

**PEERLESS  
BLOWERS**

# Radial Blade Blowers

Belt Drive



**Your Clean Air Source!**

**PEERLESS BLOWERS**

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4.5 SP		5.0 SP		6.0 SP	
RPM	BHP	RPM	BHP	RPM	BHP
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
3793	0.24	-	-	-	-
3839	0.25	4022	0.29	-	-
3893	0.27	4070	0.31	4408	0.38
3952	0.3	4123	0.33	4454	0.4
4016	0.32	4187	0.36	-	-
4085	0.35	4253	0.38	-	-
4155	0.38	4323	0.42	-	-
4234	0.41	4396	0.45	-	-
4314	0.44	4474	0.48	-	-
4393	0.48	-	-	-	-
4481	0.52	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-

### FAN Law I.

The performances of fans of all types follow certain laws which are useful in predicting the effect upon performance of changes in the conditions of operation, the duty required of the installation, or the size of the equipment due to the space, power, or speed limitations. In the following law (Fan Law No. 1). Q = air volume and P = static, velocity, or total pressure.

#### Variation in Fan Speed:

*Constant Air Density – Constant System*

- (a) Q: Varies as fan speed.
- (b) P: Varies as square of fan speed.
- (c) Power: Varies as cube of fan speed.

*Example:* A certain fan delivers 12,000 CFM at a static pressure of 1 in. of water when operating at a speed of 400 rpm and requires an input of 4 hp. If in the same installation 15,000 cfm are desired, what will be the speed, static pressure, and power?

$$\text{Speed} = 400 (15,000/12,000) = 500 \text{ rpm}$$

$$\text{Static pressure} = 1(500/400)^2 = 1.56 \text{ in.}$$

$$\text{Power} = 4 (500/400)^3 = 7.81 \text{ hp}$$

4.5 SP		5.0 SP		6.0 SP		7.0 SP		8.0 SP	
RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
3249	0.25	-	-	-	-	-	-	-	-
3281	0.27	3440	0.31	3741	0.38	-	-	-	-
3318	0.3	3474	0.33	3770	0.41	4046	0.48	4306	0.56
3358	0.32	3512	0.36	3802	0.43	4076	0.52	4332	0.6
3404	0.35	3556	0.39	3842	0.47	4110	0.55	4363	0.64
3454	0.38	3602	0.42	3885	0.5	4148	0.59	4397	0.68
3507	0.41	3653	0.45	3931	0.54	4188	0.62	4435	0.72
3564	0.45	3708	0.49	3979	0.58	4236	0.67	4477	0.76
3625	0.48	3765	0.53	4031	0.62	4285	0.71	-	-
3688	0.52	3826	0.57	4088	0.66	4335	0.76	-	-
3753	0.57	3888	0.61	4146	0.71	4390	0.81	-	-
3820	0.61	3953	0.66	4207	0.76	4448	0.87	-	-
3891	0.66	4021	0.71	4271	0.82	4508	0.92	-	-
3965	0.71	4091	0.76	4336	0.87	-	-	-	-
4038	0.77	4165	0.82	4404	0.93	-	-	-	-
4113	0.83	4236	0.88	4475	1	-	-	-	-
4190	0.89	4314	0.95	-	-	-	-	-	-
4273	0.96	4389	1.01	-	-	-	-	-	-
4353	1.02	4469	1.09	-	-	-	-	-	-
4433	1.1	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-

### Fan Selection

When operating RPM for design performance is covered by more than one drive RPM range, use drive having top speed closest to operating RPM and select indicated model number.

Example – PWB-8

Design performance –  
176 cfm @ 2." S.P.

Operating speed –  
3116 RPM @ .07 BHP

Select Model No. PWB8AA  
(2100/3142)

Improper selection –  
PWB8AB (2794/4200)

NOTE: First letter in model number suffix indicates motor horsepower. Second suffix letter indicates drive.

Table with 18 columns: VOL, VEL, .50 SP (RPM, BHP), 1.0 SP (RPM, BHP), 1.5 SP (RPM, BHP), 2.0 SP (RPM, BHP), 2.5 SP (RPM, BHP), 3.0 SP (RPM, BHP), 3.5 SP (RPM, BHP), 4.0 SP (RPM, BHP). Rows include CFM and FPM values for various speeds.

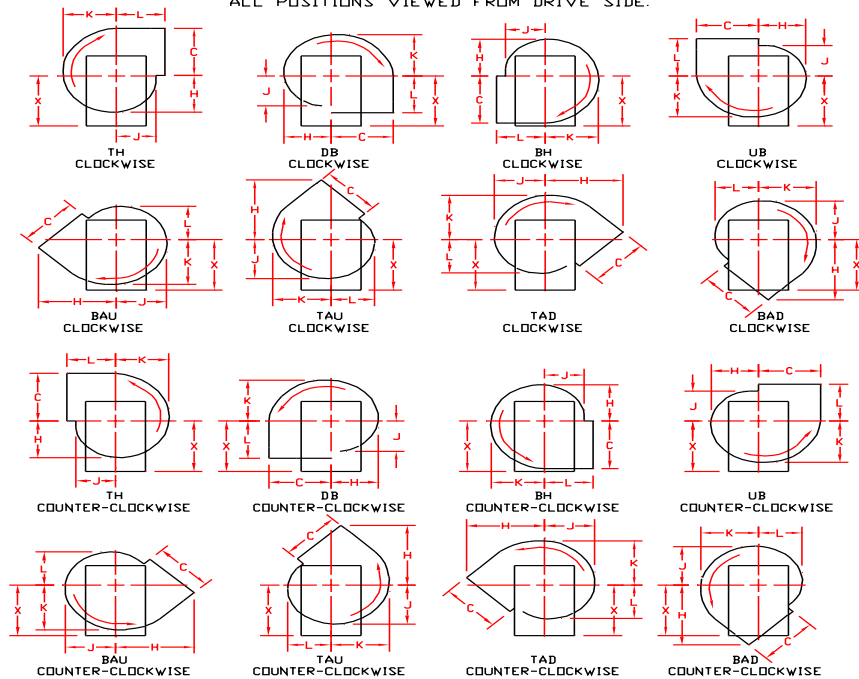
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6.0 SP		7.0 SP		8.0 SP		9.0 SP		10.0 SP		11.0 SP		12.0 SP		13.0 SP		14.0 SP		15.0 SP	
RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2493	0.79	2686	0.95	2866	1.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2507	0.85	2698	1.02	2878	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2524	0.93	2713	1.11	2891	1.29	3059	1.49	3218	1.69	3369	1.89	-	-	-	-	-	-	-	-
2544	1.01	2731	1.2	2907	1.39	3073	1.59	3231	1.8	3382	2.01	3527	2.24	-	-	-	-	-	-
2567	1.1	2752	1.29	2925	1.49	3090	1.7	3247	1.92	3397	2.14	3540	2.37	3679	2.61	-	-	-	-
2594	1.2	2776	1.4	2947	1.61	3110	1.83	3265	2.05	3413	2.28	3556	2.52	3693	2.76	3826	3.01	-	-
2624	1.3	2803	1.51	2972	1.73	3132	1.95	3286	2.19	3433	2.43	3574	2.67	3710	2.92	3842	3.18	3969	3.44
2658	1.42	2833	1.64	2999	1.86	3158	2.1	3309	2.34	3454	2.58	3594	2.83	3729	3.09	3860	3.36	3986	3.63
2694	1.54	2867	1.77	3030	2	3186	2.25	3335	2.49	3479	2.75	3617	3.01	3750	3.28	3880	3.55	-	-
2735	1.68	2903	1.91	3063	2.16	3216	2.4	3364	2.66	3505	2.93	3641	3.19	3774	3.47	3902	3.75	-	-
2778	1.82	2942	2.07	3100	2.32	3250	2.58	3395	2.84	3534	3.12	3669	3.39	3800	3.68	3926	3.96	-	-
2824	1.98	2984	2.23	3138	2.49	3286	2.76	3428	3.03	3566	3.31	3699	3.6	3828	3.89	3953	4.19	-	-
2873	2.15	3030	2.41	3180	2.68	3325	2.96	3465	3.24	3600	3.53	3731	3.82	3858	4.12	3982	4.43	-	-
2924	2.33	3077	2.6	3225	2.88	3367	3.17	3504	3.46	3637	3.75	3766	4.06	3891	4.37	-	-	-	-
2978	2.52	3127	2.8	3271	3.09	3410	3.39	3545	3.69	3676	3.99	3803	4.31	3926	4.62	-	-	-	-
3033	2.73	3179	3.02	3320	3.32	3457	3.62	3589	3.93	3717	4.25	3842	4.57	3964	4.89	-	-	-	-
3091	2.95	3234	3.25	3371	3.56	3505	3.87	3635	4.19	3760	4.51	3883	4.85	4003	5.18	-	-	-	-
3150	3.19	3289	3.5	3424	3.82	3555	4.14	3682	4.46	3806	4.8	3927	5.14	-	-	-	-	-	-
3211	3.43	3347	3.76	3479	4.09	3607	4.41	3732	4.76	3854	5.1	3972	5.45	-	-	-	-	-	-
3274	3.7	3407	4.04	3535	4.37	3662	4.72	3784	5.06	3903	5.42	-	-	-	-	-	-	-	-
3339	3.99	3468	4.33	3594	4.67	3718	5.03	3837	5.38	3955	5.75	-	-	-	-	-	-	-	-
3404	4.29	3531	4.64	3655	5	3775	5.36	3892	5.72	-	-	-	-	-	-	-	-	-	-
3471	4.6	3595	4.97	3716	5.34	3834	5.7	3949	6.08	-	-	-	-	-	-	-	-	-	-
3539	4.94	3661	5.31	3779	5.69	3895	6.08	-	-	-	-	-	-	-	-	-	-	-	-
3608	5.29	3727	5.68	3844	6.07	3957	6.46	-	-	-	-	-	-	-	-	-	-	-	-
3679	5.67	3795	6.06	3908	6.46	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3749	6.06	3864	6.47	3975	6.88	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3822	6.47	3934	6.89	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3895	6.91	4004	7.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3968	7.36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

ALL POSITIONS VIEWED FROM DRIVE SIDE.



COUNTER-CLOCKWISE POSITIONS AVAILABLE ONLY WITH COUNTER-CLOCKWISE UNITS

BLOWER	FIG.	WHEEL DIA.	SHAFT DIA.	TH,DB,BH,UB STRAIGHT DISCH.																ANGULAR DISCH.							
				A	B	C	D	E	F	G	H	J	K	L	H	J	K	L	M	N	P	Q	R	S	T	X	
PWB-8	1	7 3/4	3/4	9 1/4	15 1/2	3	3	14-1/4	7 1/2	6 5/8	5 3/8	4 7/8	5 7/8	5 7/8	8 3/4	5 5/8	6	5	17 1/4	2 5/8	4	15/16	5/8	16 11/16	16	12	
PWB-9	1	9	3/4	10 1/2	15 1/2	3 1/2	3 1/2	14 1/4	8 3/8	7 1/2	6 3/8	5 3/4	6 7/8	6 3/4	10	6 5/8	7	5 7/8	17 1/4	2 7/8	5	1 3/16	5/8	17 5/16	16	12	
PWB-11	1	10 5/8	3/4	12 7/8	15 1/2	4	3 1/2	14 1/4	10 3/4	8 5/8	7 1/4	6 1/2	8	7 5/8	11 3/8	7 5/8	8	6 5/8	17 3/4	2 7/8	6	1 3/16	5/8	20 9/16	17	14	
PWB-12	2	12 1/2	1	16 3/8	15	5	4	13 1/2	14 3/4	10	8 1/4	7 1/2	9	9 5/8	13 11/16	9	9 5/16	7 3/4	20 1/2	3 1/8	7	2 3/4	3/4	24 5/8	20	17	
PWB-14	2	13 1/2	1	17 5/8	15	7 1/8	5 3/4	13 1/2	16	11 1/2	10 1/2	9 5/8	11 3/8	11	15 7/8	11 3/8	11 9/16	10 1/16	21	4	8	3 5/8	3/4	25 7/8	20	17	



# PEERLESS BLOWERS... Your Clean Air Source!

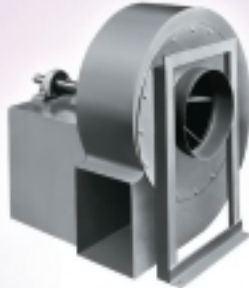
Supplier of Quality Products for Industry:



Direct Drive Fans



Pressure Blowers



Industrial Fans



Direct Drive Exhaust Fans



In-Line Centrifugal Fans



Backward Inclined Belt Drive Blowers



Belt Drive Propeller Fans



Powerfoil Fans



Plug-Pak Fans



Forward Curve Belt Drive Fans



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