Wafergard® III NF Mini and Mini XL In-line Gas Filters

Superior particulate filtration for ultrapure gas system filtration

Wafergard® III nickel filters are the cleanest, most efficient all-metal filters available. The patented nickel filter membrane offers superior corrosion resistance and excellent compatibility with inert and reactive 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. Its compact size and flexible choice of fittings provide ultimate design efficiency and minimize engineering costs.

*Not recommended for use with CO, O₃, and low-level hydride dopant gases.

APPLICATIONS

• Ultrapure gas lines
• High-temperature applications
• Dynamic-pressure applications
• Inert and reactive gases
• Gas cabinets
• Gas panels
• Valve manifold boxes
• Hookup

FEATURES & BENEFITS

• Nickel filter membrane has good chemical compatibility with most semiconductor process gases, resulting in preventing use of incompatible filters and gases
• Special cleaning and high temperature baking achieve superior initial cleanliness, therefore can start up gas delivery in short times
• High flow rate/low pressure drop characteristic is suitable for use of low vapor pressure gases
• High particle removal efficiency contributes to improvement of yield
## SPECIFICATIONS

### Materials
- Filter membrane: Nickel
- Housing: Low sulfur 316L stainless steel
- End cap: Low sulfur 316L stainless steel

### Initial downstream cleanliness
≤0.03 particles/liter (≤1 particle/ft³) ≥0.01 µm

### Removal rating
≥0.003 µm

### Particle retention
Greater than 99.999999% (9 LRV) removal of all particles at 60 slm (Mini) and 120 slm (Mini XL); referenced at the most penetrating particle size

### Surface finish interior
≤5 µin Ra

### Helium leak rating
Tested 9 × 10⁻¹⁰ Pa m³/sec (9 × 10⁻⁹ atm cc/sec)

### Maximum conditions
- Maximum operating pressure: 16.2 MPa (162 bar, 2346 psig) @ 20°C (68°F)
- Maximum forward/reverse differential pressure: 3.3 MPa (33 bar, 485 psid) @ RT
- Maximum design temperature:
  - Inert gases: 400°C (752°F)

### Flow rating
See performance data

## PERFORMANCE DATA

### Wafergard III NF Mini ¼” VCR
WG3NS1RR2

### Wafergard III NF Mini XL ½” VCR
WG3NS2RR4

### Flow Rate Graphs
- **Differential Pressure (kPa)**
  - Differential Pressure vs. Nitrogen Flow Rate (slm) @ 20°C (68°F), 101 kPa
- **Flow Rate (slm)**
  - 0.1 MPa inlet
  - 0.2 MPa inlet
  - 0.3 MPa inlet
  - 0.5 MPa inlet
**DIMENSIONS**

WG3NS1RR2 ¼" Mini

<table>
<thead>
<tr>
<th>Diameter (mm)</th>
<th>Length (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>84.1</td>
<td>26.0</td>
</tr>
</tbody>
</table>

WG3NS2RR2 ¼" Mini XL

<table>
<thead>
<tr>
<th>Diameter (mm)</th>
<th>Length (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>127.0</td>
<td>26.0</td>
</tr>
</tbody>
</table>

WG3NS2RR4 ½" Mini XL

<table>
<thead>
<tr>
<th>Diameter (mm)</th>
<th>Length (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>133.5</td>
<td>26.0</td>
</tr>
</tbody>
</table>

**ORDERING INFORMATION**

<table>
<thead>
<tr>
<th>Part number</th>
<th>Fitting options</th>
<th>Overall length</th>
</tr>
</thead>
<tbody>
<tr>
<td>WG3NS1RR2</td>
<td>Wafergard III NF Mini ¼&quot; gasket seal (compatible with VCR® fitting), male inlet/outlet</td>
<td>84.1 mm (3.31&quot;)</td>
</tr>
<tr>
<td>WG3NS2RR2</td>
<td>Wafergard III NF Mini XL ¼&quot; gasket seal (compatible with VCR fitting), male inlet/outlet</td>
<td>127.0 mm (5.00&quot;)</td>
</tr>
<tr>
<td>WG3NS2RR4</td>
<td>Wafergard III NF Mini XL ½&quot; gasket seal (compatible with VCR fitting), male inlet/outlet</td>
<td>133.5 mm (5.25&quot;)</td>
</tr>
</tbody>
</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.

**TERMS AND CONDITIONS OF SALE**

All purchases are subject to Entegris' Terms and Conditions of Sale. To view and print this information, visit entegris.com and select the Terms & Conditions link in the footer.