HPII 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.

HP II SERIES SPECIFICATIONS

Radial bladed pressure blowers shall be Cincinnati Fan HP II series, Model _____, Arrangement _____.

Capacity: _____CFM,_____ Static Pressure at standard conditions.

Operating conditions: _____°F, _____ feet altitude

Backward inclined wheels shall have welded blades designed to meet AMCA Class _____ conditions.

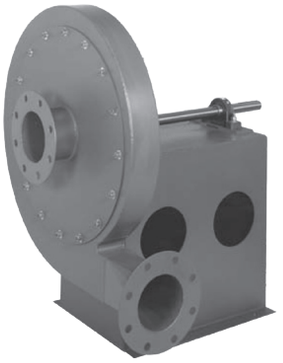
Wheels shall be dynamically balanced to assure smooth operation. Fan motor and bearing vibration levels shall not exceed 1.5 mils displacement at 3500 RPM. Shafts shall be turned, ground and polished steel (or stainless steel). All fan shafts shall receive a rust preventive coating prior to shipment. All fans shall be test run at factory before shipping.

All construction gauges shall be as shown in Cincinnati Fan's HP, Series II catalog, page 16. The blower housing shall be continuously welded and supported to minimize pulsation at all conditions. Fan bearings shall be grease-lubricated, heavy-duty, self-aligning ball bearings mounted in cast iron pillow blocks. V-belt drives shall be selected for a minimum of 1.3 times nominal horsepower.

All parts in contact with airstream shall be standard steel, aluminum or stainless steel as specified.

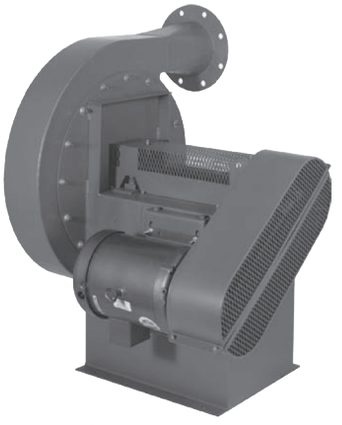
Before painting, steel parts shall be cleaned by detergent wash, phosphatized and painted with oven cured gray enamel.

The following accessories shall be included: (See page 5 for optional accessories).



ARRANGEMENT 1 (Belt Drive)

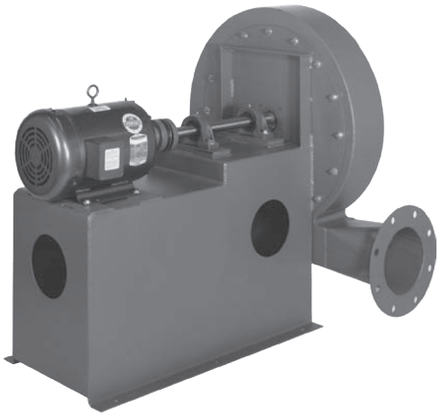
- Motor not mounted on bearing base
- Wheel mounted on fan shaft with two pillow block bearings
- Maximum temperature at standard design 300°F, high temperature design 750°F



ARRANGEMENT 9 (Belt Dirve)

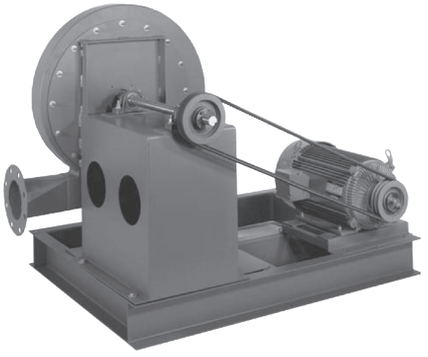
- Motor mounted on adjustable slide base on the side of the bearing base
- Wheel mounted on fan shaft with two pillow block bearings
- Maximum temperature of standard design is 300°F, high temperature design 750°F
- Shown with shaft guard option





ARRANGEMENT 8 (Direct Drive)

- Motor mounted on motor base extending beyond the bearing base
- Wheel mounted on fan shaft with two pillow block bearings
- Maximum temperature of standard design is 300°F, high temperature design 750°F
- Shown with shaft guard removed
- For dimensions contactd you local Cincinnati Fan sales representative



ARRANGEMENT 9 (Belt Dirve)

- Same as Arrangement 9 escept motor are mounted on a common channel base
- Maximum temperature of standard design is 300°F, high temperature design 750°F
- Shown with belt guard removed

ARRANGEMENT 4 and 4HM (Direct Drive)

- Motor mounted on motor base
- Wheel mounted on motor shaft
- Maximum temperature of standard design is 200°F, high temperature design 400°F
- Arrangement 4HM

HP II SERIES FEATURES

A - Wheels are fabricated of heavy-gauge, high-strength steel to assure long lasting, efficient operation. (not shown.)

B - Turned, ground and polished shafting assures smooth operation. A rust preventative coating is applied prior to shipment.

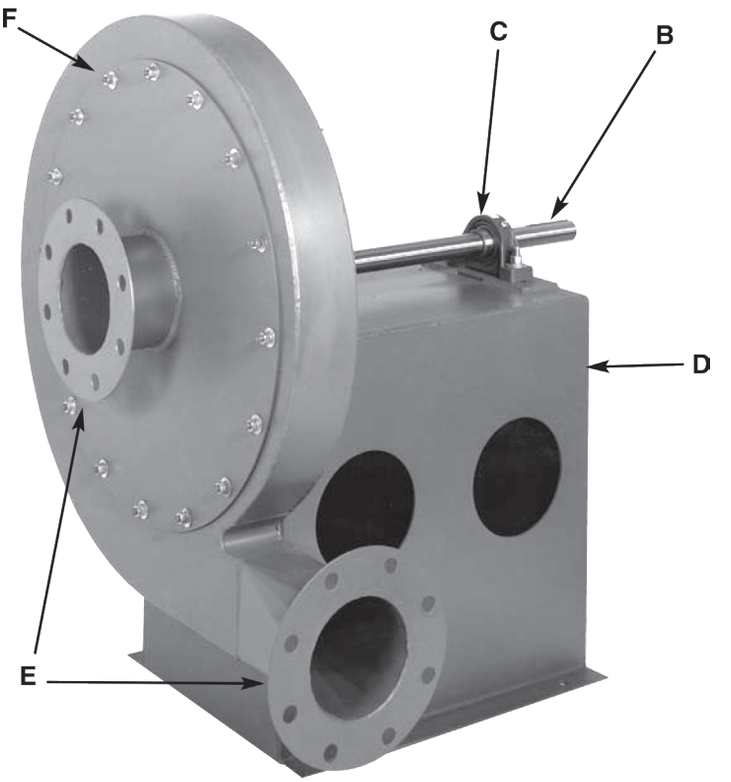
C - Heavy-duty, self-aligning ball bearings in relubricatable cast-iron pillow blocks. Bearings are selected for optimal performance depending on fan size.

D - Bearing base is heavy steel construction with internal supports to maximize rigidity and assure long equipment life. Arrangement 1 fans can be converted to Arrangement 9 with the addition of the motor slide base.

E - Flanged inlet and outlet standard. Drilled per ANSI 125 and ASA 150 specifications with holes straddling centers. See note * on page 18.

F - Reversible housing provides increased configuration flexibility. Removable side plates allow the wheel to be removed from the motor or inlet side of the housing. Housings are rotatable in 45° increments.

G - Teflon shaft seal is standard. Ceramic seal is used for applications above 400°F. (not shown.)



⚠ **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.

SPARK-RESISTANT CONSTRUCTION

Type A: All parts in contact with airstream are of nonferrous material. Maximum temperature 200°F. Consult factory..

Type B: Fabricated aluminum wheel and aluminum rubbing ring on fan shaft. Maximum temperature 200°F.

Type C: Consists of an aluminum plate on drive side of the fan and aluminum inlet plate assembly. Maximum Temperature is 750°F.

⚠ **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.**

OPTIONS



Belt Guard

Belt guard standard on Arrangement 9 and 9CB only. Painted safety yellow.



Shaft and/or Heat Slinger Guard

Guard available on Arrangement 1, 9 and 9CB. Covers bearings and shaft between fan housing and belt guard. Bearings can be relubricated through belt guard. Painted safety yellow.



Inlet Bell

Equipped with OSHA guard



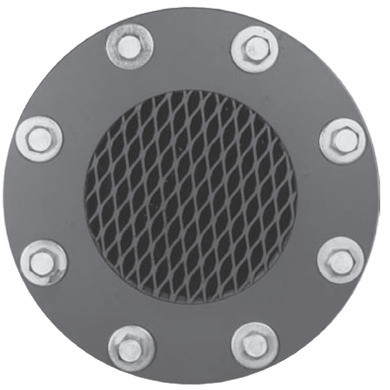
Drain Connection

3/4" pipe coupling welded to lowest point of housing. Not required on BH discharge position.

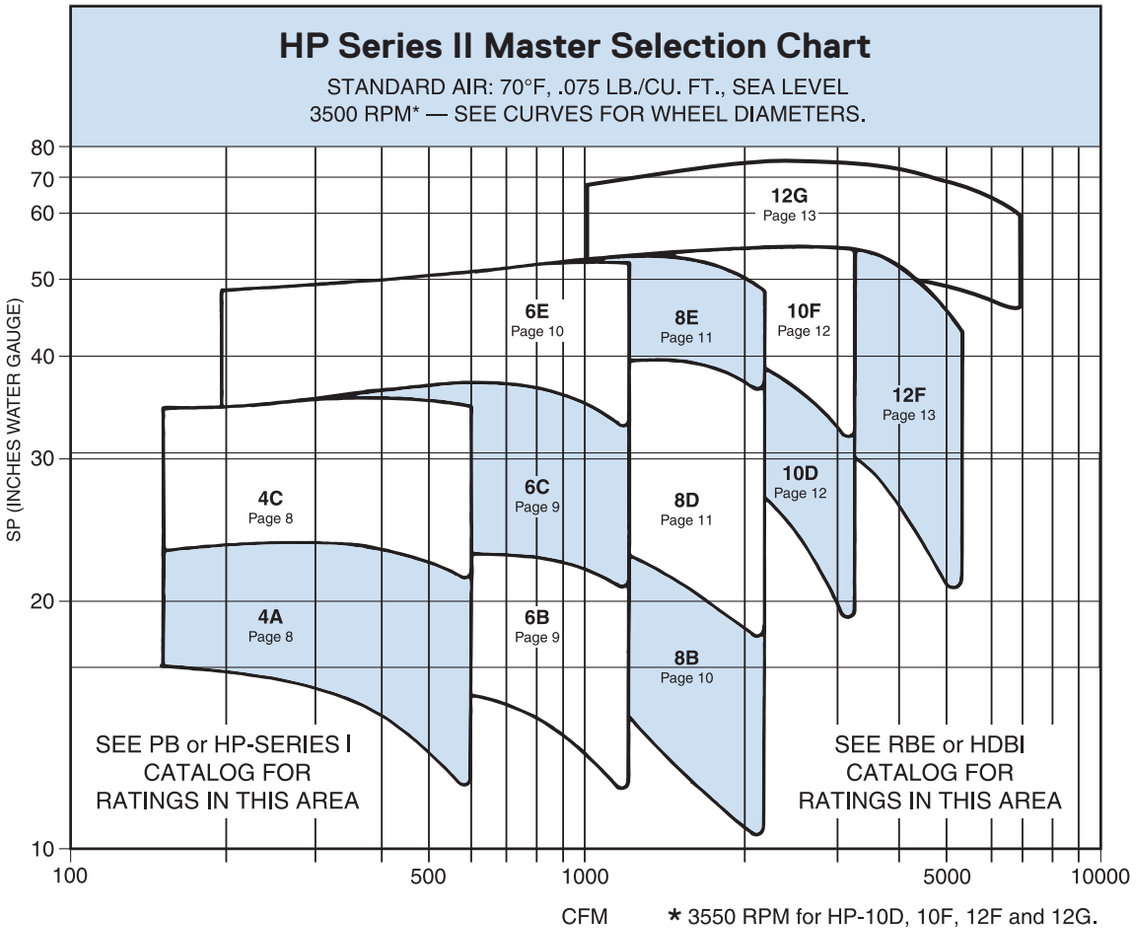


Inspection Door

Bolted or quick-release doors positioned as specified on scroll. Rubber gasket standard up to 250°F (121°C) Ceramic fiber gasket standard at temperatures above 250°F (122°C).



OSHA Type Outlet Guard



SELECTION CHART INSTRUCTIONS

The chart is intended to guide you to the correct fan for a desired performance rating. This chart was prepared for standard air (70°F, 29.92" Hg barometric pressure and .075 lb per cubic foot density).

All fans were tested with an inlet bell. All performance curves in this catalog are for standard air, at the fan inlet, entering the inlet (whether belled or ducted) with static pressure measured at the discharge.

Corrections are required for temperature and/or altitude and rarefication. See page 7 for correction factors.

Rarefication: When air is pulled into a blower inlet (negative pressure) the air molecules are “stretched out”, or rarefied, and become less dense than at the blower discharge where the air is compressed.

Catalog ratings may be used directly, without correction, for static pressures defined at the fan discharge. For static pressures defined at the fan inlet (i.e. negative pressures), a correction is typically only made for inlet suction pressures greater than 15" W.G. See page 7 for details.

HIGH TEMPERATURE CONSTRUCTION

Arrangement 4 and 4HM

Up to 200°F	Standard fan construction
201°F - 400°F	Standard fan with shaft seal, heat slinger, slinger guard and external hub on wheel

Arrangement 1, 8, 9 and 9CB

Up to 300°F	Standard fan construction
301° - 400°F	Standard fan with heat slinger and shaft/slinger guard
401°F - 600°F	Standard fand with heat slinger, shaft/slinger guard and high temperature shaft seal, gaskets and paint
601°F - 750°F	Standard fan with heat slinger, shaft/slinger guard, 316 stainless steel fan shaft and high temperature shaft seal, gaskets and paint

Temperature Range °F	Maximum RPM Reduction Factor†
Up to 175°	0%
176° - 200°	2%
201° - 300°	4%
301° - 400°	7%
401° - 500°	11%
501° - 600°	15%
601° - 700°	20%
701° - 750°	30%

† Steel wheels only

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/ft^2 per cubic foot. 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 are used in making corrections to standard conditions.

EXAMPLE: Select an HP Series II fan to deliver 4800 CFM at 30" SP at 160°F and 7000' altitude.

Step 1 - From the table, conversion factor is 1.53.

Step 2 - Correct static pressure is:

1.53 x 30" SP = 45.9" SP at standard conditions.

Step 3 - Check HP Series II catalog for 4800 CFM at 45.9" SP. We select an HP12F with a 26" diameter wheel at 3500 RDPM and 56 bhp.

Step 4 - Correct the bhp for the lighter air:

56 ÷ 1.53 = 36.6 bhp.

A 40 hp motor will suffice at 160° F and 7000' but not at standard conditions. Special motor insulation may be required above 3500 feet altitude. Consult factory.

Suction Pressure inches WG	Corrected Static Pressure
16	16.7
18	18.8
20	21.0
22	23.3
24	25.6
26	27.8
28	30.1
30	32.4
32	34.7
34	37.1
36	39.5
38	41.9
40	44.4
42	46.8

Suction Pressure inches WG	Corrected Static Pressure
44	49.3
46	51.9
48	54.4
50	57.0
52	59.6
54	62.2
56	64.9
58	67.6
60	70.4
62	73.2
64	75.9
66	78.8
68	81.6
70	84.5

SUCTION PRESSURE CORRECTION

Suction pressure tables give corrected static pressures for suction pressure (rarefication). These corrected static pressures are for standard air (70°F, 29.92" Hg barometric pressure and .075 lb per cubic foot density) at the blower inlet.

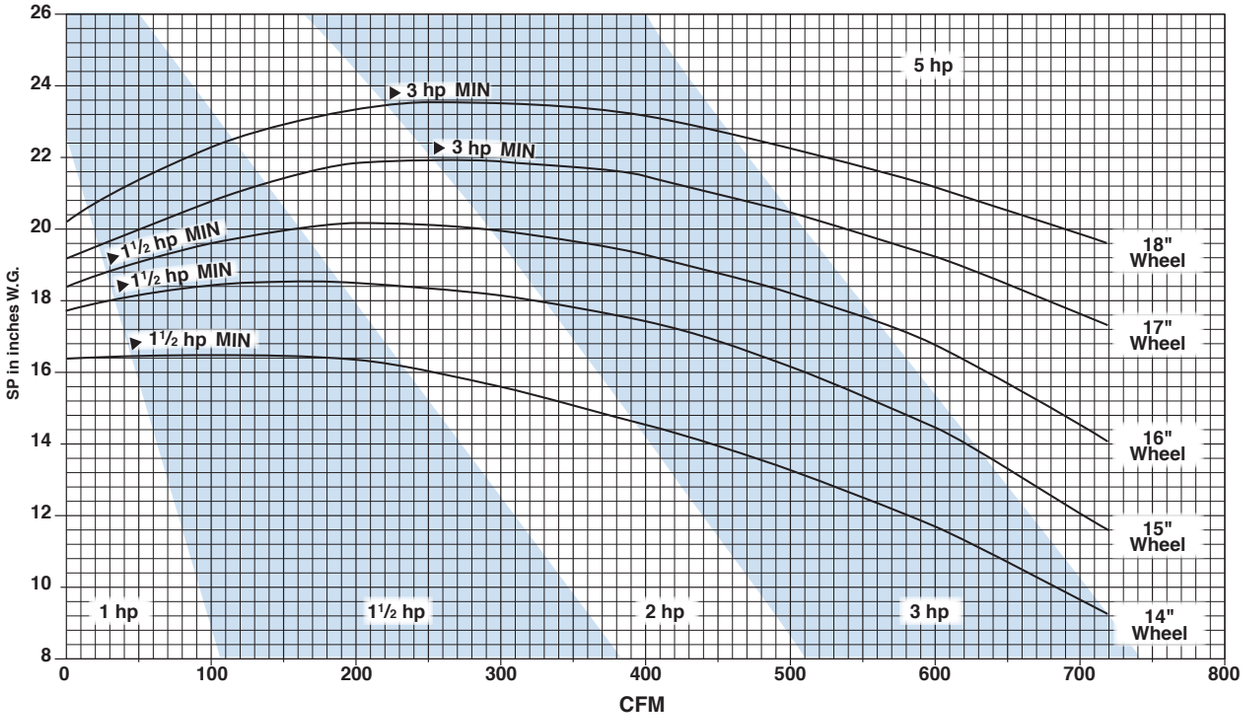
If the inlet air temperature and/or altitude are different, make those corrections as shown above and then correct for rarefication.

DIRECT DRIVE RATINGS @ 3500 RPM

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

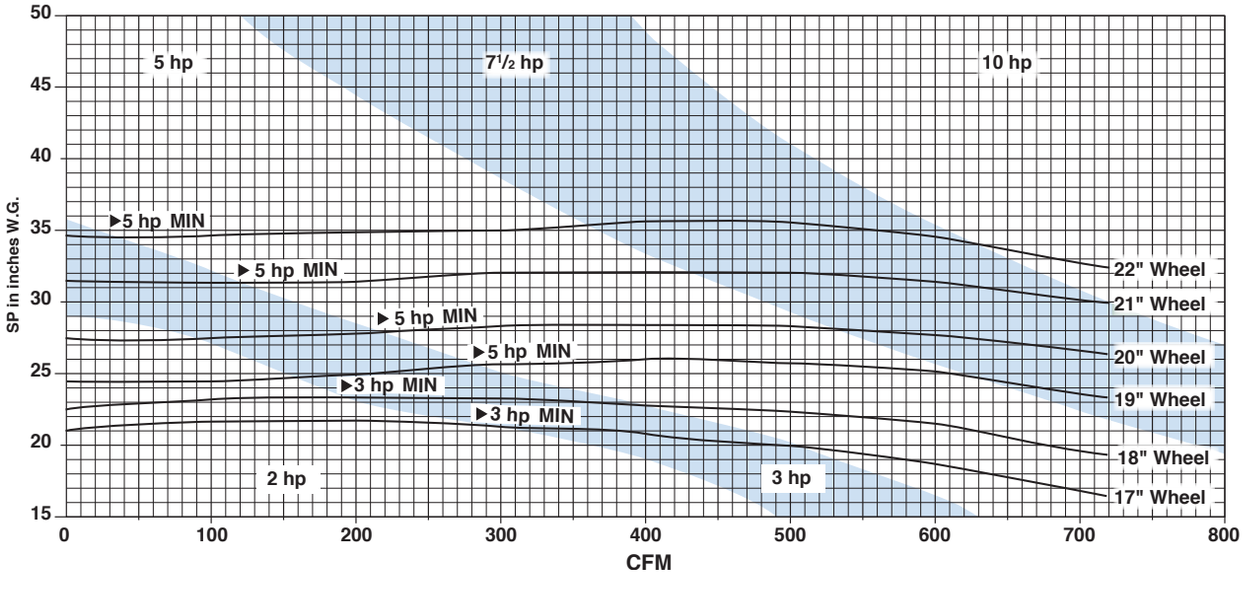
Model HP-4A

bhp valueas are shown. Note ▶ is minimum hp motor needed for required starting torque (WR²) for steel wheels. See page 14.



Model HP-4C

bhp valueas are shown. Note ▶ is minimum hp motor needed for required starting torque (WR²) for steel wheels. See page 14.

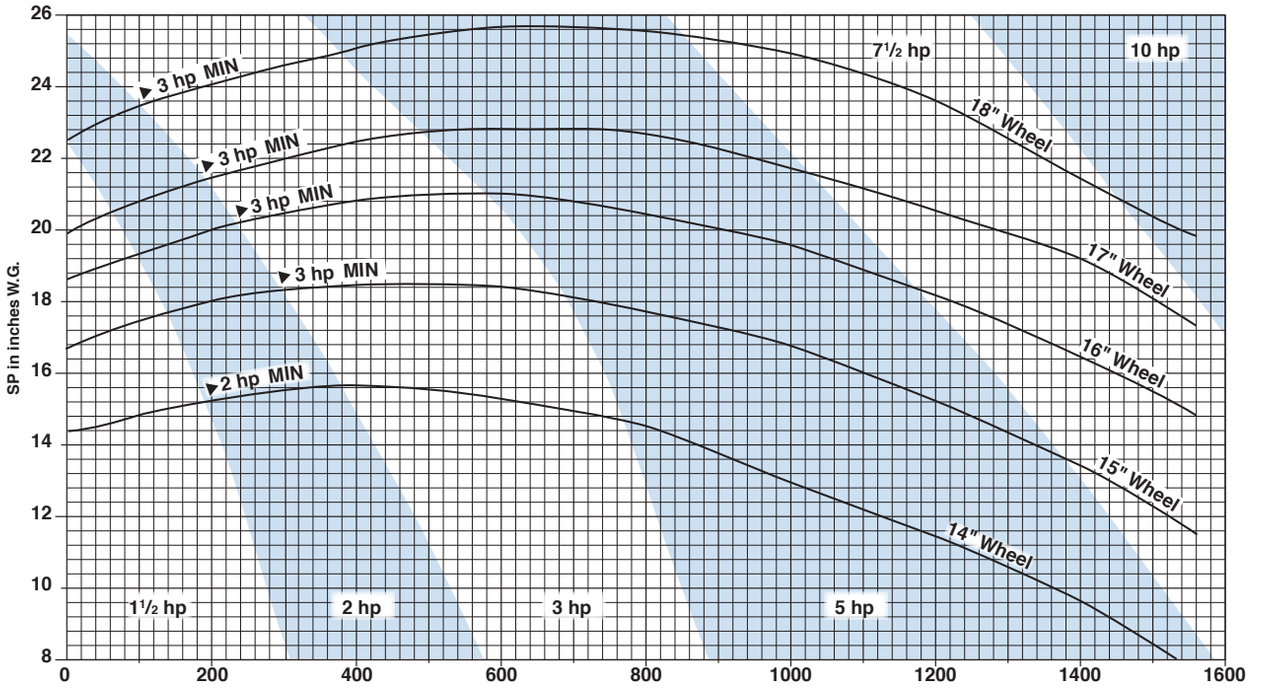


DIRECT DRIVE RATINGS @ 3500 RPM

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

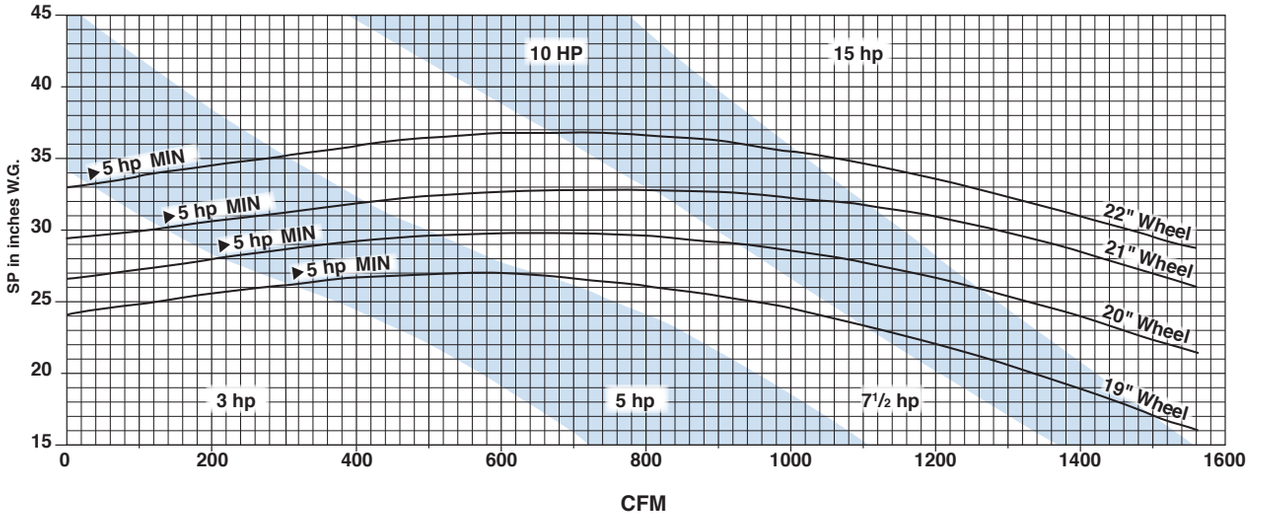
Model HP-6B

bhp valueas are shown. Note ▶ is minimum hp motor needed for required starting torque (WR²) for steel wheels. See page 14.



Model HP-6C

bhp valueas are shown. Note ▶ is minimum hp motor needed for required starting torque (WR²) for steel wheels. See page 14.

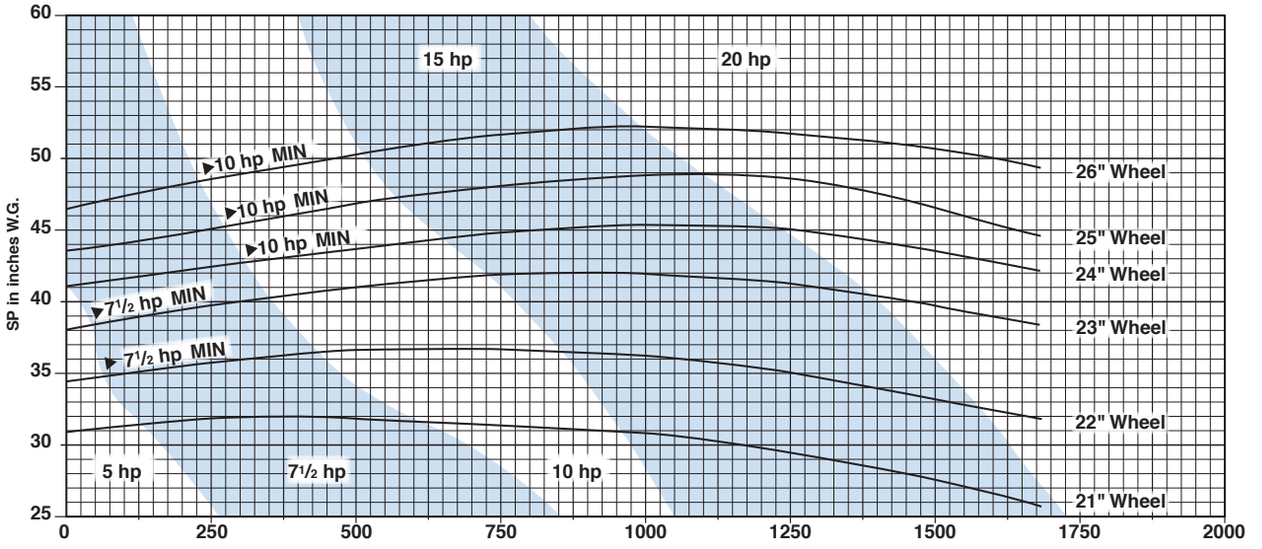


DIRECT DRIVE RATINGS @ 3500 RPM

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

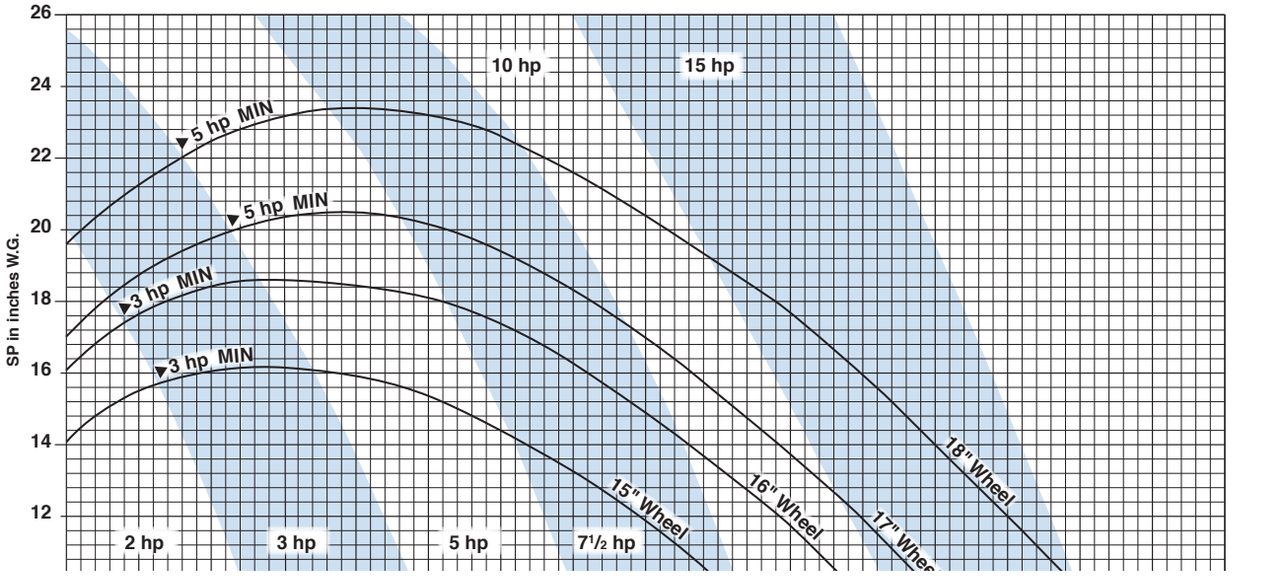
Model HP-6E

bhp valueas are shown. Note ▶ is minimum hp motor needed for required starting torque (WR²) for steel wheels. See page 14.



Model HP-8B

bhp valueas are shown. Note ▶ is minimum hp motor needed for required starting torque (WR²) for steel wheels. See page 14.

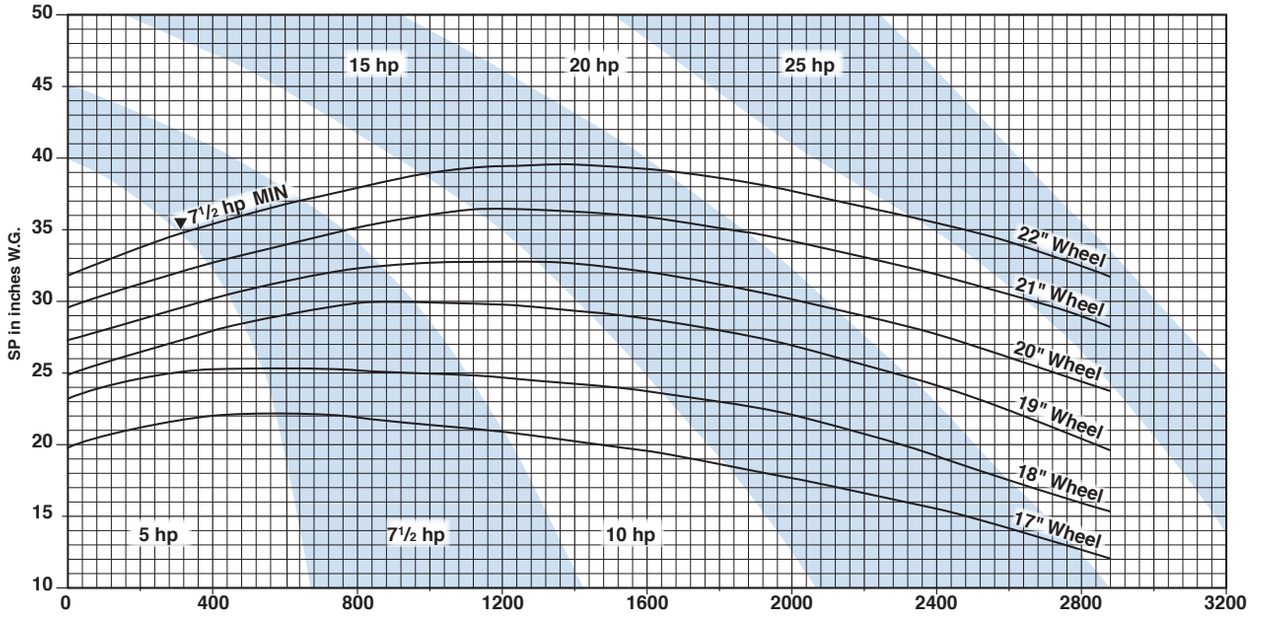


DIRECT DRIVE RATINGS @ 3500 RPM

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

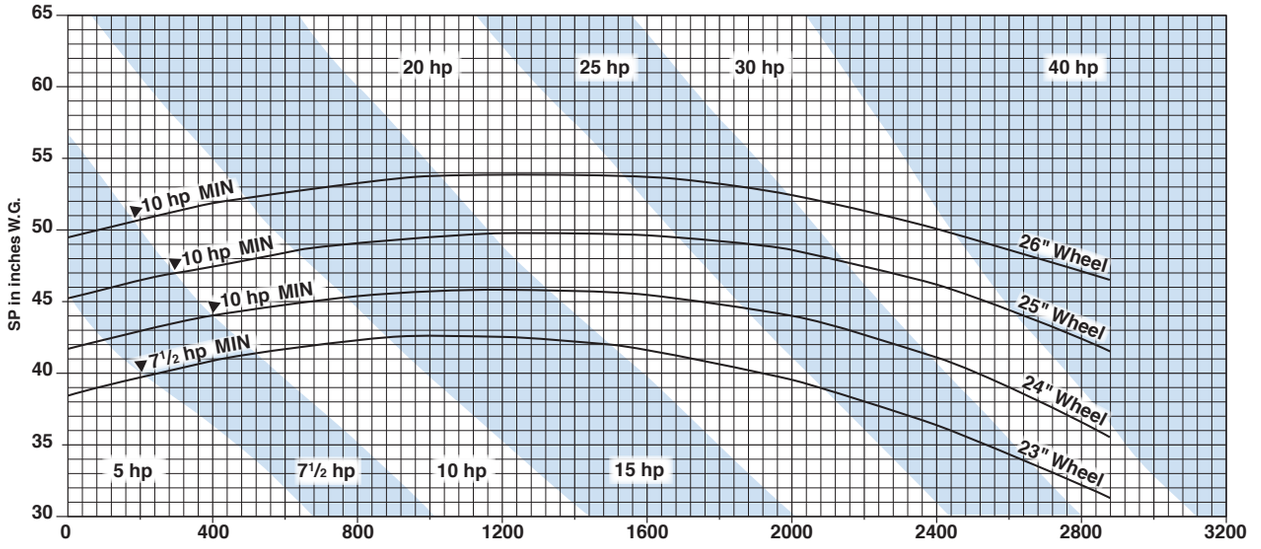
Model HP-8D

bhp valueas are shown. Note ▶ is minimum hp motor needed for required starting torque (WR²) for steel wheels. See page 14.



Model HP-8E

bhp valueas are shown. Note ▶ is minimum hp motor needed for required starting torque (WR²) for steel wheels. See page 14.

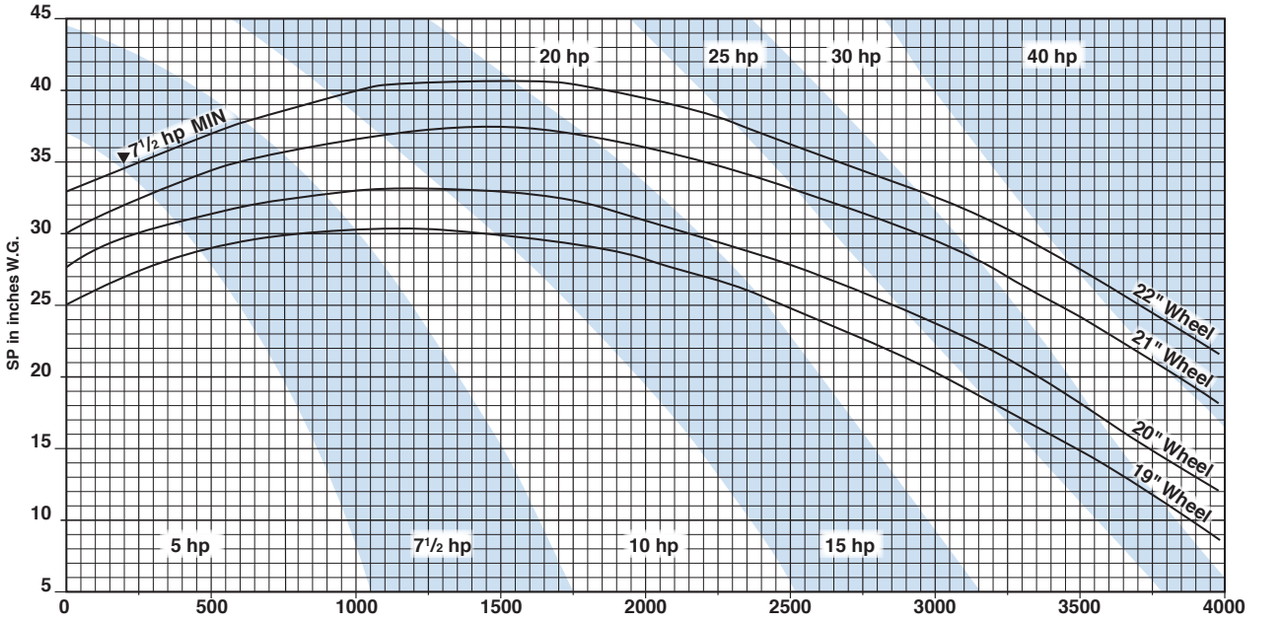


DIRECT DRIVE RATINGS @ 3500 RPM

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

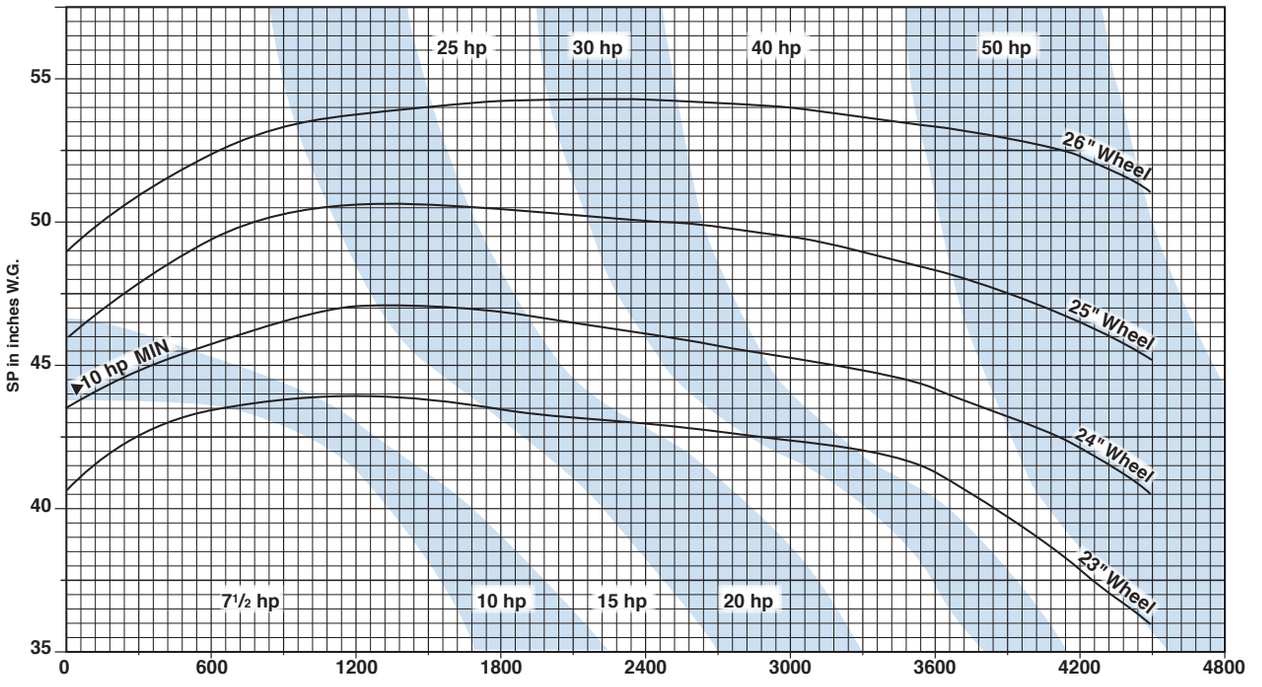
Model HP-10D

bhp valueas are shown. Note ▶ is minimum hp motor needed for required starting torque (WR²) for steel wheels. See page 14.



Model HP-10D

bhp valueas are shown. Note ▶ is minimum hp motor needed for required starting torque (WR²) for steel wheels. See page 14.

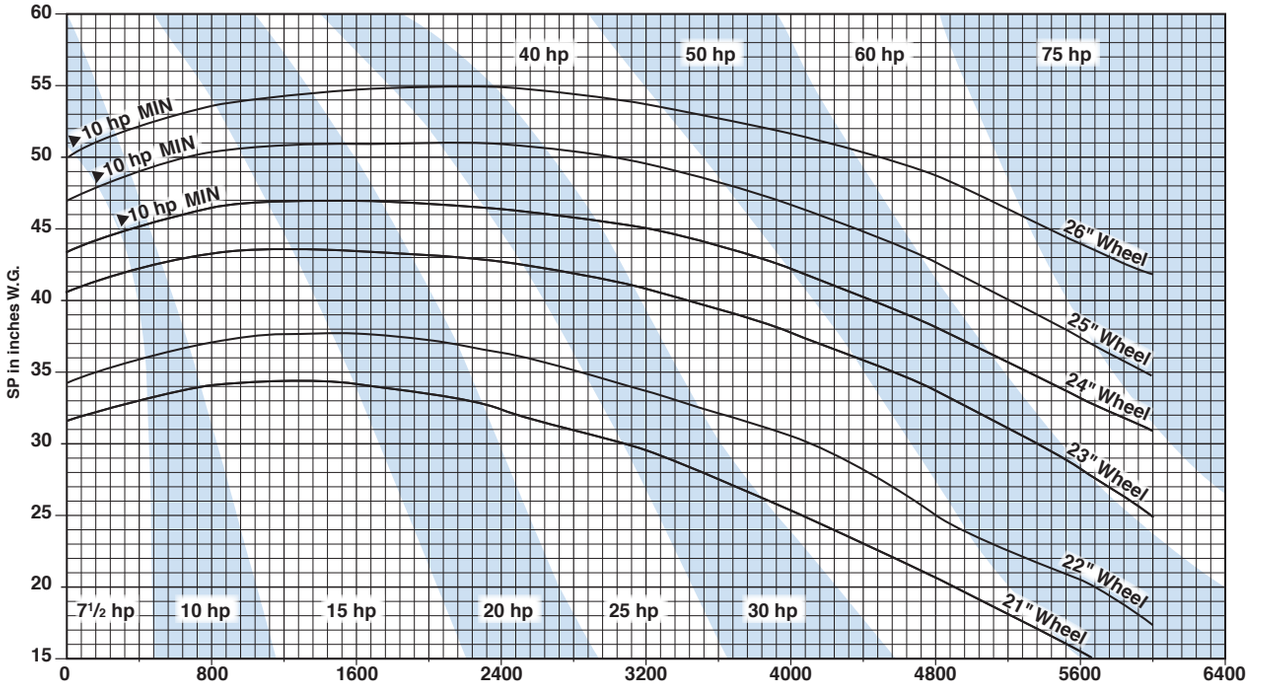


DIRECT DRIVE RATINGS @ 3500 RPM

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

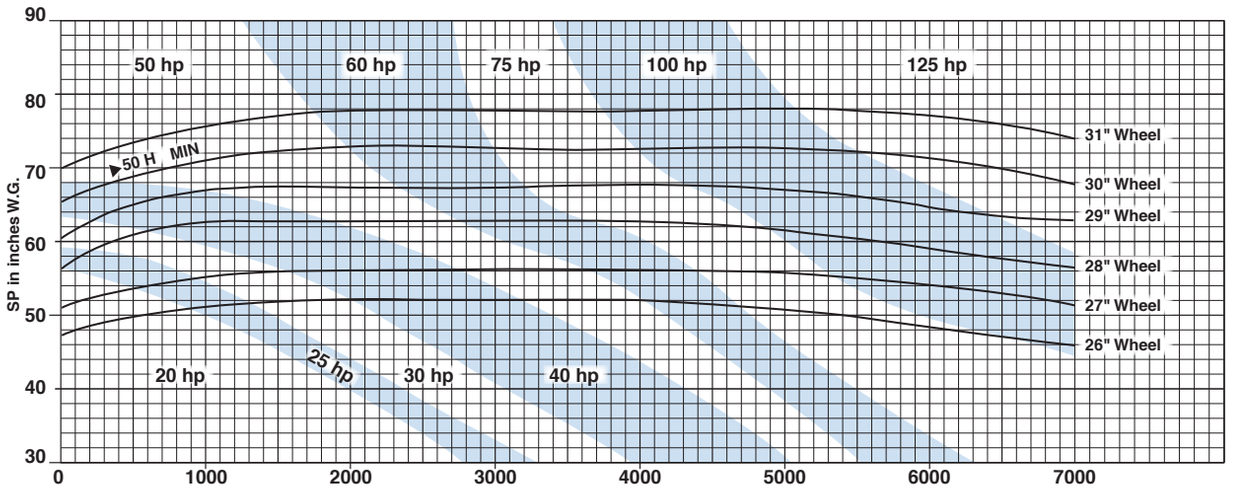
Model HP-12F

bhp valueas are shown. Note ▶ is minimum hp motor needed for required starting torque (WR²) for steel wheels. See page 14.



Model HP-12G

bhp valueas are shown. Note ▶ is minimum hp motor needed for required starting torque (WR²) for steel wheels. See page 14.



HP STEEL WHEEL WR² VALUES AND MINIMUM MOTOR HORSEPOWER

Model	WR² (lb-ft²)	Minimum hp*
HP-4A14	**3.4**	**1.5**
HP-4A15	4.4	1.5
HP-4A16	5.7	1.5
HP-4A17	7.2	3
HP-4A18	9.0	3
HP-4C17	7.2	3
HP-4C18	9.0	3
HP-4C19	11.0	5
HP-4C20	13.5	5
HP-4C21	16.2	5
HP-4C22	19.4	5
HP-6B14	3.5	2
HP-6B15	4.6	3
HP-6B16	6.0	3
HP-6B17	7.6	3
HP-6B18	9.6	3
HP-6C19	11.0	5
HP-6C20	13.5	5
HP-6C21	16.2	5
HP-6C22	19.4	5
HP-6E21	19.1	5
HP-6E22	22.2	7.5
HP-6E23	23.8	7.5
HP-6E24	28.1	10
HP-6E25	32.9	10
HP-6E26	28.1	10
HP-8B15	4.6	3
HP-8B16	6.0	3
HP-8B17	7.6	5
HP-8B18	9.6	5

Model	WR² (lb-ft²)	Minimum hp*
HP-8D17	**7.6**	**5**
HP-8D18	9.6	5
HP-8D19	11.9	5
HP-8D20	14.5	5
HP-8D21	17.6	5
HP-8D22	21.0	7.5
HP-8E23	23.8	7.5
HP-8E24	28.0	10
HP-8E25	32.9	10
HP-8E26	38.3	10
HP-10D19	11.9	5
HP-10D20	14.5	5
HP-10D21	17.6	5
HP-10D22	21.1	7.5
HP-10F23	26.7	7.5
HP-10F24	31.5	10
HP-10F25	36.8	10
HP-10F26	42.7	15
HP-12F21	19.0	5
HP-12F22	23.0	7.5
HP-12F23	26.7	7.5
HP-12F24	31.5	10
HP-12F25	36.8	10
HP-12F26	42.7	15
HP-12G26	72.0	20
HP-12G27	83.0	20
HP-12G28	95.0	20
HP-12G29	108.0	25
HP-12G30	123.0	50
HP-12G31	138.0	50

*__Mimimum Horsepower:__ This is the suggested minimum motor horsepower for Arrangement 4 fans with a nominal 3500 RPM motor speed. In a few situations motors suitable for the fan operating point bhp may not have sufficient torque to start the fan as quickly as desired. Therefore, use a motor horsepower at least as large as those listed in the tables. The suggested motor horsepower values are based on typical Baldor three phase motors. Motor starting torques from other vendors will vary. These tables do not apply to Arrangement 4 fans with 1750 RPM and 2850 RPM motors, and any belt driven fan. A smaller horsepower motor may be acceptable for some of these applications.

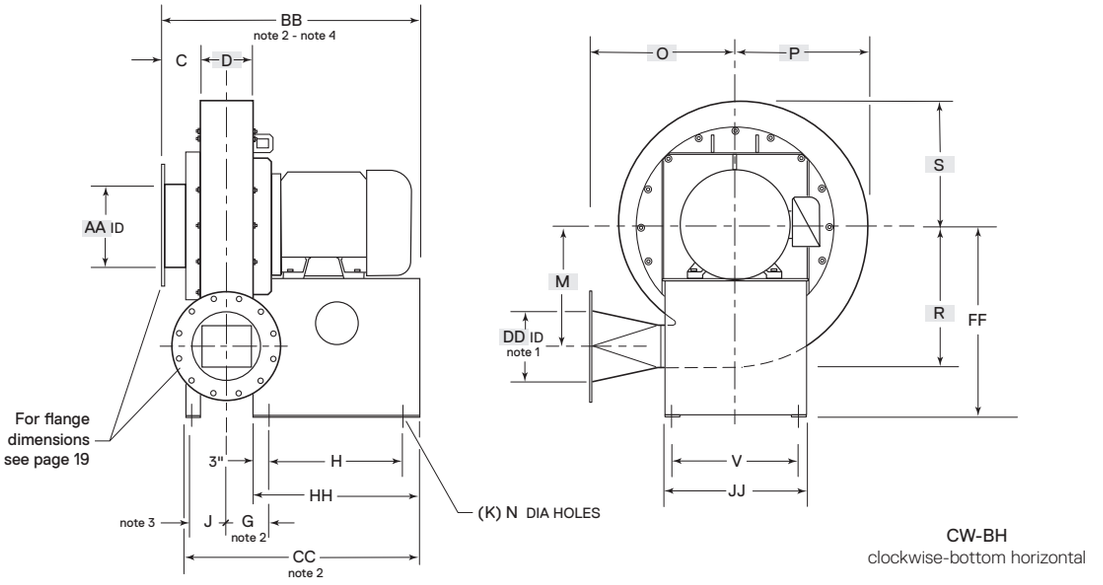
Note—Blower housing dimensions common to all arrangements on pages 15, 17 and 18

Model*	D	M	O	P	R	S	AA	DD**
HP-4A	4"	11 3/4"	18"	13 9/16"	14 3/8"	12 3/4"	6	4
HP-4C	4"	14 13/16"	17 7/8"	16 7/16"	17 7/16"	15 7/16"	6	4
HP-6B	6 3/8"	11 3/4"	18"	13 9/16"	14 3/8"	12 3/4"	8	6
HP-6C	4"	14 13/16"	17 7/8"	16 7/16"	17 7/16"	15 7/16"	6	6
HP-6E	5 3/8"	17 7/16"	19 1/8"	19 3/8"	20 9/16"	18 3/16"	8	6
HP-8B	6 3/8"	11 3/4"	19 13/16"	13 9/16"	14 3/8"	12 3/4"	8	8
HP-8D	6 3/8"	14 13/16"	19 3/4	16 7/16"	17 7/16"	15 7/16"	8	8
HP-8E	5 3/8"	17 7/16"	21"	19 3/8"	20 9/16"	18 3/16"	8	8
HP-10D	6 3/8"	14 13/16"	21 3/4"	16 7/16"	17 7/16"	15 7/16"	8	10
HP-10F	7 3/8"	17 7/16"	23"	19 3/8"	20 9/16"	18 3/16"	10	10
HP-12F	7 3/8"	17 7/16"	2"	19 3/8"	20 9/16"	18 3/16"	10	12
HP-12G	9"	20 3/4"	24 15/16"	23 1/16"	24 7/16"	21 5/8"	14	12

*Complete model number includes wheel diameter

** Discharge flange not available with downblast discharge on models HP-8B, HP10D, HP-12F and HP-12G

ARRANGEMENT 4 — DIRECT DRIVE



Note—For common boxed blower housing dimensions, see page 14

Model*	Motor Frame	C	G note 2	H	J note 3	K	N	V	BB note 2-4	CC note 2-4	FF	HH	JJ
HP-4A	142T-184T	4 1/2"	5"	6 3/4"		4	9/16"	14 3/4"	21 1/4"		21"	12 3/4"	16 3/4"
HP-4C	143T-215T	4 1/2"	5"	9"		4	9/16"	17"	23 1/2"		25"	15"	19"
	254T-256T	4 1/2"	5"	14"		4	9/16"	17"	28 1/2"		25"	20"	19"
HP-6B	143T-184T	4 1/2"	6 3/16"	6 3/4"		4	9/16"	14 3/4"	23 5/8"		21"	12 3/4"	16 3/4"
	213T-215T	4 1/2"	6 3/16"	12 1/2"		4	9/16"	14 3/4"	29 5/8"		21"	18 1/2"	16 3/4"
HP-6C	143T-215T	4 1/2"	5"	9"		4	9/16"	17"	23 1/2"		25"	15"	19"
	254T-256T	4 1/2"	5"	14"		4	9/16"	17"	28 1/2"		25"	20"	19"
HP-6E	184T-256T	4 1/2"	5 11/16"	13"		4	9/16"	19"	28 7/8"		29"	19"	21"
HP-8B	143T-184T	4 1/2"	6 3/16"	6 3/4"		4	9/16"	14 3/4"	23 5/8"		21"	12 3/4"	16 3/4"
	213T-256T	4 1/2"	6 3/16"	12 1/2"		4	9/16"	14 3/4"	29 3/8"		21"	18 1/2"	16 3/4"
HP-8D	182T-215T	4 1/2"	6 3/16"	9"		4	9/16"	17"	25 7/8"		25"	15"	19"
	254T-286TS	4 1/2"	6 3/16"	14"		4	9/16"	17"	30 7/8"		25"	20"	19"
HP-8E	184T-256T	4 1/2"	5 11/16"	13"		4	9/16"	19"	28 7/8"		29"	19"	21"
	284TS-286TS	4 1/2"	5 11/16"	15 1/2"		4	9/16"	19"	31 3/8"		29"	21 1/2"	21"
HP-10D	184T-215T	4 1/2"	6 3/16"	9"		4	9/16"	17"	25 7/8"		25"	15"	19"
	254T-286TS	4 1/2"	6 3/16"	14"		4	9/16"	17"	30 7/8"		25"	20"	19"
HP-10F	215T-256T	4 1/2"	6 11/16"	13"		4	9/16"	19"	30 7/8"		29"	19"	21"
	284TS-326TS	4 1/2"	6 11/16"	15 1/2"		4	9/16"	19"	33 3/8"		29"	21 1/2"	21"
	364TS-365TS	4 1/2"	6 11/16"	22"		4	9/16"	19"	39 7/8"		29"	28"	21"
HP-12F	184T-256T	4 1/2"	6 11/16"	13"		4	9/16"	19"	30 7/8"		29"	29"	21"
	284TS-326TS	4 1/2"	6 11/16"	15 1/2"		4	9/16"	19"	33 3/8"		29"	29"	21"
	364TS-365TS	4 1/2"	6 11/16"	22"		4	9/16"	19"	39 7/8"		29"	29"	21"
HP-12G	254T-256T	6 1/2"	7 1/2"	13"		6	3/4"	22"	34 1/2"	54 15/16"	33"	19"	24"
	284T-326T	6 1/2"	7 1/2"	21"		6	3/4"	22"	42 1/2"	59 15/16"	33"	27"	24"
	364T-365T	6 1/2"	7 1/2"	23"		6	3/4"	22"	44 1/2"	63 5/16"	33"	29"	24"
	404T-405T	6 1/2"	7 1/2"	26"		6	3/4"	22"	43 1/2"	62 5/16"	33"	32"	24"
	444TS	6 1/2"	7 1/2"	30"	6"	6	3/4"	22"	47 1/2"	66 5/16"	33"	36"	24"

*Complete model number includes wheel diameter

1 Discharge flange not available with Downblast (DB) discharge position on models HP-8B, HP-10D, HP-12F and HP-12G.

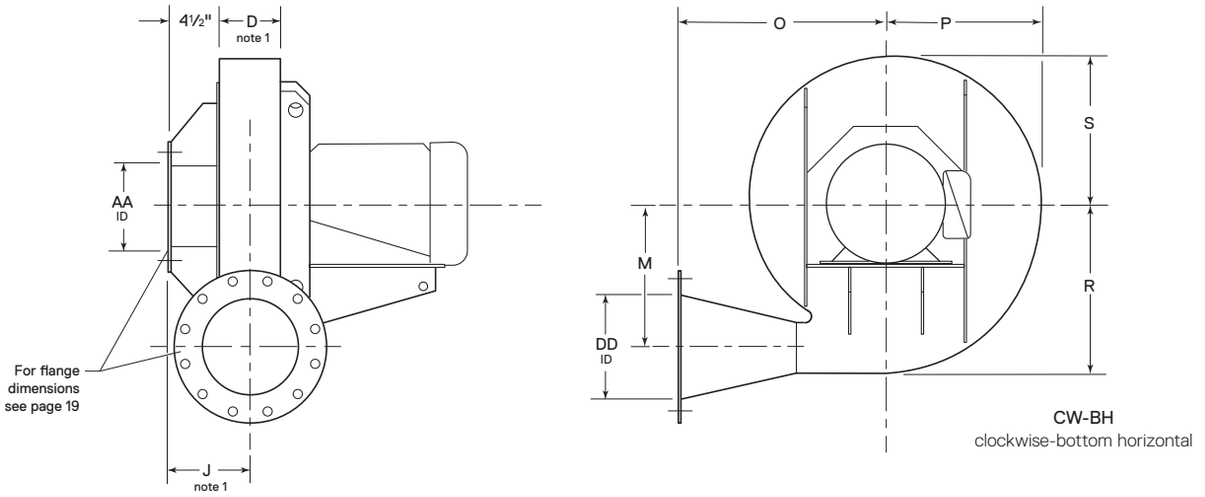
2 For AMCA Type C spark resistant construction, add 1/8" to dimensions G, BB and CC.

3 Inlet side support plate is only included on model HP-12G.

4 On some models, motor may extend past end of motor base.

5 Fan housings are reversible and rotatable in 45° increments.°

ARRANGEMENT 4HM — DIRECT DRIVE



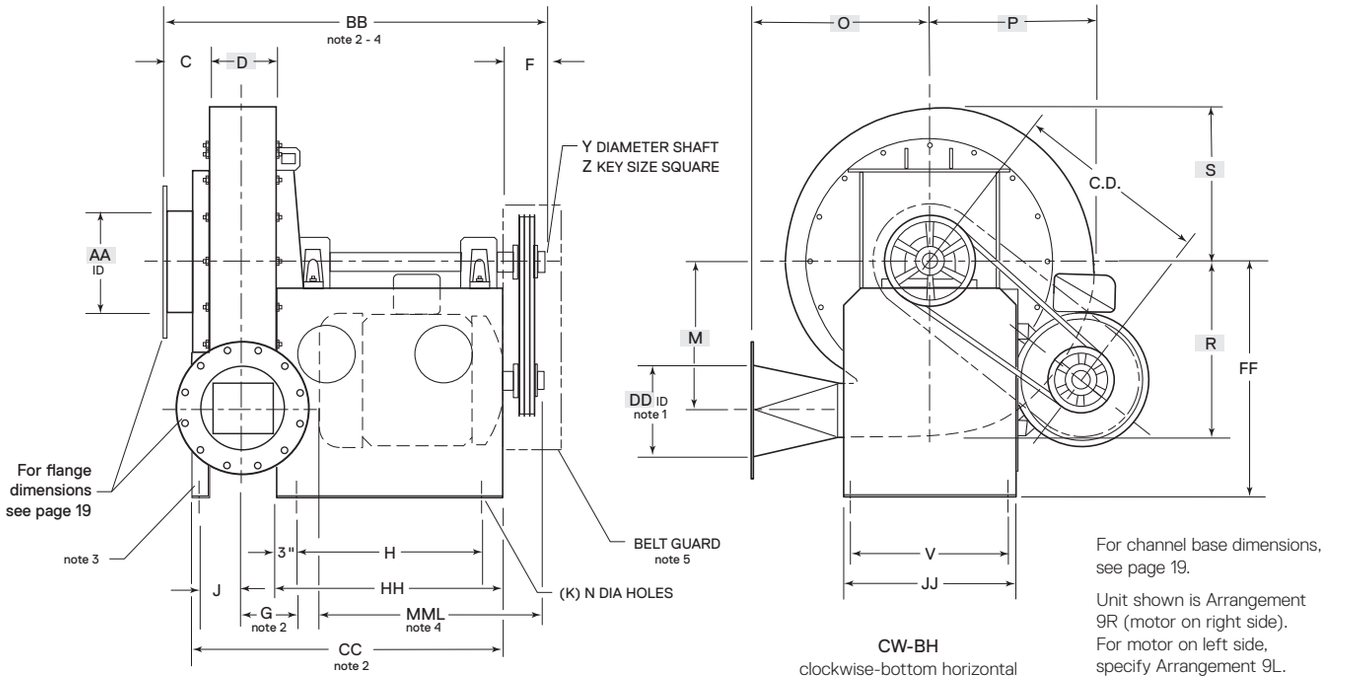
Model*	Motor Frame	D note 1	J note 1	M	O	P	R	S	AA	DD
HP-4A	143T-184T	4"	6 ½"	11 ¾"	18"	13 9/16"	14 3/8"	12 ¾"	6	4
HP-4C	143T-256T	4"	6 ½"	14 13/16"	17 15/16"	16 7/16"	17 7/16"	15 7/16"	6	4
HP-6B	143T-2154T	6 3/8"	7 11/16"	11 ¾"	18"	13 9/16"	14 3/8"	12 ¾"	8	6
HP-6C	143T-256T	4"	6 ½"	14 13/16"	17 15/16"	16 7/16"	17 7/16"	15 7/16"	6	6
HP-6E	184T-256T	5 3/8"	7 3/16"	17 7/16"	19 3/16"	19 3/8"	20 9/16"	18 3/16"	8	6
HP-8B	143T-254T	6 3/8"	7 11/16"	11 ¾"	19 13/16"	13 9/16"	14 3/8"	12 ¾"	8	8
HP-8D	182T-286TS	6 3/8"	7 11/16"	14 13/16"	19 ¾"	16 7/16"	17 7/16"	15 7/16"	8	8
HP-8E	213T-286TS	5 3/8"	7 3/16"	17 7/16"	21"	19 3/8"	20 9/16"	18 3/16"	8	8
HP-10D	184T-286TS	6 3/8"	7 11/16"	14 13/16"	21 ¾"	16 7/16"	17 7/16"	15 7/16"	8	10
HP-10F	215T-326TS	7 3/8"	8 3/16"	17 7/16"	23"	19 3/8"	20 9/16"	18 3/16"	10	10
HP-12F	184T-326TS	7 3/8"	8 3/16"	17 7/16"	23"	19 3/8"	20 9/16"	18 3/16"	10	12

*Complete model number includes wheel diameter
1 For AMCA Type C spark resistant construction, add 1/4" to dimension D.
2 Fan housings are reversible and rotatable in 45° increments.

Construction Gauge

Model	Inlet			Outlet Flange	Housing			Wheel			All Bases
	Side Plate	Inlet Collar	Inlet Flange		Side Plate	Scroll	Transition	Shroud	Blades	Back Plate	
HP-4A and HP-4C	7	10	10	10	7	10	14	7	10	7	7
HP-6B and HP-6E	7	10	7	10	7	10	14	7	10	7	7
HP-6C	7	10	10	10	7	10	14	7	10	7	7
HP-6E	7	10	7	10	7	10	14	7	10	7	7
HP-8B through HP-12F	7	10	7	10	7	10	14	7	10	¼"	7
HP-12G	¼"	10	7	7	¼"	10	14	¼"	10	¼"	7

ARRANGEMENT 1 AND 9 — BELT DRIVE specify 9R or 9LE



For channel base dimensions, see page 19.

Unit shown is Arrangement 9R (motor on right side). For motor on left side, specify Arrangement 9L.

Note—For common boxed blower housing dimensions, see page 14

Model*	Motor Frame	C	F	G note 2	H	J note 2-3	K	N	V	Y	Z	BB note 2	CC note 2	FF	HH	JJ	MRL note 4
HP-4A	142T-215T	4 1/2"	4	5"	12 13/16"		4	9/16"	14 3/4"	1 7/16"	3/8"	31 5/16"		21"	18 13/16"	16 3/4"	21 1/2"
HP-4C	143T-256T	4 1/2"	5	5"	17 1/16"		4	9/16"	17"	1 7/16"	3/8"	36 9/16"		25"	23 1/16"	19"	26 1/4"
HP-6B	143T-215T	4 1/2"	4	6 3/16"	12 13/16"		4	9/16"	14 3/4"	1 7/16"	3/8"	33 11/16"		21"	18 13/16"	16 3/4"	21 1/2"
HP-6C	143T-256T	4 1/2"	5	5"	17 1/16"		4	9/16"	17"	1 7/16"	3/8"	36 9/16"		25"	23 1/16"	19"	26 1/4"
HP-6E	184T-286T	4 1/2"	5	5 11/16"	21"		4	9/16"	19"	1 7/16"	1/2"	41 7/8"		29"	27"	21"	30 1/4"
HP-8B	143T-215T	4 1/2"	4	6 3/16"	12 13/16"		4	9/16"	14 3/4"	1 7/16"	3/8"	33 11/16"		21"	18 13/16"	16 3/4"	21 1/2"
	254T-256T	4 1/2"	5	6 3/16"	17 1/16"		4	9/16"	14 3/4"	1 11/16"	3/8"	38 15/16"		21"	23 1/16"	16 3/4"	26 1/4"
HP-8D	182T-256T	4 1/2"	5	6 3/16"	17 1/16"		4	9/16"	17"	1 11/16"	3/8"	38 15/16"		25"	23 1/16"	19"	26 1/4"
HP-8E	182T-286T	4 1/2"	5	5 11/16"	21"		4	9/16"	19"	1 15/16"	1/2"	41 7/8"		29"	27"	21"	30 1/4"
HP-10D	184T-256T	4 1/2"	5	6 3/16"	17 1/16"		4	9/16"	17"	1 11/16"	3/8"	38 15/16"		25"	23 1/16"	19"	26 1/4"
HP-10F	215T-324T	4 1/2"	6	6 11/16"	21"		4	9/16"	19"	2 3/16"	1/2"	44 7/8"		29"	27"	21"	30 1/4"
HP-12F	215T-324T	4 1/2"	6	6 11/16"	21"		4	9/16"	19"	2 3/16"	1/2"	44 7/8"		29"	27"	21"	30 1/4"
HP-12G	213T-365T	6 1/2"	6	7 1/2"	26"	6"	6	3/4"	22"	2 11/16"	5/8"	53 1/2"	43 1/2"	33"	32"	24"	32 1/8"

*Complete model number includes wheel diameter

1 Discharge flange not available with Downblast (DB) discharge position on models HP-8B, HP-10D, HP-12F and HP-12G.

2 For AMCA Type C spark resistant construction, add 1/8" to dimensions G, BB and CC.

3 Inlet side support plate is only included on model HP-12G.

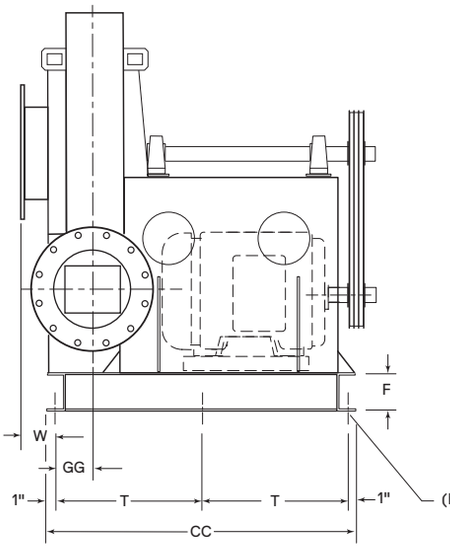
4 MML is the maximum motor length (for maximum motor frame size listed) on customer supplied motor. Motor manufacturers C dimension cannot exceed MML without a special base.

5 Belt guard is standard on Arrangement 9 blowers. Arrangement 1 blowers do not include motor, motor slide base, belt guard, sheaves or belts.

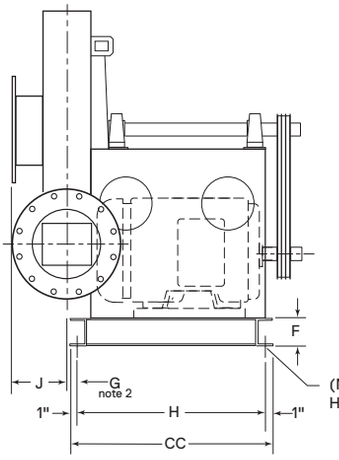
C.D. Belt Center Distance

Model	143T-145T		182T-184T		213T-215T		254T-256T		284T-286T		324T-326T		364T-365T	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
HP-4A and HP-6B	12 5/8"	10"	14 3/8"	15 7/8"	15 11/16"	17 3/8"								
HP-4C and HP-6C	13 11/16"	15"	15 7/16"	16 7/8"	16 3/4"	18 7/16"	18 3/8"	20 3/4"						
HP-6E and HP-8E			15"	16 1/2"	16 3/8"	18 3/8"	18"	20 7/16"	18 15/16"	21 15/16"				
HP-8B	11 5/8"	13 5/8"	14 3/8"	15 7/8"	15 11/16"	17 1/2"	17 3/8"	19 1/4"						
HP-8D and HP-10D			15 7/16"	16 7/8"	16 3/4"	18 7/16"	8 7/16"	20 3/4"						
HP-10F and HP-12F					16 3/8"	18 3/8"	18"	20 7/16"	18 15/16"	21 15/16"	19 5/8"	23 1/4"		
HP-12G					19 3/4"	21"	21 1/2"	23"	22 1/2"	24 3/8"	24 3/8"	26 3/4"	25 3/4"	27 1/2"

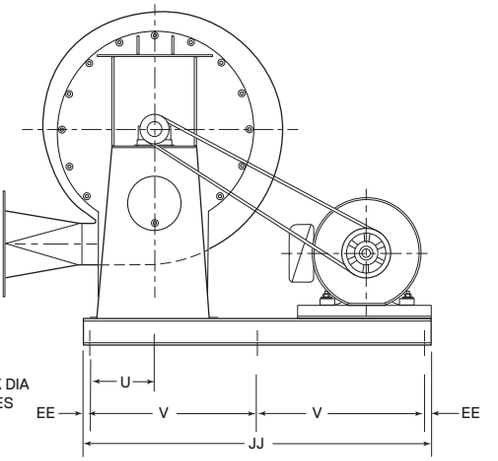
ARRANGEMENT 9RCB OR 9LCB CHANNEL BASE — BELT DRIVE



Model HP-12G



Model HP-4A through HP12F



All Models
clockwise-bottom horizontal discharge
and arrangement 9RCB shown

Note—For common boxed blower housing dimensions, see page 14

Model*	Motor Frame	F	G note 1	H	J	K	N	T	U	V	W	CC	EE	GG	JJ
HP-4A	182T-215T	4"	3"	16 13/16"	6 1/2"	9/16"	6		7 3/8"	21 1/2"		18 13/16"	1"		45"
HP-4C	182T-256T	4"	3"	21 1/16"	6 1/2"	9/16"	6		8 1/2"	22 1/2"		23 1/16"	1"		47"
HP-6B	182T-215T	4"	4 3/16"	16 13/16"	7 11/16"	9/16"	6		7 3/8"	21 1/2"		18 13/16"	1"		45"
HP-6C	213T-256T	4"	3"	21 1/16"	6 1/2"	9/16"	6		8 1/2"	22 1/2"		23 1/16"	1"		47"
HP-6E	213T-286T	4"	1 3/16"	30"	7 11/16"	9/16"	6		9 1/2"	25 1/2"		32"	1"		53"
HP-8B	213T-256T	4"	4 3/16"	21 1/16"	7 11/16"	9/16"	6		7 3/8"	21 1/2"		23 1/16"	1"		45"
HP-8D	213T-286T	4"	4 3/16"	21 1/16"	7 11/16"	9/16"	6		8 1/2"	22 1/2"		23 1/16"	1"		47"
HP-8E	213T-326T	4"	1 3/16"	30"	7 3/16"	9/16"	6		9 1/2"	25 1/2"		32"	1"		53"
HP-10D	213T-326T	4"	4 3/16"	21 1/16"	7 11/16"	9/16"	6		8 1/2"	22 1/2"		23 1/16"	1"		47"
HP-10F	213T-364T	4"	2 3/16"	30"	8 3/16"	9/16"	6		9 1/2"	25 1/2"		32"	1"		53"
HP-12F	213T-364T	4"	2 3/16"	30"	8 3/16"	9/16"	6		9 1/2"	25 1/2"		32"	1"		53"
HP-12G	284T-444T	6"				3/4"	8	22 1/2"	7"	28 3/16"	5	47"	5"	6"	66 3/8"

*Complete model number includes wheel diameter
2 For AMCA Type C spark resistant construction, add 1/4" to dimension D.

Sixteen Discharge Positions Available. 45° Discharge Positions Not shown

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



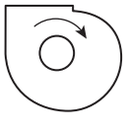
CW-TH*
Clockwise Top Horizontal Discharge



CW-DB
Clockwise Down Blast Discharge



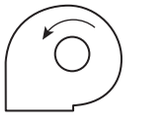
CW-BH
Clockwise Bottom Horizontal Discharge



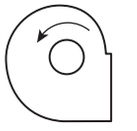
CW-UB
Clockwise Up Blast Discharge



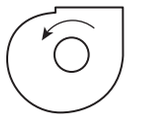
CCW-TH
Counter Clockwise Top Horizontal Discharge



CW-DB*
Counter Clockwise Down Blast Discharge



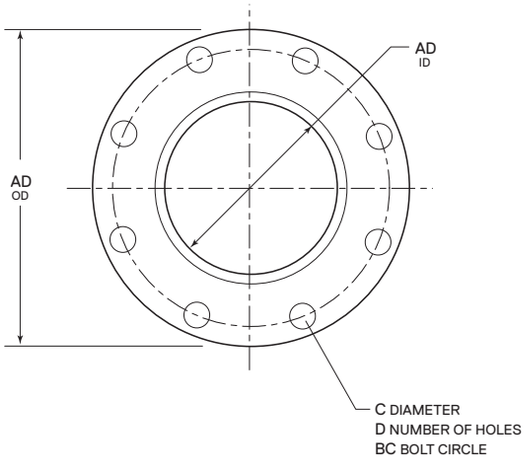
CW-BH
Counter Clockwise Bottom Horizontal Discharge



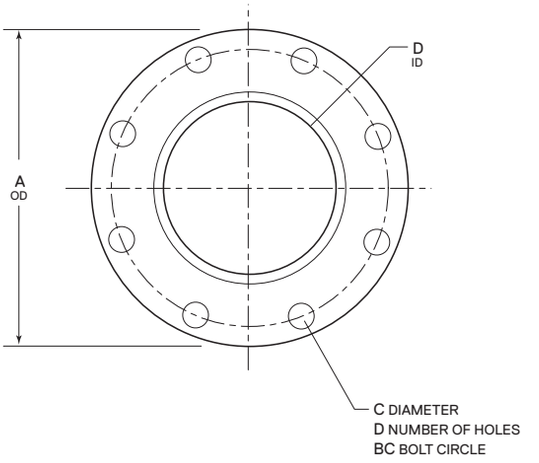
CW-UB
Counter Clockwise Up Blast Discharge

*Discharge flange not available with downblast discharge on models HP-8B, HP-10D, HP-12F and HP-12G.

INLET AND DISCHARGE FLANGES



Inlet Flange



Discharge Flange

Model	AA	AD	BC	C	D
HP-4A HP-4C and HP-6C	6"	11"	9 ½"	⅞"	8
HP-6B HP-6E HP-8B HP-8D HP8E and HP-10D	8"	13 ½"	11 ¾"	⅞"	8
HP-10F and HP-12F	10"	16"	14 ¼"	1"	12
HP-12G	14"	21"	18 ¾"	1 ⅛"	12

All dimensions except flange thickness meet ANSI-125 lb and ASA-150 lb specifications. Standard orientation is holes straddling major center lines. Holes may be specified to be on center lines at no additional cost.

Model	DD	A	BC	C	D
HP-4A and HP-4C	4"	9"	7 ½"	¾"	8
HP-6B HP-6C and HP-6E	6"	11"	9 ½"	⅞"	8
HP-8B HP-8D and HP-8E*	8"	13 ½"	11 ¾"	⅞"	8
HP-10D and HP-10F*	10"	16"	14 ¼"	1"	12
HP-12F and HP-12G*	12"	19"	17"	1"	12

*See note under discharge positions available on page 18

APPROXIMATE SHIPPING WEIGHT LESS MOTOR

Model	Motor Frame	Fan Arrangement			
		4	8	1 and 9	9CB
HP-4A	143T-184T	190	265		
	143T-215T			220	
	182T-213T				315
HP-4C	143T-215T	250	335		
	254T	260	350		
	143T-256T			280	
	182T-254T			–	380
HP-6B	143T-184T	210	285		
	213T-215T	240	315		
	143T-215T			270	
	182T-215T				365
HP-6C	143T-2156T	270	355		
	254T	300	385		
	143T-256T			310	
	213T-256TS				410
HP-6E	184T-256T	350	445		
	184T-286T			400	
	213T-286T			–	510
HP-8B	143T-184T	215			
	213T-254T	245			
	143T-215T		290	275	
	254T-256T		320	300	
	213T-2566T				395
HP-8D	182T-215T	280	365		
	254T-286TS	300			
	254T-256T		385		
	184T-256T			340	
	213T-286T				440

Model	Motor Frame	Fan Arrangement			
		4	8	1 and 9	9CB
HP-8E	213T - 256T	360	455		
	284T - 324T	380			
	284TS - 326TS		475		
	182T - 286T			430	
	213T - 326T				540
HP-10D	184T - 215T	290	375		
	184T - 256T			350	
	254T - 286TS	310	395	370	
	213T - 326T				470
HP-10F	215T - 256T	380	475		
	284TS - 326TS	395	490		
	215T - 324T			445	
	213T - 364T				565
HP-12F	184T - 256T	380			
	215T - 256T		475		
	284TS - 364TS	400	495		
	215T - 324T			465	
	213T - 364T				595
HP-12G	254T - 256T	712			
	284T - 326T	766			
	364T - 365T	787			
	404T - 405T	802			
	444TS	856			
	213T - 365T			1080	
	284T - 444T				1400

HP II series

ENGINEERING DATA

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