S U P P L Y I N G C L E A N A I R T O I N D U S T R Y

New! MODEL M366O

Vertical Oil Mist Collector

The new M366O from Air Quality Engineering, Inc., is a self-contained media air cleaning system designed for source capturing coolant mist applications in industry. The M66O can be ordered in three stage filtration which will effectively remove a broad range of contaminants including mist, smoke, soot, vapors, VOC's and more.

AIR QUALITY ENGINEERING

7140 Northland Drive North, Brooklyn Park, MN 55428-1520 USA
EMAIL: info@air-quality-eng.com **WEB SITE:** www.air-quality-eng.com
TOLL FREE: 1-800-328-0787
PHONE: 763-531-9823

Before you get started please review the following:

Purchase Date: _____

Serial Number: _____

Motor Spec: _____

Belt and Sheave Used: _____

Type of oil / coolant collected: _____

Type of filter and AQE P/N: _____

Customer Technical Support:

To contact Air Quality Engineering use:

Mail: Air Quality Engineering
7140 Northland Drive N.
Brooklyn Park, MN 55428
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Phone: 1.800.328.0787
763.531.9823

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Disclaimer
All statements, technical information and recommendations in this manual or related documents are believed reliable, but the accuracy and completeness thereof are not guaranteed or warranted, and they are not intended to be, nor should they be understood to be representation or warranties concerning the products described.

Specifications are subject to change without notice.

This unit is to be used exclusively for source control in industrial applications in California.

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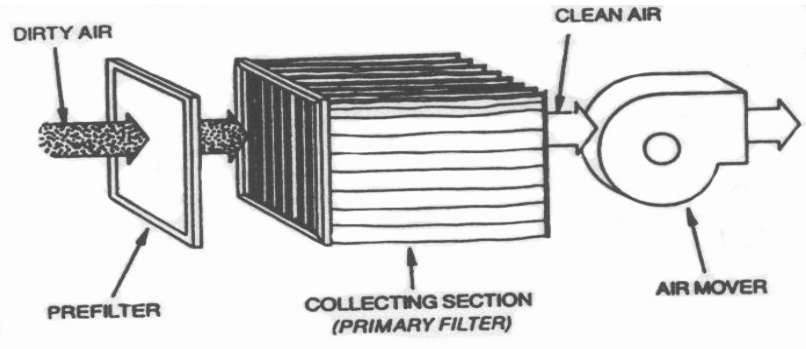
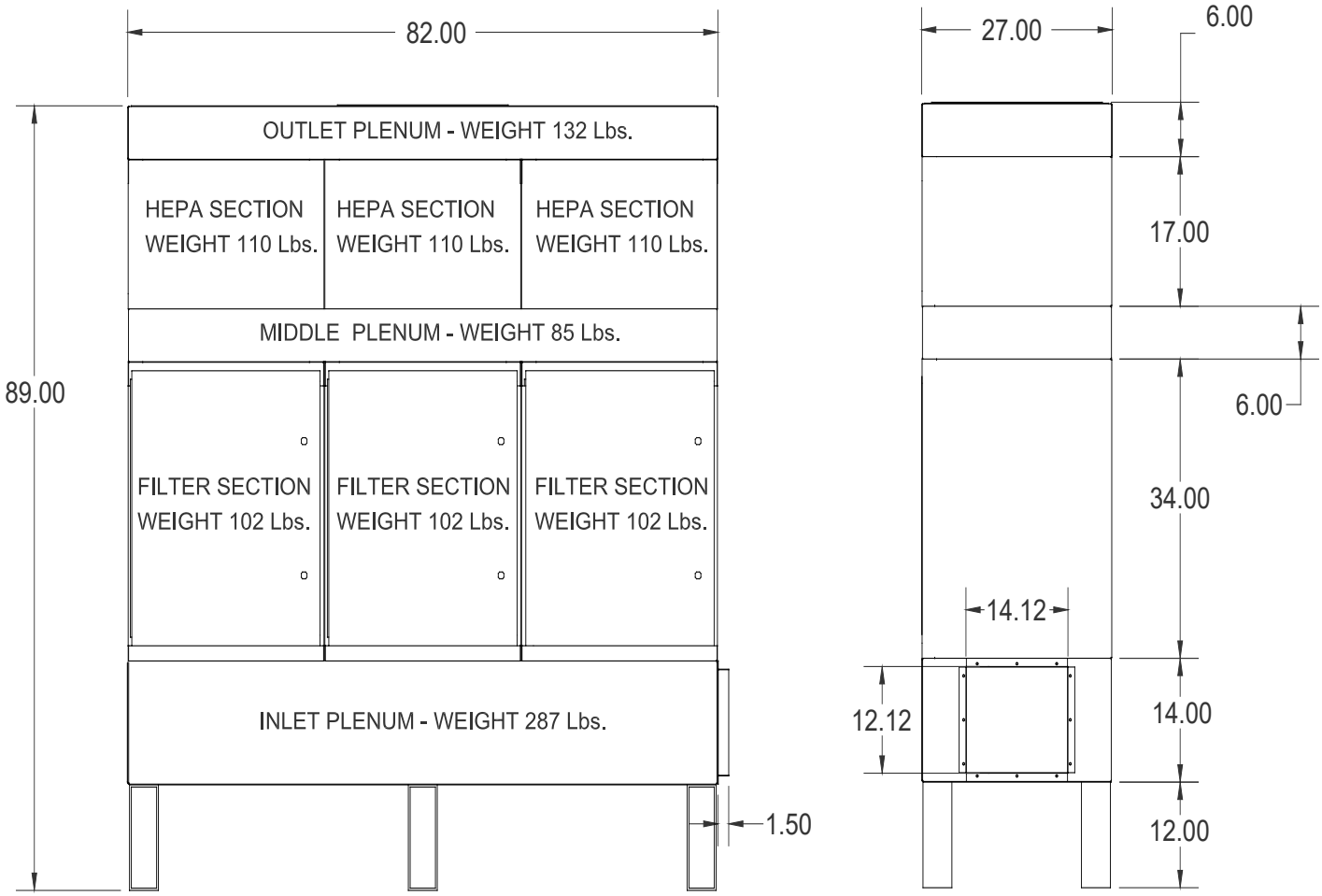
HOW AIRBORNE CONTAMINATION IS REMOVED

Dirty air passes through the prefilter. The prefilter removes large particulate, such as lint. The primary filter then captures the remaining smaller particulate. 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 particle collection and a decrease in the overall effectiveness of the air cleaner.



DIMENSIONS AND WEIGHTS



METRIC CONVERSION	FORMULA
Ins. to mm	Ins. x 25.4
Lbs. to kgs.	Lbs. x .455
Ins. w.g. to kPa	Ins. w.g. x .2488
CFM to m^3/h	CFM x 1.6992
Ft^2 to m^2	Ft^2 x .0929

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:	89”H x 82”W x 27”L (without blower)
Weight approx.:	1140 Lbs. installed weight, 1200 Lbs. shipping weight (without blower)
Cabinet:	16 gauge welded steel filter cabinets with a powder coat finish. 10-12 gauge welded plenums with a powder coat finish.
Power input:	208/230/460 Volts 3 Phase
Blower/Motor:	5.0 HP direct drive rated 3000 CFM @ 5.5” Static Pressure 7.5 HP direct drive rated 4000 CFM @ 4.5” Static Pressure 15 HP direct drive rate 6800 CFM @ 4.0” Static Pressure *** Custom Blower / Motor packages available
Noise Levels:	With 5 HP motor @ 9 feet = 81 dBA, @ 15 feet = 77 dBA With 7.5 HP motor @ 9 feet = 84 dBA, @ 15 feet = 80 dBA With 15 HP motor @ 9 feet = 87 dBA, @ 15 feet = 83 dBA 7.5 HP and 15 HP with silencer drops 4 dBA
Instrumentation:	Dirty Filter Gauge – Factory installed pressure gauge designed to determine filter replacement cycle.

FILTER OPTIONS

Prefilter: Two 24” x 24” x 2” aluminum mesh grease impingers.

Primary Filter Options: 95% oil mist bags

HEPA Filter Options: Please note that the maximum airflow rating is 2000 CFM per module!

Carbon Filter Option – PN 07096: Forty five lbs. activated, refillable carbon module. Please note that the maximum airflow rating for the carbon module is 1000 CFM. If the carbon filter is ordered, the airflow will be factory set at 1000 CFM.

Note: With Carbon Filter option a Rigid or Extended Service Filter must be used.

Air Quality Engineering, Inc., has a policy of continuing product improvement and reserves the right to make changes in design and specifications without notice.

PLANNING THE INSTALLATION

- WARNING -

The M66O source capture 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 media air cleaners.

At no time should a media 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, Inc., representative for assistance in determining the correct application of a media air cleaner.

SIZING

Sizing is the process of determining the amount of air cleaning necessary in any given application. Since the M66O is a source capture air cleaner, the sizing process is relatively simple—provide one source capture hood per contaminant source.

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 two hoses directly into the media air cleaner (hoses are ordered as accessories).

The composition, quantity and rate of generation of the contaminants determines the air velocity in turn not only affects the hood design and location 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.

SOURCE CAPTURE CLEANING

When selecting a location for a media air cleaner that uses a hood and hose to capture the contaminants at the source choose the location that 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, mist, vapors, gases and fumes follow air currents. Airflow alone is sufficient to capture these contaminants.

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 downdraft 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 six 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.

ASSEMBLY

- CAUTION -

Do NOT connect the power source until after the air cleaner is completely assembled.

If the air cleaner must be turned on for an electrical check, be extremely careful in avoiding electrical shock. Also, take care to avoid the air cleaner's moving parts.

WHEN ASSEMBLING THIS PRODUCT
Read these instructions carefully. Failure to follow them could damage the product or cause a hazardous condition.

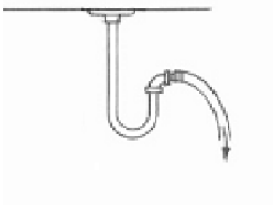
Check the electrical ratings given on nameplate of motor/blower package to the power source to insure compatibility.

After assembly is complete, check out the product operation as provided in these instructions.

UNPACKING

Remove all shipping cardboard and banding. Be sure to inspect the packaging material before discarding it.

ASSEMBLING THE M3660
Unit should be securely anchored to the floor to prevent the unit from tipping.



Your M366O comes standard with a P-Trap with Cleanout.
Simply connect hose to the 1 ½" O.D. tube and pipe to a suitable collection tank.
Prime trap with liquid that will be collected to break air suction in filter compartment when air cleaner is operating.

CHECKOUT AND OPERATION

CHECKOUT

Before operating the M366O, 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.

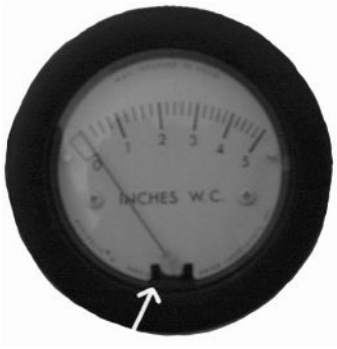
2. Make sure the prefilter and the primary filter are properly oriented and the airflow arrows are pointing toward the blower. Make sure the hoops on the primary filter are all attached to the rings.

OPERATION

1. Turn on the air cleaner control switch. Make sure the blower is providing a strong air discharge.

2. The Minihelic gauge should read zero when the 3M66O is turned off.

CALIBRATION OF THE MINIHELIC



Zeroing hex screw

Step 1
Remove the plastic cover by turning it counter-clockwise. One may have to press on the cover as one is turning it.

Step 2
With the supplied hex wrench, one can adjust the needle by turning the hex screw at the bottom of the gauge.

MAINTENANCE

- CAUTION -

Always disconnect the power to the M366O before working on or near the air cleaner.

FILTER MAINTENANCE/REPLACEMENT

Dirty air passes through the prefilter. The prefilter removes large particulate. The primary filter then captures the remaining particulate.

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 M366O Air Cleaner is equipped with a pressure gauge which indicates the restriction to airflow caused by the filters loading with particulate. When 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 prefilter.

Step 2
Replace the prefilter and turn on the air cleaner. The reading on the minihelic gauge should drop by approximately 1". 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.

Step 3

Replace the primary filter with the access door open, remove the hoops from the retainers. The retainers should remain attached to the blower grill. The filter then can be removed by sliding it out along the tracks. A new primary filter can be replaced with the process reversed.

- WARNING –

It is the customer's responsibility to determine the suitability of the carbon filter for any particular application or purpose. The effectiveness of activated carbon must be routinely monitored. In addition, certain substances can combine in the carbon that can result in a fire hazard. Air Quality Engineering, Inc., accepts no liability for the activated carbon effectiveness or fire hazard.

CARBON MODULE MAINTENANCE (OPTIONAL)

The M3660 can be ordered with an optional carbon module. This module is refillable.

1. Open the filter access door.
2. Slide the used carbon module out of the filter track that is behind the primary filter track. Caution – the carbon module weighs approximately 50 lbs. Use appropriate means to support the carbon module during service.

Optional Step 3

When a carbon filter is in place and the extended service filter is used the retainers are not necessary and should be ignored. The extended service filter can be removed by sliding it out along the tracks. A new extended service filter can be replaced into the tracks.

3. Refill the carbon module by removing the cover held on by four screws and pouring out the used carbon in an appropriate container. This used carbon must be reactivated or disposed of in the proper manner. Pour in the new or reactivated carbon and replace the cover and four screws.
4. Slide the module back into the filter track and close the filter access door.

PARTS LIST

NO.	DESCRIPTION	PART NO.
1	MiniHelic 10”	10259
2	Impinger (Qty. 2)	41146
3	Filter (95% Mist Bag Filter 24” x 24” x 22”)	41101
4	Filter (85% Mist Bag Filter 24” x 24” x 22”)	41102
5	Filter (65% Mist Bag Filter 24” x 24” x 22”)	41103
6	Filter (50% Mist Bag Filter 24” x 24” x 22”)	41104
7	Rigid 95% Filter 24” x 24” x 12”	41186
8	Rigid 85% Filter 24” x 24” x 12”	41187
9	Hook, Filter Bag	30706
10	Polypropylene 95% ESF Filter 24” x 24” x 12”	41218
11	Polypropylene 85% ESF Filter 24” x 24” x 12”	41219
12	Polypropylene 65% ESF Filter 24” x 24” x 12”	41223
13	45 lb. Carbon Module Filter	41077
14	50 lb. Bulk Carbon refill	41165
15	200 lb. Bulk Carbon refill	41081
16	Silencer Assembly	05578
17	Impinger Assembly	07057
18	M69 Carbon Module 45 lbs.	07092
19	M68 HEPA Module	07091

TROUBLE SHOOTING

WARNING!

The following instructions are intended for qualified service personnel only. Dangerous line voltage circuits are exposed during this procedure. Disconnect the power before servicing the unit.

Check the Fan Motor and Power Source

If the fan does not run when the switch is on check the voltage supplied to the motor.

If the correct line voltage is not measured, check back through the wiring to the power source.

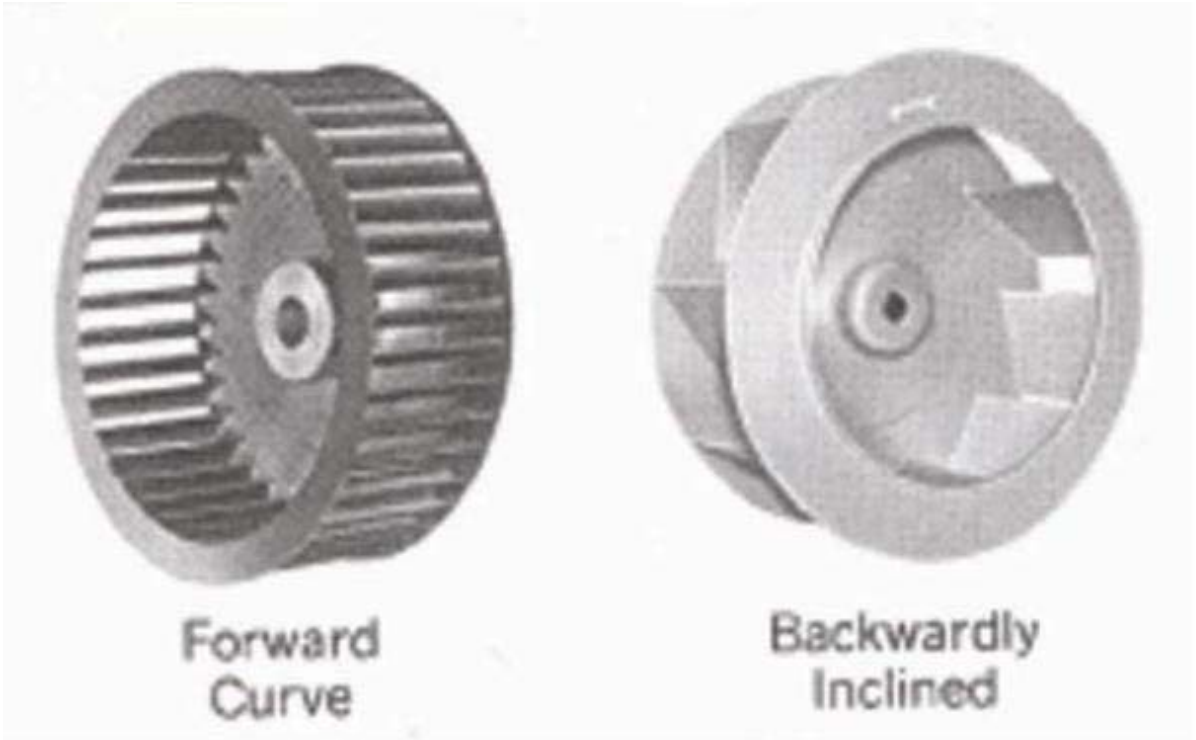
If the motor does not turn with the correct voltage applied, check to see that the shaft is free to turn. Replace the motor, if necessary.

If the fan is noisy when the unit is in operation check the fan.
WARNING: Disconnect power before continuing! Manually turn the fan to make sure there is no rubbing or grinding

Check the Wheel Rotation

Turn on power just long enough to start wheel rotating.

Check rotation for agreement with rotation arrow. Wheels are shown with counterclockwise rotation from inlet side. If the rotation differs from the picture check wiring.



CERTIFICATE OF WARRANTY

THREE-YEAR LIMITED WARRANTY

Air Quality Engineering, Inc. (AQE), warrants to the original purchaser, subject to the conditions below, that if the "Product" covered by this warranty should fail to perform by reason of improper workmanship or material, AQE will during the period of three (3) years from the date of original purchase either (i) replace the product or (ii) provide all necessary parts to repair the product without charge. The decision to replace the product or the necessary parts shall rest solely with AQE. This three-year limited warranty does not apply to main filter elements. AQE will replace without charge the main filter elements during the period of thirty (30) days from the date of original purchase if the main filter elements fail to perform by reason of improper workmanship or material. This warranty is valid only under the following conditions:

CONDITIONS

1. REGISTRATION: The purchaser's completion and mailing of the Registration Card to Air Quality Engineering, Inc., 7140 Northland Drive North, Minneapolis, Minnesota 55428-1520 within 30 days of original purchase.

2. AUTHORIZATION: The purchaser will contact AQE at (763) 531-9823 for authorization, returned goods number (RGA) and the shipping address. AQE will direct the purchaser to either return the necessary parts or the product at AQE's option.

3. PROPER DELIVERY: The shipping, freight prepaid or delivery of the parts or the product to AQE in either its original carton or in a carton assuring similar protection of the product with the returned goods number (RGA) clearly displayed on the outside of the carton.

4. UNAUTHORIZED REPAIR: A showing by the original purchaser that the product has not been altered, repaired or serviced by anyone other than an authorized service technician using genuine AQE parts.

5. UNAUTHORIZED PARTS: A showing by the original purchaser that the product has had only genuine AQE parts and filters used in its operation and maintenance.

6. SERIAL NUMBER INTACT: A showing by the original purchaser that the serial number has not been altered or removed.

7. MISUSE: A showing by the original purchaser that the product has not been involved in an accident, freight damaged, misused, abused or operated contrary to the instructions contained in the Owner's Manual.

Air Quality Engineering, Inc.'s, sole responsibility shall be to repair or replace the product within the terms stated above. AQE SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL DAMAGES RESULTING FROM ANY BREACH OF WARRANTY, EXPRESS OR IMPLIED, APPLICABLE TO THIS PRODUCT. Some states do not allow the exclusion or limitation of consequential damages so this limitation may not apply to you.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, AND THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY EXCLUDED BEYOND THE THREE-YEAR DURATION OF THIS WARRANTY. Some states do not allow limitations on how long an implied warranty lasts so the above limitation may not apply to you.

This warranty gives you specific legal rights and you may also have other rights that vary from state to state.

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MANUFACTURER & WORLDWIDE DISTRIBUTOR OF SMOKEMASTER® AIR CLEANING SYSTEMS

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