HP I 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 I SERIES SPECIFICATIONS

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

Capacity: _____CFM,_____ Static Pressure at standard conditions.

Operating conditions: _____°F, _____ feet altitude

Wheels shall be 319 cast aluminum with integral cast hub and blades. Wheels shall be dynamically balanced to assure smooth operation. Fan motor and bearing vibration levels shall not exceed 1.5 mils displacement at 3450 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.

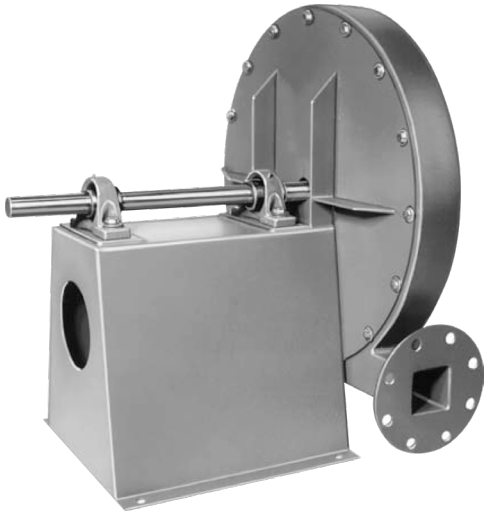
Construction gauges shall be as shown in the Cincinnati Fan HP Series I catalog. The blower housing shall be continuously welded and supported to prevent pulsation at all conditions. Fan bearings shall be grease-lubricated, heavy-duty, self-aligning ball bearings mounted in cast iron pillow blocks. V-belt 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.

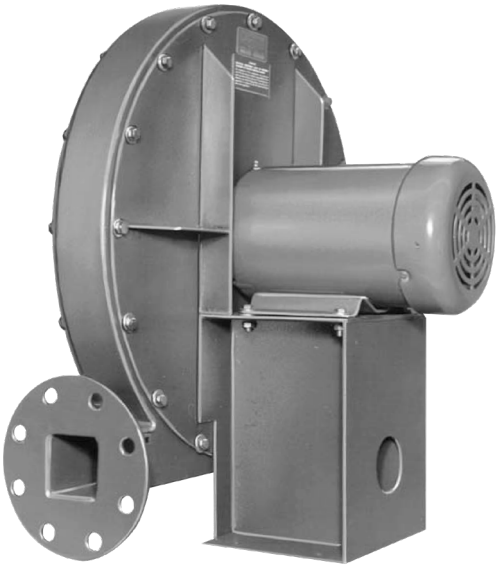
The following accessories shall be included: (See page 4 for available accessories).

THREE STANDARD ARRANGEMENTS



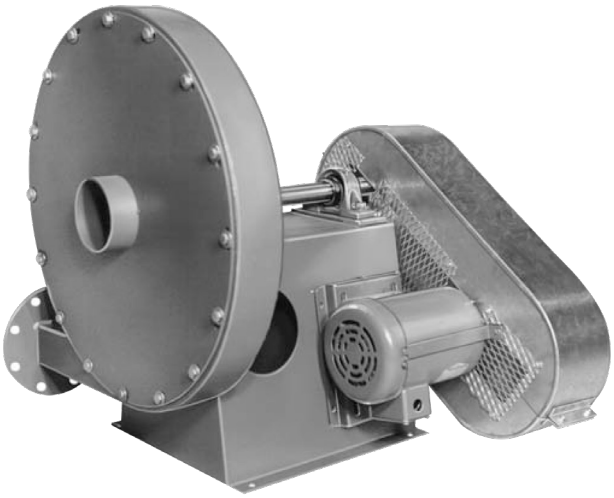
ARRANGEMENT 1 (Belt Drive)

- Motor not mounted on bearing base.
- Turned, ground and polished shafting assures smooth operation. A rust preventive coating is applied prior to shipment.
- Heavy-duty, self-aligning ball bearings in relubricatable cast-iron pillow blocks. Bearings are selected for optimal performance.
- Maximum temperature of standard design: 200°F; high temperature design up to 400°F.



ARRANGEMENT 4 (Direct Drive)

- Motor mounted on motor base.
- Wheel mounted on motor shaft.
- Maximum temperature of standard design: 200°F; high temperature design not available.

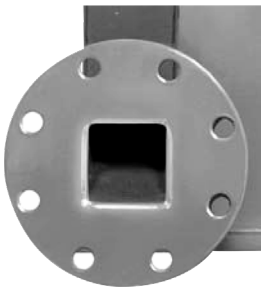


ARRANGEMENT 9 (Belt Drive)

- Motor mounted on an adjustable slide base on the side of the bearing base.
- Turned, ground and polished shafting assures smooth operation. A rust preventive coating is applied prior to shipment.
- Heavy-duty, self-aligning ball bearings in relubricatable cast-iron pillow blocks. Bearings are selected for optimal performance.
- Maximum temperature of standard design: 200°F; high temperature design up to 400°F.

STANDARD FEATURES

Teflon Shaft Seal



Discharge Flange

Standard ANSI-125/ASA-150 pound hole pattern furnished. See pages 10 or 11 for dimensions.

Belt Guard

Arrangement 9 only.
Painted safety yellow.

Cast Aluminum Wheel

Non-sparking

Motor Slide Base

Arrangement 9 only.

ADDITIONALLY

- Continuously welded fan housings with removable inlet and drive side plates.
- Blower housings are reversible and rotatable in 45º increments.
- All fans receive a mechanical run test to assure proper balance and alignment before shipping. Arrangements 1 and 9 (less motor) have drive-end key furnished.
- Fan shafts receive a rust preventative coating prior to shipment.
- Arrangement 1 fans offer easy field conversion to arrangement 9 with the addition of a motor slide base.
- Bearings are relubricatable, cast iron, pillow blocks sized for 150,000 hours average life under normal operating conditions. (excessive belt tension will shorten bearing life).

OPTIONS

Shaft Guard

Shaft guard available on arrangement 1 and 9. Covers bearings and shaft between fan housing and belt guard. Painted safety yellow.

Inlet Filter

Wire mesh or paper cartridge.

Drain Connection

3/4" pipe coupling welded to lowest point of housing.

Inlet Flange

Standard ANSI-125/ASA-150 pound hole pattern furnished. See page 10 for dimensions.

SPARK-RESISTANT CONSTRUCTION

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

Type B: The standard wheel is cast aluminum, with the addition of an aluminum ring around the housing shaft opening. The fan will be AMCA type B spark resistant. Maximum temperature 200°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.**

⚠ 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 CONVERSIONS

Standard Construction	All arrangements suitable to 200°F
201°F - 300°F	Standard fan with steel wheel. Arrangement 1 and 9 only.
301° - 400°F	Standard fan with steel wheel, heat slinger and sliger guard. Arrangement 1 and 9 only.

Temperature - Altitude Conversion Factors

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

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 a belt drive HP Series I fan to deliver 500 CFM at 18" 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 18" SP = 27.5" SP at standard conditions.

Step 3 - Check HP Series I catalog for 300 CFM at 27.5" SP. We select a belt drive HP and interpolation gives 3463 RPM and 5.61 bhp.

Step 4 - Correct the bhp for the lighter air:

5.61 ÷ 1.53 = 3.67 bhp.

A 5 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 CORRECTION

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" WG.

The table at the right gives 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.

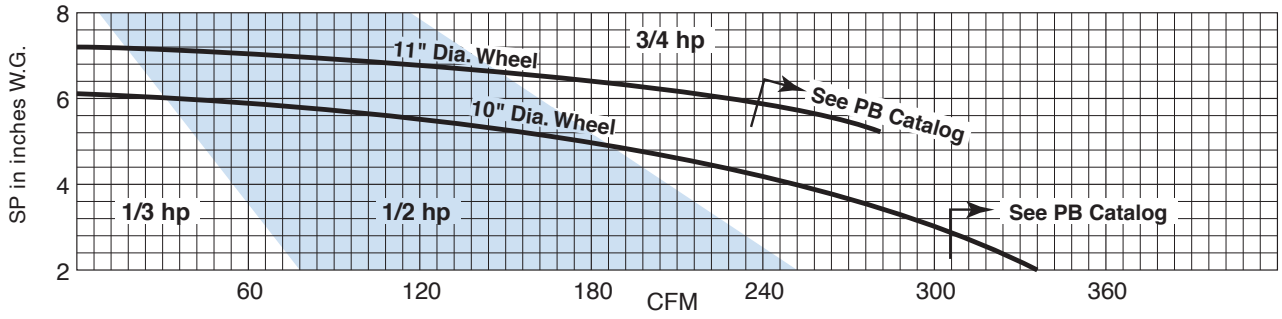
Suction Pressure inches WG	Corrected Static Pressure
16	16.7
18	18.8
20	21.0
22	23.3
24	25.6
26	27.8
28	30.1
30	32.4

DIRECT DRIVE RATINGS @ 3450 RPM

CFM and bhp at Static Pressure Shown – Ratings at 70°F – .075" Density – Sea Level
Performance shown is for fans with inlet and outlet ducts

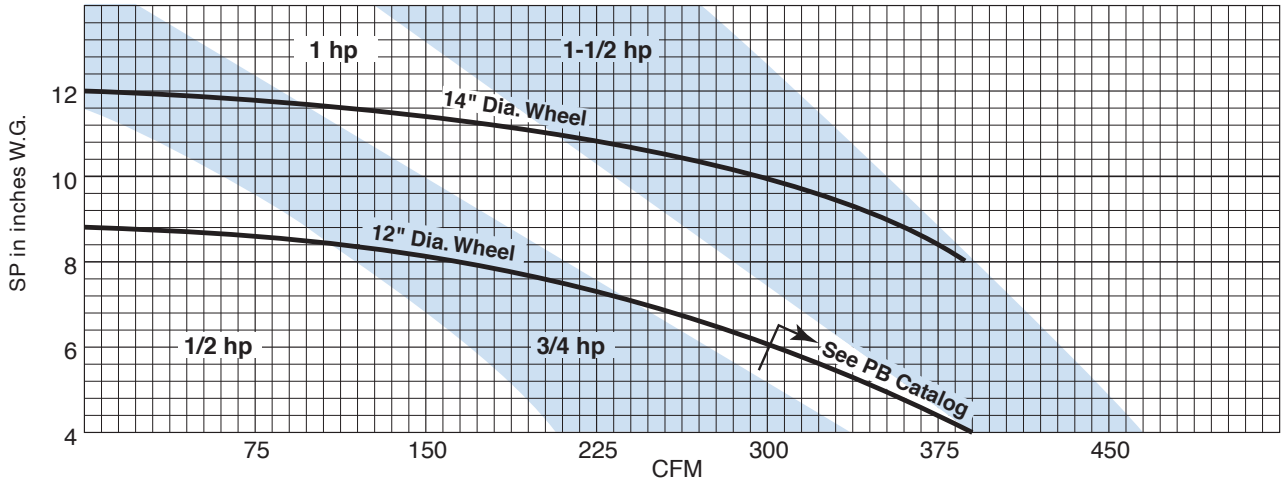
HPA

Outlet Area .063 ft² - Inlet Area .120 ft² Maximum Motor Frame 143T



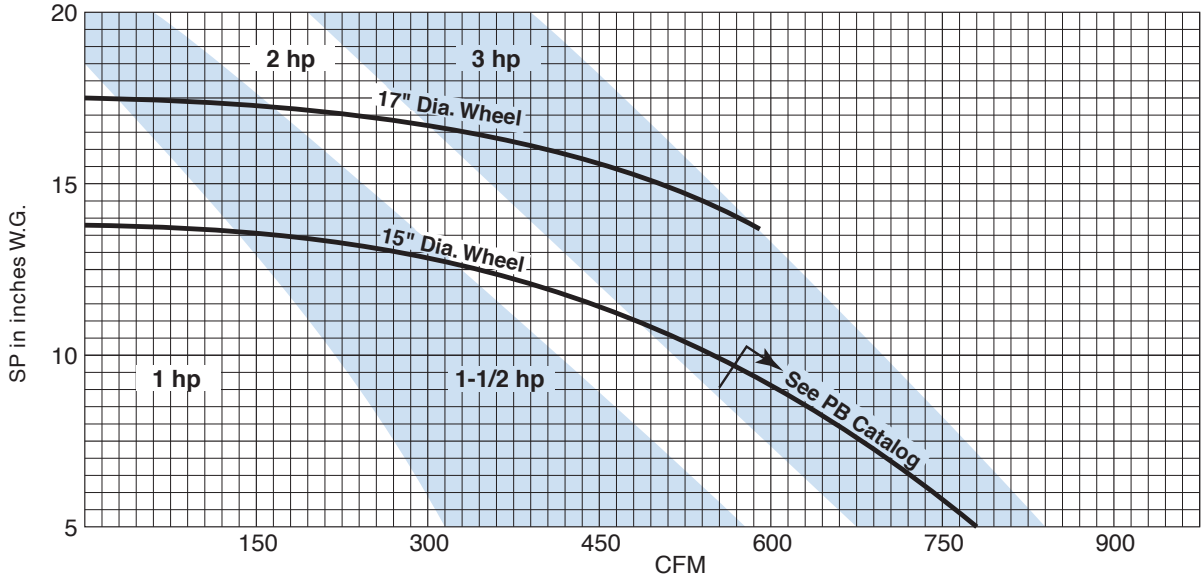
HPB

Outlet Area .063 ft² - Inlet Area .120 ft² Maximum Motor Frame 145T



HPC

Outlet Area .063 ft² - Inlet Area .120 ft² Maximum Motor Frame 184T

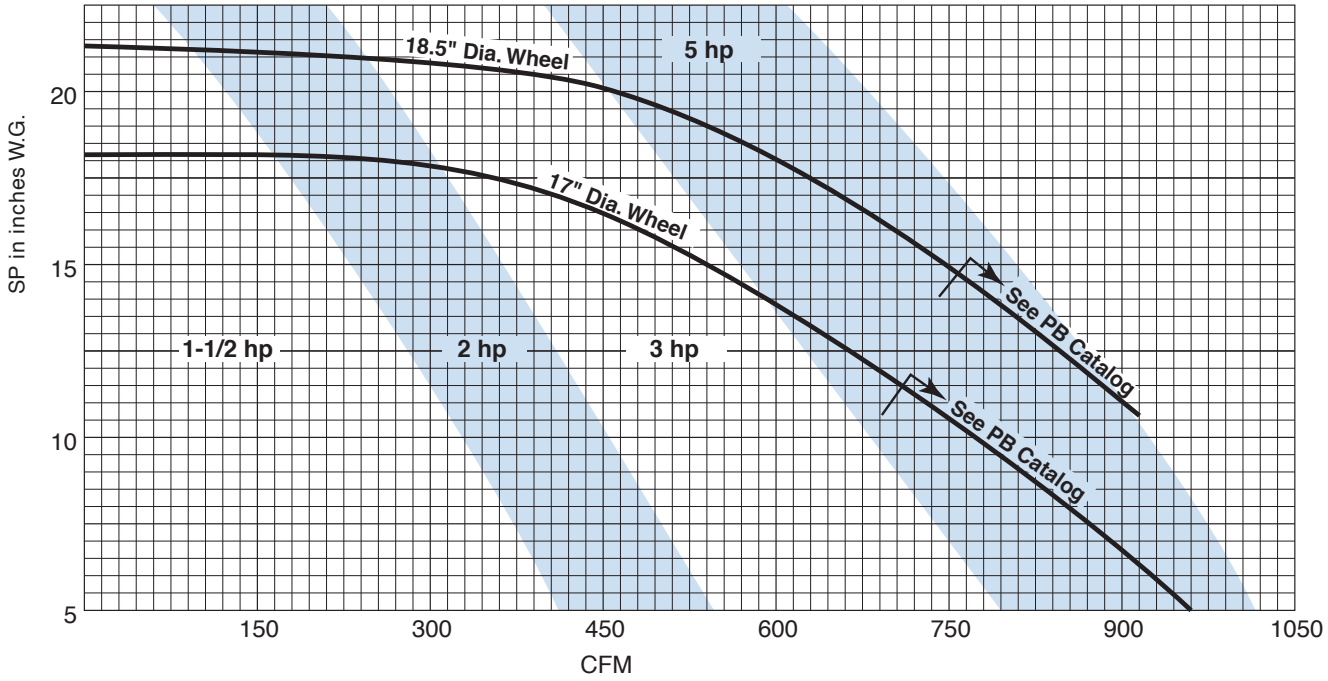


DIRECT DRIVE RATINGS @ 3450 RPM

CFM and bhp at Static Pressure Shown – Ratings at 70°F – .075" Density – Sea Level
Performance shown is for fans with inlet and outlet ducts

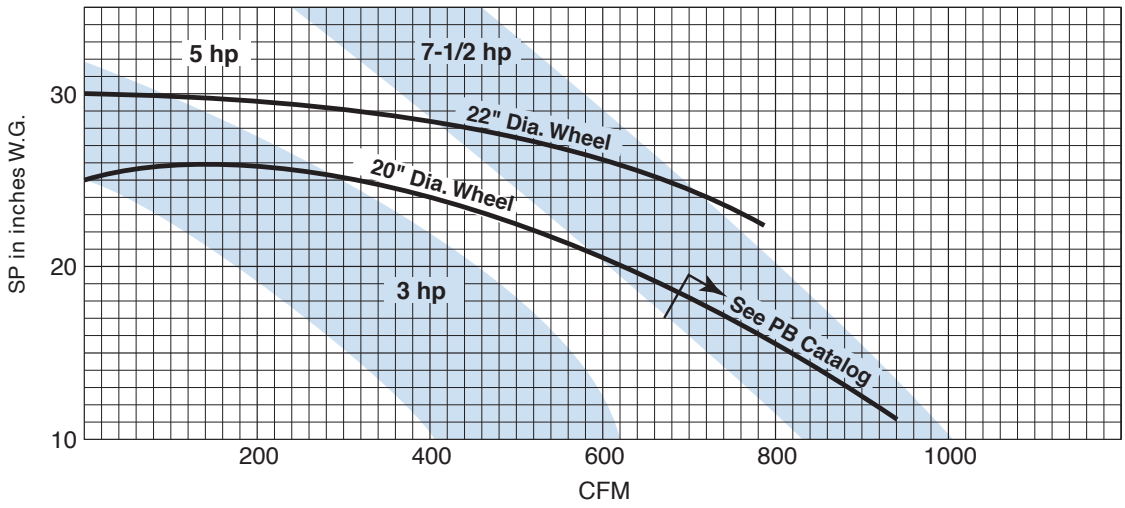
HPD

Outlet Area .063 ft² - Inlet Area .120 ft² Maximum Motor Frame 184T



HPE

Outlet Area .063 ft² - Inlet Area .120 ft² Maximum Motor Frame 215T



BELT DRIVE RATINGS

CFM and bhp at Static Pressure Shown – Ratings at 70°F – .075" Density – Sea Level
Performance shown is for fans with inlet and outlet ducts, bhp does not include drive losses.

HPA

Wheel Diameter - 11" Outlet Area -.063 ft^2 ID Inlet Area - .120 ft^2

Volume CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP	
	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp
100					2293	0.15	2628	0.20	2928	0.26	3200	0.33	3449	0.41	3682	0.49
150			2039	0.14	2390	0.21	2709	0.29	2995	0.37	3255	0.45	3500	0.52	3728	0.60
200	1922	0.15	2251	0.22	2557	0.29	2845	0.37	3105	0.46	3346	0.55	3586	0.67		
250	2202	0.25	2526	0.34	2784	0.43	3035	0.51	3266	0.59	3500	0.70				
300	2485	0.38	2815	0.49	3059	0.60	3275	0.70								
350	2777	0.55	3094	0.68												

HPB

Wheel Diameter - 14" Outlet Area -.063 ft^2 ID Inlet Area - .120 ft^2

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					1775	0.13	2038	0.19	2270	0.25	2480	0.31	2673	0.38	2852	0.45	3020	0.52	3180	0.60
150			1582	0.13	1863	0.19	2106	0.25	2324	0.32	2522	0.39	2709	0.46	2889	0.54	3057	0.63	3217	0.72
200	1461	0.13	1741	0.19	1984	0.26	2210	0.33	2419	0.42	2609	0.50	2789	0.59	2957	0.67	3116	0.76	3266	0.85
250	1674	0.21	1933	0.28	2152	0.36	2350	0.44	2536	0.53	2718	0.63	2892	0.73	3054	0.83	3206	0.94	3352	1.05
300	1893	0.31	2138	0.41	2343	0.50	2527	0.59	2693	0.68	2858	0.79	3013	0.89	3164	1.00	3315	1.12	3459	1.25
350	2120	0.46	2352	0.57	2545	0.68	2720	0.78	2881	0.89	3030	1.00	3169	1.10	3312	1.23	3447	1.35		
400	2353	0.64	2569	0.78	2758	0.90	2922	1.02	3075	1.14	3219	1.27	3355	1.39						
450	2591	0.87	2793	1.03	2972	1.17	3134	1.31												
500	2833	1.16	3022	1.33	3192	1.49														
550	2879	1.30																		

Volume CFM	11" SP		12" SP		13" SP	
	RPM	bhp	RPM	bhp	RPM	bhp
100	3331	0.68	3476	0.76	3615	0.85
150	3369	0.81	3514	0.91	3653	1.00
200	3409	0.95	3549	1.05	3688	1.15
250	3495	1.15	3631	1.26	3761	1.37
300	3596	1.37	3727	1.50	3853	1.63

HPC

Wheel Diameter - 17" Outlet Area -.063 ft^2 ID Inlet Area - .120 ft^2

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					1440	0.13	1661	0.18	1855	0.24	2031	0.31	2192	0.38	2343	0.45	2484	0.53	2618	0.61
200			1270	0.14	1501	0.20	1697	0.27	1871	0.34	2047	0.43	2208	0.51	2359	0.61	2499	0.70	2633	0.80
300	1237	0.18	1459	0.26	1643	0.33	1823	0.43	1987	0.52	2144	0.61	2287	0.71	2421	0.80	2545	0.90	2661	1.01
400	1508	0.36	1690	0.45	1855	0.55	2011	0.66	2147	0.75	2285	0.87	2416	0.99	2539	1.12	2663	1.25	2782	1.37
500	1797	0.63	1949	0.75	2095	0.87	2228	0.99	2360	1.12	2485	1.26	2597	1.38	2703	1.49	2814	1.64	2923	1.80
600	2095	1.02	2231	1.17	2353	1.31	2474	1.46	2591	1.60	2699	1.74	2811	1.91	2917	2.07	3016	2.22	3109	2.36
700	2399	1.56	2522	1.74	2633	1.91	2737	2.07	2837	2.24	2945	2.41	3041	2.58	3133	2.74	3229	2.93		
800	2708	2.27	2818	2.47	2920	2.67	3017	2.86												

Volume CFM	11" SP		12" SP		13" SP		14" SP		15" SP		16" SP		17" SP		18" SP		19" SP	
	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp
100	2745	0.70	2866	0.78	2983	0.87	3095	0.97	3203	1.07	3308	1.17	3409	1.27	3507	1.37	3603	1.48
200	2760	0.90	2881	1.00	2998	1.11	3110	1.22	3218	1.33	3322	1.45	3424	1.57	3522	1.69	3618	1.81
300	2776	1.12	2897	1.25	3013	1.37	3126	1.50	3234	1.63	3338	1.77	3439	1.90	3538	2.04	3633	2.18
400	2895	1.50	3003	1.62	3107	1.75	3207	1.87	3303	2.00	3394	2.14	3481	2.28	3566	2.42	3649	2.57
500	3027	1.95	3126	2.11	3224	2.27	3324	2.43	3419	2.58	3512	2.74	3602	2.89				
600	3199	2.51	3287	2.65	3382	2.84												

BELT DRIVE RATINGS

CFM and bhp at Static Pressure Shown – Ratings at 70°F – .075" Density – Sea Level
Performance shown is for fans with inlet and outlet ducts, bhp does not include drive losses.

HPD

Wheel Diameter - 18.5" Outlet Area -.063 ft^2 ID Inlet Area - .120 ft^2

Volume	4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP		13" SP	
CFM	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp
100	1501	0.16	1676	0.22	1835	0.28	1980	0.34	2115	0.41	2242	0.48	2363	0.55	2477	0.63	2586	0.71	2691	0.78
200	1531	0.26	1702	0.33	1859	0.40	2003	0.48	2139	0.56	2265	0.64	2385	0.73	2498	0.82	2607	0.91	2711	1.00
300	1645	0.40	1789	0.49	1926	0.58	2057	0.67	2181	0.77	2297	0.86	2412	0.96	2525	1.07	2634	1.19	2738	1.30
400	1804	0.61	1935	0.72	2063	0.83	2181	0.95	2291	1.06	2398	1.18	2502	1.30	2600	1.42	2700	1.54	2795	1.67
500	1986	0.90	2112	1.04	2227	1.17	2333	1.29	2439	1.42	2542	1.57	2640	1.71	2732	1.85	2820	2.00	2905	2.14
600	2189	1.29	2299	1.44	2409	1.59	2514	1.76	2613	1.92	2705	2.07	2793	2.21	2880	2.37	2969	2.54	3053	2.71
700	2451	1.90	2513	1.98	2604	2.14	2701	2.32	2795	2.50	2886	2.69	2974	2.88	3058	3.07	3137	3.24	3213	3.41
800	2759	2.81	2793	2.83	2828	2.85	2909	3.04	2989	3.22	3075	3.43	3158	3.63	3238	3.85	3318	4.07	3394	4.29

Volume	14" SP		15" SP		16" SP		17" SP		18" SP		19" SP		20" SP		21" SP		22" SP		23" SP	
CFM	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp
100	2792	0.87	2889	0.96	2983	1.05	3075	1.14	3163	1.24	3249	1.33	3333	1.43	3415	1.53	3495	1.64	3573	1.74
200	2812	1.09	2909	1.19	3003	1.30	3095	1.41	3183	1.52	3269	1.63	3353	1.74	3435	1.86	3515	1.98	3593	2.10
300	2839	1.42	2935	1.38	3029	1.65	3120	1.77	3208	1.89	3294	2.02	3377	2.14	3459	2.27	3538	2.40	3616	2.53
400	2888	1.79	2977	1.92	3063	2.04	3147	2.17	3235	2.32	3321	2.46	3404	2.61	3485	2.76	3565	2.91	3643	3.06
500	2993	2.29	3076	2.44	3157	2.59	3236	2.74	3316	2.90	3394	3.05	3471	3.21	3546	3.36	3619	3.52	3690	3.68
600	3136	2.89	3215	3.06	3290	3.23	3364	3.41	3436	3.58	3508	3.76	3580	3.93	3650	4.11	3719	4.29	3786	4.47
700	3287	3.58	3336	3.77	3439	3.97	3513	4.17	3585	4.37	3654	4.57	3723	4.78	3789	4.98				
800	3469	4.51	3539	4.71	3607	4.91														

HPE

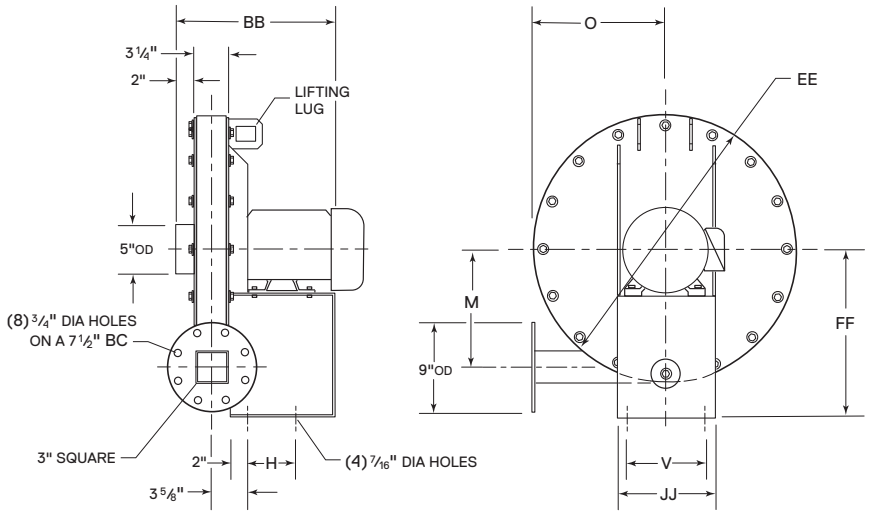
Wheel Diameter - 22" Outlet Area -.063 ft^2 ID Inlet Area - .120 ft^2

Volume	4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP		13" SP	
CFM	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp
100	1262	0.20	1405	0.26	1537	0.33	1660	0.41	1775	0.49	1883	0.57	1985	0.66	2083	0.75	2176	0.84	2265	0.94
200	1331	0.33	1462	0.41	1588	0.50	1707	0.60	1817	0.70	1921	0.80	2019	0.91	2112	1.01	2201	1.13	2287	1.24
300	1463	0.53	1582	0.64	1695	0.75	1802	0.86	1903	0.98	1997	1.10	2087	1.22	2172	1.35	2256	1.48	2341	1.62
400	1623	0.82	1738	0.96	1843	1.10	1941	1.24	2033	1.38	2119	1.52	2203	1.67	2288	1.82	2368	1.98	2446	2.13
500	1799	1.20	1904	1.38	2005	1.55	2099	1.73	2188	1.90	2273	2.08	2353	2.25	2431	2.43	2505	2.61	2576	2.78
600	1989	1.72	2088	1.92	2181	2.13	2268	2.34	2353	2.54	2435	2.76	2513	2.97	2588	3.18	2660	3.39	2730	3.60
700	2191	2.40	2282	2.62	2369	2.85	2452	3.10	2532	3.34	2608	3.58	2680	3.82	2753	4.07	2823	4.31	2891	4.56
800	2399	3.26	2485	3.52	2566	3.78	2644	4.04	2719	4.31	2792	4.58	2863	4.86	2930	5.14	2996	5.41	3059	5.69
900	2614	4.32	2694	4.62	2771	4.91	2845	5.21	2916	5.50	2984	5.79	3051	6.09	3116	6.41	3180	6.72	3242	7.03
1000	2835	5.60	2909	5.94	2981	6.28	3051	6.61	3119	6.94	3184	7.26	3247	7.58	3309	7.90	3369	8.24	3429	8.59
1100	3059	7.14	3130	7.52	3197	7.89	3262	8.26	3327	8.62	3389	8.99	3450	9.35	3509	9.70				
1200	3289	8.97	3353	9.37	3417	9.78														

Volume	14" SP		15" SP		16" SP		17" SP		18" SP		19" SP		20" SP		21" SP		22" SP		23" SP	
CFM	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp
100	2350	1.04	2433	1.14	2513	1.24	2591	1.35	2666	1.46	2739	1.57	2810	1.69	2880	1.81	2948	1.93	3014	2.05
200	2369	1.36	2448	1.48	2525	1.60	2599	1.72	2671	1.85	2742	1.97	2810	2.10	2877	2.24	2942	2.37	3008	2.51
300	2423	1.76	2503	1.90	2579	2.05	2654	2.20	2726	2.35	2796	2.50	2864	2.66	2931	2.82	2996	2.98	3060	3.14
400	2521	2.29	2593	2.45	2663	2.61	2731	2.77	2797	2.94	2861	3.10	2924	3.27	2986	3.44	3051	3.62	3115	3.81
500	2645	2.96	2711	3.14	2780	3.33	2847	3.52	2913	3.72	2976	3.91	3038	4.11	3099	4.30	3158	4.50	3216	4.70
600	2798	3.81	2863	4.02	2927	4.23	2989	4.45	3049	4.66	3107	4.87	3165	5.09	3221	5.30	3276	5.52	3334	5.75
700	2957	4.81	3021	5.05	3083	5.30	3144	5.55	3203	5.79	3261	6.04	3317	6.29	3373	6.53	3427	6.78	3479	7.03
800	3123	5.97	3185	6.25	3246	6.53	3306	6.81	3364	7.10	3420	7.38	3475	7.66	3529	7.94	3582	8.22	3634	8.51
900	3301	7.34	3360	7.65	3417	7.96	3472	8.27	3529	8.59	3584	8.91	3639	9.22	3692	9.54	3744	9.86		
1000	3487	8.93	3544	9.28	3599	9.62	3653	9.97												

Volume	24" SP		25" SP		26" SP		27" SP		28" SP		29" SP	
CFM	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp	RPM	bhp
100	3079	2.17	3143	2.30	3205	2.43	3266	2.56	3326	2.70	3386	2.83
200	3073	2.66	3137	2.80	3199	2.95	3260	3.10	3320	3.26	3379	3.41
300	3122	3.30	3183	3.46	3243	3.63	3302	3.80	3359	3.97	3416	4.14
400	3177	4.00	3238	4.19	3298	4.38	3356	4.58	3414	4.77	3470	4.97
500	3273	4.90	3329	5.10	3383	5.30	3437	5.51	3490	5.71	3541	5.92
600	3390	5.98	3445	6.21	3499	6.44	3553	6.67	3605	6.91	3656	7.14
700	3531	7.27	3582	7.52	3632	7.77	3681	8.02	3730	8.27	3777	8.52
800	3686	8.79	3736	9.07	3785	9.35	3834	9.63	3881	9.91		

ARRANGEMENT 4 — DIRECT DRIVE



Discharge flange not available with Down Blast Discharge on HPA, HPB and HPC models.

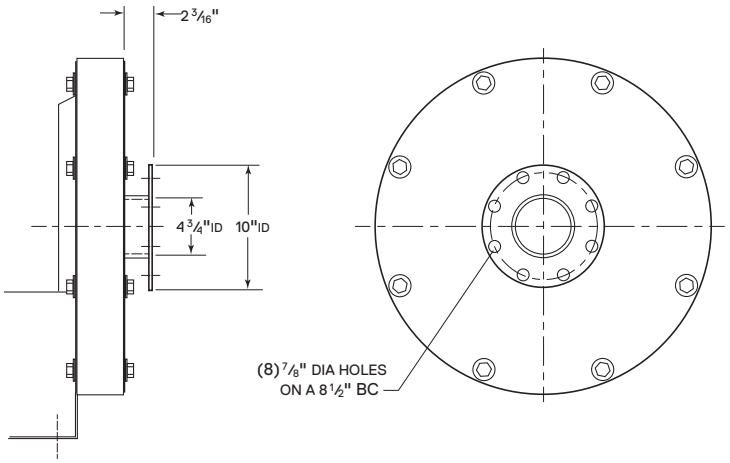
On some models the motor may extend past the end of the motor base.

CW-BH
clockwise-bottom horizontal

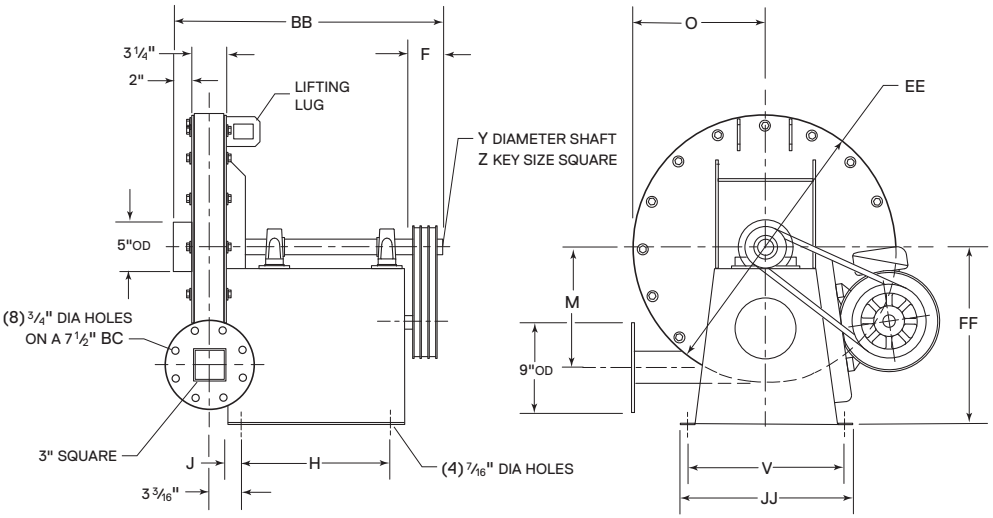
Model	Motor Frame	H	M	O	V	BB	EE	FF	JJ	Shipping Weight less motor lb
HPA	56-143T	5"	5 7/8"	8 1/8"	5 1/2"	14 1/4"	15"	11"	7 1/2"	60
HPB	56-145T	5"	7 3/8"	9 5/8"	5 1/2"	14 1/4"	18"	12 1/2"	7 1/2"	70
HPC	56-145T	5"	8 7/8"	11 1/8"	7 1/2"	14 1/4"	21"	14"	9 1/2"	90
	182T-184T	5"	8 7/8"	11 1/8"	7 1/2"	16 1/4"	21"	14"	9 1/2"	93
HPD	56-184T	5"	9 7/8"	11 5/8"	7 1/2"	16 1/4"	23"	15"	9 1/2"	123
HPE	56T-184T	5"	11 7/8"	13 5/8"	8"	16 1/4"	27"	17"	10"	140
	213T-215T	9"	11 7/8"	13 5/8"	9"	18 1/16"	27"	17"	11"	150

Construction Gauge	
Housing	10
Inlet Side Plate	10
Drive Side Plate	7
Base	10
Flanges	10

INLET FLANGE — ALL MODELS



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



Discharge flange not available with Down Blast Discharge on HPA, HPB, HPC and HPD models.

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

CW-BH
clockwise-bottom horizontal

Model	Motor Frame	F	H	J	M	O	V	Y	Z	BB	EE	FF	JJ	Shipping Weight less motor lb
HPA	56-145T	3"	11"	1 3/8"	5 7/8"	8 1/8"	12 5/16"	1"	1/4"	22 5/16"	15"	14"	13 13/16"	105
HPB	56-145T	3"	11"	1 3/8"	7 3/8"	9 5/8"	12 5/16"	1"	1/4"	22 5/16"	18"	14"	13 13/16"	115
HPC	56-184T	3"	11"	1 3/8"	8 7/8"	11 1/8"	12 5/16"	1"	1/4"	22 5/16"	21"	14"	13 13/16"	135
HPD	56-215T	4"	15"	1 3/8"	9 7/8"	11 5/8"	16"	1 7/16"	3/8"	27 5/16"	23"	18"	17 1/2"	160
HPE	56-215T	4"	15"	1 3/8"	11 7/8"	13 5/8"	16"	1 7/16"	3/8"	27 5/16"	27"	18"	17 1/2"	170

C.D. Belt Center Distance

Model	56		143T-145T		182T-184T		213T-215T	
	Min	Max	Min	Max	Min	Max	Min	Max
HPA	9 7/16"	11 7/16"	9 5/8"	11 3/8"				
HPB	9 7/16"	11 7/16"	9 5/8"	11 3/8"				
HPC	9 7/16"	11 7/16"	9 5/8"	11 3/8"	10"	13 3/4"		
HPD	11 7/16"	13 7/16"	11 7/16"	13 3/8"	13 3/16"	15 1/8"	13 3/16"	16"
HPE	11 7/16"	13 7/16"	11 7/16"	13 3/8"	13 3/16"	15 1/8"	13 13/16"	16"

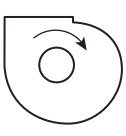
Eight Discharge Positions Available. 45° Discharge Positions Not shown

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

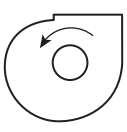


CW-UB
Clockwise Up Blast Discharge

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

HP I series

ENGINEERING DATA

SPX ENGINEERED AIR MOVEMENT
7697 SNIDER ROAD
MASON, OH 45040 USA
513 573 1000 | **spxairmovement**.com

CF-HPI-TECH-24 | ISSUED 2/2024

SPX TECHNOLOGIES