

# Model BDF Belt Drive Duct Fan



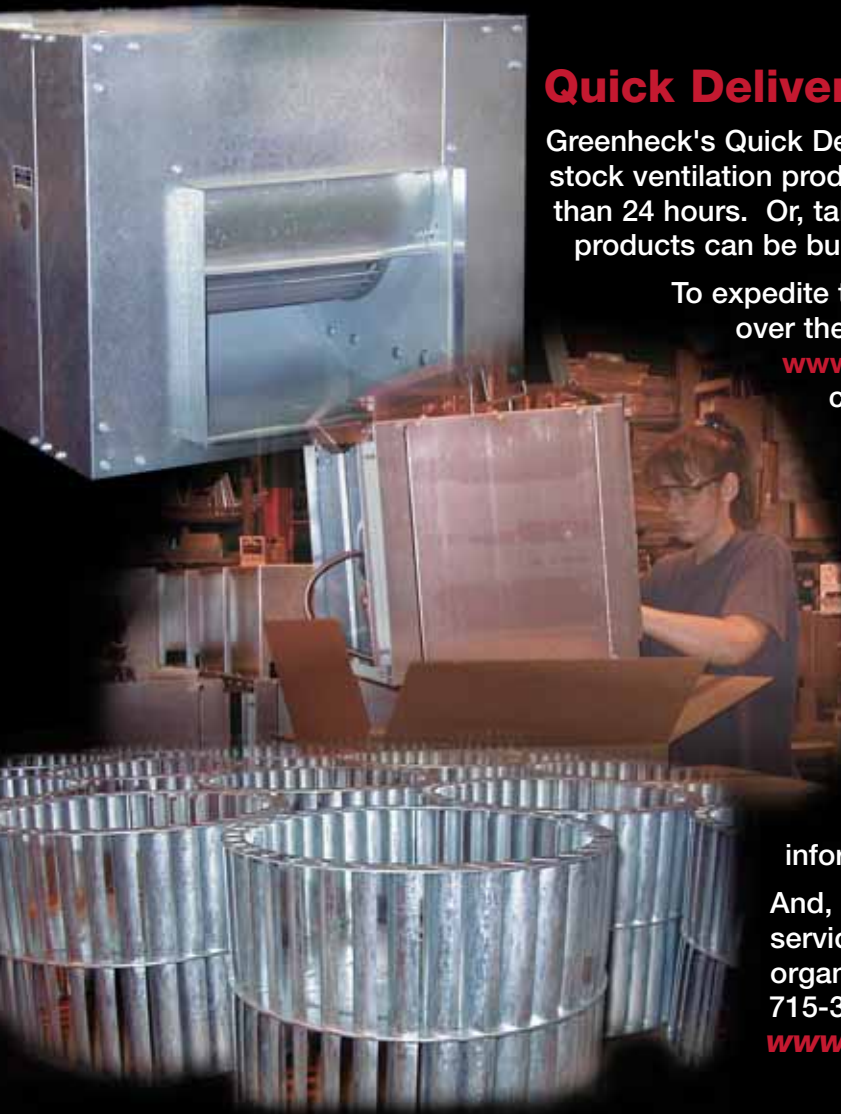
 **GREENHECK**  
® □

December 2003

# Model 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.

- Broadest performance in the industry up to 2.5 in. wg and 17,000 cfm.
- Model BDF forward curved centrifugal inline duct fans are available in seven sizes ranging from 80 to 200.
- All fan sizes are tested in our AMCA Registered Laboratory, and are licensed to bear the AMCA Certified sound and air performance seal.
- 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.



## Quick Delivery and Quick Build Programs

Greenheck's Quick Delivery (QD) Program includes hundreds of in-stock ventilation products and accessories that can be shipped in less than 24 hours. Or, take advantage of our Quick Build program – products can be built and shipped in three, five or ten days.

To expedite the process even more, order your stock products over the Internet using QD Online at

[www.greenheck.com/qd](http://www.greenheck.com/qd) Consult your latest QD catalog for more information on stock products and quick build capabilities. Download or order a Quick Delivery catalog at [www.greenheck.com](http://www.greenheck.com)

## State-of-the-Art Technical Support

All Greenheck products are supported by the industry's best product literature, electronic media, and computer aided selection program (CAPS). You'll also find extensive product information on the Internet.

And, of course, you can always count on the personal service and expertise of our world wide rep organization. To locate your nearest Greenheck rep call 715-359-6171 or visit our website.

[www.greenheck.com](http://www.greenheck.com)



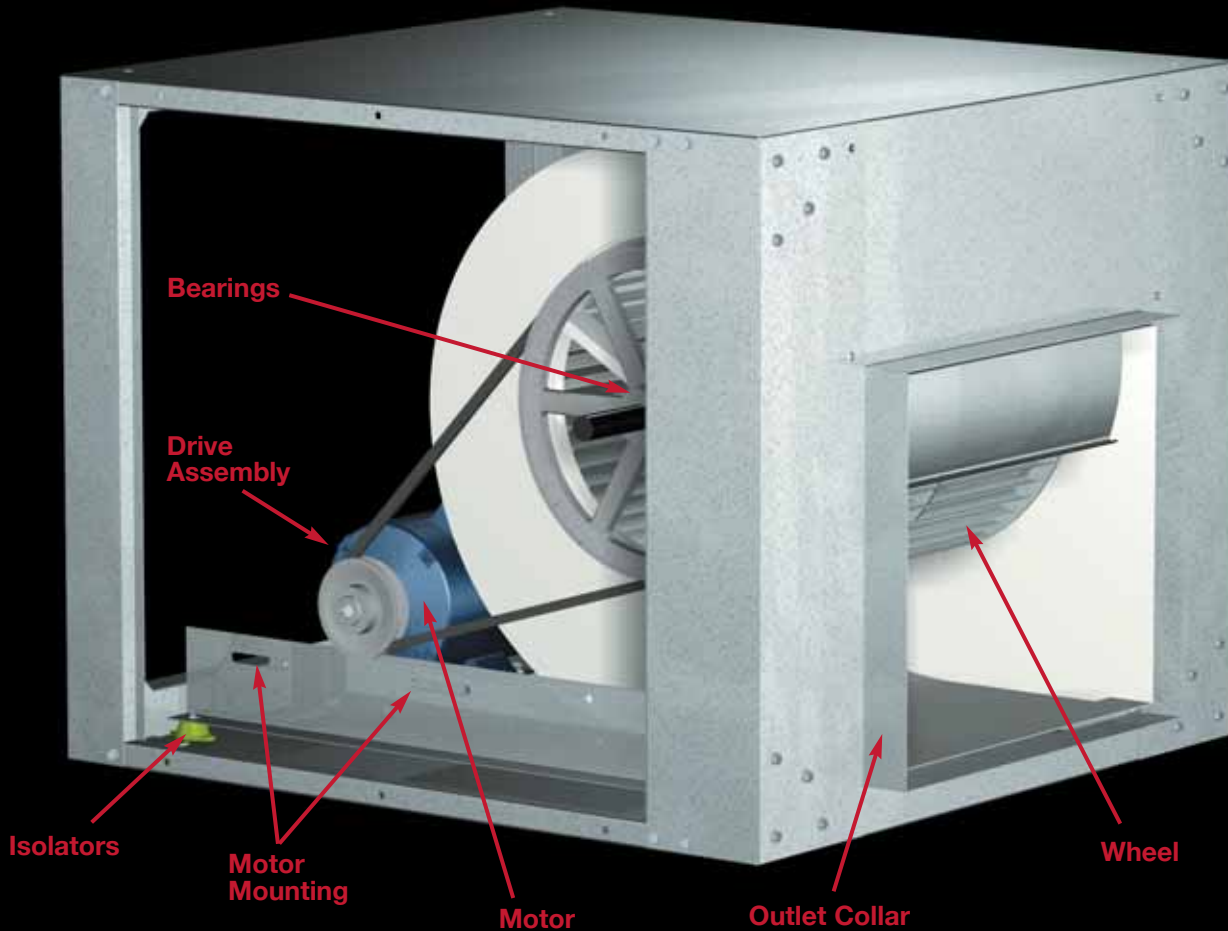
Greenheck certifies that the model BDF fan shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and Publication 311 and comply with the requirements of AMCA Certified Ratings Program. The certified ratings for model BDF are shown on pages 6 to 11.



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



# Standard Construction Features



**Motor Mounting** - Heavy duty drive frame supports motor, scroll, and wheel to ensure long life and durability.

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

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

**Inlet and Outlet Collars** - Collars provide for easy duct connection.

**Wheel** - Forward curved wheels provide high efficiency with low sound levels. Double width, double inlet wheels are constructed of heavy gauge galvanized steel. Wheels are statically and dynamically balanced to ensure smooth vibration free operation.

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

**Motor** - Carefully matched to the fan load and receives the cooling benefits of being in the airstream for increased motor life.

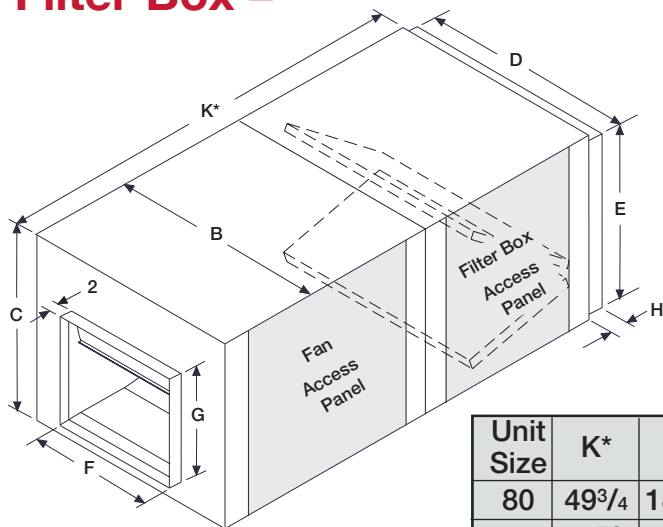
**Bearings** - 100% factory tested and designed specifically for air handling applications with minimum (L10) life in excess of 100,000 hours.

**Drive Assembly** - Belts and pulleys are sized for 150% of driven horsepower. Machined cast pulleys are adjustable for final system balancing. Belts are static free and oil resistant.

**Name Plate** - Permanent stamped aluminum nameplate for model and serial identification.

# Options and Accessories

## Filter Box –



Filter boxes incorporate a vee bank design constructed of galvanized steel. Filters are available in 1 in. or 2 in. throwaway (pleated) or permanent (washable aluminum mesh). Side access panels are standard for easy maintenance.

Unit Size	K*	B	C	D	E	F	G	H	Filter Size	No. Filters
80	49 <sup>3</sup> / <sub>4</sub>	18 <sup>1</sup> / <sub>2</sub>	15 <sup>7</sup> / <sub>8</sub>	15 <sup>3</sup> / <sub>16</sub>	12 <sup>11</sup> / <sub>16</sub>	9 <sup>3</sup> / <sub>4</sub>	8 <sup>7</sup> / <sub>8</sub>	1	16 x 20	2
90	54 <sup>7</sup> / <sub>8</sub>	21 <sup>1</sup> / <sub>4</sub>	18 <sup>3</sup> / <sub>4</sub>	18 <sup>1</sup> / <sub>4</sub>	15 <sup>7</sup> / <sub>8</sub>	12 <sup>1</sup> / <sub>4</sub>	10 <sup>1</sup> / <sub>2</sub>	1	20 x 25	2
100	51 <sup>7</sup> / <sub>8</sub>	22 <sup>3</sup> / <sub>4</sub>	20 <sup>3</sup> / <sub>4</sub>	19 <sup>3</sup> / <sub>4</sub>	17 <sup>7</sup> / <sub>8</sub>	13 <sup>3</sup> / <sub>4</sub>	11 <sup>7</sup> / <sub>8</sub>	1	20 x 20	2
120	63 <sup>9</sup> / <sub>16</sub>	27 <sup>1</sup> / <sub>4</sub>	22 <sup>3</sup> / <sub>4</sub>	24 <sup>1</sup> / <sub>8</sub>	19 <sup>7</sup> / <sub>8</sub>	16	13 <sup>3</sup> / <sub>8</sub>	1	12 x 25	4
150	62 <sup>1</sup> / <sub>16</sub>	32 <sup>5</sup> / <sub>8</sub>	27 <sup>3</sup> / <sub>4</sub>	28 <sup>5</sup> / <sub>8</sub>	23 <sup>7</sup> / <sub>8</sub>	19 <sup>1</sup> / <sub>8</sub>	16 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>	16 x 20	8
180	75 <sup>3</sup> / <sub>8</sub>	41 <sup>3</sup> / <sub>4</sub>	31 <sup>3</sup> / <sub>4</sub>	37 <sup>1</sup> / <sub>2</sub>	27 <sup>7</sup> / <sub>8</sub>	22 <sup>1</sup> / <sub>2</sub>	18 <sup>7</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>	20 x 25	6
200	85 <sup>1</sup> / <sub>4</sub>	49 <sup>1</sup> / <sub>4</sub>	39 <sup>3</sup> / <sub>4</sub>	45 <sup>1</sup> / <sub>8</sub>	36	23 <sup>1</sup> / <sub>8</sub>	25 <sup>1</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>2</sub>	16 x 25	12

K\* is length of fan and filter box combined.

All Dimensions are in inches.

**Multi Discharge Positions –** BDF fans have been designed for horizontal mounting and are standard with a Bottom Horizontal Discharge. Optional Top Horizontal Discharge is also available.



Bottom Horizontal (Standard)

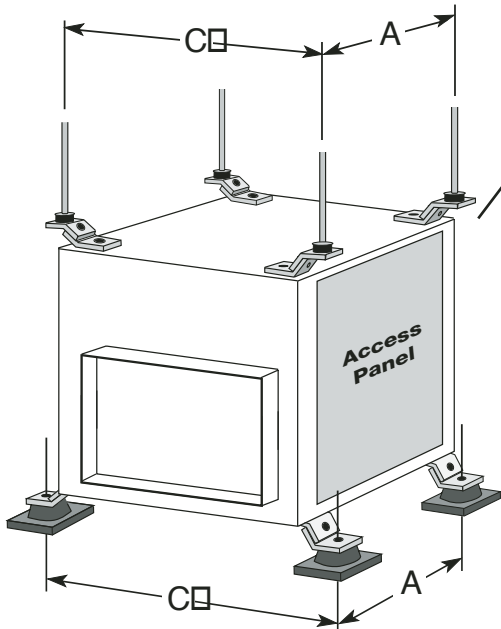


Top Horizontal (Optional)

**Insulated Housings –** The interior of the fan housings and filter boxes can be lined with a fiberglass duct liner for noise reduction and condensation control. The duct liner can be utilized to reduce radiated noise from inline fan housings. It is recommended for applications when fans are placed in acoustically sensitive locations. The duct liner also reduces the noise radiating 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

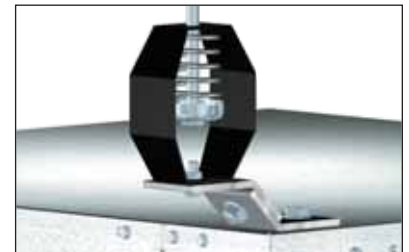
**Horizontal Mounting** – All BDF fans have been designed to be mounted horizontally. For ease of installation knockouts are provided at each location where mounting brackets are shown in diagram below. Universally adjustable brackets are available to mount the fan in hanging or base mounted positions.



**Hanging Isolators** – Complete hanging isolator kits are available with either neoprene or spring isolators. The isolators are sized to match the weight of the fan. (Hanging rods supplied by others.)



Hanging Neoprene Isolator



Hanging Spring Isolator

**Base Isolators** – Complete base isolator kits are available with either neoprene or spring isolators and are sized to match the weight of the fan.



Neoprene Isolator



Standing Spring Isolator

Unit Size	A	C
80	20 <sup>3/4</sup>	22 <sup>11/16</sup>
90	21 <sup>3/4</sup>	25 <sup>5/8</sup>
100	23 <sup>3/4</sup>	27 <sup>1/8</sup>
120	30 <sup>1/2</sup>	31 <sup>5/8</sup>
150	32	35
180	37 <sup>3/8</sup>	44
200	47 <sup>3/8</sup>	51 <sup>1/2</sup>

All Dimensions are in inches.

## Typical 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 constructed of heavy gauge galvanized steel and shall include rectangular duct mounting collars.

Removable panels shall be provided in the fan cabinet of sufficient size to permit access for service to all of the fan's internal components without further dismantling the cabinet.

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

Motors shall be of the heavy duty type with permanently lubricated ball bearings. The wheel shaft shall be ground and polished steel mounted in permanently sealed bearings. Drives shall be sized for a minimum of 150% of driven horsepower. Pulleys shall be of the machined cast type, keyed and securely attached to the wheel and motor shafts. The motor pulleys shall be adjustable for final system balancing.

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

Fan shall have internal vibration isolation of the drive assembly, motor, wheel, and scroll.

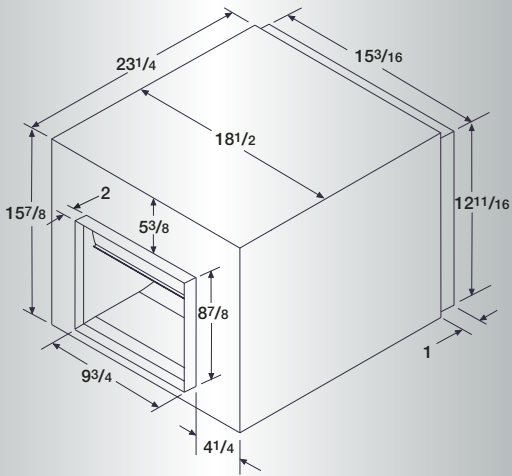
All fans shall bear the AMCA Certified Ratings Seal for sound and air performance.

Fans shall be Model BDF and manufactured by Greenheck.



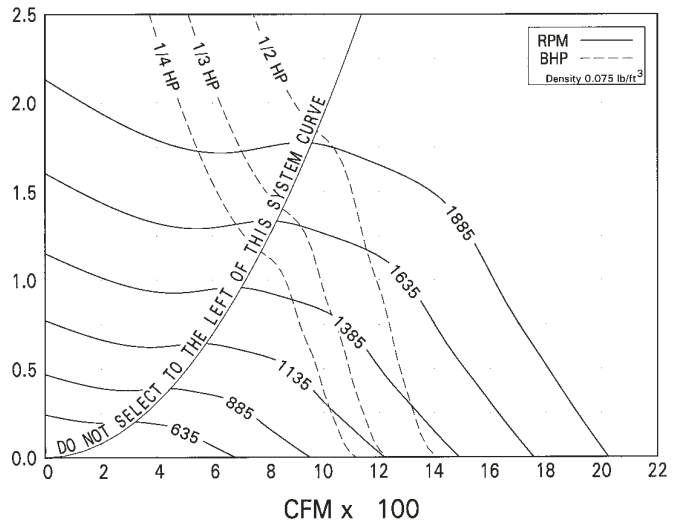
# Belt Drive Duct Blower

## SIZE 80 DIMENSIONAL DATA

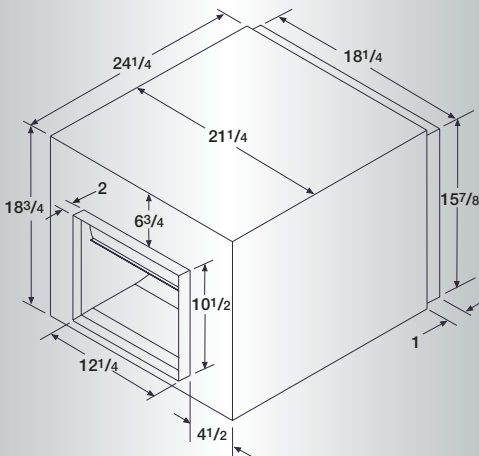


Damper Size (Outlet Side) = 9 3/4 x 8 7/8 Housing Thickness = 20 ga.

## PERFORMANCE DATA

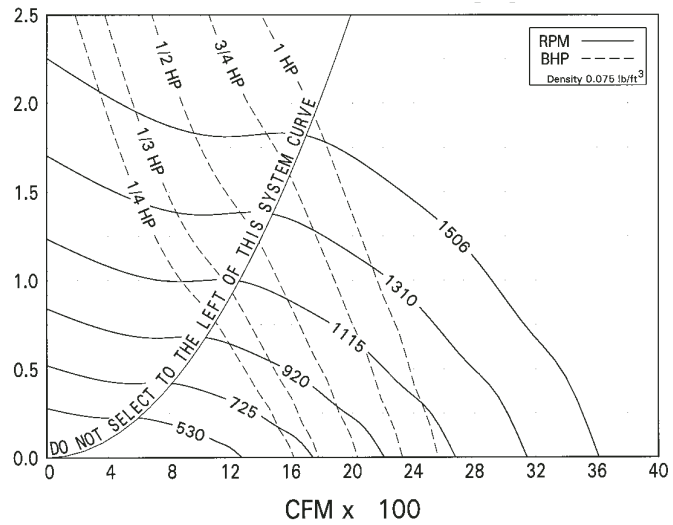


## SIZE 90 DIMENSIONAL DATA

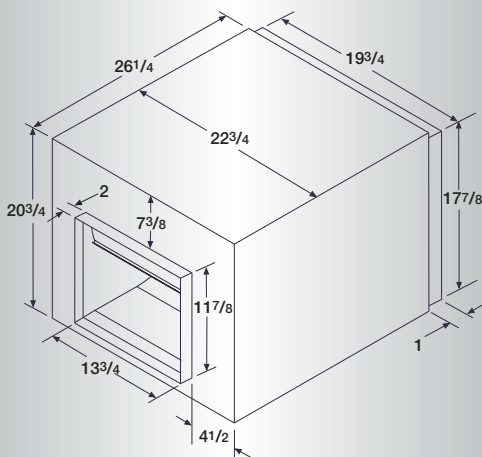


Damper Size (Outlet Side) = 12 1/4 x 10 1/2 Housing Thickness = 20 ga.

## PERFORMANCE DATA



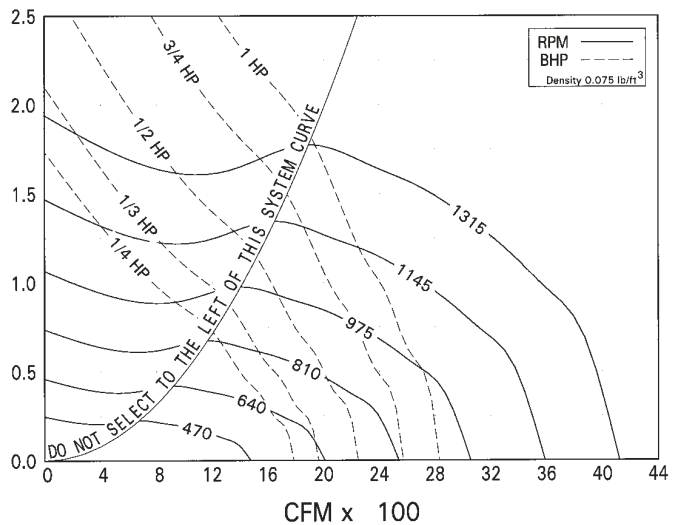
## SIZE 100 DIMENSIONAL DATA



Damper Size (Outlet Side) = 13 3/4 x 11 7/8 Housing Thickness = 20 ga.

All Dimensions are in inches.

## PERFORMANCE DATA



AVG. OUTLET VEL. (FPM) - CFM/0.654  
TIP SPEED = RPM X 2.356

MAXIMUM RPM - 1885  
MAX. MOTOR FRAME SIZE - 56

CFM	STATIC PRESSURE IN INCHES OF W.G.																							
	0		0.125		0.25		0.375		0.50		0.625		0.75		1.00		1.25		1.50		1.75			
	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP
400	373	0.01	546	0.02	717	0.03																		
	4.7		4.4		4.7																			
500	466	0.02	610	0.03	745	0.04	881	0.05																
	4.7		4.2		5		6.1																	
600	559	0.04	691	0.05	791	0.06	908	0.08	1022	0.09	1127	0.11												
	4.9		4.9		5.6		6.6		7.2		7.9													
700	652	0.06	772	0.08	857	0.09	949	0.11	1051	0.12	1150	0.13	1244	0.15										
	5.3		5.8		6.4		7.1		7.6		8.4		9.5											
800	745	0.09	855	0.11	938	0.13	1006	0.14	1092	0.16	1181	0.17	1269	0.19	1435	0.23								
	6.3		6.7		7.4		7.7		8.1		9		10.1		12.3									
900	838	0.13	939	0.16	1019	0.18	1084	0.19	1148	0.21	1224	0.23	1301	0.24	1457	0.27	1605	0.33	1739	0.38				
	7.4		7.7		8.3		8.6		9		9.7		10.8		12.9		15.2		15.5					
1000	931	0.18	1024	0.21	1100	0.23	1165	0.25	1220	0.27	1280	0.28	1348	0.31	1490	0.34	1628	0.38	1762	0.44	1885	0.5		
	8.6		9		9.4		9.7		10		10.8		11.7		13.7		15.5		15.8		16.2			
1100	1025	0.24	1111	0.28	1183	0.3	1247	0.32	1301	0.34	1350	0.36	1404	0.38	1526	0.42	1660	0.46	1784	0.5				
	9.7		10.3		10.8		11.1		11.4		12		12.6		14.6		15.9		16.2					

AVG. OUTLET VEL. (FPM) - CFM/0.899  
TIP SPEED = RPM X 2.602

MAXIMUM RPM - 1506  
MAX. MOTOR FRAME SIZE - 143T

CFM	STATIC PRESSURE IN INCHES OF W.G.																							
	0		0.125		0.25		0.375		0.50		0.625		0.75		1.00		1.25		1.50		1.75			
	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP
800	334	0.03	465	0.05	584	0.07	689	0.09																
	5.1		3.9		4.1		5.5																	
950	396	0.05	508	0.07	615	0.1	711	0.12	799	0.15														
	4.9		4.4		4.9		6.3		8.2															
1100	459	0.08	556	0.10	650	0.13	740	0.16	821	0.19	899	0.22	970	0.25										
	5.4		5.0		5.8		7.2		8.6		9.5		10.5											
1250	521	0.12	606	0.14	690	0.17	773	0.20	850	0.24	921	0.27	991	0.3										
	6.2		6.0		6.8		8.4		9.2		10.0		11.0											
1400	584	0.16	657	0.19	736	0.22	809	0.26	882	0.29	951	0.33	1014	0.37	1139	0.45								
	7.3		7.3		8.1		9.3		9.8		10.6		11.5		13.7									
1550	646	0.22	709	0.25	784	0.29	851	0.33	918	0.37	983	0.4	1045	0.44	1160	0.52	1271	0.61	1371	0.69				
	8.4		8.6		9.5		9.9		10.5		11.3		12.1		14.1		16.1		16.7					
1700	709	0.29	762	0.33	834	0.37	897	0.4	955	0.45	1019	0.49	1077	0.53	1188	0.62	1292	0.71	1392	0.81	1485	0.90		
	9.8		10.1		10.4		10.7		11.4		12.1		12.9		14.8		16.7		17.0		17.1			
1850	771	0.38	817	0.41	884	0.46	944	0.49	1001	0.54	1055	0.59	1113	0.64	1219	0.73	1318	0.82	1414	0.92	1506	1.03		
	11.6		11.5		11.4		11.7		12.4		13.0		13.8		15.5		17.1		17.5		17.6			

AVG. OUTLET VEL. (FPM) - CFM/1.05  
TIP SPEED = RPM X 2.913

MAXIMUM RPM - 1315  
MAX. MOTOR FRAME SIZE - 143T

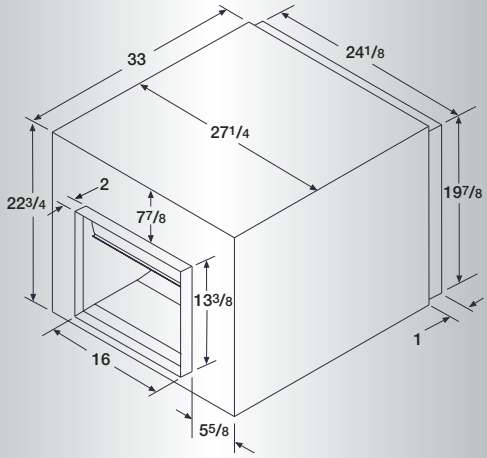
CFM	STATIC PRESSURE IN INCHES OF W.G.																							
	0		0.125		0.25		0.375		0.50		0.625		0.75		1.00		1.25		1.50		1.75			
	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP
950	303	0.04	404	0.06	515	0.08	611	0.11																
	3.5		3.9		4.9		5.9																	
1100	351	0.06	432	0.08	532	0.11	624	0.14	706	0.17														
	4.3		4.3		5.2		6.0		6.6															
1250	399	0.09	463	0.10	556	0.14	640	0.17	719	0.21	791	0.24	855	0.27										
	5.3		5.1		5.5		6.3		6.9		7.5		7.9											
1400	447	0.12	498	0.14	582	0.17	660	0.21	735	0.25	804	0.29	869	0.33										
	6.5		6.0		6.1		6.7		7.4		7.9		8.6											
1550	495	0.16	536	0.18	610	0.22	683	0.26	752	0.3	820	0.35	883	0.39	997	0.47								
	7.9		7.2		7.0		7.2		7.9		8.5		9.5		10.7									
1700	542	0.22	575	0.23	641	0.27	709	0.31	775	0.36	836	0.41	898	0.45	1011	0.55	1112	0.64						
	9.8		8.9		8.0		7.9		8.5		9.1		10.1		11.3		12.9							
1850	590	0.28	620	0.29	673	0.32	738	0.38	799	0.42	859	0.48	915	0.53	1025	0.63	1126	0.73	1217	0.83				
	11.6		10		8.9		8.8		9.2		10.1		10.8		12		13.4		14.3					
2000	638	0.35	666	0.37	710	0.4	768	0.45	826	0.50	882	0.55	937	0.61	1041	0.72	1139	0.83	1231	0.94	1315	1.05		
	12.2		10.9		9.9		9.7		10.2		11.2		11.6		12.6		14.0		14.9		15.9			
2150	686	0.44	712	0.46	747	0.48	799	0.53	854	0.59	908	0.64	960	0.7	1058	0.83	1155	0.94						
	12.9		11.9		11.0		10.7		11.3		12.0		12.3		13.3		14.5							

Performance shown is for installation type D: ducted inlet, ducted outlet. Power rating (BHP/kW) does not include drive losses. Performance ratings do not include the effects of appurtenances in the airstream. 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 correction.



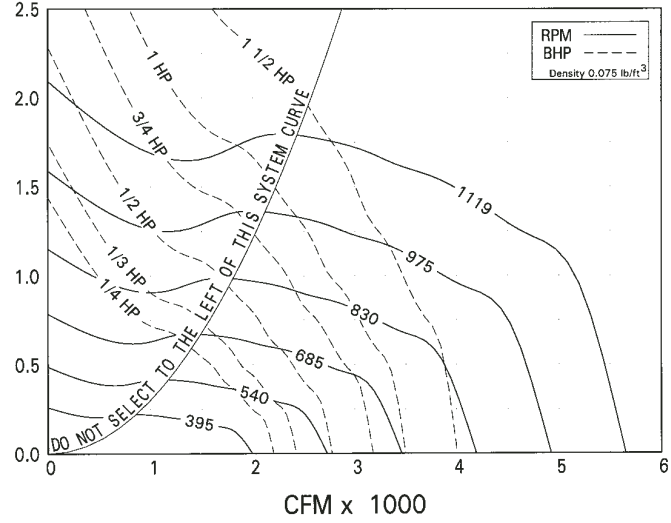
# Belt Drive Duct Blower

## SIZE 120 DIMENSIONAL DATA

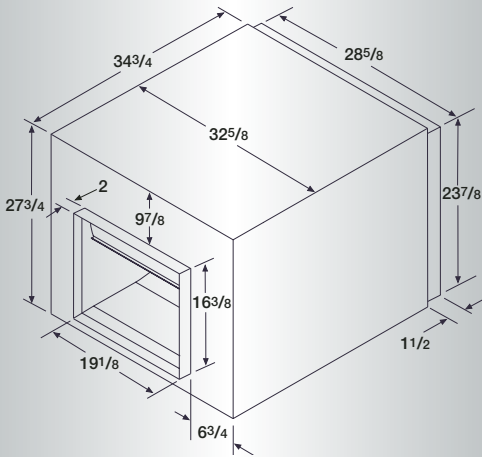


Damper Size (Outlet Side) = 16 x 13 3/8 Housing Thickness = 20 ga.

## PERFORMANCE DATA

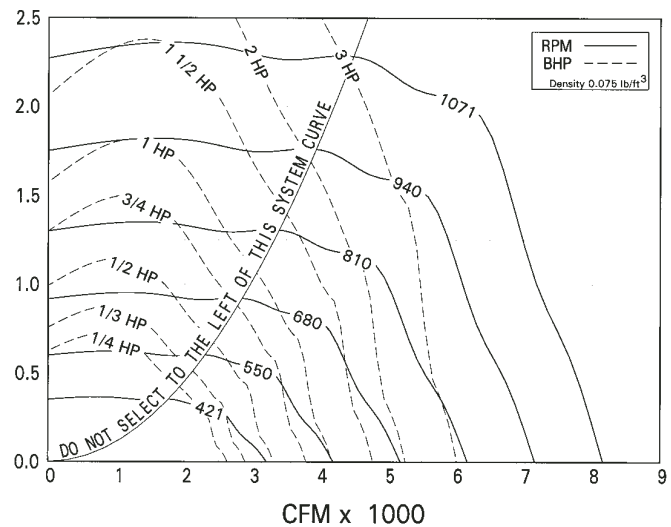


## SIZE 150 DIMENSIONAL DATA



Damper Size (Outlet Side) = 19 1/8 x 16 3/8 Housing Thickness = 20 ga.

## PERFORMANCE DATA



All Dimensions are in inches.



AVG. OUTLET VEL. (FPM) - CFM/1.45  
TIP SPEED = RPM X 3.436

MAXIMUM RPM - 1119  
MAX. MOTOR FRAME SIZE - 182T

CFM	STATIC PRESSURE IN INCHES OF W.G.																							
	0		0.125		0.25		0.375		0.50		0.625		0.75		1.00		1.25		1.50		1.75			
	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP
1250	Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones			
	247	0.05	333	0.07	433	0.11	517	0.15																
1400	4.0		3.3		4.9		5.5		5.95		0.21													
	277	0.06	347	0.09	442	0.13	523	0.17	595	0.21														
1550	4.2		3.6		5.4		5.8		5.8															
	307	0.09	363	0.11	452	0.15	532	0.2	601	0.25	664	0.30												
1700	4.4		4.1		6.0		6.1		6.2		7.0													
	337	0.11	382	0.13	465	0.18	541	0.23	608	0.28	671	0.33	728	0.39										
1850	4.8		4.8		6.6		6.5		6.5		7.4		8.6											
	366	0.15	401	0.17	479	0.21	550	0.26	618	0.32	678	0.38	734	0.44	840	0.56								
2000	5.4		5.5		6.9		6.9		7.0		7.8		9.0		12.4									
	396	0.19	427	0.20	493	0.25	562	0.31	627	0.37	686	0.43	741	0.48	842	0.62								
2150	6.3		6.4		7.3		7.3		7.5		8.3		9.4		12.6									
	426	0.23	455	0.25	508	0.29	575	0.35	635	0.41	696	0.48	749	0.54	849	0.68	939	0.82						
2300	7.3		7.5		7.7		7.8		8.0		8.8		9.9		12.8		13.1							
	455	0.28	483	0.3	527	0.34	589	0.41	648	0.47	705	0.53	759	0.61	855	0.74	944	0.89	1029	1.05				
2450	8.4		8.4		8.4		8.3		8.5		9.3		10.4		13.0		13.3		13.5					
	485	0.34	511	0.37	546	0.40	604	0.46	662	0.53	714	0.59	768	0.67	863	0.81	951	0.97	1031	1.13	1111	1.31		
2600	9.1		9.2		9.3		8.8		9.1		9.7		10.8		13.2		13.6		13.8		14.0			
	515	0.41	539	0.43	565	0.46	618	0.52	675	0.60	727	0.67	776	0.74	873	0.91	958	1.05	1038	1.22	1112	1.39		
2750	9.8		10.1		10.4		9.4		9.6		10.2		11.2		13.4		13.8		14.1		14.3			
	544	0.49	568	0.51	589	0.53	637	0.6	689	0.67	741	0.75	788	0.82	882	0.99	965	1.14	1045	1.32	1119	1.50		
2900	10.6		11.1		11.6		10.3		10.0		10.8		11.8		13.7		14.1		14.4		14.7			
	574	0.57	596	0.6	617	0.62	656	0.68	704	0.75	754	0.83	801	0.91	891	1.08	976	1.26	1051	1.42				
3050	11.6		12.1		13.0		11.3		10.7		11.3		12.4		13.9		14.4		14.8					
	604	0.66	625	0.69	645	0.72	675	0.76	720	0.83	768	0.92	815	1.01	899	1.16	985	1.37	1060	1.54				
	12.7		13.0		13.3		12.2		11.3		11.9		13.0		14.2		14.7		15.1					

AVG. OUTLET VEL. (FPM) - CFM/2.05  
TIP SPEED = RPM X 3.927

MAXIMUM RPM - 1071  
MAX. MOTOR FRAME SIZE - 184T

CFM	STATIC PRESSURE IN INCHES OF W.G.																							
	0		0.125		0.25		0.50		0.75		1.00		1.25		1.50		1.75		2.00		2.25			
	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP
2200	Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones			
	289	0.15	337	0.19	382	0.22	505	0.35																
2425	5.3		5.4		5.7		8.5																	
	318	0.2	365	0.25	398	0.27	513	0.40																
2650	6.1		6.3		6.6		8.9																	
	348	0.26	391	0.31	423	0.34	523	0.47	618	0.62														
2875	6.9		7.2		7.7		9.3		13.0															
	377	0.33	416	0.39	449	0.43	528	0.54	624	0.70														
3100	7.8		8.2		8.7		9.7		13.1															
	407	0.41	442	0.47	476	0.53	540	0.62	635	0.79	714	0.97												
3325	8.9		9.3		9.5		10.3		13.4		16.0													
	436	0.51	469	0.57	503	0.64	555	0.72	642	0.90	720	1.08	798	1.30										
3550	10.0		10.2		10.5		11.0		13.6		16.2		19.0											
	466	0.62	495	0.69	530	0.77	575	0.84	647	1.01	731	1.20	799	1.40										
3775	11.1		11.2		11.5		11.9		13.7		16.7		19.1											
	495	0.74	523	0.81	556	0.90	601	0.99	659	1.13	740	1.34	808	1.54	875	1.78								
4000	12.2		12.4		12.7		12.9		14.2		17.0		20											
	525	0.88	551	0.96	581	1.05	628	1.16	675	1.28	745	1.48	819	1.70	879	1.92	945	2.19						
4225	13.4		13.6		14.0		14.1		14.9		17.2		20		21									
	554	1.04	579	1.12	607	1.22	654	1.35	691	1.43	752	1.64	827	1.87	890	2.10	945	2.34	1010	2.64				
4450	14.7		15.0		15.2		15.5		16.0		17.6		19.7		21		21		22					
	584	1.21	608	1.30	633	1.40	681	1.56	716	1.64	767	1.82	833	2.06	901	2.29	956	2.54	1010	2.80	1071	3.12		
4675	16.1		16.2		16.3		16.9		17.3		18.2		19.8		21		22		22		23			
	614	1.41	636	1.50	660	1.60	708	1.79	743	1.88	783	2.01	838	2.24	907	2.51	966	2.76	1018	3.02				
4900	17.2		17.3		17.5		18.2		18.8		19.4		20		21		22		23					
	643	1.62	665	1.72	686	1.81	735	2.04	769	2.14	800	2.23	853	2.47	913	2.73	977	2.99						
	18.3		18.5		18.7		19.6		21		21		21		21		22							

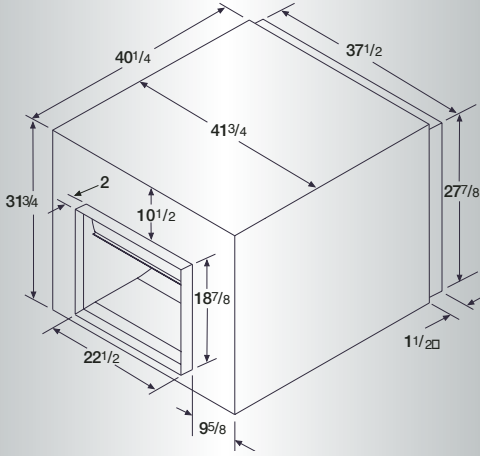
Performance shown is for installation type D: ducted inlet, ducted outlet. Power rating (BHP/kW) does not include drive losses. Performance ratings do not include the effects of appurtenances in the airstream. The sound ratings shown are loudness values in fan sones at 5 ft. (1.5m) from the test inlet 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 correction.



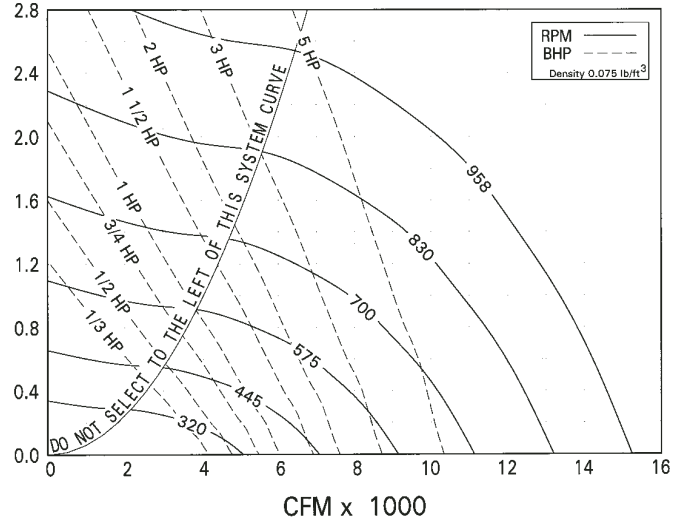
# Belt Drive Duct Blower

## SIZE 180 DIMENSIONAL DATA

## PERFORMANCE DATA

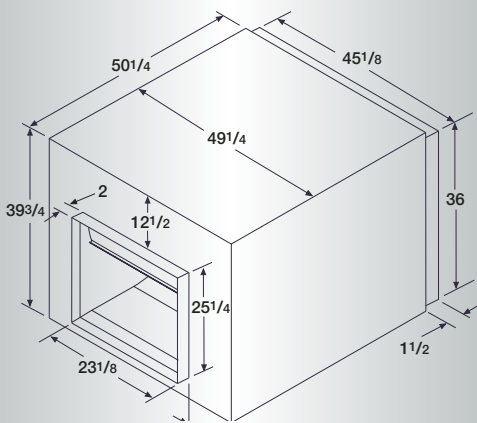


Damper Size (Outlet Side) = 22 1/2 x 18 7/8    Housing Thickness = 20 ga.

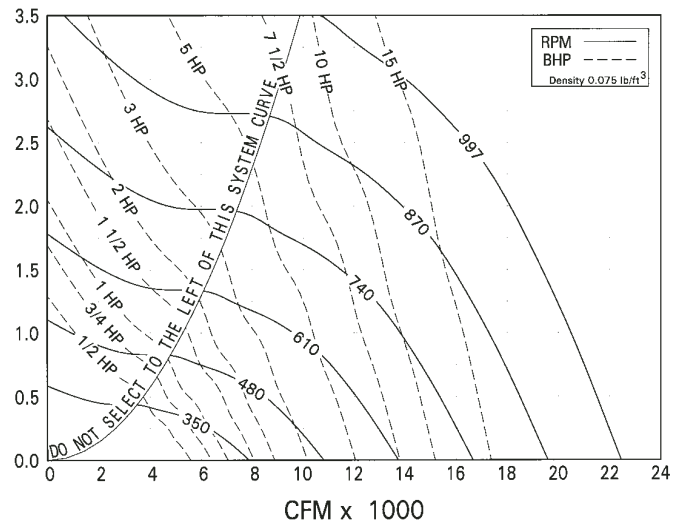


## SIZE 200 DIMENSIONAL DATA

## PERFORMANCE DATA



Damper Size (Outlet Side) = 23 1/8 x 25 1/4    Housing Thickness = 20 ga.



All Dimensions are in inches.



AVG. OUTLET VEL. (FPM) - CFM/2.86  
TIP SPEED = RPM X 4.843

MAXIMUM RPM - 958  
MAX. MOTOR FRAME SIZE - 215T

CFM	STATIC PRESSURE IN INCHES OF W.G.																							
	0		0.25		0.50		0.75		1.00		1.25		1.50		1.75		2.00		2.25		2.50			
	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP
3000	189	0.12	321	0.27	427	0.44																		
	Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones	
3350	211	0.17	331	0.33	434	0.51																		
	Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones	
3700	233	0.23	343	0.41	441	0.60	523	0.81																
	Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones	
4050	255	0.30	355	0.49	449	0.70	530	0.93	602	1.16														
	Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones	
4400	277	0.39	369	0.59	459	0.82	537	1.05	607	1.30														
	Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones	
4750	299	0.49	385	0.70	469	0.94	545	1.18	614	1.46	675	1.72												
	Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones	
5100	321	0.60	401	0.83	480	1.09	554	1.35	621	1.63	682	1.92	738	2.20										
	Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones	
5450	343	0.73	418	0.97	492	1.25	564	1.53	628	1.80	689	2.12	745	2.43	797	2.74								
	Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones	
5800	365	0.88	435	1.13	504	1.43	573	1.72	637	2.02	696	2.33	752	2.67	803	3.00	852	3.33						
	Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones	
6150	387	1.05	452	1.31	519	1.63	584	1.94	647	2.25	703	2.55	759	2.92	810	3.27	857	3.61	903	3.97				
	Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones	
6500	409	1.24	470	1.5	535	1.85	597	2.18	657	2.50	713	2.83	766	3.18	817	3.56	864	3.93	908	4.29	952	4.67		
	Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones	
6850	431	1.46	488	1.72	550	2.08	609	2.43	666	2.77	722	3.13	773	3.46	824	3.86	871	4.26	915	4.64	958	5.02		
	Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones	
7200	453	1.69	508	1.97	567	2.34	621	2.7	678	3.07	732	3.44	783	3.80	831	4.16	878	4.59	922	5.01				
	Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones	

AVG. OUTLET VEL. (FPM) - CFM/3.87  
TIP SPEED = RPM X 5.318

MAXIMUM RPM - 997  
MAX. MOTOR FRAME SIZE - 256T

CFM	STATIC PRESSURE IN INCHES OF W.G.																							
	0		0.25		0.50		0.75		1.00		1.50		1.75		2.00		2.50		2.75		3.00			
	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP	FRPM	BHP
5000	222	0.36	310	0.57	394	0.84	464	1.09																
	Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones	
6000	266	0.62	340	0.88	413	1.16	480	1.49	538	1.77														
	Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones	
7000	311	0.98	374	1.28	437	1.59	498	1.93	556	2.33	656	3.05	706	3.51										
	Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones	
8000	355	1.46	411	1.80	465	2.17	521	2.53	574	2.92	671	3.82	712	4.16	757	4.63								
	Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones	
9000	400	2.08	449	2.45	498	2.87	546	3.26	596	3.70	689	4.65	731	5.15	770	5.62	846	6.52	885	7.11				
	Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones	
10000	444	2.86	489	3.26	533	3.71	576	4.19	620	4.60	707	5.56	749	6.14	788	6.71	860	7.76	893	8.15	928	8.72		
	Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones	
11000	489	3.81	529	4.24	569	4.72	610	5.26	647	5.75	730	6.76	768	7.27	806	7.88	878	9.13	911	9.73	943	10.29		
	Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones	
12000	533	4.94	571	5.42	607	5.94	644	6.49	680	7.06	754	8.10	791	8.70	827	9.27	896	10.56	929	11.25	961	11.92		
	Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones	
13000	577	6.28	613	6.81	646	7.34	679	7.91	714	8.56	779	9.70	815	10.27	850	10.93	915	12.14	947	12.87	979	13.63		
	Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones	
14000	622	7.85	655	8.42	686	8.97	717	9.59	748	10.25	810	11.56	840	12.13	874	12.74	938	14.13	968	14.78	997	15.44		
	Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones	
15000	666	9.65	697	10.27	726	10.82	756	11.51	784	12.16	843	13.62	871	14.30	899	14.91								
	Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones	
16000	711	11.70	740	12.40	767	13.00	795	13.70	822	14.40														
	Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones	
17000	755	14.00	783	14.80	808	15.40																		
	Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones		Sones	

Performance shown is for installation type D: ducted inlet, ducted outlet. Power rating (BHP/kW) does not include drive losses. Performance ratings do not include the effects of appurtenances in the airstream. 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 correction.

# Centrifugal Inline Fan Guide



Model CSP centrifugal forward curved direct driven cabinet fans are for clean air applications where low sound levels are desired. Capacities from 77 cfm to 3,800 cfm and up to 1 in. wg of static pressure.



Model BCF centrifugal forward curved belt drive fans are for use in supply, exhaust or return air applications. Designed in a low profile cabinet with heights ranging from 11 to 23 in. Capacities range from 170 cfm to 3,330 cfm for single fan models and 620 cfm to 5,875 cfm for double fan models with up to 1.5 in. wg of static pressure.



Model BDF centrifugal forward curved belt drive duct fans are designed for use in supply, exhaust or return air applications. Capacities range from 400 cfm to 17,000 cfm with up to 2.5 in. wg of static pressure.



Model SQ & BSQ centrifugal backward inclined belt or direct drive fans are designed for clean air applications (intake, exhaust, return, or make-up air systems) where space is a prime consideration. Capacities range from 62 cfm to 26,600 cfm and up to 3.5 in. wg of static pressure. Maximum operating temperature is 180° F.



Model TCB centrifugal backward inclined belt drive fans for higher pressures. Capacities range from 360 cfm to 24,000 cfm and up to 4.5 in. wg of static pressure. Maximum operating temperature is 200° F.

## Warranty

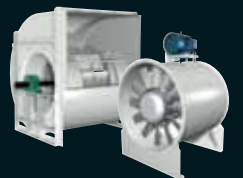
Greenheck warrants this equipment to be free from defects in material and workmanship for a period of one year from the purchase date. Any units or parts which prove defective during the warranty period will be replaced at our option when returned to our factory, transportation prepaid.

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.

Due to continuing research, Greenheck reserves the right to change specifications without notice.



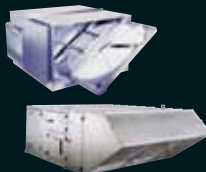
## Number one in air movement and control.



Centrifugal and Vane Axial Fans



Fans and Ventilators



Energy Recovery Ventilators & Make-Up Air Units



Kitchen Ventilation Systems



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