

**cincinnati fan**



# **HP SERIES II**

## **HIGH PRESSURE BLOWERS**

**7697 Snider Road, Mason, OH 45040-9135**

**Telephone: 513-573-0600**

Visit us at [www.cincinnati fan.com](http://www.cincinnati fan.com) for more information.

**Cat. No. HP-II-908  
Supersedes HP-II-1104**



# Cincinnati fan

## A Company That Stands Behind Its Product

Since the founding of **Cincinnati Fan** in 1956, the company's mission has been to provide quality products at competitive prices, backed by dependable 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** has over 170 experienced sales engineers across the U.S. and Canada ready to serve your air handling needs.

Visit us at [www.cincinnati-fan.com](http://www.cincinnati-fan.com) for more information.

**Cincinnati Fan** can provide:

- 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.

**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 10-15 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.

### SPECIFICATIONS FOR HP SERIES II BLOWERS

Radial bladed pressure blowers shall be Cincinnati Fan HP, Series II, Model \_\_\_\_\_, Arrangement \_\_\_\_\_  
Capacity: \_\_\_\_\_ CFM, \_\_\_\_\_ Static Pressure at standard conditions. Operating conditions:  
\_\_\_\_\_ °F, \_\_\_\_\_ Ft. Altitude.

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.

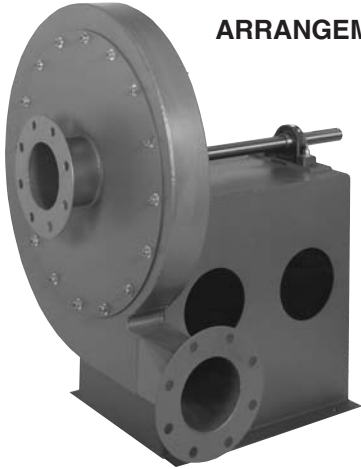
All parts in contact with airstream shall be standard steel, aluminum or stainless steel as specified.

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

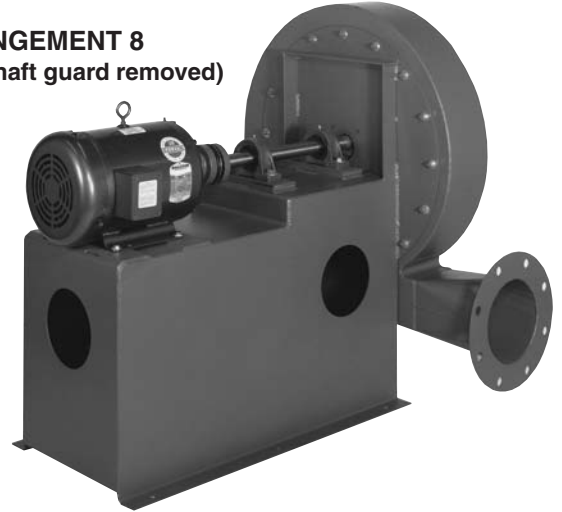
The following accessories shall be included: (See page 5 for optional accessories).

# SIX STANDARD ARRANGEMENTS

**ARRANGEMENT 1**



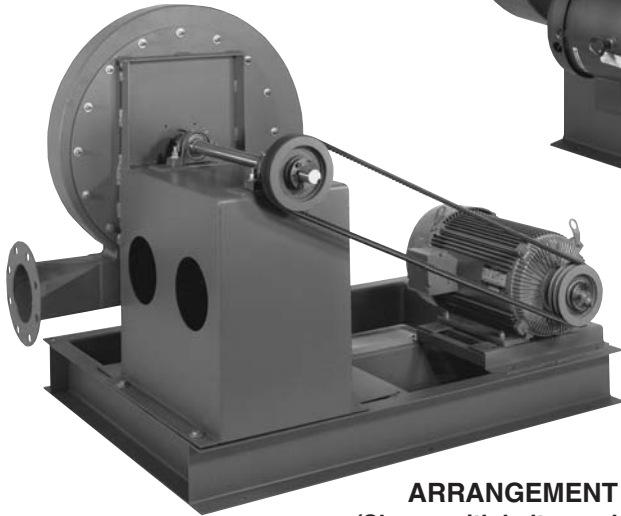
**ARRANGEMENT 8**  
(Shown with shaft guard removed)



**ARRANGEMENT 9**  
(Shown with optional shaft guard)



**ARRANGEMENT 4**  
(Arrangement 4HM not shown)



**ARRANGEMENT 9CB**  
(Shown with belt guard removed)

## ARRANGEMENT 1 (V-BELT DRIVE)

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

## 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: 300°F; high temperature design: 750°F.
- For dimensions, contact your local Cincinnati Fan sales office.

## ARRANGEMENT 9 (V-BELT DRIVE)

- Motor mounted on an 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: 300°F; high temperature design: 750°F.

## ARRANGEMENT 9CB (V-BELT DRIVE)

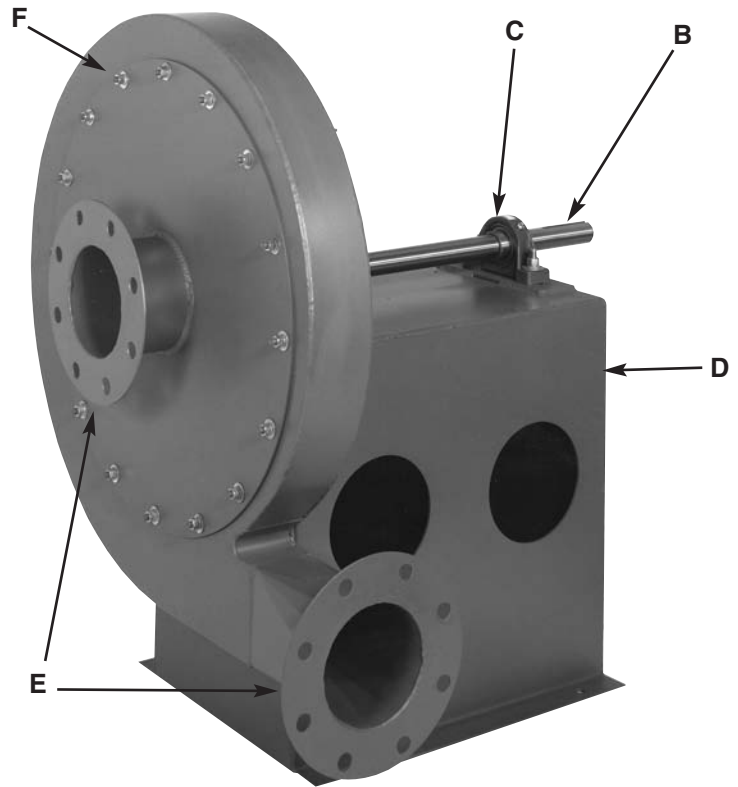
- Same as Arrangement 9 except motor and fan are mounted on a common channel base.
- Maximum temperature of standard design: 300°F; high temperature design: 750°F.

## ARRANGEMENT 4 & 4HM (DIRECT DRIVE)

- Motor mounted on motor base.
- Wheel mounted on motor shaft.
- Maximum temperature of standard design: 200°F; high temperature design: 400°F.
- For arrangement 4HM, see page 16.

## HP SERIES II 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 pound and ASA 150 pound 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 degree increments.
- G) Teflon shaft seal is standard. Ceramic seal is used for applications above 400°F. (Not shown.)



## SPARK-RESISTANT CONSTRUCTION

- Type A:** All parts in contact with airstream are of nonferrous material. **Maximum temperature 200°F.** Consult factory.
- Type B:** Aluminum wheel and aluminum rubbing ring for motor shaft or 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 750°F.**

### 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 construction 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.

# OPTIONAL ACCESSORIES



## Belt Guard

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



## Drain Connection

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



## Inspection Door

Inspection door available on all sizes except 4A, 4C and 6C. Rubber gasket standard to 250°F. Silicone gasket standard at temperatures of 250°F. to 750°F.



## Inlet Bell

With OSHA type guard.



## Outlet Guard

OSHA type.



## Shaft and/or Heat Slinger Guard

Guard available on Arrangement 1, 9 and 9CB. Standard on Arrangement 8. Covers bearings and shaft between fan housing and belt guard. Bearings relubricatable through guard. **Painted safety yellow.**

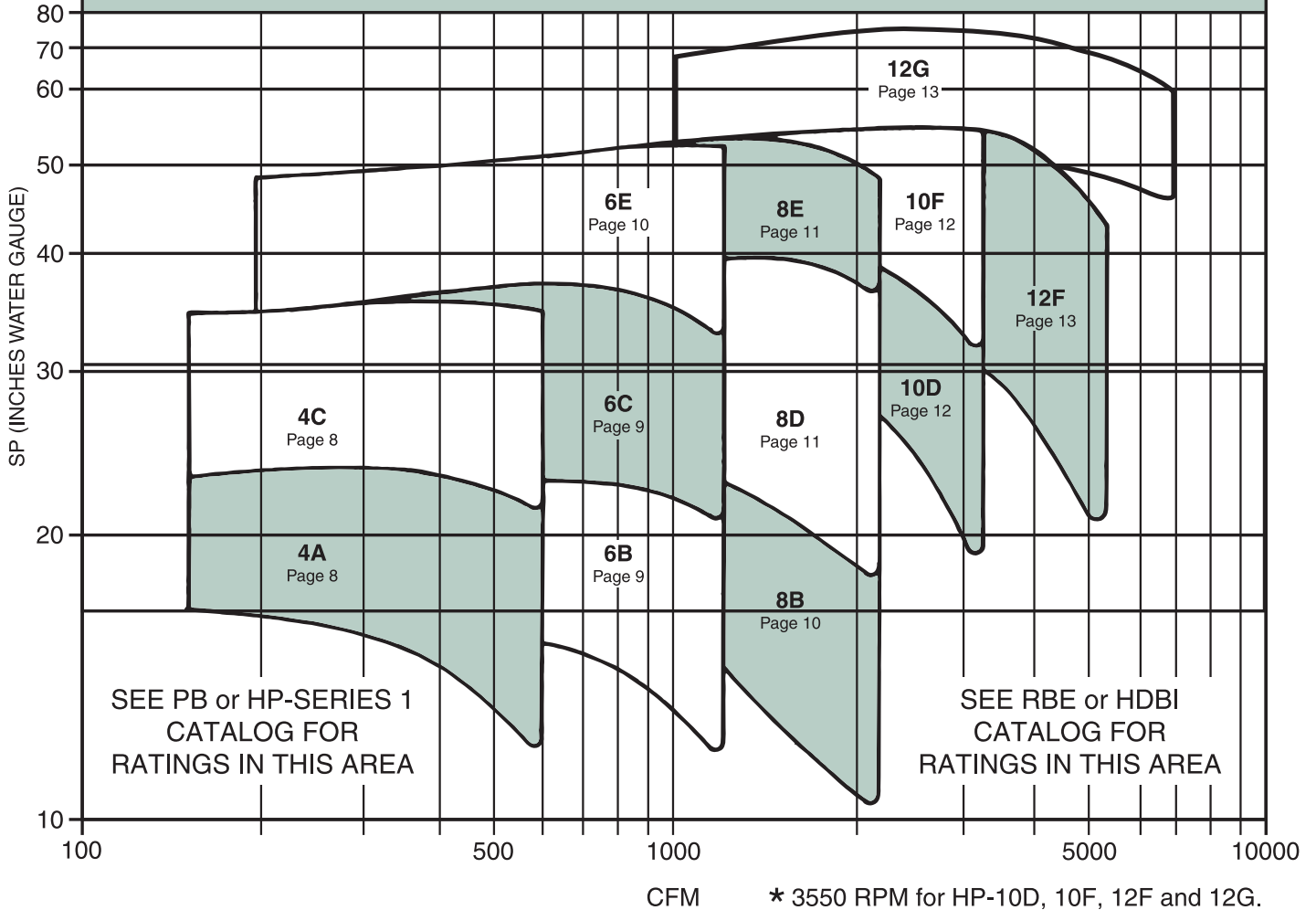
## DANGER

All fans & 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 or locked out from its power source.

Read operating instructions.

# HP SERIES II MASTER SELECTION CHART

STANDARD AIR: 70°F, .075 LB./CU. FT., SEA LEVEL  
3500 RPM\* — SEE CURVES FOR WHEEL DIAMETERS.



## HOW TO USE THE MASTER SELECTION CHART

The above 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 lbs. 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 rarefaction. See page 7 for correction factors.

**Rarefaction:** 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

## Arrangements 4 and 4 HM

**Up to 200°F. Standard fan construction.**

**201°- 400°F.** Standard fan with shaft seal, heat slinger, slinger guard and external hub on wheel.

## Arrangements 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°- 600°F.** Standard fan with heat slinger, shaft/slinger guard and high temperature shaft seal, gasketing and paint.

**601°- 750°F.** Standard fan with heat slinger, shaft/slinger guard, 316SS fan shaft and high temperature shaft seal, gasketing and paint.

TEMPERATURE RANGE	MAXIMUM RPM REDUCTION FACTOR†
Up to 175°F.	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 CONVERSIONS

AIR TEMP. °F	ALTITUDE IN FEET ABOVE SEA LEVEL										
	0	1000	2000	3000	4000	5000	6000	7000	8000	9000	10000
0°	.87	.91	.94	.98	1.01	1.05	1.09	1.13	1.17	1.22	1.26
40°	.94	.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 lbs. per cubic foot. Density changes resulting from temperature or barometric pressure variations (such as high 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 a HP12F with a 26" diameter wheel at 3500 RPM 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 CORRECTIONS

The two tables at the right give corrected static pressures for suction pressure (rarefaction). These corrected static pressures are for standard air (70°F., 29.92" Hg barometric pressure and .075 lbs. 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 rarefaction.

Suction Pressure in Inches W.G.	Corrected Static Pressure
16	16.7
18	18.8
20	21.0
22	23.3
24	25.5
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

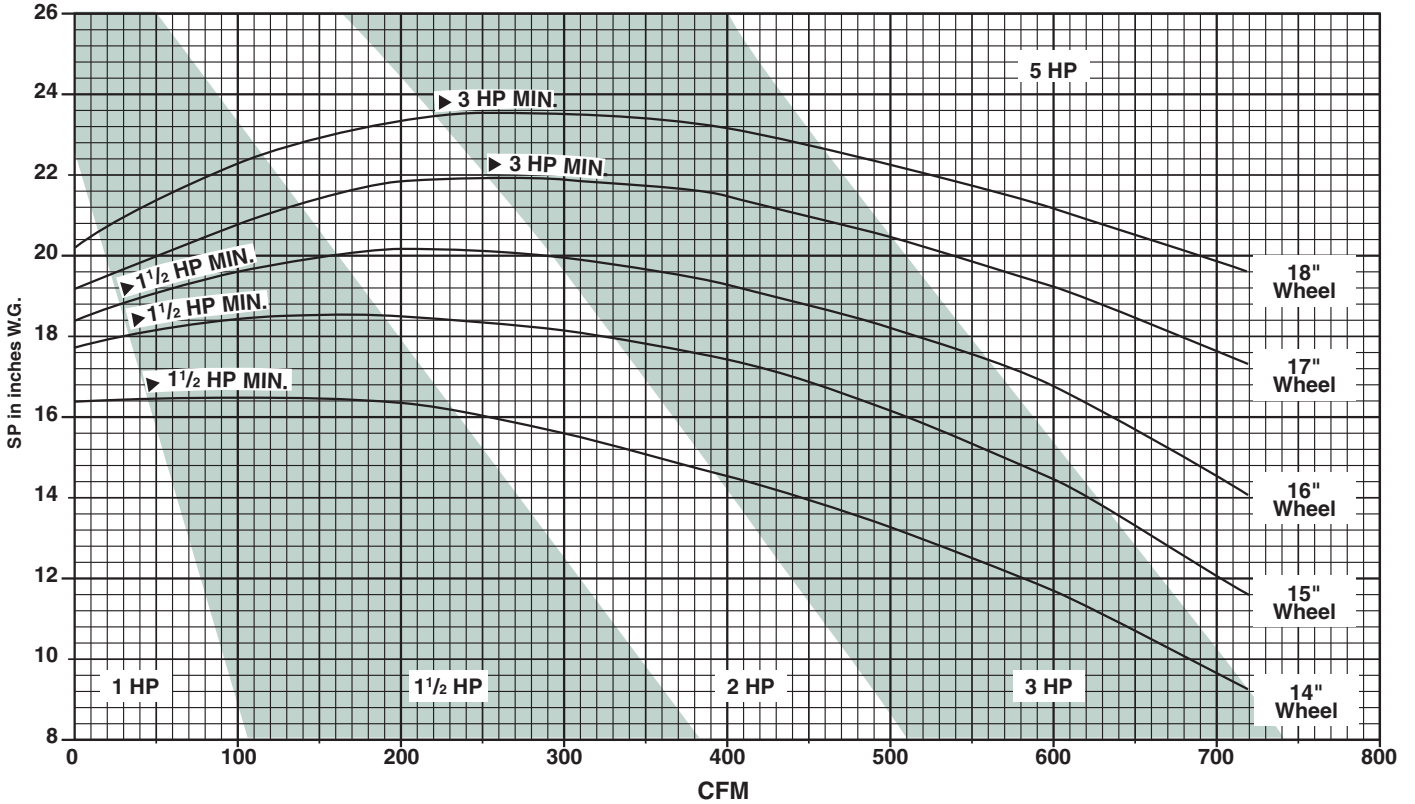
Suction Pressure in Inches W.G.	Corrected Static Pressure
44	49.3
46	51.9
48	54.4
50	57.0
52	59.6
54	62.2
56	64.9
58	67.6
60	70.4
62	73.2
64	75.9
66	78.8
68	81.6
70	84.5

# DIRECT DRIVE RATINGS @ 3500 RPM

CFM and BHP at Static Pressure Shown • Ratings at 70°F., .075 Density, Sea Level

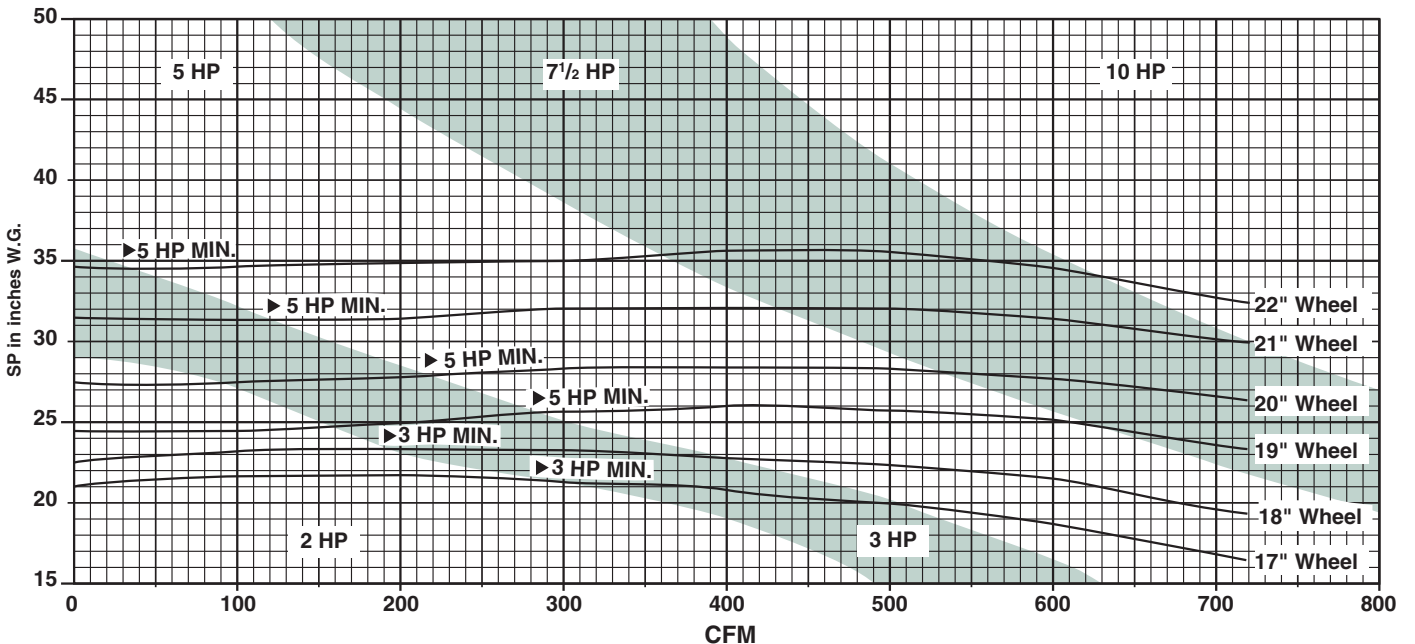
BHP values are shown. Note “▶” is minimum HP motor needed for required starting torque (WR<sup>2</sup>) for steel wheels. See page 14.

## Model HP-4A



## Model HP-4C

BHP values are shown. Note “▶” is minimum HP motor needed for required starting torque (WR<sup>2</sup>) for steel wheels. See page 14.





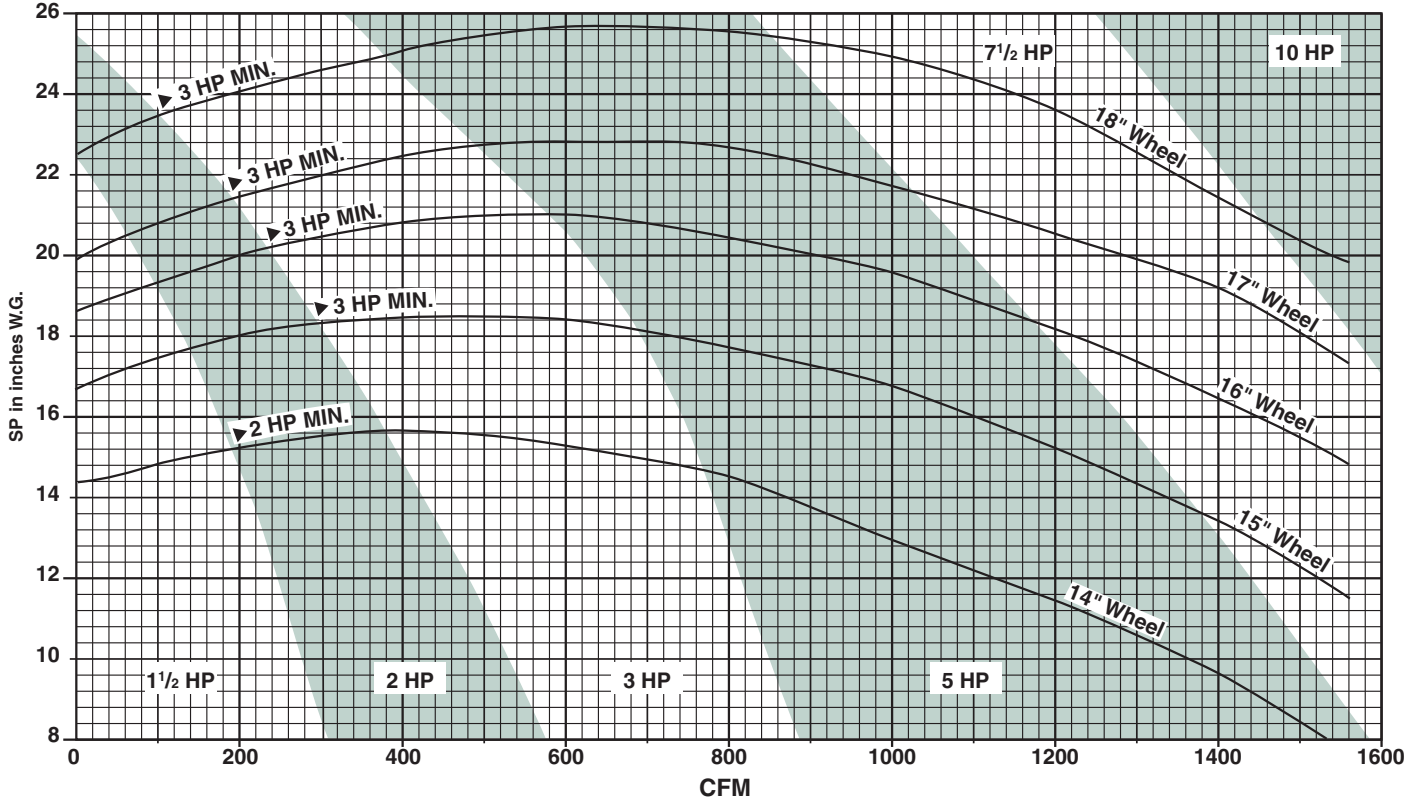
# DIRECT DRIVE RATINGS @ 3500 RPM

CFM and BHP at Static Pressure Shown • Ratings at 70°F, .075 Density, Sea Level



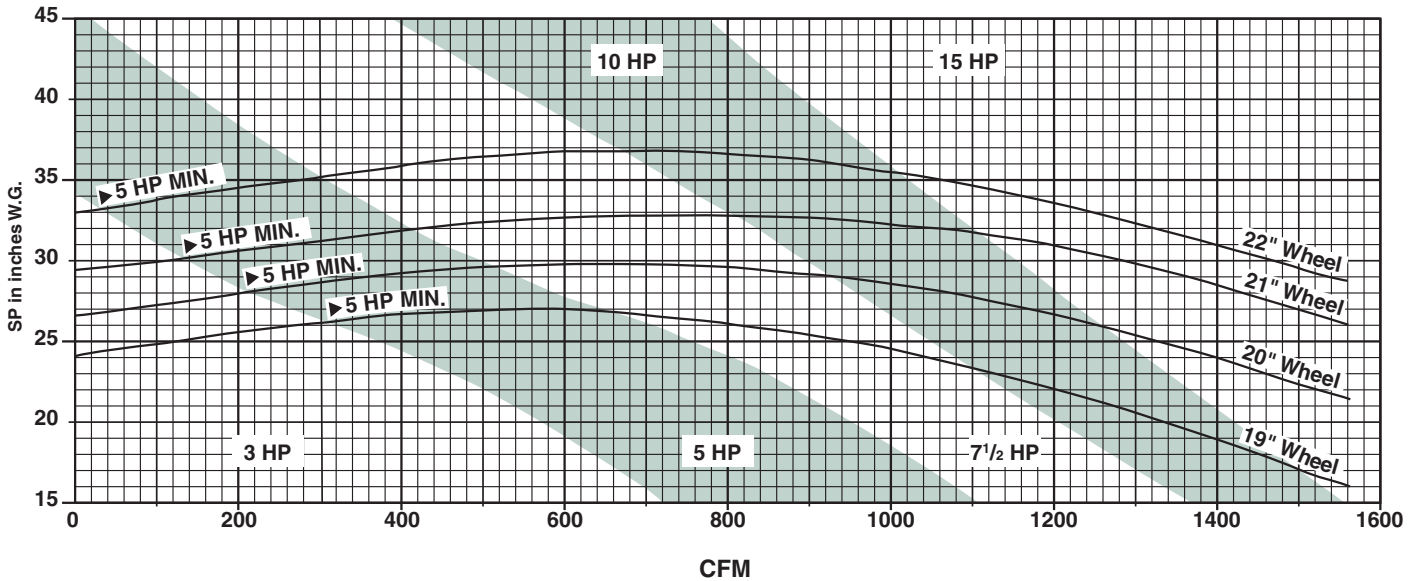
## Model HP-6B

BHP values are shown. Note "▶" is minimum HP motor needed for required starting torque (WR<sup>2</sup>) for steel wheels. See page 14.



## Model HP-6C

BHP values are shown. Note "▶" is minimum HP motor needed for required starting torque (WR<sup>2</sup>) for steel wheels. See page 14.



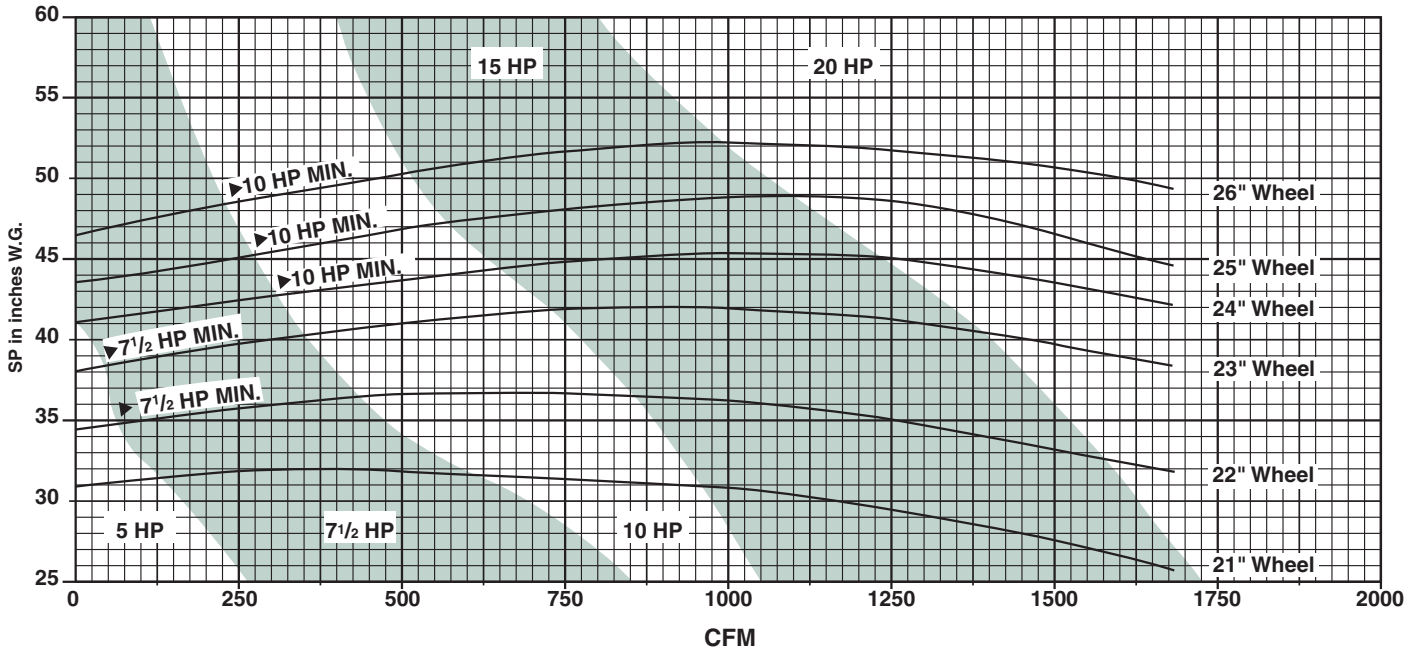
# DIRECT DRIVE RATINGS @ 3500 RPM

CFM and BHP at Static Pressure Shown • Ratings at 70°F., .075 Density, Sea Level



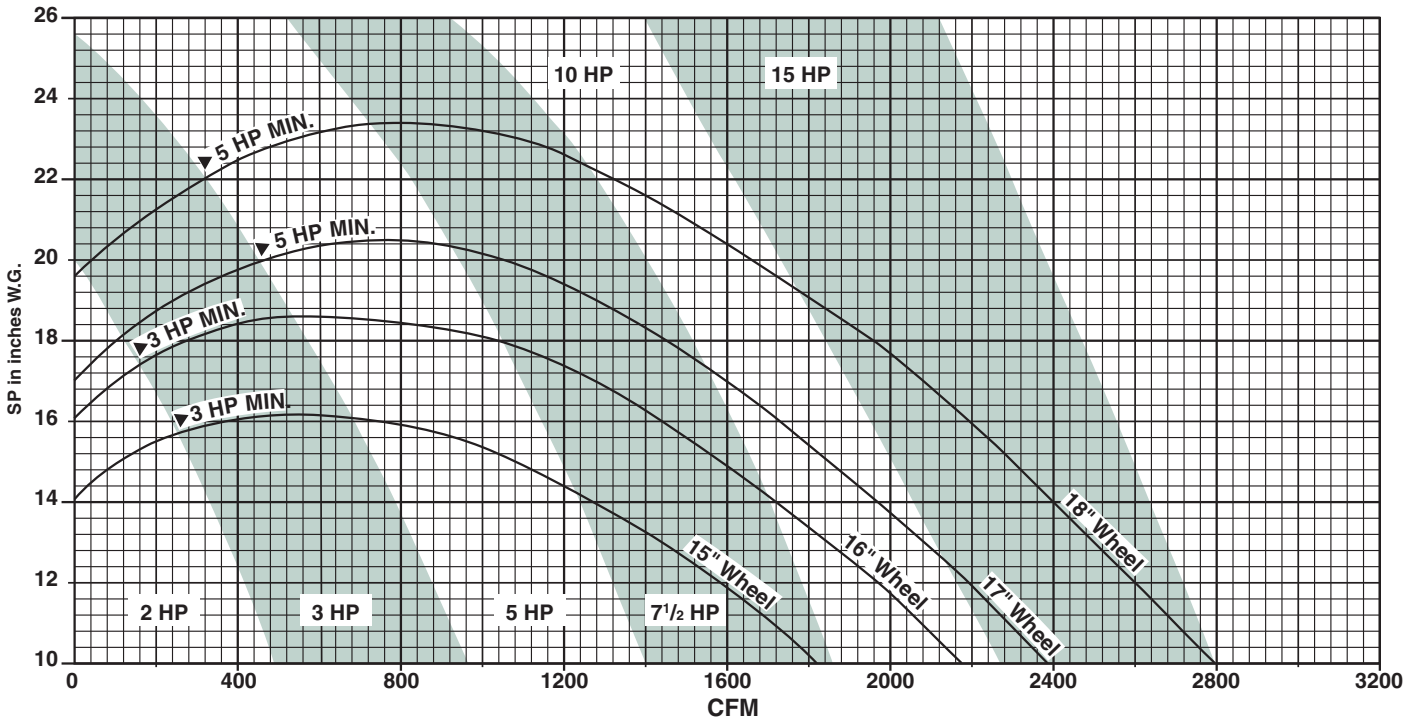
## Model HP-6E

BHP values are shown. Note “▶” is minimum HP motor needed for required starting torque (WR<sup>2</sup>) for steel wheels. See page 14.



## Model HP-8B

BHP values are shown. Note “▶” is minimum HP motor needed for required starting torque (WR<sup>2</sup>) for steel wheels. See page 14.



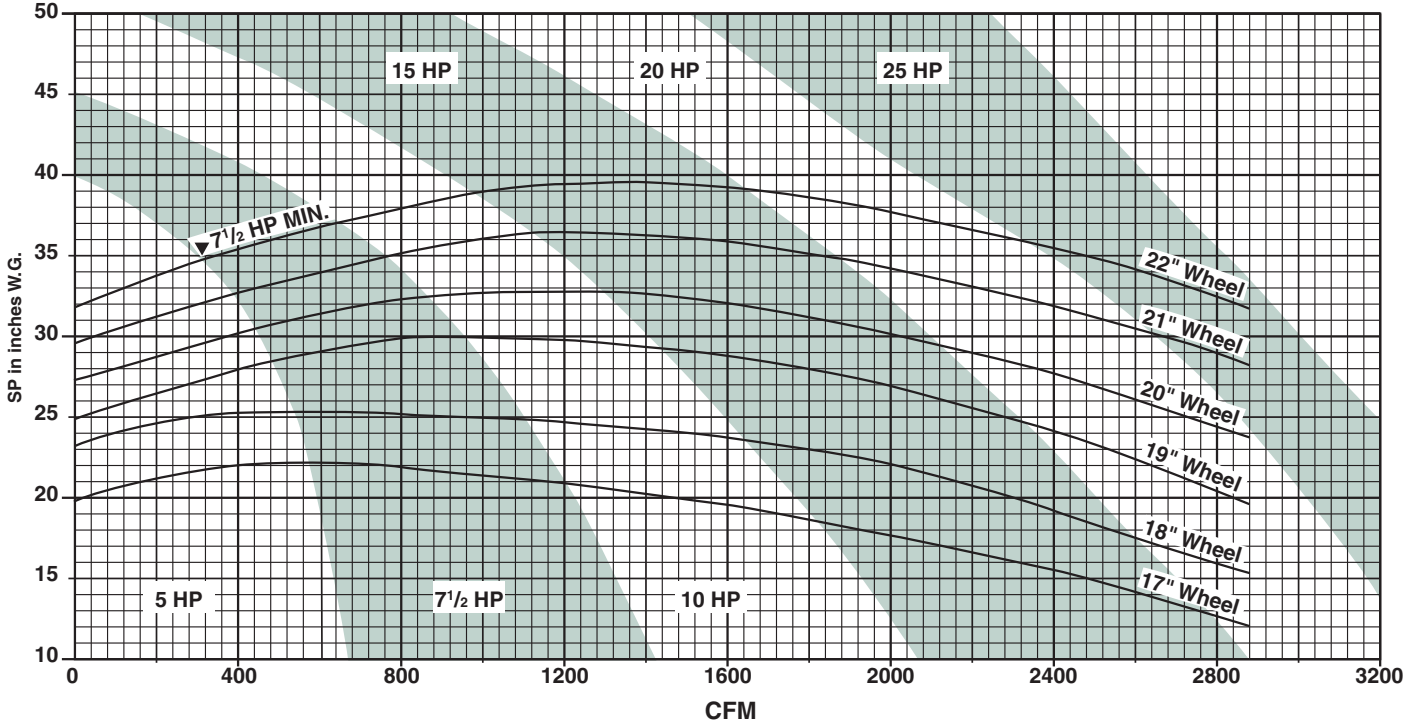
# DIRECT DRIVE RATINGS @ 3500 RPM

CFM and BHP at Static Pressure Shown • Ratings at 70°F, .075 Density, Sea Level



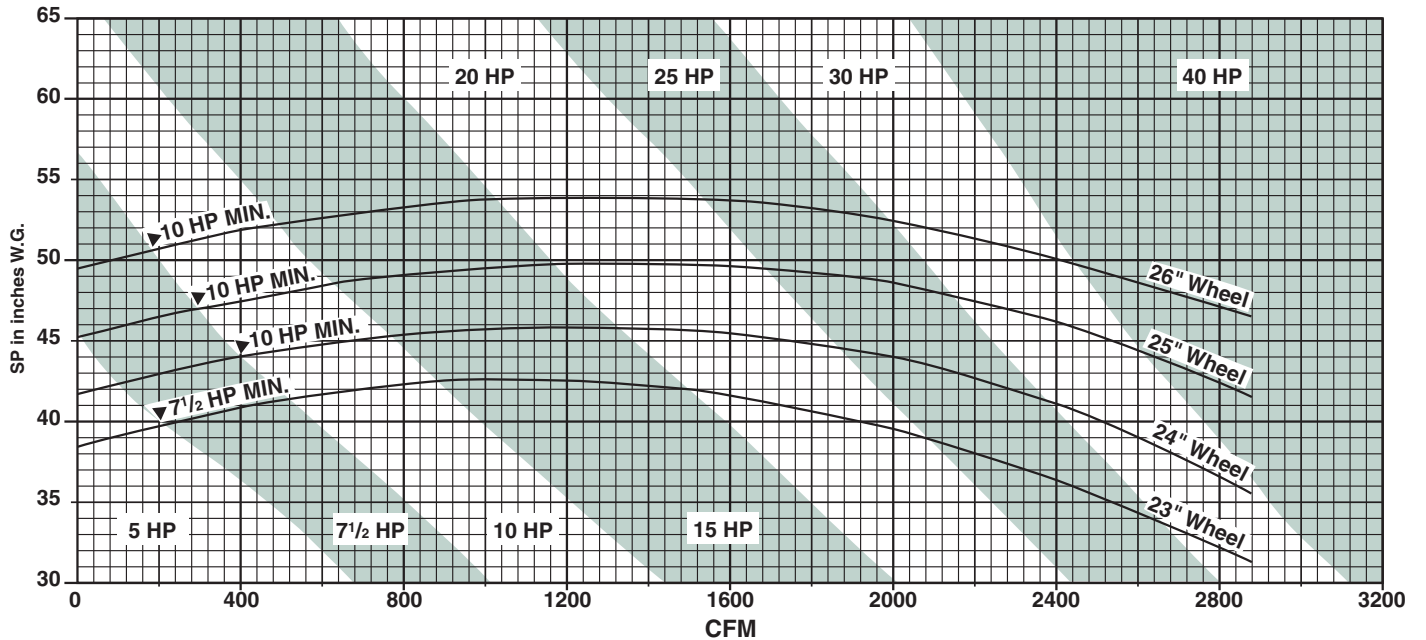
## Model HP-8D

BHP values are shown. Note "▶" is minimum HP motor needed for required starting torque (WR<sup>2</sup>) for steel wheels. See page 14.



## Model HP-8E

BHP values are shown. Note "▶" is minimum HP motor needed for required starting torque (WR<sup>2</sup>) for steel wheels. See page 14.



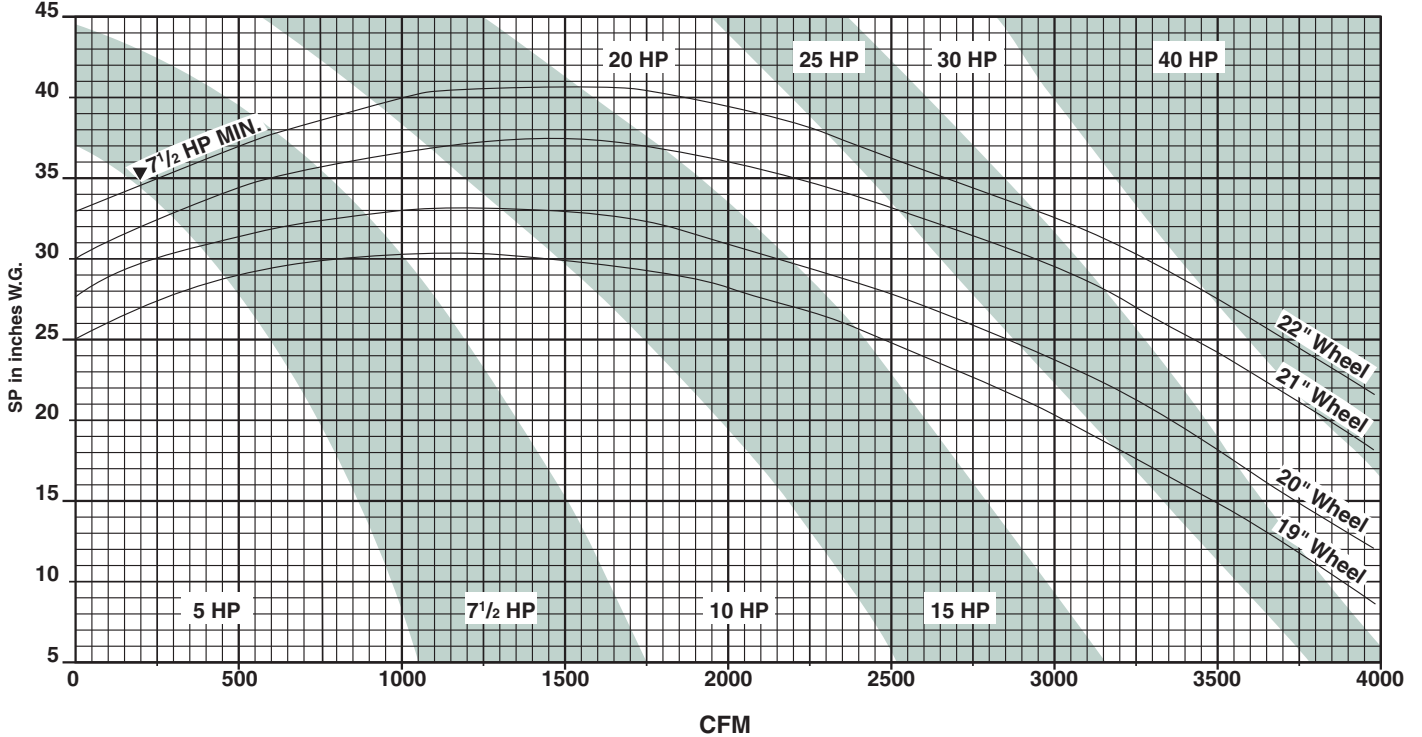
# DIRECT DRIVE RATINGS @ 3550 RPM

CFM and BHP at Static Pressure Shown • Ratings at 70°F., .075 Density, Sea Level



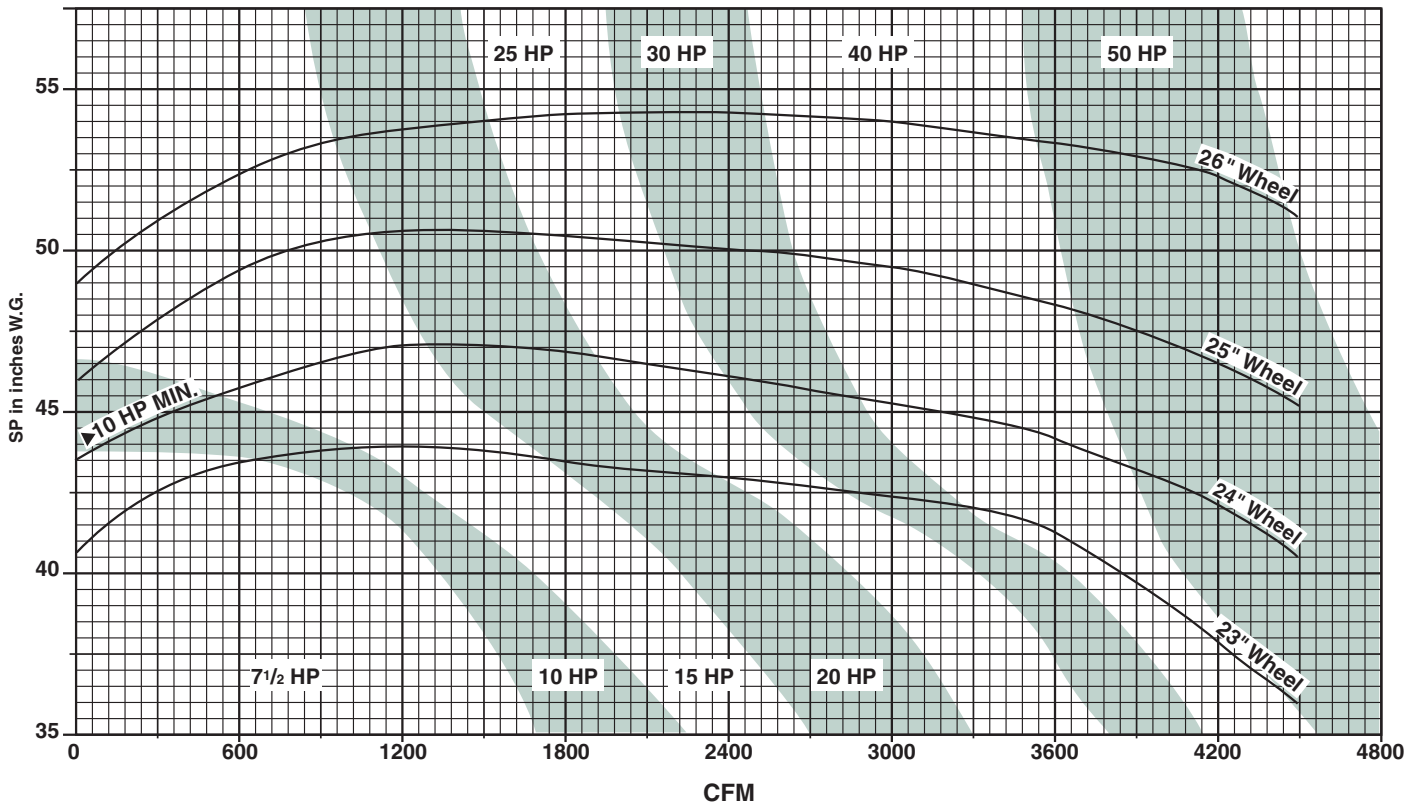
## Model HP-10D

BHP values are shown. Note "▶" is minimum HP motor needed for required starting torque (WR<sup>2</sup>) for steel wheels. See page 14.



## Model HP-10F

BHP values are shown. Note "▶" is minimum HP motor needed for required starting torque (WR<sup>2</sup>) for steel wheels. See page 14.



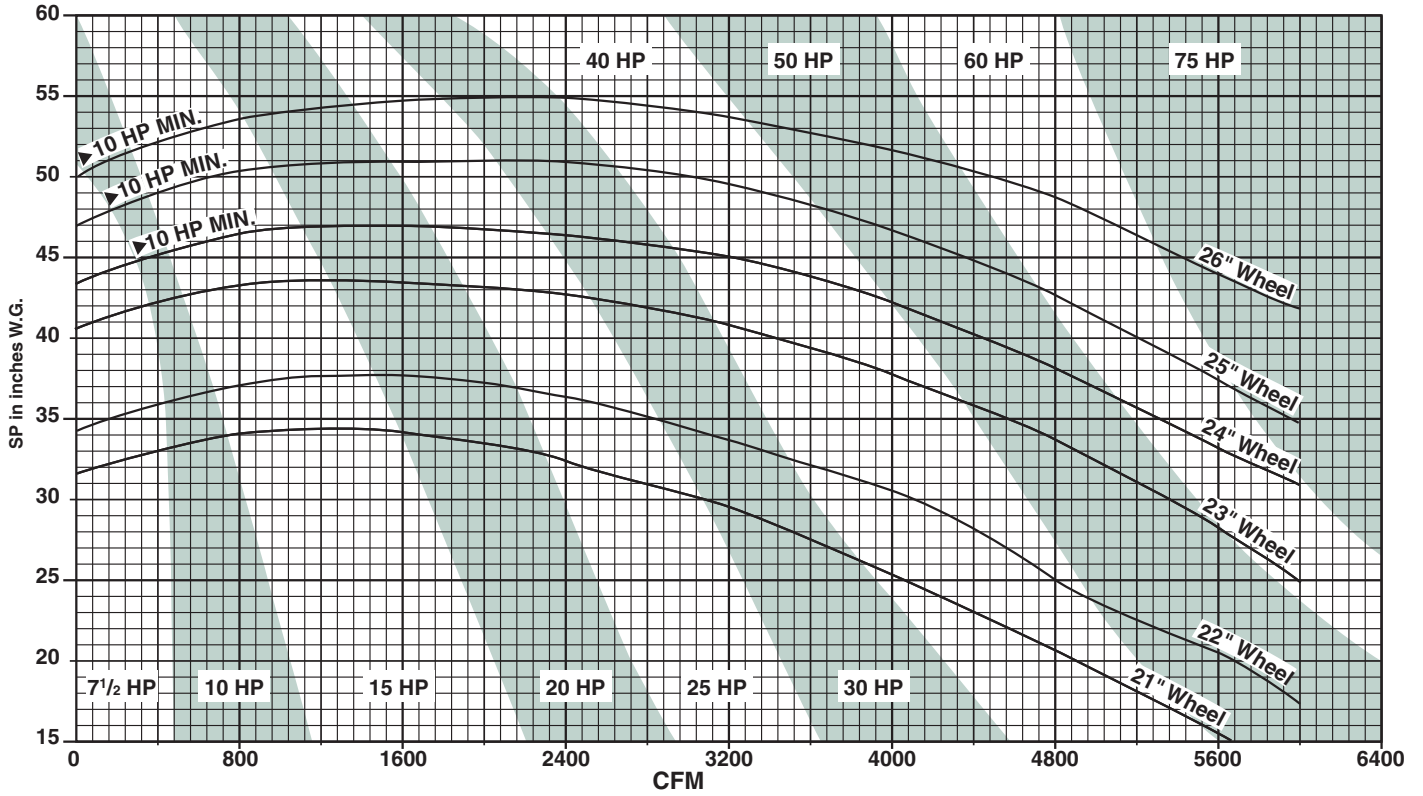
# DIRECT DRIVE RATINGS @ 3550 RPM

CFM and BHP at Static Pressure Shown • Ratings at 70°F., .075 Density, Sea Level

BHP values are shown. Note "▶" is minimum HP motor needed for required starting torque (WR<sup>2</sup>) for steel wheels. See page 14.

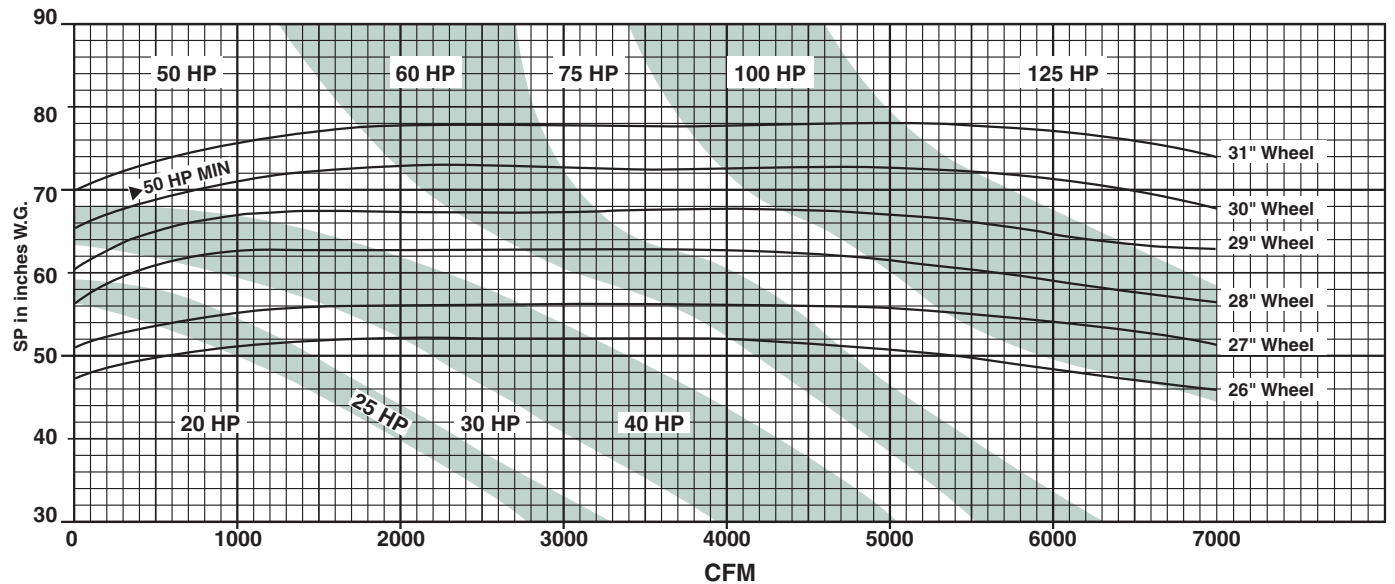


## Model HP-12F



## Model HP-12G

BHP values are shown. Note "▶" is minimum HP motor needed for required starting torque (WR<sup>2</sup>) for steel wheels. See page 14.



# DESIGN SPECIFICATIONS

## HP STEEL WHEEL WR<sup>2</sup> VALUES AND MINIMUM MOTOR HORSEPOWER

Model	WR <sup>2</sup> (lb.-FT. <sup>2</sup> )	Min. HP*
HP-4A14	3.4	1 1/2
HP-4A15	4.4	1 1/2
HP-4A16	5.7	1 1/2
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 1/2
HP-6E23	23.8	7 1/2
HP-6E24	28.1	10
HP-6E25	32.9	10
HP-6E26	38.3	10
HP-8B15	4.6	3
HP-8B16	6.0	3
HP-8B17	7.6	5
HP-8B18	9.6	5

Model	WR <sup>2</sup> (lb.-FT. <sup>2</sup> )	Min. 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 1/2
HP-8E23	23.8	7 1/2
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 1/2
HP-10F23	26.7	7 1/2
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 1/2
HP-12F23	26.7	7 1/2
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

**\*Min. HP:** 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 to the left. 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 fans. A smaller horsepower motor may be acceptable for some of these applications.

# DIMENSIONS and SPECIFICATIONS

NOTE: The table below contains blower housing dimensions common to all arrangements on pages 15, 17 and 18.

DIMENSIONS IN INCHES ± 1/8"

DIMENSIONS SUBJECT TO CHANGE WITHOUT NOTICE.

MODEL*	D	M	O	P	R	S	AA	DD①
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	23	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

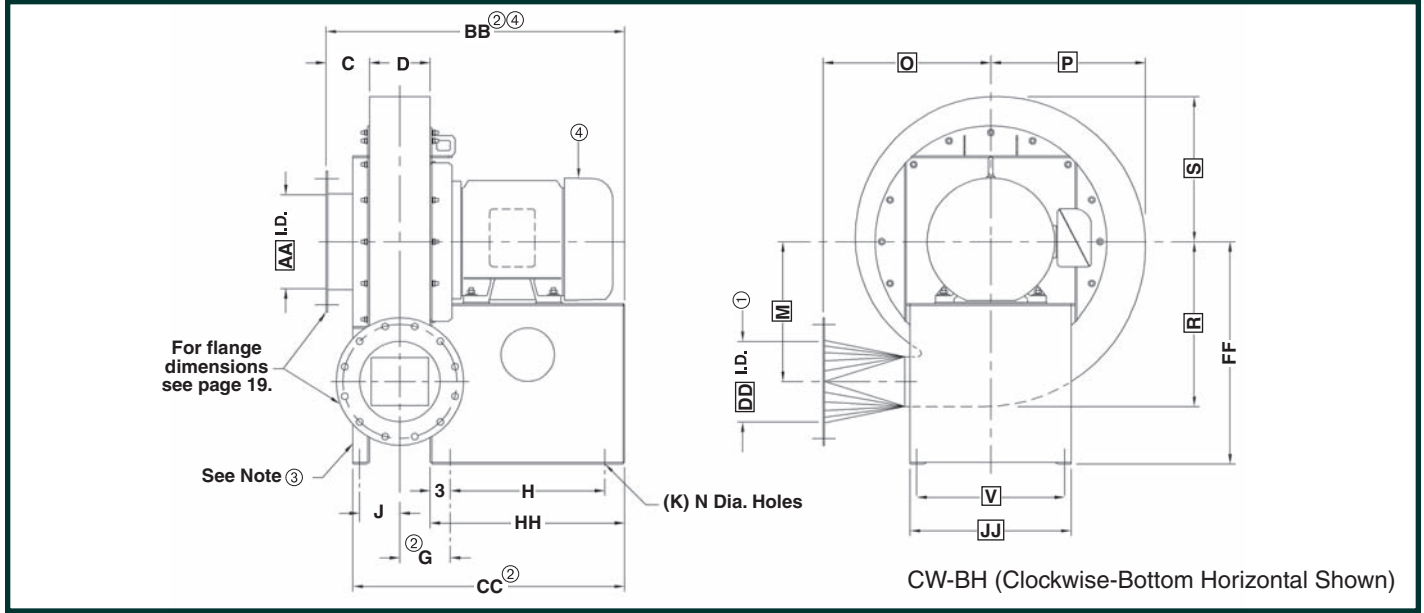
\*COMPLETE MODEL NUMBER INCLUDES WHEEL DIAMETER.

① Discharge flange not available with downblast discharge on models HP-8B, HP-10D, HP-12F and HP-12G.



# DIMENSIONS and SPECIFICATIONS

## Arrangement #4, Direct Drive



**Note: For common boxed blower housing dimensions, see bottom of Page 14.**

DIMENSIONS IN INCHES ± 1/8"

DIMENSIONS SUBJECT TO CHANGE WITHOUT NOTICE.

MODEL*	MOTOR FRAME	C	G <sup>②</sup>	H	J <sup>③</sup>	K	N	V	BB <sup>②④</sup>	CC <sup>②④</sup>	FF	HH	JJ
HP-4A	143T-184T	4 1/2	5	6 3/4	—	9/16	4	14 3/4	21 1/4	—	21	12 3/4	16 3/4
HP-4C	143T-215T	4 1/2	5	9	—	9/16	4	17	23 1/2	—	25	15	19
	254T-256T			14					28 1/2			20	
HP-6B	143T-184T	4 1/2	6 3/16	6 3/4	—	9/16	4	14 3/4	23 5/8	—	21	12 3/4	16 3/4
	213T-215T			12 1/2					29 5/8			18 1/2	
HP-6C	143T-215T	4 1/2	5	9	—	9/16	4	17	23 1/2	—	25	15	19
	254T-256T			14					28 1/2			20	
HP-6E	184T-256T	4 1/2	5 11/16	13	—	9/16	4	19	28 7/8	—	29	19	21
HP-8B	143T-184T	4 1/2	6 3/16	6 3/4	—	9/16	4	14 3/4	23 5/8	—	21	12 3/4	16 3/4
	213T-256T			12 1/2					29 3/8			18 1/2	
HP-8D	182T-215T	4 1/2	6 3/16	9	—	9/16	4	17	25 7/8	—	25	15	19
	254T-286TS			14					30 7/8			20	
HP-8E	184T-256T	4 1/2	5 11/16	13	—	9/16	4	19	28 7/8	—	29	19	21
	284TS-286TS			15 1/2					31 3/8			21 1/2	
HP-10D	184T-215T	4 1/2	6 3/16	9	—	9/16	4	17	25 7/8	—	25	15	19
	254T-286TS			14					30 7/8			20	
	215T-256T			13					30 7/8			19	
HP-10F	284TS-326TS	4 1/2	6 11/16	15 1/2	—	9/16	4	19	33 3/8	—	29	21 1/2	21
	364TS-365TS			22					39 7/8			28	
	184T-256T			13					30 7/8			19	
HP-12F	284TS-326TS	4 1/2	6 11/16	15 1/2	—	9/16	4	19	33 3/8	—	29	21 1/2	21
	364TS-365TS			22					39 7/8			28	
	184T-256T			13					30 7/8			19	
HP-12G	254T-256T	6 1/2	7 1/2	13	6	3/4	6	22	34 1/2	30 1/2	33	19	24
	284T-326T			21					42 1/2	38 1/2		27	
	364T-365T			23					44 1/2	40 1/2		29	
	404T-405T			26					47 1/2	43 1/2		32	
	444TS			30					51 1/2	47 1/2		36	

\* COMPLETE MODEL NUMBER INCLUDES WHEEL DIAMETER.

Fan housings are reversible and rotatable in 45° increments.

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 inch to dimensions "G", "BB" and "CC".

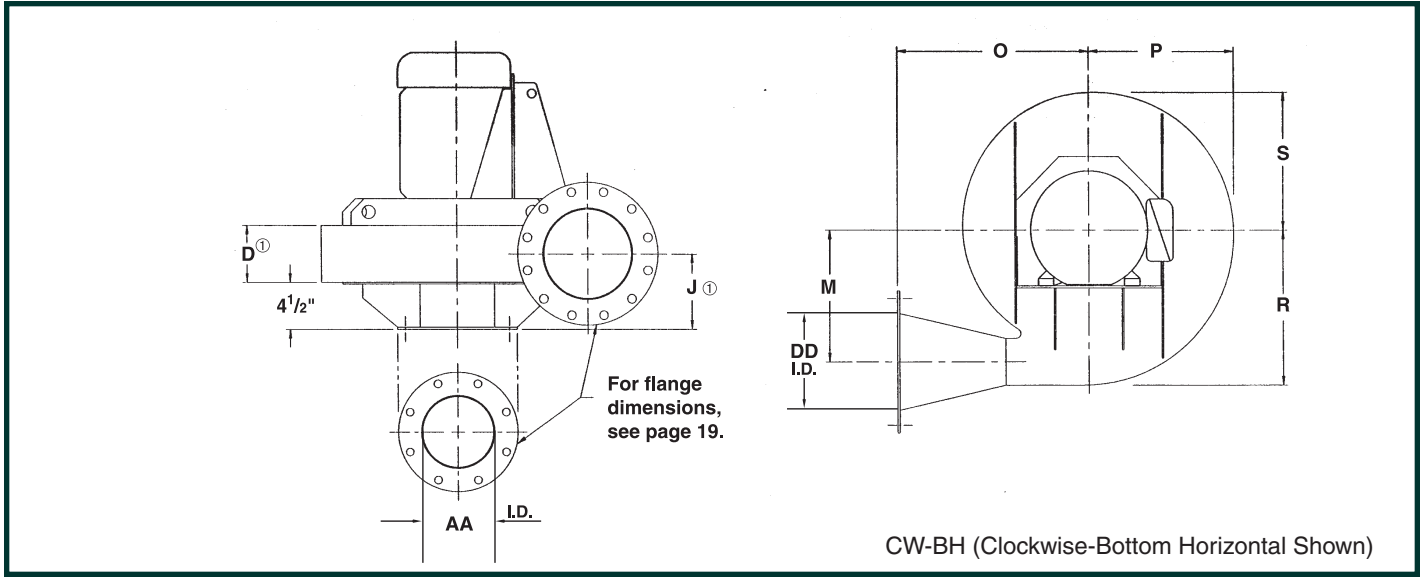
③ Inlet side support plate is only included on model HP-12G.

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



# DIMENSIONS and SPECIFICATIONS

## Arrangement #4HM, Direct Connected



DIMENSIONS IN INCHES ± 1/8"

DIMENSIONS SUBJECT TO CHANGE WITHOUT NOTICE.

MODEL*	MOTOR FRAME	D <sup>①</sup>	J <sup>①</sup>	M	O	P	R	S	AA	DD
HP-4A	143T-184T	4	6 <sup>1/2</sup>	11 <sup>3/4</sup>	18	13 <sup>9/16</sup>	14 <sup>3/8</sup>	12 <sup>3/4</sup>	6	4
HP-4C	143T-256T	4	6 <sup>1/2</sup>	14 <sup>13/16</sup>	17 <sup>15/16</sup>	16 <sup>7/16</sup>	17 <sup>7/16</sup>	15 <sup>7/16</sup>	6	4
HP-6B	143T-215T	6 <sup>3/8</sup>	7 <sup>11/16</sup>	11 <sup>3/4</sup>	18	13 <sup>9/16</sup>	14 <sup>3/8</sup>	12 <sup>3/4</sup>	8	6
HP-6C	143-256T	4	6 <sup>1/2</sup>	14 <sup>13/16</sup>	17 <sup>15/16</sup>	16 <sup>7/16</sup>	17 <sup>7/16</sup>	15 <sup>7/16</sup>	6	6
HP-6E	184T-256T	5 <sup>3/8</sup>	7 <sup>3/16</sup>	17 <sup>7/16</sup>	19 <sup>3/16</sup>	19 <sup>3/8</sup>	20 <sup>9/16</sup>	18 <sup>3/16</sup>	8	6
HP-8B	143T-254T	6 <sup>3/8</sup>	7 <sup>11/16</sup>	11 <sup>3/4</sup>	19 <sup>13/16</sup>	13 <sup>9/16</sup>	14 <sup>3/8</sup>	12 <sup>3/4</sup>	8	8
HP-8D	182T-286TS	6 <sup>3/8</sup>	7 <sup>11/16</sup>	14 <sup>13/16</sup>	19 <sup>3/4</sup>	16 <sup>7/16</sup>	17 <sup>7/16</sup>	15 <sup>7/16</sup>	8	8
HP-8E	213T-286TS	5 <sup>3/8</sup>	7 <sup>3/16</sup>	17 <sup>7/16</sup>	21	19 <sup>3/8</sup>	20 <sup>9/16</sup>	18 <sup>3/16</sup>	8	8
HP-10D	184T-286TS	6 <sup>3/8</sup>	7 <sup>11/16</sup>	14 <sup>13/16</sup>	21 <sup>3/4</sup>	16 <sup>7/16</sup>	17 <sup>7/16</sup>	15 <sup>7/16</sup>	8	10
HP-10F	215T-326TS	7 <sup>3/8</sup>	8 <sup>3/16</sup>	17 <sup>7/16</sup>	23	19 <sup>3/8</sup>	20 <sup>9/16</sup>	18 <sup>3/16</sup>	10	10
HP-12F	184T-326TS	7 <sup>3/8</sup>	8 <sup>3/16</sup>	17 <sup>7/16</sup>	23	19 <sup>3/8</sup>	20 <sup>9/16</sup>	18 <sup>3/16</sup>	10	12

\*COMPLETE MODEL NUMBER INCLUDES WHEEL DIAMETER.

FAN HOUSINGS ARE REVERSIBLE AND ROTATABLE IN 45° INCREMENTS.

① For AMCA "C", add: 1/8 inch to dimension "J" and 1/4 inch to dimension "D".

### CONSTRUCTION GAUGES

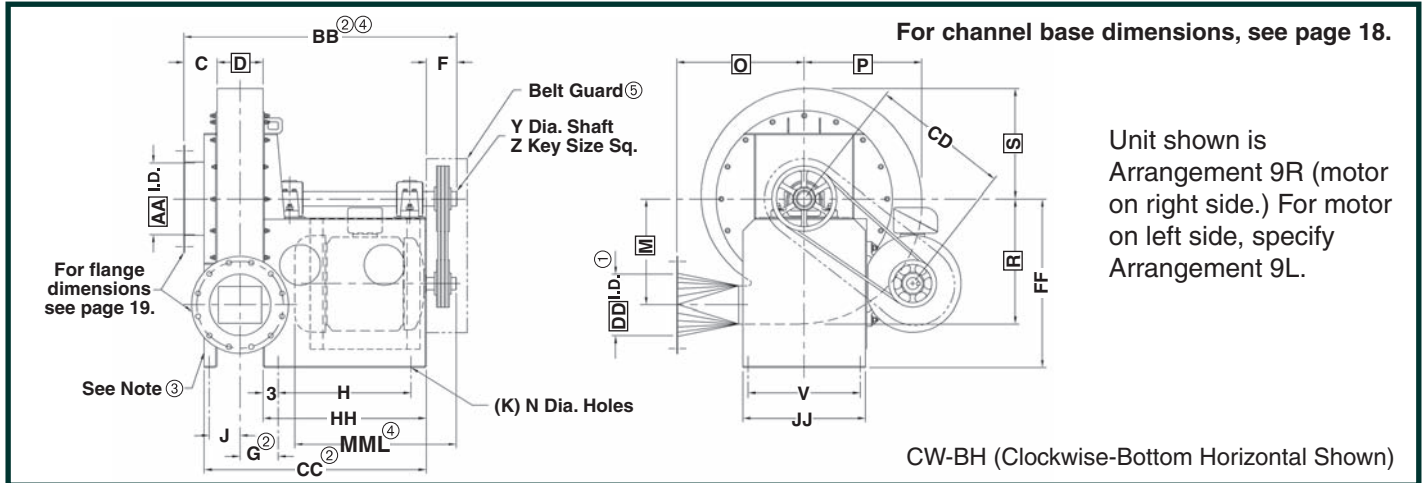
MODEL	Inlet				Housing			Wheel			All Bases
	Side Plate	Inlet Collar	Inlet Flange	Outlet Flange	Side Plates	Scroll	Transition	Back Plate	Shroud	Blades	
HP-4A & HP-4C	7	10	10	10	7	10	14	7	7	10	7
HP-6B & HP-6E	7	10	7	10	7	10	14	7	7	10	7
HP-6C	7	10	10	10	7	10	14	7	7	10	7
HP-6E	7	10	7	10	7	10	14	7	7	10	7
HP-8B through HP-12F	7	10	7	10	7	10	14	7	7	10	7
HP-12G	1/4"	10	7	7	1/4"	10	14	1/4"	1/4"	10	7





# DIMENSIONS and SPECIFICATIONS

Arrangement #1 and #9, Belt Drive (specify 9R or 9L)



**Note:** For common boxed blower housing dimensions, see bottom of Page 14.

DIMENSIONS IN INCHES ± 1/8"

DIMENSIONS SUBJECT TO CHANGE WITHOUT NOTICE.

MODEL*	MOTOR FRAME	C	F	<sup>②</sup> G	H	<sup>②③</sup> J	K	N	V	Y	Z	<sup>②</sup> BB	<sup>②</sup> CC	FF	HH	JJ	<sup>④</sup> MML
HP-4A	143T-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 11/16	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 15/16	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		5							17 1/16							1 11/16
HP-8D	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-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.

FAN HOUSINGS ARE REVERSIBLE AND ROTATABLE IN 45° INCREMENTS.

- 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 inch 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.

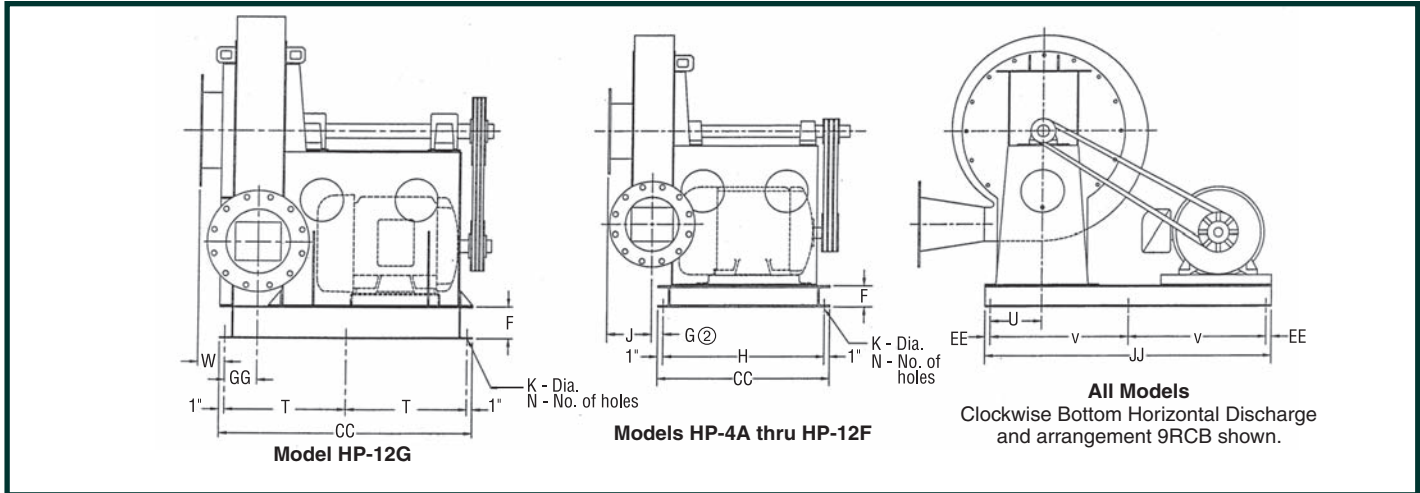
## C.D. BELT CENTER DISTANCE

DIMENSIONS IN INCHES

MODEL	MOTOR FRAME SIZE													
	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 & HP-6B	12 5/8	14 1/16	14 3/8	15 7/8	15 11/16	17 3/8	—	—	—	—	—	—	—	—
HP-4C & HP-6C	13 11/16	15	15 7/16	16 7/8	16 3/4	18 7/16	18 7/8	20 3/4	—	—	—	—	—	—
HP-6E & HP-8E	—	—	15	16 1/2	16 3/8	18 3/8	18	20 7/16	18 15/16	21 15/16	—	—	—	—
HP-8B	12 5/8	14 1/16	14 3/8	15 7/8	15 11/16	17 1/2	17 3/8	19 1/4	—	—	—	—	—	—
HP-8D & HP-10D	—	—	15 7/16	16 7/8	16 3/4	18 7/16	18 7/8	20 3/4	—	—	—	—	—	—
HP-10F & 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

# DIMENSIONS and SPECIFICATIONS

## Arrangement #9RCB or #9LCB Channel Base, Belt Drive



**Note: For common boxed blower housing dimensions, see bottom of Page 14.**

DIMENSIONS IN INCHES ± 1/8"

DIMENSIONS SUBJECT TO CHANGE WITHOUT NOTICE.

MODEL*	MOTOR FRAME	F	② G	H	J	K	N	T	U	V	W	CC	EE	GG	JJ
HP-4A	182T - 215T	4	3	16 <sup>13/16</sup>	6 1/2	9/16	6	--	7 <sup>3/8</sup>	21 1/2	—	18 <sup>13/16</sup>	1	—	45
HP-4C	182T - 256T	4	3	21 <sup>1/16</sup>	6 1/2	9/16	6	—	8 1/2	22 1/2	—	23 <sup>1/16</sup>	1	—	47
HP-6B	182T - 215T	4	4 <sup>3/16</sup>	16 <sup>13/16</sup>	7 <sup>11/16</sup>	9/16	6	—	7 <sup>3/8</sup>	21 1/2	—	18 <sup>13/16</sup>	1	—	45
HP-6C	213T - 256T	4	3	21 <sup>1/16</sup>	6 1/2	9/16	6	—	8 1/2	22 1/2	—	23 <sup>1/16</sup>	1	—	47
HP-6E	213T - 286T	4	1 <sup>3/16</sup>	30	7 <sup>3/16</sup>	9/16	6	—	9 1/2	25 1/2	—	32	1	—	53
HP-8B	213T - 256T	4	4 <sup>3/16</sup>	21 <sup>1/16</sup>	7 <sup>11/16</sup>	9/16	6	—	7 <sup>3/8</sup>	21 1/2	—	23 <sup>1/16</sup>	1	—	45
HP-8D	213T - 286T	4	4 <sup>3/16</sup>	21 <sup>1/16</sup>	7 <sup>11/16</sup>	9/16	6	—	8 1/2	22 1/2	—	23 <sup>1/16</sup>	1	—	47
HP-8E	213T - 326T	4	1 <sup>3/16</sup>	30	7 <sup>3/16</sup>	9/16	6	—	9 1/2	25 1/2	—	32	1	—	53
HP-10D	213T - 326T	4	4 <sup>3/16</sup>	21 <sup>1/16</sup>	7 <sup>11/16</sup>	9/16	6	—	8 1/2	22 1/2	—	23 <sup>1/16</sup>	1	—	47
HP-10F	213T - 364T	4	2 <sup>3/16</sup>	30	8 <sup>3/16</sup>	9/16	6	—	9 1/2	25 1/2	—	32	1	—	53
HP-12F	213T - 364T	4	2 <sup>3/16</sup>	30	8 <sup>3/16</sup>	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 <sup>3/16</sup>	5	47	5	6	66 <sup>3/8</sup>

② For AMCA "C", add: 1/8 inch to dimensions "G".

\*COMPLETE MODEL NUMBER INCLUDES WHEEL DIAMETER.

16 DISCHARGE POSITIONS AVAILABLE. 45° DISCHARGE POSITIONS NOT SHOWN.

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



Clockwise Top Horizontal Discharge



Clockwise Down-Blast Discharge



Clockwise Bottom Horizontal Discharge



Clockwise Up-Blast Discharge



Counter-Clockwise Top Horizontal Discharge



Counter-Clockwise Down-Blast Discharge



Counter-Clockwise Bottom Horizontal Discharge



Counter-Clockwise Up-Blast Discharge

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

### DANGER

All fans & 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 or locked out from its power source.

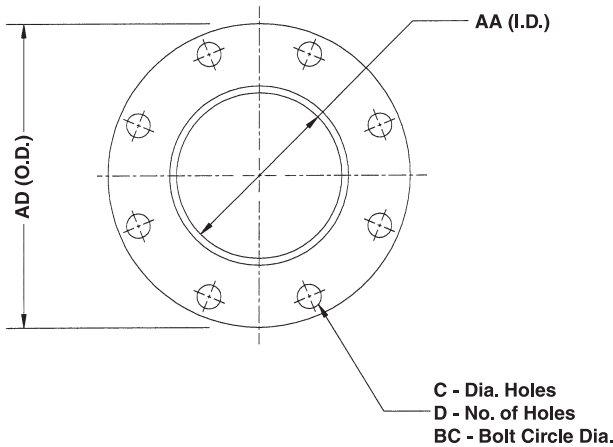
Read operating instructions.



# DIMENSIONS and SPECIFICATIONS

## INLET AND DISCHARGE FLANGES

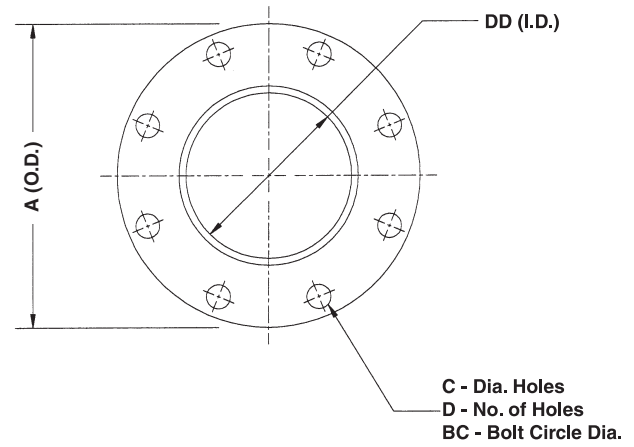
**INLET FLANGE**



DIMENSIONS IN INCHES ± 1/8"

MODEL	AA I.D.	AD O.D.	BC B.C.	C Dia.	D
HP-4A, 4C and 6C	6	11	9 <sup>1</sup> / <sub>2</sub>	7/8	8
HP-6B, 6E, 8B, 8D, 8E and 10D	8	13 <sup>1</sup> / <sub>2</sub>	11 <sup>3</sup> / <sub>4</sub>	7/8	8
HP-10F and 12F	10	16	14 <sup>1</sup> / <sub>4</sub>	1	12
HP-12G	14	21	18 <sup>3</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>8</sub>	12

**DISCHARGE FLANGE ★**



DIMENSIONS IN INCHES ± 1/8"

MODEL	DD I.D.	A O.D.	BD B.C.	C Dia.	D
HP-4A and 4C	4	9	7 <sup>1</sup> / <sub>2</sub>	3/4	8
HP-6B, 6C and 6E	6	11	9 <sup>1</sup> / <sub>2</sub>	7/8	8
HP-8B, 8D and 8E★	8	13 <sup>1</sup> / <sub>2</sub>	11 <sup>3</sup> / <sub>4</sub>	7/8	8
HP-10D and 10F★	10	16	14 <sup>1</sup> / <sub>4</sub>	1	12
HP-12F and 12G★	12	19	17	1	12

★See note under discharge positions available on page 18

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.

## APPROXIMATE SHIPPING WEIGHTS LESS MOTOR

MODEL	MOTOR FRAME	Fan Arrangement			
		4	8	1 & 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	—
HP-6B	182T - 254T	—	—	—	380
	143T - 184T	210	285	—	—
	213T - 215T	240	315	—	—
HP-6E	143T - 215T	—	—	270	—
	182T - 215T	—	—	—	365
	143T - 215T	270	355	—	—
HP-6C	254T	300	385	—	—
	143T - 256T	—	—	310	—
	213T - 256T	—	—	—	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	—
HP-8D	213T - 256T	—	—	—	395
	182T - 215T	280	365	—	—
	254T - 286TS	300	—	—	—
	254T - 256T	—	385	—	—
	184T - 256T	—	—	340	—
213T - 286T	—	—	—	440	

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