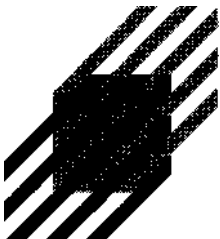


# OWNER'S MANUAL

## **MODEL AQE2000** Portable Cartridge System



*The new Portable Cartridge System from Air Quality Engineering Inc. is a complete self-contained media air cleaner for use in source capture applications in industry. The Model AQE2000 captures airborne contaminants such as welding smoke, grinding dust, plastic dust and other fine particles.*



**AIR QUALITY  
ENGINEERING**

Manufacturer and Worldwide Distributor of Air Cleaning Systems for Over 25 Years

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# AIR QUALITY ENGINEERING

## MODEL AQE 2000 CARTRIDGE SYSTEM

### PRINCIPLES OF OPERATION

Airborne contaminants enter the AQE 2000 through the hood/arm assembly at a rate of 1100 cubic feet of air per minute (cfm). Heavy particles are propelled downward through the venturi and into the cleanout trays. Smaller submicron particles are then trapped within the pleats of the two 99.8% efficient cartridge filters.

The cleaned air is then gently diffused out the bottom of the unit. When the filter gauge indicates that the cartridge filters are dirty, they are easily cleaned by connecting a shop air hose (80-120 psi) to the unit and activating the reverse pulse system.

### SPECIFICATIONS

**DIMENSIONS:** 46" H x 27" W x 37" D

**WEIGHT:** 350 lbs. actual, 400 lbs. shipping

**POWER CONSUMPTION:**

120V - 1Ø: 14 Amp maximum  
208-240V - 1Ø: 8 Amp maximum

**ARM ASSEMBLY:** 13' Long x 6" Diameter or optional 8" diameter. Externally-supported arm with full 360 degree arm rotation. Arm assembly incorporates a gas springs and parallel linkage which provides easy up and down movement.

**HOOD:** Single piece aluminum spun hood for durability.

**AIRFLOW VOLUME:** 1100 CFM

**MOTOR:** TEFC 1.5 HP, thermally-protected

**BLOWER:** Direct-drive, backward incline, 3450 RPM

**CABINET CONSTRUCTION:** 16 gauge welded galvanized steel

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

**CONTROLS:** All models include control circuitry and thermal protection.

**POWER CORD:** Ten-foot power cord with molded plug.

**CASTERS:** Two large 8" diameter semi-pneumatic (front) wheels and two heavy-duty swivel casters (back).

**FINISH:** Durable powder coat paint

**FILTRATION:** Two high-efficiency cartridge filters, 12 3/4" diameter x 22", 191 square feet of media each, 382 square feet total, 99.8% efficient at .5 microns.

**FILTER ACCESS:** Hinged side door

**FILTER CLEANING:** Self-cleaning reverse pulse jet system which utilizes a one-inch diaphragm valve. Requires 80-120 psi of shop-supplied compressed air. 1/4" NPT female fitting is provided to accept field-installed quick connector.

**FILTER GAUGE:** Dwyer Minihelic II, indicates pressure up to 10" H<sub>2</sub>O.

## APPLICATION / OPERATION

### Caution

1) Due to potential fire hazards, do not mix combustible materials with those that would be a potential source of ignition.

#### Examples of Potential Ignition Sources

Grinding dust from metals  
Hot ash from any source

#### Examples of Combustible Materials

Wood dust, paper dust  
Lint from fabrics or buffing operations  
Aluminum or magnesium dusts

2) **This equipment should not be used for the collection of materials where there is a risk of explosion.**

3) Workers and machine operators should be instructed to keep any burning objects, such as cigarettes, safely away from air inlets.

4) All those involved with the use of this machine should comply with the statements regarding safety as noted in this manual.

### PACKAGE CONTENTS

The AQE 2000 is packaged in two boxes. One contains the blower/filter module and the other contains the arm assembly.

### UNPACKING INSTRUCTIONS

1) Inspect the boxes for damage before signing the delivery receipt from the carrier. If the boxes appear to have been damaged, note the damage on the delivery receipt and have the carrier initial the note.

2) Carefully remove the packaging from the AQE 2000.

### SETUP AND OPERATION

The arm assembly needs to be attached to the top of the AQE 2000. To attach the arm assembly, position the arm base to the top of the AQE 2000 aligning it with the mounting holes. Secure with the enclosed bolts and washers.

The joints on the source capture arm just need to be slightly snugged up when the arm doesn't stay in position. NO NOT over tighten the joints on the arm.

The AQE 2000 comes complete with a ten-foot mounting cord with molded plug. Plug the cord into any standard grounded outlet and turn the power switch to the on position.

## SERVICE

### CLEANING THE CARTRIDGE FILTERS (back flushing)

A pressure gauge is located on the front of the AQE 2000 to indicate the load on the cartridge filters.

1) Note the gauge reading at initial start-up. As contaminants collect, the static pressure will increase as the airflow decreases. Once the airflow is reduced so that the contaminants are not being captured in the hood, backflushing is required.

2) Note the gauge reading when the filters are dirty. Once the back flushing is done, the gauge reading should be close to the gauge reading when the filters were new.

3) To back flush the cartridge filters:

- Turn the AQE 2000 off.
- Attach a compressed air line to the air inlet. Eighty to one hundred psig are required. The air tank within the AQE 2000 will be filled from the connected air supply; when the airflow stops, the tank is full. Initiate back flushing by lifting and releasing the toggle valve. Repeat the pulse cycle several times for best results.
- Empty and reinstall the dust trays before operating the unit.

## EXTENDING CARTRIDGE LIFE

1) Cartridge life can be extended by manually blowing out the cartridge filters.

2) To manually clean the filters, remove the filters from the AQE 2000 and blow the dust off using a hand-held blow gun attached to a shop air line. Airflow should be directed from the inside of the cartridge to the outside of the cartridge.

## MAINTENANCE

The AQE 2000 will require minimum maintenance to keep it in good operating condition. The motor is totally enclosed, fan cooled with permanently lubricated ball bearings. No maintenance is required other than to reverse pulse the cartridges and general cleaning of the cabinet, as needed.

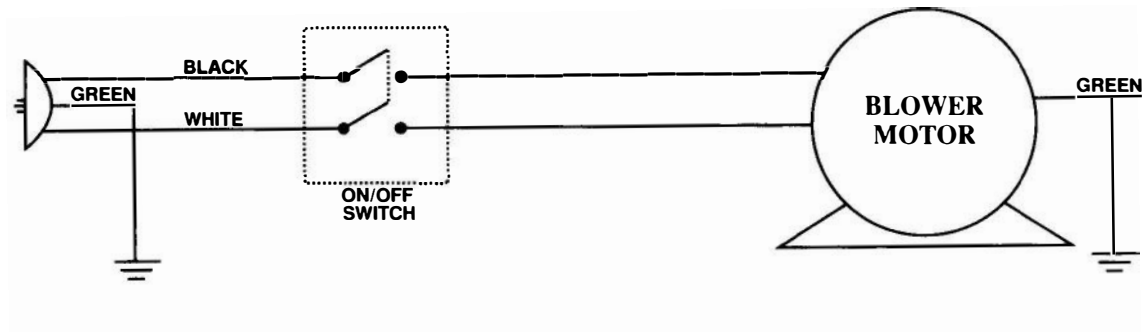


# TROUBLESHOOTING

## Caution

During maintenance, filter replacement, or troubleshooting; make certain the power cord has been disconnected and the blower has completely stopped. The unit should never be operated with the filter access door open.

PROBLEM	POSSIBLE CAUSE	REMEDY
Unit fails to start.	No power to unit. Faulty motor. Faulty control switch.	Check circuit. Replace motor. Replace switch.
Capture velocity low.	Dirty filters.  Obstruction in arm assembly.	Backflush. Manually clean or replace filters. Remove obstruction.
Vibration.	Foreign object in blower. Dirty filters.  Obstruction in arm assembly.	Remove obstruction. Backflush, manually clean or replace. Remove obstruction.
Filters not cleaning.	Faulty air diaphragm.   Shop air pressure.	Check to insure internal air line is in place. Check diaphragm operation by removing both filters and initiate pulse. Replace if necessary.  Shop air must be 80-120 psi filtered and dry.



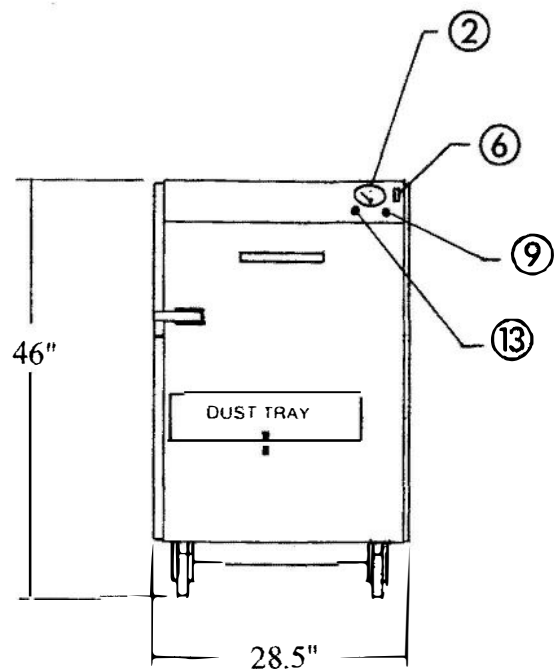
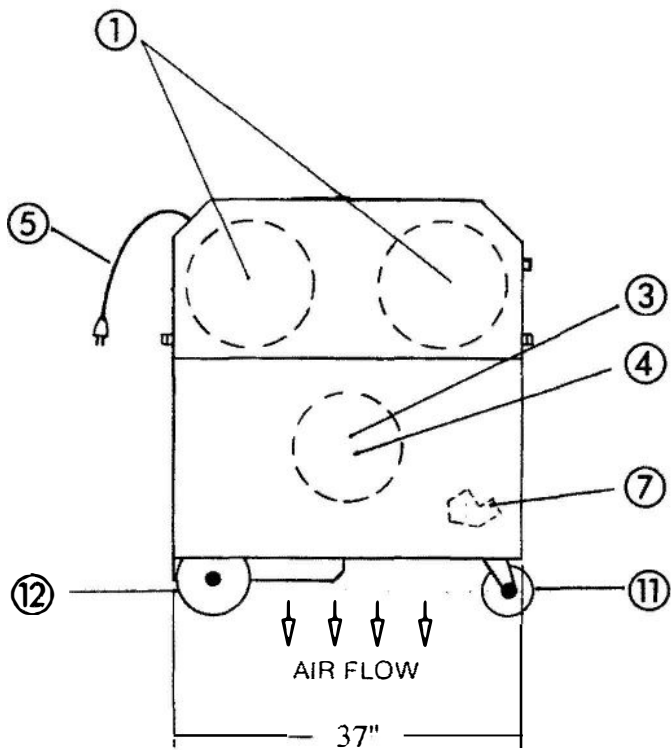
# PARTS LIST

KEY	DESCRIPTION	QTY/UNIT	SINGLE PHASE	THREE PHASE
			PART NO.	PART NO.
1	Cartridge Filter	2	41167	41167
2	Minihelic Gage	1	10219	10219
3	Motor, 1.5 HP	1	40051	40053
4	Blower/Inlet Cone	1	37030	37030
5	Power Cord	1	42129	42156
6	Rocker Switch	1	10140	10140
7	Diaphragm Valve, 1"	1	10226	10226
8	Hose, 1" Diameter	3.5	30634	30634
9	Toggle Valve	1	30360	30360
10	Tubing 1/4"	4	30632	30632
11	Caster, 5"	2	30041	30041
12	Wheels, 8"	2	30644	30644
13	Inlet connector, 1/4" NPT	1	30633	30633
18	HEPA Filter, optional	1	07141	07141

**AIR QUALITY ENGINEERING, INC.**  
**3340 WINPARK DRIVE**  
**MINNEAPOLIS, MINNESOTA 55427-2083**

**TOLL FREE: 1-800-328-0787**  
**TELEPHONE: (612) 544-4426**  
**FAX: (612) 544-4013**





# CERTIFICATE OF WARRANTY

## 3 YEAR LIMITED WARRANTY

Air Quality Engineering, Inc., (AQE) warrants to the original purchaser, subject to the conditions below, that should the product covered by this warranty ("Product") fail to perform by reason of improper workmanship or material, Air Quality Engineering, Inc. ("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 3 year limited warranty does not apply to main filter elements. Air Quality Engineering, Inc., 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., 3340 Winpark Drive, Minneapolis, Minnesota, 55427 within 30 days of original purchase.
2. **AUTHORIZATION:** The purchaser will contact Air Quality Engineering, Inc., (612) 544-4426, for authorization and returned goods number (RTA) and shipping address. AQE will direct 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 Air Quality Engineering, Inc., in either its original carton, or in a carton assuring similar protection of the Product, with returned goods number (RTA) clearly displayed on outside of 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 Air Quality Engineering, Inc., 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 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 which vary from state to state.