VAC-U-MAX

OPERATION AND SERVICE MANUAL
MODEL 55MW
INDUSTRIAL VACUUM

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MODEL 55MW
Industrial Vacuum

VAC-U-MAX is proud to have you as an owner/operator of one of our products. These instructions are designed to help you achieve efficient operation, high production, and long life from your VAC-U-MAX product. If you have any questions regarding this manual or the product it describes or you wish to place an order for spare parts or a warranty claim Please contact VAC-U-MAX immediately

Phone: 1-973-759-4600

Fax: **1-973-759-6449**
email: info@vac-u-max.com

When contacting us regarding your equipment, please have the following information ready to give to our customer service representative:

- VAC-U-MAX order number found on the identification plate ("C" plus 7 digits)
- MDL number and serial number (if applicable)

DANGER

Keep fingers and clothing away from any moving parts

Always disconnect all electrical power and compressed air to the unit before attempting maintenance or repairs.

DANGER

Do not loosen or break any clamps, connections, plugs or covers until the unit is shut down.

Open the main disconnect switch-lockout and tagout the unit if any repairs or adjustments are to be made.

Maintenance on this equipment should only be performed, by trained and authorized personnel.

CAUTION

* Do utilize a trained electrician for any wiring connections or electrical troubleshooting.
* Do not operate the vacuum without the collection container in place.
* Do not attempt to empty the debris container until the vacuum producers have stopped rotating.
* Do not block the exhaust air from the vacuum.
* Do not operate the vacuum in hazardous environments which contain flammable, explosive, or corrosive materials.
* Do not perform any maintenance on the vacuum until the electrical power and compressed air have been disconnected from the vacuum.
* Do use proper safety gear, such as safety glasses, lifting belts, gloves, etc. when operating the vacuum.

Introduction

The 55MW industrial vacuum from VAC-U-MAX was originally designed for the metal-working industry to allow productive vacuuming of metal chips and cutting fluids with the ability to separate the solids from the fluid. The separated fluids could then be pumped into a designated container for disposal or recycling, and the solids would be removed from the vacuum utilizing the chip basket / liner. The VAC-U-MAX air-powered vacuum is the center of the 55MW with its incredible suction and durability. Since its original design, the 55MW is now useful to other industries that wish to perform that same vacuum-separation-disposal process quickly and safely.

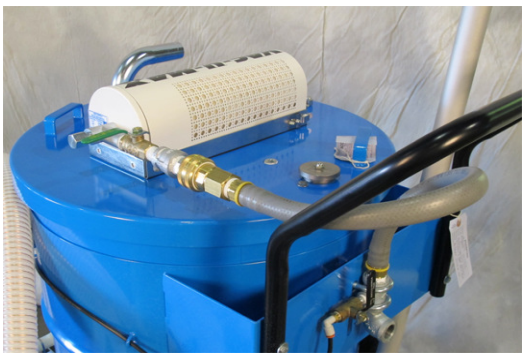
Major Components

Left: Air Powered Vacuum
Center: Cart with pump, drum, bellyband with handlebar & vacuum / discharge hoses
Right: Chip basket with liner

Sequence of Operation

Start-up

1) Place the air-powered vacuum on top of the 55MW collection drum. Connect the air supply hose from the 55MW manifold to the air control valve on the vacuum. The 55MW manifold is equipped with a ¾" quick-disconnect (Q/D) assembly, as well as a reducing bushing to connect the ¾" air line to a vacuum with a ½" air connection. Typically, a single-venturi vacuum will require the ¾" X ½" reducing bushing*, whereas a twin-venturi vacuum will be connected directly to the ¾" Q/D assembly*.



Air supply hose connected to single-venturi vacuum

2) Connect the compressed air supply to the air manifold located just below the handlebar on the 55MW vacuum cart. The appropriate compressed air supply requirements are as follows*:

MDL55MW-02CS/CS 1- Venturi air-powered vacuum:1/2" air line with minimum 35 SCFM @ 60 PSIG*
MDL55DMW-02CS/CS 2- Venturi air powered vacuum: 3/4" air line with minimum 70 SCFM @ 60 PSIG*

If desired, Q/D fittings may also be installed on the main air connection to the cart.

** This statement is based on features of a VAC-U-MAX air-powered vacuum. Other brands of air-powered vacuums may not have these features, and may require higher pressure and flow while operating. If another brand of vacuum is used, contact the manufacturer to verify their air supply requirements and troubleshooting advice.*

3) Before connecting vacuum hose and tools, turn the air control valve of the vacuum to the "on" position and confirm that you have suction at the vacuum inlet. If you have good suction at the vacuum inlet, you may now attach the vacuum hose and tools.

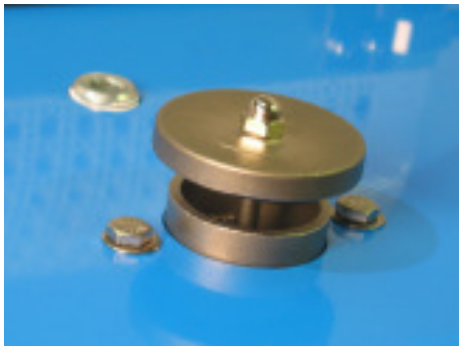
Chip Basket with Liner Installed

Note: *If your 55MW is equipped with a VAC-U-MAX chip basket and chip basket liner, they should be installed in the vacuum drum prior to operating the vacuum. The chip basket sits on the bottom of the collection drum. The liner fits inside the chip basket with its metal ring sitting on the top edge of the chip basket. When the liner is installed correctly, the two lifting lugs of the chip basket will protrude through the semicircular openings of the liner to allow the basket and liner to be removed at one time.*

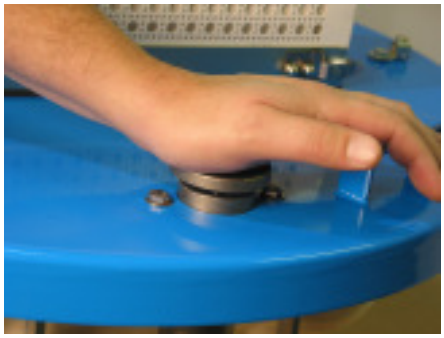
4) Connect the vacuum hose and cleaning tool and the 55MW is now ready for operation.

VACUUM OPERATION

1) Roll the vacuum to the cleanup location and connect to a plant compressed air supply. Place the vacuum nozzle into the tank or sump and turn the air control valve of the vacuum to the “on” position. Suction will begin immediately and most free-flowing liquids and suspended solids will flow into the vacuum at a rate of 1-2 gallons per second (60-120 gallons per minute). At this rate, the collection drum on the 55MW could be filled in 30-60 seconds. If there is enough liquid to fill the drum, the VAC-U-MAX AutoVac Liquid Cutoff will be actuated at high level which opens a vent on the vacuum cover to prevent further suction and overfilling of the drum. Turn the vacuum air control valve to the “off” position.



AutoVac Liquid Cutoff “Vented”



Resetting The AutoVac After **Discharging Fluids**

Note: When the AutoVac Liquid Cutoff is actuated, any fluid remaining in the hose will travel back down the hose to the pickup nozzle. Allow the residual liquid to drain back into the tank or sump to prevent a floor spill.

EMPTYING THE 55MW VACUUM

If the collected liquid is reusable after separating the solids in the chip basket and liner, the liquid may be pumped back into the original sump or tank. If the liquids require further processing before re-use, they may be pumped from the vacuum into a floor drain or flume system, or returned to a remote central fluid filtration system.

A) Liquids:

1) When you are ready to discharge the fluids, turn the inlet of the pump to its "open" position. (Inline with the pipe manifld)

Discharge Valve on Inlet of Pump (Open) for Discharge

Turn the air control valve on the manifold under the handlebar to direct the compressed air supply to the discharge pump; the pump will begin operation.

Air Control Valve for Pump in "Off" Position

3) Uncoil the discharge hose from its rack and direct the discharge nozzle into the receiving vessel. Squeeze the trigger on the discharge nozzle and fluid will begin discharging from it.

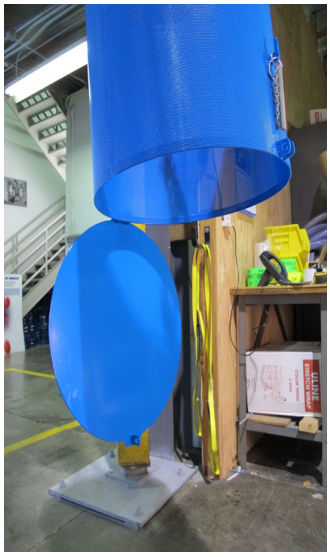
Discharge Nozzle

4) When the discharge flow becomes erratic or it seems to be pumping air as well as fluid, the collection drum is considered empty. Release the trigger on the discharge nozzle and turn the pump air control valve to the “off” position. Recoil the discharge hose onto its rack (transport position).

B) Solids:

1) Any fluids should be discharged from the 55MW vacuum prior to removing the solids. Disconnect the vacuum hose from the vacuum inlet and remove the air vac cover from the collection drum.

2) Attach a suitable lifting chain with safety hooks to the two lifting ears on the 55MW chip basket.
Using a spreader bar with the chain(s) is optional. Operators should consult their safety team for best practices on lifting the chip basket.



Note : The chip basket is gravity-drained of fluid and may have residual fluid that will drip as the chip basket is moved. Be careful not to cause a slipping hazard.

3) If your chip basket is equipped with a hinged (drop-bottom) gate, place the basket over a suitable receptacle and pull out the pin which holds the gate closed. After the material is fully discharged, swing the drop-bottom gate closed and re-install the pin.

Note : If the chip basket liner is being used for maximum separation of fine solids from the fluid, the chip basket (and liner) should be tipped over to empty the contents rather than using the trap-door feature. Material will not discharge through the trap door if the chip basket liner is in place.

4) Perform the following before re-starting the vacuum:

- Return the chip basket / liner to the collection drum.
- Replace the air vac cover on top of the drum.
- Insure that the discharge valve on the pump is closed.
- Insure that the air control valve for the pump is in the “off” (closed) position.
- If disconnected for transport, reconnect the compressed air supply at the next work area.
- Resume vacuuming.

Pump Fluid Manifold:
Lower Hose: Supply from Drum (In-Port)
Upper Hose: Discharge to Nozzle (Out-Port)

Note: Inline filter (black) is located on the supply side (In-Port) on the pump. Remove and clean the 20-mesh internal screen daily until experience factor proves that the cleaning frequency can be reduced.

MODEL 55MW INDUSTRIAL VACUUM TROUBLESHOOTING

Problem	Solution
1. Vacuum Does Not Start:	A. Make sure that the compressed air supply is connected properly.
2. Unit is running, but drawing very little, or no vacuum at the end of the hose/tool:	A. Make sure that the drum-top vacuum is sitting squarely on top of the drum. Move your hand around the vacuum cover to detect any leaks. Also listen for leaks around that area. B. Inspect cover gasket on the underside of the vacuum cover. Replace gasket if damaged or missing. C. Make sure the suction hose is connected and has no leaks. Check all couplings, connections and clamps for leaks, and tighten if necessary. D. Check suction hose for clogs. Reverse hose end-for-end to try and break up clogs. E. Make sure that the ball valve on the inlet of pump is closed completely. F. Make sure that the pump control (on/off) valve is in the “off” position. G. Check air pressure on the supply line while the vacuum is operating. If the pressure is less than 60 PSIG, then the air supply is insufficient to operate the vacuum*. Conduct an air survey for leaks in the compressed air supply line and review compressed air usage of other machines on the same air system. H. Inspect liquid level in drum. If drum is full, discharge its contents and reset the AutoVac Liquid Cutoff* cap. If drum is not full, and the AutoVac* cap is open, press down on the cap until it locks into position. I. If vacuum is equipped with a filter, inspect the filter for clogging or saturation. Replace filter if necessary. J. Inspect exhaust muffler(s) on venturi(s) for clogging (backpressure will reduce performance) and replace if necessary.

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MODEL 55MW INDUSTRIAL VACUUM TROUBLESHOOTING

Problem	Solution
3. Liquid does not discharge from hose in Discharge mode:	A. Make sure that the compressed air supply is still connected properly. B. Make sure that the control valve on the air-powered vacuum cover is in the “off “ position. C. Make sure that the pump control (on/off) valve is in the “on” position D. Make sure that the ball valve on the inlet of the pump is open completely. E. Make sure that the operator is squeezing the trigger on the discharge nozzle (after the pump is started) F: Inspect the inline filter of the pump for clogging
4. Liquid is leaking from the pump through the exhaust air silencer:	A. Pump diaphragm is damaged and needs to be replaced immediately. B. Additional troubleshooting procedures for the discharge pump are included in the OEM pump owner’s manual located elsewhere in this VAC-U-MAX Manual

SPARE PARTS KIT MODEL 55MW

		VAC-U-MAX 55-081 Single Venturi or VAC-U-MAX 55D-061 Twin Venturi Air-Powered Wet-Dry Vacuum:
QTY	**CATALOG #**	**DESCRIPTION**
1	65753X55W/D	REPAIR KIT, Model 55, Single & twin, Wet Dry (Includes (1) set of gaskets, (1) Dust Filter, (2) Venturi Exhaust Mufflers, and (2) Dust Filter retainer lugs)
		VAC-U-MAX Cart with Pump-Out Feature
1	03410	Suction nozzle, 1.5"OD X 48"L Aluminum (Single Venturi)
1	03412	Suction nozzle, 2.0"OD X 48"L Aluminum (Twin Venturi)
3 Ft.	16543*	Compressed air supply hose (gray) 0.75"ID, per foot
2 Ft.	07042LLDPE	Compressed air tubing (black), 0.25"ID, per foot
1 Ft.	07638*	Liquid intake hose (drum to pump)(gray), 0.5" per foot
10 Ft.	07638*	Discharge hose, 0.5" ID (pump to discharge nozzle) per foot
1	33018	Chip basket liner, polypropylene
1	52102	Hose, Vacuum, ABR-FLX 1.5" X 10 ft. (for single venturi)
1	52106	Hose, Vacuum, ABR-FLX 2.0" X 10 ft. (for twin venturi)

**** These catalog numbers refer to hose / tubing material that is sold by the foot. The amount recommended on the "Qty" column refers to the length of original hose / tubing supplied on the VAC-U-MAX vacuum, and is the quantity that should be purchased as a spare part.***

Double-Diaphragm Pump:

See OEM Owner's Manual located elsewhere in this document for spare parts for this discharge pump.