

# Mini-Ultramet-L® 1100 Series Assembly



## Description

The Mini-Ultramet-L® 1100 Series assembly is available with an all 316L stainless steel housing and either a 316L stainless steel or nickel filter. It is designed for  $\geq 3$  nanometer ( $0.003 \mu\text{m}$ ) filtration of semiconductor grade gases. It is ideally suited for point-of-use applications. The 1100 Series filter is recommended for all applications with process gases that are compatible with 316L stainless steel or nickel. For applications with corrosive gases, such as halogen containing acid gases, the nickel filter assembly is recommended only if the gas is known to be anhydrous.

- One circumferential weld in entire product
- State-of-the-art 316L stainless steel or nickel media
- Excellent particle removal efficiency vs. pressure drop
- Accommodates extremely high flow rates for the assembly size
- Excellent gas displacement and desorption characteristics
- High temperature and pressure capabilities
- Compact size
- 100% helium leak tested
- Cleanroom manufactured and packaged
- Housing material meets or exceeds VIM VAR specifications

## Specifications

### Materials

- Electropolished 316L stainless steel housing
- Housing material meets or exceeds VIM/VAR specifications
- $\leq 7 \mu\text{in}/0.18 \mu\text{m}$   $R_a$  internal surface finish
- Cr:Fe (1:1) Chromium enriched internal housing surface chemistry
- 316L stainless steel or nickel filter

### Removal Rating

- $\geq 0.003 \mu\text{m}$

### Preconditioned Options (1102 Series)

- $< 10$  ppb moisture contribution (Qualified per SEMASPEC test method #90120397B-STD)
- $< 10$  ppb THC contribution (Qualified per SEMASPEC test method #90120396B-STD)
- $< 10$  ppb  $\text{O}_2$  contribution (Qualified per SEMASPEC test method #90120398B-STD)
- No particle contribution above background  $\leq 1$  particle/(ft<sup>3</sup> or m<sup>3</sup>)

### Connections

- $\frac{1}{4}$ " Gasket Seal (VCR<sup>1</sup> or compatible)
- $\frac{1}{4}$ " Butt Weld (0.035" / 0.89 mm wall)

### Operating Conditions

- Maximum Operating Pressure: 3000 psig @ 100°F / 207 bar @ 38°C; 1685 psig @ 840°F / 116 bar @ 450°C
- Maximum Allowable Differential Pressure:

#### 316L Stainless Steel Filter:

125 psid @ 100°F / 8.6 bar @ 38°C;  
60 psid @ 840°F / 4.1 bar @ 450°C

#### Nickel Filter:

100 psid @ 100°F / 6.9 bar @ 38°C;  
60 psid @ 840°F / 4.1 bar @ 450°C

### Particle Removal Characteristics

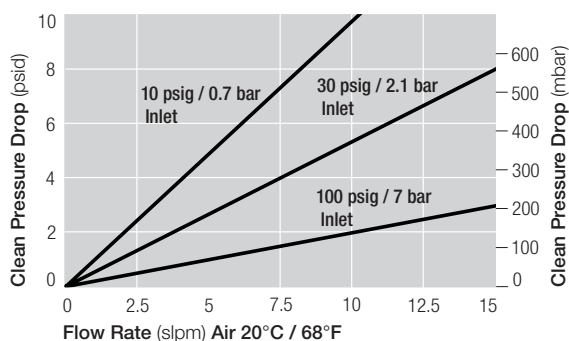
- $10^9$  particle reduction up to 15 slpm

### Leak Rating

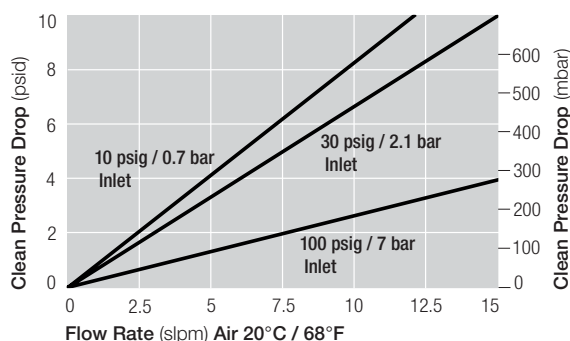
- 100% helium leak tested to  $10^{-9}$  atm·cm<sup>3</sup>/s
- Design validated to  $10^{-11}$  atm·cm<sup>3</sup>/s

<sup>1</sup>VCR is a trademark of Swagelok Co.

## Pressure Drop vs. Gas Flow Rate

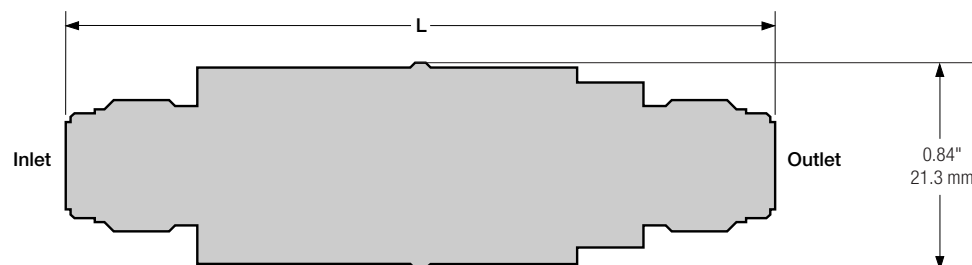


316L Stainless Steel Filter Assembly



Nickel Filter Assembly

## Dimensions



## Part Numbers / Ordering Information

Part Number	Description	Fitting Type	Length (L) (in / mm)	Preconditioned
GLFF1100VMM4	All 316L Stainless Steel	¼" Gasket Seal (VCR or Compatible) Male/Male	3.31 / 84	No
GLFF1100VFM4	All 316L Stainless Steel	¼" Gasket Seal (VCR or Compatible) Female Inlet/Male Outlet	3.47 / 88	No
GLFF1100BW4	All 316L Stainless Steel	¼" Butt Weld, 0.035" / 0.89 mm wall	1.75 / 42.5	No
GLFF1102VMM4	All 316L Stainless Steel	¼" Gasket Seal (VCR or Compatible) Male/Male	3.31 / 84	Yes
GLFF1102VFM4	All 316L Stainless Steel	¼" Gasket Seal (VCR or Compatible) Female Inlet/Male Outlet	3.47 / 88	Yes
GLFF1102BW4	All 316L Stainless Steel	¼" Butt Weld, 0.035" / 0.89 mm wall	1.75 / 42.5	Yes
GLFN1100VMM4	Nickel Media, 316L Stainless Steel Housing	¼" Gasket Seal (VCR or Compatible) Male/Male	3.31 / 84	No
GLFN1100BW4	Nickel Media 316L, Stainless Steel Housing	¼" Butt Weld, 0.035" / 0.89 mm wall	1.75 / 42.5	No
GLFN1102VMM4	Nickel Media 316L, Stainless Steel Housing	¼" Gasket Seal (VCR or Compatible) Male/Male	3.31 / 84	Yes
GLFN1102BW4	Nickel Media 316L, Stainless Steel Housing	¼" Butt Weld, 0.035" / 0.89 mm wall	1.75 / 42.5	Yes

Unit conversion: 1 bar = 100 kilopascals



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