LARSON ELECTRONICS®

Compressed Air
Industrial Vacuum Product Line



OPERATING INSTRUCTIONS & SAFETY MANUAL

Thank you for your purchase.

Please follow these assembly and operating instructions for your new industrial vacuum cleaner to ensure optimal operating performance. For your safety, observe all warnings contained herein.

Please keep this instruction manual in a safe place for future reference. Should you misplace this manual, you can download a copy from the Larson Electronics website.

If you encounter difficulties operating the vacuum, do not hesitate to contact us.

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LARSON ELECTRONICS®

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ATEX CERTIFICATION

Combustible Dust Certified Pneumatic Vacuums are ATEX Certified**. They have undergone a comprehensive evaluation by Technology International, a U.K. based technology group dedicated to providing specialist, regulatory compliance and approvals support worldwide. Technology International** has been appointed by the UK Department for Business, Innovation & Skills (BIS) as a Notified **Body for the European EMC Directive, Low Voltage Directive, Machinery Directive and the Radio & Telecommunication Terminal Equipment Directive (R&TTE).**

ATEX Ex II 2 D c T6 X

Equivalent to National Fire Protection Association 70: NEC Rating:

Class I Division 1* **Groups A, B, C, D T6** **Zone 1**

Class II Division 1* **Groups E, F, G T6**

Class III Division 1*

Zone 1 Only

Certified for use in a Division 1 hazardous location, can be used in a Division 2 hazardous location, providing it is in the same Class and Group

The term ATEX is used for the European Union's (EU) 94/9/EC directive addressing equipment and instrumentation intended for use in potentially explosive atmospheres. The directive was purposed to help trade within the EU through alignment of laws governing the member states and went into effect on July 1, 2003. ATEX covers a broad array of safety equipment and instrumentation - including gas detectors.

UNPACKING



After removing your unit from the shipping box, check for parts that may have been placed inside the vertical pieces of cardboard in the box corners.

Vacuum heads are shipped fully assembled and ready to use. If you ordered a vacuum head with a tool kit, or individual tools or hoses, they are generally included in the same box, so please check carefully to avoid discarding them with the packaging. If you ordered a liquid shut off assembly it is installed inside the standard filter for shipping purposes, though it is advised that you use **only the liquid shut offbr** the filter at any given time, depending upon your application.

Complete units ship fully assembled, with the exception of the caster base (dolly). See the subsequent section for assembly instructions.

If your unit is a demonstration unit, or you think you may need to return the vacuum, you should save the original packaging to ensure that the unit is not damaged upon return shipping. Units returned improperly packaged, damaged or missing parts will be the responsibility of the customer.

CHOOSING THE RIGHT VACUUM

A general guide to choosing a Vacuum is by determing the available airflow (CFM). Using this simple formula it is easy to see what your **facility has available to select the right vacuum.**



AIR SUPPLY / COMPRESSOR REQUIREMENTS

Follow the guidelines below to ensure that your unit will perform up to specifications. The recommended **PSI for vacuums is between 80 to 120 PSI.**

COMPRESSOR REQUIREMENT (AIRFLOW)						
AIR REQUIREMENTS	MODEL NUMBER	SUCTION GENERATED (SCFM)	HOSE LENGTH (feet)	H20 LIFT (inches)	Hg (inches)	AVAILABLE OPTIONS / INFO
85 CFM	EPV-PN-55G-85CFM	140	50'	231"	17"	Ideal for Overhead Cleaning

- 1.5" diameter/25' length hose supplied for models ending in 1510 and 1560.
- 2" diameter/15' length hose supplied for models ending 2010.
- All hoses and fittings from the compressor to the vacuum must be a minimum of ½" inner diameter. HafcoVacs are sold with a ¾" Chicago fitting. Alternatively, if you wish to use your own connection you can use a Quick Disconnect connection.
- ¾" hose is recommended. Be sure to verify the inner diameter of the hose, not just the outer.

* All units available as Standard, Anti-Static, or ATEX Certified.



OPERATING INSTRUCTIONS

To operate the vacuum, you must connect the airline between the vacuum and your air supply. The Chicago, or Universal fittings connect and disconnect by pushing in **and twisting. Be sure to connect them securely by twisting them until they stop and the safety clip pins are aligned. Use the supplied safety clips at all times.**



If your application does not require full suction, simply open the ball valve to the vacuum head only partially. Lower airflow results in a correspondingly lower suction, **but with less of a demand on your compressed air.**

When picking up liquids, uninstall the filter by removing the retaining springs and separate the head and the filter. Use of a Liquid Shut-Off Valve is highly recommended when picking up liquids to prevent overflow and possible damage to the exhaust silencer. The liquid shut-off valve installs using the same retaining springs as those used for the filter.

Note: When using the vacuum to pick up combustible liquids or material, be sure to use a properly equipped "EX" Anti-Static **unit, which will protect you from static electricity buildup. If your vacuum is not Anti-Static equipped a kit is available to purchase and install easily.**



All operators of Anti-Static Vacuums should be trained and fully understand the topics discussed in this section. Failure to inspect the integrity of safeguards, circumventing safeguard systems or substitutions with components from other systems could lead to potentially dangerous situations. Proper training will lead to the safe operation of the vacuum.



To safely disconnect an air supply line, it must first be depressurized. Turn the air supply off at the nearest supply valve, then open the valve on the vacuum to release residual pressure before disconnection.

Should you need to pick up combustible materials, or if you operate a unit in a hazardous environment, you should only use a properly equipped Anti-Static model, designated with an "X" or "EX" model number suffix.

ANTI-STATIC AND ATEX CERTIFIED

Anti-static units ("X" and "EX" model numbers) are designed and factory assembled with a number of features to ensure static electricity is safely dissipated. Static electricity can pose a risk if allowed to build up and be unintentionally discharged when the vacuum is used in hazardous environments or with combustible substances.

Static electricity should be continuously dissipated by ensuring the unit is properly grounded, and that all components of the vacuum maintain their electrical bonding.



GROUNDING

Units offer multiple options for grounding, depending upon the environment you will be using your vacuum in. You must be certain that one or more path to ground is present any time the vacuum is in operation. It is highly recommended that you verify any assumptions made about the presence of electrical ground in your facility.

▸ Air Supply Grounding



Anti-static vacuums are supplied with electrically conductive air supply lines. Most air supply systems utilize steel black pipe for delivery, which is typically grounded. Grounding the vacuum may be achieved by correcting the conductive hose to a grounded air supply system. However, if your air supply system uses PVC pipes or rubber hoses, or if you extend your air supply hose with a non conductive hose, grounding through your air supply may not be a viable option.

Larson ships static conductive air supply lines with an extra length of wire that protrudes where the hose meets the coupler at each end. It is not necessary to connect this wire to anything for the hose and couplers to be conductive. However, the wire should be left to serve as a confirmation that it is a conductive supply line, **so as to not confuse it with non conductive lines which you may also have in your facility. Never extend a conductive supply line with a non conductive supply line, as the path to ground through your air supply system will break. Additionally, the wire can serve as an extra grounding option should you have any doubts about grounding through your air supply system.**

For your safety, extend or replace the air supply line only with a conductive air supply line.

▸ Operating Surface Grounding

The drum dolly (or vacuum drum without dolly) sitting on a grounded surface is generally a suitable ground for the purpose of dissipating static electricity. Not all surfaces, however, are grounded.



Unpainted concrete slabs typically provide good ground conductivity, particularly if your facility was constructed to code requiring Concrete Encased Electrode or grounding.

Many surfaces aren't suitable to make assumptions about presence of a good ground, such as painted concrete, carpet, rubber mats, dirt, on a vehicle, etc.

▸ Wire/Jumper Grounding

If you have any doubt about the presence of ground through either the air supply line or the operating surface, it is highly recommended that you use a grounding wire and clamp. A wire with clamp is provided for this purpose, although you can employ other solutions should the provided cable and clamps not be suitable in length or for the surface you are trying to ground the vacuum to.

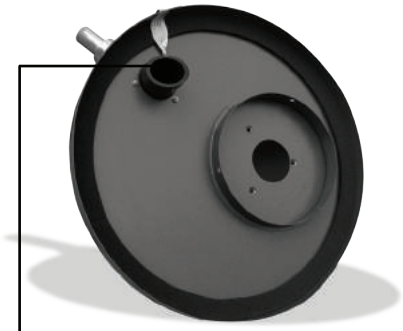
To use the provided clamps (or your own solution) attach the end of the cable with the wire connector to the post on the vacuum, located near the inlet. The green grounding sticker (pictured below) designates the grounding point of the vacuum. If you use an alternate grounding solution, ensure you are not clamping to a painted surface, as the paint will act as an insulator of static buildup, rather than a conductor. Connect the other end of the wire to a reliable ground. Examples could include a grounding post, metal electrical conduits or junction boxes, unpainted building structural components, etc. If you have any doubts, it is recommended that you contact an electrician to provide you a verified ground **connection to use.**

▸ Bonding

Each component of the Anti-Static vacuum unit is bonded to ensure that no component of the system is isolated from ground. The operator should verify, prior to each use the following bonding points:



The copper band pictured is essential to bond the vacuum hose to the head



The braided cable must be intact to ensure bonding of the head to the drum

You should also inspect the drum rim at top and bottom where it has been ground free of paint, exposing bare metal. If the rim has rusted, been coated with paint or otherwise fouled, the contact between the vacuum head and drum or the drum and dolly may be broken.



If you are using your own drum, ensure proper grounding directly from the vacuum head.

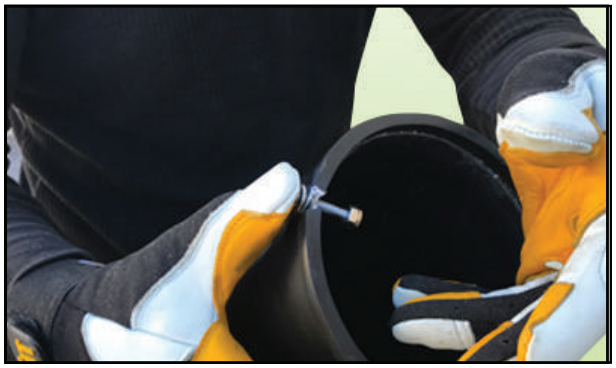
You should use only metal tools, do not use plastic. If you extend any supply line or vacuum hose, be certain to do so with another conductive part. Connect wires between multiple lengths of hose.

TROUBLESHOOTING

If your vacuum doesn't perform as expected, verify the following items:

- **Clean or replace filter** Compressed air can be used to clean filter media. When ordering replacement filters, be sure to differentiate between standard and HEPA models. HEPA filters **will capture smaller particles, but also require more frequent cleaning / replacement.**
- **If installed, wash outer filter bag** The use of a filter bag is highly recommended, particularly with HEPA filters to extend the life of the filter element. ***Do not use filter bag if wet***.
- **Be sure air supply is adequate Fittings with an inner diameter of less than 3/4" will restrict air supply.**
- **Check for obstructions Vacuum hose and elbow on vacuum head should be free of obstruction.**
- **Vacuum head must make a good seal with the drum Lip of drum should have no dents, and the drum should have no punctures. Check and replace gasket on bottom of vacuum head if needed.**
- **Check and replace gaskets under the venturi and the elbow on the top of the vacuum head.**

SILENCER
INSTALLATION



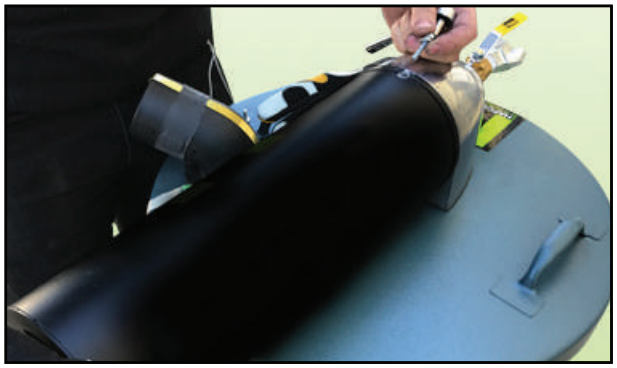
1 Loosen and remove bolt and nut from the Silencer and store in a safe place.



2 Loosen Anchor Screw and remove from Venturi head with 3/8” wrench. Slide Silencer onto the head.



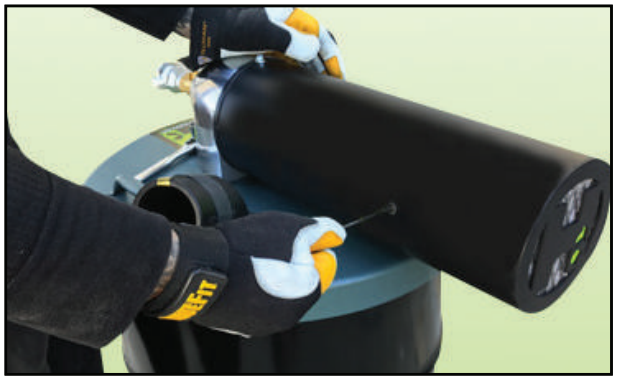
3 Align center threaded bolt opening with threads on the venturi head.



4 Insert bolt and hand tighten.



5 Insert bolt on right and loosely tighten with included allen wrench.

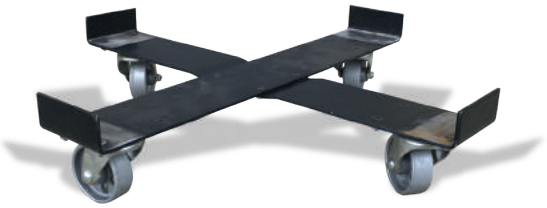


6 Insert bolt on right side and loosely tighten with included allen wrench. Tighten all 3 anchor bolts.

CASTER BASE ASSEMBLY

The caster base, or dolly, is the only component that needs assembly. You will need the following parts for assembly, all of which are included:

- **(20) 7/16 bolts**
- **(20) 7/16 nuts**
- **(2) Steel cross members** (one should have an offset)
- **(4) Casters**

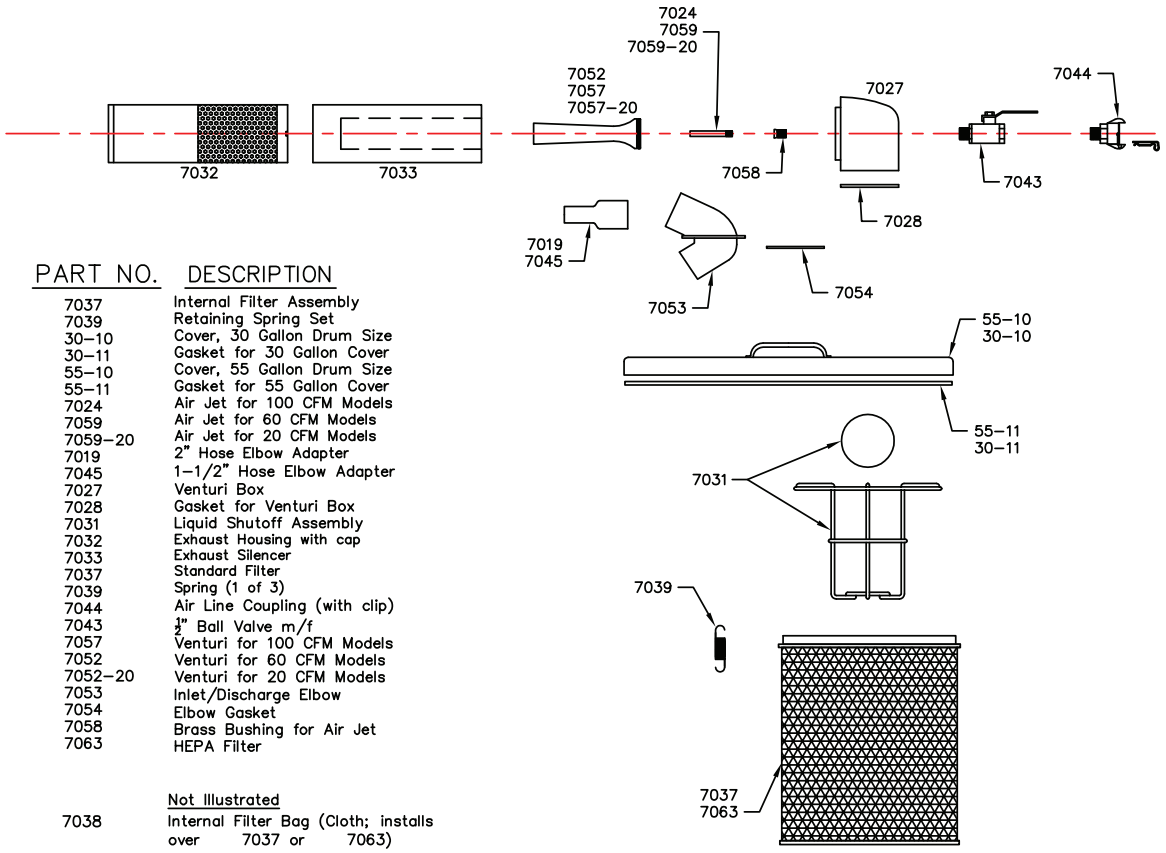


Place the cross members perpendicular to one another. Place the piece with the offset in the center of the bar on the bottom. Align the holes and bolt the pieces together. Attach the 4 swivel casters with 4 bolts each to each corner of the cross members.

You will also need (2) - 7/16" ratchet or wrenches, not provided.

VACUUM HEAD PARTS DIAGRAM

55 AND 30 GALLON VACUUM GENERATING HEADS



PART NO.	DESCRIPTION
7037	Internal Filter Assembly
7039	Retaining Spring Set
30–10	Cover, 30 Gallon Drum Size
30–11	Gasket for 30 Gallon Cover
55–10	Cover, 55 Gallon Drum Size
55–11	Gasket for 55 Gallon Cover
7024	Air Jet for 100 CFM Models
7059	Air Jet for 60 CFM Models
7059–20	Air Jet for 20 CFM Models
7019	2" Hose Elbow Adapter
7045	1–1/2" Hose Elbow Adapter
7027	Venturi Box
7028	Gasket for Venturi Box
7031	Liquid Shutoff Assembly
7032	Exhaust Housing with cap
7033	Exhaust Silencer
7037	Standard Filter
7039	Spring (1 of 3)
7044	Air Line Coupling (with clip)
7043	½" Ball Valve m/f
7057	Venturi for 100 CFM Models
7052	Venturi for 60 CFM Models
7052–20	Venturi for 20 CFM Models
7053	Inlet/Discharge Elbow
7054	Elbow Gasket
7058	Brass Bushing for Air Jet
7063	HEPA Filter
	Not Illustrated
7038	Internal Filter Bag (Cloth; installs over 7037 or 7063)

OVERHEAD ATTACHMENTS FILTER MANAGEMENT

The vacuum has options that will certainly enhance the use of the Vacuum at your facility. The Overhead Extension Kit **is ideal for cleaning pipes and beams keeping your facility compliant.**

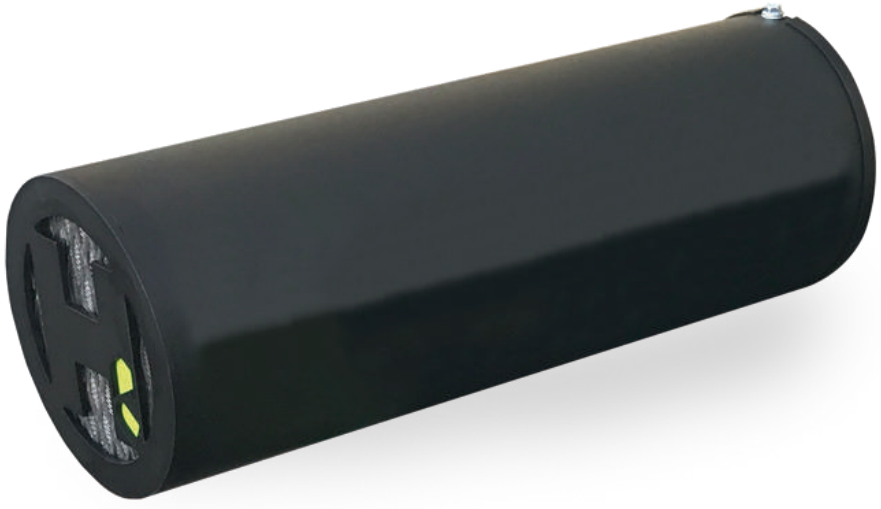
OVERHEAD ATTACHMENT KIT
for Beams and Pipes





SILENCER

We also recommend our innovative Silencer. The Silencer drops the noise level from 91 dB substantially to 77 dB without any loss of performace. We think it looks pretty cool as well!



CERTIFIED HEPA FILTRATION

The Complete Certified HafcoVac **comes with a** HEPA Filter installed with the filter bag. It is **important to keep the bag clean in order to maintain the suction of the vacuum. When the** filter bag becomes clogged dust will get into **the HEPA Filter more rapidly. Additional Filter** Bags and and filters are discounted for All **UFPI Locations.**



Shown with Filter Bag



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