HIGH PRESSURE, HIGH PURITY, STAINLESS STEEL IN-LINE FILTERS (MODELS SG6112, SG6113, SG6114)

These in-line filters have a pleated wire mesh element which is easily cleaned by flushing the filter in the opposite direction to normal flow. Flow may be in either direction. All metal welded construction makes these filters ideal for use in high purity and ultra high purity gas systems.

SPECIFICATIONS
Maximum Operating Pressure: 6000 psig
Operating Temperature Range: -320°F to +900°F
Maximum Differential Pressure: 100 psi
Filtration Rating: See Table I
Flow Coefficient (clean condition):
SG6112: \( C_v = 0.40 \)
SG6113 and SG6114: \( C_v = 0.36 \)
Pressure Drop (to atmosphere):
SG6112:
10 psi at 156 slpm Air
50 psi at 433 slpm Air
100 psi at 768 slpm Air
SG6113 and SG6114:
10 psi at 140 slpm Air
50 psi at 389 slpm Air
100 psi at 691 slpm Air
Dimensions:
SG6112 and SG6113: 1 3/4" x 1" hex
SG6114: 2 1/2" x 1" hex

MATERIALS OF CONSTRUCTION
Body: Type 316 Stainless Steel
Retainer Screens: Type 316 Stainless Steel
Pleated Mesh Element:
SG6112: Type 304 Stn. Stl.
SG6113 and SG6114: Type 304 Stn. Stl.

TABLE I

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Inlet and Outlet Connections*</th>
<th>Nominal Filtration Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>SG6112</td>
<td>1/4&quot; NPT male by 1/4&quot; NPT female</td>
<td>15 micron</td>
</tr>
<tr>
<td>SG6113</td>
<td>1/4&quot; NPT male by 1/4&quot; NPT female</td>
<td>2 micron</td>
</tr>
<tr>
<td>SG6114</td>
<td>1/4&quot; male VCR® (both ends)</td>
<td>2 micron</td>
</tr>
</tbody>
</table>

* Flow may be in either direction.

HIGH PRESSURE, BRASS IN-LINE FILTERS (MODELS SG6120, SG6121, SG6122)

These in-line filters feature a sintered 316 Stainless Steel element which is easily removed for cleaning or replacement. The 1/4" NPT female by male configuration makes these filters convenient for use upstream of pressure regulators. These filters will protect a regulator from particulate contamination which can build up and eventually cause seat leakage and regulator failure.

SPECIFICATIONS
Maximum Operating Pressure: 3000 psig
Operating Temperature Range: -15°F to +400°F
Filtration Rating: See Table I
Flow Coefficient (clean condition):
SG6120: \( C_v = 0.095 \)
SG6121: \( C_v = 0.047 \)
SG6122: \( C_v = 0.020 \)
Dimensions: 2 1/4" x 3/4" hex
Inlet Connections: 1/4" NPT female
Outlet Connections: 1/4" NPT male
Approximate Weight: 3 oz

MATERIALS OF CONSTRUCTION
Body: Brass
Spring, Element and Gasket:
Type 316 Stainless Steel
Seal: Viton®

TABLE I

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Nominal Filtration Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>SG6120</td>
<td>10 micron</td>
</tr>
<tr>
<td>SG6121</td>
<td>5 micron</td>
</tr>
<tr>
<td>SG6122</td>
<td>1 micron</td>
</tr>
</tbody>
</table>

OPTIONAL EQUIPMENT

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Replacement Element (Includes Seal &amp; Spring)</td>
<td>SG6120R</td>
</tr>
<tr>
<td>10 micron</td>
<td>SG6120R</td>
</tr>
<tr>
<td>5 micron</td>
<td>SG6121R</td>
</tr>
<tr>
<td>1 micron</td>
<td>SG6122R</td>
</tr>
</tbody>
</table>
**REPLACEABLE ELEMENT, HIGH PRESSURE, SUBMICRON FILTERS (MODELS AG6090, AG6092)**

These in-line filters feature a unique mechanism which combines Brownian motion and mechanical filtration to remove 99.99% of all particles 0.1 micron and larger. Particularly suited for use upstream of regulators, these filters protect the regulator from particulate contamination which can build up and eventually cause seat leakage and regulator failure. The filter housing includes a third port (supplied with ¼” hex plug) to provide access to purge or bypass filtration.

The inexpensive element is easily replaced. The filter element has excellent resistance to water, high pH solutions, oxygenated solvents and strong acids. The “filter” configuration allows the element to be replaced without removing the filter from the process line.

**SPECIFICATIONS**

- Maximum Operating Pressure: 3000 psig
- Maximum Operating Temperature: 300°F
- Maximum Differential Pressure: 100 psi
- Filtration Rating: 0.1 micron at 99.99% efficiency (removes 99.99% of all particles 0.1 micron or larger)
- Flow Coefficient (clean condition): \(C_v = 0.80\)
- Inlet and Outlet Connections: ¼” NPT female
- Third Port: ¼” NPT female supplied with H.P. male hex pipe plug
- Approximate Weight: 1 lb

**MATERIALS OF CONSTRUCTION**

- Body, Cap and Retainer: See Table I
- Seal: Teflon®
- Filter Element: Borosilicate Glass Fibers with a Fluorocarbon Resin Binder

**TABLE I**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Body and Retainer Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>AG6090</td>
<td>Type 316L Stainless Steel</td>
</tr>
<tr>
<td>AG6092</td>
<td>Brass</td>
</tr>
</tbody>
</table>

**OPTIONAL EQUIPMENT**

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Replacement Element</td>
<td>AG6091N</td>
</tr>
<tr>
<td>Replacement Seal</td>
<td>0202-3270</td>
</tr>
</tbody>
</table>

**REPLACEABLE ELEMENT, HIGH PRESSURE, SUBMICRON IN-LINE FILTERS (MODELS AG6097, AG6098)**

These low cost in-line filters are designed for gas or liquid systems requiring a high level of filtration (0.1 micron). The filtration principles and elements are identical to those used in our Model SG6090 filter described above.

**SPECIFICATIONS**

- Maximum Operating Pressure: 3000 psig
- Maximum Operating Temperature: 300°F
- Maximum Differential Pressure: 20 psi
- Filtration Rating: 0.1 micron at 99.99% efficiency (removes 99.99% of all particles 0.1 micron or larger)
- Flow Coefficient (clean condition): \(C_v = 0.95\)
- Dimensions: 3.11” x 1.26”
- Inlet and Outlet Connections: ¼” NPT female
- Approximate Weight: 8 oz

**MATERIALS OF CONSTRUCTION**

- Body and Retainer: See Table I
- Seals: Viton®
- Filter Element: Borosilicate Glass Fibers with a Fluorocarbon Resin Binder

**TABLE I**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Body and Retainer Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>AG6097</td>
<td>Brass</td>
</tr>
<tr>
<td>AG6098</td>
<td>Type 316L Stainless Steel</td>
</tr>
</tbody>
</table>

**OPTIONAL EQUIPMENT**

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Replacement Element</td>
<td>AG6091N</td>
</tr>
<tr>
<td>Replacement Seal</td>
<td>0202-3271</td>
</tr>
</tbody>
</table>

0.01 MICRON MEMBRANE FILTERS
FOR HIGH PURITY, NON-CORROSIVE GASES
(MODELS SG6100, SG6101)

These in-line filters are ideal for applications where an extreme level of filtration is required. They feature a PTFE Teflon® filter membrane with a 0.2 micrometer pore size which effectively removes all particles 0.01 micron or larger. The housing is electropolished Type 316L Stainless Steel and is automatic TIG welded.

SPECIFICATIONS
Maximum Operating Pressure: 1000 psig
Maximum Operating Temperature: 100°F
Maximum Differential Pressure: 60 psi @ 70°F
Filtration Rating: 0.01 micron at 100% efficiency
Maximum Flow Capacity: 250 slpm @ 15 psig to atm.
Filtration Area: 0.5 ft²
Inlet and Outlet Connections: See Table I
Dimensions:
  SG6100: 5.56” x 2.20”
  SG6101: 5.62” x 2.20”
Approximate Weight: 2 lbs.

TABLE I

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Inlet and Outlet Connections</th>
</tr>
</thead>
<tbody>
<tr>
<td>SG6100</td>
<td>1/4” compression</td>
</tr>
<tr>
<td>SG6101</td>
<td>1/4” male VCR®</td>
</tr>
</tbody>
</table>

MATERIALS OF CONSTRUCTION
Body and Fittings:
  Type 316L Stainless Steel
Filter Medium: PTFE Teflon®
O-Ring Seal:
  Teflon® Encapsulated Silicone
LOW FLOW, 2-MICRON, IN-LINE FILTERS
(MODELS FM4741, FM4746)

Models FM4741 and FM4746 in-line filters feature a sintered stainless steel element with a 2 micron filtration rating. The element is easily removed for cleaning.

Model FM4741, with an aluminum housing, is designed for noncorrosive gas service. The FM4746, with a Type 316 Stainless Steel housing, is suitable for corrosive service. The 1/8” NPT inlet and outlet connections make these filters convenient for use in conjunction with many of Advanced’s variable area flowmeters.

SPECIFICATIONS
Maximum Operating Pressure: See Table I
Maximum Operating Temperature: See Table I
Filtration Rating: 2 micron
Flow Coefficient (clean condition): Cv = 0.008
Dimensions: 2¹⁹⁄₃₂” x 1/2” hex
Inlet Connection: 1/8” NPT female
Outlet Connection: 1/8” NPT male
Approximate Weight: 1.5 oz

MATERIALS OF CONSTRUCTION
Body: See Table I
Filter Element: Type 316 Stainless Steel
Spring: Type 302 Stainless Steel
Seals: Viton®

TABLE I

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Body Material</th>
<th>Maximum Operating Pressure at 70°F (psig)</th>
<th>Temperature °F</th>
</tr>
</thead>
<tbody>
<tr>
<td>FM4741</td>
<td>Aluminum</td>
<td>3500</td>
<td>180</td>
</tr>
<tr>
<td>FM4746</td>
<td>Type 316 Stainless Steel</td>
<td>5000</td>
<td>350</td>
</tr>
</tbody>
</table>

FM4741 Filter