Further information:
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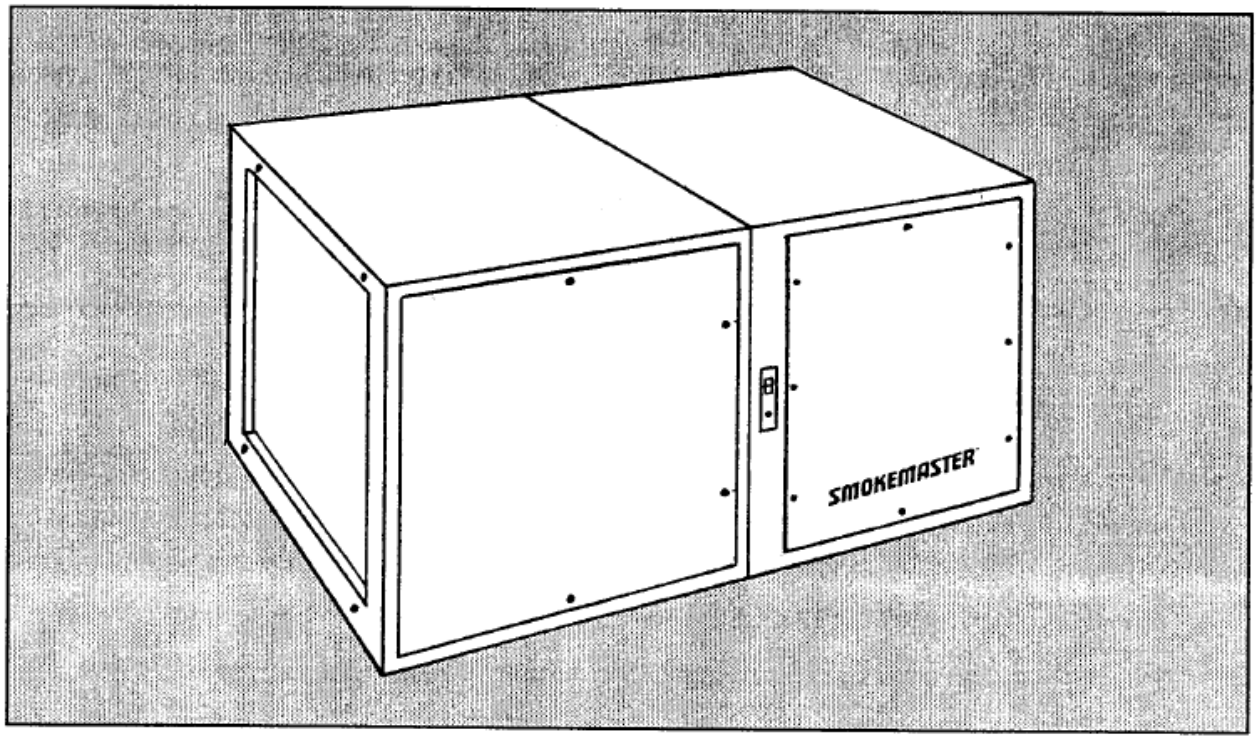
SMOKEMASTER®

MODEL M68

INDUSTRIAL MECHANICAL AIR CLEANER



THE SMOKEMASTER M68 HEPA AIR CLEANER CAPTURES SMOKE, DUST, AND OTHER AIRBORNE POLLUTANTS IN THE WORKPLACE. THE M68 IS A COMPLETE SELF-CONTAINED AIR CLEANER WHICH CAN BE USED IN SOURCE CAPTURE APPLICATIONS AS WELL AS WITH BACKGROUND AIR CLEANING TO PROVIDE HEALTHIER WORKING CONDITIONS.

- Factory installed pressure gauge provides filter status at a glance.
- 1.5 HP, heavy duty, permanently lubricated, ball bearing motor requires no maintenance.
- High efficiency filter (HEPA) rate at 99.97 DOP at 3 micron particles.
- Models available with airflow from left to right and right to left.
- Powered from standard grounded outlet. All models equipped with a 10 foot power cord.
- Optional plenum and hoses make source capture application easy.
- Adjustable discharge grill directs airflow where needed.

TABLE OF CONTENTS

SPECIFICATIONS

IMPORTANT

THE SPECIFICATIONS GIVEN IN THIS PUBLICATION DO NOT INCLUDE NORMAL MANUFACTURING TOLERANCES. THEREFORE, THIS UNIT MAY NOT MATCH THE LISTED SPECIFICATIONS EXACTLY. ALSO, THIS PRODUCT IS TESTED AND CALIBRATED UNDER CLOSELY CONTROLLED CONDITIONS, AND SOME MINOR DIFFERENCES IN PERFORMANCE CAN BE EXPECTED IF THOSE CONDITIONS ARE CHANGED.

	M68L1003	M68L1011	M68L1080	M68L1081
Model	120Vac	208-240Vac	208-240Vac	440-480Vac
Voltage	120Vac 1 phase 60 Hz	208-240Vac 1 phase 60 Hz	208-240Vac 1 phase 60 Hz	440-480Vac 1 phase 60 Hz
Current	17.2 Amps	8.8 Amps	5.0 Amps	2.5 Amps
Power	Watts	Watts	Watts	Watts

Capacity: Free air 3000 CFM. Factory set at 1100 CFM with 99.97 DOP HEPA filter.
Shipping Weight: 345 Lbs.
Installation Weight: 296 Lbs.
Dimensions: 47" L x 27" H x 26.5" W
Ambient Temperature Rating: The operating temp range is -40 F to 104 F.
Motor: 1.5 HP, TEFC, thermally protected, with sealed ball bearings. Adjustable motor sheave allows for field airflow adjustments.

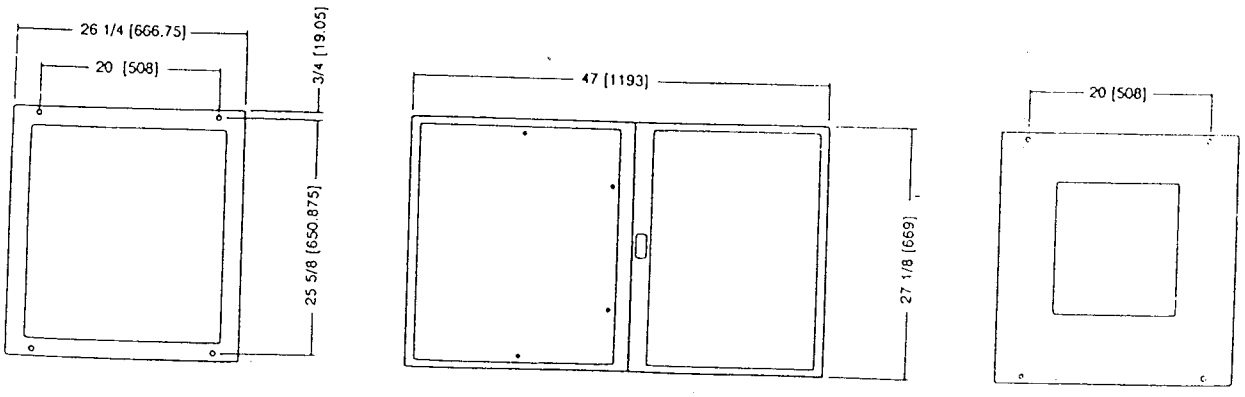


FIGURE 1 - M68 Dimensions

PLANNING THE INSTALLATION

WARNING

The M68 Industrial Mechanical Air Cleaner is not explosion proof. It must not be installed where there is danger of vapor, gas, or dust explosion.

INTRODUCTION

Clean air is the subject of numerous laws and regulations. Typical requirements in the United States are those put out by the Occupational Safety and Health Administration (OSHA). Private groups, such as the American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE), have also published numerous recommendations.

Normally, clean air is defined in regulations and recommendations as air having a limited amount of contaminant in it, commonly expressed as parts per million or milligrams per cubic meter. Counteractions are intended to lower or eliminate the amount of contaminants in the air. One of the more common methods of achieving this goal is through the use of self-contained air cleaners.

Contact your Air Quality Engineering representative for assistance in determining the correct application of M68 air cleaners.

At no time should an electronic air cleaner be placed where there is a potential for explosion due to the presence of explosive dusts, gases, or vapors. Contact the nearest Air Quality Engineering representative for assistance in determining the correct application of an electronic air cleaner.

SIZING

Sizing is that part of the installation which determines how many air cleaning units are required to maintain a desired level of air quality. The process of sizing an application involves roughly calculating the number of air cleaners needed and then modifying the calculation according to the specific characteristics of each application.

If air contaminants are generated from fixed stations where hoods and hoses can be acceptably installed, cleaning the air by capturing the contaminant at the source is strongly recommended. For source capture air cleaning, a hood (not provided) is installed where the contaminants are generated and an attached hose feeds the contaminants to a source capture plenum. The plenum transfers the contaminants from up to three hoses directly into the air cleaner (hose and plenum are ordered as accessories).

The actual number of contaminant sources which can be conducted into one air cleaner may vary from one to three depending on the nature of the contaminants. The composition, quantity, and rate of generation of the contaminants determines the air velocity needed to effectively capture these contaminants at the source. The required air velocity, in turn, not only affects the hood design and loca-tion, but it also sets limits on how much hose can be used before the air pressure drop becomes too great for effective contaminant capture.

Therefore, when sizing an application for source capture air cleaning, it is necessary to keep in mind how the specific contaminants, the hood, and the needed velocity all combine to affect the number of stations which can be attached to a single unit and the number of units which will be needed for a particular application.

When the installation of hoods and hoses is physically infeasible or unacceptable, the air cleaners are strategically placed overhead or on stands to provide background air cleaning.

For background air cleaning the number of air cleaners needed can be estimated by the relationship of air volume to the needed air changes per hour. In these cases the following formula is helpful:

Air Cleaners =

$$\frac{\text{Air Volume x Air Changes/Hour}}{\text{Clean Air Rating x 60}}$$

Clean Air Rating =

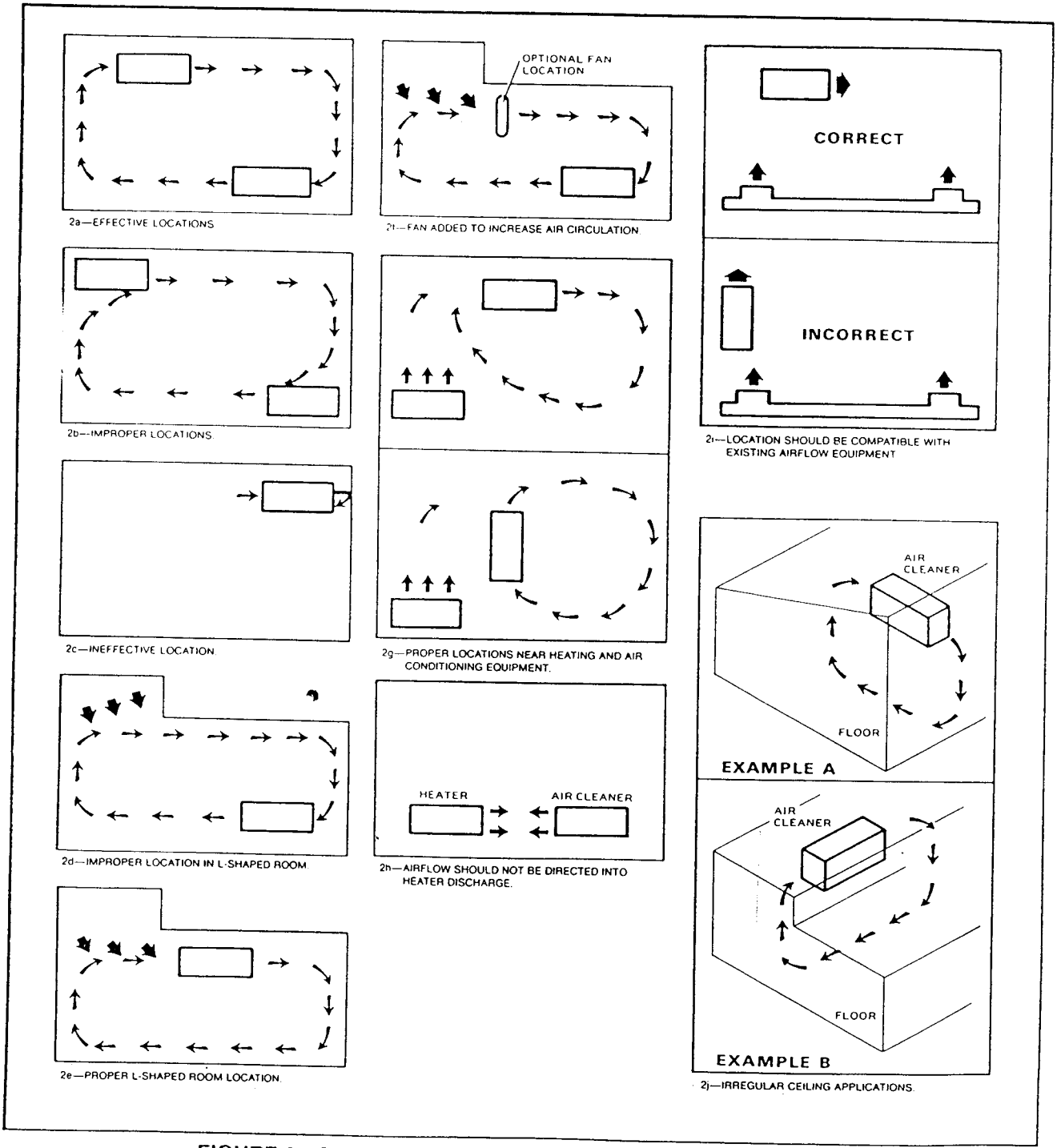
Airflow x Efficiency

1100 CFM x .9997

The air volume in a space is sometimes reduced to account for high ceilings and large equipment in the space. For example, in an application where the ceiling is higher than 30 ft. [9.1 m], the air volume above 30 ft. [9.1 m] may be subtracted if it does not significantly affect contaminant dispersal either by how the contaminants are circulated from their sources or how the heating, cooling or ventilating equipment affects the dispersement of the contaminants. Also, if equipment takes up a great deal of space in relation to the total air space, its volume may be deducted from the total air volume.

A method for calculating the needed air changes per hour is to measure the generation rate of the contaminants and the suggested allowable level of contamination. To use this method of calculation, consult your Air Quality Engineering representative.

Regardless of the method used to calculate the number of units needed to produce clean air, the physical conditions of the space to be cleaned may either limit this number or demand that more units be installed. For background air cleaning it is important to establish a uniform airflow pattern throughout the entire space. Limitations to the calculated sizing may be a lack of space for mounting areas or the number of units may interrupt normal building operation; that is, a unit cannot be mounted where an overhead crane will smash into it or where stand mountings seriously interrupt building traffic patterns. The number of units required by air volume and air changes per hour might need to be increased when the shape of a structure is such that effective capturing and air distribution is not possible according to the sizing calculations.



2a—EFFECTIVE LOCATIONS.
2f—FAN ADDED TO INCREASE AIR CIRCULATION.
2i—LOCATION SHOULD BE COMPATIBLE WITH EXISTING AIRFLOW EQUIPMENT.
2b—IMPROPER LOCATIONS.
2c—INEFFECTIVE LOCATION.
2g—PROPER LOCATIONS NEAR HEATING AND AIR CONDITIONING EQUIPMENT.
2d—IMPROPER LOCATION IN L-SHAPED ROOM.
2h—AIRFLOW SHOULD NOT BE DIRECTED INTO HEATER DISCHARGE.
2e—PROPER L-SHAPED ROOM LOCATION.
2j—IRREGULAR CEILING APPLICATIONS.

FIGURE 2 - Guidelines for locating the M68! when ambient cleaning

AMBIENT CLEANING

Whether an air cleaner is ceiling hung or placed on a stand, the first important consideration is that the inlet of the unit be located as close as is reasonably possible to the greatest concentration of air contaminants. Second, since the air cleaner draws contaminated air from approximately 10 ft. [3.0 m] around the outlet and exhausts the cleaned air from 50 to 75 ft. [15.2 m to 22.8 m) from the outlet, the inlet of the unit should be placed 25 percent of the distance along the wall of a room. See Figure 3.

DO NOT locate an air cleaner inlet too close to the corners of a room. Contaminated air will be able to bypass the unit and not be cleaned. DO NOT locate an air cleaner outlet too close to a corner or wall. See Figure 2 (2c). The cleaned air will recirculate directly back to the air cleaner inlet.

DO NOT locate an air cleaner in an L-shaped room so that exhausted air enters directly into the small portion of the room as shown in Figure 2 (2d). This can produce a self-contained circular air pattern in the small part of the room which decreases the air cleaner's effectiveness. Locate an air cleaner in an L-shaped room as indicated in Figure 2 (2e).

The shape of a room and location restrictions may require the installation of a fan as in Figure 2 (2f) to promote proper air circulation. Also, the size of a room may require the use of fans to bring contaminants to an air cleaner inlet.

In rooms with irregular ceilings, install the air cleaner close to the ceiling on the highest wall, as example A indicates in Figure 2 (2j). When one section of the ceiling is at least 12 in. [3-4.8 mm] higher than another, locate the air cleaner in the area with the higher ceiling, as shown in example B of Figure 2 (2j).

When selecting locations for numerous units, position the air cleaners to create uniform movement of air and provide maximum access to the sources of contamination. The outlets of the air cleaners should not be located so that they generate opposing air currents or that the outlet from one air cleaner is less than 30 ft. [9.1] from the inlet of another air cleaner.

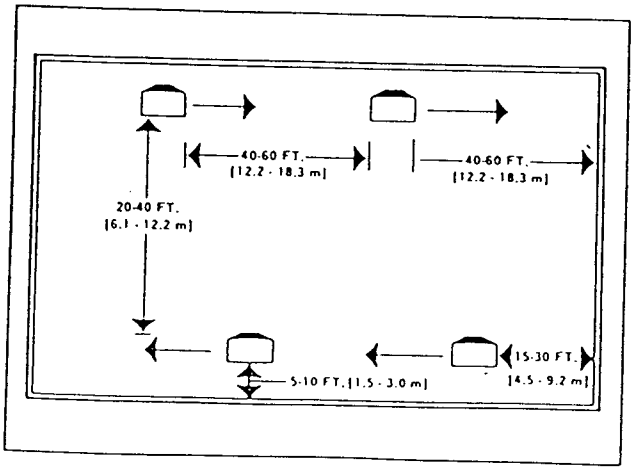


FIGURE 3 - Location guide for background cleaning

SOURCE CAPTURE CLEANING

When selecting a location for an electronic air cleaner that uses a hood and hose to capture the contaminants at the source, note the available stand or ceiling mounting areas which will provide satisfactory air distribution for the air cleaner outlet. Choose the location which will keep the air pressure drop, caused by the length of the hose, within an acceptable range. Do not mount the outlet of the air cleaner so close to a wall that it inhibits the airflow. Also, the outlet of an air cleaner should not be located such that it interferes with the source capture process of another air cleaner hood.

To effectively control atmospheric contamination at its source, proper hood design is necessary. Minimum airflow and power consumption are also important factors in designing an effective local exhaust system to control contamination.

Capturing air contaminants at their source requires the creation of sufficient airflow past the contaminant source to remove the contaminated air and draw it into an exhaust hood. Fine airborne dust particles, mists, vapors, gases, and fumes follow air currents. Airflow, alone, is sufficient to capture these contaminants.

Larger dust particles tend to have a trajectory, or throw, in air. Capturing these heavier particles calls for barriers and proper hood placement to direct the particles into the hood before they fall out of the airstream. This placement should also prevent particle scattering.

Basic knowledge of the contaminated airflow to be controlled is necessary before an effective hood or enclosure can be designed. The more complete and effective the design, the more economical and efficient the installation will be.

A complete enclosure is often the best way to start. Once a source is ideally enclosed, provide access and working openings as required. This concept can be used to develop booths, side- or down-draft hoods, and side shields.

The access and working openings must be kept to a minimum. Whenever possible, they must also be kept away from the contaminated airflow. Any inspection and maintenance openings should be provided with tight doors whenever possible.

A hood that is open and does not enclose or confine the contaminant should be avoided. Open hoods can be used, but exhaust volumes must be large and cross drafts nearby can easily upset draft control.

Canopy hoods are effective in controlling operations that may suddenly release surges of gases and vapors. Hot processes are an example.

However, canopies should not be used where people may be working in the airflow between contaminant source and canopy, because exhaust airflow can actually increase the worker's exposure to the contaminant. Plating tanks and cementing tables typically have this problem with canopy type hoods.

The duct takeoff in the exhaust hood should be located in the normal line of contaminant travel. Arrange the duct openings to distribute the exhaust airflow throughout the hood. This is especially important with large shallow hoods, where air movement tends to concentrate close to the duct opening. The airflow can be spread around the hood by using multiple duct takeoffs, interior baffles, or filter banks.

Air intake from areas not needing airflow, or without contaminants, can be controlled with flanges. Flanges minimize airflow from areas outside the desired air collection area. Usually the flange width is equal to the hood diameter, but not exceeding 6 inches [152.4 mm]. Flanges may increase the effectiveness of the hood, allowing a reduction in hood airflow requirements by up to 25 percent.

Exhaust airflow requirements are calculated after the hood design is determined. The airflow volume is calculated using the enclosure's known open area and the airflow velocity needed to collect the contaminants. The collected airflow must be sufficient to prevent the escape of any contaminated air. Table 1 shows airflow capture velocities for various types of processes.

Where enclosing the process is impractical, the hood should be located as close to the source as possible. The airflow must be adequate to maintain the capture velocity required to carry the contaminants to the hood opening. See Figure 4.

TABLE 1 - CONTAMINANT CAPTURE VELOCITIES[a]

CONTAMINANT DISPERSAL CONDITION	EXAMPLES	CAPTURE VELOCITY	
		fpm	$m^3/hr.$
Released with practically no velocity into quiet air.	Evaporation from tanks; degreasing, etc.	50 - 100	914 - 1829
Released at low velocity into moderately still air.	Spray booths; intermittent container filling; low speed conveyor transfers; welding; plating; pickling.	100 - 200	1829 - 3658
Active generation into zone of rapid air motion.	Spray painting in shallow booths; barrel filling; conveyor loading; crushers.	200 - 500	3658 - 9144
Released at high initial velocity into zone of very rapid air motion.	Grinding; abrasive blasting; tumbling.	500 - 2000	9144 - 36576

In each category above, a range of capture velocity is shown. The proper choice of values depends on several factors.

Lower End of Range
1. Room air currents minimal or favorable to capture.
2. Contaminants of low toxicity or of nuisance value only.
3. Large hood-large air mass in motion.

Upper End of Range
1. Disturbing room air currents.
2. Contaminants of high toxicity.
3. High production, heavy use.
4. Small hood-local control only.

[a]From INDUSTRIAL VENTILATION MANUAL by American Conference of Governmental Industrial Hygienists.

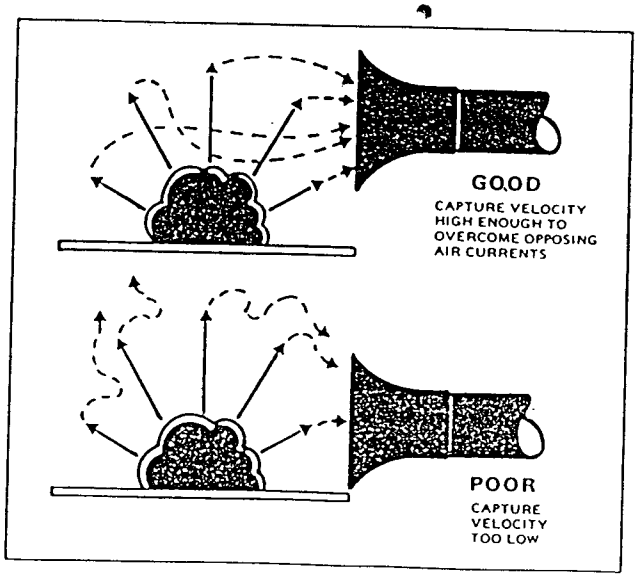


FIGURE 4 - Capture velocity

Collecting contaminants is accomplished by eliminating or minimizing natural air currents at the contaminant site, and by pulling the air into the exhaust hood. The airflow velocity must be high enough to overcome any opposing air currents and maintain the capture velocity. See Figure 4.

Source of air motion to either minimize or use to advantage in hood design -
- -Thermal air currents from heat generating operations.
- -Machinery motion (conveyer belts, grinders, etc.).
- -Material motion (dumping or container filling).
- -Operator movements.
- -Room air currents (generally 50 fpm [85 m^3/hr] minimum; could be much higher).
- -Spot heating, cooling or ventilation equipment near area.

See Figure 5.

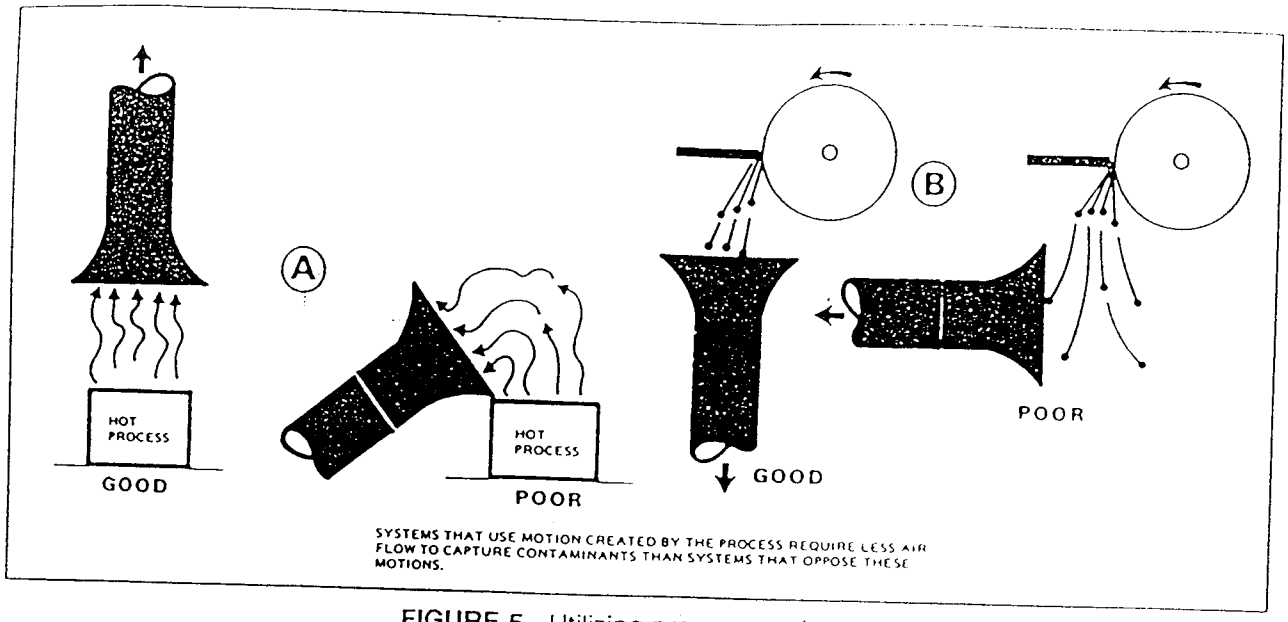


FIGURE 5 - Utilizing process motion

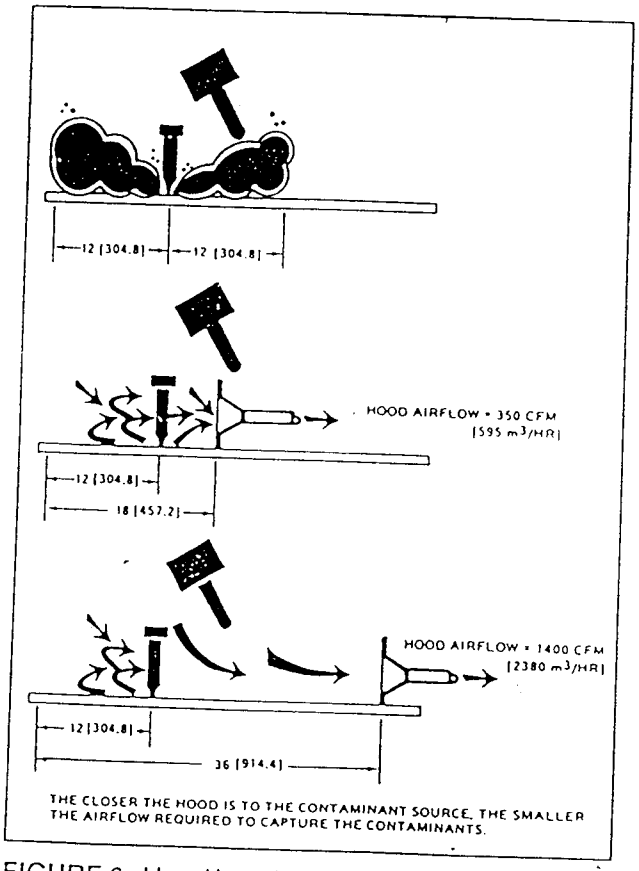


FIGURE 6 - Hood location; airflow needed increases with distance from work

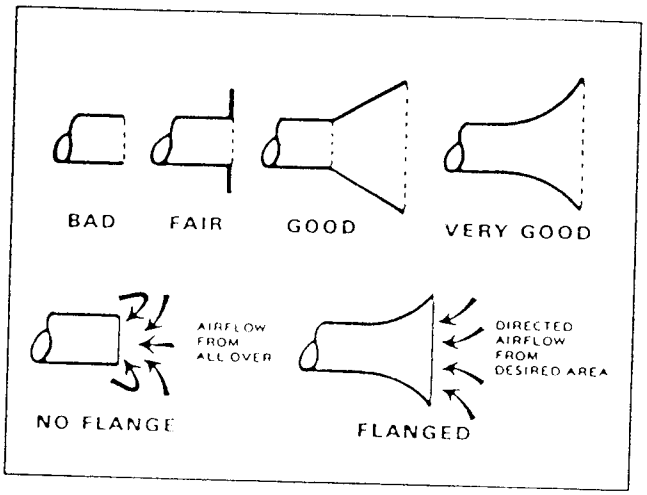


FIGURE 7 - Hood flanges

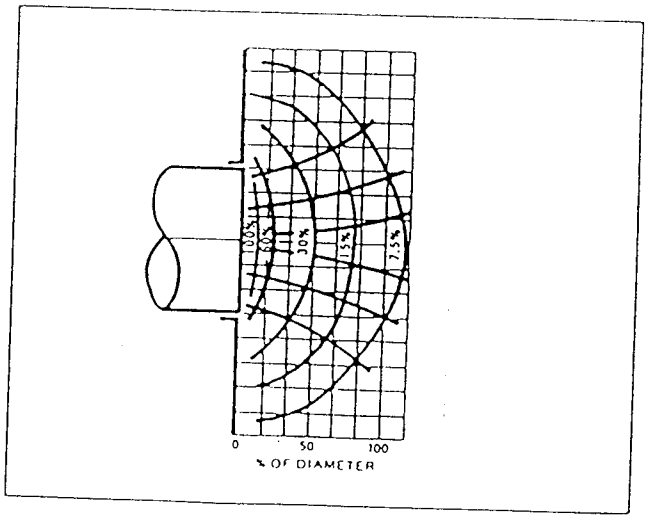


FIGURE 8 - Velocity contour (in percentage of opening velocity) for flanged circular opening

Airflow needed in a hood design is affected by hood shape, size and location. The hood should be as close as possible, and enclose the operation as much as possible.

Suction in a duct opening will draw in air equally from all directions. As distance from the inlet opening increases, the decrease in airflow velocity occurs more quickly. The velocity in feet per minute (fpm) equals the cubic feet per minute (cfm) from Figure 10 divided by inlet area in feet (0.35 for 8 inch hose).

When utilizing thermal airflow occurring in a process, exhaust airflow should be greater than the process airflow. This will minimize air spillage at the rim of the hood.

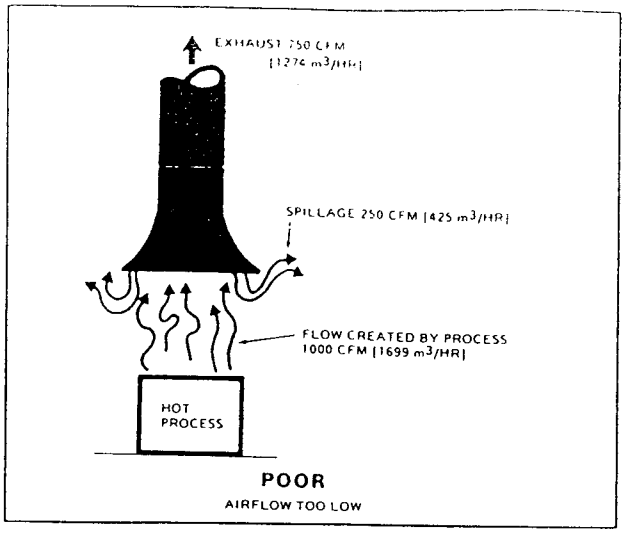


FIGURE 9 - Maintain adequate airflow

For further information on ventilation and hood design, refer to a more complete source, such as:

INDUSTRIAL VENTILATION, by American Conference of Governmental Industrial Hygienists, published by Committee on Industrial Ventilation, Lansing, Michigan, 48106

HANDBOOK OF VENTILATION FOR CONTAMINANT CONTROL, by Henry J. McDermott, published by Ann Arbor Science, Box 1425, Ann Arbor, Michigan, 48106

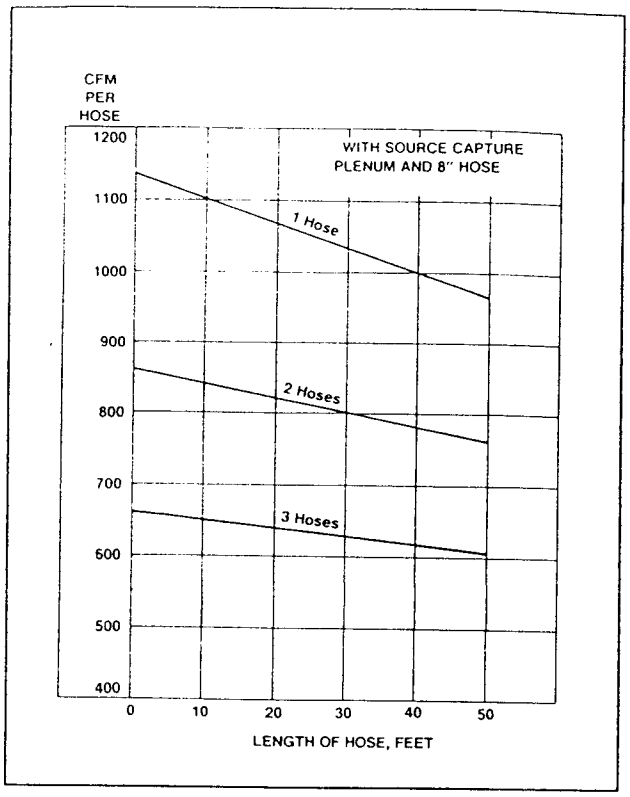


FIGURE 10 - Airflow with hoses

INSTALLATION

WHEN INSTALLING THIS PRODUCT..

1. Read these instructions carefully. Failure to follow them could damage the product or cause a hazardous condition.
2. Check the ratings given in the instructions and on the product to make sure the product is suitable for your application.
3. Installer must be a trained, experienced service technician.
4. After installation is complete, check out product operation as provided in these instructions.

CAUTION

1. Do not connect the power source until after electronic air cleaner is mounted. This will prevent electrical shock or equipment damage.
2. Be sure to turn the air cleaner off before servicing it. The air cleaner motor is equipped with an automatic thermal overload. Should the motor become overheated, it will automatically stop. It will automatically start after a sufficient period of cooling (several minutes to an hour).
3. If the air cleaner must be turned on for an electrical check, be extremely careful in avoiding electrical shock. Also, take care when working near the air cleaner's moving parts.

UNPACKING

The M68, mounting brackets and hardware are packed in one box. Check all air cleaner components carefully when unpacking. Remove all shipping cardboard. Be sure to inspect all packing materials before discarding them.

STAND MOUNTING

Securely place the M68 on an appropriate stand or cart and locate as close to the contaminant source as possible. The position should also allow satisfactory distribution of air from the outlet of the air cleaner. If a source capture hood, plenum, and hose are used, observe the instructions in PLANNING THE INSTALLATION for selecting a suitable location for the unit.

OVERHEAD MOUNTING

When installing the M68 in an overhead location, position the air cleaner as close to the contaminant source as possible. This increases the air cleaner's effectiveness. It is important to select an overhead mounting location for the air cleaner which provides easy access for cell cleaning and maintenance. Do not place a ladder against the air cleaner, when it is mounted overhead, in order to gain access to the air cleaner interior.

Be certain that the mounting hardware (not included) from the air cleaner to the ceiling provides adequate strength and

stability, and that it is securely attached to the overhead structure. Do not fasten the air cleaner to a false ceiling or to plaster or plasterboard. In some cases it may be necessary to construct supports which will bear the weight of the 66 when it is hung in an overhead location.

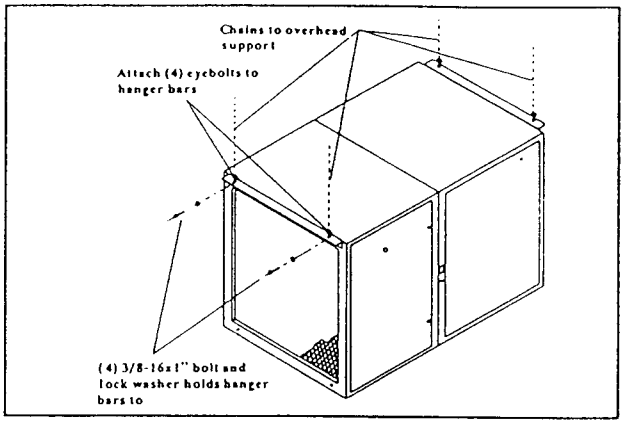


FIGURE 11 - Mounting the M68 overhead

SOURCE CAPTURE PLENUM PN07039 (optional)

1. Center the plenum over the intake opening of the air cleaner, then use the plenum as a template to mark 4 corner holes.
2. Use a No. 24 bit (0.152 inch [3.9 mm]) to drill the 4 holes.
3. Fasten the plenum to the air cleaner using No. 10 sheetmetal screws 1/2 to 3/4 inch (12.7 mm to 19 mm) long (not furnished).
4. Drill holes at remaining screw locations around the plenum. Fasten with sheetmetal screws. The 2-cell air cleaner plenum uses 18 screws.
5. Remove any metal chips and shavings from the interior of the air cleaner.

Replace the prefilter and cells. Connect hose length to desired plenum flange using hose clamps (not furnished). Block off unused plenum openings with caplugs available separately.

Route the hose(s) to the source capture hood. Support the hose(s) as necessary using hangers and support bands. Support bands on the hose should be at least 2 1/4 inches (57.2 mm) wide and placed at 5 foot (1.52 m) intervals. Do not pinch or flatten the hose.

Hood size and location should be determined by an accepted authority or reference, such as the INDUSTRIAL VENTILATION MANUAL, to meet applicable codes and ordinances for a particular application.

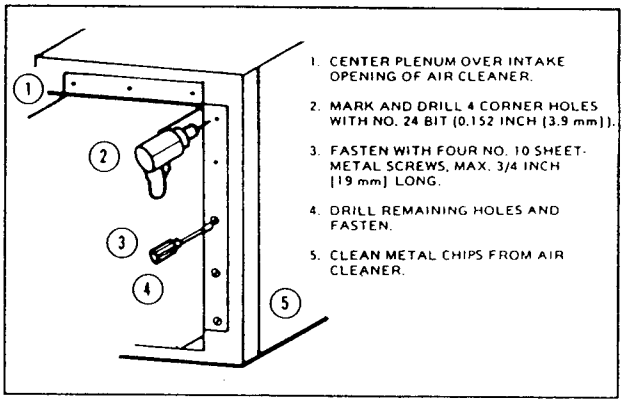


FIGURE 12 - Installing source capture plenum

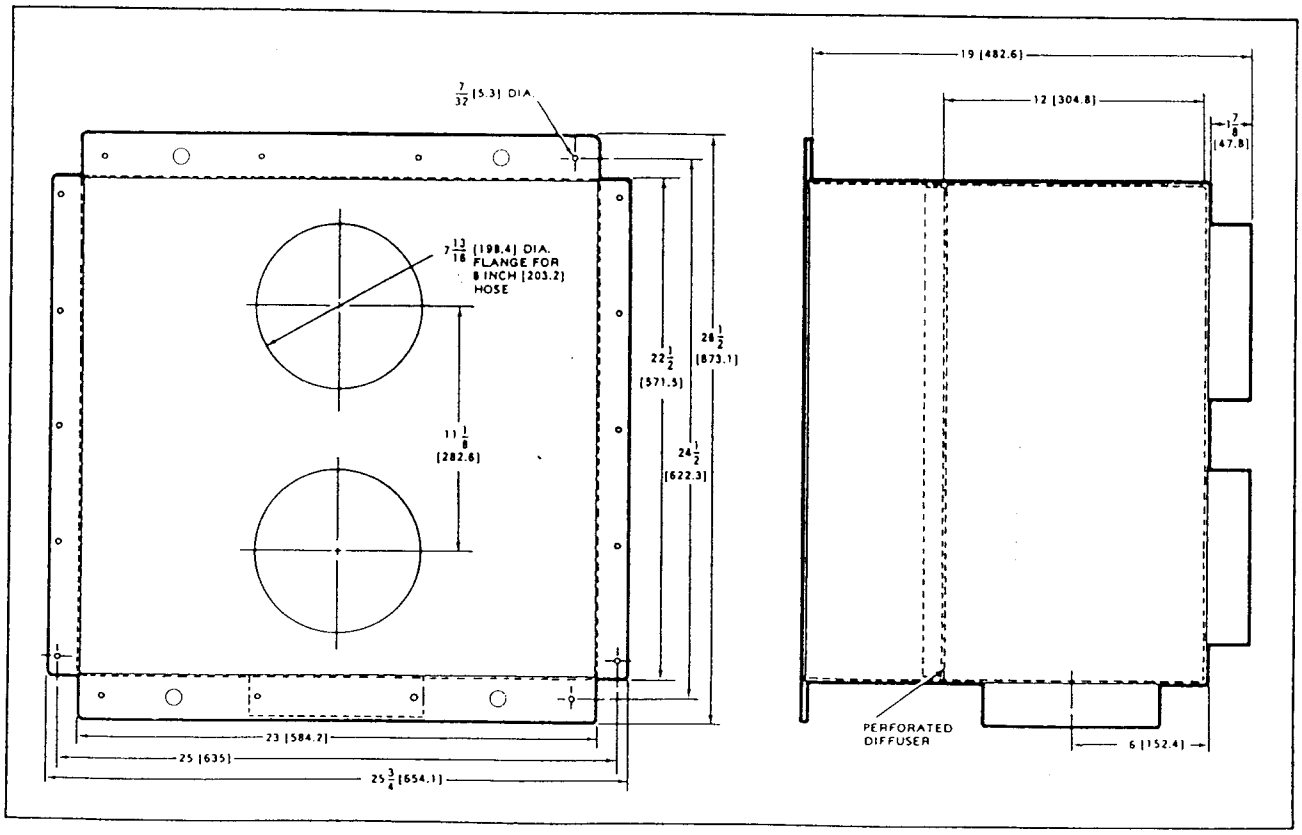


FIGURE 13 - Source Capture Plenum dimensions in inches [millimeters in brackets]

ELECTRICAL INSTALLATION

1. CORD CONNECTED

The power cord must not be concealed above the ceiling or behind the walls. Route the power cord so it will be out of the way of the building's occupants.

The 66 single phase models have 10 foot power cords with standard (15 AMP rated) 3-prong plugs. There must be a standard grounded outlet provided within 10 feet of the air cleaner. Do not use an extension cord.

The three phase 66 models have a 10 foot power cord. An appropriate plug is required since it is not standard with the air cleaner.

2. CONDUIT CONNECTED

CAUTION

This procedure should be attempted only by persons qualified to install electrical wiring. All wiring must comply with applicable codes and ordinances.

All wiring must comply with applicable codes and ordinances. Be sure the power source is compatible with the model ordered.

It is recommended that No. 12 gauge wire be used to complete the wiring from the air cleaner wiring compartment to the external power source. However, be certain to comply with local codes. A green wire is provided in the wiring compartment for a grounding connection. Proper grounding of this device is mandatory for proper operation and safety.

1. Remove wiring compartment cover and 10 foot power cord.

2. Run the 12 gauge wires through the conduit. Attach the conduit to the knockout desired, 1/2" or 3/4".

3. Use wire nuts to make connections in wiring compartment. See Figure 14 for single phase models. See Figure 15 for three phase models.

4. Re-attach the wiring compartment cover.

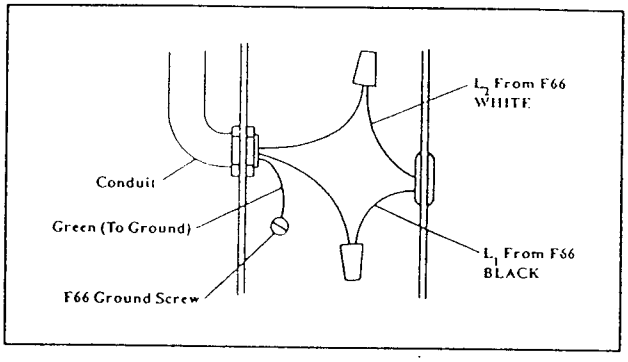


FIGURE 14 - M68 Single phase

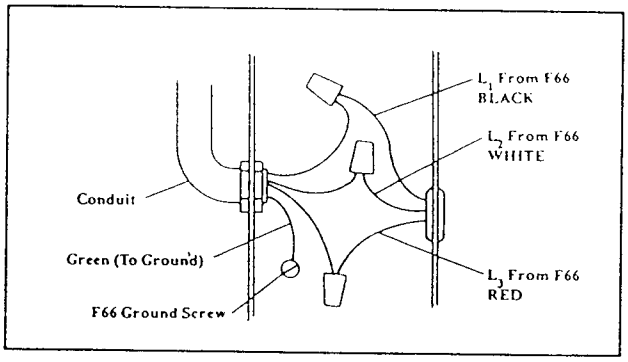


FIGURE 15 - M68 Three phase

CHECKOUT AND OPERATION

CHECKOUT

Before operating the M68, check out the installation using the following procedures:

1. Make sure the air cleaner is oriented for good air circulation where it will not interfere with personnel and material traffic. Keep out of fire lanes and away from overhead cranes.
2. Make sure the M68 is securely mounted to the building structure.
3. Clean the inside of the cabinet, the outside of the cabinet, and the installation area.
4. Make sure that the blower cover and the wiring compartment cover have been reinstalled securely.
5. Make sure the prefilter and the hepa filter are properly oriented and the airflow arrows are pointing toward the blower.
6. Make sure the filter change gauge (manometer) is level; see the spirit level in the right hand corner of the gauge.
7. Check the oil level in the filter change gauge and adjust the zero knob so the oil level is at zero inches of water when the M68 is turned off.
8. Adjust the discharge grille to direct airflow as desired.

OPERATION

1. Turn the air cleaner control switch on. Make sure the blower is providing a strong discharge. On three phase models, the blower should be rotating in the direction shown on Figure 15A. If it isn't, correct the rotation by interchanging any two power leads.
2. The indicator light should be on whenever the blower is on.
3. The filter gauge should be level and should read zero when the M68 is turned off. If it does not read zero, adjust the reading with the adjustment knob on the gauge.

NOTE: If the M68 does not seem to be operating correctly, refer to the TROUBLESHOOTING section of the manual.

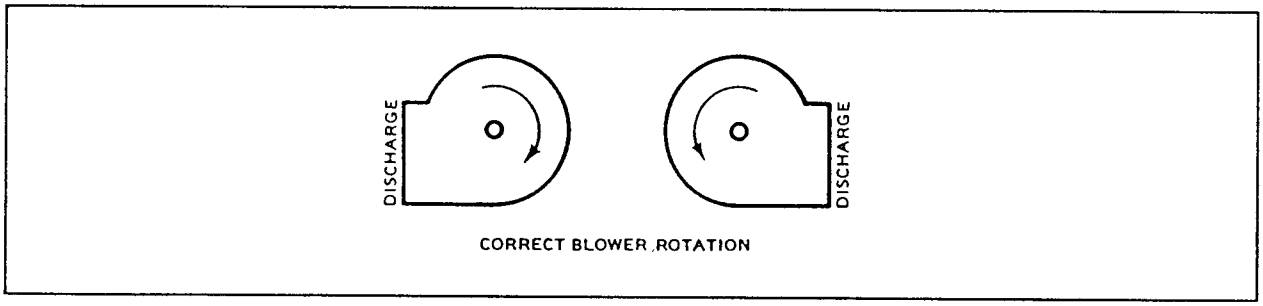


FIGURE 15A - BLOWER ROTATION

ADJUSTMENTS

Adjust the bidirectional louvers of the air cleaner discharge so that the airflow discharge does not produce discomfort or a possible hazard to personnel and equipment.

The blower capacity of the M68 is factory-set. See Specifications on Page 3. This capacity can be adjusted. Before adjusting the blower capacity, make sure that the ON-OFF switch is in the OFF position. To adjust the blower capacity:

1. Turn the air cleaner off and open the access door to the blower and motor section of the air cleaner.
2. Loosen the two bolts locking the end of the motor rail in position. Remove the belt.
3. Loosen the allen setscrew on the face of the motor sheave.
4. Rotate the sheave into a position which gives the desired blower capacity.

NOTE: When the sheave is rotated all the way into the shaft, the blower capacity is at its maximum. When the sheave is rotated 5 turns out on the shaft, the blower capacity is at its minimum. DO NOT ROTATE THE ADJUSTABLE SHEAVE MORE THAN 5 TURNS OUT ON THE SHAFT. The sheave may already be adjusted one or more turns out on the shaft.

FILTER MAINTENANCE / REPLACEMENT

CAUTION

Adjusting the variable sheave changes the load on the motor. Do not exceed the rated amperage for the motor.

WARNING

1. Do not place a ladder against the M68 when it is mounted in an overhead position. A lift platform should be used to gain access to the air cleaner for filter removal and servicing.

2. Disconnect power to the M68 before working on or near the air cleaner.

FILTER MAINTENANCE

Dirty air is drawn through the prefilter. Large particulate, such as lint, is removed by the prefilter. The remaining smaller particulate is then captured by the hepa filter.

As the contaminant load on the filters increases, the filters become more efficient in capturing the smaller particles. At the same time, however, the dirty filter allows less air to pass through resulting in less particle collection and a decrease in the overall effectiveness of the air cleaner.

Below is a chart which indicates the C.F.M. vs. static pressure using the standard 99.97 dop hepa filter and the 35% prefilter in an ambient cleaning installation.

C.F.M. Capacities	Resistance Inches W.G.	
1100	1.4"	Both Filters Clean
870	1.5"	
470	1.6"	

Upon installation, note the initial pressure reading. Check the filter gauge daily and replace the prefilter when the pressure reading increases by .1" W.G. Note that a .1" increase represents about a 25% decrease in the rated air flow.

If replacing the prefilter does not lower the pressure reading by .1" W.G., the hepa filter is nearing the end of its life. If the reduced CFM is tolerable, the M68 can be operated beyond the 1.6" W.G.; however, air flow will be reduced further.

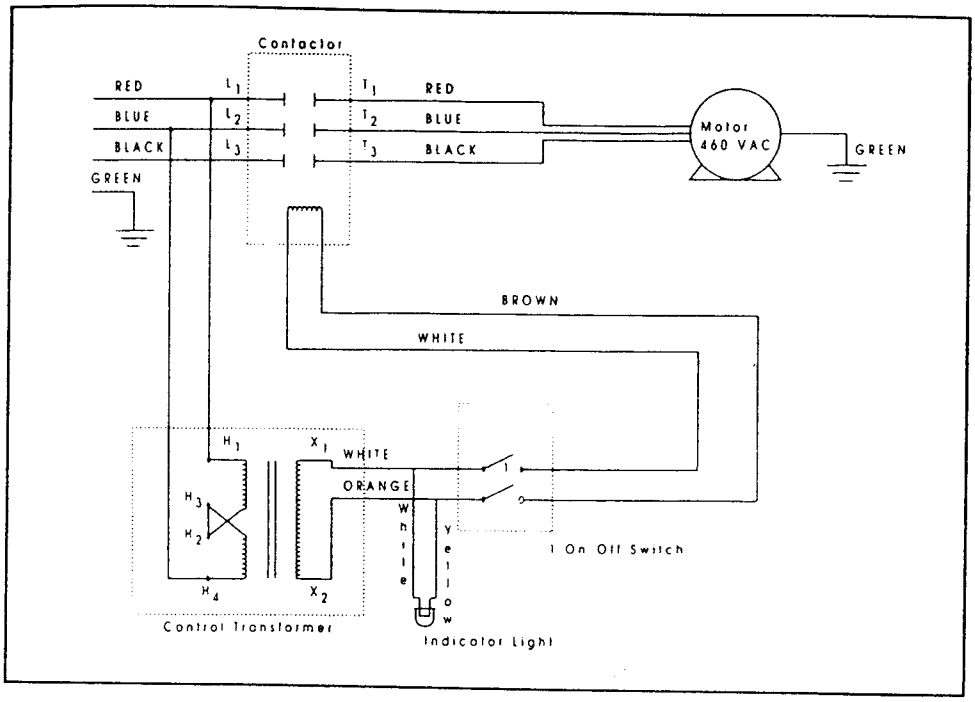
FILTER REPLACEMENT

Prefilter:

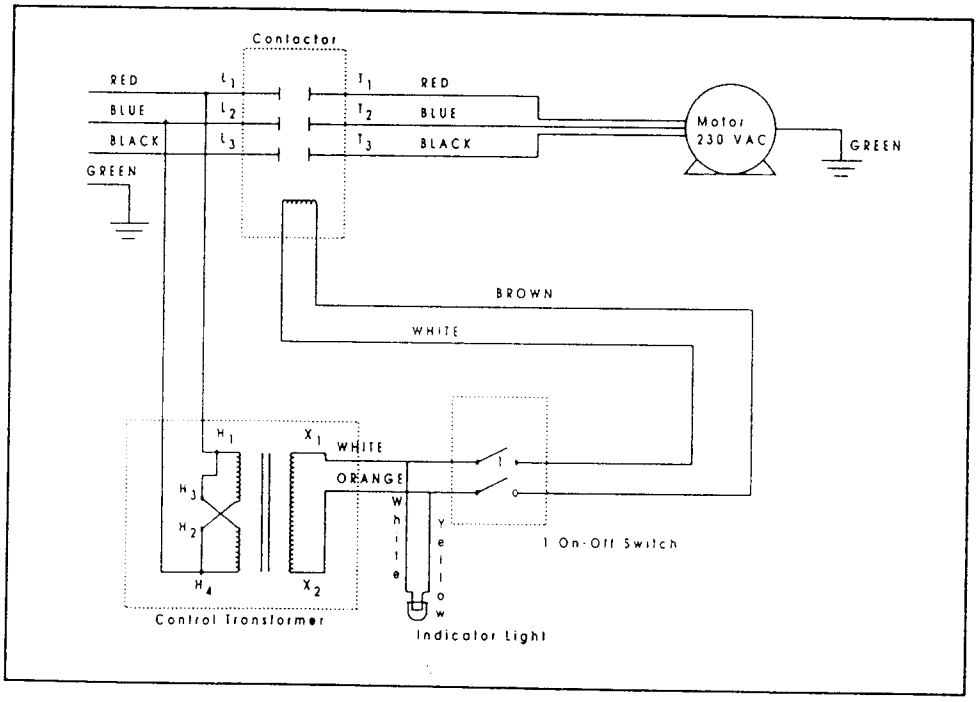
- Open the filter access door.
- Slide the 2" prefilter out of the track.
- Replace the prefilter. Be sure the air flow arrow on the prefilter points towards the blower.
- Close the filter access door.

Hepa:

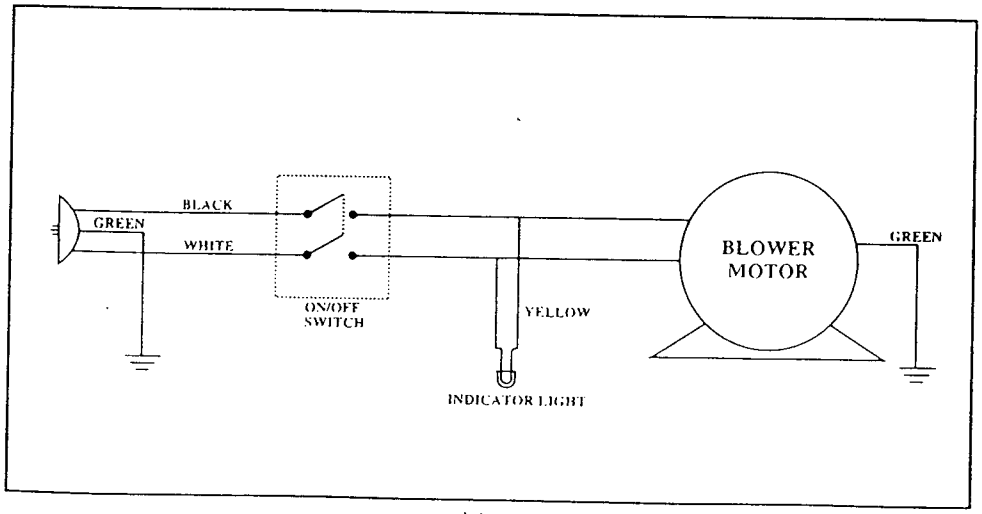
- Open the filter access door.
- Loosen the 2 filter retainer bolts. A 9/16" wrench will be necessary for this step. Remove the hepa filter. Caution should be used because the filter weighs 37 lbs. new.
- Slide the new hepa filter in place. Make sure the air flow arrow points towards the blower.
- Using the 9/16" wrench, tighten the filter retainer bolts to compress the filter gasket.
- Close the filter access door.



460 VAC
3 PHASE



230 VAC
3 PHASE



1 PHASE

PARTS LIST

NO.	DESCRIPTION	PART NO.	
		1 PHASE	3 PHASE
1	On/Off Switch	10140	10140
2	HEPA Filter 99.97 DOP	41088	41088
3	Motor 1.5 Horse Power	40037	40040
4	Motor Sheave, Variable	30362	30362
5	Blower Sheave	30167	30167
6	Exhaust Grille	30486	30486
7	Blower	37012	37012
8	Belt	30543	30543
9	Indicator Light	10097	10097
10	Step Dow Transformer	———	10075
11	Motor Contactor	———	10078
12	Filter Gauge	10205	10205
Not Shown	Prefilter 2" Pleated	41053	41053
Not Shown	Source Capture Plenum w/Three 8" diameter flanged takeoffs (See Figure 30)	07039	07039
Not Shown	Hose, 8 " diameter x 18 feet	30548	30548
Not Shown	Hose Clamp, 8" diameter	30035	30035
Not Shown	Caplugs (8" diameter) to block unused flanges on source capture plenum	30032	30032
Not Shown	Impinger Assembly	07057	07057
Not Shown	2" Aluminum Washable Mesh Prefilter	41083	41083
Not Shown	Hose, 8" diameter x 10 feet	30021	30021

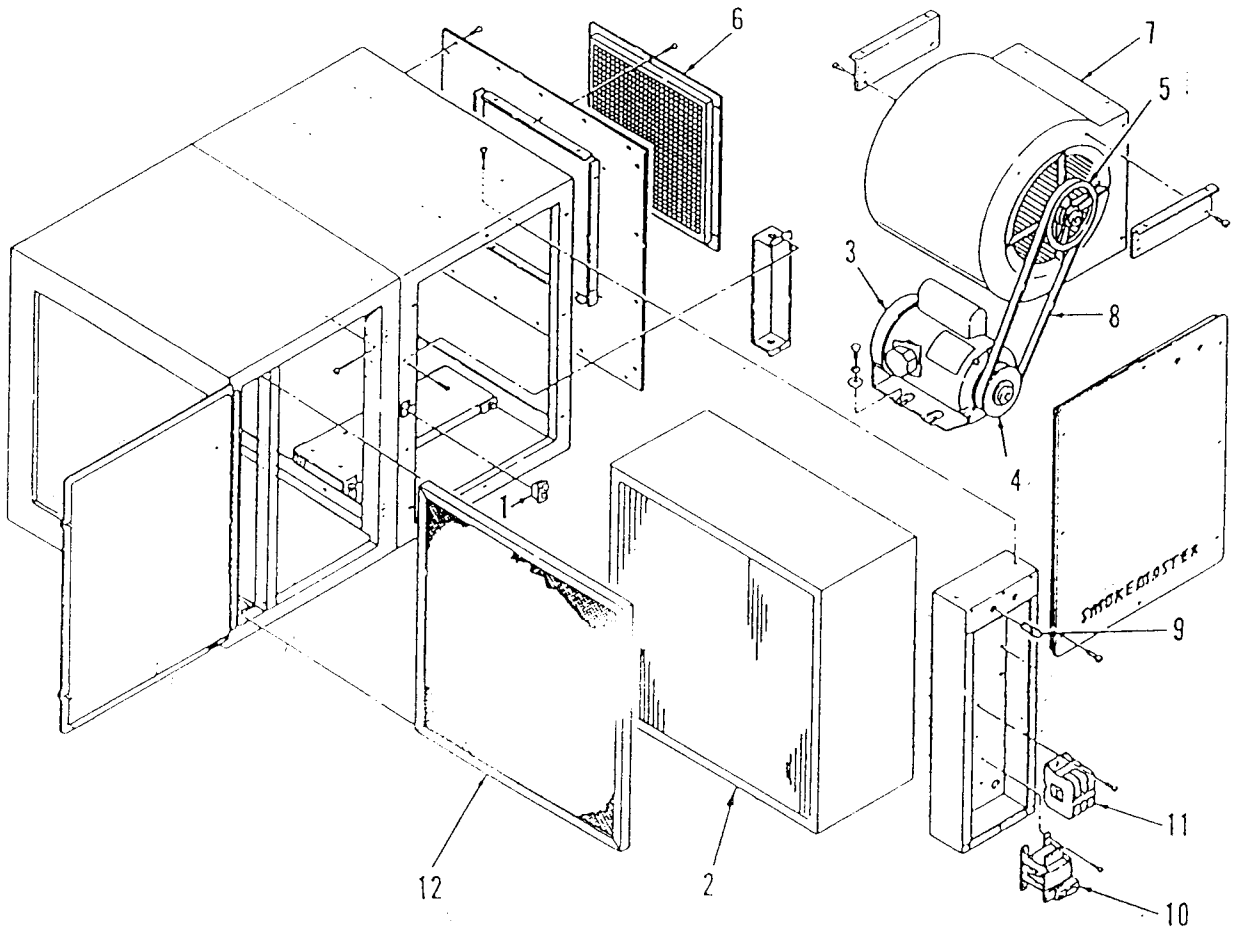


FIGURE 16 - Exploded view of M68 air cleaner

3 YEAR LIMITED WARRANTY