

# GASSHIELD® DEFENDER SERIES FILTERS

## 1.5 nm FILTRATION

**mott**  
MISSION CRITICAL PRECISION

### DEF 315H - STAINLESS STEEL OR ALLOY 22 FIBER MEDIA

#### DESCRIPTION

Mott High Purity Defender Filters provide 9-log filtration of particles down to 0.0015  $\mu\text{m}$  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 or Alloy 22 Fiber
- » Wetted Hardware Surface Finish: 5 Ra, Electro-polished

#### SPECIFICATIONS

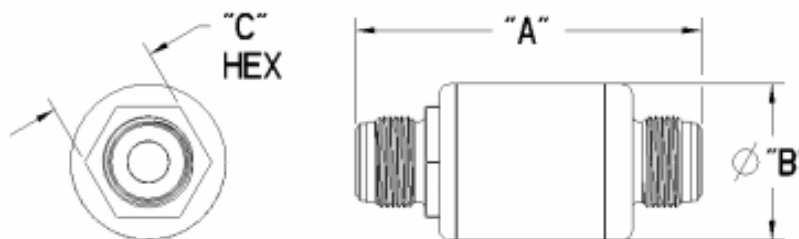
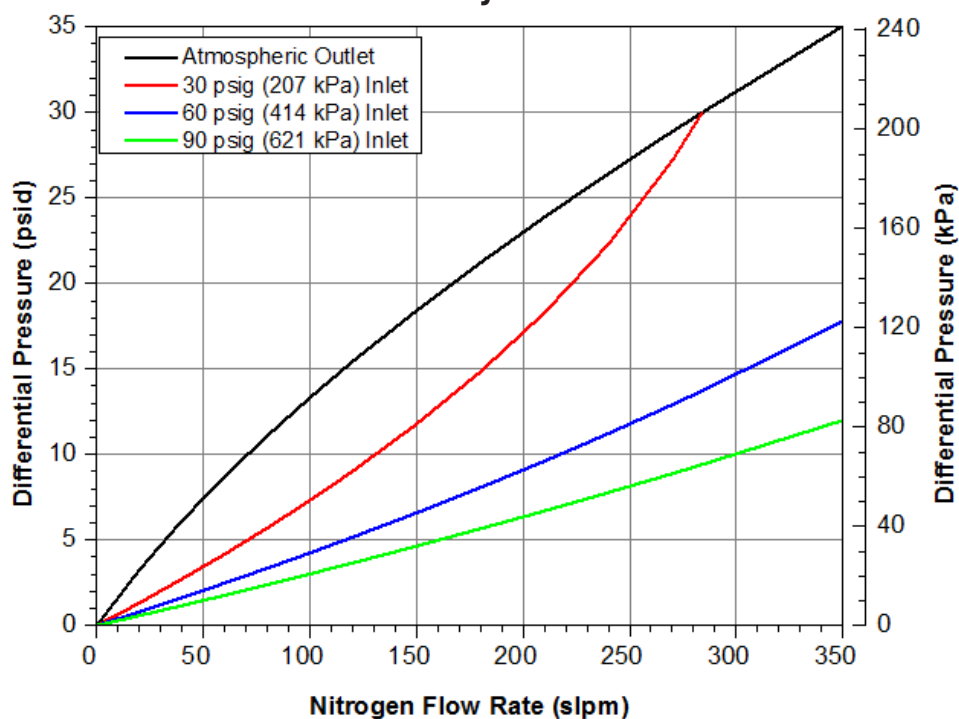
Particle Removal Size:	$\geq 0.0015 \mu\text{m}$
Filter Efficiency (Log Reduction Value):	$\geq 9$ LRV (99.9999999% reduction in particles). Confirmed at the most penetrating particle size of 0.08 $\mu\text{m}$ per SEMI F38-0699 test method
Helium Leak Rating:	$1 \times 10^{-9}$ atm cc/sec
Moisture Contribution:	<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 <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 DEF315H 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	Filter Material
DEF315HFF33	6712201	1/2 inch Male/Male Face Seal	3.31 / 84.0	1.50 / 38.1	1.062 / 26.9	316LSS
DEF315HFF33-A22	6712211	1/2 inch Male/Male Face Seal	3.31 / 84.0	1.50 / 38.1	1.062 / 26.9	ALLOY 22

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

\*Alloy 22 or UNS N06022 is a nickel-chromium-molybdenum super-alloy commonly referred to as Hastelloy® C-22®.