

# GASSHIELD® PENTA® POINT-OF-USE FILTERS

## 1.5 nm FILTRATION

**mott**  
MISSION CRITICAL PRECISION

### GSP1500 - PENTA® NICKEL MEDIA

## DESCRIPTION

Like all Mott High Purity filters, the Utility Line and Bulk Filters provide 9-log filtration of particles down to 0.0015  $\mu\text{m}$ , resulting in particle-free gas. In addition, the flow versus differential pressure performance of the filter is equal or superior to the performance of competitive polymer products on the market today.

## APPLICATIONS

Mott provides the high-strength, all-metal solution to filtration requirements for utility lines inside the wafer fab, as well as flow streams at the gas pad. Mott Utility Filters are ideally suited to the higher temperatures that can be encountered downstream of a gas purifier.



## OPERATING CONDITIONS

- » Maximum Operating Pressure: 650 psig (44.8 barg)
- » Maximum Operating Temperature for Inert Gas: 460°C
- » Maximum Differential Pressure: 250 psid (17.2 bar)

## MATERIALS

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

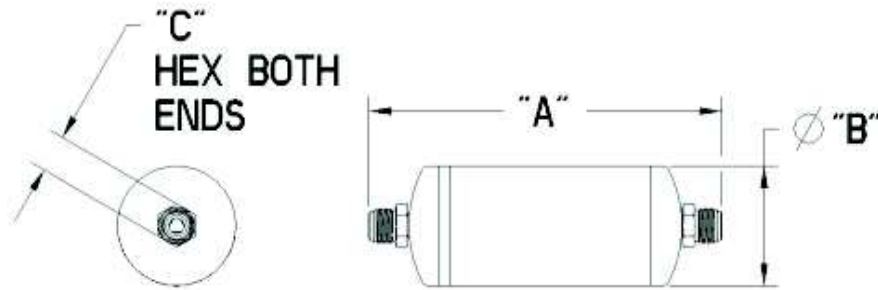
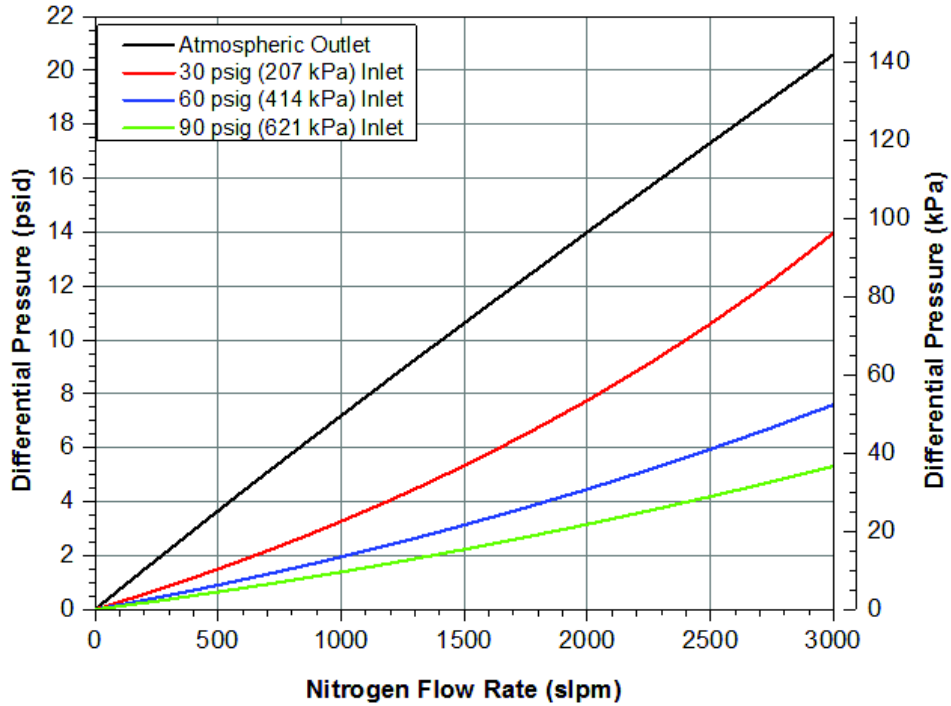
## SPECIFICATIONS

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 GSP1500 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
GSP1500FF33	6825075	1/2 inch Male/Male Face Seal	8.86/225.0	3.00/76.2	0.94/23.8
GSP1500TT33	6825080	1/2 inch Butt Weld Tube Stubs	9.70/246.4	3.00/76.2	N/A
GSP1500FF44	6825081	3/4 inch Male/Male Face Seal	10.53/267.5	3.00/76.2	1.31/33.3

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