

## Mini Ultramet-L® 1100 Series Assemblies

### 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  $\geq 3$  nm (0.003  $\mu\text{m}$ ) filtration of semiconductor grade gases, and 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.

- One circumferential weld in entire product
- State-of-the-art 316L stainless steel or nickel medium
- 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

### Specifications

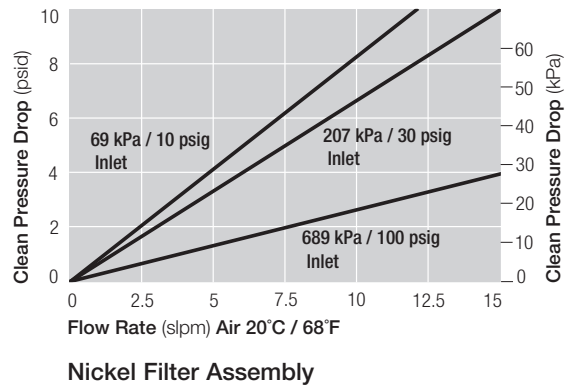
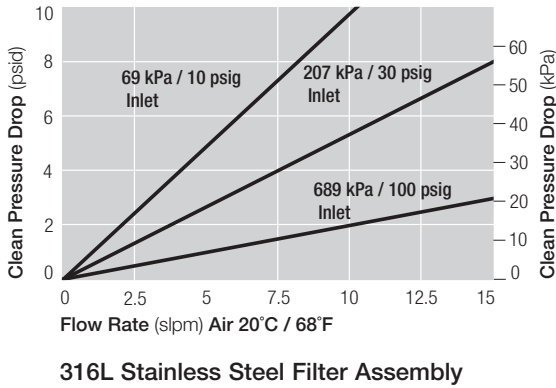
#### Materials of Construction

<b>Filter Medium</b>	316L stainless steel or nickel
<b>Internal Surface Finish</b>	$\leq 0.13 \mu\text{m}$ / 5 $\mu\text{in}$ R <sub>a</sub>
<b>Housing</b>	Electropolished 316L stainless steel Housing material meets or exceeds VIM/VAR specifications. EU Pressure Equipment Directive: Assemblies have been evaluated and designed using SEP per the European Union's Pressure Equipment Directive 2014/68/EU and are not CE marked.
<b>Internal housing surface chemistry</b>	Cr:Fe (1:1) chromium-enriched

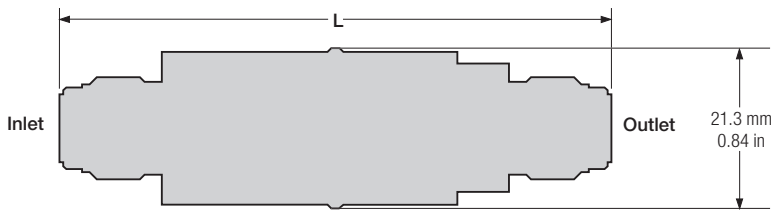
<b>Removal Rating</b>	$\geq 3$ nm
<b>Particle Removal Characteristics</b>	10 <sup>9</sup> particle reduction up to 15 slpm
<b>Connections</b>	1/4 in gasket seal (VCR <sup>1</sup> or compatible) 1/4 in butt weld (0.89 mm / 0.035 in wall)
<b>Leak Rating</b>	100% helium leak tested to 10 <sup>-9</sup> atm cm <sup>3</sup> / sec Design validated to 10 <sup>-11</sup> atm cm <sup>3</sup> / sec
<b>Maximum Operating Pressure</b>	20.7 MPa @ 38 °C / 3000 psig @ 100 °F 11.6 MPa @ 450 °C / 1685 psig @ 840 °F
<b>Maximum Allowable Differential Pressure</b>	316L stainless steel filter: 0.86 MPa @ 38 °C / 125 psid @ 100 °F 0.41 MPa @ 450 °C / 60 psid @ 840 °F Nickel filter: 0.69 MPa @ 38 °C / 100 psid @ 100 °F 0.41 MPa @ 450 °C / 60 psid @ 100 °F

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

## Pressure Drop vs. Gas Flow Rate



## Dimensions



## Part Numbers / Ordering Information

Part Number	Description	Fitting Type	Length (L) (mm / in)	Preconditioned
GLFF1100VMM4	All 316L stainless steel	1/4 in gasket seal (VCR or compatible) male / male	84 / 3.31	No
GLFF1100VFM4	All 316L stainless steel	1/4 in gasket seal (VCR or compatible) female inlet / male outlet	88 / 3.47	No
GLFF1100BW4	All 316L stainless steel	1/4 in butt weld, 0.89 mm / 0.035 in wall	42.5 / 1.75	No
GLFF1102VMM4	All 316L stainless steel	1/4 in gasket seal (VCR or compatible) male / male	84 / 3.31	Yes
GLFN1100VMM4	Nickel media, 316L stainless steel housing	1/4 in gasket seal (VCR or compatible) male / male	84 / 3.31	No
GLFN1100VMF4	Nickel media, 316L stainless steel housing	1/4 in gasket seal (VCR or compatible) male inlet / female outlet	71.1 / 2.80	No
GLFN1100BW4	Nickel media, 316L stainless steel housing	1/4 in butt weld, 0.89 mm / 0.035 in wall	42.5 / 1.75	No
GLFN1102VMM4	Nickel media, 316L stainless steel housing	1/4 in gasket seal (VCR or compatible) male / male	84 / 3.31	Yes

**Unit conversion:** 100 kilopascals = 1 bar

## 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 O<sub>2</sub> contribution  
(Qualified per SEMASPEC test method #90120398B-STD.)
- No particle contribution above background ≤ 1 particle / m<sup>3</sup> or ft<sup>3</sup>



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