

# Two Stage Exhaust Filter

## DSV Series NW16 - NW25

### Overview

The Solberg DSV is an extremely effective vacuum pump discharge filter that offers two stages of filtration to remove both oil mist and undesirable odors from the pump's exhaust. It offers a compact, straight-through design, with an integrated drain port to easily evacuate any collected contaminates. This innovative two-stage design starts with a proprietary coalescing media that cleans the discharge air by capturing and coalescing oil mist. The oil free air is then directed through an adsorptive activated carbon cartridge to remove any residual vapors or odors. The DSV was designed to be easily disassembled and serviced without the use of tools, allowing for extremely fast filter change-out and minimal downtime.

### Benefits

- Oil mist elimination
- Odor adsorption
- Reduce overall maintenance costs
- Contamination removal

### Features

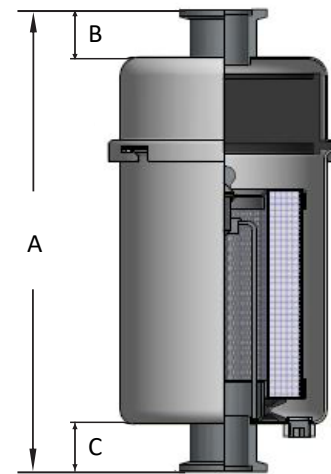
- Corrosive resistant white powder coat carbon steel
- Primary filter captures and coalesces oil entrained in air stream
- Activated carbon element removes offensive odors generated by the process
- Convenient access drain port

### Technical Specifications

- 0.3 micron media; 99.97% efficiency
- Continuous operating temp: 32°F (0°C) to 180°F (80°C)

### Options

- Clamp, centering ring, and o-ring kit for inlet/outlet
- Back pressure valve
- Drain kits available upon request



Connection Size	Assembly SCFM Rating	Assembly Part Number	Dimensions - inches			Suggested Service ht. inches	Approx. Weight lbs.	Replacement Element Part No.	Odor Adsorbent Element Replacement
			A	B	C				
NW16	12	DSV-PSG725/AC10-NW16	8 3/8	7/8	7/8	4	3	PSG725	AC10
NW25	12	DSV-PSG725/AC10-NW25	8 3/8	7/8	7/8	4	3	PSG725	AC10

Rev: DSV-US1903K

# Two Stage Exhaust Filter w/ Relief Valve

## DEE Series NW16 - NW25

### Overview

The Solberg DEE is an extremely effective vacuum pump discharge filter that offers two stages of filtration to remove both oil mist and undesirable odors from the pump's exhaust. It offers a compact, straight-through design, with an integrated back pressure valve and drain port to easily evacuate any collected contaminants. This innovative two-stage design starts with a proprietary coalescing media that cleans the discharge air by capturing and coalescing oil mist. The oil free air is then directed through an adsorptive activated carbon cartridge to remove any residual vapors or odors. The DEE was designed to be easily disassembled and serviced without the use of tools, allowing for extremely fast filter change-out and minimal downtime.

### Benefits

- Oil mist elimination
- Odor adsorption
- Reduce overall maintenance costs
- Contamination removal

### Features

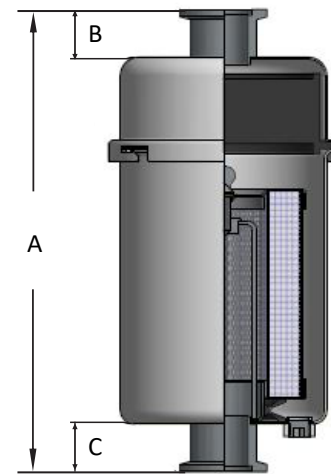
- Corrosive resistant white powder coat carbon steel
- Primary filter captures and coalesces oil entrained in air stream
- Activated carbon element removes offensive odors generated by the process
- Back pressure valve designed to release pressure at 7.35 psig. (0.5 bar) differential for pump safety
- Convenient access drain port

### Technical Specifications

- 0.3 micron media; 99.97% efficiency
- Continuous operating temp: 32°F (0°C) to 180°F (80°C)

### Options

- Clamp, centering ring, and o-ring kit for inlet/outlet



Connection Size	Assembly SCFM Rating	Assembly Part Number	Dimensions - inches			Suggested Service ht. inches	Approx. Weight lbs.	Replacement Element Part No.	Odor Adsorbent Element Replacement
			A	B	C				
NW16	12	DEE-PSG725/AC10-NW16	8 3/8	7/8	7/8	4	3	PSG725	AC10
NW25	12	DEE-PSG725/AC10-NW25	8 3/8	7/8	7/8	4	3	PSG725	AC10

Rev: DEE-US1903K

# Technical Data

## Oil Mist Discharge Filters

### Applications & Equipment

- Vacuum Pumps & Systems
- Vacuum Furnaces & Ovens
- Vacuum Freeze Drying & Outgassing
- Vacuum Metalizing
- Vacuum Drying
- Vacuum Coating
- Custom Vacuum Pumping Systems
- Food Processing & Packaging
- Industrial Vacuum Processes
- Pressure Unloading Vents on Piston Compressors
- Medical Work Areas
- Industrial Aerosol Scrubbing
- Heat Treating Equipment
- Vacuum Hold Down
- Routing Equipment
- Laboratory Industry
- Leak Detectors
- Autoclaving, Sterilization
- Reciprocating Engines
- Crankcase Ventilation Systems

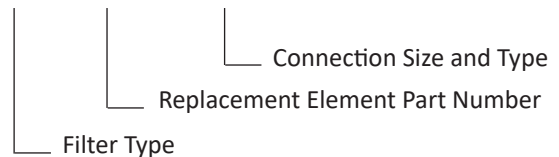
### Identification

Standard Solberg assemblies should have an identification label/nameplate that gives the following information:

- Assembly Model #
- Replacement Element #

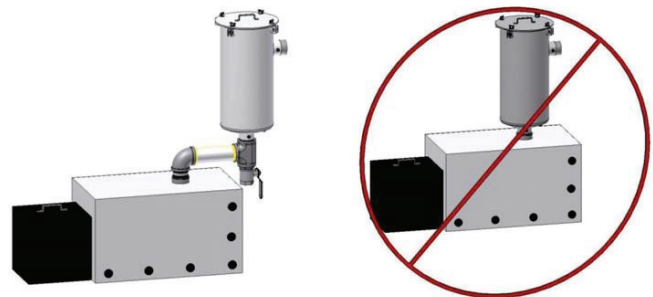
The part number designates the filter type, the element configuration and housing connection size. For example, the following part number identifies the filter as being an “HDL” design filter with a “PSG344/2” coalescing element, and 3” MPT connection size.

#### **HDL-PSG344/2-300**



### Installation & Maintenance

Mounting orientation is typically top-up vertical so draining can occur. See figure below for proper installation method. Request appropriate maintenance manual from your Solberg representative or through [www.solbergmfg.com](http://www.solbergmfg.com).



Rev: OMTD-US1904K

# Oil Mist Discharge Filters

## General

Recent developments in product design allow for the possible selection of oil mist discharge filters based on the type of equipment being used. It is now possible to identify the appropriate grade of aerosol discharge filter because of the extensive research completed by the Solberg R&D department. Please follow the rules below to correctly size your oil mist discharge filter. If further consultation is required, please contact Solberg or the Solberg sales representative in your area.

## Filter Selection Guidelines

**#1:** First of all, air/oil separators used in compressed air systems repeatedly fail in vacuum pump applications. The first consideration is to determine the type of vacuum pump being used. The particle size distribution and mass of oil aerosol discharging from a vacuum pump is as varied as the number of separator tank designs utilized by the industry. The main pump types are rotary vane, rotary screw, rotary piston, liquid ring, and reciprocating vacuum pumps. Each type of pump produces its own specific oil discharge characteristics and requires the appropriate media make-up to effectively capture and drain oil aerosols.

**#2:** Determine the type of oil being used in the vacuum pump. Trade names, viscosity/grade of oil, and the lubricant base (mineral, synthetic, etc.) are all useful details for determining the discharge aerosol characteristics.

**#3:** Determine how much oil the pump consumes under normal operating conditions. Typical consumption rates are gallons or liters per hour. The amount of oil consumed is typically the amount of oil being discharged.

**#4:** Pump operating cycles including vacuum range, temperature fluctuations, contaminant gases or vapors, and hours of operation per day/week. Also, determine the maximum pressure drop or filter restriction that the system will allow.

**#5:** Determine the operating temperature at the discharge connection. If it is above +180° F, methods of cooling the aerosol should be considered.

**#6:** Note the horsepower of the pump, the outlet connection, and the air flow.

**#7:** When an external unit is to be used as the primary or sole air/oil separator in a system, a multi-stage severe duty system may be required.

**#8:** In the case where an existing air/oil separator (internal or external) is already used, it is important to specify the desired goal for a second filter. Is it planned to have a multi-staged system for severe or extreme duty applications, or is there a requirement for exceptionally clean discharge air? If a multiple stage system is needed, try to identify the primary stage unit and the purpose for the second stage.

**#9:** Consider where to install the filter. Where possible, it is best to install in moderate temperature (+36° to +100°F) environments and avoid freezing conditions to ensure the oil drains freely without causing undue back pressure to the vacuum pump.

**Once as much information as possible has been obtained, send the data to Solberg for review, review our data sheets in the catalog, or visit our website at [www.solbergmfg.com](http://www.solbergmfg.com).**



[www.solbergmfg.com](http://www.solbergmfg.com)

*All model offerings and design parameters are subject to change without prior notice.  
Contact your representative or Solberg for the most current information.*