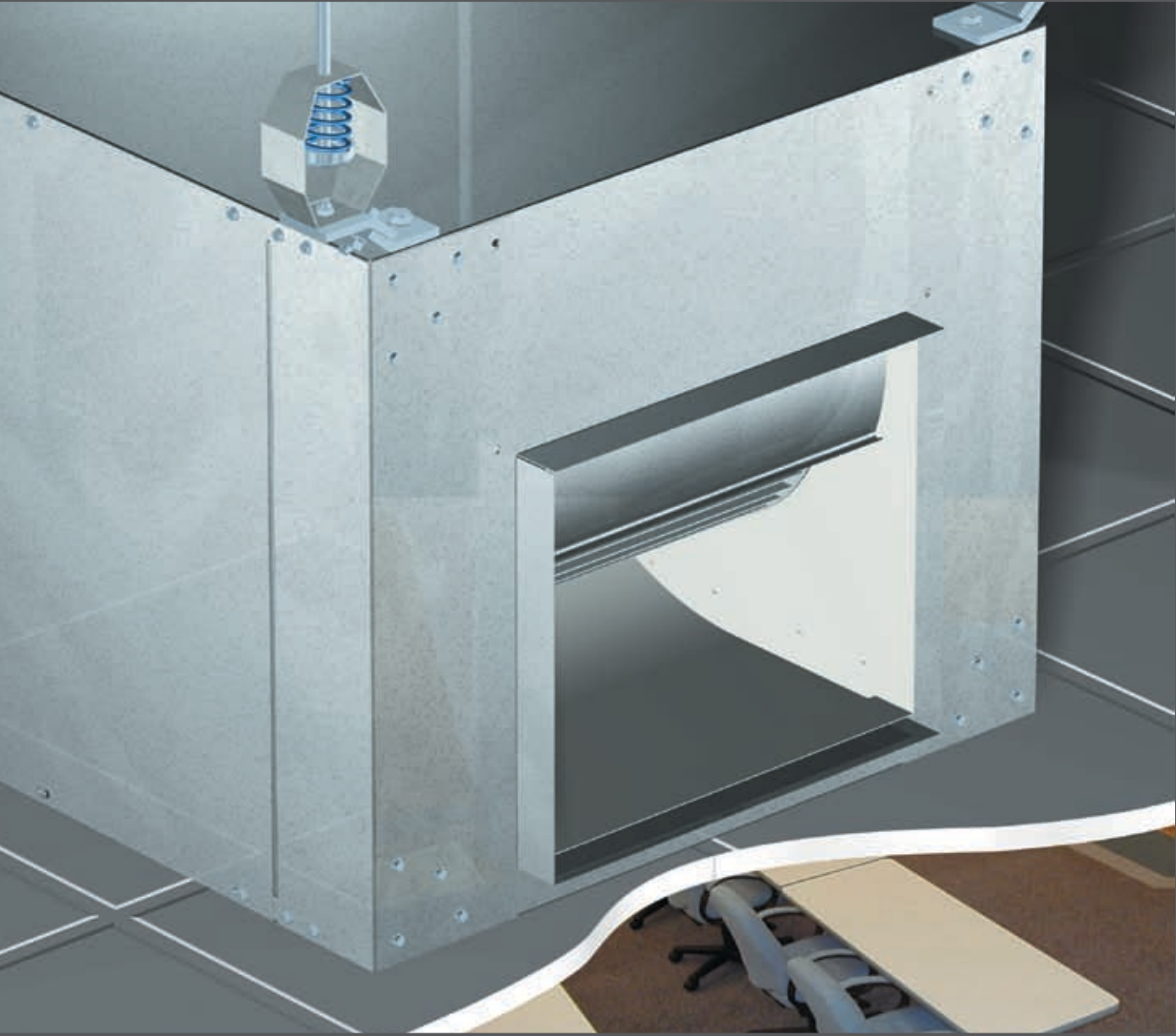


Centrifugal Cabinet Fans

Model BDF

Belt Drive Duct Fan



BUILDING VALUE IN AIR.



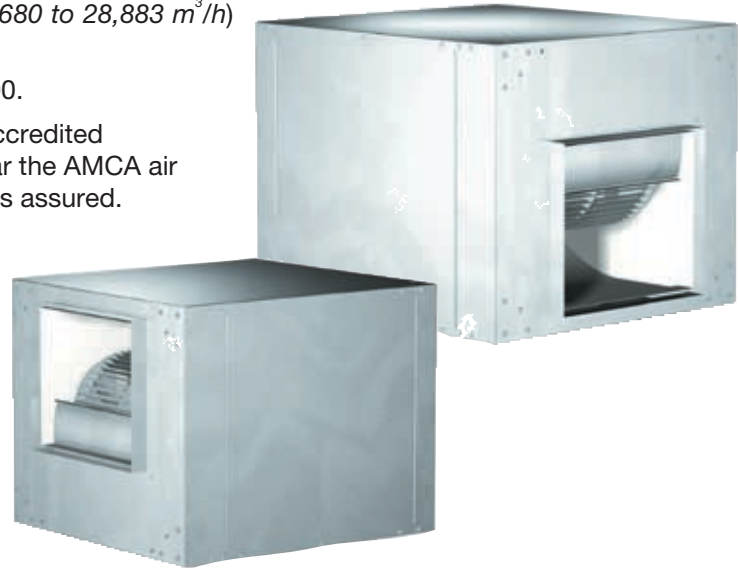
July
2007

BDF

Belt Drive Duct Fans

Greenheck's Belt Drive Duct Fans, Model BDF, provide the industry's best performance and durability. Model BDF is carefully engineered for efficiency and reliability in supply, exhaust, and return air applications. The BDF is designed specifically for low sound levels in ducted applications.

- Performance ranges from 400 to 17,000 cfm (680 to 28,883 m³/h) with static pressure up to 3.0 in. wg (745 Pa).
- Available in seven sizes ranging from 80 to 200.
- Each fan size has been tested in our AMCA Accredited Laboratory, and all models are licensed to bear the AMCA air performance seal. Performance as cataloged is assured.
- Removable access panels provide easy access for service.
- Rugged drive frame configuration.
- Vibration isolation, assures long life and quiet operation.
- UL Listed.
- Greenheck subjects these products to extensive life testing, assuring the fans will provide many years of reliable performance.



Greenheck Fan Corporation certifies that the model BDF fans shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and Publication 311 and comply with the requirements of AMCA Certified Ratings Program. The certified ratings for model BDF are shown on pages 5 to 11.



BDF model is listed for electrical (UL 705) with TEFC motor only. File no. E40001.

Quick Delivery and Quick Build Programs



Greenheck's QB (Quick Build) program provides custom built to order products that ship in one, three, five, or ten days. This allows the flexibility of knowing that your fan can be made to order and shipped in as little as one day. All BDF sizes are available in three, five or ten days through our Quick Build program.

Many products are available from our Quick Delivery (QD) program. The QD program provides same day shipment of Greenheck product from our strategically located warehouses throughout the world. These stock products can be ordered over the internet by visiting www.greenheck.com/quick

Leading Edge Technical Support



When product and IOM (Installation, Operation and Maintenance Manual) information is needed, our products are supported by the industry's best product literature, electronic media, and Computer Aided Product Selection (CAPS) program. You'll also find this information on our website at www.greenheck.com

Our national and international representative organization provides personal service and expertise. To locate your nearest Greenheck representative, call 715-359-6171 or visit our website at www.greenheck.com

Standard Construction Features



Vibration Isolation - Internal isolators support the entire drive assembly, wheel, and scroll to provide long life and quiet operation.

Housing - The fan cabinet is constructed of galvanized steel for corrosion resistance and maintenance free operation.

Access Panels - Two side panels are removable for inspection or servicing. Removal of either side panel, gives easy access to all the fans internal parts.

Bearings - Permanently sealed, pillow block ball bearings are selected for a minimum L10 life in excess of 100,000 hours (L50 average life of 500,000 hours) at maximum catalogued operating conditions.

Duct Collars - Inlet and outlet duct collars are provided for easy duct connections.

Motor - Ball bearing motors are carefully matched to the fan load and receive the cooling benefits of being in the airstream for increased motor life.

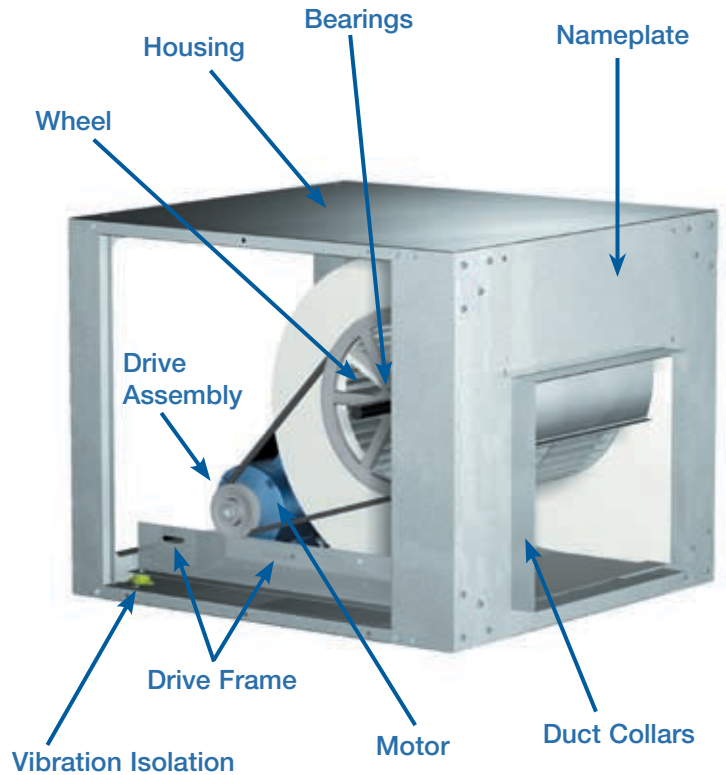
Wheel - Forward curved, centrifugal, galvanized steel wheel is utilized to generate high efficiency and minimal sound. Each wheel is statically and dynamically balanced for long life and quiet operation.

Drive Frame - Heavy duty frame supports motor, scroll, and wheel to provide long life and durability.

Drive Assembly - Belts, pulleys and keys are sized for a minimum of 150% of driven horsepower. Machined cast iron pulleys are factory set to the required RPM and adjustable for final system balancing. Belts are static free and oil resistant.

Multi Discharge Positions - Where space between duct and ceiling is a premium, bottom horizontal and top horizontal discharge positions are available for easy installation.

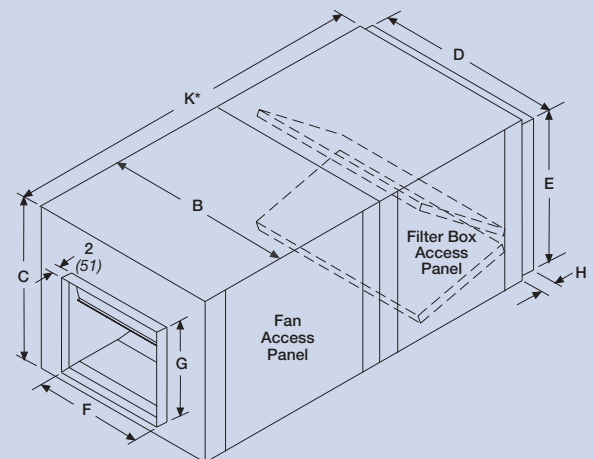
Nameplate - Permanent stamped aluminum nameplate for model and serial identification.



Filter Box Dimensions

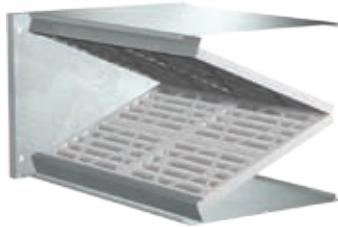
BDF Size	*K	B	C	D	E	F	G	H	Filter Size	Qty.
80	49 ³ / ₄ (1264)	18 ¹ / ₂ (470)	15 ⁷ / ₈ (403)	15 ³ / ₁₆ (386)	12 ¹¹ / ₁₆ (322)	9 ³ / ₄ (248)	8 ⁷ / ₈ (225)	1 (25)	16 x 20 (406 x 508)	2
90	54 ⁷ / ₈ (1394)	21 ¹ / ₄ (540)	18 ³ / ₄ (476)	18 ¹ / ₄ (464)	15 ⁷ / ₈ (403)	12 ¹ / ₄ (311)	10 ¹ / ₂ (267)	1 (25)	20 x 25 (508 x 635)	2
100	51 ⁷ / ₈ (1318)	22 ³ / ₄ (578)	20 ³ / ₄ (527)	19 ³ / ₄ (502)	17 ⁷ / ₈ (454)	13 ³ / ₄ (349)	11 ⁷ / ₈ (302)	1 (25)	20 x 20 (508 x 508)	2
120	63 ⁹ / ₁₆ (1614)	27 ¹ / ₄ (692)	22 ³ / ₄ (578)	24 ¹ / ₈ (613)	19 ⁷ / ₈ (505)	16 (406)	13 ³ / ₈ (340)	1 ¹ / ₂ (38)	12 x 25 (533 x 635)	4
150	62 ¹ / ₁₆ (1576)	32 ⁵ / ₈ (829)	27 ³ / ₄ (705)	28 ⁵ / ₈ (727)	23 ⁷ / ₈ (604)	19 ¹ / ₈ (486)	16 ³ / ₈ (416)	1 (25)	16 x 20 (406 x 508)	8
180	75 ³ / ₈ (1915)	41 ³ / ₄ (1060)	31 ³ / ₄ (606)	37 ¹ / ₂ (953)	27 ⁷ / ₈ (708)	22 ¹ / ₂ (572)	18 ⁷ / ₈ (479)	1 ¹ / ₂ (38)	20 x 25 (508 x 635)	6
200	85 ¹ / ₄ (2165)	49 ¹ / ₄ (1251)	39 ³ / ₄ (1010)	48 ¹ / ₈ (1222)	36 (914)	23 ³ / ₈ (587)	25 ¹ / ₄ (641)	1 ¹ / ₂ (38)	16 x 25 (406 x 635)	12

*K is length of fan and filter box combined. All dimensions in inches (mm).



Options & Accessories

Sloped Filter Boxes - The double-vee configuration constructed of galvanized steel. Filters are available in 1 or 2-inch pleated disposable media or permanent washable aluminum mesh. Side access panels are standard for easy maintenance.



Multi Discharge

Positions - BDF fans have been designed for horizontal mounting and are standard with bottom horizontal discharge. Optional top horizontal discharge is also available.



Bottom Horizontal (Standard)



Top Horizontal (Optional)

Disconnect Switches - A wide selection of NEMA rated switches are available for positive electrical shutoff and safety. This includes general, dust-tight, rainproof, and corrosion-resistant.



Wiring Pigtail - Allows direct hook-up to the power supply externally eliminating field wiring at the fan.

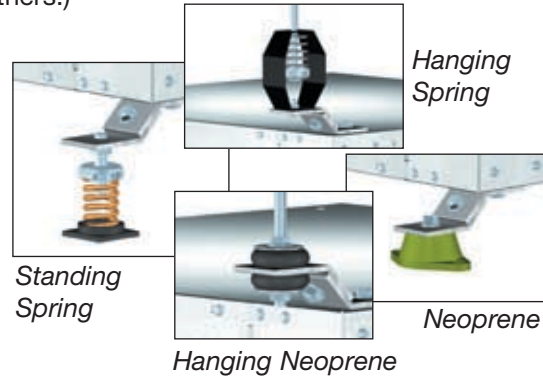
Coatings - A wide variety of protective or decorative coatings are available. Consult Greenheck's Performance Coatings for Commercial & Industrial Fans brochure and our Product Application Guide FA/110/04R, Performance Coatings for Ventilation Products for in-depth information.

Insulated Housing - For noise reduction and condensation control, the interior of fan housing and filter box can be lined with a fiberglass duct liner. The duct liner can be utilized to reduce radiated noise from fan housings. It is recommended for applications when fans are placed in acoustically sensitive locations. The duct liner also reduces the noise radiation from the inlet and outlet of the fan. The accompanying table depicts the reduction that can be obtained in each octave band.

Approximate (%) Sound Attenuation									
Octave Band	1	2	3	4	5	6	7	8	Sones
*Lined Housing	-3	-2	-3	-3	-5	-5	-5	-4	13%

*Lined Housing shows the reduction that can be obtained in each octave band.

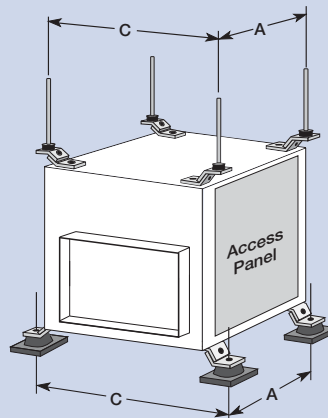
Vibration Isolators - Base and hanging isolator kits are available with either neoprene or spring isolators. Kits range in size to support either the weight of the fan alone or the weight of the fan with filter and mixing box combinations. Kits are for horizontal mounting and include mounting brackets and hardware. Knockouts are provided in the fan cabinet for ease of installation. (Hanging rods supplied by others.)



Typical Installations

All BDF fans have been designed to be mounted horizontally. For ease of installation, knockouts are provided at each location where mounting brackets are shown. Universally adjustable brackets are available to mount the fan in hanging or base mounted positions.

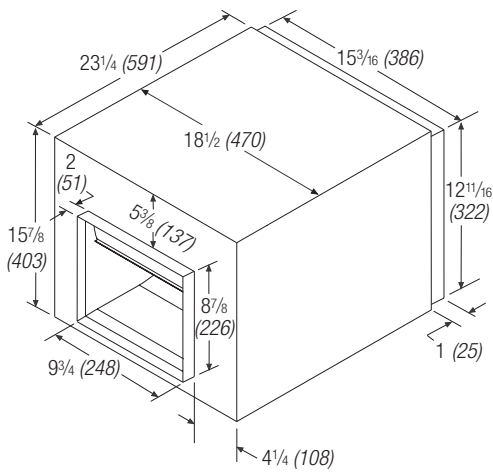
In order to assure proper fan performance, caution must be exercised in fan placement and connection. Obstructions, transitions, poorly designed elbows, etc., can cause reduced performance, excessive noise, and increase mechanical stress. For performance to be as published, the system must provide uniform and stable airflow into the fan.



BDF Size	A	C
80	20 ³ / ₄ (527)	22 ¹¹ / ₁₆ (576)
90	21 ³ / ₄ (552)	25 ⁵ / ₈ (651)
100	23 ³ / ₄ (603)	27 ¹ / ₈ (689)
120	30 ¹ / ₂ (775)	31 ⁵ / ₈ (803)
150	32 (813)	35 (889)
180	37 ³ / ₈ (949)	44 (1118)
200	47 ³ / ₈ (1203)	51 ¹ / ₂ (1308)

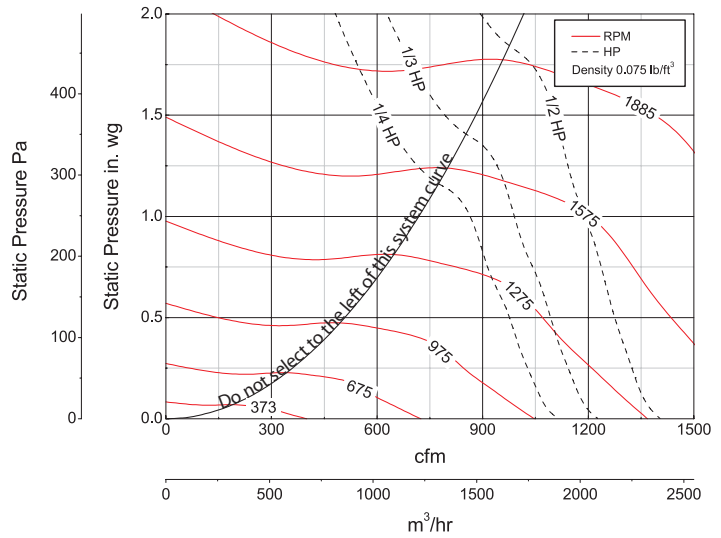
All dimensions in inches (mm).

BDF-80 — Belt Drive



Damper Size (Outlet Side) = 9 3/4 x 8 7/8 (248 x 225)
 Housing Thickness = 20 ga.
 ^Approximate Unit Weight = 70 lb. (32 kg)

All dimensions in inches (millimeters).
 ^Weight shown is largest cataloged Open Drip Proof motor.

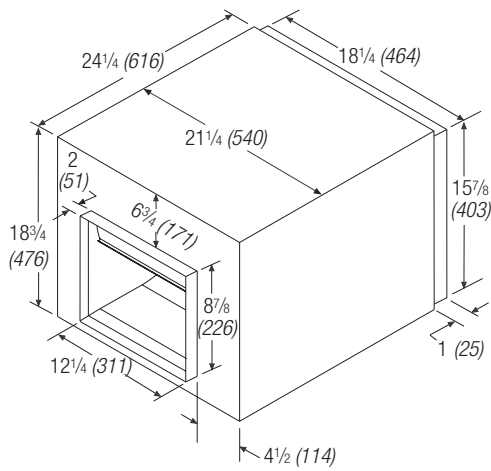


Model Number	Fan CFM		Static Pressure in Inches wg																	
			0.125	0.25	0.375	0.5	0.625	0.75	1	1.25	1.5	1.75								
BDF-80	300	RPM	511																	
		BHP	0.01																	
		Sones	4.6																	
	400	RPM	546	717																
		BHP	0.02	0.03																
		Sones	4.4	4.7																
	500	RPM	610	745	881															
		BHP	0.03	0.04	0.05															
		Sones	4.2	5.0	6.1															
	600	RPM	691	791	908	1022	1126													
		BHP	0.05	0.06	0.08	0.09	0.11													
		Sones	4.9	5.6	6.6	7.2	7.9													
	700	RPM	772	857	949	1051	1149	1244												
		BHP	0.08	0.09	0.11	0.12	0.13	0.15												
		Sones	5.8	6.4	7.1	7.6	8.4	9.5												
	800	RPM	855	937	1006	1092	1181	1269	1435											
		BHP	0.11	0.13	0.14	0.16	0.17	0.19	0.23											
		Sones	6.7	7.4	7.7	8.1	9.0	10.1	12.3											
	900	RPM	939	1019	1084	1148	1224	1301	1457	1605	1738									
		BHP	0.16	0.18	0.19	0.21	0.23	0.24	0.27	0.33	0.38									
		Sones	7.7	8.3	8.6	9.0	9.7	10.8	12.9	15.2	15.5									
	1000	RPM	1024	1100	1165	1220	1280	1348	1490	1628	1762	1884								
		BHP	0.21	0.23	0.25	0.27	0.28	0.31	0.34	0.38	0.44	0.50								
		Sones	9.0	9.4	9.7	10.0	10.8	11.7	13.7	15.5	15.8	16.2								
	1100	RPM	1111	1183	1246	1300	1350	1405	1526	1660	1784									
		BHP	0.28	0.30	0.32	0.34	0.36	0.38	0.42	0.46	0.50									
		Sones	10.3	10.8	11.1	11.4	12.0	12.6	14.6	15.9	16.2									
	1200	RPM	1198	1266	1327	1382	1430	1475	1582											
		BHP	0.36	0.38	0.40	0.43	0.45	0.47	0.51											
		Sones	11.9	12.5	12.7	12.7	13.2	13.8	15.7											
	1300	RPM	1287	1351	1409															
		BHP	0.45	0.48	0.50															
		Sones	13.5	14.0	13.9															

MAXIMUM RPM = 1885
 TIP SPEED = RPM x 2.356
 MAXIMUM MOTOR FRAME SIZE = 56
 AVERAGE OUTLET VELOCITY = CFM/0.654

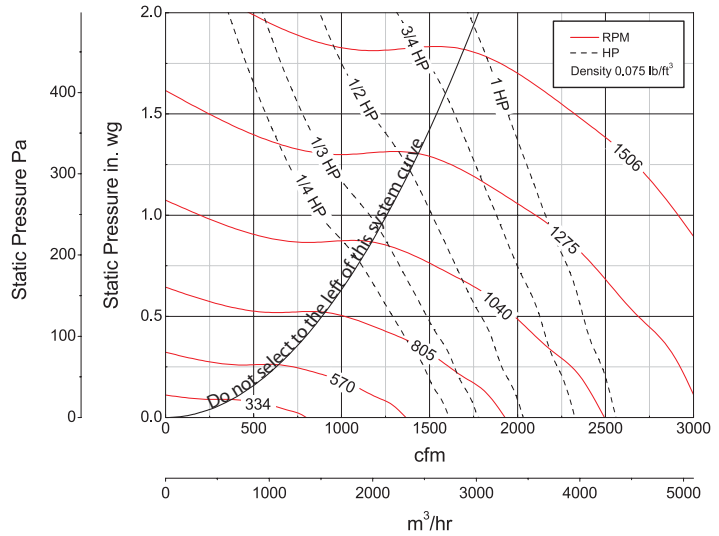
Performance certified is for installation type D: Ducted inlet, Ducted outlet. Power rating (bhp/kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).
 The sound ratings shown are loudness values in fan sones at 5 ft. (1.5m) from the test inlet duct in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type D: ducted inlet, ducted outlet. Ratings do not include the effects of duct end connection.

BDF-90 — Belt Drive



Damper Size (Outlet Side) = 12 1/4 x 10 1/2 (311 x 267)
 Housing Thickness = 20 ga.
 ^Approximate Unit Weight = 91 lb. (41 kg)

All dimensions in inches (millimeters).
 ^Weight shown is largest cataloged Open Drip Proof motor.



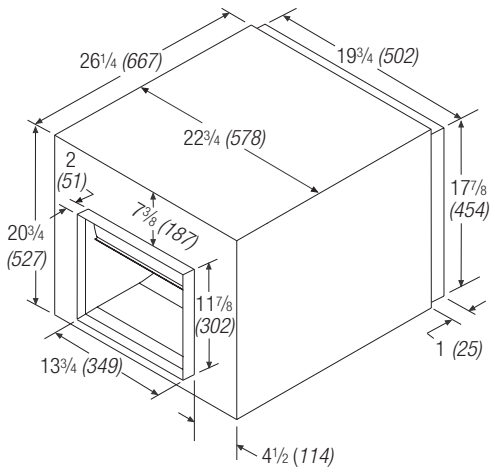
Model Number	Fan CFM		Static Pressure in Inches wg																	
			0.125	0.25	0.375	0.5	0.625	0.75	1	1.25	1.5	1.75								
BDF-90	800	RPM	465	584	689															
		BHP	0.05	0.07	0.09															
		Sones	3.9	4.1	5.5															
	970	RPM	514	619	713	802														
		BHP	0.08	0.10	0.12	0.15														
		Sones	4.5	5.0	6.4	8.2														
	1140	RPM	569	660	748	827	905	975												
		BHP	0.11	0.14	0.17	0.20	0.23	0.26												
		Sones	5.2	6.0	7.5	8.8	9.6	10.7												
	1310	RPM	626	708	787	863	932	1000	1125											
		BHP	0.16	0.19	0.23	0.26	0.29	0.33	0.40											
		Sones	6.6	7.3	8.9	9.4	10.2	11.2	13.5											
	1480	RPM	684	761	830	901	968	1030	1150	1260										
		BHP	0.22	0.25	0.29	0.33	0.37	0.41	0.49	0.57										
		Sones	8.0	8.9	9.6	10.2	10.9	11.8	13.9	15.9										
	1650	RPM	744	817	881	943	1006	1066	1178	1285	1385									
		BHP	0.30	0.34	0.38	0.42	0.46	0.50	0.59	0.68	0.77									
		Sones	9.6	10.1	10.5	11.1	11.8	12.6	14.5	16.5	16.9									
	1820	RPM	805	874	934	991	1048	1106	1213	1312	1409	1501								
		BHP	0.39	0.44	0.47	0.52	0.57	0.61	0.71	0.80	0.90	1.00								
		Sones	11.3	11.2	11.5	12.2	12.8	13.6	15.3	17.0	17.4	17.5								
	1990	RPM	872	932	990	1044	1095	1147	1250	1347	1436									
		BHP	0.51	0.56	0.60	0.64	0.69	0.74	0.84	0.95	1.04									
		Sones	12.4	12.5	12.8	13.4	14.1	14.7	16.2	17.6	18.0									
	2160	RPM	940	991	1047	1098	1147	1193	1291											
		BHP	0.64	0.69	0.74	0.78	0.83	0.89	1.00											
		Sones	13.8	14.0	14.3	14.8	15.4	16.0	17.3											
	2330	RPM	1008	1051	1105	1154	1200													
		BHP	0.80	0.85	0.91	0.95	1.00													
		Sones	15.4	15.7	16.0	16.3	16.8													
	2500	RPM	1077	1112																
		BHP	0.98	1.02																
		Sones	17.3	17.4																

MAXIMUM RPM = 1506
 TIP SPEED = RPM x 2.602
 MAXIMUM MOTOR FRAME SIZE = 143T
 AVERAGE OUTLET VELOCITY = CFM/0.899

Performance certified is for installation type D: Ducted inlet, Ducted outlet. Power rating (bhp/kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).

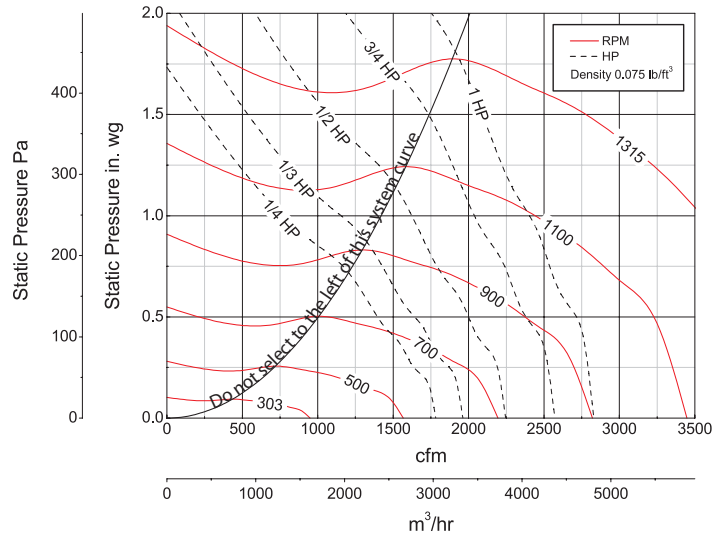
The sound ratings shown are loudness values in fan sones at 5 ft. (1.5m) from the test inlet duct in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type D: ducted inlet, ducted outlet. Ratings do not include the effects of duct end connection.

BDF-100 – Belt Drive



Damper Size (Outlet Side) = 13 3/4 x 11 7/8 (349 x 302)
 Housing Thickness = 20 ga.
 ^Approximate Unit Weight = 106 lb. (48 kg)

All dimensions in inches (millimeters).
 ^Weight shown is largest cataloged Open Drip Proof motor.

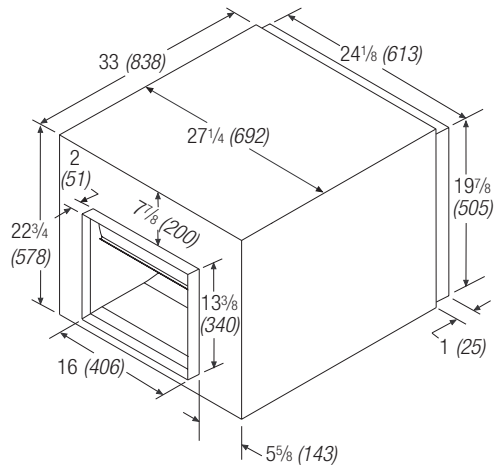


Model Number	Fan CFM		Static Pressure in Inches wg																	
			0.125	0.25	0.375	0.5	0.625	0.75	1	1.25	1.5	1.75								
BDF-100	800	RPM	380	501																
		BHP	0.04	0.06																
		Sones	3.6	4.8																
	1000	RPM	413	521	615															
		BHP	0.06	0.09	0.12															
		Sones	4.0	5.0	5.9															
	1200	RPM	453	548	635	715	785													
		BHP	0.09	0.13	0.16	0.19	0.23													
		Sones	4.8	5.4	6.2	6.8	7.3													
	1400	RPM	498	581	660	735	804	869												
		BHP	0.14	0.17	0.21	0.25	0.29	0.33												
		Sones	6.0	6.1	6.7	7.4	7.9	8.6												
	1600	RPM	548	620	691	760	825	887	1002	1104										
		BHP	0.19	0.24	0.27	0.32	0.37	0.41	0.50	0.58										
		Sones	7.6	7.4	7.4	8.1	8.7	9.7	10.9	12.5										
	1800	RPM	605	662	728	791	851	909	1020	1121	1212									
		BHP	0.27	0.31	0.36	0.40	0.45	0.50	0.60	0.70	0.79									
		Sones	9.7	8.6	8.5	8.9	9.8	10.6	11.7	13.3	14.1									
	2000	RPM	666	710	768	826	882	937	1041	1139	1231	1314								
		BHP	0.37	0.40	0.45	0.50	0.55	0.61	0.72	0.83	0.94	1.05								
		Sones	10.9	9.9	9.7	10.2	11.2	11.6	12.6	13.9	14.9	15.9								
	2200	RPM	728	760	810	864	917	968	1065	1160										
		BHP	0.49	0.51	0.56	0.63	0.68	0.73	0.86	0.98										
		Sones	12.2	11.4	11.1	11.7	12.3	12.6	13.5	14.7										
	2400	RPM	789	812	857	906	954	1002	1096											
		BHP	0.63	0.65	0.69	0.76	0.83	0.88	1.01											
		Sones	13.6	13.1	12.9	13.3	13.5	13.8	14.6											
	2600	RPM	851	872	907	948	995													
		BHP	0.80	0.82	0.85	0.91	0.99													
		Sones	15.1	14.7	14.7	14.6	14.9													
	2800	RPM	914	933	957															
		BHP	0.99	1.01	1.04															
		Sones	16.6	16.4	16.3															

MAXIMUM RPM = 1315
 TIP SPEED = RPM x 2.913
 MAXIMUM MOTOR FRAME SIZE = 143T
 AVERAGE OUTLET VELOCITY = CFM/1.05

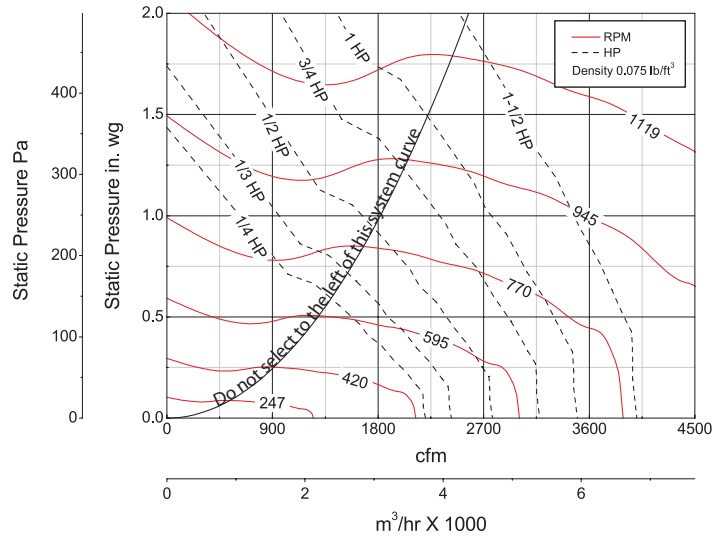
Performance certified is for installation type D: Ducted inlet, Ducted outlet. Power rating (bhp/kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).
 The sound ratings shown are loudness values in fan sones at 5 ft. (1.5m) from the test inlet duct in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type D: ducted inlet, ducted outlet. Ratings do not include the effects of duct end connection.

BDF-120 – Belt Drive



Damper Size (Outlet Side) = 16 x 13³/₈ (406 x 340)
 Housing Thickness = 20 ga.
 ^Approximate Unit Weight = 142 lb. (64 kg)

All dimensions in inches (millimeters).
 ^Weight shown is largest cataloged Open Drip Proof motor.



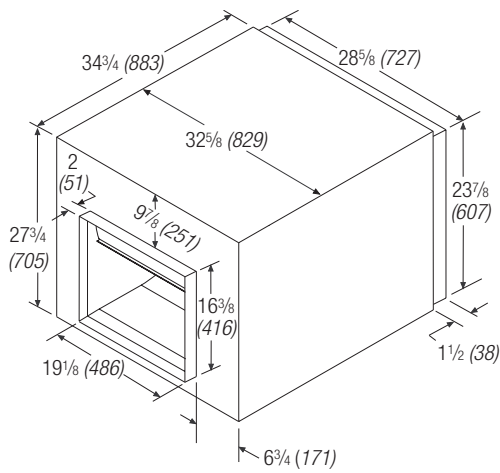
Model Number	Fan CFM		Static Pressure in Inches wg																	
			0.125	0.25	0.375	0.5	0.625	0.75	1	1.25	1.5	1.75								
BDF-120	1000	RPM	313	420																
		BHP	0.05	0.08																
		Sones	3.0	4.2																
	1300	RPM	338	437	518	593														
		BHP	0.07	0.11	0.15	0.20														
		Sones	3.3	5.1	5.6	5.6														
	1600	RPM	370	456	535	604	666	726												
		BHP	0.12	0.16	0.21	0.26	0.31	0.37												
		Sones	4.3	6.3	6.2	6.3	7.1	8.4												
	1900	RPM	408	483	554	621	680	737	839											
		BHP	0.18	0.23	0.28	0.34	0.39	0.45	0.58											
		Sones	5.8	7.0	7.0	7.1	8.0	9.2	12.5											
	2200	RPM	451	515	580	640	699	753	851	939										
		BHP	0.26	0.31	0.37	0.43	0.50	0.56	0.70	0.84										
		Sones	7.7	7.9	8.0	8.1	8.9	10.0	12.9	13.2										
	2500	RPM	504	554	608	666	719	771	866	953	1033	1110								
		BHP	0.37	0.42	0.48	0.55	0.62	0.69	0.84	1.00	1.16	1.33								
		Sones	9.4	9.6	9.0	9.2	9.9	11.0	13.3	13.6	13.9	14.1								
	2800	RPM	561	592	645	694	745	793	885	969	1047									
		BHP	0.53	0.55	0.62	0.70	0.77	0.85	1.02	1.18	1.35									
		Sones	11.0	11.9	10.6	10.2	11.0	12.0	13.8	14.2	14.5									
	3100	RPM	619	635	683	727	773	819	904	988										
		BHP	0.71	0.72	0.79	0.87	0.95	1.04	1.20	1.41										
		Sones	13.2	13.2	12.5	11.7	12.1	13.2	14.3	14.8										
	3400	RPM	677	689	721	766	804	847	930											
		BHP	0.94	0.94	0.99	1.07	1.16	1.26	1.44											
		Sones	14.7	14.8	14.1	13.6	13.7	14.3	15.1											
	3700	RPM	737	744	761	803	844	877												
		BHP	1.21	1.21	1.22	1.32	1.41	1.50												
		Sones	16.6	16.6	16.7	15.3	15.6	15.7												
	4000	RPM	796	802	814															
		BHP	1.52	1.53	1.54															
		Sones	18.6	18.6	18.8															

MAXIMUM RPM = 1119
 TIP SPEED = RPM x 3.436
 MAXIMUM MOTOR FRAME SIZE = 182T
 AVERAGE OUTLET VELOCITY = CFM/1.45

Performance certified is for installation type D: Ducted inlet, Ducted outlet. Power rating (bhp/kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).

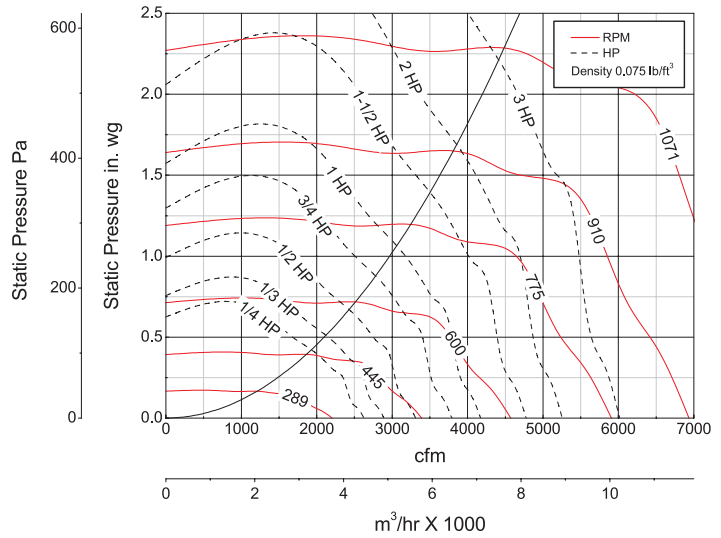
The sound ratings shown are loudness values in fan sones at 5 ft. (1.5m) from the test inlet duct in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type D: ducted inlet, ducted outlet. Ratings do not include the effects of duct end connection.

BDF-150 — Belt Drive



Damper Size (Outlet Side) = 19 1/8 x 16 3/8 (486 x 416)
 Housing Thickness = 20 ga.
 ^Approximate Unit Weight = 221 lb. (100 kg)

All dimensions in inches (millimeters).
 ^Weight shown is largest cataloged Open Drip Proof motor.

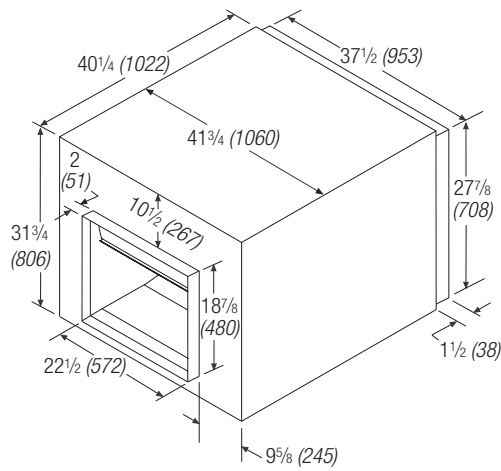


Model Number	Fan CFM		Static Pressure in Inches wg																		
			0.125	0.25	0.5	0.75	1	1.25	1.5	1.75	2	2.25									
BDF-150	2500	RPM	374	406	517																
		BHP	0.27	0.29	0.42																
		Sones	6.6	7.0	9.0																
	2830	RPM	411	444	527	622															
		BHP	0.37	0.41	0.53	0.68															
		Sones	8.0	8.6	9.6	13.1															
	3160	RPM	449	483	544	637	714														
		BHP	0.50	0.56	0.65	0.82	1.00														
		Sones	9.6	9.7	10.5	13.5	16.0														
	3490	RPM	488	523	569	646	728	799													
		BHP	0.65	0.73	0.80	0.98	1.17	1.37													
		Sones	11.0	11.2	11.6	13.6	16.5	19.1													
	3820	RPM	528	561	607	662	741	810	875												
		BHP	0.84	0.93	1.03	1.16	1.37	1.58	1.80												
		Sones	12.6	13.0	13.2	14.3	17.0	19.3	20												
	4150	RPM	570	598	645	685	749	826	886	945											
		BHP	1.07	1.16	1.29	1.37	1.58	1.81	2.04	2.29											
		Sones	14.5	14.8	15.0	15.6	17.4	19.6	20	21											
	4480	RPM	611	637	685	720	770	833	902	957	1010	1071									
		BHP	1.33	1.42	1.59	1.67	1.84	2.08	2.32	2.57	2.83	3.15									
		Sones	16.3	16.5	17.1	17.5	18.3	19.9	21	22	22	23									
	4810	RPM	653	675	724	758	792	847	911	973											
		BHP	1.63	1.73	1.93	2.03	2.13	2.38	2.64	2.89											
		Sones	18.0	18.2	19.1	19.9	20	20	21	22											
	5140	RPM	695	715	763	797	827	869	919												
		BHP	1.97	2.07	2.32	2.44	2.53	2.72	2.97												
		Sones	19.8	20	21	22	22	21	22												
	5470	RPM	737	756	801	836	866	893													
		BHP	2.36	2.47	2.72	2.89	3.00	3.10													
		Sones	22	22	23	24	24	23													
	5800	RPM	780	797																	
		BHP	2.80	2.91																	
		Sones	24	24																	

MAXIMUM RPM = 1071
 TIP SPEED = RPM x 3.927
 MAXIMUM MOTOR FRAME SIZE = 184T
 AVERAGE OUTLET VELOCITY = CFM/2.05

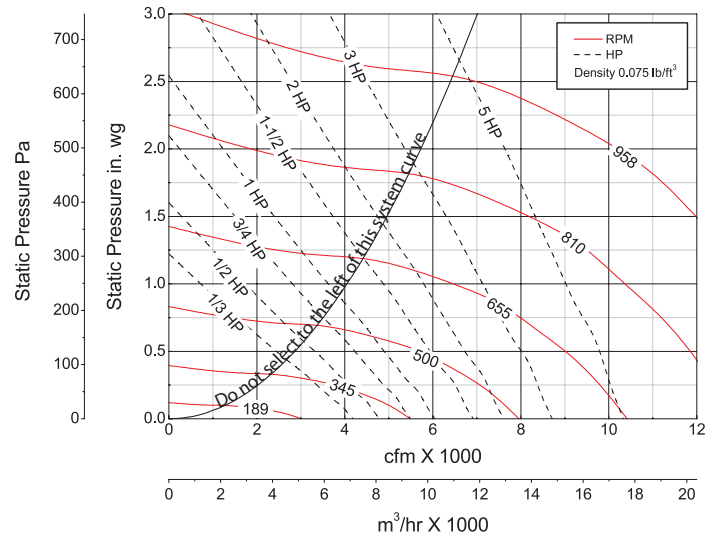
Performance certified is for installation type D: Ducted inlet, Ducted outlet. Power rating (bhp/kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).
 The sound ratings shown are loudness values in fan sones at 5 ft. (1.5m) from the test inlet duct in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type D: ducted inlet, ducted outlet. Ratings do not include the effects of duct end connection.

BDF-180 – Belt Drive



Damper Size (Outlet Side) = 22½ x 18⅞ (572 x 479)
 Housing Thickness = 20 ga.
 ^Approximate Unit Weight = 304 lb. (138 kg)

All dimensions in inches (millimeters).
 ^Weight shown is largest cataloged Open Drip Proof motor.



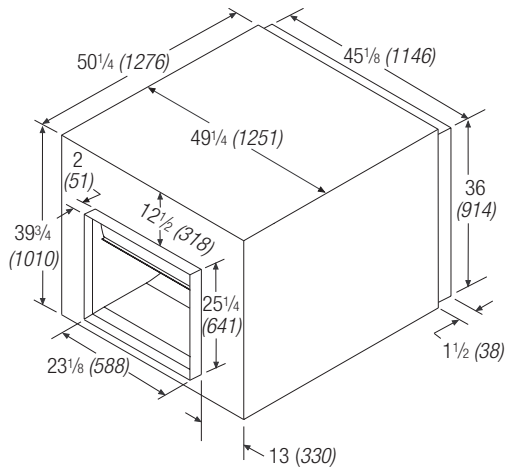
Model Number	Fan CFM		Static Pressure in Inches wg										
			0.25	0.5	0.75	1	1.25	1.5	1.75	2	2.25	2.5	
BDF-180	4000	RPM	353	448	529								
		BHP	0.48	0.68	0.91								
		Sones	7.6	12.1	14.6								
4540	4540	RPM	375	463	540	610	673						
		BHP	0.63	0.86	1.10	1.36	1.62						
		Sones	8.9	13.6	15.2	16.1	17.0						
5080	5080	RPM	400	479	553	621	682	738					
		BHP	0.82	1.08	1.34	1.62	1.91	2.19					
		Sones	10.8	14.9	15.8	16.8	17.4	15.5					
5620	5620	RPM	426	498	568	632	693	748	799				
		BHP	1.05	1.34	1.62	1.90	2.22	2.55	2.85				
		Sones	13.0	15.9	16.6	17.6	17.8	16.3	15.9				
6160	6160	RPM	453	519	585	647	704	759	810	857	903		
		BHP	1.31	1.63	1.94	2.26	2.56	2.93	3.28	3.62	3.98		
		Sones	15.7	17.0	17.5	18.5	18.3	17.2	16.8	17.3	18.4		
6700	6700	RPM	480	544	603	662	718	770	821	868	912	954	
		BHP	1.62	1.98	2.32	2.65	3.00	3.33	3.73	4.11	4.49	4.85	
		Sones	17.9	18.1	18.6	19.5	18.9	18.2	17.8	18.5	19.4	21	
7240	7240	RPM	510	568	623	680	733	784	832	879	923		
		BHP	2.00	2.37	2.73	3.11	3.47	3.84	4.19	4.63	5.05		
		Sones	18.9	19.3	19.8	20	19.9	19.3	18.9	19.6	20		
7780	7780	RPM	540	594	647	698	749	799	846	890			
		BHP	2.44	2.81	3.22	3.61	3.99	4.40	4.79	5.17			
		Sones	20	20	21	21	21	20	20	21			
8320	8320	RPM	570	621	671	717	768	814					
		BHP	2.95	3.31	3.75	4.17	4.60	5.00					
		Sones	21	22	23	23	22	22					
8860	8860	RPM	601	648	696	741	786						
		BHP	3.51	3.86	4.35	4.80	5.25						
		Sones	23	24	24	24	24						
9400	9400	RPM	632	675	722								
		BHP	4.15	4.48	5.00								
		Sones	24	25	26								

MAXIMUM RPM = 958
 TIP SPEED = RPM x 4.843
 MAXIMUM MOTOR FRAME SIZE = 215T
 AVERAGE OUTLET VELOCITY = CFM/2.86

Performance certified is for installation type D: Ducted inlet, Ducted outlet. Power rating (bhp/kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).

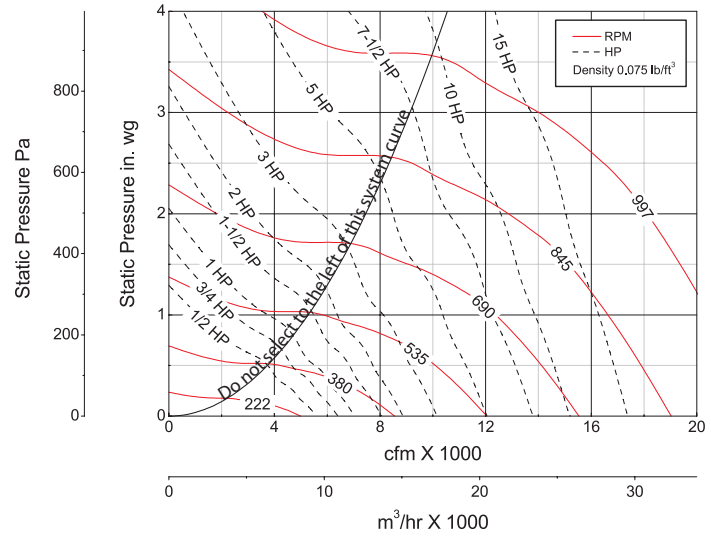
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BDF-200 – Belt Drive



Damper Size = 23 1/8 x 25 1/4 (587 x 638)
 Housing Thickness = 20 ga.
 ^Approximate Unit Weight = 560 lb. (254 kg)

All dimensions in inches (millimeters).
 ^Weight shown is largest cataloged Open Drip Proof motor.



Model Number	Fan CFM		Static Pressure in Inches wg																		
			0.25	0.5	0.75	1	1.5	1.75	2	2.5	2.75	3									
BDF-200	5000	RPM	310	394	464																
		BHP	0.57	0.84	1.09																
		Sones	12.5	12.6	12.3																
	6000	RPM	340	413	480	538															
		BHP	0.88	1.16	1.49	1.77															
		Sones	13.1	13.2	13.3	14.0															
	7000	RPM	374	437	498	556	656	705													
		BHP	1.28	1.59	1.93	2.33	3.04	3.50													
		Sones	14.4	14.0	14.4	15.1	16.8	18.3													
	8000	RPM	411	465	521	574	671	712	757												
		BHP	1.80	2.17	2.53	2.92	3.82	4.16	4.63												
		Sones	15.9	14.8	15.7	16.4	18.0	19.2	21												
	9000	RPM	449	498	546	596	689	731	770	846	885										
		BHP	2.45	2.87	3.26	3.70	4.65	5.15	5.63	6.52	7.11										
		Sones	17.6	17.0	17.3	18.0	19.4	20	21	22	22										
	10000	RPM	489	533	576	620	707	749	788	860	892	928									
		BHP	3.26	3.71	4.19	4.60	5.56	6.15	6.71	7.77	8.15	8.71									
		Sones	19.6	19.4	19.3	19.9	21	22	23	24	24	24									
	11000	RPM	529	569	610	647	730	768	806	878	911	943									
		BHP	4.24	4.72	5.26	5.75	6.77	7.27	7.88	9.13	9.73	10.29									
		Sones	22	22	22	22	23	24	24	25	26	26									
	12000	RPM	571	607	644	680	754	791	827	896	929	961									
		BHP	5.42	5.94	6.49	7.06	8.10	8.70	9.27	10.56	11.25	11.92									
		Sones	25	25	25	25	26	26	27	28	28	28									
	13000	RPM	613	646	679	714	779	815	850	915	947	979									
		BHP	6.81	7.34	7.91	8.56	9.70	10.27	10.93	12.14	12.87	13.63									
		Sones	28	28	28	28	29	29	29	30	31	31									
	14000	RPM	655	686	717	748	810	840	874	938	968	997									
		BHP	8.42	8.97	9.59	10.25	11.57	12.14	12.74	14.14	14.79	15.44									
		Sones	31	31	31	32	31	32	32	33	34	35									
	15000	RPM	697	726	756	783	843	871	899												
		BHP	10.30	10.80	11.50	12.20	13.60	14.30	14.90												
		Sones	35	35	35	35	35	35	35												

MAXIMUM RPM = 997
 TIP SPEED = RPM x 5.318
 MAXIMUM MOTOR FRAME SIZE = 256T
 AVERAGE OUTLET VELOCITY = CFM/3.87

Performance certified is for installation type D: Ducted inlet, Ducted outlet. Power rating (bhp/kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).
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Specifications

Duct mounted supply, exhaust, or return air fans shall be of the centrifugal, belt driven, inline type. The fan housing shall be of the rectangular design and constructed of heavy gauge galvanized steel, and shall include rectangular duct mounting collars on the inlet and outlet.

Removable panels shall be provided on each side of the fan cabinet, and shall be of sufficient size to permit access for service to all of the fans internal components without further dismantling of the cabinet.

The fan wheel shall be of the galvanized steel, forward curved, centrifugal type. Wheels shall be statically and dynamically balanced.

Motors shall be of the heavy duty type with permanently lubricated and sealed ball bearings. The wheel shaft shall be ground and polished steel mounted in permanently sealed bearings.

The bearings shall be selected for a minimum L10 life in excess of 100,000 hours (L50 average life of 500,000 hours)

at maximum cataloged RPM. Drives shall be sized for a minimum of 150% of the driven horsepower. Pulleys shall be of the machined cast type, keyed and securely attached to the wheel and motor shafts. The motor pulley shall be adjustable for final system balancing.

Heavy gauge galvanized steel mounting rails shall support the drive assembly, motor, wheel, and scroll.

Fans shall have true internal vibration isolation (no metal to metal contact) of the drive assembly, motor, wheel, and scroll.

All fans shall be tested in an AMCA Accredited Laboratory and shall be certified to bear the AMCA Certified Ratings Seal for sound and air performance.

Fans shall be Greenheck Model BDF, manufactured by Greenheck Fan Corporation in Schofield, Wisconsin.



Building Value in Air

Greenheck delivers value to mechanical engineers by helping them solve virtually any air quality challenges their clients face with a comprehensive selection of

top quality, innovative air-related equipment. We offer extra value to contractors by providing easy-to-install, competitively priced, reliable products that arrive on time.

And building owners and occupants value the energy efficiency, low maintenance and quiet dependable operation they experience long after the construction project ends.

Our Warranty

Greenheck warrants this equipment to be free from defects in material and workmanship for a period of one year from the purchase date. Any units or parts which prove defective during the warranty period will be replaced at our option when returned to our factory, transportation prepaid. Motors are warranted by the motor manufacturer for a period of one year. Should motors furnished by Greenheck prove defective during this period, they should be returned to the nearest authorized motor service station. Greenheck will not be responsible for any removal or installation costs.

As a result of our commitment to continuous improvement, Greenheck reserves the right to change specifications without notice.



Prepared to Support
Green Building Efforts