SOLBERG®
Filtration & Separation

Oil Mist Discharge Filters

HDL Series 1” - 2 ½”

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

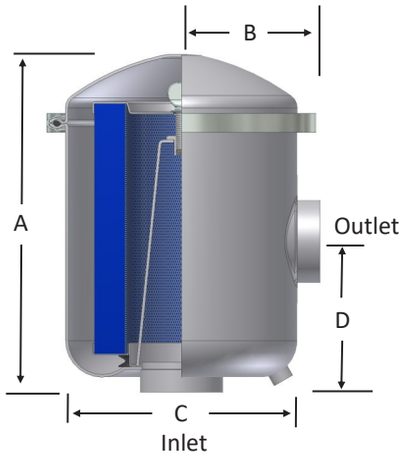
Features

- 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
- ¼” NPSC drain tap

Config. A Config. B Config. C

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

ATEX Available

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

Inlet/Outlet Size	Inlet/Outlet Type	Assembly m³/h Rating	Housing Config.	Assembly Part Number	Dimensions - mm A	B	C	D	Suggested Service ht. mm	Approx. Weight (kg)	Replacement Element Part No.	Element m³/h Rating
1”	BSPP	68	A	**HDL-PSG848-101HC**	170	105	187	114	133	2	PSG848	85
1 ¼”	BSPP	85	A	**HDL-PSG848-126HC**	170	105	187	114	133	2	PSG848	85
1 ½”	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 ½”	BSPP	425	B	**HDL-PSG244/2-251HC**	358	185	337	182	254	16	PSG244/2	510

Note: 2 ½” housing has ¼” NPSC taps standard on inlet and outlet.

See Discharge Filter Technical Data for sizing guidelines.

Rev: HDL 1-2.5 EU1907N

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Oil Mist Discharge 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
- ½” BSPP drain tap

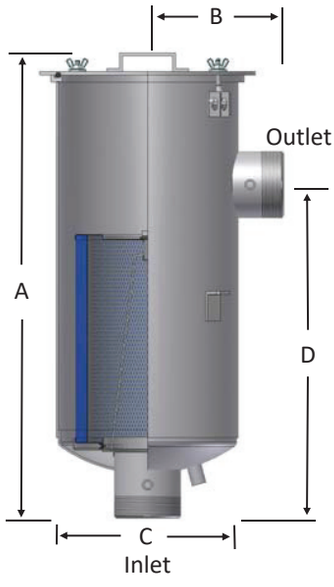
Technical Specifications

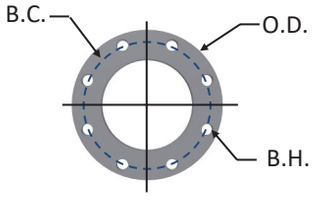
- 0.3 micron media; 99.97% efficiency
- Continuous operating temp: 20°C (68°F) up to 80°C (180°F)
- Mounted vertically
- Pressure rating: 0.5 bar

Options

ATEX Available

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





O.D.: Outside Diameter
B.C.: Bolt Circle
B.H.: Bolt Hole

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	22
DN200	340	295	22	8	24

Inlet/ Outlet	Assembly m³/h Rating	Assembly Part Number	Dimensions - mm				Suggested Service ht. mm	Approx. Weight (kg)	Replacement Element Part No.	Element m³/h Rating
			A	B	C	D				
3”	510	**HDL-PSG344/2-301**	794	232	356	572	381	34	PSG344/2	850
4”	850	**HDL-PSG344/2-401**	794	229	356	572	381	35	PSG344/2	850
DN125	1360	**HDL-PSG474/2-DN125**	972	279	470	749	559	72	PSG474/2	1870
DN150	1870	**HDL-PSG474/2-DN150**	997	279	470	775	559	72	PSG474/2	1870
DN200	3060	**HDL-PSG476-DN200**	989	356	572	648	559	81	PSG476	3060

See Discharge Filter Technical Data for sizing guidelines.

Rev: HDL 3-4-EU1907N

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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 #

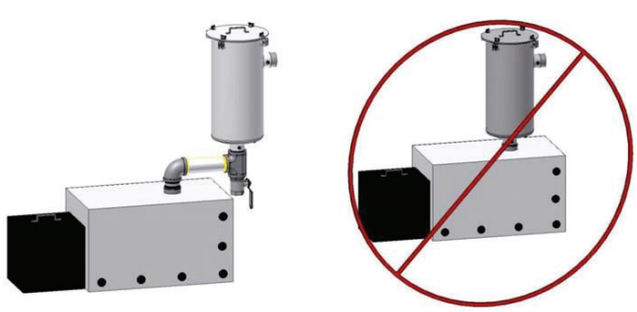
The part number designates the filter type, the element configuration and housing connection size. For example, the following part number identifies the filter as being an “HDL” design filter with a “PSG344/2” coalescing element, and 3”BSPT connection size.

HDL-PSG344/2-301

- Connection Size and Type
- Replacement Element Part Number
- Filter Type

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.



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 +104°C, 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 (+2° to +38°C) 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.