



**120 VOLT POWER UNIT
OPERATION MANUAL**

CENTRAL[®] VAC BRAND BUILT-IN VACUUM SYSTEMS

120 VOLT OPERATION MANUAL

Table of Contents

| | |
|-------------------------------------|----|
| Introduction | 4 |
| Packaging Summary | 4 |
| Important Safety Instructions | 5 |
| Grounding | 6 |
| Circuit Breaker Protection..... | 6 |
| Planning the Installation..... | 7 |
| Installing the Power Unit | 8 |
| Operation | 11 |
| Maintenance | 12 |
| Troubleshooting | 14 |
| Service | 14 |
| Power Unit Specifications | 15 |
| Power Unit Warranty | 15 |

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INTRODUCTION

Thank you for purchasing a Central®Vac brand built-in vacuum system. Please take the time to read this operation manual.

This product is designed for household use only. For commercial applications, please contact your nearest Central®Vac dealer.

This manual covers the following power units.

CVS-07
CVS-11
CVS-16
CVS-19
CVS-07DP
CVS-11DP
CVS-16DP
CVS-19DP

IMPORTANT

The following words and symbols have special meaning in this operation manual.



WARNING: Text set off in this manner indicates that failure to follow directions may result in bodily harm or loss of life.



CAUTION: Text set off in this manner indicates that failure to follow directions may result in equipment damage.

PACKAGING SUMMARY

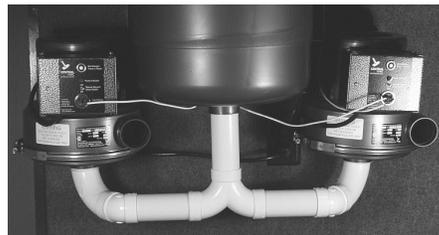
Single Motor Assembly

- 1- Complete Motor Unit Assembly
- 1- Standard Collection Center-Complete
- 3- Disposable Bags
- 1- Cloth Bag
- 1- Mounting Bracket
 - 1- 15" Hanging Rod
 - 1- 20" Hanging Rod
 - 1- Rubber Bumper
 - 1- Screw Pack
 - 4- #14 Hex Head Self-Tapping Screws
 - 4- Tinnerman Nuts
- 2- 90 Deg. Long Street Ell
- 1- 90 Deg. Sweep Ell
- CVS-19 - 1- 5" PVC Pipe, 1- 5 3/4" PVC Pipe
- CVS-16 - 1- 5" PVC Pipe, 1- 5 3/4" PVC Pipe
- CVS-11 - 1- 5" PVC Pipe, 1- 5 1/4" PVC Pipe
- CVS-07 - 1- 5 1/4" PVC Pipe, 1- 3" PVC Pipe
- 1- Operation Manual
- 1- Warranty Card
- 1- Product Catalog

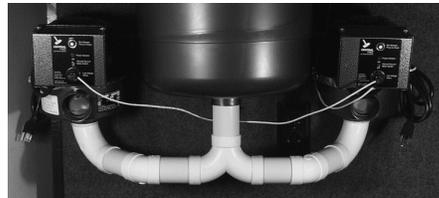
Double Motor Assembly

- 2- Complete Motor Unit Assemblies
- 1- Standard Collection Center-Complete
- 3- Disposable Bags
- 1- Cloth Bag
- 1- Mounting Bracket
 - 1- 30" Hanging Rod
 - 1- 15" Hanging Rod
 - 1- Rubber Bumper
 - 1- Screw Pack
 - 4- #14 Hex Head Self-Tapping Screws
 - 4- Tinnerman Nuts
- 3- 90 Deg. Long Street Ell
- 1- Y Connector
- CVS-19DP - 2- 5" PVC Pipe, 1- 6" PVC Pipe, 2- 45 Deg. Street Ell
- CVS-16DP - 2- 5" PVC Pipe, 1- 6" PVC Pipe, 2- 45 Deg. Street Ell
- CVS-11DP - 3- 5" PVC Pipe, 2- 45 Deg. Street Ell
- CVS-07DP - 5- 3 1/2" PVC Pipe 2- 45 Deg. Ell
- 1- Operation Manual
- 1- Warranty Card
- 1- Product Catalog

CVS-19DP
CVS-16DP
CVS-11DP



CVS-07DP



IMPORTANT SAFETY INSTRUCTIONS

READ ALL INSTRUCTIONS BEFORE USING THIS CENTRAL[®]VAC POWER UNIT



WARNING: To reduce the risk of fire, electric shock, or injury:

1. Do not leave the appliance unattended when plugged in and operating. Unplug the hose from the inlet valve when not in use and before servicing.
2. To reduce the risk of electric shock – **DO NOT USE ON WET SURFACES.**
3. Do not allow the system to be used as a toy. Close attention is necessary when used by or near children.
4. Use only as described in this manual. Use only CENTRAL[®]VAC recommended attachments and accessories.
5. Do not unplug by pulling on the cord. To unplug, grasp the plug, not the cord.
6. Turn off all controls before unplugging.
7. Always turn off this appliance before connecting or disconnecting either the hose or the motorized nozzle.
8. Do not handle the plug or appliance with wet hands.
9. Do not put any object into openings. Do not use with any opening blocked; keep free of dust, lint, hair, and anything that may reduce air flow.
10. Keep hair, loose clothing, fingers, and all parts of body away from openings and moving parts.
11. Use extra care when cleaning on stairs.
12. Do not pick up flammable or combustible liquids, such as gasoline, or use in areas where they may be present.
13. Some models use hoses that contain electrical wires. Do not use if damaged, cut, or punctured. Avoid picking up sharp objects.
14. Connect to a properly grounded outlet only. See grounding instructions.
15. Do not pick up anything that is burning or smoking, such as cigarettes, matches, or hot ashes.
16. Do not use without the 1st stage paper bag filter and 2nd stage cloth bag filter in place.

SAVE THESE INSTRUCTIONS



GROUNDING

Do not, under any circumstances, remove the ground pin from the power plug.

This appliance must be grounded. It is equipped with a cord having an equipment grounding pin. In the event of malfunction or breakdown, the grounding pin will reduce the risk of electric shock by providing a path of least resistance for electric current. The cord must be inserted into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.



WARNING: Improper connection of the equipment grounding conductor can result in a risk of electric shock. Check with a qualified electrician or service technician if you are in doubt as to whether the appliance is properly grounded.

Do not modify the electric plug provided with the appliance. If it will not fit your wall receptacle, have a proper receptacle installed by a qualified electrician.

This appliance is for use on a nominal 120-volt circuit and has a grounding plug that looks like the plug illustrated in Figure 1. Make sure that the appliance is connected to an outlet having the same configuration as the plug. No adaptor should be used with this appliance.

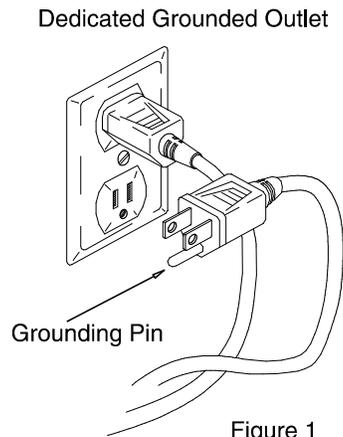


Figure 1

CIRCUIT BREAKER PROTECTION

Your Central®Vac brand power unit is also equipped with a circuit breaker protection device which will shut down the motor in the event of above normal electrical current or motor temperature.

This device can be reset by pushing the small white mini-breaker switch on the front of the motor control box after a short cooling down period. (Figure 2)

If the motor does not restart, make sure that electrical power is available at the outlet box. If there is no power, check the circuit breaker at the household panel board for this receptacle to be sure it is in the on position.

Further failure to start could possibly indicate a more serious problem. A qualified service technician should be called.

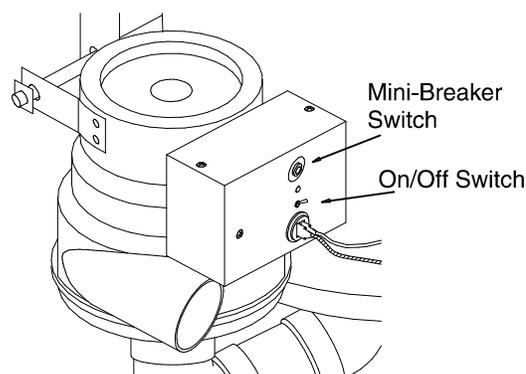


Figure 2

PLANNING THE INSTALLATION

Determine the Size of the Power Unit

There is not a simple formula for choosing the correct size power unit for your cleaning system. If you live in a high altitude area (5,000 to 7,000+ ft. above sea level), you may need to move to the next larger size power unit, or go with a double motor unit.

Remember, you can never have a power unit that is too big, or have too many inlets in your home!

| Area to be Cleaned (sq. ft.) | Recommended Power Unit |
|------------------------------|------------------------|
| 7,000+ | CVS-16DP |
| up to 7,000 | CVS-11DP |
| up to 6,000 | CVS-07DP |
| up to 5,000 | CVS-16 |
| up to 4,000 | CVS-11 |
| 2,000 or less | CVS-07 |

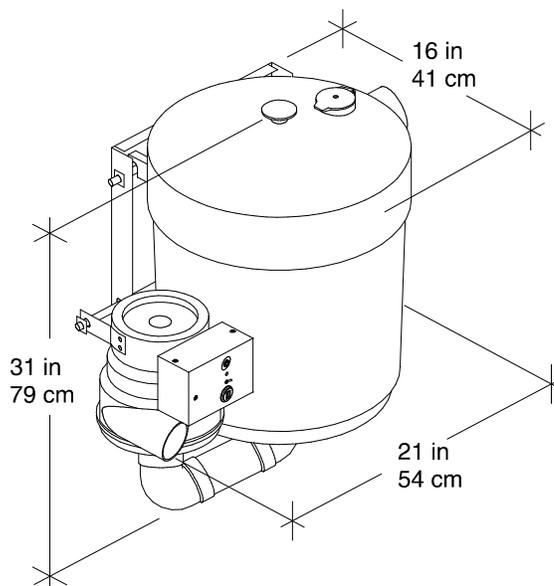
Determine the Location of the Power Unit

The power unit and canister will mount in the basement, garage, utility room, or other remote area, preferably on a firm, outside wall away from heat-producing units, such as a boiler, water heater, dryer, etc.

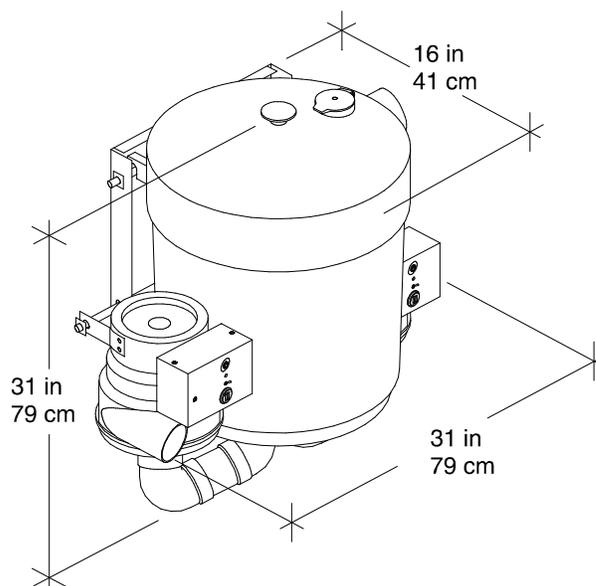
- Locate the power unit away from the general living area.
- Do not install the power unit in the attic.
- Do not locate the power unit close to a source of extreme heat (i.e., water heater) or in an area with high ambient temperature (i.e., attic, furnace room).
- It is important that you also plan the installation of an exhaust tube to the outdoors if ventilation is not adequate. It is usually best to exhaust out the rear of the house avoiding patios, windows, and entrance areas.
- Locate the power unit in an accessible area for ease in changing the paper bag filter and periodically cleaning the cloth bag filter.
- Locate the power unit within 4 feet of a grounded electrical outlet. The power unit requires a 120 VAC power source with sufficient capacity to service the unit.
- Do not use extension cords.
- If the power unit is located in a closet or a small utility room, make sure the area is well-ventilated (i.e., with door louvers).
- The power unit has an auxiliary inlet for a garage, basement, utility room, etc. However, installing a separate inlet is the preferred method. It is more convenient to use a hose with an inlet valve which uses a low voltage control circuit to start and stop the power unit automatically, than to use the auxiliary inlet which must be switched on and off manually.



WARNING: The power unit must not be mounted in a high ambient temperature area such as attic, furnace room, etc. If necessary, please consult factory.



Single Motor Power Unit



Double Motor Power Unit



INSTALLING THE POWER UNIT

Each single & double motor power unit is provided with a mounting bracket and mounting hardware.

Included: Mounting bracket, canister hanger rod, power unit(s) hanger rod, wood screws, tinnerman nuts, PVC fittings and pipe (cut to size), canister bumper.

1. Locate a wall stud at the desired vacuum system power unit location, adjacent to an electrical outlet if possible. If a wall stud is not available, and the mounting bracket must be attached to wallboard, use at least four holes in the mounting bracket with suitable screws and anchors to secure.
2. Level the mounting bracket and attach to the stud using wood screws provided, or to wallboard as described above. The recommended height from the floor to the top of mounting bracket is 36 inches. (Figure 1)
3. Slide a tinnerman nut on one end of canister hanger rod approximately 1/2 inch from the end. (Figure 1)
4. Slide the canister hanger rod through the upper hole on one side of mounting bracket, continue until rod projects through the hole on the other side of bracket. Slide a tinnerman nut on the end of the rod to secure. (Figure 1)
5. Insert the power unit hanger rod through the lower holes in the mounting bracket.
 - A) On single motor systems allow excess rod length to project to the side where the power unit is desired.
 - B) On double motor systems, center the hanger rod in the mounting bracket.

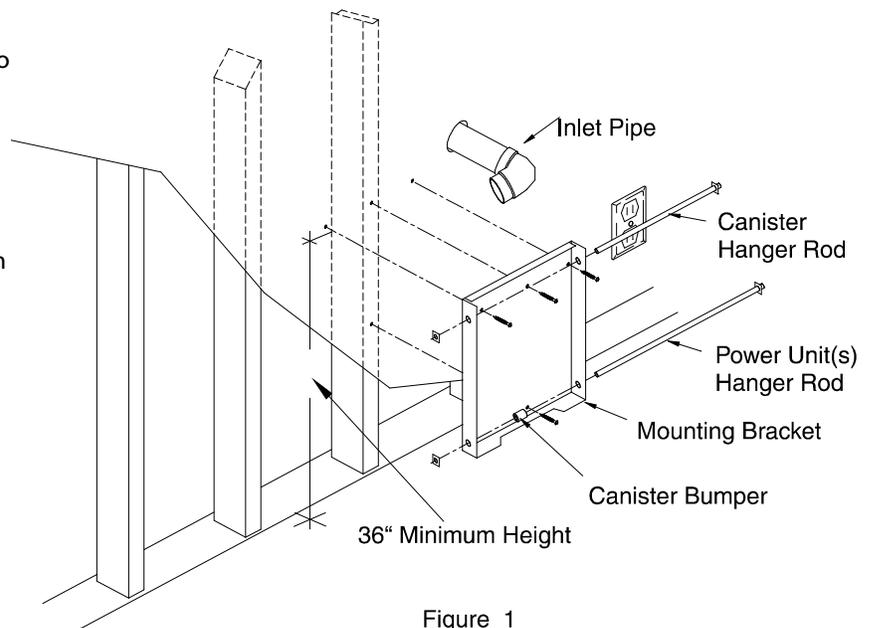
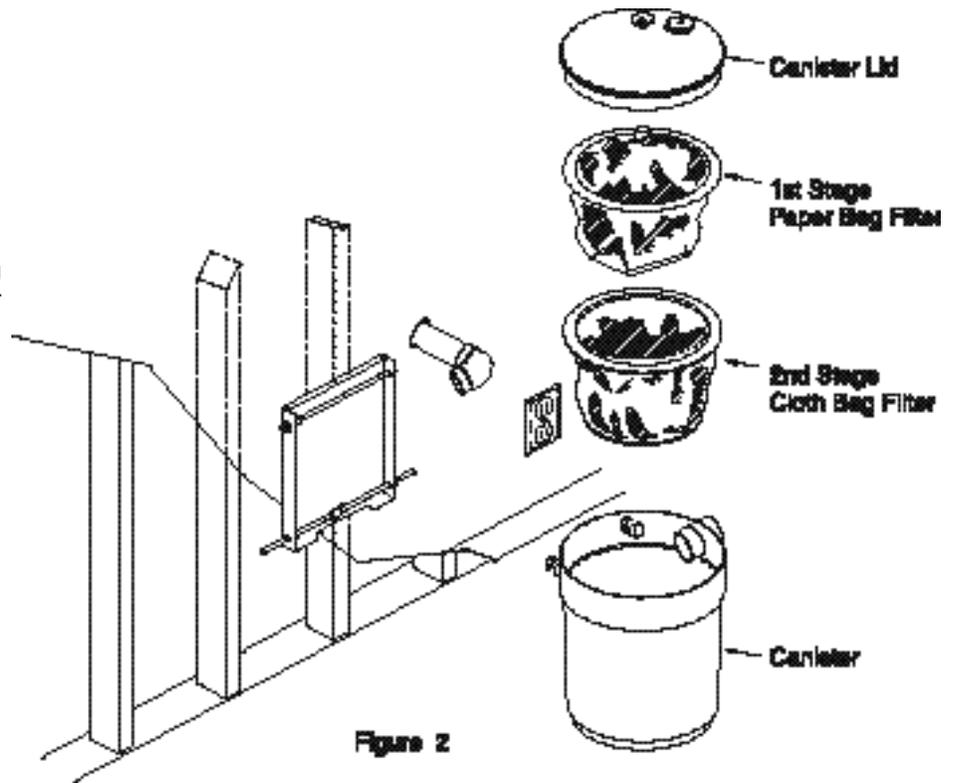


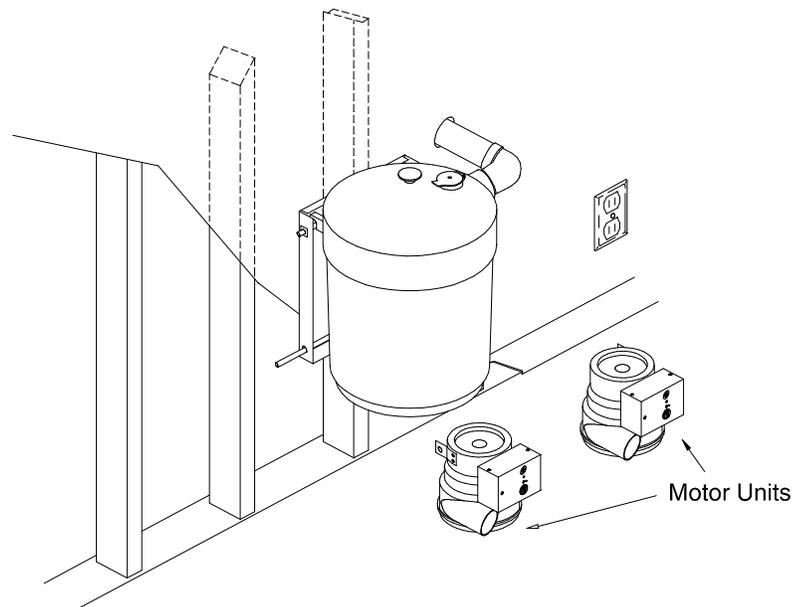
Figure 1

INSTALLING THE POWER UNIT

- Slide the rubber bumper on the power unit hanger rod. Position the bumper in the center of the rod so the canister will rest on the bumper. (Figure 2)
- Place the 2nd Stage Cloth Bag Filter, and the 1st Stage Paper Bag Filter in the Canister. Place the lid on the canister. (Figure 2)



- Hang the canister on the canister hanger rod. (Figure 3)



INSTALLING THE POWER UNIT

9. Slide on the power unit(s), and place a tinnerman nut on each end of the power unit hanger rod . (Figure 4)

10. Pipe the power unit to the canister using the cut to size PVC pipe and fittings provided.
Dry fit the parts before you glue them.

Do not glue the fittings to the power unit or the canister, this will make it easier to repair or replace your power unit.

A street ell (in & out) is fitted to the canister inlet. A street ell is fitted to the inlet of the power unit. (Figure 4)

11. Pipe the inlet pipe to the canister. Do not glue the fittings or pipe to the canister. (Figure 4)

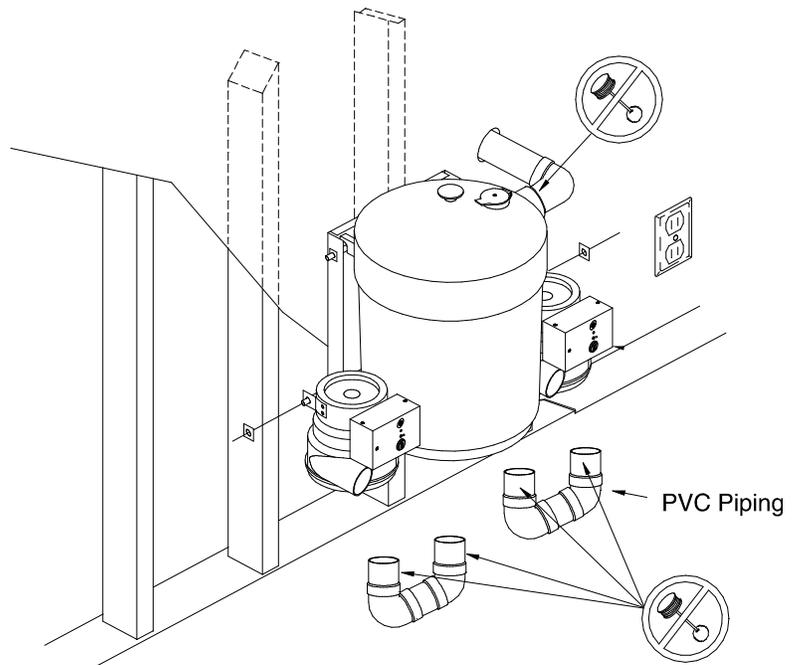


Figure 4

12. Wire the low voltage control wire, taking care to keep the polarity between the low voltage control box(s) as illustrated in Figure 5 & 6. Left terminal to left terminal, right terminal to right terminal. The low voltage control wire can be run behind the canister.

Low Voltage Control Wire to Inlets

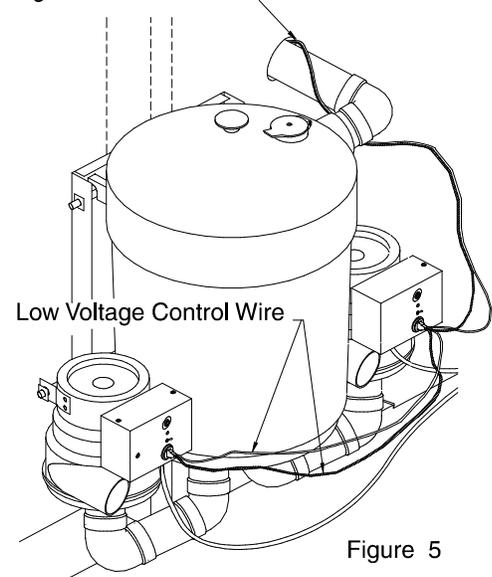


Figure 5

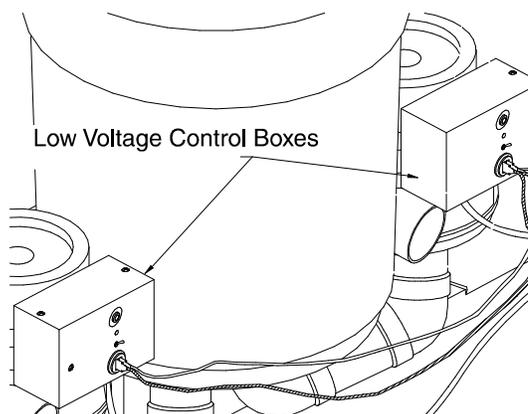


Figure 6

INSTALLING THE POWER UNIT

14. Plug the power unit(s) into a dedicated grounded electrical outlet(s). (Figure 8)

Dedicated Grounded Outlet

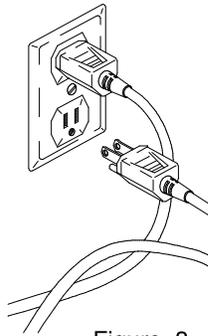


Figure 8

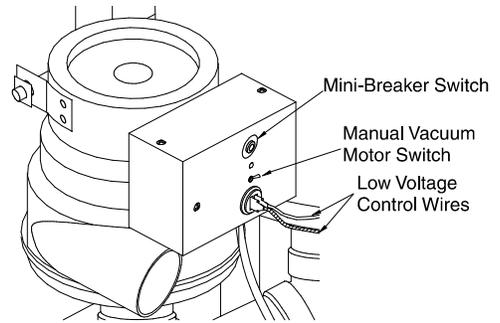


Figure 7

OPERATION

Pre Operation Check

1. Make certain that the cloth and paper bag filters are in the dust canister correctly--cloth bag in first.
2. The manual vacuum motor switch should be in the "Off" position.
3. The power cord should be plugged into an active 120-volt grounding type receptacle. The green light on the control box indicates that there is power to the unit.
4. On a double motor system, if the motor runs when the manual vacuum motor switch is in the "Off" position, the low voltage wires are reversed on one of the motors.
5. The receptacle should be on a separate electrical circuit protected by a 15 amp breaker for CV-07 (20 amp breaker for all other units).
6. The household circuit breaker should be in the "On" position.
7. All low voltage wiring to the inlet valves should be properly secured, with good electrical connections.



CAUTION: The manual vacuum motor switch should be left in the "OFF" position except when using the utility inlet. Never run the unit without at least one inlet open. This can cause severe damage to your power unit.

Test of Vacuum Motor and Low Voltage Control Unit

1. Hold open the utility inlet in the canister lid while moving the manual vacuum motor switch on the control box to the "On" position. This should activate the vacuum motor.
2. If the motor functions with good suction, switch the motor off, then proceed to the testing of the inlet valves.
3. If the motor does not function, push the "Reset" button on the control box, repeat the pre operation check and test again.
4. If the motor again fails to function, test your outlet to make certain that you have power to the receptacle.
5. If there is power to the receptacle, trouble is indicated in the control box and further work should be performed only by a qualified electrician or service technician.
6. If the motor operates, but with little or no vacuum at the utility inlet, turn the switch "Off". Remove the collection canister lid and check inside the canister for any obstruction. Also check to see that the motor exhaust is not restricted or blocked.
7. Retest the unit, and when functioning properly, proceed to test the inlet valves.

Test of Inlet Valves

1. Test the operation of the low voltage circuitry by inserting the hose end fully into the inlet valve. The vacuum motor should turn on, creating a suction through the hose.
2. If the motor fails to function when the hose is inserted into the inlet valve, unplug the unit and check the low voltage control wiring at both the control box connection and the face plates.
3. If the motor does not operate when the hose is inserted into only one or two inlet valves of a multiple inlet system is opened, the problem is in the contact or wiring at those specific inlet valves and should be checked.
4. If the motor functions as the hose is inserted into the inlet valves, but little or no suction occurs, there may be an obstruction in the tubing, then proceed as directed under "Clearing a Line Obstruction" in Troubleshooting.



MAINTENANCE



CAUTION: Never operate your Central®Vac without the cloth bag filter or paper bag filter.

Maintenance Schedule

1st Stage Paper Bag FilterReplace when needed, typically every 3-4 months.

2nd Stage Cloth Bag FilterClean when replacing the paper bag, replace every 5 to 7 years.

Motor BrushesHave an authorized service specialist replace motor brushes every 3 to 5 years.

1st Stage Paper Bag Filter

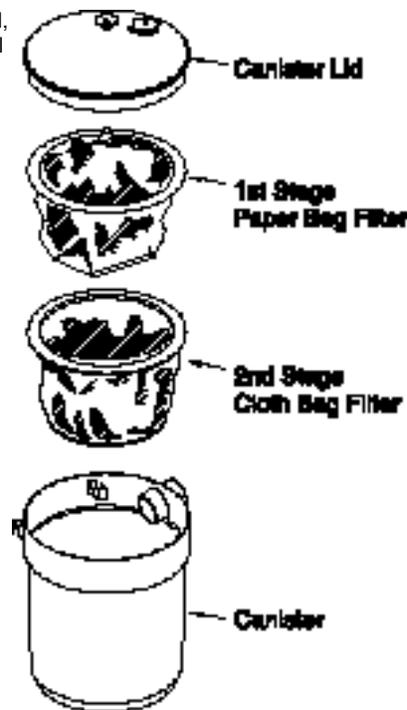
Under normal vacuuming conditions, the disposable paper bag filter (CVB-01-6000) will take 3-4 months to fill before replacement may become necessary. In homes with new carpet, replacement may become necessary sooner due to “new rug nap”. When the paper bag filter is $\frac{3}{4}$ full, replacement is recommended. When a reduction in suction power is noticed, this can also be an indication that the disposable paper bag is full and needs replacing. The sanitized disposable paper bag filter should never be used more than once, and it should always be discarded when it becomes full.

2nd Stage Cloth Bag Filter

The unit is designed for use with both a 1st stage disposable paper bag filter (CVB-01-6000) and a support cloth bag filter (CVB-02-1000). Do not use the paper bag filter without the cloth bag filter and do not use the cloth bag filter without the paper bag filter. Severe damage to the air turbine could result if operated in any other manner. The cloth bag filter is your added insurance that no dirt or grit will enter the motor or be discharged from the system. Never wash the cloth bag filter. Never turn the system on without having both the cloth bag filter and the paper bag filter in place.

Changing the Filters

1. Make certain the unit is not running.
2. Holding the utility inlet open with one hand, lift the lid out of the canister with the other hand, by grasping the knob in the center of the lid. Opening the utility inlet breaks the suction seal inside the canister, allowing easy removal.
3. Set the lid to one side.
4. Run your index finger around the top lip of the bag, knocking loose dirt or material into the bag.
5. Grasp the cardboard lip of the paper bag filter with both hands, lifting it carefully out of the canister.
6. Place the used paper bag filter in the proper trash receptacle.
7. Remove the cloth bag filter.
8. Turn it inside out and thoroughly shake it to insure correct porosity for air flow by removing any dirt that may have accumulated on the fabric. When you shake the bag, be careful not to deform the metal ring.
9. Inspect the cloth bag filter for any damage. If the ring is bent, or there are holes in the bag, dirt and dust may bypass the bag and enter the motor. If the cloth bag is damaged in any way, do not use the unit, and replace the cloth bag immediately.
10. Reinstall the cloth bag filter in its proper position in the canister.
11. Open the new paper bag filter from its flat packed condition.
12. Place the paper bag filter in the supporting cloth bag and gently push it open being careful not to tear or make holes in the paper. The cardboard lip at the bag top should now lay flat and smooth on the metal ring of the cloth bag and conform to the inner diameter of the canister.
13. Look at the inside of the lid. You will notice a curved inlet deflector at one point. Now hold the lid over the open top of the canister in a level position. Align the deflector with the inlet on the side of the canister and lower the lid into position. The lid will fit snugly within the canister. If it becomes cocked, DO NOT force it down; lift the lid slightly to level it and then rotate one way or the other to align it with the inlet tube. It should now drop easily into position.



Preventing an Obstruction

1. To prevent an obstruction, insert a small wad of tissue in each inlet once a month to “wipe” the inside of the tubing system. Plug in your hose to pull the tissue through the system. This will clear any potential obstruction when done on a regular basis. This also works effectively on a partial blockage.
2. Avoid picking up small sticks or similar items that may easily carry through the wand and hose but will wedge in the short radius elbows, such as the elbow at the inlet valves.
3. Excessive amounts of material such as straw or pine needles should be avoided as they may compact in the tubing and form an obstruction.

The Motor

The motor is a factory sealed ball bearing electric motor that requires minimal maintenance by the home owner. It requires no oiling or lubrication and should never be disassembled or tampered with for any reason. The only parts that will eventually need replacement are the motor brushes. Under normal usage the brushes should give over 3 to 5 years of service before replacement is necessary. Factors such as humidity and the amount of use will affect the normal wear rate.

It is difficult to check the brush wear since they are concealed within the motor. The factory does recommend that the brushes be replaced at least every 3 to 5 years by a qualified service person. However, if excessive sparking is observed in the motor or the motor sounds erratic or runs slower than normal, it could be an indication of excessively worn brushes. Do not operate the motor if any of the above problems are observed as more damage may be done to the motor. Only a qualified service person should attempt brush replacement and run-in.



WARNING: The area surrounding the motor must be kept clear of anything that could restrict the flow of air to the motor. Lack of cooling air may cause the motor to burn out. Any combustible materials should be stored away from the electric motor area as a safety precaution.



TROUBLESHOOTING

Loss of Suction

The following are some reasons you may be experiencing a loss of suction with your system.

1. The paper bag filter may be full.
2. Check for cracks in the canister or tubing. The tubing may have come loose.
3. There could be an obstruction in your tubing system. See "Clearing a Line Obstruction".

Motor Problems

1. If your motor starts sparking or squealing, the brushes probably need to be replaced. Stop the unit, unplug it, and contact an authorized Central®Vac dealer or the factory for brush replacement.
2. Normal brush wear will deposit a coating of dark carbon dust on the motor housing.
3. On a double motor system, if the motor runs when the switch is in the "Off" position, the low voltage control wires between the two motors is reversed.

Clearing a Line Obstruction

1. Determine the location of an obstruction by checking the inlet nearest to the collection canister, if no suction occurs and the motor functions, the obstruction is between this inlet and the collection canister.
2. If there is proper suction, proceed to the next nearest inlet on the line and check the suction. Proceed in this manner until the obstruction is located between the inlet and the canister.
3. If there is still some suction, feed several tissues into the inlet, this will form a "plug" in the line and may carry the obstruction to the canister.
4. If there is no suction or if there is still only a little suction after performing step 3, proceed as follows. If necessary remove the face plate and insert a plumber's "snake" or stiff wire into the inlet. Keep motor operating while feeding the "snake" into the piping. This should clear the obstruction and proper suction should be obtained at the inlet.
5. Re check the suction at all the inlets.
6. Refer to "Maintenance" and subheading "Preventing an Obstruction", paragraph (1). Proceed as directed to "wipe" the tubing system.

Service

To have your system serviced, please contact the Central®Vac authorized dealer that installed your system.

If you do need to return something to the factory, you must have a Return Authorization Number, otherwise your return will be refused.

For Factory Return Authorization:

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F (906) 483-4058

service@centralvac.com
www.centralvac.com



POWER UNIT SPECIFICATIONS

| Power Unit | Watts | Amps | IWL ¹ | CFM ² | Air Watts ³ | Motor | Filtration | Canister Capacity | Shipping Weight |
|------------|-------|------|------------------|------------------|------------------------|----------------|-----------------|--------------------------|-------------------|
| CVS-16DP | 2870 | 25.6 | 135" | 184 | 846 | Double 3-Stage | Paper Cloth Bag | 7 gallons 26.5 liters | 44 lbs 19.9 kg |
| CVS-11DP | 2740 | 25.8 | 113" | 208 | 814 | Double 2-Stage | Paper Cloth Bag | 7 gallons 26.5 liters | 43 lbs 19.5 kg |
| CVS-07DP | 1800 | 16.0 | 84" | 188 | 546 | Double 2-Stage | Paper Cloth Bag | 7 gallons 26.5 liters | 34 lbs 15.4 kg |
| CVS-16 | 1435 | 12.8 | 135" | 92 | 423 | Single 3-Stage | Paper Cloth Bag | 7 gallons 26.5 liters | 29 lbs 13.2 kg |
| CVS-11 | 1370 | 12.9 | 113" | 104 | 407 | Single 2-Stage | Paper Cloth Bag | 7 gallons 26.5 liters | 28 lbs 12.7 kg |
| CVS-07 | 900 | 8.0 | 84" | 94 | 273 | Single 2-Stage | Paper Cloth Bag | 7 gallons 26.5 liters | 24 lbs 10.9 kg |

¹ IWL - Inches of water lift represents how far up a glass tube a vacuum motor will pull a column of H₂O in a sealed system.

² CFM - Cubic feet per minute measures the quantity of air moved by a vacuum motor at a 2" orifice.

³ Air Watts - Measures maximum working vacuum power at a 3/4" diameter maximum orifice.

All Power Units are pewter in color.

POWER UNIT WARRANTY

90 Day Money Back Guarantee

If you are not completely satisfied with the performance of the Central®Vac brand built-in vacuum power unit within the first ninety (90) days from installation or purchase you may return the unit to us for a full refund minus any shipping costs. The buyer is responsible for the return packaging and shipping. The power unit must be returned in items original box with all the original packaging.

Seven (7) Year Limited Warranty

CentralVac International, as the manufacturer of built-in vacuum systems, warrants the built-in vacuum power unit to be free from defects in material or factory workmanship for a period of seven (7) years from date of purchase and/or installation. This Warranty does not include misuse, abuse, or normal wear and tear.

Should any defect become evident within this seven (7) year period to the aforementioned systems, CentralVac International will repair or replace, at their discretion, any part or parts necessary for system performance without cost to the system owner. This Warranty does not apply to disposable bags, filters, motor brush replacement, and/or physical installation. Disassembly of motor, control box, and/or removal of the identification number as well as running the systems without the proper filtration bags constitutes termination of Warranty. Customer is responsible for any and all shipping costs incurred for returning the unit to the manufacturer for service or replacement.

Lifetime Limited Warranty

A Lifetime Limited Warranty on the Central®Vac brand built-in vacuum power unit applies, whereby any and all defective parts will be repaired, replaced, and/or a new unit supplied, if necessary and at CentralVac International's discretion, to correct the malfunction, at a cost never to exceed fifty (50%) percent of the current published retail price. There will be charges rendered for product repairs due to cause other than those covered by the Seven (7) Year Limited Warranty. This Warranty does not include misuse, abuse, or normal wear and tear. Adjustments under this warranty must be made directly with the manufacturer by the buyer. Disassembly of motor, control box, and/or removal of the identification number as well as running the unit without the proper filtration bags constitutes termination of the Warranty. Customer is responsible for any and all shipping costs incurred for returning the unit to the manufacturer for service or replacement.



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