

# Sidewall Propeller Fans

## Belt and Direct Drive

Exhaust, Supply and Reversible



 **GREENHECK**  
*Building Value in Air.*

October  
2015

**Sidewall propeller fans** are ideal for high volumes of air and low pressure requirements. For **general** ventilation to **industrial** duty, range of construction and performance capabilities represents the **most comprehensive** sidewall propeller fan line in the industry.

### Typical Installations

- Factories
- Warehouses

### Sidewall Propeller Benefits

- Exhaust or supply arrangements
- Fabricated steel, aluminum or cast aluminum propellers
- Drive frames and panels are constructed to match the level of duty and the motor size
- Three airflow directions; exhaust, supply and reversible
- Both belt drive and direct drive models
- Three levels of construction from commercial to industrial
- Multiple blade designs for low sound and optimum efficiency



Greenheck Fan Corporation certifies that the SB, SBC, S1, S2 and SC3 models 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 AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.



Sidewall Direct Drive, Sidewall Belt Drive, Sidewall Belt Driven Cast and Sidewall Cast models are listed for electrical (UL/cUL 705) File no. E40001

\*UL is optional and must be specified

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Model Comparison																											
Models S, SC, SB and SBC	Available Size Range (inches)	Location		Mounting				Airflow				Application				Drive Type		Propeller (blade) Type				Performance					
		Outdoor	Indoor	Roof Curb	Base/Floor	Hanging	Wall	Ceiling Mounted	Exhaust	Supply	Reversible	Recirculate	General/Clean Air	Contaminated Air	Spark Resistant	Grease (UL 762)	Smoke Control (UL)	High Wind (150 mph)	High Temp (above 200°F)	Belt	Direct	Level 1 - L or H type	Level 2 - L or H type	Level 3 - L or H type	Level 3 - Cast Aluminum	Maximum Volume (cfm)	Maximum Static Pressure (in. wg)
		SE, SS, SR - 1	8 - 24	✓	✓		✓	✓		✓	✓			✓	✓	○						✓	✓				
SE, SS, SR - 2	16 - 54	✓	✓		✓	✓		✓	✓			✓	✓							✓		✓				45,600	1
SCE, SCS, SCR - 3	24 - 54	✓	✓			✓	✓	✓	✓	✓		✓	✓							✓				✓		51,000	1
SBE, SBS, SBR - 1	20 - 54	✓	✓			✓	✓	✓	✓			✓	✓						✓		✓					30,000	0.75
SBE, SBS, SBR - 2	20 - 60	✓	✓			✓	✓	✓	✓			✓	✓						✓			✓				53,000	1
SBE, SBS, SBR - 3	24 - 72	✓	✓			✓	✓	✓	✓			✓	✓						✓				✓			86,900	1
SBCE, SBSC, SBSCR	24 - 72	✓	✓			✓	✓	✓	✓	✓		✓	✓	○					✓				✓	✓		87,000	1

Note: ○ - Cast aluminum blades and aluminum hub are spark resistant.

## Direct Drive Fan Selection

Three propeller and drive frame combination levels are available with either a L or H type propeller. Models SE1 and SS1 are designed for smaller size applications where lower volumes and static pressures are found. Models SE2, SS2, SCE3 and SCS3 are designed and constructed for applications with higher volumes and static pressures.



Level 1  
Sizes 8 to 10



Level 1  
Sizes 12 to 24



Level 2



Level 3

## Belt Drive Fan Selection

Three propeller drive frame construction levels are available with either a L or H type propeller. The application requirements for sound and static pressure determine propeller type. Propellers are available in fabricated steel, fabricated aluminum or cast aluminum.



Level 1



Level 2



Level 3  
Fabricated



Level 3  
Cast Aluminum

C in model name indicates cast aluminum blades and hub.

## Belt Drive Blade Designs



L Type



H Type

### L Type Propeller:





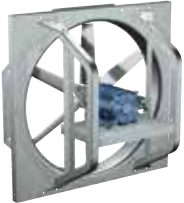
- Swept, steeply pitched blade design.
- Propellers typically run at lower RPMs and generate low sound levels.
- The best selection for sound critical applications or applications that require the best combination of both air and sound performance.
- Typically used when the static pressure is 0.5 in. wg (125 Pa) or less.

### H Type Propeller:

- Straight, moderately pitched blade.
- Designed for applications where static pressures are above 0.5 in. wg (125 Pa).
- These propellers typically run at higher RPMs and generate slightly higher sound levels than the "L" propellers.

All direct drive models are available in either exhaust or supply arrangements. Model SCR3 is the reversible fan model.

	Level 1		Level 2	Level 3	Reversible
<b>Model Sizes</b>	8 - 12: D, G & E motor speeds (see page 24 for motor speed chart)	12 - 24: A, B & C motor speeds (see page 24 for motor speed chart)	16 - 54	20 - 54	24 - 54
<b>Panel/Drive Frame</b>	Galvanized steel with one-piece drawn venturi		Galvanized steel with one-piece drawn venturi, bolted structural steel channels and motor plate (paint optional)		
	Zinc plated, heavy welded wire guard/support structure (paint optional)	Bolted structural steel channels and motor plate (paint optional)			
<b>Propeller</b>	Aluminum blades riveted to a steel hub		Heavy duty, welded and gusseted painted steel	Heavy duty, cast aluminum	
<b>Motors</b>	Heavy duty, permanently lubricated, sleeve bearing type	Ball bearing type	Heavy duty, permanently lubricated, ball bearing type		

Material Gauges					Max. Motor Frame Size	Approx. Weight (lbs.)	Models	
Fan Size	Fan Panel	Drive Frame	Prop Hub	Prop Blade			Model S1 Sizes 8 to 12	Model S1 Sizes 12 to 24
<b>Level 1, Models: S1</b>								
8	18	-**	-	-	48	15		
10	18	-**	-	-	48	16		
12	18	14**/*	-	-	48	20		
14	18	14*	-	-	56	27		
16	18	14*	-	-	56	30		
18	18	14*	-	-	56	35		
20	18	14*	-	-	145T	39		
24	18	14*	-	-	145T	45		
<b>Level 2, Models: S2</b>							<b>Model S2</b>	
16	18	14	14	16	56	40		
18	18	14	14	16	56	45		
20	16	12	14	16	145T	60		
24	18	12	14	16	145T	85		
30	16	12	12	16	184T	130		
36	16	12	12	16	215T	230		
42	14	10	10	14	254T	290		
48	14	10	10	14	254T	375		
54	14	10	10	14	256T	465		
<b>Level 3, Models: SC3</b>							<b>Model SC3</b>	
20	16	12	Cast Aluminum Prop	Cast Aluminum Prop	145T	55		
24	18	12			184T	80		
30	16	12			184T	125		
36	16	12			215T	220		
42	14	10			254T	290		
48	14	10			254T	386		
54	14	10			256T	477		
<b>Reversible, Model SCR3</b>							<b>Model SCR3</b>	
24	16	12	Cast Aluminum Prop	Cast Aluminum Prop	184T	80		
30	16	12			184T	125		
36	16	12			215T	220		
42	14	10			254T	290		
48	14	10			254T	386		
54	14	10			256T	477		





\* A, B and C motor speeds only. Approximate weight does not include accessories.

\*\* D, G and E motor speeds have a wire frame rather than a drive frame.

# Belt Drive

## Construction and Material Data

	Level 1	Level 2	Level 3 and Reversible	
<b>Model Sizes</b>	20 - 54	20 - 60	24 - 36	42 - 72
<b>Panel/Drive Frame</b>	Galvanized steel with one-piece drawn venturi, bolted structural steel channels and one-piece motor/bearing plate		Galvanized steel with one-piece drawn venturi, bolted structural steel channels and two piece motor/bearing plate	
	(paint optional)		(all-welded panel/drive frame optional, paint optional)	
<b>Propeller</b>	Galvanized steel, riveted blades (aluminum optional)	Reinforced galvanized steel, riveted blades, keyed hub (excluding the 2L)	SB - Heavy duty, welded, reinforced, powder-coated steel blades. All with keyed hubs.	SB - Heavy duty, welded, reinforced, powder-coated steel blades. All with keyed hubs. SBC - Heavy duty, cast aluminum blades. All with keyed hubs.
<b>Bearings</b>	Stamped steel pillow blocks up to size 36 and cast pillow blocks for size 42 and larger		Cast iron pillow blocks with grease fittings	

Material Gauges								Shaft Size	Max Motor Frame Size	Approx. Weight (lbs.)	Models	
Fan Size	Fan Panel	Drive Frame	Propeller									
			Hub		Blade							
L	H	L	H	L	H							
<b>Level 1</b>											<b>Model SB-1H</b>	
20	18	14	14	16	18	3/4	56	60				
24	18	14	14	16	18	3/4	56	70				
30	18	12	14	12	16	3/4	56	95				
36	18	12	14	12	16	3/4	145T	110				
42	16	12	12	10	14	1	145T	150				
48	16	12	12	10	14	1	145T	175				
54	14	12	12	10	14	1	145T	205				
<b>Level 2</b>											<b>Model SB-2L</b>	
20	18	14	14	16	18	3/4	143T	65				
24	18	14	14	16	18	3/4	145T	75				
30	18	12	14	12	16	1	184T	100				
36	18	12	14	12	16	1	184T	115				
42	16	12	12	10	14	1 1/4	184T	160				
48	16	12	12	10	14	1 1/4	184T	260				
54	16	12	12	10	14	1 1/4	184T	315				
60	14	12	10	12	12	1 1/2	215T	370				
<b>Level 3 and Reversible</b>											<b>Model SB-3L</b>	<b>Model SBCR</b>
24	18	14	12	*16	3/4	145T	90					
30	16	12	12	*16	1	184T	140					
36	16	12	12	*16	1 1/4	184T	260					
42	14	12	10	*14	1 1/2	215T	320					
48	14	12	10	*14	1 1/2	215T	420					
54	14	10	10	*14	1 1/2	254T	590					
60	14	10	3/16 in.	*12	1 3/4	256T	755					
72	12	10	3/16 in.	*12	2	256T	1050					

Note: Approximate weight does not include accessories.

\* SBCR uses cast aluminum propeller. Propeller blade gauge column does not apply.

## Electrical Accessories

### Disconnect Switches

Toggle type and heavy duty disconnect switches are available for positive electrical shut-off and safety in servicing fans. The following switches are available to meet individual electrical requirements and can be factory mounted or shipped loose for field mounting. Wiring from the motor to the disconnect box is provided with factory mounted disconnect switches.

- NEMA-1 - General purpose
- NEMA-3R - Rainproof
- NEMA-4 - Watertight
- NEMA-3R & NEMA-4 - Heavy Duty
- NEMA-7 & 9 - for Class 1 and Class 2 hazardous locations.



### UL/cUL 705

All belt and selected direct drive fans with TE standard efficiency, single-speed motors are available with the UL 705 listing for electrical.

### Extended Wiring Pigtail

Available only in conjunction with factory mounted disconnect switches, liquid tight wiring pigtails allow direct hook-up to the power supply which eliminates field wiring at the fan. Internal or external power supply can be specified.

### End Switches

Factory mounted end switches allow the damper to open completely before the fan is energized. This will reduce the back pressure and brake horsepower load on the fan motor at startup. (Field supplied motor starter with a relay is required to complete the wiring on a system using an end switch.)

## Finish Options

### Coatings

A variety of special coatings ranging from enamels to phenolics are available for decorative or protective purposes. When a special coating is selected for the fan, all accompanying accessory items are also coated unless specified. Consult your local representative for more details.

### Welded and Painted Fan Construction

For applications where extra heavy construction is required, welded steel construction is available. With this option, all stationary connections which are normally bolted, are welded and coated with an industrial grade paint. This option applies to belt drive level 3 fans and direct drive level 2 and 3 fans only.

### One-Point Wiring

Available when the following items are selected:

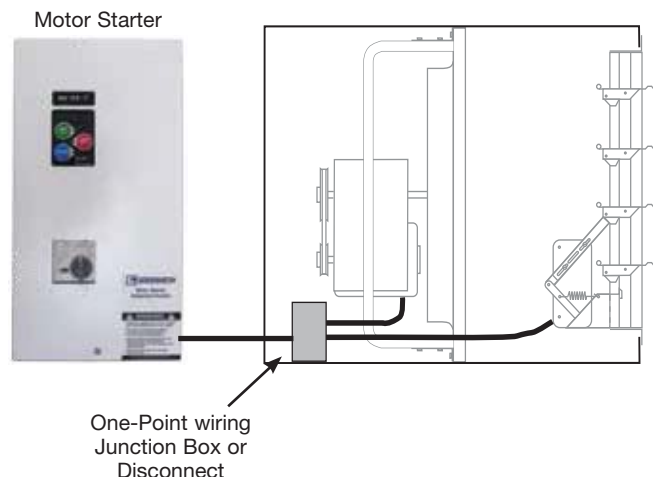
- Common voltages on the motor and the actuator
- Disconnect mounted and wired
- Wall housing

The wires are pulled from the motor and the actuator on the damper to the disconnect box. (Hard wiring of the components to the disconnect switch is by others.)






**Exception:** When a specific voltage is not available on the actuator, Greenheck will provide a hard wired transformer to the actuator. Greenheck will then pull the wires from the transformer to the disconnect box. (see below)

### Greenheck MSAC Motor Starters

Can be used to coordinate dampers, end switches and motor starting. They protect the motor, offer control options, and provide Lockout/Tag out features as well. (see below)





Option or Accessory		Mounting Option				
		Standard Wall Mounting	Standard Horizontal Mounting	Wall Collar	Wall Housing	Filtered Supply Wall Housing
	Page Number	p.9	p.9	p.12	p.12	p.11
<p><b>Motor Side Guard</b></p> <p>Protective guards of welded steel wire completely enclose the motor and drive side of the fan. Guards are powder-coated. Other paint finishes are also available. Sizes 20 and larger only.</p>		✓		✓		
<p><b>OSHA Motor Side Guard</b></p> <p>Protective guards of expanded metal screen in structural steel frames are available to completely enclose the motor and drive side of the fan.</p>		✓		✓		
<p><b>Weatherhood</b></p> <p>Weatherhoods shield wall openings and dampers from rain and snow. Weatherhoods are shipped unassembled in kit form for field assembly. Construction is of galvanized steel with wire mesh birdscreen. Mounting flanges have prepunched mounting holes. 45° turn down is for exhaust and 90° turn down is for exhaust and supply. Options include aluminum construction, insect screen and painted finish. The weatherhood cannot be used with the damper guard option.</p>		✓		✓	✓	✓
<p><b>Damper Guard</b></p> <p>Damper guards meet the OSHA requirements to completely enclose the damper or wall openings on the discharge side of the fan. They are constructed of expanded galvanized steel screen in galvanized steel frames. Mounting flanges have prepunched mounting holes. Options include aluminum construction and painted finish. The damper guard cannot be used with the weatherhood option.</p>		✓		✓	✓	✓
<p><b>Dampers</b></p> <p>Used alone or in conjunction with the wall housing or wall collar, a complete line of dampers are available for exhaust or supply configurations.</p>		✓		✓	✓	✓

# Mounting Options Overview

	Mounting Option	Description	Page
<p><b>Standard Wall Mounting</b></p>		<p>Fan can be mounted directly to a wall.</p>	<p>9</p>
<p><b>Standard Horizontal Mounting</b></p>		<p>Fan can be horizontally mounted to move air up or down.</p>	<p>9</p>
<p><b>Filtered Supply Wall Housing</b></p>		<p>The filtered supply wall housing is a flexible and easy way to mount the fan for installations where filtering is required.</p>	<p>11</p>
<p><b>Wall Housing</b></p>	 <p style="text-align: right; color: blue; font-size: small;">Optional Accessories</p>	<p>The wall housing is the easiest and most flexible way to mount the sidewall propeller fan and all of its accessories.</p>	<p>12</p>
<p><b>Wall Collar</b></p>	 <p style="text-align: right; color: blue; font-size: small;">Optional Accessories</p>	<p>The wall collar is an easy way to mount the sidewall propeller fan and its accessories.</p>	<p>12</p>



## Standard Wall Mounting

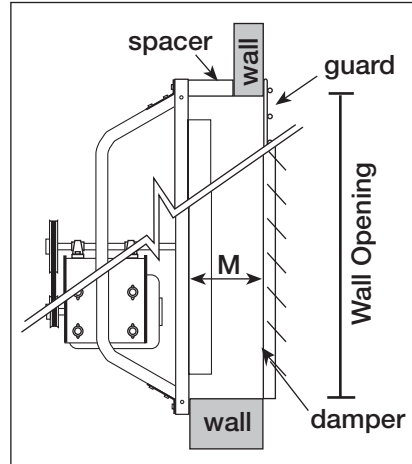
The split drawing (right) illustrates the typical ways of mounting fans directly to the wall when a wall housing or collar is not used.

For exhaust fans, there is a minimum dimension (M) which must be maintained between the propeller and damper, or guard to achieve optimum performance (*failure to meet this minimum dimension will result in loss of fan performance, increased noise and shortened fan and damper life*). There is also a minimum required wall opening dimension (W.O.) to allow the venturi to fit into the wall opening.

The chart at far right provides the minimum “M” and wall opening dimensions.

This installation may require a spacer (by others) between the fan and wall to achieve the minimum “M” dimension.

Fans can be mounted directly to a wall only if the wall is of sufficient thickness to meet the minimum “M” dimension as shown here. If mounting to a wall through the face of the fan panel, holes will need to be appropriately drilled where required.



Fan Size	M	Wall Opening
8	6 (152)	10½ (267)
10	6 (152)	12½ (318)
12	7 (178)	14½ (368)
14	8 (203)	16½ (419)
16	9 (229)	18½ (470)
18	10 (254)	20½ (521)
20	12 (305)	22½ (572)
24	13 (330)	26½ (673)
30	13 (330)	32½ (826)
36	14 (356)	38½ (978)
42	15 (381)	44½ (1130)
48	16 (406)	50½ (1283)
54	17 (432)	57½ (1435)
60	19 (483)	63½ (1588)
72	19 (483)	74½ (1892)

All dimensions given in inches (mm).

## Standard Horizontal Mounting

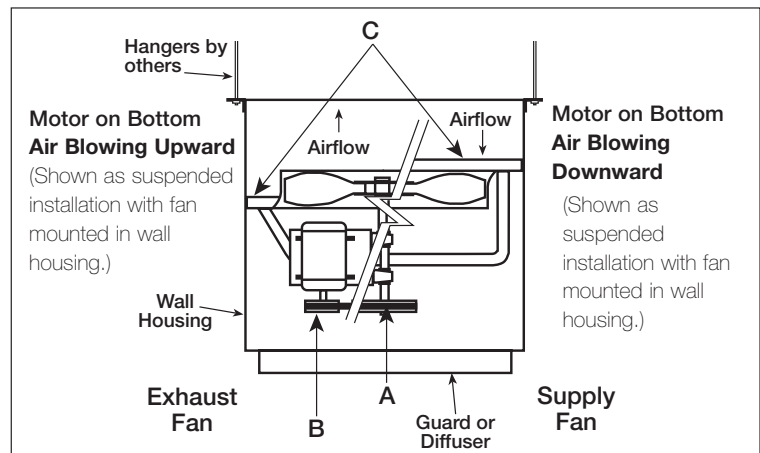
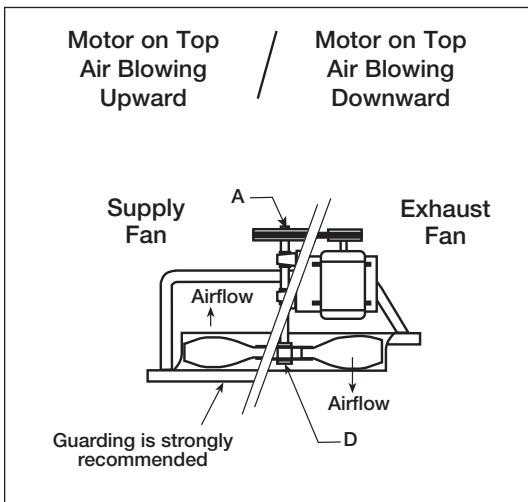
Modifications Shown in Diagrams	
A	Grooved shaft with snap rings (belt drive fans)
B	Motor pulley retaining hardware (belt drive fans with motor on bottom)
C	Reinforcing angles on fan panel (all fans with motor on bottom)
D	Propeller retaining hardware - not shown (direct drive fans with motor on top)

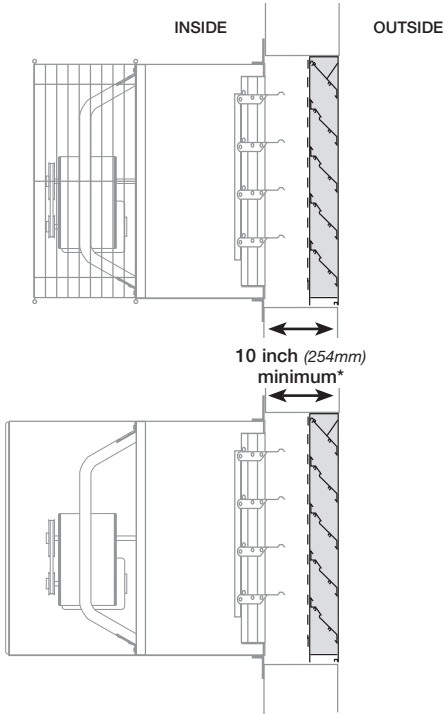
NOTE: Protective guarding is also required below the fan for safety. When guarding is not ordered with the fan, it must be supplied by the installer. When specifying a fan for horizontal mounting, the motor location (top or bottom) and airflow (upward or downward) are required information.

Horizontally mounted fans are available for applications requiring vertical airflow.

Typical applications include mounting fans in ductwork or plenums as transfer fans or suspending them from the ceiling in a wall housing for use as recirculation fans. Both belt and direct drive fans can be horizontally mounted. Motors can be mounted on top or on bottom with airflow up or down. Specify configuration best suited for access and service.

Horizontally mounted fans are put under different stresses than fans mounted in a wall. Construction modifications are required depending on motor location (top or bottom) and whether the fan is belt or direct drive.



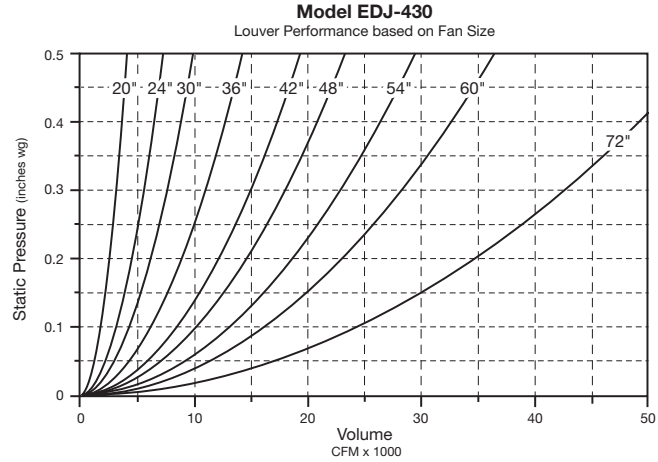


\*Can be smaller based on fan size

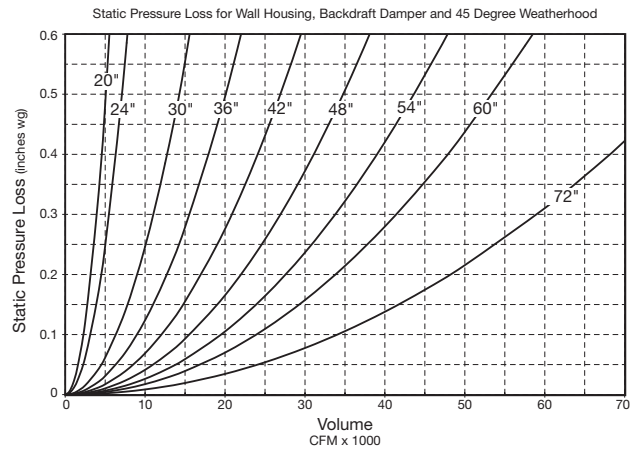
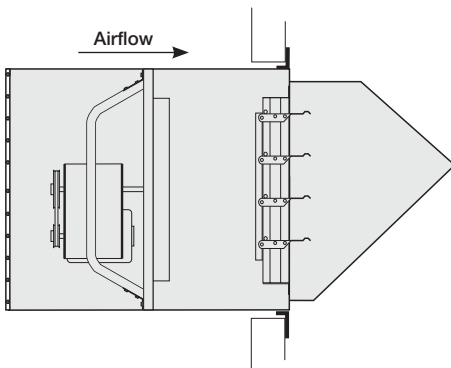
## Louver Mounting

Where an exterior louvered appearance is desired, a variety of louvers can be used in conjunction with the wall housing or wall collar as shown. However, since louver free area is less than half of the wall opening, pressure drop across the louver must be considered when specifying the fan. The graph below shows louver pressure drop for Greenheck model EDJ-430 based on CFM and fan size.

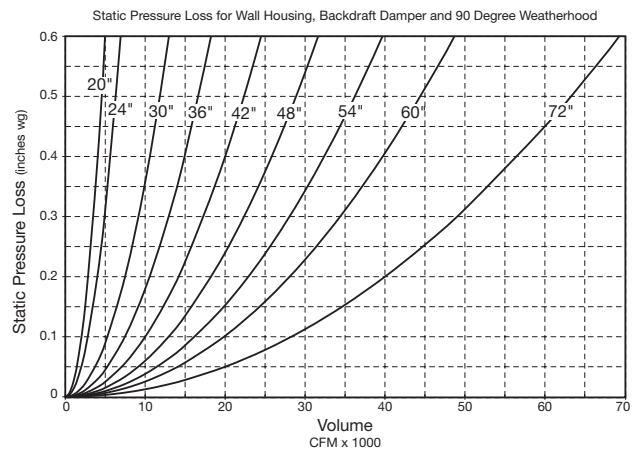
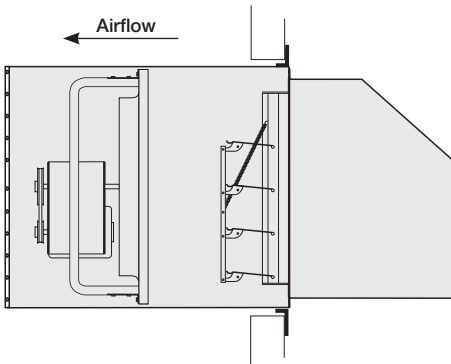
For additional louver information visit [www.greenheck.com](http://www.greenheck.com) or refer to the catalog Louver Products: Severe Duty, Stationary, Operable.



## EXHAUST FAN in Wall Housing with Gravity Damper and Weatherhood



## SUPPLY FAN in Wall Housing with Gravity Damper and Weatherhood



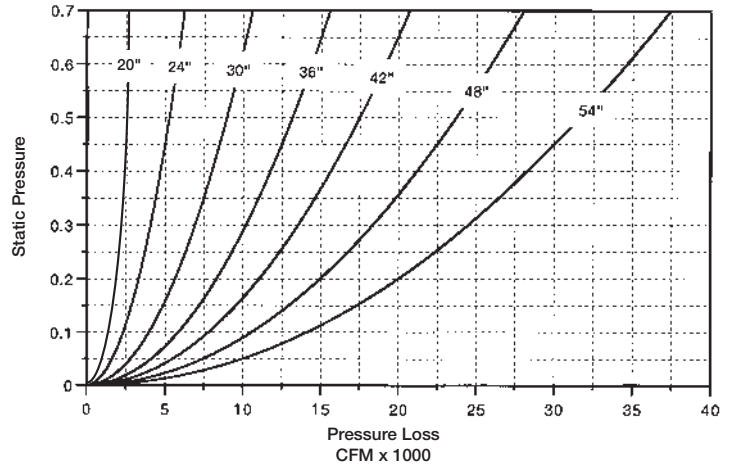
See section on page 12 about water ingress and mitigation on supply fans.

# Mounting Options

## FILTERED SUPPLY FAN in Wall Housing with Filter Bank, Gravity Damper and Weatherhood



Note: This chart is for manual calculations only. CAPS has filter losses built into the selection tool when the filtered housing option is selected.



## Filtered Supply Wall Housing Mounting

Filtered supply wall housings are available in six sizes for fans ranging from size 24 to 54 inches (610 to 1372 mm). They are designed with the draw-thru concept to achieve the highest filter and fan efficiencies.



Standard construction is galvanized steel (painted steel optional). Mounting flanges are factory installed for either flush exterior or flush interior mounting. Permanent 2-inch (51 mm) washable filters are accessed through a bolted panel and can be easily removed for cleaning.

Size	Filter Size & Quantity
24	(4) 23 <sup>1</sup> / <sub>4</sub> (591) x 16 <sup>1</sup> / <sub>4</sub> (413)
30	(4) 24 <sup>3</sup> / <sub>8</sub> (625) x 19 <sup>1</sup> / <sub>4</sub> (489)
36	(6) 23 <sup>1</sup> / <sub>4</sub> (591) x 22 <sup>1</sup> / <sub>8</sub> (562)
42	(6) 24 <sup>1</sup> / <sub>8</sub> (613) x 25 <sup>1</sup> / <sub>8</sub> (638)
48	(12) 23 <sup>1</sup> / <sub>4</sub> (591) x 18 <sup>3</sup> / <sub>4</sub> (476)
54	(12) 23 <sup>1</sup> / <sub>4</sub> (591) x 20 <sup>3</sup> / <sub>4</sub> (527)

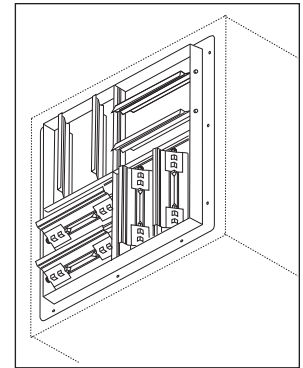
Filters are 2 inch (51 mm) nominal thickness. Above filter sizes are actual dimensions. All dimensions given in inches (mm).

All accessory items available with the standard wall housing can be used with the filtered supply wall housing.



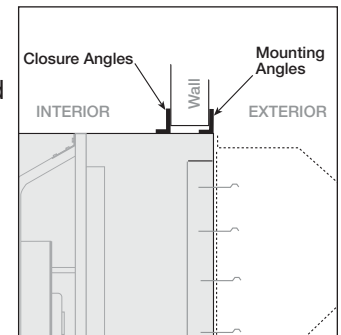
## Diffusers - Wall Housing Mounted - Manual Operator

Diffusers are constructed with heavy-gauge galvanized steel frames, blades and prepunched mounting flanges. They are designed to mount to the interior end of the wall housing when used in the supply configuration. Manual quadrants set the angle of the blades to deflect air in 1, 2 or 4 directions.



## Closure Angles

An extra set of mounting flanges are available for field installation to close off the interior wall opening for a finished appearance.





## Wall Housing Mounting

Wall housings are the safest, most efficient and sturdy platform for mounting sidewall propeller fans and their optional accessories. Wall housings allow for a wide range of mounting arrangements to meet specific applications. It is constructed of galvanized steel (painted steel optional) with heavy gauge mounting flanges and prepunched mounting holes. Protective guards of welded steel wire completely protect the drive side of the wall housing. Guards are coated with Permatector™, a thermal setting polyester urethane. Other paint finishes are also available. Wall housing guards that meet OSHA requirements are also available.



The wall housing is designed to reduce installation time and provide maximum installation flexibility. Attached accessories such as backdraft dampers, guards and weatherhoods may mount to either end. As a result a wide variety of configurations are available to accommodate the needs of the system designer.

Note: Wall collar, fan, damper and guards ship completely factory assembled except when ordered as a kit. Weatherhood ships loose.



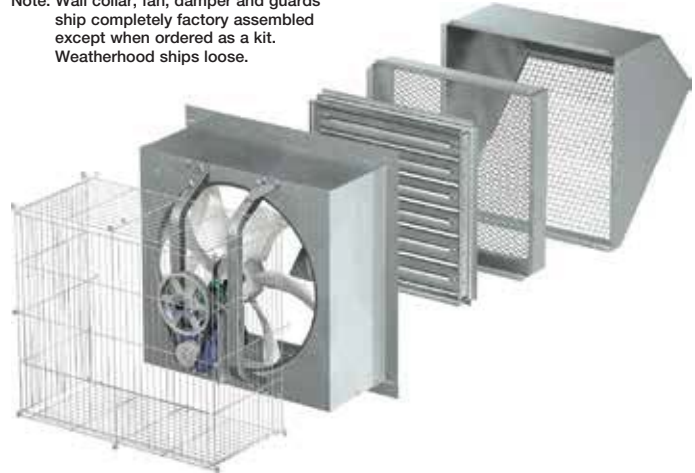
Wall housing or wall collar should be tipped slightly to the outside for water drainage.

## Wall Collar Mounting

Wall collars offer an alternate method for mounting sidewall propeller fans and the optional accessories shown here. Standard construction is of galvanized steel (painted steel is optional) with heavy gauge mounting flanges and prepunched mounting holes.



Note: Wall collar, fan, damper and guards ship completely factory assembled except when ordered as a kit. Weatherhood ships loose.



## Water Ingress and Mitigation

Fans installed to supply air to a building carry the inherent risk of supplying moisture to the building as well. Rain, snow, driving wind, and cold temperature frosting can all contribute to the possibility of unwanted moisture entering the building.

The amount of water captured is dependent on air velocity, water droplet size, length of event, wind strength and wind direction. Because of these variables some degree of water entrainment can occur. Caution should be exercised when supplying air with a sidewall propeller fan.

- Weatherhoods and louvers are recommended to reduce the likelihood of water entering a building through the fan opening.
- Installing the fan with a slight slope toward the outside (1/8 inch per foot or more) will minimize water ingress to the building.
- Air velocities below 500 ft/min reduce the risk of rain ingress; however snow can be captured at much lower rates.
- Installation orientation consideration - mounting a fan on west or south side of a building increases potential for driving rain/moisture. Consider the north or east side for supply air fan mounting.
- Consider mounting under an eave with a rain gutter if fan will be mounted near the roofline.

The first consideration in any fan selection is the amount of air to be moved and the resistance to this air movement. With specific performance and application criteria in mind, propeller fan selections typically require decisions based on the following criteria.

## Belt Drive vs. Direct Drive

Belt drive fans offer the ability to adjust fan speed for system balancing if necessary. They also offer more flexibility in speeds and motor selections. In a cost comparison, belt drive fans are typically less costly than comparable size direct drive fans with low speed motors.

Direct drive fans are often preferred for jobs where maintenance access is difficult. Maintenance costs are generally lower with direct drive fans, since there are no belts or bearings to replace and no pulleys to adjust.

## Larger Fans vs. Smaller Fans

In most applications, several fans may meet the specified airflow and pressure requirements. Just as larger fans tend to turn slower and generate less sound, they also tend to have higher initial costs but lower operating costs. Smaller fans, with their higher speeds, have more stable performance curves, lower initial costs, higher sound levels, and higher operating costs.

## Low Sound vs. High Static Pressure

Fans selected for high static pressures run at higher speeds and produce higher tip speeds, resulting in higher sound levels. Conversely, in low pressure applications, fans generally run at lower speed producing lower sound levels and are recommended for sound sensitive applications.

## How Accessories Affect Static Pressure

All accessory losses must be accounted for when calculating static pressure load. In most cases dampers, guards and weatherhoods actually add very little to the total system pressure. This means that propeller fans used in conjunction with common accessories can typically be specified with low pressure capabilities below .375 in. wg (93 Pa). However, in cases where airflow velocities exceed 1,500 ft/min (7.6 m/s) through the damper or where filters are used, static pressure loss may be significant. For more specific information on pressure losses due to accessories, refer to pages 10 and 11.

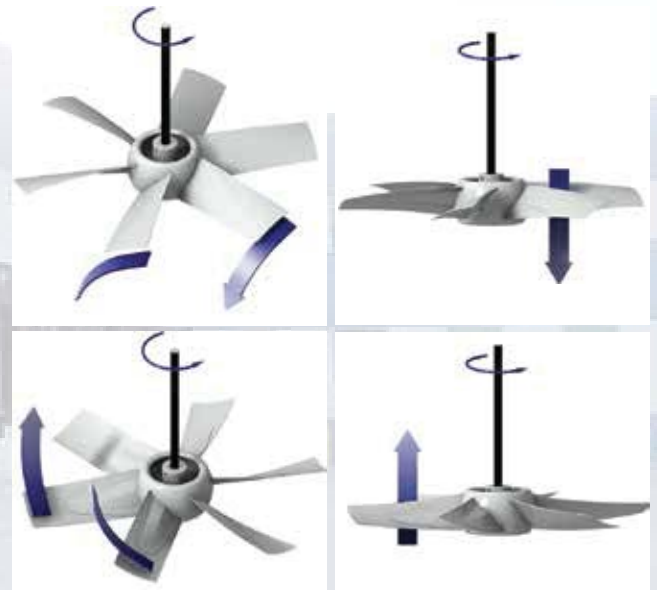
## Motor Service Factor

Motors for sidewall propeller fans are cooled by the airstream. With an uninterrupted flow of cooling air, motors may be operated in their service factor range (up to 20% above the motor's nameplate horsepower) without damage due to overheating. Lesser overloads are recommended for applications using totally enclosed or explosion resistant motors.

Belt drive performance tables in this catalog show two speed selections for each propeller type (L or H) at a given motor hp. The first selection is at 1.0 service factor. The second speed selection is at 1.2 service factor. Direct drive performance tables show Bhp levels with service factors ranging up to 1.2. When a selection at 1.2 service factor is not desirable for the application, specify the next higher motor horsepower.

## Propeller Fan Rotation Guide

Propeller blade should cup and throw the air when rotating in the correct direction as shown below.



# Mounting Options

## Flush Exterior

Sidewall propeller housings can be oriented in eight horizontal and eight vertical configurations. The two main considerations for determining which orientation the project requires are:

1. Will the fan and housing be placed inside the building or outside of the building?
2. How will the motor and drives be most easily accessed, from inside of the building or from outside of the building?

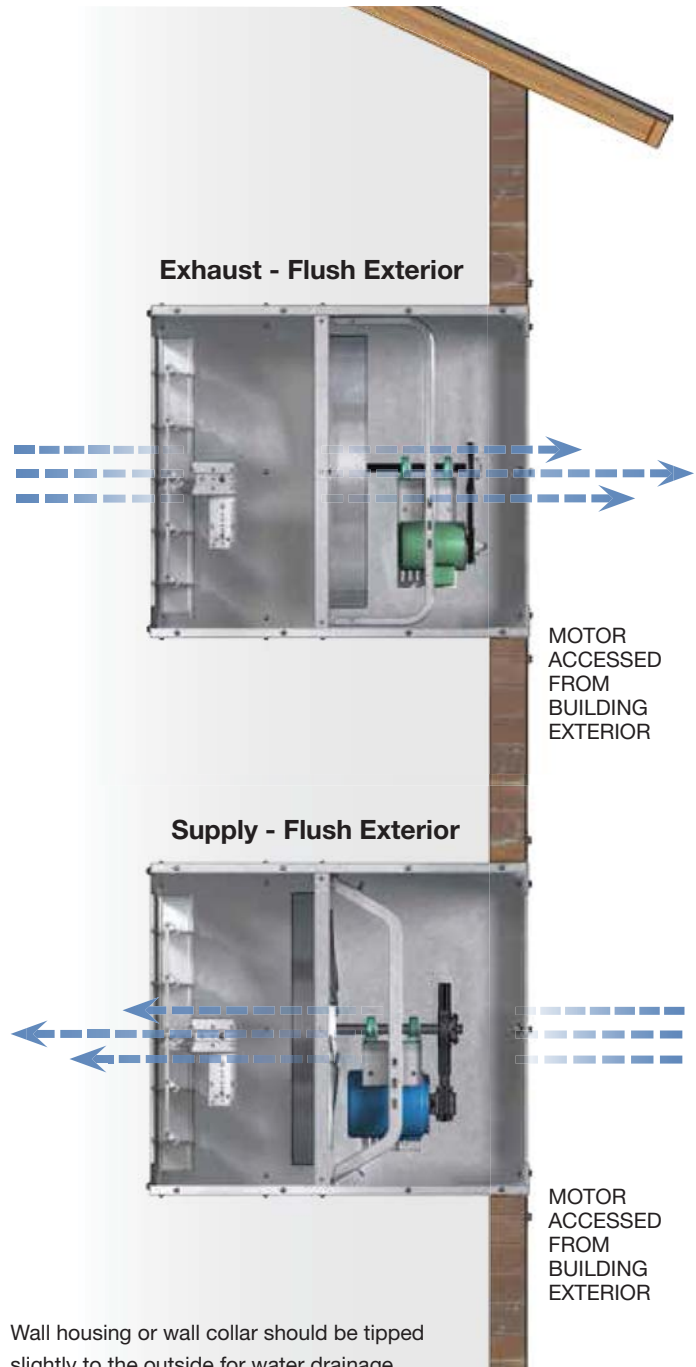
### Motor and Drive Accessed from - Inside of Building

- Damper Outside



### Outside of Building

- Damper Inside



Wall housing or wall collar should be tipped slightly to the outside for water drainage.



# Mounting Options

## Flush Interior

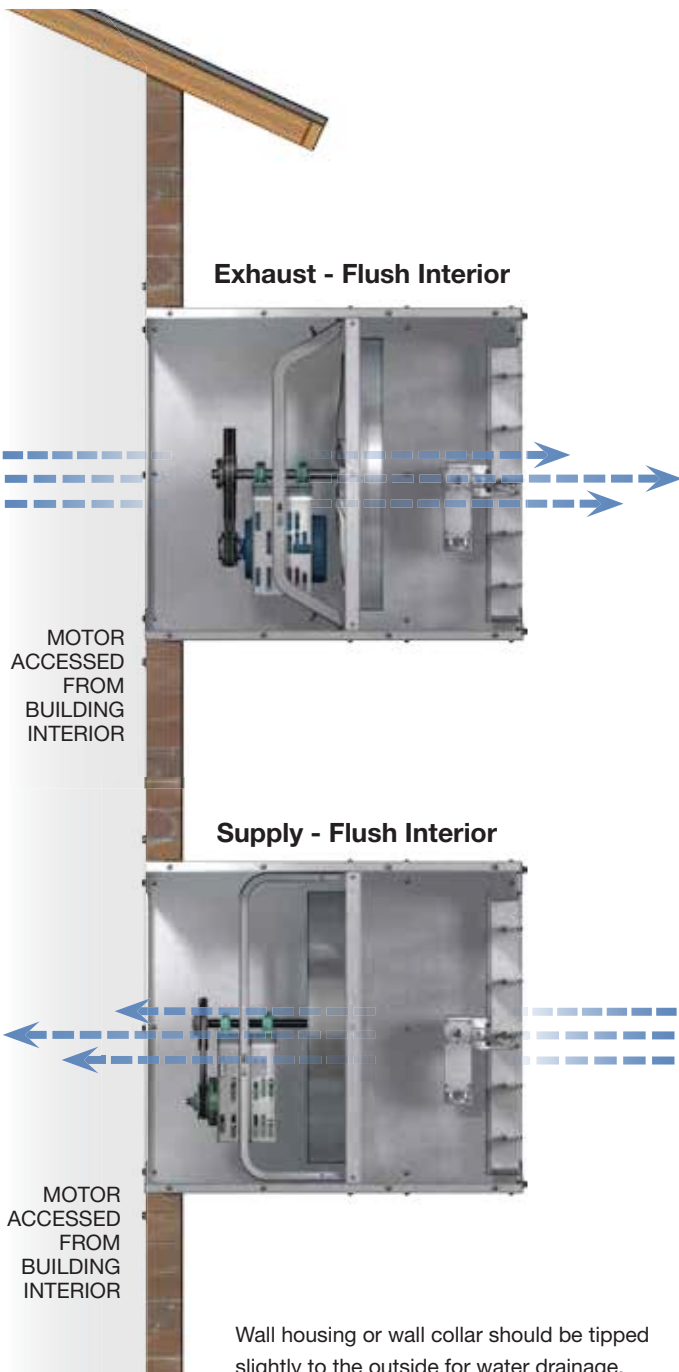
**Flush Interior:** The fan and housing will be outside the building and the end of the housing will be flush with the interior wall.

**Flush Exterior:** The fan and housing will be inside the building and the end of the housing will be flush with the exterior wall.

**Motor Access:** The motor and drives can be placed on either side of the propeller for access to grease bearings, check or change belts and inspect the motor/wiring connections. Failure to assess the best access point can place maintenance personnel in extreme danger if they must reach through the propeller.

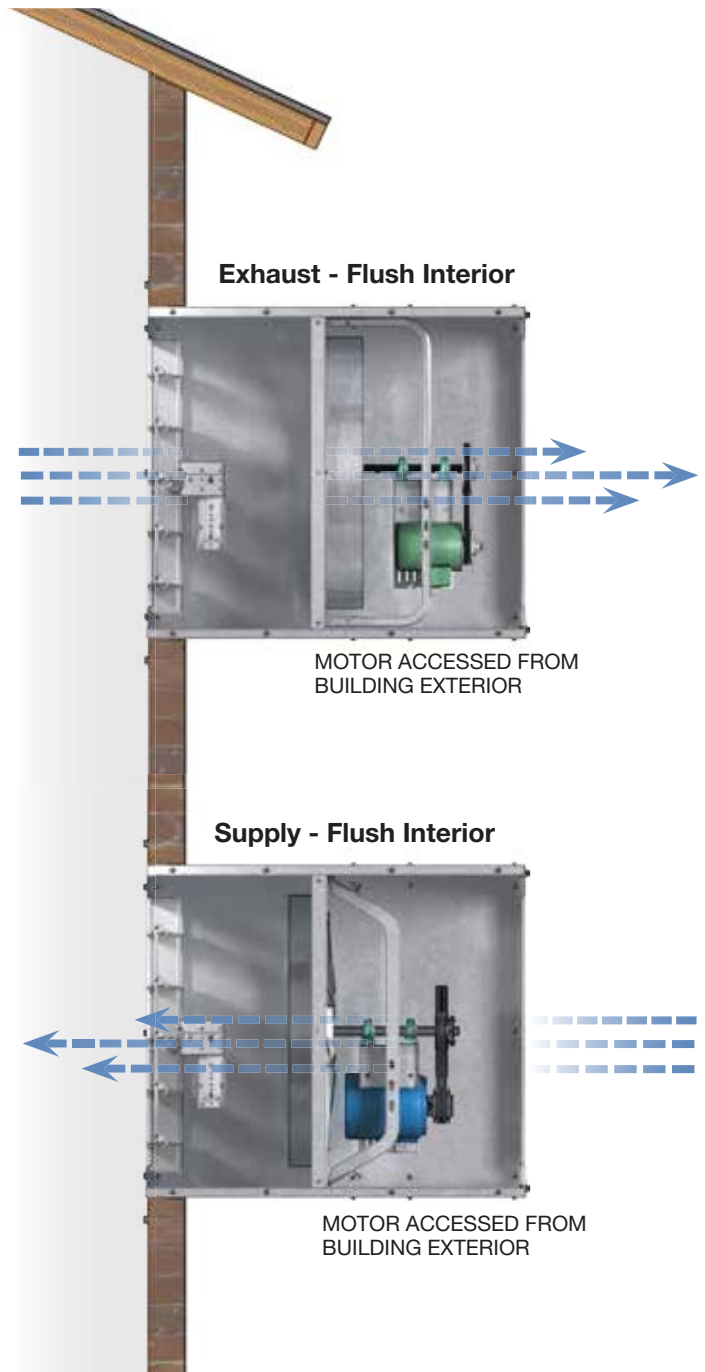
### Motor and Drive Accessed from - Inside of Building

- Damper Outside



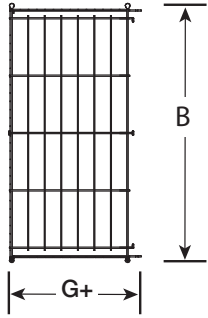
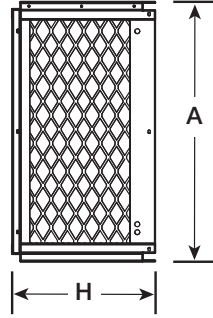
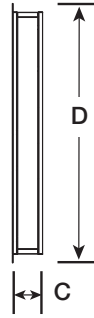
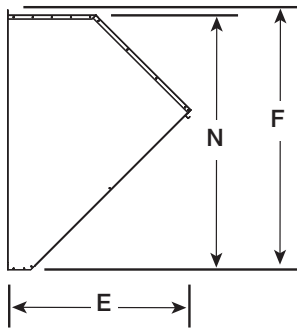
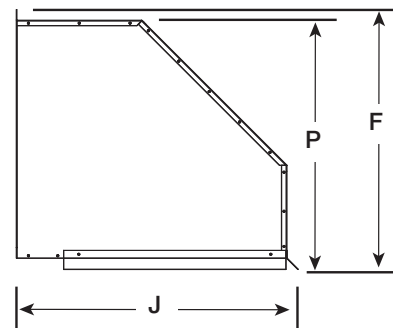
### Outside of Building

- Damper Inside



# Sidewall Options and Accessories

## Weatherhoods / Guard Dimensions

**Motor Side Guard**

**OSHA Side Guard**

**Damper Guard**

**45° Weatherhood**

**90° Weatherhood**


Weatherhood F Dimension		
	45°	90°
8	12 (305)	12¾ (324)
10	14¼ (362)	14⅞ (378)
12	16⅞ (429)	17½ (444)
14	18⅞ (479)	19½ (495)
16	20⅞ (530)	21½ (546)
18	22⅞ (581)	23½ (597)
20	24⅞ (632)	25⅞ (651)
24	31¼ (806)	33⅞ (841)
30	37⅞ (962)	39¼ (997)
36	43⅞ (1114)	45¼ (1149)
42	49⅞ (1267)	51¼ (1302)
48	56 (1422)	57⅞ (1457)
54	62¼ (1581)	63⅞ (1616)
60	68⅞ (1737)	69¾ (1772)
72	80¾ (2051)	82⅞ (2086)

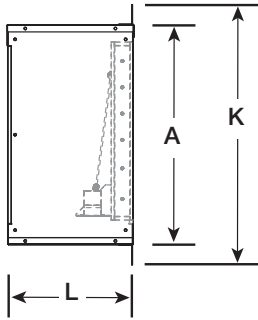
Size	Motor Side Guard		OSHA Side Guard		Damper Guard		Damper	Weatherhood					Galvanized Steel Gauge (ga) Thickness
	B	G+	A	H	C	D		E	J	N	P	Width	
8	—	—	13⅞ (305)	9⅞ (305)	5½ (140)	10¼ (260)	10 (254)	13¼ (337)	16⅞ (305)	11¼ (305)	12 (305)	10½ (267)	18
10	—	—	15¼ (305)	10 (305)	6½ (165)	12¼ (311)	12 (305)	14⅞ (378)	18½ (305)	13⅞ (305)	14 (305)	12½ (318)	18
12	—	—	18 (305)	12 (305)	5¼ (137)	14¼ (362)	14 (356)	16⅞ (416)	20⅞ (305)	15⅞ (305)	16⅞ (305)	14½ (368)	18
14	—	—	20 (305)	12 (305)	6¼ (162)	16¼ (413)	16 (406)	17½ (445)	22½ (305)	17⅞ (305)	18⅞ (305)	16½ (419)	18
16	—	—	22 (305)	12 (305)	6¾ (171)	18¼ (464)	18 (457)	19⅞ (492)	25 (305)	19⅞ (305)	20⅞ (305)	18½ (470)	18
18	—	—	24⅞ (305)	12 (305)	6 (152)	20¼ (514)	20 (508)	22 (559)	27½ (305)	21⅞ (305)	22⅞ (305)	20½ (521)	18
20	28 (305)	17⅞ (305)	25⅞ (305)	17¼ (305)	6½ (165)	22¼ (565)	22 (559)	24¾ (629)	29¼ (305)	23⅞ (305)	24⅞ (305)	22½ (572)	18
24	34 (305)	19½ (305)	31⅞ (305)	20 (305)	6¼ (162)	26¼ (667)	26 (660)	26⅞ (683)	36 (305)	30⅞ (305)	31¼ (305)	29⅞ (740)	18
30	40 (305)	22½ (305)	37⅞ (305)	21¼ (305)	6½ (165)	32¼ (819)	32 (813)	29⅞ (740)	40⅞ (305)	36½ (305)	37⅞ (305)	35⅞ (892)	18
36	46⅞ (305)	23⅞ (305)	43⅞ (305)	24¼ (305)	6¾ (171)	38¼ (972)	38 (965)	33 (838)	45½ (305)	42½ (305)	43⅞ (305)	41⅞ (1045)	18
42	53⅞ (305)	25⅞ (305)	49⅞ (305)	28½ (305)	10 (254)	44¼ (1124)	44 (1118)	35¼ (908)	49¼ (305)	48½ (305)	49⅞ (305)	47⅞ (1197)	18
48	59⅞ (305)	28⅞ (305)	55⅞ (305)	28¼ (305)	9 (229)	50¼ (1276)	50 (1270)	40⅞ (1026)	55½ (305)	54⅞ (305)	56 (305)	53¼ (1353)	18
54	—	—	61⅞ (305)	34¼ (305)	7½ (191)	56¼ (1429)	56 (1422)	44¼ (1137)	61¼ (305)	60⅞ (305)	62¼ (305)	59½ (1511)	16
60	—	—	67⅞ (305)	34¼ (305)	7¼ (184)	62¼ (1581)	62 (1575)	48⅞ (1229)	66½ (305)	67 (305)	68⅞ (305)	65⅞ (1667)	16
72	—	—	81⅞ (305)	34¼ (305)	7½ (191)	74¼ (1886)	74 (1880)	53¼ (1353)	72⅞ (305)	79½ (305)	80⅞ (305)	78⅞ (1984)	16

All dimensions given in inches (mm)

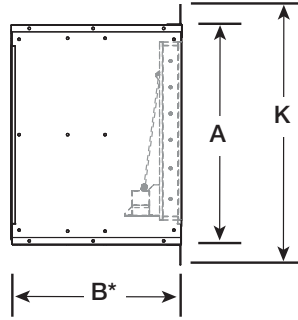
# Sidewall Options and Accessories

## Collars / Housing Dimensions

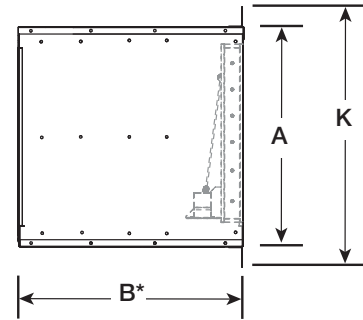
Wall Collar



Short Wall Housing



Long Wall Housing



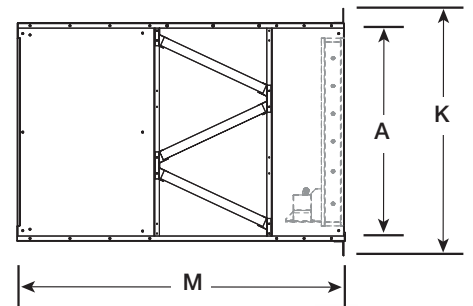
\* B - Short Wall Housing: B dimension will increase by 6 inches (152 mm) when a long wall housing is selected or a motorized backdraft damper is specified. For complete dimensional information refer to submittal. All dimensions given in inches (mm).

\* B - Short Wall Housing: B dimension will increase by 6 inches (152 mm) when a long wall housing is selected or a motorized backdraft damper is specified. For complete dimensional information refer to submittal. All dimensions given in inches (mm).

Size	Wall Collar and Housings						Galvanized Steel Gauge (ga) Thickness
	A	B*	K	L	M	W.O.	
8	13 <sup>1</sup> / <sub>4</sub> (337)	19 (483)	16 <sup>1</sup> / <sub>4</sub> (413)	16 <sup>1</sup> / <sub>8</sub> (410)	—	14 <sup>1</sup> / <sub>4</sub> (362)	18
10	15 <sup>1</sup> / <sub>4</sub> (387)	19 (483)	18 <sup>1</sup> / <sub>4</sub> (464)	16 <sup>1</sup> / <sub>8</sub> (410)	—	16 <sup>1</sup> / <sub>4</sub> (413)	18
12	18 <sup>1</sup> / <sub>4</sub> (464)	23 (584)	21 <sup>1</sup> / <sub>4</sub> (540)	16 <sup>1</sup> / <sub>8</sub> (410)	—	19 <sup>1</sup> / <sub>4</sub> (489)	18
14	20 <sup>1</sup> / <sub>4</sub> (514)	26 (660)	23 <sup>1</sup> / <sub>4</sub> (591)	18 <sup>3</sup> / <sub>8</sub> (467)	—	21 <sup>1</sup> / <sub>4</sub> (540)	18
16	22 <sup>1</sup> / <sub>4</sub> (565)	27 (686)	25 <sup>1</sup> / <sub>4</sub> (641)	18 <sup>3</sup> / <sub>8</sub> (467)	—	23 <sup>1</sup> / <sub>4</sub> (591)	18
18	24 <sup>1</sup> / <sub>4</sub> (616)	28 (711)	27 <sup>1</sup> / <sub>4</sub> (692)	18 <sup>3</sup> / <sub>8</sub> (467)	—	25 <sup>1</sup> / <sub>4</sub> (641)	18
20	26 <sup>1</sup> / <sub>4</sub> (667)	32 (813)	29 <sup>1</sup> / <sub>4</sub> (743)	18 <sup>3</sup> / <sub>8</sub> (467)	—	27 <sup>1</sup> / <sub>4</sub> (692)	18
24	32 <sup>1</sup> / <sub>4</sub> (819)	37 (940)	38 <sup>1</sup> / <sub>4</sub> (972)	18 <sup>3</sup> / <sub>8</sub> (467)	63 (1600)	33 <sup>1</sup> / <sub>4</sub> (857)	18
30	38 <sup>1</sup> / <sub>4</sub> (972)	38 (965)	44 <sup>1</sup> / <sub>4</sub> (1124)	18 <sup>3</sup> / <sub>8</sub> (467)	65 (1651)	39 <sup>1</sup> / <sub>4</sub> (1010)	18
36	44 <sup>1</sup> / <sub>4</sub> (1124)	39 (991)	50 <sup>1</sup> / <sub>4</sub> (1276)	18 <sup>3</sup> / <sub>8</sub> (476)	67 <sup>1</sup> / <sub>4</sub> (1708)	45 <sup>3</sup> / <sub>4</sub> (1162)	18
42	50 <sup>3</sup> / <sub>8</sub> (1280)	44 (1118)	56 <sup>3</sup> / <sub>8</sub> (1432)	18 <sup>3</sup> / <sub>8</sub> (476)	72 <sup>7</sup> / <sub>8</sub> (467)	51 <sup>1</sup> / <sub>4</sub> (1314)	18
48	56 <sup>3</sup> / <sub>8</sub> (1432)	44 (1118)	62 <sup>3</sup> / <sub>8</sub> (1584)	18 <sup>7</sup> / <sub>8</sub> (479)	72 <sup>7</sup> / <sub>8</sub> (1851)	57 <sup>1</sup> / <sub>4</sub> (1467)	18
54	62 <sup>3</sup> / <sub>8</sub> (1584)	52 (1321)	68 <sup>3</sup> / <sub>8</sub> (1737)	20 <sup>1</sup> / <sub>8</sub> (511)	79 <sup>1</sup> / <sub>16</sub> (2024)	63 <sup>3</sup> / <sub>4</sub> (1619)	18
60	68 <sup>3</sup> / <sub>8</sub> (1737)	54 (1372)	74 <sup>3</sup> / <sub>8</sub> (1889)	21 (533)	—	69 <sup>1</sup> / <sub>4</sub> (1172)	16
72	83 <sup>3</sup> / <sub>8</sub> (2111)	60 (1524)	89 <sup>3</sup> / <sub>8</sub> (2264)	22 (559)	—	84 <sup>3</sup> / <sub>4</sub> (2153)	12

All dimensions given in inches (mm)

Filtered Wall Housing



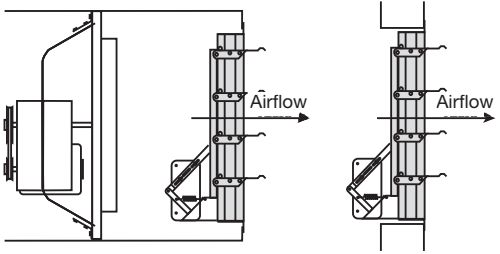
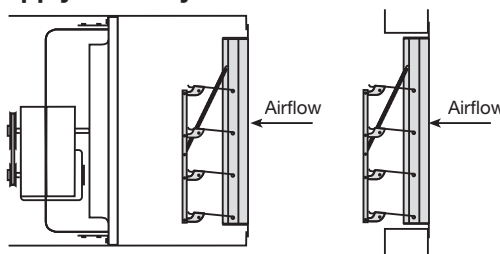
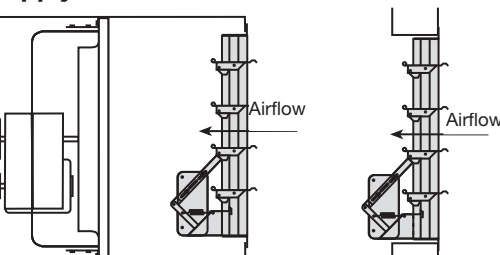


# Backdraft Dampers

Used alone or in conjunction with the wall housing or wall collar, backdraft dampers are available for exhaust or supply configurations. Backdraft dampers are constructed with galvanized frames, aluminum blades and vinyl blade seals. Actuators are available in 24, 120, 208, 230 or 460 volts. Actuators for 50 cycle voltages are also available.



WD-300

Damper Type	Description	Flush Exterior	Flush Interior
<p><b>Exhaust - Gravity or Motorized<sup>1</sup></b></p>  <p>Wall Housing Installation      Wall Installation</p>	<p>WD-320 and WD-300 exhaust dampers are available as either gravity operated or motorized</p> <p><i>Model WD-320 shown</i></p>	<p>Exhaust backdraft dampers are model WD-320, which has the prepunched mounting flange located on the inlet end of the damper for a flush exterior appearance.</p>	<p>For applications where the mounting flange is required on the inlet end of the damper (so that the damper projects to the exterior), the model WD-300 is available.</p>
<p><b>Supply - Gravity<sup>2</sup></b></p>  <p>Wall Housing Installation      Wall Installation</p>	<ul style="list-style-type: none"> <li>• WD-430 and WD-420 intake dampers are only available as gravity operated</li> <li>• Galvanized steel frame and aluminum blades</li> </ul> <p><i>Model WD-430 shown</i></p>	<ul style="list-style-type: none"> <li>• Model WD-430 has a prepunched mounting flange located on the inlet end of the damper for a flush exterior appearance</li> <li>• Flange on intake</li> </ul>	<ul style="list-style-type: none"> <li>• Model WD-420 is for applications where a prepunched mounting flange is required on the outlet end of damper (so the damper projects to the exterior)</li> <li>• Flange on discharge</li> </ul>
<p><b>Supply - Motorized<sup>3</sup></b></p>  <p>Wall Housing Installation      Wall Installation</p>	<ul style="list-style-type: none"> <li>• WD-220 and WD-210 intake dampers are only available as motorized</li> <li>• Galvanized steel frame and aluminum blades</li> </ul> <p><i>Model WD-220 shown</i></p>	<ul style="list-style-type: none"> <li>• Model WD-220 has a prepunched mounting flange located on the inlet end of the damper for a flush exterior appearance</li> <li>• Flange located opposite of motor side of the damper</li> </ul>	<ul style="list-style-type: none"> <li>• Model WD-210 is for applications where a mounting flange is required on the outlet end of the damper (so that the damper projects to the exterior)</li> <li>• Flange located on motor side of the damper</li> </ul>

<sup>1</sup> Model WD-320 and WD-300 are used with fans where the motor is 5 hp or less. For fans with motors larger than 5 hp, the model GM-31 medium duty gravity backdraft damper or the model VCD heavy duty motorized backdraft dampers are required.

<sup>2</sup> Model WD-430 and WD-420 are used with fans where the motor is 5 hp or less. For fans with motors larger than 5 hp, the model VCD heavy duty motorized backdraft dampers are required.

<sup>3</sup> Model WD-220 and WD-210 are used with fans where the motor is 3 hp or less. For fans with motors larger than 3 hp, the model VCD heavy duty motorized backdraft damper is required.

Note: Wall housing length increases by 6 inches (152 mm) when a heavy duty backdraft damper is specified.

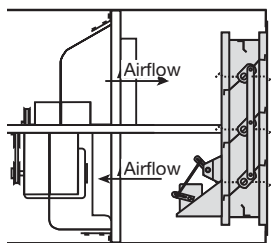
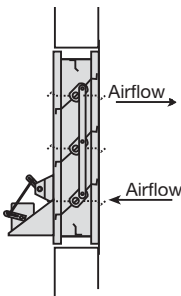
# Dampers

## Volume Control / Heavy Duty

Volume control dampers are available for exhaust or supply configurations and may be used alone or in conjunction with the wall housing or wall collar. Constructed with heavy galvanized steel frames and blades, model VCD dampers are designed to handle higher air volumes than the standard backdraft damper. Dampers are available in standard leakage (VCD-20), low leakage (VCD-23) and insulated low leakage (VCD-34) configurations. Actuators are available in 24, 120, 208, 230 or 460 volts. Actuators for 50 cycle voltages are also available.

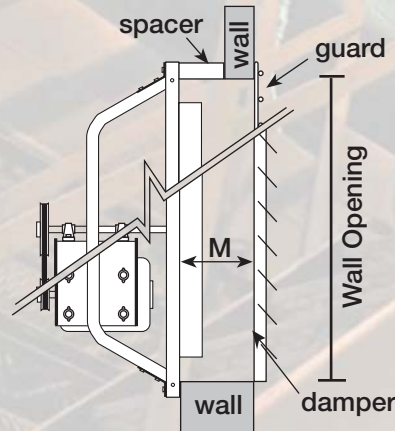


VCD-20

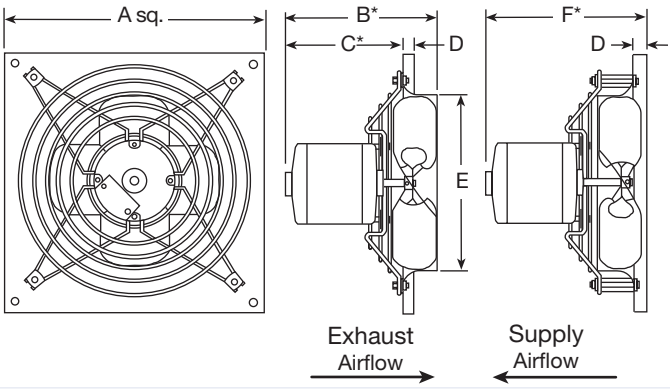
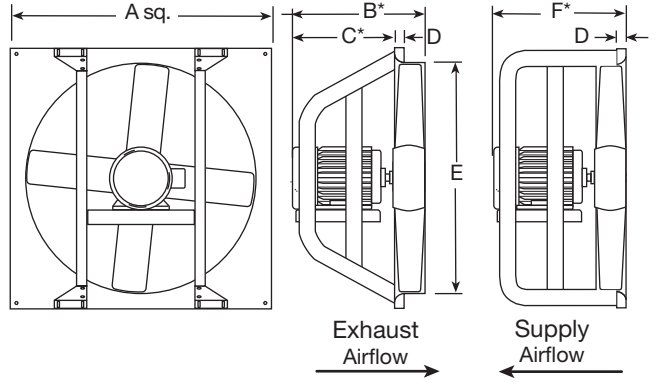
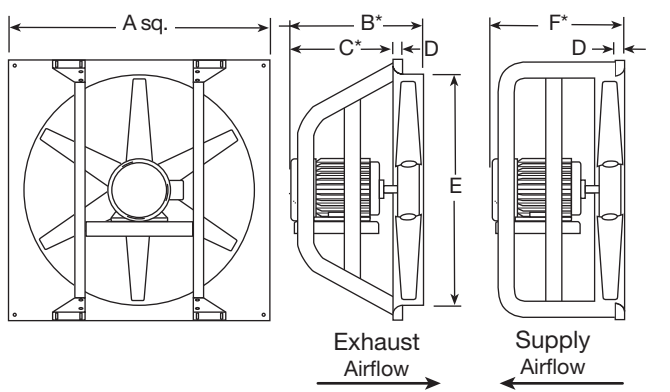
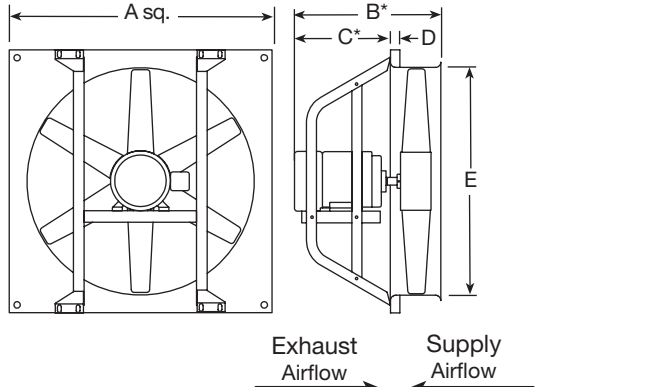
Flush Interior	Damper Type	Description	Flush Exterior
N/A	<b>Exhaust or Supply - Motorized</b>	<p><b>Model VCD-20 Standard leakage</b></p> <p><b>Model VCD-23 Low leakage</b> This damper has blade and jamb seals for minimal leakage when closed.</p> <p><b>Model VCD-34 Insulated low leakage</b> This damper has blade and jamb seals for minimal leakage when closed. Blades are constructed with 1/2 in. (13 mm) polystyrene insulation between two galvanized steel skins.</p>	The VCD damper has the parallel blade set-up and a prepunched mounting flange that provides a flush exterior appearance.
 <p>Wall Housing Installation</p>	 <p>Wall Installation</p>		

Fan Size	M	Wall Opening
8	6 (152)	10½ (267)
10	6 (152)	12½ (318)
12	7 (178)	14½ (368)
14	8 (203)	16½ (419)
16	9 (229)	18½ (470)
18	10 (254)	20½ (521)
20	12 (305)	22½ (572)
24	13 (330)	26½ (673)
30	13 (330)	32½ (826)
36	14 (356)	38½ (978)
42	15 (381)	44½ (1130)
48	16 (406)	50½ (1283)
54	17 (432)	57½ (1435)
60	19 (483)	63½ (1588)
72	19 (483)	74½ (1892)

All dimensions given in inches (mm).



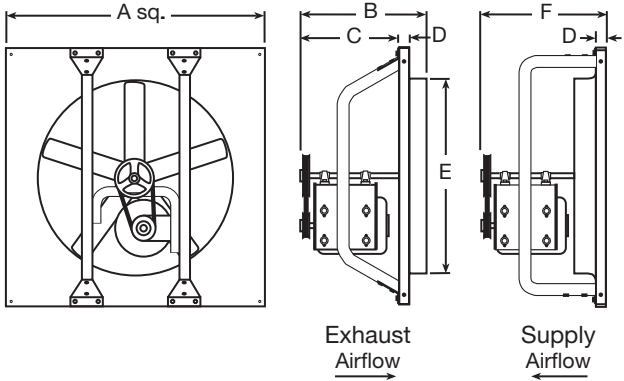
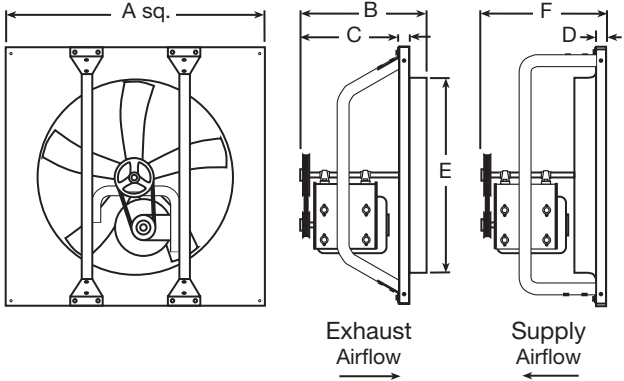
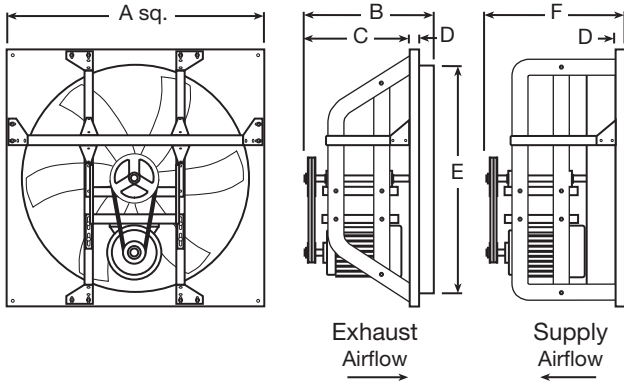
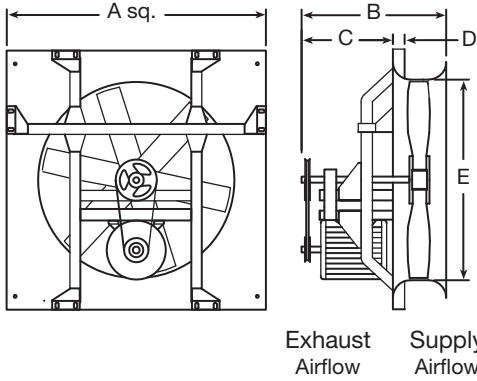
Volume control dampers that are ordered with explosion proof (EXP) actuators will effect overall length of long wall housing depending on fan size and actuator; consult factory.

Fan Size	A Panel**	B*	C*	D	E	F*	Damper Size**	
<b>Level 1</b>								<b>Level 1: Sizes 8 - 12</b> 
8	13 (330)	7 (178)	5 (127)	1 (25)	8 <sup>3</sup> / <sub>8</sub> (213)	8 (203)	10 (254)	
10	15 (381)	8 <sup>3</sup> / <sub>4</sub> (222)	5 (127)	1 (25)	10 <sup>3</sup> / <sub>8</sub> (264)	8 (203)	12 (305)	
12	18 (457)	10 <sup>3</sup> / <sub>4</sub> (273)	8 <sup>1</sup> / <sub>4</sub> (210)	1 (25)	12 <sup>3</sup> / <sub>8</sub> (314)	13 <sup>1</sup> / <sub>8</sub> (333)	14 (356)	
14	20 (508)	11 <sup>1</sup> / <sub>4</sub> (286)	8 <sup>1</sup> / <sub>2</sub> (216)	1 (25)	14 <sup>3</sup> / <sub>8</sub> (365)	14 <sup>1</sup> / <sub>4</sub> (362)	16 (406)	
16	22 (559)	11 <sup>3</sup> / <sub>4</sub> (298)	8 <sup>1</sup> / <sub>2</sub> (225)	1 (25)	16 <sup>3</sup> / <sub>8</sub> (416)	14 (356)	18 (457)	
18	24 (610)	14 (356)	10 <sup>7</sup> / <sub>8</sub> (276)	1 (25)	18 <sup>3</sup> / <sub>8</sub> (467)	14 <sup>1</sup> / <sub>4</sub> (362)	20 (508)	
20	26 (660)	17 <sup>1</sup> / <sub>4</sub> (438)	11 (279)	1 (25)	20 <sup>1</sup> / <sub>2</sub> (521)	18 (457)	22 (559)	
24	32 (813)	20 (508)	12 <sup>5</sup> / <sub>8</sub> (321)	1 <sup>1</sup> / <sub>4</sub> (32)	24 <sup>3</sup> / <sub>8</sub> (619)	21 (533)	26 (660)	
<b>Level 2</b>								<b>Level 1: Sizes 12 - 24</b> 
16	22 (559)	13 <sup>1</sup> / <sub>2</sub> (343)	10 <sup>1</sup> / <sub>4</sub> (260)	1 (25)	16 <sup>3</sup> / <sub>8</sub> (416)	14 (356)	18 (457)	
18	24 (610)	13 <sup>1</sup> / <sub>2</sub> (343)	10 <sup>1</sup> / <sub>4</sub> (260)	1 (25)	18 <sup>3</sup> / <sub>8</sub> (467)	14 <sup>1</sup> / <sub>4</sub> (362)	20 (508)	
20	26 (660)	17 <sup>1</sup> / <sub>4</sub> (438)	13 <sup>1</sup> / <sub>2</sub> (343)	1 (25)	20 <sup>1</sup> / <sub>2</sub> (521)	18 (457)	22 (559)	
24	32 (813)	20 (508)	13 <sup>1</sup> / <sub>2</sub> (343)	1 <sup>1</sup> / <sub>4</sub> (32)	24 <sup>3</sup> / <sub>8</sub> (625)	21 (533)	26 (660)	
30	38 (965)	20 <sup>1</sup> / <sub>2</sub> (521)	16 <sup>3</sup> / <sub>8</sub> (416)	1 <sup>1</sup> / <sub>4</sub> (32)	30 <sup>5</sup> / <sub>8</sub> (778)	21 <sup>1</sup> / <sub>4</sub> (552)	32 (813)	
36	44 (1118)	20 <sup>1</sup> / <sub>2</sub> (521)	16 <sup>3</sup> / <sub>8</sub> (416)	2 (51)	36 <sup>3</sup> / <sub>8</sub> (930)	28 (711)	38 (965)	
42	50 (1270)	26 (660)	18 <sup>1</sup> / <sub>4</sub> (464)	2 (51)	42 <sup>5</sup> / <sub>8</sub> (1083)	28 (711)	44 (1118)	
48	56 (1422)	26 <sup>3</sup> / <sub>8</sub> (676)	20 <sup>5</sup> / <sub>8</sub> (524)	2 (51)	48 <sup>5</sup> / <sub>8</sub> (1251)	28 <sup>1</sup> / <sub>2</sub> (724)	50 (1270)	
54	62 (1575)	28 (711)	22 <sup>7</sup> / <sub>16</sub> (570)	2 (51)	55 <sup>3</sup> / <sub>8</sub> (1407)	30 <sup>1</sup> / <sub>8</sub> (765)	56 (1422)	
<b>Level 3</b>								<b>Level 2 &amp; Level 3</b> 
20	26 (660)	17 <sup>1</sup> / <sub>4</sub> (438)	13 <sup>1</sup> / <sub>2</sub> (343)	1 (25)	20 <sup>1</sup> / <sub>2</sub> (521)	18 (457)	22 (559)	
24	32 (813)	20 (508)	13 <sup>1</sup> / <sub>2</sub> (343)	1 <sup>1</sup> / <sub>4</sub> (32)	24 <sup>3</sup> / <sub>8</sub> (625)	21 (533)	26 (660)	
30	38 (965)	20 <sup>1</sup> / <sub>2</sub> (521)	16 <sup>3</sup> / <sub>8</sub> (416)	1 <sup>1</sup> / <sub>4</sub> (32)	30 <sup>5</sup> / <sub>8</sub> (778)	21 <sup>1</sup> / <sub>4</sub> (552)	32 (813)	
36	44 (1118)	20 <sup>1</sup> / <sub>2</sub> (521)	16 <sup>3</sup> / <sub>8</sub> (416)	2 (51)	36 <sup>3</sup> / <sub>8</sub> (930)	28 (711)	38 (965)	
42	50 (1270)	26 (660)	18 <sup>1</sup> / <sub>4</sub> (464)	2 (51)	42 <sup>5</sup> / <sub>8</sub> (1083)	28 (711)	44 (1118)	
48	56 (1422)	26 <sup>3</sup> / <sub>8</sub> (676)	20 <sup>5</sup> / <sub>8</sub> (524)	2 (51)	48 <sup>5</sup> / <sub>8</sub> (1251)	28 <sup>1</sup> / <sub>2</sub> (724)	50 (1270)	
54	62 (1575)	28 (711)	22 <sup>7</sup> / <sub>16</sub> (570)	2 (51)	55 <sup>3</sup> / <sub>8</sub> (1407)	30 <sup>1</sup> / <sub>8</sub> (765)	56 (1422)	
<b>Reversible</b>								<b>Reversible</b> 
24	32 (813)	20 (508)	13 <sup>1</sup> / <sub>2</sub> (343)	1 <sup>1</sup> / <sub>4</sub> (32)	24 <sup>3</sup> / <sub>8</sub> (625)	-	26 (660)	
30	38 (965)	20 <sup>1</sup> / <sub>2</sub> (521)	16 <sup>3</sup> / <sub>8</sub> (416)	1 <sup>1</sup> / <sub>4</sub> (32)	30 <sup>3</sup> / <sub>4</sub> (778)	-	32 (813)	
36	44 (1118)	20 <sup>1</sup> / <sub>2</sub> (521)	16 <sup>3</sup> / <sub>8</sub> (416)	2 (51)	36 <sup>3</sup> / <sub>8</sub> (930)	-	38 (965)	
42	50 (1270)	26 (660)	18 <sup>1</sup> / <sub>4</sub> (464)	2 (51)	42 <sup>5</sup> / <sub>8</sub> (1083)	-	44 (1118)	
48	56 (1422)	26 <sup>3</sup> / <sub>8</sub> (676)	20 <sup>5</sup> / <sub>8</sub> (524)	2 (51)	49 (1251)	-	50 (1270)	
54	62 (1575)	28 (711)	22 <sup>7</sup> / <sub>16</sub> (570)	2 (51)	55 <sup>3</sup> / <sub>8</sub> (1407)	-	56 (1422)	

\* Varies with motor selection. All dimensions given in inches (mm). \*\*Square dimension.

# Belt Drive

## Dimensional Data

Fan Size	A Panel**	B	C	D	E	F*	Damper Size**	
<b>Level 1</b>								
20	26 (660)	19½ (495)	16¼ (413)	1 (25)	20½ (521)	20 (508)	22 (559)	
24	32 (813)	19½ (495)	16⅝ (410)	1¼ (32)	24¾ (625)	20 (508)	26 (660)	
30	38 (965)	22½ (572)	18¼ (464)	1¼ (32)	30¾ (778)	21 (533)	32 (813)	
36	44 (1118)	21½ (546)	16½ (419)	2 (51)	36¾ (930)	23 (584)	38 (965)	
42	50 (1270)	25 (635)	20 (508)	2 (51)	42¾ (1086)	23 (584)	44 (1118)	
48	56 (1422)	25 (635)	19 (483)	2 (51)	48¾ (1238)	23 (584)	50 (1270)	
54	62 (1575)	25 (635)	19½ (495)	2 (51)	55¼ (1403)	24 (610)	56 (1422)	
<b>Level 2</b>								
20	26 (660)	19½ (495)	16¼ (413)	1 (25)	20½ (521)	20 (508)	22 (559)	
24	32 (813)	19½ (495)	16⅝ (410)	1¼ (32)	24¾ (625)	20 (508)	26 (660)	
30	38 (965)	21½ (546)	17¼ (438)	1¼ (32)	30¾ (778)	21 (533)	32 (813)	
36	44 (1118)	21½ (546)	16½ (419)	2 (51)	36¾ (930)	22 (559)	38 (965)	
42	50 (1270)	25 (635)	20 (508)	2 (51)	42¾ (1086)	25½ (648)	44 (1118)	
48	56 (1422)	25 (635)	19 (483)	2 (51)	48¾ (1238)	25½ (648)	50 (1270)	
54	62 (1575)	26 (660)	20½ (546)	2 (51)	55¼ (1403)	24 (610)	56 (1422)	
60	68 (1727)	28 (711)	21⅞ (545)	2 (51)	61¼ (1556)	24 (610)	62 (1575)	
<b>Level 3 &amp; Reversible</b>								
24	32 (813)	19 (483)	15⅝ (397)	1¼ (32)	24¾ (625)	20½ (521)	26 (660)	
30	38 (965)	21½ (546)	17¼ (438)	1¼ (32)	30¾ (778)	20 (508)	32 (813)	
36	44 (1118)	28 (711)	23 (584)	2 (51)	36¾ (930)	27 (686)	38 (965)	
42	50 (1270)	28 (711)	23 (584)	2 (51)	42¾ (1086)	29¼ (743)	44 (1118)	
48	56 (1422)	31½ (800)	27½ (699)	2 (51)	48¾ (1238)	30½ (775)	50 (1270)	
54	62 (1575)	35¾ (908)	30¼ (768)	2 (51)	55¼ (1403)	36¼ (921)	56 (1422)	
60	68 (1727)	35 (889)	28⅞ (722)	2 (51)	61¼ (1556)	35½ (902)	62 (1575)	
72	82 (2083)	35 (889)	28¼ (718)	2⅞ (54)	73¼ (1861)	35½ (902)	74 (1880)	
<b>Reversible</b>								
								

All dimensions given in inches (mm). \*\*Square dimension.



## Vari-Green® Motors

### Model SE1



Greenheck's electronically commutated (EC) Vari-Green® (VG) motor combines motor technology, controllability and energy-efficiency into one single low maintenance unit. When combined with Greenheck's SE1 fans, the VG motor offers variable volume capability and energy-efficiency without using a variable frequency drive (VFD). The Vari-Green motor has built in overload and temperature protections, so it does not require a stand-alone motor starter for protection.

50/60 Hz Motor Information				
HP	RPM	Volts	FLA	Enclosure
1/6	1725	115/230	3.1	TENV
1/4	1725	115/230	3.9	ODP
1/2	1725	115/230	6.2	ODP
1/2	2500	115/230	6.5	ODP
3/4	1725	115/230	10.1	ODP
3/4	2200	115/230	11.3	ODP
1	1725	115/230	12.4	ODP

### Features

- Dial on Motor Control** - A potentiometer (dial on motor control) is mounted on the motor for easy speed adjustment for system balance. Simply turn the dial; there are no belts and pulleys to adjust.
- Control Wire Inputs** - the motor accepts a 0-10 VDC signal from Building Automated Systems, Vari-Green controls or other controls to adjust motor speed.



## Vari-Green® Controls

**Transformer** - 24V power from the existing line voltage at the fan to the Vari-Green motor and controls. Dual voltage primary (120/240V) transformer provided with the fan.

**Remote Dial** - Allows for remote, manual airflow adjustments. Wall plate with dial may be mounted in a standard 2x4 inch electrical junction box.

### Two Speed Control with Integral Transformer

Control allows motor RPM to be set at two independent speeds (high or low). Meets minimum airflow requirements with the ability to bump up to high speed in an emergency or meet maximum airflow requirements, or reset down to low for energy conservation.

**Constant Pressure Control** - Control Vari-Green motor via static (variable volume) or velocity (constant CFM) pressure on the inlet or outlet side of the fan. Optional, duct or room probes for use in:

- Multifamily structures - Apartments, condos, hotels; dryers, residential kitchens and bathrooms.
- Institutional facilities - Schools, prisons, multistory office buildings; bathrooms.

**Air Quality - VOC** - Control a Vari-Green motor via changes in volatile organic compounds (VOC's). VOC's are gasses that are emitted from humans, building materials, perfumes, foods, and furniture off-gassing. Range is 0-2000 CO<sub>2</sub> PPM equivalent.

- Institutional facilities - Schools, court houses, hospitals; bathrooms, waiting rooms, cafeterias.
- Commercial buildings - Office spaces, conference rooms, bathrooms, break rooms.

### Air Quality - Temperature and humidity

Control a Vari-Green motor via changes in temperature, humidity, or both. Range is 32 to 120°F and 0 to 100% relative humidity.

- Multifamily structures - Apartments, condos, hotels; bathrooms, utility rooms
- Commercial buildings - Office buildings, office spaces, conference rooms, utility rooms, bathrooms.

## Benefits

Operates on AC power that's converted to DC—providing a more efficient motor operation as compared to an AC operation.

- The motor can attain up to 85% efficiency and reduce energy consumption.
- Watt savings of 30-70% depending on rpm.  
Note: As motor speed is turned down, efficiency stays high as compared to an AC motor that decreases dramatically.
- Operates cooler than a standard AC motor at lower RPMs. A cooler motor has longer motor life and reduces energy consumption.
- 80% usable RPM turndown as low as 300 rpm.
- SEI fans with Vari-Green motors can provide all the CFM and static pressure ranges of a comparable belt drive.

- Maintenance costs are reduced as there are no belts or bearings to replace and no pulleys to adjust.
- Direct drive fans are often preferred where maintenance access is difficult.
- Provides a solution for demand controlled ventilation applications.

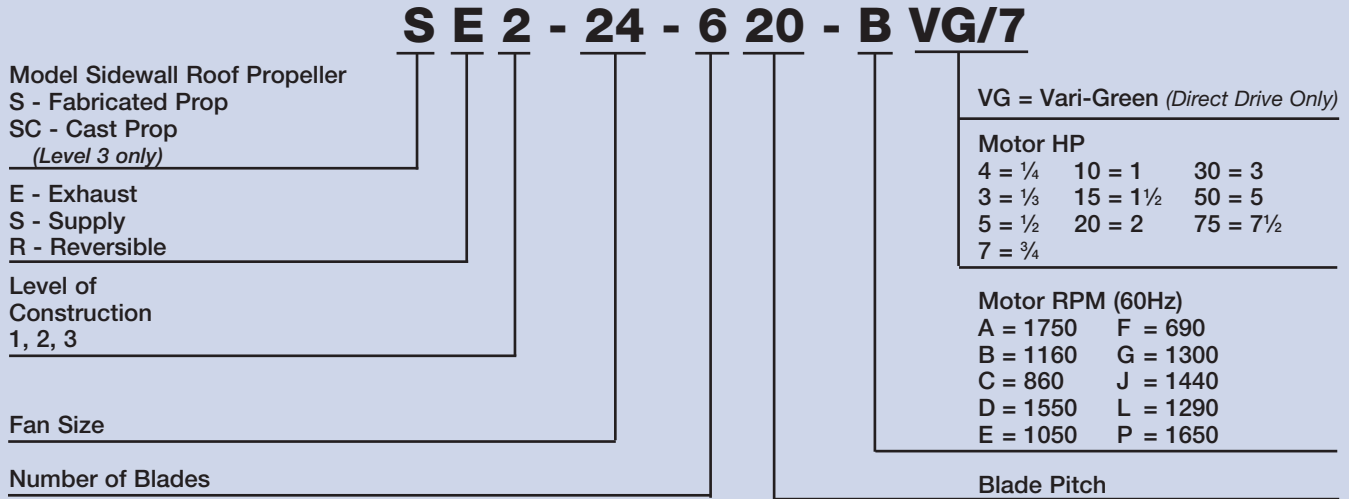
## Vari-Green Advantages

- Initial cost is less than a belt drive/motor starter combination.
- Lower operating cost
- No maintenance, no belts, pulleys or bearings
- Easy RPM adjustment

SE1 Performance Limits - Vari-Green®															
Model Number	Fan RPM	Max BHP	Max Sones	CFM/Static Pressure in Inches WG											
				0.00	0.05	0.10	0.125	0.15	0.20	0.25	0.30	0.375	0.50	0.625	0.75
SE1-8-440	1725	0.044	11.3	511	476	435	387	349	261	220	191				
	300			89											
SE1-10-440	1725	0.098	11.3	1029	979	921	889	856	792	707					
	300			179											
SE1-12-426	1725	0.078	14.8	1239	1187	1122	1084	1043	947	828	711	468			
	300			215											
SE1-12-432	1725	0.26	14.8	1613	1553	1490	1455	1421	1334	1254	1176	1056	888	679	556
	300			281											
SE1-12-436	1725	0.13	16.7	1621	1570	1513	1471	1429	1346	1230	1073	639			
	300			282											
SE1-14-432	1725	0.27	12.5	2370	2317	2264	2237	2209	2152	2096	2007	1864			
	300			412											
SE1-14-436	1725	0.38	16.3	2695	2635	2575	2544	2511	2445	2378	2292	2129	1728	1183	
	300			469											
SE1-14-440	1725	0.47	21	2386	2307	2234	2205	2176	2119	2048	1973	1877	1435	1282	1163
	300			415											
SE1-16-421	1725	0.36	19	2516	2470	2424	2400	2377	2327	2268	2210	2093	1862		
	300			438											
SE1-16-426	1725	0.49	31	3136	3081	3026	2999	2972	2917	2852	2787	2681	2464		
	300			545											
SE1-16-428	1725	0.61	16.1	3325	3266	3207	3178	3149	3088	3026	2963	2849	2637	2385	1801
	300			578											
SE1-16-436	1725	0.85	21	4019	3956	3894	3863	3832	3766	3697	3629	3526	3262	2790	2214
	300			699											
SE1-18-424	1725	0.7	17	4164	4090	4017	3980	3943	3859	3768	3676	3519	3157	2826	
	300			724											
SE1-18-429	1725	0.85	22	4816	4737	4658	4618	4578	4489	4382	4274	4113	3817	3342	2860
	300			838											
SE1-20-420	1550	0.61	24	4148	4074	4000	3963	3926	3859	3793	3726	3610	3352		
	1725	0.84	24	4616	4550	4483	4450	4417	4352	4292	4232	4143	3953	3718	
	300			803											

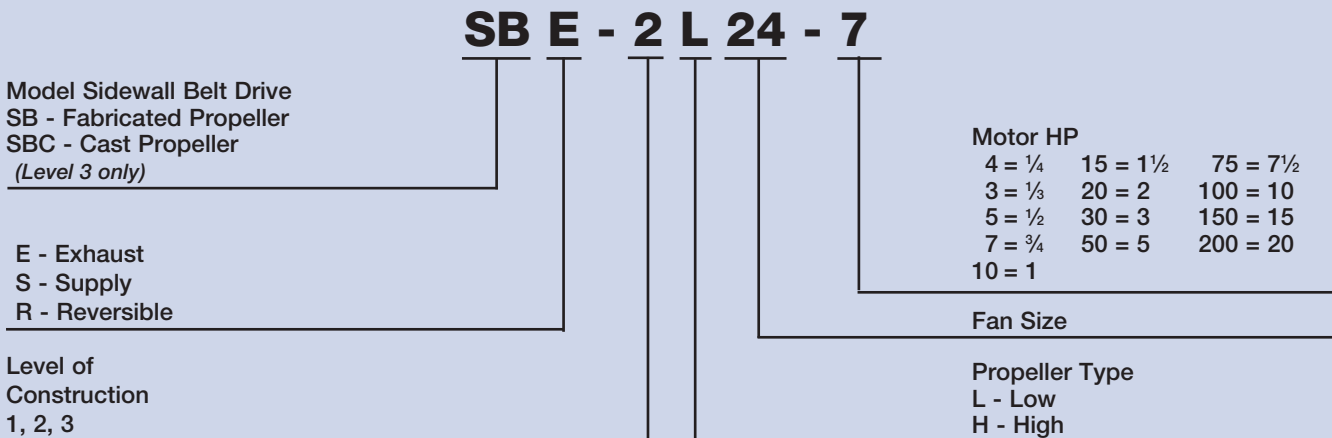
## Direct Drive Number Code

The model number system is designed to completely identify the fan. The correct code letters must be specified to designate direct drive with exhaust, supply, or reversible air configuration. The remainder of the model number is determined by the size and performance selected from pages 23 and 25 through 28.



## Belt Drive Number Code

The model number system is designed to completely identify the fan. The correct code letters must be specified to designate belt drive with exhaust, supply, or reversible air configuration. The remainder of the model number is determined by the size and performance selected from pages 29 through 41.



# S1-Direct Drive - Level 1



Model Number	Motor HP	Fan RPM	Max BHP	Sones @ Free Air	CFM/Static Pressure in Inches WG											
					0.00	0.05	0.10	0.125	0.15	0.20	0.25	0.30	0.375	0.50	0.625	0.75
<b>SE1/SS1 Performance Limits</b>																
S1-8-424-G	1/80	1350	28W	3.2	300	263	190									
S1-8-426-D		1550	39 W	3.7	310	282	232	190	140							
S1-8-428-P	1/40	1650	53 W	3.9	329	303	266	237	214	149						
S1-8-440-E	1/100	1050	50 W	1.5	311	224	127	101								
S1-8-440-G	1/40	1350	55 W	3.5	400	354	257	189	174	138						
S1-8-440-D	1/25	1550	75 W	4.9	459	420	351	308	256	198	167	115				
S1-10-424-D	1/50	1550	45 W	4.6	575	526	462	407								
S1-10-426-P	1/30	1650	55 W	4.8	590	551	502	468	429							
S1-10-428-P	1/20		78 W	5.2	606	574	537	511	484	407	273	249	214			
S1-10-440-E	1/40	1050	105 W	3.2	626	533	361									
S1-10-440-G	1/20	1350	135 W	4.9	805	739	656	616	565							
S1-10-440-D	1/12	1550	170 W	5.9	924	869	801	763	777	641						
S1-12-426-D	1/10	1550	105 W	6.6	1113	1055	976	930	878	749	609	428				
S1-12-436-G		1350	120 W	7.5	1269	1203	1101	1048	974	780	359					
S1-12-432-E	1/20	1050	125 W	4.3	982	878	745	678	623	464	383					
S1-12-432-G	1/12	1350	170 W	6.0	1262	1185	1098	1038	987	886	798	721	540			
S1-12-432-D	1/8	1550	190 W	7.5	1449	1383	1309	1271	1225	1129	1042	953	861	615	478	
S1-12-432-C8		860	0.03	4.0	804	664	512	438	349	249						
S1-12-432-B6	1/6	1160	0.07	4.8	1084	991	872	816	755	660	503	431				
S1-12-432-A4	1/4	1750	0.27	8.7	1636	1577	1515	1481	1447	1365	1282	1207	1085	947	706	585
S1-14-440-C8	1/8	860	0.07	5.9	1189	1055	919	711	649	551	408					
S1-14-440-B6	1/6	1160	0.15	7.3	1604	1493	1406	1350	1297	1207	908	837	720			
S1-14-432-A4	1/4	1750	0.29	12.9	2404	2351	2299	2273	2245	2189	2134	2052	1912	1636		
S1-14-436-A3	1/3		0.39	14.8	2734	2674	2615	2585	2553	2487	2422	2340	2192	1829	1220	
S1-16-436-C8	1/8	860	0.12	5.0	2003	1876	1732	1621	1433	1037	849	705				
S1-16-426-B6	1/6		0.15	7.5	2108	2027	1942	1894	1846	1725	1588					
S1-16-428-B6		1160	0.19	7.6	2235	2148	2058	2012	1964	1840	1710	1534	1126			
S1-16-436-B4	1/4		0.29	9.5	2702	2609	2512	2461	2410	2281	2067	1761	1359	1049		
S1-16-421-A3	1/3	1750	0.38	13.5	2552	2506	2461	2438	2415	2367	2309	2252	2143	1916		
S1-16-428-A5	1/2		0.63	15.3	3372	3315	3257	3228	3199	3140	3078	3016	2908	2700	2468	1861
S1-16-436-A7	3/4		0.89	16.6	4076	4015	3954	3923	3892	3828	3760	3693	3591	3349	2902	2298
S1-18-434-C8	1/8	860	0.15	8.7	2661	2464	2202	2032	1874	1346						
S1-18-436-C6	1/6		0.19	9.2	2778	2595	2319	2102	1963	1385	1108	912				
S1-18-424-B6		0.20	6.7	2800	2690	2568	2501	2427	2257	2025	1828					
S1-18-429-B4	1/4	1160	0.30	7.2	3238	3120	2987	2908	2828	2668	2434	2145	1510	1183		
S1-18-436-B3	1/3		0.45	12.6	3747	3621	3466	3370	3267	3034	2732	2548	1727	1363		
S1-18-424-A5	1/2	1750	0.67	15.7	4224	4151	4079	4043	4006	3925	3835	3745	3592	3252		
S1-18-429-A7	3/4		0.88	17.4	4885	4807	4729	4690	4651	4565	4460	4354	4196	3926	3460	2984
S1-20-428-C6	1/6	860	0.19	10.8	3133	3001	2823	2727	2641	2390						
S1-20-436-C4	1/4		0.29	11.7	3888	3717	3523	3420	3285	2918	2237	2091	1873			
S1-20-424-B4			0.30	13.8	3655	3561	3467	3419	3364	3255	3095	2924	2661			
S1-20-428-B3	1/3	1160	0.45	14.3	4227	4128	4030	3974	3901	3755	3621	3493	3175			
S1-20-436-B5	1/2		0.70	14.4	5245	5118	4991	4926	4849	4697	4525	4321	3863	2920	2650	
S1-20-420-A7	3/4		0.87	24	4682	4617	4552	4519	4486	4421	4362	4303	4215	4036	3810	
S1-20-428-A10	1	1750	1.19	25	6377	6311	6246	6214	6181	6116	6050	5965	5820	5580	5368	5087
S1-20-432-A15	1½		1.73	26	7115	7038	6962	6924	6886	6809	6733	6653	6518	6292	6016	5688
S1-24-432-C4	1/4	860	0.34	9.1	5000	4767	4540	4409	4233	3789						
S1-24-436-C3	1/3		0.41	10.0	5457	5232	5002									
S1-24-437-C5	1/2		0.58	11.6	6136	5953	5764	5631	5497	5150	4720	4341				
S1-24-428-B5		1160	0.61	14.1	5908	5794	5680	5623	5566	5382	5175	4898				
S1-24-432-B7	3/4		0.83	14.7	6745	6572	6399	6313	6229	6064	5830	5569	5007			

Performance certified is for Models S1 for installation type A: free inlet, free outlet. Power rating (Bhp) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The sound ratings shown are loudness values in fan sones at 5 ft (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values are for installation type A: free inlet hemispherical sone levels.



# S2-Direct Drive - Level 2



Model Number	Motor HP	Fan RPM	Max BHP	Sones @ Free Air	CFM / Static Pressure in Inches WG											
					0.00	0.10	0.125	0.15	0.20	0.25	0.30	0.375	0.50	0.625	0.75	1.00
<b>SE2 / SS2 Performance Limits</b>																
S2-16-427-B6	1/6	1160	0.15	11.3	2213	1933	1849	1766	1536	1215	894					
S2-16-435-B6			0.20	11.6	2522	2239	2150	2055	1732	1434						
S2-16-417-A4	1/4	1750	0.30	18.7	2582	2414	2375	2336	2255	2156	2053	1869	1435	1084		
S2-16-423-A3	1/3		0.38	19.9	3076	2899	2854	2809	2719	2621	2524	2331	1916	1362	1051	
S2-16-430-A5	1/2		0.56	23	3531	3344	3297	3250	3155	3058	2944	2750	2303	1642	1223	
S2-18-423-B6	1/6	1160	0.20	12.5	2917	2632	2562	2458	2249	2018	1727	1227				
S2-18-430-B4	1/4		0.29	14.2	3376	3038	2944	2861	2662	2398	2084					
S2-18-435-B3	1/3		0.35	16.2	3658	3311	3208	3089	2850	2556	1903					
S2-18-411-A4	1/4	1750	0.30	21	3121	2978	2941	2893	2799	2697	2586	2415	2081	1883	1251	
S2-18-415-A3	1/3		0.41	22	3623	3476	3439	3400	3300	3199	3091	2920				
S2-18-421-A5	1/2		0.59	22	4177	4015	3975	3931	3807	3683	3574	3416	3059	2558	2134	
S2-20-420-B6	1/6	1160	0.21	15.3	3697	3350	3257	3137	2857	2532	2155	1739				
S2-20-423-B4	1/4		0.30	17.2	3997	3626	3522	3419	3153	2834	2430					
S2-20-430-B3			0.40	18.6	4468	4087	3989	3882	3626	3281						
S2-20-407-A4	1/3	1750	0.37	27	3579	3382	3333	3282	3180	3053	2922	2744	2300	1869	1342	
S2-20-410-A3			0.37	28	4035	3835	3785	3731	3623	3461	3254	3113	2791			
S2-20-415-A5	1/2		0.57	29	4934	4697	4637	4578	4454	4330	4185	3957	3572	3066		
S2-20-420-A7	3/4		0.88	30	5577	5355	5300	5243	5121	4999	4877	4614	4138	3544	2992	
S2-20-427-A10	1		1.19	33	6633	6364	6297	6231	6099	5968	5837	5613	5179	4614	3812	
S2-20-435-A15	1 1/2		1.76	35	7266	6980	6909	6837	6691	6543	6396	6115	5453	4658		
S2-24-615-C4	1/4	860	0.28	15.7	4687	4200	4058	3895	3561	3126	2488					
S2-24-620-C3	1/3		0.36	18.5	5300	4710	4557	4410	3993	3445	2607					
S2-24-630-C5	1/2		0.54	18.8	6439	5768	5599	5412	4993	4387						
S2-24-620-B7	3/4	1160	0.86	23	7148	6728	6619	6502	6268	6049	5831	5308	4315			
S2-24-625-B10	1		1.13	25	7917	7491	7391	7291	7060	6781	6501	6035	4850	2745		
S2-24-600-A7	3/4		0.87	36	5070	4877	4828	4778	4676	4573	4455	4251	3911	3518	3161	2287
S2-24-604-A10	1	1750	1.18	39	6297	6081	6027	5973	5865	5747	5627	5447	5084	4671	4203	3223
S2-24-610-A15	1 1/2		1.70	40	8137	7904	7845	7787	7670	7559	7448	7281	6968	6571	6178	5106
S2-24-615-A20	2		2.28	41	9537	9310	9253	9197	9083	8961	8835	8646	8315	7915	7508	6559
S2-30-618-C7	3/4	860	0.79	23	9698	9066	8886	8707	8309	7892	7340	6370				
S2-30-625-C10	1		1.18	28	11515	10823	10644	10461	10097	9629	9051	7945	5213			
S2-30-635-C15	1 1/2		1.80	32	13290	12505	12291	12076	11647	11060	10192	7951				
S2-30-605-B7	3/4	1160	0.86	29	7911	7479	7369	7257	7034	6795	6551	6210	5496	4497	3377	
S2-30-610-B10	1		1.17	30	9662	9293	9201	9103	8872	8640	8392	7976	7204	6248	5108	
S2-30-615-B15	1 1/2		1.72	31	12000	11565	11456	11348	11130	10890	10619	10200	9404	8327	6921	
S2-30-620-B20	2		2.29	33	13905	13434	13316	13198	12939	12665	12391	11954	11144	10136	8640	
S2-36-607-C7	3/4	860	0.82	27	9985	9347	9183	9012	8669	8255	7829	7039	5325	3679	2486	
S2-36-611-C10	1		1.11	30	12131	11529	11360	11187	10840	10449	10058	9289	7622	5532	3782	
S2-36-617-C15	1 1/2		1.61	31	15162	14491	14324	14153	13810	13442	12926	12117	10512	7704	5270	
S2-36-600-B10	1	1160	1.21	34	8200	7791	7656	7515	7224	6913	6617	6214	5478	4679	3902	
S2-36-605-B15	1 1/2		1.72	36	11977	11535	11424	11313	11077	10828	10580	10147	9384	8487	7337	5080
S2-36-609-B20	2		2.34	37	14957	14468	14345	14223	13976	13728	13480	13098	12411	11537	10483	7678
S2-36-614-B30	3		3.29	40	18400	17945	17832	17718	17490	17263	16965	16517	15787	15003	13722	10993
S2-42-602-C10	1	860	1.08	30	8673	7991	7811	7632	7254	6888	6531	5979	4937	3944	2850	
S2-42-608-C15	1 1/2		1.73	32	14642	14035	13883	13732	13396	13058	12692	12072	10980	9558	8035	4540
S2-42-612-C20	2		2.42	33	18363	17675	17503	17331	16966	16600	16233	15619	14477	13041	11303	6625
S2-42-617-C30	3		3.32	35	21840	21148	20975	20802	20440	20032	19624	18975	17694	16259	14629	8191
S2-42-627-C50	5		5.95	41	28811	27924	27702	27480	27037	26533	26023	25261	24002	22494	20376	13589
S2-48-407-C15	1 1/2	860	1.84	43	18124	17081	16823	16565	16049	15499	14820	13815	12067	9984	7536	
S2-48-410-C20	2		2.40	44	21801	20853	20616	20362	19848	19333	18699	17684	15807	13843	11719	
S2-48-415-C30	3		3.58	48	27004	26027	25783	25539	24915	24272	23638	22726	21025	19172	16924	
S2-48-422-C50	5		5.91	53	34332	33166	32874	32583	31944	31257	30570	29594	27990	25869	23518	
S2-54-420-F50	5	690	5.76	52	41542	39736	39284	38845	38011	37177	36322	34995	32089	28911	25289	14535
S2-54-410-C50		860	5.68	53	35642	34502	34217	33932	33364	32826	32287	31334	29690	27722	25548	20120
S2-54-416-C75	7 1/2		8.68	54	45612	44465	44179	43892	43319	42745	42051	40967	39103	37130	34973	30171

Performance certified is for Models S2 for installation type A: free inlet, free outlet. Power rating (Bhp) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The sound ratings shown are loudness values in fan sones at 5 ft (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values are for installation type A: free inlet hemispherical sone levels.

# SC3-Direct Drive - Level 3



Model Number	Motor HP	Fan RPM	Max BHP	Sones @ Free Air	CFM / Static Pressure in Inches WG											
					0.00	0.10	0.125	0.15	0.20	0.25	0.30	0.375	0.50	0.625	0.75	1.00
<b>SCE3/SCS3 Performance Limits</b>																
SC3-20-617-B4	1/4	1160	0.29	22	3243	2990	2924	2851	2703	2529	2292	1796				
SC3-20-622-B3	1/3		0.40	23	3766	3517	3451	3381	3241	3067	2871	2468				
SC3-20-630-B5	1/2		0.55	25	4394	4115	4049	3984	3809	3635	3448	3039				
SC3-20-307-A4	1/4		0.27	31	2984	2707	2629	2554	2410	2250	2083	1789	1213			
SC3-20-312-A3	1/3	1750	0.40	33	3753	3486	3424	3364	3240	3087	2909	2623	2082	1415		
SC3-20-320-A5	1/2		0.62	37	4673	4463	4383	4304	4152	4011	3873	3667	3222	2608	1804	
SC3-20-327-A7	3/4		0.92	41	5504	5189	5129	5069	4931	4772	4613	4365	3931	3335	2471	
SC3-20-429-A10	1		1.26	42	6005	5797	5745	5692	5564	5434	5303	5106	4739	4327	3763	
SC3-24-620-C4	1/4	860	0.28	16.7	4777	4292	4146	3999	3695	3312	2822					
SC3-24-627-C3	1/3		0.39	16.2	5612	5090	4940	4787	4420	3982	3385					
SC3-24-630-C5	1/2		0.45	18.2	5924	5401	5252	5094	4653	4184	3656					
SC3-24-412-B4	1/4		0.28	18.8	4685	4204	4105	4007	3762	3481	3172	2538				
SC3-24-417-B3	1/3	1160	0.38	21	5446	4960	4843	4725	4461	4167	3905	3412				
SC3-24-617-B5	1/2		0.60	24	5994	5634	5537	5440	5248	5053	4828	4472	3675			
SC3-24-625-B7	3/4		0.87	27	7249	6872	6772	6672	6462	6248	6013	5592	4773			
SC3-24-630-B10	1		1.10	28	7991	7644	7535	7426	7206	6984	6694	6203	5304			
SC3-24-407-A5	1/2	1750	0.62	39	5559	5316	5250	5169	5010	4854	4691	4434	3963	3367	2586	
SC3-24-315-A7	3/4		0.88	40	7200	6785	6689	6593	6393	6186	6008	5746	5228	4642	3857	
SC3-24-415-A10	1		1.17	46	7728	7431	7356	7276	7103	6940	6782	6541	6130	5680	5163	
SC3-24-615-A15	1 1/2		1.81	49	8561	8331	8273	8216	8097	7976	7856	7674	7356	7005	6637	5750
SC3-24-620-A20	2	2.37	53	9721	9501	9446	9391	9281	9159	9033	8844	8488	8126	7757	6886	
SC3-30-315-C4	1/4	860	0.30	16.5	7276	5972	5609	5236	4402	2816						
SC3-30-320-C3	1/3		0.40	19.0	8235	6951	6532	6111	5245	3909						
SC3-30-422-C5	1/2		0.59	21	9389	8340	8040	7711	6993	6222	4858					
SC3-30-623-C7	3/4		0.87	23	10396	9831	9655	9433	8937	8357	7699	6456				
SC3-30-627-C10	1	1.01	23	11192	10384	10182	9958	9484	8897	8174	6869					
SC3-30-409-B5	1/2	1160	0.63	26	8794	8076	7878	7680	7286	6886	6363	5594	3748			
SC3-30-317-B7	3/4		0.85	29	10420	9538	9269	9010	8493	7941	7343	6384				
SC3-30-612-B10	1		1.21	32	10679	10168	10038	9904	9637	9349	9047	8544	7622	6348		
SC3-30-620-B15	1 1/2		1.87	36	13263	12742	12615	12489	12237	11942	11611	11091	10081	8865		
SC3-30-625-B20	2	2.32	40	14779	14160	14005	13849	13537	13220	12901	12376	11276	9927			
SC3-36-407-C5	1/2	860	0.60	25	11645	10275	9900	9546	8692	7632	6426					
SC3-36-415-C7	3/4		0.86	34	13452	12100	11762	11424	10596	9480	8239					
SC3-36-612-C10	1		1.21	25	14903	13880	13580	13281	12683	12079	11454	10212				
SC3-36-620-C15	1 1/2		1.75	30	17206	16138	15847	15555	14959	14327	13561	12192				
SC3-36-627-C20	2	2.30	31	19898	18735	18408	18081	17299	16428	15538	13942					
SC3-36-305-B7	3/4	1160	0.94	37	13250	12067	11799	11452	10652	9938	9223	7620	4470			
SC3-36-307-B10	1		1.18	38	14446	13289	13000	12698	12093	11443	10672	9209				
SC3-36-410-B15	1 1/2		1.82	43	17128	16145	15888	15629	15110	14561	13964	13052	11211	8411		
SC3-36-609-B20	2		2.42	48	17903	17169	16986	16802	16424	16015	15607	14993	13899	12434	10501	
SC3-36-617-B30	3	3.54	49	21781	20957	20751	20546	20134	19710	19269	18607	17398	15999	14133		
SC3-42-610-F7	3/4	690	0.85	25	14274	13009	12625	12182	11224	10210	8748	5893				
SC3-42-615-F10	1		1.16	27	16960	15417	15027	14641	13687	12645	11511	8704				
SC3-42-622-F15	1 1/2		1.76	28	20327	18789	18421	17960	17008	15991	14609	11992				
SC3-42-629-F20	2		2.40	31	23088	21265	20790	20297	19236	18050	16564					
SC3-42-605-C10	1	860	1.16	35	14770	13609	13290	12964	12277	11524	10705	9283	6513			
SC3-42-610-C15	1 1/2		1.64	34	17791	16813	16543	16272	15653	14934	14156	12957	9944			
SC3-42-615-C20	2		2.24	35	21138	19913	19598	19283	18657	18039	17251	15978	13640			
SC3-42-620-C30	3		3.11	36	24242	23108	22791	22474	21840	21181	20517	19111	16580	12206		
SC3-48-410-F7	3/4	690	0.90	32	18398	15714	14918	14090	12218	10042	6727					
SC3-48-414-F10	1		1.20	32	21562	18368	17420	16448	14580	12041	8226					
SC3-48-614-F15	1 1/2		1.78	35	25271	23113	22519	21926	20713	19474	17794	14865				
SC3-48-619-F20	2		2.37	38	29125	26642	26019	25396	24108	22773	21122	18057				
SC3-48-625-F30	3	3.29	41	32762	30379	29640	28898	27385	25882	24151	20889					
SC3-48-605-C15	1 1/2	860	1.80	45	23073	21487	21054	20621	19708	18766	17714	16029	12669	7307		
SC3-48-609-C20	2		2.33	48	26491	24711	24266	23812	22881	21974	21083	19377	16101	11261		
SC3-48-614-C30	3		3.44	51	31497	29785	29357	28909	27957	27004	26029	24538	21223			
SC3-48-622-C50	5		5.61	52	39085	37241	36752	36264	35287	34162	33029	31264	27766			
SC3-48-630-C75	7 1/2	7.66	53	43290	41324	40745	40167	38989	37745	36536	34864	30731				
SC3-54-306-F15	1 1/2	690	1.72	28	24805	22316	21660	20953	19422	17603	15619	12506				
SC3-54-311-F20	2		2.42	28	30602	27772	27138	26500	25218	23953	22581	19674	11567			
SC3-54-317-F30	3		3.47	31	36325	33687	33047	32411	31012	29503	27774	25025	18028			
SC3-54-328-F50	5		5.82	40	44402	41230	40512	39795	38189	36133	34392	30263	22490			
SC3-54-300-C20	2	860	2.47	42	22960	20143	19493	18842	17457	15965	14473	12260	8206			
SC3-54-307-C30	3		3.51	42	31594	29768	29284	28783	27774	26704	25565	23289	19595	15339	10240	
SC3-54-315-C50	5		5.79	45	42371	40506	40040	39569	38391	37237	36172	34553	31073	27246	20063	
SC3-54-323-C75	7 1/2		9.00	50	51206	48980	48424	47828	46616	45404	44315	42712	39307	35027	29939	

Performance certified is for Models SC3 for installation type A: free inlet, free outlet. Power rating (Bhp) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The sound ratings shown are loudness values in fan sones at 5 ft (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values are for installation type A: free inlet hemispherical sone levels.

# SCR3-Direct Drive - Level 3

## Reversible



Model Number	Motor HP	Fan RPM	Max BHP	Sones @ Free Air	CFM / Static Pressure in Inches WG												
					0.00	0.05	0.10	0.125	0.15	0.20	0.25	0.30	0.375	0.50	0.625	0.75	
<b>24 Performance Limits</b>																	
SCR3-24-627-C4	1/4	860	0.29	16.7	4981	4664	4269	4007	3498								
SCR3-24-632-C3	1/3		0.35	16.9	5478	5153	4731	4391	3789								
SCR3-24-416-B4	1/4	1160	0.29	18.1	4521	4241	3949	3784	3619	3015	2232						
SCR3-24-420-B3	1/3		0.37	19.3	5200	4904	4597	4434	4271	3815	2837						
SCR3-24-623-B5	1/2	1750	0.58	22	6093	5869	5627	5499	5371	5029	4529	3791					
SCR3-24-632-B7	3/4		0.86	27	7389	7148	6896	6739	6582	6207	5689						
SCR3-24-410-A5	1/2	1750	0.57	32	5233	5028	4828	4730	4632	4403	4167	3921	3364				
SCR3-24-414-A7	3/4		0.83	34	6297	6114	5930	5834	5738	5546	5331	5108	4625				
SCR3-24-418-A10	1	1750	1.15	35	7332	7141	6949	6853	6752	6552	6348	6112	5758	4623			
SCR3-24-425-A15	1 1/2		1.67	38	8928	8701	8474	8364	8259	8050	7831	7581	7160	6055			
SCR3-24-626-A20	2		2.31	41	9935	9786	9636	9561	9486	9325	9155	8984	8707	8111	6996		
<b>30 Performance</b>																	
SCR3-30-415-C4	1/4	860	0.29	16.6	6262	5732	5131	4718	4013								
SCR3-30-419-C3	1/3		0.38	17.2	7219	6523	5854	5466	4860								
SCR3-30-620-C5	1/2	1160	0.56	18.8	8118	7694	7218	6953	6682	5738							
SCR3-30-629-C7	3/4		0.84	20	9694	9233	8450	7977	7404								
SCR3-30-412-B5	1/2	1750	0.58	24	7490	7051	6640	6429	6211	5688	4914						
SCR3-30-418-B7	3/4		0.88	27	9414	8921	8440	8206	7968	7466	6763	5490					
SCR3-30-423-B10	1	1750	1.14	29	10658	10134	9606	9329	8999	8338	7672	6255					
SCR3-30-624-B15	1 1/2		1.74	33	12167	11796	11425	11239	11041	10647	10032	9244	8158				
SCR3-30-630-B20	2		2.18	35	13226	12911	12595	12375	11987	11233	10437	9304					
SCR3-30-407-A10	1	1750	1.21	47	8583	8290	7998	7882	7765	7533	7258	6770	6243				
SCR3-30-410-A15	1 1/2		1.63	46	10337	10022	9712	9571	9429	9146	8892	8652	8266	7375			
SCR3-30-413-A20	2	1750	2.09	45	11779	11498	11216	11077	10943	10673	10403	10114	9643	8634			
SCR3-30-420-A30	3		3.34	53	15176	14806	14437	14258	14084	13737	13393	13070	12585	11691	10359		
SCR3-30-623-A50	5		5.5	63	17896	17658	17419	17300	17180	16942	16703	16454	16067	15380	14269	13199	
<b>36 Performance</b>																	
SCR3-36-412-C5	1/2	860	0.55	23	9047	8380	7589	7156	6726								
SCR3-36-419-C7	3/4		0.85	23	12243	11532	10734	10259	9750	8734							
SCR3-36-425-C10	1	1160	1.15	27	14110	13544	12541	12029	11535	10271	8338						
SCR3-36-628-C15	1 1/2		1.74	31	16432	15855	15258	14814	14370	13429	12309						
SCR3-36-406-B7	3/4	1750	0.84	38	9490	8991	8415	8053	7676								
SCR3-36-410-B10	1		1.14	38	10863	10436	9964	9700	9412	8797	8226	7493					
SCR3-36-415-B15	1 1/2	1750	1.71	38	14215	13624	13075	12814	12552	11874	11201	10530	9442				
SCR3-36-616-B20	2		2.2	44	15749	15311	14874	14666	14468	14071	13650	13183	12407				
SCR3-36-623-B30	3		3.44	49	19714	19293	18873	18658	18420	17943	17467	16951	16028	14204			
SCR3-36-630-B50	5		4.66	51	23117	22703	22290	22083	21876	21222	20473	19750	18648	16179			
<b>42 Performance</b>																	
SCR3-42-417-F7	3/4	690	0.69	22	13597	12267	10835	9808	8589								
SCR3-42-620-F10	1		1.12	25	16651	15569	14511	13928	13315	11602							
SCR3-42-629-F15	1 1/2	860	1.72	30	19201	18039	16406	15463	14600	12682							
SCR3-42-415-C10	1		1.15	30	16078	14907	13968	13436	12804	11234							
SCR3-42-422-C15	1 1/2	1160	1.77	35	18875	17758	16552	15875	15182	13699	11683						
SCR3-42-621-C20	2		2.28	36	21190	20336	19478	19048	18614	17612	16541	15213					
SCR3-42-630-C30	3		3.48	43	24181	23243	22221	21682	20821	18963	17704	16613					
SCR3-42-408-B15	1 1/2	1750	1.76	50	15026	14328	13600	13216	12824	11978	10952	9650	7136				
SCR3-42-412-B20	2		2.33	51	18959	18189	17432	17066	16700	15890	15029	14017	11855				
SCR3-42-418-B30	3	1750	3.47	54	23445	22661	21885	21501	21117	20314	19400	18384	16497				
SCR3-42-621-B50	5		5.54	60	28583	27949	27315	26999	26680	26042	25405	24704	23590	21563			
SCR3-42-630-B75	7 1/2		8.55	73	32616	31921	31226	30878	30483	29683	28884	27018	25357	23149			
<b>48 Performance</b>																	
SCR3-48-414-F7	3/4	690	0.87	28	18011	16528	14580	13364	11950								
SCR3-48-418-F10	1		1.17	30	20555	19027	16931	15671	14268	10900							
SCR3-48-619-F15	1 1/2	860	1.75	33	23382	22284	20801	19931	19057	17136	14215						
SCR3-48-624-F20	2		2.29	37	26551	25172	23613	22714	21701	19145	15868						
SCR3-48-414-C15	1 1/2	1750	1.69	40	22448	21297	19941	19200	18353	16384	14153						
SCR3-48-418-C20	2		2.27	42	25619	24430	23020	22243	21306	19279	16958	14401					
SCR3-48-620-C30	3	1750	3.52	48	30092	29264	28435	27770	27003	25523	24096	22719	19594				
SCR3-48-629-C50	5		5.6	56	35190	33738	32249	31430	30610	28531	26291	24091	20049				
SCR3-48-403-B15	1 1/2	1160	1.6	56	14101	13313	12413	11885	11323	10099	8759						
SCR3-48-407-B20	2		2.31	69	20861	20047	19222	18773	18324	17285	16039	14683	12327				
SCR3-48-412-B30	3	1750	3.57	69	28014	27172	26330	25844	25330	24303	23202	22039	19654	15119			
SCR3-48-418-B50	5		5.57	72	34556	33674	32792	32352	31787	30634	29386	27973	25647	21187			
SCR3-48-417-B75	7 1/2	1750	8.95	69	37004	36466	35928	35659	35390	34852	34216	33475	32363	30250	27397		
SCR3-48-420-B100	10		11.14	75	41055	40543	40032	39776	39520	39008	38383	37504	36185	34026	31482	28124	
<b>54 Performance</b>																	
SCR3-54-409-F15	1 1/2	690	1.62	36	21244	19996	18972	18303	17490	15579	12407						
SCR3-54-413-F20	2		2.31	35	25286	24141	22996	22310	21495	19866	17523						
SCR3-54-420-F30	3	860	3.48	35	32665	31099	29514	28700	27784	25855	23632	20807					
SCR3-54-623-F50	5		5.52	46	38452	37244	36028	35293	34558	33088	31492	29814	27135				
SCR3-54-409-C20	2	1750	2.38	51	26479	25468	24556	24145	23734	22661	21344	19757	16344				
SCR3-54-410-C30	3		3.37	53	28003	26997	26093	25707	25320	24416	23141	21715	18977				
SCR3-54-417-C50	5	1750	5.81	52	37090	35925	34761	34229	33715	32688	31591	30131	27681	21769			
SCR3-54-618-C75	7 1/2		8.46	61	41795	40904	40014	39569	39124	38309	37501	36693	35197	31916	25633		
SCR3-54-625-C100	10		11.7	68	50142	49192	48243	47768	47283	46066	44850	43285	40770	37198	33806		

Performance certified is for Model SCR3 for installation type A: free inlet, free outlet. Power rating (Bhp) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The sound ratings shown are loudness values in fan sones at 5 ft (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values are for installation type A: free inlet hemispherical sone levels.



















# SB-60 Belt Drive



Model Number	Motor HP	Fan RPM	Max BHP	*Sones	CFM / Static Pressure in Inches WG													
					0.00	0.10	0.125	0.15	0.20	0.25	0.30	0.375	0.50	0.625	0.75	1.00		
Level 2 Performance		Max RPM L - 399 H - 521			Max Motor Frame Size - 215T						TS = RPM x 15.691							
SB-2L60-15	1 1/2	219	0.99	11.8	29223													CFM values shown in black are the most efficient selections. Values shown in gray are not recommended.
		252	1.52	14.9	33627	26297												
		267	1.80	16.7	35628	28888	26731											
SB-2H60-15	1 1/2	285	0.98	19.3	25029	21665	20507	19031										
		328	1.50	23	28805	25931	25163	24307	21827									
		348	1.81	25	30561	27858	27152	26428	24458	21479								
SB-2L60-20	2	277	2.01	17.9	36963	30532	28569											
		294	2.41	20	39231	33280	31524	29592										
SB-2H60-20	2	361	2.01	26	31703	29065	28432	27734	25998	23625								
		383	2.41	28	33635	31095	30577	29920	28558	26588	23870							
SB-2L60-30	3	317	3.02	23	42300	36880	35324	33661										
		337	3.63	25	44969	39902	38533	37026	33664									
SB-2H60-30	3	415	3.01	31	36445	34024	33548	33054	31839	30400	28519							
		438	3.60	34	38465	36115	35664	35214	34128	32978	31354	28368						
SB-2L60-50	5	375	5.00	28	50040	45536	44345	43137	40410	37274								
		399	6.02	31	53242	49009	47929	46800	44361	41676	38401							
SB-2H60-50	5	489	5.00	42	42944	40718	40314	39911	39104	38087	37057	34972	29773					
		521	6.01	47	45754	43590	43208	42830	42072	41233	40266	38708	34835					
Level 3 Performance		Max RPM L - 503 H - 659			Max Motor Frame Size - 256T						TS = RPM x 15.691							
SB-3L60-50	5	317	3.02	23	42300	36880	35324	33661										
		375	5.00	28	50040	45536	44345	43137	40410	37274								
		399	6.02	31	53242	49009	47929	46800	44361	41676	38401							
SB-3H60-50	5	415	3.01	31	36445	34024	33548	33054	31839	30400	28519							
		489	5.00	42	42944	40718	40314	39911	39104	38087	37057	34972	29773					
		521	6.01	47	45754	43590	43208	42830	42072	41233	40266	38708	34835					
SB-3L60-75	7 1/2	430	7.54	41	57379	53451	52469	51451	49333	46970	44412							
		457	9.05	56	60982	57286	56362	55438	53476	51359	49101	45184						
SB-3H60-75	7 1/2	559	7.51	51	49091	47075	46626	46274	45568	44862	44021	42669	39714	35627				
		595	9.00	56	52253	50358	49884	49518	48855	48192	47529	46261	43933	40629	35715			
SB-3L60-100	1 0	473	10.04	67	63117	59546	58653	57760	55891	53922	51775	48286						
		503	12.10	72	67120	63762	62923	62083	60374	58582	56644	53530						
SB-3H60-100	1 0	615	10.00	60	54009	52176	51718	51314	50673	50031	49389	48236	46188	43214	39510			
		659	12.00	70	57873	56163	55735	55307	54653	54054	53455	52537	50625	48395	45470			

# SB-72 Belt Drive

Level 3 Performance		Max RPM L - 492 H - 559			Max Motor Frame Size - 256T						TS = RPM x 18.802							
SB-3L72-30	3	236	2.00	17.5	41661	36581	34402	32305										
		271	3.02	20	47840	43440	42315	40635	36937									
		288	3.61	22	50841	46713	45654	44576	40999									
SB-3H72-30	3	266	2.00	24	40185	35934	34790	33352	29513									
		306	3.01	28	46228	42491	41629	40634	38280	35026								
		324	3.61	30	48947	45342	44616	43707	41829	39122	35680							
SB-3L72-50	5	321	5.05	26	56667	52986	52036	51086	48805	45604	42580							
		341	6.01	29	60197	56743	55852	54958	53170	50373	47427							
SB-3H72-50	5	362	5.04	35	54688	51305	50655	50006	48405	46723	44302	39813						
		387	6.03	39	58465	55195	54588	53980	52646	51074	49325	45737						
SB-3L72-75	7 1/2	367	7.52	33	64787	61577	60768	59938	58276	56442	53627	49588						
		391	9.03	38	69024	66011	65258	64489	62930	61371	59275	55346						
SB-3H72-75	7 1/2	414	7.52	43	62543	59374	58806	58238	57102	55698	54228	51410	44663					
		442	9.01	50	66773	63726	63155	62623	61559	60428	59051	56986	51688					
SB-3L72-100	1 0	405	10.01	41	71495	68587	67859	67128	65622	64117	62514	58687						
		430	12.10	45	75909	73169	72484	71799	70395	68977	67559	64603	58769					
SB-3H72-100	1 0	456	10.02	51	68888	65934	65321	64806	63775	62743	61437	59435	54874	47671				
		486	12.00	57	73421	70649	69956	69464	68496	67529	66500	64622	60962	55889				
SB-3L72-150	1 5	463	15.10	52	81734	79190	78554	77918	76637	75320	74003	72027	66649	61379				
		492	18.00	57	86854	84459	83861	83262	82065	80838	79599	77740	73537	68410				
SB-3H72-150	1 5	522	15.00	64	78859	76279	75633	75025	74124	73223	72322	70752	67837	63842	58785			
		559	18.10	75	84449	82039	81436	80834	79872	79030	78189	76927	74244	71276	67313			

Performance certified is for Model SB for installation type A: free inlet, free outlet. Power rating (Bhp) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The sound ratings shown are loudness values in fan sones at 5 ft (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values are for installation type A: free inlet hemispherical sone levels. \*Sones shown apply to the highest cataloged CFM in black type at each fan RPM. For selections at other CFM and static pressure points, refer to CAPS, the Computer Aided Product Selection Program.

# SBC-24-30 Belt Drive

## Cast Aluminum



Model Number	Motor HP	Fan RPM	Max BHP	*Sones	CFM / Static Pressure in Inches WG														
					0.00	0.10	0.125	0.15	0.20	0.25	0.30	0.375	0.50	0.625	0.75	1.00			
24 Performance		Max RPM L - 1194 H - 1396			Max Motor Frame Size - 145T						TS = RPM x 6.283								
SBC-3L24-3	1/3	707	0.25	11.7	4871	4203	3934	3666	3046										CFM values shown in black are the most efficient selections. Values shown in gray are not recommended.
		777	0.33	13.3	5353	4759	4578	4333	3826	3181									
		828	0.40	14.6	5704	5156	5000	4804	4346	3836									
SBC-3H24-3	1/3	829	0.25	13.1	4726	4160	4012	3859	3528	3131	2459	998							
		911	0.33	15.2	5193	4686	4549	4414	4128	3824	3457	1842	771						
SBC-3L24-5	1/2	968	0.40	16.7	5518	5046	4917	4788	4531	4251	3945	3338	1239						
		892	0.50	16.3	6145	5646	5503	5358	4955	4525	4034								
SBC-3H24-5	1/2	948	0.60	18.0	6531	6070	5936	5800	5474	5073	4647	3825							
		1043	0.50	18.7	5946	5515	5394	5274	5038	4790	4529	4086	1820	1066					
SBC-3L24-7	3/4	1108	0.60	20	6317	5917	5803	5690	5466	5244	5001	4621	3734	1589	878				
		1021	0.75	20	7034	6617	6493	6368	6116	5761	5390	4774							
SBC-3H24-7	3/4	1085	0.90	21	7475	7092	6975	6858	6622	6349	5999	5463							
		1194	0.75	22	6807	6438	6339	6233	6023	5817	5609	5268	4627	3509	1584				
SBC-3L24-10	1	1268	0.90	23	7229	6881	6794	6696	6498	6301	6107	5800	5243	4536	2159	917			
		1124	1.00	22	7743	7380	7267	7154	6927	6698	6362	5856	4888						
SBC-3H24-10	1	1314	1.00	24	7491	7156	7072	6981	6790	6599	6412	6124	5603	4981	3940	1304			
		1396	1.20	26	7958	7643	7564	7485	7306	7126	6948	6684	6208	5685	5051	1966			
30 Performance		Max RPM L - 1262 H - 1616			Max Motor Frame Size - 184T						TS = RPM x 7.854								
SBC-3L30-5	1/2	569	0.33	13.0	7847	6270	5795	5113											
		654	0.50	15.2	9019	7723	7321	6931	5825										
		695	0.60	16.6	9585	8388	8025	7647	6798										
SBC-3H30-5	1/2	728	0.33	14.5	7043	6131	5893	5647	5111	4342	3084								
		837	0.50	17.6	8097	7305	7109	6902	6478	6018	5432	4155							
SBC-3L30-7	3/4	890	0.60	19.1	8610	7863	7681	7492	7098	6696	6238	5288							
		749	0.75	18.5	10329	9246	8927	8580	7894	6971									
SBC-3H30-7	3/4	795	0.90	20	10964	9966	9665	9359	8700	7988	6979								
		958	0.75	21	9268	8571	8402	8233	7875	7504	7125	6434	4568						
SBC-3L30-10	1	1018	0.90	23	9848	9190	9031	8872	8544	8201	7850	7277	5927						
		824	1.00	21	11364	10408	10126	9836	9204	8587	7726								
SBC-3H30-10	1	875	1.20	23	12067	11169	10927	10653	10081	9486	8839	7440							
		1055	1.00	24	10206	9569	9416	9263	8951	8623	8286	7759	6591	4668					
SBC-3L30-15	1½	1121	1.20	26	10845	10242	10098	9954	9665	9362	9051	8572	7667	6305					
		943	1.50	25	13005	12173	11962	11727	11220	10666	10120	9119							
SBC-3H30-15	1½	1002	1.80	28	13818	13038	12839	12640	12168	11672	11148	10388							
		1207	1.50	30	11677	11117	10980	10846	10578	10308	10022	9584	8814	7822	6497				
SBC-3L30-20	2	1283	1.80	34	12412	11886	11754	11627	11375	11122	10863	10458	9762	8982	7921				
		1038	2.00	29	14315	13562	13370	13178	12740	12277	11771	11028	9312						
SBC-3H30-20	2	1103	2.40	32	15211	14504	14324	14143	13762	13329	12877	12162	10837						
		1329	2.00	35	12857	12349	12222	12097	11853	11610	11366	10976	10309	9588	8680	5623			
SBC-3L30-30	3	1412	2.40	39	13660	13182	13062	12943	12712	12483	12254	11898	11279	10645	9926	7863			
		1188	3.00	36	16383	15727	15562	15394	15059	14678	14275	13631	12547	11117					
SBC-3H30-30	3	1262	3.60	40	17404	16786	16632	16475	16159	15835	15456	14881	13842	12738	11164				
		1521	3.00	43	14715	14271	14160	14049	13829	13617	13404	13085	12521	11939	11347	9800			
		1616	3.60	47	15634	15216	15111	15007	14798	14596	14396	14096	13579	13041	12487	11270			

Performance certified is for Model SBC for installation type A: free inlet, free outlet. Power rating (Bhp) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The sound ratings shown are loudness values in fan sones at 5 ft (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values are for installation type A: free inlet hemispherical sone levels. \*Sones shown apply to the highest cataloged CFM in black type at each fan RPM. For selections at other CFM and static pressure points, refer to CAPS, the Computer Aided Product Selection Program.









# SBCR-24-72 Belt Drive

## Reversible - Cast Aluminum



Model Number	Motor HP	Fan RPM	Max BHP	Sones	CFM / Static Pressure in Inches WG												
					0.00	0.05	0.10	0.125	0.15	0.20	0.25	0.30	0.375	0.50	0.625	0.75	
<b>24 Performance</b>					Max RPM = 1623					Max Motor Frame Size = 145T			TS = RPM x 6.283				
SBCR-24-4	1/4	841	0.24	14.2	4792	4447	4061	3827	3413								
SBCR-24-4		893	0.28	15.0	5088	4766	4411	4216	3961								
SBCR-24-3	1/3	983	0.39	16.6	5601	5312	5001	4829	4651	4127							
SBCR-24-5	1/2	1126	0.59	19.4	6416	6165	5898	5763	5618	5308	4892	3875					
SBCR-24-7	3/4	1288	0.89	23	7339	7119	6893	6774	6656	6406	6135	5807	4756				
SBCR-24-10	1	1418	1.13	27	8080	7880	7680	7572	7465	7249	7015	6769	6313				
SBCR-24-15	1½	1623	1.77	35	9248	9074	8899	8812	8719	8531	8343	8148	7825	7171	5560		
<b>30 Performance</b>					Max RPM = 1506					Max Motor Frame Size = 184T			TS = RPM x 7.854				
SBCR-30-3	1/3	681	0.33	15.2	7420	6809	6030	5422									
SBCR-30-3		724	0.40	16.1	7889	7323	6622	6141	5545								
SBCR-30-5	1/2	829	0.60	18.8	9033	8553	8000	7667	7305	6276							
SBCR-30-7	3/4	949	0.90	23	10341	9921	9461	9217	8944	8304	7416						
SBCR-30-10	1	1045	1.20	27	11387	11006	10606	10385	10163	9650	9027	8221					
SBCR-30-15	1½	1196	1.78	32	13032	12699	12367	12185	11992	11604	11160	10680	9682				
SBCR-30-20	2	1316	2.39	37	14339	14037	13735	13584	13417	13065	12713	12303	11634	10018			
SBCR-30-30	3	1506	3.58	47	16410	16146	15881	15749	15617	15332	15025	14717	14215	13217	11824		
<b>36 Performance</b>					Max RPM = 1420					Max Motor Frame Size = 184T			TS = RPM x 9.424				
SBCR-36-5	1/2	620	0.49	16.7	10384	9580	8639	8115	7177								
SBCR-36-5		659	0.57	18.1	11037	10299	9409	8967	8440								
SBCR-36-7	3/4	755	0.85	22	12645	12019	11258	10874	10495	9613							
SBCR-36-10	1	830	1.13	26	13901	13332	12675	12316	11969	11265	10429						
SBCR-36-15	1½	951	1.79	30	15927	15431	14915	14602	14289	13677	13074	12361	10104				
SBCR-36-20	2	1046	2.26	35	17519	17067	16615	16359	16074	15505	14955	14407	13436				
SBCR-36-30	3	1198	3.40	44	20064	19670	19276	19079	18875	18378	17881	17396	16678	15294			
SBCR-36-50	5	1420	5.75	64	23782	23450	23117	22951	22784	22452	22043	21624	20995	19985	18886	17393	
<b>42 Performance</b>					Max RPM = 1212					Max Motor Frame Size = 215T			TS = RPM x 10.995				
SBCR-42-5	1/2	530	0.50	17.2	12939	11634	9951	8604									
SBCR-42-5		563	0.60	18.6	13744	12530	11087	10017									
SBCR-42-7	3/4	644	0.90	23	15722	14691	13502	12884	12009								
SBCR-42-10	1	709	1.19	26	17308	16398	15341	14780	14218	12542							
SBCR-42-15	1½	812	1.80	32	19823	19030	18145	17684	17200	16213	14810	12626					
SBCR-42-20	2	893	2.46	37	21800	21079	20306	19887	19467	18585	17625	16359	12952				
SBCR-42-30	3	1023	3.59	48	24974	24344	23715	23354	22988	22255	21484	20706	19154				
SBCR-42-50	5	1212	5.96	67	29588	29056	28525	28259	27983	27365	26747	26122	25137	23184	20457		
<b>48 Performance</b>					Max RPM = 1166					Max Motor Frame Size = 215T			TS = RPM x 12.566				
SBCR-48-7	3/4	509	0.74	21	18042	16152	13446	11755									
SBCR-48-7		541	0.89	22	19176	17432	15068	13528	11927								
SBCR-48-10	1	596	1.23	26	21126	19601	17641	16402	15002	11943							
SBCR-48-15	1½	682	1.82	32	24174	22893	21309	20403	19418	16986	14441						
SBCR-48-20	2	750	2.42	37	26584	25419	24052	23305	22476	20552	18308	15990					
SBCR-48-30	3	859	3.58	45	30448	29431	28350	27706	27062	25649	24004	22085	19067				
SBCR-48-50	5	1018	5.97	62	36083	35225	34367	33934	33390	32303	31152	29930	27688	23511			
SBCR-48-75	7½	1166	9.20	83	41329	40580	39831	39457	39082	38184	37235	36278	34678	31491	27851	24113	
<b>54 Performance</b>					Max RPM = 920					Max Motor Frame Size = 254T			TS = RPM x 14.135				
SBCR-54-15	1½	460	1.43	22	23743	22064	20143	18932	17613								
SBCR-54-15		489	1.78	24	25240	23683	21901	20962	19670	17383							
SBCR-54-20	2	538	2.38	27	27769	26390	24802	23961	23108	20807	18809						
SBCR-54-30	3	616	3.51	34	31795	30593	29260	28567	27848	26350	24285	22504					
SBCR-54-50	5	730	5.72	44	37679	36665	35622	35037	34451	33270	32012	30560	28033				
SBCR-54-75	7½	836	8.97	56	43151	42265	41379	40921	40409	39387	38365	37273	35559	31893	27638		
SBCR-54-100	10	920	11.90	69	47486	46681	45876	45474	45058	44129	43200	42271	40785	37864	34642	31024	
<b>60 Performance</b>					Max RPM = 811					Max Motor Frame Size = 256T			TS = RPM x 15.691				
SBCR-60-20	2	446	1.97	25	29819	27584	25099	23718	22220	18365							
SBCR-60-20		474	2.39	27	31691	29584	27337	26059	24741	21272							
SBCR-60-30	3	543	3.56	34	36304	34455	32649	31594	30479	28197	25170	22150					
SBCR-60-50	5	644	5.98	44	43057	41498	39960	39199	38438	36561	34662	32715	28612				
SBCR-60-75	7½	737	8.96	56	49275	47912	46554	45889	45224	43877	42233	40590	38048	32357			
SBCR-60-100	10	811	11.90	69	54222	52984	51746	51134	50530	49321	48049	46555	44314	40222	34832		
<b>72 Performance</b>					Max RPM = 771					Max Motor Frame Size = 256T			TS = RPM x 18.802				
SBCR-72-20	2	371	2.00	26	38286	34158	29734	27617	25593								
SBCR-72-20		394	2.55	28	40659	36985	32714	30490	28675	24224							
SBCR-72-30	3	451	3.75	35	46542	43988	39709	37916	35972	32605	28738						
SBCR-72-50	5	535	6.32	47	55210	53296	49520	48026	46562	43398	40355	37687	31512				
SBCR-72-75	7½	612	9.23	59	63156	61483	59068	57107	55633	53073	50315	47451	43930	33516			
SBCR-72-100	10	674	12.00	71	69554	68035	66516	64788	63007	60429	58104	55580	51763	46218			
SBCR-72-150	15	771	19.00	94	79564	78236	76908	76244	74957	71843	69602	67569	64378	58868	54239	48179	

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



## Belt Drive

Belt driven, axial type sidewall fans shall be provided as follows:

Propellers shall be constructed with fabricated steel, fabricated aluminum, or cast aluminum blades and hubs. Propellers shall be securely attached to fan shafts. All propellers shall be statically and dynamically balanced to AMCA Standard 204-05.

Motors shall be permanently lubricated, heavy duty type, carefully matched to the fan load and furnished at the specified voltage, phase, and enclosure.

Ground and polished steel fan shafts shall be mounted in permanently lubricated, sealed ball bearing pillow blocks and coated with an anti-corrosive coating.

Bearings shall be selected for a minimum  $L_{10}$  life in excess of 100,000 hours ( $L_{50}$  average life of 500,000 hours) at maximum cataloged operating speeds.

Drives shall be sized for a minimum of 150% of driven horsepower. Pulleys shall be of the fully machined cast iron type, keyed and securely attached to wheel and motor shafts. Motor sheaves shall be adjustable for system balancing.

Drive frame and panel assemblies shall be galvanized steel or painted steel. Drive frames shall be formed channels and fan panels shall have prepunched mounting holes, formed flanges, and a deep formed inlet venturi. Drive frames and panels shall be bolted construction or welded construction (level 3 fans only).

The axial exhaust or supply fans shall bear the AMCA Certified Ratings Seal for Sound and Air Performance.

Fans shall be Model SB and SBC as manufactured by Greenheck Fan Corporation, Schofield, Wisconsin, U.S.A.

## Reversible Belt Drive

Belt driven, axial type sidewall fans shall be provided as follows:

Propellers shall be constructed with cast aluminum blades and hubs. Propellers shall be securely attached to fan shafts. All propellers shall be statically and dynamically balanced to AMCA Standard 204-05.

Motors shall be permanently lubricated, heavy duty type, carefully matched to the fan load and furnished at the specified voltage, phase, and enclosure.

Ground and polished steel fan shafts shall be mounted in permanently lubricated, sealed ball bearing pillow blocks, and coated with an anti-corrosive coating.

Bearings shall be selected for a minimum  $L_{10}$  life in excess of 100,000 hours ( $L_{50}$  average life of 500,000) at maximum cataloged operating speeds. Drives shall be sized for a minimum of 150% of driven horsepower.

Pulleys shall be of the fully machined cast iron type, keyed and securely attached to wheel and motor shafts. Motor sheaves shall be adjustable for system balancing.

Drive frame and panel assemblies shall be galvanized steel or painted steel. Drive frames shall be formed channels and fan panels shall have prepunched mounting holes, formed flanges, and a deep formed double inlet venturi. Drive frames and panels shall be bolted construction or welded construction.

The axial exhaust or supply fans shall be tested in accordance AMCA Standard 301 for Sound and Air Performance.

Fans shall be Model SBCR as manufactured by Greenheck Fan Corporation, Schofield, Wisconsin, U.S.A.

## Direct Drive

Direct drive, axial type sidewall fans shall be provided as follows:

Propellers shall be constructed with fabricated steel, fabricated aluminum, or cast aluminum blades and hubs. A standard square key and set screw or tapered bushing shall lock the propeller to the motor shaft. All propellers shall be statically and dynamically balanced to AMCA Standard 204-05.

Motors shall be permanently lubricated, heavy duty type, carefully matched to the fan load and furnished at the specified RPM, voltage, phase, and enclosure.

Motor drive frame assemblies and fan panels shall be galvanized steel or painted steel. Drive frame assemblies shall be welded wire or formed channels and fan panels shall have prepunched mounting holes, formed flanges, and a deep formed inlet venturi. Drive frames and panels shall be bolted construction or welded construction (level 2 & 3 fans only).

The axial exhaust or supply fans shall bear the AMCA Certified Ratings Seals for Sound and Air Performance.

Fans shall be Model S1, S2 and SC3 as manufactured by Greenheck Fan Corporation, Schofield, Wisconsin, U.S.A.

## Reversible Direct Drive

Direct drive, axial type sidewall fans shall be provided as follows:

Propellers shall be constructed with cast aluminum blades and hubs. A standard square key and set screw or tapered bushing shall lock the propeller to the motor shaft. All propellers shall be statically and dynamically balanced.

Motors shall be permanently lubricated, heavy duty type, carefully matched to the fan load and furnished at the specified RPM, voltage, phase, and enclosure.

Motor drive frame assemblies and fan panels shall be galvanized steel or painted steel. Drive frame assemblies shall be welded wire or formed channels and fan panels shall have prepunched mounting holes, formed flanges, and a deep formed double inlet venturi. Drive frames and panels shall be bolted construction or welded construction.

The axial exhaust or supply fans shall be tested in accordance AMCA Standard 301 for Sound and Air Performance.

Fans shall be Model SCR3 as manufactured by Greenheck Fan Corporation, Schofield, Wisconsin, U.S.A.



## Vari-Green® Motor

Motor to be an electronic commutation (EC) motor specifically designed for fan applications. AC induction type motors are not acceptable. Examples of unacceptable motors are: Shaded Pole, Permanent Split Capacitor (PSC), Split Phase, Capacitor Start and 3 phase induction type motors. Motors shall be permanently lubricated with heavy-duty ball bearings to match the fan load and prewired to the specific voltage and phase. Internal motor circuitry shall convert AC power supplied to the fan to DC power to operate the motor. Motor shall be speed controllable down to 20% of full speed (80% turndown). Speed shall be controlled by either a potentiometer dial mounted on the motor or by a 0-10 VDC signal. Motor shall be a minimum of 85% efficient at all speeds.

## Vari-Green® Control - Remote Dial

Remote Dial shall be a Vari-Green Control specifically designed to provide 0-10 volt DC signal to Greenheck's Vari-Green Motor.

## Vari-Green Control - Two Speed

Two speed control shall be a Vari-Green Control specifically designed to allow the Vari-Green Motor to operate at two discrete speeds. Two speed control shall include two dials that may be set at any point between 0 and 10 volts DC and an integral transformer capable of reducing 115/208-240 volt AC power to 24 volt AC power.

## Vari-Green Control – Indoor Air Quality – Temperature / Humidity

Control to be a packaged indoor air quality control designed to regulate fan speed based on level of temperature and/or relative humidity in a space. Control shall include a Proportional Integral Derivative (PID) feedback loop and shall have labeled terminal strips for easy wiring. Fan shall be direct drive including an electronic commutation (EC) Vari-Green Motor. Control package shall be Vari-Green Indoor Air Quality – Temperature / Humidity Control.

## Vari-Green Control – Indoor Air Quality – VOC (Volatile Organic Compound)

Control to be a packaged indoor air quality control designed to regulate fan speed based on level of VOC concentration in a space. Control shall include a Proportional Integral Derivative (PID) feedback loop and shall have labeled terminal strips for easy wiring. Fan shall be direct drive including an electronic commutation (EC) Vari-Green Motor. Control package shall be Vari-Green Indoor Air Quality – VOC Control.

## Vari-Green Control – Constant Pressure

Control to be a packaged constant pressure control designed to regulate fan speed based on demand. Control shall include a Proportional Integral Derivative (PID) feedback loop and shall have all components prewired to labeled terminal strips for easy wiring. System shall include the appropriate pressure tap and preset pressure transducer. Fan shall be direct drive including an electronic commutation (EC) Vari-Green Motor. Control package shall be Vari-Green Constant Pressure Control.

Indoor installations shall include pressure tap (duct or room) and control box with integral pressure transducer.

Outdoor installations shall include duct pressure tap, pressure transducer, and control box. Control box shall be prewired and in a NEMA-3R weather proof enclosure for mounting outdoors near the fan location.



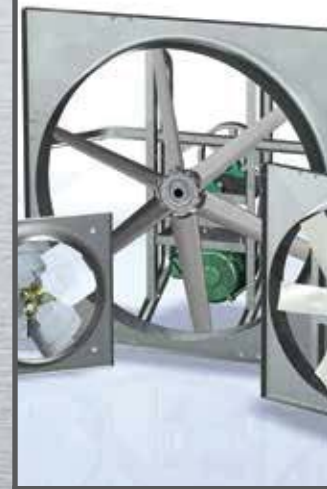


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## Our Commitment

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

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