

PORT-A-CART™

Portable Cartridge Air Cleaner



- INSTALLATION
- OPERATION
- SERVICE

For Industrial Applications



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A **FEDDERS**® ENGINEERED PRODUCTS COMPANY

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CAUTION:
READ INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS CARE-
FULLY FOR SAFE OPERATION

EXERCISE EXTREME CAUTION WHEN WORKING WITH ELECTRICITY

SPECIFICATIONS: PORT-A-CART™

Power Requirement:	120 volts, 60 Hz, 1 Phase, 17 amps, 1612 watts
Weight:	400 lbs. (180 kg)
Dimensions:	48.1"L x 29.5" W x 33.5" H (1222 x 749 x 851 mm)
Filter Area:	190 Sq. Ft. (17.7 Sq. m)
Backflush Air Pressure:	80-120PSI(1/4" shop hose or larger) 5.5-8.3 Pascals (6mm shop hose or larger)
Arm:	6.5' L, 8" diameter externally supported with 360 rotation (2m x 200mm)
Pick-Up Velocity:	2000 FPM (10 MPS)
Duct Velocity:	2900 FPM (15 MPS)
Capture Zone:	12" to 18" (300 to 450mm)
Filtered Air:	1000 CFM (1700 M3H)

SYSTEM DESIGN

SYSTEM DESIGN AND LAYOUT

WARNING!

The Port-A-Cart is NOT designed to collect wet or oily particulate and should not be installed in applications collecting coolants, grease, processing fluids or other types of liquid aerosols. Contact the Trion sales department for special units for these type installations at 800-884-0002.

The Port-A-Cart Cartridge Air Cleaner is designed to pick-up and collect dry solid particulate such as weld fumes and industrial dust. Clean air is then discharged back into the

work space. The unit is equipped with casters, a source capture arm, a filtration compartment, and a blower compartment. Simply roll the unit to a level location near the source of pollutants, adjust the arm, and place the casters in the locked position. Then connect the electrical power and the unit is ready for operation.

In operation, the pick-up arm delivers the contaminated air to the cartridge filter for collection. A Minihelic gauge monitors the pressure across the cartridge filter and indicates when cleaning should take place.

INSTALLATION

1. UNPACK AND INSPECT

Upon receipt, all shipping containers and their contents should be examined for damage. Any damage occurring in shipment must be immediately reported to the carrier, an inspection report completed and a claim filed with the carrier at the receiving point.

The Port-A-Cart cabinet is shipped assembled. Please check to ensure all components are included:

- Painted steel cabinet with integral cartridge filter, casters, and power cord
- Minihelic gauge
- Drop-Out tray
- Source capture arm, hood, and mounting hardware (shipped loose)
- Impregnated carbon filter (odor control)

2. INSTALLING SOURCE CAPTURE ARM

To simplify packaging and reduce the possibility of shipping damage, the source capture arm is shipped separately. The necessary mounting hardware is included with the arm. Using washers and bolts provided, secure the arm to the cabinet. The mounting holes are pre-drilled. The tension is adjustable at each arm elbow (five places). The hood tension adjustment is located outside the hood.

3. POSITIONING THE UNIT

Roll the unit to a level floor space in the area in which it is to be used. When the unit has been properly positioned, lock the two swivel casters to prevent movement during operation.

WARNING !

Combustible Materials Hazard Can Cause Personal Injury, Death or Equipment Damage

1. Due to potential fire hazards, do not mix combustible materials with those that would be a potential source of ignition. Examples of combustible materials include but are not limited to: wood dust, paper dust, lint from fabrics or buffing wheels, grinding dust from painted surfaces and aluminum or magnesium dusts. Examples of potential ignition sources include but are not limited to: grinding dust from ferrous metals or sparks from any source.
 2. This equipment should not be used for the collection of any materials where there is a risk of explosion. Pressure relief or explosion vents should not be applied to the equipment or any adjoining system.
 3. Equipment location, installation and operation should comply with all national and local fire codes. When in doubt, consult the proper authorities.
 4. Workers and machine operators should be instructed to keep any burning objects, such as cigarettes, safely away from air inlets leading to the equipment.
 5. All those involved with the use of this equipment should comply with the statements pertaining to worker safety as noted in this manual.
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WARNING !

Electric Shock Hazard Can Cause Electrical or Equipment Damage

Do not connect power before the installation is complete.

ELECTRICAL POWER REQUIREMENTS

The blower motor is 1 1/2 HP requiring a 120 volt, 60 Hz, 1 ph (17 amp) source of power. The unit is supplied with a 10' (4.7 m) power cord.

OPERATION

Plug the power cord into a 120 volt, 60 hertz outlet. Turn the power switch on.

MAINTENANCE

WARNING !

Sharp Edges Can Cause Personal Injury

Wear protective gloves to prevent cuts from sharp edges.

CLEANING FILTER

Quality equipment, such as your Trion Port-A-Cart cartridge air cleaner, will require minimum maintenance to keep it in good operating condition. The motor is a totally enclosed, fan-cooled type with permanently lubricated bearings. No maintenance is required other than to routinely check for foreign debris in the arm hood, the drop-out tray and the motor blower compartments. Rubber gaskets should be checked twice a year. Aging occurs primarily due to ozone present in ambient air and eventually hardens the rubber and causes cracking and loss of seal. Contact Trion for replacement parts at 800-884-0002.

MANUAL CLEANING

The Minihelic gauge, located on the top surface of the unit, monitors static pressure across the cartridge filter. Note the gage reading on initial start-up. As contaminants collect, the static pressure will increase until the pick-up or capture zone becomes ineffective. Filter cleaning is required at this point. Again, note the static pressure gage reading. The clean filter and dirty filter readings may be used for future reference in determining the cleaning cycle.

To clean the filter cartridge, turn the unit blower off and close the damper in the pick-up arm. Remove the filter access cover. Using a compressed air gun or nozzle, backflush contaminants from the cartridge filter by directing the air through the filter from the center of the cartridge. The particulate blown from the cartridge is collected in the dust tray located below the filter.

When the filter cleaning is complete, the dust tray may need to be emptied.

Return the unit to operation by reattaching the filter access cover and opening the damper in the pick-up arm.

OPTIONAL PULSE CLEANING

A backflush pulse cleaning system is available. It consists of an air tank, a pulse valve and a manual switch. The air tank is located inside the blower compartment. The pulse valve is located to direct a blast of air into the center of the cartridge from the blower end. The actuator switch is located on the top surface of the unit.

To clean the cartridge, turn the unit off and close the damper in the pick-up arm. Connect a dry/ clean compressed air source (80-120 PSI, 5.5-8.3 Pascals) to the air inlet on the top surface of the unit. The built-in air tank will fill from the connected air supply. When the tank is full, the air flow stops. Initiate back-flushing by pushing the pulse switch. Repeat the pulse cycle several times for best results.

When the filter cleaning is complete, the dust tray may need to be emptied.

Return the unit to operation by reattaching the filter access cover and opening the damper in the pick-up arm.

RECOMMENDED OPERATING RANGE

Condition	Gauge Reading	Air Flow
New Filter, No Pre-coat	1.8" - 1.9"	1020-1000 CFM
New Filter, After Pre-coat	2.1" - 2.2"	1000 CFM
Recommended pulse range, initial	2.4" - 2.5"	970-930 CFM
Recommended pulse range, final*	2.7" - 2.8"	910-885 CFM
Replace filter**	3.0" - 3.2"	800-700 CFM

* Resistance across the filter will increase over time as contaminants become embedded in the filter fibers. A reduction of 0.15" - 0.25" after pulsing 5-10 times is common.

** When repeated pulsing and manual cleaning does not reduce the gauge reading below this range, airflow is typically insufficient and the cartridge should be replaced.

THE CARTRIDGE FILTER

CAUTION: Before servicing any portion of the air cleaner:

1. Disconnect the electrical power.
2. Shut off and bleed the compressed air supply.

The backflushing process may lose effectiveness on removing collected contaminants after extended use. (The filter life may be extended by removing the filter from the cabinet and manually directing compressed air into the center of the filter to dislodge contaminants.)

TO REMOVE AND REPLACE FILTER

NOTE: Depending on the contaminant collected, it may be advisable to wear a dust respirator when handling dirty filters.

1. Open filter access cover.
2. Move cartridge filter slightly up and down to break the rear gasket seal.
3. Rotate the cartridge 1/2 turn to permit any loose contaminant falling from the top of the elements.
4. Slide the cartridge filter out of the compartment.
5. Clean any dust deposits from the rear gasket seal area to assure a positive seal for the replacement cartridges.
6. Remove excess contaminant from bottom of compartment by brushing out or by vacuuming.
7. Install new cartridge and replace access cover.

WARNING !

**Electric Shock Hazard
Can Cause Personal Injury or Death**

LIMITED WARRANTY

Trion warrants the equipment of its manufacture to be free from defects in workmanship and material for a period of 36 months after shipment. This warranty is limited, however, to the repair or replacement of defective equipment, which is returned, freight prepaid, to manufacturer's factory. This warranty does not cover any of the replacement filters in the unit, i.e. cartridge filter, HEPA (optional), Impregnated after filter.

This limited warranty does not apply to any part or component that is damaged in transit or when handling, has been subject to misuse, negligence or accident, has not been installed, operated or serviced according to Seller's instructions, or has been operated beyond the factory rated capacity or has been altered in any way.

Trion's liability is limited to replacement of defective parts or components and does not include any cost of labor (including, but not limited to, labor required to remove and/or reinstall any defective part) other than Trion factory labor.

Trion shall not be responsible for loss of use of any product, loss of time, inconvenience, or damage to other equipment or any other indirect or consequential damage with respect to property whether as a result of breach of warranty, neglect or otherwise.

THE WARRANTIES AND LIABILITIES SET FORTH ABOVE ARE IN LIEU OF ALL OTHER WARRANTIES AND LIABILITIES, EXPRESSED OR IMPLIED, IN LAW OR IN FACT, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE.

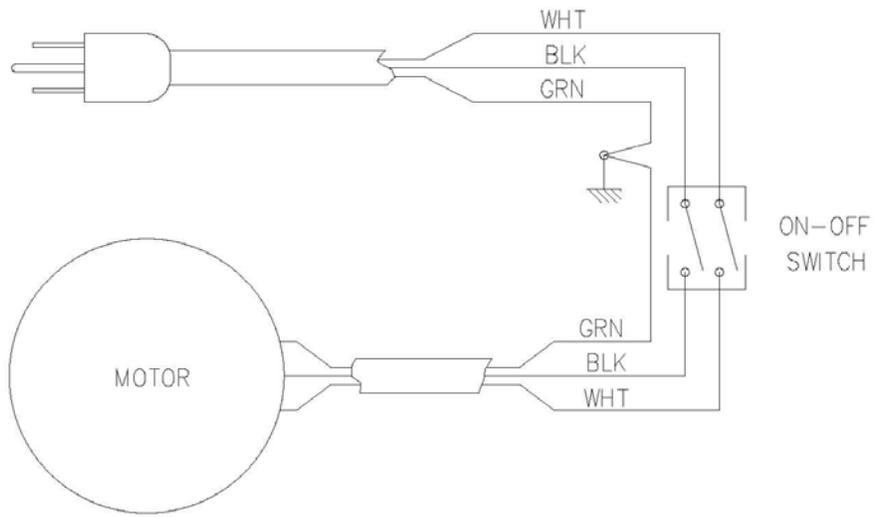
The foregoing shall constitute the total liability of Seller in the case of defective performance of all or any of the equipment or services provided to Buyer. Buyer agrees to accept and hereby accepts the foregoing as the sole and exclusive remedy for any breach or alleged breach of warranty by seller.

TROUBLESHOOTING GUIDE

CAUTION: During maintenance, filter replacement, or troubleshooting, make certain the power cord has been disconnected and the blower has completely stopped. The unit should not be operated with the filter access door open.

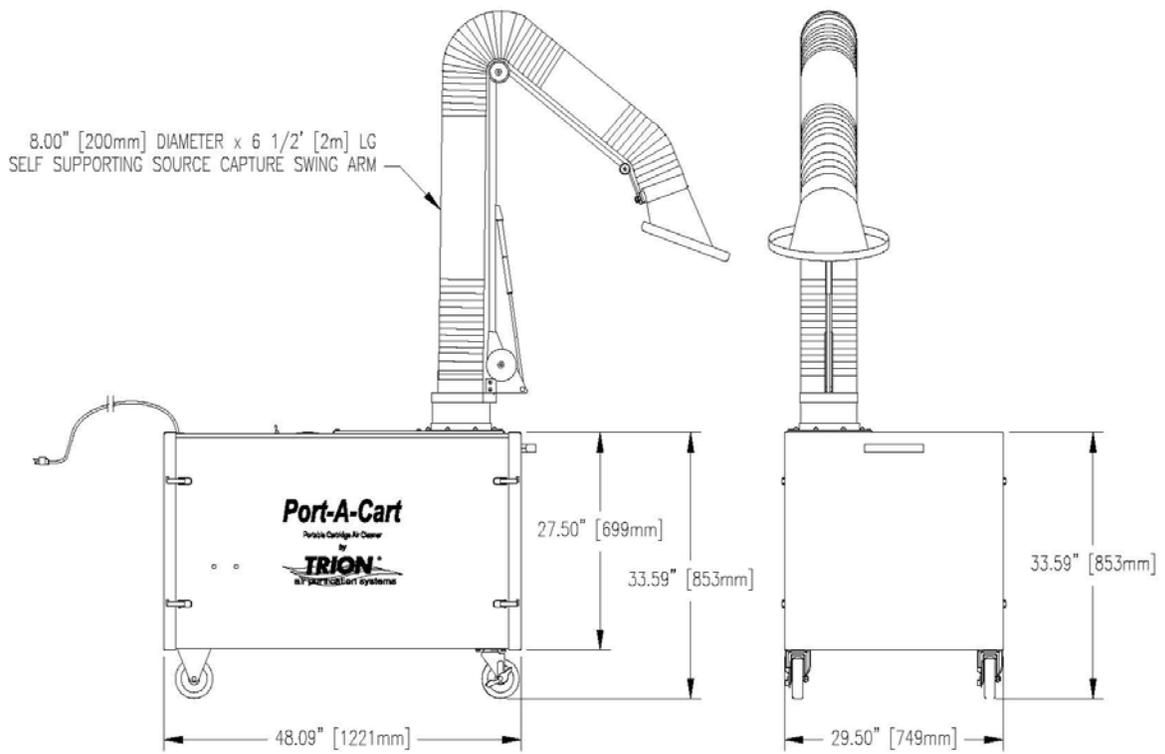
PROBLEM	POSSIBLE CAUSE	SOLUTION
Unit fails to start	No power to the unit Faulty motor Faulty control switch	Check circuit Replace motor Replace switch
Capture velocity low	Dirty Filters Obstruction in arm	Backflush (Pulse) Manually clean or replace filters Remove obstruction
Vibration	Foreign object in blower Dirty filters Obstruction in arm	Remove obstruction Backflush, manually clean or replace Remove obstruction
Optional cleaning system not cleaning filters	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.

Figure 1—Wiring Diagram



WIRING DIAGRAM

Figure 2—Outline Diagram

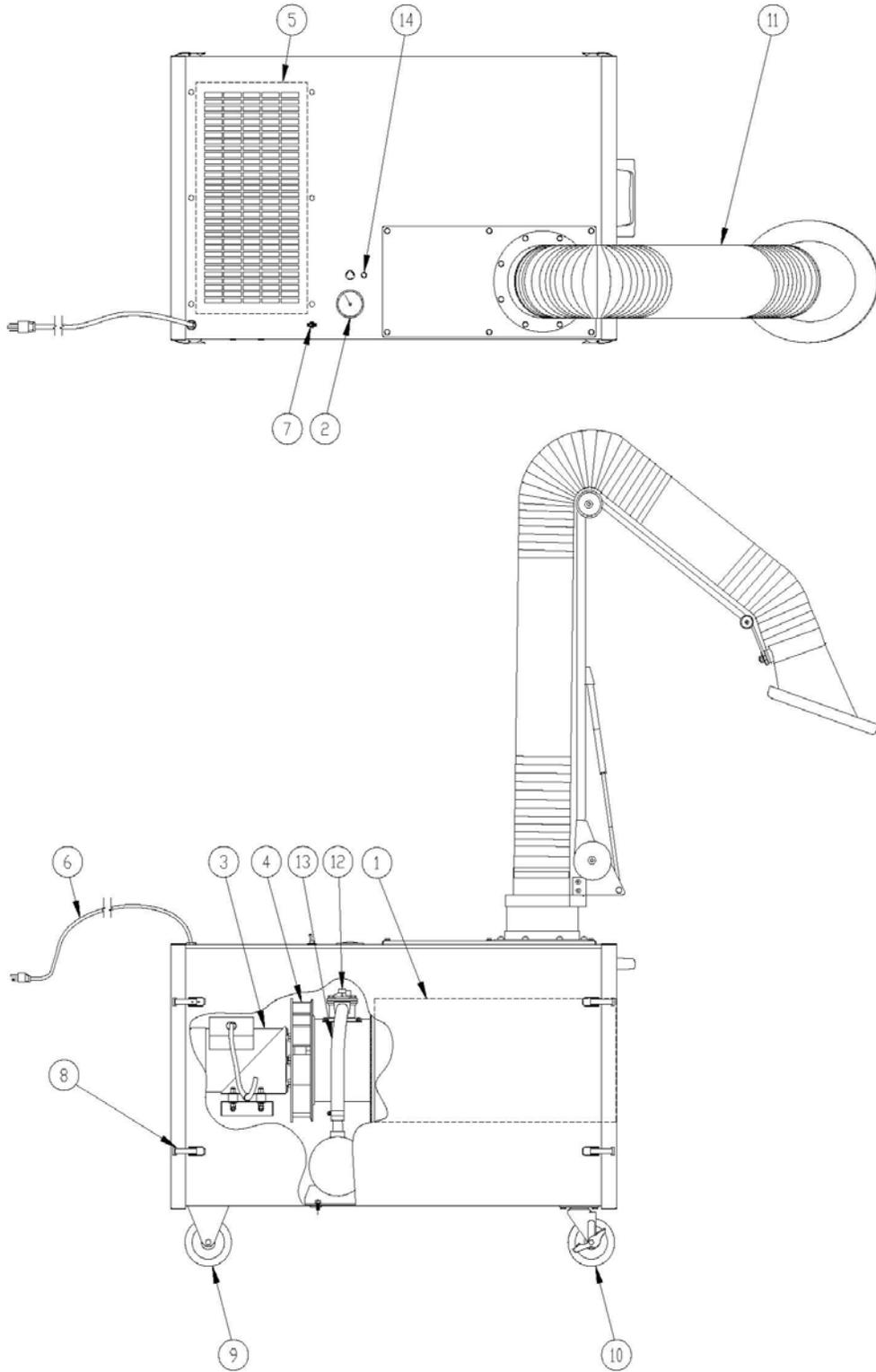


PARTS LIST

See Figure 3

Reference Key	Qty. per unit	Part Number	Description
1	1	251100-001	Cartridge Filter
2	1	145443-001	Minihelic Gage, 0-5"
3	1	150825-001	Motor, 1 1/2 Hp, 120/208-230 volt
4	1	250827-001	Blower Wheel
5	1	256941-001	Impregnated Carbon Filter
6	1	256950-002	Power Cord
7	1	238001-002	Toggle Switch, DPST
8	8	245386-017	Latch
9	2	252122-001	Caster, 5", Fixed
10	2	252122-002	Caster, 5", Swivel
11	1	354970-012	Fume extractor (pick-up) Arm
12	1	145439-003	Diaphragm Valve, 3/4" (optional)
13	1.33	147039-002	Hose, 1" ID (optional)
14	1	257214-001	Pushbutton Valve (optional)

Figure 3-Parts List Diagram



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