

MICRO AIR[®]

AIR CLEANERS



Model OM 500

OWNER'S MANUAL

CAUTION

**Read complete instructions before operating.
Please file for future reference.**

MODEL OM 500 SPECIFICATIONS

Input Volts:	120 VAC, 60Hz, Single Phase	
	208-230/460 VAC, 3-Phase (Optional)	
Max. Current:	120 VAC	10.4 Amps
	208-230 VAC	3.2Amps
	460 VAC	1.6Amps
Motor:	3/4 HP TEAO	
	1 HP TEAO 3-Phase (Optional)	
Air Flow*:	6" Inlet	665 CFM (3387 FPM)
	8" Inlet	800 CFM (2292 FPM)
Dimensions:	49" H x 26" W x 14" D (without wall brackets)	
Shipping Weight:	175 lbs.	
Actual Weight:	155 lbs.	

* All air flows are tunnel tested readings.

PACKAGE CONTENTS

1 ea.	OM 500 Unit
2 ea.	Wall Mount Brackets
1 ea.	Owner's Manual

PRE-OPERATING INSTRUCTIONS

1. Cut banding material and remove cardboard and plastic from unit. Remove unit from shipping skid.
2. Inspect unit for shipping damage and report any damage to freight carrier.

INSTALLATION INSTRUCTIONS

A. WALL MOUNT

1. Remove four 5/16" bolts from sides of cabinet near top and bottom of unit.
2. Use bolts removed in Step 1 to secure wall mount brackets to unit as shown in **FIG. 1**.

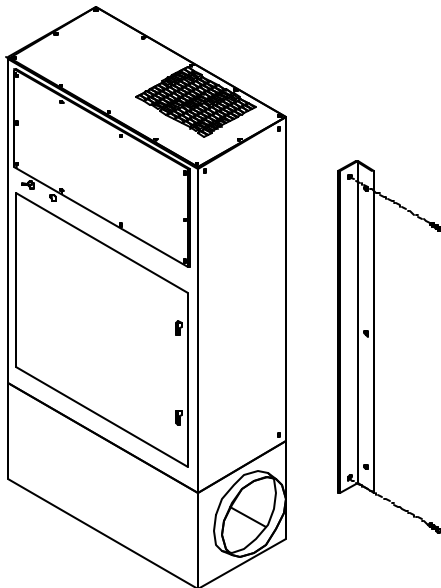


FIG. 1

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 oil mist unit to be captured.
4. Mark location of mounting holes on the surface to which unit is to be mounted (see **Figure 2** for hole pattern). Drill holes that are sized correctly for the hole pattern in mounting hardware.

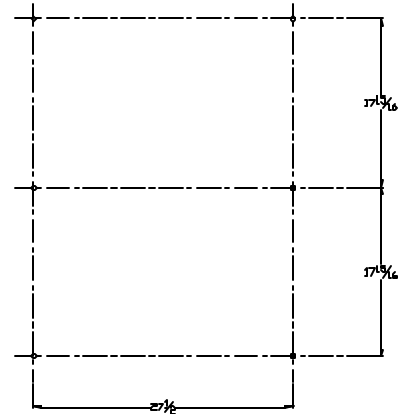


FIG. 2

5. Position the OM 500 wall mount bracket holes over the holes located on the structure in Step 4. Use 3/8" x 2" lag bolts or 3/8" bolts and nuts to secure the OM 500 to structure.

CAUTION: The size and weight of the OM 500 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. Sloping the duct toward the OM 500 will assist flow. Use hose clamps or sheet metal screws to attach duct to unit.

NOTE: Optional hose adapters are available for connection to 6" and 8" diameter hose. Use Part No. 34145-01 for 6" diameter hose, and Part No. 34145-02 for 8" diameter hose. Attach adapter to plenum collar with sheet metal screws and seal with RTV sealant.

B. FLOOR MOUNT

NOTE: The optional base assembly (Part No. 38162-01) is required for floor mount installation.

1. Locate an installation site on a level surface that will meet the requirements listed in Step 3 of the wall mounting instructions.
2. Set the base in place and lift the unit onto the base.

CAUTION: The size and weight of the OM 500 requires two persons or mechanical means to lift and hold during mounting.

NOTE: You may want to bolt the base to the floor.
3. Connect the unit to the oil mist source as explained in Step 6 of the wall mounting instructions.

C. CEILING MOUNTING

NOTE: The optional ceiling mounting kit (Part No. 38088-02) is required for ceiling mount installation.

1. Remove the two (2) 5/16" bolts from the side of the cabinet at
2. Use the bolts removed in Step 1 to secure the ceiling mount brackets to the unit as shown in **FIG. 3**.

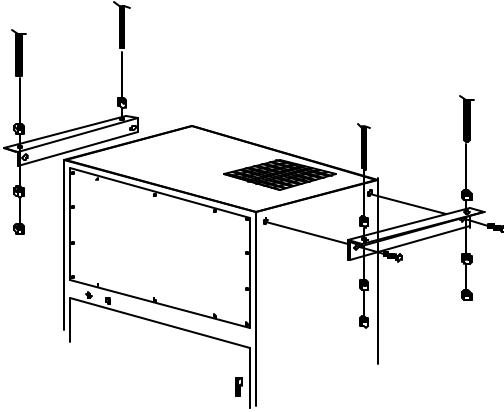


FIG. 3

3. Locate an installation site that will meet the requirements listed in Step 3 of the wall mounting instruction.
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 ceiling mount brackets.
5. Thread one nut onto each rod.

CAUTION: The size and weight of the OM 500 requires two persons or mechanical means to lift and hold during mounting.

6. Raise the unit up to threaded rods and insert rods through ceiling mount brackets. Thread a second nut onto each rod from below bracket.
7. Level unit by tightening the nuts against the ceiling mount 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 wall 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 can be piped to a central collection system or collected in a bucket placed under the unit. In all cases a shut-off valve or drain trap is required to prevent air bypass through the drain opening. One of the drain systems shown in Fig. 4 should be used. Drain connection and lines are not provided.

NOTE: Shutoff valve is installed in the drain system, the unit must be emptied regularly to prevent oil from overflowing into the intake duct.

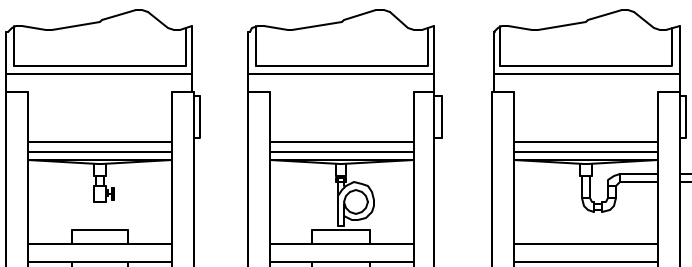


FIG. 4

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.

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 1 HP motor starter/protector be used in the supply circuit to this unit. See Wiring Diagram (FIG. 6).

2. Remove the front motor compartment access cover.
3. Remove the electrical wiring box cover.
4. Make electrical connections to the input wires as shown in Wiring Diagram (FIG. 6) for three phase wire connections.

NOTE: The filter change indicator light circuit must be supplied with no more than 270V. If a 460V, 3-wire source is used, a transformer replacement kit (Part No. 30171-01) must be installed to provide proper voltage to the indicator light.

5. After wire connections are completed, affix conduit to side of unit via the 7/8" diameter hole that is provided.
6. Check blower for proper rotation direction. The blower should rotate clockwise when viewed from the pulley end. If the blower rotates backwards, interchange two of the motor connection wires.

PRE-OPERATION CHECKLIST

Before placing unit in service, check the following items:

- Check blower drive belt for proper tension. (Belt should deflect approximately 1/2" when firm pressure is applied midway between the pulleys.)
- Check that motor, blower, and drive pulleys 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.
- Air flow direction arrows on the oil impinger must point toward the blower.
- Check that air intake and oil drain connections are air or oil tight.
- Make sure that all access panels, removed during installation, are replaced, and the filter access door is closed.

Unit is now ready to be placed in service.

AIR FLOW ADJUSTMENT

The OM 500 is equipped with variable diameter pulleys on the motor and blower to allow the air flow to be adjusted to the installation requirements. The pulleys are set for maximum air flow at the factory. The air flow rate can be reduced as follows:

1. Remove motor compartment access cover. Be careful to avoid tearing gasket material between the door and the cabinet.
2. Remove belt from motor pulley.
3. Loosen motor pulley adjustment set screw and screw adjustable shive out away from fixed shive. Each turn will reduce the air flow by approximately 50 CFM. Tighten set screw onto flat (see FIG. 5).

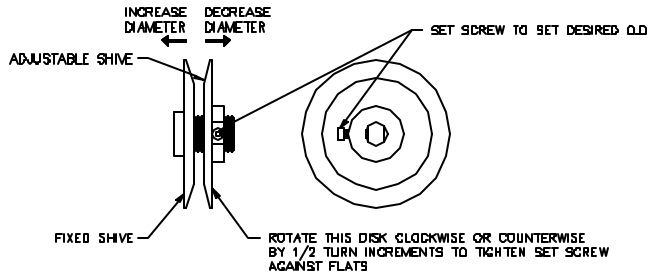


FIG. 5

4. Replace belt and check for belt tension. Proper tension should be approximately 1/2" deflection when the belt is squeezed together with normal pressure between fingers.
5. If tension is too loose, slide the motor away from the blower shaft via the slotted holes located on the motor mount base.
6. Replace motor compartment access cover.
7. For multiple inlet application please refer to Micro Air® air flow balancing procedure (Form L1141).

NOTE: All filters and panels must be on the unit and door is closed for current measurements of motor.

OPERATION

1. The pressure switch is preset at the factory to indicate (light on) dirty filters, but may need readjustment due to a desire for earlier or later filter changes, a different combination of filters, or because the set point shifted during shipping. The pressure switch is also orientation sensitive. To readjust the switch, remove the hole plug in the side of the unit for access to the adjustment screw. Make sure filters and pre-filters are installed in unit. Turn the unit on and place a piece of cardboard over the intake covering about 80 to 85% of the intake area. On a 3-inlet system, cover entirely two inlets and a little more than half of the area of the third inlet. With a standard screwdriver, turn the adjustment screw clockwise until the light goes off, or counterclockwise until the light comes on.
2. For more time between filter changes (less air flow), cover slightly more of the opening, and for less time between filter changes (more air flow), cover less of the opening.
3. No lubrication is required for the motor because it is a permanent pre-lube design. Excessive dirt/oil should be periodically removed.
4. 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 OM 500 is equipped with a filter change light, or an optional Magnehelic Gauge, which indicates when a filter needs to be replaced. If the differential pressure has been set properly, the light signals the need for examination of the filters.
2. When the light comes on, or 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.
3. Rinse the pre-filter thoroughly with water, shake dry and replace it into the unit with airflow direction pointing to the blower.
4. Turn on the unit. If the filter change light fails to go out, or the gauge continues to read high differential pressure, after replacing the pre-filter, then the oil bag filter may also need to be replaced.
5. Visually inspect the bag filter. If the pockets are loaded with oil and dirt, then remove the filter from the channel and insert a new filter.
6. Start the unit. The filter change light should be off, or the gauge reads low differential pressure, and the unit operating properly.

GENERAL MAINTENANCE

1. Occasionally check the condition of the drive belt for tightness and wear.
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 or Inadequate capture velocity	Wired for wrong voltage or Improper rotation Dirty filters Obstruction in hose/arm assembly Pulleys set for static	Check input voltage Check wiring diagram Service filters (see Changing Filters section) Reach into hood and remove obstruction Adjust or change pulleys
Vibration	Loose mounting bolts Foreign objects in blower Dirty disposable filters Obstruction in hose/arm assembly	Tighten bolts Remove access door and remove objects Service filters Reach into hood and remove obstruction

OM 500 - WIRING DIAGRAM

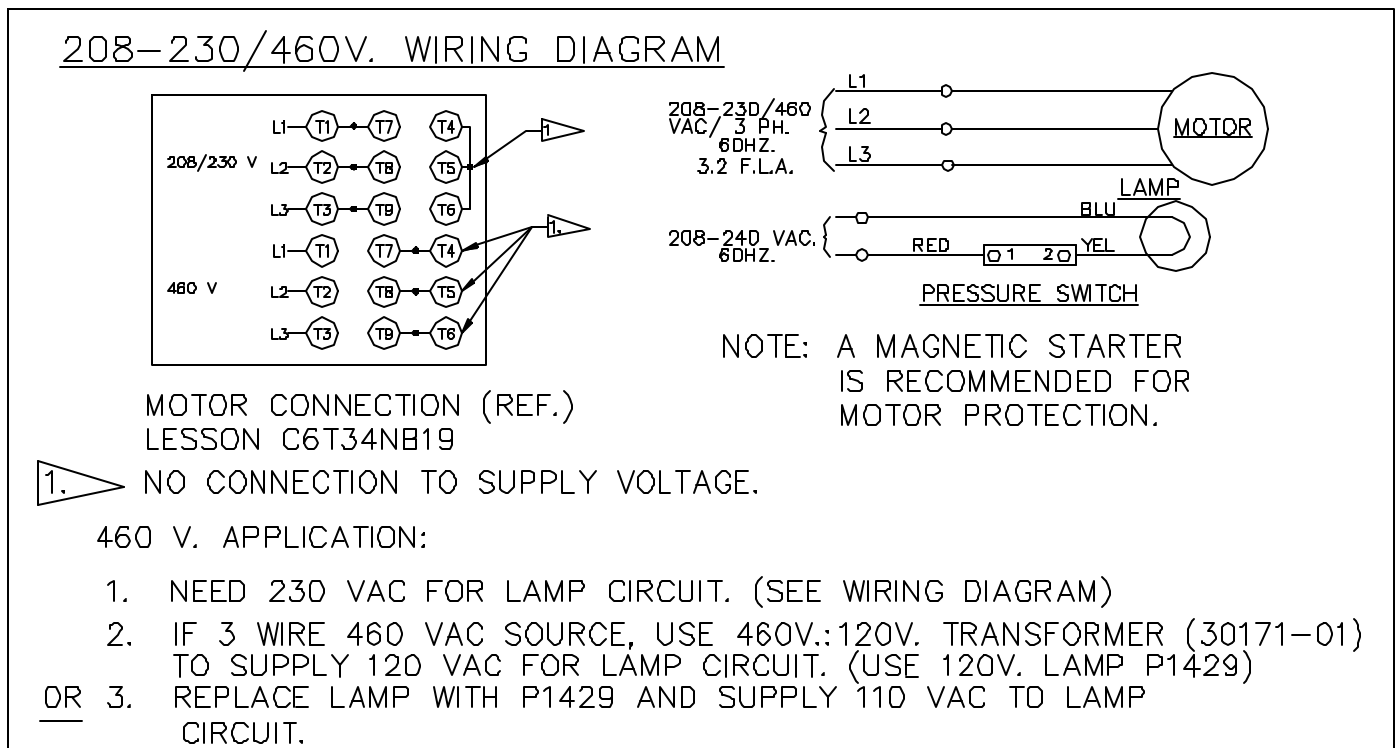
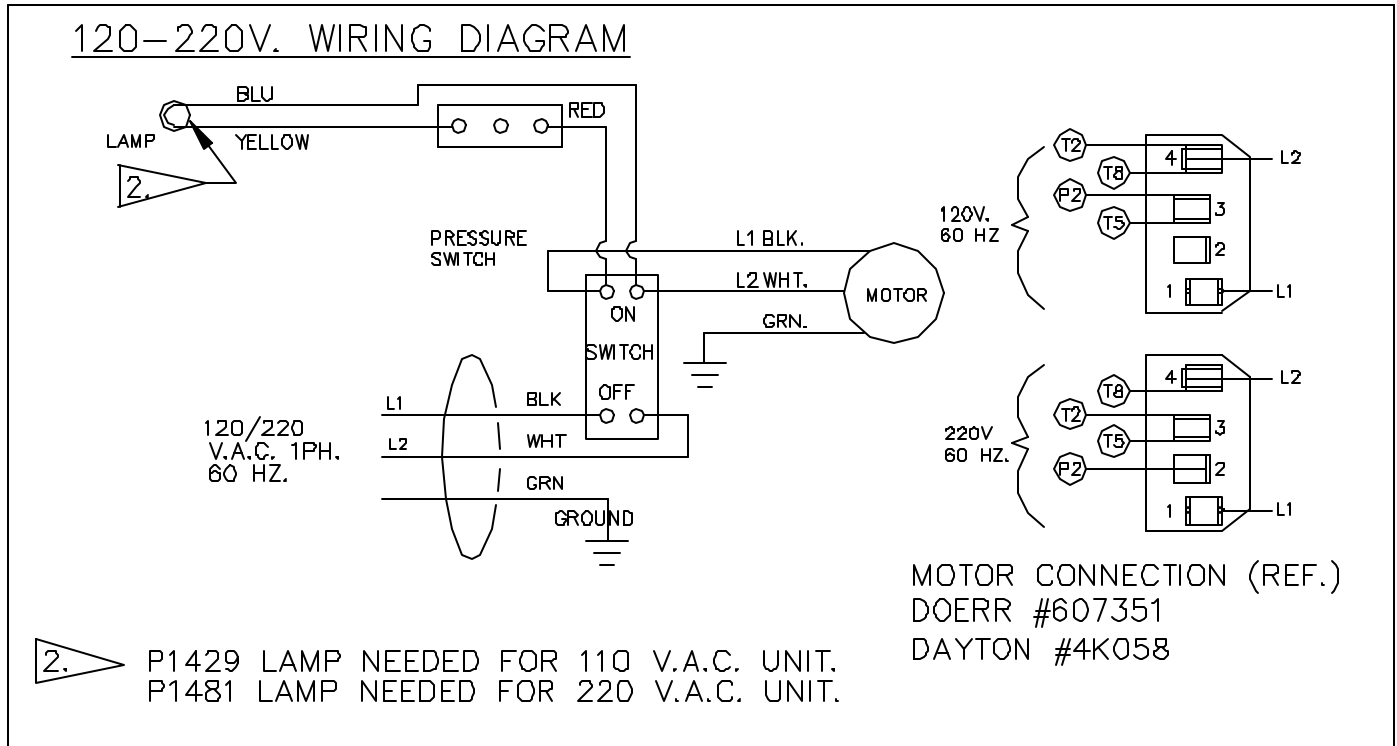


FIG. 6

OM 500 - PARTS LIST

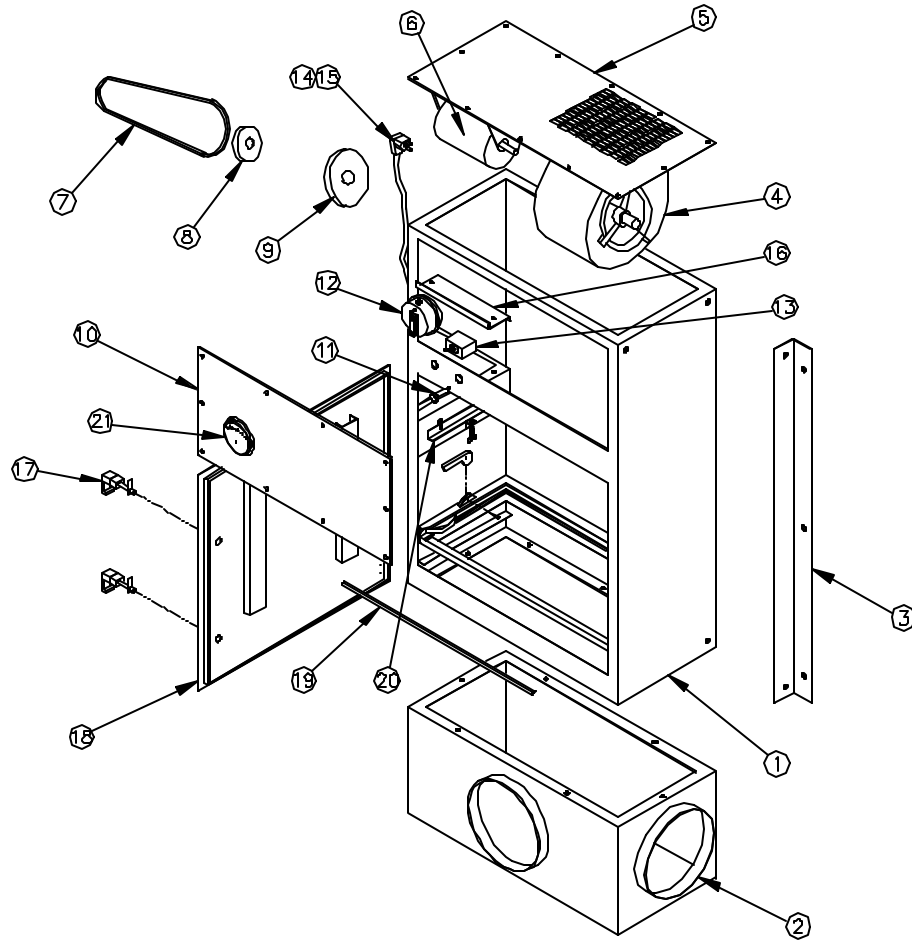


FIG. 7

ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1.	34126-01	Cabinet Weldment	15.	P1954	Strain Relief (not shown)
2.	34142-03	Inlet Plenum (3"-8" collars)	16.	34150-01	Control Box Cover
3.	34094-02	Wall Bracket (2 ea. required)	17.	P1372	Door Latch (2 ea. required)
4.	34122-01	Blower/Rivnut Assembly (120 V & 220 V)	18.	34136-01	Filter Access Door
5.	34148-01	Exhaust Panel	19.	P2126	Gasket (specify length required)
6.	P1717	Motor (120 V)	20.	34161-01	Optional Hepa Kit
	P1762	Motor (208-230/460 V)	21.	P2250	Optional Magnehelic Gauge
7.	P2064	Belt	Not Shown	P2061	Oil Impinger
8.	P1789	Motor Pulley	Not Shown	P2062	Oil Bag Filter
9.	P1710	Blower Pulley	Not Shown	P2072	Optional Hepa Filter
10.	34134-01	Front Access Panel	Not Shown	P2070	Optional Oil Bag Filter
11.	P1429	Lamp (120 V)			(used with Hepa Filter)
	P1481	Lamp (220 V)	Not Shown	P3001	Optional 2" Max Grid Panel Filter
12.	P1428	Pressure Switch	Not Shown	P3008	Optional 4" Mist-Xfilter (Chevron)
13.	P1356	ON/OFF Switch	Not Shown	34088-02	Optional Ceiling Bracket (2 ea. required)
14.	P1363	Power Cord	Not Shown	34162-01	Optional Base Assembly
			Not Shown	34145-01	Optional 6" Diameter Collar Adapter

