



**DIVERSITECH**  
*Air Pollution Solutions*

Operation & Maintenance Manual

# WV-55 SLUDGE VACUUM



READ AND SAVE THESE INSTRUCTIONS

Visit our Website for more information on this product

**[www.diversitech.ca](http://www.diversitech.ca)**

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## SECTION 1 - SAFETY PRECAUTIONS OF LIQUID & SOLID COLLECTION



READ  
BEFORE  
USE

This manual contains specific cautionary statements related to worker safety. To protect yourself and others, read this manual thoroughly and follow as directed before use.  
Not all hazards of fume & dust control are listed in this manual, and no hazards related to welding, cutting, grinding, painting, deburring or other applications are listed. Consult a qualified safety professional.



DO  
NOT  
USE

Do not use this equipment:

- To collect flammable liquids such as fuel oil, alcohol, mineral spirits, gasoline or kerosene.
- With any material with a low flash point.

### 1.1 Symbols

This manual uses several symbols to highlight specific hazards. Be familiar with these symbols and when you see them in this manual, read adjoining warning text to avoid the hazard.



LOW FLASH  
POINT



FLAMMABLE  
LIQUIDS

### 1.2 Users Responsibility

- Improper use can be hazardous.
- It is your responsibility to follow all applicable ANSI, OSHA, UL, CSA, National & Local Fire Codes, and other regulatory guidelines covering the safe use of this equipment.
- Before use, inspect the unit for damage and verify it is working properly.
- Only qualified persons should install, operate, maintain, or repair this unit.
- Do not modify or repair the unit with parts or accessories not supplied by the manufacturer.
- Consult manufacturer's instructions for cleaning.

### 1.3 Liquid & Solid Collection Hazards

- Liquids such as fuel oil, alcohol, mineral spirits, gasoline or kerosene are flammables.
- Do not use or install equipment where any potential flammable liquids are present.
- Never use or install equipment where any material with a low flash point is present.
- If you are unsure if the product you purchased is correct for your application, call Diversitech at 1-800-361-3733.

## SECTION 2 - SPECIFICATIONS

### 2.1 Diagram & Description



### 2.2 Specifications & Dimensions

Model	Air Consumption		Water Flow Rate		Sound Level	Net Weight (lbs.)	Product Dimensions (in.)		
	SCFM	SLPM	GPM	LPM			Width (in.)	Height (in.)	Length (in.)
<b>WV-55 Sludge Vacuum</b>									
WV-55	19	538	30	114	86 dBA	45	24	48	24

## SECTION 3 - SETUP / INSTALLATION

### 3.1 To Setup or Install Safely



- Do not place unit near flammables or combustible surface.

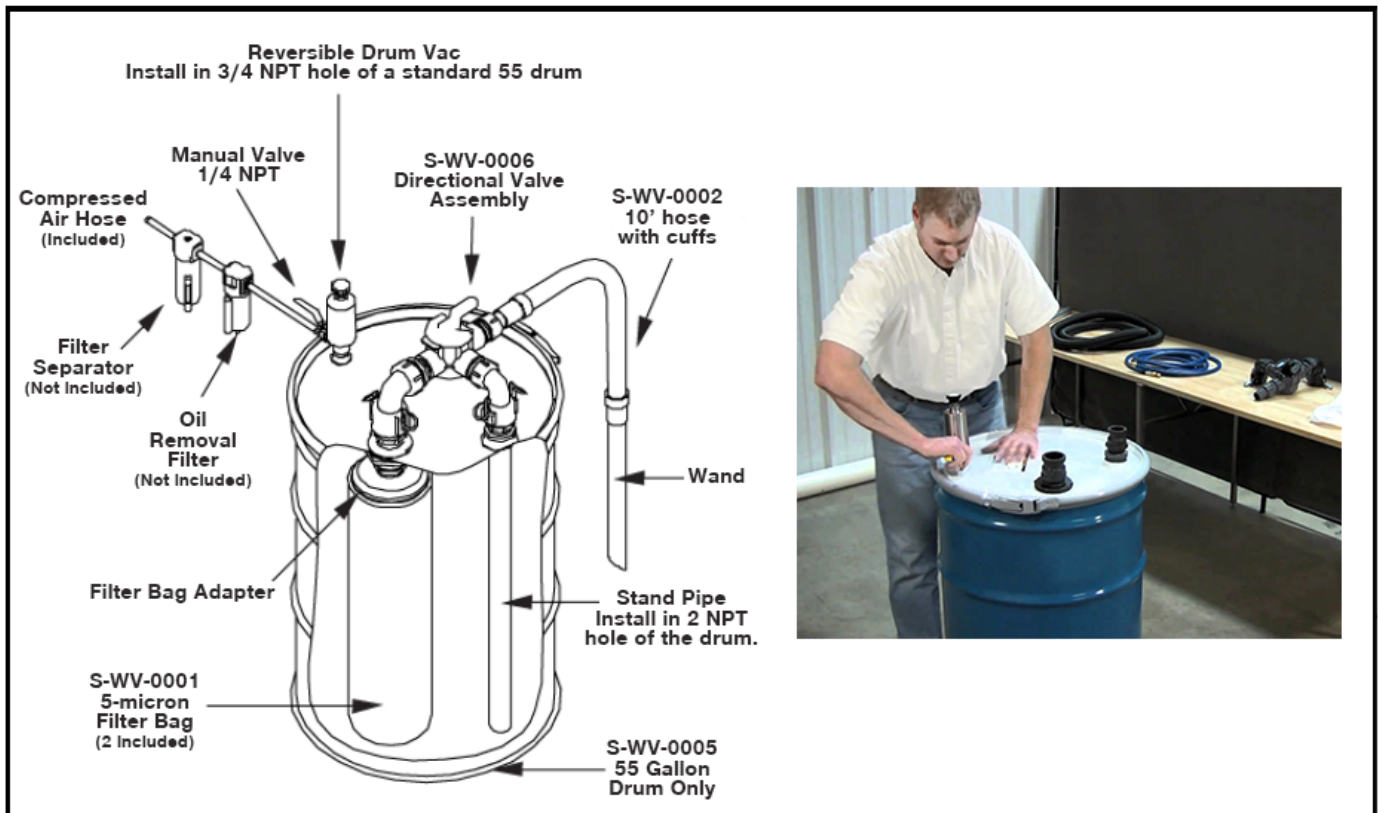
### 3.2 Un-Packaging

1. Immediately upon receiving the unit, carefully examine the carton for damage during transit.
2. Remove packing material.
3. Avoid tipping or inverting during handling.
4. The item serial number and model, are listed on the nameplate. Record this information in the Maintenance Record provided in **APPENDIX 1: Maintenance Record**, or your own preventative maintenance system.

### 3.3 Selecting a Location

- Choose a location where the unit will be used, near the operator.

### 3.4 Installation



### COMPRESSED AIR LINE SIZES

Compressed air lines should be sized to hold pressure drops to a minimum. When installing supply lines, use 1/4" pipe up to 25' long, 3/8" up to 50' long. Compressed air hose (not included) should be 3/8" I.D. up to 25'.

Do not use restrictive fittings such as quick connects that can "starve" the Sludge Vacuum by causing excessive line pressure drop.

### COMPRESSED AIR SUPPLY

The Sludge Vacuum uses normal shop air supplies of up to 100 PSIG (6.9 BAR, 689 kPa). With proper filtration and separation of dirt, moisture and oil from the compressed air supply, the Sludge Vacuum will run for years with no maintenance required.

Maximum pressure is 250 PSIG (17.2 BAR, 1.72 MPa).

Use a 10 micron or smaller filter separator on the compressed air supply (Automatic Drain Filter Separator not included).

To prevent problems associated with oil, use an oil removal filter (Oil removal Filter, not included).

The oil removal filter should be used downstream from the automatic drain filter separator. Filters should be used close to the Sludge Vacuum, within 10 to 15' is best.

If air preparation units other than Diversitech models are being used, please note the following:

- **PRESSURE REGULATORS** - Must be pressure relieving and rated for a supply pressure of 250 PSIG (17.2 BAR, 1.72 MPa). Suggested operating pressure is 5-125 PSIG (0.3-8.6BAR, 34-862kPa). Flow should be minimum 24 SCFM (680 SLPM).
- **AUTO DRAIN FILTER SEPARATORS** - Must be rated for a supply pressure of 250 PSIG (17.2 BAR, 1.72 MPa) and have 5 micron filtration. Flow should be minimum 24 SCFM (680 SLPM).
- **OIL REMOVAL FILTERS** - Must be rated for a supply pressure of 250 PSIG (17.2 BAR, 1.72 MPa) and have 0.03 micron filtration. Flow should be minimum 24 SCFM (680 SLPM).

## 3.5 Preparing Unit for Operation

Remove the box of components and accessories from inside the drum. Tilt the top of the Model S-WV-0001 Filter Bag 90 degrees, slipping it over the Filter Bag Adapter, then pull down to secure. Place the drum lid on the drum and secure in place with the locking ring. The Sludge Vacuum uses Diversitech's S-WV-0005 Reversible Drum Vac (two way drum pump) to move the liquid in and out of the drum. Connect the Manual Shutoff Valve outlet to the compressed air inlet of the pump. The stainless steel pump assembly mounts into the small 3/4 NPT threaded hole of the drum (turning clock-wise). Slide the S-WV-0002 Vacuum Hose onto the barb fitting. Insert the Chip Wand at the other end of the vacuum hose.

Connect the Compressed Air Hose to the inlet of the Manual Shutoff Valve on the pump (turning clock-wise). For most applications, it will be more convenient to have the swivel end of the hose located near the shutoff valve. Connect the other end to a source of clean, dry compressed air.

Use a 10 micron or smaller filter separator on the compressed air supply (Automatic Drain Filter Separator not included).

To prevent problems associated with oil, use an oil removal filter (Oil removal Filter, not included). The oil removal filter should be used downstream from the automatic drain filter separator. Filters should be used close to the Sludge Vacuum, with in 10' to 15' is best.

Place Sludge Vacuum Directional Valve Assembly onto the two fittings protruding from the lid. Secure the two quick release fittings (lever locks point upward when locked).

## SECTION 4 - OPERATION

### 4.1 Operate Safely



- Read and understand **SECTION 1: Safety Precautions** and **SECTION 4: Operation**
- Read and understand all Material Safety Data Sheets and Manufacturer's instructions of all process materials, consumables, and equipment used in conjunction with this equipment.
- Do not place unit near flammables or combustible surface.
- Do not use product to collect flammable liquids such as fuel oil, alcohol, mineral spirits, gasoline or kerosene. If you are unsure, call a Diversitech representative at 1-800-361-3733

### 4.2 Using The Sludge Vac

When preparing to vacuum the contaminated liquid into the drum, move the directional valve into the position as indicated by the label on the drum lid. (The Directional Valve Assembly handle extends toward the stainless steel Sludge-Vac pump.) Turn the knob on top the Sludge Vacuum pump counter-clockwise to "FILL DRUM", then, turn the manual shutoff valve to the "on" position.

To pump clean liquid out of the drum, move the directional valve into the position indicated by the label on the drum lid. (The Directional Valve Assembly handle extends away from the stainless steel Sludge Vacuum pump.) Turn the knob on top the Sludge Vacuum pump counter-clockwise to "EMPTY DRUM" then, turn the manual shutoff valve to the "on" position.

It is normal for the drum lid to make a "popping" sound as the drum fills or empties. An automatic safety shutoff valve prevents spills or overfilling.



### 4.3 Changing The Filter Bag

- Disconnect the compressed air supply.
- Unlatch and remove the locking ring from the drum lid.
- Slide the lid to the side which provides access to the filter bag.
- There is a wire ring in the top of the filter bag that seats on the filter bag holding assembly. To remove the filter bag, lift the bag up from the bag holding assembly and tilt it sideways.
- The ring can then be removed from the bag holding assembly (filter bag can be removed from the drum).
- A new bag can be installed by tilting the ring, and pushing it over the bag holding assembly. It will then easily seat itself and is ready for use.



## SECTION 5 - MAINTENANCE & TROUBLESHOOTING

### 5.1 To Maintain this Product Safely



- Read and understand **SECTION 1: Safety Precautions** and **SECTION 4: Operation**.



- Never use or install equipment where any material with a low flash point is present.



- Keep away from flammable liquids such as fuel oil, alcohol, mineral spirits.



## 5.2 Tools Required



GLOVES



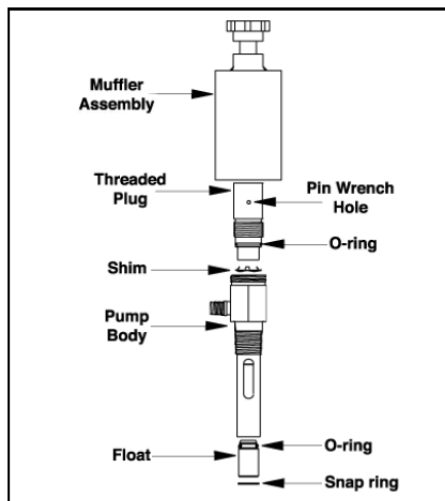
EYE  
PROTECTION



WASTE  
CONTAINER

## 5.3 Cleaning & Troubleshooting Procedure

The safety shutoff float of the Sludge Vacuum pump extends into the drum and may require occasional cleaning. Immerse the pump assembly in a mild cleaning or degreasing solvent. After cleaning, be sure the float moves freely. Use an air gun to remove solution and contaminants.



If the stainless steel pump becomes clogged it can be disassembled for cleaning. Use a wrench to hold the hex body firm while turning the cylindrical muffler assembly counterclockwise with a strapping wrench. Once the muffler assembly is removed use a pin-style spanner wrench to unscrew the threaded plug. Carefully remove the shim and clean it, the O-ring and the pump body using a mild cleaning solvent. Be sure all components are dry before reassembling. Note the orientation of the shim as shown in the illustration below and reinstall the threaded plug. Be careful not to over tighten the threaded plug as this can distort the shim and restrict airflow.

Always clean the vacuum hose and attachments after every use.

See **APPENDIX 2: Sludge-Vac Cleaning Instructions**

If routine cleaning does not solve your performance problems, please contact a Diversitech representative at 1-800-361-3733

Clean air is essential for proper operation of the Sludge Vacuum. A 10 micron or smaller filter separator must be used on the compressed air supply near the Sludge Vacuum. If the filter element becomes clogged with dirt, or a filter with a larger micron rating is used and passes dirt into the pump, the airflow becomes restricted and the pump can cease to operate.

For replacement or repair filter and regulator parts, contact Diversitech at 1-800-361-3733 or [info@diversitech.ca](mailto:info@diversitech.ca)



## APPENDIX 2 - SLUDGE VACUUM CLEANING INSTRUCTIONS

The pump body that extends into the drum may require occasional cleaning, follow this 2-step procedure:

1. Place the Reversible Sludge Vacuum into a mild cleaning or degreasing solvent. After cleaning is complete, be sure that the float is able to move freely.



2. Use an air gun to remove any solution and contaminants. (Reminder - wear eye protection.)

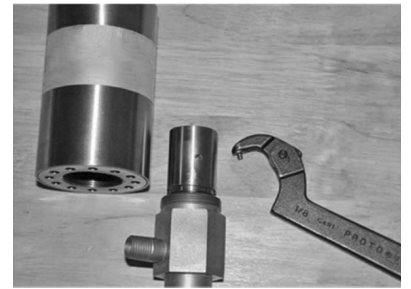


If the Sludge Vacuum becomes clogged, it can be disassembled for cleaning, follow this 4-step procedure:

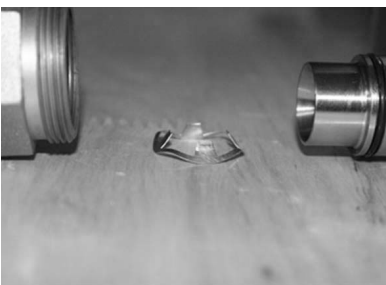
1. To remove the muffler assembly, use a wrench to hold the hex body firm while turning the cylindrical muffler assembly counter-clockwise with a strapping wrench.



2. Once the muffler assembly is removed, use a pin-style spanner wrench to unscrew the threaded plug.



3. Carefully remove the shim from the pump body and clean it using a mild cleaning or degreasing solvent.



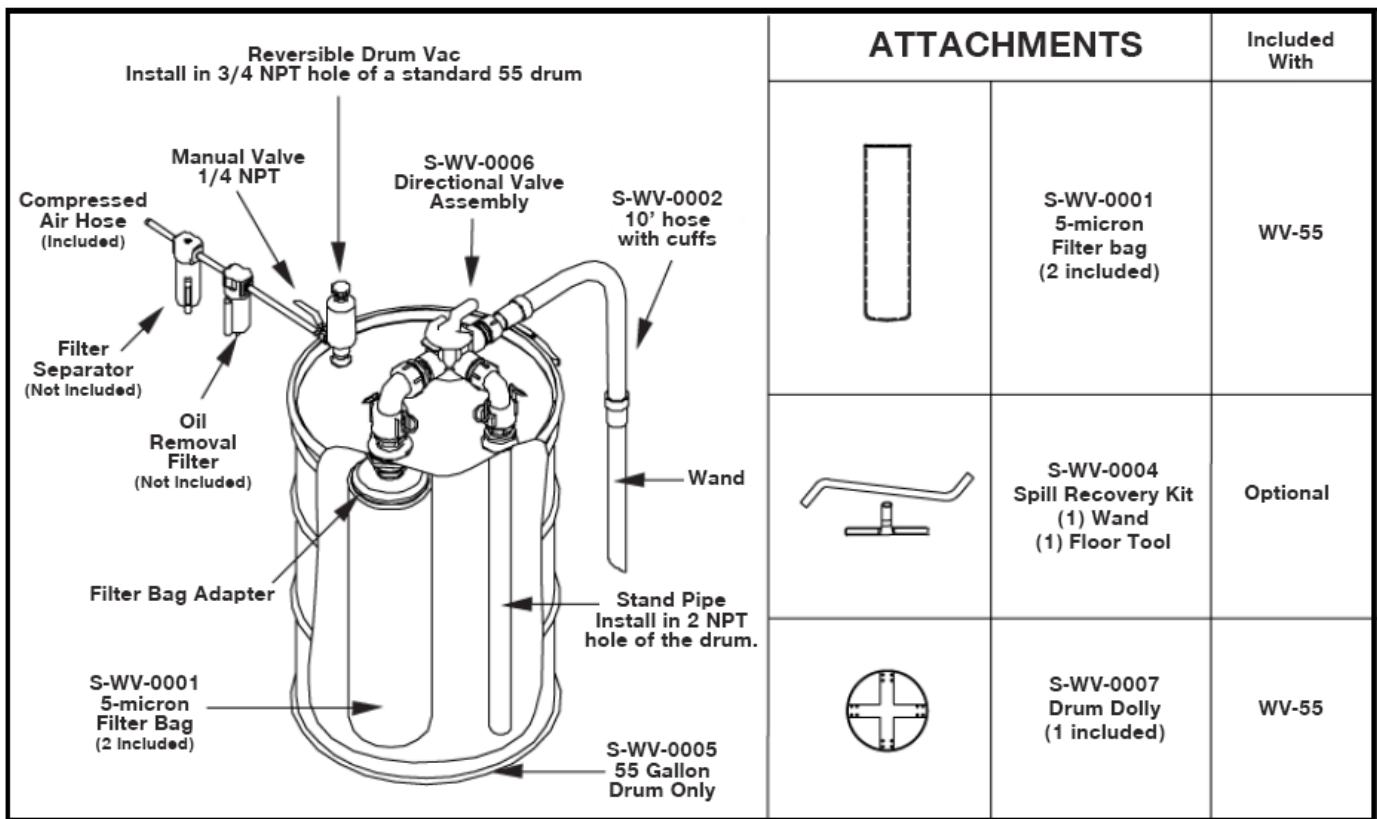
4. Clean the o-ring and threaded plug using a mild cleaning solvent. Clean the inside of the pump body to remove debris from the shim seat. Use an air gun to remove any solution and contaminants.



# APPENDIX 3 - REPLACEMENT PARTS

## WV-55 Sludge Vacuum

ITEM NUMBER	DESCRIPTION
S-WV-0001	Replacement Bag Filter for WV-55 5 Micron
S-WV-0002	10 FT Replacement Vacuum Hose W/Cuffs for WV-55
S-WV-0004	Spill Recovery Kit: 54" Wand and Floor Tool for WV-55
S-WV-0005	Replacement Reversible Drum Vac for WV-55
S-WV-0006	Replacement Directional Valve Rebuild Kit for WV-55
S-WV-0007	Replacement Dolly for 55 Gallon Drum for WV-55
S-WV-0008	Replacement Bag Filter for WV-55 200 Micron (Special request)









## LIMITED EQUIPMENT WARRANTY

For a period of 2 years from the date of purchase, all Diversitech products are warranted to be free from defects in material, workmanship, and construction, when used in accordance with installation, maintenance instructions, and expressly stated proper use application(s). Diversitech Inc. will repair or replace, at our option, any defective parts which fail during the warranty period. This warranty is limited to replacement parts ONLY, and does not cover personal liability, property loss, normal wear; and does not cover losses resulting from (or due to) improper installation, inadequate maintenance, misapplication, misuse, or use above rated capacities.

## FREIGHT CLAIMS

Shipments must be inspected upon arrival. All Diversitech units are sold ex-plant. Therefore, it is the receiver's responsibility to file any freight claims with the carrier for obvious or concealed damages. Damaged shipments must be refused at time of receipt, by consignee.

## RETURN MATERIAL POLICY

Prior to the return of material, for whatever reason, a return manufacturing authorization number (RMA#) is required from the Diversitech customer service department. This procedure is necessary for proper control and handling of returned materials. Call 1-800-361-3733 or email [support@diversitech.ca](mailto:support@diversitech.ca) to obtain an RMA.

All material must be returned prepaid. Credit will be given for returns for warranty repair or replacement. Freight collect shipments, or freight without an RMA, will not be accepted. It is the shipper's responsibility to ensure that material being returned to Diversitech is adequately packaged for shipment to preclude damages.



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information on this product  
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