

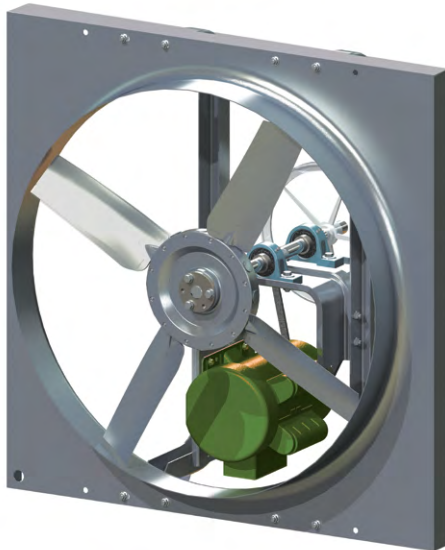
## **PROPELLER WALL FANS DIRECT DRIVE & BELT DRIVEN**

**Models BSDDP / BSBP**

# Propeller Wall Fans

## Models

**BSDDP | BSBP**



**Propeller Side View of BSBP  
Belted Panel Fan**



**Motor Side View of BSDDP  
Direct Drive Panel Fan**

Aerovent BSDDP and BSBP Propeller Wall Fans are specifically designed for cost effective, general-purpose ventilation. All belt driven models are available in either exhaust or supply configurations. The steel panel design is available with cast aluminum propellers to meet specific application requirements. Regardless of the application, the BSDDP and BSBP Series offers a high quality, cost competitive propeller fan solution.

### Sizes

Direct Drive sizes: 14 to 48 inch wheel diameters  
Belt driven sizes: 21 to 54 inch wheel diameters

### Performance

Airflow to 54,250 CFM  
Static pressure to 1 inch w.g.

### Construction Features

- Cast aluminum propellers.
- Steel panel with deep formed inlet venturi which distributes air velocity uniformly.
- Pre-punched mounting holes for ease of installation.
- Motor supports are constructed of heavy-gauge galvanized steel.
- Fans designed for exhaust and supply service are provided with motor and drive located on the interior side of the building.
- Pre-engineered accessories to accommodate any installation.
- Dynamically balanced propellers for quiet, vibration-free operation.
- Designed for continuous duty.
- Cast iron pillow block bearings selected for L50 average life of 200,000 hours at maximum cataloged operating speeds.



Models BSDDP and BSBP are UL/  
cUL 705 listed for electrical, File No.  
E158680.

**AEROVENT**   
INDUSTRIAL VENTILATION SYSTEMS

# Model Comparison

Aerovent offers a full line of propeller fans available in both direct drive and belt driven. Each model and propeller type has been designed for a wide variety of commercial market applications. No matter what the requirements are, Aerovent has the propeller fan to suit the application.

## Direct Drive

PROPELLER CONSTRUCTION	MODEL	SIZE RANGE	PERFORMANCE RANGE	STATIC PRESSURE CAPABILITY	PERFORMANCE DATA LOCATION
Cast Aluminum Blades and Hubs	BSDDP	14 - 48	375 to 35,174 CFM	Up to 1.00 in. w.g.	Pages 8 - 9
Cast Aluminum Blades and Hubs	DDPRF	9 - 72	495 to 45,000 CFM	Up to 1.00 in. w.g.	Catalog 168-B
Cast Aluminum Blades and Hubs	DDPRV	24 - 72	5,300 to 95,600 CFM	Up to 1.25 in. w.g.	Catalog 168-B
Cast Aluminum Blades and Hubs	DDP DDPRC	9 - 72	495 to 95,600 CFM	Up to 1.50 in. w.g.	Catalog 168-B

## Belt Driven

PROPELLER CONSTRUCTION	MODEL	SIZE RANGE	PERFORMANCE RANGE	STATIC PRESSURE CAPABILITY	PERFORMANCE DATA LOCATION
Cast Aluminum Blades and Hubs	BSBP	21 - 54	3,475 to 54,250 CFM	Up to 1.00 in. w.g.	Pages 10 - 13
Cast Aluminum Blades and Hubs	BPRV	24 - 72	5,320 to 89,100 CFM	Up to 1.25 in. w.g.	Catalog 168-B
Cast Aluminum Blades and Hubs	BP BPRC BPRF	24 - 72	5,530 to 89,100 CFM	Up to 1.50 in. w.g.	Catalog 168-B

# Model Nomenclature

**BSBP - E - 24 - B - 1 - 05 - 25**

**Model** \_\_\_\_\_

BSDDP = Wall Propeller Fan, Direct Drive  
BSBP = Wall Propeller Fan, Belt Driven

**E = Exhaust, S = Supply** \_\_\_\_\_

**Fan Size** \_\_\_\_\_

**Propeller Type** \_\_\_\_\_

L1 & L2 = Level 1 & Level 2, Fabricated Steel, Fixed Pitch (5-Bladed)  
B = Cast Aluminum, Adjustable Pitch (4, 5, and 6-Bladed)  
E = Cast Aluminum, Adjustable Pitch (4 and 8-Bladed)  
C = Cast Aluminum, Adjustable Pitch (4 and 6-Bladed)  
Z = Fabricated Steel, Fixed Pitch (5-Bladed)

**Hub Designation (B Propellers Only)** \_\_\_\_\_

**No. of Blades** \_\_\_\_\_

# Accessories

## Backdraft Damper

Backdraft dampers are used to keep the elements and unwanted air out of the building when the fan is not in use. They are constructed to easily fasten to the wall box or wall collar so that the weatherhood or damper guard can easily fit over it. The frame is constructed of 20-gauge galvanized steel. Damper blades are constructed of 26-gauge mill finished aluminum. The leading edge of each damper blade is flanged with a vinyl seal for effective weather protection and quiet closing. The blades freely pivot open or close on stainless steel pivot pins. A motorized option is available.

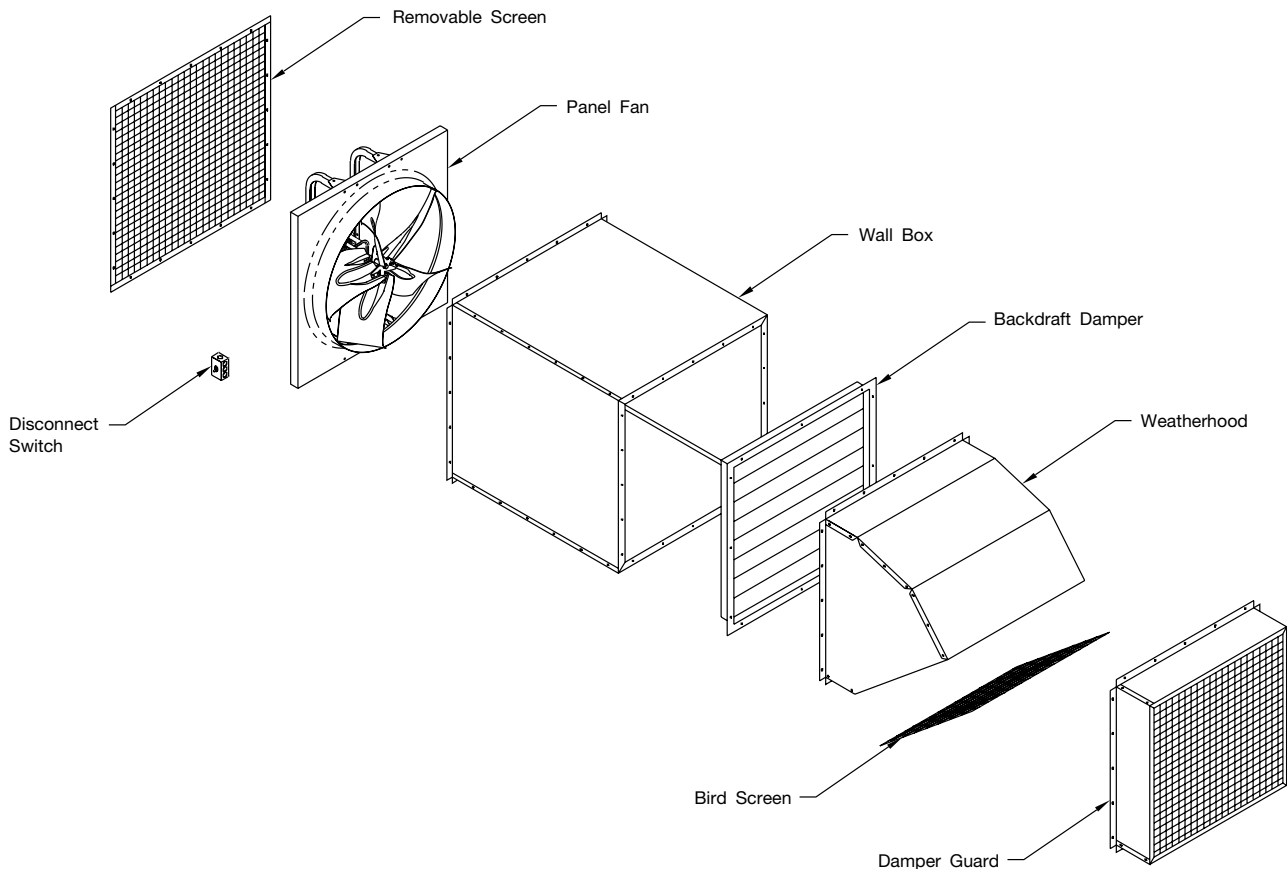
## Wall Box with Guard

The wall box is used to mount the fan and accessories cleanly into a wall, and provides the strongest and safest way to mount wall fans. Wall boxes are constructed of 16-gauge galvanized steel and are provided with heavy-gauge mounting flanges with prepunched mounting holes for ease of installation. Available fully assembled or as a kit (field assembly required) to reduce shipping costs. Wall supports by others.

## Disconnect Switch

A NEMA 1, 3R or 7/9 safety disconnect switch is available for positive electrical shutoff of the fan and the protection of service personnel. Disconnects are shipped loose for field mounting and wiring.

## Wall Box with Accessories



## Wall Collar

The wall collar is an economical alternative to the wall box. Wall collars are constructed of 16-gauge galvanized steel. Heavy-gauge mounting flanges with prepunched mounting holes are provided for ease of installation. Available fully assembled or as a kit (field assembly required) to reduce shipping costs. If motor side of fan is to be enclosed, add OSHA motor side guard. Wall supports by others.

## Weatherhood

A weatherhood is available to keep snow and rain from entering the building and to prevent wind from altering the performance of the fan and backdraft damper. The weatherhood is designed to fit over the backdraft damper and can be installed to a wall collar via the mounting flanges and prepunched mounting holes. Weatherhoods are constructed of G90 galvanized steel and are standard with a removable galvanized steel, wire mesh, bird screen. Available fully assembled or as a kit (field assembly required) to reduce shipping costs. Weatherhoods are not weather tight when used with supply fans.

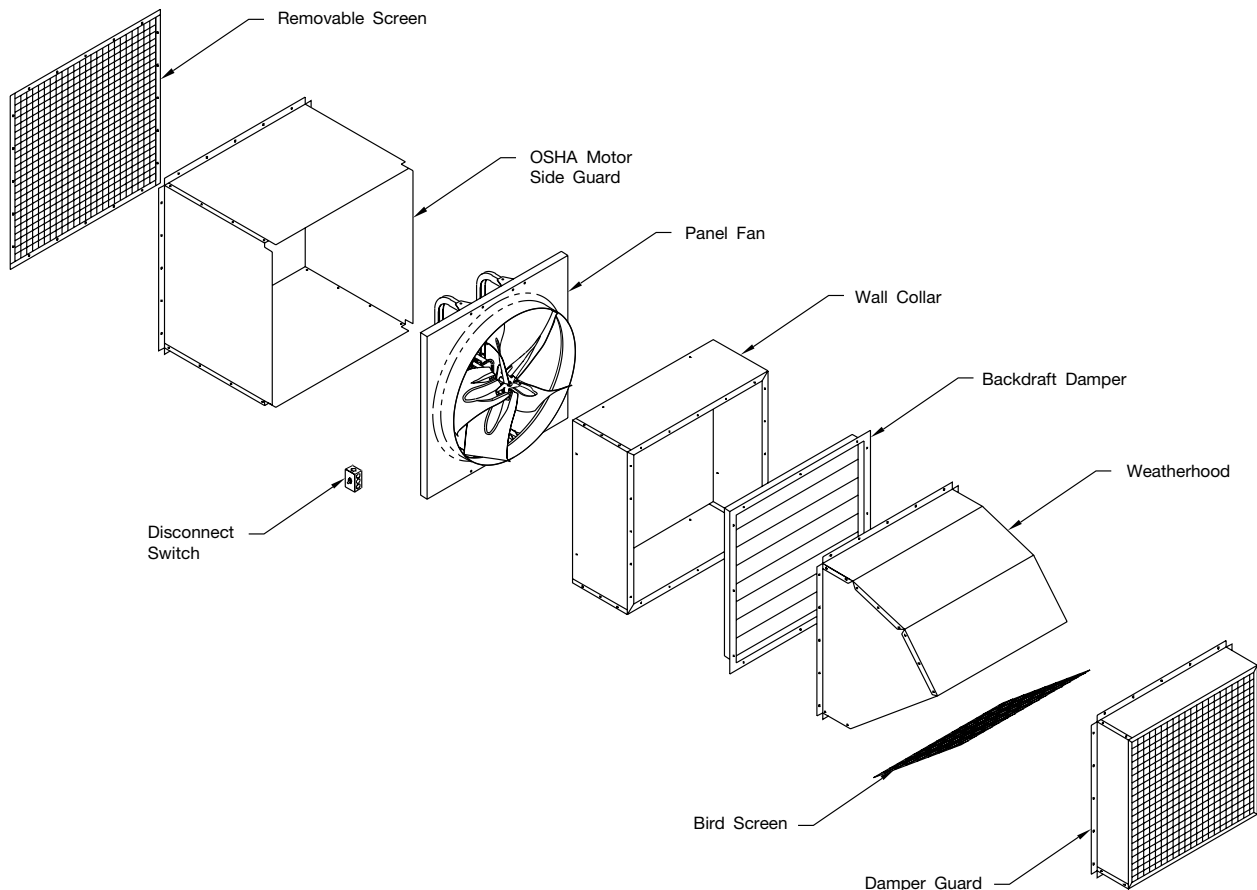
## OSHA Motor Side Guard

The motor side guard meets OSHA standards by completely enclosing the motor and drive components. Motor side guards are constructed of galvanized steel side sheets and a removable wire mesh screen. Prepunched mounting holes allow for easy installation to the fan. (For use with or without a wall collar.)

## Damper Guard

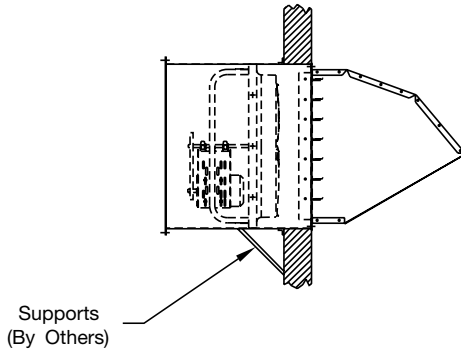
The damper guard is used to protect the backdraft damper when a weatherhood is not used. It is constructed of 18-gauge G90 galvanized steel side sheets and a galvanized steel screen. The screening complies with OSHA standards and will keep birds out of the fan and building. Mounting flanges and prepunched mounting holes are provided for ease of installation.

## Wall Collar with Accessories

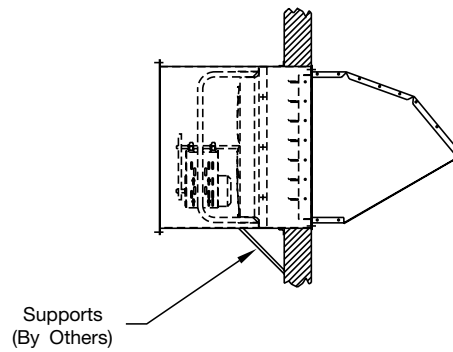


# Accessory Pressure Drops

## Pressure Drop (in Wall Box with Backdraft Damper & Weatherhood)



**EXHAUST FAN**  
in Wall Box with  
Backdraft Damper & Weatherhood



**SUPPLY FAN**  
in Wall Box with  
Backdraft Damper & Weatherhood

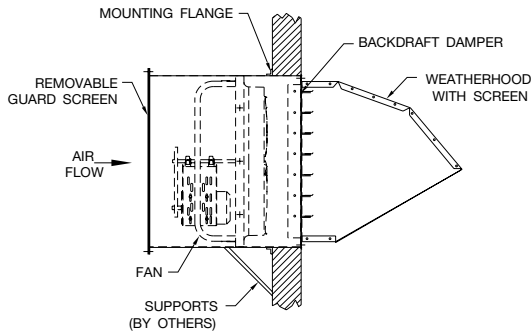
FAN SIZE	CFM	PRESS. DROP (IN. W.G.)	
		EXHAUST	SUPPLY
14	1000	0.04	0.06
	1200	0.06	0.09
	1400	0.09	0.12
	1600	0.11	0.16
	1800	0.14	0.20
	2000	0.18	0.25
	2200	0.22	0.30
2400	0.26	0.36	
16	1600	0.07	0.10
	1800	0.09	0.12
	2000	0.11	0.15
	2200	0.13	0.18
	2400	0.15	0.21
	2600	0.18	0.25
	2800	0.21	0.29
3000	0.24	0.34	
3500	0.32	0.46	
18	2000	0.07	0.09
	2200	0.08	0.11
	2400	0.10	0.13
	2600	0.11	0.16
	2800	0.13	0.18
	3000	0.15	0.21
	3500	0.20	0.29
	4000	0.27	0.37
4500	0.34	0.47	
5000	0.41	0.58	
21	2400	0.05	0.07
	2600	0.06	0.09
	2800	0.07	0.10
	3000	0.08	0.11
	3500	0.11	0.16
	4000	0.15	0.20
	4500	0.18	0.26
	5000	0.23	0.32
5500	0.27	0.39	
6000	0.33	0.46	
6500	0.38	0.54	
24	3500	0.07	0.09
	4000	0.09	0.12
	4500	0.11	0.15
	5000	0.13	0.19
	6000	0.19	0.27
	7000	0.26	0.37
	8000	0.34	0.48
	9000	0.43	0.61
	10000	0.53	0.75

FAN SIZE	CFM	PRESS. DROP (IN. W.G.)	
		EXHAUST	SUPPLY
30	5000	0.05	0.08
	6000	0.08	0.11
	7000	0.11	0.15
	8000	0.14	0.20
	9000	0.18	0.25
	10000	0.22	0.31
	11000	0.26	0.37
	12000	0.31	0.44
	13000	0.37	0.52
	14000	0.43	0.60
15000	0.49	0.69	
36	7000	0.05	0.07
	8000	0.07	0.09
	9000	0.09	0.12
	10000	0.11	0.15
	11000	0.13	0.18
	12000	0.15	0.21
	13000	0.18	0.25
	14000	0.21	0.29
	16000	0.27	0.38
	18000	0.34	0.48
20000	0.42	0.59	
22000	0.51	0.72	
42	10000	0.06	0.08
	11000	0.07	0.10
	12000	0.08	0.12
	13000	0.10	0.14
	14000	0.11	0.16
	16000	0.15	0.21
	18000	0.19	0.26
	20000	0.23	0.32
	22000	0.28	0.39
	24000	0.33	0.46
26000	0.39	0.55	
28000	0.45	0.63	
48	14000	0.07	0.09
	16000	0.09	0.12
	18000	0.11	0.15
	20000	0.13	0.19
	22000	0.16	0.23
	24000	0.19	0.27
	26000	0.23	0.32
	28000	0.26	0.37
	30000	0.30	0.43
	32000	0.35	0.49
34000	0.39	0.55	
36000	0.44	0.62	

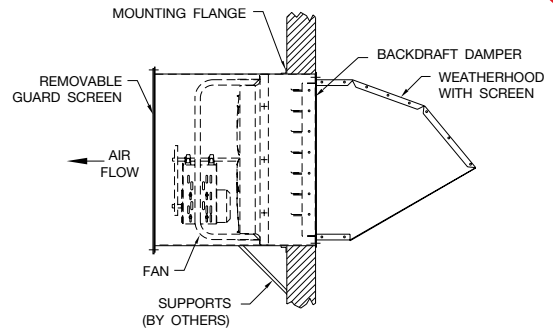
FAN SIZE	CFM	PRESS. DROP (IN. W.G.)	
		EXHAUST	SUPPLY
54	11000	0.03z	0.04
	12000	0.03	0.04
	13000	0.04	0.05
	14000	0.04	0.06
	15000	0.05	0.07
	16000	0.05	0.08
	18000	0.07	0.10
	20000	0.08	0.12
	22000	0.10	0.14
	24000	0.12	0.17
	26000	0.14	0.20
	28000	0.17	0.23
	30000	0.19	0.27
	32000	0.22	0.30
	34000	0.24	0.34
	36000	0.27	0.39
	38000	0.30	0.43
40000	0.34	0.48	
42000	0.37	0.52	
44000	0.41	0.58	

# Mounting Arrangements

## Flush with Outside Wall

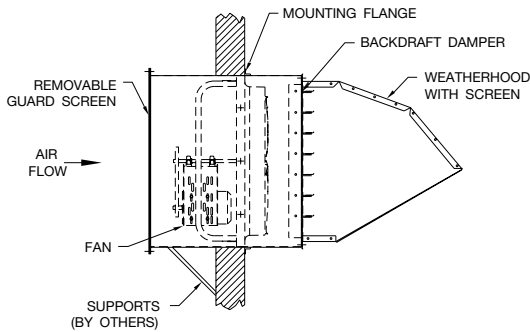


Exhaust

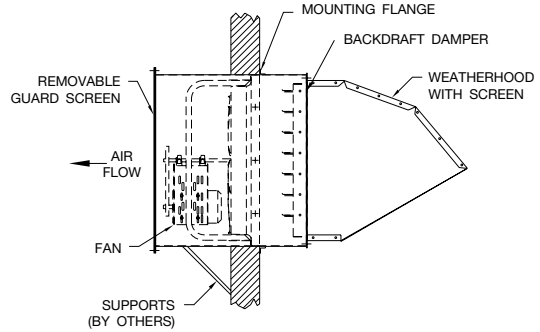


Supply

## Middle of Wall

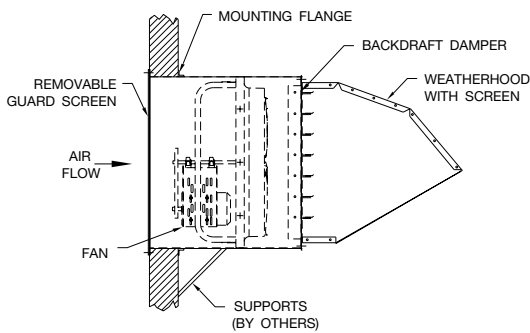


Exhaust

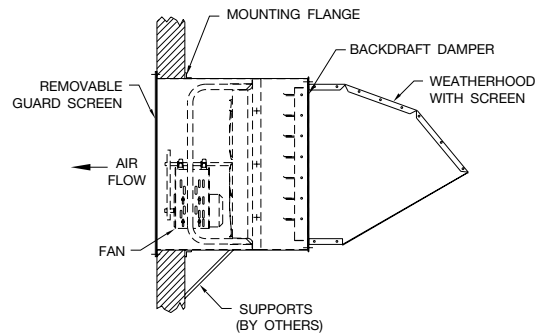


Supply

## Flush with Interior Wall



Exhaust

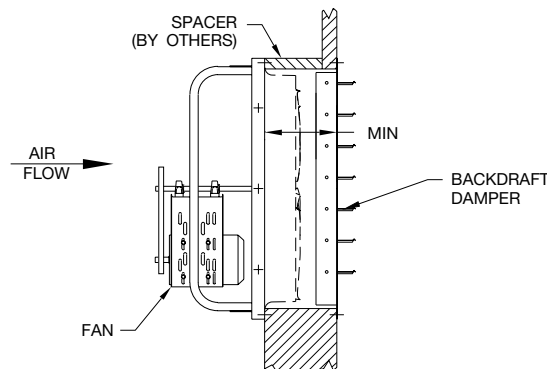


Supply

## Mounting without Accessories

TO ACHIEVE THE MINIMUM DIMENSION, THIS INSTALLATION REQUIRES A SPACER (BY OTHERS) BETWEEN THE FAN AND THE WALL.

IF THE WALL IS EQUAL TO OR GREATER THAN THE MINIMUM DIMENSION, THE FAN CAN BE MOUNTED DIRECTLY TO THE WALL.



SIZE	MIN.
14	16
16	16
18	16
21	16
24	16
30	16
36	16
42	16
48	16
54	19

Dimensions are in inches.

## Direct Drive

### BSDDP | Size 14

PROPELLER	BLADE ANGLE	MOTOR HP	FAN RPM	MAX BHP	SONES @ 0" SP	CFM / STATIC PRESSURE (IN. W.G.)											
						0.000	0.100	0.125	0.150	0.200	0.250	0.300	0.375	0.500	0.625	0.750	1.000
14B105	10	1/4	1750	0.10	11.7	975	883	862	842	801	754	701	628	478	381	299	
	15		1750	0.14	13.7	1320	1236	1214	1192	1149	1105	1055	949	813			
	20		1750	0.19	14.8	1645	1558	1535	1512	1465	1418	1367	1271	1077			
	25	1750	0.25	15.6	1951	1855	1830	1804	1751	1696	1639	1535	1298	1109			
	30	1/3	1750	0.31	16.8	2236	2124	2095	2064	2000	1931	1857	1723	1454	1200		

### BSDDP | Size 16

PROPELLER	BLADE ANGLE	MOTOR HP	FAN RPM	MAX BHP	SONES @ 0" SP	CFM / STATIC PRESSURE (IN. W.G.)											
						0.000	0.100	0.125	0.150	0.200	0.250	0.300	0.375	0.500	0.625	0.750	1.000
16B105	10	1/4	1750	0.16	14.9	1432	1322	1295	1269	1219	1169	1112	1017	870	679	563	
	15		1750	0.25	17.2	1942	1841	1815	1789	1736	1684	1631	1541	1335	1174		
	20	1/3	1750	0.34	18.8	2424	2319	2292	2264	2208	2151	2094	2004	1780	1570	1368	
	25	1/2	1750	0.44	19.9	2870	2756	2726	2696	2634	2570	2504	2401	2166	1895	1665	
	30		1750	0.54	21	3286	3154	3120	3084	3011	2934	2853	2722	2436	2121	1817	

### BSDDP | Size 18

PROPELLER	BLADE ANGLE	MOTOR HP	FAN RPM	MAX BHP	SONES @ 0" SP	CFM / STATIC PRESSURE (IN. W.G.)											
						0.000	0.100	0.125	0.150	0.200	0.250	0.300	0.375	0.500	0.625	0.750	1.000
18B105	10	1/3	1750	0.25	18.1	2006	1876	1844	1812	1751	1692	1632	1527	1343	1150	928	670
	15	1/2	1750	0.39	21	2732	2611	2580	2549	2487	2424	2362	2266	2056	1826	1629	
	20		1750	0.53	23	3409	3285	3253	3221	3156	3088	3020	2917	2724	2425	2193	
	25	3/4	1750	0.68	24	4036	3901	3866	3830	3758	3684	3607	3490	3274	2957	2653	
	30		1750	0.87	26	4611	4456	4416	4375	4291	4204	4114	3971	3704	3342	2971	2062

### BSDDP | Size 21

PROPELLER	BLADE ANGLE	MOTOR HP	FAN RPM	MAX BHP	SONES @ 0" SP	CFM / STATIC PRESSURE (IN. W.G.)											
						0.000	0.100	0.125	0.150	0.200	0.250	0.300	0.375	0.500	0.625	0.750	1.000
21B105	10	1/2	1750	0.43	23	3115	2952	2912	2872	2791	2713	2636	2515	2285	2051	1796	1284
	15	3/4	1750	0.70	27	4265	4110	4071	4031	3952	3871	3790	3670	3456	3167	2874	2247
	20	1	1750	0.98	30	5325	5166	5125	5085	5001	4917	4831	4700	4477	4218	3846	3229
	25	1 1/2	1750	1.26	32	6296	6125	6081	6037	5947	5855	5760	5615	5364	5084	4704	3928
	30	2	1750	1.57	33	7177	6984	6935	6885	6782	6677	6568	6399	6099	5761	5337	4359

### BSDDP | Size 24

PROPELLER	BLADE ANGLE	MOTOR HP	FAN RPM	MAX BHP	SONES @ 0" SP	CFM / STATIC PRESSURE (IN. W.G.)											
						0.000	0.100	0.125	0.150	0.200	0.250	0.300	0.375	0.500	0.625	0.750	1.000
24B105	10	3/4	1750	0.68	32	4555	4352	4301	4250	4148	4046	3946	3794	3520	3218	2916	2175
	15	1	1750	1.12	33	6267	6070	6021	5971	5869	5767	5664	5508	5244	4946	4564	3869
	20	1 1/2	1750	1.55	33	7830	7628	7576	7525	7420	7314	7205	7040	6761	6466	6117	5245
	25	2	1750	2.03	34	9245	9030	8975	8919	8807	8692	8576	8396	8088	7765	7404	6426
	30	3	1750	2.57	37	10514	10276	10215	10154	10029	9901	9770	9568	9214	8833	8412	7344

**NOTES:**

- Performance certified is for installation Type A: Free inlet, free outlet.
- Performance ratings do not include the effects of appurtenances (accessories).
- The sound ratings shown are loudness values in fan sone at 5 ft. (1.5m) in a hemispherical free field calculated per AMCA Standard 301. Values are for installation Type A: Free inlet hemispherical sone levels.



# Direct Drive

## BSDDP | Size 30

PROPELLER	BLADE ANGLE	MOTOR HP	FAN RPM	MAX BHP	SONES @ 0" SP	CFM / STATIC PRESSURE (IN. W.G.)											
						0.000	0.100	0.125	0.150	0.200	0.250	0.300	0.375	0.500	0.625	0.750	1.000
30B105	10	1/2	1160	0.39	23	5734	5252	5124	4991	4715	4431	4137	3636	2626	1558	671	
	15	3/4	1160	0.65	25	7972	7473	7344	7213	6946	6672	6380	5881	4955	3736	1639	
	20	1	1160	0.96	26	9977	9460	9326	9191	8915	8635	8346	7870	6904	5764	3238	
	25	1 1/2	1160	1.30	27	11751	11214	11075	10933	10644	10347	10042	9555	8591	7267	5243	
	30	2	1160	1.69	28	13292	12733	12587	12439	12133	11814	11481	10948	9953	8345		

## BSDDP | Size 36

PROPELLER	BLADE ANGLE	MOTOR HP	FAN RPM	MAX BHP	SONES @ 0" SP	CFM / STATIC PRESSURE (IN. W.G.)											
						0.000	0.100	0.125	0.150	0.200	0.250	0.300	0.375	0.500	0.625	0.750	1.000
36B206	10	1	1160	0.92	33	9257	8692	8545	8396	8093	7780	7450	6893	5868	4690	3395	1250
	15	1 1/2	1160	1.45	38	12663	12137	12001	11861	11574	11276	10966	10471	9487	8360	6996	2877
	20	2	1160	2.14	40	15876	15341	15202	15061	14771	14471	14158	13666	12754	11625	10312	4941
	25	3	1160	2.93	43	18896	18323	18174	18023	17715	17397	17067	16549	15608	14523	13186	7044
	30	5	1160	3.90	47	21722	21083	20918	20751	20409	20057	19693	19124	18097	16954	15656	

## BSDDP | Size 42

PROPELLER	BLADE ANGLE	MOTOR HP	FAN RPM	MAX BHP	SONES @ 0" SP	CFM / STATIC PRESSURE (IN. W.G.)											
						0.000	0.100	0.125	0.150	0.200	0.250	0.300	0.375	0.500	0.625	0.750	1.000
42B304	10	1	860	0.77	23	11955	11008	10763	10517	10015	9476	8868	7869	5926	3595	1829	
	15	1 1/2	860	1.22	26	15652	14687	14431	14168	13616	13027	12410	11419	9736	7438		
	20	2	860	1.76	28	18931	17930	17664	17390	16816	16191	15527	14495	12690	10702		
	25	3	860	2.38	30	21792	20732	20451	20162	19560	18910	18211	17113	15143	12932		
	30	3	860	3.12	32	24237	23089	22787	22477	21834	21152	20423	19257	17090	14205		

## BSDDP | Size 48

PROPELLER	BLADE ANGLE	MOTOR HP	FAN RPM	MAX BHP	SONES @ 0" SP	CFM / STATIC PRESSURE (IN. W.G.)											
						0.000	0.100	0.125	0.150	0.200	0.250	0.300	0.375	0.500	0.625	0.750	1.000
48B304	10	1 1/2	860	1.11	29	17361	16045	15702	15356	14652	13892	13005	11573	8992	5264	2119	
	15	2	860	1.78	32	22801	21497	21149	20791	20039	19224	18366	16995	14740	11962		
	20	3	860	2.62	34	27584	26239	25882	25515	24747	23914	23015	21613	19151	16696		
	25	5	860	3.61	38	31707	30277	29900	29514	28714	27864	26952	25497	22870	19908	15254	
	30	5	860	4.78	41	35174	33602	33193	32777	31922	31035	30115	28642	25814	21527		

**NOTES:**

1. Performance certified is for installation Type A: Free inlet, free outlet.
2. Performance ratings do not include the effects of appurtenances (accessories).
3. The sound ratings shown are loudness values in fan sone at 5 ft. (1.5m) in a hemispherical free field calculated per AMCA Standard 301. Values are for installation Type A: Free inlet hemispherical sone levels.



# Belt Driven

## BSBP | Size 21

PROPELLER	BLADE ANGLE	MOTOR HP	FAN RPM	MAX BHP	SONES @ 0" SP	CFM / STATIC PRESSURE (IN. W.G.)												
						0.000	0.100	0.125	0.150	0.200	0.250	0.300	0.375	0.500	0.625	0.750	1.000	
21B105	20	1/4	1142	0.26	14.7	3475	3226	3160	3093	2958	2809	2604	2292					
	25		1048	0.27	13.6	3771	3474	3393	3311	3138	2925	2638	2268					
	30		977	0.28	12.8	4007	3641	3539	3431	3188	2868	2519	1840					
	20	1/3	1252	0.36	17.6	3810	3584	3525	3465	3343	3218	3081	2790	2352				
	25		1150	0.36	15.8	4138	3870	3799	3725	3574	3412	3214	2831	2166				
	30		1072	0.36	14.8	4396	4068	3978	3885	3684	3451	3153	2672					
	20	1/2	1438	0.55	22	4376	4181	4130	4079	3975	3869	3762	3591	3185	2801	2347		
	25		1320	0.55	20	4749	4519	4458	4397	4270	4139	4002	3768	3227	2730			
	30		1231	0.55	18.7	5048	4768	4693	4616	4454	4281	4091	3733	3036				
	20	3/4	1646	0.79	27	5009	4839	4796	4752	4663	4572	4479	4340	4091	3747	3376	2305	
	25		1511	0.81	25	5437	5237	5185	5133	5026	4915	4801	4626	4285	3799	3376		
	30		1409	0.82	23	5778	5536	5473	5408	5273	5133	4985	4745	4231	3628	2871		

## BSBP | Size 24

PROPELLER	BLADE ANGLE	MOTOR HP	FAN RPM	MAX BHP	SONES @ 0" SP	CFM / STATIC PRESSURE (IN. W.G.)												
						0.000	0.100	0.125	0.150	0.200	0.250	0.300	0.375	0.500	0.625	0.750	1.000	
24B105	20	1/3	1067	0.35	15.6	4774	4434	4345	4254	4069	3868	3608	3181	2130				
	25		977	0.36	14.3	5161	4760	4652	4542	4310	4035	3671	3145					
	30		910	0.36	13.5	5467	4983	4848	4706	4393	4003	3524						
	20	1/2	1226	0.55	19.3	5485	5193	5117	5039	4881	4722	4554	4253	3634	3009			
	25		1122	0.55	17.7	5928	5583	5492	5399	5207	5007	4787	4351	3576				
	30		1045	0.55	16.9	6278	5865	5753	5638	5394	5125	4812	4232					
	20	3/4	1403	0.82	24	6277	6023	5958	5892	5757	5619	5480	5265	4828	4274	3781		
	25		1285	0.82	22	6789	6491	6413	6334	6173	6005	5834	5558	4936	4267	3121		
	30		1197	0.82	21	7192	6836	6742	6645	6445	6233	6006	5622	4786	3633			
	20	1	1544	1.09	28	6908	6678	6619	6560	6439	6316	6191	6001	5667	5234	4728	3719	
	25		1414	1.09	25	7470	7201	7131	7061	6917	6769	6617	6382	5941	5330	4729		
	30		1317	1.10	24	7913	7592	7508	7422	7246	7061	6868	6557	5933	5124	4073		

### NOTES:

1. Performance certified is for installation Type A: Free inlet, free outlet.
2. Power rating (BHP) does not include transmission losses.
3. Performance ratings do not include the effects of appurtenances (accessories).
4. The sound ratings shown are loudness values in fan sones at 5 ft. (1.5m) in a hemispherical free field calculated per AMCA Standard 301. Values are for installation Type A: Free inlet hemispherical sone levels.

# Belt Driven

## BSBP | Size 30

PROPELLER	BLADE ANGLE	MOTOR HP	FAN RPM	MAX BHP	SONES @ 0" SP	CFM / STATIC PRESSURE (IN. W.G.)											
						0.000	0.100	0.125	0.150	0.200	0.250	0.300	0.375	0.500	0.625	0.750	1.000
30B105	20	1/2	964	0.55	19.3	8291	7661	7496	7329	6987	6614	6178	5429	3578			
	25		871	0.55	17.4	8823	8092	7896	7697	7277	6799	6232	5065				
	30		798	0.55	16.2	9144	8298	8063	7818	7281	6671	5610					
	20	3/4	1104	0.83	24	9496	8950	8809	8666	8374	8077	7763	7224	6140	4716		
	25		997	0.82	22	10100	9468	9303	9133	8786	8422	8024	7326	5651			
	30		914	0.83	20	10474	9748	9553	9351	8926	8461	7955	6898				
	20	1	1215	1.1	28	10450	9957	9830	9702	9441	9175	8904	8473	7610	6588	5290	
	25		1098	1.1	24	11123	10553	10405	10255	9946	9628	9297	8750	7615	5913		
	30		1006	1.1	23	11528	10876	10703	10525	10155	9762	9338	8642	6427			
	20	1 1/2	1390	1.65	34	11955	11527	11417	11307	11083	10855	10623	10271	9645	8900	8046	5816
	25		1257	1.65	30	12733	12240	12113	11984	11722	11452	11177	10750	9958	8993	7687	
	30		1151	1.65	28	13189	12625	12478	12328	12019	11697	11360	10819	9807	8073		
	20	2	1530	2.2	41	13160	12771	12673	12573	12372	12168	11960	11644	11106	10521	9839	8233
	25		1383	2.2	35	14010	13563	13449	13333	13098	12858	12613	12237	11578	10831	9946	7330
	30		1267	2.2	33	14519	14009	13878	13744	13470	13186	12893	12432	11590	10637	9030	
	20	3	1752	3.27	50	15069	14731	14645	14559	14386	14210	14033	13763	13303	12835	12342	11181
	25		1583	3.3	44	16036	15647	15548	15449	15247	15042	14834	14515	13968	13397	12773	11264
	30		1450	3.3	41	16616	16174	16060	15945	15712	15473	15228	14848	14178	13449	12653	10034

## BSBP | Size 36

PROPELLER	BLADE ANGLE	MOTOR HP	FAN RPM	MAX BHP	SONES @ 0" SP	CFM / STATIC PRESSURE (IN. W.G.)											
						0.000	0.100	0.125	0.150	0.200	0.250	0.300	0.375	0.500	0.625	0.750	1.000
36B206	20	3/4	845	0.82	24	11565	10809	10605	10393	9946	9454	8885	7855	4930	1914		
	25		761	0.83	22	12397	11487	11238	10979	10422	9792	9052	7379				
	30		691	0.82	20	12940	11811	11497	11166	10441	9632	8050					
	20	1	929	1.10	27	12714	12035	11854	11668	11278	10864	10414	9625	7984	4489	2179	
	25		837	1.10	25	13635	12818	12599	12372	11894	11376	10800	9770	6155			
	30		761	1.10	24	14250	13240	12966	12680	12070	11394	10659	8377				
	20	1 1/2	1064	1.65	35	14562	13975	13822	13665	13342	13003	12649	12078	10940	9532	7409	
	25		958	1.65	31	15606	14902	14716	14526	14132	13717	13276	12550	11059	8452		
	30		871	1.65	29	16310	15442	15211	14973	14477	13947	13376	12441	9317			
	20	2	1171	2.19	41	16026	15497	15359	15220	14933	14637	14329	13844	12949	11853	10567	5449
	25		1055	2.20	36	17186	16551	16386	16217	15870	15508	15130	14527	13382	11928	9550	
	30		959	2.21	34	17958	17176	16970	16760	16326	15869	15387	14604	13124	9146		
	20	3	1340	3.29	54	18339	17880	17762	17642	17399	17149	16892	16494	15789	15016	14125	11921
	25		1207	3.30	46	19662	19112	18970	18826	18532	18229	17917	17429	16552	15565	14405	10403
	30		1097	3.30	43	20542	19865	19689	19510	19145	18766	18373	17752	16616	15348	13021	
	20	5	1589	5.37	77	21747	21362	21264	21165	20964	20761	20553	20235	19683	19103	18488	17100
	25		1431	5.49	65	23311	22850	22732	22614	22373	22127	21876	21489	20815	20098	19325	17532
	30		1301	5.48	58	24363	23796	23651	23504	23205	22900	22587	22103	21250	20327	19318	16827

**NOTES:**

- Performance certified is for installation Type A: Free inlet, free outlet.
- Power rating (BHP) does not include transmission losses.
- Performance ratings do not include the effects of appurtenances (accessories).
- The sound ratings shown are loudness values in fan sones at 5 ft. (1.5m) in a hemispherical free field calculated per AMCA Standard 301. Values are for installation Type A: Free inlet hemispherical sone levels.



# Belt Driven

## BSBP | Size 42

PROPELLER	BLADE ANGLE	MOTOR HP	FAN RPM	MAX BHP	SONES @ 0" SP	CFM / STATIC PRESSURE (IN. W.G.)											
						0.000	0.100	0.125	0.150	0.200	0.250	0.300	0.375	0.500	0.625	0.750	1.000
42B304	20	1	735	1.09	22	16180	14986	14659	14316	13570	12780	11949	10681	7858			
	25		666	1.10	20	16876	15461	15066	14643	13726	12760	11724	10010				
	30		608	1.10	18.7	17135	15436	14953	14437	13327	12079	10478					
	20	1 1/2	842	1.65	27	18535	17510	17237	16955	16362	15714	15030	13965	12121	9881		
	25		762	1.65	25	19309	18096	17768	17429	16698	15899	15068	13743	11246			
	30		696	1.65	23	19615	18164	17768	17355	16463	15498	14460	12546				
	20	2	926	2.19	31	20384	19460	19217	18968	18452	17902	17311	16376	14733	13056	11001	
	25		838	2.20	29	21235	20144	19853	19555	18929	18249	17520	16382	14325	11903		
	30		766	2.20	27	21587	20285	19936	19575	18813	17987	17107	15679	12535			
	20	3	1060	3.27	40	23334	22535	22327	22116	21683	21233	20763	20007	18652	17221	15752	12247
	25		960	3.31	35	24326	23385	23139	22887	22368	21826	21248	20313	18660	16875	14934	
	30		877	3.30	34	24716	23592	23297	22995	22369	21707	21002	19871	17799	15093		
	20	5	1257	5.42	53	27670	27003	26831	26658	26305	25943	25572	24996	23965	22841	21678	19216
	25		1138	5.51	48	28837	28051	27848	27643	27223	26791	26345	25647	24370	22999	21566	18442
	30		1040	5.51	45	29309	28373	28131	27885	27381	26861	26322	25468	23921	22248	20358	

## BSBP | Size 48

PROPELLER	BLADE ANGLE	MOTOR HP	FAN RPM	MAX BHP	SONES @ 0" SP	CFM / STATIC PRESSURE (IN. W.G.)											
						0.000	0.100	0.125	0.150	0.200	0.250	0.300	0.375	0.500	0.625	0.750	1.000
48B304	20	1 1/2	738	1.65	27	23671	22075	21640	21186	20194	19119	18008	16281	13051			
	25		663	1.65	24	24444	22532	22005	21448	20240	18946	17549	15228				
	30		604	1.65	23	24704	22386	21753	21096	19664	18007	15625					
	20	2	812	2.20	31	26044	24611	24227	23831	22992	22068	21089	19567	16992	13648		
	25		729	2.20	29	26878	25161	24697	24217	23188	22066	20886	18968	15035			
	30		664	2.20	26	27158	25076	24516	23939	22726	21385	19867	16487				
	20	3	929	3.30	39	29797	28560	28235	27903	27213	26485	25699	24433	22218	19955	17580	
	25		835	3.31	36	30786	29308	28918	28517	27684	26791	25833	24313	21537	18311		
	30		760	3.30	33	31084	29289	28816	28332	27329	26275	25144	23246	18459			
	20	5	1102	5.50	52	35346	34315	34049	33778	33224	32651	32058	31117	29384	27556	25635	21839
	25		990	5.51	47	36500	35270	34951	34626	33959	33267	32547	31391	29298	27047	24584	17228
	30		901	5.50	43	36851	35355	34967	34574	33767	32932	32070	30711	28168	24915	19724	
	20	7 1/2	1261	8.23	68	40445	39551	39321	39089	38617	38134	37639	36871	35504	33997	32413	29090
	25		1133	8.26	60	41773	40705	40431	40153	39587	39005	38408	37478	35801	33979	32062	27818
	30		1032	8.27	56	42209	40912	40579	40242	39556	38853	38132	37016	35044	32848	30321	21770

**NOTES:**

1. Performance certified is for installation Type A: Free inlet, free outlet.
2. Power rating (BHP) does not include transmission losses.
3. Performance ratings do not include the effects of appurtenances (accessories).
4. The sound ratings shown are loudness values in fan sones at 5 ft. (1.5m) in a hemispherical free field calculated per AMCA Standard 301. Values are for installation Type A: Free inlet hemispherical sone levels.

# Belt Driven

## BSBP | Size 54

PROPELLER	BLADE ANGLE	MOTOR HP	FAN RPM	MAX BHP	SONES @ 0" SP	CFM / STATIC PRESSURE (IN. W.G.)												
						0.000	0.100	0.125	0.150	0.200	0.250	0.300	0.375	0.500	0.625	0.750	1.000	
54B406	20	1 1/2	556	1.65	29	26697	24599	24034	23442	22182	20893	19599	17313					
	25		501	1.65	27	28137	25686	25015	24316	22811	21104	19110	15051					
	30		456	1.65	26	28832	25973	25192	24380	22348	19087							
	20	2	612	2.20	34	29386	27500	26999	26484	25395	24236	23064	21289	17534				
	25		552	2.21	31	31001	28804	28214	27605	26320	24924	23369	20616					
	30		502	2.21	30	31740	29182	28486	27776	26262	24214	21205						
	20	3	700	3.30	43	33611	31981	31555	31120	30224	29276	28275	26736	24144	20928	15597		
	25		632	3.31	40	35494	33601	33102	32592	31532	30417	29231	27273	23296	16829			
	30		575	3.31	37	36356	34158	33573	32972	31735	30430	28886	25297					
	20	5	830	5.50	60	39853	38493	38142	37786	37061	36314	35543	34321	32171	30024	27711	21256	
	25		749	5.51	53	42065	40487	40078	39662	38811	37930	37018	35580	32939	29847	26048		
	30		681	5.51	49	43058	41229	40751	40265	39264	38226	37170	35456	31125				
	20	7 1/2	950	8.25	75	45615	44433	44131	43826	43206	42573	41926	40928	39155	37278	35397	31404	
	25		857	8.25	70	48131	46760	46408	46052	45328	44585	43824	42642	40553	38267	35700	29259	
	30		780	8.28	65	49318	47733	47324	46910	46063	45192	44293	42920	40434	36853	31858		
	20	10	1046	10.92	90	50225	49155	48882	48607	48051	47486	46911	46028	44497	42859	41151	37736	
	25		943	10.99	84	52961	51720	51403	51083	50434	49772	49096	48056	46242	44311	42225	37378	
	30		858	11.02	78	54250	52815	52447	52075	51319	50544	49751	48524	46420	44067	40749		

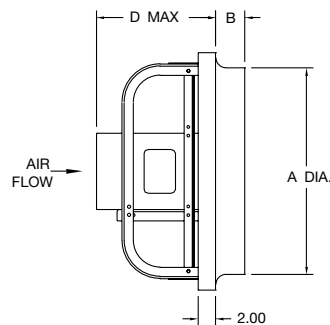
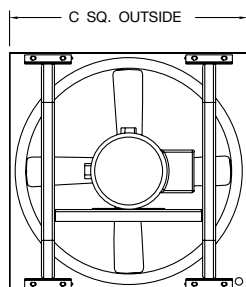
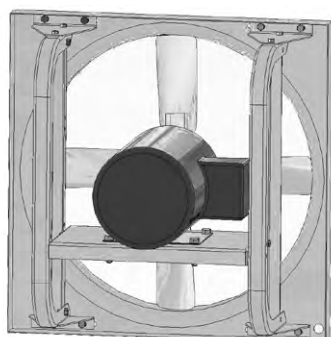
**NOTES:**

1. Performance certified is for installation Type A: Free inlet, free outlet.
2. Power rating (BHP) does not include transmission losses.
3. Performance ratings do not include the effects of appurtenances (accessories).
4. The sound ratings shown are loudness values in fan sones at 5 ft. (1.5m) in a hemispherical free field calculated per AMCA Standard 301. Values are for installation Type A: Free inlet hemispherical sone levels.

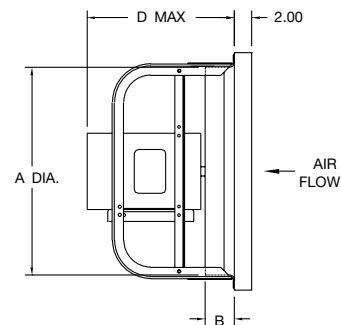


## Model BSDDP

### Direct Drive



Exhaust Airflow

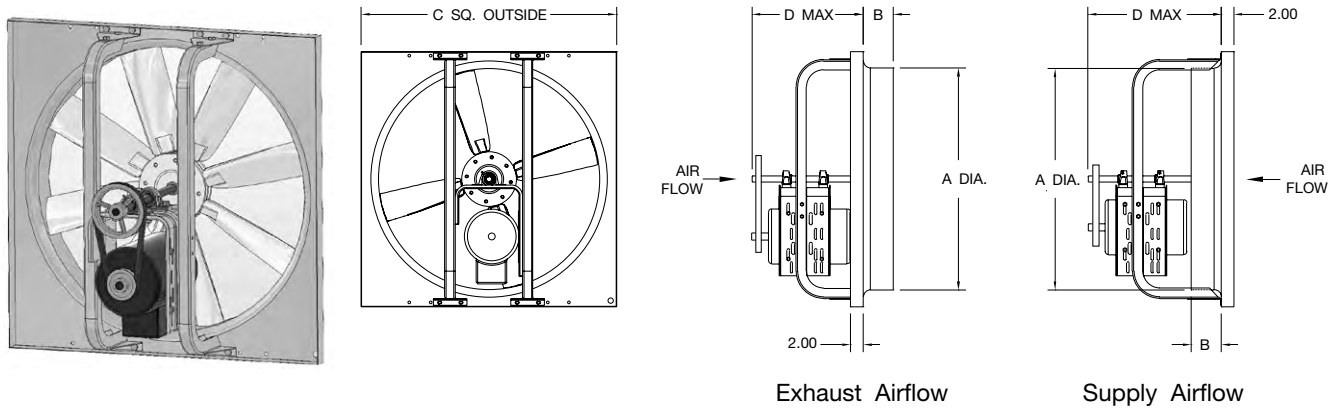


Supply Airflow

SIZE	A	B	C SQ.	D MAX		DAMPER SIZE	MAX MOTOR FRAME
				EXHAUST	SUPPLY		
14	14.25	2.75	17	11.18	14.88	14 x 14	56
16	16.25	3.00	20	11.18	14.88	17 x 17	56
18	18.25	3.00	22	11.18	14.88	19 x 19	56
21	21.25	3.50	25	14.41	17.36	22 x 22	145T
24	24.25	3.50	28	14.55	17.36	25 x 25	184T
30	30.38	4.00	36	14.74	19.05	33 x 33	184T
36	36.38	5.00	42	15.67	19.93	39 x 39	215T
42	42.38	5.50	48	23.59	30.00	45 x 45	254T
48	48.38	6.00	54	23.59	30.00	51 x 51	254T

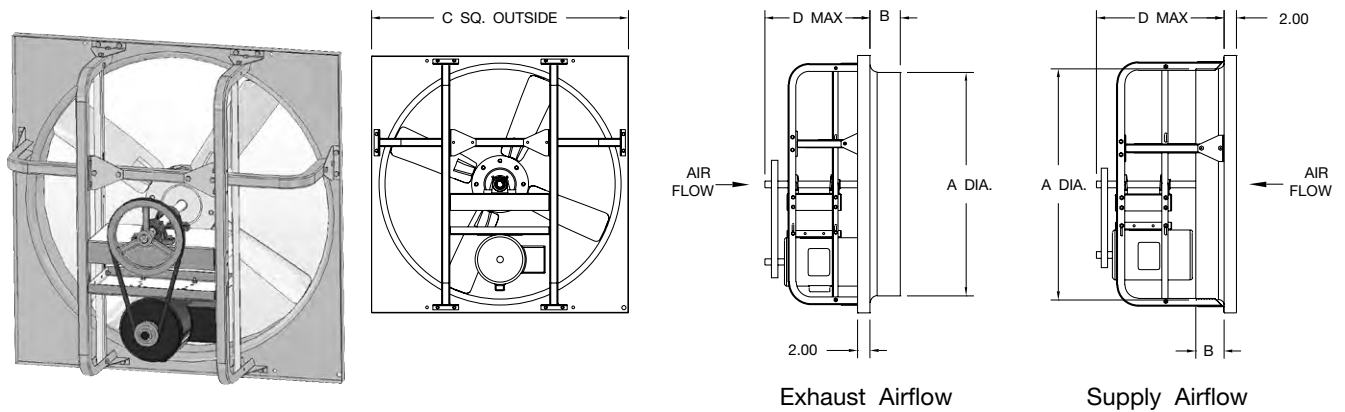
## Model BSBP

### Belt Driven - Sizes 21-36



SIZE	A	B	C SQ.	D MAX		DAMPER SIZE	MAX MOTOR FRAME
				EXHAUST	SUPPLY		
21	21.25	3.50	25	17.25	20.50	22 x 22	145T
24	24.25	3.50	28	17.25	20.50	25 x 25	145T
30	30.38	4.00	36	18.31	20.93	33 x 33	184T
36	36.38	5.00	42	18.31	21.93	39 x 39	184T

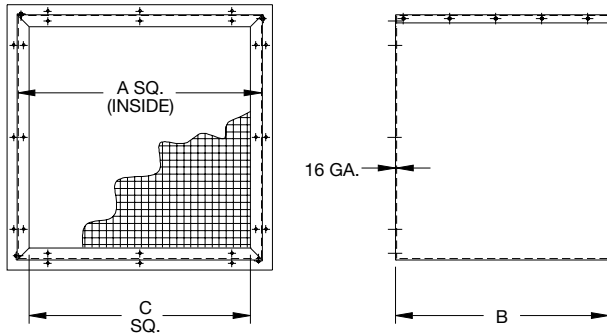
### Belt Driven - Sizes 42-54



SIZE	A	B	C SQ.	D MAX		DAMPER SIZE	MAX MOTOR FRAME
				EXHAUST	SUPPLY		
42	42.38	5.50	48	21.31	26.75	45 x 45	215T
48	48.38	6.00	54	21.31	26.75	51 x 51	215T
54	54.38	6.50	60	26.13	32.30	57 x 57	254T

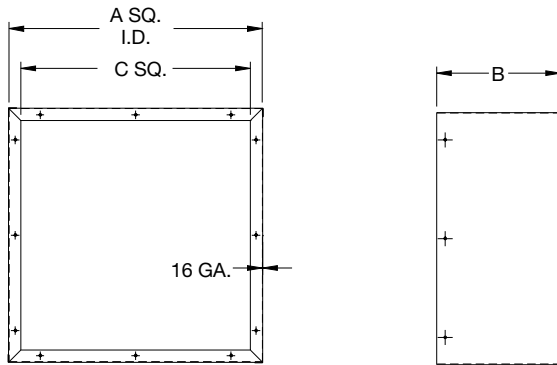
## Accessories

### Wall Box with Removable Screen



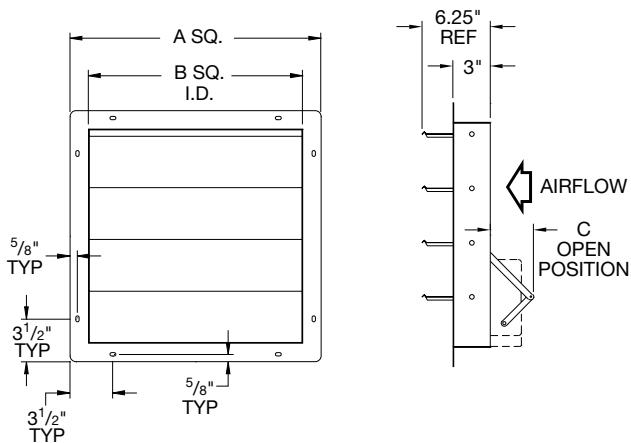
SIZE	A SQ.	B	C SQ.	MINIMUM WALL OPENING
14	17.25	33.50	14.13	18
16	20.25	34.00	17.13	21
18	22.25	34.00	19.13	23
21	25.25	40.00	22.13	26
24	28.25	42.00	25.13	29
30	36.25	42.00	33.13	37
36	42.25	45.50	39.13	43
42	48.25	46.00	45.13	49
48	54.25	50.50	51.13	55
54	60.25	49.00	57.13	61

### Wall Collar



SIZE	A SQ.	B	C SQ.	MINIMUM WALL OPENING
14	17.25	20	14.13	18
16	20.25	20	17.13	21
18	22.25	20	19.13	23
21	25.25	20	22.13	26
24	28.25	20	25.13	29
30	36.25	20	33.13	37
36	42.25	20	39.13	43
42	48.25	20	45.13	49
48	54.25	20	51.13	55
54	60.25	23	57.13	61

### Backdraft Damper



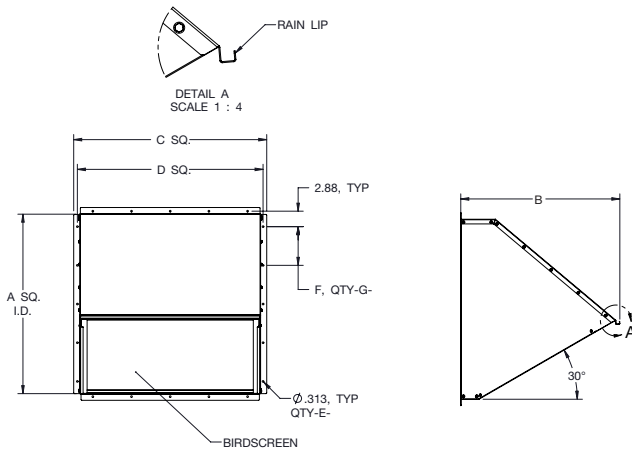
SIZE	A SQ. FLANGE	B SQ.	C	NO. OF PANELS
14	17.00	14	3.50	1
16	20.00	17	3.50	1
18	22.00	19	3.50	1
21	25.00	22	3.50	1
24	28.00	25	3.50	1
30	36.00	33	3.50	1
36	42.00	39	5.50	2
42	48.00	45	5.50	2
48	54.00	51	5.00	2
54	60.00	57	5.00	2

Exhaust Damper shown (with front flange).  
Supply damper has rear flange.



# Accessories

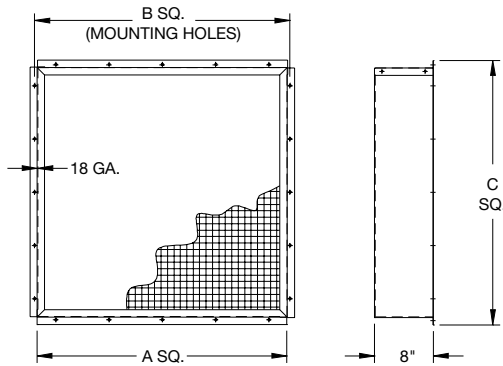
## Weatherhood with Bird Screen



SIZE	A SQ.	B	C		D		GA.
			STD.	EXT.	STD.	EXT.	
14	14.63	16.43	17.13	21.13	15.75	19.75	20
16	17.63	18.43	20.13	24.13	18.75	22.75	20
18	19.63	19.80	22.13	26.13	20.75	24.75	20
21	22.63	22.55	25.13	29.13	23.75	27.75	18
24	25.63	25.68	28.13	32.13	26.75	30.75	18
30	33.63	33.30	36.13	40.13	34.75	38.75	18
36	39.63	40.80	42.13	46.13	40.75	44.75	18
42	45.63	45.93	48.13	52.13	46.75	50.75	18
48	51.63	51.98	54.13	58.13	52.75	56.75	18
54	57.63	56.98	60.13	64.13	58.75	62.75	16
60	63.63	62.98	66.13	70.13	64.75	68.75	16

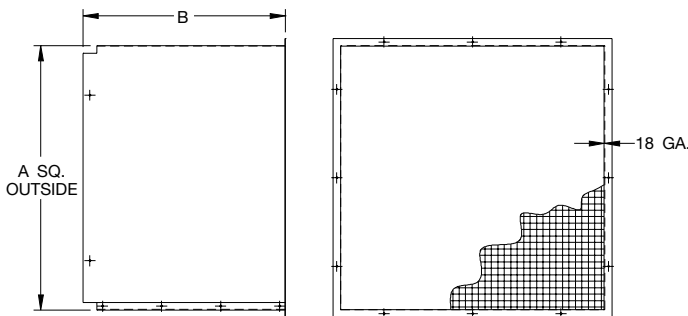
Standard flange weatherhood shown

## Damper Guard



SIZE	A SQ.	B SQ.	C SQ.
14	15	15.75	17
16	18	18.75	20
18	20	20.75	22
21	23	23.75	25
24	26	26.75	28
30	34	34.75	36
36	40	40.75	42
42	46	46.75	48
48	52	52.75	54
54	58	58.75	60

## OSHA Motor Side Guard



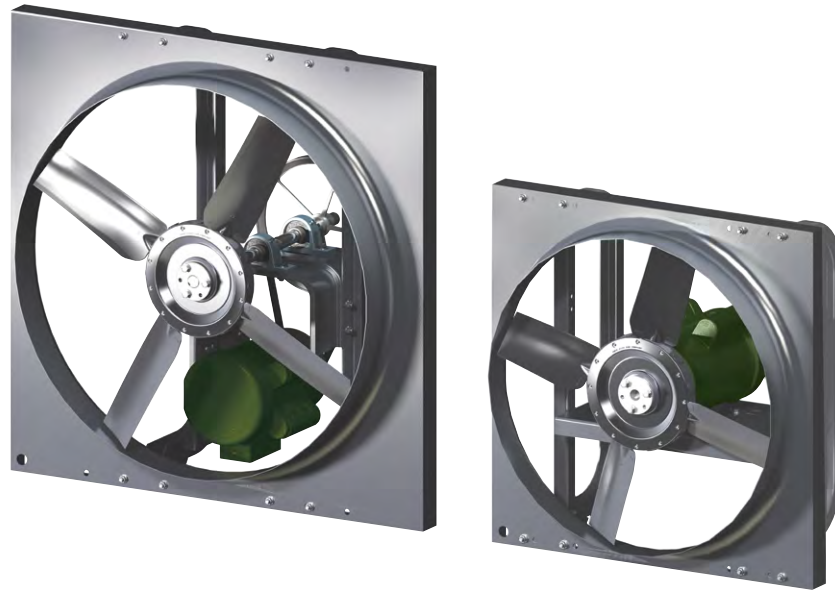
SIZE	A SQ.	B
14	16.84	15.25
16	19.84	15.50
18	21.84	15.50
21	24.84	24.00
24	27.81	24.50
30	35.81	28.00
36	41.81	31.50
42	47.81	31.50
48	53.81	36.00
54	59.81	36.00

**Approx. Shipping Weight (Lb.)**

FAN SIZE	BSDDP	BSBP
14	41	—
16	47	—
18	50	—
21	58	72
24	74	80
30	99	103
36	127	139
42	195	197
48	208	273
54	—	—

**Material Specification**

FAN SIZE	GAUGE OF MATERIAL				PROPELLERS	SHAFT SIZE (IN.)
	FAN PANEL		DRIVE FRAME			BSBP
	BSDDP	BSBP	BSDDP	BSBP		
14	18	—	14	—	DIE CAST ALUM.	—
16	18	—	14	—		—
18	18	—	14	—		—
21	18	18	14	14	DIE CAST ALUM.	1
24	16	16	12	14		1
30	16	16	12	12		1
36	16	16	12	12		1
42	14	14	10	12		1 <sup>3</sup> / <sub>16</sub>
48	14	14	10	12	1 <sup>7</sup> / <sub>16</sub>	
54	—	14	—	10	1 <sup>7</sup> / <sub>16</sub>	



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Catalog illustrations cover the general appearance of Aerovent products at the time of publication and we reserve the right to make changes in design and construction at any time without notice.

## Models BSDDP | BSBP

Wall propeller fans shall be Model BSDDP direct drive or BSBP belt driven as manufactured by Aerovent, Minneapolis, Minnesota.

**PERFORMANCE** - Fans shall be tested in accordance with AMCA test codes for air moving devices and shall be guaranteed by the manufacturer to deliver rated published performance levels.

**CONSTRUCTION** - Fan panels and motor mount assemblies shall be constructed of heavy gauge steel for durability and appearance. Panels shall have a deep formed inlet venturi and pre-punched holes for easy mounting.

**PROPELLERS** - Propellers shall be constructed of cast aluminum blades and hubs. Propellers on direct drive units shall be mounted directly on the motor shaft with a taperlock bushing. Propellers on belt driven units shall be secured to the fan shaft with a taperlock bushing.

**SHAFTS (BSBP Only)** - Shafts shall be AISI 1045 cold rolled steel, accurately turned, ground, polished, and ring gauged for accuracy. Shafts shall be sized for the first critical speed of at least 1.43 times the maximum speed.

**BEARINGS (BSBP Only)** - Bearings are to be pillow block, heavy-duty, anti-friction, self-aligning, grease lubricated, ball type. Each fan's bearings are sized with a minimum average life, per AFBMA, in excess of 200,000 hours when operating at the maximum RPM of the class.

**DRIVES (BSBP Only)** - Motor sheaves shall be cast iron, and supplied as variable pitch as standard. Drives and belts shall be rated for a minimum of 150% of the required motor HP.

**MOTORS** - All motors shall be split phase and capacitor start single phase or three phase induction, permanently lubricated, heavy-duty, ball bearing type, closely matched to the fan load and provided at the voltage, phase, hertz, and enclosure as provided on the fan schedule.

**FINISH AND COATING** - Fans shall have galvanized steel or painted steel orifice panels and motor supports.

**ACCESSORIES** - When specified, accessories such as wall boxes, wall collars, OSHA motor side guards, weatherhoods, backdraft dampers, damper guards, and disconnect switches shall be provided by Aerovent to maintain one source responsibility.

**FACTORY RUN TEST** - All fans prior to shipment shall be completely assembled and test run as a unit at operating speed or maximum RPM allowed for the particular construction type. Each propeller shall be statically and dynamically balanced in accordance with ANSI/AMCA 204-96 "Balance Quality and Vibration Levels for Fans" to Fan Application Category BV-3, Balance Quality Grade G6.3. Balance readings shall be taken by electronic type equipment in the axial, vertical, and horizontal directions on each of the bearings. Records shall be maintained and a written copy shall be available upon request.

**GUARANTEE** - The manufacturer shall guarantee the workmanship and materials for its BSDDP and BSBP wall propeller fans for at least one (1) year from startup or eighteen (18) months from shipment, whichever occurs first.

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**PROPELLER FANS | TUBEAXIAL & VANEAXIAL FANS | CENTRIFUGAL FANS & BLOWERS | ROOF VENTILATORS  
INDUSTRIAL AIR HANDLERS | AIR MAKE-UP | FIBERGLASS FANS | CUSTOM FANS**



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