

OPERATION AND SERVICE MANUAL

MODEL 55AF



An air-powered vacuum unit for dry materials only

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OPERATING INSTRUCTIONS MDL55AF, AIR-POWERED COVER UNIT

DESCRIPTION

The Model 55AF, air powered unit is built for economical cleanup of dry materials when a compressed air supply is available or when the working environment prevents the use of an electric motor or mechanical engine. With few moving parts, the simple design of the Model 55AF is reflected in the ease of its use. By injecting compressed air through the unit's venturi system, air is evacuated from the collection drum (optional 55 gallon or customer supplied) creating a vacuum and air flow.

FEATURES...

- * **Steel Cover Fabrication** - The Model 55AF cover unit is a rugged, fabricated, heavy-duty metal cover, not cast. Few moving parts and simple design ensures years of effective use.
- * **Quiet!** - No motor noise. The Model 55AF is equipped with a patented muffler system that will dampen the sound of discharging air and keep noise levels well below OSHA standards without the need for bulky auxiliary muffling system.
- * **Safe!** - Operated entirely by air, the VAC-U-MAX Model 55AF eliminates sparking hazards normally associated with electric and motorized vacuum cleaners. A grounding strap provides a continuous metal to metal contact between the cover and collection drum. Optional anti-sparking accessories include static conductive casters, air hose, vacuum hose, an auxiliary grounding wire kit, and anti-sparking material inlet.

* **Low Air Consumption** - Efficient venturi design provides maximum suction and air flow with minimum air consumption. A convenient needle valve on the variable orifice assembly provides easy adjustment of suction power from 8" Hg (110" water), as shipped from the factory, to 16" Hg (220" water) with an air supply at 60 psig.

* **Vacuum Hose** - VAC-U-MAX recommends the use of a fifteen foot static conductive vacuum hose with end cuffs and static conductive clips for most Model 55AF cleaning applications.

* **Effective Filtration** - A large absolute filter cartridge in concert with an oversized outer pre-filter ensures effective separation of fine pickup debris from the air stream. Both elements are easily removed for maintenance or replacement.

* **Versatile** - Vacuum cover units fit any standard 55 gallon open-top drum, minimum 16 gauge steel. No clamps required. The integral cover gasket seals securely when the air supply is turned on and the vacuum begins to build. Vacuum releases instantly when the air supply is turned off.

SPARE PARTS...

Although there are very few things to break or wear out on the VAC-U-MAX Model 55 cleaning unit, a parts list has been supplied (see inside of power unit enclosure for recommended spares). A complete inventory of spare parts is maintained at the factory for immediate shipment. Prices are available upon request. When ordering spare parts, please state the unit's sale number, its serial number, as well as the catalog number and a physical description of the required part.

Specifications --Model 55AF

Weight		Lbs	Kgs		
Cover, Fabricated Steel		43	20		
Dimensions		Ins	Mm		
Cover, Diameter		24	610		
Cover Height		17	432		
Performance/Compressed Air Requirements at 60 psig					
		Mercury ("Hg)	Water (")	Scfm	Lps
Oriface Needles - In		8	110	35/70	33
Oriface Needles - Out		16	220	70/140	66
				single/twin	

GETTING STARTED...

1. Take the Model 55AF cleaning unit out of the box and remove all packaging materials, including the orange caps at *both* ends of the materials inlet. If a complete unit is purchased, remove the vacuum cover and check for any parts packed inside the collection drum.
2. Inspect the vacuum cleaning unit cover for loose or damaged parts. If a complete unit is purchased inspect the steel collection drum for dents, holes or any irregularities.
3. Place the cover unit on the collection drum before connecting to the compressed air supply. Be sure that the ground strap makes contact with the lip of the collection drum.
4. With the high pressure air supply OFF, connect the compressed air to VAC-U-MAX variable orifice assembly (brass ball valve) using a minimum 0.5 (for single jet) or 0.75 inch (for twin jet) air hose with proper NPT fitting.

NOTE

Using a smaller air hose with an adapter for a larger connection will yield unsatisfactory performance of the cleaning unit and is not recommended. It is recommended that a VAC-U-MAX static conductive high pressure air hose be used to prevent static buildup on the cleaning unit.

NOTE

If your compressed air system uses PVC tubing, it is recommended that a separate ground wire kit be used to connect the cleaning unit cover to a nearby metal structure. PVC is not static conductive.

5. Connect the vacuum hose to the material inlet.
7. Turn on the compressed air supply and set for 60 psig minimum.
8. Start the cleaning unit by turning the air valve on the variable orifice assembly to the OPEN position.
9. Begin cleaning procedure.

Cleaning the Filters

The VAC-U-MAX Model 55AF is equipped with an absolute filter cartridge and a cloth dust or pre-filter. The purpose of the filters is to prevent vacuumed material from entering the venturi and discharging into the atmosphere. Regular maintenance of the dust filter will ensure maximum effectivity of the absolute filter and the cleaning unit. Through general use, dust will accumulate on the dust filter. An obstructed dust filter will reduce air flow through the unit and impair the efficiency of the cleaning unit.

If the dust filter is torn, frayed or out of shape, it should

be discarded and replaced immediately. A poorly maintained dust filter may cause rapid blockage of the absolute filter and early replacement.

NOTE

The absolute filter cannot be cleaned. Once it is completely blinded with fine debris and is not passing air flow, it must be replaced.

Cleaning the Dust filter by Shaking or Brushing

Shaking the dust filter or gently brushing it are both effective ways to rejuvenate the filter.

1. Shut off the compressed air supply and remove the cover unit from the collection drum.
2. Loosen the filter retaining wing nuts and turn the filter retaining lugs to the side.
3. Carefully remove the dust filter from the filter support cage.
4. Clean by shaking and/or brushing by in an approved and environmentally acceptable manner.

Cleaning the Dust Filter by Washing

The most effective way to clean the dust filter is to wash it.

Washing the Dust Filter by Hand:

1. Shut off the compressed air supply and remove the cover unit from the collection drum.
2. Loosen the filter retaining wing nuts and turn the filter retaining lugs to the side.
3. Carefully remove the dust filter from the filter support cage.
4. Fill a clean bucket or suitable container with warm water and a mild soap solution. Do not use a washing machine. (The agitation of a washing machine will damage the filter material).
5. Gently work the filter under the warm water/soap solution to breakup accumulated material.

NOTE

Hot water up to 185 degrees. F. may be used to sanitize a TTK type dust filter.

6. After washing is completed, air dry the dust filter at room temperature. Hot air drying will damage the filter material.

Washing the Dust Filter Using a Low-Pressure Hose:

An option to washing the filter by hand is to spray-clean it using a low pressure water hose.

1. Shut off the compressed air supply and remove the cover unit from the collection drum.

Available Dust Filters for MDL 55AF Units

Size 16"L x 13"W x 11" H

TTK

**Polyester, Teflon-Coated
Non-Woven Filter**

Part No. 40143

- * Fine Powder Cleanup
- * 99.9% Efficient at 1 Micron
- * Recommended for Dry Use Only

EPTTK S/C

**Polyester, Epitropic Non-Woven
Teflon-Coated, Static Conductive Filter**

Part No. 20191

- * Fine Powder Cleanup
- * 99.9% Efficient at 1 Micron
- * Prevents Static Buildup
- * Recommended for Dry Use Only

2. Loosen the filter retaining wing nuts and turn the filter retaining lugs to the side.
3. Carefully remove the dust filter from the filter support cage.
4. Using a standard low-pressure water hose and a wide angle, indirect spray, clean the filter in an approved and environmentally acceptable manner.
6. After washing is completed, air dry the dust filter at room temperature. Hot air drying will damage the filter material.

CHANGING THE MUFFLERS...

Mufflers will eventually load with oil and/or moisture from the compressed air supply unless air is of instrument quality. Mufflers may also clog from vacuumed material escaping through the filter and venturi. Clogging creates back pressure and lowers the suction and efficiency of the unit. To replace the mufflers, grasp the muffler guard with two hands and slide it away from the power unit housing. With guard off, the mufflers are easily removed and discarded in an appropriate manner.

ENHANCING VACUUM PERFORMANCE...

The Model 55AF TWIN JET is shipped from the factory with the variable orifice needle in the "IN" position providing 8" Hg (110" water) of vacuum. To increase the vacuum, screw the variable orifice needle counterclockwise to the "OUT" position. With the variable orifice needle "OUT", 16" Hg (220" water) is generated. The variable orifice needle is accessible by removing the black cap from the variable orifice assembly. NOTE: screwing "OPEN" the orifice needle increases the amount of compressed air consumed. It is necessary, therefore, to recheck the air pressure provided to the unit and readjust to 60 psig.

VACUUM TIPS...

The Model 55AF TWIN JET can be equipped with a number of different cleaning attachments for various cleaning applications (refer to VAC-U-MAX Bulletin 123). Experience has shown that the most effective way to clean a spill of dry material is to draw the cleaning attachment in a smooth and continuous motion toward the operator.

For Powders:

When vacuuming a large volume of powder, always allow some air to enter the hose with the powder. Do not "bury" a hose or wand into a pile of powder. For frequent removal of powder, an air bleed can be used with the cleaning wand to promote rapid cleanup. The air bleed will also help prevent material from settling in the vacuum line. Consult the factory if it is desired to incorporate and air bleed into the cleaning unit accessory.

For Liquids:

The Model 55AF **is not** recommended for cleaning wet solid or liquid materials. Such materials are not compatible with the absolute filter cartridge installed in the unit.

TROUBLE SHOOTING...

The Model 55AF air-powered cleaning unit was expertly assembled and factory tested prior to shipping, and was found to meet the rigid standards of VAC-U-MAX. Improper installation may cause problems to be encountered.

- * The compressed air hose used to power the unit must be a minimum of 0.5 (for single jet) or 0.75" ID (twin jet) with a quick release disconnect also no less than 0.5/0.75" NPT.

* If a vacuum gauge is available, place it over the material inlet to check for vacuum. The unit should draw 8 inches of mercury (110" water) with the variable orifice needle in the "IN" position, at 60psig on the air supply line gauge during operation. Less vacuum typically may indicate:

- a) Air pressure below 60 psig, or air volume below 35 scfm (single jet) or 70 scfm (twin jet).
- b) Restriction in the air line.
- c) Clogged muffler and/or filter.
- d) Leaks due to poor gasket or holes in the drum.

- * Electrostatic conductive casters.
- * Stainless steel drum and dolly.
- * Pulse filter clean.
- * Venturi discharge for remote venting of vacuum exhaust.
- * Intercept assembly.
- * Chip basket.
- * Dual-mode manifold, single or twin jet operation.
- * Vacuum equalization kit.
- * "Metalseal" protective coating for venturi castings and venturi housing.

OPTIONS

Available options:

- * Static conductive air hose.
- * Nonferrous anti-sparking inlets.

Note

Not all options can be retrofitted to cleaning units in the field. Please consult your VAC-U-MAX sales representative with any questions.

Replaceable Parts Listing

Figure 1

*Model 55AF Twin Jet
Cover Assembly*

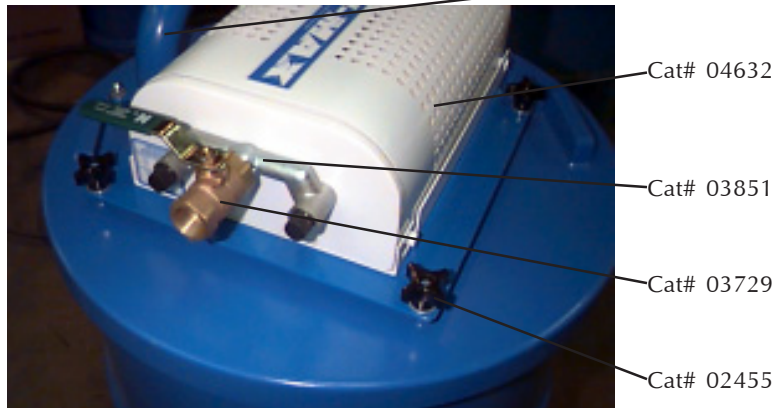
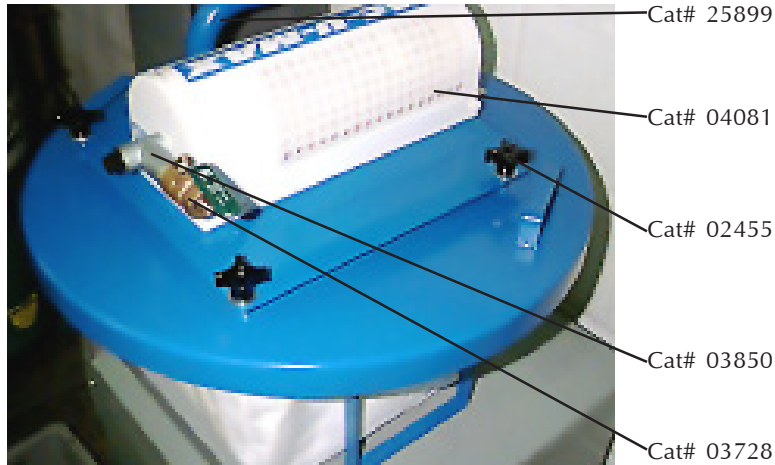


Figure 2

*Model 55AF Single jet
Cover Assembly*



Replaceable Parts Listing

Figure 3
*Model 55AF Filter
Assembly*



Cat# 01080

Cat# 01072

Cat# 40143

Figure 4
*Model 55AF Dolly
Assembly*



Cat# 23861

Cat# 01088
(if sold separately)

Figure 5
*Model 55AF Drum
Assembly*



Cat# 23908

REPLACEMENT PARTS LIST			
ITEM #	DESCRIPTION	REFERENCE	QTY
04081	Single Jet Muffler Guard with decal	Figure 2	1
04632	Twin Jet Venturi Muffler Guard	Figure 1	1
25899	Flanged Inlet 1.5 inch Carbon Steel	Figure 2	1
26107	Flanged Inlet Carbon Steel 2.0 inch	Figure 1	1
40143	Dust Filter 13x16x11 TTK	Figure 3	1
13733	Quick Disconnect Insert .25 tube (VEK option)	N/A	1
13732	Quick Disconnect Body .25 tube (VEK option)	N/A	1
01088	Four inch diameter swivel casters	Figure 4	4
01376	Venturi Exhaust Muffler	Universal	1 or 2
03851	Twin Jet Variable Orifice Manifold	Figure 1	1
03850	Single Jet Variable Orifice Manifold	Figure 2	1
03729	Brass Ball Valve .75 NPT	Figure 1	1
03728	Brass Ball Valve .5 NPT	Figure 2	1
23861	Dolly Assembly, 24 inch diameter	Figure 4	1
02455	Star Knob, Black	Figure 2,1	4
23908	Drum, 55 gallon with bung	Figure 5	1
01080	HEPA, Filter cartridge	Figure 3	1
01072	Filter Cage, 15 x 12 x 10	Figure 3	1

RECONDITIONING

A factory reconditioning service is available for older VAC-U-MAX units. Contact the Sales Department.

ACCESSORIES

A complete line of vacuum cleaning accessories for general cleaning purposes is available. Request Bulletin 123.

VAC-U-MAX LIFETIME WARRANTY

VAC-U-MAX air powered vacuum cleaning units, exclusive of expendables, including filters, gaskets, mufflers, and hoses are warranted to be free of defects in material and workmanship for the life of the unit unless damage or defect is due to negligence or misuse by the buyer.

No equipment shall be returned to VAC-U-MAX under this warranty without prior written approval of VAC-U-MAX. Whenever possible, a field inspection will be performed by a VAC-U-MAX representative prior to equipment removal, except where otherwise agreed. All shipments to VAC-U-MAX will be freight prepaid and equipment will remain the property and responsibility of the customer until an inspection at VAC-U-MAX (37 Rutgers Street, Belleville, NJ 07109) certifies that replacement or repair under warranty is called for.

VAC-U-MAX liability shall be limited to repairing or replacing the defective part. VAC-U-MAX shall not be liable for loss, damage, or any other expense arising from the use of its products or from any other case.

This warranty is void if the equipment is modified in any manner without expressed written approval of VAC-U-MAX.

CAUTION

Air operated vacuum units eliminate electric and motorized sparking hazards. However, when handling potentially hazardous materials, or operating in hazardous areas, it is the responsibility of the user to clear the application of the equipment with a qualified safety authority prior to use. Volatile materials should never be picked up without first consulting the VAC-U-MAX Engineering Department. VAC-U-MAX assumes no responsibility for consequences of operation since actual use of equipment is beyond VAC-U-MAX control.