

# GASSHIELD® DEFENDER SERIES

## 1.5 nm FILTRATION

**mott**  
MISSION CRITICAL PRECISION

### DEF331 - STAINLESS STEEL FIBER MEDIA

### DESCRIPTION

The GasShield® Defender is a line of Ultra High Purity (UHP) gas filters that incorporates Mott's exclusive all fiber metal media. Defender meets the demands of UHP gas delivery applications with a 9 LRV (log reduction value) of particles down to 0.0015 µm.

### APPLICATIONS

UHP gas sticks for Semiconductor, LED, Photovoltaic, and MEMS Equipment Hookup. UHP filtration in valve manifold boxes, gas cabinets, tool isolation gas boxes, on-board gas delivery boxes or any process requiring ultra high purity particle removal.



### OPERATING CONDITIONS

- » Maximum Operating Pressure: 3000 psig (206.8 barg)
- » Maximum Operating Temperature for Inert Gas: 450°C
- » Maximum Differential Pressure: 1000 psid (68.9 bar)

### MATERIALS

- » Hardware: 316L SS
- » Filter Medium: 316L SS
- » Wetted Hardware Surface Finish: 10 Ra, Electro-polished

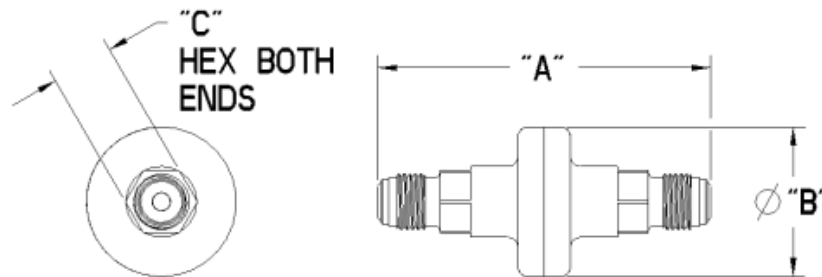
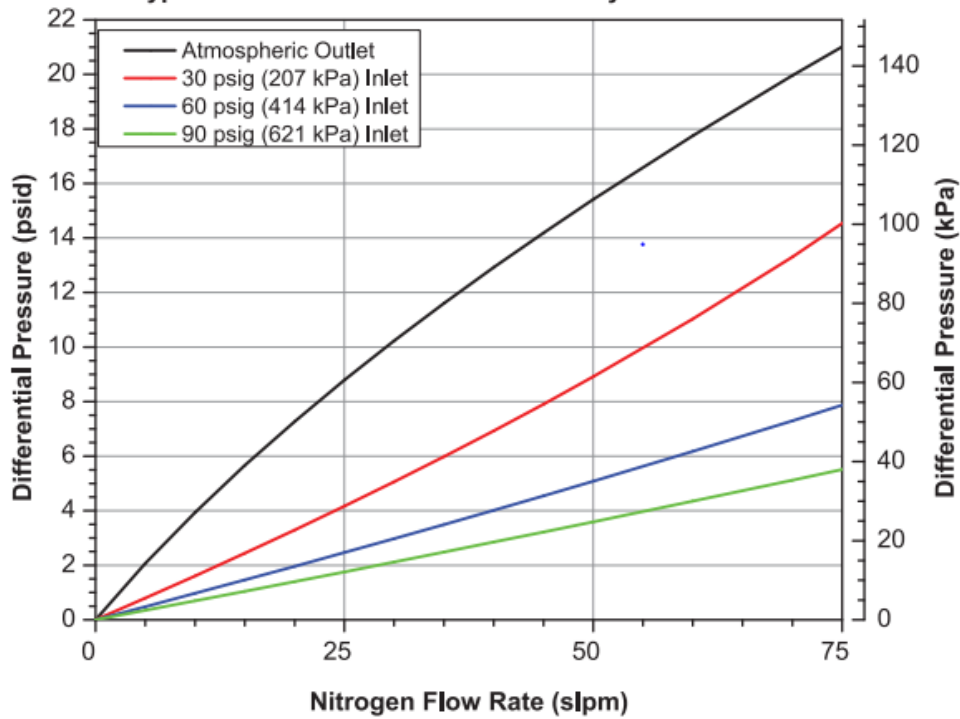
### SPECIFICATIONS

Particle Removal Size:	≥ 0.0015 µm
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 x 10 <sup>-9</sup> 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 <sup>3</sup> ) 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 DEF331 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
DEF331FF11	6700001	1/4 inch Male/Male Face Seal	3.31/84.0	1.50/38.1	0.625/15.9
DEF280FP11	6700010	1/4 inch Male/Female Face Seal	2.80/71.1	1.50/38.1	0.625/15.9
DEF112TT11	6700007	1/4 inch Butt Weld Tube Stubs	1.12/28.4	1.50/38.1	N/A

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