
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

MODEL PORTA AIR™
Portable Cartridge System



The new PortaAir™ Portable Cartridge System from Air Quality Engineering Inc., is a manually cleaned media air cleaner for use in intermittent duty source capture applications in industry. The PortaAir captures airborne contaminants such as welding smoke, grinding dust, plastic dust and other fine particles.

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

TABLE OF CONTENTS

	PAGE
PRINCIPLES OF OPERATION	3
SPECIFICATIONS	3
APPLICATION/OPERATION	4
Package Contents	4
Unpacking Instructions	4
Arm Attachment Instructions	4
SERVICE	4
Replacing the Cartridge Filters	4
Extending Cartridge Life	5
Maintenance	5
TROUBLESHOOTING	6
SCHEMATICS	6
PARTS LIST	7
WARRANTY	8

- CAUTION -

APPLICATION OF DUST CONTROL EQUIPMENT:

1. Avoid mixing combustible materials, such as, buffing lint, paper, wood, dust, aluminum and magnesium, with dust generated from grinding ferrous metals due to the potential fire hazard caused by sparks in the dust collector.
2. Under no conditions should the machine operator be allowed to put lit cigarettes or any burning object into the hood or ducting of any dust control system.
3. Consult and comply with all national and local fire codes and/or other appropriated codes when determining the location and operation of dust collector equipment.
4. Dust collectors do not contain fire-extinguishing equipment. When dust collectors are used to collect flammable or explosive dusts, the dust collector should be located outside the building. Also, a manufacturer of fire extinguishing equipment, familiar with this type of fire hazard and local fire codes, should be consulted for recommendations and installation of the proper fire extinguishing equipment.

AIR QUALITY ENGINEERING, INC., MODEL PORTA AIR CARTRIDGE SYSTEM

PRINCIPLES OF OPERATION

Airborne contaminants enter the PortaAir through the hood/arm assembly at a rate of 1000 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. Replace filters when the filter gauge indicates that the cartridge filters are dirty.

SPECIFICATIONS

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

WEIGHT: 350 Lbs. actual, 400 Lbs. shipping

POWER CONSUMPTION:
120V - 1Ø: 14 Amp maximum

ARM ASSEMBLY: 11' long x 8" Diameter. Externally-supported arm with full 360° arm rotation. Arm assembly incorporates a gas spring which provides easy up and down movement.

HOOD: 18-gauge aluminum hood with handle. Hood moves easily vertically and horizontally.

AIRFLOW VOLUME: 1000 CFM

MOTOR: 1.5 HP, thermally protected.

BLOWER: Direct-drive, backward inclined, 3450 RPM

CABINET CONSTRUCTION: 16-gauge welded steel

CONTROLS: All models include control circuitry and thermal protection

POWER CORD: Ten-foot power cord and plug standard on all single phase models.

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

FINISH: Durable acrylic baked enamel 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 GAUGE: Dwyer Minihelic II, indicates pressure up to 10" H₂O.

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

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

UNPACKAGING 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 PortaAir.

ARM ATTACHMENT INSTRUCTIONS

In order to assure proper function and ease of movement of the mechanical arm for your PortaAir, please use the included grease tube to lube the flange on the base pipe. Apply the grease around the entire perimeter on both sides before mounting the arm to the unit. To attach the arm assembly, two people will be required. One person should support and position the arm base to the top of the PortaAir aligning it with the mounting holes. The second person should secure the arm with the enclosed bolts and washers.

The arm assembly has four adjustable tension joints, which can be set to provide easy maneuvering of the arm and hood over the source of contamination. Refer to Fig. 1 on Pg. 5.

The single phase PortaAir 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

REPLACING THE CARTRIDGE FILTERS

A pressure gauge is located on the front of the PortaAir 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 contaminate is collected. Once the airflow is reduced so that the contaminants are not being captured in the hood, filter replacement is required.

2. Open the filter access door, remove the latches to free the filter, remove and discard the filter according to local regulations.

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 PortaAir and blow the dust off using a handheld blowgun attached to a shop air line. Airflow should be directed

from the inside of the cartridge to the outside of the cartridge.

3. Use suitable personal protection gear to avoid inhalation or eye irritation.

MAINTENANCE

The PortaAir will require minimum maintenance to keep it in good operating condition. No maintenance is required other than to replace the cartridges when necessary, periodically emptying the dust trays, and general cleaning of the cabinet, as needed.

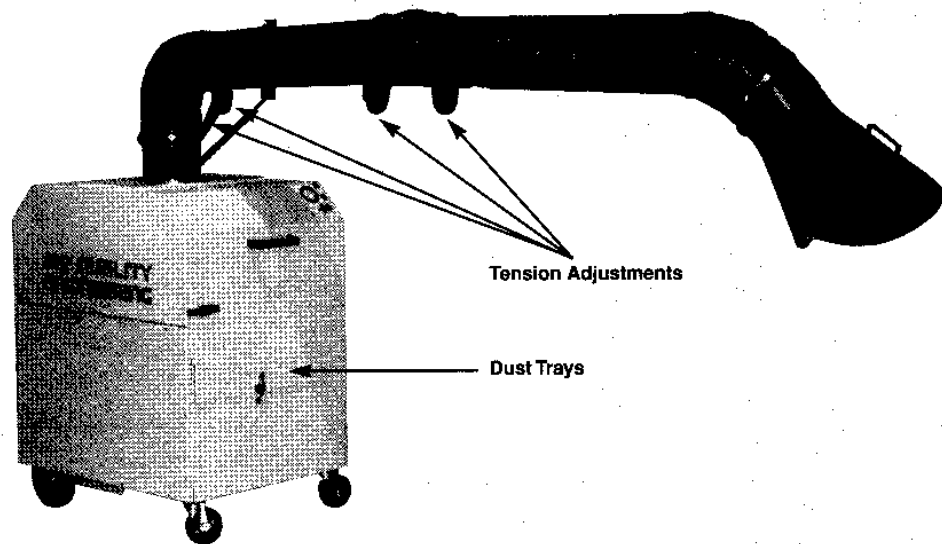


FIGURE 1 – ARM ASSEMBLY WITH ADJUSTABLE TENSION JOINTS

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
1. Unit fails to start	1.a. No power to unit 1.b. Faulty motor 1.c. Faulty control switch	1.a. Check circuit 1.b. Replace motor 1.c. Replace switch
2. Capture velocity low	2.a. Dirty filters 2.b. Obstruction in arm assembly	2.a. Manually clean or replace filters 2.b. Remove obstruction
3. Vibration	3.a. Foreign object in blower 3.b. Dirty filters 3.c. Obstruction in arm assembly	3.a. Remove obstruction 3.b. Manually clean or replace filters 3.c. Remove obstruction

WIRING SCHEMATIC

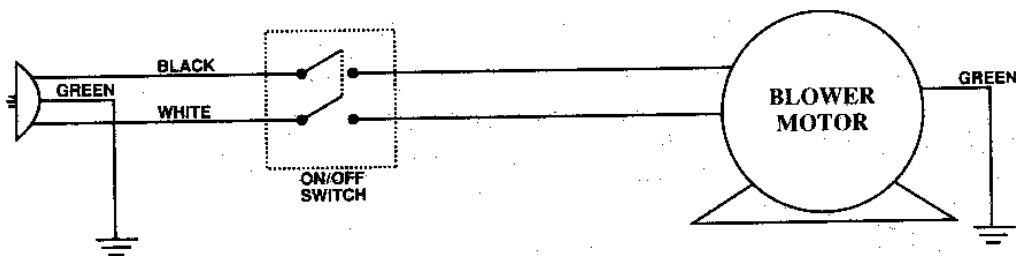
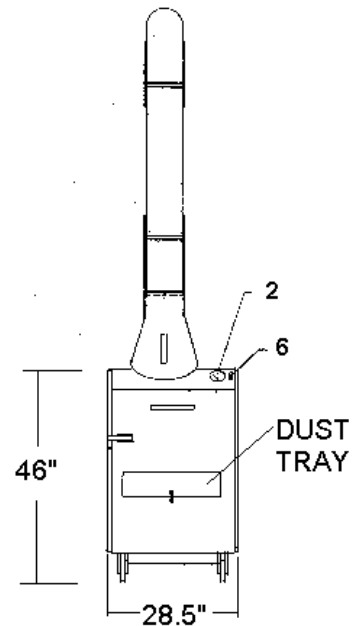
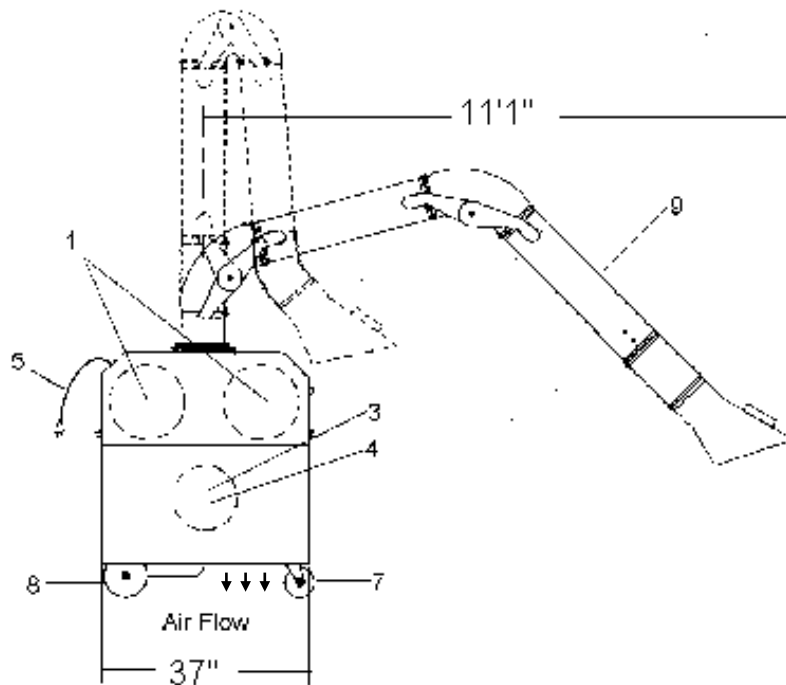


FIGURE 2 – WIRING DIAGRAM

PARTS LIST

KEY	DESCRIPTION	QTY/UNIT	SINGLE PHASE PART NO.
1	Cartridge Filter, std	2	41167
1	Cartridge Filter, optional HO Polyester	2	41212
2	Minihelic Gage	1	10219
3	Motor, 1.5 HP	1	40051
4	Blower/Inlet Cone	1	37041
5	Power Cord	1	42129
6	On/Off Switch	1	10140
7	Caster, 5"	2	30041
8	Wheels, 8"	2	30644
9	Arm Assembly	1	05470
10	Halogen Light, optional	1	07105
11	HEPA Filter, optional	1	07141



CERTIFICATE OF WARRANTY

LIMITED THREE-YEAR WARRANTY

Air Quality Engineering, Inc., (AQE) warrants the PORTA-AIR Air Cleaner to be free from defects in workmanship or materials, under normal use and service, for a period of three (3) years from date of purchase by the consumer. If, at any time during the warranty period, the product is defective or malfunctions, AQE shall repair or replace it (at AQE's option) within a reasonable period of time.

If the product is defective:

- (i) return the unit or defective component, with a bill of sale or other dated proof of purchase, to the retailer from which you purchased it, or
- (ii) package the unit or component, along with proof of purchase (including date purchased) and a short description of the malfunction, and mail or ship, postage or freight prepaid, to the following address:

AIR QUALITY ENGINEERING, INC.
Warranty/Return Goods Department
7140 Northland Drive North
Brooklyn Park, Minnesota 55428-1520 USA

The repaired or replaced part or unit will be shipped by AQE to the purchaser, freight collect, with the purchaser to be responsible for all freight charges. The warranty on any repaired or replacement part shall be for a duration of time no longer than the remaining or unexpired term of the original warranty. This warranty does not cover any labor or other service charges incurred by the purchaser.

This warranty shall not apply if it is shown by AQE that the defect or malfunction was caused by damage, which occurred while the product was in the possession of the consumer.

AQE'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, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. 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
Made in the USA