

AEROVENT

INDUSTRIAL VENTILATION SYSTEMS



**Model VB
Direct Drive**



**Model VBBD
Belt Driven**

VANEAXIAL FANS

Direct Drive & Belt Driven

Model VB / VBBD



Contents

Construction Features	
Belt Driven	3
Direct Drive	3
Propeller and Guide Vane Design	3
Fan Selection	4
Motor Selection	4
Reversed Airflow Design	5
Special Metals & Coatings	5
Spark Resistant Construction	5
Accessories	6
Mounting Arrangements	9
Performance Data	
Belt Driven Model VBBD	10
Direct Drive Model VB	14
Dimensional Data	
Belt Driven Model VBBD	15
Direct Drive Model VB	16
Belt Driven Model VBBD – Reversed Airflow	17
Typical Specifications	
Belt Driven Model VBBD	18
Direct Drive Model VB	19

Design and Construction Features



Model VBB Arrangement 9 – Belt Driven

- Sizes available are 12" through 60".
- Designed to obtain higher static pressures and higher mechanical efficiencies than other axial flow fans.
- Continuously welded construction to ensure long life.
- Housing flanges are designed to ensure concentricity, strengthen the housing and permit duct mounting.
- Bearing lubrication lines are extended to the outside of the fan housing for easy maintenance.
- Adjustable drives are standard for units with 5 HP motors and smaller. Fixed speed drives are standard for units with 7½ HP motors and larger.
- A belt guard is standard to protect personnel from the moving drive parts.
- Open drip-proof, totally enclosed fan cooled and explosion proof motor enclosures are available. See the factory for any special motor requirements.

See page 15 for dimensional data.



Model VB Arrangement 4 – Direct Drive

- Sizes available are 24" through 48".
- Designed to obtain higher static pressures and higher mechanical efficiencies than other axial flow fans.
- Continuously welded construction to ensure long life.
- Housing flanges are designed to ensure concentricity, strengthen the housing and permit duct mounting.
- Motor wiring is extended through liquid-tight conduit to the outside of the housing for easy connection.
- Lubrication lines from the motor bearings are extended to the outside of the fan housing, where required by motor design, for easy maintenance.
- Open drip-proof, totally enclosed fan cooled and explosion proof motor enclosures are available. See the factory for any special motor requirements.

See page 16 for dimensional data.



Propeller and Guide Vane Design

Type B vaneaxial fans use a one-piece cast aluminum propeller with fixed-pitch blades. No spinner is used on the Type B propeller which allows the use of corrosion resistant coatings and high temperature alloys.

The Type B propeller and guide vane section are designed to obtain higher static pressures and higher mechanical efficiencies than other axial flow fans. The function of the guide vane section is to improve the efficiency and the pressure characteristics by minimizing turbulence downstream from the fan and converting rotational energy at the propeller discharge into useful work.

Note: Type B vaneaxial guide vanes are designed specifically for use with the Type B propeller. Therefore, a Type W propeller (Catalog 456) is not interchangeable with the Type B propeller.

Fan Selection

Present methods of testing fans provide accurate, dependable performance data; however, information available for designing systems is necessarily based on averages. Therefore, a certain amount of “rounding off” of design figures is a reasonable approach and will produce a practical air handling system design. Most engineers prefer the static pressure or friction loss method of calculation.

The fan is usually located somewhere within the system; therefore, it is only necessary to figure the entrance loss and the duct friction loss, then select the fan directly from the tables. This method assumes that the duct size from the outlet of the fan to where the air is released to atmosphere is essentially the same as the diameter of the fan.

- If the fan is at the beginning of the duct, then an inlet bell should be used and no entrance loss is calculated.
- If the fan is at the end of the duct, then the entrance loss and duct friction are calculated and this is the fan static pressure.
- If an outlet cone is used and there is a static regain, the regain can be added to the static pressure. For information on how to calculate the static pressure regain, see “Inlet and Outlet Cones” in the accessory section.

Some systems are designed using total pressure (TP). Using the following formulas, the total pressure can be calculated.

Fan Selection Formulas

$VP = \left(\frac{CFM}{AREA \times 4005} \right)^2$	NOTE: This formula is used only for density at standard air, 0.075 lbs./ft ³ , 70°F and sea level.	Where: VP = Velocity pressure, IWG SP = Static pressure, IWG TP = Total pressure, IWG OV = Fan outlet velocity, FPM AREA = Fan outlet area, ft ²
$VP = \left(\frac{CFM}{AREA \times 1096.7} \right)^2 \times \text{Density in lbs.per ft}^3$	NOTE: This formula is used when density is other than standard.	
$TP = VP + SP$		
$OV = \left(\frac{CFM}{AREA} \right)$		

Motor Selection

Motors furnished on direct drive and belt driven fans standardly have a T-frame, 1.15 service factor, and are good for applications up to 105°F. Many enclosures are available such as open drip-proof, totally enclosed fan cooled and explosion proof.

For direct drive fans, motors have an increased service factor due to the high air velocity over the motor. However, it is good practice when selecting motor horsepower (MHP) that the required brake horsepower (BHP) not exceed MHP x 1.10. If the required BHP exceeds MHP x 1.10, the next higher MHP should be selected.

Example A: If the fan requires 10.2 BHP, first check a 10 HP motor. Since 10 HP x 1.10 (= 11.0) is greater than 10.2, then a 10 HP motor could be used.

Example B: If the fan requires 11.1 BHP, first check a 10 HP motor. Since 10 HP x 1.10 (= 11.0) is less than 11.1, then the next higher horsepower should be selected, a 15 HP.

Open drip-proof motors can be safely loaded within the service factor (i.e., MHP x 1.10). However, totally enclosed motors should be selected so the required brake horsepower is within the nominal motor horsepower rating (i.e., BHP < MHP).

Reversed Airflow Design

For special applications, Model VB and VBBD vaneaxial fans can be furnished with the direction of airflow reversed (i.e., the propeller, belt tube and bearing housing are located on the suction side of the fan). This design is used for spray booth applications, air with corrosive contaminants, or high temperature applications. See page 17 for dimensional data.

Design Advantages

Aerovent's reversed airflow design:

- Protects the bearings from fumes and keeps the bearings cleaner for spray booth applications and air with corrosive contaminants.
- Permits air outside the fan to be drawn through the belt tube to keep the bearings and belts cool for high temperature applications.

Design Features

For spray booth applications and air with corrosive contaminants:

- The end of the bearing housing is closed and a shaft seal is provided to protect the shaft and bearings.
- The removable guide vane section permits easy cleaning of the propeller and vane section.

For high temperature applications:

- The propeller can be provided in A240 aluminum to withstand temperatures to 600°F.
- A heat slinger is provided to help draw air through the belt tube to keep the bearings and belts cool.

Special Metals & Coatings

For handling corrosive fumes, Aerovent's Model VB and VBBD vaneaxial fan housings can be constructed of various metals or protected with a variety of suitable coatings.

Metals:

- Aluminum
- 304 Stainless Steel Housing
- 316 Stainless Steel Housing

Coatings:

- Plasite
- Epoxy
- Farboil
- Heresite
- Hot Dip Galvanizing

Spark Resistant Construction

Model VBBD belt driven fans can be furnished with spark resistant construction.

- AMCA Type A spark resistant construction includes an all aluminum fan housing and propeller with an AMPCO-45 fan shaft, Monel hardware and shaft seal.
- AMCA Type B and C spark resistant construction includes an aluminum propeller with an aluminum shaft closure plate and shaft seal.

Note on direct drive spark resistant construction: Reference standard 99-0401-86 "Classification for Spark Resistant Construction." Because some ordinances prohibit the use of a fan with a motor located in the airstream, even though it would be explosion proof, and because there is some debate as to whether an explosion proof motor meets the intent of Note 1 of the above standard, we cannot say that a direct drive fan conforms to type "B" spark resistant construction.



Accessories

Bolted Inspection Door

The bolted inspection door allows limited access to inspect the internal parts of the fan. If access for cleaning is required, use the “Propeller Access Section,” “Swingout Construction” or “Clamshell Construction” accessory.

Propeller Access Section

The propeller access section is a short duct section that bolts to the fan inlet or outlet and includes a hinged inspection door. Half the access section can be removed or the hinged inspection door can be opened to permit inspection or cleaning of the fan propeller.

Swingout Construction

Swingout construction is available for either direct drive or belt driven fans. It allows the entire fan assembly to swing out from the existing ductwork for easy cleaning and servicing of the internal fan parts. This arrangement is available for fan sizes 48" and smaller.

Clamshell Construction

Clamshell construction is available for belt driven fans only and provides access to the fan propeller for cleaning and to the bearings for maintenance. Available in all sizes, 12" through 60".

Support Legs

Support legs are available for standard platform or floor mounting. The support legs are bolted to the inlet and outlet flange.

Horizontal Ceiling Clips, Vertical Mounting Clips

Clips are recommended to permit easy installation and when using vibration isolators. Horizontal ceiling clips are welded to the fan housing. Vertical mounting clips can be welded to the fan housing in most cases or they are welded to the vertical support section.

Vertical Support Section

The vertical support section is a separate duct section with vertical mounting clips. This section bolts to the fan inlet or outlet and is needed when vertical mounting clips cannot be welded to the fan. (See the “Mounting Arrangements.”)

Model VBBD sizes 12–20 require a vertical mounting section for all vertical discharges when vertical mounting clips are needed. The vertical mounting arrangements are designated by adding an “S” to the mounting arrangement. (A1, A2, A3 & A4 become SA1, SA2, SA3 & SA4.)

Vibration Isolators

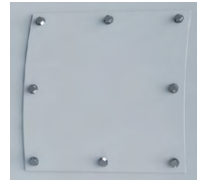
Rubber-in-shear and spring type isolators are available for floor or ceiling mounting, as follows:

RIS Floor — Rubber-in shear, for floor mounting

RIS Ceiling — Rubber-in-shear, for ceiling mounting

Spring Floor — Spring type, for floor mounting

Spring Ceiling — Spring type, for ceiling mounting



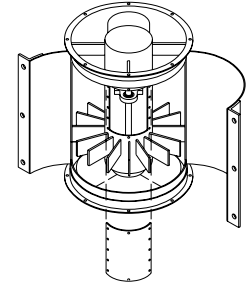
Bolted Inspection Door



Propeller Access Section

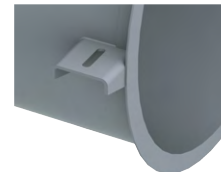
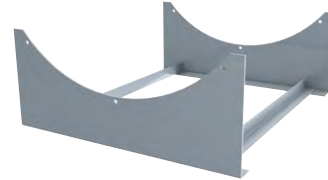


Swingout Construction

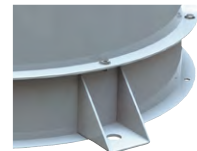


Clamshell Construction

Support Legs



Horizontal Mounting Clips



Vertical Mounting Clips

Vertical Support Section



Spring Type Isolators



RIS Type Isolators

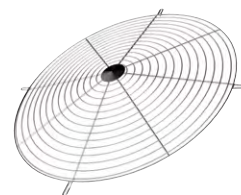
Accessories

Companion Flanges

Companion flanges are rolled angle rings that match the fan inlet and outlet flanges to provide easy attachment for slip duct connections.



Companion Flange



Inlet/Outlet Guard

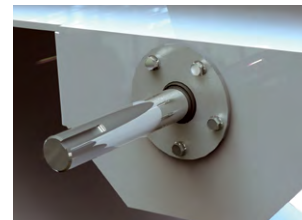
OSHA Inlet and Outlet Guards

Inlet and outlet guards are offered to protect personnel from the moving parts. Recommended for use when no ductwork is attached to the inlet and/or outlet. Fan sizes 12" through 72" are supplied with spiral wire type PMS guards and size 84" is supplied with a wire mesh guard Type WM.

Shaft Seal

An Elastomeric Rotary Shaft Seal is recommended to protect the shaft and bearings when the fan is used for handling dirty, wet or corrosive air. It is suitable for operation to 300°F. This seal rides against a heavy Teflon wear plate. Note: The shaft seal does not make the fan gas tight and is not for use in high temperature applications.

Shaft Seal



Motor Cover

Motor covers are available for belt driven fans to protect the motor and drive parts from the weather. The motor cover is designed with vents to dissipate motor heat. It is important to specify the fan discharge arrangement to ensure the correct location of the vents.

Motor Cover



Stack Cap

Stack caps are designed for roof mounted fans with vertical discharge. Stack caps include backdraft dampers that protect the interior of the building from precipitation when the fan is shut off. A motorized stack cap is also available as an option. (Check with factory for available sizes.) Using a stack cap and curb base on the Type B vaneaxial fan converts this unit into a roof ventilator. As an option, stack caps and curb bases can be furnished with protective coatings or special metals for handling corrosive fumes.

Stack Cap



Curb Base (not shown)

Curb bases are designed for mounting vertical fans on roof curbs. Using a stack cap and curb base on the Type B vaneaxial fan converts this unit into a roof ventilator. As an option, stack caps and curb bases can be furnished with protective coatings or special metals for handling corrosive fumes.

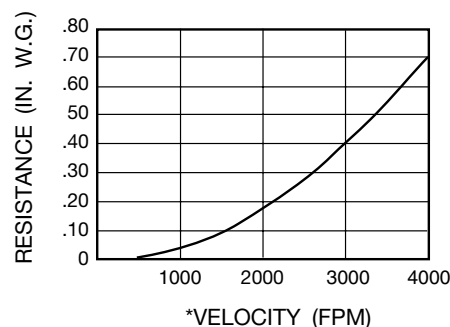
Inlet Bell

An inlet bell is recommended on the inlet side of the fan to minimize entrance losses for installations where the fan inlet is not attached to a duct system.

Silencers

Silencers are designed to reduce fan noise with only minor resistance to airflow. Aerovent silencers and vaneaxial fans provide an aerodynamically and acoustically matched package. Flange connections on both the inlet and outlet ends of the silencer provide easy mounting to the vaneaxial fan. Silencers can be added to both the fan inlet and outlet for the most critical noise applications.

Silencer Resistance Graph



* Velocity at the silencer inlet.
Velocity at the silencer outlet

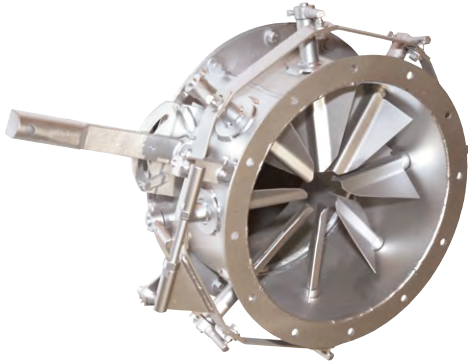
Silencer Insertion Loss (dB's)

OCTAVE BAND TO TO	20 TO 75	75 TO 150	140 TO 300	300 TO 600	600 TO 1200	1200 TO 2400	2400 TO 4800	4800 TO 10000
INSERTION LOSS (EA. SILENCER)	5	5	12	18	22	18	17	15

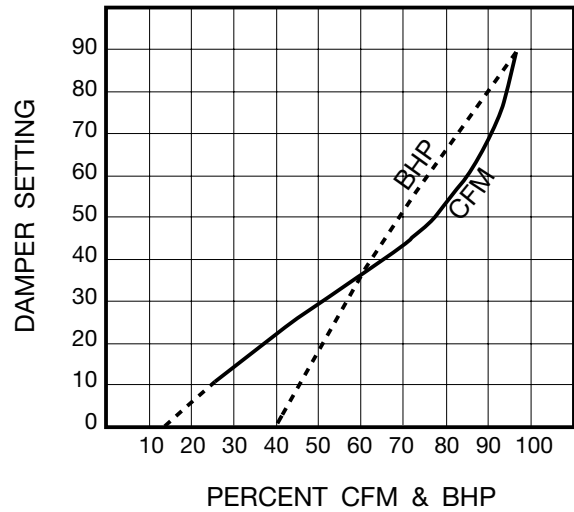
Accessories

Inlet Vane Damper

The inlet vane damper controls air volume while reducing horsepower. This is accomplished by imparting a swirl to the air in the direction of rotation of the propeller. The graph at right indicates the angle of the damper setting related to the reduction of air volume and horsepower.



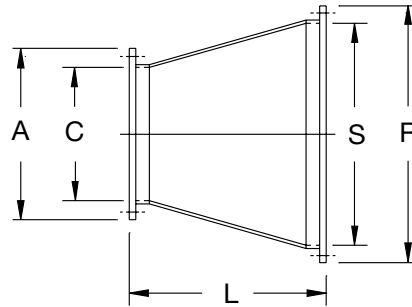
Inlet Vane Damper



Inlet and Outlet Cones

Inlet and outlet cones offer a round-to-round transition from the fan inlet and/or outlet to the specific duct diameter of the system.

If an outlet cone is used, the static pressure regain can be added to the fan static pressure. The approximate additional static pressure capability is shown in the following chart. Add the amount shown to the fan static pressure and then use the performance tables to select the fan.



FAN OUTLET VELOCITY (FPM)	STATIC PRESSURE REGAIN (INCHES W.G.)
1000	0.025
1400	0.042
1800	0.078
2200	0.113
2600	0.151
3000	0.216
3400	0.273
3800	0.341
4200	0.419
4600	0.494
5000	0.576

FAN SIZE	CONE DIMENSIONS					AREA (FT ²)	
	A	C	S	R	L	C-side	S-side
12	14 ³ / ₄	12 ¹ / ₄	16 ³ / ₈	18 ⁷ / ₈	14 ¹ / ₄	0.82	1.46
15	17 ³ / ₄	15 ¹ / ₄	19 ³ / ₄	23 ³ / ₄	16	1.27	2.13
18	21 ⁷ / ₁₆	18 ⁷ / ₁₆	24 ¹ / ₂	27	20	1.85	3.27
21	24 ⁵ / ₁₆	21 ⁵ / ₁₆	29 ⁹ / ₁₆	32 ⁹ / ₁₆	26 ³ / ₈	2.48	4.77
24	27 ⁵ / ₁₆	24 ⁵ / ₁₆	33	36	27 ³ / ₈	3.22	5.94
27	30 ⁵ / ₁₆	27 ⁵ / ₁₆	37	40	30 ¹ / ₄	4.07	7.47
30	34 ⁵ / ₁₆	30 ⁵ / ₁₆	41 ¹ / ₄	45 ¹ / ₄	34 ³ / ₄	5.01	9.28
36	40 ⁷ / ₁₆	36 ⁷ / ₁₆	49	52	39	7.24	13.10
42	46 ⁷ / ₁₆	42 ⁷ / ₁₆	55	59	39 ³ / ₈	9.82	16.50
48	52 ¹⁵ / ₁₆	48 ¹⁵ / ₁₆	66	70	52 ³ / ₈	13.06	23.76
54	59	55	73	77	55	16.50	29.07
60	65	61	82	86	63 ¹ / ₂	20.29	36.67



Mounting Arrangements

Following are the mounting arrangements for the Type B vaneaxial fan.

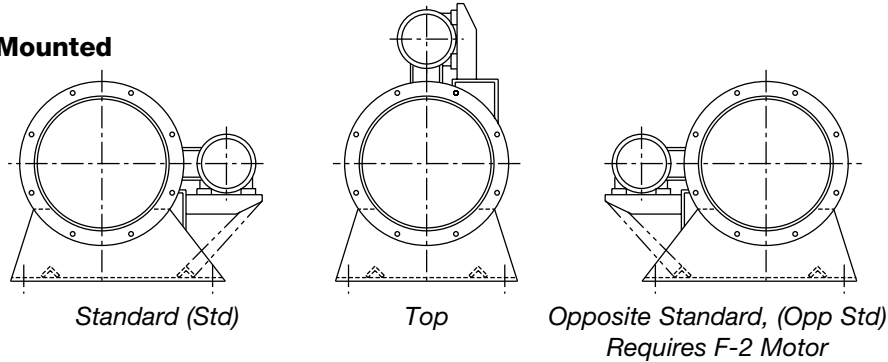
Example 1: For a belt driven fan with mounting arrangement horizontal floor mounted and motor on top, specify “Top.”

Example 2: For a direct drive fan with mounting arrangement horizontal floor mounted, specify “HBM..”

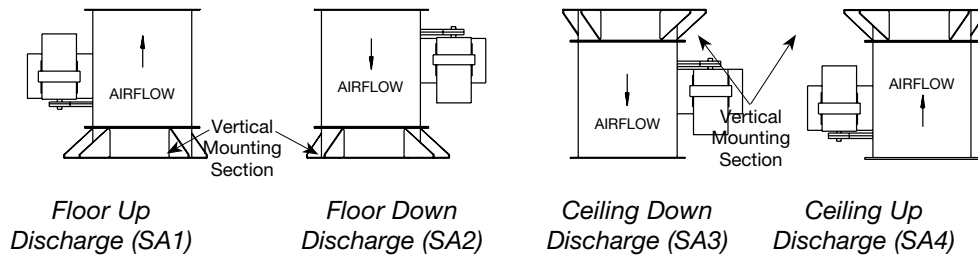
Example 3: For a belt driven fan with mounting arrangement floor down discharge, specify “SA2.”

Belt Driven Fans

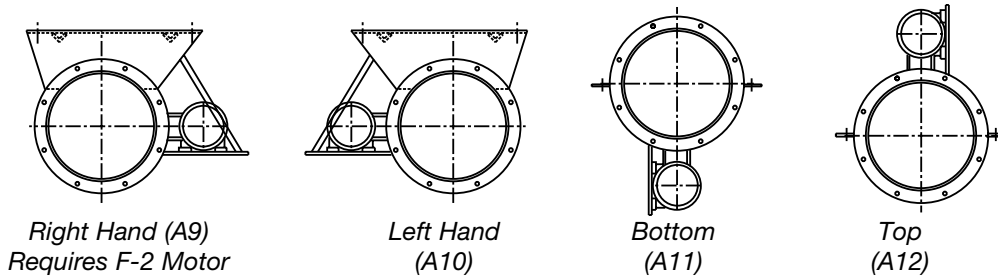
Horizontal Floor Mounted



Vertical Floor & Ceiling Mounted

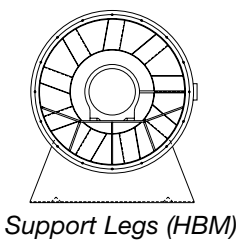


Horizontal Ceiling Mounted

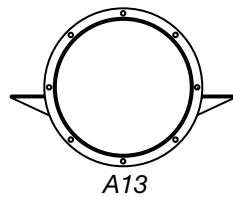


Direct Drive Fans

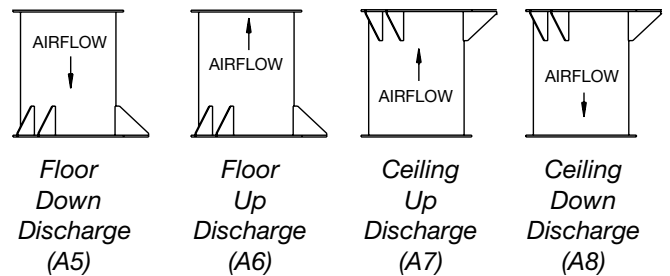
Horizontal Floor



Ceiling Horizontal Discharge



Vertical Floor & Ceiling Mounted

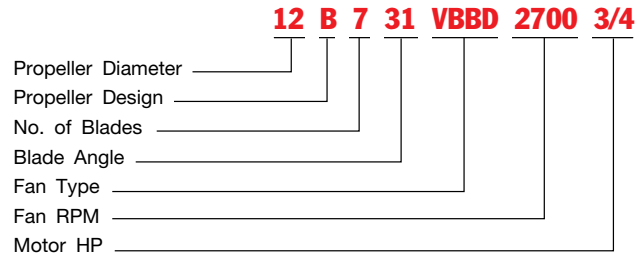


Performance Data — Belt Driven

To identify a specific fan for ordering or engineering specifications, it is necessary to show the complete information listed in the tables below under the catalog number. All performance data is available in curve form upon request.



Catalog Number System



VBBD | Size 12

MODEL INFO				1/4" SP		1/2" SP		3/4" SP		1" SP		1 1/4" SP		1 1/2" SP		1 3/4" SP		2" SP	
PROP	FAN TYPE	RPM	HP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
12B731	VBBD	2700	3/4	2258	0.82	2124	0.82	1981	0.80	1818	0.77								
12B731	VBBD	2980	1	2518	1.10	2399	1.10	2273	1.09	2138	1.06	1987	1.04						
12B731	VBBD	3410	1 1/2	2913	1.65	2811	1.66	2704	1.65	2593	1.63	2476	1.59	2347	1.57	2206	1.54		
12B731	VBBD	3750	2	3222	2.19	3130	2.20	3035	2.20	2936	2.19	2835	2.16	2727	2.12	2611	2.09	2490	2.06
12B731	VBBD	4290	3	3711	3.28	3632	3.29	3550	3.30	3467	3.29	3380	3.28	3292	3.25	3202	3.21	3106	3.17
MODEL INFO				2 1/2" SP		3" SP		3 1/2" SP		4" SP		4 1/2" SP		5" SP		5 1/2" SP		6" SP	
PROP	FAN TYPE	RPM	HP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
12B731	VBBD	4290	3	2899	3.10	2621	3.00												

VBBD | Size 15

MODEL INFO				1/4" SP		1/2" SP		3/4" SP		1" SP		1 1/4" SP		1 1/2" SP		1 3/4" SP		2" SP	
PROP	FAN TYPE	RPM	HP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
15B731	VBBD	1870	3/4	2997	0.83	2746	0.82	2459	0.78										
15B731	VBBD	2055	1	3338	1.11	3115	1.10	2872	1.06	2587	1.03								
15B731	VBBD	2350	1 1/2	3875	1.65	3685	1.65	3485	1.62	3266	1.58	3023	1.55						
15B731	VBBD	2585	2	4297	2.20	4127	2.20	3949	2.19	3763	2.14	3558	2.10	3338	2.06				
15B731	VBBD	2960	3	4965	3.29	4819	3.30	4668	3.30	4511	3.28	4349	3.23	4178	3.18	3991	3.13	3794	3.09
15B731	VBBD	3510	5	5937	5.48	5815	5.50	5691	5.51	5564	5.51	5433	5.49	5299	5.45	5162	5.39	5018	5.33
15B731	VBBD	4018	7 1/2	6828	8.21	6723	8.24	6616	8.26	6507	8.26	6396	8.26	6283	8.25	6167	8.22	6050	8.17
15B731	VBBD	4300	10	7322	10.06	7224	10.09	7125	10.11	7024	10.13	6921	10.13	6816	10.12	6710	10.11	6602	10.07
MODEL INFO				2 1/2" SP		3" SP		3 1/2" SP		4" SP		4 1/2" SP		5" SP		5 1/2" SP		6" SP	
PROP	FAN TYPE	RPM	HP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
15B731	VBBD	3510	5	4707	5.21	4349	5.10												
15B731	VBBD	4018	7 1/2	5807	8.03	5542	7.88	5262	7.76	4919	7.61								
15B731	VBBD	4300	10	6381	9.96	6149	9.79	5897	9.63	5636	9.52	5329	9.37						

VBBD | Size 18

MODEL INFO				1/2" SP		1" SP		1 1/2" SP		2" SP		2 1/2" SP		3" SP		3 1/2" SP		4" SP	
PROP	FAN TYPE	RPM	HP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
18B731	VBBD	1510	3/4	3185	0.84	2319	0.82												
18B731	VBBD	1655	1	3600	1.10	2936	1.09												
18B731	VBBD	1895	1 1/2	4270	1.64	3774	1.66	3064	1.63										
18B731	VBBD	2086	2	4794	2.17	4358	2.21	3819	2.20										
18B731	VBBD	2390	3	5611	3.24	5231	3.30	4839	3.32	4340	3.30	3681	3.25						
18B731	VBBD	2830	5	6772	5.35	6452	5.43	6132	5.49	5803	5.51	5416	5.51	4943	5.46	4367	5.41		
18B731	VBBD	3240	7 1/2	7839	8.00	7561	8.10	7279	8.18	7002	8.24	6718	8.27	6400	8.28	6028	8.25	5599	8.19
18B731	VBBD	3560	10	8665	10.58	8413	10.70	8158	10.80	7902	10.88	7650	10.93	7391	10.97	7107	10.99	6783	10.96
18B731	VBBD	4075	15	9986	15.82	9767	15.97	9546	16.09	9323	16.20	9099	16.30	8878	16.37	8656	16.42	8427	16.46
18B731	VBBD	4244	20	10418	17.86	10208	18.01	9996	18.15	9782	18.27	9567	18.37	9354	18.45	9142	18.52	8927	18.57
MODEL INFO				4 1/2" SP		5" SP		5 1/2" SP		6" SP		6 1/2" SP		7" SP		7 1/2" SP		8" SP	
PROP	FAN TYPE	RPM	HP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
18B731	VBBD	3240	7 1/2	5112	8.14														
18B731	VBBD	3560	10	6417	10.91	6012	10.85	5541	10.78										
18B731	VBBD	4075	15	8180	16.48	7906	16.46	7604	16.41	7273	16.34	6918	16.28	6535	16.23				
18B731	VBBD	4244	20	8703	18.60	8459	18.61	8192	18.59	7899	18.51	7581	18.46	7240	18.39	6880	18.35	6388	18.12

VBBD | Size 21

MODEL INFO				1/2" SP		1" SP		1½" SP		2" SP		2½" SP		3" SP		3½" SP		4" SP	
PROP	FAN TYPE	RPM	HP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
21B731	VBBD	1160	3/4	3690	0.82														
21B731	VBBD	1280	1	4268	1.10														
21B731	VBBD	1460	1½	5085	1.63	4245	1.63												
21B731	VBBD	1610	2	5749	2.17	5063	2.20	4068	2.16										
21B731	VBBD	1840	3	6747	3.22	6173	3.27	5496	3.27	4547	3.22								
21B731	VBBD	2185	5	8211	5.34	7726	5.43	7242	5.48	6677	5.48	5959	5.43						
21B731	VBBD	2500	7½	9525	7.96	9103	8.08	8680	8.16	8254	8.21	7769	8.22	7182	8.17	6500	8.11		
21B731	VBBD	2750	10	10557	10.57	10175	10.71	9788	10.82	9407	10.89	9015	10.93	8571	10.94	8050	10.89	7451	10.82
21B731	VBBD	3156	15	12220	15.92	11888	16.09	11554	16.24	11216	16.35	10884	16.44	10549	16.50	10194	16.54	9794	16.54
21B731	VBBD	3473	20	13511	21.17	13211	21.37	12908	21.54	12602	21.69	12296	21.81	11995	21.91	11691	21.98	11377	22.02
21B731	VBBD	3638	25	14180	24.31	13894	24.52	13605	24.71	13314	24.87	13022	25.01	12731	25.12	12444	25.21	12152	25.28
MODEL INFO				4½" SP		5" SP		5½" SP		6" SP		6½" SP		7" SP		7½" SP		8" SP	
PROP	FAN TYPE	RPM	HP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
21B731	VBBD	2750	10	6735	10.72														
21B731	VBBD	3156	15	9344	16.48	8838	16.39	8295	16.33	7591	16.14								
21B731	VBBD	3473	20	11036	22.05	10657	22.02	10239	21.95	9780	21.85	9291	21.77	8750	21.69				
21B731	VBBD	3638	25	11847	25.32	11516	25.34	11152	25.31	10754	25.24	10320	25.13	9857	25.04	9367	24.98	8698	24.68

VBBD | Size 24

MODEL INFO				1/2" SP		1" SP		1½" SP		2" SP		2½" SP		3" SP		3½" SP		4" SP	
PROP	FAN TYPE	RPM	HP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
24B725	VBBD	1181	1	5525	1.00	3995	1.09												
24B725	VBBD	1351	1½	6651	1.44	5420	1.62												
24B725	VBBD	1486	2	7501	1.87	6496	2.07	5247	2.18										
24B725	VBBD	1702	3	8817	2.73	8031	2.97	7028	3.20	5938	3.28								
24B725	VBBD	2016	5	10677	4.41	10074	4.72	9365	4.99	8523	5.26	7584	5.44	6634	5.40				
24B725	VBBD	2310	7½	12386	6.53	11884	6.89	11327	7.23	10689	7.53	9969	7.83	9140	8.11	8353	8.20	7488	8.09
24B725	VBBD	2543	10	13727	8.62	13281	9.03	12800	9.41	12268	9.77	11673	10.09	11017	10.42	10269	10.76	9535	10.92
24B725	VBBD	2911	15	15829	12.78	15450	13.25	15048	13.71	14622	14.15	14161	14.56	13657	14.94	13114	15.30	12525	15.69
24B725	VBBD	3183	20	17375	16.60	17032	17.12	16673	17.63	16297	18.13	15900	18.60	15475	19.05	15016	19.46	14527	19.86
MODEL INFO				4½" SP		5" SP		5½" SP		6" SP		6½" SP		7" SP		7½" SP		8" SP	
PROP	FAN TYPE	RPM	HP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
24B725	VBBD	2543	10	8818	10.93	7925	10.64												
24B725	VBBD	2911	15	11870	16.08	11215	16.33	10599	16.41	9954	16.37	9189	16.02	8750	21.69				
24B725	VBBD	3183	20	14010	20.26	13440	20.70	12832	21.11	12237	21.36	11674	21.45	11099	21.43	10447	21.24		

VBBD | Size 27

MODEL INFO				1/2" SP		1" SP		1½" SP		2" SP		2½" SP		3" SP		3½" SP		4" SP	
PROP	FAN TYPE	RPM	HP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
27B725	VBBD	978	1	6274	1.05														
27B725	VBBD	1110	1½	7573	1.47	5798	1.64												
27B725	VBBD	1202	2	8428	1.83	6874	2.05												
27B725	VBBD	1394	3	10133	2.75	8984	3.02	7504	3.24										
27B725	VBBD	1662	5	12424	4.51	11572	4.86	10537	5.16	9274	5.46	8022	5.48						
27B725	VBBD	1839	7½	13904	6.02	13169	6.42	12314	6.78	11312	7.11	10145	7.41	9028	7.44				
27B725	VBBD	2085	10	15936	8.63	15313	9.10	14626	9.54	13842	9.93	12961	10.31	11941	10.70	10945	10.86	9913	10.80
27B725	VBBD	2394	15	18462	12.89	17936	13.44	17373	13.97	16765	14.47	16090	14.92	15351	15.34	14535	15.79	13629	16.23
27B725	VBBD	2624	20	20329	16.85	19857	17.46	19358	18.05	18830	18.61	18261	19.15	17641	19.64	16970	20.10	16252	20.58
27B725	VBBD	2829	25	21987	21.00	21553	21.66	21099	22.31	20624	22.93	20121	23.53	19583	24.10	19003	24.62	18384	25.12
MODEL INFO				4½" SP		5" SP		5½" SP		6" SP		6½" SP		7" SP		7½" SP		8" SP	
PROP	FAN TYPE	RPM	HP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
27B725	VBBD	2394	15	12759	16.43	11906	16.44	10915	16.15										
27B725	VBBD	2624	20	15448	21.10	14619	21.49	13842	21.65	13061	21.64	12171	21.40						
27B725	VBBD	2829	25	17729	25.63	17008	26.19	16238	26.71	15483	27.02	14771	27.14	14042	27.12	13216	26.87		

VBBD | Size 30

MODEL INFO				1/2" SP		1" SP		1 1/2" SP		2" SP		2 1/2" SP		3" SP		3 1/2" SP		4" SP	
PROP	FAN TYPE	RPM	HP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
30B725	VBBD	1000	2	9361	1.82	7175	2.03												
30B725	VBBD	1142	3	11149	2.62	9442	2.91	7361	3.00										
30B725	VBBD	1355	5	13698	4.21	12460	4.59	10876	4.93	9165	5.04								
30B725	VBBD	1555	7 1/2	16019	6.22	15027	6.68	13839	7.07	12404	7.47	10920	7.64						
30B725	VBBD	1705	10	17733	8.09	16861	8.61	15862	9.07	14701	9.49	13329	9.92	11989	10.07	10441	9.80		
30B725	VBBD	1955	15	20557	12.00	19826	12.61	19029	13.18	18134	13.70	17131	14.18	15994	14.69	14767	15.09	13617	15.17
30B725	VBBD	2150	20	22741	15.81	22090	16.49	21393	17.14	20638	17.75	19801	18.31	18884	18.83	17872	19.39	16752	19.92
30B725	VBBD	2315	25	24580	19.62	23982	20.36	23351	21.07	22678	21.75	21950	22.39	21154	22.97	20295	23.53	19360	24.14
30B725	VBBD	2490	30	26522	24.29	25973	25.09	25397	25.86	24791	26.61	24149	27.33	23456	28.00	22708	28.62	21910	29.22
30B725	VBBD	2546	40	27142	25.93	26606	26.74	26046	27.54	25458	28.31	24838	29.05	24173	29.75	23457	30.39	22692	31.01
MODEL INFO				4 1/2" SP		5" SP		5 1/2" SP		6" SP		6 1/2" SP		7" SP		7 1/2" SP		8" SP	
PROP	FAN TYPE	RPM	HP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
30B725	VBBD	1955	15	12313	14.93														
30B725	VBBD	2150	20	15680	20.16	14621	20.16	13382	19.77										
30B725	VBBD	2315	25	18325	24.74	17303	25.09	16337	25.20	15304	25.09	13965	24.42						
30B725	VBBD	2490	30	21057	29.86	20113	30.53	19142	31.06	18223	31.30	17322	31.35	16335	31.18	15117	30.45		
30B725	VBBD	2546	40	21884	31.64	20994	32.33	20045	32.97	19115	33.35	18236	33.51	17336	33.47	16316	33.17		

VBBD | Size 36

MODEL INFO				1/2" SP		1" SP		1 1/2" SP		2" SP		2 1/2" SP		3" SP		3 1/2" SP		4" SP	
PROP	FAN TYPE	RPM	HP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
36B725	VBBD	866	3	14207	2.91	11232	3.27												
36B725	VBBD	1028	5	17653	4.67	15544	5.13	12857	5.49										
36B725	VBBD	1179	7 1/2	20733	6.85	19076	7.43	17010	7.94	14624	8.28								
36B725	VBBD	1307	10	23290	9.17	21879	9.84	20196	10.42	18171	11.01	16039	11.28						
36B725	VBBD	1510	15	27283	13.87	26123	14.68	24829	15.42	23340	16.07	21639	16.74						
36B725	VBBD	1635	20	29717	17.46	28668	18.34	27526	19.17	26246	19.92	24812	20.61	23190	21.35	21424	21.94	19772	22.09
36B725	VBBD	1755	25	32041	21.44	31079	22.39	30046	23.31	28920	24.16	27667	24.93	26295	25.66	24749	26.48	23101	27.11
36B725	VBBD	1865	30	34162	25.60	33266	26.62	32315	27.60	31296	28.54	30180	29.40	28957	30.19	27638	30.98	26153	31.86
36B725	VBBD	2055	40	37810	34.00	37009	35.13	36170	36.24	35285	37.30	34346	38.32	33330	39.27	32233	40.15	31064	41.00
36B725	VBBD	2122	50	39093	37.35	38321	38.53	37514	39.67	36668	40.78	35774	41.85	34817	42.86	33786	43.79	32685	44.68
MODEL INFO				4 1/2" SP		5" SP		5 1/2" SP		6" SP		6 1/2" SP		7" SP		7 1/2" SP		8" SP	
PROP	FAN TYPE	RPM	HP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
36B725	VBBD	1635	20	17923	21.79														
36B725	VBBD	1755	25	21559	27.31	19921	27.17												
36B725	VBBD	1865	30	24600	32.52	23146	32.77	21656	32.70	19883	32.01								
36B725	VBBD	2055	40	29801	41.93	28412	42.88	27007	43.54	25687	43.82	24363	43.82	22866	43.46				
36B725	VBBD	2122	50	31522	45.58	30241	46.58	28873	47.49	27533	48.05	26267	48.27	24971	48.23	23504	47.79		

VBBD | Size 42

MODEL INFO				1/2" SP		1" SP		1 1/2" SP		2" SP		2 1/2" SP		3" SP		3 1/2" SP		4" SP	
PROP	FAN TYPE	RPM	HP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
42B725	VBBD	670	3	16740	3.00	11984	3.26												
42B725	VBBD	792	5	21052	4.74	17481	5.29												
42B725	VBBD	905	7 1/2	24810	6.85	22076	7.50	18544	8.06										
42B725	VBBD	1000	10	27882	9.05	25587	9.83	22706	10.52	19436	10.92								
42B725	VBBD	1145	15	32477	13.29	30616	14.23	28419	15.04	25803	15.85	22919	16.37	19957	16.18				
42B725	VBBD	1260	20	36071	17.48	34437	18.54	32593	19.50	30458	20.35	27978	21.26	25357	21.81	22759	21.74		
42B725	VBBD	1355	25	39015	21.55	37526	22.71	35891	23.79	34034	24.75	31953	25.65	29541	26.64	27128	27.13	24733	27.08
42B725	VBBD	1440	30	41636	25.70	40256	26.94	38762	28.12	37106	29.19	35250	30.16	33195	31.17	30865	32.16	28626	32.59
42B725	VBBD	1595	40	46388	34.61	45167	36.00	43869	37.33	42477	38.61	40952	39.77	39279	40.85	37475	41.93	35442	43.12
42B725	VBBD	1718	50	50142	43.01	49021	44.51	47842	45.97	46595	47.38	45261	48.71	43812	49.94	42246	51.09	40578	52.24
42B725	VBBD	1819	60	53214	50.85	52164	52.45	51067	54.01	49914	55.52	48699	56.98	47396	58.34	45993	59.61	44495	60.82
MODEL INFO				4 1/2" SP		5" SP		5 1/2" SP		6" SP		6 1/2" SP		7" SP		7 1/2" SP		8" SP	
PROP	FAN TYPE	RPM	HP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
42B725	VBBD	1440	30	26371	32.51														
42B725	VBBD	1595	40	33326	43.99	31346	44.31	29302	44.20	26824	43.17								
42B725	VBBD	1718	50	38727	53.53	36753	54.65	34856	55.23	33034	55.38	31062	55.12	28599	53.77				
42B725	VBBD	1819	60	42911	62.05	41167	63.41	39306	64.66	37482	65.42	35759	65.72	33996	65.66	31999	65.07		

VBBD | Size 48

MODEL INFO				1/2" SP		1" SP		1½" SP		2" SP		2½" SP		3" SP		3½" SP		4" SP	
PROP	FAN TYPE	RPM	HP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
48B725	VBBD	635	5	24496	4.87	19021	5.44												
48B725	VBBD	727	7½	29207	7.06	25003	7.82	19853	8.16										
48B725	VBBD	800	10	32801	9.20	29295	10.07	24752	10.84										
48B725	VBBD	915	15	38322	13.41	35536	14.49	32125	15.42	28008	16.25	23828	16.11						
48B725	VBBD	1020	20	43269	18.27	40899	19.52	38124	20.62	34852	21.68	31118	22.52	27466	22.48				
48B725	VBBD	1085	25	46300	21.80	44120	23.16	41642	24.38	38770	25.47	35398	26.64	31974	27.19	28376	26.89		
48B725	VBBD	1155	30	49544	26.10	47535	27.56	45307	28.92	42757	30.11	39875	31.30	36561	32.46	33414	32.81	29954	32.35
48B725	VBBD	1270	40	54840	34.35	53055	35.98	51126	37.53	48994	38.96	46607	40.24	43974	41.55	40975	42.90	38044	43.55
48B725	VBBD	1370	50	59419	42.83	57789	44.60	56051	46.31	54179	47.92	52116	49.39	49852	50.76	47389	52.19	44615	53.67
48B725	VBBD	1456	60	63341	51.16	61823	53.06	60219	54.89	58514	56.66	56671	58.30	54658	59.81	52485	61.25	50131	62.80
48B725	VBBD	1568	75	68432	63.57	67037	65.62	65577	67.62	64041	69.56	62416	71.42	60667	73.16	58781	74.77	56768	76.32
MODEL INFO				4½" SP		5" SP		5½" SP		6" SP		6½" SP		7" SP		7½" SP		8" SP	
PROP	FAN TYPE	RPM	HP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
48B725	VBBD	1270	40	35167	43.54	31505	42.33												
48B725	VBBD	1370	50	41849	54.55	39234	54.75	36330	54.34										
48B725	VBBD	1456	60	47513	64.37	44890	65.38	42428	65.72	39851	65.53	36804	64.19						
48B725	VBBD	1568	75	54625	77.94	52252	79.70	49777	81.14	47414	81.88	45135	82.10	42702	81.80	39900	80.37		

VBBD | Size 54

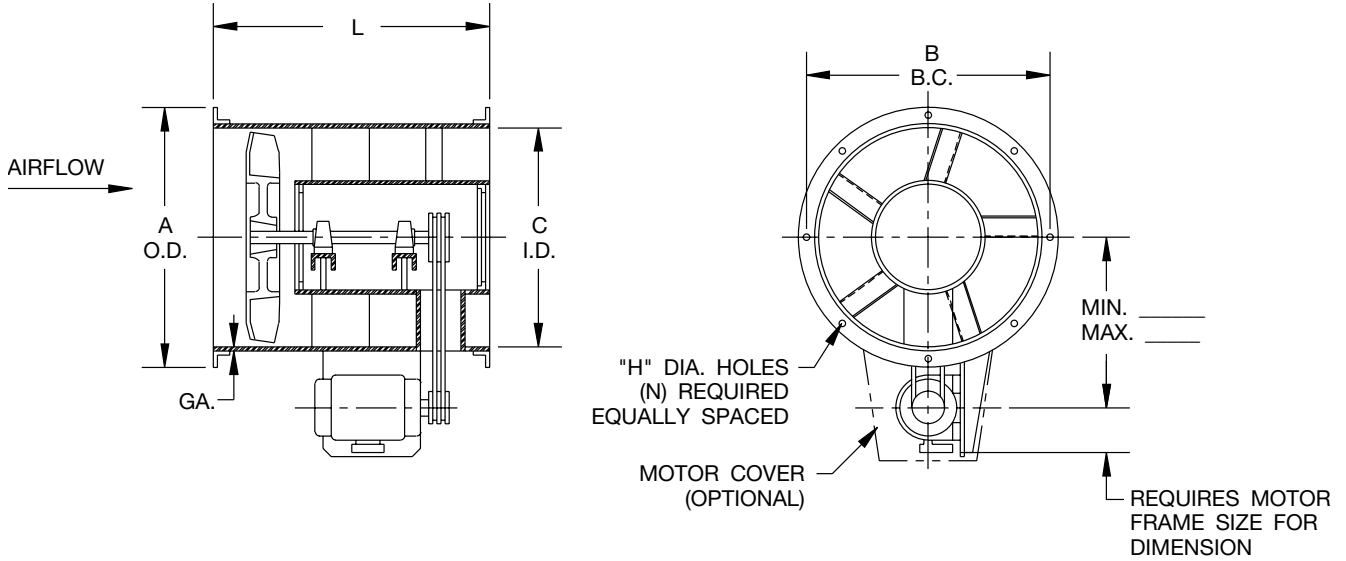
MODEL INFO				1/2" SP		1" SP		1½" SP		2" SP		2½" SP		3" SP		3½" SP		4" SP	
PROP	FAN TYPE	RPM	HP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
54B725	VBBD	522	5	27742	4.98	19910	5.43												
54B725	VBBD	595	7½	33271	7.12	26928	7.99												
54B725	VBBD	658	10	37799	9.39	32674	10.37	26321	10.92										
54B725	VBBD	753	15	44398	13.66	40389	14.88	35258	16.00	29714	16.36								
54B725	VBBD	828	20	49491	17.86	46063	19.26	41895	20.46	36817	21.62	31770	21.68						
54B725	VBBD	890	25	53650	21.93	50571	23.48	46935	24.82	42605	26.16	37836	27.02	32930	26.69				
54B725	VBBD	948	30	57509	26.26	54686	27.95	51452	29.45	47698	30.80	43257	32.22	38914	32.69	33943	31.87		
54B725	VBBD	1055	40	64567	35.74	62110	37.64	59410	39.43	56347	41.02	52913	42.53	48937	44.16	44949	44.99	41002	44.91
54B725	VBBD	1125	50	69153	43.04	66884	45.10	64430	47.05	61715	48.84	58674	50.46	55314	52.12	51494	53.80	47787	54.57
54B725	VBBD	1195	60	73719	51.30	71609	53.50	69353	55.61	66910	57.60	64202	59.39	61235	61.08	57957	62.91	54327	64.62
54B725	VBBD	1287	75	79698	63.70	77763	66.09	75719	68.39	73542	70.61	71187	72.67	68611	74.56	65833	76.38	62807	78.34
54B725	VBBD	1415	100	87980	84.10	86245	86.75	84431	89.32	82527	91.82	80518	94.23	78365	96.49	76047	98.58	73570	100.58
MODEL INFO				4½" SP		5" SP		5½" SP		6" SP		6½" SP		7" SP		7½" SP		8" SP	
PROP	FAN TYPE	RPM	HP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
54B725	VBBD	1125	50	44111	54.51														
54B725	VBBD	1195	60	50850	65.39	47425	65.40	43423	64.18										
54B725	VBBD	1287	75	59457	80.29	56142	81.45	53015	81.81	49677	81.47	45437	79.37						
54B725	VBBD	1415	100	70954	102.62	68072	104.86	64996	106.92	61981	108.19	59133	108.69	56221	108.59	52922	107.63		

VBBD | Size 60

MODEL INFO				1/2" SP		1" SP		1½" SP		2" SP		2½" SP		3" SP		3½" SP		4" SP	
PROP	FAN TYPE	RPM	HP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
60B725	VBBD	500	7½	37448	7.29	28697	8.12												
60B725	VBBD	550	10	42526	9.45	35113	10.58												
60B725	VBBD	640	15	51252	14.37	45773	15.74	38675	16.94										
60B725	VBBD	695	20	56434	18.11	51694	19.66	45716	21.08	39012	21.82								
60B725	VBBD	745	25	61082	22.03	56848	23.76	51698	25.24	45427	26.67	39192	26.74						
60B725	VBBD	795	30	65685	26.49	61843	28.39	57289	30.03	51844	31.67	45943	32.63	39708	32.03				
60B725	VBBD	875	40	72979	34.86	69610	37.00	65792	38.94	61371	40.66	56206	42.51	50855	43.49	45388	43.22		
60B725	VBBD	943	50	79127	43.25	76068	45.59	72699	47.78	68867	49.71	64566	51.57	59580	53.54	54661	54.45	49670	54.23
60B725	VBBD	1002	60	84432	51.56	81595	54.06	78520	56.45	75103	58.61	71274	60.58	67015	62.64	62216	64.59	57652	65.35
60B725	VBBD	1080	75	91413	64.11	88822	66.84	86053	69.46	83057	71.92	79741	74.16	76105	76.25	72104	78.50	67650	80.67
60B725	VBBD	1189	100	101121	84.90	98804	87.93	96364	90.87	93777	93.70	91002	96.36	87978	98.81	84713	101.12	81222	103.49
60B725	VBBD	1273	125	108573	103.71	106430	106.97	104189	110.15	101838	113.24	99356	116.21	96698	118.99	93833	121.57	90773	124.05
MODEL INFO				4½" SP		5" SP		5½" SP		6" SP		6½" SP		7" SP		7½" SP		8" SP	
PROP	FAN TYPE	RPM	HP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
60B725	VBBD	1002	60	52948	65.09														
60B725	VBBD	1080	75	63351	81.71	59164	81.79	54339	80.51										
60B725	VBBD	1189	100	77324	106.09	73249	108.16	69401	109.08	65611	109.19	61339	108.31						
60B725	VBBD	1273	125	87540	126.56	83978	129.33	80177	131.87	76455	133.42	72938	134.03	69338	133.90	65260	132.69		

Dimensional Data

Model VBBD, Belt Driven



NOTE: Flanged housing construction is standard on steel fans sizes 15" through 36", welded angle ring construction is standard on steel fans sizes 12" and 42" through 60", and on all sizes of aluminum or stainless steel construction.

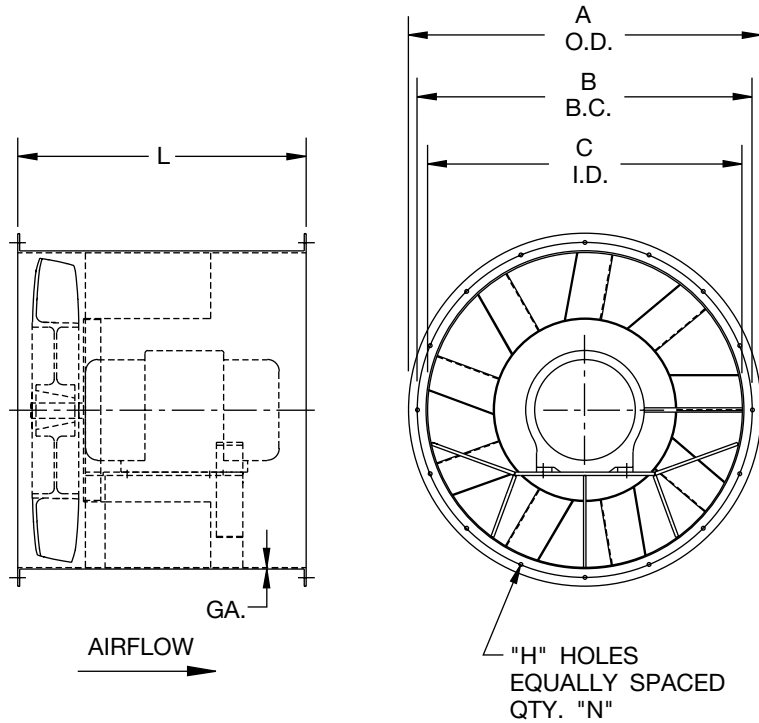
FAN SIZE	A	B	C	H	L	N	GA.
12	14 ³ / ₄	13 ⁵ / ₈	12	³ / ₈	22	8	10
15	17 ³ / ₄	16 ⁵ / ₈	15	³ / ₈	24	8	10
18	21 ⁷ / ₁₆	20	18 ³ / ₁₆	⁷ / ₁₆	30	8	10
21	24 ⁹ / ₁₆	22 ⁷ / ₈	21 ¹ / ₁₆	⁷ / ₁₆	34	8	10
24	27 ⁵ / ₁₆	25 ⁷ / ₈	24 ¹ / ₁₆	⁷ / ₁₆	34	8	10
27	30 ⁵ / ₁₆	28 ¹⁵ / ₁₆	27 ¹ / ₁₆	⁷ / ₁₆	36	8	10
30	34 ⁵ / ₁₆	32 ³ / ₁₆	29 ¹⁵ / ₁₆	⁷ / ₁₆	38	16	7
36	40 ⁷ / ₁₆	38 ³ / ₈	36 ¹ / ₁₆	⁷ / ₁₆	42	16	7
42	46 ⁷ / ₁₆	44 ⁵ / ₁₆	42 ¹ / ₁₆	⁷ / ₁₆	44	16	7
48	52 ¹⁵ / ₁₆	50 ¹³ / ₁₆	48 ⁹ / ₁₆	⁷ / ₁₆	48	16	7
54	59	56 ¹³ / ₁₆	54 ¹ / ₂	⁷ / ₁₆	60	24	1/4
60	65	62 ¹³ / ₁₆	60 ¹ / ₂	⁷ / ₁₆	60	24	1/4

DIMENSIONS ARE NOT TO BE USED FOR CONSTRUCTION.



Dimensional Data

Model VB, Direct Drive

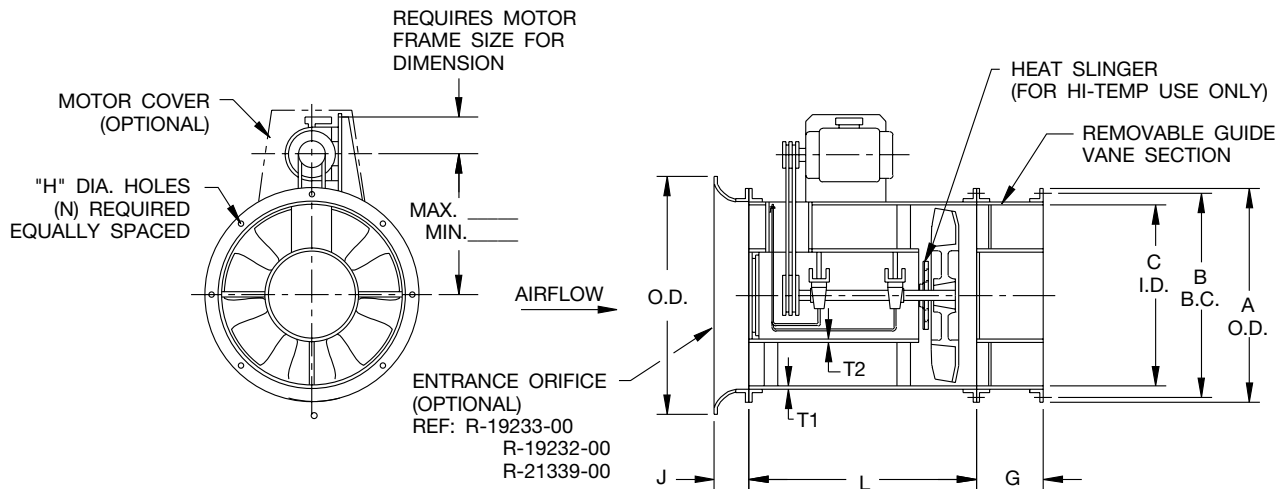


FAN SIZE	MAX. FRAME	A	B	C	H	L	N	GA.
24	184T	$27\frac{5}{16}$	$25\frac{7}{8}$	$24\frac{1}{16}$	$\frac{7}{16}$	24	8	10
30	254T	$34\frac{5}{16}$	$32\frac{3}{16}$	$29\frac{15}{16}$	$\frac{7}{16}$	30	16	7
36	324T	$40\frac{7}{16}$	$38\frac{3}{8}$	$36\frac{1}{16}$	$\frac{7}{16}$	33	16	7
42	326T	$46\frac{7}{16}$	$44\frac{5}{16}$	$42\frac{1}{16}$	$\frac{7}{16}$	34	16	7
48	365T	$52\frac{15}{16}$	$50\frac{13}{16}$	$48\frac{9}{16}$	$\frac{7}{16}$	42	16	7

DIMENSIONS ARE NOT TO BE USED FOR CONSTRUCTION.

Dimensional Data

Model VBBD, Belt Driven – Optional Reversed Airflow Construction



FAN SIZE	A	B	C	G	H	J	L	N	O.D.	GA.		MAX. MOTOR FRAME
										T1	T2	
12	14 ³ / ₄	13 ⁵ / ₈	12	5 ¹ / ₄	³ / ₈	2 ⁷ / ₈	22	8	15 ¹ / ₄	10	10	184T
15	17 ³ / ₄	16 ⁵ / ₈	15	6 ¹ / ₂	³ / ₈	2 ⁷ / ₈	24	8	18 ¹ / ₄	10	10	215T
18	21 ⁷ / ₁₆	20	18 ³ / ₁₆	7 ⁷ / ₈	⁷ / ₁₆	2 ⁷ / ₈	30	8	21 ¹ / ₄	10	10	256T
21	24 ⁵ / ₁₆	22 ⁷ / ₈	21 ¹ / ₁₆	9 ¹ / ₄	⁷ / ₁₆	2 ⁷ / ₈	34	8	24 ¹ / ₄	10	10	286T
24	27 ⁵ / ₁₆	25 ⁷ / ₈	24 ¹ / ₁₆	10 ¹ / ₂	⁷ / ₁₆	3 ¹ / ₄	34	8	28	10	10	286T
27	30 ⁵ / ₁₆	28 ¹⁵ / ₁₆	27 ¹ / ₁₆	11 ³ / ₄	⁷ / ₁₆	3 ¹ / ₄	36	8	31	10	10	286T
30	34 ⁵ / ₁₆	32 ³ / ₁₆	29 ¹⁵ / ₁₆	13 ¹ / ₄	⁷ / ₁₆	3 ¹ / ₄	38	16	34	7	7	326T
36	40 ⁷ / ₁₆	38 ³ / ₈	36 ¹ / ₁₆	15 ³ / ₄	⁷ / ₁₆	5 ¹ / ₈	42	16	41 ¹ / ₄	7	7	326T
42	46 ⁷ / ₁₆	44 ⁵ / ₁₆	42 ¹ / ₁₆	18 ³ / ₈	⁷ / ₁₆	5 ¹ / ₈	44	16	47 ¹ / ₄	7	7	365T
48	52 ¹⁵ / ₁₆	50 ¹³ / ₁₆	48 ⁹ / ₁₆	21	⁷ / ₁₆	5 ¹ / ₈	48	16	53 ¹ / ₄	7	7	365T
54	59	56 ¹³ / ₁₆	54 ¹ / ₂	23 ¹ / ₂	⁷ / ₁₆	6 ³ / ₄	60	24	62	1/4	7	405T
60	65	62 ¹³ / ₁₆	60 ¹ / ₂	26 ¹ / ₂	⁷ / ₁₆	6 ³ / ₄	60	24	67 ¹ / ₄	1/4	7	445T

DIMENSIONS ARE NOT TO BE USED FOR CONSTRUCTION.



Typical Specifications

Model VBBD

Vaneaxial fans, where indicated on drawings and schedules, shall be Model VBBD Arrangement 9 Belt Driven Type B as manufactured by Aerovent, Minneapolis, Minnesota, and shall be of the size and capacity as indicated in the fan schedule. Model VBBD fans shall be tested and rated in accordance with industry test codes and are guaranteed by the manufacturer to deliver at the rated published performance levels. In addition, each unit shall be factory run tested prior to shipment.

CONSTRUCTION — Fan casings shall be continuously welded 10-gauge steel for sizes 12" through 27" diameter, 7-gauge steel for sizes 30" through 48" diameter, and 1/4" plate steel for sizes 54" and 60" diameters. Flanged housing construction is standard on steel fans sizes 15" through 36". Welded angle ring construction is standard on steel fans size 12" and sizes 42" through 60", and on all sizes of aluminum or stainless steel construction. The flanges are designed to ensure housing concentricity, housing strength and permit duct mounting. The guide vanes shall be integrally welded with the outer housing and shall be designed to provide for maximum efficiency and pressure capabilities. Belt driven units shall be constructed with the motor base plate welded to the outside of the fan housing. Fan shall be constructed of the following optional metal — Aluminum, Stainless Steel 304, Stainless Steel 316.

PROPELLER — The propeller shall be one-piece A319 cast aluminum with fixed-pitch blades and attached to the fan shaft with a split taper lock bushing. Each propeller shall be statically and dynamically balanced to ensure quiet operation.

BEARINGS — Model VBBD Type B Belt Driven Fans shall be supplied with sealed pillow block bearings with lubrication lines extended to the outside of the fan housing for easy maintenance. Bearings shall have a minimum L-10 life as defined by AFBMA of at least 20,000 hours (100,000 hours average life).

DRIVE — All drive selections on Model VBBD Type B Belt Driven Fans shall be designed with a 1.4 service factor, unless otherwise specified. Sheaves shall be cast iron with static conducting belts. Belt adjustment shall be accomplished with an adjustable motor slide rail base.

MOTORS — Belt driven fan motors shall be NEMA Design B, standard industrial, continuous duty, ball bearing, variable torque and shall be provided with the enclosure type, voltage, phase and hertz as listed in the fan schedule.

BALANCING — The propeller assembly 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. In addition, belt driven fan propellers shall be balanced on the fan shaft after final assembly in the fan casing, in the manufacturing facility, to the following peak velocity values, filter-in, at the fan test speed:

Fan Application Category	Rigidly Mounted (in./s)	Flexibly Mounted (in./s)
BV-3	0.15	0.20

FINISH — The unit, after fabrication, shall be cleaned and chemically pretreated by a phosphatizing process and shall be painted inside and outside with an air dry enamel. The fan shall be coated with the following optional finish:

- Plasite 4310
- Plasite 9500
- Powder Coat
- Heresite VR504
- Hot Dip Galvanizing
- Plasite 7122L
- Heresite P413
- Carbocoat 30 (replaces Sanitile 550 and Eisenheiss 210)
- Air Dried Epoxy

ACCESSORIES — The fan(s) shall be furnished complete with:

- Bolted Inspection Door
- Propeller Access Section
- Swingout Construction
- Clamshell Construction
- Support Legs
- Horizontal Ceiling Clips
- Vertical Mounting Clips
- Vertical Support Section
- Floor Mounted Vibration Isolators [RIS] [Spring]
- Ceiling Mounted Vibration Isolators [RIS] [Spring]
- Spark Resistant Construction Type A
- Spark Resistant Construction Type B/C
- Stack Cap [Steel] [Aluminum] [304 SS] [316 SS]
- Curb Base [Steel] [Aluminum] [304 SS] [316 SS]
- Companion Flanges [Steel] [Aluminum] [304 SS] [316 SS]
- OSHA Inlet Guard
- OSHA Outlet Guard
- Inlet Vane Damper
- Silencer – Inlet
- Silencer – Outlet
- Motor Cover
- Shaft Seal
- Inlet Bell
- Cone – Inlet
- Cone – Outlet

Typical Specifications

Model VB

Vaneaxial fans, where indicated on drawings and schedules, shall be Model VB Arrangement 4 Direct Drive Type B as manufactured by Aerovent, Minneapolis, Minnesota, and shall be of the size and capacity as indicated in the fan schedule. Type B vaneaxial fans shall be tested and rated in accordance with industry test codes and are guaranteed by the manufacturer to deliver at the rated published performance levels. In addition, each unit shall be factory run tested prior to shipment.

CONSTRUCTION — Fan casings shall be continuously welded 10-gauge steel for size 24" diameter and 7-gauge steel for sizes 30" through 48" diameter. Inlet and outlet flanges shall be integrally rolled from the fan casing and are designed to ensure housing concentricity, housing strength, and permit duct mounting. The guide vanes shall be integrally welded with the outer housing and shall be designed to provide for maximum efficiency and pressure capabilities. Fan shall be constructed of the following optional metal — Aluminum, Stainless Steel 304, Stainless Steel 316.

PROPELLER — The propeller shall be one piece A319 cast aluminum with fixed-pitch blades and attached to the motor shaft with a split taper lock bushing. Each propeller shall be statically and dynamically balanced to ensure quiet operation.

MOTORS — Direct drive fan motors shall be NEMA Design B, standard industrial, continuous duty, ball bearing, variable torque and shall be provided with the enclosure type, voltage, phase and hertz as listed in the fan schedule. If motors have regreaseable bearings, external grease fittings with extended grease leads shall be supplied for lubrication of the motor bearings. Direct drive fans shall have the motor wiring extended through liquid-tight conduit to the outside of the housing for easy connection.

BALANCING — The propeller assembly 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. In addition, direct drive fan propellers shall be balanced on the motor shaft after final assembly in the fan casing, in the manufacturing facility, to the following peak velocity values, filter-in, at the fan test speed:

Fan Application Category	Rigidly Mounted (in./s)	Flexibly Mounted (in./s)
BV-3	0.15	0.20

FINISH — The unit, after fabrication, shall be cleaned and chemically pretreated by a phosphatizing process and shall be painted inside and outside with an air dry enamel. The fan shall be coated with the following optional finish:

- Plasite 4310
- Plasite 9500
- Powder Coat
- Heresite VR504
- Hot Dip Galvanizing
- Plasite 7122L
- Heresite P413
- Carbocoat 30 (replaces Sanitile 550 and Eisenheiss 210)
- Air Dried Epoxy

ACCESSORIES — The fan(s) shall be furnished complete with:

- Bolted Inspection Door
- Propeller Access Section
- Swingout Construction
- Support Legs
- Horizontal Ceiling Clips
- Vertical Mounting Clips
- Vertical Support section
- Floor Mounted Vibration Isolators [RIS] [Spring]
- Ceiling Mounted Vibration Isolators [RIS] [Spring]
- Companion Flanges [Steel] [Aluminum] [304 SS] [316 SS]
- Inlet Bell
- OSHA Inlet Guard
- OSHA Outlet Guard
- Inlet Vane Damper
- Silencer — Inlet
- Silencer — Outlet
- Cone — Inlet
- Cone — Outlet
- Stack Cap [Steel] [Aluminum] [304 SS] [316 SS]
- Curb Base [Steel] [Aluminum] [304 SS] [316 SS]



©2000 Aerovent, Twin City Fan Companies, Ltd. All rights reserved throughout the world.

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

**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

AEROVENT 
INDUSTRIAL VENTILATION SYSTEMS

WWW.AEROVENT.COM

5959 Trenton Lane N | Minneapolis, MN 55442 | Phone: 763-551-7500 | Fax: 763-551-7501