

# Wafergard® III NF Mini/Mini XL In- line Gas Filters

*The nickel filter membrane offers superior particulate filtration in ultrapure gas systems*

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.

## APPLICATIONS

- Ultrapure gas lines
  - High-temperature and dynamic-pressure applications
  - Inert and reactive gases
  - Gas cabinets and panels
  - Valve manifold boxes
  - Hookup
- Note: Not recommended for use with CO, O<sub>3</sub>, and low-level hydride dopant gases



*Ideal for high-temperature and dynamic-pressure applications*

## FEATURES & BENEFITS

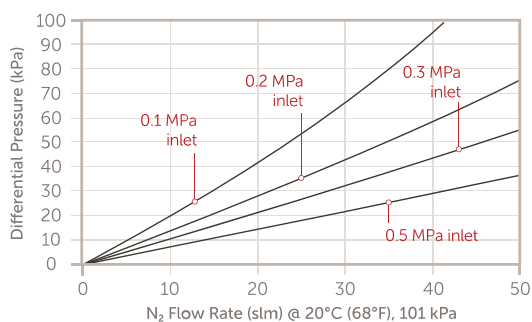
<b>Nickel filter membrane</b>	Provides good chemical compatibility with most semiconductor gases, which prevents the use of incompatible filters and gases
<b>Special cleaning and high-temperature baking</b>	Achieve superior initial cleanliness, speeding up gas delivery start-up
<b>High flow rate/low pressure drop characteristics</b>	Suitable for use with low vapor pressure gases
<b>High particle removal efficiency</b>	Contributes to yield improvement

## SPECIFICATIONS

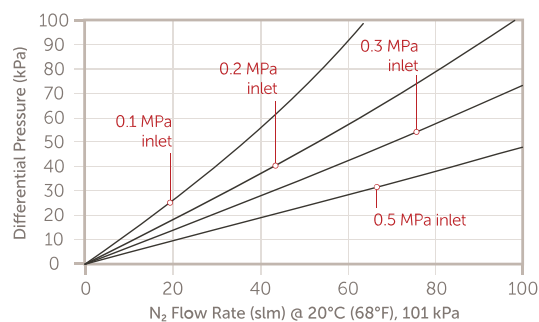
<b>Materials</b>	Filter membrane	Nickel
	Housing, end cap	Low sulfur 316L stainless steel
<b>Initial downstream cleanliness</b>	$\leq 0.03$ particles/liter ( $\leq 1$ particle/ft <sup>3</sup> ) $\geq 0.01$ $\mu\text{m}$	
<b>Removal rating</b>	$\geq 0.0015$ $\mu\text{m}$	
<b>Particle retention</b>	Greater than 99.9999999% (9 LRV) removal of all particles at 60 slm (Mini) and 120 slm (Mini XL): referenced at the most penetrating particle size	
<b>Surface finish interior</b>	$\leq 5$ $\mu\text{in Ra}$	
<b>Helium leak rating</b>	Tested	$9 \times 10^{-10}$ Pa m <sup>3</sup> /sec ( $9 \times 10^{-9}$ atm cc/sec)
<b>Maximum conditions</b>	Maximum operating pressure:	16.2 MPa (162 bar, 2346 psid) at 20°C (68°F)
	Maximum forward/reverse differential pressure:	3.3 MPa (33 bar, 485 psid) @RT
	Maximum design temperature:	Inert gases: 400°C (725°F)
<b>Flow rating</b>	Refer to performance data	

## PERFORMANCE DATA

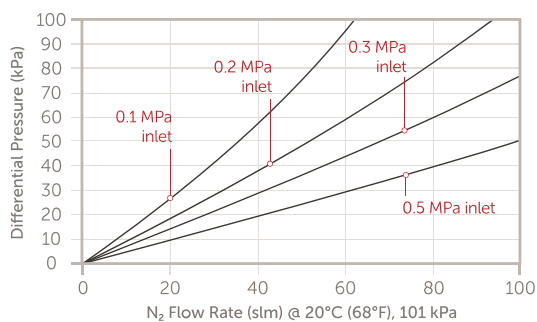
**Wafergard III NF Mini ¼" VCR**  
WG3NS1RR2



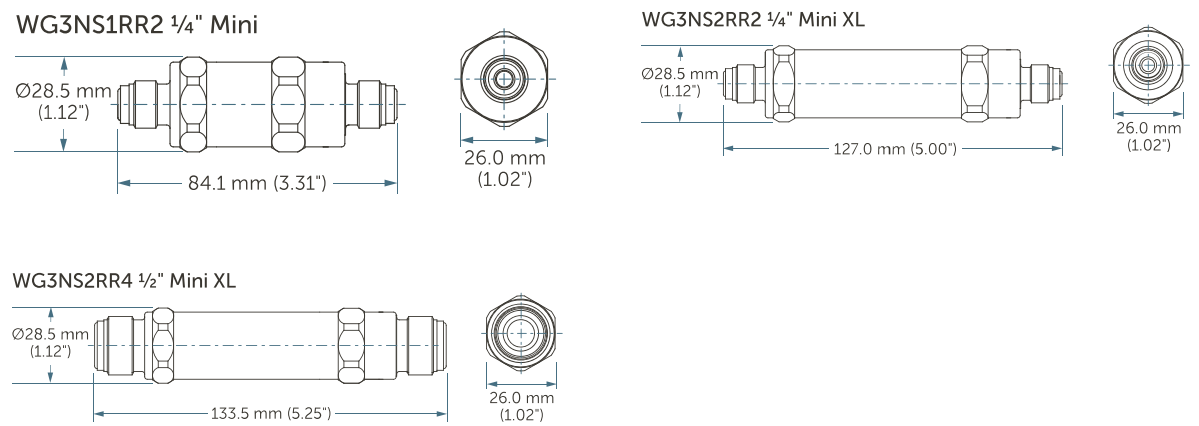
**Wafergard III NF Mini XL ½" VCR**  
WG3NS2RR4



**Wafergard III NF Mini XL ¼" VCR**  
WG3NS2RR2



**DIMENSIONS**



**ORDERING INFORMATION**

PART NUMBER	FITTING SIZE AND TYPE	LENGTH
WG3NS1RR2	1/4" Gasket seal (compatible with VCR Fitting) male inlet/outlet	84.1 mm (3.31")
WG3NS2RR2	1/4" Gasket seal (compatible with VCR Fitting) male inlet/outlet	127.0 mm (5.00")
WG3NS2RR4	1/2" Gasket seal (compatible with VCR fitting) male inlet/outlet	133.3 mm (5.25")

**FOR MORE INFORMATION**

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