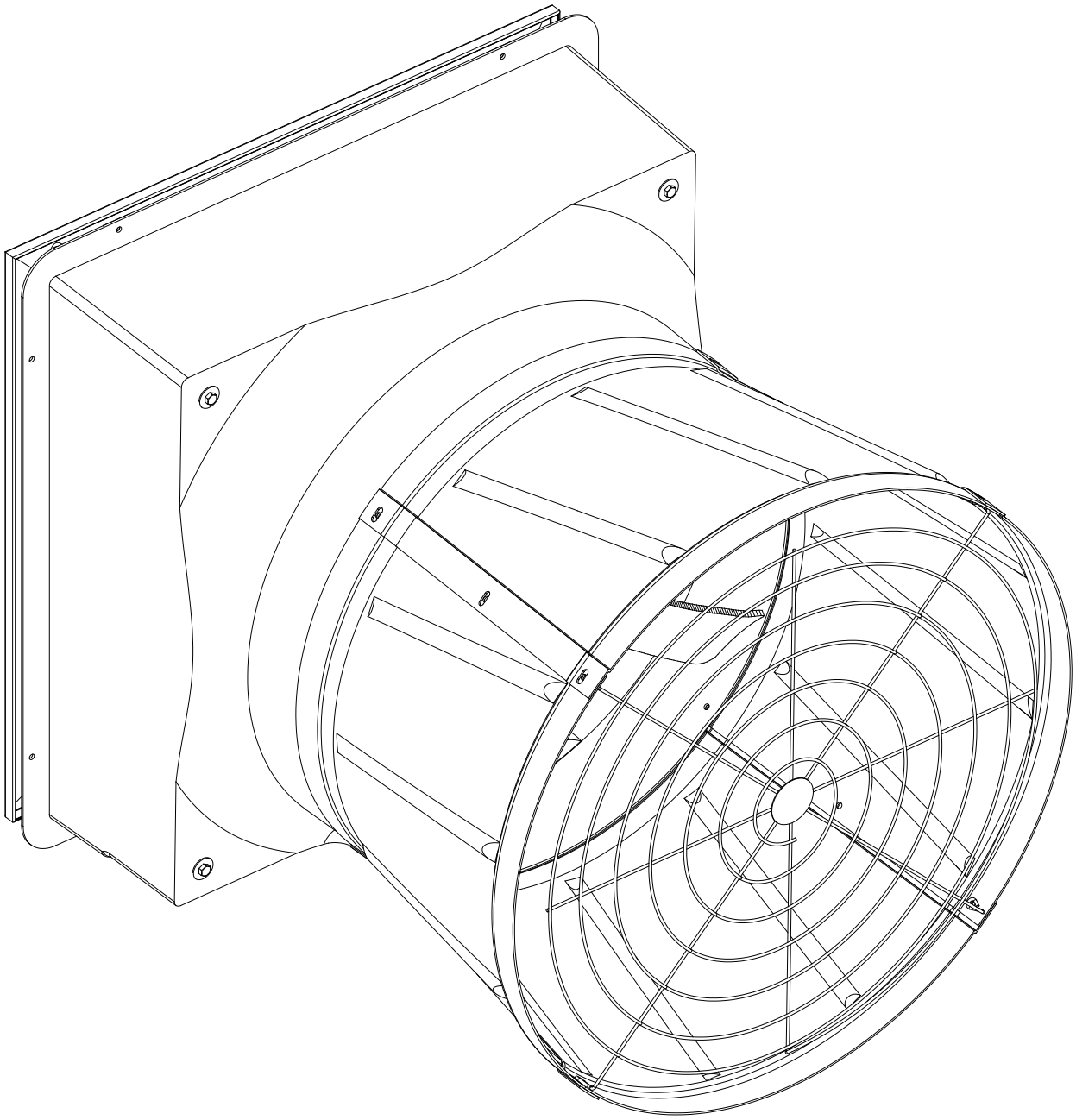
26" Vortex® Fans

VX26F1CR • VX26F1CP

U.S. Patent No. 6386828, 6616404 and 6953320.

aerotech® Ventilation Systems



Munters Corporation
4215 Legion Dr. Mason, MI 48854-1036 USA
(517) 676-7070 Fax (517) 676-7078
www.munters.us/aerotech

USER'S MANUAL and INSTALLATION GUIDE

TABLE OF CONTENTS

Thank You

Thank you for purchasing an Aerotech Vortex fan. Aerotech equipment is designed to be the highest performing, highest quality equipment you can buy. With the proper installation and maintenance, it will provide many years of service.

PLEASE NOTE

To achieve maximum performance and insure long life from your Curtain Machine, it is essential that it be **installed and maintained properly.** Please read all instructions carefully before beginning installation.

WARRANTY

For Warranty claims information see the "Warranty Claims and Return Policy" form QM1021 available from the Aerotech Ventilation System, Munters Corporation office at 1-800-227-2376 or by e-mail at aerotech@munters.com.

Conditions and Limitations:

- Products and Systems involved in a warranty claim under the “Warranty Claims and Return Policy” shall have been properly installed, maintained and operated under competent supervision, according to the instructions provided by Aerotech Ventilation Systems, Munters Corporation.
- Malfunction or failure resulting from misuse, abuse, negligence, alteration, accident or lack of proper installation or maintenance shall not be considered a defect under the Warranty.

UNPACKING THE EQUIPMENT

Before beginning installation, check the overall condition of the equipment. Remove packing materials, and examine all components for signs of shipping damage. Any shipping damage is the customer's responsibility and should be reported immediately to your freight carrier. Fan is shipped complete with all accessories. Remove shutter, guard and cone sections before proceeding with installation.

Each Fan includes:

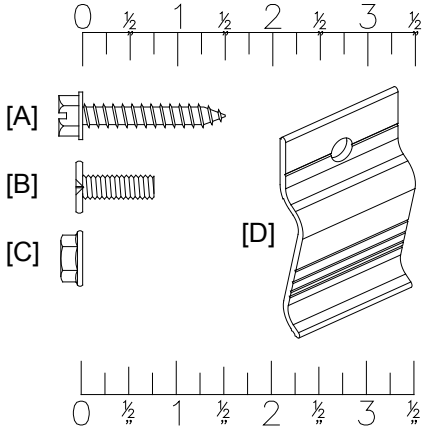
1 - 26" Direct Drive Fan
1 - Shutter
4 - Cone Sections
1 - Guard
1 - Hardware Package as follows

HP1102 - 26" Vortex Fan, PR Shutter

[A] ....8 - #14 x 1.5" Lag Screws
[B] ....12 - 1/4" x 3/4" Wafer Head Bolts, S.S.
[C] ....12 - 1/4" Hex Flange Nuts, S.S.
[D] ....2 - Shutter Retainer Clips

HP1104 - 26" Fan, PV Shutter

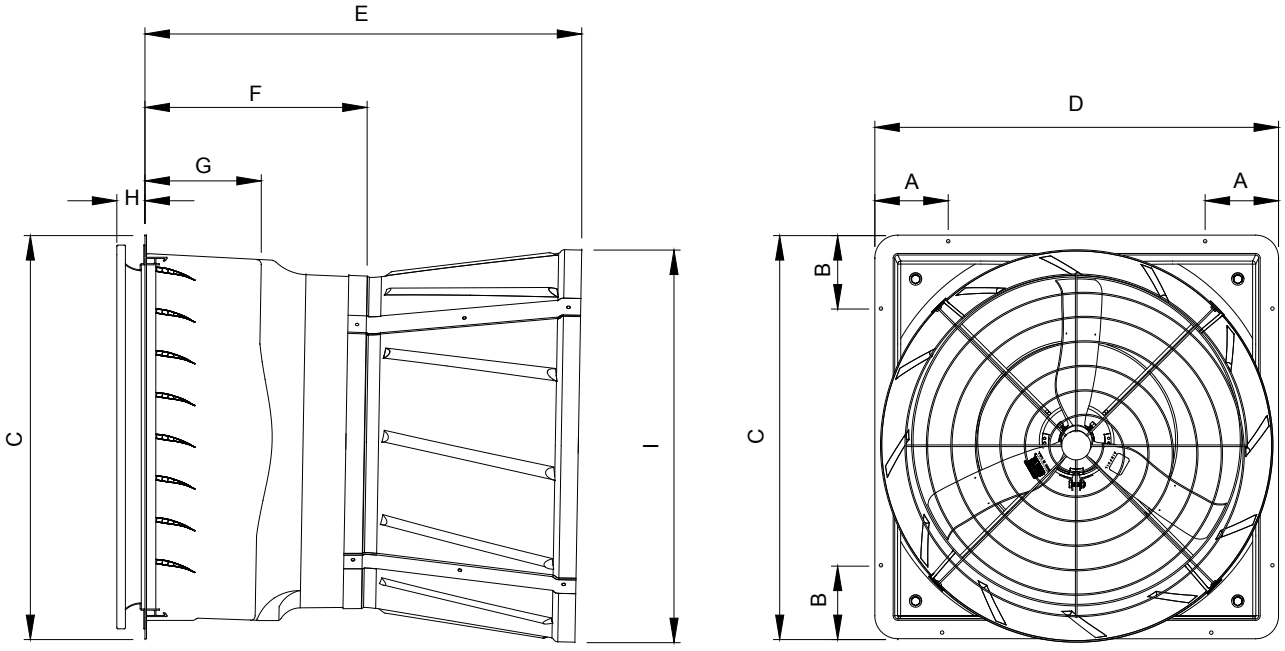
[A] ....8 - #14 x 1.5" Lag Screws
[B] ....12 - 1/4" x 3/4" Wafer Head Bolts, S.S.
[C] ....12 - 1/4" Hex Flange Nuts, S.S.



Fan Specifications:

Power: 120 or 240 VAC
Phase: 1
Hertz: 60

DIMENSIONS



FAN DIA.	A	B	C	D	E	F	G	H	I	WALL OPENING (I.D., framed)
26"	5 1/2"	5 1/2"	33"	33"	35 3/4"	18 3/16"	9 1/2"	2 5/16"	32 1/16"	30 1/4" sq.

INSTALLATION INSTRUCTIONS

Step 1

Construct the framed opening to correct size according to Wall Opening on Page 1. ***See Figure 1.***

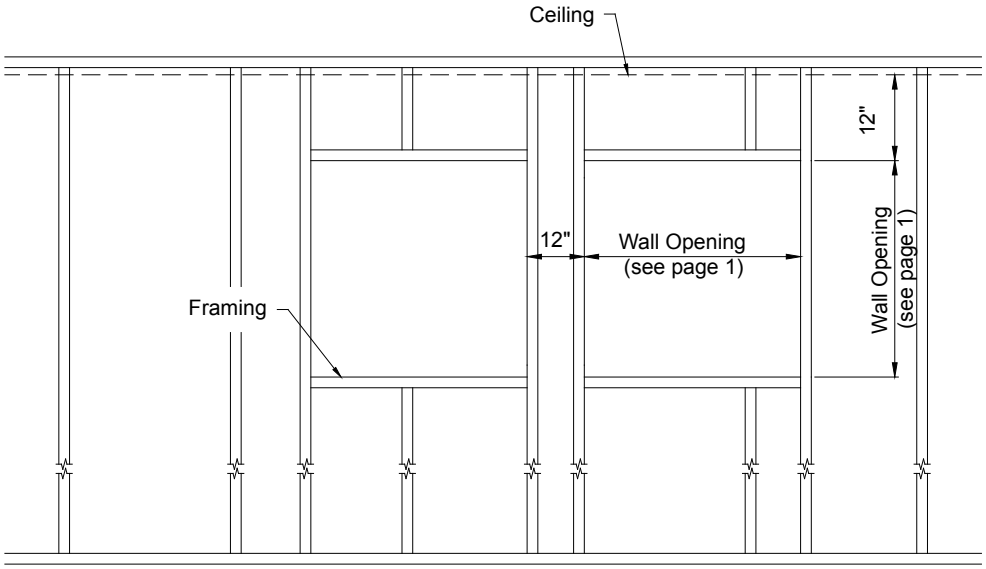


Figure 1

Step 2

Insert fan into the framed opening from the inside. Place (2) Fastener [D] under the top (2) Fastener [A]. ***See Figure 2A.*** While lifting fan up tight to framing, fasten top of fan with the (2) Fastener [A] and [D]. ***See Figure 2B.*** Next, fasten bottom of fan, then both sides with remaining (6) Fastener [A]. Install flashing around opening tight to fan and caulk around fan to seal. If fan and shutter needs to be mounted flush to inside wall, ***See Figure 3*** for framing details.

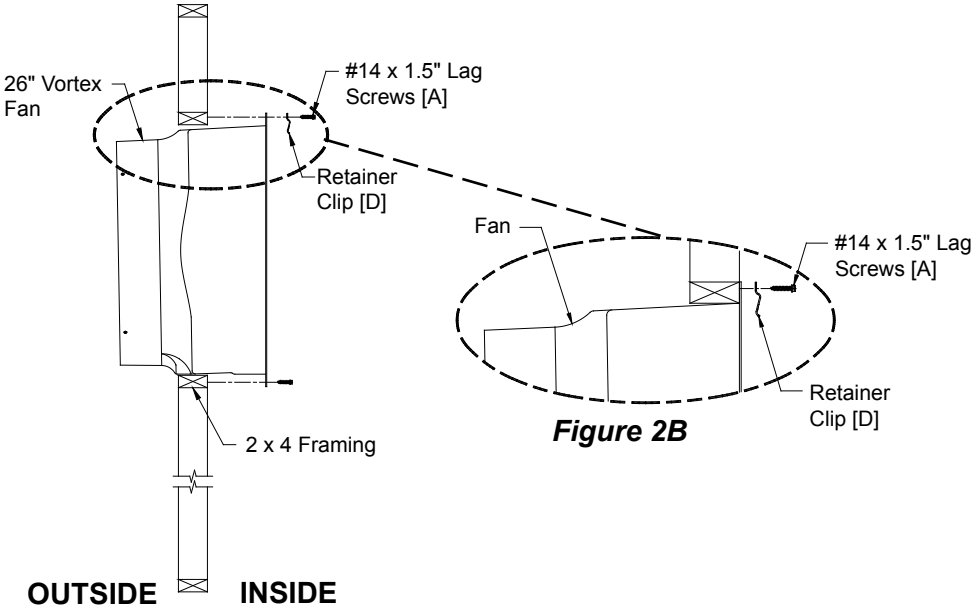


Figure 2A

Figure 2B

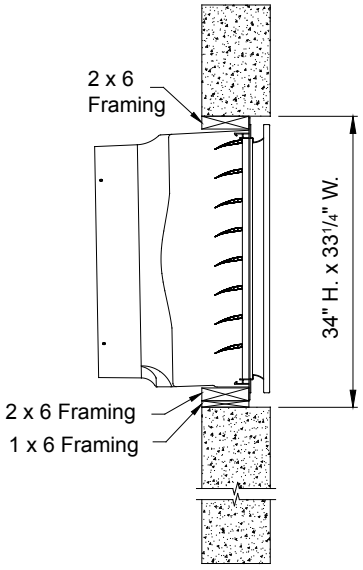


Figure 3

Step 3

Remove packaging from cone and guard sections.

Step 4

Place cone sections on ground with rounded side down. ***See Figure 4.***

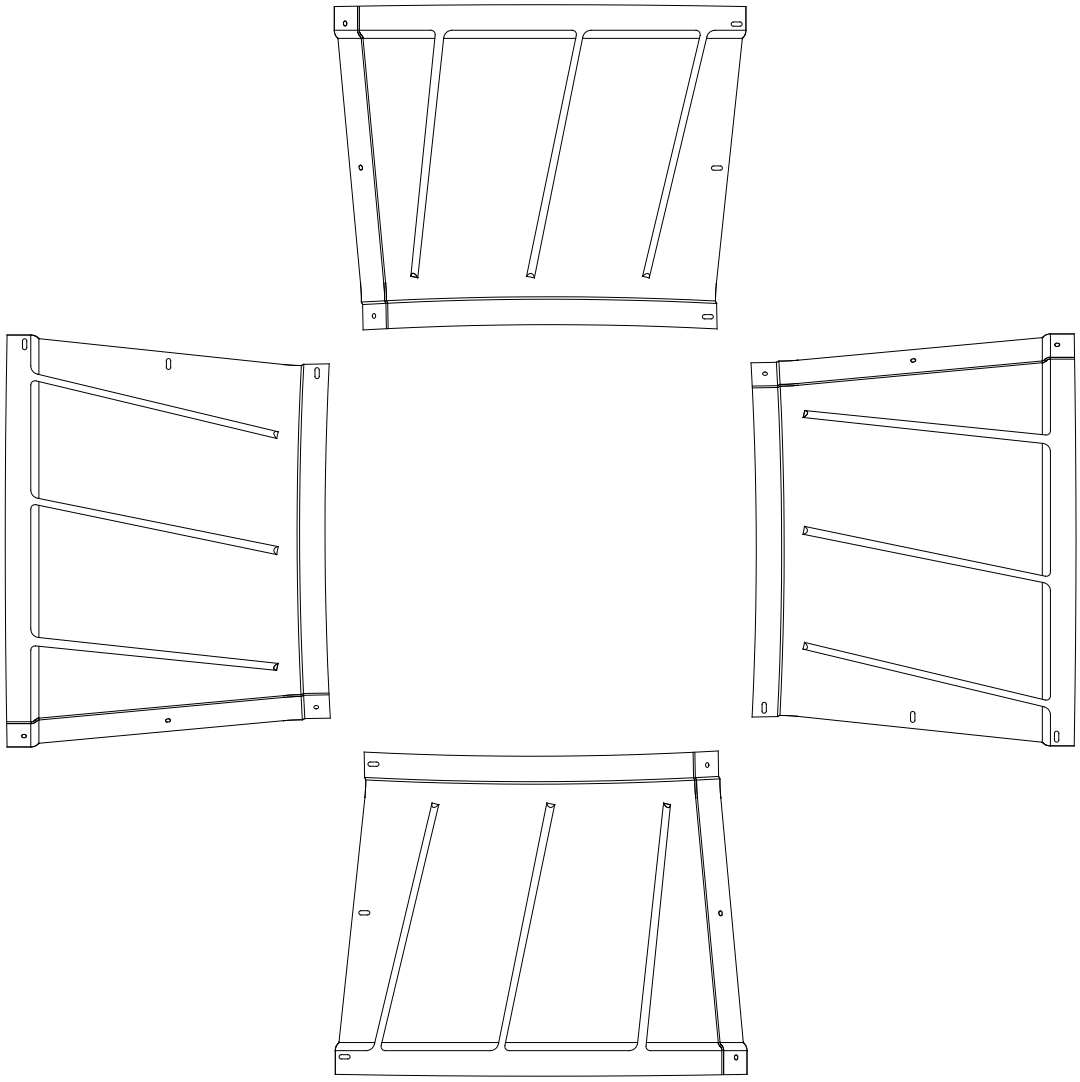


Figure 1

Step 5

Stand (2) cone sections up and fasten with (2) Fastener [B] and [C] in the upper 2 holes. ***See Figures 5A and 5B.*** Finger tighten only.

Step 6

Stand next cone section up and fasten to previous cone sections as in Step 3. Stand last cone section up and fasten on both sides be sure to only use the upper 2 holes. Finger tighten only.

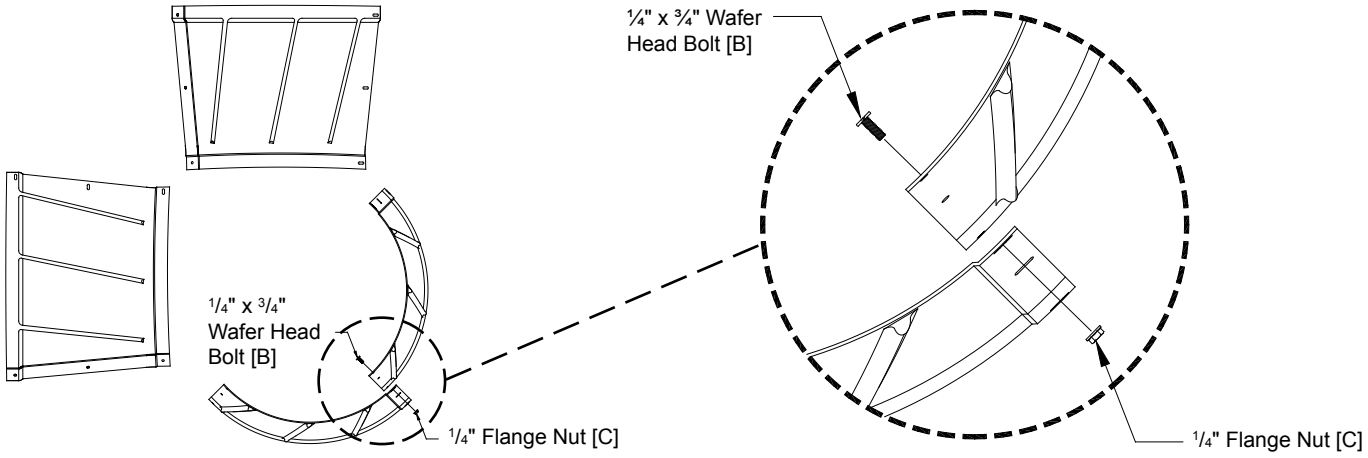


Figure 5A

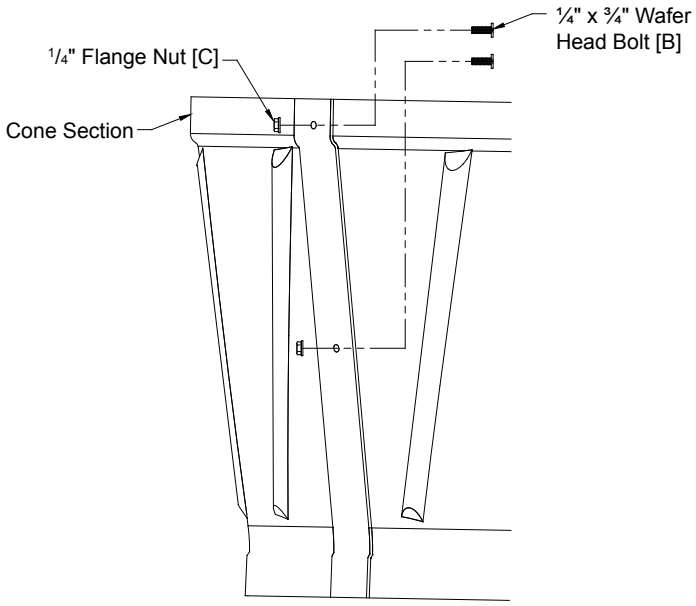


Figure 5B
SIDE VIEW OF 2 CONE SECTIONS

Step 7

Lift cone assembly up and slide onto outlet of fan and fasten using (4) Fasteners [B] and [C]. ***See Figure 6.*** Finger tighten only. Bolts must be installed from inside to outside.

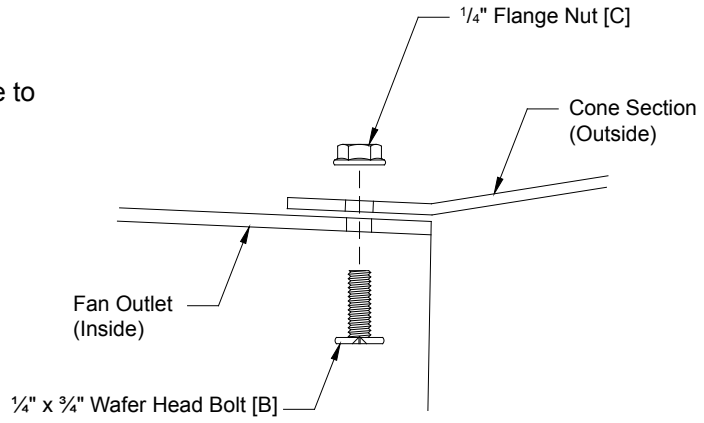


Figure 6

Step 8

Remove Fasteners [B] and [C] in outer holes. Insert guard into cone with the guard eyelets facing away from you. Make sure each eyelet lines up with a hole in the cone sections, and secure with the (4) Fasteners [B] and [C], previously removed. **DO NOT** tighten bolts at this time. ***See Figure 7A, 7B.***

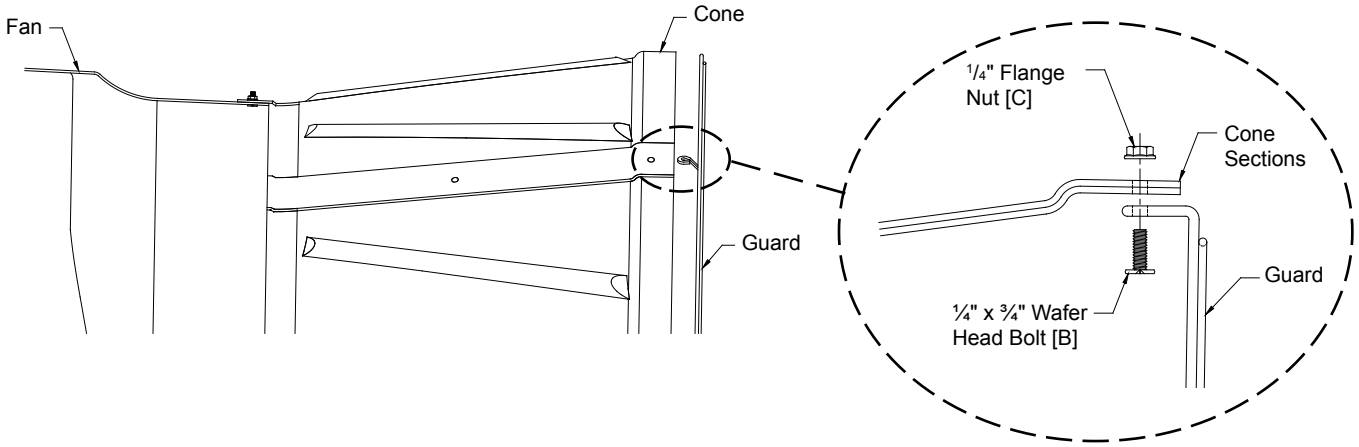


Figure 7A

Step 9

Push cone sections together at each joint to tighten cone around guard. Tighten wafer head bolts and nuts at all joints, taking care not to overtighten. Tighten all bolts holding guard in place.

If fan was ordered with 'PR' style shutter proceed to **Step 10**. If the 'PV' style shutter was ordered then proceed to **Step 12.**

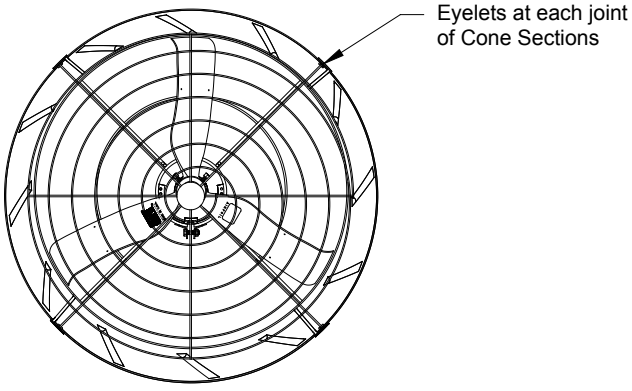


Figure 7B

Step 10

Insert Airfoil shutter into fan by sliding the top flange of shutter under top retaining clips and pressing bottom of shutter inward. ***See Figure 8.***

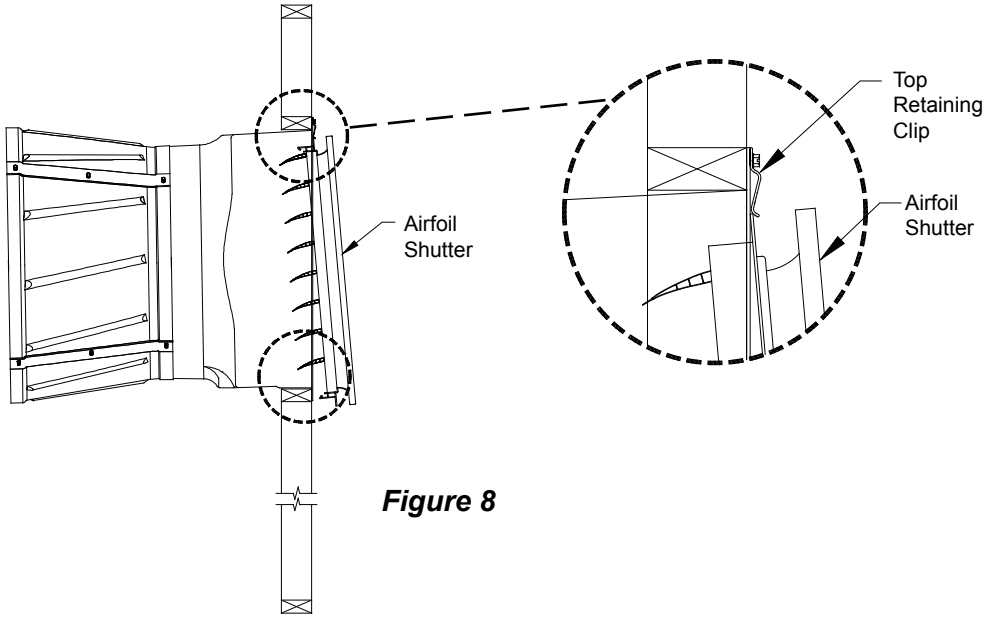


Figure 8

Step 11

When shutter is in place, open shutter by pulling down on tie-bar, reach into fan through the shutter blades and latch shutter in place with the draw latches in 2 places. ***See Figure 9.***

NOTE: Shutter protrudes from fan 2 15⁄16". Provide adequate guarding to protect shutter. Installation is now complete, proceed to Electrical Wiring Section.

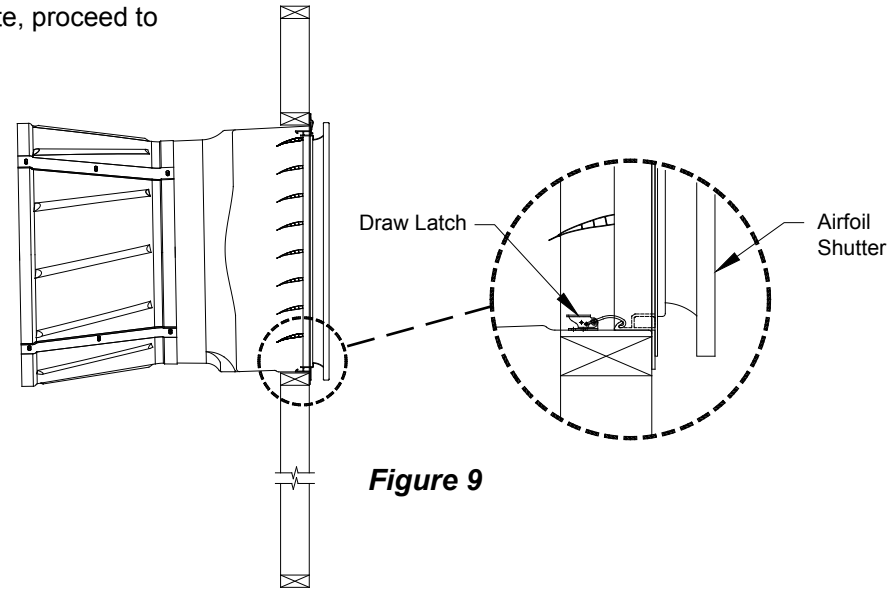


Figure 9

Step 12

Slide shutter into back of fan. ***See Figure 10A.*** Fasten shutter in place by rotating the side and top shutter clips over the shutter flanges. ***See Figure 10B.*** Installation is now complete, proceed to electrical wiring section.

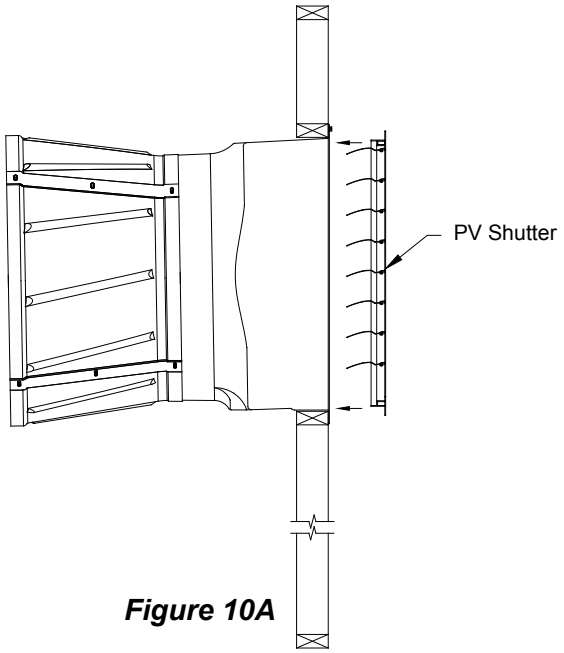


Figure 10A

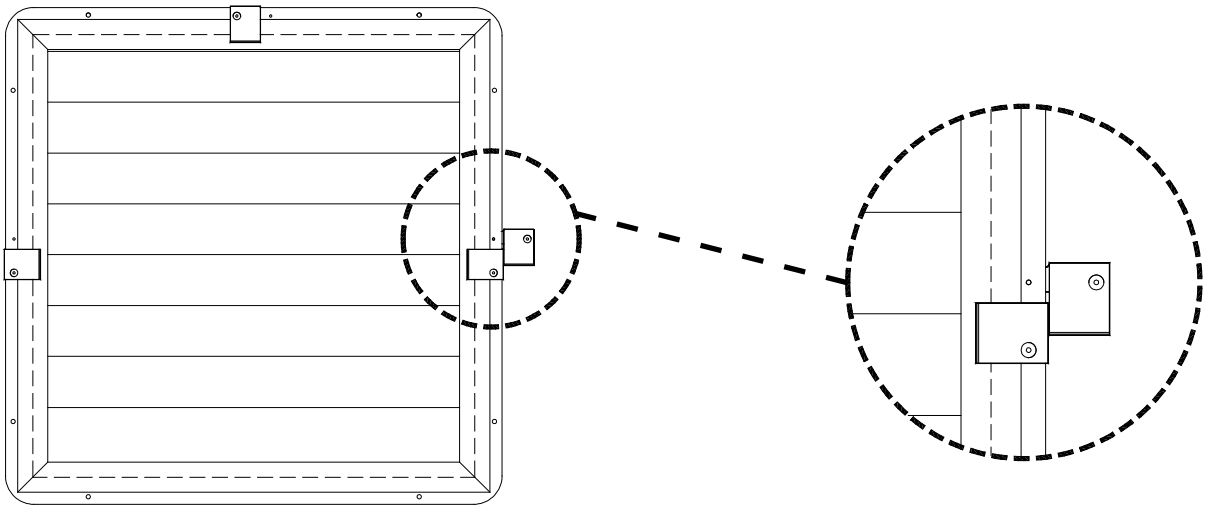


Figure 10B

Recommended Wire Routing:

As the power cable exits the back of motor form a drip loop and then run power cable down along motor mount and "Zip" tie the cable to motor mount to prevent cable from getting tangled in the prop. ***See Figure 11***. Then run the cable out the drain hole to the circuit breaker or control panel.
(Continued on next page).

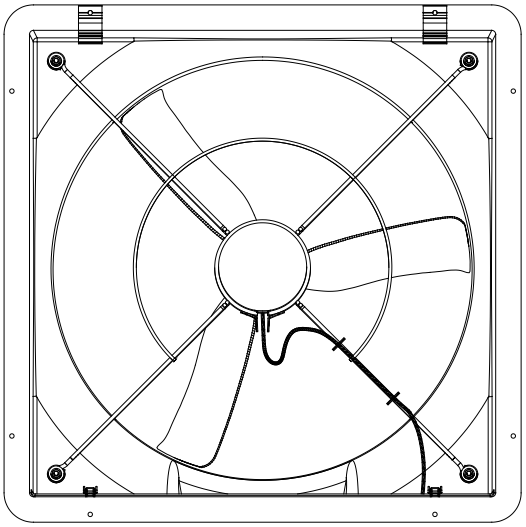
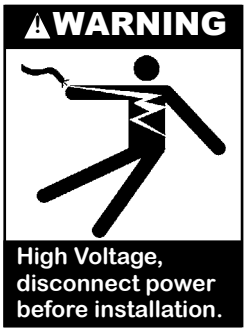


Figure 11



All wiring should be installed in accordance with National, State, and Local electrical codes. Fans used to ventilate livestock buildings or other rooms where continuous air movement is essential should be connected to individual electrical circuits, with a minimum of two circuits per room. For electrical connection requirements, refer to diagram on motor nameplate and to information enclosed with the Aerotech environmental control to be used.

Single Phase Fans: motor overload protection should be provided for each fan. A Circuit Breaker Switch or slow blow motor type fuses must be used ***See Figure 12.*** See Aerotech form **QM1400** for proper size.

NOTE: *A safety cut-off switch should be located adjacent to each fan.*

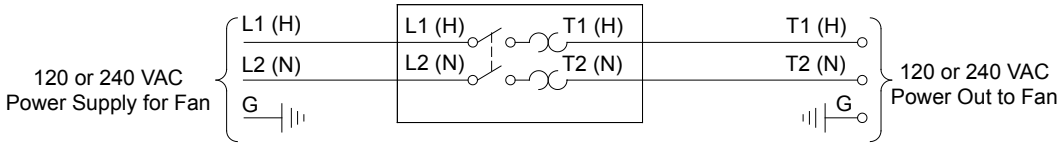
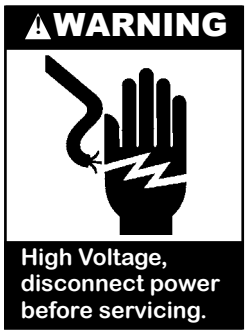


Figure 12
Single Phase - Motor Overload Protection with Disconnect (SY2000 or Equivalent)

NOTE: Information in parenthesis refers to 120 VAC control.

KEY:
L1 = Line 1
L2 = Line 2
L3 = Line 3
H = Hot
N = Neutral
G = Ground



The following inspection and cleaning procedures should be performed monthly:

1) INSPECT PROPELLER: Check that propeller is secure on motor shaft and that there are no signs of damage. The blades are of a self-cleaning design and should not require maintenance.

2) CLEAN regularly for best results:

   - FAN MOTOR: Remove any dust accumulation from motor using a brush or cloth. (**DO NOT** use a pressure washer). A clean motor will run cooler and last longer. At the same time, verify that the motor is secure in its mount.

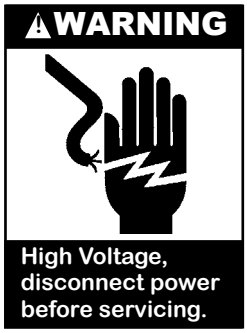
   - SHUTTER: Carefully clean dust from shutter blades and frame so that shutter opens and closes freely. A brush or cloth should be used.

   - GUARD: Clean any dust or feathers from fan guards using a brush. Dirty guards can reduce airflow.

3) CHECK FASTENERS: For safety, all fasteners should be inspected. Tighten any loose connections.

4) INSPECT FAN CONTROL: With power disconnected, inspect all electrical connections. Wiring should be secure and in good condition. Remove any dust build-up from control case and sensor using a soft brush or cloth. **NEVER CLEAN ELECTRICAL EQUIPMENT WITH A PRESSURE WASHER!**

TROUBLE SHOOTING



SYMPTOM	POSSIBLE CAUSES	CORRECTIVE ACTION
Fan Not Operating	1. Fan control set above room temperature	Set to a lower temperature
	2. Blown fuse or open circuit breaker	Replace fuse or reset breaker
	3. Propeller blade contacting fan housing	Realign motor in fan housing
	4. Fan control defective	Repair or replace control
	5. Motor defective	Repair or replace motor
Fan Operating-Insufficient Airflow	1. Variable speed control improperly adjusted	See Operation, Step 2 for adjustment guidelines
	2. Shutter jammed	Clean shutter & fan housing
	3. Guard dirty	Clean guard
Excessive Fan Noise	1. Variable speed control idle speed set to low	Increase idle speed setting
	2. Variable speed control defective	Repair or replace control
	3. Propeller blade contacting fan panel	Realign motor in fan housing
	4. Motor bearing defective	Repair or replace motor
Excessive Fan Vibration	1. Motor loose in mount	Tighten fasteners
	2. Propeller damaged	Replace propeller
	3. Motor shaft bent	Repair or replace motor
Fan never turns off	1. Override thermostat set incorrectly	Set to the correct temperature
	2. Control set for continuous operation	Set speed control correctly

WINTERIZING FAN

In most climates, it is probable that the ventilation system will never need to operate at a total capacity during the colder winter months. Consequently, it is advisable to "winterize" those fans which will not be used in cold weather to avoid unnecessary heat loss and condensation.

To winterize, turn fan control "off". Install the insulated closure panel over the fan intake. If you don't have an insulated closure panel, a piece of rigid insulation material can be used. **Remember the insulation panel must be removed before warmer weather returns.**

NOTE: At least one single speed fan should be left uncovered and with power available to provide air movement in the event of variable speed control difficulties.

WINTER WEATHER PROTECTION

To prevent cone or fan damage from snow or ice sliding off building roof, weather protection must be provided. A weather shelter may be constructed to cover the entire fan, ***See Figure 13,*** or snow guards may be placed on the roof, ***See Figure 14.***

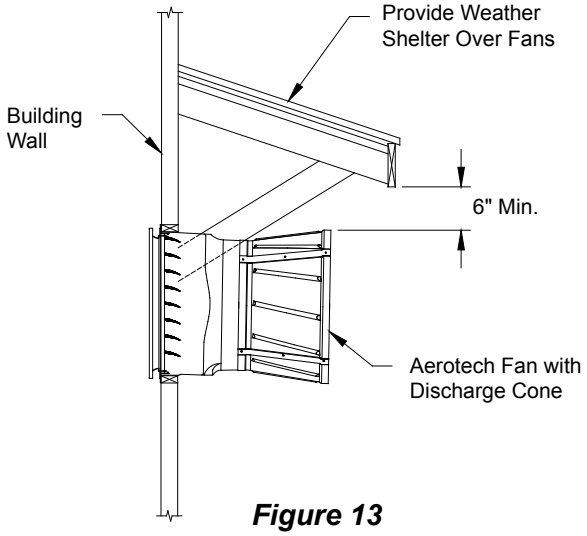


Figure 13

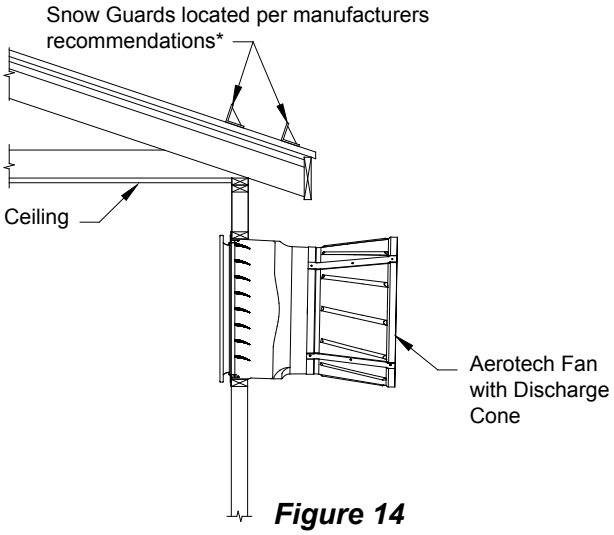


Figure 14

***Snow Guard Suppliers**

Company Name	Phone No.	Fax No.
Snojax, Inc.	(717) 697-1900	(717) 697-2452
Polar Blox	(814) 629-7397	(814) 629-9090
LM Curbs	(800) 284-1412	(903) 759-0879
Real-Tool, Inc.	(703) 338-4544	(703) 338-4654
Vermont Slate & Copper Services, Inc.	(802) 888-8573	(802) 888-8574

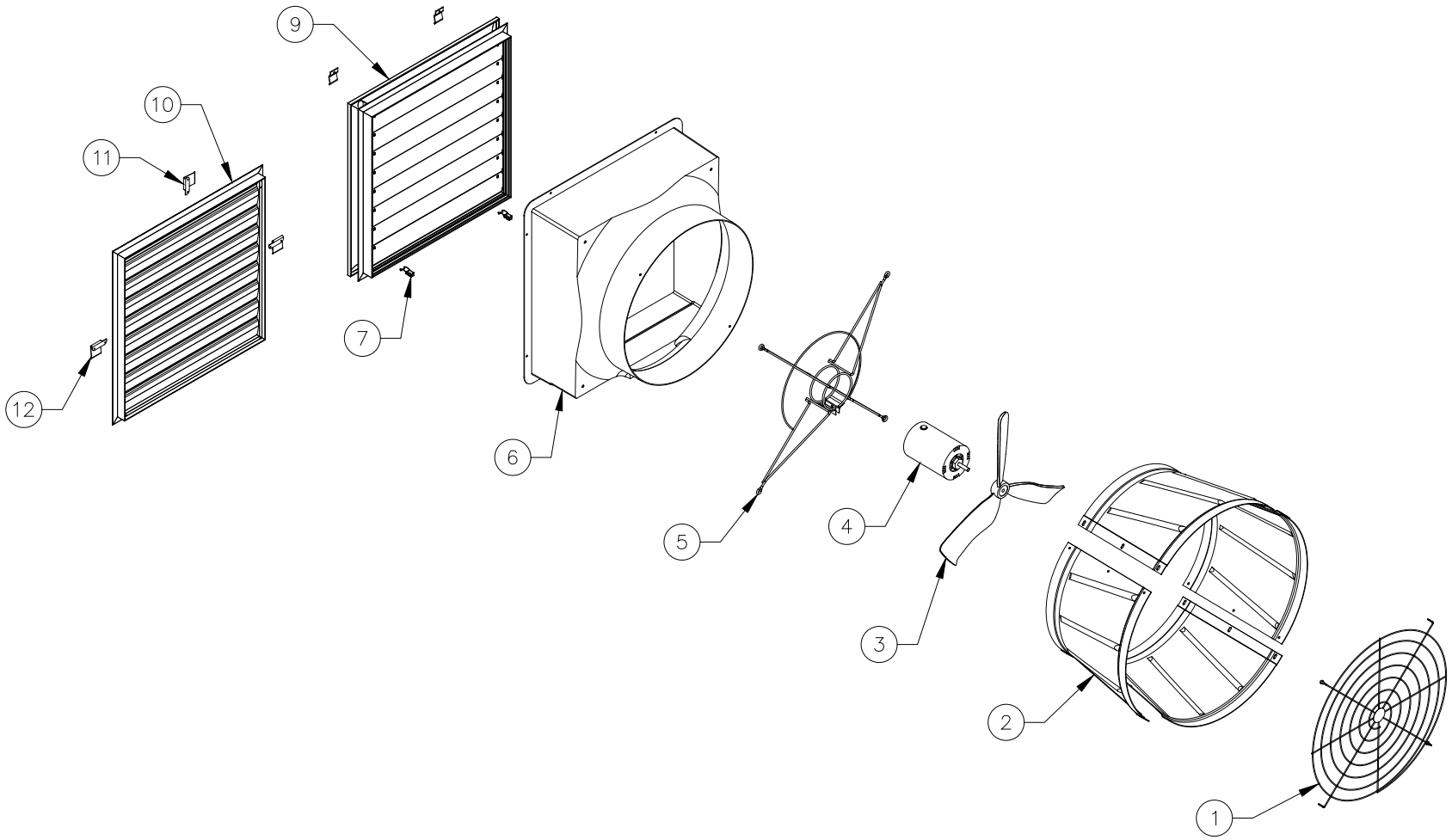
Note: Snow guards are designed to prevent sudden, dangerous snow and ice slides when attached to the building roof according to manufacturers recommendations. The supplier listing above is given as a reference only. Aerotech does not endorse any specific snow guard product and no performance warranty is implied.

! IMPORTANT

Aerotech Ventilation Systems Product and System Warranties DO NOT cover cone or fan damage from external sources.

exploded view

26" Vortex Fans



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exploded view

26" Vortex Fans

	Item	Catalog No.	Description	Qty.
	1	FH1326	Guard Kit, 26" FG Cone, PVC Coated, with Hardware	1
	2	FH3326	Discharge Cone, Fiberglass (1) Section	4
	3	FP1126SS	Propeller, 26.5"DD. 3-Blade,Set Screws, AL	1
	4	FM1008	Motor, 1/3 HP, 1075 RPM, 48 Fr., 1 Ph., 115/230V	1
	5	FH2526	26" Fan, Motor Mount, PVC Coated	1
	6	FH3126	Housing, 26" Vortex Fan, w/Latch & Labels for PR shutter, FG	1
		FH3127	Housing, 26" Vortex Fan, w/Clips & Labels for PV shutter, FG	1
PR Only	7	KX1015	Latch, draw type, for PR Shutter, SS	2
PR Only	8	FH2131	Clip, Shutter retainer for PR shutter, SS	2
PR Only	9	PR26	Shutter, airfoil w/tie-bars, plastic	1
PV Only	10	PV26	Shutter, all plastic	1
PV Only	11	FH2119	Right Shutter Clip, AL	2
PV Only	12	FH2117	Left shutter clip, AL	1