

PB series

CENTRIFUGAL BLOWER

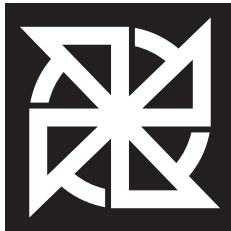
engineering data
and specifications



CINCINNATI FAN 

Since the founding of Cincinnati Fan in 1956, the company's mission has been to provide quality products at competitive prices, backed by depend-able service.

This mission is carried out by specializing in the market for industrial air handling products up to 125 hp. But specialization does not mean the product line is small. Cincinnati Fan offers a wide variety of standard and customized products, production flexibility, and customer responsiveness.



CINCINNATI FAN PROVIDES

- ◆ Technical evaluation for correct performance conditions
- ◆ Review of air stream and ambient conditions that require special attention
- ◆ Selection of proper components to meet required design specifications
- ◆ Selection of proper accessories
- ◆ System analysis for proper fan design

Cincinnati Fan operates in a modern facility specifically designed for world class manufacturing enabling us to build standard products to order, including accessories, and ship within 5 to 10 working days.

With support like this, you can be sure your Cincinnati Fan product will be well-built and will provide maximum dependability and longevity.

Cincinnati Fan has over 170 experienced sales engineers across the US and Canada ready to serve your air handling needs.



FEATURES AND BENEFITS OF CAST ALUMINUM

Cincinnati Fan Cast Aluminum Blowers are a smart-buy now and for many years to come because aluminum is:

Non-Sparking

Cincinnati Fan Cast Aluminum Blowers are AMCA Type B spark resistant. With the addition of a non-sparking shaft, they meet AMCA Type A requirements. See Page 5.

Corrosion-Free

No painting required. Maintenance free in moist environments.

Lightweight

Aluminum is one-third the weight of steel and therefore, less structural support is required.

Non-Toxic

Aluminum is friendly to foods, beverages and medicines. Cast Aluminum Blowers are used in many food processing applications where cleanliness is important.

Strong

Aluminum's strength is exhibited in products such as high-way guard rails, truck trailers and baseball bats. In high speed blower wheels, aluminum is alloyed with magnesium and other metals for greater strength.

Attractive

Aluminum's natural appearance is desirable. No other metal accepts a greater variety of finishes. It can be brushed, buffed, colored by anodizing and has excellent paint adhesion.

Non-Magnetic

Resists magnetism even in magnetic fields making it ideal in electronic applications where prevention of interference is very important.

Workable

Aluminum can be machined by every known metal working process. This makes future modifications easier.

Not Affected By Cold

Unlike many materials that become brittle when super cold, aluminum alloys can actually become stronger. Cast aluminum blowers are used in many sub-zero applications.

Available

Approximately eight percent of earth's crust contains aluminum, making it the most common metal on earth.

SUGGESTED SPECIFICATIONS FOR CAST ALUMINUM BLOWERS

Blowers shall be cast with commercial grade 319 cast aluminum, having a 3/16" minimum wall thickness. Housing halves should be attached with tapered lugs having a minimum 45° taper from centerline for additional strength. Inlets and outlets shall be round for convenient slip fit of duct work or hose. Blower sizes 14A and larger shall have a reversible housing that is rotatable. Blowers shall be AMCA type B spark resistant or better. Blower performance shall be derived from data as tested per AMCA Standard 210.

Blower wheels with tip speeds up to 13,000 feet per minute shall be 319 cast aluminum. Blower wheels with tip speeds over 13,000 feet per minute shall be 356 aluminum with a T6 heat treatment. Wheel hub shall be an integral part of the wheel casting. Wheels shall be locked onto the motor or fan shaft with two, knurled, cup point set screws with a locking patch or nylon insert. Set screws shall be 90° – 120° apart with one over shaft keyway. Up to 13" diameter wheels shall have 5/16-18 set screws torqued to 165 in lb. Wheels over 13" in diameter shall have 3/8-16 set screws torqued to 228 in lb.

Balancing shall be accomplished by removal of material only – no additional weights are to be used in the balancing process. Wheel diameters up to 13" shall be statically balanced. Wheel diameters above 13" shall be dynamically balanced.

Fan motor and bearing cap vibration levels shall not exceed 1.5 mils displacement at 3450 RPM.

All fan bases shall be a minimum of 12 gauge steel.

All motors shall be continuous duty type.

Inlet or outlet flanges (if required) shall be 319 cast aluminum and shall meet ANSI bolt circle and outside diameter dimensions (see dimensions on page 21).

⚠ Caution—All fans and blowers shown have rotating parts and pinch points. Severe personal injury can result if operated without guards. Stay away from rotating equipment unless it is disconnected from its power source. Read and understand operating instructions.

SELECTING A CINCINNATI PB BLOWER

A word about ratings...

Thirty years ago Cincinnati Fan manufactured one size blower and one size wheel. Today we stock eight sizes of blower housings and fifty-seven wheel sizes. Four of our eight housings are each available with three different inlet sizes. By combining different housings, wheels and inlet sizes, we can offer you more standard direct drive pressure blower ratings than any other fan company in the world. Because we have so many direct drive ratings, chances are good that we can meet your requirements with a compact, cost efficient direct drive Cincinnati PB instead of a heavier, more expensive V-belt driven alternative.

Your Cincinnati Fan Representative is a ratings expert who is ready to help you select precisely the right PB blower for your application.

HOW TO USE THE PB SERIES DIRECT-DRIVE RATING TABLES

If you know the static pressure and CFM required for your blower application, you can determine which PB blowers you should consider by referring to the tables on Pages 8 and 9 of this catalog. To use the tables, follow these simple directions:

1. Reading to the right, find the column heading which displays the static pressure (SP) you require.
2. Reading down that column, find the line(s) displaying the CFM rating(s) which will satisfy your requirement.
3. Follow the line(s) to the left side of the table, where you will identify the wheel(s) and the blower housing model(s) used to achieve the CFM rating(s).

You may find that several ratings come close to meeting your requirements. Generally, the rating with the lowest brake horsepower requirement (bhp) is the best selection (highest efficiency, least noise). In some situations, other requirements, such as blower dimensions and/or specific inlet/outlet sizes, may override the lower horsepower rule-of-thumb. Your Cincinnati Fan Representative is available to assist you with selection and pricing information.

Some DOs and DON'Ts

DO...consider that radial blades are self-cleaning in most applications. Backward curved (BC) blades are not self-cleaning and may collect dust which can cause balance problems.

DO...specify heat-resistant construction (steel wheel) for use with airstreams having temperatures exceeding 200°F (93°C). BC wheels are not available in steel.

DO NOT...use a steel wheel and a steel blower housing in any type of environment where sparks could cause an explosion and/or fire. See WARNING on Page 5.

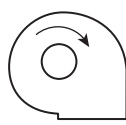
DO NOT...use any blower with an unducted inlet and/or outlet without an inlet and/or outlet guard. Severe personal injury could result. See Page 4 for guard accessory.

Eight Standard Discharge Positions Available. 45° Discharge Positions Available at Additional Charge

Discharges shown are determined by viewing fan from motor or drive side



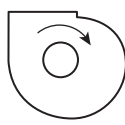
CW-TH
Clockwise Top
Horizontal
Discharge



CW-DB
Clockwise
Down Blast
Discharge



CW-BH
Clockwise
Bottom
Horizontal
Discharge



CW-UB
Clockwise
Up Blast
Discharge



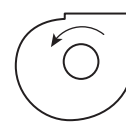
CCW-TH
Counter
Clockwise Top
Horizontal
Discharge



CW-DB
Counter
Clockwise
Down Blast
Discharge



CW-BH
Counter
Clockwise
Bottom Horizontal
Discharge



CW-UB
Counter Clockwise
Up Blast
Discharge

SPARK-RESISTANT CONSTRUCTION

Type A: All parts in contact with airstream are of nonferrous material. Blind bore in wheel and brass hardware in airstream.
Maximum Temperature 200°F.

Type B: Standard on all PB series. Aluminum wheel and aluminum housing. **Maximum Temperature up to 400°F except if with EXP motor, maximum temperature is 150°F.**

HIGH TEMPERATURE CONSTRUCTION

Arrangement 2, 4 and 4HM

Up to 150°F Construction: Standard construction.

151° to 400°F Construction: Standard fan with heat slinger and slinger guard. External hub on wheel or a shaft extension may be required (except on Arrangement 2). Wheel is either high temperature cast aluminum or fabricated steel. **Note:** No BC type steel wheels.

Arrangement 1, 8 and 9

Up to 200°F Construction: Standard construction

201° to 300°F Construction: Standard fan with high temperature cast aluminum wheel or fabricated steel wheel. **Note:** No BC type steel wheels.

301° to 400°F Construction: Standard fan with heat slinger and slinger guard. Wheel is either high temperature cast aluminum or fabricated steel. **Note:** No BC type steel wheels.

For temperatures greater than 400°F, see PBS Series catalog

⚠ WARNING

The use of aluminum or aluminum alloys in the presence of steel which has been allowed to rust requires special consideration. Research by the U.S. Bureau of Mines and others has shown that aluminum impellers rubbing on rusty steel may cause high intensity sparking. 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 ignition of explosive gases caused by catastrophic failure or from any airstream material that may be present in a system.

TEMPERATURE - ALTITUDE ADJUSTMENT

Air Temperature °F	Altitude in Feet Above Sea Level										
	0	1000	2000	3000	4000	5000	6000	7000	8000	9000	10000
0°	0.87	0.91	0.94	0.98	1.01	1.05	1.09	1.13	1.17	1.22	1.26
40°	0.94	0.98	1.02	1.06	1.10	1.14	1.19	1.23	1.28	1.32	1.36
70°	1.00	1.04	1.08	1.12	1.16	1.20	1.25	1.30	1.35	1.40	1.45
80°	1.02	1.06	1.10	1.14	1.19	1.23	1.28	1.33	1.38	1.43	1.48
100°	1.06	1.10	1.14	1.19	1.23	1.28	1.33	1.38	1.43	1.48	1.54
120°	1.09	1.14	1.18	1.23	1.28	1.32	1.38	1.43	1.48	1.53	1.58
140°	1.13	1.18	1.22	1.27	1.32	1.37	1.42	1.48	1.54	1.58	1.65
160°	1.17	1.22	1.26	1.31	1.36	1.42	1.47	1.53	1.59	1.64	1.70
180°	1.21	1.26	1.30	1.36	1.41	1.46	1.52	1.58	1.64	1.70	1.75
200°	1.25	1.29	1.34	1.40	1.45	1.51	1.57	1.63	1.69	1.75	1.81
250°	1.34	1.39	1.45	1.50	1.56	1.62	1.68	1.74	1.82	1.88	1.94
300°	1.43	1.49	1.55	1.61	1.67	1.74	1.80	1.87	1.94	2.00	2.08
350°	1.53	1.59	1.65	1.72	1.78	1.85	1.92	2.00	2.07	2.14	2.22
400°	1.62	1.69	1.75	1.82	1.89	1.96	2.04	2.12	2.20	2.27	2.35
450°	1.72	1.79	1.86	1.93	2.00	2.08	2.16	2.24	2.33	2.41	2.50
500°	1.81	1.88	1.96	2.03	2.11	2.19	2.28	2.36	2.46	2.54	2.62
550°	1.91	1.98	2.06	2.14	2.22	2.30	2.40	2.49	2.58	2.68	2.77
600°	2.00	2.08	2.16	2.24	2.33	2.42	2.50	2.61	2.71	2.80	2.90
650°	2.10	2.18	2.26	2.35	2.44	2.54	2.63	2.74	2.84	2.94	3.04
700°	2.19	2.27	2.36	2.46	2.55	2.65	2.75	2.86	2.97	3.06	3.18
750°	2.28	2.37	2.47	2.56	2.66	2.76	2.87	2.98	3.10	3.19	3.31

Fan performance tables are developed using standard air which is 70°F, 29.92" barometric pressure and .075 lb/ft³. Density changes resulting from temperature or barometric pressure variations (such as higher altitudes) must be corrected to standard conditions before selecting a fan based on standard performance data. Temperature and/or altitude conversion factors at left are used in making corrections to standard conditions..

EXAMPLE: Select a belt driven PB blower to deliver 800 CFM at 4" SP at 200°F, and 9000' altitude.

Step 1 - From the table, conversion factor is 1.75.

Step 2 - Correct static pressure is:

$$1.75 \times 4" \text{ SP} = 7" \text{ SP at standard conditions.}$$

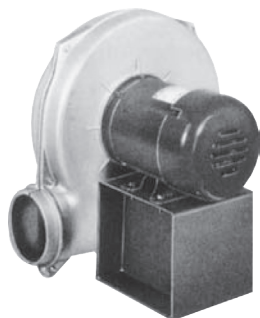
Step 3 - Check the belt drive tables on pages 10 and 11 for 800 CFM at 7" SP. We select a model PB-12A at 3378 RPM and 1.74 bhp.

Step 4 - Correct the bhp for the lighter air:

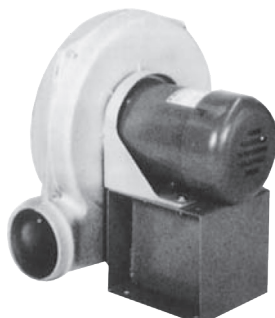
$$1.74 \div 1.75 = .99 \text{ bhp.}$$

A 1.5 hp motor will suffice at 200° F and 9000', but a 2 hp motor would be required at standard conditions. Special motor insulation may be required above 3500 feet altitude. Consult your local Cincinnati Fan sales representative.

NINE STANDARD ARRANGEMENTS



Arrangement 4
♦ Foot and flange motor



Arrangement 4
♦ Flange mount-footless motor



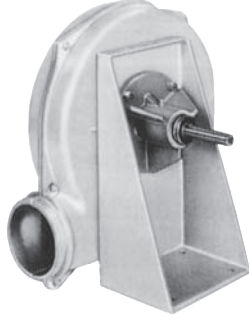
Arrangement 4
♦ Foot mounted motor



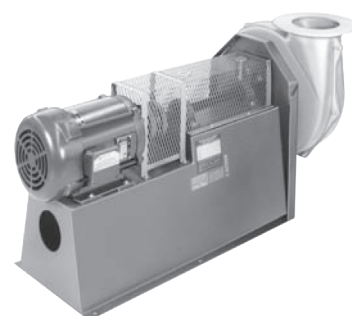
Arrangement 4HM
♦ Horizontal mount—see page 18



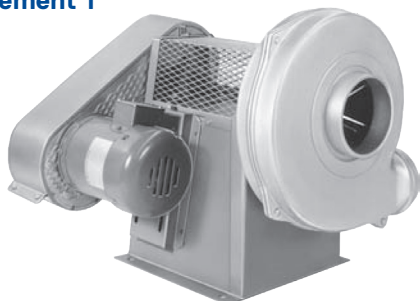
Arrangement 1



Arrangement 2



Arrangement 8
♦ Shaft/coupling guard standard

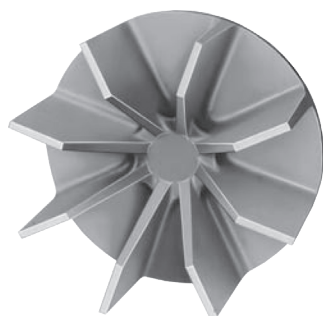


Arrangement 9
♦ Belt guard standard—shaft guard optional

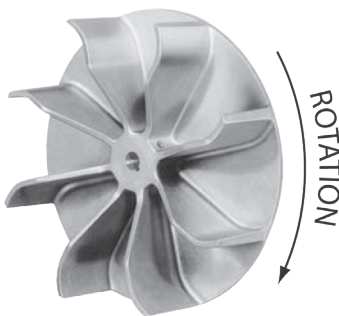


Arrangement 4D
♦ Double blower

BLOWER WHEELS



Cast Aluminum Radial



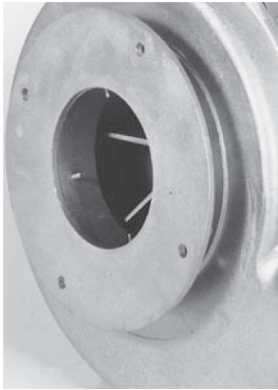
Cast Aluminum B.C.
♦ Backward curve



Optional Fabricated Steel or Stainless Steel
♦ Not available in B.C.

All wheels have two set screws, 90°-120° apart, with one being over keyway. Up to 13" diameter wheels are dynamically, single plane balanced. Wheels over 13" in diameter are dynamically, 2 plane balanced. Use steel wheel for high abrasive or high temperature application above 200°F (93° C). Stainless steel or coated wheels should be used in corrosive environments.

OPTIONS



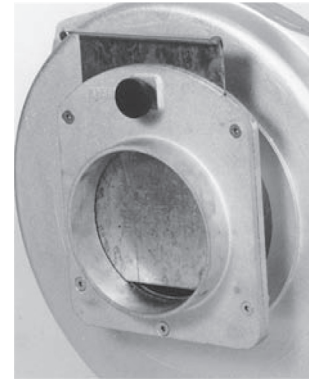
Inlet/Outlet Flange

Cast aluminum drilled to ANSI-125 pound flange bolt circle dimensions if requested. **Outlet flange not available in downblast configuration.** See dimensions on page 21.



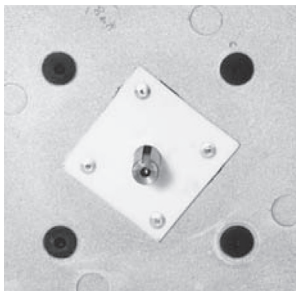
Inlet/Outlet Guard

Spiral guard with nickel/chrome/lacquer finish. OSHA type. Available on 4, 5, 6, 7, 8 and 10" inlets or outlets. **Required by OSHA on non-ducted inlet and/or discharge.**



Slide Gate Damper

Available for 4, 5, 6, 7, 8 and 10" inlets or outlets. Cast aluminum frame, galvanized steel gate. Suitable for duct work. Dimensions on page 21. **Add inlet/outlet guard if not ducted. Not available on downblast discharge position.**



Teflon Shaft Seal

1/8" thick Teflon shaft seal good to 400°F. Ceramic fiber gasket material with steel cover plate above 400°F.



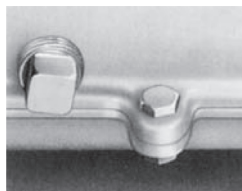
Inlet Filter

Many layered fine wire mesh. Pleated paper media available on some sizes.



Shaft and/or Heat Slinger Guard

Available on arrangement 1 and 9. Covers bearings and shaft between fan housing and belt guard. Has extended lube lines. Meets OSHA standards. Painted safety yellow.



Drain

1/2" drain with plug. Not required on bottom horizontal discharges.



Belt Guard — Standard on Arrangement 0

Bearing side is enclosed. Not available unless Cincinnati Fan mounts motor. Painted safety yellow.

DIRECT DRIVE RATINGS TABLES at 3450 RPM

CFM and bhp at Static Pressure Shown – Ratings at 70°F – .075" Density – Sea Level

Model	Nominal Wheel Diameter and Width	Nominal Inlet Diameter	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP	
			CFM	bhp	CFM	bhp	CFM	bhp	CFM	bhp	CFM	bhp	CFM	bhp	CFM	bhp	CFM	bhp
PB-8	7" x 2.4375"	4"	280	0.30	228	0.28	138	0.26										
	8" x 2.75"	4"	344	0.36	292	0.33	228	0.28	122	0.23								
PB-9	8" x 2.75"	5"	388	0.39	341	0.36	285	0.32	156	0.25								
	8.5" x 2.75"	5"	435	0.46	385	0.41	324	0.37	243	0.33								
	9" x 2.875"	5"	493	0.52	445	0.48	384	0.42	310	0.37	196	0.31						
	10.25" x 3" BC	5"	511	0.56	463	0.50	404	0.45	344	0.42	283	0.38	211	0.33				
	9.75" x 2.875"	5"	549	0.81	501	0.76	449	0.71	395	0.66	335	0.60	258	0.51				
	10.625" x 2.625"	5"	592	0.84	552	0.78	509	0.72	463	0.66	415	0.59	360	0.52	291	0.44	141	0.31
PB-10A	9" x 2.875"	6"	576	0.70	510	0.65	425	0.58	325	0.50	163	0.37						
	10.25" x 3" BC	6"	605	0.79	547	0.72	479	0.66	399	0.60	299	0.53	149	0.43				
	9.75" x 2.875"	6"	710	1.02	658	0.96	594	0.89	517	0.82	428	0.72	314	0.59	109	0.42		
	11" x 3" BC	6"	729	1.06	687	1.01	638	0.95	580	0.88	511	0.81	425	0.71	306	0.59		
	10.625" x 2.625"	6"	826	1.39	763	1.30	699	1.23	632	1.15	559	1.06	476	0.96	361	0.83		
	11" x 2.75"	6"	830	1.42	780	1.33	727	1.23	670	1.15	607	1.06	537	0.97	450	0.87	307	0.70
	11.5" x 2.875"	6"	884	1.52	836	1.45	780	1.38	718	1.30	652	1.22	582	1.14	506	1.04	414	0.92
	12" x 2.875"	6"	921	1.93	886	1.89	846	1.84	801	1.78	750	1.70	691	1.61	622	1.51	540	1.39
PB-12A	11" x 3" BC	7"	877	1.10	807	1.04	729	0.96	642	0.88	543	0.79	419	0.69	181	0.51		
	10.625" x 2.625"	7"	1062	1.62	989	1.53	899	1.42	795	1.29	681	1.15	553	0.99	378	0.78		
	11" x 2.75"	7"	1155	2.00	1068	1.85	974	1.71	873	1.56	762	1.40	636	1.23	487	1.04	281	0.78
	11.5" x 2.875"	7"	1266	2.39	1183	2.28	1092	2.14	997	2.00	900	1.85	798	1.69	686	1.51	547	1.30
	12" x 2.875"	7"	1307	2.61	1225	2.46	1139	2.30	1052	2.15	965	2.00	876	1.86	784	1.72	681	1.56
	13" x 3.25" BC	7"	1297	2.61	1233	2.51	1164	2.40	1093	2.29	1021	2.17	947	2.06	871	1.96	791	1.84
	12.25" x 2.875"	7"	1363	2.92	1287	2.76	1202	2.58	1114	2.40	1025	2.22	936	2.06	845	1.90	748	1.74
	13" x 3.25"	7"	1464	3.24	1388	3.08	1306	2.92	1222	2.77	1139	2.61	1058	2.47	978	2.32	897	2.17
PB-14A	13" x 3.25" BC	6"	1317	2.50	1253	2.40	1185	2.31	1114	2.21	1036	2.09	952	1.97	858	1.82	748	1.65
	13" x 3.25" BC	7"	1360	2.51	1284	2.39	1210	2.28	1134	2.17	1054	2.07	968	1.96	872	1.83	759	1.68
	13" x 3.25" BC	8"	1413	2.51	1328	2.41	1243	2.31	1157	2.21	1068	2.11	974	1.98	872	1.83	757	1.65
	12.25" x 2.875"	6"	1495	2.98	1406	2.83	1310	2.67	1210	2.50	1107	2.32	1001	2.15	887	1.97	757	1.76
	13" x 3.25"	6"	1508	3.60	1445	3.47	1380	3.32	1312	3.15	1240	2.98	1163	2.79	1079	2.61	984	2.41
	12.25" x 2.875"	7"	1573	3.33	1477	3.18	1381	3.03	1283	2.87	1178	2.69	1063	2.47	931	2.20	774	1.87
	13" x 3.25"	7"	1576	3.66	1513	3.52	1447	3.37	1377	3.21	1303	3.04	1222	2.86	1132	2.67	1029	2.45
	14" x 3.25" BC	6"	1595	3.87	1521	3.74	1447	3.59	1372	3.44	1296	3.28	1218	3.12	1136	2.95	1049	2.77
	12.25" x 2.875"	8"	1624	3.50	1529	3.34	1433	3.16	1332	2.96	1222	2.75	1097	2.53	954	2.31	784	2.07
	13" x 3.25"	8"	1637	3.77	1572	3.60	1504	3.43	1431	3.25	1352	3.08	1263	2.89	1162	2.69	1042	2.46
	14" x 3.25" BC	7"	1676	4.06	1592	3.87	1507	3.71	1423	3.56	1338	3.42	1254	3.26	1167	3.10	1078	2.91
	14" x 3.25"	6"	1656	4.61	1606	4.44	1550	4.29	1487	4.15	1418	4.03	1345	3.89	1267	3.73	1185	3.54
	14" x 3.25" BC	8"	1741	4.10	1659	3.95	1576	3.79	1492	3.64	1406	3.48	1317	3.32	1225	3.15	1128	2.97
	14" x 3.25"	7"	1841	5.23	1785	5.04	1722	4.83	1650	4.61	1570	4.37	1482	4.12	1388	3.86	1289	3.63
	14.75" x 4"	6"	1862	5.82	1796	5.66	1730	5.49	1664	5.32	1597	5.15	1529	4.97	1458	4.79	1385	4.60
	14" x 3.25"	8"	2021	5.54	1942	5.35	1853	5.13	1754	4.89	1649	4.63	1540	4.35	1429	4.08	1317	3.79
14.75" x 4"	7"	1987	6.34	1921	6.16	1852	5.97	1781	5.76	1707	5.54	1631	5.31	1552	5.08	1471	4.84	
	14.75" x 4"	8"	2105	6.82	2038	6.57	1965	6.31	1885	6.02	1801	5.73	1712	5.43	1622	5.14	1529	4.86
PB-15A*	14" x 3.25" BC	6"	1768	3.47	1690	3.37	1601	3.24	1500	3.08	1388	2.90	1264	2.70	1132	2.50	992	2.29
	14" x 3.25" BC	8"	2112	4.36	2011	4.17	1892	3.92	1756	3.62	1604	3.32	1443	3.02	1275	2.75	1099	2.50
	14" x 3.25" BC	10"	2174	4.43	2058	4.24	1929	4.00	1787	3.72	1633	3.41	1466	3.09	1286	2.79	1090	2.49
	15.5" x 5" BC	6"	2057	5.37	1971	5.18	1886	5.01	1801	4.84	1715	4.67	1628	4.50	1538	4.34	1445	4.16
	14" x 3.25"	6"	2206	5.75	2122	5.64	2031	5.48	1934	5.28	1831	5.04	1722	4.77	1606	4.49	1481	4.19
	16.5" x 4.375" BC	6"	2248	6.47	2182	6.35	2108	6.21	2028	6.06	1942	5.90	1850	5.71	1755	5.51	1656	5.29
	15.5" x 5"	6"	2379	8.19	2311	8.05	2242	7.89	2171	7.70	2099	7.50	2024	7.28	1947	7.05	1866	6.80
	15.5" x 5" BC	8"	2688	7.43	2570	7.18	2448	6.88	2323	6.54	2197	6.18	2069	5.83	1938	5.48	1805	5.14
	16.5" x 4.375"	6"	2618	9.81	2549	9.59	2480	9.38	2408	9.18	2335	9.00	2259	8.81	2182	8.63	2103	8.43
	14" x 3.25"	8"	2924	8.02	2774	7.64	2624	7.24	2472	6.83	2315	6.40	2150	5.96	1975	5.49	1785	4.99
use 182T frame min	16.5" x 4.375" BC	8"	2711	7.79	2637	7.64	2559	7.46	2475	7.26	2385	7.04	2287	6.79	2182	6.53	2069	6.26
	15.5" x 5" BC	10"	2821	7.88	2715	7.62	2599	7.31	2473	6.97	2338	6.59	2197	6.19	2050	5.78	1898	5.36
	16.5" x 4.375" BC	10"	2818	7.86	2748	7.70	2671	7.52	2584	7.32	2487	7.09	2379	6.85	2260	6.58	2129	6.30
	14" x 3.25"	10"	2995	8.38	2880	8.04	2751	7.68	2607	7.27	2446	6.81	2268	6.30	2073	5.74	1862	5.13
	15.5" x 5"	8"	3272	11.92	3171	11.60	3062	11.23	2948	10.79	2828	10.31	2702	9.80	2572	9.27	2438	8.74
	15.5" x 5"	10"	3476	12.90	3394	12.55	3301	12.15	3193	11.69	3068	11.16	2926	10.57	2769	9.93	2605	9.29
	16.5" x 4.375"	8"	3623	13.81	3545	13.62	3458	13.36	3360	13.04	3251	12.64	3130	12.17	2998	11.64	2855	11.08
	16.5" x 4.375"	10"	3705	14.27	3643	14.09	3575	13.88	3499	13.62	3414	13.31	3318	12.94	3209	12.51	3086	12.01
	14" x 3.25" BC	6"	1520	3.35	1438	3.23	1355	3.12	1271	3.00	1185	2.89	1097	2.77	1006	2.64	909	2.50
	14" x 3.25" BC	8"	1589	3.41	1517	3.32	1441	3.22	1361	3.12	1277	3.00	1186	2.88	1089	2.75	981	2.59
PB-18-A*	14" x 3.25" BC	10"	1574	3.34	1508	3.27	1437	3.18	1362	3.09	1279	2.98	1189	2.86	1088	2.72	972	2.56
	14" x 3.25"	6"	1795	5.29	1729	5.15	1659	4.98	1586	4.79	1510	4.59	1430	4.39	1347	4.18	1260	3.97
	16.5" x 4.375" BC	6"	1792	5.84	1743													

DIRECT DRIVE RATINGS TABLES at 3450 RPM

CFM and bhp at Static Pressure Shown – Ratings at 70°F – .075" Density – Sea Level

Model	Nominal Wheel Diameter and Width	Nominal Inlet Diameter	9" SP		10" SP		11" SP		12" SP		14" SP		16" SP		18" SP		20" SP †	
			CFM	bhp	CFM	bhp	CFM	bhp	CFM	bhp	CFM	bhp	CFM	bhp	CFM	bhp	CFM	bhp
PB-10A	11.5" x 2.875"	6"	205	0.69														
	12 x 2.875"	6"	424	1.23	236	0.95												
PB-12A	12 x 2.875"	7"	552	1.35	225	0.81												
	12.25" x 2.875"	7"	633	1.56	456	1.28												
	13" x 3.25" BC	7"	702	1.72	592	1.58	380	1.31										
	13" x 3.25"	7"	811	2.01	714	1.83	587	1.60										
PB-14A	12 x 2.875"	6"	585	1.47	178	0.76												
	12 x 2.875"	7"	571	1.44	266	0.86												
	12 x 2.875"	8"	580	1.77	298	1.27												
	13" x 3.25" BC	6"	612	1.42	429	1.11	161	0.68										
	13" x 3.25" BC	7"	617	1.46	414	1.10												
	13" x 3.25" BC	8"	617	1.43	414	1.12												
	13" x 3.25"	6"	872	2.20	727	1.92	487	1.39										
	13" x 3.25"	8"	897	2.18	717	1.82	488	1.34										
	13" x 3.25" 4	7"	905	2.21	742	1.90	470	1.41										
	14" x 3.25" BC	6"	954	2.57	846	2.34	713	2.05	524	1.62								
	14" x 3.25" BC	7"	983	2.69	877	2.43	753	2.12	580	1.69								
	14" x 3.25" BC	8"	1023	2.76	905	2.52	764	2.21	566	1.76								
	14" x 3.25"	6"	1101	3.31	1011	3.04	911	2.72	790	2.34								
	14" x 3.25"	7"	1186	3.39	1076	3.14	955	2.85	810	2.50								
	14" x 3.25"	8"	1203	3.51	1084	3.20	953	2.87	800	2.48								
	14.75" x 4"	6"	1309	4.40	1228	4.18	1141	3.95	1044	3.68	787	2.94						
	14.75" x 4"	7"	1386	4.60	1297	4.35	1203	4.08	1100	3.80	847	3.08						
	14.75" x 4"	8"	1436	4.59	1340	4.33	1241	4.07	1136	3.80	882	3.14						
PB-15A	14" x 3.25" BC	10"	870	2.20	602	1.88												
	14" x 3.25" BC	6"	843	2.09	678	1.87	483	1.61										
	14" x 3.25" BC	8"	909	2.25	684	1.93	357	1.41										
	14" x 3.25"	6"	1344	3.89	1192	3.55	1010	3.15	765	2.56								
	15.5" x 5" BC	6"	1347	3.97	1242	3.76	1126	3.53	995	3.26	634	2.47						
	14" x 3.25"	8"	1578	4.46	1349	3.89	1090	3.27	782	2.57								
	14" x 3.25"	10"	1635	4.52	1389	3.92	1110	3.35	749	2.79								
	16.5" x 4.375" BC	6"	1554	5.06	1449	4.82	1338	4.55	1219	4.26	927	3.58	375	2.47				
	15.5" x 5" BC	8"	1666	4.80	1520	4.47	1364	4.12	1189	3.73	709	2.58						
	15.5" x 5" BC	10"	1739	4.95	1572	4.53	1392	4.09	1186	3.63	512	2.26						
	15.5" x 5"	6"	1780	6.53	1689	6.24	1590	5.92	1480	5.58	1206	4.71	722	3.17				
	16.5" x 4.375" BC	8"	1946	5.97	1813	5.66	1669	5.34	1514	4.99	1164	4.18	731	3.07				
	16.5" x 4.375" BC	10"	1988	6.01	1838	5.71	1682	5.40	1518	5.07	1156	4.29	647	3.03				
	16.5" x 4.375"	6"	2020	8.22	1935	7.99	1845	7.73	1751	7.44	1542	6.74	1282	5.76	863	4.17		
	15.5" x 5"	8"	2300	8.21	2156	7.69	2007	7.17	1850	6.65	1491	5.55	955	3.96				
	15.5" x 5"	10"	2438	8.66	2271	8.05	2106	7.48	1937	6.91	1568	5.74	926	3.86				
	16.5" x 4.375"	8"	2707	10.50	2554	9.94	2399	9.40	2243	8.88	1919	7.86	1552	6.72	988	4.76		
	16.5" x 4.375"	10"	2949	11.45	2799	10.85	2640	10.23	2474	9.61	2130	8.42	1746	7.19	1146	5.34		
PB-18* use 182T frame min	14" x 3.25" BC	10"	836	2.38	664	2.16	419	1.87										
	14" x 3.25" BC	6"	801	2.32	673	2.09	499	1.75	210	1.20								
	14" x 3.25" BC	8"	858	2.40	710	2.15	511	1.78										
	14" x 3.25"	6"	1166	3.75	1063	3.52	943	3.25	787	2.87								
	14" x 3.25"	10"	1242	3.91	1117	3.64	975	3.33	795	2.95								
	14" x 3.25"	8"	1263	3.93	1135	3.62	987	3.27	799	2.81								
	16.5" x 4.375" BC	6"	1347	4.71	1279	4.55	1206	4.39	1127	4.22	943	3.83	692	3.24				
	16.5" x 4.375" BC	8"	1579	5.47	1491	5.24	1399	5.01	1299	4.77	1069	4.20	759	3.40				
	16.5" x 4.375" BC	10"	1629	5.50	1536	5.28	1437	5.05	1332	4.80	1091	4.22	762	3.42				
	18" x 4.375" BC	6"	1624	6.49	1561	6.33	1496	6.16	1428	5.99	1282	5.62	1118	5.19	918	4.64	588	3.65
	16.5" x 4.375"	6"	1741	7.87	1680	7.63	1616	7.38	1548	7.13	1395	6.56	1206	5.89	920	4.89		
	18" x 4.375" BC	8"	1916	7.72	1846	7.50	1774	7.29	1698	7.06	1536	6.57	1344	5.99	1086	5.20	404	3.19
	18" x 4.375"	6"	1970	9.98	1920	9.77	1868	9.55	1814	9.33	1697	8.85	1565	8.32	1409	7.71	1209	6.93
	18" x 4.375" BC	10"	2027	7.86	1950	7.65	1870	7.44	1787	7.21	1607	6.70	1405	6.11	1168	5.39	870	4.48
	16.5" x 4.375"	8"	2057	8.95	1986	8.72	1911	8.47	1831	8.20	1652	7.59	1432	6.81	1120	5.62		
	16.5" x 4.375"	10"	2105	8.94	2028	8.69	1947	8.43	1862	8.15	1674	7.52	1452	6.76	1158	5.74		
	18" x 4.375"	8"	2314	11.27	2253	11.04	2189	10.80	2124	10.55	1985	10.04	1832	9.47	1656	8.82	1440	7.99
	18" x 4.375"	10"	2422	11.81	2355	11.57	2285	11.32	2212	11.06	2056	10.48	1883	9.81	1689	9.04	1462	8.10
PB-18-WA* use 182T frame min	15.5" x 5" BC	10"	1657	5.33	1475	4.97	1272	4.55	1048	4.10	536	3.23						
	16.5" x 5" BC	8"	1738	6.04	1626	5.79	1507	5.53	1382	5.26	1098	4.67	737	3.97				
	5.5" x 5"	8"	1869	6.90	1744	6.58	1613	6.26	1473	5.91	1143	5.08	617	3.77				
	16.5" x 5" BC	10"	1976	6.63	1832	6.34	1678	6.02	1511	5.67	1115	4.83	548	3.68				
	5.5" x 5"	10"	2352	8.24	2175	7.73	1984	7.24	1780	6.76	1329	5.75	782	4.50				
	16.5" x 5"	8"	2251	8.86	2141	8.57	2027	8.28	1907	7.96	1643	7.25	1327	6.38	881	5.13		
	17" x 6"	8"	2287	9.95	2184	9.66	2080	9.36	1972	9.07	1747	8.45	1494	7.76	1181	6.85	633	5.11
	16.5" x 5"	10"	2761	11.47	2612	10.93	2456	10.40	2293	9.86	1943	8.76	1544	7.59	1037	6.23		
	17" x 6"	10"	2819	12.03	2699	11.62	2573	11.21	2443	10.81	2162	9.99	1842	9.07	1443	7.84		
	18.5" x 6"	10"	3423	17.82	3308	17.21	3194	16.64	3080	16.10	2852	15.09	2618	14.16	2372	13.26	2103	12.33

* Additional ratings available with other inlet and/or wheel sizes. Consult your local Cincinnati Fan sales representative.

† For static pressures above 20" see the HP Series catalogs. For higher CFM values, see the RBE catalog.

PB-8

Outlet Area .087 sq ft

Wheel Size: 8" x 2.75" Inlet: 4"

Volume CFM	0" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		4.5" SP		5" SP	
	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp
50	1235	0.01	1708	0.03	2082	0.05	2400	0.07	2682	0.10	2937	0.13	3172	0.17	3391	0.20	3597	0.24	3792	0.28
100	1445	0.02	1845	0.04	2178	0.06	2470	0.08	2735	0.11	2978	0.14	3204	0.18	3416	0.22	3617	0.25	3807	0.30
150	1750	0.04	2090	0.07	2383	0.09	2645	0.12	2885	0.15	3108	0.18	3318	0.21	3516	0.25	3705	0.29	3886	0.33
200	2106	0.08	2395	0.11	2654	0.14	2889	0.17	3108	0.20	3312	0.23	3505	0.27	3689	0.31	3865	0.35		
250	2494	0.14	2738	0.17	2967	0.21	3179	0.24	3378	0.28	3566	0.32	3745	0.36	3916	0.40				
300	2900	0.22	3109	0.26	3309	0.30	3501	0.34	3682	0.39	3856	0.43								
350	3318	0.33	3498	0.38	3675	0.43	3847	0.48												

PB-9

Outlet Area .087 sq ft

Wheel Size: 9" x 2.875" Inlet: 5"

Volume CFM	1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		4.5" SP		5" SP		6" SP	
	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp
50	1515	0.02																		
100	1566	0.03	1879	0.05	2152	0.07	2399	0.09	2624	0.12	2834	0.15	3030	0.17	3214	0.21	3390	0.24		
150	1708	0.04	1986	0.07	2234	0.09	2460	0.11	2669	0.14	2866	0.17	3052	0.21	3228	0.23	3397	0.27	3714	0.34
200	1898	0.07	2150	0.09	2375	0.12	2582	0.15	2776	0.17	2958	0.21	3132	0.24	3297	0.27	3456	0.31	3757	0.39
250	2119	0.10	2346	0.13	2554	0.16	2746	0.19	2925	0.22	3096	0.25	3258	0.29	3413	0.33	3563	0.37	3846	0.45
300	2364	0.15	2566	0.18	2757	0.21	2935	0.25	3104	0.28	3264	0.32	3416	0.36	3563	0.40	3704	0.44	3972	0.52
350	2628	0.22	2807	0.25	2980	0.28	3145	0.32	3303	0.36	3453	0.40	3598	0.54	3736	0.48	3870	0.53		
400	2907	0.30	3065	0.34	3221	0.37	3373	0.41	3519	0.46	3660	0.50	3797	0.54	3928	0.59				
450	3197	0.41	3336	0.45	3476	0.49	3615	0.53	3750	0.57	3882	0.62								
500	3494	0.54	3618	0.58	3744	0.63	3870	0.67	3995	0.72										
550	3796	0.71	3908	0.75																

PB-10A

Outlet Area .136 sq ft

Wheel Size: 10.625" x 2.625" Inlet: 6"

Volume CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP	
	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp
100	1266	0.04	1773	0.09	2170	0.15	2507	0.23	2804	0.31	3072	0.40	3319	0.50						
200	1421	0.07	1854	0.13	2215	0.20	2532	0.29	2817	0.38	3078	0.48	3320	0.59	3547	0.71	3760	0.83	3963	0.95
300	1679	0.13	2049	0.21	2365	0.30	2648	0.39	2909	0.49	3151	0.60	3378	0.72	3593	0.84	3798	0.97	3993	1.11
400	1981	0.23	2307	0.33	2588	0.44	2842	0.54	3078	0.66	3299	0.78	3508	0.91	3708	1.04	3899	1.18		
500	2306	0.38	2599	0.51	2853	0.63	3085	0.76	3300	0.89	3503	1.03	3696	1.17	3881	1.32				
600	2646	0.60	2911	0.75	3145	0.89	3359	1.04	3558	1.19	3746	1.35	3926	1.51						
700	2997	0.89	3238	1.06	3454	1.23	3653	1.40	3839	1.58										
800	3355	1.27	3576	1.46	3777	1.66	3963	1.85												
900	3718	1.75	3921	1.97																

PB-12A

Outlet Area .196 sq ft

Wheel Size: 12.25" x 2.875" Inlet: 7"

Volume CFM	2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		12" SP	
	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp
100	1518	0.08	1858	0.14	2144	0.21	2395	0.28	2622	0.36	2830	0.45	3023	0.54	3204	0.64	3376	0.74	3694	0.96
200	1541	0.11	1869	0.18	2151	0.26	2402	0.35	2630	0.44	2840	0.54	3036	0.64	3220	0.75	3393	0.86	3716	1.11
300	1628	0.16	1925	0.24	2189	0.33	2428	0.43	2648	0.53	2853	0.64	3045	0.76	3227	0.88	3399	1.01	3721	1.27
400	1763	0.24	2034	0.33	2275	0.43	2497	0.54	2703	0.66	2898	0.78	3081	0.90	3256	1.04	3423	1.17	3737	1.46
500	1923	0.34	2175	0.45	2399	0.57	2605	0.69	2798	0.82	2980	0.95	3153	1.09	3319	1.23	3478	1.38	3779	1.69
600	2095	0.48	2334	0.61	2546	0.74	2740	0.88	2921	1.02	3093	1.16	3256	1.31	3413	1.47	3564	1.63	3851	1.96
700	2276	0.66	2505	0.81	2708	0.96	2892	1.11	3065	1.27	3228	1.42	3383	1.59	3532	1.76	3675	1.93	3949	2.28
800	2463	0.88	2683	1.05	2878	1.22	3056	1.39	3222	1.56	3378	1.74	3526	1.92	3669	2.10	3806	2.29		
900	2656	1.14	2866	1.34	3055	1.53	3228	1.72	3388	1.92	3539	2.11	3682	2.31	3819	2.50	3951	2.71		
1000	2854	1.47	3055	1.69	3237	1.90	3405	2.11	3560	2.33	3707	2.54	3846	2.76	3979	2.97				
1100	3058	1.85	3248	2.09	3424	2.33	3586	2.57	3738	2.80	3881	3.04								
1200	3266	2.30	3446	2.57	3614	2.83	3772	3.09	3919	3.35										
1300	3478	2.83	3648	3.12	3809	3.40	3961	3.68												
1400	3695	3.44	3854	3.75																
1500	3914	4.14																		

PB-14A

Outlet Area .196 sq ft

Wheel Size: 14" x 3.25" Inlet: 7"

Volume CFM	2" SP		4" SP		6" SP		8" SP		10" SP		12" SP		14" SP		16" SP	
	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp
200	1347	0.10														
400	1465	0.22	1949	0.40	2347	0.60	2694	0.81	3003	1.03	3286	1.26				
600	1673	0.40	2103	0.66	2460	0.93	2776	1.22	3065	1.51	3332	1.81	3582	2.11	3817	2.43
800	1919	0.69	2311	1.03	2638	1.37	2929	1.73	3195	2.09	3443	2.46	3677	2.84	3898	3.22
1000	2192	1.12	2547	1.53	2853	1.95	3125	2.38	3374	2.82	3606	3.26	3824	3.71		
1200	2490	1.75	2804	2.21	3089	2.70	3346	3.20	3582	3.72	3801	4.24				
1400	2807	2.60	3080	3.10	3342	3.66	3584	4.24	3809	4.82						
1600	3137	3.72	3374	4.27	3611	4.87	3837	5.51								
1800	3475	5.15	3683	5.74	3895	6.39										

Note—Drive losses are not included in bhp.RPM and bhp in **bold italic**, direct drive *blowers should be considered

Consult Cincinnati Fan for speeds higher than shown in tables.

PB-15A

Outlet Area .349 sq ft

Wheel Size: 15.5" x 5" Inlet: 8"

Volume CFM	2" SP		4" SP		6" SP		8" SP		10" SP		12" SP		14" SP		16" SP		18" SP		20" SP	
	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp
200	1197	0.12	1688	0.28	2067	0.47														
400	1238	0.21	1708	0.43	2079	0.68	2394	0.95	2674	1.24	2927	1.56	3160	1.89	3377	2.24	3581	2.60	3774	2.98
600	1322	0.33	1762	0.61	2117	0.93	2423	1.27	2696	1.62	2945	2.00	3175	2.38	3389	2.79	3592	3.21	3783	3.64
800	1436	0.50	1846	0.85	2182	1.23	2475	1.64	2739	2.06	2981	2.50	3206	2.95	3417	3.42	3616	3.90	3805	4.39
1000	1567	0.74	1952	1.16	2270	1.61	2550	2.08	2804	2.56	3038	3.07	3256	3.59	3462	4.12	3656	4.67		
1200	1711	1.06	2074	1.55	2376	2.06	2644	2.60	2888	3.15	3113	3.73	3324	4.31	3523	4.91	3713	5.53		
1400	1864	1.47	2207	2.04	2496	2.62	2752	3.23	2986	3.85	3204	4.48	3408	5.14	3601	5.80	3784	6.48		
1600	2024	2.00	2348	2.65	2625	3.30	2872	3.97	3097	4.66	3307	5.36	3504	6.08	3691	6.81				
1800	2192	2.65	2497	3.39	2762	4.12	3000	4.85	3217	5.61	3420	6.38	3611	7.16	3793	7.96				
2000	2365	3.44	2652	4.27	2905	5.08	3135	5.89	3345	6.71	3542	7.55	3728	8.40						
2200	2543	4.38	2812	5.30	3055	6.19	3276	7.08	3480	7.98	3671	8.89								
2400	2724	5.49	2977	6.50	3209	7.49	3422	8.46	3620	9.43	3805	10.41								
2600	2909	6.78	3146	7.89	3367	8.97	3573	10.02	3764	11.08										
2800	3097	8.27	3320	9.48	3530	10.65	3728	11.79												

Minimum motor frame size is 182T even though the bhp might be available in a smaller frame size

PB-18

Outlet Area .196 sq ft

Wheel Size: 18" x 4.375" Inlet: 8"

Volume CFM	4" SP		6" SP		8" SP		10" SP		12" SP		14" SP		16" SP		18" SP		20" SP		22" SP	
	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp
200	1428	0.26																		
400	1448	0.43	1757	0.67	2023	0.93	2259	1.20	2473	1.48	2671	1.78	2856	2.09	3029	2.42				
600	1520	0.66	1805	0.97	2056	1.30	2282	1.64	2490	1.99	2682	2.36	2863	2.74	3034	3.13	3196	3.52	3350	3.93
800	1640	0.96	1896	1.34	2127	1.74	2339	2.15	2536	2.58	2721	3.02	2895	3.48	3061	3.94	3218	4.41	3369	4.89
1000	1793	1.38	2022	1.81	2233	2.28	2430	2.76	2614	3.26	2789	3.78	2955	4.30	3113	4.84	3265	5.39	3410	5.94
1200	1968	1.94	2175	2.44	2368	2.96	2549	3.51	2720	4.07	2884	4.65	3040	5.25	3190	5.86	3335	6.48	3475	7.10
1400	2158	2.69	2347	3.24	2523	3.83	2690	4.43	2850	5.05	3003	5.70	3150	6.36	3291	7.03	3429	7.72	3561	8.41
1600	2358	3.63	2532	4.25	2695	4.90	2850	5.56	2998	6.24	3141	6.94	3279	7.66	3413	8.40	3542	9.15		
1800	2566	4.80	2727	5.50	2879	6.20	3023	6.93	3162	7.67	3296	8.43	3425	9.20	3551	10.00				
2000	2779	6.23	2929	7.00	3071	7.77	3207	8.56	3337	9.36	3463	10.18	3585	11.01						
2200	2997	7.93	3138	8.78	3271	9.63	3398	10.48	3521	11.35										
2400	3218	9.94	3350	10.87	3476	11.79	3597	12.72												

Minimum motor frame size is 182T even though the bhp might be available in a smaller frame size

PB-18WA

Outlet Area .349 sq ft

Wheel Size: 18.5" x 6" Inlet: 10"

Volume CFM	4" SP		6" SP		8" SP		10" SP		12" SP		14" SP		16" SP		18" SP		20" SP		22" SP	
	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp
400	1382	0.54	1686	0.89	1944	1.28	2173	1.72	2380	2.19										
600	1420	0.70	1709	1.11	1959	1.57	2182	2.05	2386	2.58	2574	3.13	2750	3.71	2916	4.32	3073	4.96	3223	5.62
800	1485	0.92	1758	1.39	1996	1.90	2212	2.45	2409	3.03	2593	3.64	2765	4.28	2927	4.95	3082	5.64	3230	6.35
1000	1570	1.19	1827	1.72	2054	2.30	2260	2.91	2450	3.55	2628	4.22	2795	4.92	2954	5.64	3105	6.39	3250	7.16
1200	1668	1.54	1911	2.13	2127	2.77	2324	3.44	2507	4.14	2679	4.87	2841	5.63	2995	6.41	3142	7.22	3283	8.05
1400	1774	1.98	2007	2.64	2213	3.33	2402	4.06	2578	4.82	2743	5.61	2900	6.43	3049	7.28	3192	8.15	3329	9.04
1600	1887	2.52	2111	3.24	2309	4.00	2491	4.79	2660	5.61	2819	6.46	2970	7.34	3115	8.25	3253	9.18	3387	10.13
1800	2005	3.17	2221	3.96	2412	4.78	2587	5.64	2751	6.52	2905	7.43	3051	8.37	3191	9.34	3325	10.33	3455	11.34
2000	2126	3.95	2335	4.82	2521	5.70	2690	6.62	2848	7.57	2998	8.54	3140	9.54	3275	10.57	3406	11.62	3532	12.69
2200	2249	4.87	2453	5.81	2633	6.77	2798	7.75	2952	8.76	3097	9.80	3235	10.86	3367	11.95	3494	13.06		
2400	2374	5.92	2573	6.95	2749	7.99	2910	9.04	3060	10.12	3201	11.22	3335	12.34	3464	13.49	3587	14.66		
2600	2501	7.14	2696	8.26	2868	9.37	3025	10.50	3171	11.65	3309	12.81	3440	14.00	3566	15.21				
2800	2630	8.53	2820	9.74	2989	10.94	3143	12.14	3286	13.36	3421	14.60	3549	15.85						
3000	2760	10.09	2946	11.41	3111	12.70	3262	13.98	3403	15.27	3535	16.58								
3200	2891	11.85	3073	13.27	3236	14.65	3384	16.02	3522	17.40										
3400	3023	13.80	3202	15.34	3361	16.82	3507	18.28												
3600	3156	15.97	3331	17.63	3488	19.22														
3800	3290	18.37	3462	20.15																
4000	3424	21.00	3593	22.91																

Minimum motor frame size is 182T even though the bhp might be available in a smaller frame size

Note—Drive losses are not included in bhp.

RPM and bhp in **bold italic**, direct drive "blowers should be considered

Consult Cincinnati Fan for speeds higher than shown in tables.

DIRECT DRIVE RATINGS TABLES at 2850 RPM — 50 cycle motors only

CFM and bhp at Static Pressure Shown – Ratings at 70°F – .075" Density – Sea Level

Model	Nominal Wheel Diameter and Width	Nominal Inlet Diameter	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP	
			CFM	bhp	CFM	bhp	CFM	bhp	CFM	bhp	CFM	bhp	CFM	bhp	CFM	bhp	CFM	bhp
PB-8	7" x 2.4375"	4"	213	0.16	123	0.15												
	8" x 2.75"	4"	265	0.20	193	0.16												
PB-9	8" x 2.75"	5"	303	0.21	239	0.18												
	8.5" x 2.75"	5"	341	0.25	271	0.21	164	0.18										
	9" x 2.875"	5"	390	0.28	321	0.24	226	0.20										
	10.25" x 3" BC	5"	405	0.30	338	0.26	265	0.23	184	0.19								
	9.75" x 2.875"	5"	435	0.44	374	0.40	307	0.36	224	0.30								
	10.625" x 2.625"	5"	474	0.46	423	0.41	367	0.36	304	0.30	215	0.23						
PB-10A	9" x 2.875"	6"	453	0.38	357	0.33	229	0.26										
	10.25" x 3" BC	6"	478	0.43	400	0.37	300	0.32	146	0.25								
	9.75" x 2.875"	6"	568	0.56	495	0.51	400	0.44	275	0.35								
	11" x 3" BC	6"	587	0.58	530	0.54	458	0.48	362	0.41	208	0.31						
	10.625" x 2.625"	6"	658	0.76	581	0.69	499	0.63	404	0.55	248	0.43						
	11" x 2.75"	6"	667	0.78	604	0.70	533	0.63	452	0.56	343	0.47						
	11.5" x 2.875"	6"	713	0.84	648	0.78	572	0.72	489	0.65	395	0.57						
	12" x 2.875"	6"	748	1.08	702	1.04	646	0.99	578	0.92	494	0.83	375	0.72				
12.25" x 2.875"	6"	788	1.20	749	1.13	701	1.06	642	1.00	567	0.92	466	0.82	305	0.61			
PB-12A	11" x 3" BC	7"	699	0.60	607	0.55	499	0.48	362	0.40								
	10.625" x 2.625"	7"	851	0.89	748	0.80	620	0.70	473	0.57								
	11" x 2.75"	7"	921	1.09	810	0.97	686	0.85	540	0.71	355	0.54						
	11.5" x 2.875"	7"	1015	1.32	907	1.21	792	1.09	671	0.97	533	0.82	285	0.58				
	12" x 2.875"	7"	1049	1.44	946	1.31	840	1.18	734	1.06	621	0.94	482	0.79				
PB-14A	13" x 3.25" BC	7"	1047	1.44	966	1.36	879	1.26	791	1.17	698	1.08	596	0.99	459	0.87		
	12.25" x 2.875"	7"	1098	1.61	998	1.46	891	1.31	784	1.17	673	1.04	545	0.90	288	0.63		
	14" x 3.25" BC	7"	1091	1.70	1003	1.59	907	1.48	814	1.37	723	1.27	631	1.16	530	1.03	394	0.89
	13" x 3.25"	7"	1181	1.79	1084	1.65	982	1.53	883	1.40	787	1.28	686	1.15	567	1.00		
	14" x 3.25"	7"	1310	2.63	1219	2.45	1123	2.25	1026	2.07	930	1.91	834	1.75	733	1.60	616	1.42
	13" x 3.25" BC	6"	1064	1.38	983	1.31	895	1.22	797	1.12	680	1.00	531	0.83	305	0.57		
	13" x 3.25" BC	7"	1094	1.38	1004	1.29	911	1.20	810	1.11	691	1.01	537	0.86	282	0.54		
	13" x 3.25" BC	8"	1134	1.39	1031	1.31	927	1.22	816	1.13	691	1.00	536	0.83	273	0.57		
	12.25" x 2.875"	6"	1202	1.64	1088	1.51	966	1.37	839	1.23	699	1.07	518	0.87				
	12.25" x 2.875"	7"	1262	1.84	1147	1.72	1026	1.58	892	1.41	730	1.18	511	0.87				
	12.25" x 2.875"	8"	1305	1.93	1190	1.79	1065	1.62	922	1.44	745	1.26	517	1.04				
	13" x 3.25"	6"	1222	2.00	1144	1.88	1061	1.74	970	1.59	866	1.44	741	1.27	562	1.03		
	14" x 3.25" BC	6"	1289	2.15	1200	2.03	1109	1.91	1015	1.77	916	1.63	805	1.48	673	1.28	484	0.99
	13" x 3.25"	7"	1278	2.03	1199	1.90	1114	1.77	1019	1.63	909	1.47	771	1.28	568	1.02		
	13" x 3.25"	8"	1328	2.08	1247	1.94	1157	1.79	1054	1.64	929	1.48	768	1.27	549	0.97		
	14" x 3.25" BC	7"	1352	2.24	1250	2.10	1148	1.98	1045	1.85	940	1.71	829	1.54	700	1.33	526	1.03
14" x 3.25" BC	8"	1407	2.27	1307	2.14	1204	2.01	1098	1.88	986	1.74	864	1.58	720	1.38	522	1.08	
PB-15-A*	14" x 3.25"	6"	1350	2.55	1284	2.42	1207	2.31	1119	2.20	1025	2.07	924	1.90	814	1.67	683	1.38
	14" x 3.25"	7"	1500	2.90	1426	2.73	1338	2.54	1235	2.34	1120	2.14	998	1.94	864	1.73	705	1.47
	14.75" x 4"	6"	1513	3.24	1433	3.10	1353	2.96	1271	2.82	1185	2.66	1095	2.50	997	2.33	885	2.12
	14" x 3.25"	8"	1640	3.07	1536	2.90	1415	2.70	1285	2.48	1150	2.25	1014	2.01	868	1.76	699	1.46
	14.75" x 4"	7"	1616	3.53	1534	3.37	1447	3.20	1356	3.01	1260	2.82	1160	2.62	1052	2.41	933	2.19
	14.75" x 4"	8"	1714	3.78	1627	3.57	1530	3.33	1425	3.09	1315	2.85	1202	2.62	1086	2.40	963	2.18
	14" x 3.25" BC	6"	1432	1.93	1328	1.83	1204	1.70	1059	1.54	898	1.37	722	1.20	522	1.02	247	0.75
	14" x 3.25" BC	8"	1707	2.41	1571	2.22	1402	1.97	1211	1.72	1007	1.51	785	1.30	508	1.03		
	14" x 3.25" BC	10"	1753	2.45	1601	2.27	1427	2.03	1231	1.77	1011	1.52	758	1.28	427	1.00		
	15.5" x 5" BC	6"	1666	2.98	1563	2.83	1460	2.69	1355	2.55	1246	2.41	1130	2.26	1002	2.09	854	1.88
	14" x 3.25"	6"	1790	3.22	1683	3.10	1565	2.92	1435	2.71	1293	2.48	1135	2.23	949	1.95	697	1.56
	16.5" x 4.375" BC	6"	1832	3.62	1746	3.51	1648	3.38	1539	3.23	1423	3.07	1301	2.88	1174	2.68	1035	2.45
use 182T frame min	15.5" x 5"	6"	1939	4.58	1856	4.45	1770	4.30	1681	4.12	1587	3.93	1486	3.71	1375	3.47	1249	3.20
	15.5" x 5" BC	8"	2176	4.13	2029	3.89	1878	3.61	1724	3.31	1565	3.02	1400	2.75	1224	2.47	1024	2.16
	16.5" x 4.375"	6"	2136	5.47	2052	5.29	1965	5.14	1875	4.98	1781	4.83	1683	4.66	1580	4.47	1469	4.24
	14" x 3.25"	8"	2357	4.42	2176	4.10	1991	3.76	1796	3.39	1582	3.00	1341	2.58	1062	2.11	723	1.57
	16.5" x 4.375" BC	8"	2212	4.35	2119	4.21	2016	4.04	1901	3.85	1773	3.63	1629	3.40	1468	3.15	1287	2.87
	15.5" x 5" BC	10"	2291	4.38	2154	4.14	2000	3.84	1831	3.52	1653	3.18	1465	2.84	1262	2.49	1030	2.12
	14" x 3.25"	10"	2431	4.64	2280	4.34	2103	4.00	1895	3.59	1657	3.12	1391	2.62	1091	2.12	714	1.67
	16.5" x 4.375" BC	10"	2302	4.39	2211	4.25	2104	4.08	1978	3.88	1832	3.66	1667	3.42	1486	3.18	1292	2.91
	15.5" x 5"	8"	2665	6.64	2536	6.34	2396	5.98	2247	5.57	2089	5.13	1924	4.69	1750	4.26	1565	3.83
	15.5" x 5"	10"	2841	7.18	2732	6.87	2598	6.47	2434	6.00	2244	5.48	2042	4.95	1841	4.46	1639	3.98
PB-18*	16.5" x 4.375"	8"	2964	7.74	2861	7.54	2741	7.27	2600	6.90	2439	6.46	2262	5.99	2077	5.52	1888	5.08
	16.5" x 4.375"	10"	3037	8.00	2957	7.83	2864	7.61	2753	7.33	2619	6.96	2460	6.52	2279	6.03	2082	5.52
	14" x 3.25" BC	6"	1224	1.86	1124	1.76	1022	1.67	917	1.57	806	1.46	681	1.33	524	1.14	247	0.77
	14" x 3.25" BC	10"	1275	1.87	1191	1.80	1099	1.72	993	1.62	869	1.51	716	1.36	505	1.18		
	14" x 3.25" BC	8"	1285	1.90	1195	1.82	1097	1.73	991	1.63	871	1.52	731	1.38	550	1.17	231	0.75
	14" x 3.25"	6"	1458	2.95	1375	2.82	1286	2.66	1191	2.49	1090	2.32	980	2.14	854	1.95	691	1.69
	16.5" x 4.375" BC	6"	1462	3.26	1401	3.16	1338	3.05	1271	2.93	1200	2.80	1124	2.68	1041	2.54	950	2.41
	14" x 3.25"	8"	1650	3.22	1546	3.05	1436	2.87	1321	2.67	1198	2.47	1064	2.25	908	1.99	709	1.66

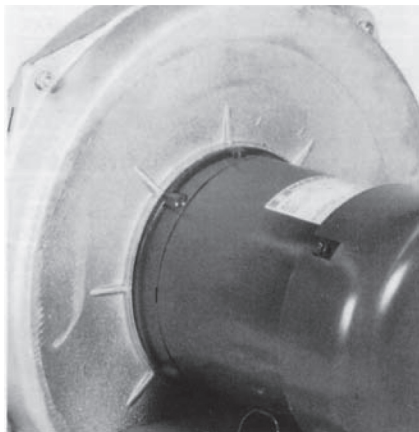
DIRECT DRIVE RATINGS TABLES at 2850 RPM — 50 cycle motors only

CFM and bhp at Static Pressure Shown – Ratings at 70°F – .075" Density – Sea Level

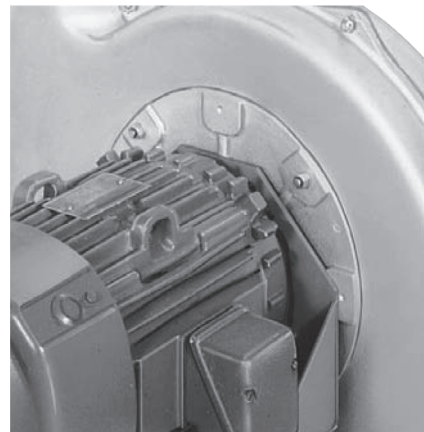
Model	Nominal Wheel Diameter and Width	Nominal Inlet Diameter	9" SP		10" SP		11" SP		12" SP		13" SP		14" SP		15" SP		16" SP †	
			CFM	bhp	CFM	bhp	CFM	bhp	CFM	bhp	CFM	bhp	CFM	bhp	CFM	bhp	CFM	bhp
PB-12A	14" x 3.25"	7"	440	1.15														
PB-14A	14" x 3.25"	7"	385	0.89														
	14" x 3.25"	8"	414	0.97														
	14.75" x 4"	6"	749	1.85	541	1.43												
	14.75" x 4"	7"	794	1.92	606	1.54												
PB-15A* use 182T frame min	14.75" x 4"	8"	823	1.94	632	1.59												
	14" x 3.25"	6"	111	0.61														
	15.5" x 5" BC	6"	664	1.60	381	1.18												
	15.5" x 5" BC	10"	720	1.67														
	15.5" x 5" BC	8"	775	1.77	356	1.08												
	16.5" x 4.375" BC	6"	874	2.19	656	1.86	280	1.35										
	16.5" x 4.375" BC	10"	1083	2.61	841	2.23	498	1.64										
	16.5" x 4.375" BC	8"	1085	2.56	855	2.18	579	1.68										
	15.5" x 5"	6"	1098	2.88	898	2.45	558	1.70										
	15.5" x 5"	8"	1360	3.39	1115	2.89	747	2.15										
	15.5" x 5"	6"	1347	3.97	1210	3.64	1044	3.21	810	2.59								
	15.5" x 5"	10"	1427	3.51	1176	2.98												
	16.5" x 4.375"	8"	1696	4.66	1492	4.24	1261	3.74	951	3.02								
	16.5" x 4.375"	10"	1877	5.02	1661	4.53	1421	4.01	1097	3.33								
PB-18* use 182T frame min	14" x 3.25"	6"	159	0.68														
	14" x 3.25"	8"	262	0.93														
	16.5" x 4.375" BC	6"	845	2.25	720	2.07	556	1.80	256	1.22								
	16.5" x 4.375" BC	8"	965	2.51	810	2.24	608	1.88										
	16.5" x 4.375" BC	10"	987	2.52	825	2.25	607	1.89										
	18" x 4.375" BC	6"	1110	3.25	1017	3.09	915	2.91	797	2.69	643	2.39	327	1.72				
	16.5" x 4.375"	6"	1206	3.83	1106	3.59	985	3.30	822	2.91	465	2.01						
	18" x 4.375" BC	8"	1325	3.82	1220	3.60	1100	3.35	950	3.04	721	2.56	122	1.46				
	18" x 4.375" BC	10"	1390	3.90	1275	3.68	1150	3.42	1008	3.13	845	2.79	639	2.36				
	16.5" x 4.375"	8"	1428	4.43	1310	4.15	1170	3.81	990	3.34	672	2.49						
	16.5" x 4.375"	10"	1448	4.39	1327	4.11	1188	3.78	1016	3.38	755	2.77						
	18" x 4.375"	6"	1443	5.10	1368	4.90	1286	4.67	1193	4.42	1083	4.13	946	3.76	742	3.19		
	18" x 4.375"	8"	1688	5.78	1600	5.56	1505	5.32	1400	5.05	1280	4.74	1135	4.35	938	3.78	432	2.18
	18" x 4.375"	10"	1752	6.04	1653	5.79	1546	5.51	1430	5.19	1301	4.83	1152	4.41	965	3.87	631	2.96
PB-18WA* use 182T frame min	15.5" x 5" BC	10"	624	2.01	276	1.69												
	16.5" x 5" BC	8"	1008	2.77	819	2.51	587	2.21	259	1.86								
	16.5" x 5" BC	10"	1064	2.93	791	2.53	416	2.03										
	15.5" x 5"	8"	1064	3.07	833	2.67	468	2.06										
	15.5" x 5"	10"	1255	3.48	963	3.04	612	2.48										
	16.5" x 5"	8"	1449	4.26	1278	3.94	1078	3.56	821	3.07	385	2.29						
	17" x 6"	8"	1521	4.91	1378	4.65	1220	4.35	1036	3.99	791	3.47						
	16.5" x 5"	10"	1726	5.19	1503	4.73	1254	4.24	958	3.69	489	2.95						
	17" x 6"	10"	1883	5.82	1704	5.47	1504	5.08	1269	4.59	956	3.88						
	18.5" x 6"	10"	2433	8.73	2294	8.33	2151	7.95	2003	7.58	1846	7.21	1674	6.81	1479	6.35	1235	5.76

* Additional ratings available with other inlet and/or wheel sizes. Consult your local Cincinnati Fan sales representative.

† For static pressures above 20" see the HP Series catalog. For higher CFM values, see the RBE catalog.

HOUSING SIDE PLATES

On models PB-8 through PB-12A, the inlet collar and motor mounting pad are an integral part of the housing halves. Housings are rotatable but not reversible.



On models PB-14A through PB-18WA, the inlet collars and motor side plates are separate castings which are bolted to the housing halves. These housings are rotatable and reversible. BC type wheels are not reversible.

MATERIAL CONVEYING

Bulky materials such as those shown in **Table 1**, can be conveyed pneumatically using a Cincinnati Fan PB series cast aluminum pressure blower. Follow the steps below to determine the PB blower best suited for your application.

Example: Assume a requirement to move 900 pounds per hour of barley through 75 feet of straight, horizontal, round duct. See notes 1 and 2.

- I Convert pounds per hour to pounds per minute: $900 \text{ lb/hr} \div 60 = 15 \text{ lb/min}$
- II Refer to **Table 1**. Find barley under material (column A) and read horizontally. Barley weighs 38 pounds per cubic foot (column B), requires 38 CFM of air per pound of material (column C) and a minimum of 5000 feet per minute conveying velocity (column D).
- III Determine the minimum cubic feet per minute (CFM) requirements:

CFM/lb of material	38 (from column C)	
x	lb/min	= 15 (from step I)
		570 Total minimum CFM required @ 5000 ft/min conveying velocity (column D)
- IV Determine the system static pressure requirements from **Table 2**. Read across the 5000 ft/min velocity line to the 6" duct size column.
We have selected 6" duct size with 980 CFM (actual) to maintain a velocity of 5000 ft/min.
The friction loss is 8.02" SP per 100' x .75 = 6.01" plus 3.5" SP suction pickup (column E, **Table 1**) = 9.51" total system static pressure for 75 feet of straight 6" duct.
- V Check direct drive rating tables for 980 CFM at 9.51" SP at the lowest horsepower. We suggest a Model PB-14A, 14" x 3.25" wheel, 6" inlet. Interpolate 2.94 bhp. **Do not use BC type wheels for material conveying.**
- VI If material being conveyed will be going through the fan, the fan bhp can be significantly increased. The approximate increase is calculated as:

$$\text{Actual bhp} = \frac{\text{lb/minute of air} + \text{lb/minute of material}}{\text{lb/minute of air}} \times \text{fan bhp (2.94, step V)}$$

In this example : lb/minute of air = 980 (actual CFM, step IV) x .075 lb/ft³ $\left(\frac{\text{Standard}}{\text{Density}} \right) = 73.8$

Therefore: $\frac{73.5 + 15}{73.5} = \frac{73.5 + 15}{73.5} = 1.20 \times 2.94 + 3.53 \text{ actual bhp}$ note 3

Note

- 1 For each 10 feet of vertical duct, add 10 feet to your total straight duct length.
- 2 For equivalent losses through elbows, see chart on page 9 of our Engineering Data catalog.
3. Make sure you use correct density for location of fan.

MATERIAL CONVEYING CALCULATION

(1) Material Being Conveyed	(2) -----	(1) -----	
(2) Pounds Conveyed/Hour	(2) -----		
	+ 60		
(3) Pounds/Minute	(3) -----	(3) -----	
(4) Feet of Straight Horizontal Duct	(4) -----	see note 1	
(5) Number of 90° Elbows	(5) + -----	see note 2	
(6) Total Equivalent Feet of Duct	(6) -----	(6) -----	
(7) Material Weight, lb/ft ³ (col. B)	(7) -----	(7) -----	
(8) CFM/Pound of Material (col. C)	(8) -----		
(9) Pounds/Minute (step 3)	(9) x -----		
(10) Total Min. CFM Required	(10) -----	(10) -----	
(11) Min. Conveying Velocity in FPM (col. D)	(11) -----	(11) -----	
(12) Duct Size to Get Total CFM (step 10) @ Minimum Velocity (step 11) per table 2		(12) ----- Duct Size	
(13) Actual CFM for Duct (step 12)		(13)* ----- Actual CFM*	
(14) Friction Loss/100 ft	(14) -----		
(15) Total Equivalent Feet of Duct (step 6) (in 100s of feet)	(15) x ----- (in 100s of feet)		
(16) Suction Pickup in inches of WC (col. E)	(16) + -----		
(17) Total System SP		(17) ----- Total System SP	
Fan Model to get #13 (actual CFM) and #17 (total SP) above -----			
Fan RPM -----			
Actual Fan bhp ----- Step VI			

*Must be equal or greater than step 10

Table 1

A	B	C	D	E
Material	Approximate Weight lb/ft ³	Cubic ft of Air per lb of Material	Min Conveying Velocity fpm	Suction Pickup inches of W.C.
Ashes, Coal Barley	30	42	4500	3.0
Beans, Soy	38	38	5000	3.5
	47	36	5200	4.0
Bran	16	56	3500	2.0
Cement, Portland	100	35	7000	5.0
Cinders, Coal	45	36	6000	4.0
Coal, Powdered	30	42	4000	3.0
Coffee, Beans	42	36	3500	3.0
Cork, Ground	14	59	3500	1.5
Corn, Cobs	25	44	5000	2.5
Corn, Meal	40	38	5500	3.5
Corn, Shelled	45	36	5500	3.5
Cotton, Dry	5	94	4000	2.0
Dust, Grinding	30	42	5000	3.0
Fruit, Dried	30	42	4000	3.0
Hair or Feathers, Dry	5	94	3000	1.5
Lime, Hydrated	30	42	5000	3.0
Malt, Dry	35	39	4800	3.0
Oats	26	44	4500	3.0
Paper, Shredded	20	49	5000	3.0
Plastic, Granulated	35	42	5400	3.0
Rags, Dry	30	42	4500	2.5
Salt, Coarse	45	36	5500	4.0
Sand, Dry	105	35	7000	5.0
Sawdust, Dry	13	63	3700	2.5
Wheat, Dry	46	37	5800	4.0
Wood Chips, Heavy	24	45	4500	3.0
Wood Shavings, Light	9	73	3400	2.0
Wool, Dry	5	94	5000	2.0

⚠ WARNING

When fans are used in material conveying applications, care must be used in their selection and location within each material conveying system. The material should be crushed, shredded or pulverized **Before** it passes through the fan to eliminate premature fan housing, wheel and/or bearing failure which could cause severe, personal injury and/or complete system failure. Please contact a Cincinnati Fan sales representative in your area for selection assistance.

Table 2 — Friction Loss (FL) in inches of water per 100 feet of straight, horizontal round duct

Velocity fpm	Pipe Diameter and Area sq ft																					
	4" .087		5" .136		6" .196		7" .267		8" .349		10" .545		12" .785		14" 1.069		16" 1.396		18" 1.797		20" 2.182	
	CFM	FL	CFM	FL	CFM	FL	CFM	FL	CFM	FL	CFM	FL	CFM	FL	CFM	FL	CFM	FL	CFM	FL	CFM	FL
2600	227	3.26	355	2.60	511	2.17	695	1.86	909	1.63	1420	1.30										
2800	245	3.76	382	3.01	550	2.52	748	2.15	977	1.89	1530	1.61										
3000	262	4.33	409	3.46	588	2.88	802	2.47	1048	2.08	1638	1.73										
3200	279	4.93	437	3.94	628	3.28	855	2.82	1118	2.47	1748	1.97										
3400	297	5.56	464	4.45	668	3.71	910	3.18	1188	2.78	1855	2.22										
3500	304	5.89	476	4.71	686	3.93	935	3.37	1222	2.95	1908	2.35										
3600	314	6.23	492	4.98	707	4.15	962	3.56	1258	3.12	1965	2.49										
3700	322	6.59	503	5.26	725	4.38	988	3.76	1291	3.30	2017	2.63										
3800	332	6.95	518	5.55	746	4.62	1018	3.97	1327	3.48	2070	2.78	See RIBE engineering data catalog									
4000	350	7.69	546	6.15	796	5.13	1070	4.40	1396	3.85	2184	3.08										
4200	367	8.48	573	6.78	825	5.65	1125	4.85	1467	4.25	2290	3.49										
4400	384	9.26	600	7.41	864	6.18	1176	5.30	1536	4.63	2400	3.71										
4500	392	9.70	612	7.77	882	6.48	1202	5.55	1571	4.86	2453	3.89										
4800	418	11.05	654	8.85	944	7.38	1284	6.32	1676	5.55	2620	4.43										
5000	435	12.02	680	9.67	980	8.02	1335	6.88	1745	6.02	2725	4.82										
5200	454	13.00	710	10.50	1022	8.66	1390	7.44	1818	6.50	2840	5.21										
5500	479	14.68	748	11.64	1078	9.68	1469	8.31	1920	7.28	2997	5.81										
5600	490	15.25	764	12.05	1100	10.05	1496	8.61	1954	7.55	3060	6.03										
5800	505	16.27	789	12.95	1137	10.78	1549	9.25	2024	8.10	3161	6.47										
6000	524	17.30	818	13.85	1176	11.52	1604	9.89	2096	8.66	3276	6.92										
7000	611	23.60	955	18.90	1375	15.65	1873	13.50	2445	11.80	3820	9.41										

See RIBE engineering data catalog

Note — Blower housing dimensions common to all Blower Arrangements

Model	C	D	J	M	N	O	P	R	S	T	DD notes 1-2-3	DD note 4
PB-8	1"	3 3/4"	2 7/8"	4 1/8"	1 1/8"	4 5/8"	5 5/8"	7 3/8"	4 7/8"	1 1/8"	4"	4"
PB-9	1 1/16"	4 1/8"	3 1/8"	5 5/8"	1 3/16"	6 1/8"	7 3/8"	8 1/2"	6 5/8"	1"	5"	4"
PB-10A	1 1/4"	4 1/4"	3 3/8"	6 9/16"	1"	6 7/8"	9 7/16"	10 3/16"	7 3/16"	1"	6"	5"
PB-12A	1 1/4"	5"	3 3/4"	7 9/16"	7/8"	8"	9 5/8"	11 11/16"	9 7/16"	1"	7"	6"
PB-14A	1 1/4"	6"	4 1/4"	8 1/16"	1"	8 13/16"	10 3/8"	12 3/16"	10 1/4"	1"	7"	6"
PB-15A	1 1/4"	7 1/4"	4 7/8"	7 7/8"	1"	9 13/16"	11 3/8"	13"	10 3/16"	1"	8"	8"
PB-18	1 1/4"	6 1/4"	4 3/8"	10 1/2"	15/16"	10 1/2"	12 11/16"	14 1/2"	12 7/16"	1"	8"	8"
PB-18WA	1 1/4"	8 1/16"	5 5/16"	9 7/8"	7/8"	11"	13 3/16"	15 1/8"	11 13/16"	1"	10"	8"

1 PB-14A also available with 6" and 8" inlets.

2 PB-15A and PB-18 also available with 6" and 10" inlets.

3 PB-18WA also available with 8" inlet.

4 All models discharge flange not available for down blast or bottom angular down discharge positions

Approximate Shipping Weight* lb

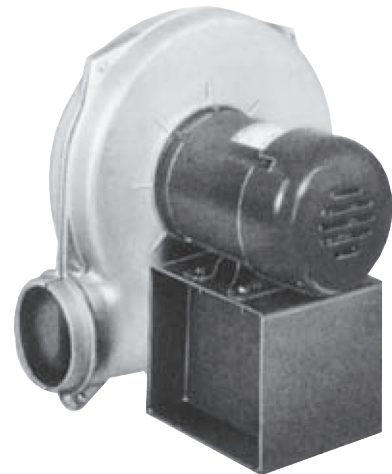
Model	Arrangement 1 no motor	Arrangement 2 no motor	Arrangement 4	Arrangement 4HM	Arrangement 8	Arrangement 9	Nominal Motor hp - weight
PB-8	60	30	50	42	130	104	1/2 - 21
PB-9	66	37	57	48	138	111	1/2 - 22
PB-10A	78	43	63	54	150	126	1 - 22
PB-12A	85	61	91	75	187	157	2 - 41
PB-14A	140	84	139	118	259	226	3 - 54
PB-15A	155	99	176	155	296	273	5 - 76
PB-18	163	105	190	181	320	299	7 1/2 - 87
PB-18WA	197		262	197 [†]	399	389	10 - 122

* Arrangement 4, 4HM, 8 and 9 weights include nominal hp and corresponding motor weight indicated in column eight, make corrections as necessary by deducting nominal weight and adding weight of actual motor to be used.

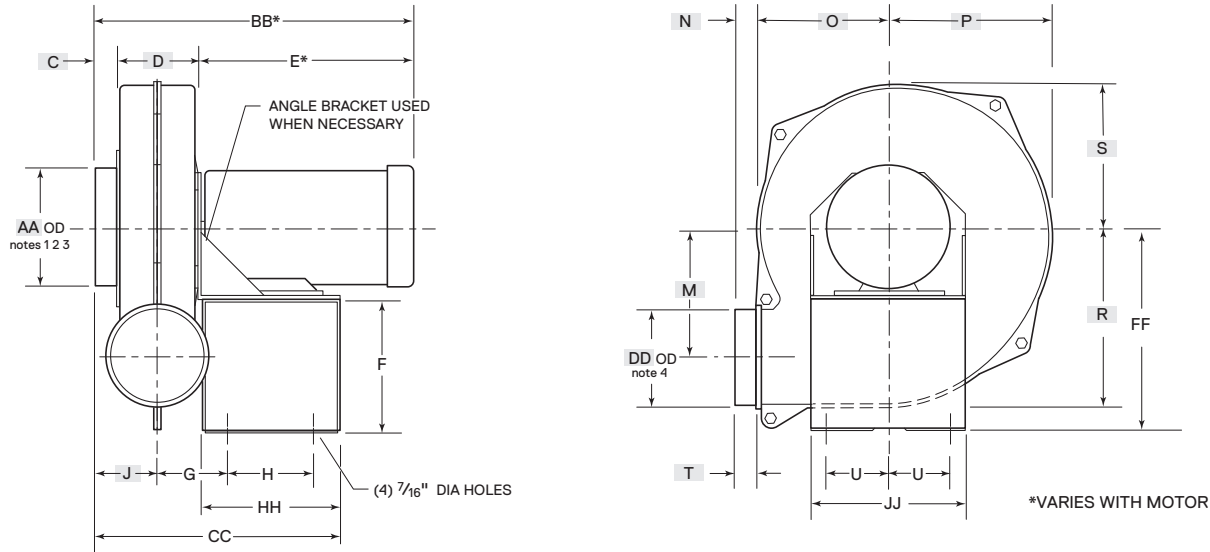
† With 7 1/2 hp motor max. Consult factory for larger sizes.

Metric Conversion Factors

Power	1 hp = .7457 kW	hp = horsepower
	1 kW = 1.34 hp	kW = kilowatts
Volume Flow	1 cfm = .00047 m ³ /s	cfm = cubic feet per minute
	1 m ³ /s = .211888 cfm	m ³ /s = cubic meters per second
Pressure	1 in wg = 248.36 Pa	in wg = inches water gauge
	1 Pa = .004 in wg	Pa = pascals
Density	1 lb/ft ³ = 16.02 kg/m ³	lb/ft ³ = pound per cubic foot
	1 kg/m ³ = .0625 lb/ft ³	kg/m ³ = kilograms per cubic meter
Temperature	°C = (°F-32) x .5556	C = centigrade
	°F = (°C x 1.8) + 32	F = Fahrenheit
Dimension	1 in = 25.4 mm	in = inch
	1 mm = .03937 in	mm = millimeter
Weight	1 lb = .4536 kg	lb = pound
	1 kg = 2.205 lb	kg = kilogram



ARRANGEMENT 4 — DIRECT DRIVE



Model	Motor Frame	E*	F	G	H	U	BB*	CC	FF	HH	JJ	KK note 5	MM note 5
PB-8	56	12 1/2"	5 1/2"	3 3/16"	5"	2 3/4"	17 1/4"	12 1/8"	8 9/16"	7 1/8"	7"	1 5/16"	3 3/16"
PB-9	56	12 1/2"	6 7/8"	3 3/8"	5 3/4"	2 3/4"	17 11/16"	13 5/16"	10 7/16"	7 7/8"	7"	1 3/8"	3 7/16"
	143T-145T	12"	8 1/4"	4 3/16"	5"	3 3/4"	17 3/16"	13 13/16"	11 7/8"	8"	9"	1 3/8"	3 7/16"
PB-10A	56	12 1/2"	6 7/8"	3 7/16"	5 3/4"	2 3/4"	18"	13 11/16"	10 7/16"	7 7/8"	7"	1 9/16"	3 11/16"
	143T-145T	12"	8 1/4"	4 1/4"	5"	3 3/4"	17 1/2"	14 3/16"	11 7/8"	8"	9"	1 9/16"	3 11/16"
PB-12A	56	12 1/2"	6 7/8"	4 1/4"	5"	3 3/4"	18 3/4"	14 1/2"	11 7/8"	8"	9"	1 9/16"	4 1/16"
	143T-145T	12"	8 1/4"	4 5/8"	5"	3 3/4"	18 1/4"	14 7/8"	11 7/8"	8"	9"	1 9/16"	4 1/16"
	182T-184T	15 1/2"	6 7/16"	5"	8 3/4"	4 15/16"	21 3/4"	19"	11 7/8"	11 3/4"	12"	1 9/16"	4 1/16"
PB-14A	56	12 1/2"	9 15/16"	5 1/2"	8 3/4"	4 15/16"	19 3/4"	20"	15 3/16"	11 3/4"	12"	1 9/16"	4 9/16"
	143T-145T	12"	9 15/16"	5 1/2"	8 3/4"	4 15/16"	19 1/4"	20"	15 3/16"	11 3/4"	12"	1 9/16"	4 9/16"
	182T-184T	15 1/2"	9 15/16"	5 1/2"	8 3/4"	4 15/16"	22 3/4"	20"	15 3/16"	11 3/4"	12"	1 9/16"	4 9/16"
PB-15A	182T-184T	15 1/2"	9 15/16"	6 1/8"	8 3/4"	4 15/16"	24"	21 1/4"	15 3/16"	11 3/4"	12"	1 9/16"	5 3/16"
	213T-215T	16"	9 15/16"	6 1/8"	8 3/4"	4 15/16"	24 1/2"	21 1/4"	15 3/16"	11 3/4"	12"	1 9/16"	5 3/16"
	254T-256T	19"	8 15/16"	6 1/8"	8 15/16"	4 15/16"	27 1/2"	25 1/2"	15 3/16"	16"	16 1/2"	1 9/16"	5 3/16"
PB-18	182T-184T	15 1/2"	9 15/16"	5 5/8"	8 3/4"	4 15/16"	23"	20 1/4"	15 3/16"	11 3/4"	12"	1 9/16"	4 11/16"
	213T-215T	16"	9 15/16"	5 5/8"	8 3/4"	4 15/16"	23 1/2"	20 1/4"	15 3/16"	11 3/4"	12"	1 9/16"	4 11/16"
	254T-256T	19"	8 15/16"	5 5/8"	13"	4 15/16"	23 1/2"	24 1/2"	15 3/16"	16"	16 1/2"	1 9/16"	4 11/16"
PB-18WA	182T-184T	15 1/2"	12 3/4"	6 1/2"	10 3/4"	6 1/4"	24 13/16"	24 1/16"	18"	13 3/4"	16 1/2"	1 9/16"	5 5/8"
	213T-215T	16"	12 3/4"	6 1/2"	10 3/4"	6 1/4"	25 5/16"	24 1/16"	18"	13 3/4"	16 1/2"	1 9/16"	5 5/8"
	254T-256T	19"	11 3/4"	6 1/2"	15 3/4"	6 1/4"	28 5/16"	29 1/16"	18"	18 3/4"	16 1/2"	1 9/16"	5 5/8"
	284T-286T	19"	11"	6 1/2"	15 3/4"	6 1/4"	31 5/16"	29 1/16"	18"	18 3/4"	16 1/2"	1 9/16"	5 5/8"

Note: For common boxed blower housing dimensions see page 16.

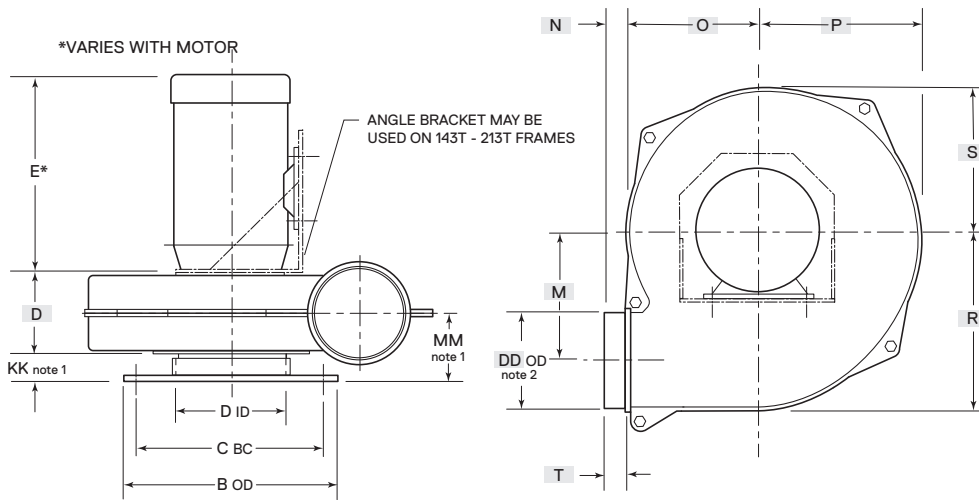
1 PB-14A also available with 6" and 8" inlets.

2 PB-15A and PB-18 also available with 6" and 10" inlets.

3 PB-18WA also available with 8" inlet.

4 All models, discharge flange not available for down blast or bottom angular down discharge positions.

5 KK and MM dimensions pertain to Arrangement 4HM on page 18 only.

ARRANGEMENT 4HM — DIRECT DRIVE

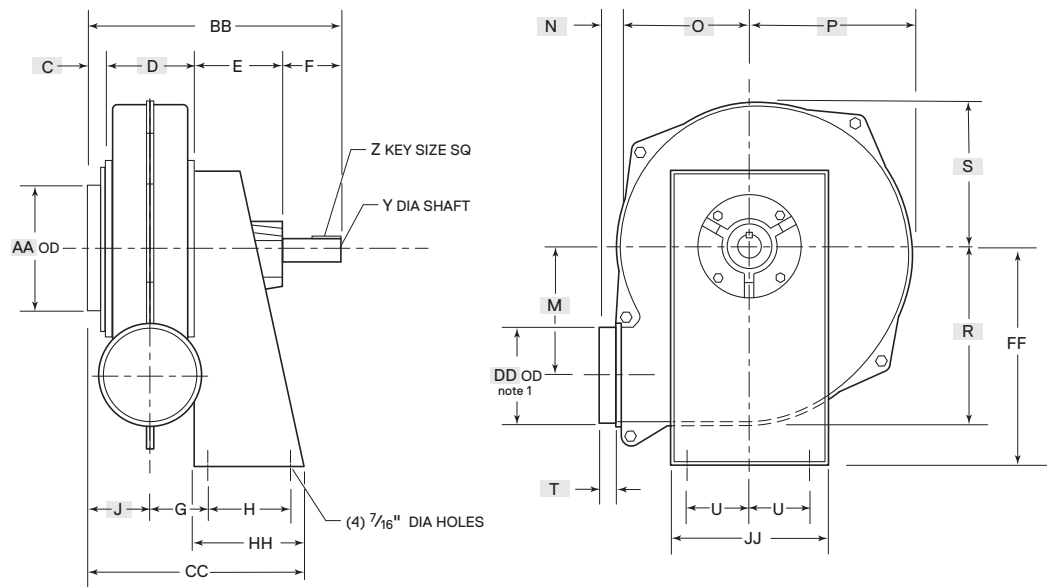
Model	Motor Frame	
	Minimum	Maximum
PB-8	56	56
PB-9	56	145T
PB-10A	56	145T
PB-12A	56	184T*
PB-14A	56	213T*
PB-15A	182T*	215T*
PB-18	182T*	215T*
PB-18WA	182T*	256T*

* See note 3

Note: For common boxed blower housing dimensions see page 16.

- For inlet flange dimensions see flange dimensions on page 21 and corresponding A dimension. For KK and MM dimensions see page 17.
- All models, discharge flange not available for down blast or bottom angular down discharge positions.

- Based on fan mounted on top of surface with the motor shaft vertical, down. If fan will be mounted with a horizontal motor shaft, the customer should add additional support under the motor.

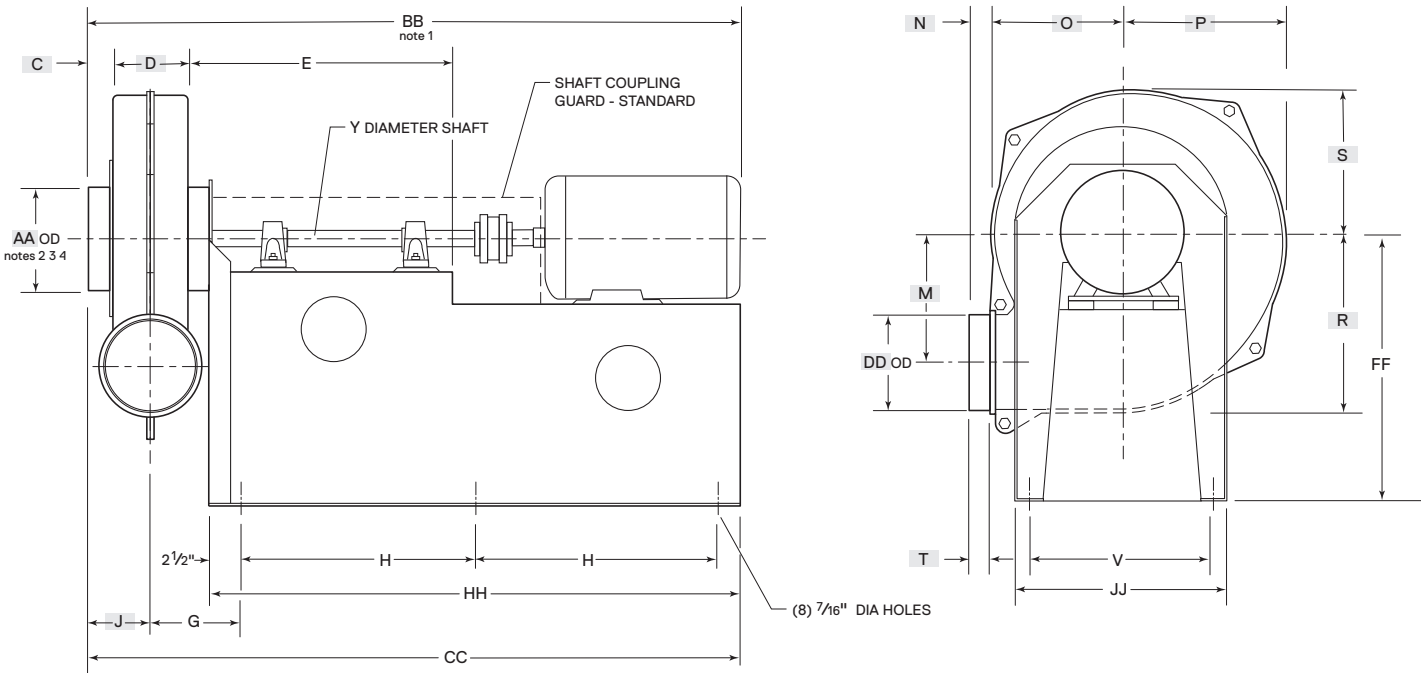
ARRANGEMENT 2 — BELT DRIVE

Model	E	F	G	H	U	Y	Z	BB	CC	FF	HH	JJ
PB-8	3 1/2"	3"	2 7/8"	3 1/4"	2 7/8"	5/8"	3/16"	11 1/4"	9 3/4"	7 13/16"	5"	7 3/4"
PB-9	3 11/16"	3"	3 1/16"	4 1/4"	2 7/8"	3/4"	3/16"	11 7/8"	11 3/16"	9 7/8"	6"	7 3/4"
PB-10A	3 11/16"	3"	3 1/8"	4 1/4"	2 7/8"	3/4"	3/16"	12 1/4"	11 9/16"	9 7/8"	6"	7 3/4"
PB-12A	5 1/2"	4"	4"	4 1/2"	3 1/8"	1"	1/4"	15 3/4"	13 1/4"	11 1/2"	7"	9"
PB-14A	5 3/16"	4"	4 1/2"	5 1/2"	3 3/4"	1 7/16"	3/8"	16 7/16"	15 1/4"	15"	8"	10 1/4"
PB-15A	5 3/16"	4"	5 1/8"	5 1/2"	3 3/4"	1 7/16"	3/8"	17 11/16"	16 1/2"	15"	8"	10 1/4"
PB-18	5 3/16"	4"	4 5/8"	5 1/2"	3 3/4"	1 7/16"	3/8"	16 11/16"	15 1/2"	15"	8"	10 1/4"

Note: For common boxed blower housing dimensions see page 16.

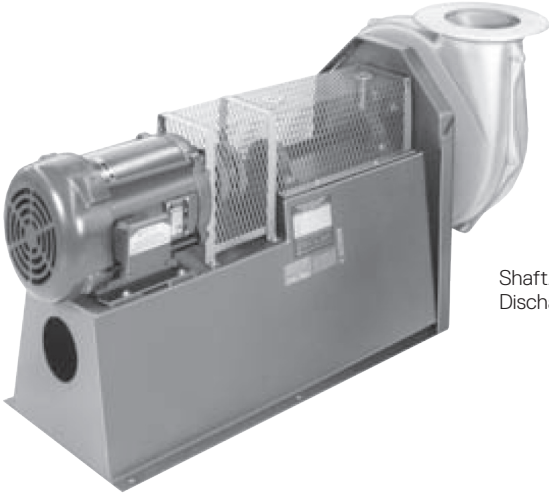
- All models, discharge flange not available for down blast or bottom angular down discharge positions.

ARRANGEMENT 8 — DIRECT CONNECTED

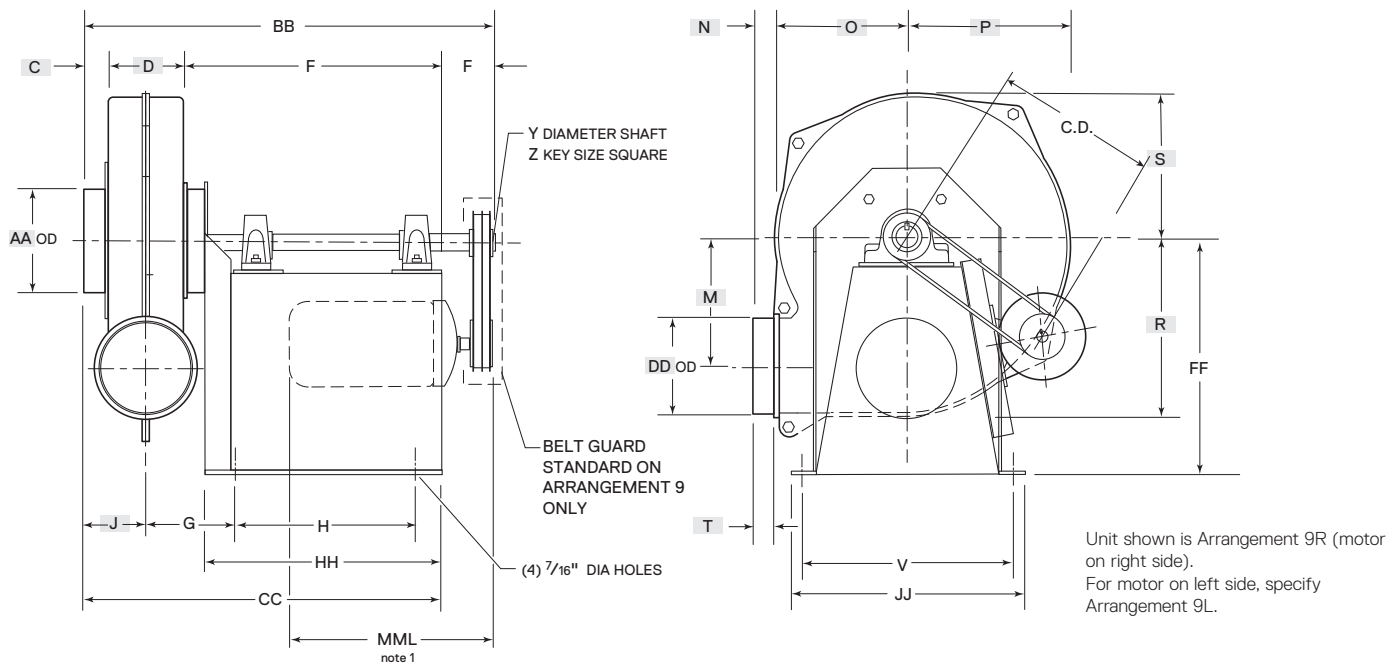


Model	Motor Frame	E	G	H	V	Y	BB note 1	CC	FF	HH	JJ
PB-8	56	12"	5 5/8"	12 1/4"	11 3/8"	3/4"	35 3/16"	35 1/2"	14"	29 1/2"	12 7/8"
PB-9	56-145T	12"	5 13/16"	12 1/4"	11 3/8"	3/4"	35 11/16"	35 15/16"	14"	29 1/2"	12 7/8"
PB-10A	56-145T	12"	5 7/8"	12 1/4"	11 3/8"	3/4"	36 1/16"	36 1/4"	14"	29 1/2"	12 7/8"
PB-12A	56-145T	12"	6 1/4"	12 1/4"	11 3/8"	1"	36 3/4"	37"	14"	29 1/2"	12 7/8"
	182T-215T	13"	6 1/4"	15 1/8"	16"	1"	42 9/16"	42 3/4"	18"	35 1/4"	17 1/2"
PB-14A	56-145T	12"	6 3/4"	12 1/4"	11 3/8"	1 3/16"	36 3/4"	38"	14"	29 1/2"	12 7/8"
	182T-215T	13"	6 3/4"	15 1/8"	16"	1 3/16"	43 9/16"	43 3/4"	18"	35 1/4"	17 1/2"
PB-15A	182T-215T	13"	7 3/8"	15 1/8"	16"	1 3/16"	44 7/16"	45"	18"	35 1/4"	17 1/2"
	254T-256T	13"	7 3/8"	18 3/4"	17 1/4"	1 3/16"	48 5/8"	52 1/4"	23"	42 1/2"	19"
PB-18	182T-215T	13"	6 7/8"	15 1/8"	16"	1 3/16"	43 13/16"	44"	18"	35 1/4"	17 1/2"
	254T-256T	13"	6 7/8"	18 3/4"	17 1/4"	1 7/16"	48"	51 1/4"	23"	42 1/2"	19"
PB-18WA	182T-215T	13"	7 3/4"	15 1/8"	16"	1 7/16"	45 5/8"	45 13/16"	18"	35 1/4"	17 1/2"
	254T-286T	13"	7 3/4"	18 3/4"	17 1/4"	1 7/16"	52 15/16"	53 1/16"	23"	42 1/2"	19"

- 1 Varies with motor - motor may extend past end of base.
2 PB-14A also available with 6" and 8" inlets.
3 PB-15A and PB-18 also available with 6" and 10" inlets.
4 PB-18WA also available with 8" inlet.
5 For common boxed blower housing dimensions see page 22.
Note: All models, discharge flange not available for down blast or bottom angular down discharge positions.



Shaft/coupling guard is standard.
Discharge flange is optional

ARRANGEMENT 1 AND 9 — BELT DRIVE note 2

Model	Motor Frame	E	F	G	H	V	Y	Z	BB	CC	FF	HH	JJ	MML note 1
PB-8	56-145T	16 1/4"	3"	5 5/8"	10"	11 3/8"	3/4"	3/16"	24"	21"	14"	15"	12 7/8"	15"
PB-9	56-145T	16 1/4"	3"	5 13/16"	10"	11 3/8"	3/4"	3/16"	24 7/16"	21 7/16"	14"	15"	12 7/8"	15"
PB-10A	56-145T	16 1/4"	3"	5 7/8"	10"	11 3/8"	3/4"	3/16"	24 3/4"	21 3/4"	14"	15"	12 7/8"	15"
PB-12A*	56-145T*	16 1/4"	4"	6 1/4"	10"	11 3/8"	1"	1/4"	26 1/2"	22 1/2"	14"	15"	12 7/8"	15"
	182T-215T	19 1/4"	4"	6 1/4"	13"	16"	1"	1/4"	29 1/2"	25 1/2"	18"	18"	17 1/2"	19"
PB-14A	56-215T	19 1/4"	4"	6 3/4"	13"	11 3/8"	1 7/16"	3/8"	30 1/2"	26 1/2"	14"	18"	12 7/8"	19"
PB-15A*	182T-215T*	19 1/4"	4"	7 3/8"	13"	16"	1 7/16"	3/8"	31 3/4"	27 3/4"	18"	18"	17 1/2"	19"
	254T-256T	25 3/4"	4"	7 3/8"	19 1/2"	17 1/4"	1 11/16"	3/8"	38 1/4"	34 1/4"	23"	24 1/2"	19"	26"
PB-18*	182T-215T*	19 1/4"	4"	6 7/8"	13"	16"	1 7/16"	3/8"	30 3/4"	26 3/4"	18"	18"	17 1/2"	19"
	254T-256T	25 3/4"	4"	6 7/8"	19 1/2"	17 1/4"	1 11/16"	3/8"	37 1/4"	33 1/4"	23"	24 1/2"	19"	19"
PB-18WA*	182T-215T*	19 1/4"	4"	7 3/4"	13"	16"	1 7/16"	3/8"	32 9/16"	28 9/16"	18"	18"	17 1/2"	19"
	254T-286T	25 3/4"	6"	7 3/4"	19 1/2"	17 1/4"	1 11/16"	3/8"	41 1/16"	35 1/16"	23"	24 1/2"	19"	19"

* All Arrangement 1 units use small base dimensions.

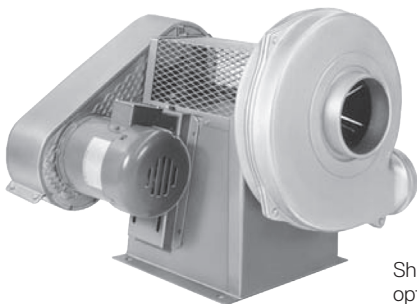
1 MML is the maximum motor length on customer-supplied motor. Motor manufacturer's C dimension cannot exceed MML.

2 Arrangement 9 dimensions are the same as Arrangement 1 with the exception of dimensions C.D. and MML which are for Arrangement 9 only

Note: All models, discharge flange not available for down blast or bottom angular down discharge positions.

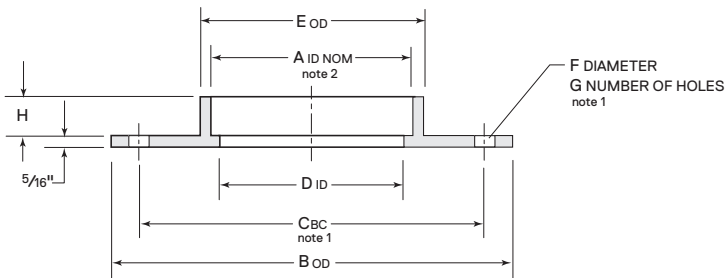
C.D. Belt Center Distance

Model	56-145T		182T-184T		213T-215T		254T-256T		284T-286T	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
PB-8	10 1/4"	11 1/4"								
PB-9	10 1/4"	11 1/4"								
PB-10A	10 1/4"	11 1/4"								
PB-12A	10 1/4"	11 1/4"	13 5/8"	14 5/8"	14 3/8"	15 1/2"				
PB-14A	12"	13"	13 5/8"	14 5/8"	14 3/8"	15 1/2"				
PB-15A			13 5/8"	14 5/8"	14 3/8"	15 1/2"	17"	18 5/8"		
PB-18			13 5/8"	14 5/8"	14 3/8"	15 1/2"	17"	18 5/8"		
PB-18WA			13 5/8"	14 5/8"	14 3/8"	15 1/2"	17"	18 5/8"	17 3/8"	19 1/4"



Shaft guard
optional

INLET AND DISCHARGE FLANGE



A note 2	B note 3	C note 3	D	E	F	G	H
4 1/16"	9"	7 1/2"	3 11/16"	4 9/16"	7/16"	4	15/16"
5 1/16"	11"	8 1/2"	4 9/16"	5 9/16"	7/16"	4	15/16"
6 1/16"	11"	9 1/2"	5 1/2"	6 9/16"	7/16"	4	1 1/16"
7 1/16"	11"	9"	6 1/16"	7 11/16"	7/16"	8	15/16"
8 1/16"	13 1/2"	11 3/4"	7 1/2"	8 5/8"	7/16"	8	1"
9 1/16"	16"	14 1/4"	9 11/16"	10 9/16"	7/16"	8	1"

1 Holes will not be drilled unless customer specifies. If drilled per our standard, holes will be drilled on centerlines unless specified otherwise on order. Dimensions C, F and G can be made to customer specifications at an additional charge.

2 Dimension A fits over inlet or outlet of blower AA or DD dimension.

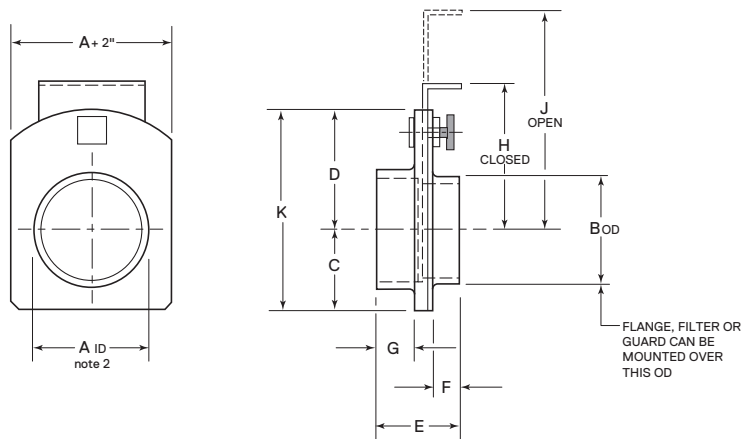
3 Meet ANSI-125 lb flange dimensions.

4 All dimensions are $\pm 1/8"$ except C and F.

5 All flanges are 319 cast aluminum

Note: Discharge flanges not available on downblast or bottom angular down discharge positions.

INLET AND DISCHARGE SLIDE GATE



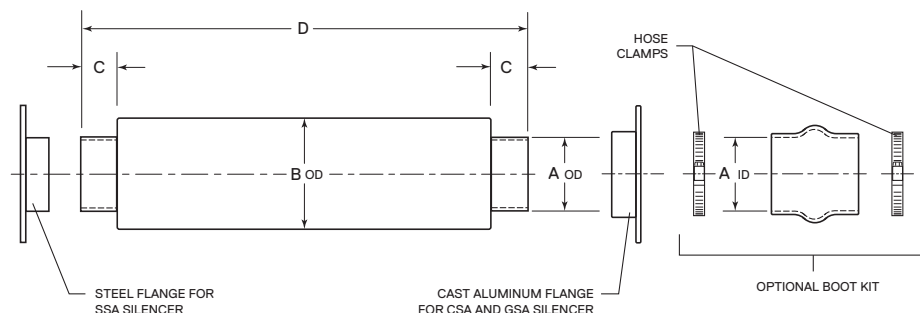
1 Gate halves are 319 cast aluminum. Slide gate is 12 gauge galvanized steel. Aluminum slide gate available at additional charge.

2 Dimension A fits over inlet or outlet of blower AA or DD dimension.

Note: Not available on downblast or bottom angular down discharge positions.

Model	A note 2	B	C	D	E	F	G	H	J	K
FG-4	4 1/16"	3 15/16"	3 1/4"	4 1/2"	2 11/16"	1"	1 1/16"	5 5/8"	9"	7 3/4"
FG-5	5 1/16"	4 15/16"	3 1/2"	5 1/2"	2 9/16"	1 1/8"	7/8"	6 1/8"	10 1/2"	9"
FG-6	6 1/16"	5 15/16"	4"	5 1/2"	2 11/16"	1 1/16"	1"	6 1/4"	11 1/2"	9 1/2"
FG-7	7 1/16"	6 15/16"	4 1/2"	5 1/2"	2 7/8"	1 1/8"	1 1/8"	6 1/4"	12 1/2"	10"
FG-8	8 1/16"	7 15/16"	5"	6 3/4"	2 13/16"	1"	1 3/16"	7 3/4"	15"	11 3/4"
FG-10	10 1/16"	9 15/16"	6"	8"	3 1/16"	1 5/16"	1"	9"	18 1/2"	14"

INLET AND DISCHARGE SILENCER



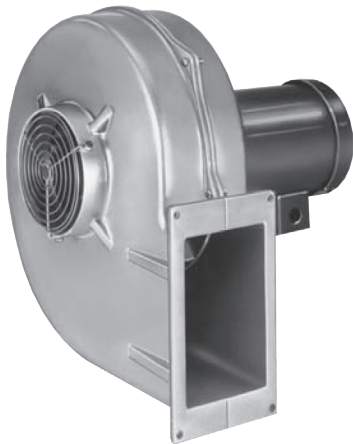
Model	A	B	C	D ± 1"	Approximate Shipping Weight lb	Maximum SP WG	Temperature Range °F	Outer Casing
CS-4	4"	6"	2 5/8"	60"	6	20"	-20° to 350° note 1	.006" Aluminum
CS-5	5"	7"	2 5/8"	60"	6			
CS-6	6"	8"	2 5/8"	60"	7			
CS-7	7"	9"	2 5/8"	60"	8			
CS-8	8"	10"	2 5/8"	60"	9			
CS-10	10"	12"	2 5/8"	60"	11	20"	-20° to 350° note 1	26 Gauge Galvanized Steel
GSA-4	4"	7 7/8"	2 1/4"	28 1/2"	10			
GSA-5	5"	8 7/8"	2 1/4"	28 1/2"	11			
GSA-6	6"	9 7/8"	1 3/8"	26 1/8"	12			
GSA-7	6" note 9	9 7/8"	1 3/8"	26 1/8"	14			
GSA-8	8"	11 7/8"	2 3/4"	29 3/4"	16	20"	-20° to 500° note 2	16 Gauge Mild Steel
GSA-10	10"	14"	2 3/4"	39 5/8"	26			
SSA-4	4 1/4"	12"	2"	40"	50			
SSA-5	5 1/4"	13"	2"	40"	53			
SSA-6	6 1/4"	14"	2"	40"	59			
SSA-7	7 1/4"	15"	2"	40"	67	20"		
SSA-8	8 1/4"	16"	2"	40"	74			
SSA-10	10 1/4"	18"	2"	40"	87			

- 1 If used with a boot kit, the temperature range of the boot is -40°F up to +250°F.
- 2 Standard paint may fade or deteriorate at temperatures above 200°F.
- 3 All models contain fiberglass media.
- 4 Model **CSA** silencers are flexible and can be carefully bent a little to go around obstructions.
- 5 Neoprene boot kits are available to mount **CSA** and **GSA** silencers only. Boot kits include 1 boot and 2 hose clamps.
Neoprene boots are approximately 1/4" thick. Flanges are optional for all models.

- 6 Model **SSA** silencers should use flanges for mounting but flanges are optional.
- 7 **All GSA and SSA silencers must be independently supported. Do Not use the blower to support the silencers.**
- 8 Flexible hose will **Not** fit over the OD of the inlet/outlet collars (A dimension). The inlet collars will not slide over the inlet or discharge of the blowers.
- 9 The **GSA-7** requires a special boot kit if requested. There are no GSA-7 silencers. We use a GSA-6 with a special boot that is 6" ID on one end to connect to the GSA-6 and 7" ID on the other end to connect to PB-12A inlet or 7" duct. For a current detail drawing of the **GSA-7** silencer, contact the Cincinnati Fan sales office for your location.

CUSTOM PRODUCTS

PB-14 with special motor and mounting plate for cooling traction motors on rapid transit systems. All aluminum parts black anodized.



PB-12 with special wider housing (PB-12W) and integral discharge flange. Blower used to cool large DC motors.



PB-9 with air motor. Cast aluminum blower with non-electric motor required to handle highly volatile substances at variable flow rates.



PB-14 with continuous flange added to ensure meeting "low leakage" requirement in evacuating oil mist at 14" SP WG on discharge.



PB-14 with special inlet mounting pad used to pressurize calendar rolls on corrugated paper machines.

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TECHNOLOGIES

