

# *Model PB* Sidewall Belt-Drive Fans

---



MoffittCorp.com | (800) 474-3267  
1351 13th Ave S. Suite 130  
Jacksonville Beach, FL 32250

 **Moffitt**  
NATURAL VENTILATION SOLUTIONS

# Model PB Sidewall Belt-Drive Fans

---

## Model PB Sidewall Belt-Drive Fans Description

### PRODUCT DESCRIPTION

Model PB belt-drive sidewall propeller fans are for exhaust or supply applications. This includes several different styles of propellers, two-drive configurations, and with a variety of available accessories. Drive frames are built of heavy-gauge construction and built for a lifetime of service.

### STANDARD FEATURES

- Drive: Belt
- Belt Drive: 24" - 72"
- Performance: 250 - 100,000 cfm
- Static Pressure: 1.25" w.g.
- Orientation
  - Supply
  - Exhaust
- Motors: Heavy-duty motor for years of trouble-free operation
- Propellers: High performance propeller
- Housing: G90 galvanized steel (mill finish) with flanges for mounting. protective finish.
- Frame: Heavy-gauge construction

### OPTIONAL FEATURES

- Weather Hoods
  - 45° (Relief)
  - 90° (Intake)
- Coatings:
  - Polyurethane
  - Custom

### INDUSTRY APPLICATION

- Aluminum Plants
- Automotive Plants
- General Manufacturing
- Glass & Glass Products
- Pulp & Paper Plants
- Schools

# Model PB Sidewall Belt-Drive Fans

## Mounting Options

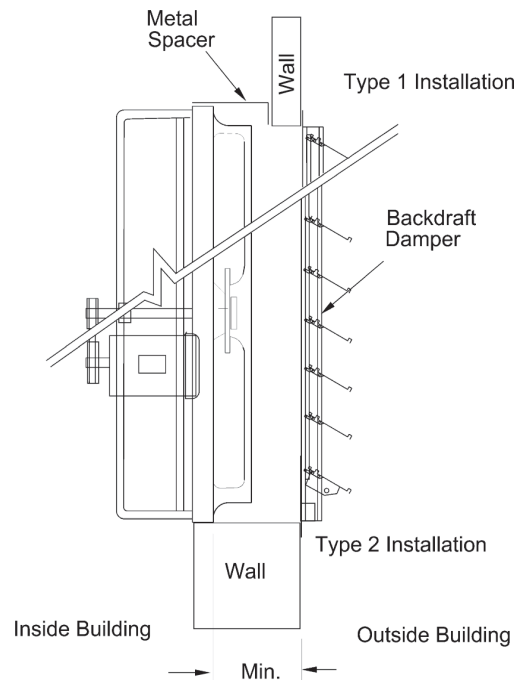
### STANDARD FAN MOUNTING

The split drawing shows a Type 1 and Type 2 installation for mounting fans when a wall housing or wall collar is not used. The wall openings are different on the installations.

On exhaust applications, it is important to maintain minimum dimensions between the propeller and damper for maximum performance.

- Type 1: Installation requires a metal spacer between the fan and the wall to achieve the minimum distance recommendation. This type of installation uses a damper the same size as the fan propeller.
- Type 2: Installation requires a minimum wall opening to allow the fan venturi to fit inside the wall opening. This type uses a damper the same size as the venturi O.D.

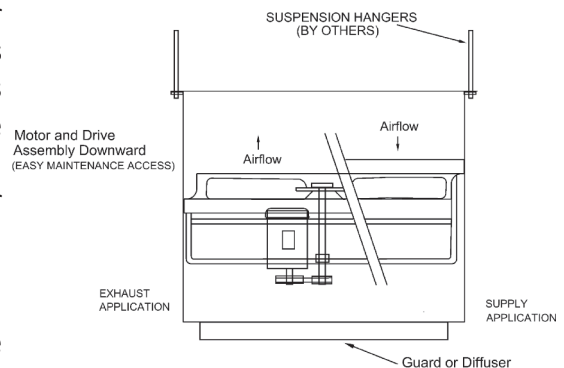
The chart below provides the recommended minimum dimensions and the wall opening dimensions for these two different installations.



### HORIZONTAL FAN MOUNTING

Romlair Sidewall fans can be mounted horizontally for applications that require vertical airflow. Some applications would include mounting fans in a wall housing for use as recirculation fans or install them in ductwork and use them as transfer fans. All models can be mounted horizontally. On horizontal applications, specify motor location and direction of airflow.

Note: Guarding is recommended on this type of application. If guarding is not provided by the factory, it should be supplied by others.



Suspended Installation – Fan Mounted Horizontally in Wall Box Housing

Fan Size	Min. Dimension	Type 1 Wall Opening	Type 2 Wall Opening	Fan Size	Min. Dimension	Type 1 Wall Opening	Type 2 Wall Opening
8	6	8-1/2	11-1/2	30	13	30-1/2	36-3/4
10	6	10-1/2	14-1/2	36	14	36-1/2	42-3/4
12	7	12-1/2	15-3/4	42	15	42-1/2	48-3/4
14	8	14-1/2	18-3/4	48	16	48-1/2	54-3/4
16	9	16-1/2	20-3/4	54	17	54-1/2	60-3/4
18	10	18-1/2	22-3/4	60	19	60-1/2	66-3/4
20	12	20-1/2	24-3/4	72	19	72-1/2	80-3/4
24	13	24-1/2	30-3/4				

# Model PB Sidewall Belt-Drive Fans

## Housing Options

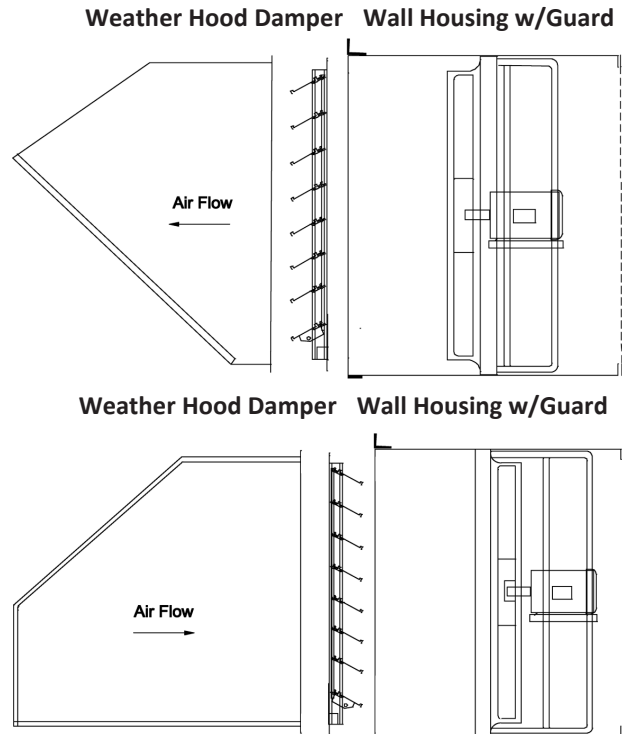
### FAN WALL HOUSING

Wall housing provides weather protection when mounting a fan to a wall. These housings reduce installation time, and allow the attachment of backdraft dampers, guards, and weather hoods on either end of the housing.

Weather hoods are available in both 45° (Relief) and 90° (Intake) configurations. They are recommended to help prevent water entrainment. The hoods are shipped separately.

Housings are constructed of G90 galvanized steel (mill finish) with flanges for mounting. Housings can be coated with an optional polyurethane protective finish.

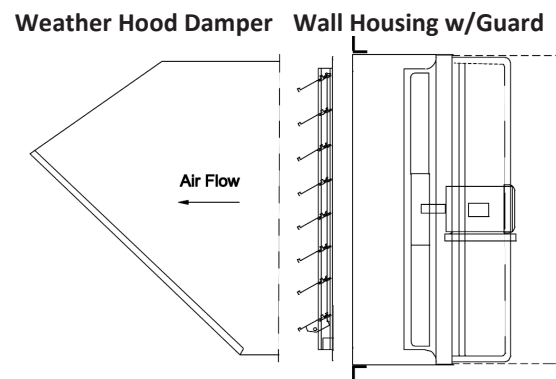
Wall housing, fan, damper, and guards are shipped fully assembled. Weather hoods are shipped loose.



### FAN WALL COLLAR

Fan wall collar is an alternative method of mounting a fan and optional damper in a wall. Housing is constructed of G90 galvanized steel (mill finish) with flanges for mounting. Housing can be coated with an optional polyurethane protective finish. Optional motor side guards must be installed to meet safety requirements (see note below).

Weather hoods are recommended to prevent water entrainment and are available in both 45° (Relief) and 90° (Intake) configurations. Wall collar, fan, damper, and guards are shipped fully assembled. Weather hoods are shipped loose.



**CAUTION!** Guards must be installed when a fan is within reach of personnel or within seven (7) feet of working level or when deemed advisable for safety.

# Model PB Sidewall Belt-Drive Fans

## Filtered Supply Wall Housing Options

### FILTERED SUPPLY WALL HOUSING

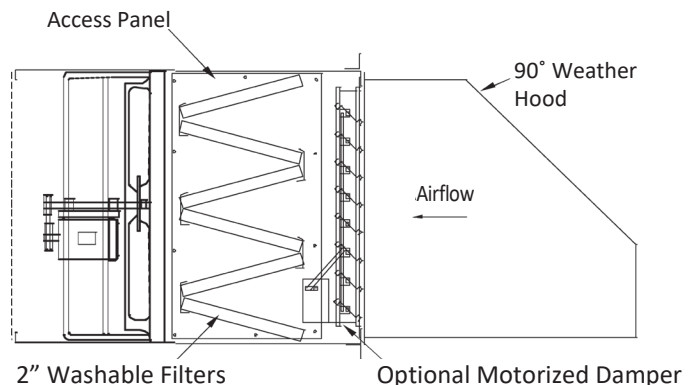
Filtered supply wall housings are available in fan sizes ranging from 24" to 54". Standard construction is painted galvanized steel housing with installed mounting flanges for flush interior or flush exterior mounting. 2-inch washable aluminum filters are standard. They are easily accessible through a bolted access panel. Accessories include a 90° intake weather hood, closure angles, and dampers (automatic or motorized).

Diffusers are mounted on fan wall housing and are manually operated. They are available in both 2-way and 4-way models featuring airfoil blade, and heavy-gauge galvanized steel frames. Designed for a maximum velocity of 3000 fpm. Optional closure angles are available to provide a finished appearance on the interior wall opening.

*Consult factory for custom designs which include larger sizes, and different filter quantities.*

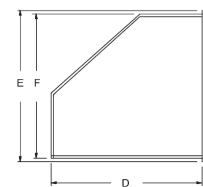


Typical Installation

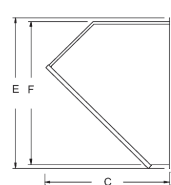


Size	Motor Side Guide		Damper	Weather Hood				Gauge
	A	B		C	D	E	Width	
10	N/A	N/A	10	15	13	15.25	13	20
12	14.75	9	12	16.5	15.5	18.25	15.5	20
14	14.75	12	14	17.5	17.5	20.25	17.5	20
16	19.75	12	16	19.5	19.5	22.25	19.5	20
18	21.75	12	18	22	21.5	24.25	21.5	20
20	23.75	12	20	24.5	23.5	26.25	23.5	18
24	29.875	20	24	26.875	27.5	30.25	27.5	18
30	35.875	20	30	31.125	33.5	36.25	33.5	18
36	41.875	20	36	35.375	39.5	42.25	39.5	18
42	47.875	24	42	39.625	45.5	48.25	45.5	18
48	53.875	24	48	43.875	51.5	54.25	51.5	18
54	59.875	24	54	46.625	57.5	60.25	57.5	16
60	65.875	35	60	50.375	63.5	66.25	63.5	16
72	79.875	35	72	54.0	75.5	79.5	75.5	12

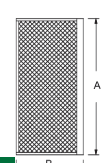
90° Weatherhood



45° Weatherhood



Motor Side Guard



# Model PB Sidewall Belt-Drive Fans

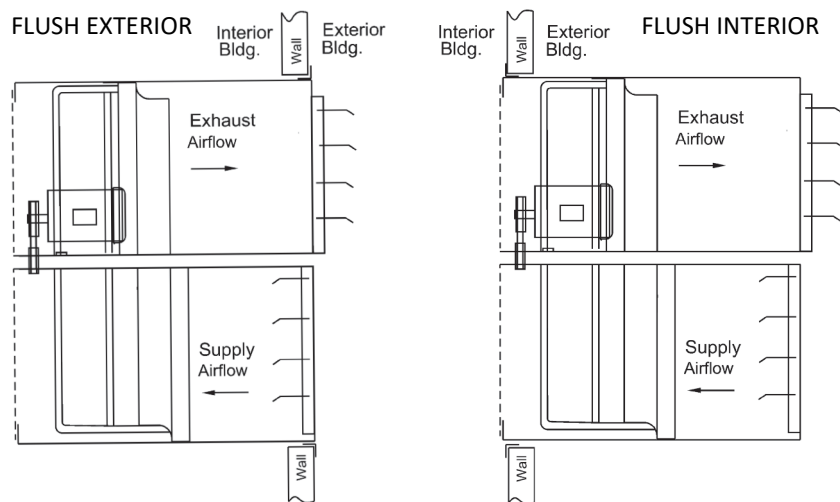
## Mounting Configurations

Different arrangements should be considered depending on several factors.

1. Accessibility for service may be desired from one side of the building vs. the other side.
2. The desired appearance by the designer.
3. Obstruction or space considerations.

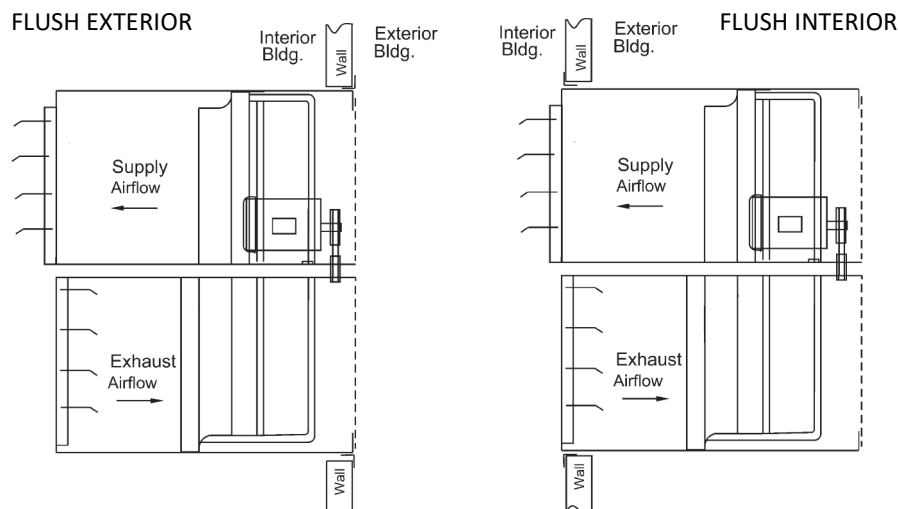
### MOUNTING CONFIGURATION FOR INTERIOR SERVICE

With this arrangement the drive components consisting of belts, pulleys and motors are serviced from inside the building. This is a standard mount wall housing for interior service.



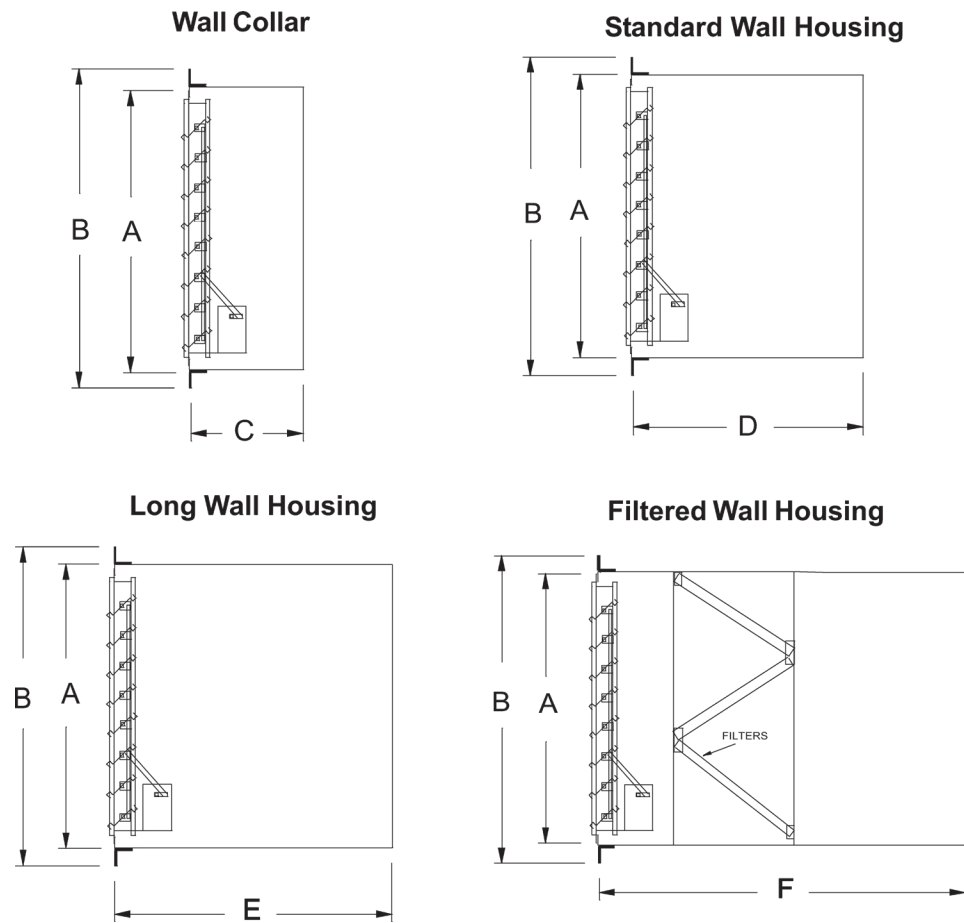
### MOUNTING CONFIGURATION FOR EXTERIOR SERVICE

With this arrangement the drive components consisting of the belts, pulleys, and motors are serviced from outside the building in the opposite direction of the above. This is a reverse mount wall housing for exterior service.



# Model PB Sidewall Belt-Drive Fans

## Wall Collar and Housing Dimensions



Size	Wall Collar and Housings							Gauge
	A	B	C	D	E	F	Wall Opening	
10	15-3/8	18-3/8	16	19	25	–	16-3/8	20
12	18-3/8	21-3/8	16	23	29	–	19-3/8	20
14	20-3/8	23-3/8	18	26	32	–	21-3/8	20
16	22-3/8	25-3/8	18	27	33	–	23-3/8	20
18	24-3/8	27-3/8	18	28	34	–	25-3/8	20
20	26-3/8	29-3/8	18	32	38	–	27-3/8	18
24	30-3/8	36-3/8	18	37	43	63	31-3/8	18
30	36-3/8	42-3/8	18	38	44	65	37-3/8	18
36	42-3/8	48-3/8	18	39	45	67	43-3/8	18
42	48-3/8	54-3/8	19	44	50	73	49-3/8	18
48	54-3/8	60-3/8	19	44	50	73	55-3/8	18
54	60-3/8	66-3/8	20	52	58	80	61-3/8	16
60	66-3/8	72-3/8	21	54	60	–	67-3/8	16
72	80-3/8	86-3/8	22	60	66	–	81-3/8	12

# Model PB Sidewall Belt-Drive Fans

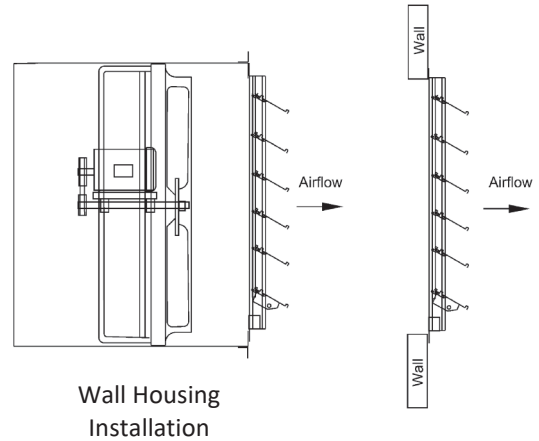
## Backdraft Dampers



Backdraft dampers can be used as stand-alone, or they can be used with both the wall collar and wall housing options. Many types of backdraft dampers are available to fit any requirement. Actuators are available for all electrical voltages. In some cases, a step-down transformer may be required.

### RWD and RWD-M exhaust

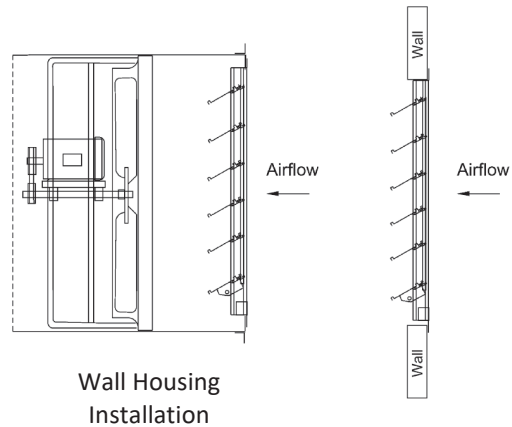
dampers are available as either gravity operated or with motor actuator 115v.



Wall Housing Installation

### Supply Dampers

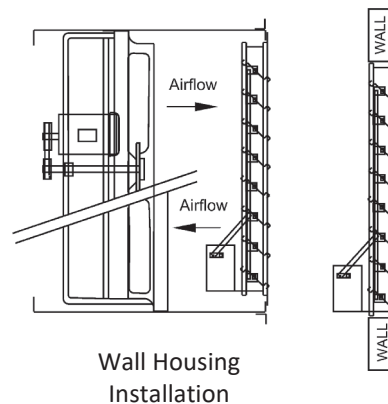
RWD can be used as a supply damper by installing as shown in the Wall housing illustration. RBDS-M should be used for high velocity and motorized supply applications.



Wall Housing Installation

### Exhaust or Supply - Heavy Duty Center Pivot

RVC can be used for both exhaust and supply configurations. Can be used with wall housing or alone. Designed for higher air velocities than the standard backdraft dampers. Optional blade and jamb seals are available for low leakage applications.



Wall Housing Installation

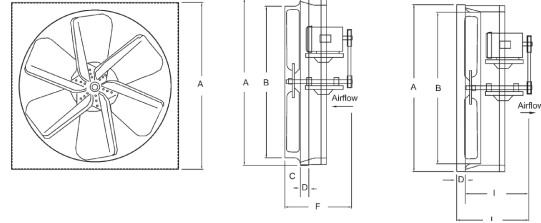


# Model PB Sidewall Belt-Drive Fans

## Fan Dimensional Data

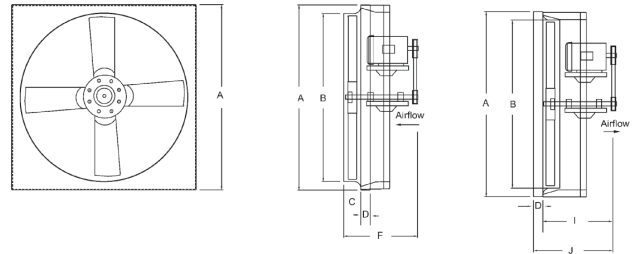
### Model PS Belt Drive - Steel Propeller

Size	A	B	C	D	F	I	J
24	30	25	5	2-3/4	18-5/8	17-3/8	20-1/8
30	36	31	5	2-3/4	19-3/4	18-3/4	21-1/2
36	42	37	5	2-3/4	23-1/4	21-1/2	24-1/4
42	48	43	5	2-3/4	24-3/4	23	25-3/4
48	54	49	5	2-3/4	25-3/4	24-7/8	27-5/8
54	60	55	5	2-3/4	26	27	29-3/4
60	66	61	5-1/2	2-3/4	24-1/2	27-1/2	30-1/4



### Model PA Belt Drive - Cast Aluminum Airfoil Propeller

Size	A	B	C	D	F	I	J
24	30	25	5	2-3/4	18-5/8	17-3/8	20-1/8
30	36	31	5	2-3/4	19-3/4	18-3/4	21-1/2
36	42	37	5	2-3/4	23-1/4	21-1/2	24-1/4
42	48	43	5	2-3/4	24-3/4	23	25-3/4
48	54	49	5	2-3/4	25-3/4	24-7/8	27-5/8
54	60	55	5	2-3/4	26	27	29-3/4
60	66	61	5-1/2	2-3/4	24-1/2	27-1/2	30-1/4
72	80	73	5-1/2	2-3/4	28-1/2	31-1/2	34-1/4



# Model PB Sidewall Belt-Drive Fans

## Model PS Belt-Drive Performance Data

MODEL	HP	FAN RPM	MAX BHP	*SONES	STATIC PRESSURE/CAPACITY								
					0	0.1	0.125	.20	.25	.375	.5	.625	.75
PS-241	1/4	725	.30	11.1	5577	4764	4510	2957					
PS-242	1/3	795	.39	13.0	6116	5374	5189	4100					
PS-243	1/2	882	.60	15.7	6785	6116	5949	5319	4476				
PS-244	3/4	1045	.89	24	8039	7475	7334	6910	6592	4915			
PS-245	1	1152	1.20	28	8862	8350	8222	7838	7582	6599			
PS-303	1/2	645	.60	14.4	9622	8491	8208	6807					
PS-304	3/4	740	.90	17.4	11039	10053	9807	8997	8059				
PS-305	1	812	1.20	19.9	12113	11215	10990	10316	9715	6101			
PS-306	1-1/2	930	1.80	25	13873	13089	12893	12305	11912	10424	6842		
PS-307	2	995	2.20	28	14843	14110	13927	13377	13010	11910	10165		
PS-308	3	1173	3.60	41	17498	16876	16721	16255	15944	15166	14291	12811	
PS-364	3/4	525	.89	13.5	14205	12630	12157	9877					
PS-365	1	580	1.20	13.3	15693	14300	13907	12225	10736				
PS-366	1-1/2	661	1.8	20	17884	16710	16365	15276	14187	8927	6514		
PS-367	2	708	2.20	22	19156	18084	17766	16799	16051	13045	8001		
PS-368	3	834	3.60	29	22565	21655	21428	20637	20090	18377	15788	10435	
PS-425	1	454	1.20	13.4	19035	17018	16402	14125	10248				
PS-426	1-1/2	518	1.80	17.8	21723	19986	19529	17854	16500				
PS-427	2	570	2.40	20	23904	22326	21931	20534	19473	15728			
PS-428	3	651	3.54	24	27301	25919	25573	24499	23639	21297	15512		
PS-429	5	774	6.00	32	32459	31297	31006	30134	29553	27794	25809	23001	16325
PS-485	1	408	1.80	15.8	23360	23887	23131	20305	15484				
PS-486	1-1/2	449	2.40	18.6	29009	26796	26180	23957	21980				
PS-487	2	514	3.60	24	33208	31275	30792	29102	27773	23116			
PS-488	3	609	6.0	32	39345	37714	37306	36083	35104	32323	28424		
PS-489	5	695	8.90	44	44902	43472	43115	42043	41328	39185	36641	33233	
PS-547	2	418	3.60	26	36195	33237	32455	29379	17385				
PS-548	3	489	6.00	35	42343	39815	39183	37193	35308	29754	22541		
PS-549	5	571	8.90	48	49444	47278	46737	45098	43951	40072	35321	30418	
PS-5410	7-1/2	627	11.80	54	54293	52321	51828	50349	49336	46383	42517	37757	33488
PS-608	3	342	3.60	23	44869	39751	38412	33293					
PS-609	5	405	6.0	31	53134	48847	47763	44108	41198				
PS-6010	7-1/2	464	9.0	38	60874	57133	56197	53303	51169	44821			
PS-6011	10	505	11.6	43	66253	62816	61956	59352	57538	52010	42600		

# Model PB Sidewall Belt-Drive Fans

## Model PA Belt Drive Performance Data

MODEL	HP	FAN RPM	MAX BHP	*SONES	STATIC PRESSURE/CAPACITY									
					0	0.1	0.125	.25	.375	.5	.625	.75	1.00	
PA-242	1/3	825	.39	14.4	5686	5128	4964	3738						
PA-243	1/2	940	.58	17.6	6479	6014	5871	4998						
PA-244	3/4	1080	.89	21	7443	7046	6945	6312	5409					
PA-245	1	1190	1.19	24	8202	7841	7751	7207	6494	5569				
PA-303	1/2	689	.59	17.4	9507	8286	7926							
PA-304	3/4	790	.88	21	10900	9872	9582	7851						
PA-305	1	870	1.18	24	12004	11070	10836	9410						
PA-306	1-1/2	998	1.78	29	13770	12956	12752	11603	10246					
PA-307	2	1100	2.39	33	15177	14439	14254	13273	12128	10751				
PA-308	3	1258	3.57	42	17357	16711	16550	15743	14801	13792	12599	11436		
PA-364	3/4	785	.90	21	13434	12239	11935	10292	7484					
PA-365	1	860	1.18	23	14718	13630	13353	11868	10021					
PA-366	1-1/2	985	1.78	29	16857	15912	15672	14421	13107	11346				
PA-367	2	1085	2.38	34	18568	17711	17496	16398	15191	14016	12228			
PA-368	3	1245	3.59	44	21306	20559	20372	19423	18434	17378	16355	14970		
PA-369	5	1475	5.97	64	25242	25242	24454	23664	22855	22028	21136	20754	18308	
PA-425	1	687	1.20	27	17175	15895	15535	13466	10601					
PA-426	1-1/2	787	1.80	31	19675	18601	18287	16680	14545	11976				
PA-427	2	866	2.40	36	21650	20707	20424	18978	17300	15202	12603			
PA-428	3	991	3.60	43	24775	23951	23744	22511	21225	19683	17851	15803		
PA-429	5	1175	6.0	57	29375	28680	2806	27544	26491	25403	24178	22827	19511	
PA-486	1-1/2	660	1.79	31	25600	23506	22936	19896	15710					
PA-487	2	730	2.40	36	28315	26435	25944	23304	20134	14964				
PA-488	3	834	3.60	33	32349	30704	30292	28037	25633	22720	18510			
PA-489	5	988	6.0	59	38322	36933	36586	34793	32889	30817	28646	25826	16616	
PA-4810	7-1/2	1132	9.0	73	43907	42695	42392	40878	39241	37580	35779	33906	29286	
PA548	3	579	3.60	31	33597	31760	31297	28563	25328	19459				
PA-549	5	686	6.0	41	39806	38261	37870	35782	33337	30607	26127	21132		
PA-5410	7-1/2	785	9.0	53	45550	44203	43864	42126	40169	37983	35613	32287	23448	
PA-5411	10	865	12.03	63	50193	48970	48664	47116	45430	43570	41554	39402	32746	
PA-608	3	527	3.60	33	39925	36892	36215	31977	26268					
PA-609	5	625	6.0	42	47349	44681	44110	40928	37217	32403	25066			
PA-6010	7-1/2	715	9.0	55	54167	51813	51233	48716	45636	42288	38238	32950		
PA-6011	10	788	12.0	66	59697	57562	57028	54683	52101	49228	46096	42473	31252	
PA-729	5	569	5.97	52	58932	55636	54753	50207	44688	37124				
PA-7210	7-1/2	649	8.89	64	67218	64328	63606	59717	55623	50438	43797			
PA-7211	10	715	11.90	77	74054	71431	70775	67307	63681	59828	54845	48696		
PA-7212	15	820	17.94	105	84929	82641	82070	79143	76048	72856	69591	65403	55235	