

GASSHIELD® DEFENDER SERIES FILTERS

1.5 nm FILTRATION

mott
MISSION CRITICAL PRECISION

DEF 2000 - STAINLESS STEEL FIBER METAL MEDIA

DESCRIPTION

Mott High Purity Defender Filters provide 9-log filtration of particles down to 0.0015 μm resulting in particle-free gas. In addition, High Flow Defender Filters provide large filtration capacity in a small compact foot print. The High Flow Defender is designed to provide over 100 slpm of gas filtration per linear inch. The most filtration capacity of any all-metal Ultra High Purity (UHP) filter in the world.

APPLICATIONS

High Flow UHP gas filtration for bulk specialty gas source delivery systems, and high flow gas sticks for semiconductor tool hookup. UHP filtration in valve manifold boxes, gas cabinets, tool isolation gas boxes, OEM gas boxes, and Utility and Bulk process gas lines.



OPERATING CONDITIONS

- » Maximum Operating Pressure: 2500 psig (172.5 barg)
- » Maximum Operating Temperature for Inert Gas: 450°C
- » Maximum Differential Pressure: 500 psid (34.5 bar)

MATERIALS

- » Hardware: 316L SS
- » Filter Medium: 316L SS
- » Wetted Hardware Surface Finish: 5 Ra, Electro-polished

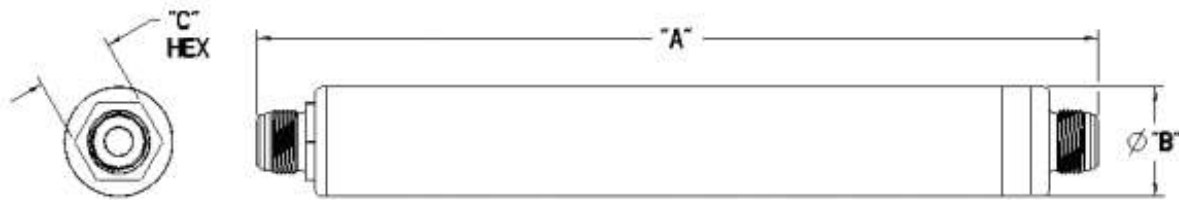
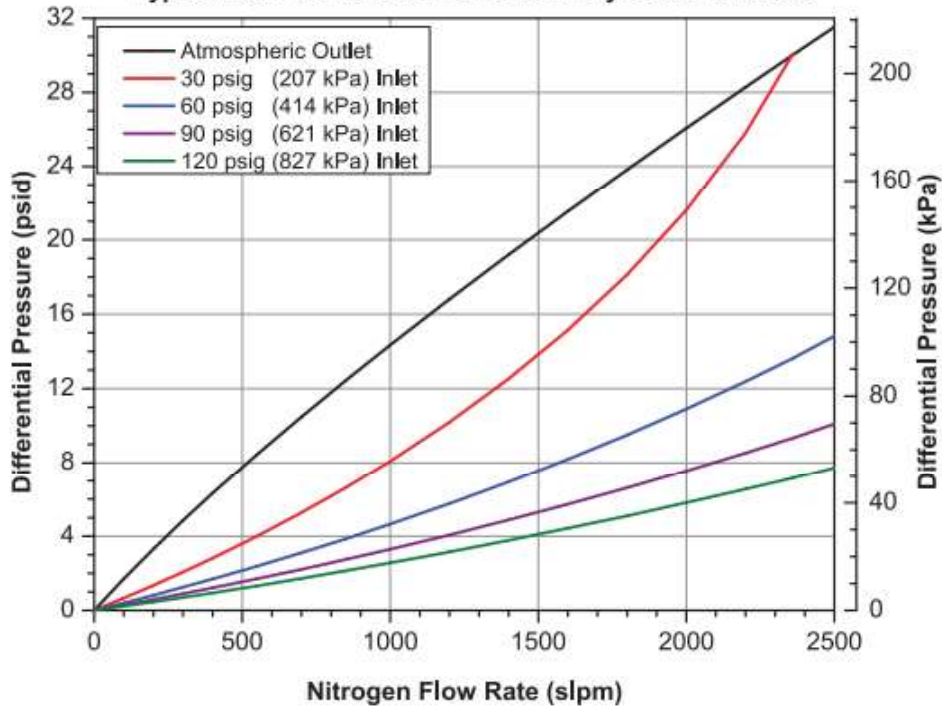
SPECIFICATIONS

| | |
|--|---|
| Particle Removal Size: | $\geq 0.0015 \mu\text{m}$ |
| Filter Efficiency (Log Reduction Value): | ≥ 9 LRV (99.9999999% reduction in particles). Confirmed at the most penetrating particle size of 0.08 μm per SEMI F38-0699 test method |
| Helium Leak Rating: | 1×10^{-9} atm cc/sec |
| Moisture Contribution: | <10 ppb after 1 hour at low-flow ambient purge per SEMI F27 test method |
| Total Hydrocarbons: | Below detectable limits per SEMASPEC 90120396B test method |
| Particle Shedding: | Zero particle contribution above background (<1 particle/ft ³) per SEMI F43-0308 test method |

Warranty:
Mott Corporation ("Mott") warrants its GasShield filter will meet the specified retention and media integrity standards for a period of five years from the date of purchase, providing the filter is properly installed and used in accordance with the specified flow, pressure, temperature, and chemical compatibility as published by Mott. Mott will replace or grant a purchase price refund for any GasShield filter which proves defective under the terms of this limited warranty. No other remedies apply. Mott disclaims all other warranties, either expressed or implied, including any warranty of merchantability or fitness for a particular purpose. Mott shall have no liability for consequential incidental, special or punitive damages, lost profits or savings, or damages from lost production or damage to other materials.

FLOW DATA

Mott DEF2000 Flow Rate vs. Differential Pressure
Typical Flow Curves as a Function of System Pressures



ORDERING INFORMATION

| Part Description | Part Number | Fitting Type | A Inches/mm | B Inches/mm | C Inches/mm |
|------------------|-------------|------------------------------|-------------|-------------|-------------|
| DEF2000FF33 | 6712401 | 1/2 inch Male/Male Face Seal | 11.64/295.6 | 1.50/38.1 | 1.062/26.9 |

*Custom designs and fittings available. Contact a Mott representative for more information.