

# Oil Mist Discharge Filters

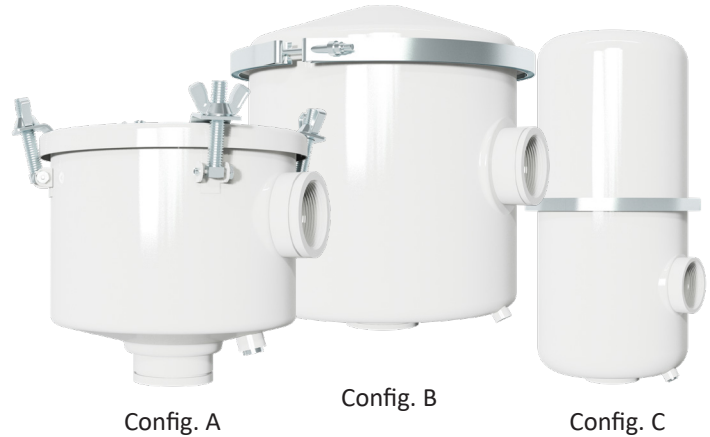
## HDL Series 1" - 2 1/2"

### Benefits

- Easy field maintenance
- Pleated filter element provides increased surface area for low back pressure separation of ultra-fine oil mists
- Waste oil can be recycled

### Features

- Captures oil fog, mist or aerosol from exhaust of oil sealed vacuum pumps
- Seamless drawn housings
- O-ring sealed housings
- Corrosive resistant white powder coat carbon steel
- Discharge baffle
- 1/4" NPSC drain tap



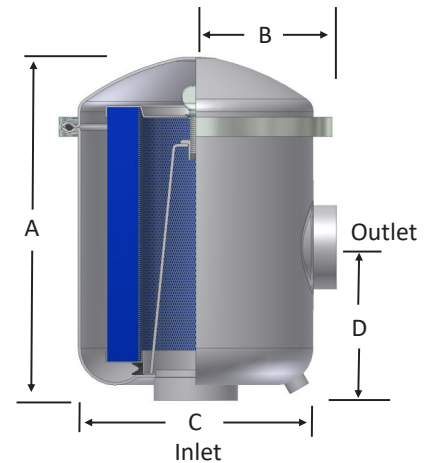
### Technical Specifications

- 0.3 micron media; 99.97% efficiency
- Continuous operating temp: 68°F (20°C) up to 180°F (80°C)
- Mounted vertically
- Pressure rating: 5 psi

### Options



- Lower back pressure media
- Application specific gaskets/seals
- Custom connections
- Nonstandard finishes
- Stainless steel housings (select models)



Inlet/Outlet		Assembly SCFM Rating	Housing Config.	Assembly Part Number	Dimensions - inches				Suggested Service ht. inches	Approx. Weight lbs.	Replacement Element Part No.	Element SCFM Rating
Size	Type				A	B	C	D				
1"	NPSC	40	A	HDL-PSG848-100HC	6 3/4	4 1/8	7 3/8	4 1/2	5 1/4	5	PSG848	50
1 1/4"	NPSC	50	A	HDL-PSG848-125HC	6 3/4	4 1/8	7 3/8	4 1/2	5 1/4	5	PSG848	50
1 1/2"	NPSC	50	A	HDL-PSG848-150HC	6 3/4	4 1/8	7 3/8	4 1/2	5 1/4	5	PSG848	50
2"	NPSC	125	B	HDL-PSG850/1-200HC	11 1/4	4 5/8	8 4/5	5	9 1/4	15	PSG850/1	125
2"	NPSC	175	C	HDL-PSG860/1-200HC	17 3/8	4 5/8	8 3/4	5	14 1/2	30	PSG860/1	200
2 1/2"	FPT	250	B	HDL-PSG244/2-250C	15 11/16	8 13/16	13 1/4	8 3/4	10	35	PSG244/2	300

Note: 2 1/2" housing has 1/4" NPSC taps standard on inlet and outlet.  
See Discharge Filter Technical Data for sizing guidelines.

Rev: HDL1-US0220K

# Oil Mist Discharge Filters

## HDL Series 3" - 8"

### Benefits

- Large oil holding capacity and easy field maintenance
- Pleated filter element provides increased surface area for low back pressure separation of ultra-fine oil mists
- Multiple separation stages in single element design
- Waste oil can be recycled

### Features

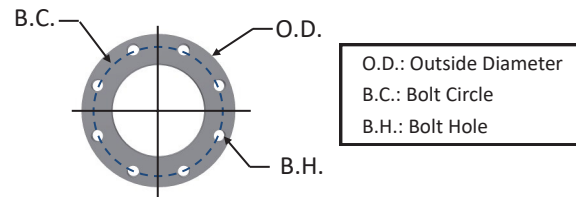
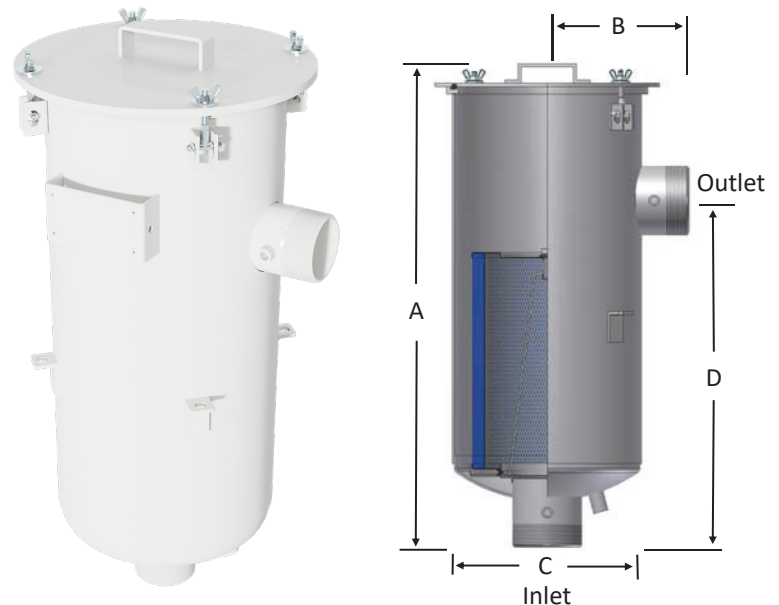
- Captures oil fog, mist or aerosol from exhaust of oil sealed vacuum pumps
- O-ring sealed housings
- Corrosive resistant white powder coat carbon steel
- 1/4" NPSC drain tap

### Technical Specifications

- 0.3 micron media; 99.97% efficiency
- Continuous operating temp: 68°F (20°C) to 180°F (80°C)
- Mounted vertically
- Pressure rating: 14.5 psi

### Options ATEX Available

- Lower back pressure media
- Application specific gaskets/seals
- Various nonstandard finishes and connection styles
- Stainless steel housings
- Nameplate bracket
- Lifting lugs



125/150# Pattern Flange	Dimensions - inches			No. of Holes	Flange Thickness
	O.D.	B.C.	B.H.		
8"	13 1/2	11 3/4	0.88	8	0.38

MPT Inlet/ Outlet	Assembly SCFM Rating	Assembly Part Number	Dimensions - inches				Suggested Service ht. inches	Approx. Weight lbs.	Replacement Element Part No.	Element SCFM Rating
			A	B	C	D				
3"	300	HDL-PSG344/2-300	31 1/4	9 1/8	14	22 1/2	15	75	PSG344/2	500
4"	500	HDL-PSG344/2-400	31 1/4	9	14	22 1/2	15	78	PSG344/2	500
5"	800	HDL-PSG474/2-500	38 1/4	11	18 1/2	29 1/2	22	160	PSG474/2	1100
6"	1100	HDL-PSG474/2-600	39 1/4	11	18 1/2	30 1/2	22	160	PSG474/2	1100
8" FLG	1800	HDL-PSG476-800F	38 15/16	14	22 1/2	25 1/2	22	180	PSG476	1800

See Discharge Filter Technical Data for sizing guidelines.

Rev: HDL3-8-US1904K

Sales/Service: 630.773.1363  
sales@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.

# 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

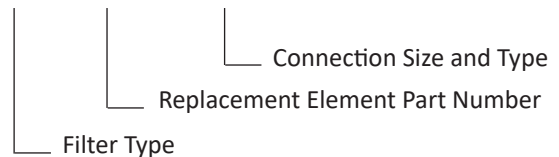
### Identification

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

- Assembly Model #
- Replacement Element #

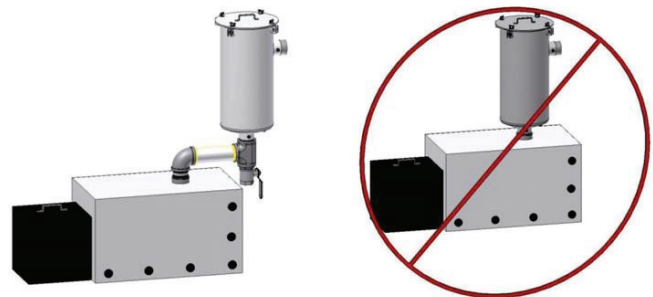
The part number designates the filter type, the element configuration and housing connection size. For example, the following part number identifies the filter as being an “HDL” design filter with a “PSG344/2” coalescing element, and 3” MPT connection size.

#### **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).**



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