

FIRST TIME SET-UP

FOR ALL VACUUMS



1. Install the ball valve onto the TOPRING Vacuum Generating Engine. Use Teflon tape or thread sealant on the threads of the ball valve.



2. Install the vacuum hose adapter into the inlet elbow. If needed use a rubber mallet to tap the adapter into the inlet elbow.



3. Connect the vacuum hose to the vacuum hose adaptor. Connect desired attachment to the other end of the vacuum hose.

FOR TOPRING VACUUMS & DUST EXTRACTORS



1. Install the 1/2" pipe nipple into the inlet of the ball valve. Use Teflon tape or thread sealant on the threads on both ends of the pipe nipple.



2. Install the 1/2" to 1/4" pipe tee reducer onto the pipe nipple. Orientate the 1/4" outlet of the pipe tee to the same side of the manifold with the 1/4" push-to-connect elbow installed.



3. Install the 1/4" push-to-connect elbow into the 1/4" outlet of the tee. Use Teflon tape or thread sealant on the threads of the elbow.

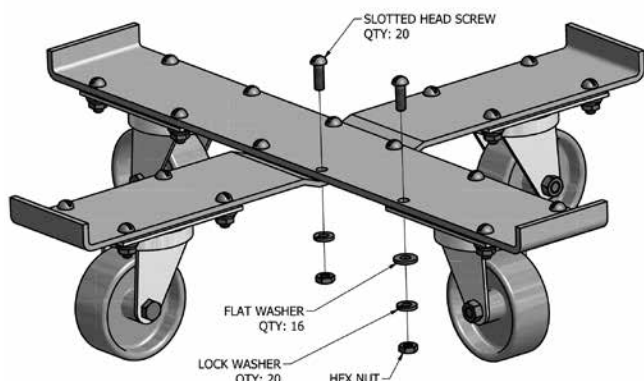


4. Install the 1/4" OD tubing into both push-to-connect elbows. Ensure the tubing is fully seated in the fitting. A slightly added resistance will be felt before the tube is fully seated. Once fully seated, test the connection by firmly pulling on the tube. It should stay locked in the fitting.

SET-UP AND OPERATION

DOLLY ASSEMBLY

Assemble the 55, 30 & 20 Gallon Drum Dolly as shown below:



VACUUM DRUMS

CAUTION

Drums used with Vacuum Generating Heads must meet or exceed the steel gauge requirements in the table below. Thinner gauges of steel run the risk of drum collapse. Note that the lower gauge number, the thicker the steel.

DRUM	55 gal	30 gal	20 gal	10 gal	5 gal
GAUGE STEEL	19	18	18	20	20

COMPRESSED AIR SUPPLY

FOR YOUR SAFETY

Disconnect compressed air connections only after the compressed air supply has been turned off and the air supply hose vented by opening the valve on the vacuum generating engine. **NEVER** disconnect a pressurized compressed air hose.

An adequate supply of compressed air is essential for the proper performance of TOPRING Vacuums. Compressed air requirements for the injector nozzle sets are listed below:

Green Injector Nozzles	20 cfm
Blue Injector Nozzles	40 cfm
Yellow Injector Nozzles	60 cfm

Note that these requirements are for compressed air volume, not pressure. The recommended compressed air inlet static operating pressure is 100 psi for all vacuum units. All units will function at lower operating pressures, but with a corresponding reduction in performance. Consequently, the pressure gauge should read between 80 psi and 90 psi during operation for an optimally operating vacuum. If the pressure is lower than 80 psi and the vacuum performance is inadequate, install lower flowing nozzles. **TABLE A** outlines vacuum performance based upon vacuum hose size and shows compressed air usage for each injector nozzle color.

1/2" ID or larger compressed air hose is recommended for Yellow and Blue Injector Nozzles. 3/8" ID or larger compressed air hose is recommended for Green Nozzles. Use of a smaller diameter air hose will restrict performance.

CHANGING INJECTOR NOZZLES

TOPRING Vacuums come with three (3) sets of injector nozzles that allow users to change vacuum performance. Users can optimize vacuum performance based on how much compressed air they have available.



- 1.** Remove the four manifold screws.



- 4.** Install new nozzles using a 5/8" socket. Finger tight will suffice.



- 2.** Remove the manifold. Gently rotating the manifold left and right while pulling the manifold out of the body may be needed.



- 5.** Inspect the o-ring on the manifold. Clean and apply o-ring lubrication if needed. Replace the o-ring if needed.



- 3.** Remove injector nozzles using a 5/8" socket.



- 6.** Re-insert the manifold ensuring the o-ring remains in the o-ring groove. First, insert the bottom of the manifold into the body, and then slowly push the top of the manifold fully into the body.



- 7.** Reinstall the manifold screws. Tighten until snug, then 1/4" to 1/2" additional turns.



SET-UP AND OPERATION

TABLE A
TOPRING VACUUM PERFORMANCE SPECIFICATIONS

GREEN INJECTOR NOZZLES

1-1/4" ID x 10' Vacuum Hose 3/8" ID x 12' Air Supply Hose	
Air Usage (cfm)	20
Max Vac Flow (cfm)	75
Max Vac Head (inches H ₂ O)	118
Max Power (Air Watts)	202
Max Noise Level (dBA)	83

1-1/2" ID x 10' Vacuum Hose 1/2" ID x 12' Air Supply Hose	
Air Usage (cfm)	20
Max Vac Flow (cfm)	92
Max Vac Head (inches H ₂ O)	126
Max Power (Air Watts)	226
Max Noise Level (dBA)	82

2" ID x 10' Vacuum Hose 1/2" ID x 12' Air Supply Hose	
Air Usage (cfm)	20
Max Vac Flow (cfm)	110
Max Vac Head (inches H ₂ O)	122
Max Power (Air Watts)	213
Max Noise Level (dBA)	85

BLUE INJECTOR NOZZLES

1-1/4" ID x 10' Vacuum Hose 3/8" ID x 12' Air Supply Hose	
Air Usage (cfm)	35
Max Vac Flow (cfm)	92
Max Vac Head (inches H ₂ O)	184
Max Power (Air Watts)	309
Max Noise Level (dBA)	81

1-1/2" ID x 10' Vacuum Hose 1/2" ID x 12' Air Supply Hose	
Air Usage (cfm)	40
Max Vac Flow (cfm)	118
Max Vac Head (inches H ₂ O)	225
Max Power (Air Watts)	425
Max Noise Level (dBA)	85

2" ID x 10' Vacuum Hose 1/2" ID x 12' Air Supply Hose	
Air Usage (cfm)	40
Max Vac Flow (cfm)	139
Max Vac Head (inches H ₂ O)	215
Max Power (Air Watts)	459
Max Noise Level (dBA)	86

YELLOW INJECTOR NOZZLES

1-1/4" ID x 10' Vacuum Hose 3/8" ID x 12' Air Supply Hose	
Air Usage (cfm)	45
Max Vac Flow (cfm)	97
Max Vac Head (inches H ₂ O)	213
Max Power (Air Watts)	341
Max Noise Level (dBA)	86

1-1/2" ID x 10' Vacuum Hose 1/2" ID x 12' Air Supply Hose	
Air Usage (cfm)	60
Max Vac Flow (cfm)	129
Max Vac Head (inches H ₂ O)	251
Max Power (Air Watts)	588
Max Noise Level (dBA)	83

2" ID x 10' Vacuum Hose 1/2" ID x 12' Air Supply Hose	
Air Usage (cfm)	60
Max Vac Flow (cfm)	149
Max Vac Head (inches H ₂ O)	250
Max Power (Air Watts)	667
Max Noise Level (dBA)	88

NOTE:

GREEN INJECTOR NOZZLES are factory installed in all vacuums with 1-1/4" ID vacuum hose inlets.

BLUE INJECTOR NOZZLES are factory installed in all vacuums with 1-1/2" or 2" ID vacuum hose inlets.

GROUNDING THE VACUUM NED VACUUMS PULSEAIR VACUUMS

DUST EXTRACTORS

Users may choose to electrically ground TOPRING NED Vacuums and TOPRING Vacuums & Dust Extractors to provide an added measure of static electricity dissipation. It is important to understand that simply grounding these units does not make them suitable for hazardous locations. Regardless, the three (3) grounding options are the same as described below for TOPRING ATEX Vacuums.

TOPRING ATEX VACUUMS

To operate TOPRING ATEX Vacuums safely in approved hazardous locations, the vacuum must be properly grounded during operation.

Prior to operating the vacuum ensure all conductive parts of the vacuum are properly bonded. Inspect the unit and replace worn or broken components. Use only original TOPRING replacement parts.

To ensure proper electrical bonding (connectivity between conductive components), make sure that only static conductive, factory-supplied parts and accessories are used. Inspect all static conductive vacuum components before use and replace worn, broken or rusted parts as needed. All components must fit together firmly, including the static conductive vacuum hose, which must mount securely on the vacuum hose inlet. All static conductive vacuum accessories must fit securely on the end of the vacuum hose.

Proper grounding of TOPRING ATEX Vacuums can be achieved in one of three (3) ways:

1. Through a Static Conductive Air Supply Hose

This option utilizes a static conductive air supply hose to connect the vacuum to a compressed air distribution system that is electrically grounded. Only use this method if the compressed air distribution system has been verified to be fully grounded.



2. Through the Vacuum Lid Grounding Lug

This option utilizes a direct electrical connection from the grounding lug on the vacuum cover to a nearby, verified electrical ground (electrical cabinet, grounding rod, cold water pipe, etc.).



3. Operating the Vacuum on an Electrically Grounded Surface

This option provides conductivity from the vacuum directly to an electrically grounded surface (steel floor plate, concrete ground level floor, etc.). The container of the vacuum can rest on the grounded surface directly, or on the dolly since the container, dolly frame, and dolly wheels are all steel. Only use this method if the surface is electrically grounded, and only when a continuous electrical connection between the vacuum and the grounded surface can be verified and maintained.



NOTE: EMPLOYING MULTIPLE, REDUNDANT GROUNDING OPTIONS IS ALWAYS SOUND OPERATING PRACTICE.

IMPORTANT

IT IS THE RESPONSIBILITY OF THE USER TO ENSURE PROPER CONNECTION TO AND THE ELECTRICAL INTEGRITY OF THE GROUND.

If you have questions about the methodology and necessity for grounding, consult a qualified Electrical Engineer.

SET-UP AND OPERATION

OPERATION

Prior to operating the vacuum, inspect the unit and replace worn or broken components. Use only original TOPRING replacement parts.

1. Inspect bottom side of the vacuum lid to ensure filter is held securely in place by the wingnut.
2. Make sure top lip of vacuum drum is flat and dent free. Check gasket on the underneath side of vacuum lid.



3. Place vacuum generating head on top of vacuum drum.



4. Ensure ball valve on vacuum is in **OFF** position. Connect compressed air supply hose to ball valve on the unit.
5. Connect compressed air supply hose to the plant compressed air system.



6. Turn compressed air supply **ON**. Inspect compressed air hose for air leaks.



7. Open ball valve on vacuum to operate. Pressure gauge should read between 80 psi and 90 psi during operation for an optimally operating vacuum. If pressure is lower than 80 psi and the vacuum performance is inadequate, install lower flowing injector nozzles.

See **CHANGING INJECTOR NOZZLES**

WET VACUUM

All TOPRING Vacuums come equipped with a liquid shutoff assembly. Before picking up liquids, remove the cartridge filter. Leave the wire cage coalescing sleeve in place.



TOPRING PULSEAIR VACUUMS & DUST EXTRACTORS

PulseAir Vacuums and Dust Extractors incorporate a proprietary, button-activated, pneumatic system engineered to clean the vacuum filter from the inside out without opening the unit. When a reduction in vacuum performance is noted, pulse the filter as shown below:



1. Turn the vacuum to **OFF**. Ensure all four (4) lid clamps are secured.



2. Actuate the pulse by momentarily pressing the push button valve. Actuate the pulse 3 to 10 times, waiting 2 seconds between pulses.



3. If pulsing the filter no longer improves performance, remove and clean pre-filter bag and filter. Alternatively, replace with new pre-filter bag and/or filter.

See **ACCESSORIES AND SPARE PARTS**

MAINTENANCE

FILTERS

Check the internal filter periodically. Ensuring maximum performance means cleaning the filter when it becomes dirty and/or clogged. Over time, even regularly cleaned filters lose their effectiveness as the pores in the filter media fill up. Therefore, regular filter replacement should be a part of an effective maintenance plan.

To clean or replace the filter:



4. Lift the filter off the wire cage frame.



1. Remove the pre-filter bag if needed. Regular pre-filter bags slip over the filter and are secured in place with an elastic hem. PulseAir pre-filter bags are secured in place with a worm-gear clamp.

2. Inspect the pre-filter bag and worm-gear clamp. Replace if damaged or worn.



5. Clean the filter by shaking and tapping the filter, or by directing compressed air against the interior surface of the filter. Do not use liquids to clean the filter.



3. Remove the wingnut and sealing washers at the bottom of the filter.



6. Inspect the filter. Immediately replace a damaged, ripped or torn filter.



- 7.** Remove nut and washers holding the wire cage coalescing filter in place.
- 8.** Clean the coalescing filter by shaking, tapping, or with compressed air. The coalescing filter can be cleaned with soap and water.



- 9.** Inspect the wire cage coalescing filter. The main purpose of the coalescing filter is to capture moisture when the vacuum is used during wet applications. However, vacuumed materials may reach the coalescing filter if the internal filter is missing or compromised. Replace if damaged, ripped or torn.
- 10.** With the filter and coalescing filter removed, inspect the wire cage and ball float. Replace if damaged.
- 11.** Installation is the opposite of removal.

IMPORTANT

The filter sealing washer is made from static conductive material. It is essential to reinstall this washer in ATEX Vacuums to electrically bond the filter with the rest of the vacuum.

COVER GASKETS

Replace lid gaskets should they become worn, frayed, or ineffective

55, 30 AND 20 GALLON MODELS



- 1.** Remove the gasket to be replaced by hand.



- 2.** Clean the cover with GooGone or similar cleaning solvent.



- 3.** Peel back approximately 6 inches of the protective backing on the new gasket.

MAINTENANCE



- 4.** Adhere the gasket to the bottom of the cover, working steadily around the cover and removing the protective backing along the way.



- 5.** On 30 & 20-gallon vacuums, be sure to line up the scallop in the gasket with the vacuum exit elbow.



10 AND 5 GALLON MODELS



- 1.** Tear old gasket off the vacuum cover



- 2.** Hot Glue is the adhesive type used to bond the gasket to the vacuum cover. To remove dried residual glue, soak surface liberally with rubbing alcohol and allow to sit. Old glue should scrap off easily.

IMPORTANT

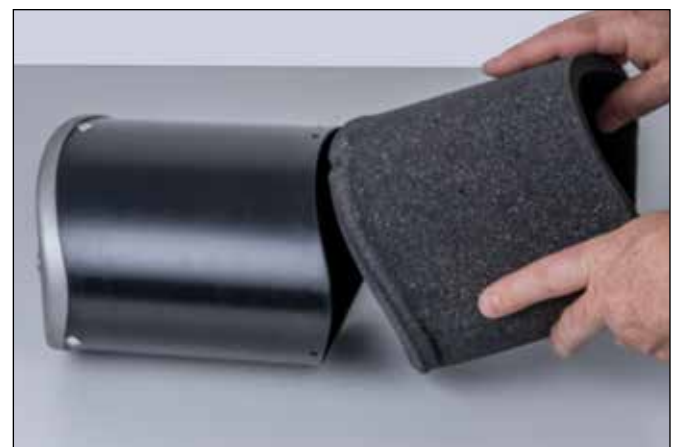
It is essential to reinstall the grounding strap on the cover, and around the gasket, for ATEX Vacuums to electrically bond the cover with the rest of the vacuum units.



3. Use hot glue to install the new gasket. Lay the gasket in place and lift a starting spot to insert the hot glue nozzle.



4. Work around the vacuum cover dispensing fresh hot glue while pressing the gasket down into the fresh hot glue.



2. Remove the exhaust housing. Then remove the silencer foam.

SILENCER FOAM

Check the silencer foam periodically. The main function of the silencer foam is for sound deadening. However, vacuumed materials may reach and damage the silencer foam if the internal filter is missing or compromised.

To clean or replace silencer foam:



1. Remove the three (3) screws securing the exhaust housing.



3. Remove the wire cage coalescing filter by sliding it over the venturi diffusers

4. Clean the silencer foam by shaking, tapping, or with compressed air. They can be cleaned with soap and water.

5. Inspect and replace if damaged, ripped or torn.

6. Installation is the opposite of removal.

MAINTENANCE

REVERSE FLOW CHECK VALVE

TOPRING Vacuums and Dust Extractors have a reverse flow check valve located under the vacuum cover, on the exit of the vacuum outlet elbow.



1. Remove the vacuum cover and flip it over.



2. Inspect the reverse flow check valve. It should move freely. Replace if damaged, ripped or torn.



3. To replace, remove the reverse flow check valve by removing the worm-gear clamp.



4. When installing the new reverse flow check valve, position the valve over the outlet elbow so that the flap is flush with the outlet elbow exit

5. Tighten the worm-gear clamp.

SECOND STAGE VENTURI SHUT OFF VALVE

TOPRING vacuum generating engines have two venturi stages. Depending on vacuuming demand, the second stage is automatically closed off by the Second Stage Venturi Shut Off Valve. The valve should be periodically checked to ensure free operation.



1. Remove the vacuum cover and flip it over.



2. Remove the prefilter bag if needed. Regular prefilter bags slip over the filter and are secured in place with an elastic hem. PulseAir prefilter bags are secured in place with a worm-gear clamp.



3. Remove the wingnut and sealing washers at the bottom of the filter.



4. Lift the filter off the wire cage frame.



5. Remove nut and washers holding the wire cage coalescing filter in place.



6. Removing the filter and coalescing filter provides access to the Second Stage Venturi Shut off Valve through the hole in the cover. Inspect and ensure it moves freely. If it does not move freely, or if the shut off valve is damaged, ripped or torn, follow the next steps for replacing.



7. Remove the three hex head bolts holding the TOPRING head to the cover.

MAINTENANCE



8. Remove the 3 flat head screws securing the vacuum generating engine base.



9. Remove valve.



10. Clean the gasket surfaces on the base and vacuum generating engine.

11. Installation is the opposite of removal.