Wafergard® IV HF Mini In-line Gas Filters

Superior particulate filtration for ultrapure and corrosive gas system filtration

Wafergard® IV alloy-22 (commonly referred to by the brand name HASTELLOY® C-22® alloy) filters are the cleanest, most efficient all-metal filters available for corrosive and ultrapure environments. The alloy-22 membrane offers the most inert and reactive gas* compatibility in the Entegris Wafergard product line capable of filtering carbon monoxide, hydrogen bromide, chlorine, and other corrosive gases.

A state-of-the-art housing assembly eliminates outgassing by minimizing weld area. The all-metal construction is ideal for high-temperature and dynamic-pressure applications.

*Not recommended for use with O₃ gases.

APPLICATIONS

- Ultrapure gas lines
- High-temperature applications
- New fab construction

FEATURES & BENEFITS

- Dynamic-pressure applications
- Corrosive gases
- Superior chemical compatibility and corrosion resistance
**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Materials of construction</th>
<th>Filter element</th>
<th>Sintered alloy-22 membrane filter</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Housing</td>
<td>Electropolished VAR 316L stainless steel housing</td>
</tr>
</tbody>
</table>

**Downstream cleanliness**

<0.03 particle/liter (<1 particle/ft³) >0.01 µm at specified flow

**Removal rating**

≥0.0015 µm

**Surface finish**

≤5 µin Ra

**Helium leak rating**

Qualified 2 × 10⁻¹⁰ atm cc/sec

Tested 1 × 10⁻⁹ atm cc/sec

**Operating conditions**

Maximum inlet pressure:
172 bar (2500 psig) @ 20°C (68°F)

Maximum forward/reverse differential pressure:
20.7 bar (300 psid) @ 20°C (68°F)

Maximum operating temperature:
450°C (842°F) – inert gases
100°C (212°F) – corrosive and reactive gases

**Warranty**

5 year

**Particle retention**

Greater than 99.9999% (6 LRV) removal of all particles at rated flow; referenced at the most penetrating particle size

**Flow rating**

Refer to performance data

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**PERFORMANCE DATA**

**Wafergard IV HF Mini ¼” VCR**

WGL045HS3R2

<table>
<thead>
<tr>
<th>Differential Pressure (psi)</th>
<th>Slpm Flow Rate @ 23°C (73°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td>2</td>
<td>30</td>
</tr>
<tr>
<td>4</td>
<td>45</td>
</tr>
<tr>
<td>6</td>
<td>60</td>
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</tbody>
</table>

30 psig inlet

60 psig inlet

90 psig inlet

**Wafergard IV HF Mini ½” VCR**

WGL045HS3R4

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<tr>
<th>Differential Pressure (psi)</th>
<th>Slpm Flow Rate @ 23°C (73°F)</th>
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30 psig inlet

60 psig inlet

90 psig inlet
DIMENSIONS

WGL045HS3R2  ¼” Gasket Seal, Male Inlet/Outlet

Ø38.1 mm (1.50”)

84.1 mm (3.31”)

WGL045HS3R4  ½” Gasket Seal, Male Inlet/Outlet

Ø38.1 mm (1.50”)

84.1 mm (3.31”)

ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Part number</th>
<th>Fitting options</th>
<th>Overall length</th>
</tr>
</thead>
<tbody>
<tr>
<td>WGL045HS3R2</td>
<td>¼” Gasket seal (compatible with VCR fitting), male inlet/outlet</td>
<td>84.1 mm (3.31”)</td>
</tr>
<tr>
<td>WGL045HS3R4</td>
<td>½” Gasket seal (compatible with VCR fitting), male inlet/outlet</td>
<td>84.1 mm (3.31”)</td>
</tr>
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</table>

FOR MORE INFORMATION

Please call your Regional Customer Service Center today to learn what Entegris can do for you. Visit entegris.com and select the Contact Us link to find the customer service center nearest you.

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