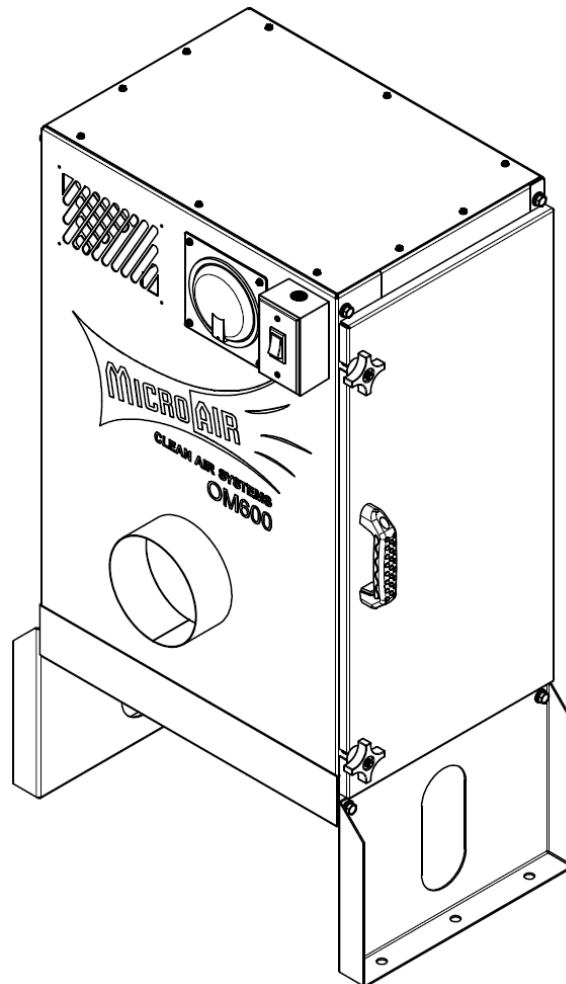




# OM600

Installation and Operation Manual



This manual contains specific cautionary statements relative to worker safety. Read this manual thoroughly and follow as directed. It is impossible to list all of the hazards of dust control equipment. It is important that use of the equipment be discussed with a Micro-Air Representative. Persons involved with the equipment or systems should be instructed how to operate in a safe manner.

**WARNINGS:**

**CAUTION:** Installation can cause exposure to live components. Disconnect electrical power before proceeding with installation. Proper Lock Out / Tag Out procedures should be used.



All electrical work must be done by a qualified electrician according to local, state and national codes.



Improper installation or operation of this equipment can cause damage to equipment and / or injury to personnel. The installation / operation manual must be read and followed in its entirety.

**OM600 SPECIFICATIONS:**

Motor:	3/4 HP, 3450 RPM, 1 Phase, TEFC 3/4 HP, 3450 RPM, 3 Phase, TEFC
Input Voltage:	1-Phase - 115/208-230V, 60 Hz 3-Phase - 208-230/460V, 60 Hz
Max Current:	1-Phase - 10.0/5.2-5.0 Amps 3-Phase - 2.5-2.4/1.2 Amps
Blower:	Direct Drive
Air Flow:	600 CFM
Dimensions:	40" H x 24" W x 18" D w/ standard legs & standard exhaust 58" H x 24" W x 18" D w/ long legs & HEPA exhaust
Noise Level:	72 dB at 5' away from unit
Shipping Weight:	180 lbs.
Actual Weight:	120 lbs.

**PRE-OPERATING INSTRUCTIONS:**

1. Inspect the unit for any visible damage that may have occurred during shipment. Report any damage to the delivery carrier.
2. Remove the shipping crate, shipping straps and plastic wrap from unit.
3. Remove the unit from the shipping skid and set on a level surface. Note that the legs are not installed from the factory.
4. Determine the location where the unit is to be installed. Be sure to allow sufficient access to the unit for servicing and maintenance on all sides.

**NOTE:** The following instructions will vary depending on options ordered.

**EQUIPMENT / TOOLS REQUIRED:**

- Forklift or Hoist
- Lifting straps or chains
- Socket wrenches
- Wire nuts
- Pipe wrench

**INSTALLATION INSTRUCTIONS:****MACHINE MOUNT / FLOOR MOUNT:**

1. Locate an installation site that will provide the following:
  - a. A solid structure capable of supporting the weight of the unit.
  - b. 3 ft of unobstructed exhaust space from the outlet of the unit.
  - c. Easy access to service panels and unit inlet.
  - d. A close location to the source of the oil mist unit to be captured.
2. Remove the two 5/16-18 bolts from each side of the cabinet on the bottom side of the unit to secure legs in place. Mount legs to cabinet using removed bolts (**FIG. 1**).
3. Mark location of the mounting holes on the surface where the OM600 is to be mounted. Note hole pattern on bottom of cabinet (**FIG. 2**). Drill holes for a minimum of 3/8" mounting hardware.
4. Secure cabinet to machine using bolts, nuts and lock washers. If machine is mounted on the floor, use concrete anchors. **NOTE:** Mounting hardware is not supplied by Micro Air.
5. Connect unit to oil mist source using 6" diameter duct. The duct may be flexible hose or formed sheet metal. Maximum flow will be achieved with minimum bends in ductwork. The duct must be sealed to contain oil that will get captured inside it. Use hose clamps or sheet metal screws to attach duct to unit.

**NOTE:** There are 2 different set of legs, standard height, 10" tall, or long leg, 16" tall.



**CAUTION:** The size and weight of the OM600 unit requires two people or mechanical means to lift and hold in place during mounting.

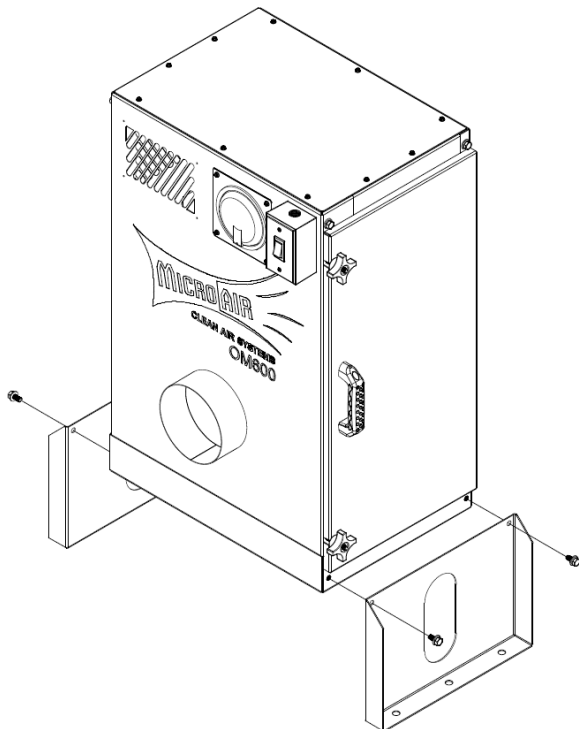


FIG. 1

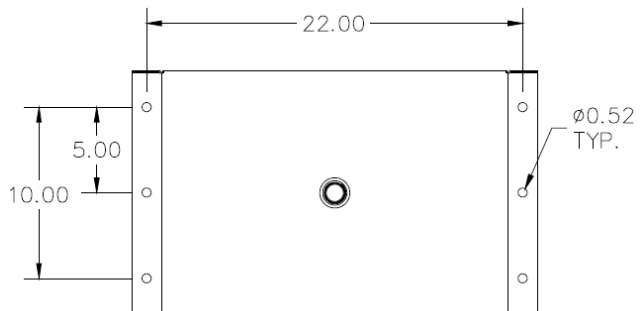


FIG. 2

**CEILING MOUNT:**

1. Locate an installation site that will provide the following:
  - a. A solid structure capable of supporting the weight of the unit.
  - b. 3 ft of unobstructed exhaust space from the outlet of the unit.
  - c. Easy access to service panels and unit inlet.
  - d. A close location to the source of the oil mist unit to be captured.
2. Remove the two 5/16-18 bolts from each side of the cabinet on the top side of the unit to secure legs in place. Mount legs to cabinet using removed bolts (**FIG. 3**).
3. Firmly secure unit to 4 piece. Note hole pattern on bottom of legs (**FIG. 2**). Make sure unit is level  
**NOTE:** Mounting hardware is not supplied by Micro Air.
4. Connect unit to oil mist source using 6" diameter duct. The duct may be flexible hose or formed sheet metal. Maximum flow will be achieved with minimum bends in ductwork. The duct must be sealed to contain oil that will get captured inside it. Use hose clamps or sheet metal screws to attach duct to unit.

**NOTE:** There are 2 different set of legs, standard height, 10" tall, or long leg, 16" tall. Use extended legs with HEPA after-filter when mounting from ceiling.



**CAUTION:** The size and weight of the OM600 unit requires two people or mechanical means to lift and hold in place during mounting.



**CAUTION:** Use strong braided wire, threaded rod, or chain to support the cabinet. Hang from ceiling / roof structural supports.

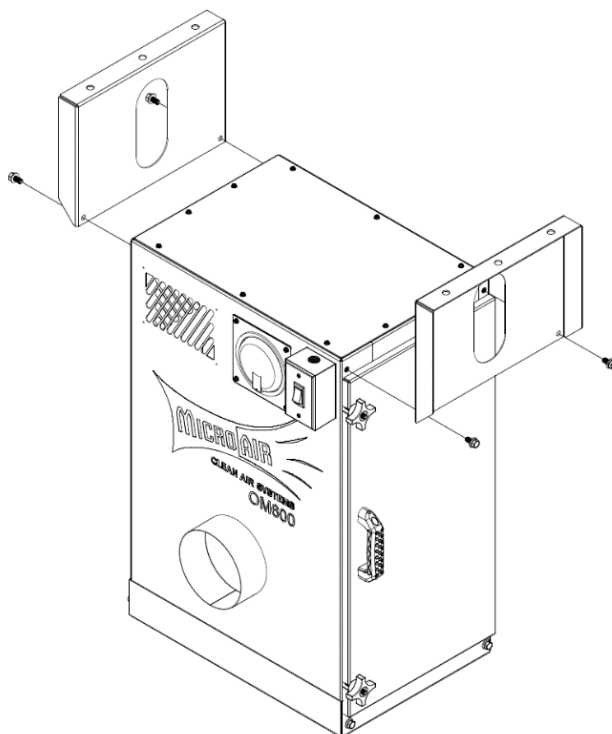


FIG. 3

**OIL DRAINAGE:**

If captured oil is to be discarded, make sure to follow local, state and national codes.



**CAUTION:** Always make sure that the unit is turned off before installing drain trap or servicing the unit.

Provision for draining oil from unit is provided by a 1" NPT pipe coupling on the bottom of the unit. Drainage should be piped to a central collection system. A shut-off valve or drain trap is required to prevent air bypass through the drain opening. The cabinet may be equipped with either a copper drain trap or a PVC drain trap (**FIG. 4**). The drain trap can also be retrofitted.

**NOTE:** If a shut-off valve is installed in the drain system, the unit must be emptied regularly to prevent oil from overflowing into the intake duct.

1. For a Copper Trap:
  - a. The trap must be inserted into the adapter to a depth of 1-1/8".
  - b. Use Teflon tape on adapter before installing on cabinet.
2. For a PVC Trap:
  - a. Use PVC primer and cement to install trap into adapter
  - b. Use Teflon tape on adapter before installing on cabinet.

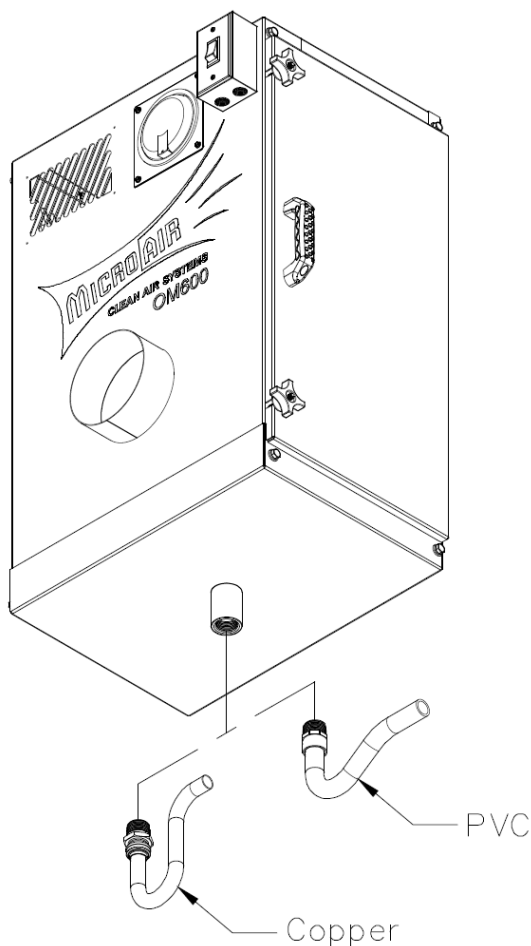


FIG. 4

**PRESSURE GAUGE:**

The unit may be equipped with an optional differential pressure gauge, either a Minihelic or a Magnehelic gauge. The gauge is used to indicate when the filters need to be replaced. Initially, the gauge will register a small pressure drop across the filters. Record pressure reading. **NOTE:** The pressure drop varies with filter combination used. After continued operation, airflow will be reduced and the gauge will measure increased pressure. Whichever gauge option is selected, it will be installed from the factory when ordered with the unit. The pressure gauge can also be retrofitted.



**CAUTION:** Always make sure that the unit is turned off before installing a pressure gauge or servicing the unit. NEVER run the unit with the access door open or panels removed.

3. Remove parts from package and inspect for any possible damage incurred during shipping.
4. Remove front plate from gauge opening. The top cover may be removed as it will allow for easier access to plumb gauge, but it is not required.
5. Remove the two 4-Arm knobs from door. Open door to access motor/blower area (**FIG. 5**).
6. Install gauge onto mounting plate. Note the "HIGH" and "LOW" pressure ports on gauge.
7. Install gauge onto cabinet. **NOTE:** For units with no gauge, remove the plugs from the pressure ports in the cabinet.
  - a. For Magnehelic gauge:
    - i. Install grommets on pressure port holes inside the cabinet.
    - ii. Install the (2) male barb fittings on the pressure ports located on the side of the gauge. Plug the two ports located on the back of the gauge. Fittings come included with the gauge. **NOTE:** It is best to install fittings on gauge before mounting.
    - iii. Plumb the gauge. Run the  $\frac{1}{8}$ " air hose and connect the "LOW" pressure port on the gauge to the DIRTY air plenum port and "HIGH" pressure port to the CLEAN air plenum port. Run the air hose through grommets (**FIG. 6**).
  - b. For Minihelic gauge:
    - i. Install grommets on pressure port holes inside the cabinet.
    - ii. Plumb the gauge. Run the  $\frac{1}{8}$ " air hose and connect the "LOW" pressure port on the gauge to the DIRTY air plenum port and "HIGH" pressure port to the CLEAN air plenum port. Run the air hose through grommets (**FIG. 6**).
8. Close the door and reinstall the top cover (if removed). Reconnect power to the unit. The OM600 is ready to operate.

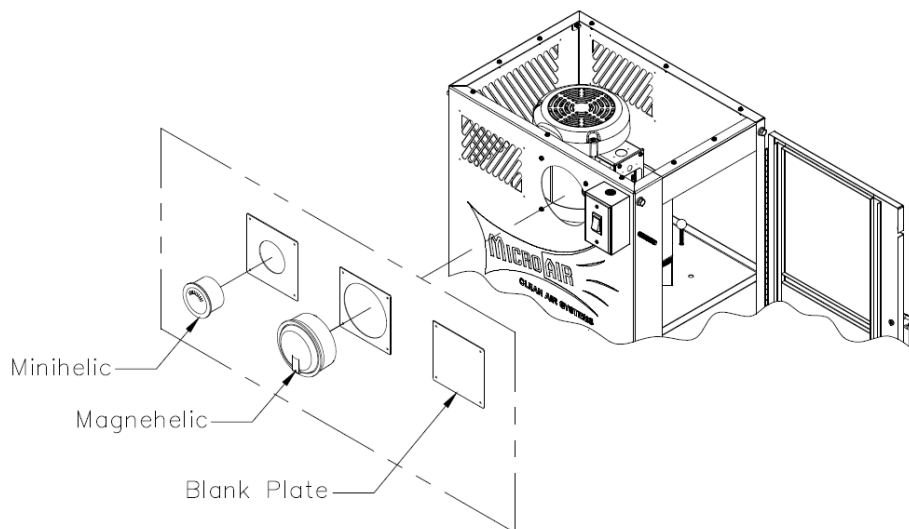


FIG. 5

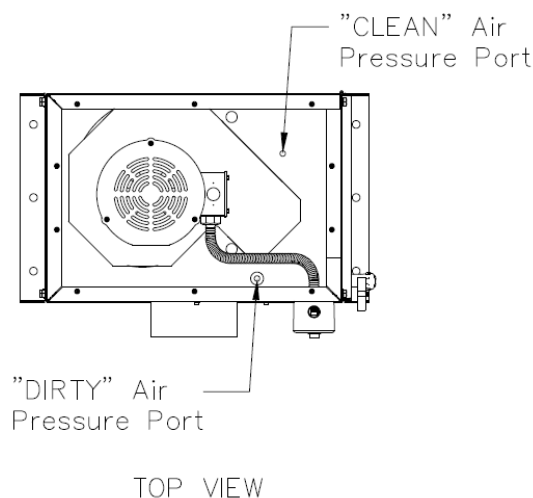


FIG. 6

**CHANGING FILTERS:**

**CAUTION:** Always make sure that the unit is turned off before changing filters or servicing the unit. **NEVER** run the unit with the access door open or panels removed.

As the filters collect airborne pollutants, they will eventually become “loaded” with particulate which will cause airflow to decrease. If the unit equipped with a differential pressure gauge, the gauge will measure increased pressure (refer to recorded initial pressure reading). **NOTE:** The Filters might be wet so allow them to drain first prior to removal.

1. Remove the two 4-Arm knobs from access door. Open door to access filters. **NOTE:** Door is hinged and cannot be removed.
2. Remove the Pre-Filters first. Wash them with a detergent solution to remove dirt and oil residue. Rinse thoroughly with water and let dry.
3. Reinstall pre-filters. Close door and turn the unit on. If the pressure gauge continues to read high, then the main filter will need to be replaced.
4. Open door to access filters.
5. Loosen the two threaded rods. Remove main filter from unit.
6. Visually inspect the filter. If the pockets are filled with dirt and oil, replace with a new filter.
7. Install main filter and tighten threaded rods to secure filter in place. Note Air Flow arrow on filter.
8. Close the door and start the unit. The pressure gauge should now measure low differential pressure.

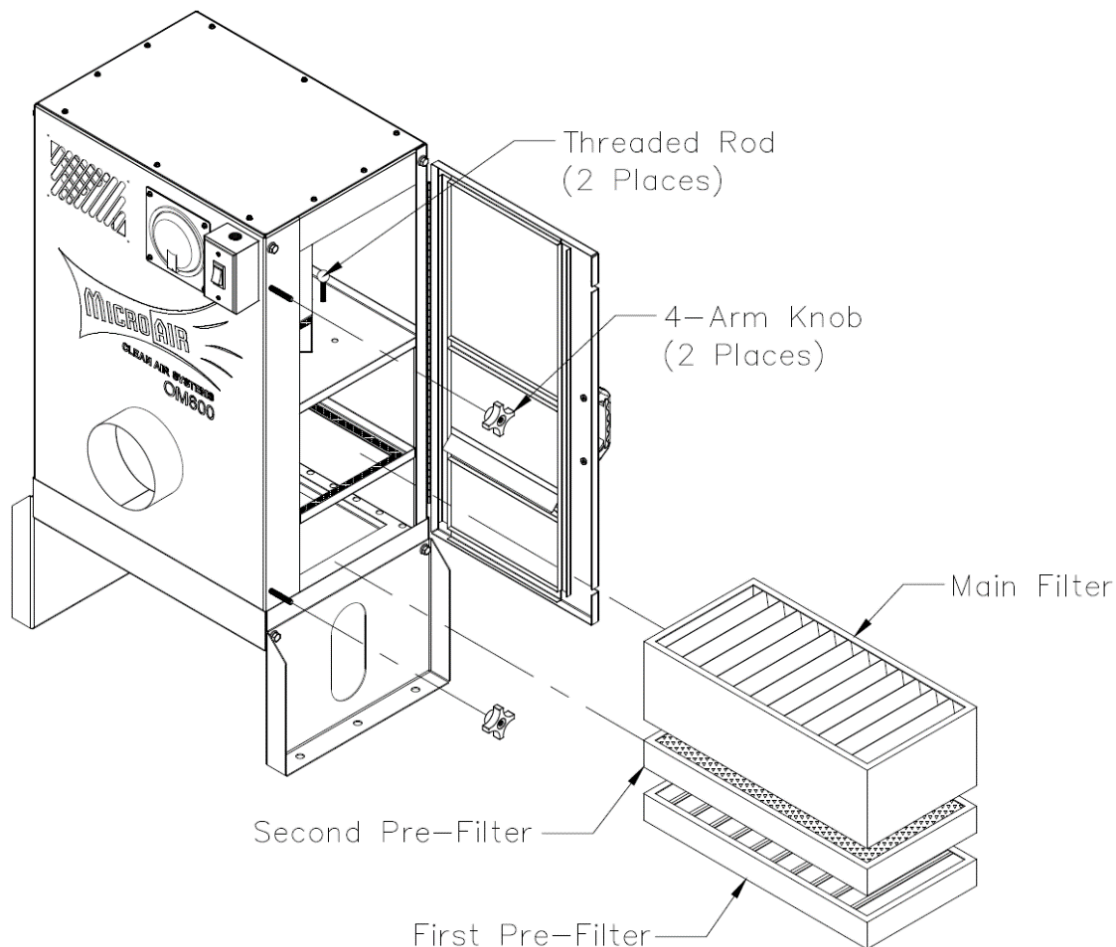


FIG. 7

**OPTIONAL TOP EXHAUST:**

**CAUTION:** Always make sure that the unit is turned off before servicing the unit. NEVER run the unit with the access door open or panels removed.

The unit may be equipped with a top exhaust or a HEPA after-filter in lieu of the standard side exhaust. Both of these options will be installed from the factory when ordered with the unit. Both options can also be retrofitted.

1. Install standard exhaust covers. Gasketing foam will be supplied and must be installed first on covers. Use new self-tapping screws to install covers.
2. Remove the top cover from unit and install new top exhaust plate. Install gasketing foam on new top exhaust plate.
3. For the HEPA after-filter:
  - a. Install filter on top of exhaust plate. Place filter centered on exhaust. Note that the filter will have gasket on the inlet (bottom) side. Note air flow arrow on filter.
  - b. Install Gasketing form on bottom side of HEPA housing.
  - c. Place housing over filter. Use the threaded rods as guides (4 places). Tighten the four 2-Arm knobs to secure housing in place.
4. Reconnect power to the unit. The OM600 is ready to operate.

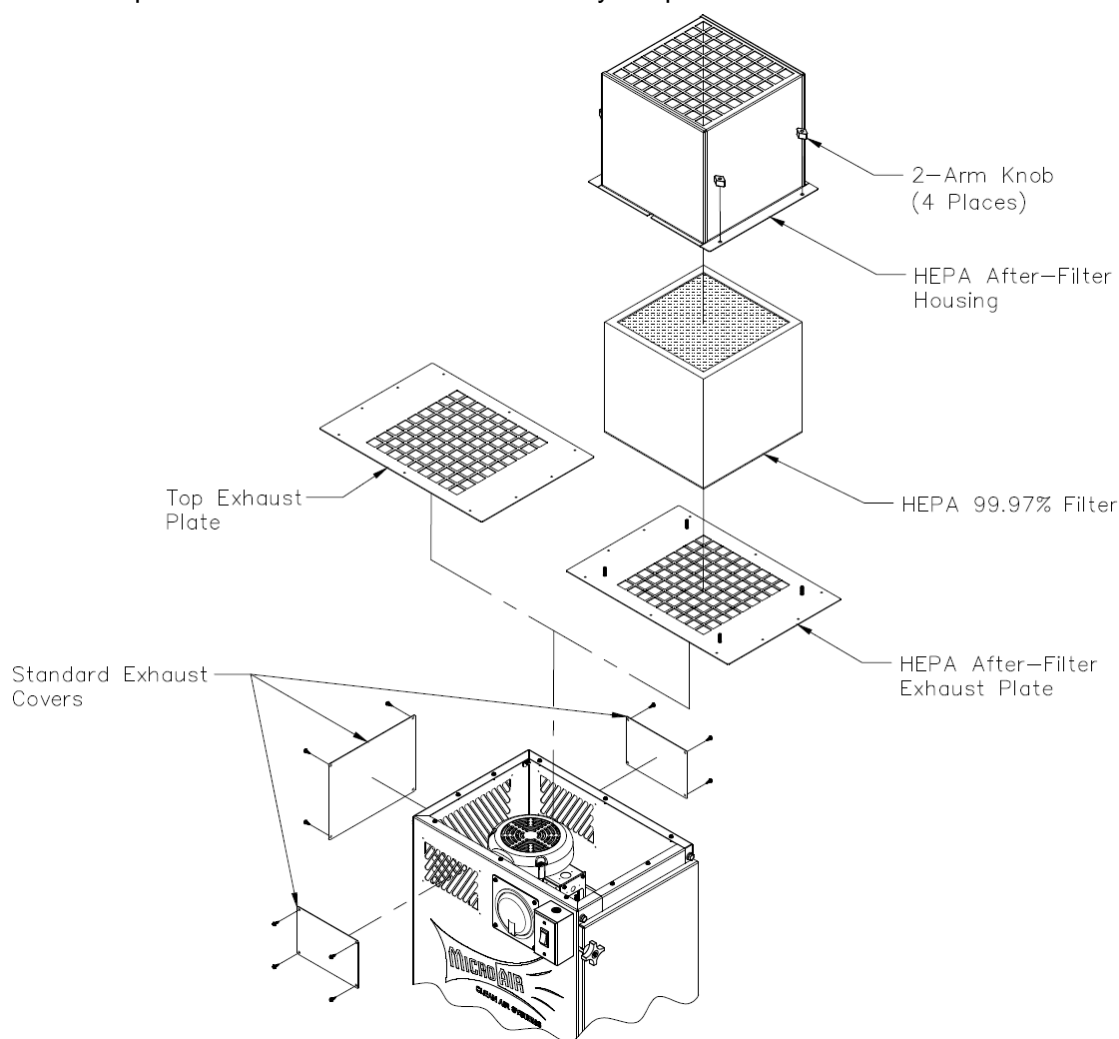


FIG. 8



**ELECTRICAL INSTALLATION:****1 PHASE, 120V WIRING DIAGRAM:**

**All electrical work must be done by a qualified electrician according to local, state and national codes.**

For units wired for 120V, 1 Phase, the cabinet will come equipped with a power cord. The single phase motor is thermally protected with a manual reset button.

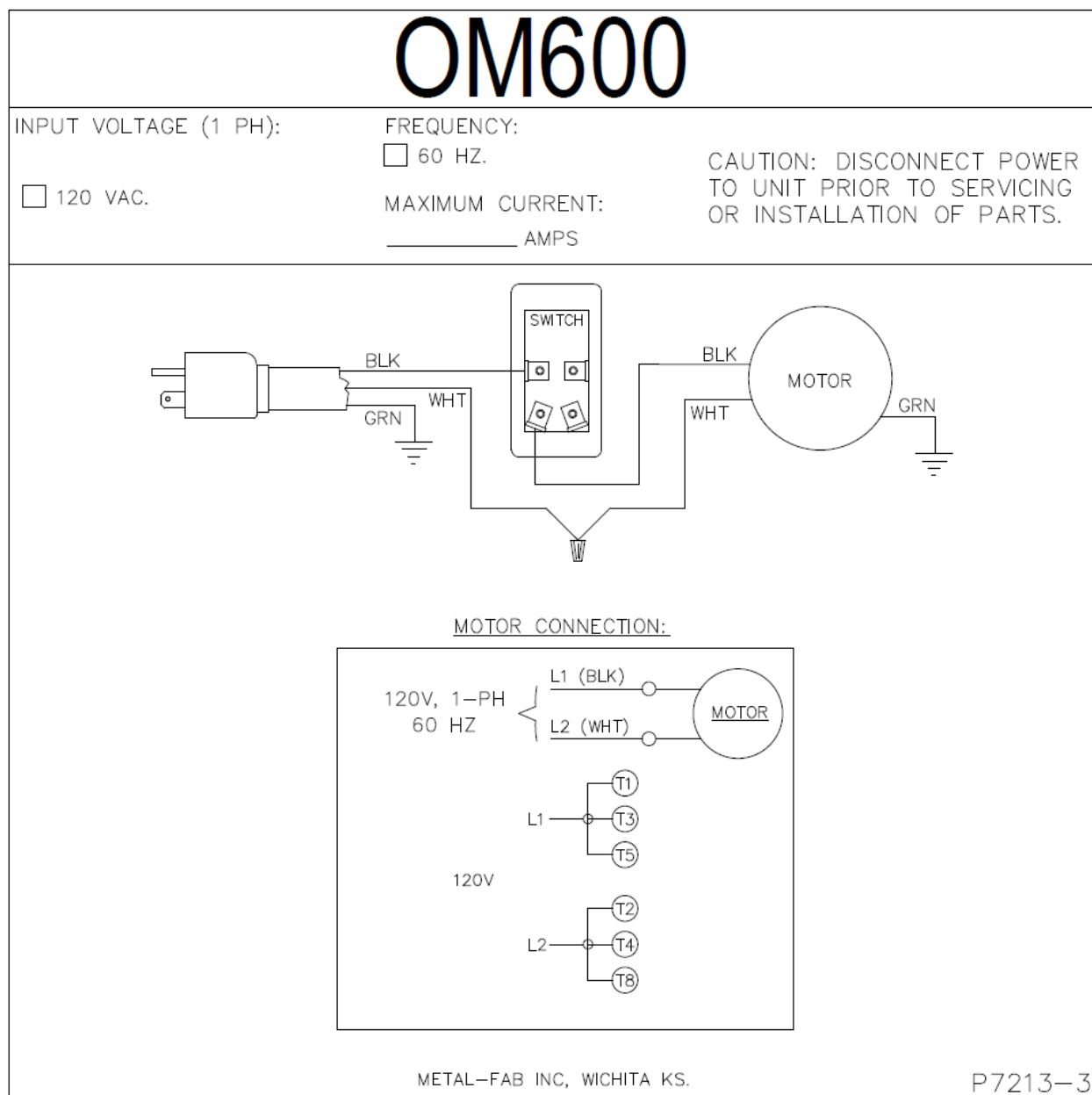


FIG. 9

**1 PHASE, 220V WIRING DIAGRAM:**

**All electrical work must be done by a qualified electrician according to local, state and national codes.**

The single phase motor is thermally protected with a manual reset button.

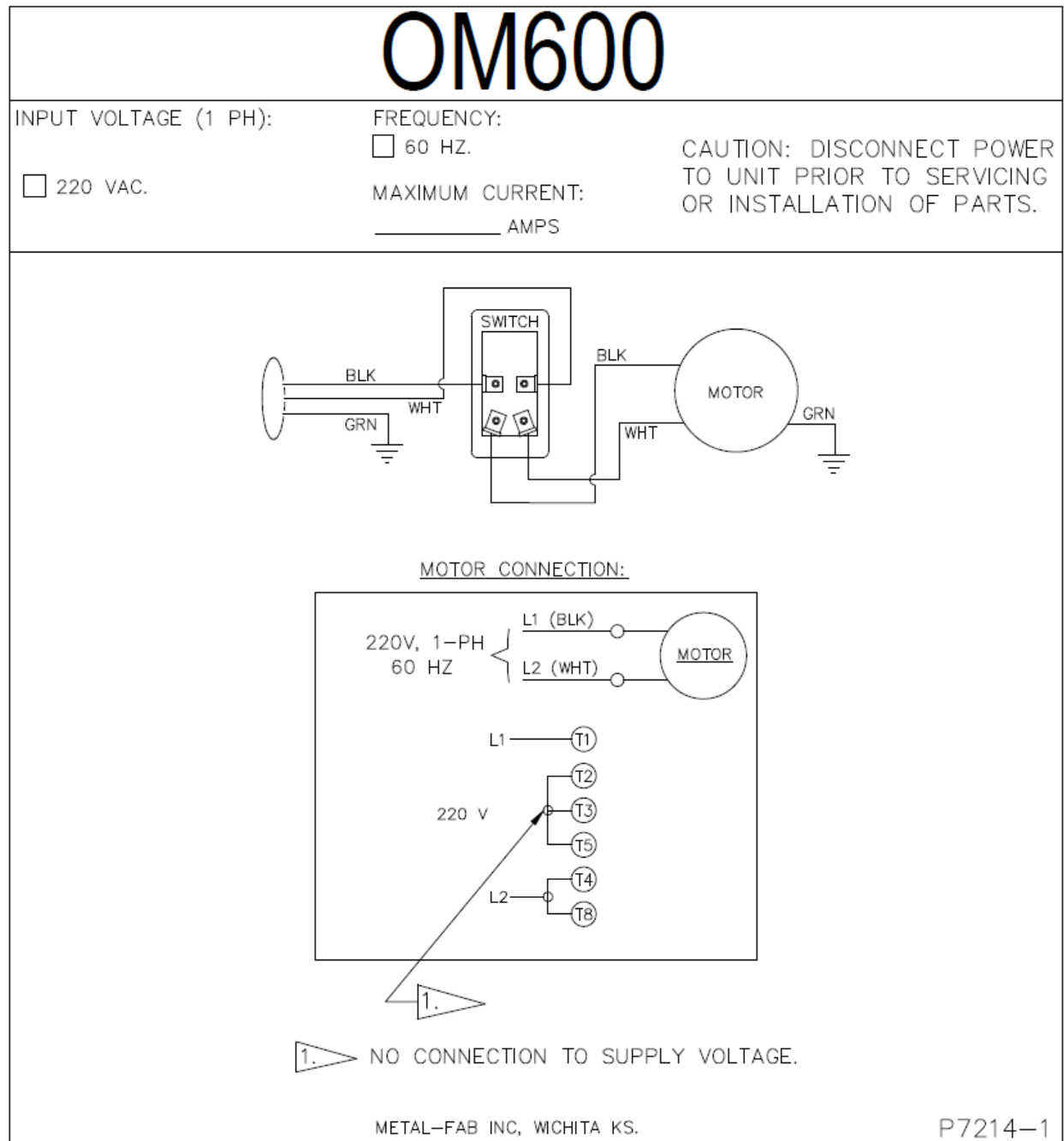
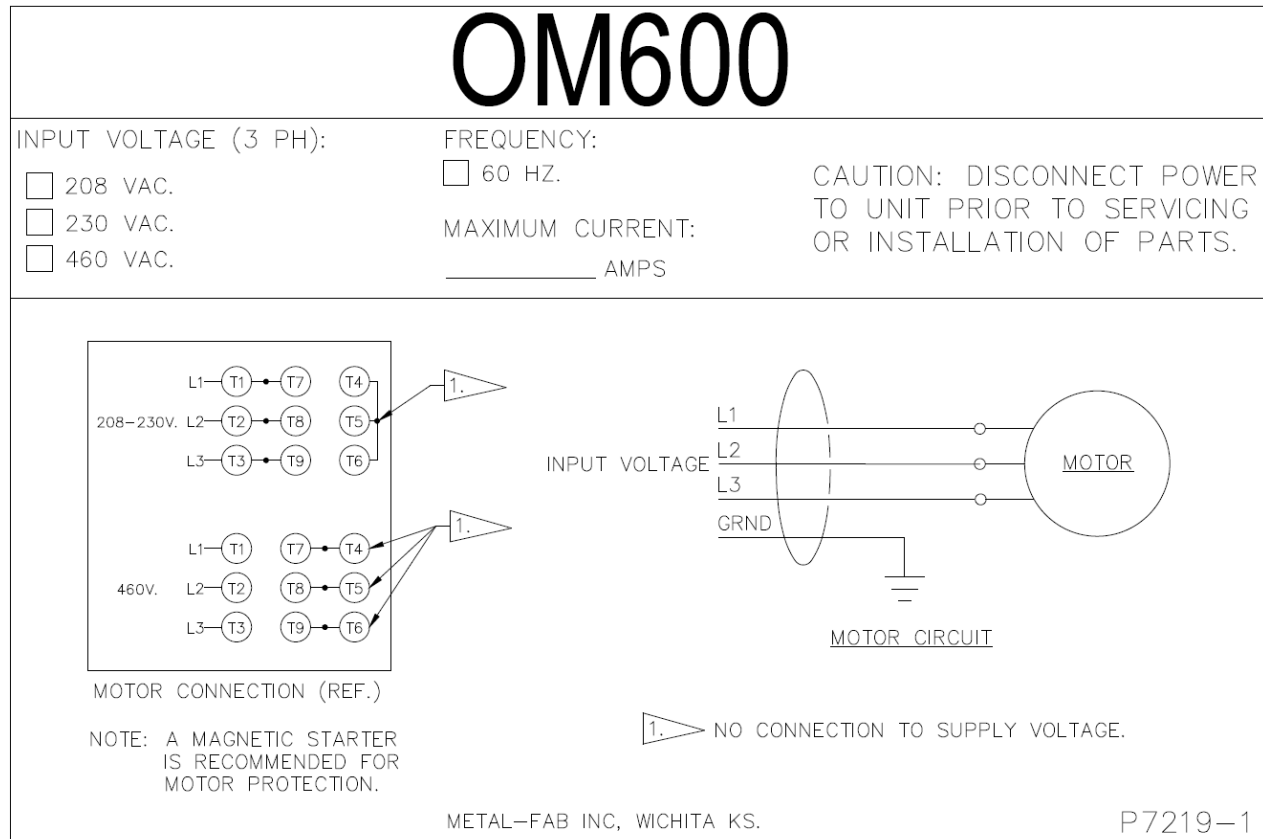


FIG. 10

**3 PHASE WIRING DIAGRAM:**

**All electrical work must be done by a qualified electrician according to local, state and national codes.**

It is recommended that a magnetic starter and overload protector is used.



**FIG. 11**

**GENERAL MAINTENANCE:**

1. Occasionally check the condition of the door seals for any leaks. Replace if necessary.
2. Check the blower bearings for unusual wear and the blower wheel for debris and dirt. Clean when necessary.
3. Periodically inspect hardware for loose nuts and bolts on access doors and internal components. Tighten if necessary.
4. Check the wiring for loose connections or cracked insulation.
5. No lubrication is required for the motor.
6. Excessive dirt or oil should be removed periodically.
7. Ensure that oil is draining easily through drain pipe. Inspect for blockages.

**TROUBLESHOOTING:**

**CAUTION:** Before disassembling the unit or doing any inspecting of the parts, make certain that the power has been cut off and the blower has come to a complete stop. NEVER run the unit with the access door opened or the panels removed.

TABLE 1 – Troubleshooting Chart

PROBLEM	POSSIBLE CAUSE	REMEDY
Unit fails to start	No incoming power	Check the circuit and switch
	Blown breaker or fuse	Replace fuse or throw breaker
	Loose wire in terminal box	Reconnect wire
	Burned out motor	Replace motor
	Motor thermal trip (1 Phase only)	Reset at motor
	Tripped overload (3 Phase only)	Reset overload protector
Unit runs slowly, Inadequate capture	Wired for wrong voltage	Check input voltage Check wiring diagram
	Improper rotation	Check wiring diagram Switch L1 & L2 (3 Phase only)
	Dirty filters	Service filters (see changing filters section)
Vibration	Loose mounting bolts	Tighten bolts
	Foreign objects in blower/ Build-up on blower wheel	Remove debris from blower
	Dirty filters	Service filters (see changing filters section)

## PARTS LIST:

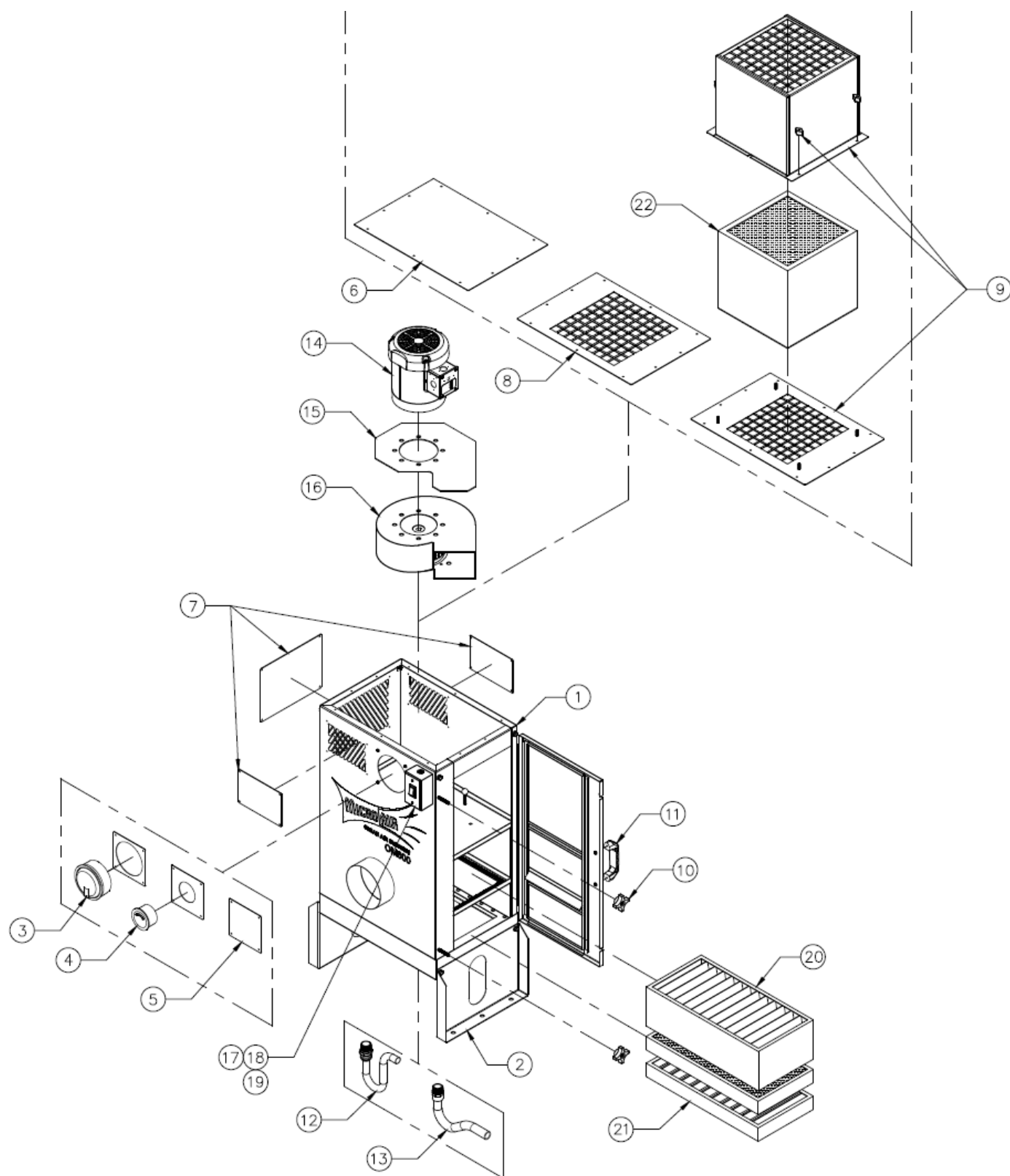


FIG. 12

ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1	34471-01	Cabinet Weldment	14	P3021	Motor, 3/4HP, 3-PH, 230/460V
2	34478-01	Standard Leg (10")		P7122	Motor, 3/4HP, 1-PH, 115/230V
	34478-01	Long Leg (16")	15	34460-02	Spacer Plate
3	34479-01	Magnehelic Mount Plate	16	P3028	Blower
	P2250	Magnehelic Gauge 0-5"			
4	34479-02	Minihelic Mount Plate	<b>1-Phase, 120V</b>		
	P2221	Minihelic Gauge 0-5"	17	30386-02	Cover Plate
5	34479-03	Blank Plate		P1363	Power Cord
6	34459-01	Top Cover		P3025	Electrical Box
7	34480-01	Side Exhaust Cover		P7211	On/Off Switch
	34480-02	Front/Back Exhaust Cover	<b>1-Phase, 220V</b>		
8	34482-02	Top Exhaust Plate	18	30386-02	Cover Plate
9	34481-01	Top Exhaust Plate HEPA		P3025	Electrical Box
	34483-01	HEPA Housing		P7211	On/Off Switch
	P3506	2-Arm knob	<b>3-Phase</b>		
10	P3649	4-Arm Knob	19	P1234	Cover Plate
11	P7108	Handle		P3025	Electrical Box
12	34486-01	Copper P-Trap			
	P7216	Copper P-Trap Adapter			
13	P7217	PVC P-Trap			
	P7218	PVC P-Trap Adapter			
<b>Filter Options</b>					
20	P3032	95% Pleated Main Filter			
21	P3033	3" Mist-X Pre-Filter			
	P3034	1" Mesh Pre-Filter			
	P3035	2" Mesh Pre-Filter			
	P3036	2" Baffle Pre-Filter			
	P3038	2" MaxiGrid Pre-Filter			
22	P7201	99.97% HEPA After Filter			

[illegible]

P.O. BOX 1138 • WICHITA, KS. 67201

(316) 943-2351 • FAX (316) 943-2717

INFO@MTLFAB.COM