

## Operator's Instruction Manual

# EDCO VAC-290&VAC-200 INDUSTRIAL VACUUM SYSTEMS



VAC-290



VAC-200

Manual - Portable Dry Dust Removal



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## READ AND UNDERSTAND THE OPERATORS INSTRUCTION MANUAL THOROUGHLY BEFORE ATTEMPTING TO OPERATE THIS EQUIPMENT.



**Death or serious injury could occur if this machine is used improperly.**



### SAFETY MESSAGES

- Safety Instructions are preceded by a graphic alert symbol of DANGER, WARNING, or CAUTION.

#### DANGER

Indicates an imminent hazard which, if not avoided, will result in death or serious injury.

#### WARNING

Indicates an imminent hazard which, if not avoided, can result in death or serious injury.

#### CAUTION

Indicates hazards which, if not avoided, could result in serious injury and or damage to the equipment.

### GASOLINE/PROPANE POWERED EQUIPMENT

#### WARNING

- Engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.



- Gasoline is extremely flammable and poisonous. It should only be dispensed in well ventilated areas, and with a cool engine.

- Small gasoline engines produce high concentrations of carbon monoxide (CO) example: a 5 HP 4 cycle engine operation in an enclosed 100,000 cu. ft. area with only one change of air per hour is capable of providing deadly concentrations of CO in less than fifteen minutes. Five changes of air in the same area will produce noxious fumes in less than 30 minutes. Gasoline or propane powered equipment should not be used in enclosed or partially enclosed areas. Symptoms of CO poisoning include, headache, nausea, weakness, dizziness, visual problems and loss of consciousness. If symptoms occur - get into fresh air and seek medical attention immediately.

### ELECTRICAL POWERED EQUIPMENT



Extreme care must be taken when operating electric models with water present: Ensure power cord is properly grounded, is attached to a Ground-Fault-Interrupter (GFI) outlet, and is undamaged.

- Check all electrical cables - be sure connections are tight and cable is continuous and in good condition. Be sure cable is correctly rated for both the operating current and voltage of this equipment.
- Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with qualified electrician or service person if there is any doubt as to whether the outlet is properly grounded. Adhere to all local codes and ordinances.
- **NOTE:** In the event of a malfunction or breakdown, grounding provides a path of least resistance for the electric current to dissipate. The motor is equipped with a grounded plug and must be connected to an outlet that is properly installed and properly grounded. DO NOT modify the plug provided on the motor. If the plug does not fit the outlet have a qualified electrician install the proper receptacle.
- Switch motor OFF **before** disconnecting power.

- Do not disconnect power by pulling cord. To disconnect, grasp the plug, not the cord.
- Unplug power cord at the machine when not in use and before servicing.

### GENERAL INSTRUCTIONS

- Equipment should only be operated by trained personnel in good physical condition and mental health (not fatigued). The operator and maintenance personnel must be physically able to handle the bulk weight and power of this equipment.
- This is a one person tool. Maintain a safe operating distance to other personnel. It is the **operators' responsibility** to keep other people (workers, pedestrians, bystanders, etc.) away during operation. Block off the work area in all directions with roping, safety netting, etc. for a safe distance. Failure to do so may result in others being injured by flying debris or exposing them to harmful dust and noise.
- This equipment is intended for commercial use only.
- For the operator's safety and the safety of others, always keep all guards in place during operation.
- Never let equipment run unattended.



- Personal Protection Equipment and proper safety attire must be worn when operating this machinery. The operator must wear approved safety equipment appropriate for the job such as hard hat and safety shoes when conditions require. Hearing protection **MUST** be used (operational noise levels of this equipment may exceed 85db). Eye protection **MUST** be worn at all times.



Keep body parts and loose clothing away from moving parts. Failure to do so could result in dismemberment or death.

- Do not modify the machine.
- Stop motor/engine when adjusting or servicing this equipment.



Maintain a safe operating distance from flammable materials. Sparks from the cutting-action of this machine can ignite flammable materials or vapors.

### DUST WARNING

#### WARNING

Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to cause cancer, birth defects, or other reproductive harm. Some examples of these chemicals are:

- Lead from lead-based paints, and
- Crystalline silica from bricks and concrete and other masonry products.

Your risk of exposure to these chemicals varies depending on how often you do this type of work. To reduce your risk: work in a well ventilated area, use a dust control system, such as an industrial-style vacuum, and wear approved personal safety equipment, such as a dust/particle respirator designed to filter out microscopic particles.

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## SPECIFICATIONS

Note:  
All dimensions and weights are for **reference only** and subject to change at any time.



Note: VAC-290  
Shown

**Figure 1**

NOTE: The following instructions are for models VAC-200 & VAC-290 except where noted. The instructions are very similar but are different in several ways. Please pay special attention where differences are noted for models.

## Safety VAC-200 & VAC-290

CAUTION: Standard EDCO machines are not to be used for the removal of liquids or any volatile, viscous, flammable or explosive media. If you are unsure about your application requirements consult your EDCO representative.

CAUTION: Standard EDCO VAC machines are designed for intermittent use, i.e. not more than 2 hours continuously. If you are unsure about your application requirements consult your EDCO representative.

CAUTION: A dust mask should be worn when working with used filters.

CAUTION: Disconnect the machine from the power source before and during inspection and/or maintenance.

CAUTION: Machines equipped with a reverse pulse module must always be supplied adequately when the machine is on. The module is controlled by an electrical sequential timer (requires a 110 volt power supply) or differential pressure switch. The module itself requires a source of compressed air of 90 PSI at 2-4 CFM (depending on module). This device prevents the accumulation of material on the filter and therefore prevents the machine from being held under excessive stresses due to material blockage.

CAUTION: Machines equipped with a motorized shaker must be supplied with a three phase, 230-460 volt (depending on motor) power supply when ever the machine is on. The motorized shaker is controlled by an electrical sequential timer (requires a 110 volt power supply), a differential pressure switch or a manual switch. Manual switch models should be actuated before and after every use while the vacuum is off. This device prevents the accumulation of material on the filter and therefore prevents the machine from being held under excessive stresses due to material blockage.

## Start-Up VAC-200

1. Pull up on the foot lever to release the dustpan. Check that the dustpan is completely empty then replace.

CAUTION: The electrical service at the installation site must supply the voltage stamped on the machine's serial tag. Most motors have multiple voltage capabilities that may appear on the motor serial tag but do not apply to the specific machine. Operating at an incorrect voltage may damage the machine.

NOTE: A qualified electrician in accordance with the National Electric Code and all local codes should perform all wiring and/or electrical adjustments during installation and servicing.

2. Connect the machine to the proper power source, as indicated on the machine's serial tag.
3. Start the machine by pushing the power switches on the motors to the ON/closed position one at a time.
4. Turn the machine off by pushing the power switches on the motors to the OFF/open position.
5. The filter should be shaken and the dustpan emptied before and after every use.

## Start-Up VAC-290

1. Pull up on the foot lever to release the dustpan. Check that the dustpan is completely empty then replace.

CAUTION: The electrical service at the installation site must supply the voltage stamped on the machine's serial tag. Most motors have multiple voltage capabilities that may appear on the motor serial tag but do not apply to the specific machine. Operating at an incorrect voltage may damage the machine.

NOTE: A qualified electrician in accordance with the National Electric Code and all local codes should perform all wiring and/or electrical adjustments during installation and servicing.

2. Connect the machine to the proper power source, as indicated on the machine's serial tag.
3. Start the machine by pushing the power switches on the control panel to the ON/closed position one at a time.
4. Turn the machine off by pushing the power switches on the control panel to the OFF/open position.
5. The filter should be shaken and the dustpan emptied before and after every use.

# Inspection and Maintenance VAC-200

## Standard Filter Inspection

1. Turn the machine off.
2. Knock material off the filter via the hand shaker, motorized shaker or reverse pulse.
3. Pull up on the foot lever to release the dustpan then remove and empty if necessary.
4. Lock the rear casters then carefully tip the machine back onto the push handle.
5. Remove any material between the pleats, by hand only.

CAUTION: Clogged material should only be removed by hand. Using an object to dislodge material may tear the filter. Consult your EDCO representative if material blockage is excessive.

6. Inspect the pleats of the filter for tears and material blockage.
7. Carefully tip the machine back onto the casters and replace the dustpan.

## Standard Filter Removal

1. First follow the preceding filter inspection procedure to determine if removal is necessary.
2. Turn the machine on then block the inlet with a flat and rigid material to place the machine under vacuum pressure.
3. Remove all of the housing-component socket truss screws with a 5/32 hex-wrench.
4. Turn the machine off and disconnect the power source.
5. Separate the motor deck from the housing then disconnect the motor deck ground wire from the push-on terminal.
6. Disconnect the three power cord wires from the terminal block on the underside of the motor deck.
7. Remove the motor deck.
8. Disconnect the clear differential pressure gage tubes from their respective barbed fittings if so equipped.
9. Remove the HEPA filter housing spacer and HEPA adapter assembly if so equipped; make sure to disconnect the HEPA adapter assembly ground wire via push-on terminal before removing.
10. Remove the reverse pulse/motorized shaker assembly and housing spacer if so equipped; make sure to disconnect the component ground wire via push-on terminal before removing.
11. Inspect the top of the filter for material.

NOTE: The presence of material in this area or in the exhaust is often the result of a misaligned seal or damaged filter. Consult your EDCO representative if either is the case.

12. Remove the filter housing spacer assembly; make sure to disconnect the filter housing spacer assembly ground wire from the base via push on terminal.
13. Turn the filter housing spacer assembly over on a table then work the filter off the filter shaker insert.

## Motor Brushes Inspection

1. Turn the machine off then disconnect the power source.
2. Disconnect both motor terminals.
3. Loosen the motor retaining knobs enough to remove both motors.
4. Remove the 12 screws from the bottoms of the motor assemblies.
5. Remove the plastic motor covers to access the tops of the motors.
6. Remove the 2 metal motor-cap-retaining clips per motor.
7. Carefully dislodge the plastic motor cap via the built in hooks on both sides of each motor brush.  
(TIP: Dislodge one side of a cap first, then the other.)
8. Remove the motor brush retainers via the 2 phillips screws per brush.
9. Remove each of the brushes and inspect for excessive or uneven wear.

NOTE: A brush should be replaced if its length is less than 0.25 inches.

10. Reverse the procedure to install the brushes.
11. Reassemble and secure both motor assemblies with the 12 motor cover screws. Do not over tighten the screws, as the cover will crack.
12. Position both motors in the deck and secure with the motor retaining knobs.
13. Connect both motor terminals.

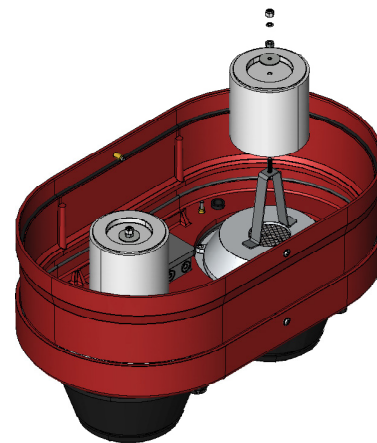


## Standard Filter Installation VAC-200

1. Turn the filter housing spacer assembly over on a table then fit the filter over the filter shaker insert.
2. Make sure each pleat is fully supported and the ground wire is on the filter side of the assembly.
3. Connect the filter housing spacer assembly ground wire to the base via the push-on terminal.
4. Seat the filter housing spacer assembly on the base oriented as it was removed.
5. Seat the reverse pulse/motorized shaker assembly and housing spacer (if so equipped) on the filter housing spacer assembly oriented as removed; make sure to connect the component ground wire to the filter housing spacer assembly via push-on terminal.
6. Seat the HEPA adapter assembly and housing spacer (if so equipped) on the preceding housing component oriented as removed; make sure to connect the component ground wire to the preceding assembly via push on terminal.
7. Connect the motor deck ground wire to the preceding assembly.
8. Connect the three power cord wires to the their respective terminals in the terminal block on the underside of the motor deck.
9. Seat the motor deck on the preceding housing spacer.
10. Connect the clear differential pressure gauge tubes to their respective barbed fittings if so equipped.
11. Turn the machine on then block the inlet with a flat and rigid material to place the machine under vacuum pressure.
12. Secure all of the housing-components then turn the machine off.

## HEPA 2.0 Filter Replacement Procedure VAC-200

1. Turn the machine on then block the inlet with a flat rigid material to place the machine under vacuum pressure.
2. Remove hardware, motor deck and motors. Remove ground wire if necessary.
3. Turn assembly over.
4. Remove lock nut, nut, and washer on each cartridge.
5. Remove cartridge filter.
6. Install cleaned or new cartridge and re-assemble hardware.
7. Reinstall motor deck. Attach ground wire.
8. Turn on motors and block inlet to compress the housings.
9. Reinstall hardware.



## Inspection and Maintenance VAC-290

### Standard Filter Inspection

1. Turn the machine off.
2. Knock material off the filter via the hand shaker, motorized shaker or reverse pulse.
3. Pull up on the foot lever to release the dustpan then remove and empty if necessary.
4. Lock the rear casters then carefully tip the machine back onto the push handle.
5. Remove any material between the pleats, by hand only.

CAUTION: Clogged material should only be removed by hand. Using an object to dislodge material may tear the filter. Consult your EDCO representative if material blockage is excessive.

6. Inspect the pleats of the filter for tears and material blockage.
7. Carefully tip the machine back onto the casters and replace the dustpan.

### Standard Filter Removal

1. Follow the preceding filter inspection procedure to determine if removal is necessary.
2. Turn the machine on then block the inlet with a flat and rigid material to place the machine under vacuum pressure.
3. Remove all of the housing-component socket truss screws with a 5/32 hex-wrench.
4. Turn the machine off and disconnect the power source.
5. Separate the motor deck from the housing then disconnect the motor deck ground wire from the push-on terminal.
6. Remove the motor deck.
7. Disconnect the clear differential pressure gauge tubes from their respective barbed fittings if so equipped.
8. Remove the HEPA filter housing spacer and HEPA adapter assembly if so equipped; make sure to disconnect the HEPA adapter assembly ground wire via push-on terminal before removing.
9. Remove the reverse pulse/motorized shaker assembly and housing spacer if so equipped; make sure to disconnect the component ground wire via push-on terminal before removing.
10. Inspect the top of the filter for material.

#### NOTE:

The presence of material in this area or in the exhaust is often the result of a misaligned seal or damaged filter. Consult your EDCO representative if either is the case.

11. Remove the filter housing spacer assembly; make sure to disconnect the ground wire via push on terminal.

## Standard Filter Installation VAC-290

1. Turn the filter housing spacer assembly over on a table then fit the filter over the filter shaker insert.
2. Make sure each pleat is fully supported and the ground wire is on the filter side of the assembly.
3. Connect the filter housing spacer assembly ground wire to the base via the push-on terminal.
4. Seat the filter housing spacer assembly on the base oriented as it was removed.
5. Seat the reverse pulse/motorized shaker assembly and housing spacer (if so equipped) on the filter housing spacer assembly oriented as removed; make sure to connect the component ground wire to the filter housing spacer assembly via push-on terminal.
6. Seat the HEPA adapter assembly and housing spacer (if so equipped) on the preceding housing component oriented as removed; make sure to connect the component ground wire to the preceding assembly via push on terminal.
7. Connect the motor deck ground wire to the preceding assembly then seat the deck on the preceding housing spacer.
8. Connect the clear differential pressure gauge tubes to their respective barbed fittings if so equipped.
9. Turn the machine on then block the inlet with a flat and rigid material to place the machine under vacuum pressure.
10. Secure all of the housing-components then turn the machine off.





## HEPA MAXX Filter Replacement Procedure VAC-290

NOTE: All HEPA MAXX filter machines are equipped with a differential pressure gauge. The gauge measures the pressure above against the pressure below the filter, thereby measuring the restriction of airflow due to contamination. HEPA filters should be replaced when the gauge consistently measures 8 inches W.C.

1. Turn the machine on then block the inlet with a flat and rigid material to place the machine under vacuum pressure.
2. Remove the motor deck hardware. Figure 1
3. Turn the machine off and disconnect the power source.
4. Separate the motor deck and HEPA filter housing spacer then disconnect the motor deck ground wire from the HEPA adapter assembly via the push-on terminal. Figure 2
5. Remove the motor deck and silencer hood together.
6. Remove the lock nuts retaining the HEPA filter brackets. Figure 3
7. Remove the ring-to-tab terminal, HEPA filter brackets and HEPA filter.
8. Center the new filter on the HEPA adapter plate gasket side down. Figure 4
9. Position the provided lengths of self-adhering flat gasket material on the HEPA filter frame (if not already done so) to cushion the HEPA filter brackets.
10. Replace the HEPA filter brackets and ring-to-tab terminal then thread the locking nuts over the rods and tighten. Figure 5

CAUTION: Do not over tighten. The effectiveness of the filter may be compromised if its frame is bent.

11. Set the motor deck on the HEPA filter housing spacer.
12. Connect the motor deck ground wire to the HEPA adapter plate assembly via the push-on terminal then seat the deck on the HEPA filter housing spacer. Figure 7
13. Connect the power source.
14. Turn the machine on then block the inlet with a flat and rigid material to place the machine under vacuum pressure.
15. Secure the motor deck then turn the machine off. Figure 8



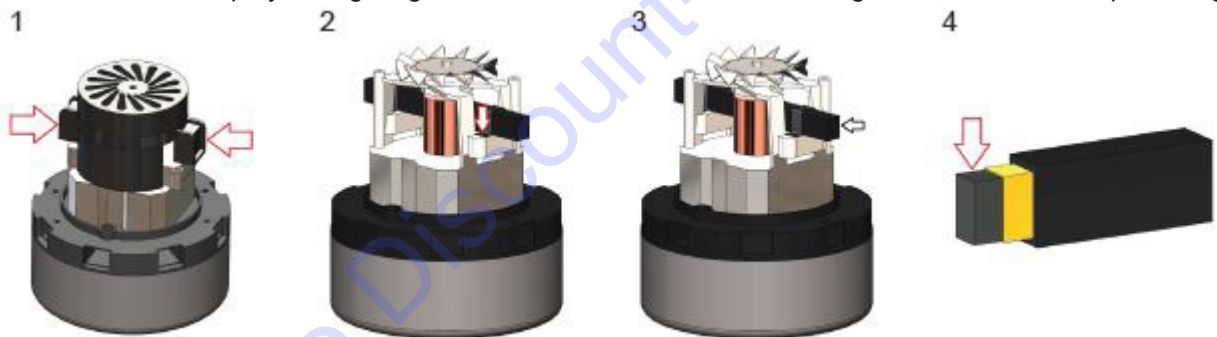
## Motor Brushes Inspection

1. Turn the machine off then disconnect the power source. Figure 1
2. Disconnect motor terminal. Figure 2
3. Loosen the motor retaining knobs. Figure 3
4. Remove the 6 screws attached to each motor assembly. Figure 4
5. Remove the plastic motor cover to access the top of the motor. Figure 5
6. Remove the 2 metal motor cap retaining clips located on each motor.(Ametec only). Figure 6



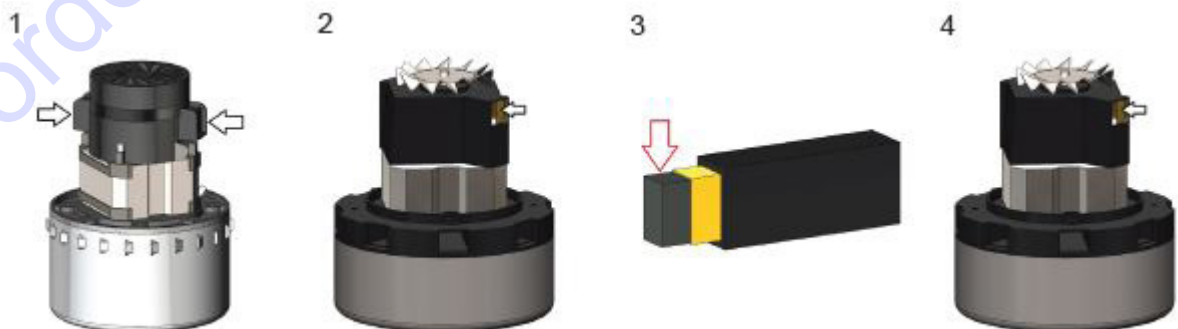
## Ametec

1. Remove the motor fan cover by pressing down on clips located on each side. Figure 1
2. Remove the 2 screws securing the brush. Repeat the process for the other side. Figure 2
3. Pull brush out of wire clip. Figure 3
4. Remove brush from wire clip by sliding off groove. If brush is worn down to a length of 0.25" or less, replace. Fig. 4



## Electro

1. Carefully dislodge the plastic motor cap via the built in hooks on both side of the motor brush.(TIP: Dislodge one side of the cap first followed by the other.) Figure 1
2. With a flathead screwdriver, flip brush tab upward. Use pliers to then pull the brush out by the tab. Figure 2
3. If the brush is worn down to a length of 0.25" or less, replace the brush. Figure 3
4. To reinstall the brush hold down internal spring using the tool supplied with the brush. While holding the spring down, push the brush back in. Remove the brush tool once the brush is in. Push the brush in until it's flush. Figure 4



## Trouble Shooting VAC-290 & VAC-200

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
Insufficient Vacuum Pressure	- Motors are not on and/or working	- Turn both motors on, check motor brushes
	- Dustpan improperly seated	- Remove dustpan, inspect seal, replace dustpan.
	- Filter clogged or improperly seated	- Follow filter inspection procedure, page 6.
	- Clogged hose	- Remove hose and re-inspect vacuum pressure, if vacuum pressure returns to normal snake hose.
	- Unit is improperly sealed	- Block the inlet with a flat and rigid material to place the unit under vacuum pressure then inspect for air leaks.
Air Leaks	- Worn or poorly seated seals,	- Block the inlet with a flat and rigid material to place the unit under vacuum pressure then remove retainers and turn the unit off. Inspect the seals for completeness, then reseal and secure components again under vacuum pressure.
Material In Exhaust/ On Top Side of Filter	- Poor filter seal or torn filter	- Follow filter inspection procedure in Inspection and Maintenance section.
Unusual or High Pitched Noises	- Motor bearings, Motor brushes	- Follow relevant motor brushes inspection procedure in Inspection and Maintenance section. Check motor bearings for noise by hand.
	- Worn or poorly seated seals, Retainers improperly installed	- Block the inlet with a flat and rigid material to place the unit under vacuum pressure then remove retainers and turn the unit off. Inspect the seals for damage, then reseal and secure components again under vacuum pressure.

### SMI Dust and Silica Warning

Grinding/cutting/drilling of masonry, concrete, metal and other materials can generate dust, mists and fumes containing chemicals known to cause serious or fatal injury or illness, such as respiratory disease, cancer, birth defects or other reproductive harm. If you are unfamiliar with the risks associated with the particular process and/or material being cut or the composition of the tool being used, review the material safety data sheets and/or consult your employer, the manufacturers/suppliers, governmental agencies such as OSHA and NIOSH and other sources on hazardous materials. California and some other authorities, for instance, have published lists of substances known to cause cancer, reproductive toxicity, or other harmful effects.

Control dust, mist and fumes at the source where possible. In this regard use good work practices and follow the recommendations of the manufacturers/suppliers, OSHA/NIOSH, and occupational and trade associations. Water should be used for dust suppression when wet grinding/cutting/drilling is feasible. When the hazards from inhalation of dust, mists and fumes cannot be eliminated, the operator and any bystanders should always wear a respirator approved by NIOSH/MSHA for the material being used.

Grinding/cutting/drilling of masonry, concrete and other materials with silica in their composition may give off dust or mists containing crystalline silica. Silica is a basic component of sand, quartz, brick clay, granite and numerous other minerals and rocks. Repeated and/or substantial inhalation of airborne crystalline silica can cause serious or fatal respiratory diseases, including silicosis. In addition, California and some other authorities have listed respirable crystalline silica as a substance known to cause cancer. When grinding/cutting/drilling such materials, always follow the respiratory precautions mentioned above.

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