

# **MICROAIR®**

## **AIR CLEANERS**



**OM550DD**

# **OWNER'S MANUAL**

**CAUTION**

READ COMPLETE INSTRUCTIONS BEFORE OPERATING.  
PLEASE FILE FOR FUTURE REFERENCE.

## MODEL OM550DD SPECIFICATIONS

Input Volts:	120 VAC, Single Phase	
	230 VAC, Single Phase	
	208-230/460 VAC, 3 Phase	
Max. Current:	3/4 HP 120 VAC	10 AMPS
	3/4 HP 230 VAC	5 AMPS
	3/4 HP 208/230/460 VAC	2.5-2.4/1.2 AMPS
Motor:	3/4 HP TEFC Single Phase	
	3/4 HP TEFC 3-Phase	
Air Flow*:	6" inlet	600CFM
Dimensions:	31 3/8" H x 20" W x 14" D (less Brackets)	
	40" H x 20" W x 14" D (with Brackets)	

Shipping Weight: 136 lbs.

Actual Weight: 116 lbs.

\*All airflows are tunnel-tested readings.

## PACKAGE CONTENTS

- 1ea. OM550DD Unit
- 2ea. Machine Mount/Hangar Brackets
- 1ea. Owner's Manual

## PRE-OPERATING INSTRUCTIONS

1. Remove OM550DD unit and mounting brackets (not assembled) from crate packaging.
2. Inspect unit for shipping damage and report any damage to freight carrier.

## INSTALLATION INSTRUCTIONS

### A. MACHINE MOUNT / FLOOR MOUNT

1. Remove two 5/16" bolts from each side of cabinet near the bottom of the unit

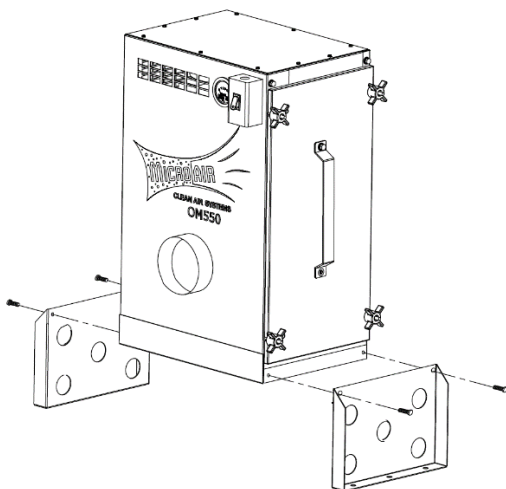


FIG.1

2. Use the bolts removed in Step 1 to secure Machine Mounting brackets to unit as shown in FIG.1.

3. Locate an installation site that will provide for the following:
  - A solid structure capable of supporting the weight of the unit.
  - Three feet of unobstructed exhaust space from the outlet of the unit.
  - Easy access to service panels and unit inlet. As near as possible to the source of the oil mist unit to be captured.
4. Mark location of the mounting holes on the surface to which unit is to be mounted, (see FIG.2 for hole pattern). Drill or punch holes that are sized for mounting hardware to be used.

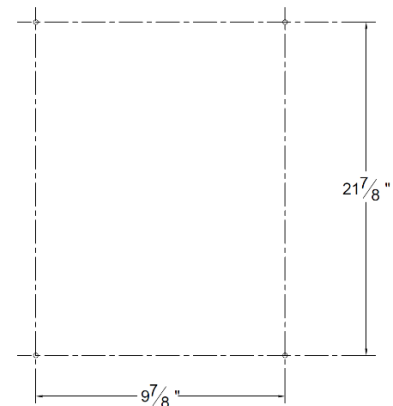


FIG.2

5. Lift OM550DD unit onto machine, aligning machine mount brackets over mounting holes previously drilled. Secure to machine using standard bolts, nuts and lock washers.

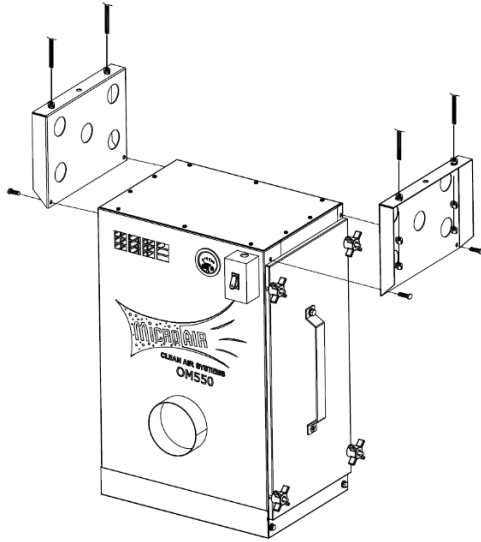
**CAUTION: The size and weight of the OM550DD requires two persons or mechanical means to lift and hold during mounting.**

6. Connect unit to oil mist source using a duct having the same diameter as the inlet of the unit. The duct may be flexible hose or formed sheet metal. Maximum flow will be obtained with minimum bends in duct. To contain oil that will collect on the inside of the duct, the duct must be sealed. Use hose clamps or sheet metal screws to attach duct to unit.

### B. CEILING MOUNTING

**NOTE:** The Machine Mount/Hangar Brackets used in Section A may be used for suspension mounting purposes.

1. Remove the two 5/16" bolts from each side of the cabinet at the outlet end.
2. Use the bolts removed in Step 1 to secure the ceiling mount brackets to the unit as shown in FIG.3.
3. Locate an installation site that will meet the requirements listed in Step 3 of the machine mounting instruction.



**FIG.3**

4. Firmly secure four lengths of 3/8" threaded rod to a firm structural support. Space rods to match pattern made by holes in top of mounting brackets.
5. Thread one nut onto each rod.

**CAUTION: The size and weight of the OM550DD requires two persons or mechanical means to lift and hold during mounting.**

6. Raise the unit up to threaded rods and insert rods through mounting brackets. Thread a second nut onto each rod from below bracket.
7. Level unit by tightening the nuts against the mounting bracket.
8. Thread a third nut onto each rod and tighten against the second nut to prevent loosening of nuts due to vibration.
9. Connect the unit to the oil mist source as explained in Step 6 of the machine mounting instructions.

## OIL DRAINAGE

**NOTE:** Should captured oil be disposed of, make sure to follow local codes.

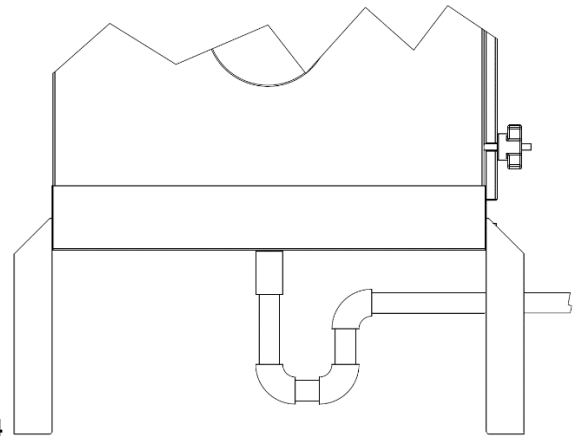
Provision for draining oil from unit is provided for by a 1" NPT pipe coupling on the bottom of the unit. Drainage should be piped to a central collection system. A shut-off valve or drain trap is required to prevent air bypass through the drain opening. The drain system shown in **FIG.4** should be used. Drain connections and lines are not provided.

**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.

## ELECTRICAL CONNECTIONS

### A. SINGLE PHASE 120 VOLT

Be certain that the system ON/OFF switch is in the OFF position. Plug the power cord into the nearest outlet rated for 120 volts.



**FIG.4**

### B. THREE PHASE 208-230/460 VOLT

1. Conduit electrical connections should be made by a qualified electrician, and must comply with local electrical codes.

**CAUTION: Be sure that the designated circuit breaker is off until all wiring has been completed.**

**NOTE:** It is recommended that a motor starter/protector be used in the supply circuit to this unit. See Wiring Diagram **FIG.5**.

2. Make electrical connections to the input wires as shown in Wiring diagram **FIG.5** for three phase wire connections.
3. Check blower motor for proper rotation direction. The blower should rotate clockwise when viewed from the motor side. If the blower rotates backwards, interchange two of the power connection wires (L1 & L2).
4. Confirm proper rotation.

**NOTE:** 3PH Motor supplied with unit is not thermally protected. A motor starter is recommended for proper installation. Prior to running measure motor current and verify that it does not exceed F.L.A rating of motor.

## PRE-OPERATION CHECKLIST

Before placing unit in service, check the following items:

- Check that motor and blower are mounted securely.
- Make sure that both corners of every pocket in the filter bag are supported by the filter support rod and that the filter support rods are fully engaged in their support brackets.
- Airflow direction arrows on the oil impinge must point toward the blower.
- Check that air intake and oil drain connections are air and oil tight.
- Make sure that the filter access door is closed into proper position and that door seals are compressed.
- Check oil drain connections to unit and reservoir (Not included).

Unit is now ready to be placed in service.

## OPERATION

1. Once all electrical and drain connections have been made turn unit on.
2. No lubrication is required for the motor because it is a permanent pre-lube design. Excessive dirt/oil should be removed.
3. Make sure oil is draining easily through drain pipe.

## CHANGING FILTERS

**CAUTION: Always make sure that the unit is turned off before changing filters or servicing the unit.**

1. The OM550DD may be equipped with an optional Minihelic Gauge, which may be used to indicate when filter needs to be replaced.
2. Initially, the Minihelic Gauge will register a very small pressure drop across the filters (change in pressure varies with filter combination used). After continued operation, airflow will be reduced and the Minihelic Gauge will measure increased pressure.

**NOTE:** Record pressure reading for future reference.

3. Minihelic Gauge will measure increased pressure.
4. When the gauge reads high differential pressure, turn the unit off and remove the impinger pre-filter from the unit. Wash the pre-filter in a detergent solution to remove dirt and oil residue.

5. Rinse the pre-filter thoroughly with water, shake dry and replace it into the with airflow direction pointing to the blower.
6. Turn on the unit. If gauge continues to read high, differential pressure, after replacing the pre-filter, then the pleated oil filter may also need to be replaced.
7. Visually inspect the pleated oil filter. IF the pockets are loaded with oil and dirt, then remove the filter from the unit and insert a new filter.
8. Start the unit. The gauge should read low differential pressure, and the unit operating properly.

## 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. Check the wiring for loose connections or cracked insulation.
4. No lubrication is required for the motor because it is a permanent pre-lube design. Excessive dirt/oil should be periodically removed.
5. Make sure that oil is draining easily through drain pipe.

## TROUBLESHOOTING CHART

**CAUTION: Before disassembling the unit or doing any inspection 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 open or removed.**

PROBLEM	POSSIBLE CAUSE	REMEDY
Unit fails to start	Dead power line Blown fuse Loose wire in terminal box Burned out motor	Check the circuit and switch Replace fuse Reconnect wire Replace motor
Unit runs slowly Inadequate capture	Wired for wrong voltage Improper rotation Dirty filters  Obstruction in hose/arm	Check input voltage Check wiring diagram Service filters (see Changing Filters Section) Reach into hood and remove obstruction
Vibration	Loose mounting bolts Foreign objects in blower Dirty disposable filters Obstructions in hose/arm assembly	Tighten bolts Remove access door and remove objects Service filters Reach into hood and remove obstruction

## 120VAC, 1-PHASE WIRING DIAGRAM

# OM550DD

INPUT VOLTAGE (1 PH):

120 VAC.

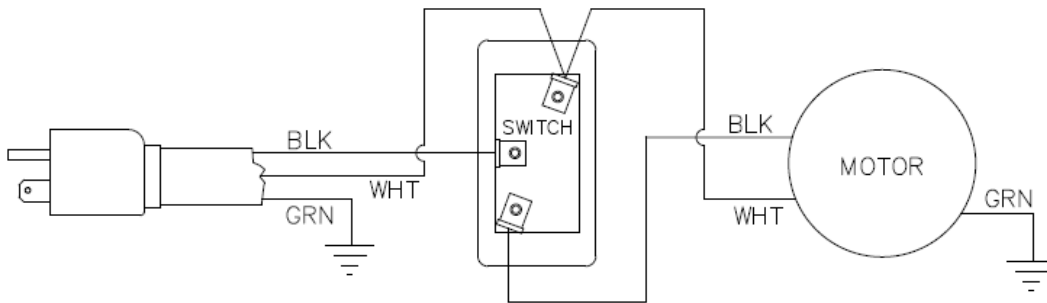
FREQUENCY:

60 HZ.

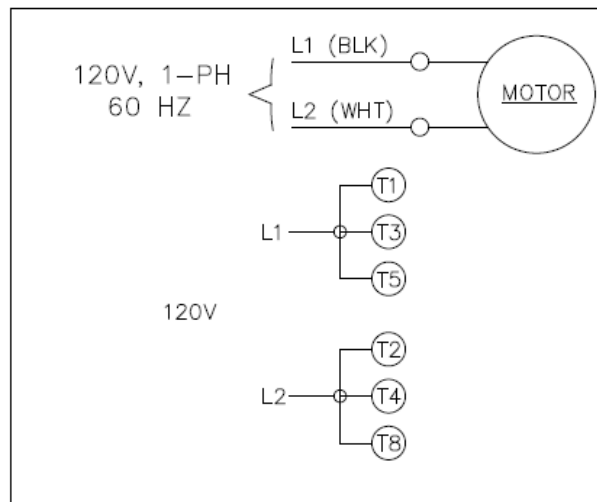
MAXIMUM CURRENT:

\_\_\_\_\_ AMPS

CAUTION: DISCONNECT POWER TO UNIT PRIOR TO SERVICING OR INSTALLATION OF PARTS.



### MOTOR CONNECTION:



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FIG.5

## 220VAC, 1-PHASE WIRING DIAGRAM

# OM550DD

INPUT VOLTAGE (1 PH):

220 VAC.

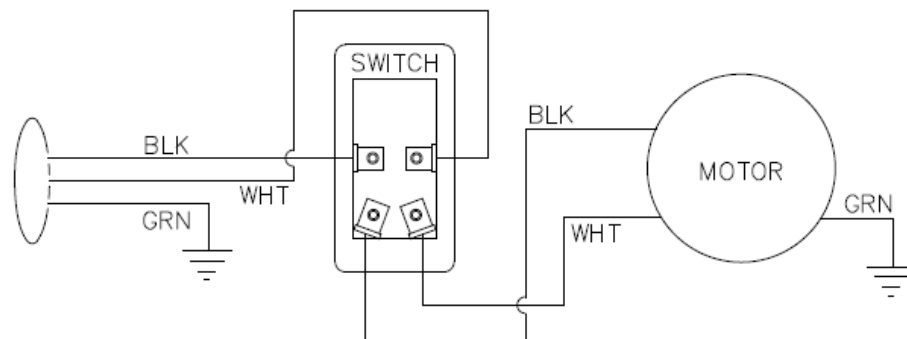
FREQUENCY:

60 HZ.

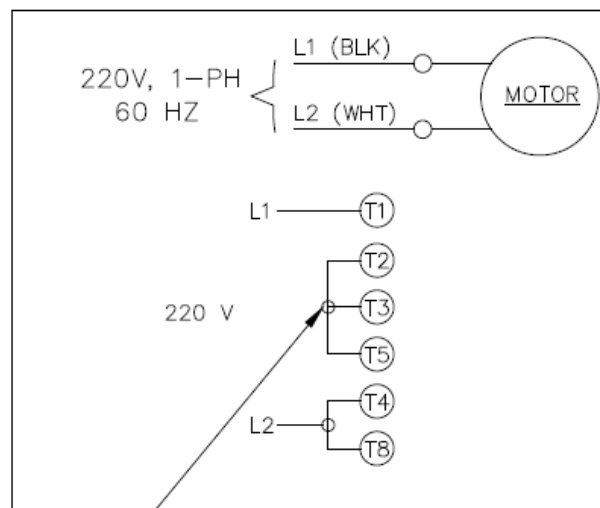
MAXIMUM CURRENT:

\_\_\_\_\_ AMPS

CAUTION: DISCONNECT POWER TO UNIT PRIOR TO SERVICING OR INSTALLATION OF PARTS.



### MOTOR CONNECTION:



1.

1. NO CONNECTION TO SUPPLY VOLTAGE.

P7258-1

FIG.6

### 3-PHASE WIRING DIAGRAM

# OM550DD

INPUT VOLTAGE (3 PH):

- 208 VAC.
- 230 VAC.
- 460 VAC.

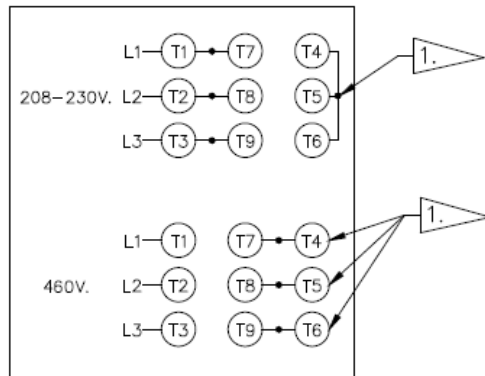
FREQUENCY:

- 60 HZ.

MAXIMUM CURRENT:

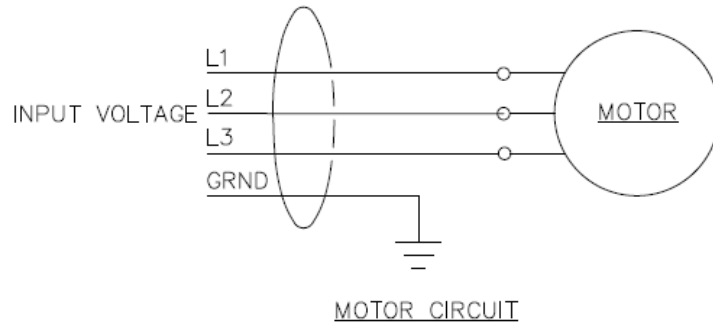
\_\_\_\_\_ AMPS

CAUTION: DISCONNECT POWER TO UNIT PRIOR TO SERVICING OR INSTALLATION OF PARTS.



MOTOR CONNECTION (REF.)

NOTE: A MAGNETIC STARTER IS RECOMMENDED FOR MOTOR PROTECTION.

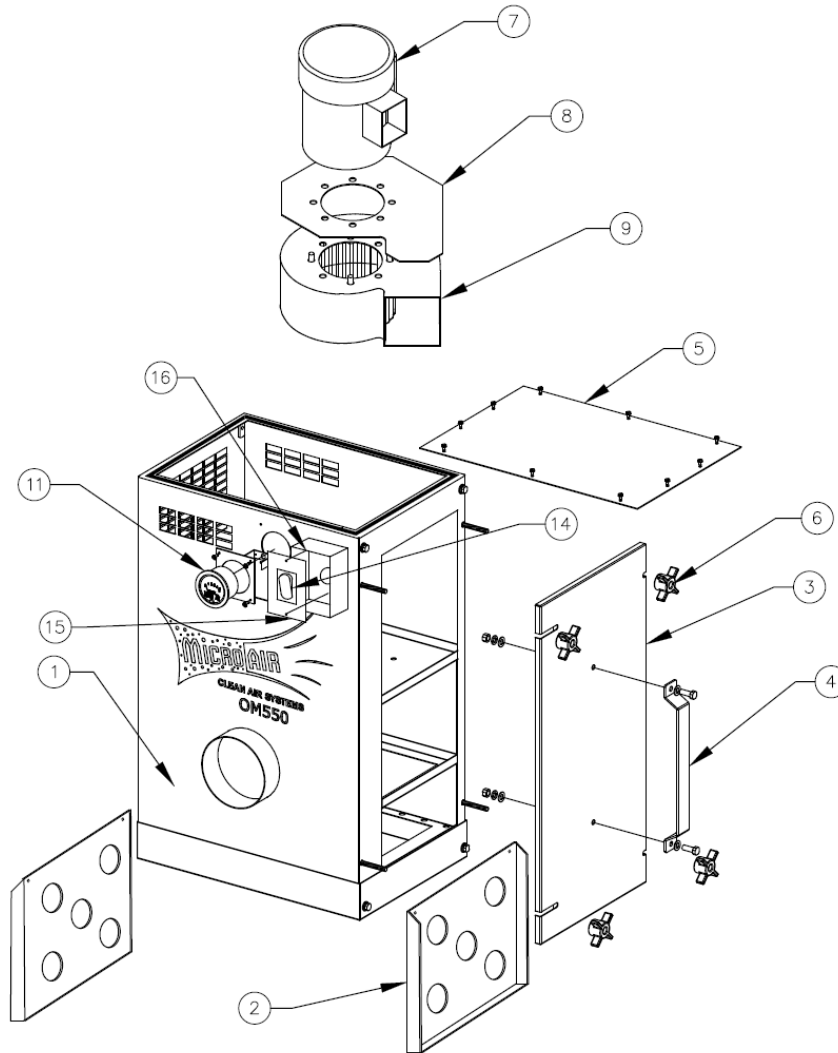


1. NO CONNECTION TO SUPPLY VOLTAGE.

P7259-1

FIG.7

## OM550DD PARTS LIST



ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1.	34451-01	Cabinet Weldment	9.	P3028	3/4 HP Blower Assy.
2.	34461-01	Mounting Bracket	10.	39036-01	Minihelic Gauge Kit
3.	34462-01	Door	11.	34465-01	Gauge Cover Plate (Not Shown)
4.	30473-01	Door Handle	12.	P1363	115/230VAC Power Cord (Not Shown)
5.	34459-01	Top Plate	13.	P3029	120VAC Switch (1-Phase Only)
6.	P3649	4-Prong Knob		P7211	220VAC Switch (1-Phase Only)
7.	P7122	3/4 HP 115/230VAC 1-Phase Motor	14.	30386-02	Switch Plate (1-Phase Only)
	P3021	3/4 HP 208-230/460VAC 3-Phase Motor	15.	P3025	Electrical Box (1-Phase Only)
8.	34460-02	Spacer Plate 550 CFM			

### FILTER OPTIONS

P3032	95% Pleated Filter
P3033	3" Mist-X Pre-filter
P3036	2" Baffle Pre-filter
P3035	2" Mesh Pre-filter
P3034	1" Mesh Pre-filter
P3038	Maxi Grid Pre-filter





