	1625	90.9
30000	3194	1097	33.1	1146	37.8	1195	42.8	1243	47.9	1341	58.8	1442	70.8	1541	83.6	1636	96.9
32500	3460	1148	37.7	1194	42.7	1240	47.9	1285	53.2	1373	64.3	1465	76.5	1558	89.5	1650	103
35000	3726	1201	42.9	1245	48.2	1288	53.6	1330	59.1	1414	70.7	1496	82.9	1582	96.1	1668	110
37500	3992	1256	48.8	1297	54.2	1338	59.9	1378	65.7	1458	77.7	1535	90.2	1612	103	1692	118
40000	4258	1313	55.3	1352	61.0	1391	66.8	1429	72.9	1504	85.4	1577	98.4	1649	112	1722	126
42500	4525	1371	62.4	1408	68.5	1445	74.6	1481	80.8	1552	93.8	1623	107	1691	121		
45000	4791	1431	70.2	1466	76.6	1501	83.0	1535	89.5	1603	103	1670	117				
47500	5057	1491	78.8	1525	85.5	1558	92.2	1591	99.0	1655	113	1720	127				
50000	5323	1552	88.0	1584	95.1	1616	102	1648	109	1709	124						

Performance certified for installation Type D: ducted inlet/ducted outlet. Power ratings (BHP) do not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). Performance data is based on standard air conditions (0.075 lb/cu. ft.). To complete model code, add motor enclosure code. Refer to page 2 for additional model code information.



# Performance Data

## Size 44 A03-\_-44\_BC100

Wheel Diameter – 44.5 in.  
Outlet Area – 11.481 sq. ft.

CFM	Outlet Velocity FPM	STATIC PRESSURE															
		½"		1"		1½"		2"		2½"		3"		3½"		4"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
8000	697	265	0.80	352	1.62												
12000	1045	313	1.42	382	2.48	443	3.54	500	4.81	554	6.18						
16000	1394	373	2.35	430	3.69	484	5.20	529	6.40	575	7.84	620	9.48	662	11.2	703	13.0
20000	1742	441	3.74	486	5.28	532	6.99	576	8.90	617	10.6	653	12.1	689	13.8	726	15.7
24000	2090	511	5.65	551	7.49	588	9.36	626	11.4	664	13.6	700	15.9	734	18.0	765	19.8
28000	2439	583	8.21	618	10.3	651	12.5	683	14.7	716	17.0	748	19.5	780	22.1	812	24.8
32000	2787	657	11.5	688	13.9	718	16.4	747	18.8	775	21.3	803	24.0	831	26.7	860	29.5
36000	3136	731	15.8	759	18.4	787	21.1	813	23.9	838	26.6	863	29.4	888	32.3	914	35.3
40000	3484	807	21.0	832	23.8	857	26.8	881	29.9	905	33.0	928	36.0	950	39.1	972	42.2
44000	3832	882	27.3	905	30.4	928	33.6	951	36.9	973	40.3	994	43.7	1015	47.1	1036	50.4
48000	4181	959	34.8	980	38.1	1001	41.6	1021	45.2	1042	48.8	1062	52.6	1082	56.2	1101	59.9
52000	4529	1035	43.6	1055	47.2	1074	50.9	1093	54.7	1112	58.6	1131	62.6	1150	66.7	1168	70.7
56000	4878	1112	53.9	1130	57.7	1148	61.6	1166	65.7	1184	69.8	1202	74.1	1219	78.4	1237	82.7
60000	5226	1189	65.7	1206	69.8	1223	73.9	1239	78.2	1256	82.6	1273	87.1	1289	91.6	1306	96.3
CFM	OV FPM	5"		6"		7"		8"		10"		12"		14"		16"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
		21000	1829	802	20.7	868	25.2	930	29.9	989	34.8						
24000	2090	824	23.6	885	28.3	944	33.3	1001	38.4	1107	49.4						
27000	2352	857	28.0	910	32.0	964	37.0	1018	42.5	1119	54.0	1215	66.2	1306	79.1		
30000	2613	893	32.9	944	37.6	991	42.1	1040	47.1	1137	59.1	1228	71.8	1316	85.2	1399	99.2
33000	2874	927	37.1	980	43.5	1026	48.8	1070	53.7	1158	64.7	1246	78.0	1330	91.8	1411	106
36000	3136	964	41.7	1014	48.5	1062	55.5	1106	61.5	1186	72.2	1267	84.7	1348	99.2	1426	114
39000	3397	1004	47.0	1051	53.9	1097	61.3	1141	68.9	1221	81.8	1295	93.4	1370	107	1445	123
42000	3658	1047	53.0	1090	60.1	1133	67.6	1176	75.6	1258	91.8	1329	105	1397	117	1467	132
45000	3920	1091	59.7	1132	67.1	1172	74.9	1213	82.9	1292	100	1366	117	1431	130	1495	144
48000	4181	1139	67.3	1176	74.9	1214	82.9	1252	91.2	1327	109	1401	127	1468	144	1529	159
51000	4442	1187	75.6	1222	83.5	1258	91.7	1293	100	1365	118	1435	137	1503	157		
54000	4703	1237	84.8	1270	93.0	1303	101	1337	110	1404	129	1471	148	1537	169		
57000	4965	1287	94.7	1319	103	1351	112	1382	121	1446	140	1510	160				
60000	5226	1338	106	1369	115	1399	124	1429	133	1489	152	1550	173				

## Size 44 A03-\_-44\_BA100

Wheel Diameter – 44.5 in.  
Outlet Area – 11.481 sq. ft.

CFM	Outlet Velocity FPM	STATIC PRESSURE															
		½"		1"		1½"		2"		2½"		3"		3½"		4"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
8000	697	270	0.78	367	1.69												
12000	1045	320	1.35	387	2.36	456	3.58	520	4.94	578	6.47						
16000	1394	385	2.29	438	3.48	488	4.80	539	6.27	591	7.91	641	9.67	688	11.5	733	13.5
20000	1742	456	3.67	500	5.09	542	6.60	583	8.21	623	9.91	664	11.8	705	13.8	747	15.9
24000	2090	530	5.57	568	7.30	604	9.01	639	10.8	674	12.7	708	14.7	741	16.7	774	18.9
28000	2439	605	8.10	640	10.1	672	12.1	702	14.1	733	16.2	762	18.4	792	20.6	821	22.9
32000	2787	681	11.3	714	13.7	742	16.0	770	18.3	797	20.6	823	22.9	850	25.3	876	27.8
36000	3136	757	15.4	788	18.2	815	20.8	840	23.3	864	25.9	888	28.5	912	31.0	936	33.7
40000	3484	833	20.4	863	23.5	889	26.5	912	29.3	934	32.2	957	35.0	978	37.9	1000	40.7
44000	3832	910	26.4	939	29.9	964	33.2	986	36.4	1007	39.6	1027	42.7	1047	45.8	1067	48.9
48000	4181	987	33.5	1015	37.4	1039	41.1	1060	44.6	1080	48.1	1099	51.5	1118	55.0	1136	58.4
52000	4529	1065	41.8	1091	46.1	1114	50.1	1135	54.1	1154	57.9	1172	61.6	1190	65.4	1207	69.1
56000	4878	1143	51.5	1167	56.1	1190	60.5	1210	64.8	1229	69.0	1246	73.1	1263	77.1	1280	81.2
60000	5226	1221	62.5	1244	67.5	1266	72.4	1286	77.0	1304	81.6	1321	86.0	1337	90.4	1353	94.7
CFM	OV FPM	5"		6"		7"		8"		10"		12"		14"		16"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
		21000	1829	829	21.1	901	25.9	970	31.1	1033	36.6						
24000	2090	844	23.6	912	28.6	978	34.0	1040	39.5	1156	51.8						
27000	2352	867	26.6	929	31.8	990	37.3	1050	43.2	1163	55.5	1269	69.2				
30000	2613	901	30.2	954	35.5	1010	41.2	1065	47.2	1174	60.1	1276	73.7	1372	88.6	1462	104
33000	2874	940	34.5	989	39.9	1037	45.7	1087	51.8	1188	65.0	1286	79.2	1380	94.1	1469	110
36000	3136	982	39.3	1028	45.0	1072	51.0	1116	57.2	1208	70.6	1300	85.2	1391	101	1478	117
39000	3397	1027	44.7	1070	50.7	1112	57.0	1153	63.4	1235	76.9	1320	91.8	1405	108	1489	124
42000	3658	1074	50.8	1114	57.1	1154	63.6	1193	70.4	1269	84.3	1345	99.2	1425	115	1504	132
45000	3920	1123	57.6	1160	64.2	1198	71.0	1235	78.0	1307	92.6	1378	108	1450	124	1524	141
48000	4181	1173	65.2	1208	72.1	1244	79.1	1279	86.4	1348	102	1415	117	1481	134	1549	151
51000	4442	1224	73.5	1258	80.8	1291	88.1	1325	95.7	1390	111	1455	128	1518	145		
54000	4703	1276	82.6	1309	90.3	1341	98.0	1372	106	1435	122	1496	139	1557	156		
57000	4965	1329	92.6	1360	101	1391	109	1421	117	1481	134	1540	151				
60000	5226	1383	103	1413	112	1442	120	1471	129	1528	146						

Performance certified for installation Type D: ducted inlet/ducted outlet. Power ratings (BHP) do not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). Performance data is based on standard air conditions (0.075 lb/cu. ft.). To complete model code, add motor enclosure code. Refer to page 2 for additional model code information.





# Performance Data

## Size 49 A03-\_-49\_BC100\_ \_ \_ \_ \_

Wheel Diameter – 49.0 in.  
Outlet Area – 13.921 sq. ft.

CFM	Outlet Velocity FPM	STATIC PRESSURE															
		½"		1"		1½"		2"		2½"		3"		3½"		4"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
10000	718	243	1.02	320	2.01												
15000	1078	289	1.81	351	3.15	<b>404</b>	<b>4.41</b>	<b>456</b>	<b>5.97</b>	504	7.66	549	9.45				
20000	1437	346	3.03	396	4.68	445	6.59	486	8.13	<b>526</b>	<b>9.80</b>	<b>566</b>	<b>11.8</b>	<b>604</b>	<b>13.9</b>	641	16.1
25000	1796	410	4.84	450	6.77	490	8.87	530	11.2	567	13.5	600	15.4	<b>631</b>	<b>17.3</b>	<b>663</b>	<b>19.6</b>
30000	2155	476	7.36	511	9.66	544	12.0	578	14.5	611	17.2	644	20.1	675	22.9	702	25.2
35000	2514	544	10.7	575	13.4	604	16.1	633	18.8	661	21.7	690	24.7	718	27.9	746	31.3
40000	2873	613	15.2	641	18.1	667	21.2	693	24.2	717	27.3	742	30.6	767	33.9	792	37.4
45000	3233	683	20.8	708	24.0	732	27.4	756	30.9	778	34.3	<b>800</b>	<b>37.8</b>	<b>822</b>	<b>41.3</b>	<b>844</b>	<b>45.0</b>
50000	3592	754	27.7	776	31.2	798	34.9	820	38.7	<b>841</b>	<b>42.6</b>	<b>861</b>	<b>46.4</b>	<b>881</b>	<b>50.2</b>	<b>901</b>	<b>54.1</b>
55000	3951	825	36.0	845	39.8	<b>865</b>	<b>43.8</b>	<b>885</b>	<b>48.0</b>	905	52.3	924	56.5	942	60.7	961	64.9
60000	4310	896	46.0	915	50.1	933	54.4	952	58.9	970	63.4	988	68.1	1006	72.7	1022	77.3
65000	4669	968	57.7	985	62.2	1002	66.7	1019	71.5	<b>1036</b>	<b>76.3</b>	<b>1053</b>	<b>81.3</b>	<b>1070</b>	<b>86.3</b>	<b>1086</b>	<b>91.4</b>
70000	5028	1040	71.3	1056	76.1	<b>1072</b>	<b>81.0</b>	<b>1088</b>	<b>86.0</b>	<b>1103</b>	<b>91.1</b>	<b>1119</b>	<b>96.4</b>	<b>1135</b>	<b>102</b>	<b>1150</b>	<b>107</b>
75000	5388	<b>1112</b>	<b>87.0</b>	<b>1127</b>	<b>92.1</b>	<b>1142</b>	<b>97.2</b>	<b>1157</b>	<b>103</b>	<b>1171</b>	<b>108</b>	<b>1186</b>	<b>114</b>	<b>1201</b>	<b>119</b>	<b>1215</b>	<b>125</b>
CFM	OV FPM	5"		6"		7"		8"		10"		12"		14"		16"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
		24000	1724	<b>722</b>	<b>23.8</b>	783	29.2	840	34.8								
28000	2011	<b>742</b>	<b>27.4</b>	<b>799</b>	<b>33.1</b>	<b>853</b>	<b>39.0</b>	905	45.2	1003	58.4						
32000	2299	772	32.7	<b>821</b>	<b>37.8</b>	<b>871</b>	<b>43.9</b>	<b>921</b>	<b>50.5</b>	<b>1014</b>	<b>64.3</b>	1102	79.0				
36000	2586	808	39.3	854	44.8	<b>897</b>	<b>50.2</b>	<b>942</b>	<b>56.5</b>	<b>1030</b>	<b>71.0</b>	<b>1114</b>	<b>86.3</b>	1194	103	1270	119
40000	2873	842	44.9	890	52.7	932	59.1	972	65.0	<b>1051</b>	<b>78.4</b>	<b>1131</b>	<b>94.5</b>	<b>1208</b>	<b>111</b>	1281	129
44000	3161	879	51.1	924	59.4	968	68.0	1008	75.5	1080	88.6	<b>1153</b>	<b>104</b>	<b>1226</b>	<b>121</b>	<b>1296</b>	<b>139</b>
48000	3448	919	58.3	961	66.8	1002	75.8	1043	85.2	1116	102	1182	116	<b>1248</b>	<b>132</b>	<b>1315</b>	<b>151</b>
52000	3735	962	66.5	1001	75.3	1039	84.5	1077	94.1	1152	114	1217	131	1278	147	<b>1339</b>	<b>164</b>
56000	4023	1008	75.9	1044	85.0	1079	94.5	1115	104	1186	126	1253	147	1313	165	1370	181
60000	4310	1056	86.4	1088	95.8	1122	106	1155	116	1222	137	1287	161	1350	183	1405	202
64000	4597	1105	98.1	1136	108	1166	118	1198	129	1260	151	1322	174	1384	199		
68000	4885	1155	111	1184	121	1213	132	1242	143	1301	165	1360	189				
72000	5172	1205	125	1234	136	1261	147	1289	158	1344	182	1400	206				
76000	5459	1257	141	1284	152	1311	164	1337	175	1388	199						

## Size 49 A03-\_-49\_BA100\_ \_ \_ \_ \_

Wheel Diameter – 49.0 in.  
Outlet Area – 13.921 sq. ft.

CFM	Outlet Velocity FPM	STATIC PRESSURE															
		½"		1"		1½"		2"		2½"		3"		3½"		4"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
10000	718	<b>247</b>	<b>0.98</b>	333	2.08												
15000	1078	295	1.72	<b>355</b>	<b>2.96</b>	<b>416</b>	<b>4.45</b>	473	6.13	526	7.99						
20000	1437	357	2.95	404	4.42	449	6.05	<b>493</b>	<b>7.85</b>	<b>539</b>	<b>9.85</b>	<b>584</b>	<b>12.0</b>	627	14.3	667	16.6
25000	1796	425	4.76	463	6.54	501	8.40	537	10.4	<b>572</b>	<b>12.5</b>	<b>608</b>	<b>14.7</b>	<b>644</b>	<b>17.2</b>	<b>681</b>	<b>19.7</b>
30000	2155	494	7.27	528	9.43	560	11.6	591	13.8	621	16.1	<b>651</b>	<b>18.5</b>	<b>681</b>	<b>21.1</b>	<b>710</b>	<b>23.7</b>
35000	2514	564	10.6	595	13.2	624	15.7	651	18.1	678	20.7	704	23.4	730	26.1	756	29.0
40000	2873	635	14.9	665	17.9	690	20.8	715	23.6	739	26.4	762	29.3	785	32.3	808	35.4
45000	3233	706	20.2	735	23.7	759	27.0	781	30.2	803	33.4	824	36.6	845	39.8	866	43.1
50000	3592	778	26.8	805	30.7	828	34.5	849	38.1	869	41.7	888	45.2	908	48.8	927	52.3
55000	3951	850	34.7	876	39.1	898	43.3	918	47.3	937	51.3	955	55.3	973	59.2	990	63.1
60000	4310	923	44.2	947	49.0	969	53.7	988	58.1	1006	62.5	1023	66.8	1039	71.1	1056	75.4
65000	4669	995	55.2	1019	60.5	1039	65.7	1058	70.6	<b>1075</b>	<b>75.4</b>	<b>1092</b>	<b>80.1</b>	<b>1107</b>	<b>84.8</b>	<b>1123</b>	<b>89.4</b>
70000	5028	1068	68.0	1090	73.8	1110	79.4	1129	84.8	1146	90.1	1161	95.2	1176	100	1191	105
75000	5388	<b>1141</b>	<b>82.7</b>	<b>1162</b>	<b>89.0</b>	<b>1182</b>	<b>95.0</b>	<b>1199</b>	<b>101</b>	<b>1216</b>	<b>107</b>	<b>1231</b>	<b>112</b>	<b>1246</b>	<b>118</b>	<b>1260</b>	<b>123</b>
CFM	OV FPM	5"		6"		7"		8"		10"		12"		14"		16"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
		24000	1724	749	24.4	816	30.3	878	36.5								
28000	2011	<b>761</b>	<b>27.6</b>	<b>825</b>	<b>33.7</b>	885	40.1	943	46.8	1047	61.3						
32000	2299	<b>783</b>	<b>31.4</b>	<b>840</b>	<b>37.7</b>	<b>897</b>	<b>44.4</b>	<b>952</b>	<b>51.5</b>	1055	66.2	1151	82.7				
36000	2586	<b>815</b>	<b>36.1</b>	<b>864</b>	<b>42.5</b>	<b>915</b>	<b>49.4</b>	<b>966</b>	<b>56.7</b>	<b>1065</b>	<b>72.3</b>	1158	88.7	1246	107	1326	125
40000	2873	854	41.8	898	48.4	<b>941</b>	<b>55.3</b>	<b>987</b>	<b>62.8</b>	<b>1079</b>	<b>78.8</b>	<b>1168</b>	<b>96.0</b>	1253	114	1334	133
44000	3161	896	48.2	937	55.2	977	62.5	<b>1017</b>	<b>70.0</b>	<b>1099</b>	<b>86.3</b>	<b>1182</b>	<b>104</b>	<b>1264</b>	<b>123</b>	1343	142
48000	3448	941	55.6	979	63.0	1017	70.6	1054	78.5	<b>1127</b>	<b>94.9</b>	<b>1203</b>	<b>113</b>	<b>1279</b>	<b>132</b>	<b>1354</b>	<b>153</b>
52000	3735	988	63.9	1024	71.7	1059	79.7	1094	88.0	1162	105	<b>1230</b>	<b>123</b>	<b>1300</b>	<b>143</b>	<b>1370</b>	<b>163</b>
56000	4023	1037	73.4	1071	81.5	1104	89.9	1137	98.5	1202	116	<b>1264</b>	<b>135</b>	<b>1327</b>	<b>155</b>	<b>1392</b>	<b>176</b>
60000	4310	1088	83.9	1120	92.5	1151	101	1182	110	1243	129	1303	148	<b>1361</b>	<b>168</b>		
64000	4597	1140	95.6	1170	105	1199	114	1228	123	1286	143	1343	163	1399	184		
68000	4885	1192	108	1221	118	1249	128	1277	137	1332	158	1386	179				
72000	5172	1246	123	1273	133	1300	143	1327	153	1379	174						
76000	5459	1301	138	1326	149	1352	160	1378	170								

Performance certified for installation Type D: ducted inlet/ducted outlet. Power ratings (BHP) do not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). Performance data is based on standard air conditions (0.075 lb/cu. ft.). To complete model code, add motor enclosure code. Refer to page 2 for additional model code information.



# Performance Data

## Size 54 A03-\_-54\_BC100

Wheel Diameter – 54.25 in.  
Outlet Area – 17.026 sq. ft.

CFM	Outlet Velocity FPM	STATIC PRESSURE															
		½"		1"		1½"		2"		2½"		3"		3½"		4"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
12000	705	218	1.37	287	2.60												
18000	1057	260	2.39	315	4.19	365	5.84	410	7.73	451	9.85	489	12.0				
24000	1410	312	3.97	357	6.16	398	8.57	437	10.9	475	13.1	511	15.4	543	18.0	574	20.8
30000	1762	369	6.36	406	8.90	442	11.7	475	14.6	507	17.7	538	20.7	569	23.4	599	26.1
36000	2114	428	9.72	460	12.6	491	15.8	521	19.1	550	22.5	577	26.2	603	29.8	629	33.5
42000	2467	490	14.3	517	17.6	544	21.1	570	24.7	596	28.6	621	32.5	646	36.6	669	40.8
48000	2819	552	20.1	577	23.9	600	27.8	624	31.8	647	36.0	670	40.3	692	44.7	714	49.3
54000	3172	615	27.6	637	31.8	659	36.0	680	40.4	700	45.0	721	49.6	741	54.4	761	59.4
60000	3524	679	36.8	699	41.4	718	46.1	738	50.9	756	55.8	775	60.8	793	65.9	812	71.2
66000	3877	743	47.9	761	52.9	779	58.0	797	63.3	814	68.6	831	74.0	848	79.5	865	85.1
72000	4229	808	61.1	824	66.6	841	72.2	857	77.8	873	83.5	889	89.3	905	95.2	920	101
78000	4581	872	76.7	888	82.6	903	88.6	918	94.7	933	101	948	107	962	113	977	120
84000	4934	937	94.7	951	101	966	108	980	114	994	121	1007	127	1021	134	1035	141
90000	5286	1002	116	1015	122	1029	129	1042	136	1055	143	1068	150	1081	157	1094	164
CFM	OV FPM	5"		6"		7"		8"		10"		12"		14"		16"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
		30000	1762	655	32.0	706	38.8	754	46.0	800	53.2						
35000	2056	676	38.6	727	45.1	773	52.4	816	60.3	898	77.0	977	93.2				
40000	2349	702	46.5	749	53.8	794	61.1	837	68.5	916	85.9	989	105	1059	124	1128	142
45000	2643	734	54.0	776	63.2	818	71.8	859	80.0	937	96.4	1008	116	1075	136	1139	158
50000	2937	770	62.2	809	72.3	847	82.5	885	92.5	959	111	1030	129	1095	150	1156	172
55000	3230	808	71.5	846	82.2	881	93.3	916	104	984	126	1052	147	1116	167	1177	188
60000	3524	848	82.1	884	93.4	918	105	951	117	1014	142	1077	165	1139	187	1198	209
65000	3818	890	94.1	923	106	956	118	988	131	1048	157	1107	183	1164	209	1221	233
70000	4111	933	108	965	120	996	133	1026	146	1084	173	1140	202	1194	230	1247	258
75000	4405	978	123	1008	136	1037	149	1066	163	1122	191	1175	221	1227	252	1277	282
80000	4699	1024	140	1052	153	1079	167	1107	182	1161	211	1213	242	1262	274		
85000	4993	1071	158	1097	173	1123	187	1149	202	1201	233	1251	265				
90000	5286	1119	179	1144	194	1169	209	1193	225	1242	257						
95000	5580	1167	202	1191	217	1215	233	1238	249								

## Size 54 A03-\_-54\_BA100

Wheel Diameter – 54.25 in.  
Outlet Area – 17.026 sq. ft.

CFM	Outlet Velocity FPM	STATIC PRESSURE															
		½"		1"		1½"		2"		2½"		3"		3½"		4"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
12000	705	237	1.41	313	2.67												
18000	1057	280	2.38	341	4.28	395	6.00	445	7.89	492	10.2	534	12.5				
24000	1410	338	3.98	383	6.14	430	8.68	474	11.2	514	13.5	551	15.7	589	18.4	625	21.3
30000	1762	403	6.45	437	8.87	475	11.6	512	14.7	549	18.0	584	21.2	617	24.1	648	26.8
36000	2114	470	9.90	500	12.7	529	15.7	559	19.0	591	22.5	622	26.3	653	30.3	683	34.3
42000	2467	538	14.5	566	17.8	590	21.1	614	24.6	641	28.4	668	32.4	694	36.6	721	41.1
48000	2819	605	20.4	632	24.3	655	28.1	676	31.9	697	35.8	720	40.1	743	44.5	767	49.2
54000	3172	672	27.7	700	32.3	721	36.6	740	40.8	759	45.1	778	49.5	798	54.2	818	59.1
60000	3524	740	36.7	767	42.0	788	46.9	806	51.6	824	56.3	841	61.0	857	65.8	875	70.9
66000	3877	808	47.6	834	53.5	856	59.1	873	64.3	890	69.5	905	74.6	921	79.8	936	85.1
72000	4229	877	60.5	902	67.1	923	73.3	940	79.2	956	84.8	971	90.5	986	96.1	1000	102
78000	4581	945	75.6	969	82.9	990	89.8	1008	96.4	1023	103	1038	109	1052	115	1065	121
84000	4934	1014	93.1	1037	101	1057	109	1075	116	1091	123	1105	129	1118	136	1131	143
90000	5286	1083	113	1105	122	1125	130	1142	138	1158	146	1172	153	1185	160	1198	167
CFM	OV FPM	5"		6"		7"		8"		10"		12"		14"		16"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
		30000	1762	708	32.7	767	39.8	823	47.4	874	55.3						
35000	2056	732	39.7	785	46.3	836	53.4	887	61.8	982	79.6						
40000	2349	762	47.6	812	55.4	859	62.8	904	70.3	994	87.8	1080	108	1158	129		
45000	2643	793	54.5	842	64.5	887	73.8	930	82.2	1012	99.0	1092	118	1170	140	1244	163
50000	2937	828	62.1	873	72.9	917	83.9	960	94.9	1038	114	1112	133	1184	153	1256	176
55000	3230	868	71.3	909	82.2	950	93.9	991	106	1068	130	1139	151	1206	171	1271	192
60000	3524	912	81.7	949	93.1	987	105	1024	118	1098	144	1169	170	1233	192		
65000	3818	958	93.7	992	105	1027	118	1061	131	1131	158	1198	187	1263	215		
70000	4111	1007	107	1038	120	1070	132	1102	146	1166	173	1230	204				
75000	4405	1059	123	1086	135	1116	149	1145	162	1205	191	1265	222				
80000	4699	1112	140	1137	153	1163	167	1191	181	1247	210						
85000	4993	1167	160	1190	173	1213	187	1239	201								
90000	5286	1221	181	1244	195	1266	210										
95000	5580	1277	205														

Performance certified for installation Type D: ducted inlet/ducted outlet. Power ratings (BHP) do not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). Performance data is based on standard air conditions (0.075 lb/cu. ft.). To complete model code, add motor enclosure code. Refer to page 2 for additional model code information.



# Performance Data

## Size 60 A03-\_-60\_BC100\_ \_ \_ \_ \_

Wheel Diameter –60.0 in.  
Outlet Area – 20.826 sq. ft.

CFM	Outlet Velocity FPM	STATIC PRESSURE															
		½"		1"		1½"		2"		2½"		3"		3½"		4"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
14000	672	195	1.57	258	3.06												
21000	1008	230	2.71	280	4.80	327	6.73	368	9.08	405	11.6						
28000	1344	273	4.43	315	7.03	353	9.87	390	12.5	425	15.1	457	18.0	487	21.2	516	24.5
35000	1681	321	7.01	356	10.0	390	13.3	421	16.8	451	20.4	480	23.7	509	26.8	536	30.0
42000	2017	372	10.6	402	14.1	431	17.8	459	21.7	486	25.8	511	30.1	536	34.4	561	38.4
49000	2353	425	15.5	451	19.4	476	23.5	501	27.8	525	32.4	549	37.1	571	42.0	593	46.9
56000	2689	478	21.8	501	26.2	524	30.7	546	35.5	568	40.4	589	45.5	610	50.8	630	56.2
63000	3025	533	29.7	553	34.6	573	39.6	593	44.8	613	50.2	632	55.7	651	61.4	670	67.2
70000	3361	587	39.5	606	44.9	624	50.4	643	56.1	660	61.8	678	67.8	695	73.9	713	80.1
77000	3697	642	51.3	660	57.2	676	63.2	693	69.4	709	75.6	726	82.0	742	88.5	757	95.1
84000	4033	698	65.4	714	71.8	729	78.3	745	85.0	760	91.7	775	98.5	789	105	804	113
91000	4370	754	82.0	768	88.9	783	95.9	797	103	811	110	825	118	839	125	852	132
98000	4706	809	101	823	109	836	116	850	124	863	131	876	139	889	147	902	155
105000	5042	865	123	878	131	890	139	903	147	915	156	928	164	940	172	952	181
CFM	OV FPM	5"		6"		7"		8"		10"		12"		14"		16"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
		36000	1729	590	38.5	636	46.8	680	55.4	722	63.9						
42000	2017	609	46.1	654	53.8	696	62.9	736	72.6	811	92.8						
48000	2305	631	55.4	674	64.2	715	72.9	754	81.9	826	103	892	126	956	149		
54000	2593	659	64.4	697	75.4	736	85.5	773	95.3	844	115	909	139	969	164	1027	190
60000	2881	690	74.0	726	86.2	761	98.5	795	110	863	132	927	154	986	180	1042	207
66000	3169	724	84.9	758	97.9	790	111	822	125	885	151	946	175	1005	199	1060	225
72000	3457	759	97.4	791	111	822	125	852	140	911	169	968	197	1025	223	1079	249
78000	3745	795	111	826	126	856	140	885	156	940	187	993	219	1047	249	1099	277
84000	4033	833	127	862	142	890	158	918	174	971	207	1022	241	1072	275	1121	307
90000	4322	873	145	900	160	927	177	953	193	1005	228	1053	263	1101	300		
96000	4610	913	164	939	181	964	198	989	215	1039	251	1086	288	1131	327		
102000	4898	955	186	979	203	1003	221	1027	239	1074	276	1120	315				
108000	5186	997	210	1020	228	1043	246	1065	265	1110	304						
114000	5474	1040	236	1062	255	1083	274	1105	294								

## Size 60 A03-\_-60\_BA100\_ \_ \_ \_ \_

Wheel Diameter –60.0 in.  
Outlet Area – 20.826 sq. ft.

CFM	Outlet Velocity FPM	STATIC PRESSURE															
		½"		1"		1½"		2"		2½"		3"		3½"		4"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
14000	672	211	1.61	282	3.15												
21000	1008	247	2.70	304	4.94	353	6.90	400	9.30	443	12.0						
28000	1344	295	4.43	339	7.02	383	10.1	423	12.9	459	15.5	495	18.3	530	21.7	563	25.2
35000	1681	351	7.09	383	9.97	419	13.3	454	17.0	489	20.8	521	24.3	551	27.6	579	30.8
42000	2017	408	10.8	436	14.1	464	17.7	493	21.6	523	25.9	552	30.5	581	35.1	608	39.5
49000	2353	466	15.7	492	19.6	515	23.5	539	27.7	564	32.2	589	37.0	615	42.1	640	47.5
56000	2689	524	22.0	549	26.6	570	31.0	590	35.4	611	40.2	633	45.3	655	50.7	677	56.2
63000	3025	582	29.9	607	35.2	627	40.2	645	45.1	662	50.1	681	55.5	700	61.1	720	66.9
70000	3361	641	39.6	665	45.7	684	51.2	701	56.7	718	62.2	733	67.8	750	73.6	767	79.8
77000	3697	700	51.2	723	58.0	742	64.4	759	70.4	774	76.4	789	82.5	803	88.6	817	94.9
84000	4033	758	64.9	781	72.6	801	79.8	817	86.4	831	93.0	845	99.6	859	106	872	113
91000	4370	818	81.1	840	89.5	858	97.4	875	105	889	112	902	119	915	126	927	133
98000	4706	877	99.7	898	109	916	118	933	126	947	134	960	142	972	149	984	157
105000	5042	936	121	957	131	975	141	991	150	1005	158	1018	167	1030	175	1041	183
CFM	OV FPM	5"		6"		7"		8"		10"		12"		14"		16"	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
		36000	1729	638	39.3	693	48.0	743	57.3	788	66.7						
42000	2017	659	47.4	707	55.2	754	64.3	801	74.4	886	96.2						
48000	2305	685	56.9	730	66.0	773	74.9	814	84.0	897	106	974	130	1044	155		
54000	2593	712	65.2	756	77.1	798	87.9	837	98.0	911	118	985	142	1056	169	1123	197
60000	2881	743	74.1	784	87.2	824	100	863	113	934	136	1001	158	1068	183	1133	212
66000	3169	777	84.7	815	98.0	853	112	890	127	960	155	1024	180	1086	204	1146	230
72000	3457	815	96.9	850	111	884	125	919	141	986	172	1050	202	1109	229		
78000	3745	856	111	887	125	919	140	951	156	1015	189	1077	224	1135	256		
84000	4033	898	127	927	141	957	157	986	173	1046	207	1105	244				
90000	4322	944	145	969	160	997	176	1024	192	1079	227	1135	265				
96000	4610	991	165	1014	180	1039	197	1064	214	1116	250						
102000	4898	1039	188	1061	204	1082	220	1106	238	1154	275						
108000	5186	1087	212	1108	229	1129	246	1149	264								
114000	5474	1136	240	1156	257												

Performance certified for installation Type D: ducted inlet/ducted outlet. Power ratings (BHP) do not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). Performance data is based on standard air conditions (0.075 lb/cu. ft.). To complete model code, add motor enclosure code. Refer to page 2 for additional model code information.



# Series 13, Backward Curved Centrifugal Fan, DWDI

The Hartzell Series 13 Double Width, Double Inlet (DWDI) centrifugal blowers have been designed to provide maximum performance and efficiency. For clean air applications, these blowers are available in belt drive configuration. Air delivery ranges from 1200 CFM to 186,000 CFM; static pressure capabilities to 14". Efficient air flow is provided over a broad range of pressures (maximum total efficiencies exceeding 80%). Designed for quiet operation, the Hartzell "Double Width, Double Inlet" centrifugal provides lower sound levels in the highest efficiency ranges.

## Features

**Sizes** – 10" to 60" wheel diameters, Double Width, Double Inlet construction (DWDI). For Single Width, Single Inlet see Page 9.

**Arrangements** – Series 13 blowers are available in Arrangement 3 as standard with or without a sub-base for motor mounting.

**Rotation and Discharge** – Clockwise and counterclockwise rotations are available in four discharge positions. Dimensional drawings are shown on Page 29.

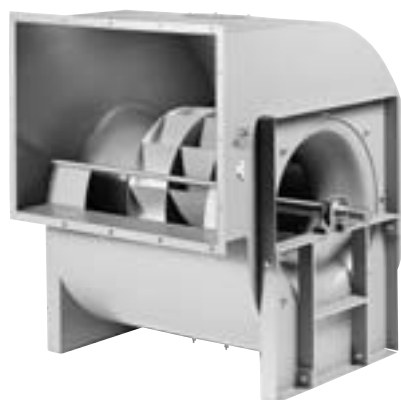
**Motors** – Are available to your specifications, mounted and test run at the factory prior to shipment.

**Bearings** – Heavy-duty, pillow block bearings. Minimum L-10 bearing life of 50,000 hours. For size and type, please contact factory.

**Drive Assembly (Belt Drive Fans)** – Belts are oil, heat and static resistant type, oversized for continuous duty. Shafts are turned, stepped, polished, and keyed at the drive end.

**Easy Installation and Maintenance** – Motor, drive and bearings are readily accessible for ease in wiring, installation, adjustment and lubrication.

**Fan Inlets and Outlets** – Open non-ducted inlet is standard. "Slip-fit" outlet connections are provided for easy connection to ducting. Optional outlet flanges are available.



**Series 13**  
Shown with optional equipment



Hartzell Fan, Inc. certifies that the Series 13, Backward Curved Centrifugal Fans, air and sound performance ratings shown herein are reliable and accurate and in accordance with industry standards. The ratings shown are based on tests and procedures performed in accordance with AMCA Standard 210, Standard 300, and Standard 301.

Sound Performance data is available upon request. Please contact the factory and ask for Engineering Publication SD-149. Sound and Air Performance data is available in ESP.

**Housings** – Heavy-duty carbon steel housings, supported and braced with plate and structural steel are provided as standard construction. Housing sizes 12" through 27" are rotatable; larger sizes have fixed construction.

**Lifting Lugs** – For ease of handling and installation, lifting tabs, or lugs, are provided as standard features.

**Surface Coatings** – Standard finish is an industrial grade enamel. Other special coatings are available upon request.

**Accessories** – See Page 34.

**Type BC**  
DWDI  
Wheel



**Type BI**  
DWDI  
Wheel



**Type BA**  
DWDI  
Wheel



## Rating Table – Series 13, DWDI, Wheel Type BC and Type BI shown Type BA available

Model	CFM Range at Static Pressure							
	2" S.P.	3" S.P.	4" S.P.	6" S.P.	8" S.P.	10" S.P.	12" S.P.	14" S.P.
13-3-10_BC100ST	1,200 - 3,800	1,200 - 3,800	1,430 - 3,800	2,150 - 5,230	2,150 - 5,230	2,150 - 4,760	2,390 - 4,280	2,620 - 3,800
13-3-12_BC100ST	1,630 - 5,180	1,630 - 5,180	1,950 - 5,180	2,920 - 7,130	2,920 - 6,480	3,250 - 5,830	3,250 - 5,180	3,570 - 0,000
13-3-13_BC100ST	1,970 - 6,280	1,970 - 6,280	2,360 - 6,280	3,540 - 9,430	3,540 - 9,430	3,940 - 8,640	3,940 - 7,860	4,330 - 7,070
13-3-15_BC100ST	2,550 - 8,150	3,060 - 8,150	3,570 - 8,150	4,600 - 12,200	4,600 - 12,200	5,100 - 12,200	5,700 - 12,200	6,200 - 11,200
13-3-16_BC100ST	2,940 - 9,400	3,530 - 9,400	4,120 - 9,400	5,300 - 14,100	5,300 - 14,100	5,900 - 14,100	6,500 - 14,100	7,100 - 12,900
13-3-18_BC100ST	3,700 - 11,800	4,500 - 11,800	5,200 - 11,800	6,700 - 17,700	6,700 - 17,700	7,400 - 16,200	8,200 - 14,700	8,900 - 13,300
13-3-20_BC100ST	4,400 - 13,800	5,200 - 13,800	6,100 - 13,800	7,800 - 20,700	7,800 - 20,700	8,700 - 19,000	9,600 - 15,500	10,400 - 0,000
13-3-22_BC100ST	5,600 - 17,600	6,700 - 17,600	7,800 - 17,600	10,000 - 26,500	11,100 - 26,500	12,200 - 26,500	13,300 - 24,300	15,500 - 19,900
13-3-24_BC100ST	6,600 - 20,900	7,900 - 20,900	9,200 - 20,900	11,800 - 31,400	13,100 - 31,400	14,500 - 28,800	15,800 - 26,100	18,400 - 23,500
13-3-27_BC100ST	9,900 - 26,300	11,600 - 26,300	13,200 - 26,300	14,900 - 39,500	18,200 - 39,500	19,800 - 39,500	21,500 - 36,200	23,100 - 29,600
13-3-30_BC100ST	11,700 - 31,000	13,600 - 31,000	15,600 - 31,000	17,500 - 46,600	21,400 - 46,600	23,400 - 46,600	25,300 - 42,700	27,200 - 34,900
13-3-33_BC100ST	16,500 - 37,500	21,200 - 37,500	23,500 - 37,500	28,200 - 56,300	32,900 - 56,300	35,300 - 56,300	42,300 - 51,600	42,300 - 42,200
13-3-36_BC100ST	19,600 - 44,700	25,200 - 44,700	28,000 - 44,700	33,600 - 67,000	39,200 - 67,000	42,000 - 67,000	50,300 - 61,400	50,300 - 50,200
13-3-40_BC100ST	24,500 - 55,900	31,500 - 55,900	35,000 - 55,900	42,000 - 83,800	49,000 - 83,800	52,500 - 83,800	63,000 - 76,800	63,000 - 62,900
13-3-44_BC100ST	29,900 - 68,300	38,500 - 68,300	42,800 - 68,300	51,300 - 102,400	59,800 - 102,400	64,100 - 102,400	76,900 - 93,900	76,900 - 76,800
13-3-49_BC100ST	31,100 - 82,800	41,500 - 82,800	46,600 - 82,800	57,000 - 124,200	62,200 - 124,200	72,500 - 124,200	77,700 - 113,800	82,900 - 93,100
13-3-54_BC100ST	38,100 - 101,400	50,800 - 101,400	57,100 - 101,400	69,800 - 152,100	76,100 - 152,100	88,800 - 152,100	95,200 - 139,500	101,500 - 114,100
13-3-60_BC100ST	46,600 - 124,100	62,100 - 124,100	69,900 - 124,100	85,400 - 186,200	93,200 - 186,200	108,700 - 186,200	116,500 - 170,700	124,200 - 139,700

Performance certified for installation Type D: ducted inlet/ducted outlet. Power ratings (BHP) do not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories) in the airstream. Performance data is based on standard air conditions (0.075 lb/cu. ft.). To complete model code, add motor enclosure code. Refer to page 2 for additional model code information.

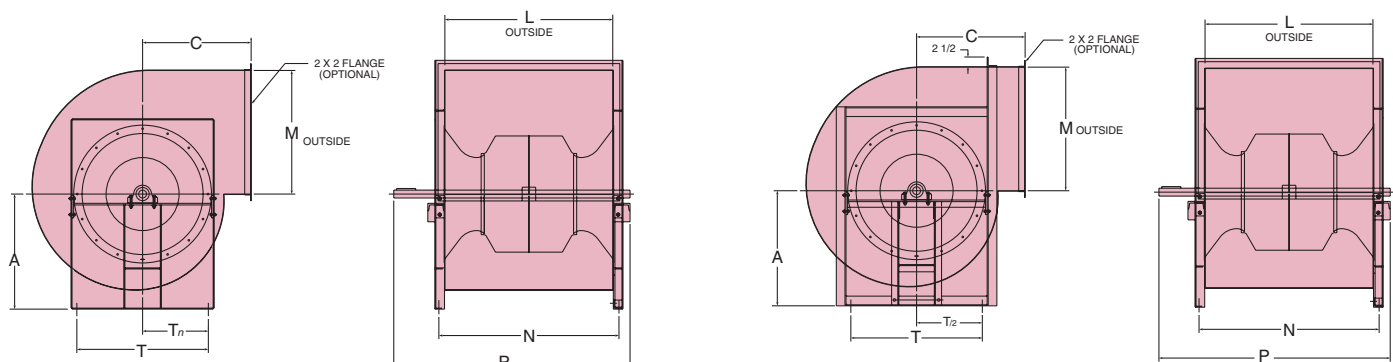


# Dimensions – Series 13, DWDI

## Arrangement 3 –

Standard Construction – Classes I, II, III, Maximum Temperature – 200°F.

Clockwise Rotation Shown. Counterclockwise Opposite.



Sizes 10-27 Rotatable Housing

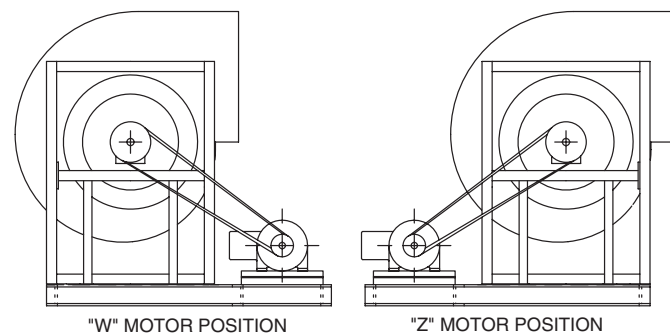
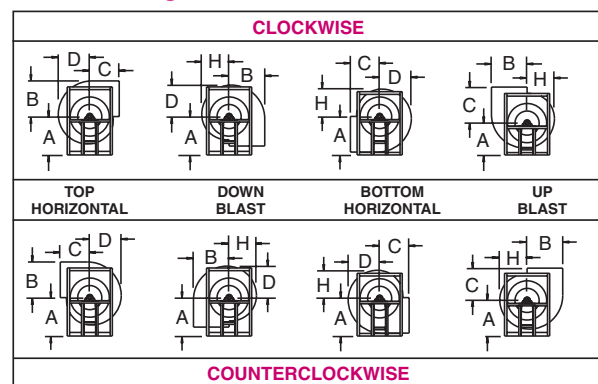
Sizes 30-60 Fixed Housing

### Principal Dimensions (Inches)

Fan Size	A				B	C	D	H	L	M	N	P	T
	Top Horiz.	Down Blast	Upblast	Bottom Horiz.									
10	10 <sup>3</sup> / <sub>8</sub>	12 <sup>7</sup> / <sub>32</sub>	14 <sup>1</sup> / <sub>4</sub>	14 <sup>1</sup> / <sub>4</sub>	11 <sup>3</sup> / <sub>8</sub>	12 <sup>3</sup> / <sub>16</sub>	10 <sup>1</sup> / <sub>16</sub>	8 <sup>3</sup> / <sub>4</sub>	15.471	11.545	18.851	23 <sup>3</sup> / <sub>8</sub>	19 <sup>3</sup> / <sub>4</sub>
12	12	14 <sup>1</sup> / <sub>4</sub>	16 <sup>1</sup> / <sub>4</sub>	16 <sup>1</sup> / <sub>4</sub>	13 <sup>1</sup> / <sub>4</sub>	14 <sup>1</sup> / <sub>4</sub>	11 <sup>11</sup> / <sub>16</sub>	10 <sup>3</sup> / <sub>16</sub>	18.022	13.424	21.372	26 <sup>7</sup> / <sub>8</sub>	16 <sup>1</sup> / <sub>4</sub>
13	13 <sup>1</sup> / <sub>8</sub>	15 <sup>11</sup> / <sub>16</sub>	17 <sup>1</sup> / <sub>2</sub>	17 <sup>1</sup> / <sub>2</sub>	14 <sup>9</sup> / <sub>16</sub>	15 <sup>11</sup> / <sub>16</sub>	12 <sup>7</sup> / <sub>8</sub>	11 <sup>3</sup> / <sub>16</sub>	19.793	14.766	23.173	27 <sup>7</sup> / <sub>8</sub>	19 <sup>3</sup> / <sub>4</sub>
15	13 <sup>1</sup> / <sub>2</sub>	16 <sup>9</sup> / <sub>16</sub>	19 <sup>1</sup> / <sub>2</sub>	19 <sup>1</sup> / <sub>2</sub>	16 <sup>9</sup> / <sub>16</sub>	16 <sup>9</sup> / <sub>16</sub>	14 <sup>5</sup> / <sub>8</sub>	12 <sup>3</sup> / <sub>4</sub>	22.494	16.780	24.861	31 <sup>1</sup> / <sub>2</sub>	18 <sup>1</sup> / <sub>4</sub>
16	15 <sup>1</sup> / <sub>2</sub>	17 <sup>3</sup> / <sub>4</sub>	20 <sup>3</sup> / <sub>4</sub>	20 <sup>3</sup> / <sub>4</sub>	17 <sup>13</sup> / <sub>16</sub>	17 <sup>3</sup> / <sub>4</sub>	15 <sup>3</sup> / <sub>4</sub>	13 <sup>11</sup> / <sub>16</sub>	24.145	17.988	27.525	33 <sup>3</sup> / <sub>8</sub>	20 <sup>1</sup> / <sub>4</sub>
18	17 <sup>1</sup> / <sub>4</sub>	18 <sup>7</sup> / <sub>8</sub>	13	13	19 <sup>5</sup> / <sub>16</sub>	18 <sup>7</sup> / <sub>8</sub>	17 <sup>5</sup> / <sub>8</sub>	15 <sup>5</sup> / <sub>16</sub>	27.055	20.136	30.406	36 <sup>1</sup> / <sub>2</sub>	25 <sup>3</sup> / <sub>8</sub>
20	18 <sup>1</sup> / <sub>2</sub>	20 <sup>7</sup> / <sub>16</sub>	14 <sup>1</sup> / <sub>2</sub>	14 <sup>1</sup> / <sub>2</sub>	21 <sup>5</sup> / <sub>8</sub>	20 <sup>3</sup> / <sub>8</sub>	19 <sup>1</sup> / <sub>8</sub>	16 <sup>5</sup> / <sub>8</sub>	29.261	21.747	31.620	38 <sup>3</sup> / <sub>4</sub>	20 <sup>1</sup> / <sub>4</sub>
22	20 <sup>3</sup> / <sub>4</sub>	22	27 <sup>1</sup> / <sub>2</sub>	27 <sup>1</sup> / <sub>2</sub>	24 <sup>3</sup> / <sub>8</sub>	22	21 <sup>9</sup> / <sub>16</sub>	18 <sup>3</sup> / <sub>4</sub>	33.043	24.566	36.409	42 <sup>3</sup> / <sub>4</sub>	25 <sup>3</sup> / <sub>8</sub>
24	22 <sup>3</sup> / <sub>8</sub>	23 <sup>9</sup> / <sub>16</sub>	29 <sup>1</sup> / <sub>2</sub>	29 <sup>1</sup> / <sub>2</sub>	26 <sup>9</sup> / <sub>16</sub>	23 <sup>9</sup> / <sub>16</sub>	23 <sup>7</sup> / <sub>16</sub>	20 <sup>3</sup> / <sub>8</sub>	35.924	26.713	38.431	46	25 <sup>3</sup> / <sub>8</sub>
27	24 <sup>7</sup> / <sub>8</sub>	25 <sup>3</sup> / <sub>4</sub>	32 <sup>3</sup> / <sub>4</sub>	32 <sup>3</sup> / <sub>4</sub>	29 <sup>3</sup> / <sub>4</sub>	25 <sup>3</sup> / <sub>4</sub>	26 <sup>5</sup> / <sub>16</sub>	22 <sup>7</sup> / <sub>8</sub>	40.246	29.934	43.610	50	22
30	25 <sup>7</sup> / <sub>8</sub>	25 <sup>7</sup> / <sub>8</sub>	31	35	32 <sup>5</sup> / <sub>16</sub>	25 <sup>7</sup> / <sub>8</sub>	28 <sup>9</sup> / <sub>16</sub>	24 <sup>13</sup> / <sub>16</sub>	43.667	32.486	46.608	55 <sup>3</sup> / <sub>4</sub>	33 <sup>3</sup> / <sub>4</sub>
33	30	28 <sup>1</sup> / <sub>32</sub>	34	38	35 <sup>5</sup> / <sub>16</sub>	28 <sup>1</sup> / <sub>32</sub>	31 <sup>7</sup> / <sub>16</sub>	27 <sup>5</sup> / <sub>16</sub>	48.079	35.798	50.989	59 <sup>3</sup> / <sub>4</sub>	33 <sup>3</sup> / <sub>4</sub>
36	31 <sup>1</sup> / <sub>2</sub>	33 <sup>3</sup> / <sub>16</sub>	37	42	38 <sup>3</sup> / <sub>16</sub>	33 <sup>3</sup> / <sub>16</sub>	34 <sup>7</sup> / <sub>16</sub>	29 <sup>13</sup> / <sub>16</sub>	52.401	39.018	55.311	64 <sup>7</sup> / <sub>8</sub>	33 <sup>3</sup> / <sub>4</sub>
40	34 <sup>1</sup> / <sub>4</sub>	36 <sup>1</sup> / <sub>2</sub>	46	46	43 <sup>3</sup> / <sub>8</sub>	36 <sup>1</sup> / <sub>2</sub>	38 <sup>7</sup> / <sub>16</sub>	33 <sup>5</sup> / <sub>16</sub>	58.573	43.582	61.483	74 <sup>1</sup> / <sub>8</sub>	44
44	37	39 <sup>1</sup> / <sub>16</sub>	45	51	47 <sup>7</sup> / <sub>8</sub>	39 <sup>1</sup> / <sub>16</sub>	42 <sup>3</sup> / <sub>8</sub>	36 <sup>13</sup> / <sub>16</sub>	64.696	48.147	67.606	78 <sup>1</sup> / <sub>2</sub>	44
49	42 <sup>1</sup> / <sub>2</sub>	38 <sup>25</sup> / <sub>32</sub>	50	56	52 <sup>3</sup> / <sub>4</sub>	38 <sup>25</sup> / <sub>32</sub>	46 <sup>5</sup> / <sub>8</sub>	40 <sup>1</sup> / <sub>2</sub>	71.199	52.977	74.039	87 <sup>7</sup> / <sub>8</sub>	44
54	46 <sup>7</sup> / <sub>8</sub>	45	55	61	58 <sup>3</sup> / <sub>8</sub>	45	51 <sup>1</sup> / <sub>16</sub>	44 <sup>7</sup> / <sub>8</sub>	78.742	58.613	81.902	95	54
60	51 <sup>1</sup> / <sub>2</sub>	45 <sup>3</sup> / <sub>4</sub>	60	68	64 <sup>3</sup> / <sub>16</sub>	45 <sup>3</sup> / <sub>4</sub>	57 <sup>7</sup> / <sub>8</sub>	49 <sup>1</sup> / <sub>2</sub>	87.109	64.788	90.269	103 <sup>1</sup> / <sub>2</sub>	54

NOTE: Dimensions and specifications are subject to change. Certified prints are available.

### Fan Discharges



Consider discharge location and motor height when specifying.

NOTE: For downblast, contact factory.

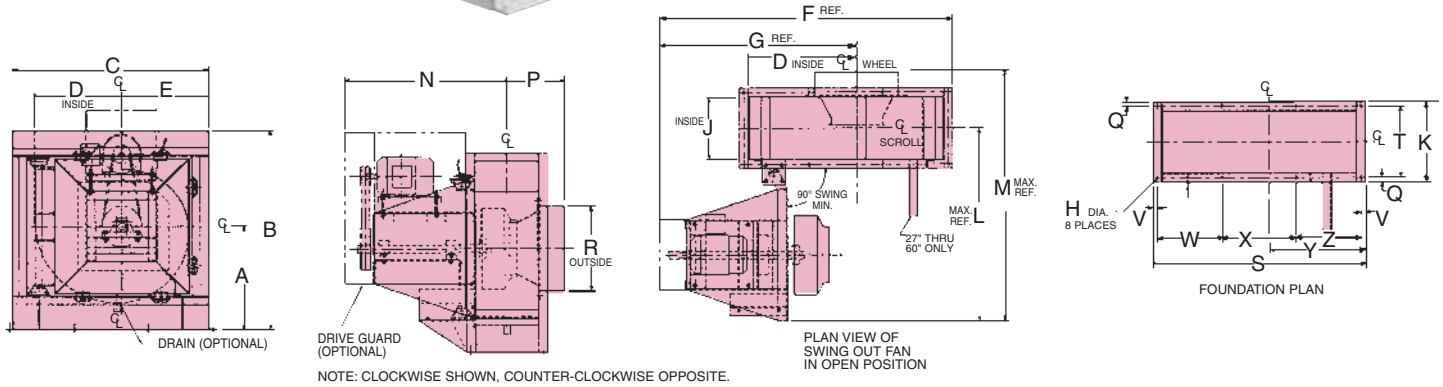
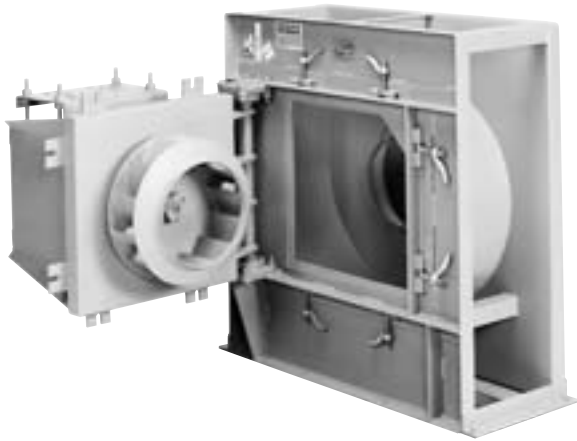


# Construction Options – Series 03S

**SERIES 03S – Backward Curved Centrifugal Fan, Swingout Type, Single Width Arrangement 9**  
**Maximum Temperature – 300°F.**  
**600°F available with heat slinger and guard**

## Construction Features

- **Sizes** – 12" - 49" wheel diameters . . . Type BC.
- **Sizes** – 18" - 49" wheel diameters . . . Type BA.
- **Rotation** – Clockwise or counterclockwise in four discharge positions (TH, BH, UB, DB).
- **Construction** – Heavy gauge hot rolled steel. Also available in stainless or aluminum.
- **Finish** – Industrial grade enamel. Other special coatings available.
- **Performance** – Refer to rating tables in this bulletin.
- **Options & Accessories** –
  - Food grade welding
  - Inlet flanges
  - Bolted access door
  - Drive guard
  - Weather guard
  - Inlet guard
  - AMCA non-sparking construction
  - Drain connection



## Principal Dimensions

FAN SIZE	A				B	C	D	E	F	G	H	J	K	L	M	N	P	Q
	UB, TH	BH, DB																
12	18 <sup>5</sup> / <sub>8</sub>	18 <sup>5</sup> / <sub>8</sub>	37 <sup>1</sup> / <sub>4</sub>	37 <sup>1</sup> / <sub>4</sub>	13 <sup>1</sup> / <sub>8</sub>	18 <sup>5</sup> / <sub>8</sub>	55 <sup>13</sup> / <sub>16</sub>	35 <sup>7</sup> / <sub>16</sub>	1/2	9 <sup>1</sup> / <sub>2</sub>	13 <sup>3</sup> / <sub>4</sub>	32 <sup>1</sup> / <sub>4</sub>	43 <sup>1</sup> / <sub>4</sub>	29 <sup>3</sup> / <sub>16</sub>	11	1/2		
15	20 <sup>3</sup> / <sub>4</sub>	19 <sup>1</sup> / <sub>8</sub>	39 <sup>7</sup> / <sub>8</sub>	39 <sup>7</sup> / <sub>8</sub>	16 <sup>1</sup> / <sub>2</sub>	20 <sup>3</sup> / <sub>4</sub>	58	35 <sup>7</sup> / <sub>16</sub>	1/2	11 <sup>15</sup> / <sub>16</sub>	16 <sup>3</sup> / <sub>16</sub>	33 <sup>1</sup> / <sub>2</sub>	45 <sup>3</sup> / <sub>4</sub>	30 <sup>5</sup> / <sub>16</sub>	12 <sup>1</sup> / <sub>4</sub>	1		
18	24 <sup>1</sup> / <sub>2</sub>	24	48 <sup>1</sup> / <sub>2</sub>	48 <sup>1</sup> / <sub>2</sub>	19 <sup>7</sup> / <sub>8</sub>	24 <sup>1</sup> / <sub>2</sub>	72 <sup>1</sup> / <sub>16</sub>	45 <sup>13</sup> / <sub>16</sub>	1/2	14 <sup>3</sup> / <sub>8</sub>	18 <sup>5</sup> / <sub>8</sub>	44 <sup>3</sup> / <sub>4</sub>	58 <sup>1</sup> / <sub>4</sub>	36 <sup>7</sup> / <sub>8</sub>	13 <sup>7</sup> / <sub>16</sub>	1/2		
22	28 <sup>5</sup> / <sub>8</sub>	26 <sup>7</sup> / <sub>8</sub>	55 <sup>1</sup> / <sub>2</sub>	55 <sup>1</sup> / <sub>2</sub>	24 <sup>1</sup> / <sub>4</sub>	28 <sup>5</sup> / <sub>8</sub>	76 <sup>3</sup> / <sub>16</sub>	45 <sup>13</sup> / <sub>16</sub>	5/8	17 <sup>9</sup> / <sub>16</sub>	21 <sup>13</sup> / <sub>16</sub>	46 <sup>3</sup> / <sub>8</sub>	61 <sup>3</sup> / <sub>8</sub>	38 <sup>7</sup> / <sub>16</sub>	15	1		
24	25 <sup>1</sup> / <sub>2</sub>	29 <sup>3</sup> / <sub>4</sub>	54 <sup>3</sup> / <sub>4</sub>	54 <sup>3</sup> / <sub>4</sub>	26 <sup>7</sup> / <sub>16</sub>	25 <sup>1</sup> / <sub>2</sub>	73 <sup>1</sup> / <sub>16</sub>	45 <sup>13</sup> / <sub>16</sub>	5/8	19 <sup>1</sup> / <sub>8</sub>	23 <sup>3</sup> / <sub>8</sub>	47 <sup>3</sup> / <sub>16</sub>	63	39 <sup>1</sup> / <sub>4</sub>	15 <sup>13</sup> / <sub>16</sub>	1/2		
27	32 <sup>1</sup> / <sub>4</sub>	32 <sup>3</sup> / <sub>4</sub>	65	65	29 <sup>5</sup> / <sub>8</sub>	32 <sup>1</sup> / <sub>4</sub>	95 <sup>3</sup> / <sub>16</sub>	60 <sup>1</sup> / <sub>4</sub>	5/8	21 <sup>7</sup> / <sub>16</sub>	27 <sup>3</sup> / <sub>4</sub>	65 <sup>1</sup> / <sub>2</sub>	82 <sup>1</sup> / <sub>2</sub>	46 <sup>9</sup> / <sub>16</sub>	17	1/4		
30	32 <sup>5</sup> / <sub>8</sub>	35 <sup>3</sup> / <sub>8</sub>	68	68	32 <sup>1</sup> / <sub>4</sub>	32 <sup>5</sup> / <sub>8</sub>	95 <sup>1</sup> / <sub>2</sub>	60 <sup>1</sup> / <sub>4</sub>	3/4	23 <sup>5</sup> / <sub>16</sub>	29 <sup>5</sup> / <sub>16</sub>	66 <sup>7</sup> / <sub>16</sub>	84 <sup>5</sup> / <sub>16</sub>	47 <sup>1</sup> / <sub>2</sub>	17 <sup>15</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>8</sub>		
33	32 <sup>5</sup> / <sub>8</sub>	38 <sup>5</sup> / <sub>8</sub>	71 <sup>1</sup> / <sub>4</sub>	71 <sup>1</sup> / <sub>4</sub>	35 <sup>7</sup> / <sub>16</sub>	32 <sup>5</sup> / <sub>8</sub>	95 <sup>1</sup> / <sub>2</sub>	60 <sup>1</sup> / <sub>4</sub>	3/4	25 <sup>11</sup> / <sub>16</sub>	31 <sup>15</sup> / <sub>16</sub>	67 <sup>9</sup> / <sub>16</sub>	86 <sup>3</sup> / <sub>4</sub>	48 <sup>3</sup> / <sub>4</sub>	19 <sup>1</sup> / <sub>8</sub>	1 <sup>5</sup> / <sub>16</sub>		
36	40 <sup>3</sup> / <sub>16</sub>	41 <sup>13</sup> / <sub>16</sub>	82	82	38 <sup>5</sup> / <sub>8</sub>	40 <sup>3</sup> / <sub>16</sub>	103 <sup>3</sup> / <sub>8</sub>	60 <sup>1</sup> / <sub>4</sub>	3/4	28	34 <sup>1</sup> / <sub>4</sub>	68 <sup>3</sup> / <sub>4</sub>	89	49 <sup>13</sup> / <sub>16</sub>	20 <sup>1</sup> / <sub>4</sub>	1 <sup>3</sup> / <sub>16</sub>		
40	45 <sup>7</sup> / <sub>8</sub>	46 <sup>3</sup> / <sub>8</sub>	92 <sup>1</sup> / <sub>4</sub>	92 <sup>1</sup> / <sub>4</sub>	43 <sup>1</sup> / <sub>4</sub>	45 <sup>7</sup> / <sub>8</sub>	119	70 <sup>3</sup> / <sub>8</sub>	3/4	31 <sup>5</sup> / <sub>16</sub>	37 <sup>11</sup> / <sub>16</sub>	79	100 <sup>7</sup> / <sub>8</sub>	57 <sup>3</sup> / <sub>8</sub>	21 <sup>15</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>4</sub>		
44	46 <sup>5</sup> / <sub>16</sub>	50 <sup>15</sup> / <sub>16</sub>	97 <sup>1</sup> / <sub>4</sub>	97 <sup>1</sup> / <sub>4</sub>	47 <sup>3</sup> / <sub>4</sub>	46 <sup>5</sup> / <sub>16</sub>	119 <sup>9</sup> / <sub>8</sub>	70 <sup>3</sup> / <sub>8</sub>	3/4	34 <sup>9</sup> / <sub>16</sub>	40 <sup>15</sup> / <sub>16</sub>	80 <sup>5</sup> / <sub>8</sub>	104 <sup>1</sup> / <sub>4</sub>	59 <sup>1</sup> / <sub>16</sub>	23 <sup>5</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>4</sub>		
49	50 <sup>3</sup> / <sub>16</sub>	55 <sup>13</sup> / <sub>16</sub>	106	106	52 <sup>5</sup> / <sub>8</sub>	50 <sup>3</sup> / <sub>16</sub>	124 <sup>1</sup> / <sub>4</sub>	71 <sup>3</sup> / <sub>8</sub>	3/4	38 <sup>1</sup> / <sub>8</sub>	44 <sup>7</sup> / <sub>16</sub>	84 <sup>3</sup> / <sub>8</sub>	109 <sup>3</sup> / <sub>4</sub>	60 <sup>13</sup> / <sub>16</sub>	25 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>4</sub>		

Specifications and dimensions are subject to change. Certified prints are available.

Do not attempt to open door unless fan is securely fastened to sufficient foundation and power is locked out.

FAN SIZE	R	S	T	V	W	X	Y	Z	MAXIMUM MOTOR FRAME SIZE
12	12 <sup>15</sup> / <sub>16</sub>	40 <sup>3</sup> / <sub>4</sub>	12 <sup>3</sup> / <sub>4</sub>	1/2	13	13 <sup>3</sup> / <sub>4</sub>	20 <sup>3</sup> / <sub>8</sub>	13	215T
15	16 <sup>3</sup> / <sub>16</sub>	43 <sup>3</sup> / <sub>8</sub>	14 <sup>3</sup> / <sub>16</sub>	1/2	14	14 <sup>3</sup> / <sub>8</sub>	22 <sup>1</sup> / <sub>2</sub>	14	215T
18	19 <sup>1</sup> / <sub>2</sub>	52	17 <sup>5</sup> / <sub>8</sub>	1/2	17	17	26 <sup>1</sup> / <sub>4</sub>	17	256T
22	23 <sup>3</sup> / <sub>4</sub>	59	19 <sup>13</sup> / <sub>16</sub>	1/2	19	20	30 <sup>3</sup> / <sub>8</sub>	19	256T
24	25 <sup>13</sup> / <sub>16</sub>	58 <sup>1</sup> / <sub>4</sub>	22 <sup>3</sup> / <sub>8</sub>	1/2	20	17 <sup>1</sup> / <sub>4</sub>	27 <sup>1</sup> / <sub>4</sub>	20	256T
27	28 <sup>15</sup> / <sub>16</sub>	70 <sup>3</sup> / <sub>8</sub>	25 <sup>1</sup> / <sub>4</sub>	1/4	18	31 <sup>7</sup> / <sub>8</sub>	34 <sup>15</sup> / <sub>16</sub>	18	364T - 365T ODP ONLY
30	31 <sup>3</sup> / <sub>8</sub>	73 <sup>3</sup> / <sub>8</sub>	27 <sup>1</sup> / <sub>16</sub>	1/4	23	24 <sup>7</sup> / <sub>8</sub>	35 <sup>5</sup> / <sub>16</sub>	23	364T - 365T ODP ONLY
33	34 <sup>1</sup> / <sub>2</sub>	76 <sup>5</sup> / <sub>8</sub>	29 <sup>5</sup> / <sub>16</sub>	1/4	23	28 <sup>1</sup> / <sub>8</sub>	35 <sup>5</sup> / <sub>16</sub>	23	364T - 365T ODP ONLY
36	37 <sup>11</sup> / <sub>16</sub>	87 <sup>3</sup> / <sub>8</sub>	31 <sup>7</sup> / <sub>8</sub>	1/4	26	32 <sup>7</sup> / <sub>8</sub>	42 <sup>7</sup> / <sub>8</sub>	26	364T - 365T ODP ONLY
40	42 <sup>1</sup> / <sub>8</sub>	97 <sup>5</sup> / <sub>8</sub>	35 <sup>3</sup> / <sub>16</sub>	1/4	28	39 <sup>5</sup> / <sub>8</sub>	48 <sup>9</sup> / <sub>16</sub>	28	364T - 365T ODP ONLY
44	46 <sup>17</sup> / <sub>32</sub>	102 <sup>5</sup> / <sub>8</sub>	38 <sup>7</sup> / <sub>16</sub>	1/4	32	36 <sup>1</sup> / <sub>8</sub>	49	32	364T - 365T ODP ONLY
49	51 <sup>3</sup> / <sub>16</sub>	111 <sup>3</sup> / <sub>8</sub>	42	1/4	32	44 <sup>7</sup> / <sub>8</sub>	52 <sup>7</sup> / <sub>8</sub>	32	364T - 365T ODP ONLY



# Construction Options – Series 03Q

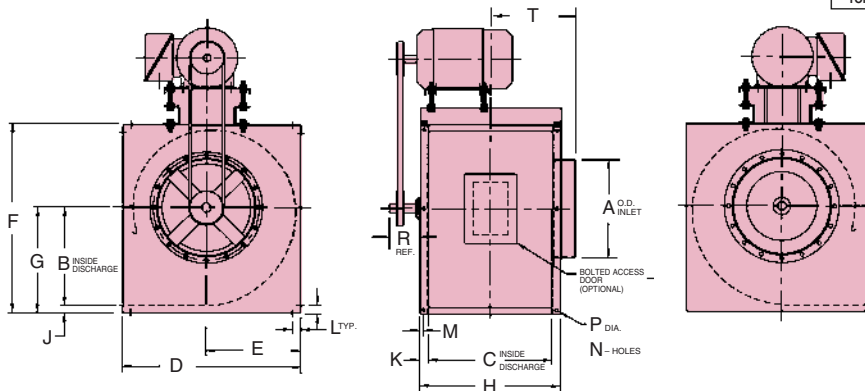
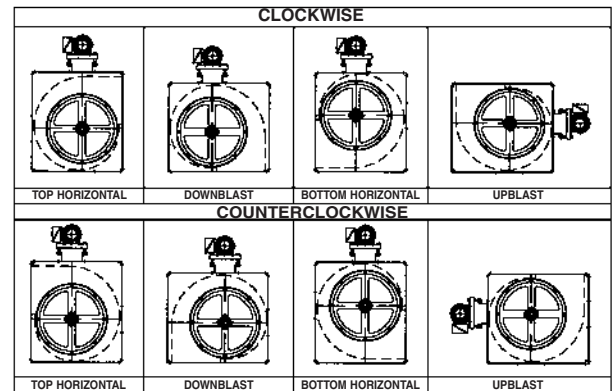
**SERIES 03Q – Backward Curved Centrifugal Fan, Square Type, Single Width Arrangement 2, Belt Drive (Shown) Maximum Temperature – 200°F. Contact factory for high temperature applications.**



ABS Certificate of Design Assessment Received

## Construction Features

- **Sizes** – 12" - 49" wheel diameters . . . Type BC.
- **Sizes** – 18" - 49" wheel diameters . . . Type BA.
- **Rotation** – Clockwise or counterclockwise in four discharge positions.
- **Construction** – Heavy gauge hot rolled steel. Also available in stainless or aluminum.
- **Finish** – Industrial grade enamel. Other special coatings available.
- **Performance** – Refer to rating tables in this bulletin. – Add 3% to RPM/6% to BHP.
- **Options & Accessories** –
  - Food grade welding
  - Inlet flanges
  - Inlet adapters
  - Bolted access door
  - Drive guard
  - Weather cover
  - Inlet guard
  - AMCA non-sparking construction



## Principal Dimensions

FAN SIZE	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	T	MAXIMUM FRAME
10	11 <sup>1/16</sup>	11 <sup>1/4</sup>	10 <sup>9/16</sup>	23 <sup>13/16</sup>	11 <sup>19/32</sup>	23 <sup>1/4</sup>	12 <sup>15/16</sup>	14 <sup>9/16</sup>	1 <sup>5/8</sup>	2	1 <sup>1/2</sup>	3/4	16	9/16	4	11 <sup>1/2</sup>	184T
12	12 <sup>15/16</sup>	13 <sup>3/16</sup>	11 <sup>15/16</sup>	27 <sup>1/2</sup>	13 <sup>1/4</sup>	26 <sup>9/16</sup>	14 <sup>13/16</sup>	15 <sup>5/16</sup>	1 <sup>5/8</sup>	2	1 <sup>1/2</sup>	3/4	16	9/16	4	12 <sup>9/32</sup>	184T
13	14 <sup>1/8</sup>	14 <sup>1/2</sup>	13 <sup>3/16</sup>	30 <sup>3/16</sup>	14 <sup>7/16</sup>	28 <sup>7/8</sup>	16 <sup>1/8</sup>	17 <sup>3/16</sup>	1 <sup>5/8</sup>	2	1 <sup>1/2</sup>	3/4	16	9/16	4	12 <sup>13/16</sup>	184T
15	16 <sup>3/16</sup>	16 <sup>1/2</sup>	14 <sup>7/8</sup>	32 <sup>13/16</sup>	16 <sup>1/4</sup>	32 <sup>1/16</sup>	18 <sup>1/8</sup>	18 <sup>7/8</sup>	1 <sup>5/8</sup>	2	1 <sup>1/2</sup>	3/4	16	9/16	4	13 <sup>3/4</sup>	215T
16	17 <sup>1/4</sup>	17 <sup>3/4</sup>	15 <sup>15/16</sup>	35 <sup>1/16</sup>	17 <sup>5/16</sup>	34 <sup>9/16</sup>	19 <sup>3/8</sup>	19 <sup>15/16</sup>	1 <sup>5/8</sup>	2	1 <sup>1/2</sup>	3/4	16	9/16	4	14 <sup>3/16</sup>	184T
18	19 <sup>1/2</sup>	19 <sup>7/8</sup>	17 <sup>5/8</sup>	38 <sup>1/16</sup>	19 <sup>3/16</sup>	38 <sup>3/8</sup>	21 <sup>1/2</sup>	21 <sup>5/8</sup>	1 <sup>5/8</sup>	2	1 <sup>1/2</sup>	3/4	16	9/16	4	15 <sup>1/8</sup>	256T
20	20 <sup>7/8</sup>	21 <sup>1/2</sup>	20	41 <sup>1/16</sup>	20 <sup>5/8</sup>	41 <sup>1/4</sup>	23 <sup>1/8</sup>	24	1 <sup>5/8</sup>	2	1 <sup>1/2</sup>	3/4	16	9/16	4	16 <sup>1/4</sup>	256T
22	23 <sup>3/4</sup>	24 <sup>5/16</sup>	22	45 <sup>1/8</sup>	23 <sup>3/8</sup>	46 <sup>1/4</sup>	25 <sup>15/16</sup>	26	1 <sup>5/8</sup>	2	2	3/4	16	9/16	4	17 <sup>5/16</sup>	256T
24	25 <sup>13/16</sup>	26 <sup>1/2</sup>	23 <sup>7/8</sup>	48 <sup>9/16</sup>	25	50 <sup>1/16</sup>	28 <sup>1/8</sup>	27 <sup>7/8</sup>	1 <sup>5/8</sup>	2	2	3/4	16	9/16	4 <sup>5/8</sup>	18 <sup>1/4</sup>	286T
27	28 <sup>15/16</sup>	29 <sup>11/16</sup>	27	53 <sup>5/8</sup>	27 <sup>7/8</sup>	55 <sup>3/4</sup>	31 <sup>5/16</sup>	31	1 <sup>5/8</sup>	2	2	3/4	16	9/16	4 <sup>5/8</sup>	19 <sup>13/16</sup>	286T
30	31 <sup>3/8</sup>	32 <sup>3/16</sup>	29 <sup>3/8</sup>	57 <sup>9/16</sup>	30 <sup>1/16</sup>	60 <sup>3/8</sup>	33 <sup>13/16</sup>	33 <sup>3/8</sup>	1 <sup>5/8</sup>	2	3	3/4	16	11/16	4 <sup>5/8</sup>	21 <sup>1/16</sup>	286T
33	34 <sup>1/2</sup>	35 <sup>7/16</sup>	32 <sup>1/4</sup>	62 <sup>15/16</sup>	32 <sup>15/16</sup>	65 <sup>7/8</sup>	37 <sup>1/16</sup>	36 <sup>1/4</sup>	1 <sup>5/8</sup>	2	3	3/4	16	11/16	5 <sup>1/4</sup>	22 <sup>1/2</sup>	326T
36	37 <sup>5/8</sup>	38 <sup>11/16</sup>	35	73 <sup>13/16</sup>	35 <sup>11/16</sup>	71 <sup>5/8</sup>	40 <sup>5/16</sup>	39	1 <sup>5/8</sup>	2	4	3/4	32	13/16	5 <sup>5/8</sup>	23 <sup>7/8</sup>	326T
40	42 <sup>1/8</sup>	43 <sup>3/4</sup>	39 <sup>1/4</sup>	81 <sup>9/16</sup>	39 <sup>11/16</sup>	79 <sup>11/16</sup>	44 <sup>7/8</sup>	43 <sup>1/4</sup>	1 <sup>5/8</sup>	2	4	3/4	32	13/16	5 <sup>5/8</sup>	26	364T
44	46 <sup>3/8</sup>	47 <sup>13/16</sup>	43 <sup>5/8</sup>	87 <sup>7/8</sup>	43 <sup>7/8</sup>	87 <sup>3/4</sup>	49 <sup>7/16</sup>	47 <sup>5/8</sup>	1 <sup>5/8</sup>	2	5	3/4	32	13/16	5 <sup>5/8</sup>	28 <sup>3/16</sup>	365T
49	51 <sup>3/16</sup>	52 <sup>5/8</sup>	48	96 <sup>1/8</sup>	48 <sup>7/8</sup>	96 <sup>1/4</sup>	54 <sup>1/4</sup>	52	1 <sup>5/8</sup>	2	5	3/4	32	13/16	5 <sup>5/8</sup>	30 <sup>3/8</sup>	365T

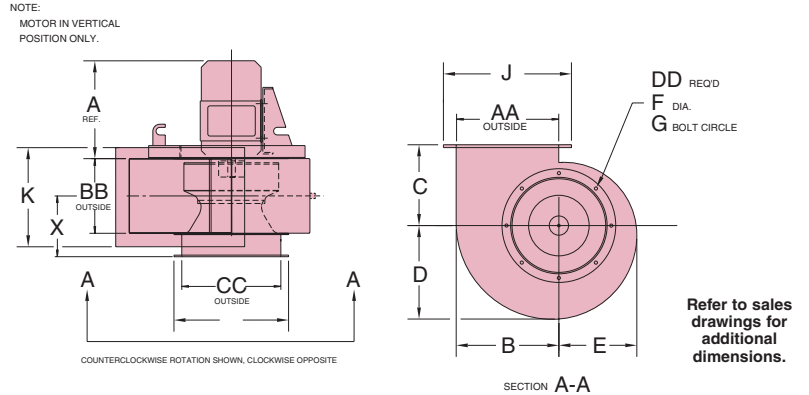
Note: Typical dimensions for Class I fan shown. Dimensions are subject to change. Certified prints are available.



# Construction Options

## SERIES 03F – Backward Curved Centrifugal Fan, Flange Mounted Type, Single Width Arrangement 4 Maximum Temperature – 200°F.

ABS Certificate  
of Design Assessment  
Received



### Construction Features

Self-contained, Arrangement 4 (direct drive) fan/motor package. Specifically designed to be used as the primary air moving device in other apparatus in a flange mounted configuration. Typical applications include dust, fume and material collection equipment, and electric motor, switchgear or component cooling.

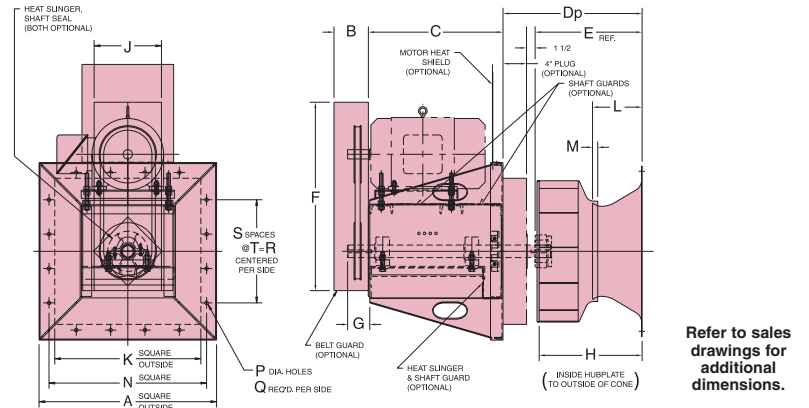
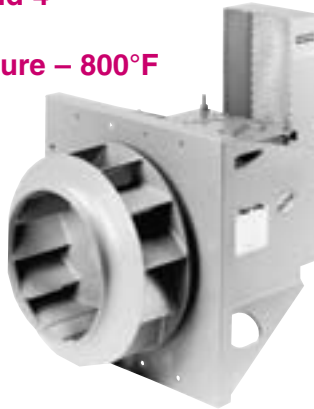
- **Sizes** – Available in 12", 15", 18", 22", 24", 27", 30" and 33" wheel diameters.
- **Rotation** – Clockwise and counterclockwise.
- **Construction** – Continuously welded hot-rolled steel scroll and continuously welded steel inlet and outlet flanges. Motor base constructed of heavy gauge hot rolled steel. Supplied with inlet mounting adapter as standard.

### Principal Dimensions

FAN SIZE	A	B	C	D	E	H	X	BB	CC
12	13 <sup>1</sup> / <sub>16</sub>	13 <sup>1</sup> / <sub>4</sub>	14 <sup>1</sup> / <sub>4</sub>	11 <sup>3</sup> / <sub>4</sub>	10 <sup>1</sup> / <sub>4</sub>	16 <sup>15</sup> / <sub>16</sub>	11	9 <sup>13</sup> / <sub>16</sub>	12 <sup>15</sup> / <sub>16</sub>
15	20 <sup>3</sup> / <sub>4</sub>	16 <sup>5</sup> / <sub>8</sub>	16 <sup>9</sup> / <sub>16</sub>	14 <sup>3</sup> / <sub>4</sub>	12 <sup>3</sup> / <sub>4</sub>	19 <sup>9</sup> / <sub>16</sub>	12 <sup>1</sup> / <sub>4</sub>	12 <sup>1</sup> / <sub>4</sub>	16 <sup>13</sup> / <sub>16</sub>
18	23 <sup>1</sup> / <sub>16</sub>	20	18 <sup>7</sup> / <sub>8</sub>	17 <sup>11</sup> / <sub>16</sub>	15 <sup>5</sup> / <sub>8</sub>	23 <sup>1</sup> / <sub>2</sub>	13 <sup>1</sup> / <sub>2</sub>	14 <sup>11</sup> / <sub>16</sub>	19 <sup>1</sup> / <sub>2</sub>
22	23 <sup>1</sup> / <sub>16</sub>	24 <sup>7</sup> / <sub>16</sub>	22	21 <sup>9</sup> / <sub>16</sub>	18 <sup>3</sup> / <sub>4</sub>	27 <sup>5</sup> / <sub>16</sub>	15	17 <sup>7</sup> / <sub>8</sub>	23 <sup>3</sup> / <sub>4</sub>
24	23 <sup>1</sup> / <sub>16</sub>	26 <sup>5</sup> / <sub>16</sub>	23 <sup>3</sup> / <sub>16</sub>	23 <sup>1</sup> / <sub>2</sub>	20 <sup>7</sup> / <sub>16</sub>	29 <sup>7</sup> / <sub>8</sub>	15 <sup>13</sup> / <sub>16</sub>	19 <sup>7</sup> / <sub>16</sub>	25 <sup>13</sup> / <sub>16</sub>
27	23 <sup>1</sup> / <sub>16</sub>	29 <sup>3</sup> / <sub>16</sub>	25 <sup>3</sup> / <sub>4</sub>	26 <sup>3</sup> / <sub>8</sub>	22 <sup>7</sup> / <sub>8</sub>	32	17	21 <sup>3</sup> / <sub>4</sub>	28 <sup>15</sup> / <sub>16</sub>
30	25 <sup>7</sup> / <sub>16</sub>	32 <sup>3</sup> / <sub>8</sub>	27 <sup>1</sup> / <sub>2</sub>	28 <sup>5</sup> / <sub>8</sub>	24 <sup>13</sup> / <sub>16</sub>	35 <sup>7</sup> / <sub>16</sub>	17 <sup>15</sup> / <sub>16</sub>	23 <sup>5</sup> / <sub>8</sub>	31 <sup>3</sup> / <sub>8</sub>
33	28 <sup>1</sup> / <sub>4</sub>	35 <sup>5</sup> / <sub>8</sub>	30	31 <sup>1</sup> / <sub>2</sub>	27 <sup>3</sup> / <sub>8</sub>	39 <sup>9</sup> / <sub>16</sub>	19 <sup>1</sup> / <sub>8</sub>	26	34 <sup>1</sup> / <sub>2</sub>

NOTE: Counterclockwise rotation shown. Clockwise rotation opposite. For vertical installation only. For horizontal installation contact factory. Dimensions and specifications are subject to change. Certified prints are available.

## SERIES 11 – PLUG FANS Arrangements 9 and 4 Class I, II and III Maximum Temperature – 800°F



### Principal Dimensions

FAN SIZE	A	B	C	D	Dp	H	J	K	Max Motor	Weight
12	21	5	19 <sup>3</sup> / <sub>16</sub>	10 <sup>3</sup> / <sub>4</sub>	14 <sup>3</sup> / <sub>4</sub>	8 <sup>15</sup> / <sub>16</sub>	9 <sup>5</sup> / <sub>8</sub>	16	215T	205
15	"	"	"	13 <sup>1</sup> / <sub>32</sub>	17 <sup>1</sup> / <sub>32</sub>	11 <sup>7</sup> / <sub>32</sub>	"	"	215T	205
18	31	6	23 <sup>1</sup> / <sub>2</sub>	15 <sup>23</sup> / <sub>32</sub>	19 <sup>23</sup> / <sub>32</sub>	13 <sup>1</sup> / <sub>2</sub>	11 <sup>3</sup> / <sub>4</sub>	25 <sup>1</sup> / <sub>2</sub>	256T	422
22	"	"	"	18 <sup>23</sup> / <sub>32</sub>	22 <sup>23</sup> / <sub>32</sub>	16 <sup>1</sup> / <sub>2</sub>	"	"	256T	453
24	"	"	"	20 <sup>3</sup> / <sub>16</sub>	24 <sup>3</sup> / <sub>16</sub>	17 <sup>31</sup> / <sub>32</sub>	"	"	256T	485
27	48	8	27 <sup>11</sup> / <sub>16</sub>	22 <sup>3</sup> / <sub>8</sub>	26 <sup>3</sup> / <sub>8</sub>	20 <sup>3</sup> / <sub>16</sub>	19 <sup>1</sup> / <sub>2</sub>	37 <sup>1</sup> / <sub>2</sub>	364T	940
30	"	"	"	24	28	21 <sup>25</sup> / <sub>32</sub>	"	"	364T	933
33	"	"	"	26 <sup>11</sup> / <sub>16</sub>	30 <sup>1</sup> / <sub>16</sub>	23 <sup>31</sup> / <sub>32</sub>	"	"	364T	1004
36	"	"	"	29	33	26 <sup>9</sup> / <sub>32</sub>	"	"	364T	1110
40	56 <sup>1</sup> / <sub>2</sub>	12	29 <sup>9</sup> / <sub>16</sub>	32 <sup>1</sup> / <sub>8</sub>	36 <sup>1</sup> / <sub>8</sub>	29 <sup>13</sup> / <sub>32</sub>	19 <sup>1</sup> / <sub>2</sub>	50 <sup>1</sup> / <sub>2</sub>	364T	1363
44	"	"	"	35 <sup>1</sup> / <sub>4</sub>	39 <sup>1</sup> / <sub>4</sub>	32 <sup>1</sup> / <sub>2</sub>	"	"	364T	1443
49	"	"	"	38 <sup>15</sup> / <sub>32</sub>	42 <sup>15</sup> / <sub>32</sub>	35 <sup>23</sup> / <sub>32</sub>	"	"	364T	1685
54	72	12	37 <sup>15</sup> / <sub>16</sub>	42 <sup>1</sup> / <sub>16</sub>	46 <sup>1</sup> / <sub>16</sub>	39 <sup>9</sup> / <sub>16</sub>	31 <sup>1</sup> / <sub>2</sub>	61 <sup>1</sup> / <sub>2</sub>	364T	2805
60	"	"	"	46 <sup>11</sup> / <sub>32</sub>	50 <sup>1</sup> / <sub>32</sub>	43 <sup>19</sup> / <sub>32</sub>	"	"	364T	3091

NOTE: Weight is less motor and options. Dimension "D" applies without insulating plug. Dimensions are subject to change. Certified prints are available.

### Construction Features

Plug fans are typically applied in a plenum as the fan enclosure, to be used as primary air circulators in ovens, paint booths, evaporators, kilns, or other types of industrial dryers. The plug fan's self-contained mounting panel, with or without insulated plug, accommodates ease of installation to a properly supported plenum wall. Plug fans afford efficient air circulation with remote drive in an easy to install and maintain configuration.

- **Sizes** – 12" - 60" wheel diameters.
- **Rotation** – Clockwise or counterclockwise.
- **Construction** – Heavy-duty steel, continuously welded and finished with an industrial grade coating.



# Specifications

## Backward Curved Centrifugal Fan, SWSI (Belt Drive)

The belt drive Backward Curved Centrifugal Fan, Single Width shall be manufactured by Hartzell Fan, Inc.<sup>®</sup>, Series 03, ARRG. 1, 9, 9M, or 10, Class I, II, or III.

Wheels available are the backward curved (BC, 12" – 60") or the airfoil (BA, 18" – 60"). Rotation as determined by the drive side of the fan, shall be clockwise or counterclockwise.

Fan housing, for sizes 12" through 33", shall be field rotatable and the discharge shall be any of the eight AMCA standard positions. Sizes 36" through 60" shall be a fixed construction for the rotation and discharge specified. The fan shall be packaged, completely assembled and ready to install, except for ARRG.1, which is less motor and drive.

The fan housing and base shall be a heavy gauge commercial quality carbon steel suitable for temperatures up to 300°F and with modifications up to 800°F (ARRG. 10 limited 250°F to 600°F). The housing and wheels shall be continuously welded in compliance with AWS D1.1 standard.

The wheels shall be commercial quality carbon steel with single thickness airfoil blades or double thickness hollow airfoil blades and have non-overloading horsepower characteristics. The wheel shall be mounted to the fan shaft with a split taper bushing.

The shafts shall be ground and polished. The fan bearings shall be heavy duty, self-aligning ball or roller type (depending on fan size, motor HP, and performance) relubricatable for continuous service. They shall have a minimum L10 life of 50,000 hours. The belts shall be an oil, heat, and static-resistant type, oversized for continuous duty.

Lifting lugs are a standard feature, for ease of handling and installation.

The fan assembly shall be dynamically balanced at the Hartzell factory prior to shipping. Fans shall be balanced in accordance with AMCA Standard 204-96, fan application category BV-3 (comparable to Grade G6.3).

Fans shall be manufactured in accordance with Hartzell's standard quality assurance procedures.

The fan performance shall be based on tests conducted in Hartzell's AMCA accredited laboratory in accordance with the latest revision of AMCA Standard 210 for air performance and AMCA Standard 300 for sound and published in accordance with AMCA Publication 211 (Air) and AMCA Publication 311 (Sound). Fans shall be licensed to bear the AMCA Certified Sound and Air Performance Rating Seal for the BC wheel only.

## Backward Curved Centrifugal Fan, SWSI (Direct Drive)

The Direct Drive Backward Curved Centrifugal fan shall be manufactured by Hartzell Fan, Inc., Piqua, Ohio. Series 03 \_\_\_\_ (Arrangement 4) \_\_\_\_ (Size), \_\_\_\_ (Class I, II, or III), SWSI.

The fan shall have a capacity of \_\_\_\_\_ CFM at \_\_\_\_\_ inch(es) static pressure, standard air. The fan shall be supplied with a \_\_\_\_\_ horsepower, \_\_\_\_\_ RPM, industrial continuous duty (or alternate electrical specification) \_\_\_\_\_ (ODP, TEFC explosion proof) motor to operate on \_\_\_\_\_ volts, \_\_\_\_\_ cycles, \_\_\_\_\_ phase.

Rotation as determined by the drive side of the fan shall be \_\_\_\_\_ (clockwise or counterclockwise). Discharge shall be \_\_\_\_\_ (any of the eight AMCA standard positions). The fan shall be packaged, completely assembled, inspected for adherence to specifications and test run at the factory, and ready to install.

The fan housing and base shall be a heavy gauge commercial quality carbon steel suitable for temperatures of up to 200°F. The housing and wheel shall be continuously welded in compliance with AWS D1.1 and D1.2 standards.

The wheels shall be commercial quality, carbon steel, with \_\_\_\_\_ (single thickness, Type BC or airfoil, Type BA backward curved blades), having non-overloading horsepower characteristics.

Lifting lugs shall be supplied as a standard design feature for ease of handling and installation.

The fan assembly shall be dynamically balanced at the Hartzell factory prior to shipping. All fans shall meet the balance requirements of the Acoustical Society of America Standard ASASTD2-1975 (ANSI S2 19-1975), Grade G6.3.

Fans shall be manufactured in accordance with Hartzell standard, published quality assurance procedures and shipped complete with installation, operation, and maintenance instructions.

The fan performance shall be based on tests conducted in Hartzell's AMCA accredited laboratory in accordance with the latest revision of AMCA Standard 210 for air performance and AMCA Standard 300 for sound and published in accordance with AMCA Publication 211 (Air) and AMCA Publication 311 (Sound). Fans shall be licensed to bear the AMCA Certified Sound and Air Performance Rating Seal for the BC wheel only.



# Options and Accessories

## Drain Pipe Coupling

A standard pipe coupling welded to housing at its lowest point; female pipe has threaded plug.

## Access Door

For maintenance and clean-out of internal fan housing. Bolted and gasketed. A hinged, quick release type also available for Class I only.



## Vibration Isolator

Rubber-in-shear or spring-type isolators are available.

## Combination Drive Guard and Weather Cover

Covers motor and shaft sheaves as well as belts. Combines guarding of the drive as well as protection from the weather.



Arrangement 4



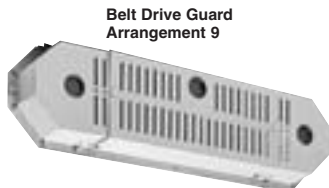
Arrangement 9

## Drive Guards

Encloses the drive assembly while permitting circulation of ambient air. Standard features include: tach opening, belt tension openings and adjustable length.



Shaft Guard  
Arrangement 9 or 1



Belt Drive Guard  
Arrangement 9

## Inlet and Outlet Guards

Spiral ring guard offers protection on inlet side and a wire mesh guard can be furnished for the outlet side.



Inlet Guard



Outlet Guard

## Flanged Inlet and Outlet

Welded flanges. Drilled flanges can be furnished, if specified.

## Neoprene Shaft Seal and Slinger

Shaft seal limits contaminants from the airstream passing through shaft hole in the housing. Seals are not gas tight. A neoprene shaft seal and slinger are required when stainless steel shaft and hardware are specified. For temperatures to 300°F.

## Discharge Backdraft Damper

Automatic gravity operated backdraft damper eliminates backflow of air when fan is not operating. Class I only.

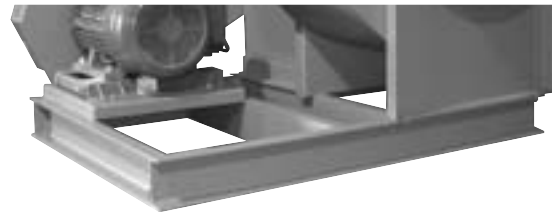


## Arrangements

Arrangement 8 and other arrangements not shown are available, (see page 6). Contact factory.

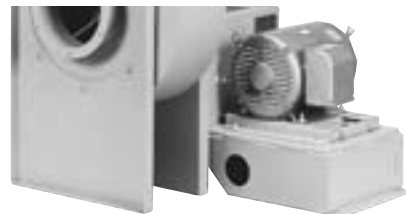
## Arrangement 1 Sub-Base

Common structural support for Arrangement 1 fan and motor. Specify motor mounting position (See page 3).



## Arrangement 9M Motor Base

Accommodates a larger frame size motor than the standard Arrangement 9 base.



## Heat Fan Accessories – Series 03 Heat Slinger

Draws cool air over inboard bearing and reduces heat conduction from wheel through shaft. Heat slinger guard included.



## Motor Heat Shield (Arr. 9 Fans)

Aluminum plate attached to base between fan scroll and motor assists in heat deflection and dissipation. Aluminum shaft plate is standard on all Series 03 blowers.

## High Temperature Shaft Seal

Shaft seal encased between housing drive side and metal retaining plate. Required for temperatures from 300°F to 800°F.

**CAUTION:** The drive assembly or the periphery of the wheel of a fan less than seven (7) feet above the floor or working level must be guarded to be in accordance with OSHA regulations.



# Corrosive Applications

## Protective Coatings

An epoxy coating is available for mildly corrosive atmospheres. The finish is chemical, moisture and abrasion resistant, providing a very tough and durable coating. Surfaces are phosphatized prior to coating. Finish air dries to 6 mils. Temperatures range up to 250°F.

Inorganic zinc coating is also available. This finish is a very hard coating with exceptional abrasion resistance. Offers excellent weathering characteristics and resistance to alcohols, solvents, and petroleum products. Also, resistant to temperatures up to 600°F. Surfaces are sandblasted prior to application. Finish air dries to 2½ mil thickness.

## Fiberglass Units

Where extreme corrosive fumes are encountered, Hartzell Fiberglass Backward Curved Blowers, Series 41, give unsurpassed resistance to a wide variety of corrosive elements at a cost substantially below that of corrosive resistant metals. Size range of 12" to 60" wheel diameter. For complete details on Hartzell Fiberglass Centrifugal Fans, See Bulletin A-160.



Series 41  
Arrangement 9

## Spark Resistant Construction

For safely handling fumes and vapors, Hartzell offers three types of spark resistant construction. Types A, B, and C as outlined in AMCA Standard 99-0401-86.

**Type A** – All aluminum fan housing, inlet cone and wheel with a ground and polished steel shaft covered with an aluminum sleeve. Temperature limitation of 350°F, with high temperature construction. Material Code AA.

**Type B** – Aluminum wheel and aluminum wear plate where the shaft passes through the housing. Temperature limitation of 350°F, with high temperature construction. Material Code AB.

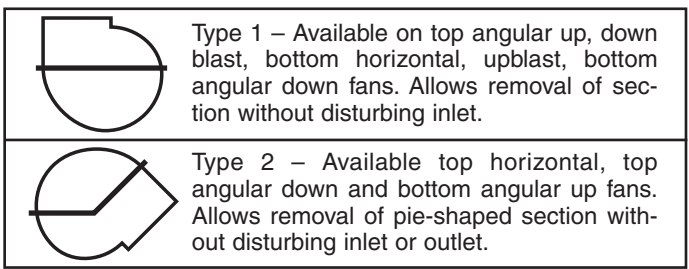
**Type C** – Aluminum inlet cone and aluminum wear plate where the shaft passes through the housing. Temperature limitation of 350°F, with high temperature construction. Material Code AC.

**NOTES:** No bearings, drive components, or electrical devices shall be placed in the air or gas stream.

The user shall electrostatically ground all fan parts.

The use of the above standard in no way implies a guarantee of safety for any level of spark resistance. Spark resistant construction also does not protect against any airstream material that may be present in a system which might cause ignition of explosive gases.

# Split Housing



## Heavy-Duty Control Dampers

### Inlet Control Damper

Increases the efficiency of the blower and permits control of air volume.

### Outlet Dampers

Dampers are mounted directly on the blower outlet to control the volume of air delivered to the system. Opposed and parallel blades are available constructed of standard gauge steel and available with a variety of finishes.

### Parallel Blade Type

Best suited for applications requiring accurate air volume in a range from wide open to 75% of wide open. Usually used for balancing the system or for modulated control when pressure drop is variable.

### Opposed Blade Type

Best suited for control over a broad range of air volume with more precise control.

Both types of outlet control dampers are available in three classifications:

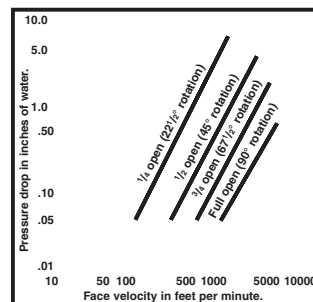
### Classification:

Class I – Maximum static pressure: 5" SP  
Maximum velocity: 3900 FPM

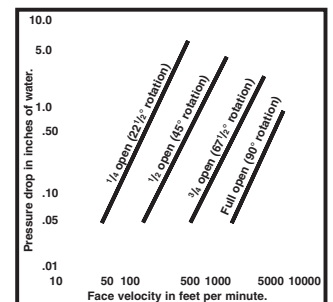
Class II – Maximum static pressure: 8-1/2" SP  
Maximum velocity: 5100 FPM

Class III – Maximum static pressure: 20" SP  
Maximum velocity: 6000 FPM

**NOTE: Class III dampers must be used on installation with temperatures above 250°F.**



Typical performance curve for parallel blade dampers.



Typical performance curve for opposed blade dampers.

## SAFETY ACCESSORIES, APPLICATION AND USE WARNING

The safe application and use of equipment supplied by Hartzell Fan, Inc. is the responsibility of the installer, the user, the owner, and the employer. Since the application and use of its equipment can vary greatly, Hartzell Fan, Inc. offers various product types, optional safety accessories, and sound performance data per laboratory tests. Hartzell Fan, Inc. sells its equipment with and without safety accessories, and accordingly, it can supply such safety accessories only upon receipt of an order. The need for safety accessories will frequently depend upon the type of system, fan location and operating procedures being employed. The proper protective safety accessories to meet company standards, local codes, and the requirements of the Occupation Safety and Health Act must be determined by the user since safety requirements vary depending on the location and use of the equipment. If applicable local conditions, standards, codes or OSHA rules require the addition of the safety accessories, the user should specify and obtain the required safety accessories from Hartzell Fan, Inc. and should not allow the operation of the equipment without them.

Owners, employers, users and installers should read "RECOMMENDED SAFETY PRACTICES FOR USERS AND INSTALLERS OF INDUSTRIAL AND COMMERCIAL FANS" published by the Air Movement and Control Association International, Inc., 30 West University Drive, Arlington Heights, Illinois 60004. A copy of this publication is enclosed with each fan shipped from Hartzell Fan, Inc., and is available upon request at Hartzell's office in Piqua, Ohio 45356.

Please contact Hartzell Fan, Inc. or your local Hartzell representative for more information on product types, safety accessories, and sound performance estimates.

Remember, the selection of safety accessories and the safe application and use of equipment supplied by Hartzell Fan, Inc. is **your** responsibility.



# Hartzell Warranty

## LIMITED WARRANTIES

Hartzell represents to Buyer that any goods to be delivered hereunder will be produced in compliance with the requirements of the Fair Labor Standards Act of 1938 as amended.

Hartzell also warrants to Buyer its goods to be free from defects in workmanship and material under normal use and service for one (1) year after tender of delivery by Hartzell, plus six months allowance for shipment to approved stocking dealers and distributors. No warranty extends to future performance of goods and any claims for breach of warranty or otherwise accrues upon tender of delivery. The foregoing constitute Hartzell's sole and exclusive warranties and are in lieu of all other warranties, whether written, oral, express, implied or statutory.

## LIMITATION OF LIABILITY FOR BREACH OF WARRANTY

Hartzell's obligation for any breach of warranty is limited to repairing or replacing, at its option, without cost to Buyer at its factory any goods which shall, within such a warranty period, be returned to it with transportation charges prepaid, and which its examination shall disclose to its satisfaction to have been defective. Any request for repair or replacement should be directed to Hartzell Fan, Inc., P.O. Box 919, Piqua, Ohio 45356. Hartzell will not pay for any repairs made outside its factory without its prior written consent. This does not apply to any such Hartzell goods which have failed as a result of faulty installation or abuse, or incorrect electrical connections or alterations, made by others, or use under abnormal operating conditions or misapplication of the goods.

## LIMITATION OF LIABILITY

To the extent the above limitation of liability for breach of warranty is not applicable, the liability of Hartzell on any claim of any kind, including negligence, for any loss or damage arising out of or connected with, or resulting from the sale and purchase of the goods or services covered by these Terms and Conditions of Sale or from the performance or breach of any contract pertaining to such sale or purchase or from the design manufacture, sale, delivery, resale, installation, technical direction installation, inspection repair, operation or use of any goods or services covered by these Terms and Conditions shall, in no case exceed the price allocable to the goods or services which gave rise to the claim and shall terminate one year after tender of delivery of said goods or services, plus six months allowance for shipment to approved stocking dealers and distributors. In no event will Hartzell be responsible or liable for any labor or other incidental costs associated with the removal or replacement of defective products or materials.

In no event whether as a result of breach of contract, or warranty or alleged negligence, defects, incorrect advice or other causes, shall Hartzell be liable for special or consequential damages, including, but not limited to, loss of profits or revenue, loss of use of the equipment or any associated equipment, cost of substitute equipment, facilities or services, down time costs, or claims of customers of the Buyer for such damages. Hartzell neither assumes nor authorizes any person to assume for it any other liability in connection with the sale of its goods or services.

## NO IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS

HARTZELL DOES NOT WARRANT THAT SAID GOODS ARE OF MERCHANTABLE QUALITY OR THAT THEY ARE FIT FOR ANY PARTICULAR PURPOSE. THERE IS NO IMPLIED WARRANTY OF MERCHANTABILITY AND THERE IS NO IMPLIED WARRANTY OF FITNESS.



Propeller Fans



Cooling Tower & Heat Exchanger Fans



Duct Fans



Duct Axial Fans



Vaneaxial Blowers



Cool Blast & Utility Fans



Steel Centrifugal Blowers



Roof Ventilators - Steel & Fiberglass



Heating Equipment - Gas & Steam



Fiberglass Axial Flow Fans



Fiberglass Centrifugal Blowers



Marine - Mine Duty Blowers

Hartzell Fan, Inc., Piqua, Ohio 45356 • Plants in Piqua, Ohio and Portland, Indiana.