

# Mini Ultramet-L® 1100 Series Filter Assembly (1.5 nm)



Data Sheet MEMUL11ENb

## 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  $\geq 1.5$  nm (0.0015  $\mu\text{m}$ ) 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.

## Features & Benefits

- 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

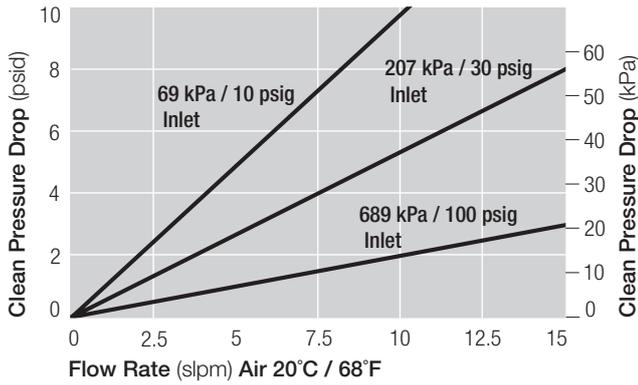
<b>Filter Medium</b>	316L stainless steel or nickel
<b>Internal Surface Finish</b>	$\leq 0.13 \mu\text{m} / 5 \mu\text{in } R_a$
<b>Housing</b>	Electropolished 316L stainless steel Housing material meets or exceeds VIM / VAR specifications.
<b>Internal Housing Surface Chemistry</b>	Cr:Fe (1:1) chromium-enriched
<b>Removal Rating</b>	$\geq 1.5$ nm
<b>Particle Removal Characteristics</b>	$10^9$ particle reduction up to 15 slpm
<b>Connections</b>	$\frac{1}{4}$ " gasket seal (VCR <sup>1</sup> or compatible) $\frac{1}{4}$ " butt weld (0.89 mm / 0.035 in wall)

<b>Leak Rating</b>	100% helium leak tested to $10^{-9}$ atm $\text{cm}^3/\text{sec}$ Design validated to $10^{-11}$ atm $\text{cm}^3/\text{sec}$
<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
<b>EU Pressure Equipment Directive</b>	Assemblies have been evaluated and designed using SEP per the European Union's Pressure Equipment Directive 2014 / 68 / EU and are not CE marked.

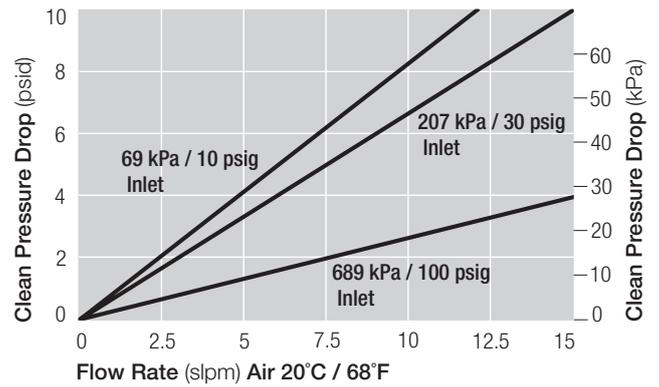
<sup>1</sup> VCR is a trademark of Swagelok Company.

## Pressure Drop vs. Gas Flow Rate

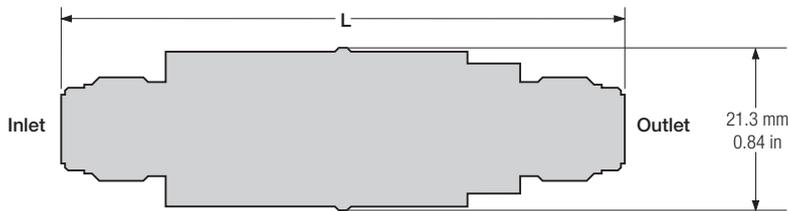
316L Stainless Steel Filter Assembly



Nickel Filter Assembly



## Dimensions



## Part Numbers / Ordering Information

Part Number	Description	Fitting Type	Length (L) (mm / in)	Preconditioned
GLFF1100VMM4	All 316L stainless steel	¼" gasket seal (VCR or compatible) male / male	84 / 3.31	No
GLFF1100VFM4	All 316L stainless steel	¼" gasket seal (VCR or compatible) female inlet / male outlet	88 / 3.47	No
GLFF1100BW4	All 316L stainless steel	¼" butt weld, 0.89 mm / 0.035 in wall	42.5 / 1.75	No
GLFF1102VMM4	All 316L stainless steel	¼" gasket seal (VCR or compatible) male / male	84 / 3.31	Yes
GLFN1100VMM4	Nickel media, 316L stainless steel housing	¼" gasket seal (VCR or compatible) male / male	84 / 3.31	No
GLFN1100VMF4	Nickel media, 316L stainless steel housing	¼" gasket seal (VCR or compatible) male inlet / female outlet	71.1 / 2.80	No
GLFN1100BW4	Nickel media, 316L stainless steel housing	¼" butt weld, 0.89 mm / 0.035 in wall	42.5 / 1.75	No
GLFN1102VMM4	Nickel media, 316L stainless steel housing	¼" 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>