



The Industrial Choice.



**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 die 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 53,000 CFM  
Static pressure to 1 inch w.g.

### Construction Features

- Die cast aluminum blades and hubs.
- 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.



Aerovent, a Twin City Fan Company certifies that the BSDDP/BSBP Series shown herein is licensed to bear the AMCA Seal. The Ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the AMCA Certified Ratings Program.

The AMCA Certified Ratings Seal applies to air and sound performance for Model BSDDP Sizes 14B105 and 16B105 on page 8.



The AMCA Certified Ratings Seal applies to the Fan Efficiency Grade for Model BSDDP Sizes 18B105, 21B105, 24B105, 30B105, 36B206, 42B304 and 48B304 on pages 8-9 and Model BSBP Sizes 21B105, 24B105, 30B105, 36B206, 42B304, 48B304 and 54B406 on pages 10-13.



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



# 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
Die Cast Aluminum Blades and Hubs	BSDDP	14 - 48	300 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
Die Cast Aluminum Blades and Hubs	BSBP	21 - 54	3,475 to 53,000 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

**BSDDP - 24 - B - 1 - 05 - 25**

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

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

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

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

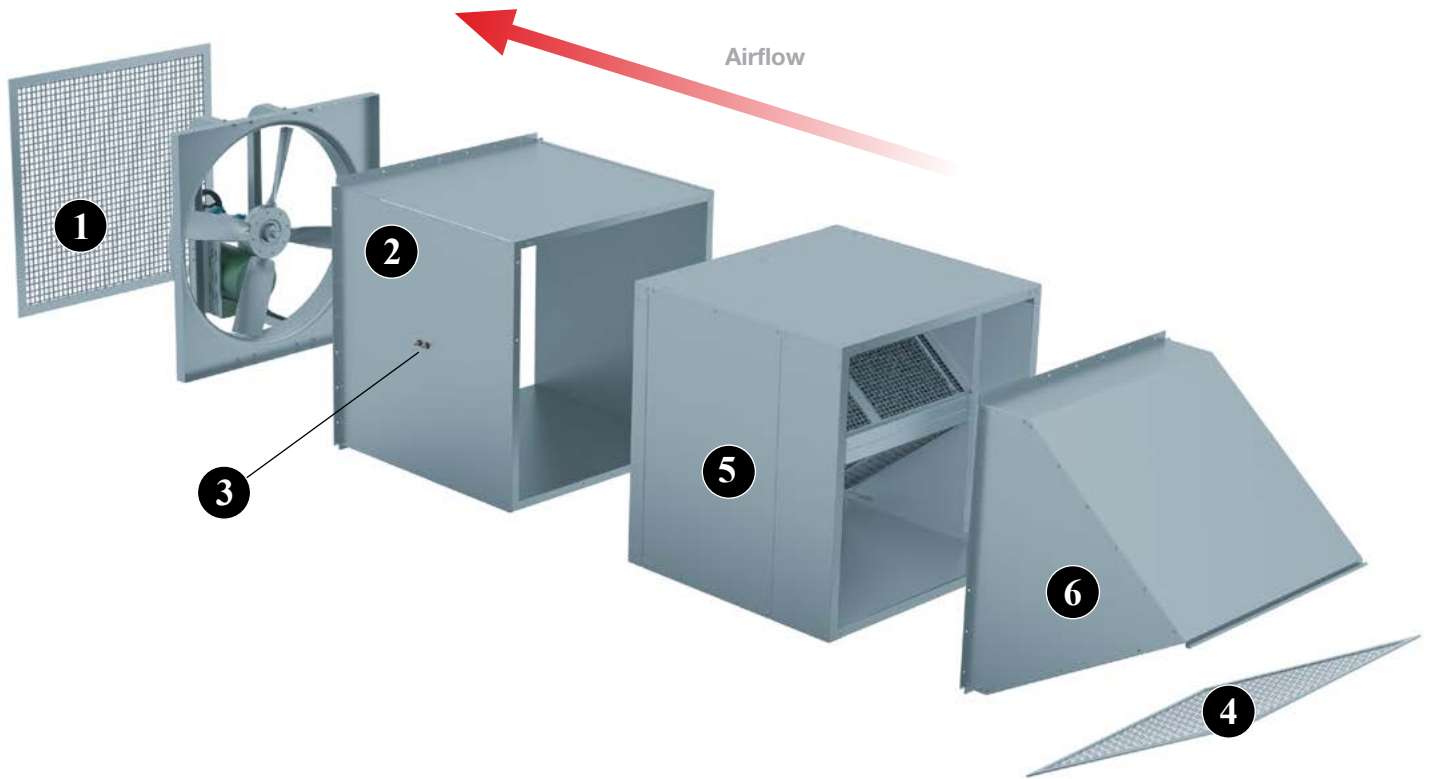
B = Backswept

**Hub Designation** \_\_\_\_\_

**Blade Count** \_\_\_\_\_

**Blade Angle** \_\_\_\_\_

# Accessories



**1 Removable Screen** Standard component of wall box and motor side guard. Screen is available with bolted removable or hinged construction. Allows for access to motor, bearings and drive components.

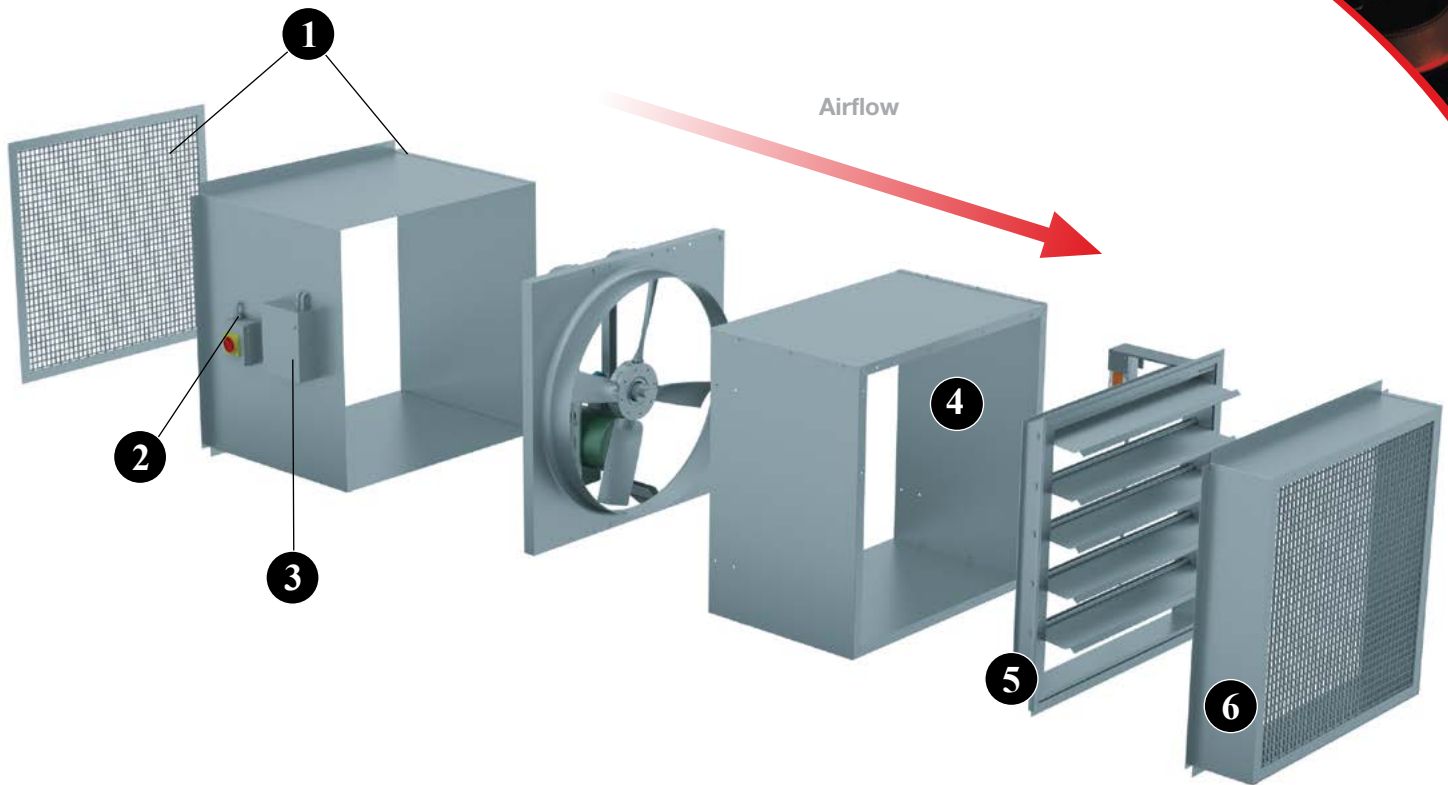
**2 Wall Box** is used to mount the fan and accessories cleanly into a wall, and provides the strongest and safest way to mount wall fans. Wall boxes are constructed of 16-gauge galvanized steel and are provided with heavy-gauge mounting flanges with prepunched mounting holes for ease of installation.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

**3 Extended Lube Lines** with grease fittings are extended to the outside of the fan housing.

**4 Birdscreen** protects the fan's internal components from entry of birds.

**5 Filter Box** For applications requiring filtered air, filter boxes are available with wall box or wall collar and fan in supply configuration. Filter box contains 2" thick aluminum washable filters and access panels as standard. Disposable filters and 1" options are also available upon request. Contact factory for more information.

**6 Weatherhood** keeps 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, wire mesh and bird screen (see Item 4). Available fully assembled or as a kit (field assembly required) to reduce shipping costs. Weatherhoods are not weather tight when used with supply fans.



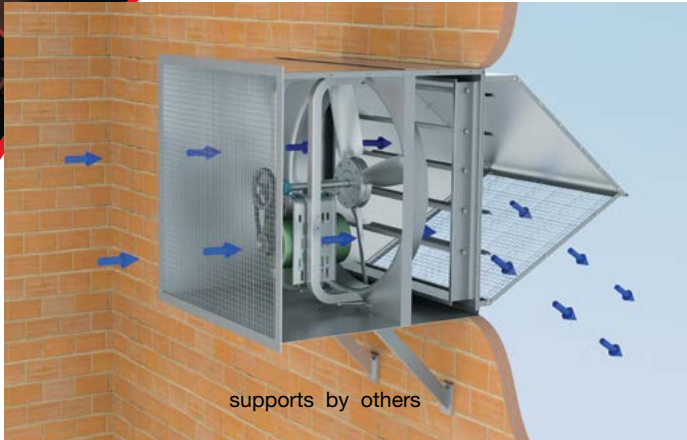
- 1 OSHA Motor Side Guard with Removable Screen** meets OSHA standards by completely enclosing the motor and drive components. Motor side guards are constructed of galvanized steel side sheets and a removable wire mesh screen. Prepunched mounting holes allow for easy installation to the fan. Can be used with or without a wall collar.
- 2 NEMA 4 Disconnect Switch** NEMA-4 Disconnect provides positive electrical shutoff when fan cleaning or maintenance of fan and is water and dust tight. Switch is available shipped loose for field mounting and wiring or factory mounted and wired. See page 8 for other available disconnect switches.
- 3 Single Point Wiring** Available with factory assembled motor side guard or wall box, wired disconnect switch and motorized backdraft damper. Single point wiring option provides a single location for making connections to the damper actuator and disconnect switch.
- 4 Wall Collars** are 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.

- 5 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 .080 galvanized steel. Damper blades are constructed of 26-gauge mill finished aluminum. The leading edge of each damper blade is flanged with a felt 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.
- 6 Damper Guard** protects 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.

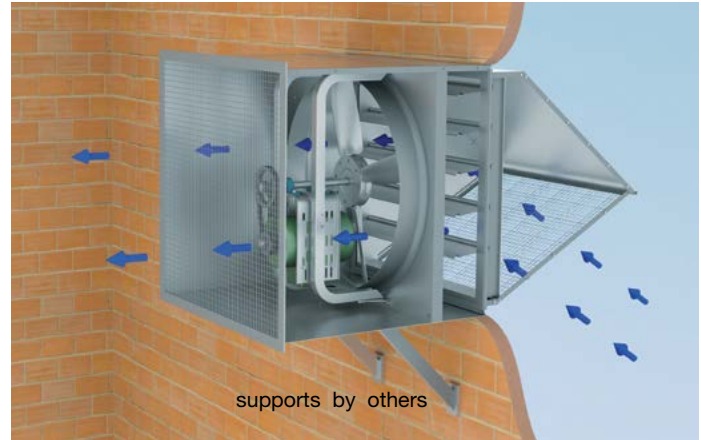


# Accessory Pressure Drops



**EXHAUST FAN**

in Wall Box with Backdraft Damper & Weatherhood



**SUPPLY FAN**

in Wall Box with Backdraft Damper & Weatherhood

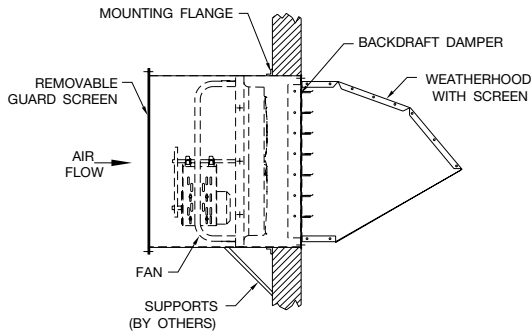
FAN SIZE	CFM	PRESS. DROP (IN. W.G.)	
		EXHAUST	SUPPLY
14	1000	0.04	0.06
	1200	0.06	0.09
	1400	0.09	0.12
	1600	0.11	0.16
	1800	0.14	0.20
	2000	0.18	0.25
	2200	0.22	0.30
	2400	0.26	0.36
16	1600	0.07	0.10
	1800	0.09	0.12
	2000	0.11	0.15
	2200	0.13	0.18
	2400	0.15	0.21
	2600	0.18	0.25
	2800	0.21	0.29
	3000	0.24	0.34
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
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
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
	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
	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
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
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
	36000	0.44	0.62

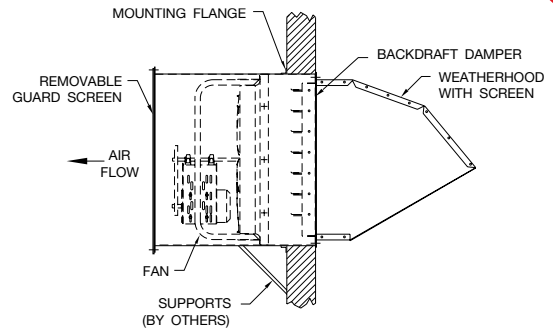
FAN SIZE	CFM	PRESS. DROP (IN. W.G.)	
		EXHAUST	SUPPLY
54	11000	0.03	0.04
	12000	0.03	0.04
	13000	0.04	0.05
	14000	0.04	0.06
	15000	0.05	0.07
	16000	0.05	0.08
	18000	0.07	0.10
	20000	0.08	0.12
	22000	0.10	0.14
	24000	0.12	0.17
	26000	0.14	0.20
	28000	0.17	0.23
	30000	0.19	0.27
	32000	0.22	0.30
	34000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

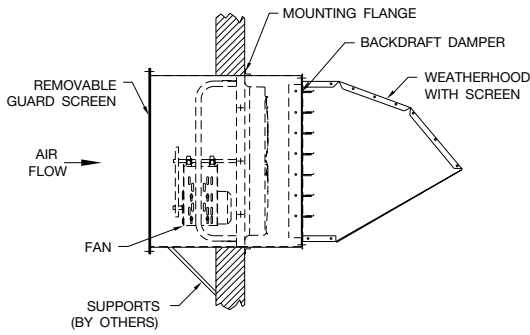


Exhaust

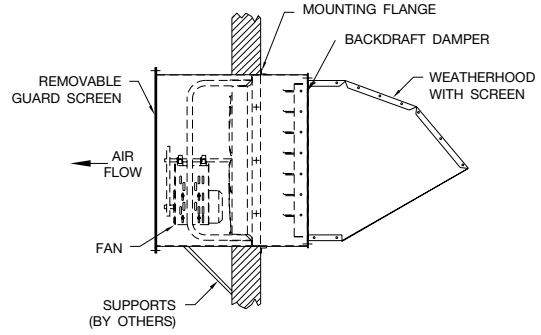


Supply

## Middle of Wall

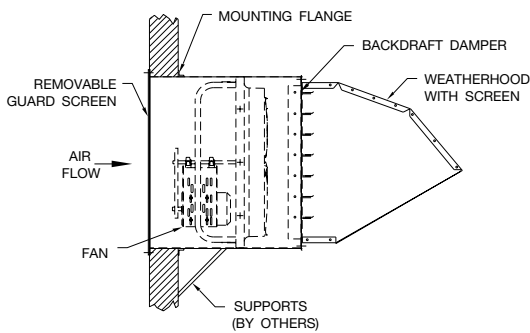


Exhaust

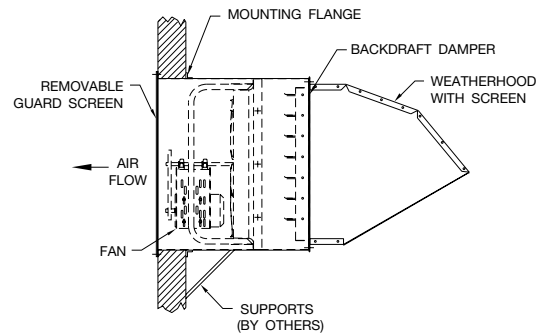


Supply

## Flush with Interior Wall



Exhaust

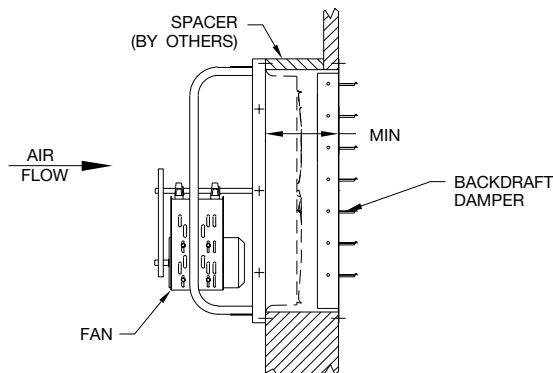


Supply

## 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.)											FAN EFF. GRADE
						0.000	0.100	0.125	0.150	0.200	0.250	0.300	0.375	0.500	0.625	0.750	
Outlet Area: 1.11 ft <sup>2</sup>																	
14B105	10	1/4	1750	0.10	14.5	975	883	862	842	801	754	701	628	478	381	299	N/A
	15		1750	0.14	15.2	1320	1236	1214	1192	1149	1105	1055	949	813			
	20		1750	0.19	15.1	1645	1558	1535	1512	1465	1418	1367	1271	1077			
	25		1750	0.25	15.9	1951	1855	1830	1804	1751	1696	1639	1535	1298	1109		
	30	1/3	1750	0.30	16.8	2236	2124	2095	2064	2000	1931	1857	1723	1454			

## BSDDP | Size 16

PROPELLER	BLADE ANGLE	MOTOR HP	FAN RPM	MAX BHP	SONES @ 0" SP	CFM / STATIC PRESSURE (IN. W.G.)											FAN EFF. GRADE
						0.000	0.100	0.125	0.150	0.200	0.250	0.300	0.375	0.500	0.625	0.750	
Outlet Area: 1.44 ft <sup>2</sup>																	
16B105	10	1/4	1750	0.16	18.0	1432	1322	1295	1269	1219	1169	1112	1017	870	679	563	N/A
	15		1750	0.25	19.0	1942	1841	1815	1789	1736	1684	1631	1541	1335	1174		
	20	1/3	1750	0.35	19.3	2424	2319	2292	2264	2208	2151	2094	2004	1780	1570	1368	
	25	1/2	1750	0.44	19.6	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.)											FAN EFF. GRADE	
						0.000	0.100	0.125	0.150	0.200	0.250	0.300	0.375	0.500	0.625	0.750		1.000
Outlet Area: 1.82 ft <sup>2</sup>																		
18B105	10	1/4	1750	0.25	22	2006	1876	1844	1812	1751	1692	1632	1527	1343	1150	928	670	FEG60
	15	1/2	1750	0.39	23	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	1	1750	0.85	25	4611	4456	4416	4375	4291	4204	4114	3971	3704	3342	2971		

## BSDDP | Size 21

PROPELLER	BLADE ANGLE	MOTOR HP	FAN RPM	MAX BHP	SONES @ 0" SP	CFM / STATIC PRESSURE (IN. W.G.)											FAN EFF. GRADE	
						0.000	0.100	0.125	0.150	0.200	0.250	0.300	0.375	0.500	0.625	0.750		1.000
Outlet Area: 2.46 ft <sup>2</sup>																		
21B105	10	1/2	1750	0.43	27	3115	2952	2912	2872	2791	2713	2636	2515	2285	2051	1796	1284	FEG63
	15	3/4	1750	0.68	29	4265	4110	4071	4031	3952	3871	3790	3670	3456	3167	2874		
	20	1	1750	0.98	29	5325	5166	5125	5085	5001	4917	4831	4700	4477	4218	3846	3229	
	25	1 1/2	1750	1.26	30	6296	6125	6081	6037	5947	5855	5760	5615	5364	5084	4704	3928	
	30		1750	1.57	32	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.)											FAN EFF. GRADE	
						0.000	0.100	0.125	0.150	0.200	0.250	0.300	0.375	0.500	0.625	0.750		1.000
Outlet Area: 3.21 ft <sup>2</sup>																		
24B105	10	3/4	1750	0.68	39	4555	4352	4301	4250	4148	4046	3946	3794	3520	3218	2916	2175	FEG67
	15	1 1/2	1750	1.12	36	6267	6070	6021	5971	5869	5767	5664	5508	5244	4946	4564	3869	
	20		1750	1.55	35	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.)											FAN EFF. GRADE	
						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	Outlet Area: 5.03 ft <sup>2</sup>																	
	10	1/2	1160	0.41	28	5734	5252	5124	4991	4715	4431	4137	3636	2626	1558	671		FEG75
	15	3/4	1160	0.65	28	7972	7473	7344	7213	6946	6672	6380	5881	4955				
	20	1	1160	0.96	27	9977	9460	9326	9191	8915	8635	8346	7870	6904	5764			
	25	1 1/2	1160	1.30	27	11751	11214	11075	10933	10644	10347	10042	9555	8591	7267			
	30	2	1160	1.69	29	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.)											FAN EFF. GRADE	
						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	Outlet Area: 7.22 ft <sup>2</sup>																	
	10	1	1160	0.96	43	9257	8692	8545	8396	8093	7780	7450	6893	5868	4690	3395	1250	FEG71
	15	1 1/2	1160	1.45	44	12663	12137	12001	11861	11574	11276	10966	10471	9487	8360	6996		
	20	2	1160	2.14	45	15876	15341	15202	15061	14771	14471	14158	13666	12754	11625	10312		
	25	3	1160	2.93	46	18896	18323	18174	18023	17715	17397	17067	16549	15608	14523	13186		
	30	5	1160	3.90	49	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.)											FAN EFF. GRADE
						0.000	0.100	0.125	0.150	0.200	0.250	0.300	0.375	0.500	0.625	0.750	
42B304	Outlet Area: 9.79 ft <sup>2</sup>																
	10	1	860	0.77	30	12608	11535	11257	10976	10386	9724	8998	7816	5417	2918		FEG71
	15	1 1/2	860	1.22	32	16381	15289	14990	14680	14029	13348	12625	11508	9509			
	20	2	860	1.75	33	19663	18535	18222	17894	17200	16472	15726	14553	12558			
	25	3	860	2.37	36	22455	21271	20940	20594	19865	19098	18312	17071	14832			
	30	3	860	3.08	39	24765	23494	23140	22775	22011	21208	20373	19037	16279			

## BSDDP | Size 48

PROPELLER	BLADE ANGLE	MOTOR HP	FAN RPM	MAX BHP	SONES @ 0" SP	CFM / STATIC PRESSURE (IN. W.G.)											FAN EFF. GRADE
						0.000	0.100	0.125	0.150	0.200	0.250	0.300	0.375	0.500	0.625	0.750	
48B304	Outlet Area: 12.76 ft <sup>2</sup>																
	10	1 1/2	860	1.12	34	17361	16045	15702	15356	14652	13892	13005	11573	8992	5264	2119	FEG80
	15	2	860	1.78	38	22801	21497	21149	20791	20039	19224	18366	16995	14740			
	20	3	860	2.62	40	27584	26239	25882	25515	24747	23914	23015	21613	19151	16696		
	25	5	860	3.61	43	31707	30277	29900	29514	28714	27864	26952	25497	22870	19908		
	30	5	860	4.89	47	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.)											FAN EFF. GRADE
						0.000	0.100	0.125	0.150	0.200	0.250	0.300	0.375	0.500	0.625	0.750	
21B105	Outlet Area: 2.46 ft <sup>2</sup>																
	20		1142	0.27	15.5	3444	3201	3134	3063	2914	2751	2570	2273				
	25	1/4	1048	0.27	13.8	3727	3434	3351	3264	3073	2860	2603	2241				
	30		977	0.27	13.0	3948	3584	3477	3362	3107	2812	2474					
	20		1252	0.36	17.8	3776	3557	3498	3436	3306	3167	3017	2758	2332			
	25	1/3	1150	0.35	15.9	4089	3827	3755	3679	3516	3338	3142	2796				
	30		1072	0.36	15.0	4332	4007	3915	3817	3602	3364	3091	2625				
	20		1438	0.54	22	4337	4149	4099	4048	3942	3829	3711	3521	3149	2778		
	25	1/2	1320	0.55	20	4694	4470	4410	4348	4217	4076	3925	3678	3187	2696		
	30		1231	0.55	18.7	4974	4698	4622	4544	4376	4190	3988	3655	2983			
	20		1646	0.79	28	4964	4802	4760	4717	4628	4535	4438	4286	4010	3699	3347	
	25	3/4	1511	0.81	25	5373	5180	5129	5077	4969	4855	4735	4542	4184	3748	3336	
30		1409	0.82	23	5694	5456	5393	5328	5191	5045	4888	4630	4145	3562			

## BSBP | Size 24

PROPELLER	BLADE ANGLE	MOTOR HP	FAN RPM	MAX BHP	SONES @ 0" SP	CFM / STATIC PRESSURE (IN. W.G.)											FAN EFF. GRADE
						0.000	0.100	0.125	0.150	0.200	0.250	0.300	0.375	0.500	0.625	0.750	
24B105	Outlet Area: 3.21 ft <sup>2</sup>																
	20		1067	0.35	17.9	4727	4395	4304	4209	4008	3791	3554	3151				
	25	1/3	977	0.36	15.7	5098	4703	4592	4475	4222	3943	3614	3101				
	30		910	0.36	14.3	5382	4900	4760	4611	4283	3917	3446					
	20		1226	0.53	22	5431	5147	5072	4993	4829	4656	4472	4174	3599			
	25	1/2	1122	0.55	19.1	5855	5518	5427	5332	5130	4911	4676	4278	3526			
	30		1045	0.55	18.0	6180	5772	5659	5540	5283	5000	4696	4140				
	20		1403	0.82	26	6215	5970	5906	5840	5704	5562	5412	5176	4744	4231	3744	
	25	3/4	1285	0.82	23	6705	6416	6339	6260	6095	5920	5734	5433	4855	4209		
	30		1197	0.82	30	7079	6729	6635	6538	6332	6110	5869	5480	4681			
	20		1544	1.06	29	6840	6619	6561	6503	6383	6258	6128	5924	5558	5155	4680	
	25	1	1414	1.09	26	7378	7117	7049	6979	6834	6683	6523	6268	5801	5247	4664	
30		1317	1.10	25	7789	7474	7390	7305	7126	6936	6733	6403	5799	5011			

**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 42

PROPELLER	BLADE ANGLE	MOTOR HP	FAN RPM	MAX BHP	SONES @ 0" SP	CFM / STATIC PRESSURE (IN. W.G.)											FAN EFF. GRADE		
						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	Outlet Area: 9.79 ft <sup>2</sup>															FEG71			
	20	1	736	1.10	26	16573	15214	14824	14416	13569	12711	11821	10420						
	25		666	1.10	23	17071	15448	14974	14483	13485	12429	11275							
	30		610	1.10	22	17187	15246	14682	14105	12888	11305								
	20	1 1/2	842	1.65	32	18959	17806	17483	17147	16439	15699	14953	13798	11750					
	25		763	1.65	29	19557	18189	17798	17390	16538	15667	14776	13310						
	30		698	1.65	27	19667	18031	17560	17072	16067	15027	13736	11269						
	20	2	927	2.20	38	20873	19842	19560	19266	18649	17998	17325	16308	14549	12600				
	25		839	2.20	34	21505	20287	19944	19587	18839	18056	17263	16037	13727					
	30		768	2.20	32	21639	20186	19773	19344	18451	17533	16589	14805						
	20	3	1061	3.29	47	23891	23005	22768	22525	22015	21477	20917	20042	18560	17022		15431		
	25		961	3.31	43	24632	23593	23309	23013	22395	21744	21068	20031	18248	16263		13580		
	30		880	3.30	39	24795	23564	23219	22862	22119	21341	20543	19332	16786					
	20	5	1258	5.47	64	28326	27590	27398	27202	26797	26375	25934	25245	24034	22785		21525	18902	
	25		1139	5.50	57	29195	28335	28107	27873	27384	26871	26337	25502	24054	22589		21012	17337	
	30		1043	5.51	53	29388	28378	28104	27819	27227	26610	25969	24976	23284	21349		18948		

## BSBP | Size 48

PROPELLER	BLADE ANGLE	MOTOR HP	FAN RPM	MAX BHP	SONES @ 0" SP	CFM / STATIC PRESSURE (IN. W.G.)											FAN EFF. GRADE	
						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	Outlet Area: 12.76 ft <sup>2</sup>															FEG75		
	20	1 1/2	738	1.64	31	23327	21731	21295	20840	19858	18797	17715	16063					
	25		662	1.65	28	23978	22066	21536	20976	19766	18488	17164	14868					
	30		598	1.65	25	23942	21627	20972	20280	18803	17186	14609						
	20	2	812	2.19	36	25667	24233	23848	23451	22612	21701	20734	19259	16774				
	25		729	2.21	33	26404	24693	24229	23746	22714	21596	20433	18609	14640				
	30		658	2.20	30	26344	24275	23706	23109	21834	20471	19004	15460					
	20	3	929	3.30	46	29365	28128	27802	27469	26779	26050	25271	24024	21874	19697		17300	
	25		834	3.30	41	30207	28734	28343	27942	27103	26206	25248	23736	21078	17843			
	30		754	3.31	37	30188	28414	27939	27449	26416	25310	24140	22301	17344				
	20	5	1102	5.51	61	34833	33803	33536	33265	32710	32136	31542	30602	28895	27086		25256	21541
	25		989	5.51	54	35822	34596	34277	33952	33284	32590	31864	30705	28617	26459		24070	
	30		893	5.50	50	35753	34279	33892	33498	32683	31829	30930	29502	26966	23495			
	20	7 1/2	1261	8.19	80	39859	38965	38735	38503	38030	37546	37050	36281	34916	33431		31862	28665
	25		1132	8.26	70	41001	39938	39664	39387	38821	38239	37640	36704	35022	33204		31329	27242
	30		1023	8.27	63	40958	39682	39352	39017	38331	37622	36887	35732	33662	31454		28957	

**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 54

PROPELLER	BLADE ANGLE	MOTOR HP	FAN RPM	MAX BHP	SONES @ 0" SP	CFM / STATIC PRESSURE (IN. W.G.)											FAN EFF. GRADE			
						0.000	0.100	0.125	0.150	0.200	0.250	0.300	0.375	0.500	0.625	0.750		1.000		
						Outlet Area: 16.13 ft <sup>2</sup>														
54B406	20	1 1/2	556	1.65	30	26343	24259	23696	23111	21878	20597	19332	17068					FEG75		
	25		502	1.65	28	27738	25315	24636	23918	22379	20748	18824								
	30		455	1.66	26	28221	25374	24518	23586	21457	18368									
	20	2	612	2.20	34	28996	27122	26624	26113	25039	23904	22739	21010	17279						
	25		553	2.21	32	30555	28391	27799	27181	25861	24440	22958	20296							
	30		501	2.21	30	31074	28555	27827	27047	25312	23281	20423								
	20	3	700	3.29	42	33165	31546	31122	30690	29799	28864	27885	26365	23831	20627					
	25		632	3.30	38	34921	33057	32560	32048	30974	29823	28602	26680	22825						
	30		573	3.31	36	35540	33395	32801	32177	30826	29323	27645	24301							
	20	5	830	5.50	55	39325	37973	37624	37271	36550	35808	35042	33841	31730	29590	27341				
	25		750	5.50	50	41440	39894	39489	39077	38228	37341	36410	34928	32276	29369	25611				
	30		679	5.50	48	42114	40345	39872	39384	38358	37253	36062	34094	29937						
	20	7 1/2	950	8.25	69	45010	43836	43535	43232	42616	41987	41344	40353	38608	36768	34890	30980			
	25		858	8.26	64	47408	46067	45720	45369	44651	43910	43145	41945	39793	37482	35068	28757			
	30		778	8.28	60	48255	46730	46330	45921	45073	44182	43240	41723	38878	35424	30608				
	20	10	1046	10.92	80	49558	48495	48225	47952	47399	46837	46265	45389	43869	42262	40588	37192			
	25		944	10.96	74	52160	50947	50635	50320	49678	49021	48347	47301	45450	43458	41352	36755			
	30		856	11.02	72	53093	51717	51359	50994	50245	49467	48655	47366	45002	42332	39181				

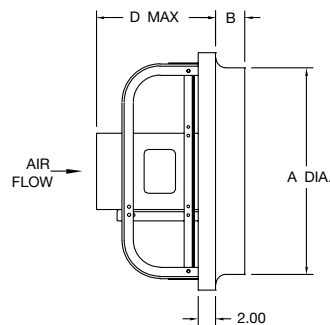
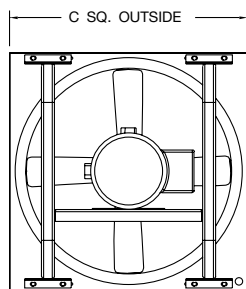
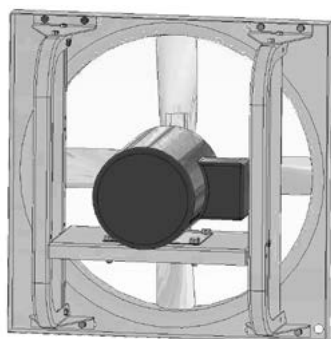
**NOTES:**

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.

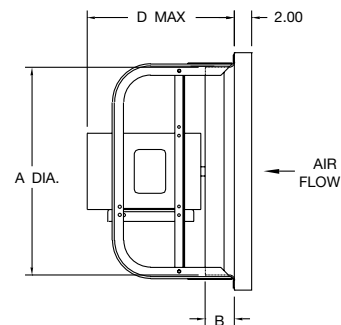


## Model BSDDP

### Direct Drive



Exhaust Airflow

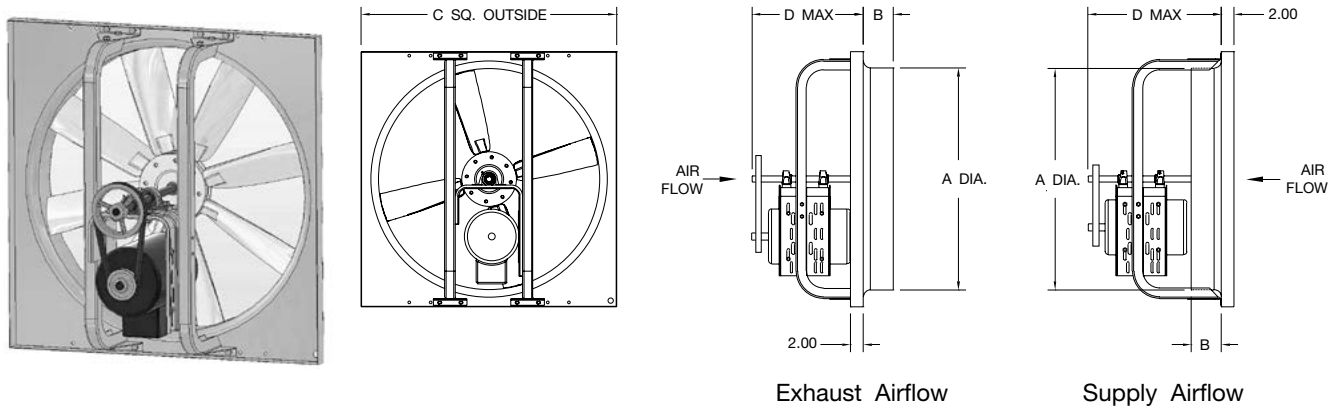


Supply Airflow

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

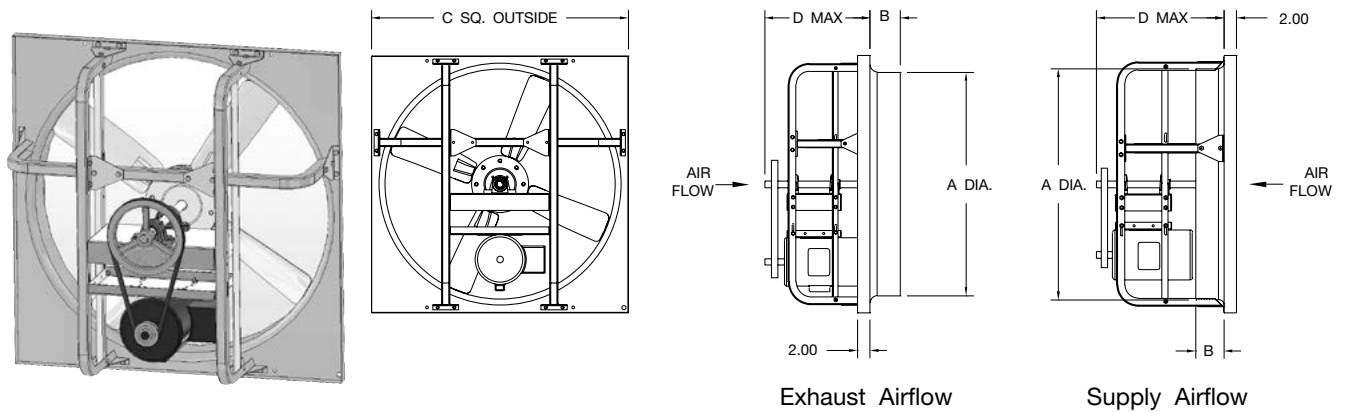
## Model BSBP

### 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

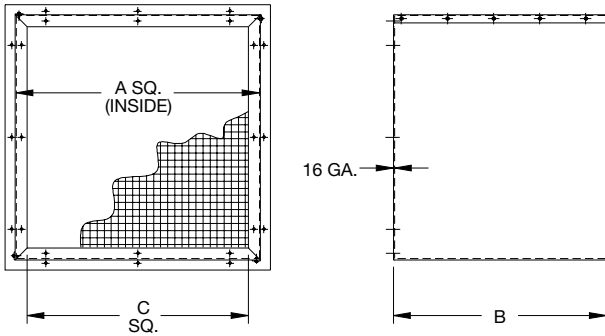
### Belt Driven - Sizes 42-54



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

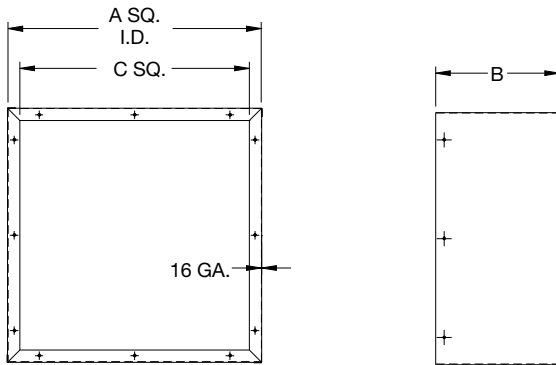
## Accessories

### Wall Box with Removable Screen



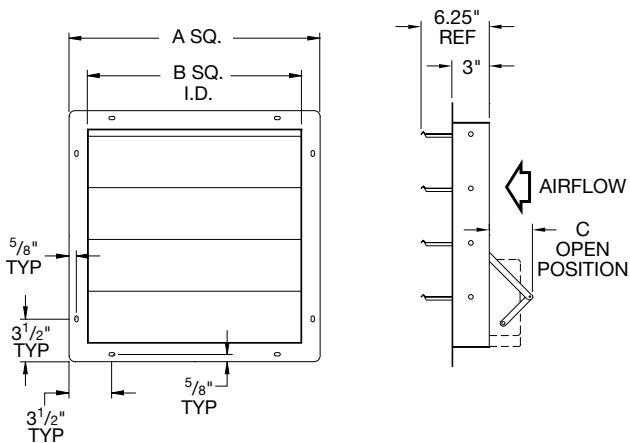
SIZE	A SQ.	B	C SQ.	MINIMUM WALL OPENING
14	17.25	33.50	14.13	18
16	20.25	34.00	17.13	21
18	22.25	34.00	19.13	23
21	25.25	40.00	22.13	26
24	28.25	42.00	25.13	29
30	36.25	42.00	33.13	37
36	42.25	45.50	39.13	43
42	48.25	46.00	45.13	49
48	54.25	50.50	51.13	55
54	60.25	49.00	57.13	61

### 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



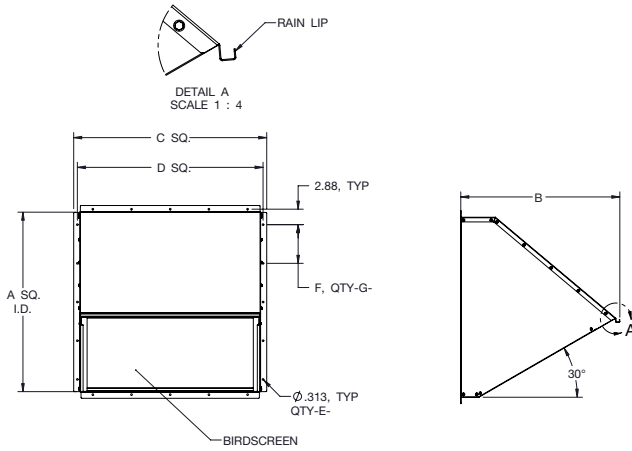
SIZE	A SQ. FLANGE	B SQ.	C	NO. OF PANELS
14	17.00	14	3.50	1
16	20.00	17	3.50	1
18	22.00	19	3.50	1
21	25.00	22	3.50	1
24	28.00	25	3.50	1
30	36.00	33	3.50	1
36	42.00	39	5.50	2
42	48.00	45	5.50	2
48	54.00	51	5.00	2
54	60.00	57	5.00	2

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



# Accessories

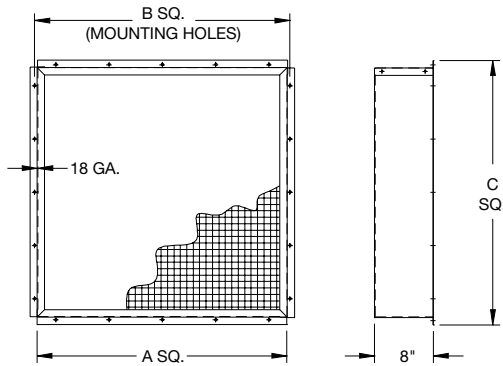
## Weatherhood with Bird Screen



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

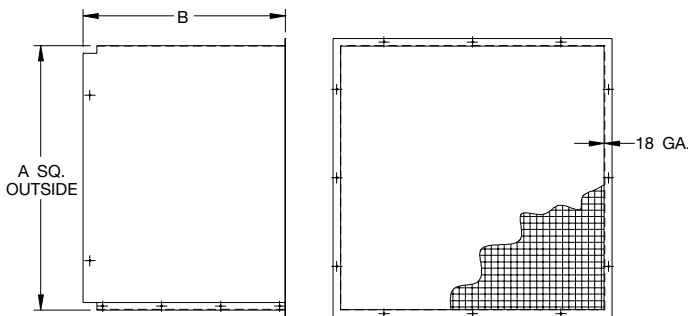
Standard flange weatherhood shown

## 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	—	345

**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		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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## 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 210 and AMCA 300 test codes for air moving devices and shall be guaranteed by the manufacturer to deliver rated published performance levels. Fans shall be licensed to bear the AMCA certified ratings seal for both sound and air.

**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**



**AEROVENT**

**A Twin City Fan Company**

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