“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” H₂O 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)

ATEX Available

Rev: CSL .38-4-US1904K

Sales/Service: 630.773.1363
sales@solbergmfg.com
### CSL Series 3/8” - 4”

**Diagram:**
- **Outlet**
- **Inlet**
- **Dimensions:**
  - **A**
  - **B**
  - **C**
  - **D**
- **Service Height (E):**
  - 3”
- **Approx. Weight (lbs.):**
  - 0.88
- **Replacement Element Part No.:**
  - Polyester: 825
  - Paper: 824
- **Element SCFM Rating:**
  - 25

### Table - CSL Series 3/8” - 4”

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

*See Vacuum Filter Technical Data for Vacuum Service Data.*
“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” H2O 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.
# CSL Series 3” - 12”

## Flanged Assemblies

<table>
<thead>
<tr>
<th>Flange Inlet &amp; Outlet</th>
<th>Assembly SCFM Rating</th>
<th>Assembly Part Number</th>
<th>Polyester</th>
<th>Paper</th>
<th>Dimensions - inches</th>
<th>Suggested Service ht.</th>
<th>Approx. Weight</th>
<th>Replacement Element Part No.</th>
<th>Element SCFM Rating</th>
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<tbody>
<tr>
<td>4”</td>
<td>520</td>
<td>CSL-235P-400F</td>
<td>CSL-234P-400F</td>
<td>27 ¾</td>
<td>9</td>
<td>14</td>
<td>18 ½</td>
<td>15”</td>
<td>62</td>
</tr>
<tr>
<td>4”</td>
<td>520</td>
<td>CSL-335P-400F</td>
<td>CSL-334P-400F</td>
<td>27 ¾</td>
<td>9</td>
<td>14</td>
<td>18 ½</td>
<td>20”</td>
<td>64</td>
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<tr>
<td>5”</td>
<td>800</td>
<td>CSL-245P-500F</td>
<td>CSL-244P-500F</td>
<td>28 ¼</td>
<td>11</td>
<td>18 ½</td>
<td>19 ½</td>
<td>15”</td>
<td>88</td>
</tr>
<tr>
<td>5”</td>
<td>800</td>
<td>CSL-345P-500F</td>
<td>CSL-344P-500F</td>
<td>28 ¼</td>
<td>11</td>
<td>18 ½</td>
<td>19 ½</td>
<td>20”</td>
<td>90</td>
</tr>
<tr>
<td>6”</td>
<td>1100</td>
<td>CSL-275P-600F</td>
<td>CSL-274P-600F</td>
<td>29 ¾</td>
<td>12</td>
<td>18 ½</td>
<td>20 ½</td>
<td>15”</td>
<td>110</td>
</tr>
<tr>
<td>6”</td>
<td>1100</td>
<td>CSL-375P-600F</td>
<td>CSL-374P-600F</td>
<td>29 ¾</td>
<td>12</td>
<td>18 ½</td>
<td>20 ½</td>
<td>20”</td>
<td>113</td>
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<tr>
<td>8”</td>
<td>1800</td>
<td>CSL-277P-800F</td>
<td>CSL-276P-800F</td>
<td>39 ¾</td>
<td>14</td>
<td>22 ½</td>
<td>25 ½</td>
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<td>10”</td>
<td>2900</td>
<td>CSL-685P-1000F</td>
<td>CSL-384P(2)-1000F*</td>
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<td>45</td>
<td>33”</td>
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<td>12”</td>
<td>4950</td>
<td>CSL-485P(2)-1200F*</td>
<td>CSL-484P(2)-1200F*</td>
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<td>16</td>
<td>27</td>
<td>57</td>
<td>25”</td>
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</table>


### 125/150# Pattern Flange

<table>
<thead>
<tr>
<th>Dimensions - inches</th>
<th>O.D.</th>
<th>B.C.</th>
<th>B.H.</th>
<th>No. of Holes</th>
<th>Flange Thickness</th>
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<tbody>
<tr>
<td>4”</td>
<td>9</td>
<td>7 ½</td>
<td>0.75</td>
<td>8</td>
<td>0.38</td>
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<tr>
<td>5”</td>
<td>10</td>
<td>8 ½</td>
<td>0.88</td>
<td>8</td>
<td>0.38</td>
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<tr>
<td>6”</td>
<td>11</td>
<td>9 ½</td>
<td>0.88</td>
<td>8</td>
<td>0.38</td>
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<tr>
<td>8”</td>
<td>13 ½</td>
<td>11 ½</td>
<td>0.88</td>
<td>8</td>
<td>0.38</td>
</tr>
<tr>
<td>10”</td>
<td>16</td>
<td>14 ½</td>
<td>1</td>
<td>12</td>
<td>0.38</td>
</tr>
<tr>
<td>12”</td>
<td>19</td>
<td>17</td>
<td>1</td>
<td>12</td>
<td>0.50</td>
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</tbody>
</table>

All flanges are orientated “split center”.

## MPT Assemblies

<table>
<thead>
<tr>
<th>MPT Inlet &amp; Outlet</th>
<th>Assembly SCFM Rating</th>
<th>Assembly Part Number</th>
<th>Polyester</th>
<th>Paper</th>
<th>Dimensions - inches</th>
<th>Suggested Service ht.</th>
<th>Approx. Weight</th>
<th>Replacement Element Part No.</th>
<th>Element SCFM Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>3”</td>
<td>300</td>
<td>CSL-235P-300</td>
<td>CSL-234P-300</td>
<td>27 ¾</td>
<td>9</td>
<td>14</td>
<td>18 ½</td>
<td>10”</td>
<td>47</td>
</tr>
<tr>
<td>3”</td>
<td>300</td>
<td>CSL-335P-300</td>
<td>CSL-334P-300</td>
<td>27 ¾</td>
<td>9</td>
<td>14</td>
<td>18 ½</td>
<td>15”</td>
<td>50</td>
</tr>
<tr>
<td>4”</td>
<td>520</td>
<td>CSL-245P-400</td>
<td>CSL-244P-400</td>
<td>27 ¾</td>
<td>9</td>
<td>14</td>
<td>18 ½</td>
<td>10”</td>
<td>52</td>
</tr>
<tr>
<td>4”</td>
<td>520</td>
<td>CSL-342P-400</td>
<td>CSL-344P-400</td>
<td>27 ¾</td>
<td>9</td>
<td>14</td>
<td>18 ½</td>
<td>15”</td>
<td>55</td>
</tr>
<tr>
<td>5”</td>
<td>800</td>
<td>CSL-245P-500</td>
<td>CSL-244P-500</td>
<td>28 ¼</td>
<td>11</td>
<td>18 ½</td>
<td>19 ½</td>
<td>10”</td>
<td>82</td>
</tr>
<tr>
<td>5”</td>
<td>800</td>
<td>CSL-345P-500</td>
<td>CSL-344P-500</td>
<td>28 ¾</td>
<td>11</td>
<td>18 ½</td>
<td>19 ½</td>
<td>15”</td>
<td>88</td>
</tr>
<tr>
<td>6”</td>
<td>1100</td>
<td>CSL-275P-600</td>
<td>CSL-274P-600</td>
<td>29 ¾</td>
<td>12</td>
<td>18 ½</td>
<td>20 ½</td>
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<tr>
<td>6”</td>
<td>1100</td>
<td>CSL-375P-600</td>
<td>CSL-374P-600</td>
<td>29 ¾</td>
<td>12</td>
<td>18 ½</td>
<td>20 ½</td>
<td>15”</td>
<td>97</td>
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</tbody>
</table>

See Vacuum Filter Technical Data for sizing guidelines.
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
- Filter Type
- Replacement Element Part Number
- Connection Size and Type

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.

<table>
<thead>
<tr>
<th>Vacuum Level</th>
<th>Pressure (mbar)</th>
<th>Pressure (Torr)</th>
<th>Pressure (Pa)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atmospheric Pressure</td>
<td>1013</td>
<td>760</td>
<td>1.013x10^5</td>
</tr>
<tr>
<td>Coarse Vacuum</td>
<td>1013 to 33</td>
<td>760 to 25</td>
<td>1x10^-5 to 3x10^-3</td>
</tr>
<tr>
<td>Medium Vacuum</td>
<td>33 to 1.3x10^-3</td>
<td>25 to 1x10^-1</td>
<td>3x10^-5 to 1x10^-1</td>
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<tr>
<td>High Vacuum</td>
<td>1.3x10^-3 to 1.3x10^-9</td>
<td>1x10^-3 to 1x10^-9</td>
<td>1x10^-5 to 1x10^-7</td>
</tr>
</tbody>
</table>
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.

Element Maintenance

Solberg elements should be replaced once the pressure drop reaches 15-20” H₂O 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” H₂O.

If the pressure drop exceeds 20” H₂O 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.