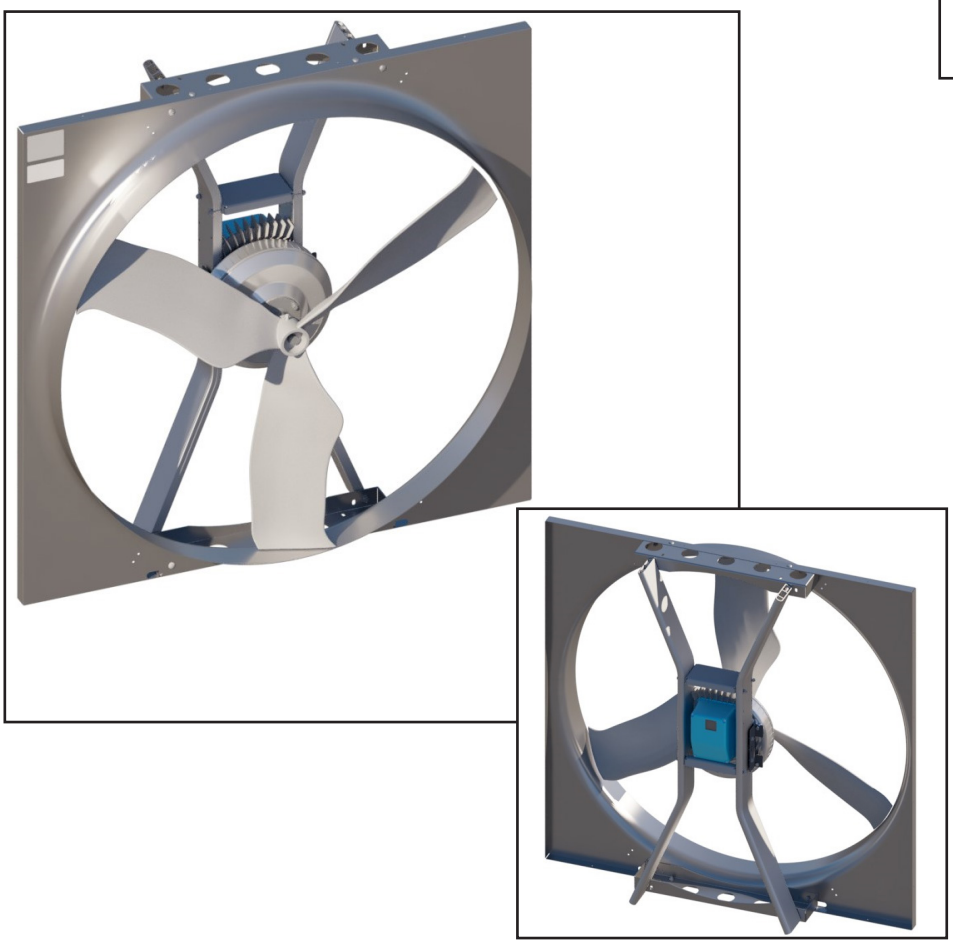
AX51
with
G2 Munters Drive*

*Protected by U.S. Patent No. US20230031171A1 and US11632932B2

Instruction Manual



AX51 with G2 Munters Drive

51″ Air Circulation Fan

Models: AX51D2G21-Hx • AX51D2G23-Hx • AX51D2G43-Hx

Munters

AX51 with G2 Munters Drive

Instructions for Use and Maintenance

Thank You:

Thank you for purchasing a Munters AX51 with G2 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.

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.

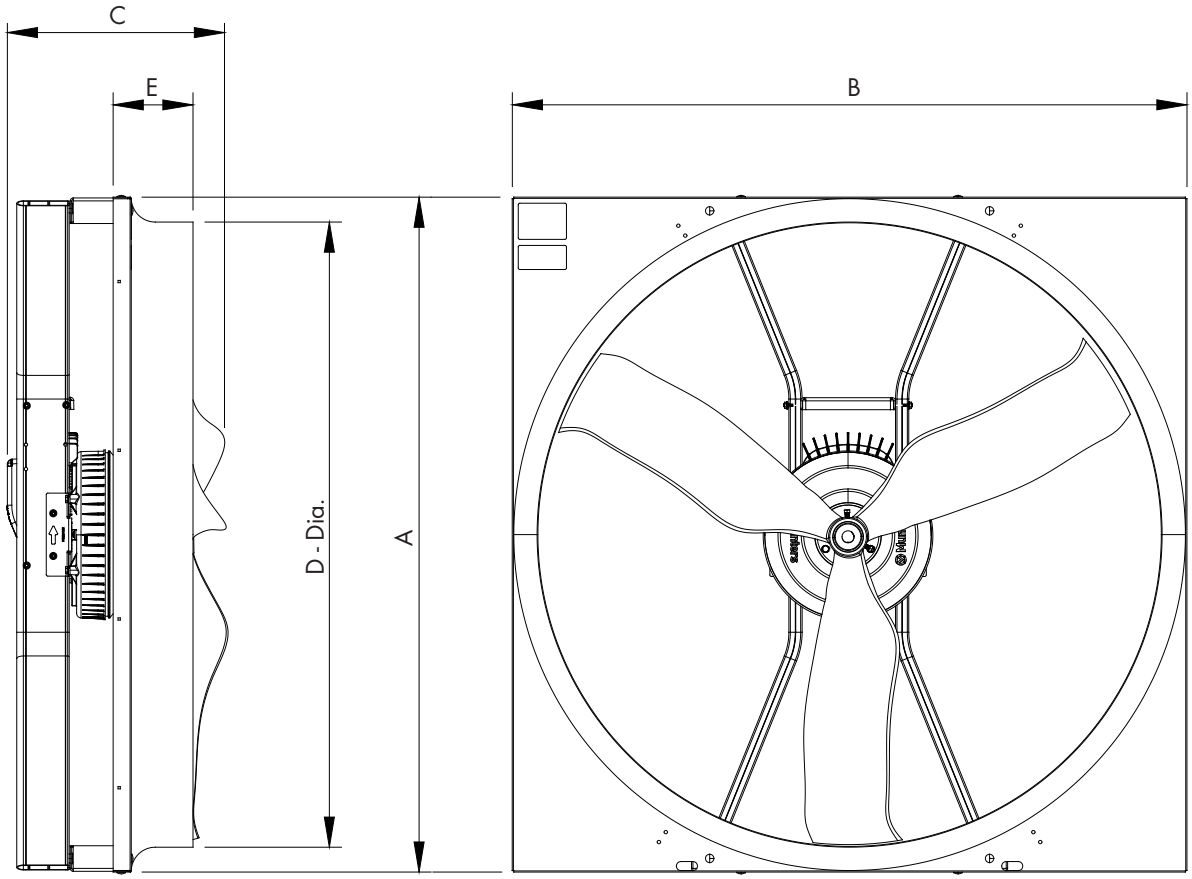
Index

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"	18"	51⅞"	6½"	56¼" Sq.

1.2 Fan Specifications

Fan Specifications: 60Hz shown (50Hz available)

Power: 230 VAC or 230/460 VAC

Phase: 1 or 3

Electrical Wiring

2.

2.1 Recommended Wire Routing

Bring the Power Cable (not provided) into the fan from the incoming power supply and/or the safety cut-off switch. (Safety cut-off switch by others). Run the Cable along the Strut and "Zip" tie the cable to the strut to prevent cable from getting tangled in the propeller. Form a Drip Loop in cable and then run the cable through the watertight fitting into the Munters Drive Control Box. *See Figure 1A.*

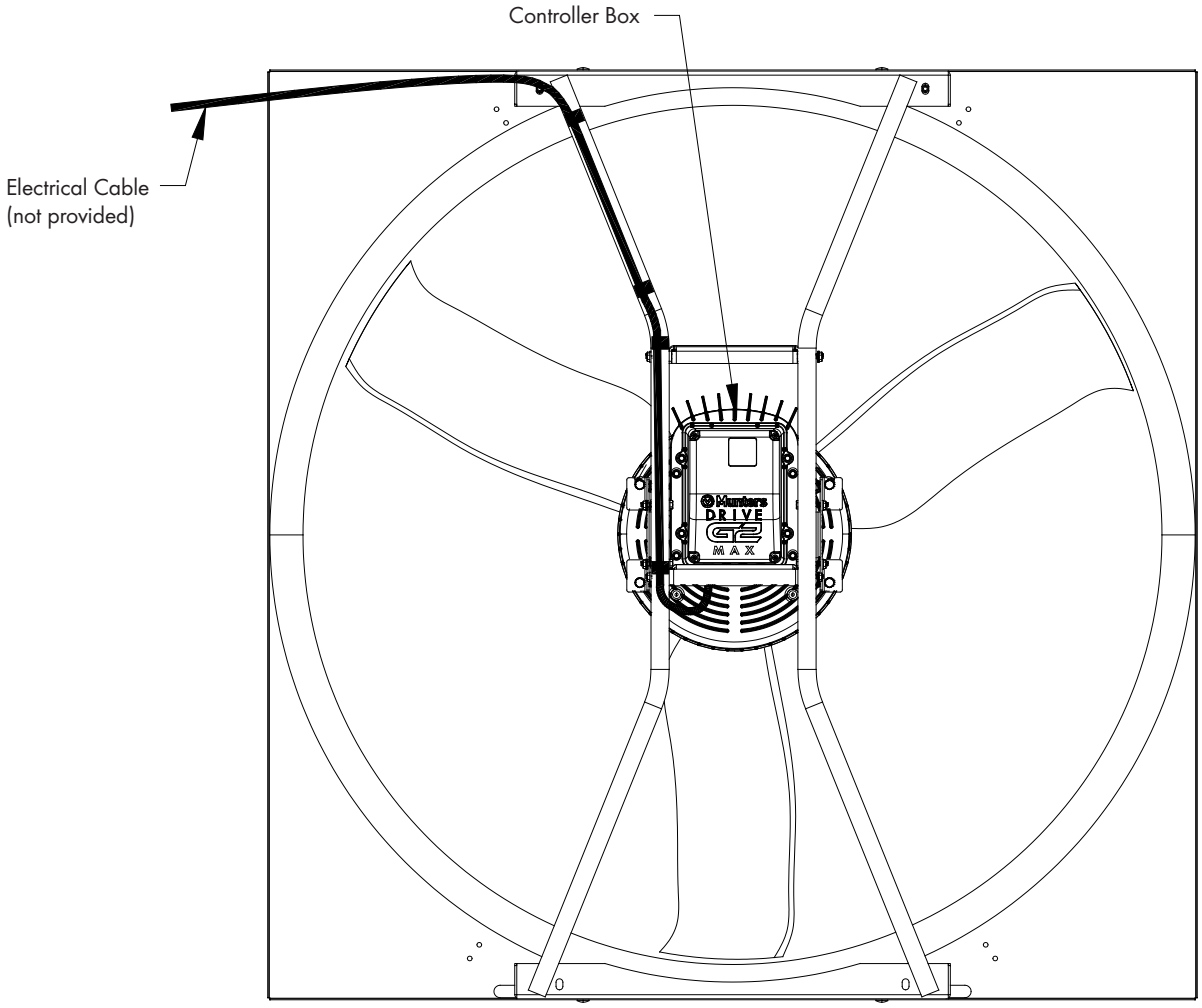


Figure 1A

2.2 Electrical 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.

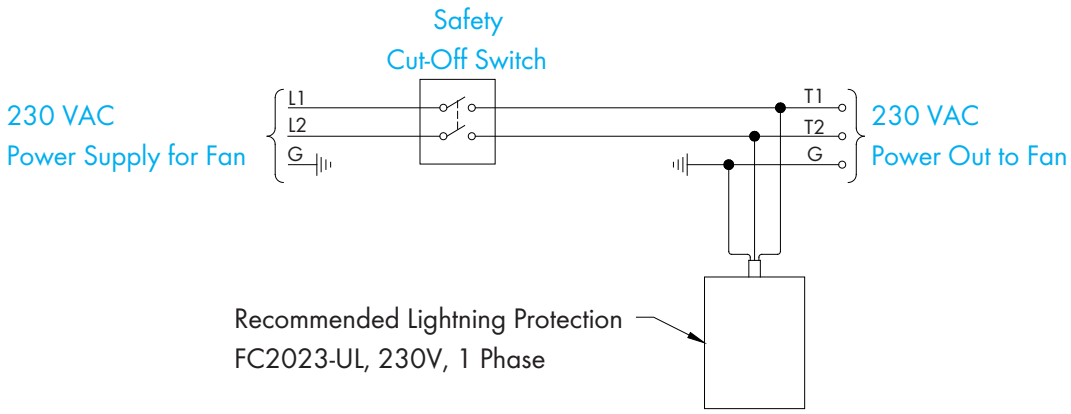
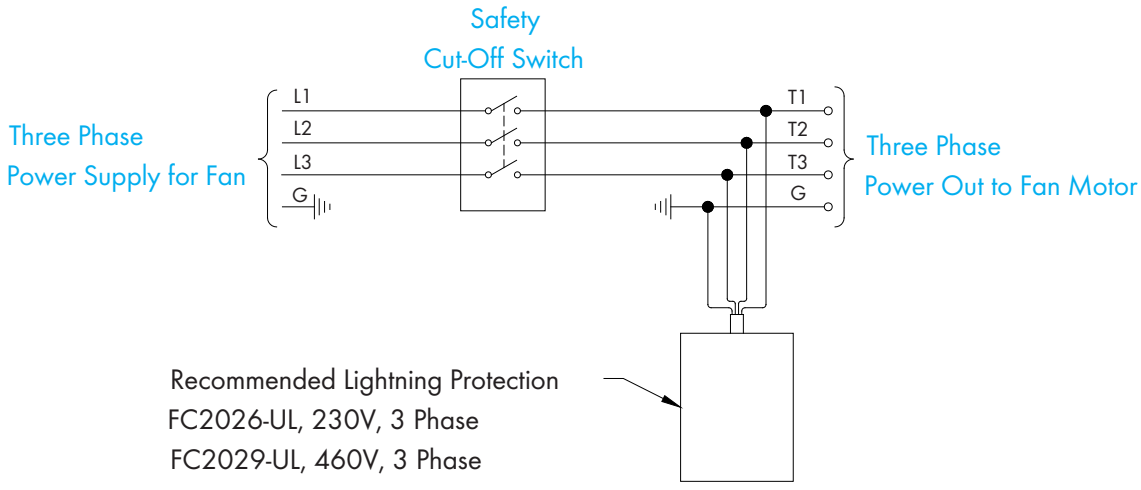


Figure 1B
Single Phase



KEY:
L1=Line 1
L2=Line 2
L3=Line 3
G=Ground

Figure 1C
Three Phase

2.3 Power Connection and Control Wiring

All cables that enter the Munters Drive box must enter through a properly sized watertight fitting. To access the Drive, loosen the (4) screws in the cover of the Munters Drive box to access the terminals inside to connect power and other cables. *See Figure 2.*

WARNING

Only the Cover of the Blue Box is designed to be removed. It has captured screws that remain in the cover. The Base of Blue Box and Heat Sink **must not** be removed from back of motor. Removing Base or Heat Sink from motor will void the warranty. Any water or other damage to the controller will not be covered if the either is removed.

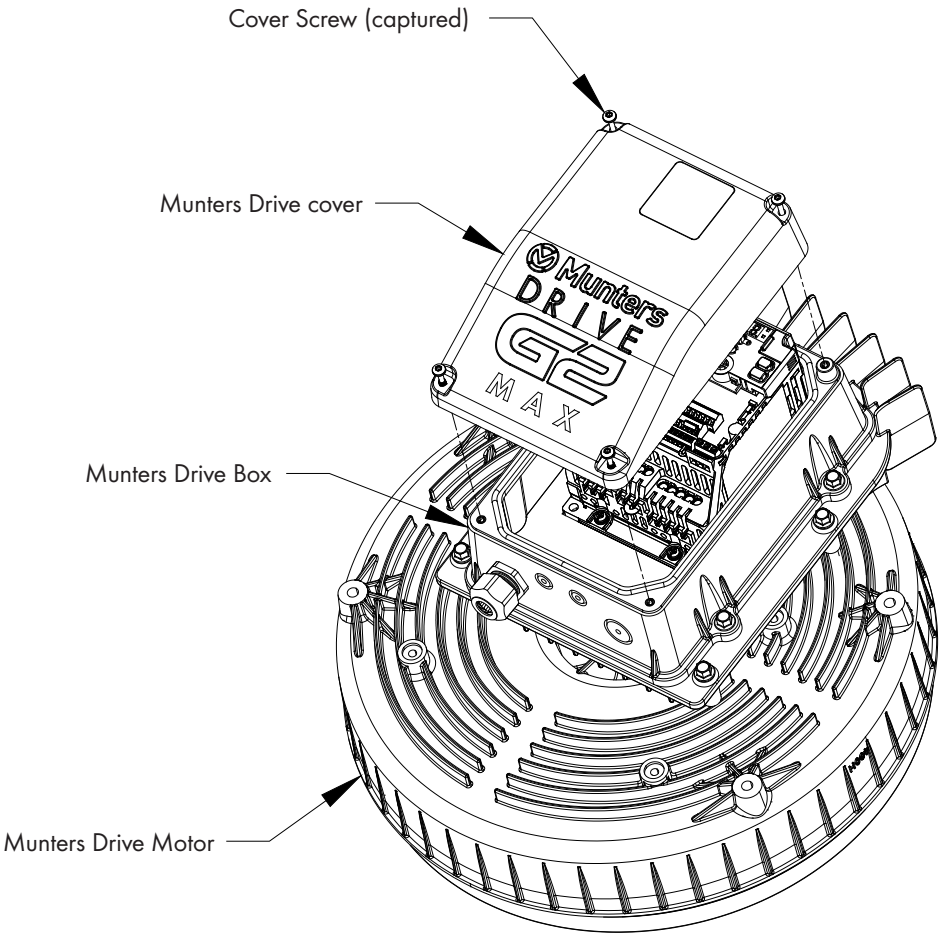


Figure 2

2.4 GA500 Drive Wiring

Single Phase Power connection:

Run the single phase power cable through watertight fitting into the Munters Drive box and connect to the terminals "R/L1, S/L2" and Ground in the box. *See Figure 3.*
The Munters Drive is prewired to the Motor.

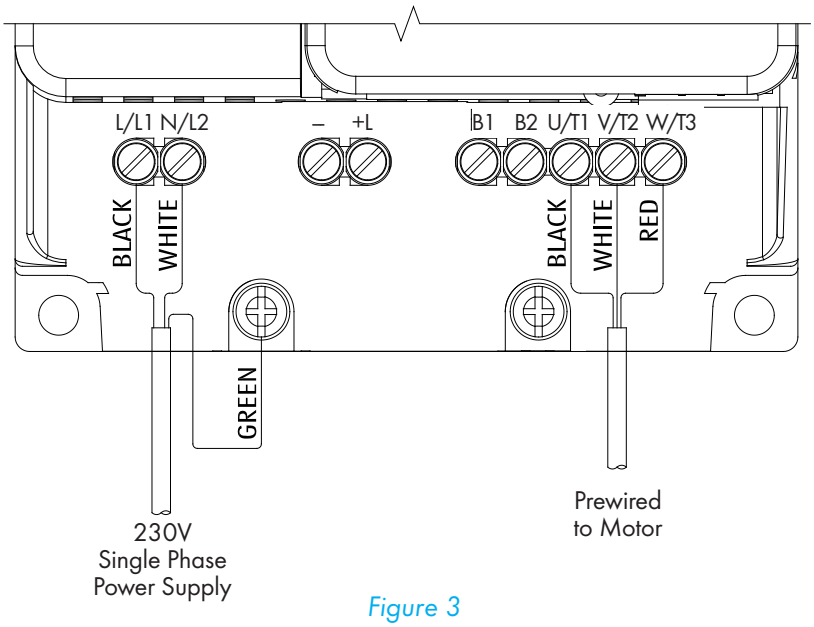


Figure 3

3 Phase Power connection:

Run the 3 phase power cable through watertight fitting into the Munters Drive box and connect to the terminals "R/L1, S/L2, T/L3" and Ground in the box. *See Figure 4.*
The Munters Drive is prewired to the Motor.

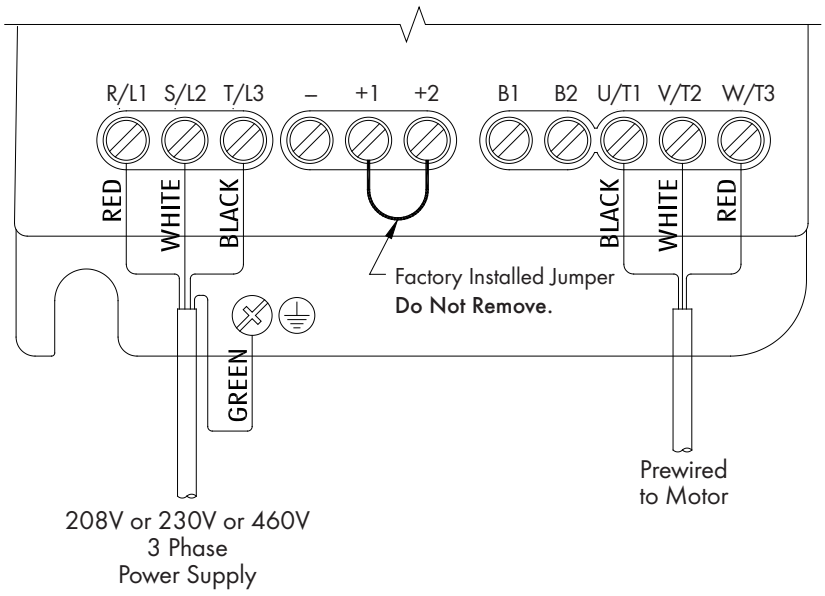


Figure 4

***NOTE* 230V, 1 Ph**

Power to the Drive must be within +/- 8% of nominal voltage.
Munters Recommended;
Absolute Minimum Voltage = 210V
Absolute Maximum Voltage = 254V

Munters Recommends Line to Line Voltage Unbalance to be 1% or less per NEMA MG-1-1998. Absolute maximum unbalance is 1.5%.

****NOTE**208V, 3 Ph**

Power to the Drive must be within -4%, +10% of nominal voltage.
Munters Recommended;
Absolute Minimum Voltage = 200V
Absolute Maximum Voltage = 230V

Munters Recommends Line to Line Voltage Unbalance to be 1% or less per NEMA MG-1-1998. Absolute maximum unbalance is 1.5%.

****NOTE**230V, 3 Ph**

Power to the Drive must be within +/- 8% of nominal voltage.
Munters Recommended;
Absolute Minimum Voltage = 210V
Absolute Maximum Voltage = 254V

Munters Recommends Line to Line Voltage Unbalance to be 1% or less per NEMA MG-1-1998. Absolute maximum unbalance is 1.5%.

****NOTE**460V, 3 Ph**

Power to the Drive must be within -4%, +8% of nominal voltage.
Munters Recommended;
Absolute Minimum Voltage = 440V
Absolute Maximum Voltage = 500V

Munters Recommends Line to Line Voltage Unbalance to be 1% or less per NEMA MG-1-1998. Absolute maximum unbalance is 1.5%.

Fan Operation with No Control - GA500

To operate the fan continuously with no control, provide a Jumper wires between terminals 'S1' and 'SN'. *See Figure 5.* Do not remove the Factory Installed Jumpers.

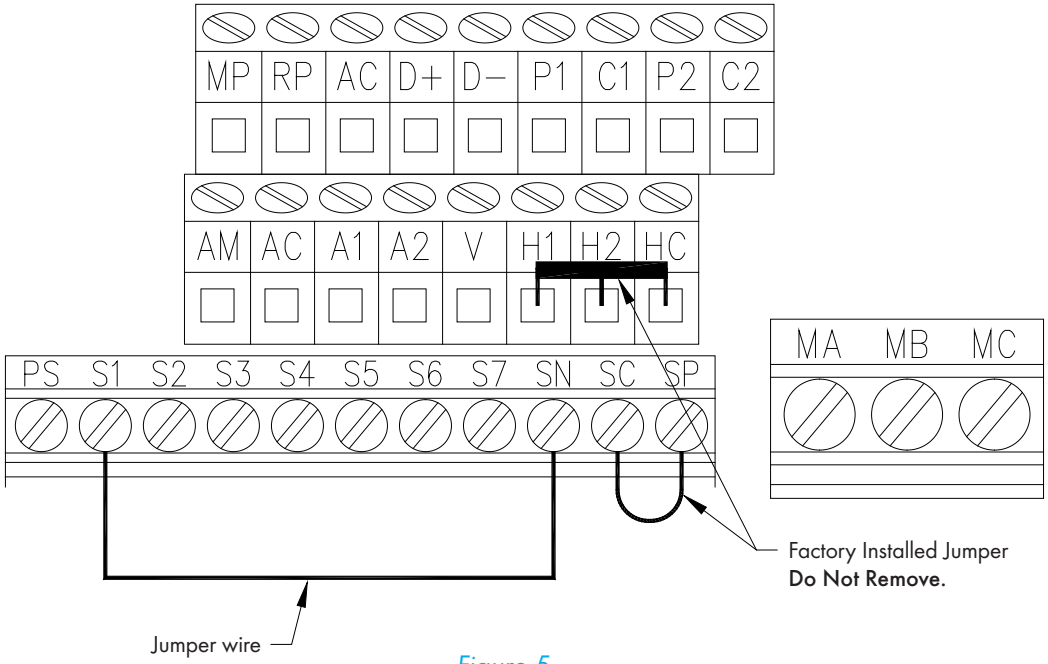


Figure 5

Fan Operation On/Off with Control - GA500

To operate the fan On/Off with a control, wire an 'ON' command from the 'SN' terminal to the input relay in the control and from the output of the control relay to the 'S1' terminal. *See Figure 6.* Do not remove the Factory Installed Jumpers.

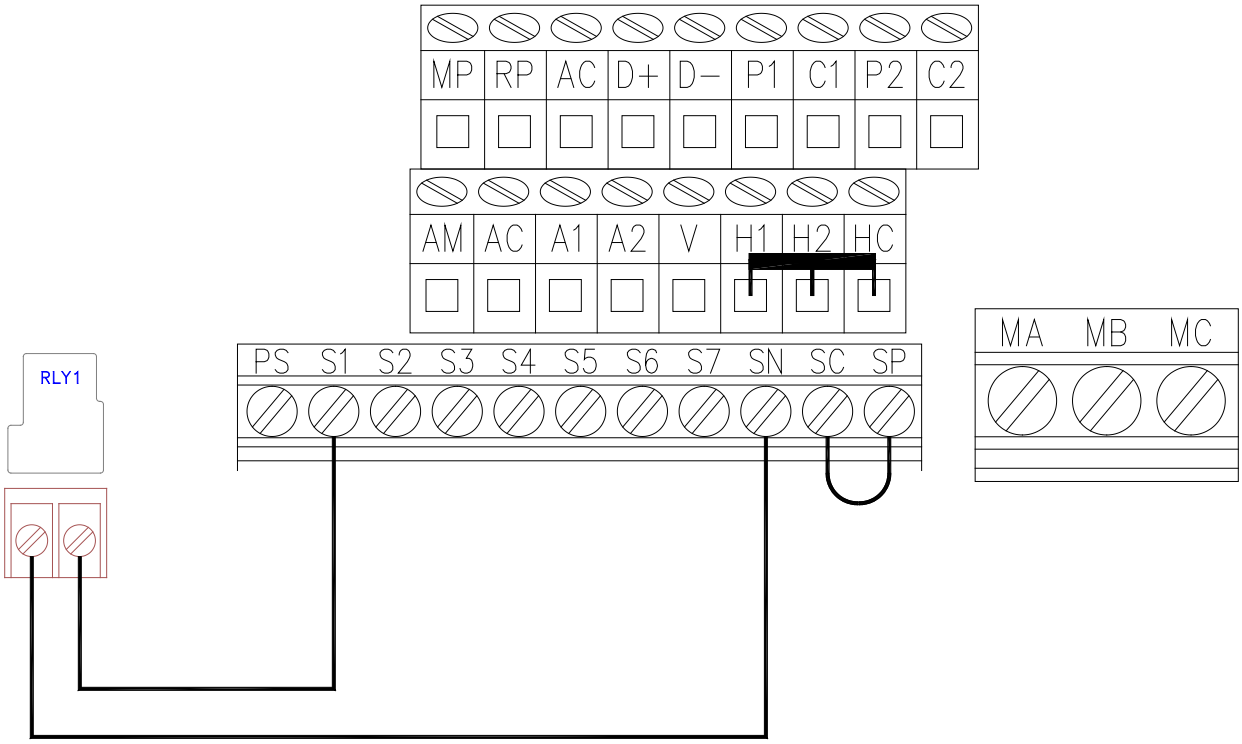


Figure 6

Fan Operation Off/Low/High - GA500

To operate the fan Off/Low/High with a control, connect a wire from 'SN' terminal to the input side of the 'ON' relay in the control, then install a jumper from the input side of the 'ON' relay to the input side of the 'LOW' relay in the control. Then connect a wire from 'S1' terminal to the output side of the 'ON' relay and then connect a wire from the 'S7' terminal to the ouput side of the 'LOW' relay. *See Figure 7.* Do not remove the Factory Installed Jumper.

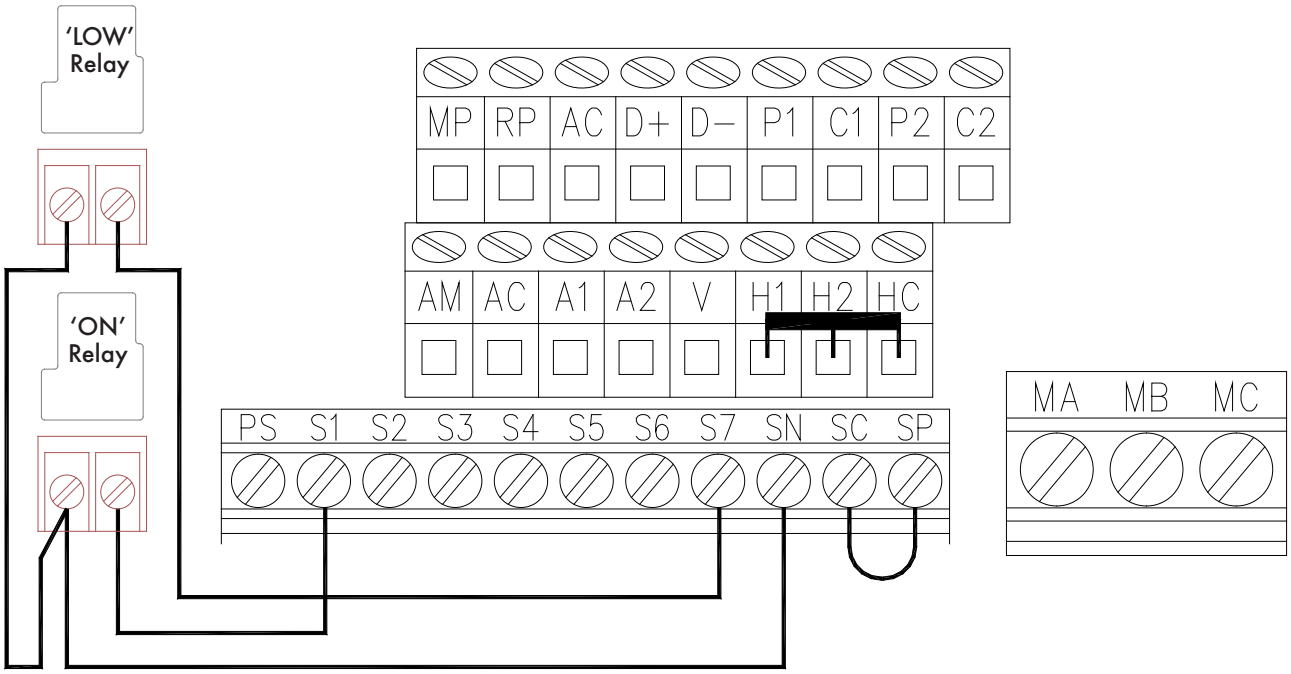
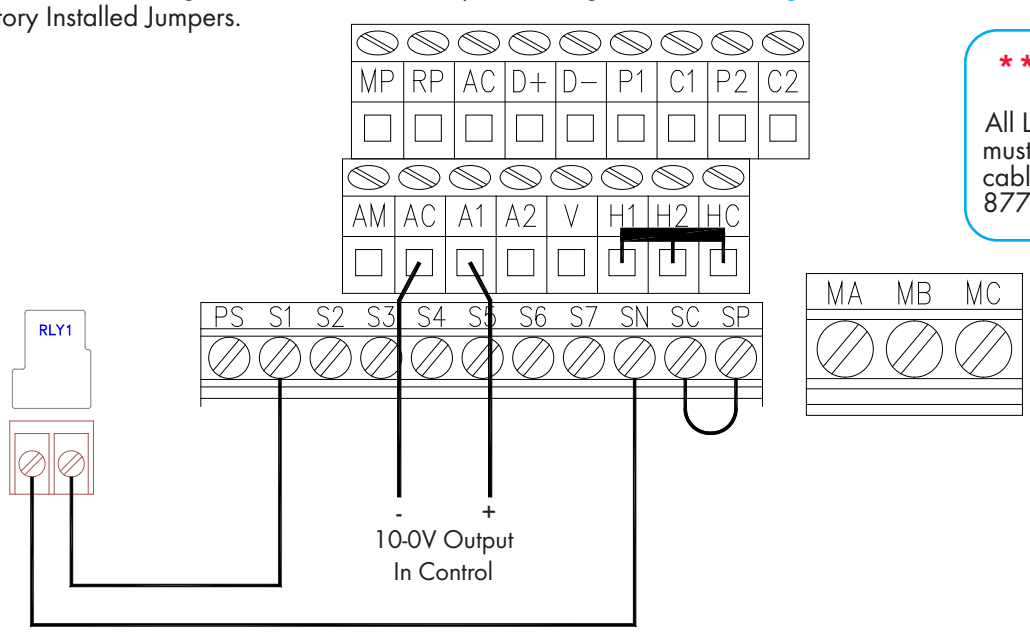


Figure 7

Fan Operation Off/Variable with 10-0V Signal - GA500

To operate the fan Off/Variable with a 10-0V Signal, wire an 'ON' command from the 'SN' terminal to the input relay in the control and from the output of the control relay to the 'S1' terminal. Then connect wires from the 10-0V output in the control to the 'A1' and 'AC' terminals in the Munters Drive Box. The '+' output in the control shoud go to 'A1' and the ' - ' output should go to 'AC'. *See Figure 8.* Do not remove the Factory Installed Jumpers.



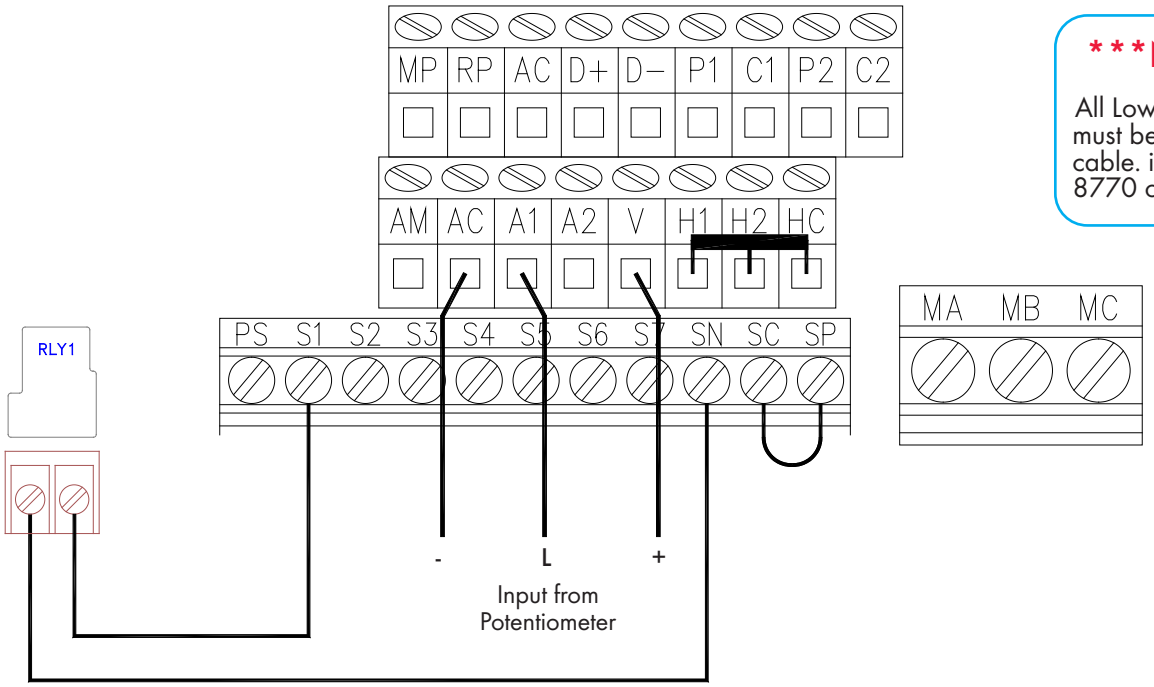
NOTE

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

Figure 8

Fan Operation Off/Variable with Potentiometer - GA500

To operate the fan Off/Variable with a signal from a potemtiometer, wire an 'ON' command from the 'SN' terminal to the input relay in the control and from the output of the control relay to the 'S1' terminal. Then connect wires from the Potentiometer as follows, connect ' - ' to 'AC', connect 'L' to 'A1' and connect '+' to 'V'. *See Figure 9.* Do not remove the Factory Installed Jumpers.



NOTE

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

Figure 9

Alarm Connections - GA500

The Munters Drive uses a Normally Closed circuit for alarm connections. To connect a control to the Normally Closed output make appropriate connecions from the control to 'MB' and 'MC' terminals. *See Figure 10.* Do not remove the Factory Installed Jumbers.

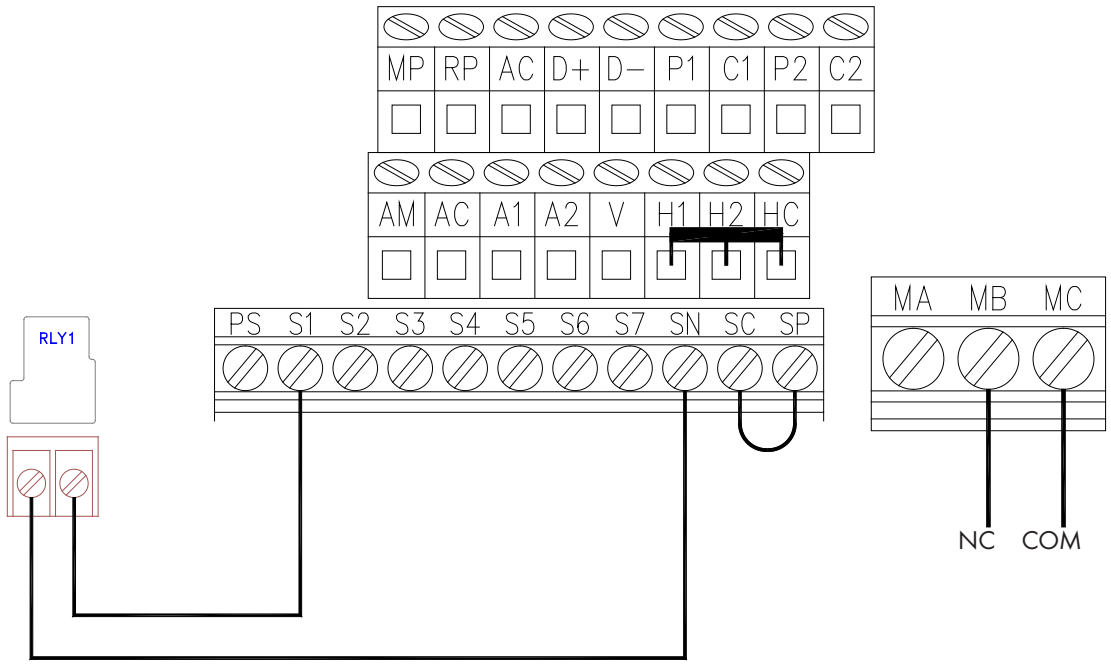


Figure 10

Operation and Maintenance

3.

3.1 Operation

1) *INITIAL START-UP:* With electrical power off, verify that the fan propeller turns freely and that all fasteners are secure. With shutter in place, 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.
   - *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.

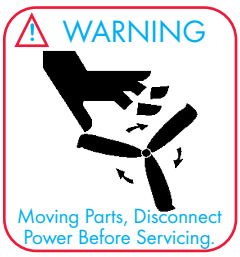
4) *INSPECT FAN CONTROL:* With power disconnected, inspect all electrical connections. Wiring should be secure and in good condition. Remove any dust build-up from control case and sensor using a soft brush or cloth.

NEVER CLEAN ELECTRICAL EQUIPMENT WITH A PRESSURE WASHER!

Troubleshooting

4.

4.1 Troubleshooting



SYMPTOM	POSSIBLE CAUSES	CORRECTIVE ACTION
• Fan Not Operating	• Fan control set above room temperature	• Set to a lower temperature
	• Blown Fuse or open circuit breaker	• Replace fuse or reset breaker
	• Propeller blade contacting fan housing	• Realign motor in fan housing
	• Fan control defective (i.e. Farm Premium, etc.)	• Repair or replace control
• Fan Does Not Start Caution: There is a 10 second delay for the fan to start when an 'On' command is present.	• Munters Drive motor/controller issue	1. Verify AC voltage is present at fan. 2. Turn AC power off to fan for 1 minute 3. Verify Prop turns freely a. If not contact Munters Product Support b. If it turns freely go to next step 4. Turn AC power back on to fan a. If starts up and runs, fan OK • 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 b. If fan tries to start but stops, look through clear window in drive cover to check what drive display reads. Contact Munters Product Support c. 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.
• Fan Operating - Insufficient Airflow	• Guard dirty/clogged	• Clean guard
	• 10-0V signal set incorrectly	• Check and adjust 10-0V signal
• Excessive Noise	• Propeller blade contacting fan housing	• Sand fan housing to remove high spot
• Excessive Vibration	• Motor loose on mount	• Tighten fasteners
	• Propeller damaged	• Replace propeller

Winterizing

5.

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.

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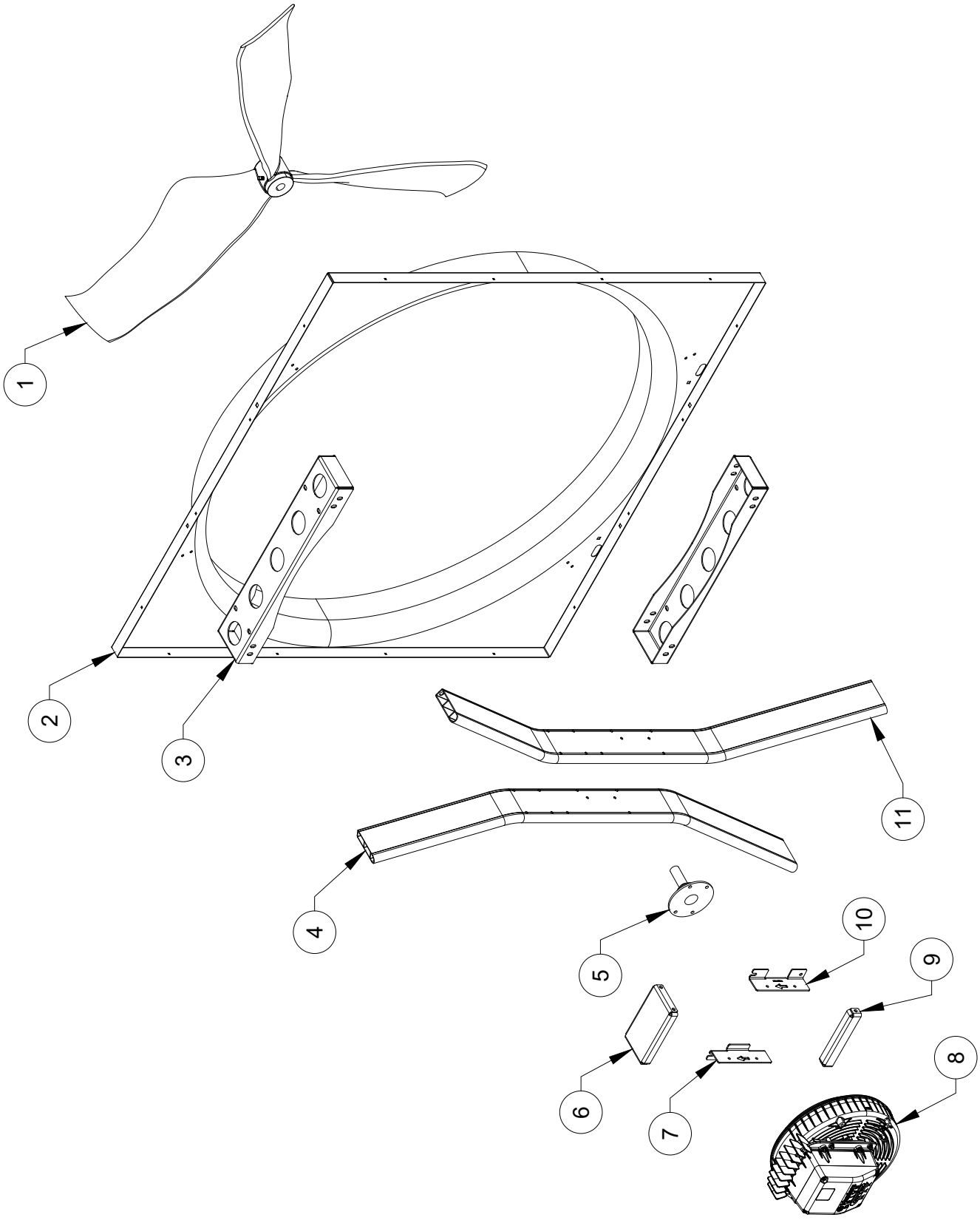
Exploded View

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	FH3852	Strut Brace, Upper, AX51/VX51/55, G2 Munters Drive, AL	1
7	FH2866	Mounting Bracket, RH, G2 Munters Drive, AX/VX51/55, CTD-GZ	1
8	Various*	Assembly, G2 Motor and Drive, Prgmd, AX	1
9	FH3851	Strut Brace, Lower, AX51/VX51/55, G2 Munters Drive, AL	1
10	FH2862	Mounting Bracket, LH, G2 Munters Drive, AX/VX51/55, CTD-GZ	1
11	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 G2 Munters Drive is developed and produced by Munters Corporation, Lansing, Michigan U.S.A. 1-800-227-2376

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