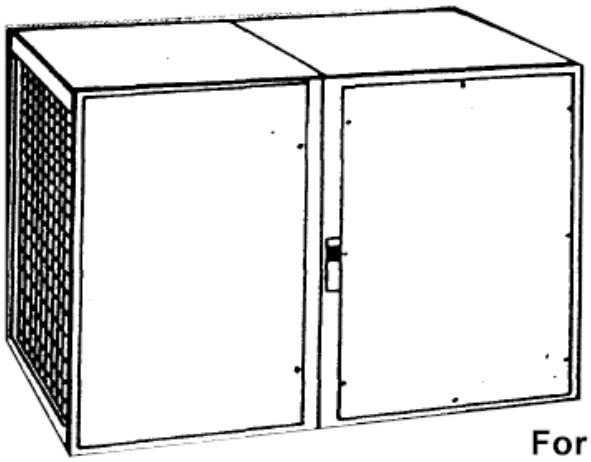
SMOKEMASTER®
MODEL M32 R&L
INDUSTRIAL MEDIA AIR CLEANER



For further information:

BERRIMAN ASSOCIATES
1-800-480-3630
www.berriman.com

THE M32 INDUSTRIAL MEDIA AIR CLEANER CONTROLS WELDING AND METAL-WORKING FUMES IN WORK AREAS. IT CLEANS THE AIR OF INDUSTRIAL SMOKE AND OIL MISTS. EITHER SOURCE CAPTURE TECHNIQUES OR AMBIENT AIR CLEANING CAN BE USED TO PROVIDE HEALTHIER WORKING CONDITIONS.

- Adjustable blower circulates up to 1300 CFM.

- Rated at 80% to 95% efficient according to the National Bureau of Standards Dust Spot Method using atmospheric dust and the ASHRAE Standard 52-76 using atmospheric dust.

- Adjustable discharge grille directs airflow where needed.

- Heavy duty blower and motor use sealed ball bearings for longer life and reduced maintenance.

- Single phase operating voltages include 120 Vac, 208 Vac, 230 Vac, and 240 Vac.

- Strong 16 gauge steel cabinet can be installed on legs or hung from eyebolts which are provided.

- Optional plenum and hoses make source capture application easy.

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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.

SPECIFICATIONS:

Dimensions: 27 1/2"H x 14 1/2"W x 44"L

Weight: 185 lbs. installed weight
220 lbs. shipping weight

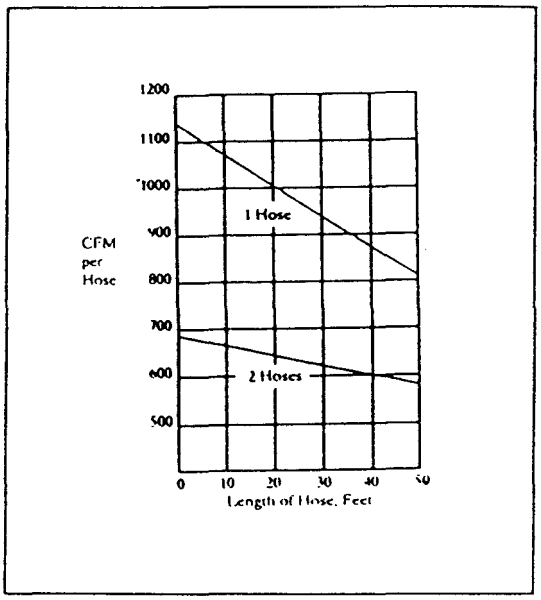
Cabinet: 16 gauge welded steel cabinet with a baked enamel, textured coated finish.

Power Input:

Model	Vac	Hz	Ph	Amps	Watts
M32R1003	115	60	1	12	1100
M32L1003	115	60	1	12	1100
M32R1011	230	60	1	6	1100
M32L1011	230	60	1	6	1100

Motor: 1 HP, ball bearing, 1725 RPM

Blower: Forward curved, ball bearing, belt driven centrifugal blower. This blower is capable of moving 2250 cfm of free air.



M32 WITH 65% MAIN FILTER.

Instrumentation: Dirty Filter Gauge - Factory-installed pressure gauge designed to determine filter replacement cycle.

Indicator Light - Light indicates that the blower motor is energized properly.

Electrical Hookup: All models include a 10' power cord with a standard molded plug.

FILTER SELECTION:

Prefilter: 30-35% efficiency, pleated 12" x 24" x 4".

Primary Filter Choices: Dimensions on the E.S.F. filters are 12" x 24" x 12".
The new E.S.F. (Extended Service Filters) offer a dramatic increase in filter life due to the large media surface area, 100 sq. ft. It is interesting to note that a 50% increase in filter media surface area increases service life by 100%. Likewise, a filter that has twice the filter media surface area has 3-4 times longer life.

Extended Service Filter PN	ASHRAE 52.1-1992 Filter Efficiency	(CFM=Cubic Feet/Minute)	
		1 HP	WG
41136	95-98%	1155 CFM	1.2
41137	85-90%	1275 CFM	1.0
41138	65-70%	1300 CFM	.95

NOISE LEVELS:

Distance in Feet	1HP
9 Feet	72 dBa
12 Feet	70 dBa

PREFILTER: 30-35% efficient pleated filters, 12" x 24" x 4". Filter media is a cotton and synthetic blend. Total prefilter media area is 17.6 sq. ft.

MOTOR: 3 HP sealed ball bearings and thermally protected. Adjustable sheave allows airflow adjustments of up to 800 CFM.

BLOWER: Belt driven, centrifugal blower wheel with ball bearings.

INSTRUMENTATION: Dirty Filter Gauge - Factory installed pressure gauge designed to determine filter replacement cycle.

FILTER ACCESS: Side load track system with hinged access door.

ADDITIONAL FEATURES: 3 year parts warranty
100 sq. ft. of media
4-way adjustable exhaust louvers
Motor starter and control circuitry
Dirty filter gauge

OPTIONS INCLUDE: Custom source capture plenum
Impinger / drain pan
95% DOP efficiency

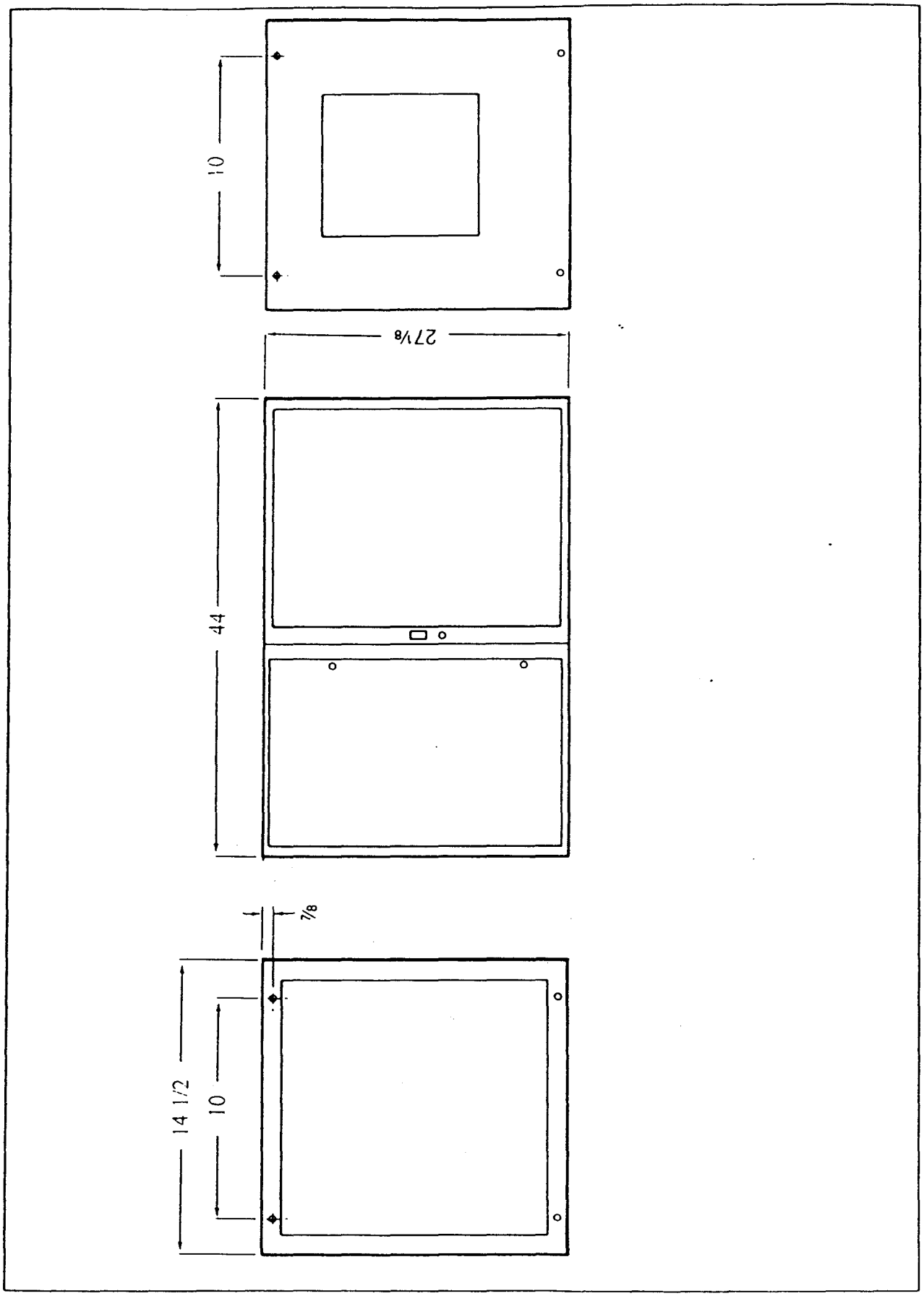


FIG. 2 - M32 DIMENSIONS

PLANNING THE INSTALLATION

WARNING

The M32 Industrial Media 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. Approved 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 air cleaners.

At no time should an air cleaner be placed where there is a potential for explosion due to the presence of explosive dusts, gases, or vapors. Contact the nearest manufacturer representative for assistance in determining the correct application of an 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 five 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 five 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 hood location, but it also sets limits on how much hose can be used before the air pressure drop becomes too great for effective contaminate 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:

Media Air Cleaners =

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

Clean Air Rating =

Airflow x Efficiency

M32 Model =

1155 CFM x .95 = 1097 CFM

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 manufacturer 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.

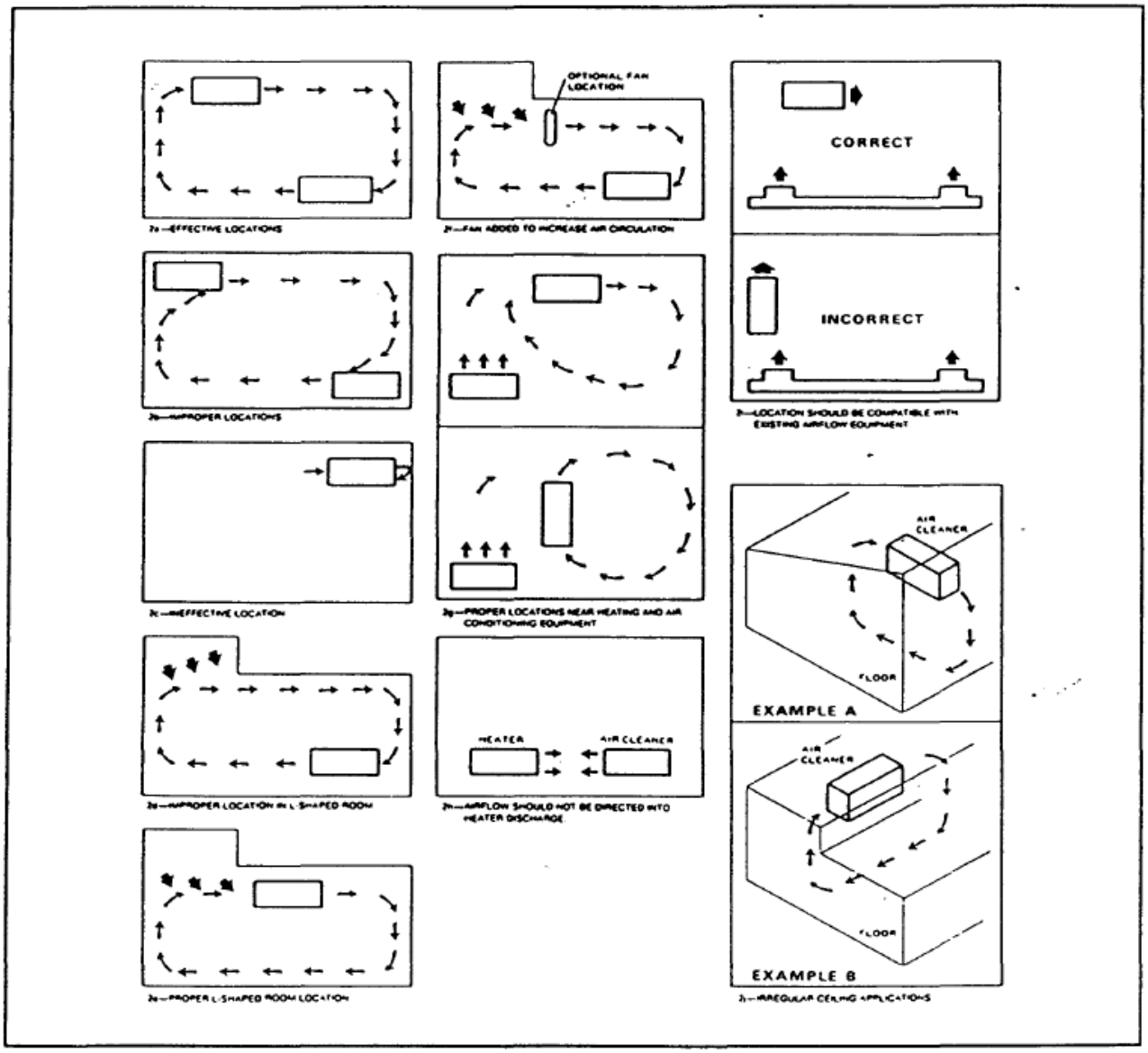


FIG. 3 - GUIDELINES FOR LOCATING THE M73A/B WHEN AMBIENT CLEANING.

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 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% of the distance along the wall of a room. See Fig.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 Fig. 3 (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 Fig. 3 (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 Fig. 3 (2e).

The shape of a room and location restrictions may require the installation of a fan as in Fig. 3 (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 Fig. 3 (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 Fig. 3 (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 m] from the inlet of another air cleaner.

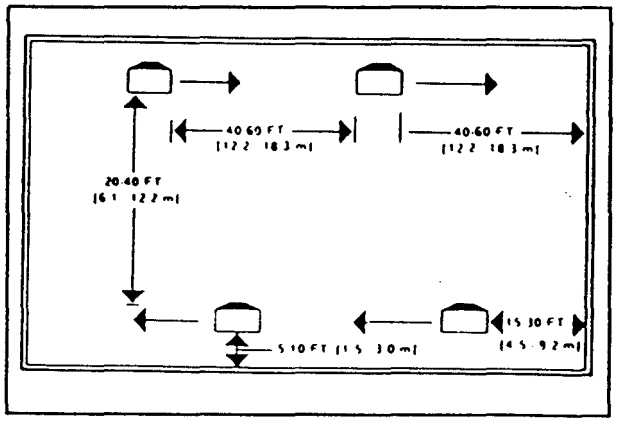


FIG. 4 -LOCATION GUIDE FOR BACKGROUND CLEANING

SOURCE CAPTURE CLEANING

When selecting a location for an 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 in. [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 Fig. 7.

TABLE 1 - CONTAMINANT CAPTURE VELOCITIES*

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.

*From INDUSTRIAL VENTILATION MANUAL by the American Conference of Governmental Industrial Hygienists.

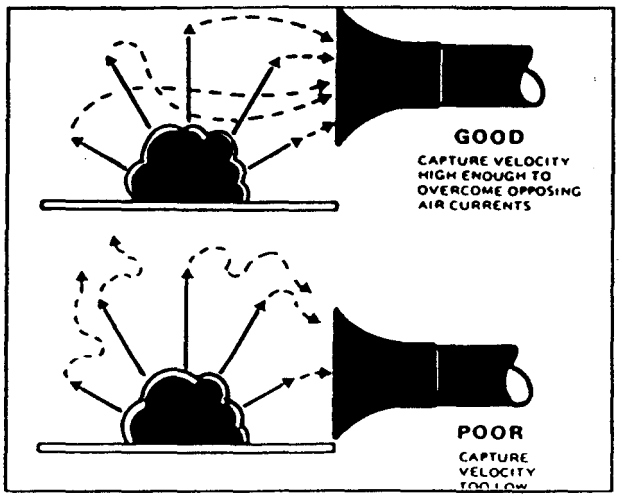


FIG. 5 - CAPTURE VELOCITY

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 Fig. 5.

Source of air motion to either minimize or use to advantage in hood design:
- Thermal air currents from heat generating operations.
- Machinery motion (conveyor 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 Fig. 6.

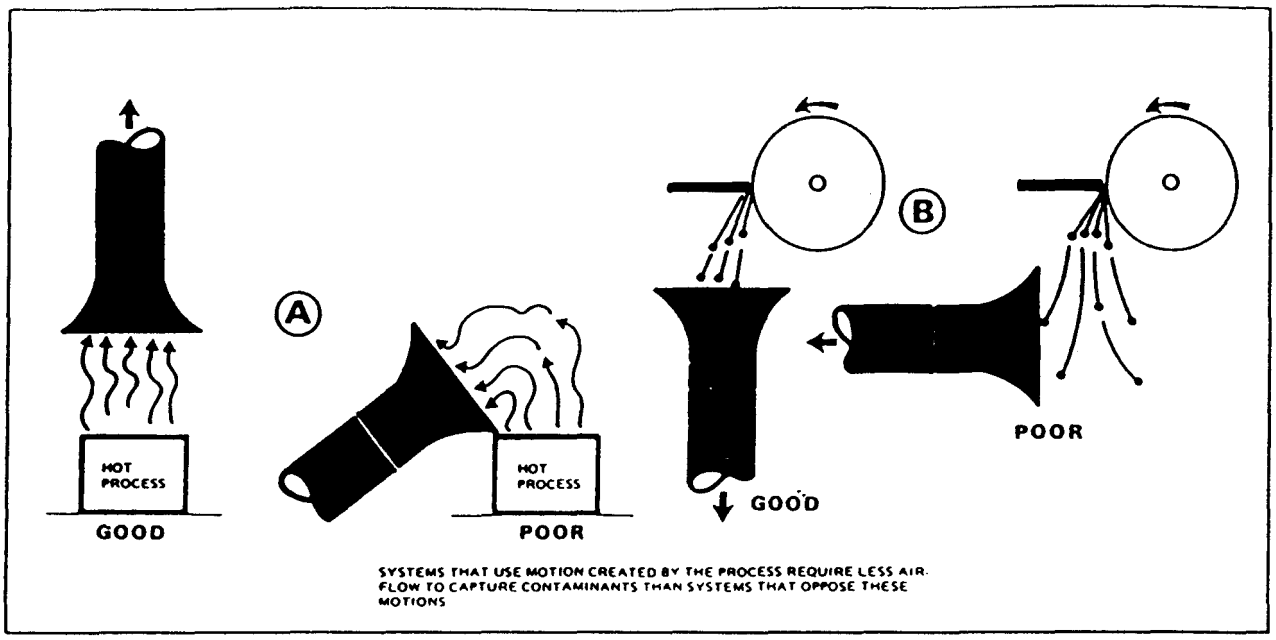


FIG. 6 - UTILIZING PROCESS MOTION

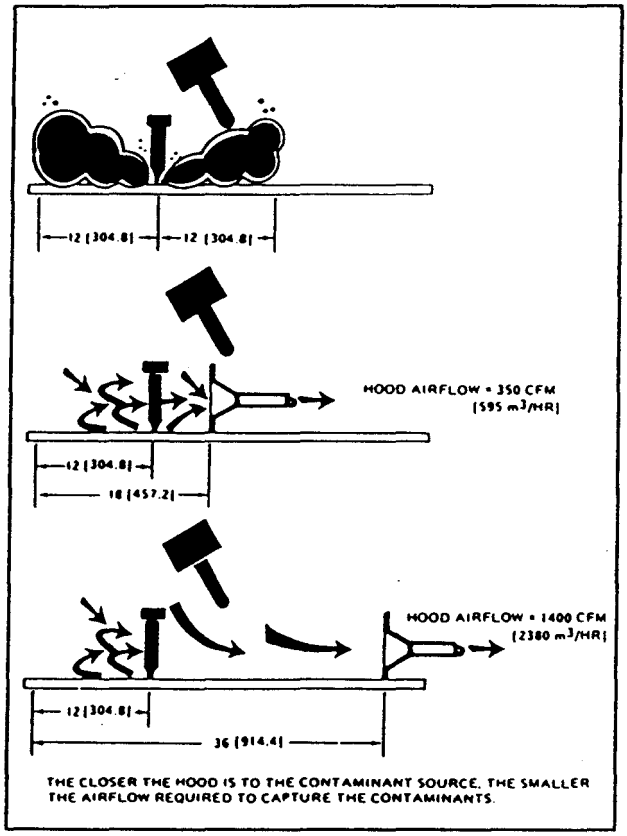


FIG. 7 - HOOD LOCATION; AIRFLOW NEEDED INCREASES WITH DISTANCE FROM WORK.

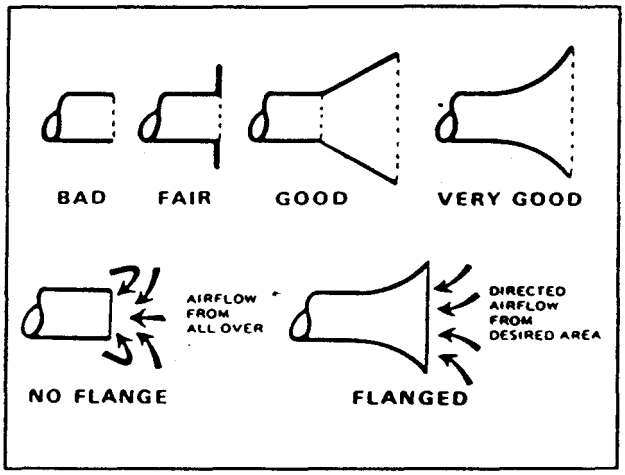


FIG. 8 - HOOD FLANGES

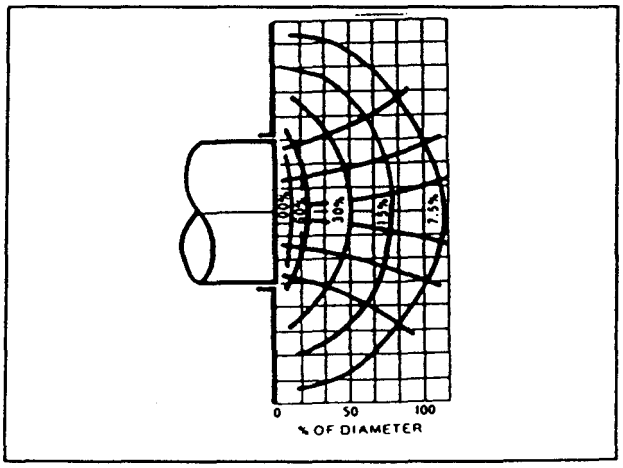


FIG. 9 - VELOCITY CONTOUR (IN PERCENTAGE OF OPENING VELOCITY) FOR FLANGED CIRCULAR OPENING.

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 the distance from the inlet opening increases, the decrease in airflow velocity occurs more quickly.

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.

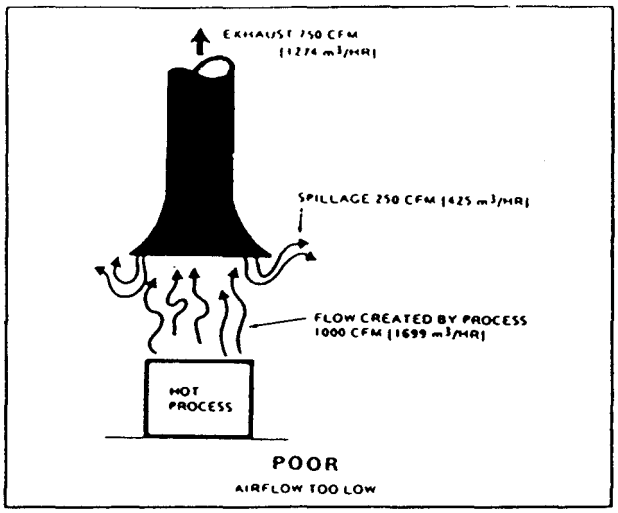


FIG. 10 - MAINTAIN ADEQUATE AIRFLOW.

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

INDUSTRIAL VENTILATION, by the American Conference of Governmental Industrial Hygienists, published by the 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.

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 the 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 M32 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.

OVERHEAD MOUNTING

When installing the M32 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.

The overhead structure must be strong enough to support twice the weight of the M32. Do not fasten the M32 to a false ceiling or to plaster or plaster board. In some cases it may be necessary to construct supports which will bear the weight of the M32.

Install the M32 using the 3/8" eyebolts provided with the air cleaner. Refer to Fig. 2, Page 5, for spacing of the eyebolts. Be certain that the mounting apparatus (not included) from the eyebolts to the ceiling provides adequate strength and stability. The mounting apparatus must be attached securely to the overhead structure. The M32 must be supported by all four eyebolts.

STAND MOUNTING

Securely place the M32 on an appropriate stand or cart and locate as close to the contaminant source 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.

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 M32 has a 10 foot power cord with a standard (15 Amp rated) 3-prong plug. There must be a standard grounded outlet provided within 10 feet of the air cleaner. Do not use an extension cord.

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 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.

a. Remove the wiring compartment cover and the 10 foot power cord.

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

c. Use wire nuts to make connections in the wiring compartment. See Figure 12.

d. Reattach the wiring compartment cover.

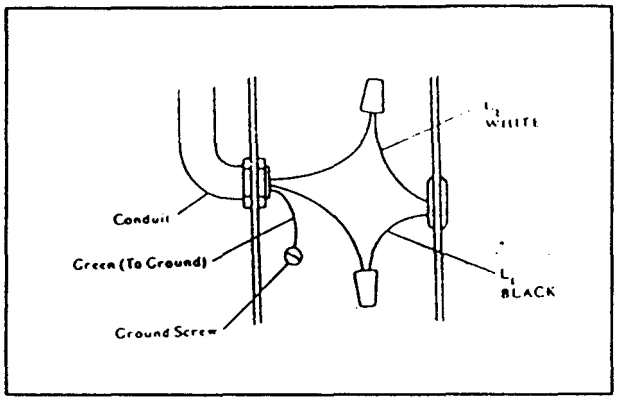


FIG. 11 - M32 SINGLE PHASE

CHECKOUT AND OPERATION

CHECKOUT

Before operating the M32, check out the installation using the following procedures:

1. Make sure that the air cleaner is positioned 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 that the prefilter and the primary filter are properly oriented and the airflow arrows are pointing toward the blower.

3. Make sure the filter change gauge (manometer) is level. See the spirit level in the right hand corner of the gauge.

4. 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 M32 is turned off.

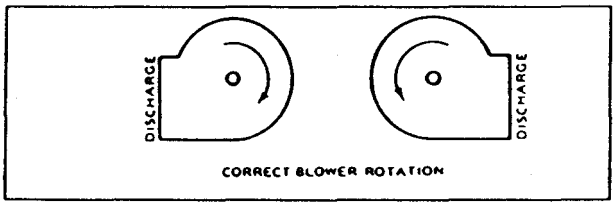


FIG. 12 - BLOWER ROTATION

OPERATION

1. Turn on the air cleaner control switch. Make sure the blower is providing a strong discharge. Please note that the M32 airflow was factory-set at the maximum considering the filter efficiency and other options ordered such as impingers and plenums.

If decreased airflow is desired, it can be accomplished by adjusting the variable sheave on the motor. It is very important to measure the

amperage before and after the adjustments are made on the variable motor sheave to insure that the motor is not overloaded. The rated amperage is listed on the schematic on the filter access door. To adjust the motor sheave, see Adjustments on Page 13.

2. The filter gauge should be level and should read zero when the M32 is turned off. If it does not read zero, adjust the reading with the adjustment knob on the gauge.

CALIBRATION OF THE DIRTY FILTER GAUGE
After the air cleaner has been installed and is ready for operation, the air filter gauge must be calibrated. See the following simple steps:

Step 1
Check that the filter gauge is level. See the spirit level in the right hand corner of the gauge.

Step 2
Check the red oil level, and adjust the zero knob so that the oil level is at zero inches of water when the air cleaner is turned off.

Step 3
Turn the air cleaner on with the clean filters in place. Place the green arrow adjacent to the point at which the red oil rises. The green arrow will indicate clean filters.

Step 4
Place the red arrow on the gauge scale one inch higher (according to the scale) than the green arrow. This will indicate dirty filters. A one- inch rise in static pressure indicates a reduction in airflow of approximately twenty-five percent.

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 M32 is factory-set. See Specifications on Page 3. This capacity can be adjusted. Before adjusting the blower capacity, make sure the 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 five turns out on the shaft, the blower capacity is at its minimum. DO NOT ROTATE THE ADJUSTABLE SHEAVE MORE THAN FIVE TURNS OUT ON THE SHAFT. The sheave may already be adjusted one or more turns out on the shaft.

CAUTION

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

5. Make sure that the sheaves are in line. If not, loosen the motor and blower sheaves and align them properly. Tighten the sheaves securely.

6. Replace the belt and retighten the bolts in the motor rail. The belt should be tightened enough to prevent slippage but not so tight that vibration occurs. The correct tension results in a 3/4 to 1 inch [19.1 to 25.4 mm] deflection when a 10 lb. [4.5 kg.] force is applied to the center of the belt span.

7. Close the access door and energize the air cleaner.

NOTE: For some blower adjustments, it may be necessary to use a smaller belt instead of the existing belt to achieve proper tension. Generally, a 1 inch [25.4 mm] shorter belt will be required.

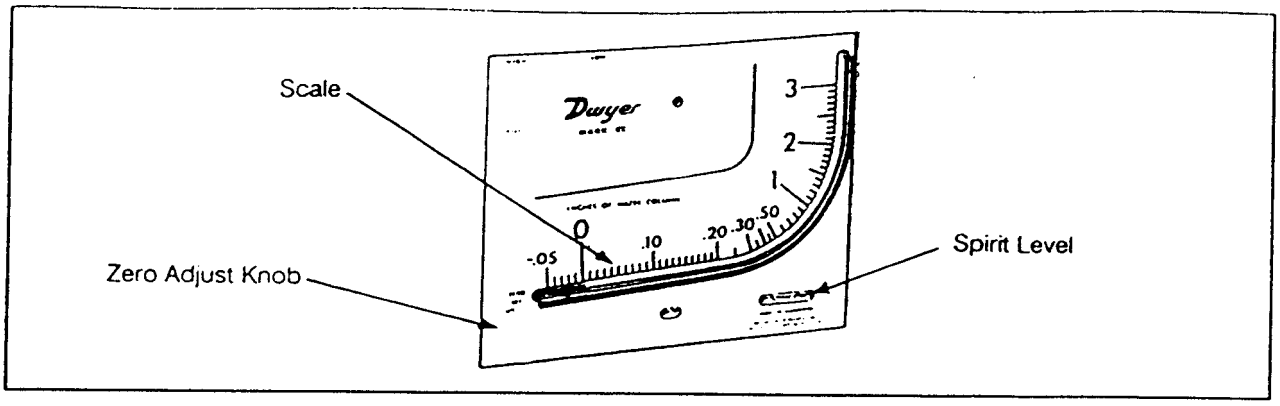


FIG. 13 - DIRTY FILTER GAUGE

MAINTENANCE

CAUTION

Always disconnect the power to the M32 before working on or near the air cleaner.

FILTER MAINTENANCE/REPLACEMENT

Dirty air passes through the prefilter. Large particulate, such as lint, is removed by the prefilter. The remaining particulate is then captured by the primary 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.

The M32 air cleaner is equipped with a pressure gauge which indicates the restriction to airflow caused by the filters loading with particulate. When the air filter gauge reaches the red arrow or a noticeable reduction in airflow occurs, it is time to clean or replace the prefilter and possibly the primary filter.

Step 1

Turn off the air cleaner. Open up the filter access doors, and slide out the prefilters.

Step 2

If the particulate is dry, the standard prefilters can be cleaned by shaking or vacuuming. If the prefilter does not come clean after vacuuming or is saturated with oil, the prefilter should be washed with hot soapy water.

Step 3

Replace the prefilter, and turn on the air cleaner. The reading on the air filter gauge should be at or near the green arrow. If no performance improvement is evident after cleaning or replacing the prefilter, the primary filter will have to be replaced. In most cases, the prefilter can be replaced several times before the primary filter will need to be replaced.

NOTE: An increase of one inch on the gauge would be approximately a 25% decrease in airflow. If the reduction in airflow is not a problem, the air cleaner can be operated beyond this point. The red arrow can be moved to the point at which the decrease in airflow becomes a problem.

GAUGE MAINTENANCE

Check the oil level occasionally, and adjust the zero knob as required. Be sure all pressure is removed by turning the air cleaner off before adjusting the zero knob. If it becomes necessary to add more oil to the gauge, be certain to use only Dwyer Red Oil which is provided with the air cleaner. Other fluids may damage the gauge. To fill the gauge, back out the zero adjust knob until it stops, then turn in approximately three full turns so there is room for adjustment in either direction.

Clean the gauge with a soft cloth using a little pure soap and water. Use of a small brush will aid in cleaning the knobs. Avoid cleaning fluids and liquid soaps which may have chlorinated solvents in them as they may damage the gauge.

PARTS LIST

NO.	DESCRIPTION	M32 1 PHASE
1	On/Off Switch	10140
2 Extended Service Filter Options	Primary Filters (2 per): 95% ASHRAE, 200 sq. ft., Media 85% ASHRAE, 200 sq. ft., Media 65% ASHRAE, 200 sq. ft., Media 95% DOP, 200 sq. ft., Media	 41136 41137 41138 41161
3	Motor Sheave	30166
4	Motor, 1HP	40013
5	Blower	37020
6	Exhaust Grille	30530
7	Belt	30582
8	Blower Sheave	30601
9	Prefilters, pleated media	41124
10	Prefilter, optional aluminum mesh	41170
11	Source Capture Plenum, optional	07076
12	Impinger Assembly, optional	07072
13	Sump Adapter Kit	07056

For further information:

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