

# Discharge Oil Mist 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 for external drain

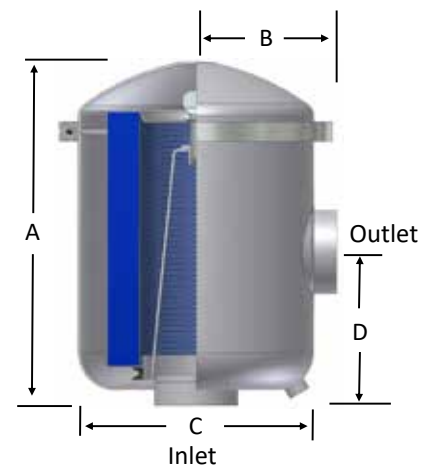
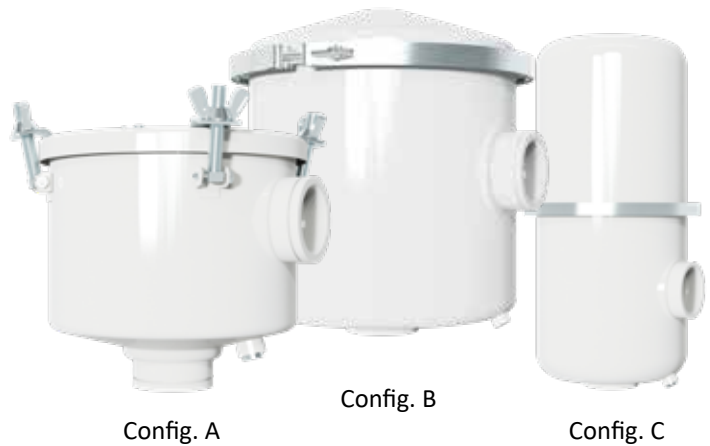
### Technical Specifications

- 0.3 micron media; 99.97% efficiency
- Continuous operating temp: 20°C (68°F) up to 80°C (180°F)
- Mounted vertically
- Pressure rating: 0.35 bar

### Options



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



Inlet/Outlet		Assembly m <sup>3</sup> /hr Rating	Housing Config.	Assembly Part Number	Dimensions - mm				Suggested Service ht. mm	Approx. Weight (kg)	Replacement Element Part No.	Element m <sup>3</sup> /hr Rating
Size	Type				A	B	C	D				
1"	BSPP	68	A	HDL-PSG848-101HC	170	105	187	114	133	2	PSG848	85
1 1/4"	BSPP	85	A	HDL-PSG848-126HC	170	105	187	114	133	2	PSG848	85
1 1/2"	BSPP	85	A	HDL-PSG848-151HC	171	106	187	115	133	2	PSG848	85
2"	BSPP	213	B	HDL-PSG850/1-201HC	286	117	223	127	235	7	PSG850/1	213
2"	BSPP	298	C	HDL-PSG860/1-201HC	442	117	223	127	368	14	PSG860/1	340
2 1/2"	BSPP	425	B	HDL-PSG244/2-251HC	358	185	337	182	254	16	PSG244/2	510

Note: 2 1/2" housing has 1/4" NPSC taps standard on inlet and outlet.

See Oil Mist Discharge Filter Technical Data for sizing guidelines.

# Discharge Oil Mist Filters

## HDL Series 3" - 4", DN125 - DN200

### 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
- 1/2" BSPP for external drain

### Technical Specifications

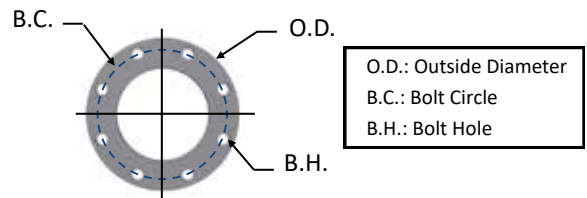
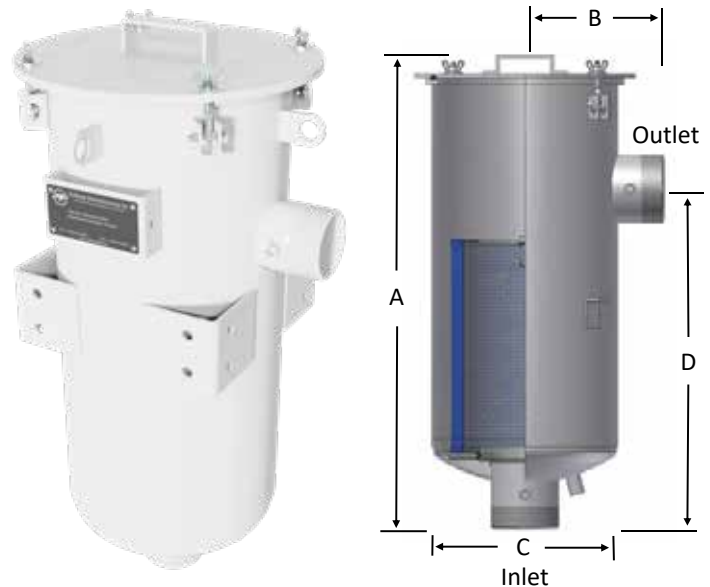
- 0.3 micron media; 99.97% efficiency
- Continuous operating temp: 20°C (68°F) up to 80°C (180°F)
- Mounted vertically
- Pressure rating: 0.5 bar

### Options



ATEX Available

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



125/150# Pattern Flange	Dimensions - mm			No. of Holes	Flange Thickness mm
	O.D.	B.C.	B.H.		
DN125	250	210	18	8	22
DN150	285	240	22	8	24
DN200	340	295	22	8	24

Inlet/Outlet		Assembly m <sup>3</sup> /hr Rating	Assembly Part Number	Dimensions - mm				Suggested Service ht. mm	Approx. Weight (kg)	Replacement Element Part No.	Element m <sup>3</sup> /hr Rating
Size	Type			A	B	C	D				
3"	BSPT	510	HDL-PSG344/2-301	794	232	356	572	381	34	PSG344/2	850
4"	BSPT	850	HDL-PSG344/2-401	794	229	356	572	381	35	PSG344/2	850
DN125	FLG	1360	HDL-PSG474/2-DN125	972	279	470	749	559	72	PSG474/2	1870
DN150	FLG	1870	HDL-PSG474/2G-DN150	997	279	470	775	559	72	PSG474/2G	1870
DN200	FLG	3060	HDL-PSG476G-DN200	1202	356	572	826	559	81	PSG476G	3060

See Oil Mist Discharge Filter Technical Data for sizing guidelines.

# 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

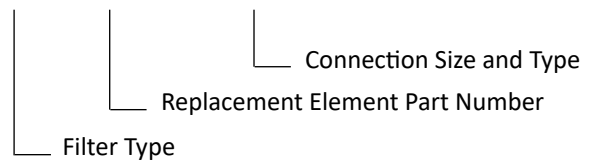
### Identification

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” BSPT connection size.

#### **HDL-PSG344/2-301**



### Installation & Maintenance

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



## General

Coalescing air/oil separation technology is highly effective at capturing oil mist from the exhaust of an oil sealed/lubricated vacuum pump and keeping surrounding work environments clean and safe. Each pump technology produces its own specific oil discharge characteristics and requires the appropriate housing and element configuration to optimize performance.

Critical factors that influence performance of a coalescing air/oil separator include quality of the oil, equipment type, oil type and viscosity, challenge rate, process gas characteristics, operating temperature, operating vacuum level, and maximum air flow rating of the pump. Because of these variables, it is always best to work with Solberg personnel when selecting and sizing a vacuum pump discharge filter. However, Solberg's standard product lines will perform well in most general duty applications. The following guidelines will help when selecting a standard product.

### Filter Selection Guidelines

**#1:** Protect the pump with adequate inlet filtration. Contaminants such as particulates, water, and solvents can damage the pump internals and significantly reduce the effectiveness of the discharge filter.

**#2:** Identify the type of vacuum pump oil being used. Solberg's standard coalescing technology works well with most commercially available vacuum pump oils across a broad range of viscosities. Generally, maximum coalescing effectiveness is achieved with temperatures at the inlet of the filter: at or below 70°C (~160°F) for mineral oils, at or below 82°C (~180°F) for synthetics. For best results, consult with the factory and provide information on operating temperature and viscosity/grade of oil prior to making any filter selection.

**#3:** Determine the filter size based on the flow rating of the pump at atmospheric conditions, not the connection size. An undersized coalescing filter will cause increased back pressure and negatively affect pump performance.

**#4:** To capture oil, the coalescing element must receive the oil challenge in an aerosol form. If the oil is in a vapor state, it will pass through the coalescing media. Generally, the coalescing technology will perform more effectively at lower operating temperatures. In many cases, adding distance between the pump and the filter will help to lower the air stream temperature and improve coalescing effectiveness.

**#5:** Install in external environments where temperatures will not fall below freezing or exceed 37°C (100°F). Creating distance between the pump and the exhaust filter is desirable, however, avoid installing long pipe runs and horizontal sections where condensed oil can accumulate. When possible, install a drip-leg to gather any excess oil within the piping.

**#6:** Drain the filter and drip-leg to ensure your vacuum system performs at optimal levels. If the system is not drained regularly, issues such as high back pressure and unsafe working conditions can occur.

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

