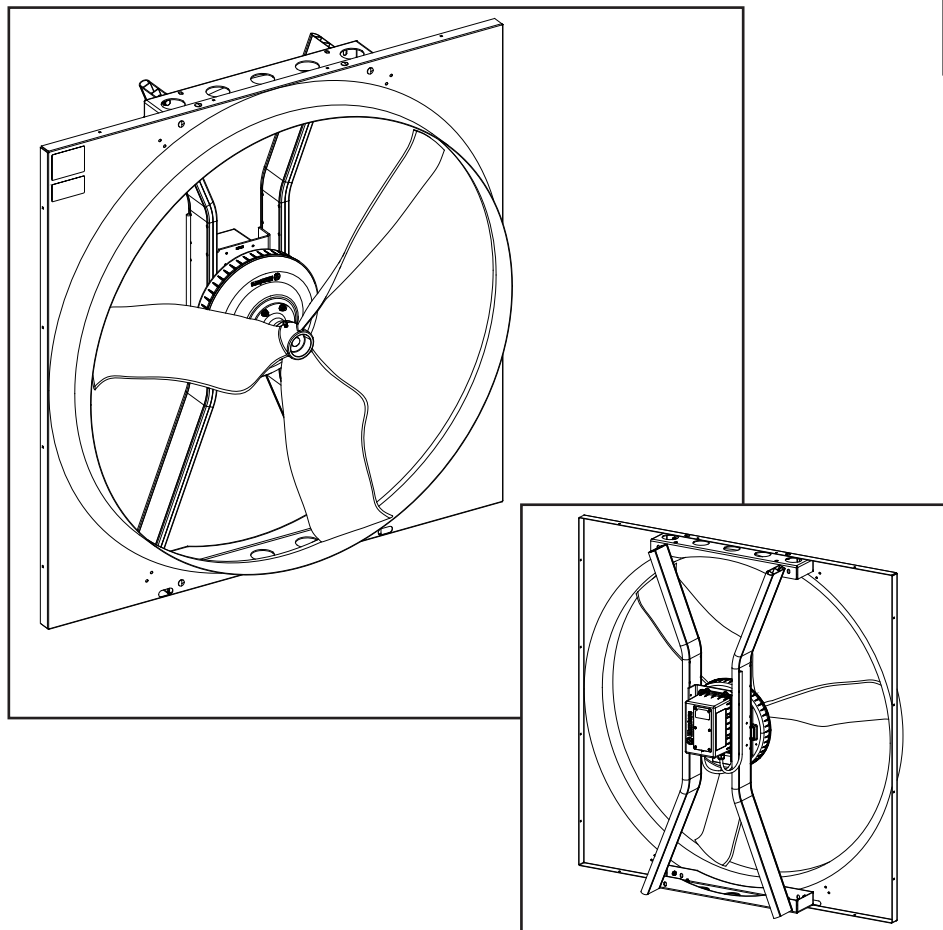


Instruction Manual

AX51 with Munters Drive*

*Patents Pending



AX51 with Munters Drive

51" Air Circulation Fan

Models: AX51DG21-Hx • AX51DG23-Hx • AX51DG43-Hx



AX51 with Munters Drive

Instructions for Use and Maintenance

Thank You:

Thank you for purchasing a Munters AX51 with Munters Drive 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](mailto: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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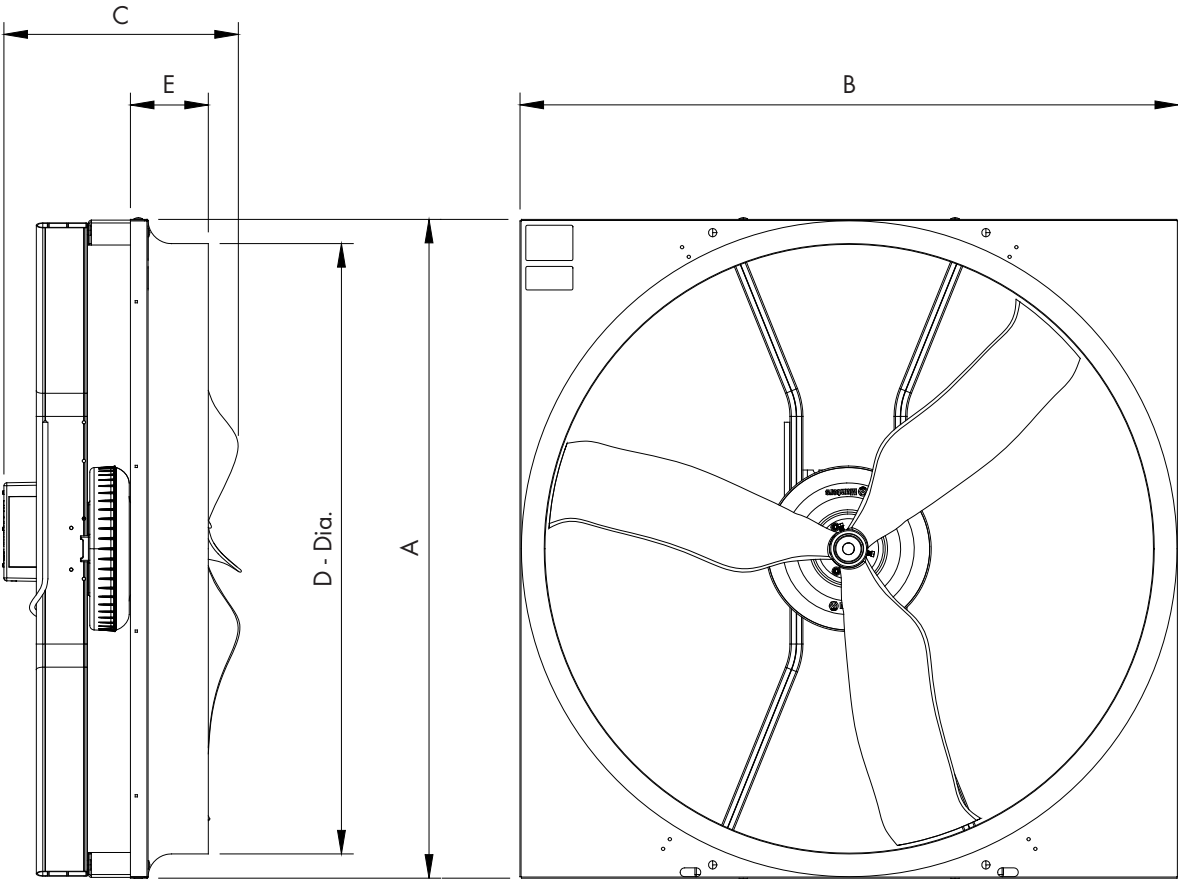
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Unpacking the Equipment

1.

1.1 Fan Dimensions

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.



Cat No.	Fan Size	A	B	C	D-Dia (O.D.)	E	Wall Opening (I.D., framed)
AX51	51"	56"	56"	20"	51 $\frac{7}{8}$ "	6 $\frac{1}{2}$ "	56 $\frac{1}{4}$ " Sq.

1.2 Fan Specifications

Fan Specifications: 60Hz shown (50Hz available)

Power: 230 VAC or 230/460 VAC

Phase: 1 or 3

2.1 Recommended Wire Routing

The Munters Drive Fan comes with a coil of electrical cable that is pre-wired to the controller. Find the end of the cable and route it outside the fan and connect it to the incoming power supply and/or the safety cut-off switch. (Safety cut-off switch by others). [See Figure 1A.](#)

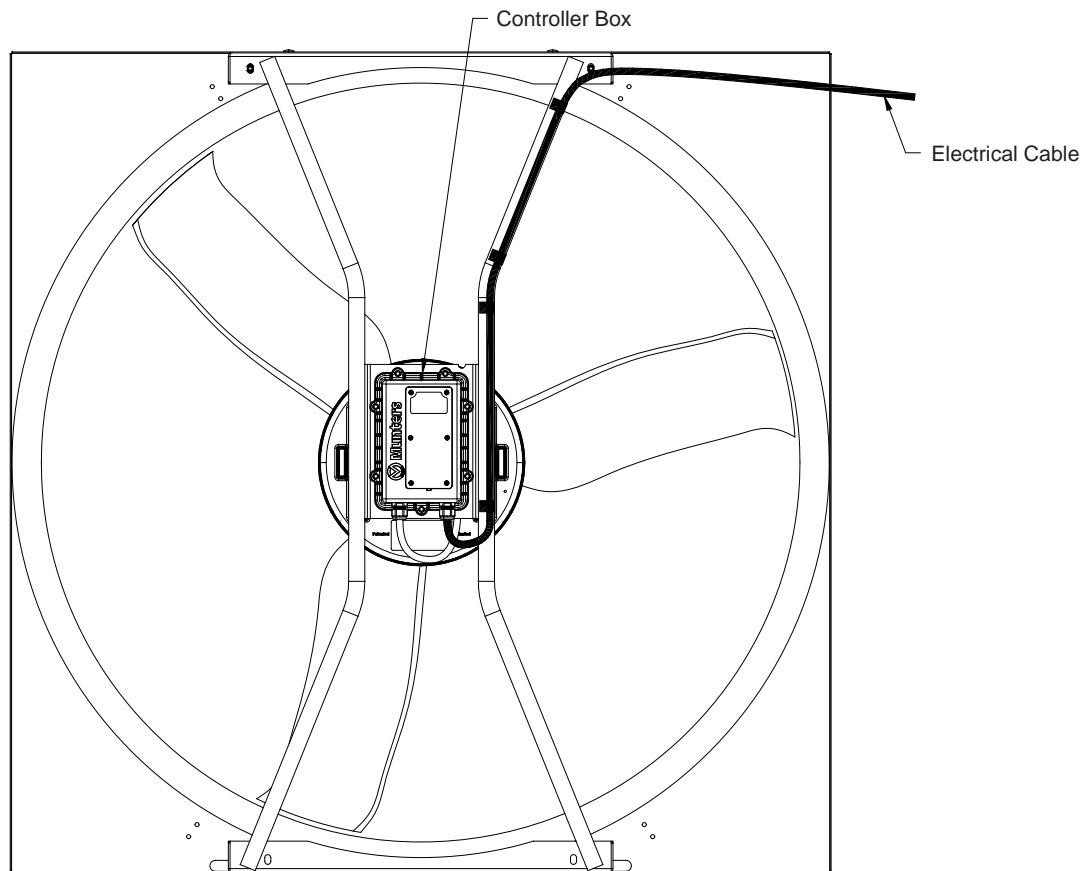
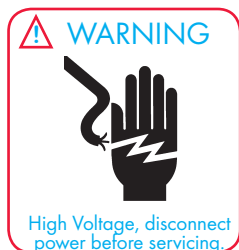


Figure 1A

2.2 Recommended Wiring



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 environmental control to be used.

Single Phase and Three Phase Munters Drives: Power supply for fans to have Circuit Breaker or Fuse Protection. The installer must refer to NEC and local codes to ensure safety and compliance. See [Figure 1B and 1C](#).

If recommended lightning protection was purchased, wire it to the fan power supply as shown and secure the lightning protection unit near the disconnect or the bus panel. See [Figure 1B and 1C](#).

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

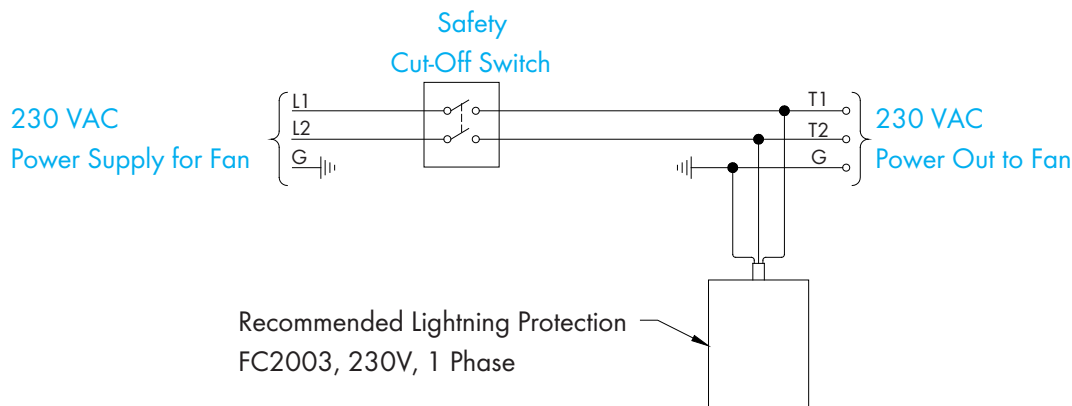


Figure 1B
Single Phase

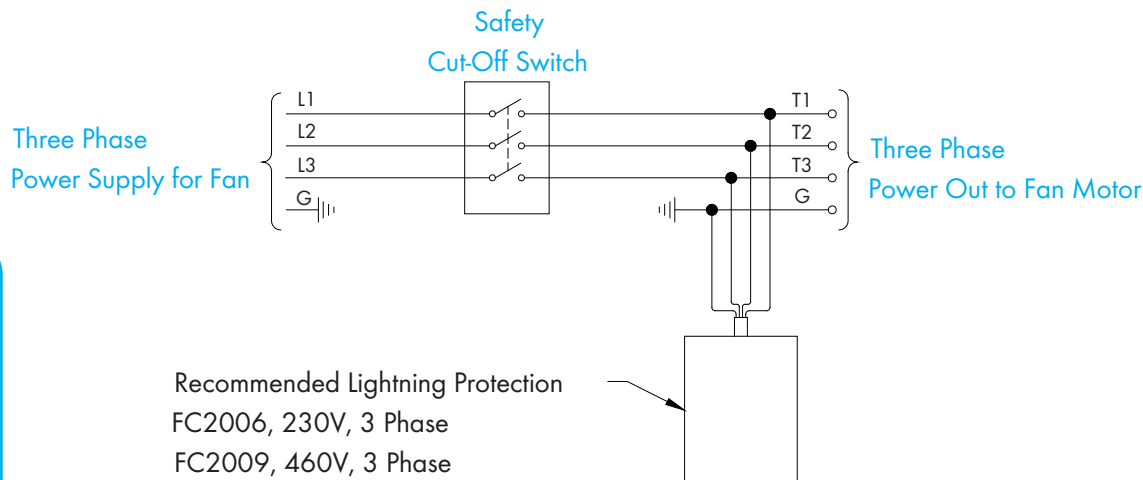


Figure 1C
Three Phase

KEY:

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

2.3 Recommended Wiring

The Munters Drive fan ships configured for simple ON/OFF operation. When electrical power is applied to the main cable and the 'RUN' Switch is in the 'ON' Position, the fan will start and run at full speed.

See Figure 2A.

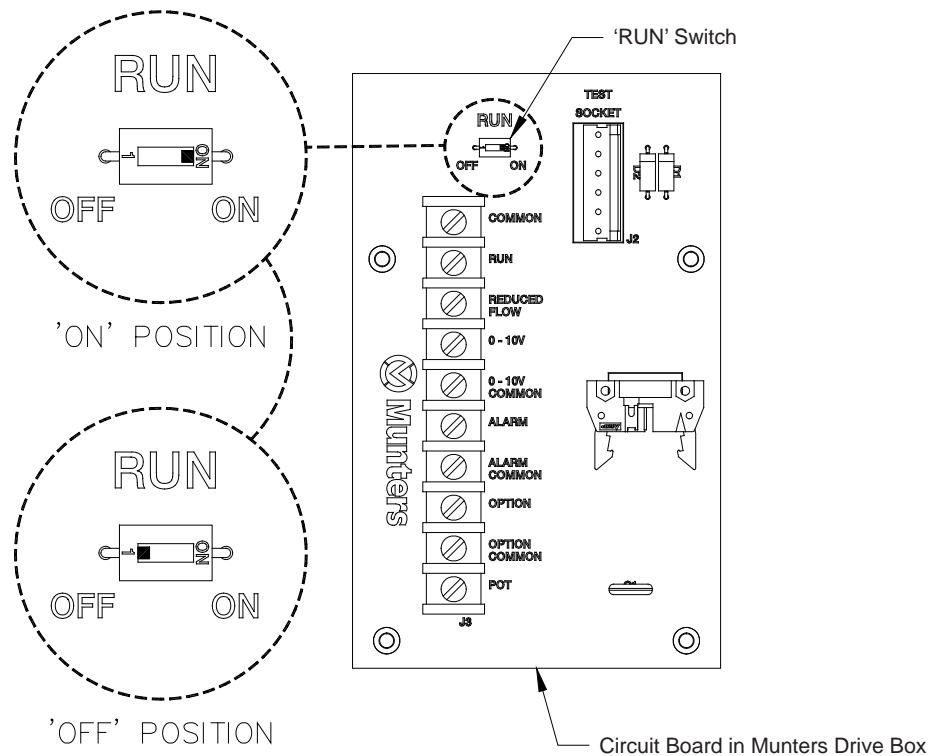


Figure 2A
Default Operation Full Speed

WARNING

The Blue Box electrical enclosure must not be removed from mounting bracket. Removing Blue Box from the mounting bracket will void the warranty. Any water or other damage to the controller will not be covered if the Blue Box is removed.

NOTE

All Low Voltage wire must be shielded cable. i.e. Belden 8770 or equivalent.

When making connections to Munters Drive Box, be sure to use the supplied watertight fittings with only 1 cable per fitting. If watertight fittings are not used or if 2 cables or more are in 1 watertight fitting, equipment failure from water damage will not be covered under warranty. If 2 or more cables are used in 1 watertight fitting, they must be sealed on both sides of Munters Drive Box wall to prevent water infiltration.

If you are going to run the Munters Drive with a signal from a control, carefully remove 6 screws and the cover and save to reinstall later. Carefully punch the knock-out from the bottom of the Munters Drive Box and install the Watertight connector as shown. See Figure 2B and 2C.

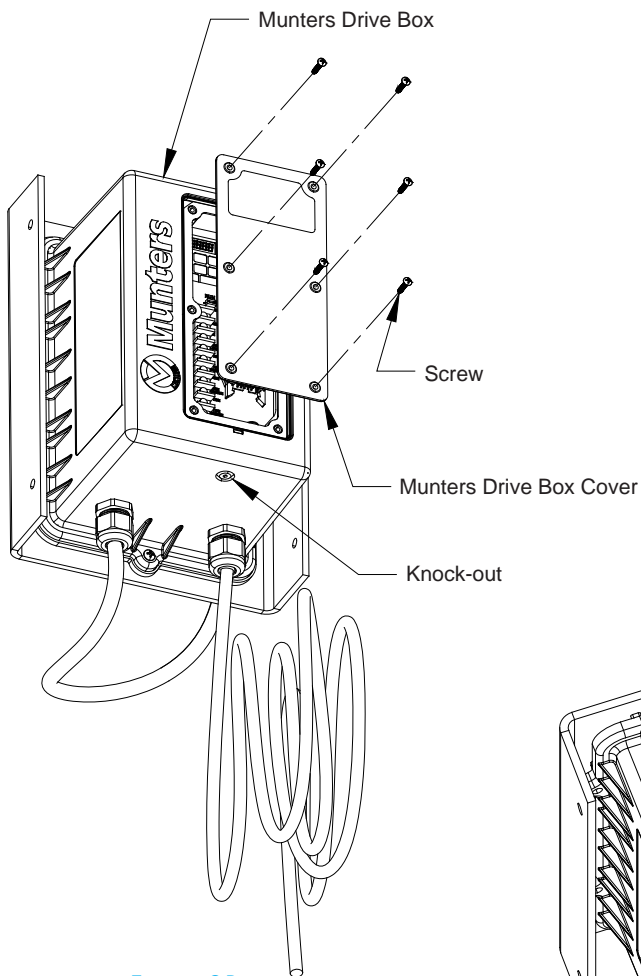


Figure 2B

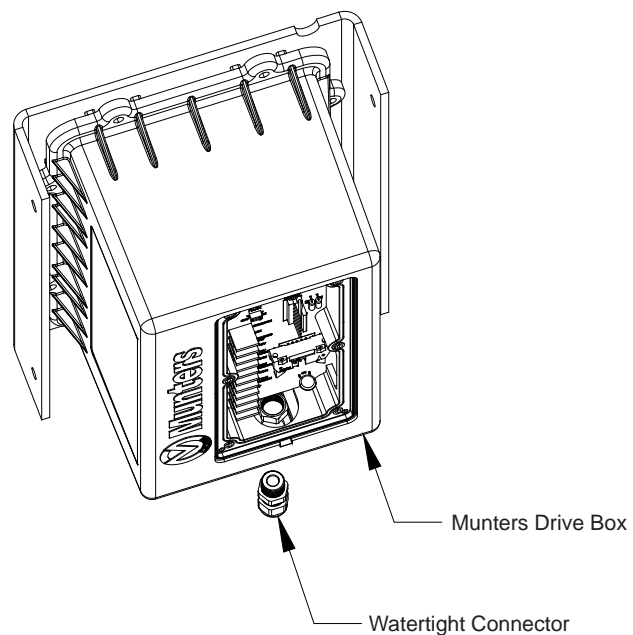


Figure 2C

To operate the Munters Drive On/Off with a control, Slide the 'RUN' switch, located on the circuit board in the Munters Drive Box, to the 'OFF' position. Now wire an 'ON' command from the 'COMMON' terminal to the input of the relay in the control and from the output of the control relay to the 'RUN' terminal in the Munters Drive Box. See Figure 2A and 2D.

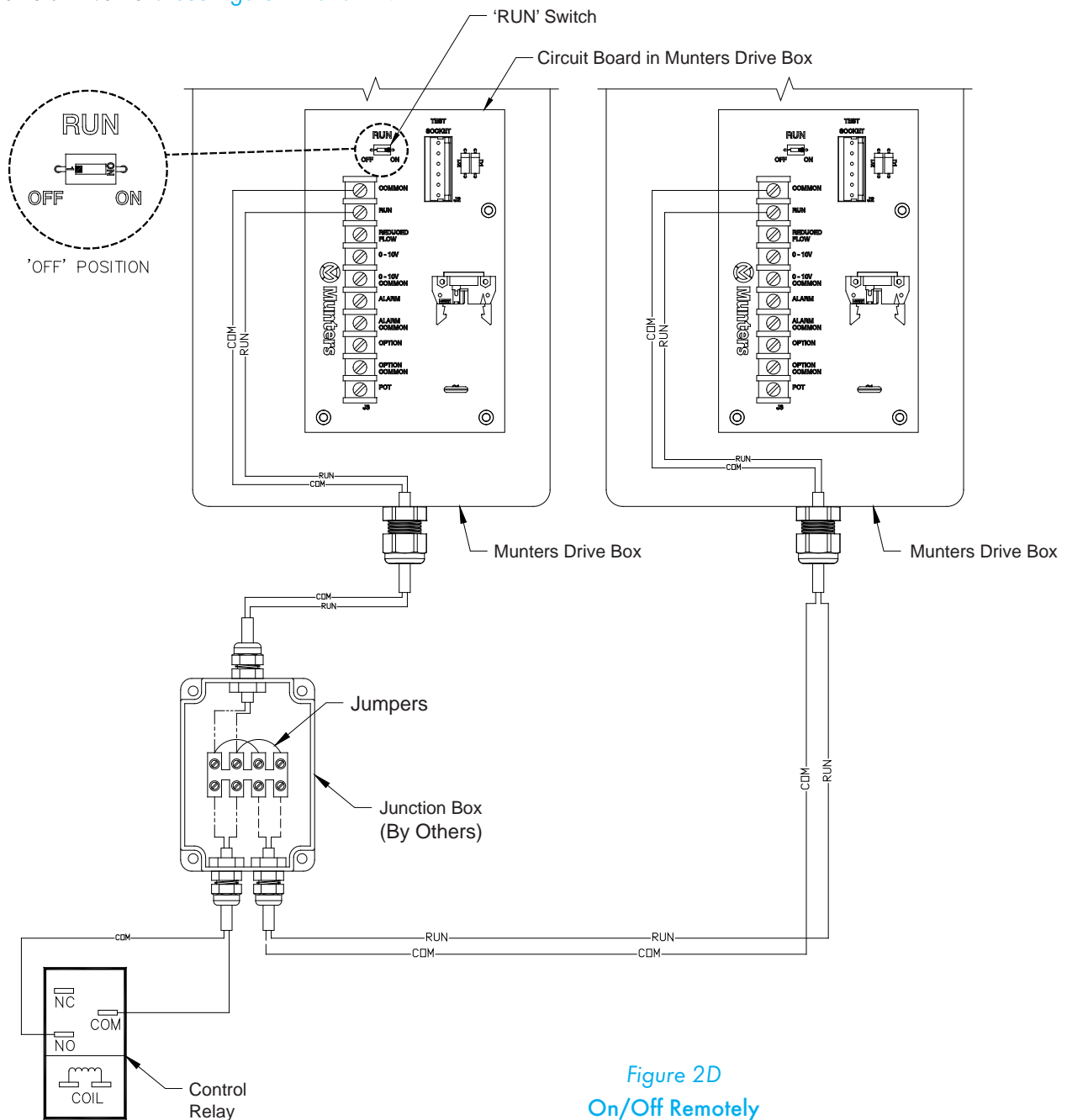


Figure 2D
On/Off Remotely

*****WARNING*****

The Blue Box electrical enclosure must not be removed from mounting bracket. Removing Blue Box from the mounting bracket will void the warranty. Any water or other damage to the controller will not be covered if the Blue Box is removed.

*****NOTE*****

All Low Voltage wire must be shielded cable. i.e. Belden 8770 or equivalent.

To operate the Munters Drive Off/Low/High with a control, slide the 'RUN' switch, located on the circuit board in the Munters Drive Box, to the 'OFF' position. Now wire an 'ON' command from the 'COMMON' terminal to the input of the relay in the control and from the output of the control relay to the 'RUN' terminal in the Munters Drive Box. Then connect the output of the control relay for 'LOW' to the 'REDUCED FLOW' terminal in the Munters Drive Box. See Figure 2E.

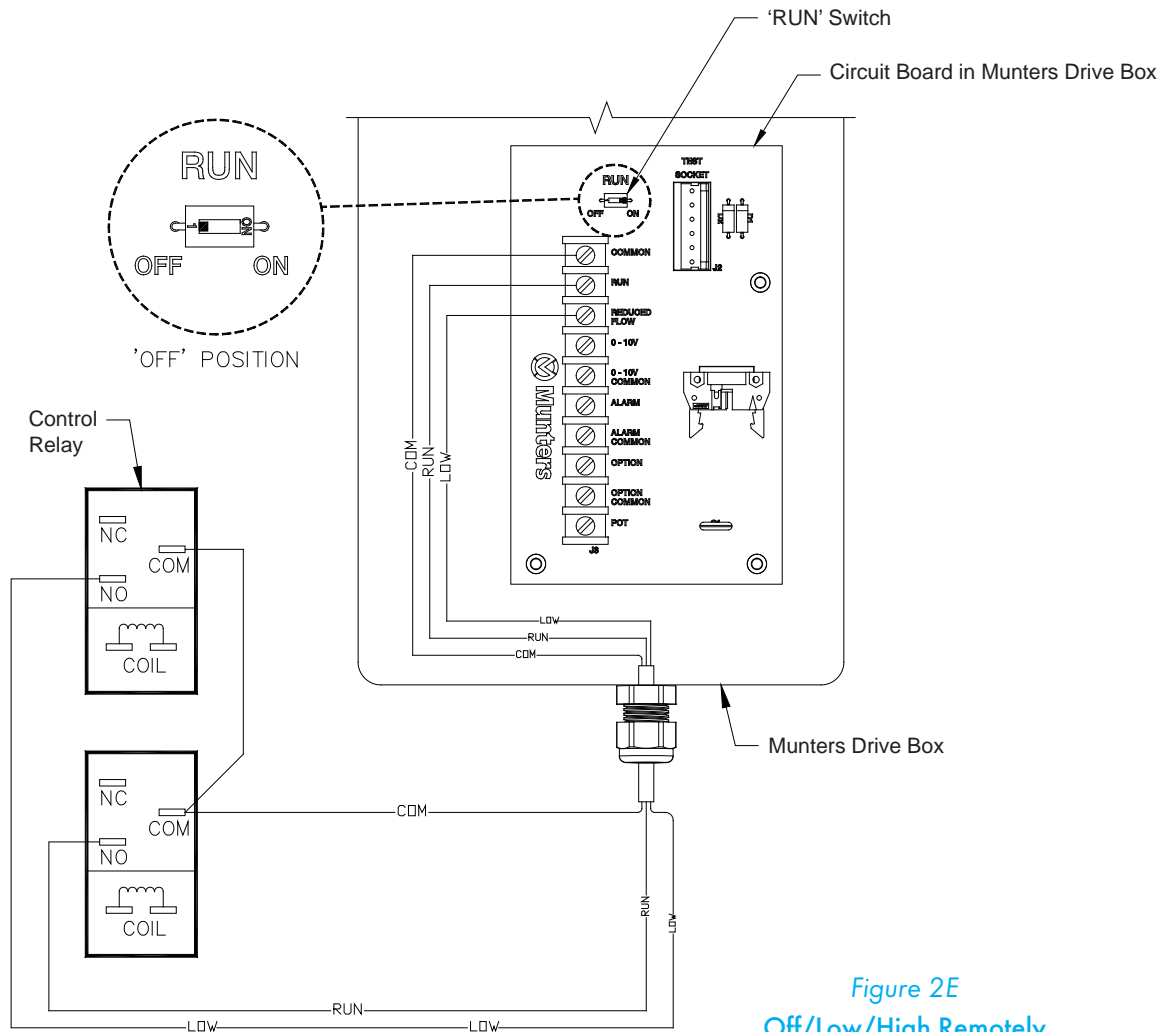


Figure 2E
Off/Low/High Remotely

*****WARNING*****

The Blue Box electrical enclosure must not be removed from mounting bracket. Removing Blue Box from the mounting bracket will void the warranty. Any water or other damage to the controller will not be covered if the Blue Box is removed.

*****NOTE*****

All Low Voltage wire must be shielded cable. i.e. Belden 8770 or equivalent.

To Operate the Munters Drive variable with a 10-0V Signal, slide the 'RUN' switch, located on the circuit board in the Munters Drive Box, to the 'ON' position. Connect wires from the '0-10V IN' and '0-10V COMMON' terminals in the Munters Drive Box to the 10-0V output in the control. See Figure 2F.

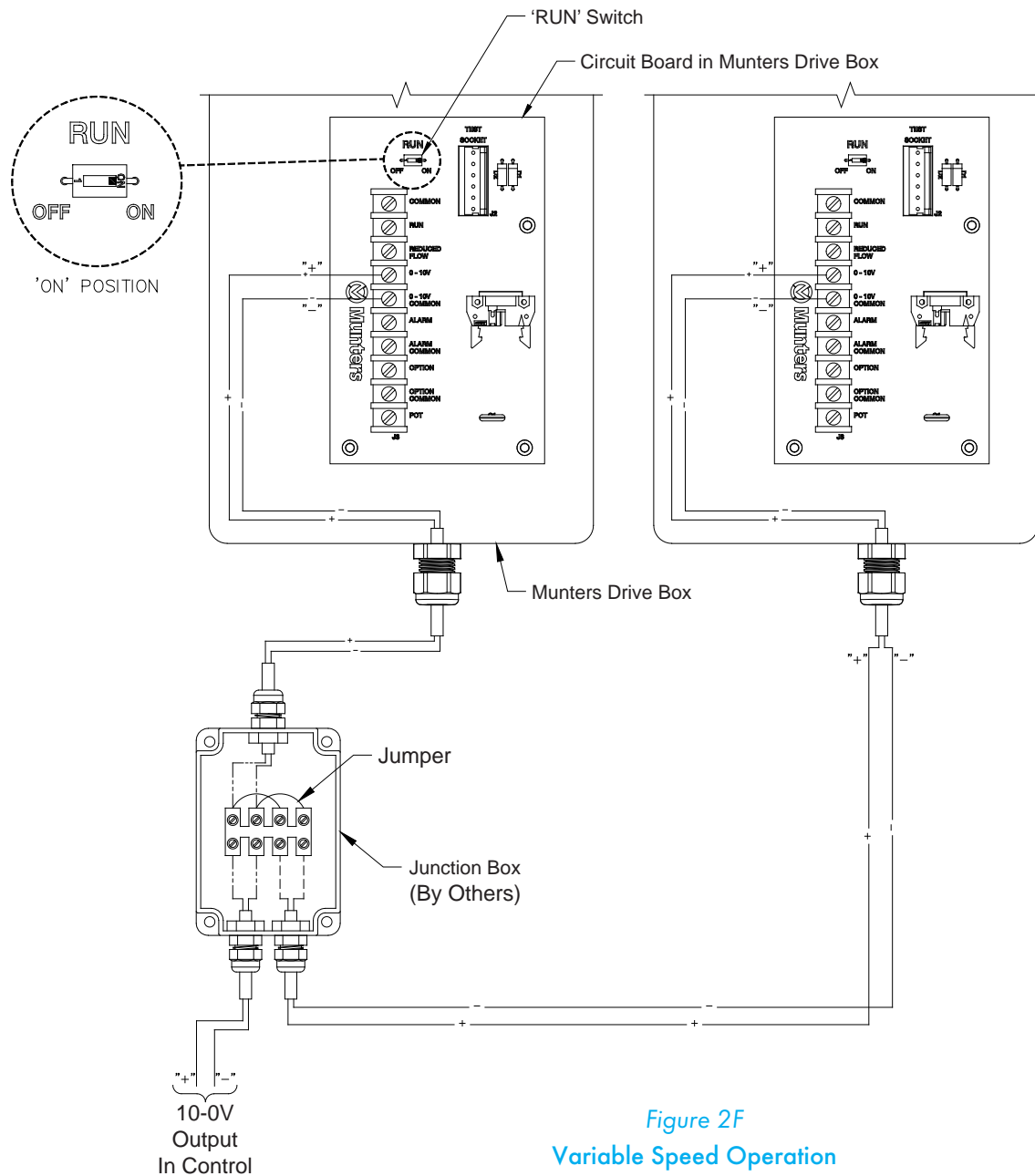


Figure 2F
Variable Speed Operation

*****WARNING*****

The Blue Box electrical enclosure must not be removed from mounting bracket. Removing Blue Box from the mounting bracket will void the warranty. Any water or other damage to the controller will not be covered if the Blue Box is removed.

*****NOTE*****

All Low Voltage wire must be shielded cable. i.e. Belden 8770 or equivalent.

To operate the Munters Drive Off/Variable with a 10-0V Signal, slide the 'RUN' switch, located on the circuit board in the Munters Drive Box, to the 'OFF' position. Now wire an 'ON' command from the 'COMMON' terminal to the input of the relay in the control and from the output of the control relay to the 'RUN' terminal in the Munters Drive Box. Also, connect wires from the '0-10V IN' and '0-10V COMMON' terminals in the Munters Drive Box to the 10-0V output in the control. [See Figure 2G.](#)

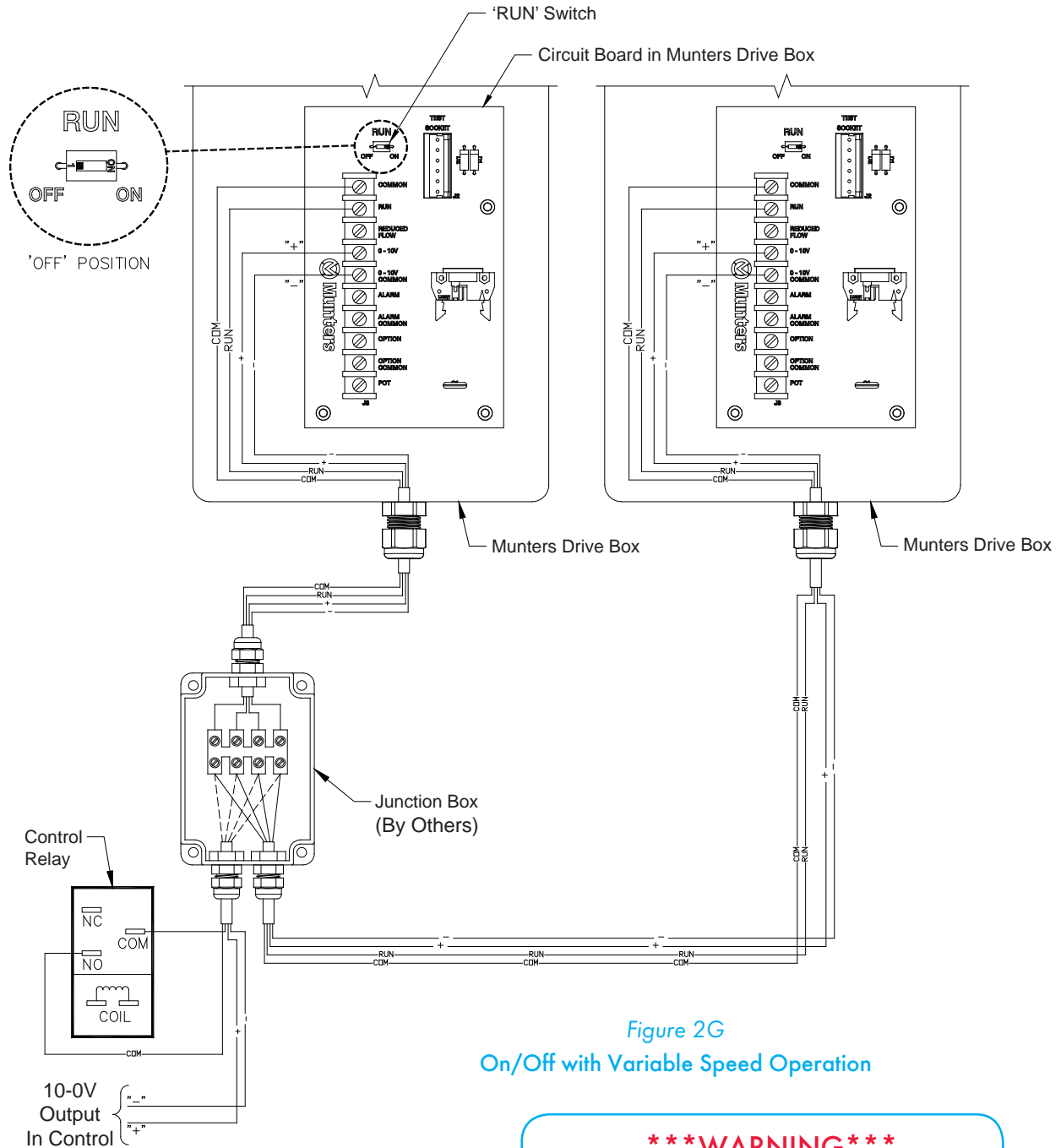


Figure 2G

On/Off with Variable Speed Operation

*****WARNING*****

The Blue Box electrical enclosure must not be removed from mounting bracket. Removing Blue Box from the mounting bracket will void the warranty. Any water or other damage to the controller will not be covered if the Blue Box is removed.

*****NOTE*****

All Low Voltage wire must be shielded cable. i.e. Belden 8770 or equivalent.

3.1 Operation

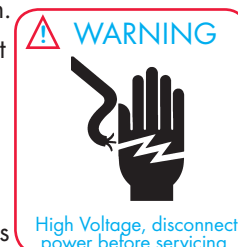
- 1) **INITIAL START-UP:** With electrical power off, verify that the fan propeller turns freely and that all fasteners are secure. Turn on electrical power and confirm that the fan operates smoothly.
- 2) **ADJUSTMENTS:** Set the fan control to the temperature shown on your Munters ventilation system drawing, or to a value which will provide the desired environmental conditions.



3.2 Maintenance

The following inspection and cleaning procedures should be performed monthly:

- 1) **INSPECT PROPELLER:** Check that propeller is secure on drive hub 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.
 - **DAMPER:** Carefully clean dust from damper door and frame so that damper door 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 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!**



4.1 Troubleshooting



SYMPTOM	POSSIBLE CAUSES	CORRECTIVE ACTION
<ul style="list-style-type: none"> Fan Not Operating 	<ul style="list-style-type: none"> Fan control set above room temperature Blown Fuse or open circuit breaker Propeller blade contacting fan housing Fan control defective (i.e. environmental control, etc.) 	<ul style="list-style-type: none"> Set to a lower temperature Replace fuse or reset breaker Realign motor in fan housing Repair or replace control
<ul style="list-style-type: none"> Fan Does Not Start Caution: There is a 10 second delay for the fan to start when an 'On' command is present. 	<ul style="list-style-type: none"> Munters Drive motor/controller issue 	<ol style="list-style-type: none"> Verify AC voltage is present at fan. Turn AC power off to fan for 1 minute Verify Prop turns freely <ol style="list-style-type: none"> If not contact Munters Product Support If it turns freely go to next step Turn AC power back on to fan <ol style="list-style-type: none"> If starts up and runs, fan OK <ul style="list-style-type: none"> Periodically observe fan to verify it is still running If it continues to run, fan is OK If fan stops, look through clear window in drive cover to check what drive display reads. Contact Munters Product Support If fan tries to start but stops, look through clear window in drive cover to check what drive display reads. Contact Munters Product Support If fan doesn't try to start, verify 'On' command signal is present at circuit board. Also, slide the switch on the circuit board to the 'On' position.
<ul style="list-style-type: none"> Fan Operating - Insufficient Airflow 	<ul style="list-style-type: none"> Shutter or Damper door jammed Guard dirty/clogged 10-0V signal set incorrectly 	<ul style="list-style-type: none"> Clean shutter or damper door Clean guard Check and adjust 10-0V signal
<ul style="list-style-type: none"> Excessive Noise 	<ul style="list-style-type: none"> Propeller blade contacting fan housing 	<ul style="list-style-type: none"> Sand fan housing to remove high spot
<ul style="list-style-type: none"> Excessive Vibration 	<ul style="list-style-type: none"> Motor loose on mount Propeller damaged 	<ul style="list-style-type: none"> Tighten fasteners Replace propeller

Winterizing Fans

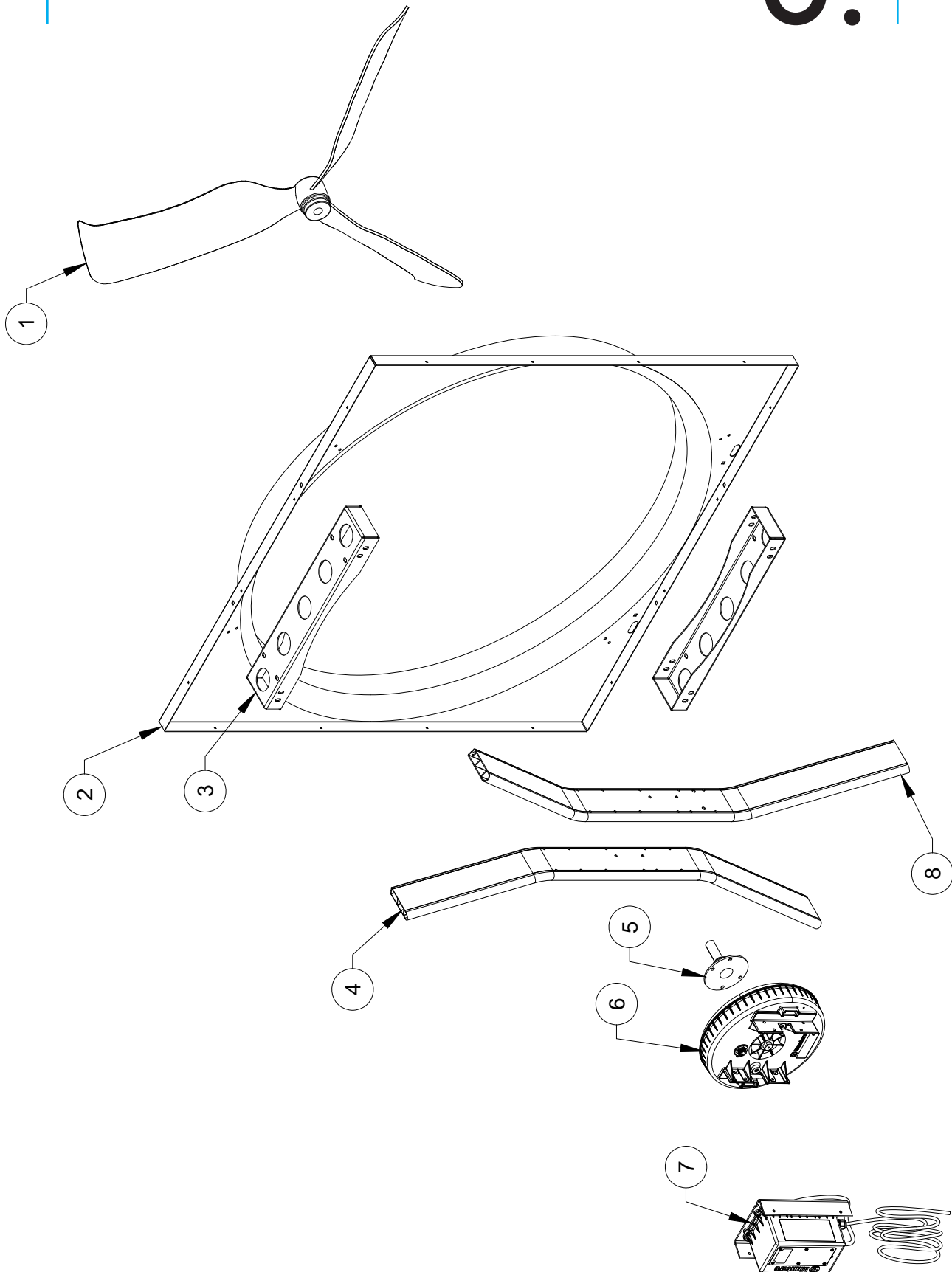
In most climates, it is probable that the ventilation system will never need to operate at a total capacity during the colder winter months. Consequently, it is advisable to “winterize” those fans which will not be used in cold weather to avoid unnecessary heat loss and condensation.

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.

Exploded View

6.



Catalog No.

Item	AX51	Part Name/Description	Quantity
1	FP1151SS	Propeller, 3-blade w/set screws, AL	1
2	FH1254	Orifice Panel, 51" Apex, GZ	1
3	FH1666	Bracket, Strut Mount, AX51, Munters Drive, GZ	2
4	FH3723	Strut, right, VX, Munters Drive ver2, w/inserts, AL	1
5	FP2064	Hub, Prop Adapter, 1" Dia. O.D. x 4.5"L Shaft, STL	1
6	Various*	Motor for Munters Drive, less controller	1
7	Various*	Controller, AX Munters Drive	1
8	FH3722	Strut, Left, VX, Munters Drive ver2, w/inserts, AL	1

*Contact office for replacement part number for your fan configuration

Munters AX fan with Munters Drive is developed and produced by Munters Corporation, Lansing, Michigan U.S.A. 1-800-227-2376



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