

# “L” Style Compact Vacuum Filters

## CSL Series 3/8” - 4”

### Benefits

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

### Features

- Seamless drawn housings
- O-ring seal
- Corrosive resistant gray powder coat carbon steel
- Stainless steel torsion clips for durability

### Technical Specifications

- Vacuum Rating: medium vacuum service\*
- Temp (continuous): min -15°F (-26°C) max 220°F (104°C)
- Filter change out differential: 15-20" H<sub>2</sub>O over initial ΔP
- Polyester: 99%+ removal efficiency standard to 5 micron
- Paper: 99%+ removal efficiency standard to 2 micron

### Options

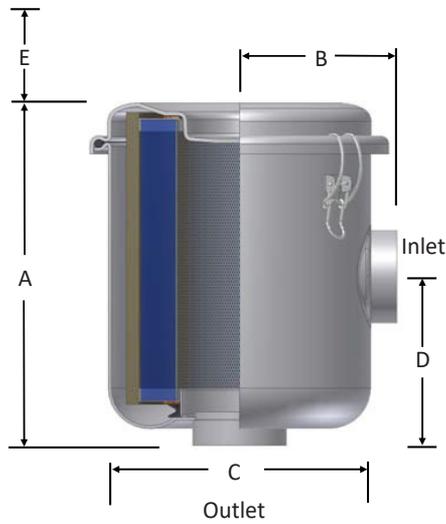


- Vacuum gauge
- Higher holding capacity configurations available (select models)
- Material/Finishes: stainless steel, epoxy coating
- Support brackets
- Alternative top-to-canister fastening system for low pressure or pulsating systems
- Stainless steel (select models)



Rev: CSL .38-4-US1904K

# CSL Series 3/8" - 4"



Inlet/Outlet Size	Type	Assembly SCFM Rating	Assembly Part Number		Dimensions - inches				Suggested Service Ht. E	Approx. Weight lbs.	Replacement Element Part No.		Element SCFM Rating
			Polyester	Paper	A	B	C	D			Polyester	Paper	
3/8"	BSPP	18	CSL-825-039HCB	CSL-824-039HCB	3 1/8	2 1/8	3 3/4	1 13/16	3"	0.88	825	824	25
1/2"	NPSC	18	CSL-825-050HCB	CSL-824-050HCB	3 1/2	2 1/4	3 3/4	2	3"	0.88	825	824	25
1/2"	NPSC	20	CSL-843-050HC	CSL-842-050HC	4	3	5 3/4	2 1/2	3"	3	843	842	55
3/4"	NPSC	24	CSL-825-075HCB	CSL-824-075HCB	3 1/2	2 5/16	3 3/4	2	3"	0.88	825	824	25
3/4"	NPSC	25	CSL-843-075HC	CSL-842-075HC	4	3	5 3/4	2 1/2	3"	3	843	842	55
1"	NPSC	35	CSL-843-100HC	CSL-842-100HC	4 1/4	3 1/4	5 3/4	2 5/8	3"	3	843	842	55
1"	NPSC	40	CSL-849-100HC	CSL-848-100HC	6 1/16	4 1/8	7 3/8	4 1/2	5"	5	849	848	115
1 1/4"	NPSC	55	CSL-843-125HC	CSL-842-125HC	4 1/4	3 1/4	5 3/4	2 5/8	3"	3	843	842	55
1 1/4"	NPSC	60	CSL-849-125HC	CSL-848-125HC	6 1/16	4 1/8	7 3/8	4 1/2	5"	5	849	848	115
1 1/2"	NPSC	80	CSL-849-150HC	CSL-848-150HC	6 3/4	4 1/8	7 3/8	4 1/2	5"	5	849	848	115
2"	NPSC	175	CSL-851-200HC	CSL-850-200HC	10 1/4	4 1/2	8 3/4	5	9"	15	851	850	290
2 1/2"	FPT	210	CSL-851-250HC	CSL-850-250HC	10 11/16	5 1/8	8 3/4	5 1/2	9"	15	851	850	290
3"	FPT	300	CSL-239-300C	CSL-238-300C	15 3/4	8 13/16	13 1/4	8 11/16	11"	33	239	238	570
3"	MPT	300	CSL-2541-300B	CSL-2540-300B	15 3/4	9	13 1/4	8 7/8	12"	30	2541	2540	800
4"	MPT	520	CSL-2541-400B	CSL-2540-400B	16 1/4	9 1/2	13 1/4	9 1/2	12"	32	2541	2540	800

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



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

# “L” Style Vacuum Filters

## CSL Series 3” - 12”

### Benefits

- Reduce piping costs with multiple mounting configurations (mount horizontal or inverted)
- Minimize equipment pressure-drop change with low pressure-drop filter design

### Features

- Heavy duty T bolts for easy maintenance
- Corrosive resistant black powder coat carbon steel
- O-ring stays in place with unique U-channel groove
- Inlet & outlet ¼” gauge taps

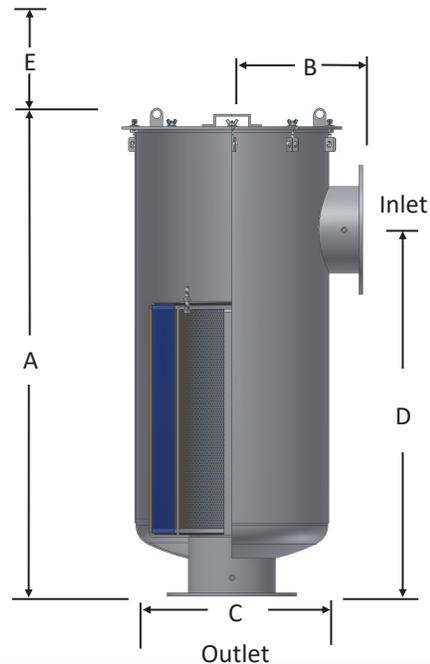
### Technical Specifications

- Vacuum Rating: medium vacuum service\*
- Filter change out differential: 15-20” H<sub>2</sub>O over initial ΔP
- Polyester: 99%+ removal efficiency standard to 5 micron
- Paper: 99%+ removal efficiency standard to 2 micron

### Options



- Straight-through configurations
- Various filter media
- Stainless steel
- Various nonstandard finishes and connection styles
- ISO Flange (contact factory for specs, sizes & availability)
- Flange faces free of paint
- Internal surfaces free of paint
- Lifting lugs
- Brackets for optional support legs
- Mounting housing bands
- Nameplate bracket



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

Rev: CSL 3-12-US1911K

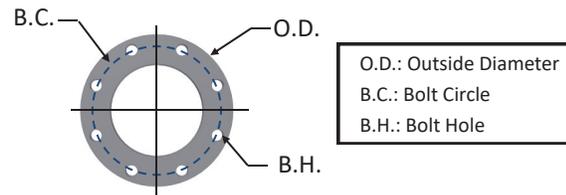
# CSL Series 3" - 12"

## Flanged Assemblies

Flange Inlet & Outlet	Assembly SCFM Rating	Assembly Part Number		Dimensions - inches				Suggested Service ht. E	Approx. Weight lbs	Replacement Element Part No.		Element SCFM Rating
		Polyester	Paper	A	B	C	D			Polyester	Paper	
4"	520	CSL-235P-400F	CSL-234P-400F	27 3/8	9	14	18 1/2	15"	62	235P	234P	570
4"	520	CSL-335P-400F	CSL-334P-400F	27 3/8	9	14	18 1/2	20"	64	335P	334P	800
5"	800	CSL-245P-500F	CSL-244P-500F	28 1/4	11	18 1/2	19 1/2	15"	88	245P	244P	880
5"	800	CSL-345P-500F	CSL-344P-500F	28 1/4	11	18 1/2	19 1/2	20"	90	345P	344P	1100
6"	1100	CSL-275P-600F	CSL-274P-600F	29 1/4	12	18 1/2	20 1/2	15"	110	275P	274P	1100
6"	1100	CSL-375P-600F	CSL-374P-600F	29 1/4	12	18 1/2	20 1/2	20"	113	375P	374P	1500
8"	1800	CSL-377P-800F	CSL-376P-800F	39 1/8	14	22 1/2	25 1/2	20"	185	377P	376P	1825
10"	2900	CSL-685P-1000F	CSL-384P(2)-1000F*	57 1/2	16	27	45	33"	380	685P	384P (2)	6600
12"	4950	CSL-485P(2)-1200F*	CSL-484P(2)-1200F*	70 1/4	16	27	57	25"	465	485P (2)	484P (2)	9410

See Vacuum Filter Technical Data for sizing guidelines. \*Denotes 2 elements stacked in housing.

125/150# Pattern Flange	Dimensions - inches				
	O.D.	B.C.	B.H.	No. of Holes	Flange Thickness
4"	9	7 1/2	0.75	8	0.38
5"	10	8 1/2	0.88	8	0.38
6"	11	9 1/2	0.88	8	0.38
8"	13 1/2	11 3/4	0.88	8	0.38
10"	16	14 1/4	1	12	0.38
12"	19	17	1	12	0.50



All flanges are orientated "split center".

## MPT Assemblies

MPT Inlet & Outlet	Assembly SCFM Rating	Assembly Part Number		Dimensions - inches				Suggested Service ht. E	Approx. Weight lbs	Replacement Element Part No.		Element SCFM Rating
		Polyester	Paper	A	B	C	D			Polyester	Paper	
3"	300	CSL-235P-300	CSL-234P-300	27 3/8	9	14	18 1/2	10"	47	235P	234P	570
3"	300	CSL-335P-300	CSL-334P-300	27 3/8	9	14	18 1/2	15"	50	335P	334P	800
4"	520	CSL-235P-400	CSL-234P-400	27 3/8	9	14	18 1/2	10"	52	235P	234P	570
4"	520	CSL-335P-400	CSL-334P-400	27 3/8	9	14	18 1/2	15"	55	335P	334P	800
5"	800	CSL-245P-500	CSL-244P-500	28 1/4	11	18 1/2	19 1/2	10"	82	245P	244P	880
5"	800	CSL-345P-500	CSL-344P-500	28 1/4	11	18 1/2	19 1/2	15"	88	345P	344P	1100
6"	1100	CSL-275P-600	CSL-274P-600	29 1/4	12	18 1/2	20 1/2	10"	95	275P	274P	1100
6"	1100	CSL-375P-600	CSL-374P-600	29 1/4	12	18 1/2	20 1/2	15"	97	375P	374P	1500

See Vacuum Filter Technical Data for sizing guidelines.



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# Technical Data

## Inlet Vacuum Filters

### Applications & Equipment

- Industrial & Severe Duty
- Vacuum Pumps & Systems: Roots, Rotary Vane, Screw, Piston
- Vacuum Packaging Equipment
- Vacuum Furnace
- Blowers: Side Channel & 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

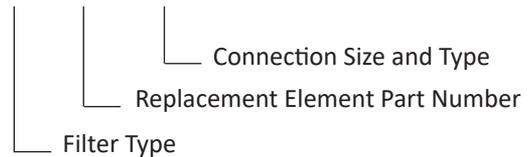
### Identification

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 4” flange connection size.

#### CSL-235P-400F



### 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.

Vacuum Level	Pressure (mbar)	Pressure (Torr)	Pressure (Pa)
Atmospheric Pressure	1013	760	1.013x10 <sup>+5</sup>
Coarse Vacuum	1013 to 33	760 to 25	1x10 <sup>+5</sup> to 3x10 <sup>+3</sup>
Medium Vacuum	33 to 1.3x10 <sup>-3</sup>	25 to 1x10 <sup>-3</sup>	3x10 <sup>+3</sup> to 1x10 <sup>-1</sup>
High Vacuum	1.3x10 <sup>-3</sup> to 1.3x10 <sup>-9</sup>	1x10 <sup>-3</sup> to 1x10 <sup>-9</sup>	1x10 <sup>-1</sup> to 1x10 <sup>-7</sup>

Rev: IVTD-US1904K

# Inlet Vacuum Filters

## Choosing the Best Filter for Your Equipment

A. When the connection & airflow is known:

1. select the appropriate connection style. (i.e.: MPT, Flange, NPSC, etc.)
2. check assembly SCFM (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 SCFM (flow) rating.)

3. when required flow rating matches connection size; skip to “C. Selecting Elements”.

B. 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; 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 or contact Solberg.

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 on our website [www.solbergmfg.com](http://www.solbergmfg.com).

## Element Maintenance

Solberg elements should be replaced once the pressure drop reaches 15-20” H<sub>2</sub>O above the initial pressure drop of the installation. Cleaning the 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 15” H<sub>2</sub>O.

If the pressure drop exceeds 20” H<sub>2</sub>O 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.



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