Munters ATLAS 74 74" Exhaust Fan

Instruction Manual



ATLAS 74 Fan

Models: ATS743F3CT-E • ATS743F3CT-P



Munters ATLAS 74 Fan

Instructions for Use and Maintenance

Thank You:

Thank you for purchasing an ATLAS 74 Fan. Munters 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 Munters product 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 Munters Corporation office at 1-800-227-2376 or by e-mail at aghort.info@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 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.

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Unpacking the Equipment

1.

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.

1.1 Parts List

Each Fan includes:

- 1 Belt Drive Fan
- 4 Cone Sections, PL
- 2 Guard Sections, CTD
- 1 Shutter
- 2 Shutter Wind Bracket, GZ
- 1 Shutter Wind Pipe, GZ
- 4 Reinforcing Ring, 1/4 Section, Atlas74, CTD-STL, White
- 1 Hardware Package as follows:

HP1162- Atlas 74

ID	Qty.	Cat. No.	Description
[A]	28	KS1167	5/16"-18 x 1.25" SRTD Flange Head Bolt, ZP
[B]	32	KN0706	%6"-18 SRTD Flange Nut, ZP
[C]	12	KW3011	5/16" x 11/4"O.D. Flat Washer, SS
[H]	3	KS1403	#9 x 2" Hex, Seal Washer Polebarn Screw, ZP
[J]	3	FH1968	1-Hole Pivoting Shutter Clip, BLK PL
	1	HP1202	Snow Ring Hardware Package
[D]	4	KS1169	5/16"-18 x 1.75" SRTD Flange Head Bolt, ZP
[E]	4	KN1706	5/16"-18 Nylock Nut, ZP

WARNING:

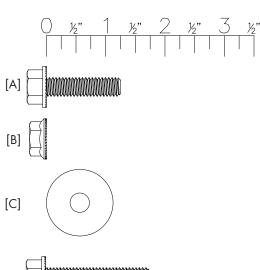
A Munters Lift Kit, FH1890, is required for installation of Atlas Fan. One Lift Kit may be used for multiple Atlas Fans. Failure to use the Munters Lift Kit may result in damage to fan. **DO NOT** use chains to lift fan for installation. Damage from chains will not be covered under warranty.

Each FH1890 Lift Bracket includes:

- 1 Left Lift Bracket, PWDCTD
- 1 Right Lift Bracket, PWDCTD
- 1 Hardware Package as follows:

HP1891 - for FH1890

ID	Qty.	Cat. No.	Description
[F]	8	KS1180	%"-16 x 1.5" Flange Head Bolt, ZP
[G]	8	KN0705	3%"-16 SRTD Flange Nut, ZP

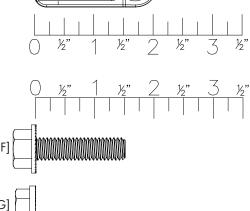






[J]





1.2 Fan Dimensions

Fan Specifications:

Hertz: 60

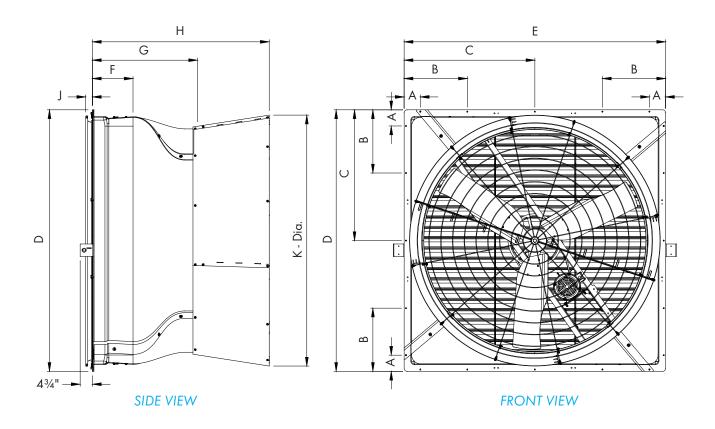
Voltage: 208-240/480VAC

Phase: 3 Hertz: 50

Voltage: 190/380VAC

Phase: 3

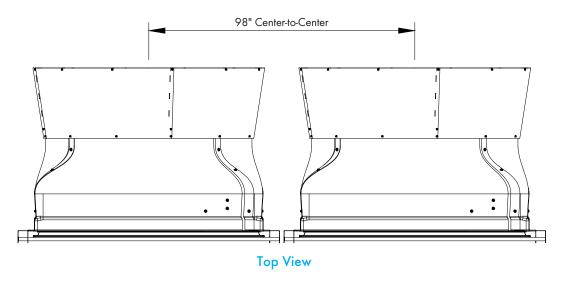
Weight: 400 lbs. [182 Kg]

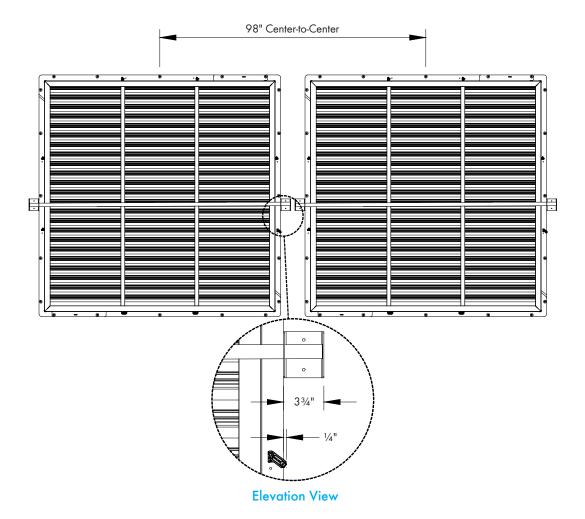


FAN DIA.	Α	В	С	D	Е	F	G	Н	J	K-Dia.	WALL OI	PENING framed)
											84½″W.	

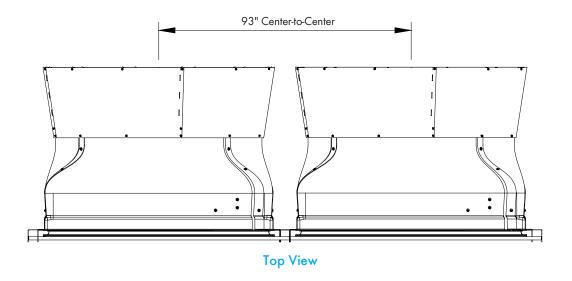
1.3 Fan Spacing

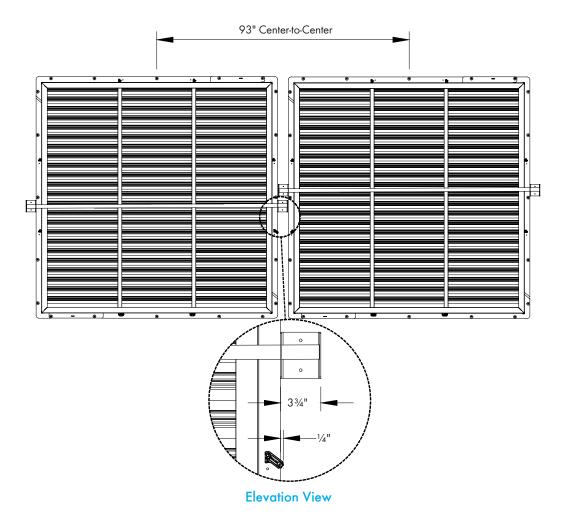
When determining fan spacing/fan layout, keep in mind that the fan requires $\frac{1}{4}$ " clear space from the mounging flange so the Shutter Clips have room to rotate, to allow the shutter to be removed and reinstalled in the fan without interference. Also, the sides of the fan also require $3\frac{3}{4}$ " clearance for the Wind Kit Bracket to be installed. If the fans are to be installed side-by-side with the Wind Kit Brackets adjacent to each other, the minimum fan spacing is 98" Center-to-Center. See Figure Below.





If the fans are to be installed closer, then the Wind Kit Brakcet for one fan should be offset 6" up or down from the previous fan, then the minimum fan spacing is 93" Center-to-Center. See Figure Below.





2.

2.1 Installation

Step 1

Construct the framed opening to correct size according to the Chart on Page 5. The frame should be constructed of 4x4 Treated Posts or double 2x Treated Studs. 2 fans can fit between Columns that are 20'O.C., and 3 fans can fit between Columns that are 25' or 30' O.C. See Figure 1A, 1B and 1C.

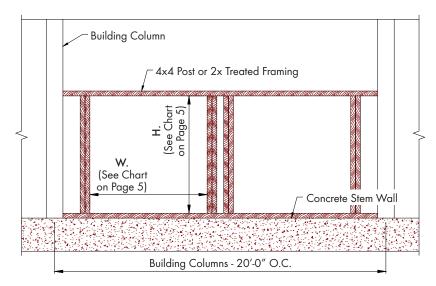


Figure 1A

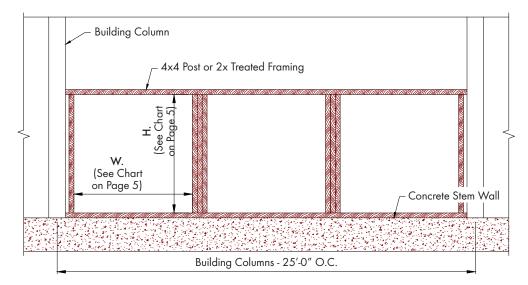


Figure 1B

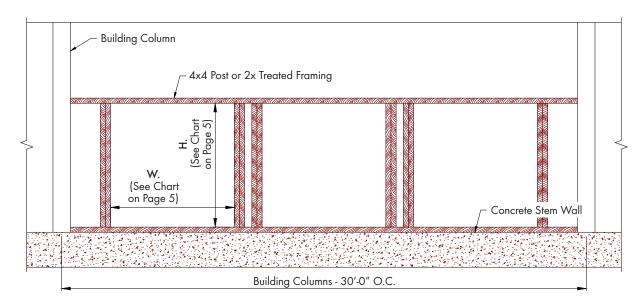


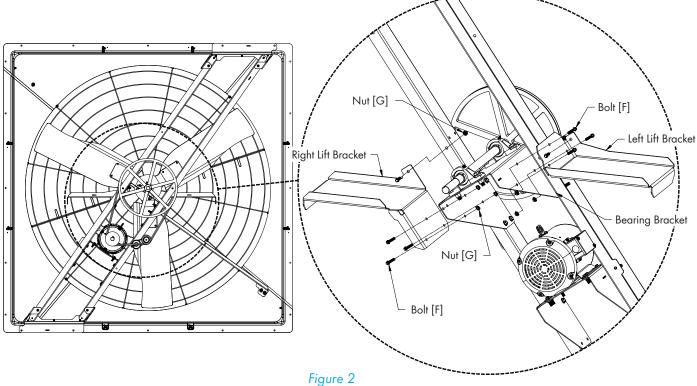
Figure 1C

WARNING:

A Munters Lift Kit, FH1890, is required for installation of Atlas Fan. One Lift Kit may be used for multiple Atlas Fans. Failure to use the Munters Lift Kit may result in damage to fan. DO NOT use chains to lift fan for installation. Damage from chains will not be covered under warranty.

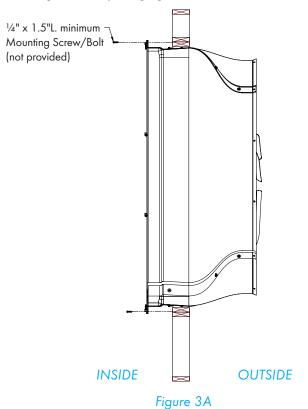
Step 2

A Lift Bracket Kit is available to be able to lift fan into the framed opening. Attach each Lift Bracket to Bearing Bracket and Strut using (4) Bolts [F] and Nuts [G]. See Figure 2. Once fan has been installed in wall Lift Bracket can be removed and installed in next fan for installation.



Step 3A

Using Munters Lift Kit, FH1890, insert fan into the framed opening from the inside. While holding fan tight to framing, fasten top of fan with (5) 1/4" x 1.5"L. minimum Mounting Screw/Bolt (not provided). See Figure 3A. Next, fasten bottom of fan, then both sides with (5) 1/4" x 1.5"L. minimum Mounting Screw/Bolt (not provided) per side. Install flashing around opening tight to fan and caulk around fan to seal.

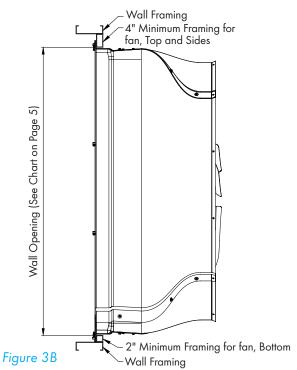


Note:

Once Fan is installed in wall, remove Lifting Brackets from Fan and install in next Fan for installation.

Step 3B

If fan needs to be mounted, so that shutter does not stick into building then frame fan as shown in Figure 3B. Top and sides require 4" minimum and bottom requires 2" minimum.



Note:

Once Fan is installed in wall, remove Lifting Brackets from Fan and install in next Fan for installation.

Step 4

Lay (4) Reinforcing Rings in a circular pattern on a flat surface with the tabs facing up. Fasten the Rings together at the End Flanges using (3) Bolts [D] and Nylock Nuts [E], leaving one pair of the End Flanges unattached. See Figure 4.

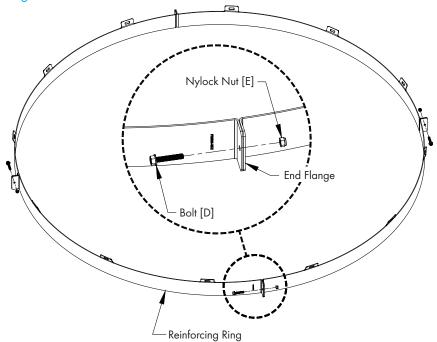
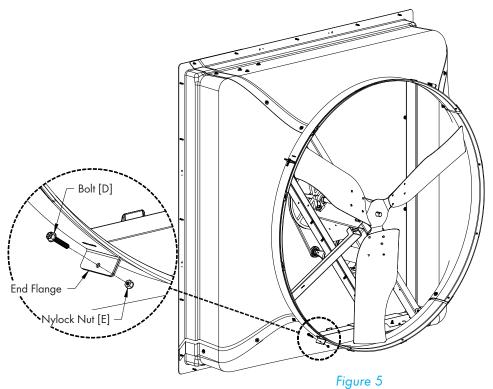


Figure 4

Step 5

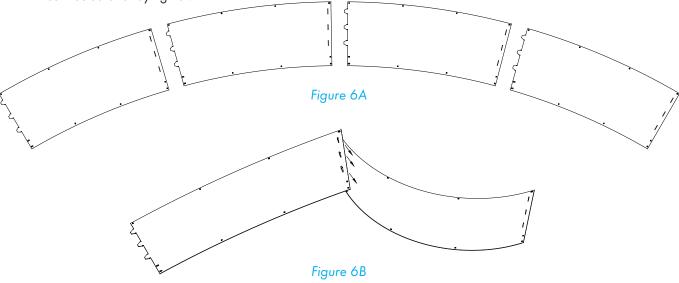
Wrap the Reinforcing Rings around the outlet orifice of the fan and align the slots in the tabs with the holes in the orifice and secure the final End Flanges together using (1) Bolt [D] and Nylock Nut [E]. See Figure 5. Do not fully tighten the last bolt and nut at this time.



2.2 Cone Installation

Step 6

Place all 4 cone sections on a flat surface with tabs from one facing slots of the next. See Figure 6A. Curl up tab end of first cone section and insert tabs up into slots in the next cone section. A mallet may be needed to seat slots over tabs completely. See Figure 6B. Repeat this step until all 4 cone sections are connected and laying flat.



Step 7

Fasten each of the joints in the single outer hole using (1) Bolt [A] and Nut [B], with the nut on the side with the tabs. At the inner pair of holes of each joint fasten using (1) Bolt [A] and Nut [B] with the bolt head on the side with the tabs. See Figure 7.

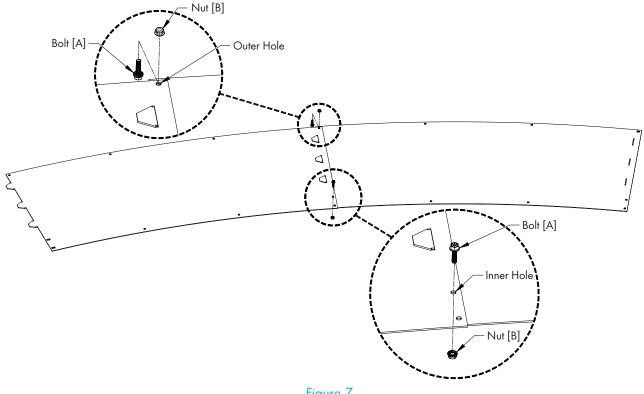
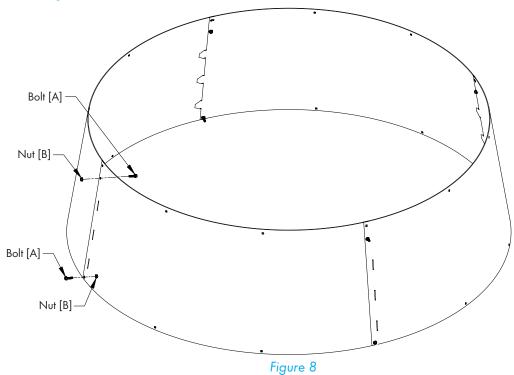


Figure 7

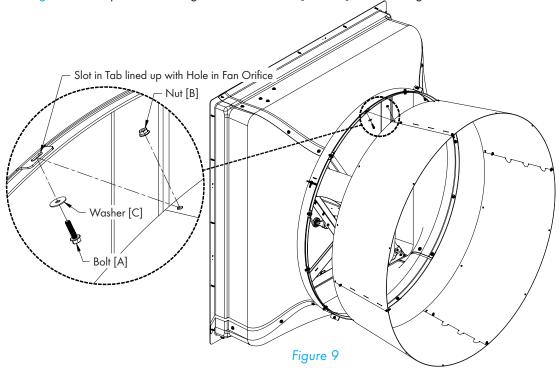
Step 8

Stand cone sections on end and curl ends around to form cone so that the nuts are outside and tabs on inside. Insert remaining tabs into slots so tabs are inside cone and fasten final joint using (1) Bolt [A] and Nut [B], with nut on inside of cone. At the inner pair of holes fasten using (1) Bolt [A] and Nut [B] with bolt head on inside of cone. See Figure 8. Leave all bolts and nuts loose at this time.



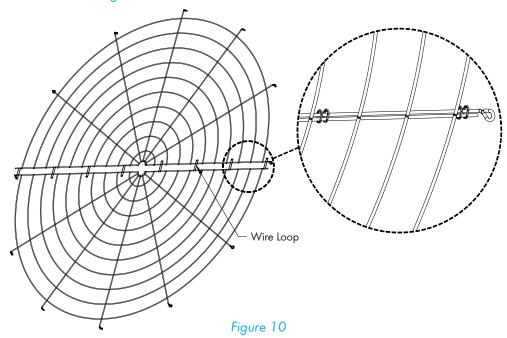
Step 9

Make sure the slots in the tabs of the Reinforcing Ring still line up with holes in the orifice of the fan. Install cone onto fan over the tabs of the Reinforcing Ring by putting cone over fan orifice and line up outer holes of cone with holes in fan orifice and tab slots. Fasten cone to fan orifice using (12) Bolt [A], Washer [C] and Nut [B] with bolt and washer on inside of fan orifice and nut on outside of cone with the tabs between orifice and cone. See Figure 9. Torque the last Ring Bolt to 125 in-lbs [14 Nm], and then tighten all the cone bolts at this time.



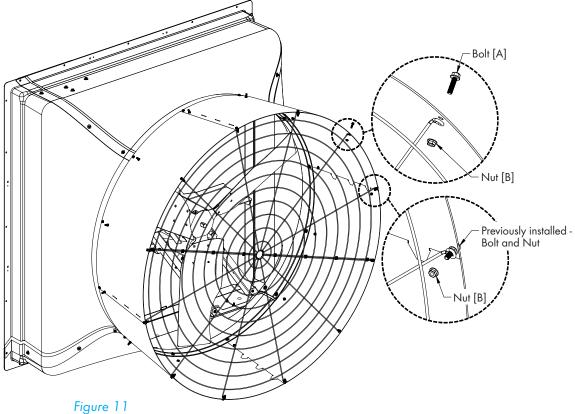
Step 10

Find the 2 Guard Sections and line the 2 of them up with the eyelets both facing the same direction. Then secure the guard sections together by wrapping the wire loop on each guard section around center wire of opposite guard section. See Figure 10.



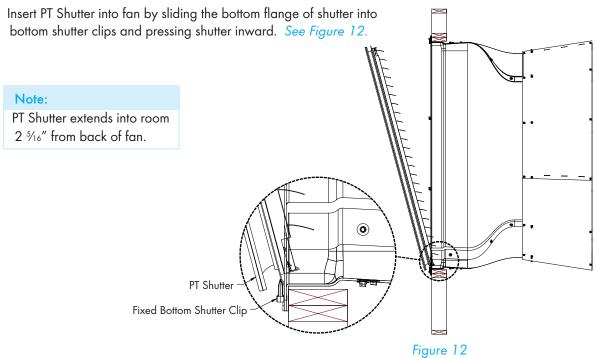
Step 11

Insert guard into cone with the eyelets facing you. Install eyelets over (4) Bolts already installed at joints in cone and fasten with Nut [B]. Secure (8) remaining eyelets using Bolt [A] and Nut [B]. See Figure 11.



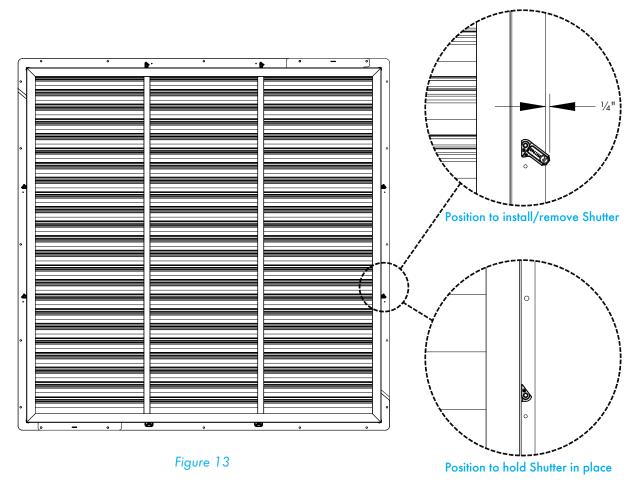
2.3 PT Shutter Installation

Step 12



Step 13

Fasten shutter in place by rotating the side and top shutter clips over the shutter flanges. See Figure 13.



Step 14

Drill (3) 3/16" holes in the flange of the Atlas 74 fan. One hole should be in each side flange, 13/16" from the egde of each flange and $7\frac{1}{2}$ " from the top edge of the flange. The 3rd hole should be $1\frac{3}{16}$ " down from the top of the flange and $1\frac{1}{2}$ " to the right of the center mounting screw. See Figure 14.

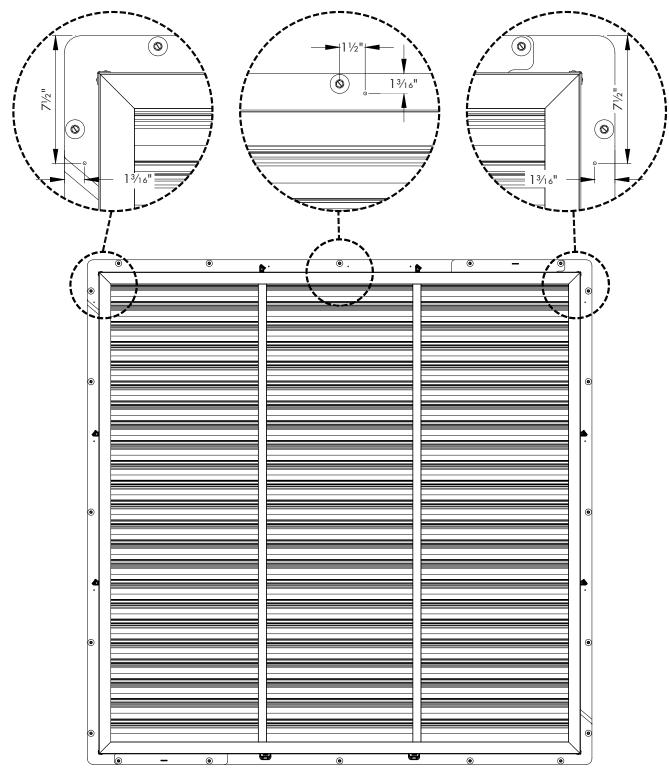


Figure 14

Step 15

Fasten the (3) Shutter Clips [J] to the flanges in the holes drilled in the previous step using (3) Polebarn Screws [H]. The Clip on the left and top flanges should have the 'L' on the clip facing out and the Clip on the right flange should have the 'R' facing out. See Figure 15.

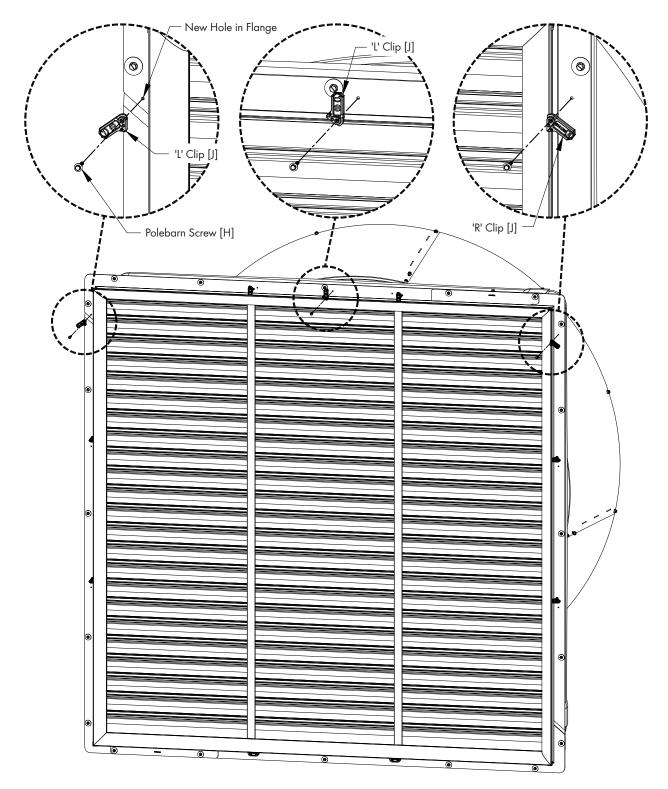


Figure 13

2.4 Shutter Wind Kit Installation

Step 16

Mount one Wind Kit Bracket on each side of fan, 3'-3" above the bottom flange of fan. The opening in the 'U' slot should be facing up and each Bracket should be mounted in same direction. See Figure 16A. Fasten Brackets in place using (2) Lag Screws (not provided). See Figure 16B.

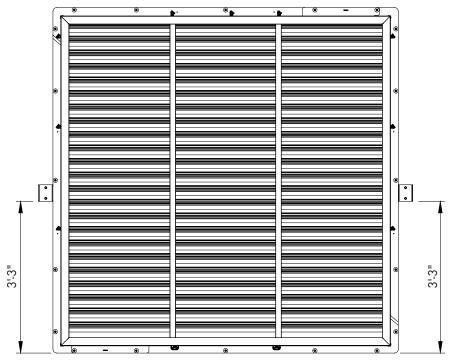
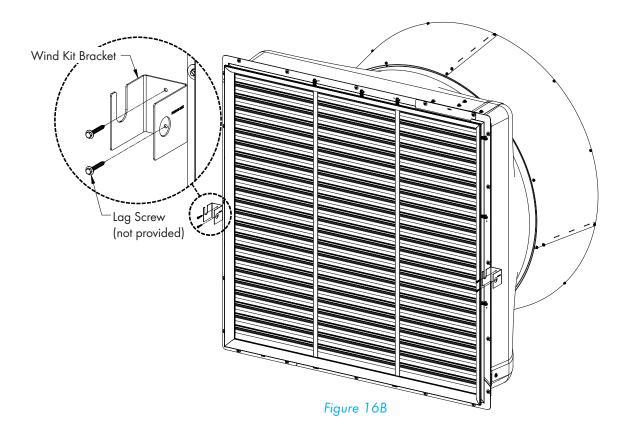
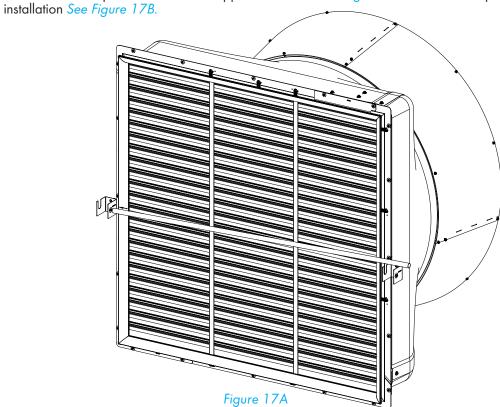


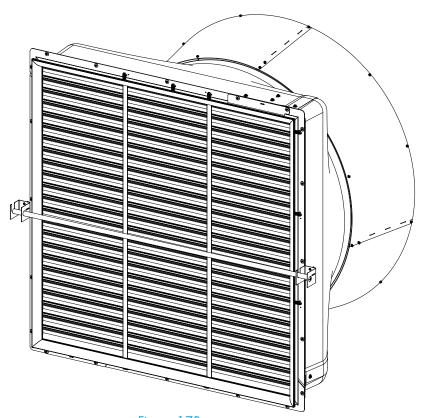
Figure 16A



Step 17

Slide the Wind Kit Pipe into the hole in the Left Wind Kit Bracket until it stops at the other side of the Bracket and set Pipe down into slot in opposite Bracket. See Figure 17A. For the completed Wind Kit





Electrical Wiring

3.

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 Munters environmental control to be used. After wiring check for proper motor rotation.

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 18A. See form QM1400 for proper size.

Three Phase Fans: motor overload protection should be provided for each fan. A three-pole motor starter or slow blow motor fuses must be used. See Figure 18B.

If a frequency drive (inverter) is used, confirm that motors are rated for inverter duty at the voltage used. Shielded power cable between frequency drive and each motor is highly recommended. Installation of line reactors is recommended to reduce voltage spikes and harmonic distortion. Supplemental motor overload protection is also recommended.

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

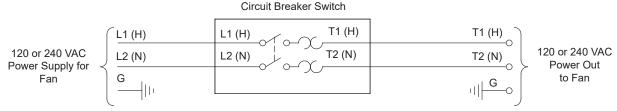
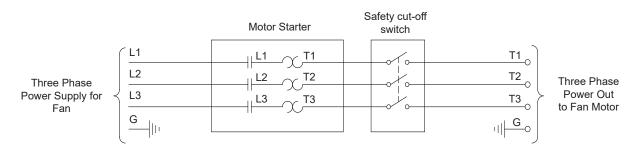


Figure 18A
Single Phase - Motor Overload Protection with Disconnect
(SY2000 or Equivalent)



KEY:

L1=Line 1

L2=Line 2

L3=Line 3

H=Hot

N=Neutral

G=Ground

Figure 18B

Three Phase - Motor Overload Protection with Disconnect

NOTE: Information in parenthesis refers to 120 VAC control.

3.1 Recommended Wire Routing:

As the power cable exits the back of motor form a drip loop and then run power cable down along strut and "Zip" tie the cable to strut to prevent cable from getting tangled in the pulley or belt. See Figure 19. Then run the cable out the drain hole to the circuit breaker or control panel. (Continued on next page).

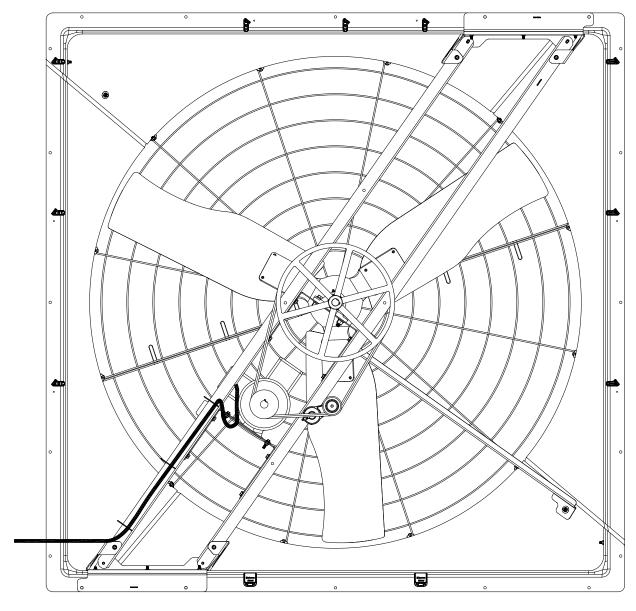


Figure 19

Operation

4.

4.1 Operation

INITIAL START-UP: With electrical power off, verify that the fan propeller turns freely and that all fasteners are secure. Turn on electrical power and confirm that the fan operates smoothly.

ADJUSTMENTS: Set the fan control to the temperature shown on your ventilations system drawing, or to a value which will provide the desired environmental conditions.

Three Phase Fans:

- 1) The use of a quality frequency drive and the installation of line reactors is recommended to reduce voltage spikes and harmonic distortion.
- 2) Minimum operating frequency of 30 Hz.
- 3) Will require three pole contractors with overload protection (by others).









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5.1 Maintenance

The following inspection and cleaning procedures should be performed monthly:

Tools Needed for Maintenance:

wrenches: 10mm, 13mm, 17mm, 27mm

- INSPECT PROPELLER: Check that propeller is secure on prop shaft or 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 blades open and close 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 1 month after initial operation and yearly thereafter. 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!
- 5) GREASE BEARINGS: Grease bearings every 4-6 months.

Use no more than 2 shots when greasing fan.

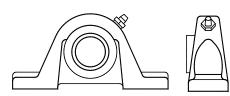
- A premium non-water based grease is recommended:
- Shell Alvania #2
- Mobil Mobilux #2
- Exxon Unirex N2
- Texaco Premium RB
- Mobil 532
- Texaco Multifak #2



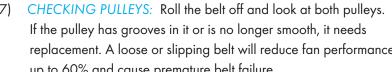


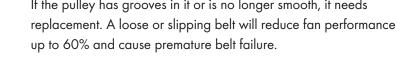


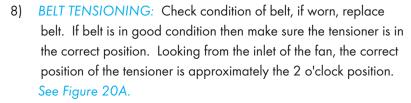




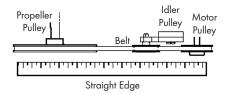
CHECK DRIVE ALIGNMENT: Check to make sure the belt is centered on the idler pulley, then use a straight edge to check the alignment of the drive pulleys. If an adjustment is needed, remove the belt, then loosen the set screw in one pulley and move it. Remember to tighten the set screw after making an adjustment. Drive alignment is very important for long belt life and proper operation.

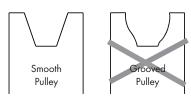






To adjust the tensioner, loosen the 10mm bolt fastening the tensioner to the motor base (using 17mm end wrench) to allow tensioner arm to rotate. Place a 27mm (11/16") wrench onto the hex on tensioner. Turn the wrench clockwise until the Alignment Mark is at Mark 4 on the tensioner arm. See Figure 20B. Hold tensioner at this setting and tighten the 10mm bolt to 40 ft. lbs. [54 N-m] torque.





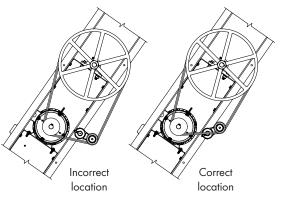
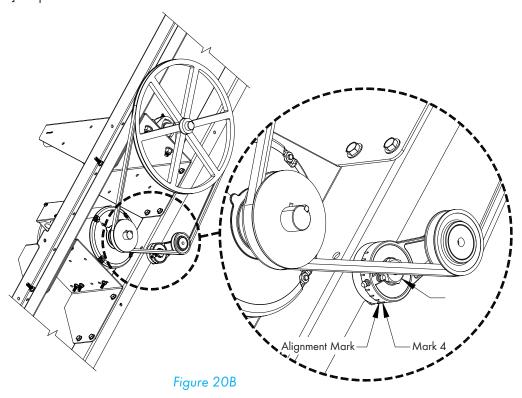


Figure 20A



Hex

25

6.1 Winterizing

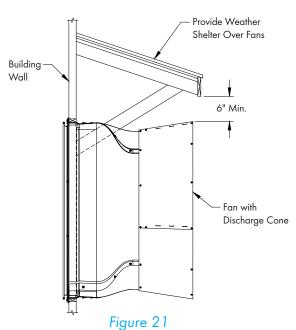
In most climates, it is probable that the ventilation system will never need to operate at a total capacity during the colder winter months. Consequently, it is advisable to "winterize" those fans which will not be used in cold weather to avoid unnecessary heat loss and condensation.

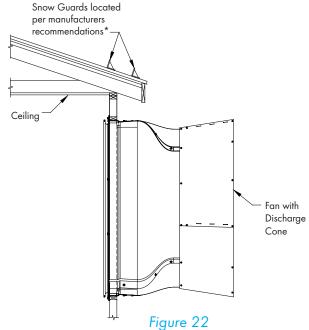
To winterize, turn fan control "off". Install the insulated closure panel over the fan intake. If you don't have an insulated closure panel, a piece of rigid insulation material can be used. Remember the insulation panel must be removed before warmer weather returns.

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.

6.2 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 21, or snow guards may be placed on the roof, See Figure 22.





*Snow Guard Suppliers

Company Name	Phone No.	Fax No.	Web Site
Snojax, Inc.	800-766-5291	717-697-2452	www.snojax.com
Polar Blox	800-298-4328	814 629-9090	www.polarblox.com
LM Curbs	800-284-1412	903 759-3598	www.lmcurbs.com
Alpine Snow Guards	888-766-4273	888-766-9994	www.alpinesnowguards.

A IMPORTANT

Munters Product and System
Warranties do not cover cone or fan
damage from external sources.

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. Munters does not endorse any specific snow guard product and no performance warranty is implied.

Troubleshooting

7.

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7.1 Troubleshooting



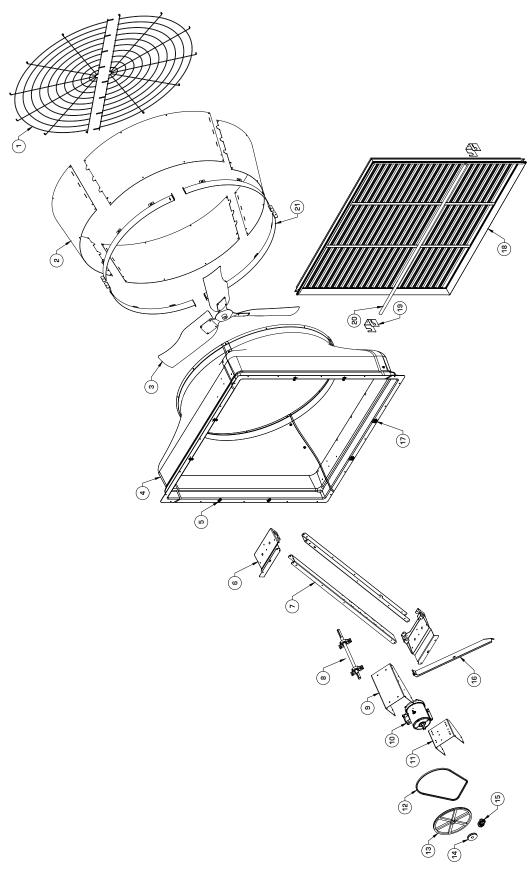




SYMPTOM	POSSIBLE CAUSES	CORRECTIVE ACTION
Fan Not Operating	 Fan control set above room temperature Blown fuse or open circuit breaker Propeller blade contacting fan housing Fan control defective 	 Set to a lower temperature Replace fuse or reset breaker Realign motor in fan housing Repair or replace control Repair or replace motor
Fan Operating- Insufficient Airflow	 Shutter jammed or dirty Guard dirty Frequency drive improperly adjusted Incorrect Belt Tension/worn belt 	 Unjam and clean shutter Clean guard See operation, Step 2 for adjustments guidelines See Maintenance Section, Belt Tensioning
Excessive Noise	 Propeller blade contacting fan housing Motor bearing or shaft bearing defective Frequency drive improperly adjusted 	 Sand fan housing to remove high spot Repair or replace motor or shaft bearings See operation, Step 2 for adjustments guidelines
Excessive Vibration	 Motor loose on mount Propeller damaged 	 Tighten fasteners Replace propeller Repair or replace motor or propeller shaft

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8.



	Catalog No.				
ltem	ATS743F3CT-E	ATS743F3CT-P	Description		
1	FH6474	FH6474	Outlet Guard, 1/2 round, 74" Fan, CTD BLACK	2	
2	FH4674	FH4674	Discharge Cone Section w/ Tabs, PL	4	
3	FP1874	FP1874	Prop Assembly, 74" Fan, 3-Blade, GZ	1	
4	FH2374	FH2374	Housing Assembly, 74" Fan, w/ Clips, FG	1	
5	FH1968	FH1968	Pivoting Shutter Clip, PL	6	
6	FH2877	FH2877	Strut Mount Bracket, 74" Fan, GZ	2	
7	FH2873	FH2873	C-Channel Strut, 74" Fan, GZ	2	
8	FH2376K	FH2376K	Assembly, Bearing/Shaft, w/ Pins, 74" Fan	1	
	FH2196	FH2196	Shaft, 1.25"Dia, Stepped x 28.75"L., 74" Fan, STL	1	
	FH2199	FH2199	Bearing, 1.25" Bore x 1.63" CL, Set Screws, $\frac{1}{8}$ " FTNG, CI	2	
9	FH2880	FH2880	Bearing Mount Bracket, 74" Fan, GZ	1	
10	FM1063	FM1063	Motor, 3HP, 1765 RPM,182FR, 3PH, 230V/460V,60Hz	1	
11	FH2878	FH2878	BD Motor Base Bracket, 74" Fan, GZ	1	
12	FH1441	FH1441	V-Belt, 79", A-Section, POLYSTR CORD	1	
13	FH2185	FH2185	Sheave, A-section, 13/16" Bore, w/ keyseat, (Prop), CI	1	
14	FH2020	FH2183	Sheave, A-section, 11/8" Bore, w/ keyseat, (Motor), CI	1	
15	FH2402K	FH2402K	Belt Tensioner assembly with 3" Idler Pulley	1	
	FH2406	FH2406	3" Idler Pulley only, with Bolt, CI	1	
	FH2459	FH2459	Tensioner Arm only, AL	1	
16	FH1974	FH1974	Strut Brace, 74" Fan, GZ	1	
1 <i>7</i>	FH1967	FH1967	Fixed Shutter clip, PL	2	
18	PT74	PT74	Shutter, all plastic	1	
19	FA2619	FA2619	Wind Bracket, GZ	2	
20	AC1416	AC1416	Wind Pipe, GZ	1	
21	FH2890	FH2890	Reinforcing Ring, 1/4 Section, Atlas74, PWDCTD, WHT	4	
	HP1162	HP1162	Hardware Pkg., Fan/Cone Install	1	

^{*} Contact office for replacement part numbers for your fan configuration.

Atlas 74 Fan with Cone is developed and produced by Munters Corporation, Lansing, Michigan U.S.A. 1-800-227-2376



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