



 **XPORTUACIO**

 **SOLBERG®**  
Filtration • Separation • Silencing



Filters Solberg 2017

## Applications & Equipment

- Industrial & Severe Duty
- Vacuum Pumps & Systems: Roots, Rotary Vane, Screw, Piston
- Vacuum Packaging Equipment
- Vacuum Furnace
- Blowers: Side Channel & Roots (P.D.)
- Vacuum Lifters
- Intake Suction Filters
- Food Industry
- Woodworking/Routers
- Ash Handling
- Printing Industry
- Medical/Hospital
- Remote Installations for Piston & Screw Compressors
- Paper Processing
- Waste Water Aeration
- Cement Processing
- Bag House Systems
- Vacuum Vent Breathers
- Chemical Processing
- Factory Automation Equipment
- Leak Detection Systems

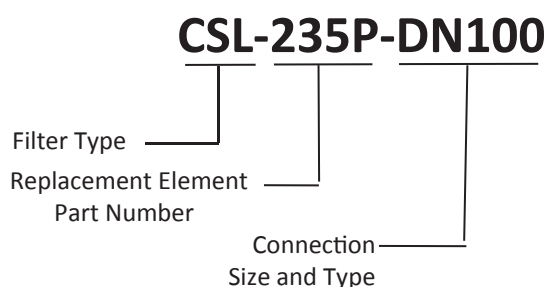
## Identification

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 a “CSL” design filter with a “235” element, “P” prefilter and DN100 flange connection size.



## Vacuum Service Rating Chart

Threaded vacuum filter connections must be free of defect and properly sealed to achieve deeper vacuum levels. Vacuum service levels are given for reference only and serve as a guideline for product selection. Product certification and alternative designs are available for applications requiring deeper vacuum levels and specific leak rates. Please contact factory for details.

	Pressure (mbar)	Pressure (Torr)	Pressure (Pa)
Atmospheric Pressure	1013	760	$1.013 \times 10^5$
Coarse Vacuum	1013 to 33	760 to 25	$1 \times 10^5$ to $3 \times 10^3$
Medium Vacuum	33 to $1.3 \times 10^{-3}$	25 to $1 \times 10^{-3}$	$3 \times 10^3$ to $1 \times 10^{-1}$
High Vacuum	$1.3 \times 10^{-3}$ to $1.3 \times 10^{-9}$	$1 \times 10^{-3}$ to $1 \times 10^{-9}$	$1 \times 10^{-1}$ to $1 \times 10^{-7}$

## Choosing the Best Filter for your Equipment

- A. Connection & Airflow Known: When the connection & airflow is known:
1. Select appropriate connection style. (i.e.: BSPT, Flange, BSPP, etc.)
  2. Check assembly m<sup>3</sup>/h (flow) rating. Compare with your required airflow. (Note: Assembly flow ratings are based on 6,000 FPM or 30m/sec for a given connection size to achieve low pressure drop performance. When required flow exceeds assembly flow rating, the pressure drop through the outlet connection will increase. In such cases select by element m<sup>3</sup>/h (flow) rating.)
  3. When required flow rating matches connection size; skip to "C. Selecting Elements".
- B. Unknown Connection: When the connection size is unknown, flexible, or the required flow rating exceeds assembly flow rating:
1. Match required flow rating with the element flow rating.
  2. Choose related connection size.
- C. Selecting Elements: The filter performance is influenced by the actual application duty and the equipment it is installed on. Regular maintenance checks and proper servicing is required.
- Application Duty Descriptions:
- Industrial Duty:* Clean workshop or clean outdoor environment - small element sizing is sufficient.
- Severe Duty:* Dirty workshop, wastewater – medium to large element is recommended.
- Extreme Duty:* Cement, steel making, plastics or dusty material conveying – Largest element sizing is recommended.
1. Select media required by your application. Options include:
    - a. Standard media
      1. Polyester: All purpose; it withstands pulses, moisture, and oily air
      2. Paper: Mostly dry, smooth flow applications
    - b. Special Media: For a variety of micron levels and media types, see the "Filter Media Specifications" in the Replacement Element Section.
  2. Select Element size by matching the element with the anticipated duty and upsize accordingly.

## Filter Assembly Maintenance

Request the appropriate maintenance manual for more in-depth information from your Solberg representative or through [www.solbergmfg.com](http://www.solbergmfg.com).

## Element Maintenance

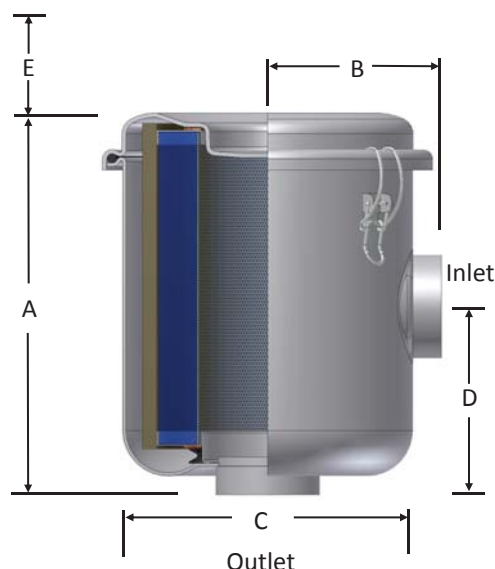
Solberg elements should be replaced, once the pressure drop reaches 37-50 mbar above the initial pressure drop of the installation. Cleaning an element is also an option.

Solberg recommends replacing dirty elements for optimal performance. Any damage which results from by-pass or additional pressure drop created by element cleaning is the sole responsibility of the operator.

Note: The overall performance of a filter element is altered once cleaned. The initial pressure drop after subsequent cleanings will be greater than the original, clean pressure drop of the element. After each cleaning, the pressure drop will continue to increase. Under all circumstances, the initial pressure drop of the element needs to be maintained at less than 37 mbar.

If the pressure drop exceeds 50 mbar at start-up; it should be replaced with a new element. With many types of equipment, the maximum pressure drop allowed will be dictated by the ability of the equipment to perform to its rated capacity. Under all circumstances, the operator should avoid exceeding the manufacturer's recommended maximum pressure drop for their specific equipment.

# "L" Style Compact Vacuum Filters CSL Series 3/8" - 3"



## Features

- Seamless drawn housings
- O-ring seal
- Corrosion resistant carbon steel construction
- Powder coat finish
- Stainless steel torsion clips for durability

## Technical Specifications

- Vacuum Rating: Medium vacuum service\*\*
- Temp (continuous): min -26°C (-15°F) max 104°C (220°F)
- Filter change out differential: 37-50 mbar over initial ΔP
- Polyester: 99%+ removal efficiency standard to 5 micron
- Paper: 99%+ removal efficiency standard to 2 micron

\*\*See Vacuum Filter Technical Data for Vacuum Service Data.

## Benefits

- Large dirt holding capacity and easy field cleaning, especially when mounted horizontally or inverted
- Low pressure design

## Options



- Vacuum gauge
- Higher holding capacity configurations available (select models)
- Material/Finishes: stainless steel, epoxy coating
- Support brackets
- Alternative top-to-canister fastening system for low pressure or pulsating systems
- Stainless steel (select models)

Inlet/Outlet Size	Inlet/Outlet Type	Assembly m <sup>3</sup> /h Rating	Housing Config.	Assembly Part Number		Dimensions - mm				Suggested Service HT.	Approx. Weight kg	Replacement Element Part No.		Element m <sup>3</sup> /h Rating
				Polyester	Paper	A	B	C	D	E		Polyester	Paper	
3/8"	BSPP	31	A	CSL-825-039HCB	CSL-824-039HCB	85	54	95	46	76	0.40	825	824	43
1/2"	NPSC	31	A	CSL-825-050HCB	CSL-824-050HCB	89	57	95	49	76	0.40	825	824	43
1/2"	NPSC	34	B	CSL-843-050HCB	CSL-842-050HCB	103	76	146	64	83	1.4	843	842	94
3/4"	NPSC	41	A	CSL-825-075HCB	CSL-824-075HCB	89	58	95	50	76	0.40	825	824	43
3/4"	NPSC	43	B	CSL-843-075HCB	CSL-842-075HCB	103	76	146	64	83	1.4	843	842	94
1"	BSPP	60	B	CSL-843-101HCB	CSL-842-101HCB	111	83	146	67	83	1.4	843	842	94
1"	BSPP	68	C	CSL-849-101HCB	CSL-848-101HCB	170	105	187	114	133	2.3	849	848	196
1 1/4"	BSPP	94	B	CSL-843-126HCB	CSL-842-126HCB	111	83	146	67	83	1.4	843	842	94
1 1/4"	BSPP	102	C	CSL-849-126HCB	CSL-848-126HCB	170	105	187	114	133	2.3	849	848	196
1 1/2"	BSPP	136	C	CSL-849-151HCB	CSL-848-151HCB	171	105	187	114	133	2.3	849	848	196
2"	BSPP	298	D	CSL-851-201HCB	CSL-850-201HCB	260	114	222	127	235	6.8	851	850	493
2 1/2"	BSPP	357	D	CSL-851-251HCB	CSL-850-251HCB	271	130	222	140	235	6.8	851	850	493
3"	BSPP	510	E	CSL-239-301HCB	CSL-238-301HCB	361	186	337	183	279	15	239	238	969

See Vacuum Filter Technical Data section for sizing guidelines.

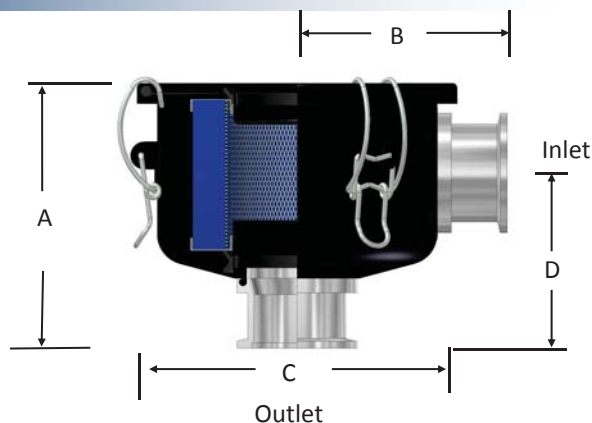
Note: NPSC threaded housings are interchangeable with BSPP up to 1".





# SOLBERG®

## "L" Style Vacuum Filters ISO CSL Series NW16 - NW40 FLG



### Features

- ISO flange connections
  - Stainless steel ISO flange
  - Buna o-ring sealed
- Seamless drawn housings
- Corrosive resistant carbon steel construction
- Powder coat finish (Black models)
- O-ring housing seal
- Stainless steel torsion clips

### Technical Specifications

- Vacuum Leak Rate:  $1 \times 10^{-5}$  mbar l/sec
- Vacuum Rating: Medium vacuum service\*\*
- Temp (continuous): min -26°C (-15°F) max 104°C (220°F)
- Filter change out differential: 37-50 mbar over initial  $\Delta P$
- Polyester: 99%+ removal efficiency standard to 5 micron
- Paper: 99%+ removal efficiency standard to 2 micron

\*\*See Vacuum Filter Technical Data for Vacuum Service Data.

### Series Specific Applications

- Prevent dry scroll tip seal migration
- Polycrystalline silicone ingot production
- Vacuum coating
- Solar cell lamination
- Trap condensable vapors
- Thin-film manufacturing
- Protect against backstreaming

### Options



ATEX  
Available

- Contact factory for larger sizes
- Viton seals
- Stainless steel (select models)
- Activated Alumina, Activated Zeolite media  
available for foreline trap and other applications

#### SS ISO Flange Black Housing Finish

ISO Flg Inlet & Outlet	Assembly m <sup>3</sup> /h Rating	Assembly Part Number		Dimensions - mm				Approx. Weight kg	Replacement Element Part No.		Element m <sup>3</sup> /h Rating
		Polyester	Paper	A	B	C	D		Polyester	Paper	
NW16	39	CSL-825-NW16B	CSL-824-NW16B	99	67	95	58	0.4	825	824	42
NW25	42	CSL-825-NW25B	CSL-824-NW25B	99	67	95	58	0.4	825	824	42
NW25	59	CSL-843-NW25B	CSL-842-NW25B	111	86	146	66	1	843	842	93
NW40	93	CSL-843-NW40B	CSL-842-NW40B	121	96	146	80	1	843	842	93
NW40	136	CSL-849-NW40B	CSL-848-NW40B	183	117	187	127	2	849	848	195
K63	357	CSL-851-K63B	CSL-850-K63B	296	155	222	165	7	851	850	493
K100	510	CSL-239-K100B	CSL-238-K100B	400	222	337	218	10	239	238	969

#### SS ISO Flange Nickel Housing Finish

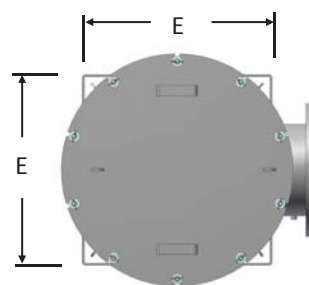
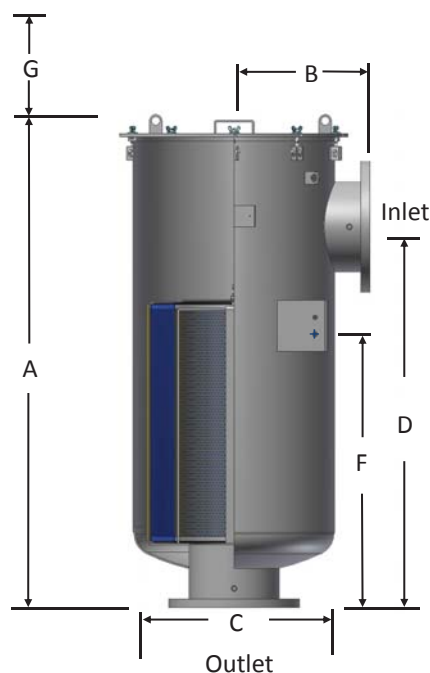
ISO Flg Inlet & Outlet	Assembly m <sup>3</sup> /h Rating	Assembly Part Number		Dimensions - mm				Approx. Weight kg	Replacement Element Part No.		Element m <sup>3</sup> /h Rating
		Polyester	Paper	A	B	C	D		Polyester	Paper	
NW16	39	CSL-825-NW16EN	CSL-824-NW16EN	99	67	95	58	0.4	825	824	42
NW25	42	CSL-825-NW25EN	CSL-824-NW25EN	99	67	95	58	0.4	825	824	42
NW25	59	CSL-843-NW25EN	CSL-842-NW25EN	111	86	146	66	1	843	842	93
NW40	93	CSL-843-NW40EN	CSL-842-NW40EN	121	96	146	80	1	843	842	93
NW40	136	CSL-849-NW40EN	CSL-848-NW40EN	183	117	187	127	2	849	848	195
K63	357	CSL-851-K63EN	CSL-850-K63EN	296	155	222	165	7	851	850	493
K100	510	CSL-239-K100EN	CSL-238-K100EN	400	222	337	218	10	239	238	969

See Vacuum Filter Technical Data section for sizing guidelines.

# "L" Style Vacuum Filters CSL Series 3"- 6"BSPT



## DN80-DN300 FLG



### Features

- Heavy duty T bolts for easy maintenance
- Corrosive resistant carbon steel construction
- Black powder coat finish
- O-ring seal with U-channel groove
- Inlet & outlet 1/4" gauge taps
- Lifting lugs
- Brackets for optional support legs
- Nameplate bracket

### Benefits

- Mount horizontally or inverted with "Stay in Place" O-ring u-channel groove
- Low pressure drop construction

### Technical Specifications

- Vacuum Rating: Medium vacuum service\*\*
- Hydrostatically tested to 0.5 bar pressure
- Temp (continuous): min -26°C (-15°F) max 104°C (220°F)
- Filter change out differential: 37-50 mbar over initial  $\Delta P$
- Polyester: 99%+ removal efficiency standard to 5 micron
- Paper: 99%+ removal efficiency standard to 2 micron

\*\*See Vacuum Filter Technical Data for vacuum service data.

### Options



ATEX  
Available

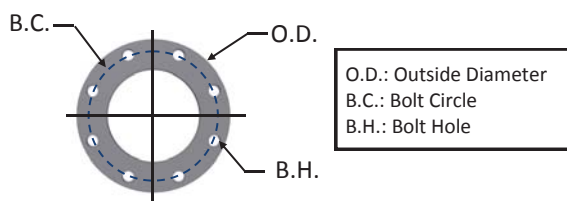
- Straight-through configurations
- Various filter media
- Stainless steel
- Various nonstandard finishes and connection styles
- ISO Flange
- PN6, PN16 flange patterns
- Flange faces free of paint
- Mounting housing bands
- Internal surfaces free of paint

#### Flanged Assemblies

Flange Inlet & Outlet	Assembly m³/h Rating	Assembly Part Number		Dimensions - mm						Suggested Service HT.	Approx. Wt. Kg	Replacement Element Part No.		Element m³/h Rating
		Polyester	Paper	A	B	C	D	E	F			Polyester	Paper	
DN80	510	CSL-235P-DN80	CSL-234P-DN80	689	229	356	470	299	314	305	28	235P	234P	970
DN80	510	CSL-335P-DN80	CSL-334P-DN80	689	229	356	470	299	314	432	29	335P	334P	1360
DN100	885	CSL-235P-DN100	CSL-234P-DN100	695	229	356	470	303	305	305	28	235P	234P	970
DN100	885	CSL-335P-DN100	CSL-334P-DN100	695	229	356	470	303	305	432	29	335P	334P	1360
DN125	1360	CSL-245P-DN125	CSL-244P-DN125	718	279	470	495	376	346	305	40	245P	244P	1500
DN125	1360	CSL-345P-DN125	CSL-344P-DN125	718	279	470	495	376	346	432	41	345P	344P	1870
DN150	1870	CSL-275P-DN150	CSL-274P-DN150	743	305	470	521	377	400	305	50	275P	274P	1870
DN150	1870	CSL-375P-DN150	CSL-374P-DN150	743	305	470	521	377	400	432	51	375P	374P	2550
DN200	3060	CSL-377P-DN200	CSL-376P-DN200	993	356	572	648	489	437	432	83	377P	376P	3105
DN250	4930	CSL-385P-DN250	CSL-384P-DN250	1130	410	686	864	567	598	432	115	385P	384P	5610
DN300	7990	CSL-485P-DN300	CSL-484P-DN300	1130	410	686	864	567	622	610	125	485P	484P	8000
DN250	4930	CSL-685P-DN250	CSL-384P(2)-DN250*	1461	406	686	1143	567	876	787	171	685P	384P(2)*	11220
DN300	8415	CSL-685P-DN300	CSL-384P(2)-DN300*	1461	406	672	1143	567	876	787	171	685P	384P(2)*	11220
DN300	8415	CSL-485P(2)-DN300*	CSL-484P(2)-DN300*	1784	406	686	1448	558	673	610	209	485P(2)*	484P(2)*	16000

See Vacuum Filter Technical Data section for sizing guidelines.

PN10 Pattern Flange	Dimensions - mm			No. of Holes	Thickness Flg mm
	O.D.	B.C.	B.H.		
DN80	200	160	18	8	20
DN100	220	180	18	8	20
DN125	250	210	18	8	22
DN150	285	240	22	8	22
DN200	340	295	22	8	24
DN250	395	350	22	12	26
DN300	445	400	22	12	26



All flanges are orientated "split center".

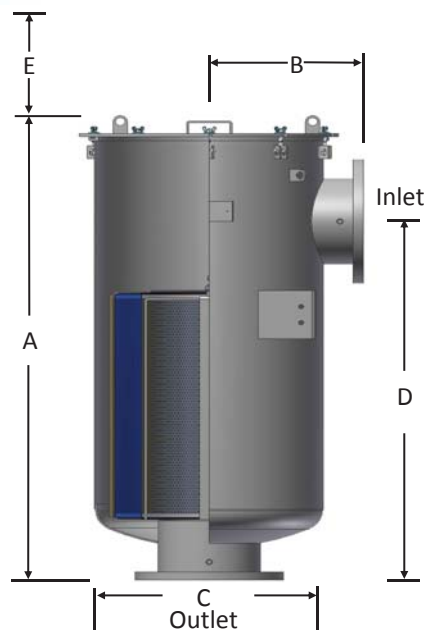
#### BSPT Assemblies

BSPT Inlet & Outlet	Assembly m³/h Rating	Assembly Part Number		Dimensions - mm						Suggested Service HT.	Approx. Weight kg	Replacement Element Part No.		Element m³/h Rating
		Polyester	Paper	A	B	C	D	E	F			Polyester	Paper	
3"	510	CSL-235P-301	CSL-234P-301	689	229	356	470	299	314	305	21	235P	234P	970
3"	510	CSL-335P-301	CSL-334P-301	689	229	356	470	299	314	432	23	335P	334P	1360
4"	885	CSL-235P-401	CSL-234P-401	689	229	356	470	303	314	305	23	235P	234P	970
4"	885	CSL-335P-401	CSL-334P-401	689	229	356	470	303	314	432	25	335P	334P	1360
5"	1360	CSL-245P-501	CSL-244P-501	714	279	470	495	376	375	305	37	245P	244P	1500
5"	1360	CSL-345P-501	CSL-344P-501	714	279	470	495	376	375	432	40	345P	344P	1870
6"	1870	CSL-275P-601	CSL-274P-601	740	305	470	521	376	375	305	43	275P	274P	1870
6"	1870	CSL-375P-601	CSL-374P-601	740	305	470	521	376	375	432	44	375P	374P	2550

See Vacuum Filter Technical Data section for sizing guidelines.

# "L" Style Vacuum Filters

## ISO CSL Series K160 - K250 FLG



### Features

- Stainless steel ISO flange connections
- High conductance/low pressure drop design
- Heavy duty T bolts for easy maintenance
- Corrosive resistant carbon steel construction
- Black powder coat finish
- O-ring seal with U-channel groove
- Inlet & outlet 1/4" gauge taps
- Lifting lugs
- Brackets for optional support legs
- Nameplate bracket

### Technical Specifications

- Vacuum Leak Rate:  $1 \times 10^{-5}$  mbar l/sec
- Vacuum Rating: Medium vacuum service\*\*
- Temp (continuous): min -26°C (-15°F) max 104°C (220°F)
- Filter change out differential: 37-50 mbar over initial  $\Delta P$
- Polyester: 99%+ removal efficiency standard to 5 micron
- Paper: 99%+ removal efficiency standard to 2 micron

\*\*See Vacuum Filter Technical Data for vacuum service data.

### Series Specific Applications

- Polycrystalline silicone ingot production
- Vacuum coating
- Solar cell lamination
- Vacuum furnaces
- Thin-film manufacturing

### Options

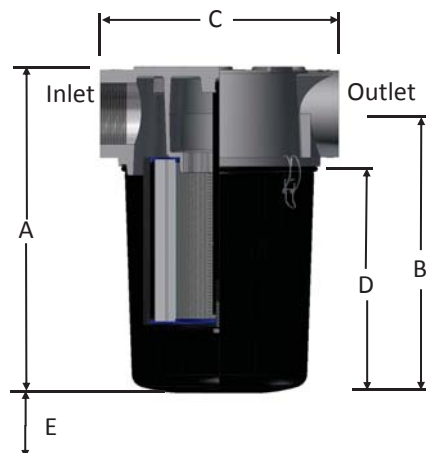


- Industrial coatings: PTFE, Epoxy, Kynar, plating
- Material: stainless steel
- Various filter media
- ISO F flanges

ISO Flg Inlet & Outlet	Assembly m <sup>3</sup> /h Rating	Assembly Part Number		Dimensions - mm				Suggested Service HT. E	Approx. Weight kg	Replacement Element Part No.		Element m <sup>3</sup> /h Rating
		Polyester	Paper	A	B	C	D			Polyester	Paper	
K160	1870	CSL-275P-K160	CSL-274P-K160	734	305	470	521	305	50	275P	274P	1870
K160	1870	CSL-375P-K160	CSL-374P-K160	734	305	470	521	432	51	375P	374P	2550
K200	3060	CSL-377P-K200	CSL-376P-K200	1017	356	572	648	432	83	377P	376P	3105
K250	4930	CSL-385P-K250	CSL-384P-K250	1214	410	686	864	432	115	385P	384P	5610
K320	7930	CSL-485P-K320	CSL-484P-K320	Contact Solberg for dimensions				610	125	485P	484P	8000
K320	8415	CSL-685P-K320	CSL-384P(2)-K320*					787	171	685P	384P(2)*	11220

See Vacuum Filter Technical Data section for sizing guidelines.





## Features

- Compact design for space restrictions; min. service area
- Inlet above element for extended element life & maintenance intervals
- Cast, corrosion resistant aluminum top with machined connections and integrated baffle design
- 4 taps for mounting brackets:
  - 2", 2-1/2", 6" connections: M12x1.75 taps
  - 3" to 4" connections: 1/2"-13 taps
- "T" style design minimizes piping requirements
- Black powder coat carbon steel drop down bucket
- Clip release shell for easy maintenance
- Swing bolts standard on 6" housings
- Drill points for additional taps:
  - 1", 1-1/4", 1-1/2", 3", 4" (gauge or bracket)
- 1/4" FPT inlet/outlet taps for gauges: 2", 2-1/2", & 6"

## Technical Specifications

- Vacuum Rating: Medium vacuum service\*\*
- Temp (continuous): min -26°C (-15°F) max 104°C (220°F)
- Filter change out differential: 37-50 mbar over initial  $\Delta P$
- Polyester: 99%+ removal efficiency standard to 5 micron
- Paper: 99%+ removal efficiency standard to 2 micron

\*\* See Vacuum Filter Technical Data for vacuum service data.

## Options



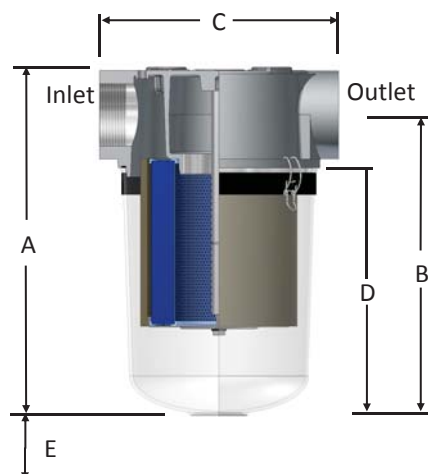
- Swing bolts for heavy duty environments
- Drain ports
- Extended bucket (select models)
- Various nonstandard finishes
- Reverse pulse configuration

BSPP Inlet & Outlet	Assembly m <sup>3</sup> /h Rating	Assembly Part Number		Dimensions - mm				Suggested Service HT. E	Approx. Weight kg	Replacement Element Part No.		Element m <sup>3</sup> /h Rating
		Polyester	Paper	A	B	C	D			Polyester	Paper	
1"	68	CT-897-101C	CT-896-101C	334	297	178	257	228	5.4	897	896	196
1-1/4"	102	CT-897-126C	CT-896-126C	334	297	178	257	228	5.2	897	896	196
1-1/2"	136	CT-897-151C	CT-896-151C	334	297	178	257	228	5.1	897	896	196
2"	298	CT-851-201C	CT-850-201C	325	275	229	229	228	7.2	851	850	495
2-1/2"	357	CT-851-251C	CT-850-251C	325	275	229	229	228	6.8	851	850	495
3"	510	CT-235P-301C	CT-234P-301C	473	404	343	328	228	14	235P	234P	969
4"	884	CT-235P-401C	CT-234P-401C	473	404	343	328	228	12	235P	234P	969
6"	1870	CT-275P-601C	CT-274P-601C	483	363	483	249	254	20	275P	274P	1870

See Vacuum Filter Technical Data section for sizing guidelines.

Note: CT 2" & 2-1/2" models: Element seals on the base of the housing.

# See-Through Vacuum Filters ST Series 1"-4" BSPP



## Features

- Compact design for space restrictions; min. service area
- Inlet above element for extended element life & maintenance intervals
- Cast, corrosion resistant aluminum top with machined connections and integrated baffle design
- 4 taps for mounting brackets:
  - 2" to 2-1/2" connections: M12x1.75 taps
  - 3" to 4" connections: 1/2"-13 taps
- "T" style design minimizes piping requirements
- Bucket made from shatter resistant polycarbonate
- Clip release shell for easy maintenance
- Swing bolts standard on 6" housings
- Drill points for additional taps:
  - 1", 1-1/4", 1-1/2", 3", 4" (gauge or bracket)
- 1/4" FPT inlet/outlet taps for gauges: 2", 2-1/2"

## Technical Specifications

- Vacuum Rating: Medium vacuum service\*\*
- Temp (continuous): min -26°C (-15°F) max 104°C (220°F)
- Filter change out differential: 37-50 mbar over initial  $\Delta P$
- Polyester: 99%+ removal efficiency standard to 5 micron
- Paper: 99%+ removal efficiency standard to 2 micron

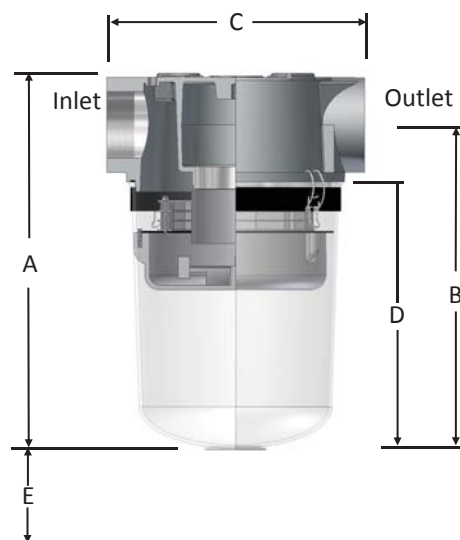
\*\* See Vacuum Filter Technical Data for vacuum service data.

## Options

- Swing bolts for heavy duty environments
- Drain ports
- Spool piece extender (select models)
- Reverse pulse configuration

BSPP Inlet & Outlet	Assembly m <sup>3</sup> /h Rating	Assembly Part Number		Dimensions - mm				Suggested Service HT. E	Approx. Weight kg	Replacement Element Part No.		Element m <sup>3</sup> /h Rating
		Polyester	Paper	A	B	C	D			Polyester	Paper	
1"	68	ST-897-101C	ST-896-101C	340	303	178	264	228	5.0	897	896	196
1-1/4"	102	ST-897-126C	ST-896-126C	340	303	178	264	228	4.7	897	896	196
1-1/2"	136	ST-897-151C	ST-896-151C	340	303	178	264	228	4.6	897	896	196
2"	298	ST-851/1-201C	ST-850/1-201C	413	362	229	315	228	7.2	851/1	850/1	495
2-1/2"	357	ST-851/1-251C	ST-850/1-251C	413	362	229	315	228	6.8	851/1	850/1	495
3"	510	ST-235P-301C	ST-234P-301C	502	432	343	356	228	13	235P	234P	969
4"	884	ST-235P-401C	ST-234P-401C	502	432	343	356	228	11	235P	234P	969

See Vacuum Filter Technical Data section for sizing guidelines.



## Operating Principle

- Centrifugal force from intake air causes particulate to separate from air stream, forcing it to the outer cover perimeter and out through the discharge port
- SpinMeister™ Precleaner eliminates large objects from entering air stream
- The air stream then enters the inlet filter and is filtered by a 99+% efficient pleated element

## Features

- Extreme duty filtration for high dust environments
- Excellent removal for short fibers
- Significantly increases life of filter element
- SpinMeister™ Precleaner
  - 85+% efficient up to 15 microns
  - Durable molded fiber filled composite material
  - Pressure drop reduced compared to typ. precleaners
- Bucket made from shatter resistant polycarbonate
- Large dirt holding capacity
- Clip release band for easy maintenance

## Technical Specifications

- Vacuum Rating: Coarse vacuum service\*\*
- Temp (continuous): min -26°C (-15°F) max 104°C (220°F)
- Filter change out differential: 37-50 mbar over initial  $\Delta P$
- Polyester: 99%+ removal efficiency standard to 5 micron
- Paper: 99%+ removal efficiency standard to 2 micron

\*\*See Vacuum Filter Technical Data for Vacuum Service Data.

## Options

- SpinMeisters™ available in polished Aluminum
- Larger systems available
- Various media
- Spool piece extender (select models)
- Pressure drop gauge
- Carbon steel bucket versions

BSPP Inlet & Outlet	m³/h Rating		Assembly Part Number			Dimensions - mm				Suggested Service Area E	Replacement Element Part No.		Element m³/h Rating
	Range w/ SpinMeister	with Element	SpinMeister	Polyester Element	Paper Element	A	B	C	D		Polyester	Paper	
2"	68-187	298	ST-SML235-201C	ST-851/1-201C	ST-850/1-201C	413	362	229	315	228	851/1	850/1	495
2-1/2"	68-188	357	ST-SML235-251C	ST-851/1-251C	ST-850/1-251C	413	362	229	315	228	851/1	850/1	495
3"	170-340	510	ST-SML345-301C	ST-235P-301C	ST-234P-301C	502	432	343	356	228	235P	234P	969
3"	340-765	510	ST-SML445-301C	ST-235P-301C	ST-234P-301C	502	432	343	356	228	235P	234P	969
4"	170-340	884	ST-SML345-401C	ST-235P-401C	ST-234P-401C	502	432	343	356	228	235P	234P	969
4"	340-765	884	ST-SML445-401C	ST-235P-401C	ST-234P-401C	502	432	343	356	228	235P	234P	969
6"	765-1530	1870	CTD-SM6-601C**	CT-275P-601C*	CT-274P-601C*	645	546	483	432	254	275P	274P	1870

\* Denotes housings with carbon steel buckets

See Vacuum Filter Technical Data section for sizing guidelines.

# Vacuum Filters for Medical Facilities

## HV Series 1" – 4" BSPP



### Series Specific Application

- Designed specifically for use in laboratory and hospital work area environments
- Vacuum Pumps & Vacuum Systems

### Industry Need

Inlet vacuum filters used in medical facilities' work areas prevents damage to vacuum pumps and protects the work area environment from harmful contaminants. They are designed for the removal of liquids, solids, and sub-micron particles.

These high efficiency inlet vacuum filters are specifically designed for medical vacuum service on atmospheric air applications and can be used on a variety of vacuum pumps in most laboratory and hospital environments.

### Features

- H14 UL media
  - 99.97% @ 0.1 micron
  - Low air to media ratio minimizes pressure loss for optimal pump performance
  - High dirt holding capacity
- Vacuum Rating: Medium vacuum service\*\*
- Corrosion resistant cast aluminum head with integrated baffle
- "E.R" pressure drop indicator gauge; this "Easy Read" gauge provides color coordinated pressure drop readings
- See-through bucket made from shatter resistant polycarbonate material
- Brass valve and fittings for contaminated liquid release
- Easy removable & serviceable sterilizable glass flask
- Biohazard label included
- Certification: Contact factory

\*\*See Vacuum Filter Technical Data for Vacuum Service Data.

### Options

- Vacuum filter systems
- Support stand and protective shroud
- Carbon steel bucket for severe duty applications
- Oxygen rich systems-contact factory for specialized construction requirements
- Larger configurations, contact factory

BSPP Inlet & Outlet	Assembly m <sup>3</sup> /h Rating	Assembly Part Number	Approx. Weight kg	Replacement Element Part No.
1"	70	HV-UL896-101C	7	UL896
1-1/4"	70	HV-UL896-126C	6	UL896
1-1/2"	70	HV-UL896-151C	6	UL896
2"	175	HV-UL850/1-201C	9	UL850/1
2-1/2"	175	HV-UL850/1-251C	8	UL850/1
3"	340	HV-UL234/2-301C	15	UL234/2
4"	340	HV-UL234/2-401C	13	UL234/2

Contact factory for dimensions.

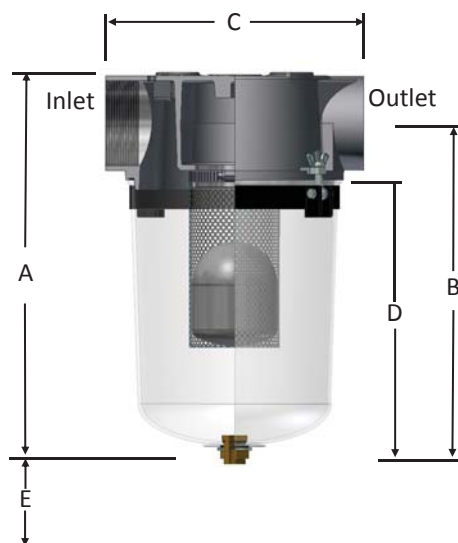


### Operating Principle

- Inlet air with potentially harmful liquid and large particulate enters the housing and is separated by a baffling mechanism and directional air flow changes.
- The larger particles and liquid drops down and collects at the bottom of the separator.
- The float bullet within the separator screen rises with the liquid level until max capacity and limits the flow thereby protecting the pump from damage.

### Features

- Vacuum Rating: Medium vacuum service\*\*
- Bucket made from shatter resistant polycarbonate
- Corrosion resistant cast aluminum head w/knock-out baffle
- Stainless steel float capsule for emergency shut off
- Stainless steel perforated float tube (SS expanded metal float tube on 1" - 1-1/2")
- Clamp style swing bolts on 3" & 4" standard
- Temperature ratings: max 104°C (220°F)
- 1/4" BSPP drain (1" to 1-1/2"), 1/2" drain (2" to 4")
- Drill points for additional taps:
  - 1", 1-1/4", 1-1/2", 3", 4" (gauge or bracket)
- 1/4" FPT inlet/outlet taps for gauges: 2", 2-1/2"



### Benefits

- Minimize the likelihood of liquid and debris from damaging vacuum valves and pumps
- Easy visual inspection with see-through housing
- Reduce piping costs with "T" style configuration
- Compact design for space restricted work areas

### Options

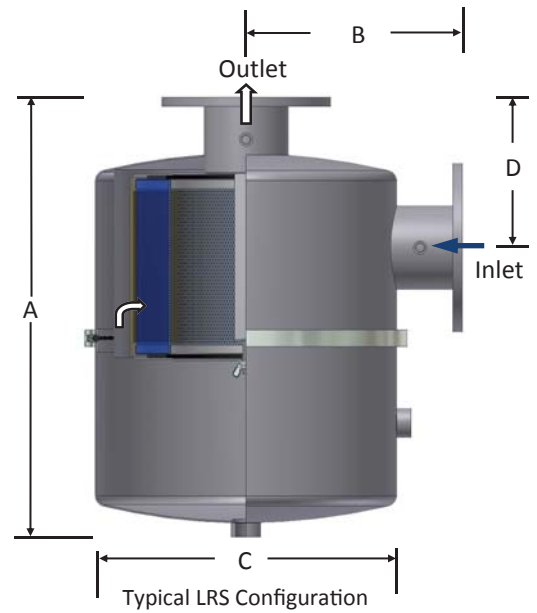
- Float level port/switch
- Cast head protective coatings
- Heavy duty carbon steel buckets available
- Clamp style swing bolts on 1" to 2-1/2"
- Spool piece extender on select models
- Drain systems **CE** compliant (See page 4-21)
- Pressure drop gauge

\*\* See Vacuum Filter Technical Data for vacuum service data.

BSPP Inlet & Outlet	Assembly m <sup>3</sup> /h Rating	Assembly Part Number	Dimensions - mm				Suggested Service HT. E	Holding Capacity (liter)
A	B	C	D					
1"	68	<b>STS-101C</b>	362	325	178	285	228	1.6
1-1/4"	102	<b>STS-126C</b>	362	325	178	285	228	1.6
1-1/2"	136	<b>STS-151C</b>	362	325	178	285	228	1.6
2"	297	<b>STS-201C</b>	438	388	229	342	228	3.7
2-1/2"	356	<b>STS-251C</b>	438	388	229	342	228	3.7
3"	510	<b>STS-301C</b>	522	454	343	378	228	5.7
4"	850	<b>STS-401C</b>	522	454	343	378	228	5.7



# Liquid Separator/Vacuum Filter LRS Series, SRS Series



## Operating Principle

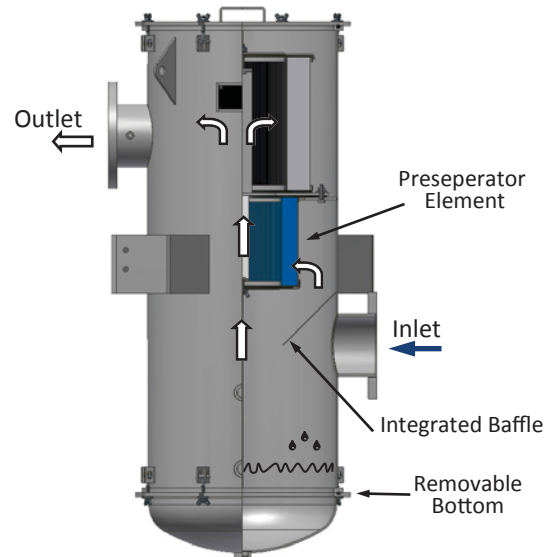
- The inlet air with potentially harmful liquids and particulate enters the highly efficient vacuum filter and is separated by a baffling system.
  - The larger particles and liquid drop down to the large capacity lower chamber.
  - The lower chamber has significant liquid/slurry holding capacity and has a removable base for easy cleaning.
  - The final stage has a replaceable filter element for particulate that is 99+% efficient before it reaches the vacuum pump.
- Note: A typical SRS Series design has a preseparator before the filter element for additional liquid/particulate removal.

## LRS Series Specifications

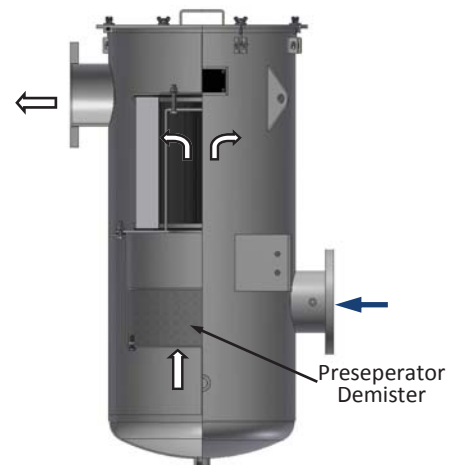
- Multiple stage filtration:
  - Integrated baffle
  - 99+% efficient polyester particulate filter element
- For aerosol apps, additional knock out pot or separator is unnecessary
- Compact construction design

## SRS Series Specifications

- Multiple stage filtration
  - Integrated baffle
  - Preseparator wire mesh element (Stainless steel construction recommended)
  - 99+% efficient polyester particulate filter element
- Additional knock out pot or separator unnecessary
- Significant liquid/slurry holding capacity
- Removable base option for easy access cleaning
- Brackets for support legs & nameplate
- Lifting lugs



SRS with Preseparator Element



SRS with Preseparator Demister Option

### Benefits

- Simplified vacuum package: 2 functions in 1 (liquid separator & inlet air filter)
- High efficiency separation & multistage filtration
- Protects pump from harmful liquids that breaks down lubricating/sealing oil
- Lower costs from unnecessary piping
- Significant liquid/slurry holding capacity
- Prevents emulsification of oil in oil lubricated systems
- Reduce footprint with compact design

### Features

- Corrosive resistant carbon steel construction
- Blue epoxy coating
- Baffle system
- 1/4" inlet/outlet taps (select models)
- 1" drain port and sight port
- Wide range of operation flows

#### LRS Series

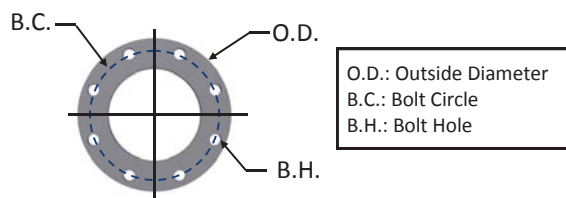
Assembly m <sup>3</sup> /h Rating	Inlet / Outlet Size	Inlet / Outlet Type	Assembly Part Number	Dimensions - mm				Approx. Holding Capacity L	Replacement Element Part No.	Element m <sup>3</sup> /h Rating
				A	B	C	D			
105	3/4"	NPSC	<a href="#">LRS-19-075HC</a>	451	112	195	84	5.7	19	170
145	1"	BSPP	<a href="#">LRS-19-101HC</a>	455	117	195	89	5.7	19	170
145	1 1/4"	BSPP	<a href="#">LRS-19-126HC</a>	455	117	195	89	5.7	19	170
170	1 1/2"	BSPP	<a href="#">LRS-19-151HC</a>	455	118	195	90	5.7	19	170
230	2"	BSPP	<a href="#">LRS-237-201HC</a>	564	171	305	168	9.5	237	935
335	2 1/2"	BSPP	<a href="#">LRS-237-251HC</a>	618	226	305	222	9.5	237	935
510	3"	BSPP	<a href="#">LRS-237-301HC</a>	618	226	305	222	9.5	237	935
885	DN100	FLG	<a href="#">LRS-275-DN100</a>	594	292	406	203	17	275	1870
1415	DN150	FLG	<a href="#">LRS-275-DN150</a>	1032	305	406	229	17	275	1870

See Vacuum Filter Technical Data section for sizing guidelines.

#### SRS Series (Contact factory for details. Stainless steel configurations available.)

Assembly m <sup>3</sup> /h Rating	Flange Inlet & Outlet	Reference Only Assembly Part Number	Approx Holding Capacity L	Replacement Element Part No.
1869	DN150	<a href="#">SRS-377/274S-DN150</a>	76	377/274S
3058	DN200	<a href="#">SRS-385/376S-DN200</a>	170	385/376S
4162	DN250	<a href="#">SRS-385/384S-DN250</a>	170	385/384S
5606	DN250	<a href="#">SRS-485/384S-DN250</a>	300	485/384S
7475	DN300	<a href="#">SRS-485/384S-DN300</a>	300	485/384S

PN10 Pattern Flange	Dimensions - mm			No. of Holes	Thickness Flg mm
	O.D.	B.C.	B.H.		
DN100	220	180	18	8	20
DN150	285	240	22	8	22
DN200	340	295	22	8	24
DN250	395	350	22	12	26
DN300	445	400	22	12	26




All flanges are orientated "split center"

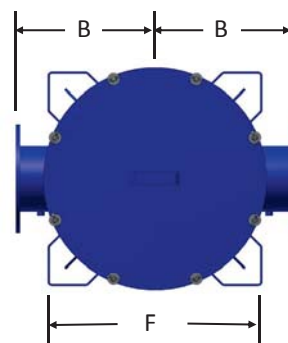
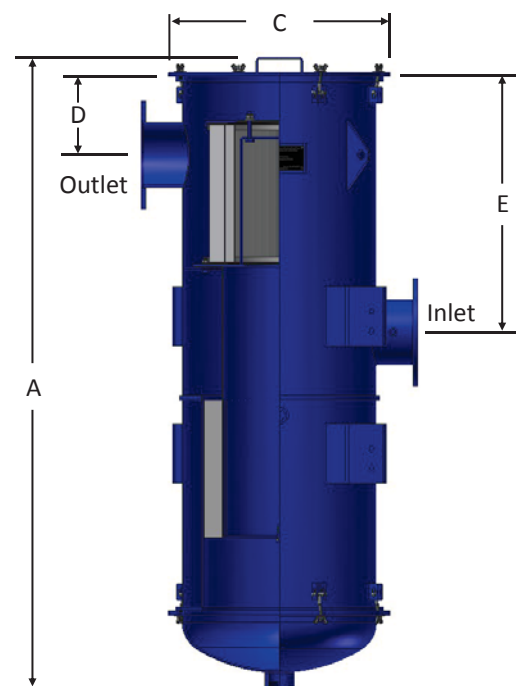
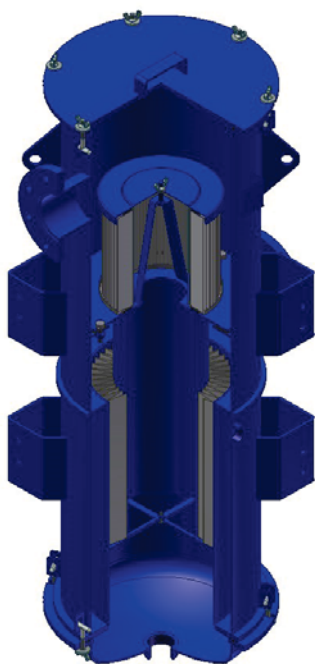
### Technical Specifications

- Vacuum Rating: Medium vacuum service\*\*
  - Filter change out differential: 37-50 mbar over initial ΔP
  - Polyester: 99%+ removal efficiency standard to 5 micron
- \*\*See Vacuum Filter Technical Data for vacuum service data.

### Options ATEX Available

- PED, ASME rated vessels
- Stainless steel construction & nonstandard finishes
- Nonstandard filter media
- Extended bucket for additional holding capacity
- Preseparator stainless steel demister
- Stainless steel wire mesh preseparator element: (Stainless steel construction recommended)
- Safety switch port for high liquid warning
- Drain systems  compliant (See page 4-21)
- Support legs, lifting lugs, vacuum gauges

# Vapor Condensing Separator Trap JRS Series



## Operating Principle

JRS Series vacuum filter systems are designed to protect equipment from harmful vapors and liquids that can break down pump oils and destroy a pump's inner workings. Vapor removal is accomplished through transitioning a substance from a gaseous state to a liquid or solid state and collecting any condensed material that accumulates.

## Features

- Removable heat exchanger fin pack for ease of cleaning and long lasting optimum performance
- Coolant jacket system
- Corrosion resistant carbon steel construction
- Coolant inlet and outlet ports
- Removable bottom for full accessibility
- 2" drain port

## Options

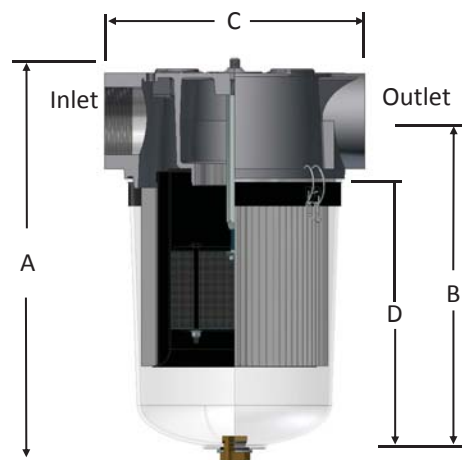


- PED, ASME rated vessels
- Stainless steel construction
- Drain systems **CE** compliant (See page 4-21)
- Ports, gauges, leg supports
- Davit arm

Reference Assembly m <sup>3</sup> /h	Inlet / Outlet		Reference Only Assembly Part Number	Reference Only Dimensions - mm						Reference Only Element PN
	Size	Type		A	B	C	D	E	F	
243	DN50	FLG	JRS-GMAC235-DN50	1280	250	340	150	550	466	GMAC235
374	DN80	FLG	JRS-GMAC245-DN80	1450	300	440	200	625	542	GMAC245
468	DN100	FLG	JRS-GMAC275-DN100	1461	300	470	200	625	542	GMAC275
774	DN125	FLG	JRS-GMAC377-DN125	1622	350	540	200	800	615	GMAC377
1403	DN150	FLG	JRS-GMAC385-DN150	1633	425	572	200	800	688	GMAC385
1998	DN200	FLG	JRS-GMAC485-DN200	2042	425	640	200	1050	688	GMAC485

**SOLBERG®**

## Vapor Condensing Separator Trap Compact JST/JCT Series



### Operating Principle

JST & JCT Series vapor condensers are designed to protect equipment from harmful vapors and liquids that can break down pump oils and harms a pump's inner workings.

Vapor removal is accomplished through transitioning a substance from a gaseous state to a liquid or solid state and collecting any condensed material that accumulates.

### Options



- ATEX available for JCT versions only
- Additional ports
- Vacuum gauge
- Support frame
- Drain systems **CE** compliant (See page 4-21)
- Spool piece/Extended bucket (select models/sizes)

### Features

- Removable heat exchanger fin pack for ease of cleaning and long lasting optimum performance
- Coolant jacket system
- Stainless steel demister pad
- Compact housing for minimal footprint
- Removable bottom for full accessibility
- Coolant inlet and outlet ports
- JST Series:
  - Durable see-through bucket made from shatter resistant polycarbonate
  - 1/2" drain port
- JCT Series:
  - Corrosive resistant carbon steel bucket
  - 1" drain port
- Contact Solberg for flow rates for your specific application

#### See-Through Housing

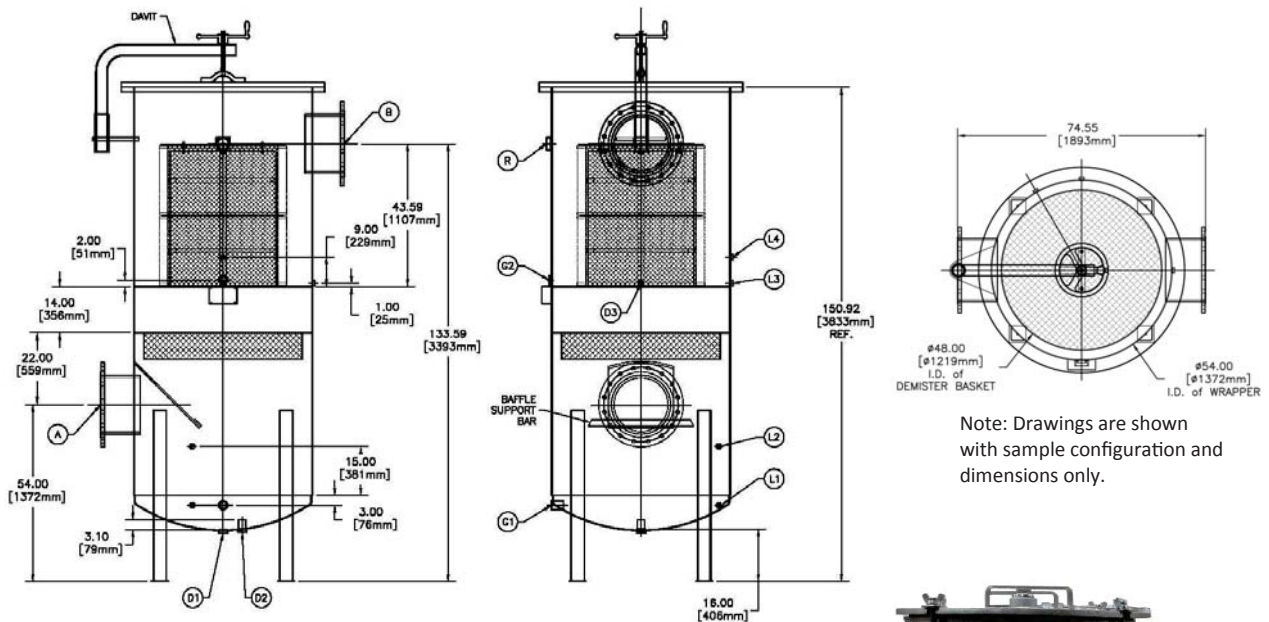
BSPP Inlet & Outlet	Assembly Part Number	Reference Dimensions - mm			
		A	B	C	D
2"	<b>JST-C2048-201C</b>	445	380	229	334
2-1/2"	<b>JST-C2048-251C</b>	445	380	229	334
3"	<b>JST-C2081-301C</b>	537	454	343	378
4"	<b>JST-C2081-401C</b>	537	454	343	378

#### Black Carbon Steel Housing

2"	<b>JCT-C2048-201C</b>	413	364	229	318
2-1/2"	<b>JCT-C2048-251C</b>	413	364	229	318
3"	<b>JCT-C2081-301C</b>	656	571	343	495
4"	<b>JCT-C2081-401C</b>	656	571	343	495
6"	<b>JCT-C3226-601C</b>	757	646	483	532



# Natural Gas Filtration Suction/Interstage Scrubbers



## Series Specific Applications

- Landfill and Bio-Gas recovery
- Fuel for reciprocating engines and gas turbines
- Gas compression
- Compressor packages
  - Rotary Screw
  - Centrifugal
  - Reciprocating
  - Vane

## Features

- Protects equipment from condensate, oil, and particulate entrained in the gas stream
- Multi-stage separation
  - 316 SS vane pack and/or demister pad for heavy condensate and oil removal
  - High efficiency 99+% final filter elements
- Corrosion resistant carbon steel construction
- Contact factory for model offering and availability



## Options



- Special standards: PED, ATEX, ASME Vessel code sec. VIII division I
- Stainless steel construction
- Special coatings or finishes
- Replaceable filter elements in various media for particulate removal
- Gauge ports, float switches
- Custom leg supports
- Flush port for vessel cleaning
- Davit arm for vessel lid removal





# Vacuum Filters for Solar, Semi-Con, LED, Coating

## Reverse Pulse Filter: RX Series



### Operating Principle

- Reverse pulse technology extends maintenance intervals and improves process productivity by rapidly introducing atmospheric air or inert gas into the system.
- This process purges dust from loaded filters and allows the particles to settle in the bottom chamber for easy disposal.

### Features

- Integrated reverse pulse technology unloads and extends filter life; improving maintenance intervals and process run time
- Safeguard pumps from harmful particles (SiO<sub>x</sub>, GAN, etc.)
- Prevents particles from contaminating pump oil
- Prevents build up and seizing in dry pumps
- Integrated support stand
- Removable base for easy cleaning access
- Carbon steel or stainless steel housing construction

### Technical Specifications

- Vacuum Leak Rate:  $1 \times 10^{-5}$  mbar l/sec
- Vacuum Rating: Medium vacuum service\*\*
- Face Velocity @ .10 m/sec (20 ft/min)

\*\*See Vacuum Filter Technical Data for Vacuum Service Data.



### Series Specific Applications

- Vacuum furnaces for crystal growing, steel, titanium, etc.
- Vacuum coating and lamination
- Wet & dry vacuum pumps & systems
- Compatible with most dopants
- Backstreaming

### Benefits

- Extends filter life improving maintenance intervals and process run time
- High conductance design
- Lower costs from unnecessary piping
- Large liquid/slurry holding capacity
- Easy maintenance (removable base)
- Reduced footprint

### Options

- Configured and custom designs
- Nonstandard finishes
- PTFE media: Temp (continuous): 104°C (220°F)
- Dutch Twill media: Temp (continuous): 190°C(375°F)
- ASME, PED rated vessels
- Parallel filtration systems
- Valves for semi or fully automated system operation
- Vacuum Leak Rating:  $1 \times 10^{-8}$  mbar l/sec
- Contact factory for model offering and availability



PN: 2030

## Differential Vacuum Gauge

- Indicates pressure drop across the filter assembly or filter element
- Shock and vibration resistant
- To be used on CSL & HDL Series



PN: 555-0048

## EZ Read Pressure Drop Gauge

- Gauge Kit includes: gauge, connectors, mounting hardware
- To be used on ST, CT and HV series



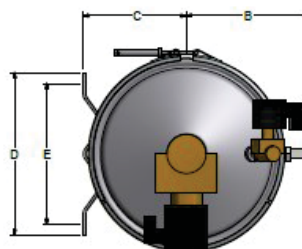
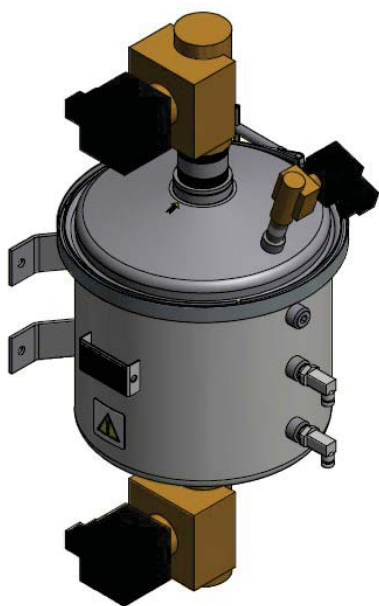
PN: VG-030-025

## Vacuum Gauges

- Monitor amount of restriction across the filter assembly or element, when installed on the inlet and outlet
- Convenient and inexpensive way to assure maximum usage from filter element
- 1/4" connection
- 0-30" Hg (0-760mm Hg)

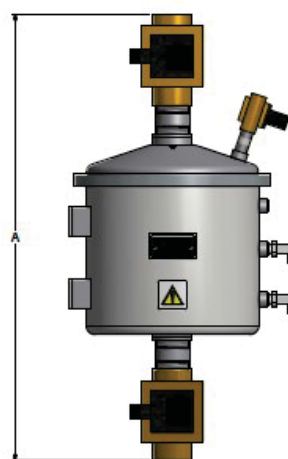


PN: VGB-030-025



## Operating Principle

The Automatic Drain System allows Solberg Liquid Separator units to be drained without stopping the process and breaking the vacuum. The liquid removed by the liquid separator flows under gravity into the drain pot. When the high level switch triggers, the drain pot is isolated from the liquid separator by the upper solenoid valve. The vacuum break valve then opens along with the bottom drain valve allowing the liquid to drain to atmosphere. Once the lower level switch opens the drain valve and vacuum break close, the upper solenoid valve opens and the process repeats.



## Features

- Capacity of 2, 5 and 10 liters available
- Durable carbon steel construction
- Stainless steel coating
- Magnetic float switch in stainless steel with electrical plug connection
- Bracket for 5 and 10 liters drain pot to support the system on a frame or a wall
- 2/2 ways diaphragm valves with solenoid system 230 VAC, brass and NBR-K seat seal

## Options

- Stainless steel construction (304,316)
- Stainless steel solenoid valves
- Electrical box according to EN 60204-1
- Filter silencer for bleed valve
- Extra high level switch

Inlet Vacuum Filters

Holding Capacity (liter)	BSPP Inlet & Outlet	Assembly Part Number		Dimensions - mm					Weight kg
		Carbon Steel (SS Coating)	304SS	A	B	C	D	E	
2	1/2"	DSE-L002-050HC	DSE-L002-050HCS1	522	146	71	-	-	5.5
5	1"	DSE-L005-101HC	DSE-L005-101HCS1	580	166	122	286	254	10
10	1"	DSE-L010-101HC	DSE-L010-101HCS1	652	217	182	286	254	16.5
10	2"	DSE-L010-201HC	DSE-L010-201HCS1	785	217	182	286	254	26

