www.conairgroup.com

USER GUIDE

UGC002-0204

Single-Phase Pump

SPP model with 4-brush or brushless motor

Please record your equipment's model and serial number(s) and the date you received it in the spaces provided.

It's a good idea to record the model and serial number(s) of your equipment and the date you received it in the User Guide. Our service department uses this information, along with the manual number, to provide help for the specific equipment you installed.

Please keep this User Guide and all manuals, engineering prints and parts lists together for documentation of your equipment.

Date:

Manual Number: UGC002-0204

Serial Number(s):

Model Number(s):

DISCLAIMER: Conair shall not be liable for errors contained in this User Guide or for incidental, consequential damages in connection with the furnishing, performance or use of this information. Conair makes no warranty of any kind with regard to this information, including, but not limited to the implied warranties of merchantability and fitness for a particular purpose.

TABLE OF CONTENTS

INTRODUCTION

PURPOSE OF THE USER GUIDE

This User Guide describes the Conair Single Phase Pumps with 4-brush or brushless motors and explains step-by-step how to install, operate, maintain and repair this equipment.

Before installing this product, please take a few moments to read the User Guide and review the diagrams and safety information in the instruction packet. You also should review manuals covering associated equipment in your system. This review won't take long, and it could save you valuable installation and operating time later.

HOW THE GUIDE IS ORGANIZED

Symbols have been used to help organize the User Guide and call your attention to important information regarding safe installation and operation.

Symbols within triangles warn of conditions that could be hazardous to users or could damage equipment. Read and take precautions before proceeding.

1 Numbers within shaded squares indicate tasks or steps to be performed by the user.

◆ A diamond indicates the equipment's response to an action performed by the user.

❒ An open box marks items in a checklist.

● A shaded circle marks items in a list.

YOUR RESPONSIBILITY AS A USER

You must be familiar with all safety procedures concerning installation, operation and maintenance of this equipment. Responsible safety procedures include:

- Thorough review of this User Guide, paying particular attention to hazard warnings, appendices and related diagrams.
- Thorough review of the equipment itself, with careful attention to voltage requirements, intended uses and warning labels.
- Thorough review of instruction manuals for associated equipment.
- Step-by-step adherence to instructions outlined in this User Guide.

ATTENTION:
READ THIS SO NO ONE GETS HURT

We design equipment with the user's safety in mind. You can avoid the potential hazards identified on this machine by following the procedures outlined below and elsewhere in the User Guide.

WARNING: Improper installation, operation or servicing may result in equipment damage or personal injury.

This equipment should be installed, adjusted, and serviced by qualified technical personnel who are familiar with the construction, operation and potential hazards of this type of equipment.

All wiring, disconnects and fuses should be installed by qualified electrical technicians in accordance with electrical codes in your region.

Do not operate the equipment at power levels other than what is specified on the the equipment serial tag and data plate.

WARNING: Electrical shock hazard

This equipment is powered by electrical voltage as specified on the machine serial tag and data plate.

Always disconnect and lock out the incoming main power source before opening the electrical enclosure or performing non-standard operating procedures, such as troubleshooting or maintenance. Only qualified personnel should perform procedures that require access to the electrical enclosure while power is on.

DESCRIPTION

WHAT IS A SINGLE-PHASE VACUUM PUMP

Conair Single-Phase Vacuum Pumps (SPP) provide vacuum power for small conveying systems or one to two vacuum receivers. Each unit is equipped with its own dust collection system.

The pump generates enough vacuum to transfer up to 600 pounds of material per hour. The unit is compact and can be mounted on a sturdy horizontal surface wherever vacuum power is needed. The pump can also be mounted to the optional floor stand.

The SPP plugs into a standard 115 VAC electrical source. An optional blowback and blowback accumulator uses compressed air to clean the dust collection filter, extending filter life and reducing maintenance.

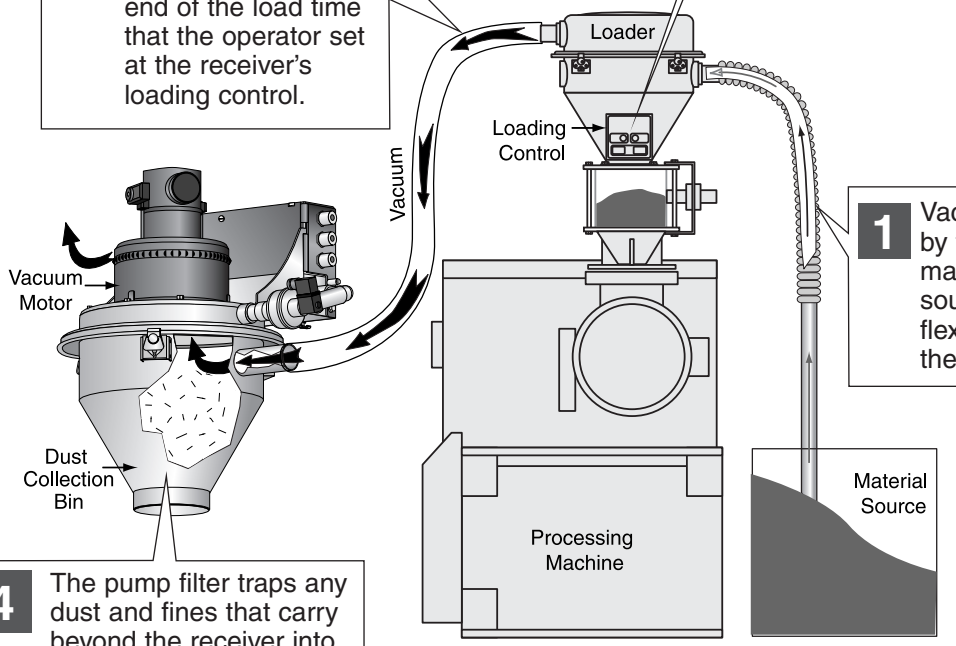
TYPICAL APPLICATIONS

The pump is ideal for micro-processing or other limited throughput applications that do not require investment in a larger pump and dust collection system.

The SPP can be used for:

- **Single station material loading**
  The pump provides the vacuum power and dust collection for one vacuum receiver loading one or more materials.

- **Central loading for low-throughput applications**
  The SPP provides vacuum power and dust collection for multiple vacuum receivers loading up to a total of 600 lb/hr.



3 The pump continues to pull material into the receiver until the material demand is satisfied or until the end of the load time that the operator set at the receiver's loading control.

2 When the vacuum receiver needs material, the loading control signals the Single-Phase Pump to start.

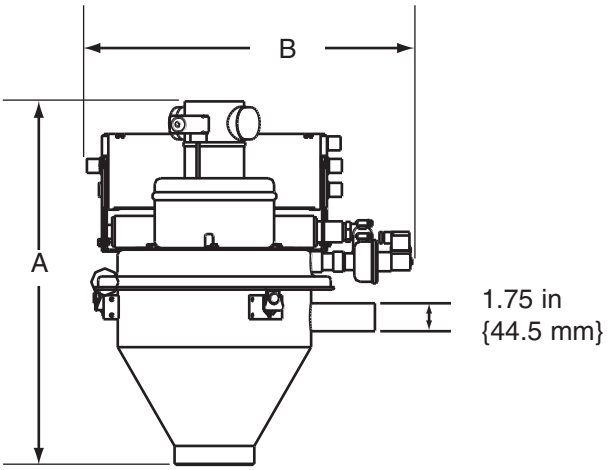
1 Vacuum generated by the pump pulls material from the source, through the flex hose and into the vacuum receiver.

4 The pump filter traps any dust and fines that carry beyond the receiver into the vacuum line. The dust and fines drop into the dust collection bin for later removal.

5 At the end of the loading cycle, the Single-Phase Pump motor turns off until another demand signal is received.

SPECIFICATIONS

Dimensions and performance characteristics vary according to the model, voltage and options selected.



MODEL	SPP			
Performance characteristics	**4-Brush Motor**		**Brushless Motor**	
Horsepower {kW}	7/8 {0.652}		1.25 {0.944}	
Airflow at material pickup point @ 53 inches H_2O	60 ft^3/min {1699} l/min		71 ft^3/min {2010} l/min	
Dimensions inches {mm}				
Pump alone				
A - Height	22.75 {577.9}		22.75 {577.9}	
With sound enclosure	25.25 {641.4}		25.25 {641.4}	
B - Width	20 {508.0}		20 {508.0}	
Depth	16.125 {409.6}		16.125 {409.6}	
With optional stand				
Height	37.375 {949.3}		37.375 {949.3}	
With sound enclosure	39.875 {1012.8}		39.875 {1012.8}	
Width	20 {508.0}		20 {508.0}	
Depth	17.125 {435.0}		17.125 {435.0}	
Standard vacuum inlet size	1.75 {44.5}		1.75 {44.5}	
Weight lb {kg} †				
Installed	41 {18.6}		41 {18.6}	
Shipping	62 {28.1}		62 {28.1}	
Voltages Total amps				
115V/1phase/60hz	12		17	
220V/1phase/60hz	6		not available	
Compressed air requirements (for optional blowback)‡				
Pressure psi {bar}	80 {5.5}		80 {5.5}	
NPT Fitting (female)	3/8 inch		3/8 inch	
Filter				
Filter type	disc	cartridge	disc	cartridge
Number of filters	1	1	1	1
Total filter area ft^2 {m^2}	0.78 {0.072}	12 {1.11}	0.78 {0.072}	12 {1.11}
Noise level				
Standard	88 dbA		88 dbA	
With sound enclosure option	73 dbA		73 dbA	

APPLICATION NOTE:

Each pump is equipped with a motor relay, matched to the pump voltage, with a starter coil that may be connected to a 115 VAC, 24 VAC or 24 VDC signal (must be specified) from the loading system control being used. For Conair loader applications, the SPP may be provided with a plug that matches the Conair Universal Terminal Box (UTB) on the vacuum loader.

SPECIFICATION NOTE:

* The vacuum motor is a 2-stage, fan-type with an open, but independent motor cooling air circuit

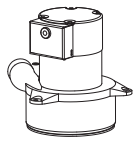
† Optional stand weighs 64 lb. {29} kg. Shipping weight is 100 lb. {45} kg.

‡ Compressed air must be filtered and regulated.

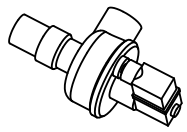
Specifications can change without notice. Contact a Conair representative for the most current information.

TPC031/0204

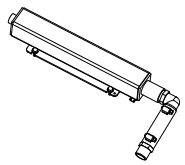
OPTIONS



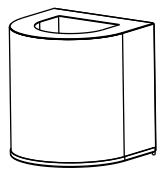
Brushless Motor
Brushless motors help to minimize maintenance by eliminating the need to monitor and replace brushes.



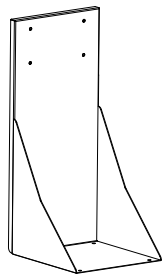
Blowback
The blowback system uses compressed air to blow dust and fines into the collection bin. This type of automatic filter cleaning should be added whenever regrind or dusty material will be transferred. The loading control must be capable of providing the blowback signal.



Blowback Accumulator
The optional blowback accumulator helps extend the life of the filter before maintenance by sending a high powered blast of compressed air through the filter system dislodging any material left on the filter.



Sound Enclosure
When the pump operates for long periods of time at high performance levels noise should be dampened by using a sound enclosure if the pump is located near plant personnel.

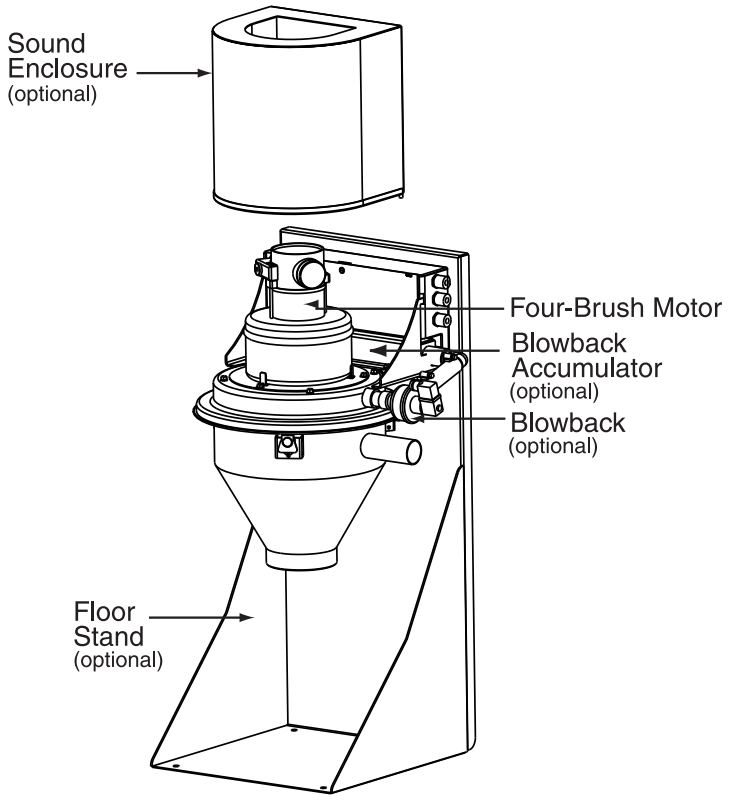


Floor Stand
Mounting the pump to the optional floor stand allows the pump to be mounted to the floor eliminating the need for a sturdy horizontal surface nearby.

INSTALLATION

UNPACKING THE BOXES

NOTE: *Connector cables and material lines must be specified and ordered separately.*



1 **Carefully remove the Single-Phase Pump** and components from their shipping containers, and set upright.

2 **Remove all packing material**, protective paper, tape, and plastic.

3 **Carefully inspect all components** to make sure no damage occurred during shipping, and that you have all the necessary hardware. If damage is found, notify the freight company immediately.

4 **Take a moment to record serial numbers** and specifications in the blanks provided on the back of the User Guide's title page. The information will be helpful if you ever need service or parts.

5 **You are now ready to begin installation.** Complete the preparation steps on the next page.

PREPARING FOR INSTALLATION

The pump is easy to install, if you plan the location and prepare the area properly.

1 The installation location should provide:

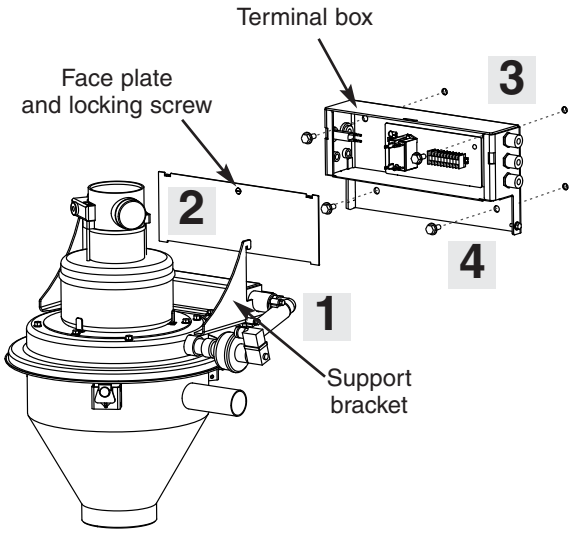
- ❒ **A single-phase power source supplying the correct voltage and amps** for your SPP model. Check the serial tag on the side for the required voltage, phase, frequency, full load amps, disconnect fuse size and minimum wire connection size. All electrical wiring should comply with your region's electrical codes.
- ❒ **Vacuum lines installed within 5 feet {1.5 m} of the planned location of the pump.**
- ❒ **Compressed air lines installed within 5 feet {1.5 m} if blowback and/or accumulator options are on the unit.** The compressed air source must deliver 60-80 PSI of clean, non-lubricated, regulated air pressure for consumption.
- ❒ **Clearance for safe operation and maintenance.** Access to the filter housing for service and cleaning should be considered when selecting a location for the pump. Leaving a clearance of 12 inches {3048 mm} around the unit will allow easy access for maintenance.
- ❒ **A mounting surface that supports the weight of the single-phase pump.**

MOUNTING THE PUMP TO A VERTICAL SURFACE

HARDWARE REQUIRED:
Four 3/8-inch diameter bolts and nuts

The pump can be mounted to a sturdy vertical surface or an optional floor stand.

NOTE: *Access to the filter housing for service and cleaning should be considered when selecting a location for the pump.*



1 Remove the pump from the terminal box.
The pump hangs by its support bracket from two slotted holes on the terminal box. Tilt the pump outward and lift up to guide the supports out of the slotted holes that the pump hangs on.

2 Remove the face plate from the terminal box.
Turn the locking screw counterclockwise until the plate is unlocked, then remove the plate from the front of the black terminal box.

3 Mark and drill holes on the mounting surface.
Use the four pre-drilled holes in the back of the terminal box as a mounting pattern. Drill holes using a 13/32- or 7/8- inch diameter drill bit.

4 Bolt the terminal box to the mounting surface.
Use four 3/8-inch diameter bolts to secure the pump to the surface. Install the face plate and lock in place.

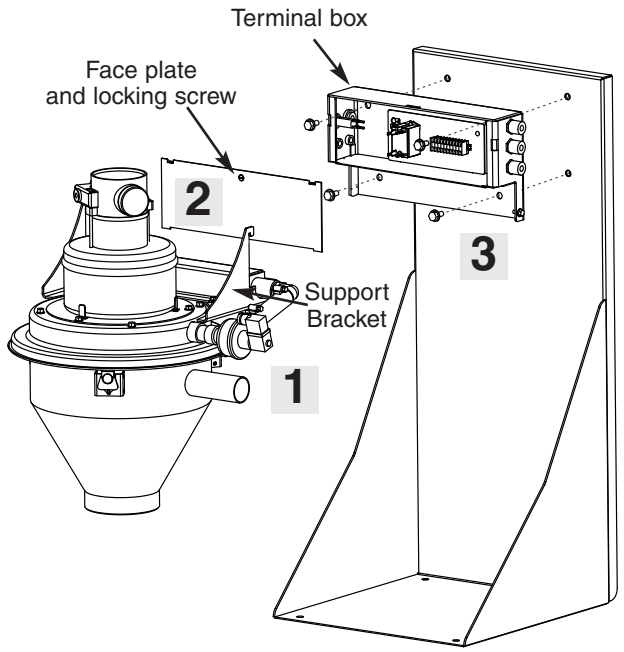
5 Mount the pump on the terminal box.
The pump will hang by its support bracket from two slotted holes on the terminal box. Lift up and tilt the pump inward to guide the support brackets into the slotted holes on the terminal box.

MOUNTING THE PUMP TO THE OPTIONAL FLOOR STAND

HARDWARE REQUIRED: *Four 3/8-inch diameter bolts and nuts.*

The pump may be mounted to an optional floor stand.

NOTE: *Access to the filter housing for service and cleaning should be considered when selecting a location for the pump.*



1 Remove the pump from the terminal box.
The pump hangs by its support bracket from two slotted holes on the terminal box. Tilt the pump outward and lift up to guide the supports out of the slotted holes that the pump hangs on.

2 Remove the face plate from the terminal box.
Turn the locking screw counter clockwise until face plate is unlocked then remove the face plate from the front of the black terminal box.

3 Bolt the terminal box to the floor stand.
Locate the four pre-drilled holes in the floor stand.Use four 3/8-inch diameter bolts and nuts to bolt the terminal box to the stand. Install the terminal box lid and lock in place.

4 Mount the pump on the terminal box.
The pump will hang by its support bracket from two slotted drilled holes on the terminal box. Lift up and tilt the pump inward to guide the support brackets into the slotted holes on the terminal box.

ELECTRICAL INSTALLATION

NOTE: *Wires should be routed neatly away from any hot surfaces or areas of mechanical abrasion. Wires must be located away from normal machine maintenance or traffic areas.*

WARNING: Voltage hazard
This equipment is powered by single-phase main voltage. Always disconnect and lock out the main power source to loading controls and the pump before connecting voltage and control wires.

1 Connect the pump to the loader control.

When connecting to a Conair vacuum receiver:
Plug the connector of the pump's Pump Start cable into the Load receptacle on the receiver's Universal Terminal Box.

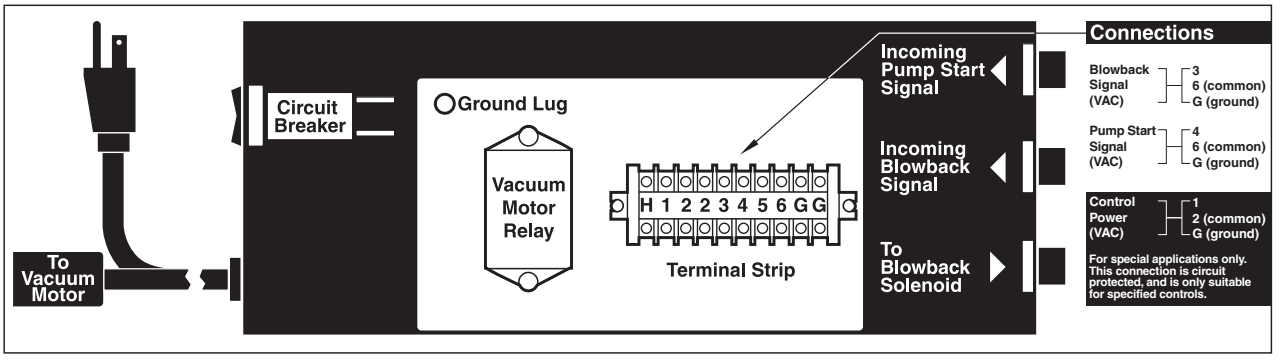
If the pump has the Blowback option, plug the connector of the pump's Blowback cable into the Blowback receptacle on the receiver's Universal Terminal Box.

When wiring the pump directly to a loading control:
Use multi-conductor cable and make connections as indicated in the wiring diagram inside the pump terminal box (see below) and your loading control wiring diagrams.

2 Connect the pump to a power source.

For the standard 115-volt connection:
Plug the pump power cord into an outlet supplying single-phase 115 VAC power. The outlet should support 12 amps for four-brush motor models or 17 amps for brushless motor models.

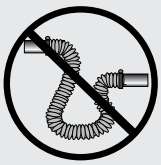
For 220-volt models:
Connect the pump power wire to a single-phase, 220 VAC power supply according to the wiring diagram located inside the pump terminal box. The pump will draw 8 amps.



CONNECTING VACUUM LINES

For single-loader applications, flexible hose should be used between the Single-Phase Pump and the receiver's vacuum inlet, as well as between the receiver and the material source.

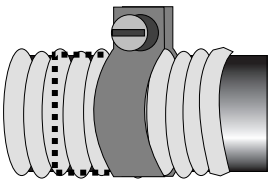
For multiple-loader applications, use flexible hose to connect the pump to the common vacuum line shared by the receivers in the conveying system.

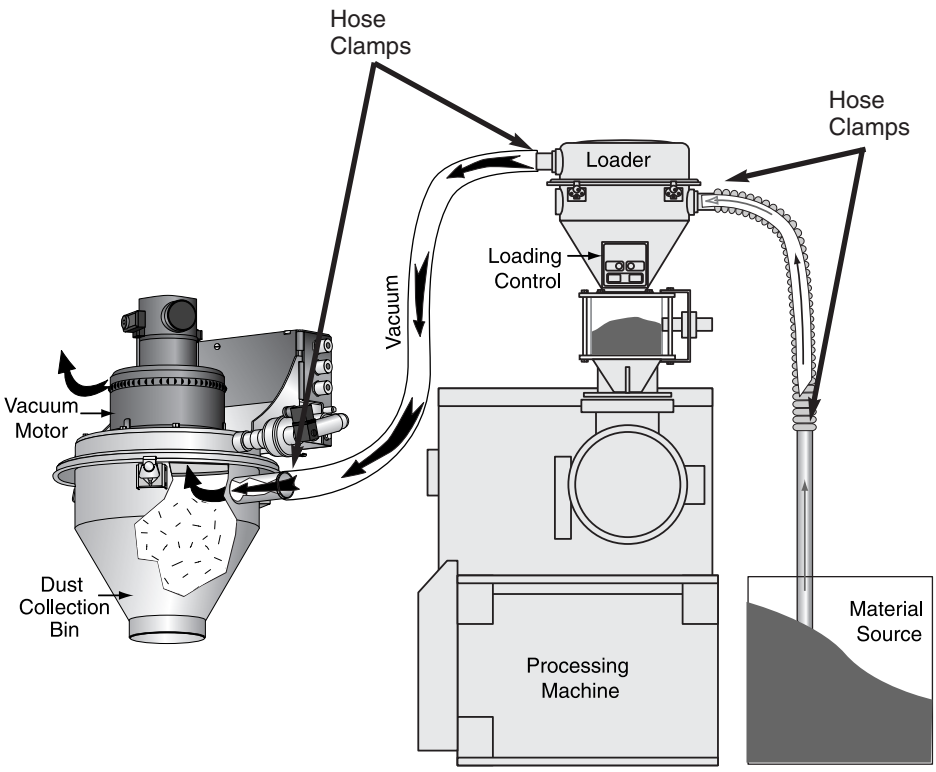


IMPORTANT: *Vacuum and material lines should be as straight as possible. Avoid loops and S-curves in flexible hose This can hurt conveying performance.*

1 Connect the pump to the vacuum receiver.
Attach 1.75-inch diameter flexible hose to the vacuum inlet on the pump and the vacuum outlet of the receiver.

2 Secure the hose.
Position hose clamps at least 1/4 inch from the end of the inlet, outlet, or connecting tubes.





CONNECTING COMPRESSED AIR LINES

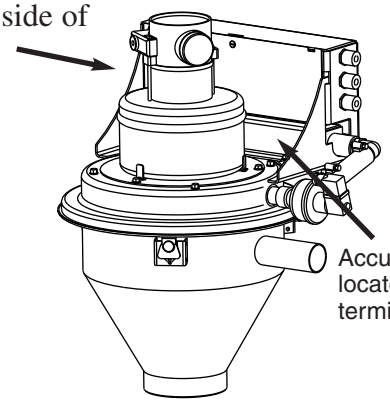
If your pump has an optional compressed air accumulator and a blowback solenoid, you need compressed air for operation.

The compressed air source must deliver 60-80 PSI of clean, non-lubricated, regulated air pressure. Use flexible air hose to connect the pump to the compressed air source so that you can easily remove the pump for maintenance.

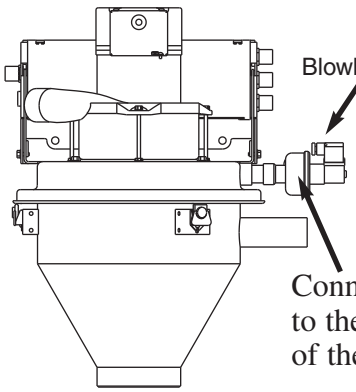
We also recommend installing a regulator and filter bowl in the compressed air line to regulate pressure and remove moisture from the line.

For pumps with optional blowback/accumulator:

Connect the compressed air line to the 3/8-inch NPT female port on this side of the accumulator.



For pumps with optional blowback only:



NOTE: *If you use 3/8 or 1/2 inch NPT male connector with barbed fitting, use the appropriate size 1/2 inch NPT to 3/4 inch NPT or 3/8 NPT to 3/4 NPT.*

OPERATION

TO START CONVEYING

Your conveying control operates the Single-Phase Pump. Refer to the conveying control manual for detailed instructions. These general operating steps apply to most conveying controls that can be connected to the pump.

1. **Make sure that the pump is plugged in and vacuum and material lines are hooked up correctly at the loading control.**
2. **Make sure you have material at the source.**
3. **Set the load time at the loader control.**
4. **Turn on the receiver at the loading control.**
5. **Readjust loading control settings as needed.** You want a smooth, steady flow of material from the source(s) to the receiver. To obtain the best conveying performance, you may need to readjust load times or the amount of material to air flow.

TO STOP CONVEYING

1. **Turn off the vacuum at the loading control.**

IMPORTANT: *If you are stopping the pump to perform maintenance or troubleshooting, disconnect the pump from the loading control, the main power source, and any compressed air sources before proceeding.*

MAINTENANCE

MAINTENANCE SCHEDULE

Normal maintenance of the Single-Phase Pump consists of cleaning the filter, dumping collected material dust from the filters collection pan, and motor brush replacement.

● Daily, or as needed

❒ **Inspect material and vacuum line connections.**
Check for proper connections between the pump and the receiver. Hose clamps should be at attached at least 1/4 inch from the end of inlet and outlet tubes. Connections should be tight enough to hold the hose on the tube, but not so tight as to pinch the hose. Inspect hose and inlet/outlet tubes for cracks, cuts or holes, Replace as needed.

❒ **Check compressed air lines for proper connection.**
Make sure there are no leaks. Replace if needed. Check that the pressure gauge reads 60-80 PSI.

❒ **Make sure loader control cable connections are secure.**
Tighten connections as needed.

❒ **Make sure that quick-connects on the lid work properly.**
Lock down the pump lid securely to maintain vacuum.

● Weekly, or as needed.

❒ **Clean the dust collection canister and filter.**
If you are running a dusty material you may need to check and clean the filter more often. If the pump seems to be straining to run, or material flow is erratic or sluggish check the filter. The filter also should be cleaned whenever you change materials.

❒ **Check gasket on the inside of the dust collection bin.**
Discard and replace any gasket that is torn, cracked or displays signs of excessive wear.

❒ **Drain the compressed air filter trap.**
Depending on your compressed air system, you may see moisture or oil in the compressed air filter trap. Open the petcock on the bottom of the trap to drain. If you see oil we recommend installing a coalescing type filter ahead of the standard moisture removing filter.

● Monthly or as needed

❒ **Check the motor brushes.**
If you have a pump with the four-brush motor, see *"MOTOR BRUSH INSPECTION AND REPLACEMENT."*

● Semi-annually or as needed.

❒ Examine the bolts holding the pump to the mounting surface. Make sure the bolts are tight.

EMPTYING COLLECTED DUST

You should empty the dust collection bin weekly, or more often if you convey materials that produce a lot of dust or fines.

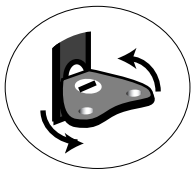
WARNING: Disconnect power and air sources. Always disconnect the pump from the loading control, man power source and compressed air source before removing the dust collection canister. This prevents the pump from starting during servicing, which could cause personal injury from flying debris or moving parts.

To empty the dust collection canister:

1 Disconnect and lockout the main power source to the pump.

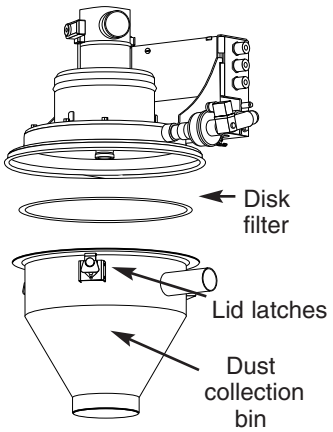
2 Disconnect the loading control and compressed air supply to the pump.

3 Remove the dust collection bin.
Release the lid latches, and support the dust collection bin with your hand as you let it drop away from the lid.



Lid latch

Pump with disk filter



NOTE: *The dust collection bin is emptied the same way if a cartridge filter is used.*

4 Discard the dust and clean the bin.
Vacuum the bin or wipe the bin out with a cloth.

CAUTION: Wear eye protection
We recommend that you clean the bin with a cloth or vacuum air. If you use compressed air to clean the equipment, you must wear eye protection and observe all OSHA and other safety regulations pertaining to the use of compressed air for cleaning equipment.

5 Reassemble.

REMOVING AND CLEANING THE FILTER

WARNING: Disconnect power and air sources.
Always disconnect the pump from the loading control, man power source and compressed air source before removing the dust collection canister. This prevents the pump from starting during servicing, which could cause personal injury from flying debris or moving parts.

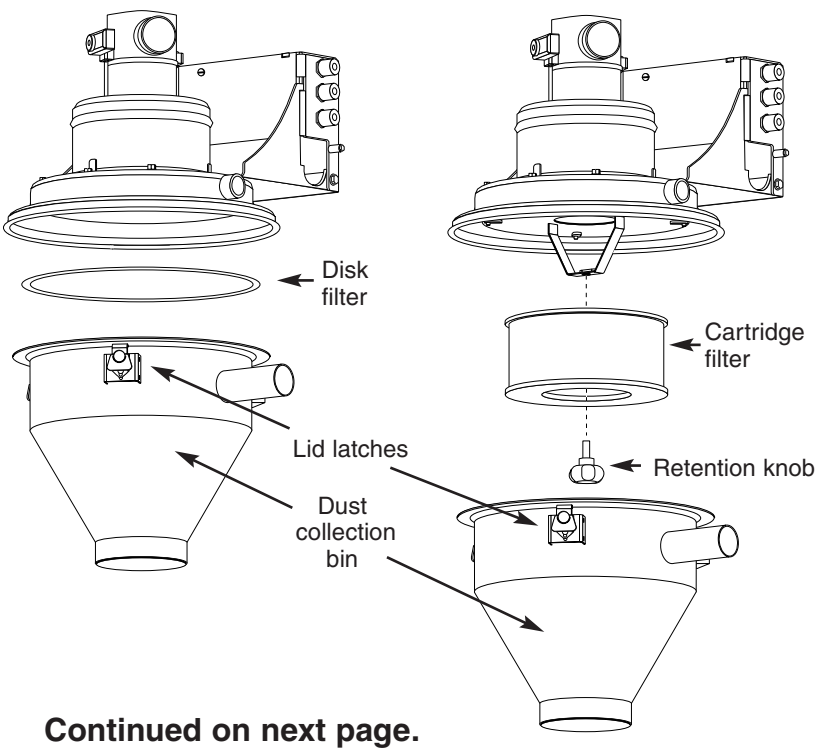
CAUTION: Wear eye protection
We recommend that you use vacuum air for cleaning filters and other parts of this equipment. If you use compressed air to clean the equipment, you must wear eye protection and observe all OSHA and other safety regulations pertaining to the use of compressed air.

To access this disc or cartridge filter:

1 Remove the filter and dust collection bin.
Release the lid latches, and support the collection bin with your hand as you let it drop away from the lid.

If you have a disc filter the filter lays on top of the dust collection bin. If your pump has a cartridge filter loosen the black plastic retention knob to remove the filter.

Pump with disk filter **Pump with cartridge filter**



Continued on next page.

REMOVING AND CLEANING THE FILTER (CONTINUED)

2 Inspect the filter carefully.
Check for holes that could allow the passage of fines or dust to the pump motor. Replace the filter if it is damaged, excessively worn or too clogged with fines and dust to clean.

3 Clean the filter.
We recommend that you vacuum the filter surfaces. If you use compressed air, you must wear eye protection and follow all safety regulations pertaining to cleaning equipment with compressed air. The cartridge filter may be cleaned by blowing with compressed air from the inside out.

IMPORTANT: *Never bang the filter cartridge on a hard surface to clean material from the filter leaves. This could damage the filter, create holes that will allow dust through the filter, or distort the flat sealing surface of the cartridge.*

NOTE: *Make sure you clean the filter using in a dry location using dry air. If moisture is added to the filter medium, the collected fines can solidify into clumps that will be very difficult to remove.*

If moisture is accidentally introduced, set the filter aside and allow it to thoroughly air dry before vacuuming at a later time, or replace it with a new filter.

4 Reassemble the filter and dust collection bin.
For pumps with a disk filter, set the filter on top of the bin flange, and turn the latches to secure the bin to the lid.

For pumps with a cartridge filter, secure the filter to the filter mounting plate with the black plastic retention knob. Make sure the filter fits firmly against the lid. Latch the dust collection bin to the lid.

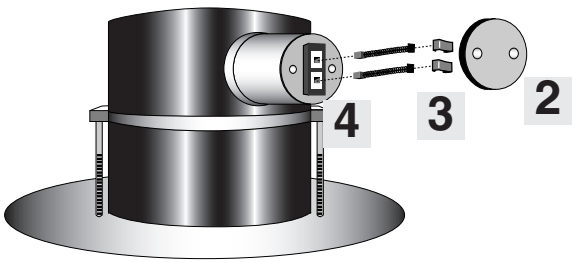
MOTOR BRUSH INSPECTION AND REPLACEMENT

NOTE: *If you have the SPP Brushless motor you will not need to follow these procedures.*

The motor on this pump may be powered by a four-brush, high RPM motor or a brushless motor. Inspect motor brushes regularly. Worn brushes can damage the motor and should be replaced

WARNING: Disconnect power and air sources. Always disconnect the pump from the loading control, man power source and compressed air source before removing the dust collection canister. This prevents the pump from starting during servicing, which could cause personal injury from flying debris or moving parts.

The brushes on the Single-Phase Pump are contained within two circular caps visible on each side of the uppermost section of the motor.



To inspect or replace the brushes

1 Disconnect the main power source.

2 Remove the cap covering the brushes.
Remove the acorn nuts that secure circular caps to the motor body.

3 Remove the motor brushes.
Inside each cap are two spring mechanisms that secure the brushes under tension against the motor armature. The brushes can be removed by prying off the spring clips.

4 Examine the brushes carefully.
The brushes should be a least 1/4 inch long, as measured from the motor end to the brush holder. Replace both brushed even if only one is less than 1/4 inch long.

5 Reassemble and repeat the steps for the second set of motor brushes.

BRUSHLESS MOTOR FILTER CLEANING/ REPLACEMENT

The brushless motor operates differently than traditional brush motors, by using solid state circuitry within the motor to replace the function of brushes and allow the motor to operate at the high speeds necessary for efficient vacuum operation. This sophisticated circuitry is housed in the top section of the motor housing and is cooled by a fan that draws ambient air into the motor through the top, cools the solid state circuitry and then exhausts out the base of the motor. This air path must be kept clear and clean to allow the brushless motor to operate properly. To prevent the accumulation of dirt, dust and debris in the motor's circuitry a small filter is fixed to the top of the motor that must be kept clean to allow free air movement into the top of the motor.

TIP: *Loaders that operate in clean environments, without airborne dust or debris will not need servicing of the motor filter very often. Loaders that require this service frequently, due to dirty operating environments, should be moved if possible to prevent erratic performance from a frequently fouled filter.*

1 **Disconnect the power to the loader.**

2 **Remove the filter.** The filter is held in place on top of the motor by small metal tabs. The filter may be easily removed without tools, by simply gripping the filter media and pulling it out from under the tabs.

3 **Clean the filter.** The filter may be vacuumed or blown off with compressed air to restore it to a clean condition before returning it to service. You should be able to easily see light through a clean filter. Filters caked with dirt or debris, or filters that are ripped or incomplete should be replaced. Replacement filters (part number 105-548-02) are available through the Conair Parts Department. The brushless motor should not be operated without a filter in place.

4 **Clean the top of the brushless motor.** In most cases, it is recommended that before a cleaned filter is returned to service, the top of the brushless motor is also cleaned to remove collected dust and debris that may foul the motor's operation. Use a strong vacuum cleaner to clean the motor's top vents and remove any dirt that may have collected on the motor circuitry itself, below the vents. Compressed air may also be used, but in the event of extreme dirt, debris may actually be blown deeper into the motor, creating other issues. Use good judgement and observe all safety procedures for the use of compressed air especially safety glasses.

5 **Reassemble the filter and connect the power to the loader.**

⚠ CAUTION: Wear eye protection

We recommend that you use vacuum air for cleaning filters and other parts of this equipment. If you use compressed air to clean the equipment, you must wear eye protection and observe all OSHA and other safety regulations pertaining to the use of compressed air.

THERMAL OVERLOAD

A dirty filter can allow the motor to overheat and trip a thermal overload within the motor, halting its operation. This thermal overload can only be reset to continue operation (after thoroughly cleaning the filter and motor circuitry) by allowing the motor to cool for 5 minutes, then unplugging the motor power cable for 30 seconds. All power to the motor must be interrupted in this manner to reset the thermal overload inside the motor. Simply turning the loader control off will not reset the motor's internal overload.

Once the motor overload is reset by disconnecting and reconnecting power, the filter and motor are cleaned and the filter is re-installed on top of the motor, the motor should restart as a part of normal loader operation. If it does not, more severe motor damage or other problems may have occurred. Check the troubleshooting section of this manual or call Conair service for more information.

TROUBLESHOOTING

CONVEYING PROBLEMS

WARNING: Disconnect power and air sources. Always disconnect the pump from the loading control, man power source and compressed air source before removing the dust collection canister. This prevents the pump from starting during servicing, which could cause personal injury from flying debris or moving parts.

Problem	Possible cause	Solution
Conveying rates drop.	**Does the filter need to be cleaned?**	Check the filter and clean if it is clogged with dust or fines. Clean the filter. See *CLEANING THE FILTER..*
	Does the dust collection canister need to be emptied?	Check to see if the dust collection canister is full of dust and fines, if it is empty the dust collection canister. See Emptying the Dust Collection Canister
	Is there an overload on the circuit breaker?	Reset the circuit breaker if it is tripped.
	Is the gasket worn and not able to contain the vacuum?	Check the gasket on the inside of the dust collection bin. Replace the gasket if it is torn, cracked or worn.
	Are there kinks in the flex hose?	Check the vacuum and material flex hose lines for loops and “S” curves. Remove any loops and “S” curves in the flex hoses. Try to keep the hose as straight as possible.
	Are there holes or cracks in any of the material or vacuum lines?	Check all the vacuum and material lines for holes, cracks or other signs or excessive wear. Replace worn flex hose.
	Are hose connections too tight or too loose?	Check vacuum and material line hose connections for leaks. Hose clamps should be secured 1/4 inch from the end of the inlet or outlet tube, but they should not be so tight that they pinch or damage the hose.

WARNING: Disconnect power and air sources. Always disconnect the pump from the loading control, man power source and compressed air source before removing the dust collection canister. This prevents the pump from starting during servicing, which could cause personal injury from flying debris or moving parts.

CONVEYING PROBLEMS

Problem	Possible cause	Solution
Conveying rates drop.	**Are material to air adjustments at the material pickup device correct?**	Check the material to air adjustments at the feed tube or distribution box to make sure they are correct. Correct if necessary.
	Is there material at the pickup source?	Check to make sure there is material at the source.
Brushless motor does not respond. (Applies only to units that have a brushless motor.)	**Has the thermal overload inside the motor tripped due to overheating?**	Clean the brushless motor filter, vacuum clean the top of the motor and then reset the thermal overload by unplugging the motor. See *THE MAINTNENACE SECTIONS - BRUSHLESS MOTOR FILTER CLEANING AND REPLACEMENT AND THERMAL OVERLOAD.*

We're Here to Help

Conair has made the largest investment in customer support in the plastics industry. Our service experts are available to help with any problem you might have installing and operating your equipment. Your Conair sales representative also can help analyze the nature of your problem, assuring that it did not result from misapplication or improper use.

Additional manuals and prints for your Conair equipment may be ordered through the Customer Service or Parts Department for a nominal fee. Most manuals can be downloaded free of charge from the product section of the Conair website. www.conairgroup.com

How to Contact Customer Service

To contact Customer Service personnel, call:

✎ **NOTE:** Normal operating hours are 8:00 am - 5:00 pm (EST). After hours emergency service is available at the same phone number.

You can commission Conair service personnel to provide on-site service by contacting the Customer Service Department.

Before You Call...

If you do have a problem, please complete the following checklist before calling Conair:

- ❒ Make sure you have all model, control type and serial numbers from the serial tag, and parts list numbers for your particular equipment. Service personnel will need this information to assist you.
- ❒ Make sure power is supplied to the equipment.
- ❒ Make sure that all connectors and wires within and between control systems and related components have been installed correctly.
- ❒ Check the troubleshooting guide of this manual for a solution.
- ❒ Thoroughly examine the instruction manual(s) for associated equipment, especially controls. Each manual may have its own troubleshooting guide to help you.
- ❒ Check that the equipment has been operated as described in this manual.
- ❒ Check accompanying schematic drawings for information on special considerations.

Equipment Guarantee

Conair guarantees the machinery and equipment on this order, for a period as defined in the quotation from date of shipment, against defects in material and workmanship under the normal use and service for which it was recommended (except for parts that are typically replaced after normal usage, such as filters, liner plates, etc.). Conair's guarantee is limited to replacing, at our option, the part or parts determined by us to be defective after examination. The customer assumes the cost of transportation of the part or parts to and from the factory.

Performance Warranty

Conair warrants that this equipment will perform at or above the ratings stated in specific quotations covering the equipment or as detailed in engineering specifications, provided the equipment is applied, installed, operated and maintained in the recommended manner as outlined in our quotation or specifications.

Should performance not meet warranted levels, Conair at its discretion will exercise one of the following options:

- Inspect the equipment and perform alterations or adjustments to satisfy performance claims. (Charges for such inspections and corrections will be waived unless failure to meet warranty is due to misapplication, improper installation, poor maintenance practices or improper operation.)
- Replace the original equipment with other Conair equipment that will meet original performance claims at no extra cost to the customer.
- Refund the invoiced cost to the customer. Credit is subject to prior notice by the customer at which time a Return Goods Authorization Number (RGA) will be issued by Conair's Service Department. Returned equipment must be well crated and in proper operating condition, including all parts. Returns must be prepaid.

Purchaser must notify Conair in writing of any claim and provide a customer receipt and other evidence that a claim is being made.

Warranty Limitations

Except for the Equipment Guarantee and Performance Warranty stated above, Conair disclaims all other warranties with respect to the equipment, express or implied, arising by operation of law, course of dealing, usage of trade or otherwise, including but not limited to the implied warranties of merchantability and fitness for a particular purpose.

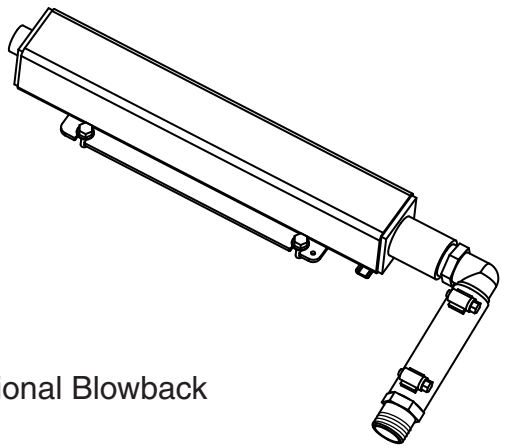
INSTALLING AN OPTIONAL BLOWBACK AND ACCUMULATOR

The blowback system directs compressed air through the filter to blow dust and fines into the collection bin. This type of automatic filter cleaning should be added whenever regrind or dusty material will be transferred. Your loading control must be capable of providing the blowback signal.

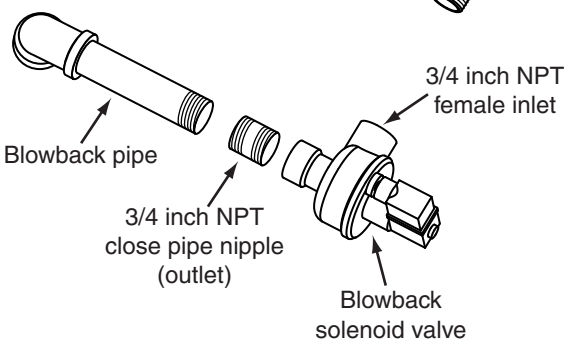
The optional blowback accumulator helps extend the life of the filter between cleanings by sending a high powered blast of compressed air through the filter system dislodging any material left on the filter.

The blowback solenoid valve and pipe may be installed with or without an accumulator.

Optional Accumulator



Optional Blowback



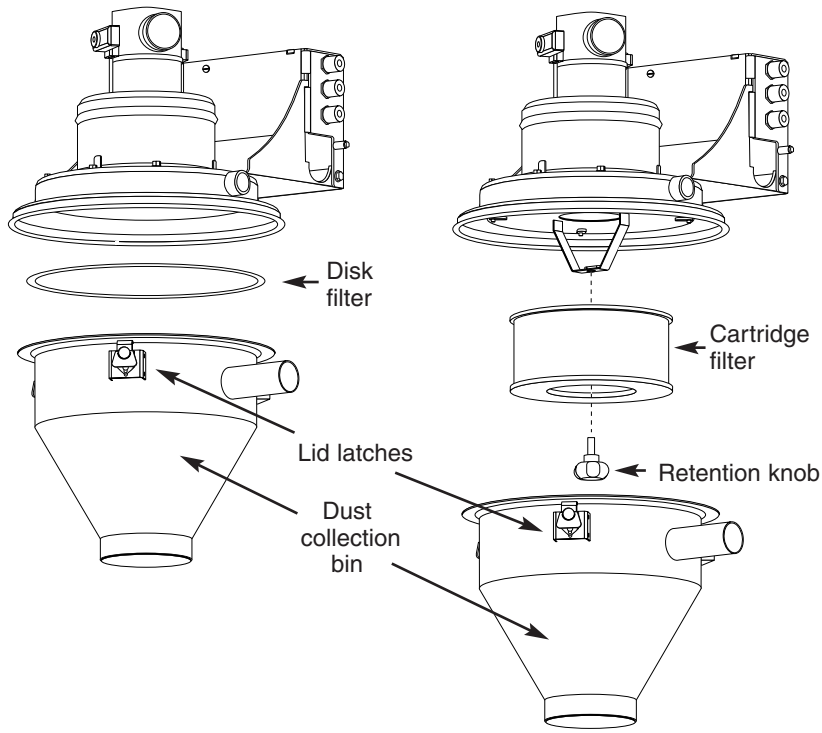
PREPARING FOR INSTALLATION

The blowback device installs in the lid of the pump. You must remove the motor assembly and filter to install the blowback pipe in the lid. If your pump uses a cartridge filter, you must also remove the filter mounting plate inside the lid.

1 Remove the filter and dust collection bin.

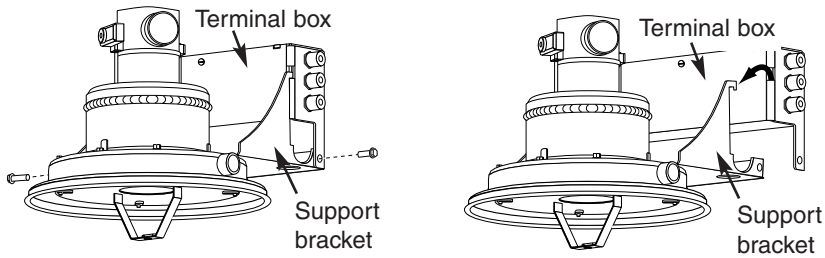
Release the lid latches and support the bin with your hand as you let it drop away from the lid. Loosen the retention knob to remove the cartridge filter. Set bin and filter aside.

Pump with disk filter **Pump with cartridge filter**



2 Remove the pump from the terminal box.

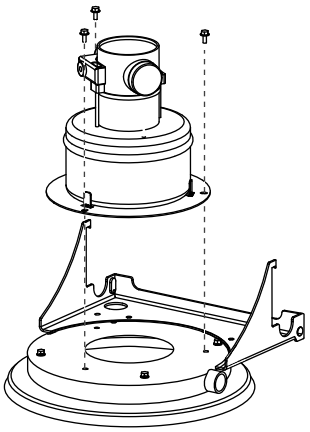
Unplug the pump motor. Remove the two 1/4-inch bolts that attach the motor support bracket to the terminal box. Lift and tilt the support bracket to release it from the terminal box.



Continued on next page.

PREPARING FOR INSTALLATION (CONTINUED)

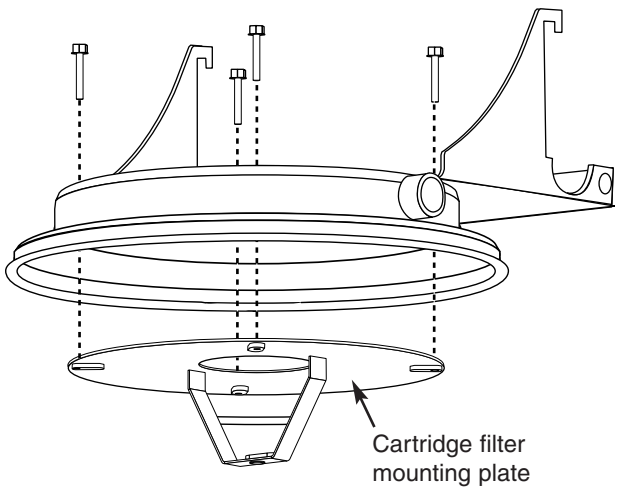
3 Remove the motor assembly from the lid.
Remove the three 1/4-inch bolts from the motor mounting plate. Set the motor assembly aside. Do not lose the bolts.



If your pump has a disk filter, you can proceed to ***INSTALLING THE BLOWBACK DEVICE.***

If your pump has a cartridge filter, perform Step 4 before continuing.

4 Remove the cartridge filter mounting plate.
Remove the four 1/4-inch retaining bolts in the top of the lid. Set the mounting plate and bolts aside. Do not lose the bolts.



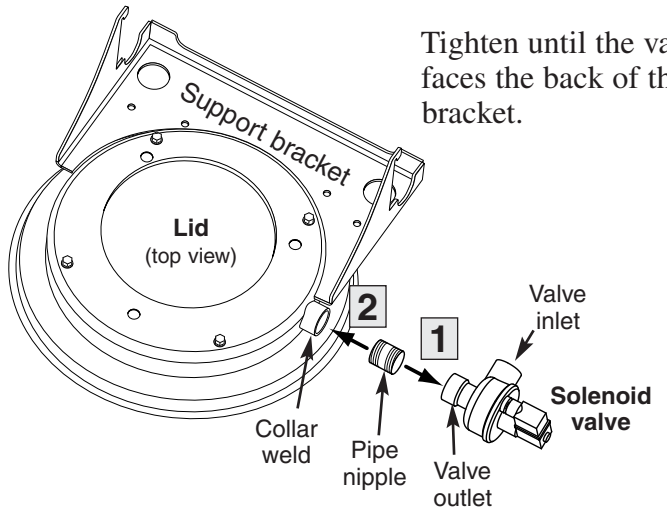
Proceed to ***INSTALLING THE BLOWBACK DEVICE.***

INSTALLING THE BLOWBACK DEVICE

Installation requires securing the blowback pipe and solenoid valve to the threaded collar weld on the lid, then wiring the solenoid valve to the pump terminal box.

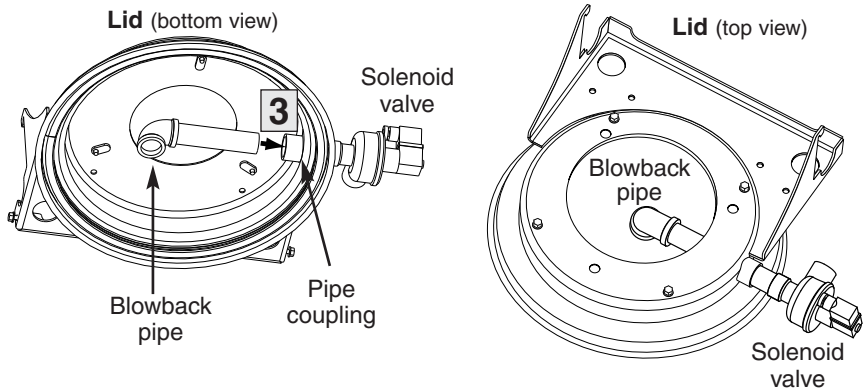
1 Assemble the solenoid valve and pipe nipple.
By hand, screw the 3/4-inch NPT close pipe nipple into the blowback solenoid valve outlet.

2 Install the solenoid valve assembly in the lid.
Screw valve assembly into the 3/4-inch NPT collar weld.



Tighten until the valve inlet faces the back of the support bracket.

3 Install the blowback pipe in the lid.
Turn the lid upside down. Screw the blowback pipe into the 3/4-inch pipe coupling on the inside of the lid. Tighten until the open end of the pipe points away from the top of the lid and the vacuum motor.



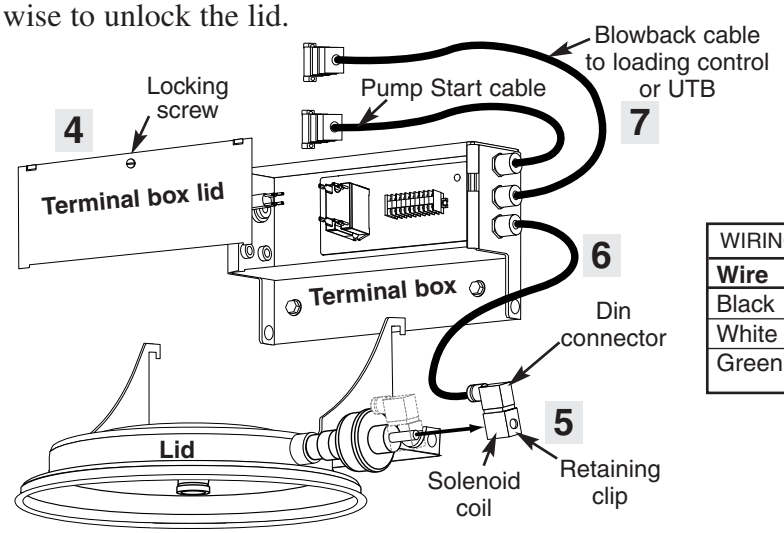
NOTE: *Correct orientation of the blowback pipe is very important. The pipe outlet must point straight down when the lid is upright.*

Continued on next page.

INSTALLING THE BLOWBACK DEVICE (CONTINUED)

⚠ CAUTION: Voltage hazard
Always disconnect and lock out the main power source before making electrical connections. Wiring should be done only by qualified personnel.

4 Remove the terminal box lid.
Disconnect the main power source to the terminal box. Using a screw driver, turn the locking screw counterclockwise to unlock the lid.



WIRING CONNECTIONS	
Wire	**Terminal**
Black	3
White	6
Green	Ground

5 Remove the solenoid valve din connector.
Using a screw driver, pry or slide the U-shaped retaining clip away from the din connector. Do not lose the clip. Slide the solenoid coil off the solenoid post.

6 Wire the din connector to the terminal box.
Insert the wires of the din connector cable through the lower hole on the right side of the terminal box. Secure with a cord grip/strain relief. Connect the wires to the terminal strip in the box as indicated above. Let the din connector hang freely from the terminal box until reassembly.

7 Wire the blowback cable to the terminal box.
Insert the wires of the 20-foot blowback cable through the middle hole on the right side of the terminal box. Secure with a cord grip/strain relief. Connect the wires to the terminal strip in the box as indicated above. Plug the connector into the UTB or wire the cable to the loading control.

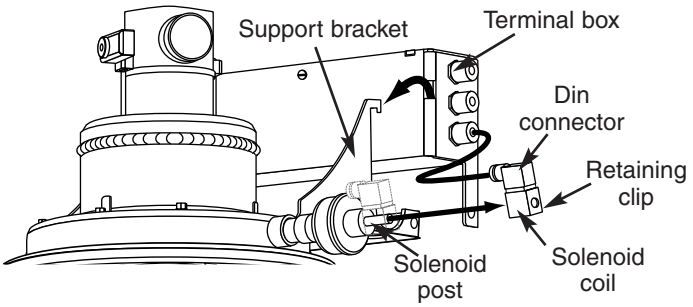
8 Replace the terminal box lid.
Turn the locking screw clockwise to lock the lid.

9 Proceed to *INSTALLING THE ACCUMULATOR*, or *REASSEMBLING THE PUMP*. Reassemble the pump if you do not have the optional accumulator.

INSTALLING THE ACCUMULATOR

If you are adding the accumulator to a factory-installed blowback device, you must first remove the pump and support bracket from the terminal box.

Disconnect power and compressed air. Unplug the pump motor. Remove the solenoid coil from the solenoid post and let it hang freely. Remove the two 1/4-inch bolts attaching the motor support bracket to the terminal box. Lift and tilt the support bracket to release the pump from the terminal box.

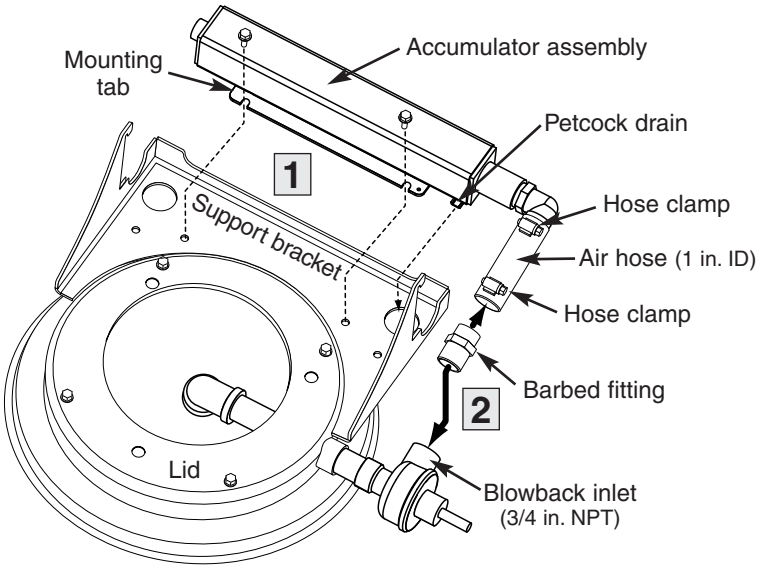


Now you can install the accumulator.

1 **Mount the accumulator to the support bracket.**
Rest the accumulator in the slots on the bracket. Insert the petcock drain through the hole in the bracket. Align the holes in the accumulator tab with the captive nuts in the support bracket and secure with two 1/4-inch size bolts.

NOTE: *The illustration shows the pump motor removed from the lid as a continuation of the procedure for installing both the blowback and an accumulator on the pump.*

If you are installing only the accumulator to a pump with factory-installed blowback, it is not necessary to remove the pump motor.

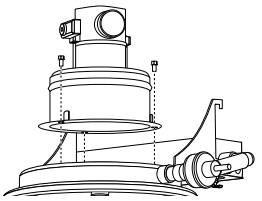


2 **Connect the accumulator to the blowback.**
Install the barbed fitting in the blowback inlet. Use thread sealant and tighten. Push the air hose over the barbed fitting and tighten the hose clamp. Close the petcock.

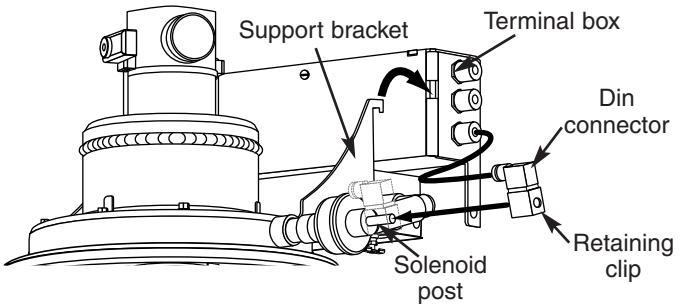
3 **Proceed to *REASSEMBLING THE PUMP*.**

REASSEMBLING THE PUMP

1 Secure the motor assembly to the lid.
Screw the three 1/4-inch bolts through the motor mounting plate into the lid.



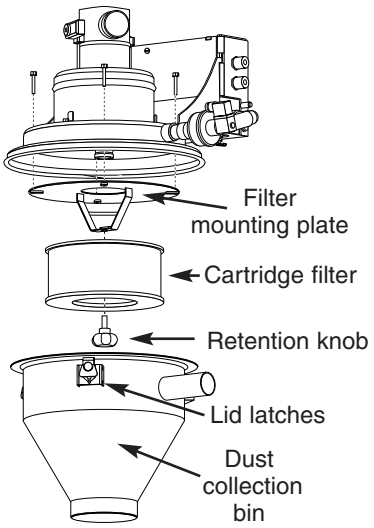
2 Reattach the motor and lid to the terminal box.
Tilt the lid to insert the support bracket tabs in the slots on the terminal box. Secure the 1/4-inch bolts that attach the motor support bracket to the terminal box. Plug in the pump motor. Slide the din connector onto the solenoid post and secure with the retaining clip.



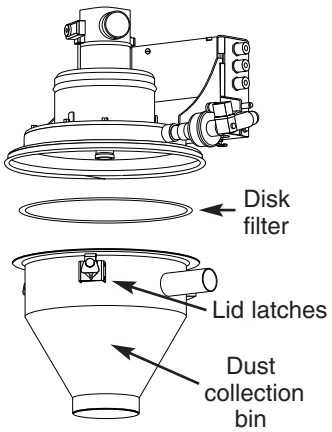
3 Reassemble the filter and dust collection bin.
For pumps with a cartridge filter, first install the filter mounting plate. Evenly tighten the four 1/4-inch retaining bolts until the mounting plate gasket is drawn tightly into the lid. Secure the filter to the plate with the retention knob, making sure the filter fits firmly against the lid. Latch the dust collection bin to the lid.

For pumps with a disk filter, set the filter on top of the bin flange, and turn the latches to secure the bin to the lid.

Pump with cartridge filter



Pump with disk filter



Proceed to *CONNECTING COMPRESSED AIR LINES* in the Installation section.

INSTALLING A SOUND ENCLOSURE

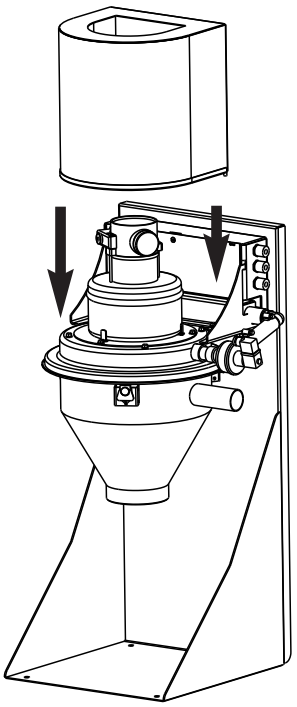
⚠ WARNING: Disconnect power and air sources. Always disconnect the pump from the loading control, man power source and compressed air source before removing the dust collection canister. This prevents the pump from starting during servicing, which could cause personal injury from flying debris or moving parts.

If the pump operates for long periods of time at high performance levels, noise should be dampened by using a sound enclosure.

To install the optional sound enclosure:

1 Disconnect the power.
Unplug the pump from the main power source.

2 Locate pre-drilled holes and mounting pins.
Locate the two 5/16 inch pre-drilled holes in the mounting bracket. Locate the two pins along the back bottom edge of the sound enclosure.



3 Align the pins on the sound enclosure with the pre-drilled holes on the mounting bracket.
The pins on the sound enclosure must fit down inside the two pre-drilled holes on the mounting bracket. Make sure that you have oriented the sound enclosure so that the cord for the pump motor can be routed through cut away on the sound enclosure.Put the cord through the hole and firmly place the sound enclosure pins into the predrilled holes.

To remove the sound enclosure:

1 Disconnect the power.
Unplug the pump from the main power source.

2 Remove the sound enclosure.
Pull up on the sound enclosure letting the cord come back through the hole.