

Gaskleen® IV Series Filter Assembly (1.5 nm)



Data Sheet MEGK4ENa

Description

The Gaskleen® IV Series Filter Assembly is specifically designed for ≥ 1.5 nanometers ($0.0015 \mu\text{m}$) filtration of ultra-high purity semiconductor process gases.

This assembly provides additional features over those normally associated with all fluoropolymer element point-of-use process gas filters. These include:

Features & Benefits

- No downstream (wetted surface) weld
- No elastomeric seals
- Rotatable VCR¹ nuts for ease of installation
- Excellent gas displacement characteristics (low internal volume)
- High purity 316L stainless steel electropolished housing
- All fluoropolymer element
- High temperature and pressure capabilities
- Compact size (1.13" / 28.8 mm dia.) for ease of installation
- 100% integrity tested
- Cleanroom manufactured and packaged



Specifications

Filter Medium	PTFE
Support	TFE / FEP
Core and End Caps	PFA 440HP
O-ring	none
Internal Surface Finish	$\leq 7 \mu\text{in} / 0.18 \mu\text{m R}_a$
Housing	Electropolished 316L stainless steel VAR PLUS housing meets or exceeds typical VIM / VAR specifications
Removal Rating ²	$\geq 1.5 \text{ nm}$ $< 10 \text{ ppb}$ moisture contribution (Qualified per SEMASPEC test method #90120397B-STD)
Preconditioned Cleanliness	$< 10 \text{ ppb}$ THC contribution (Qualified per SEMASPEC test method #90120396B-STD) $< 10 \text{ ppb O}_2$ contribution (Qualified per SEMASPEC test method #90120398B-STD) $< 1 \text{ particle}/(\text{ft}^3)$ contribution above background
Connections	1/4" Gasket seal, male (VCR or compatible)
	1/4" Butt Weld (0.035" / 0.89 mm wall)
	3/8" Gasket Seal, male (VCR or compatible)
	3/8" Butt Weld (0.035" / 0.89 mm wall)
	1/2" Butt Weld (0.049" / 1.24 mm wall)

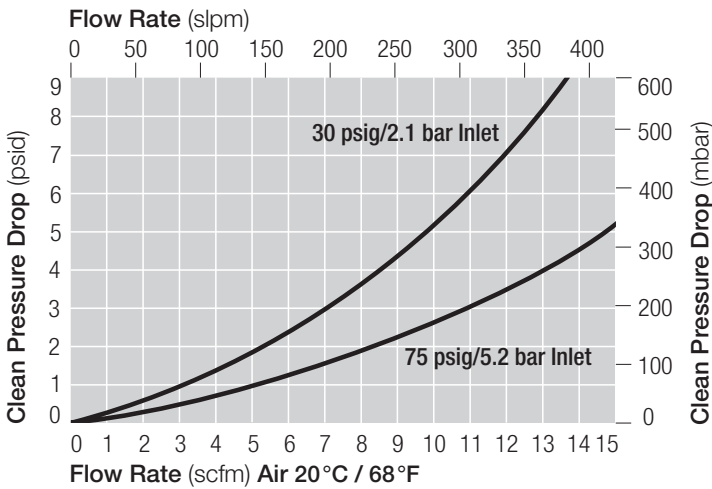
Leak Rating	100% helium leak tested to $10^{-9} \text{ atm}\cdot\text{cm}^3/\text{s}$ Design validated to $10^{-11} \text{ atm}\cdot\text{cm}^3/\text{s}$
Maximum Operating Pressure	750 psig @ 284 °F / 52 bar @ 140 °C
Maximum Forward Differential Pressure	100 psid @ 100 °F / 7 bar @ 38 °C
Maximum Reverse Differential Pressure	50 psid @ 100 °F / 3.5 bar @ 38 °C
Packaging	Double bagged Outer bag: aluminized mylar ³ Inner bag: polyethylene N ₂ purged
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.

¹ VCR is a trademark of Swagelok Co.

² Particle rating based on laboratory testing with NaCl aerosol.

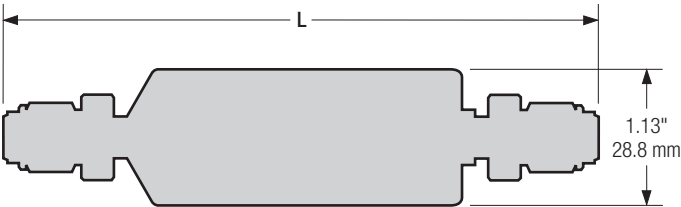
³ Mylar is a registered trademark of Dupont Teijin Films.

Pressure Drop vs. Gas Flow Rate⁴

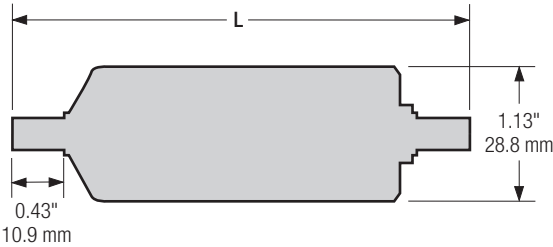


⁴ For 1/4" connections

Dimensions



VCR Connection



Butt Weld Connection

Part Numbers / Ordering Information

Part Number	Description	Length (L) (in / mm)
SGLFPF6402VMM4	1/4" Gasket Seal, (VCR or Compatible) Male Inlet / Male Outlet	5.00 / 127
GLFPF6402BW4	1/4" Butt Weld, 0.035" / 0.89 mm wall	3.87 / 98
SGLFPF6402VMM6 / 8	3/8" or 1/2" Gasket Seal, (VCR or Compatible) Male Inlet / Male Outlet	5.00 / 127
GLFPF6402BW6	3/8" Butt Weld, 0.035" / 0.89 mm wall	3.87 / 98
GLFPF6402BW8	1/2" Butt Weld, 0.049" / 1.24 mm wall	3.87 / 98

Unit conversion: 1 bar = 100 kilopascals