

GASSHIELD® PENTA® POINT-OF-USE FILTERS

1.5 nm FILTRATION

mott
MISSION CRITICAL PRECISION

GSP515H1 - PENTA® NICKEL MEDIA

DESCRIPTION

For high flow gas filtration efficiency, strength, and reliability, GasShield Penta® all-metal gas filters are ideal for Ultra High Purity (UHP) gas delivery applications. They are offered in all welded 316L Stainless Steel housings with Penta® Nickel filter media. They are compatible with most high purity semiconductor process gases. For more point-of-use filter offerings, check out the Mott line of GasShield POU, Sentry, and Defender filter lines.

APPLICATIONS

High Flow Bulk Specialty Gas Supply 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: 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: Penta Nickel
- » Wetted Hardware Surface Finish: 5 Ra, Electro-polished

SPECIFICATIONS

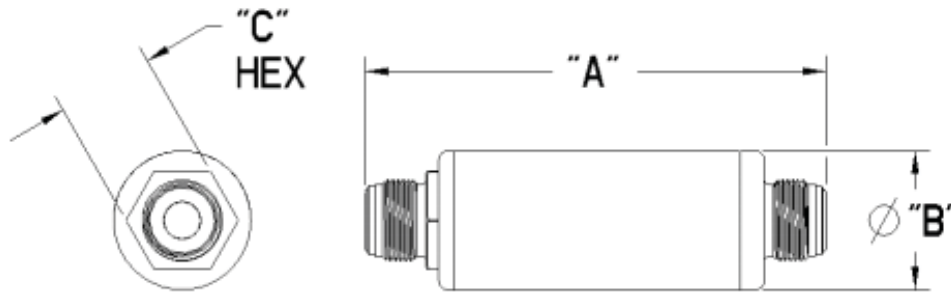
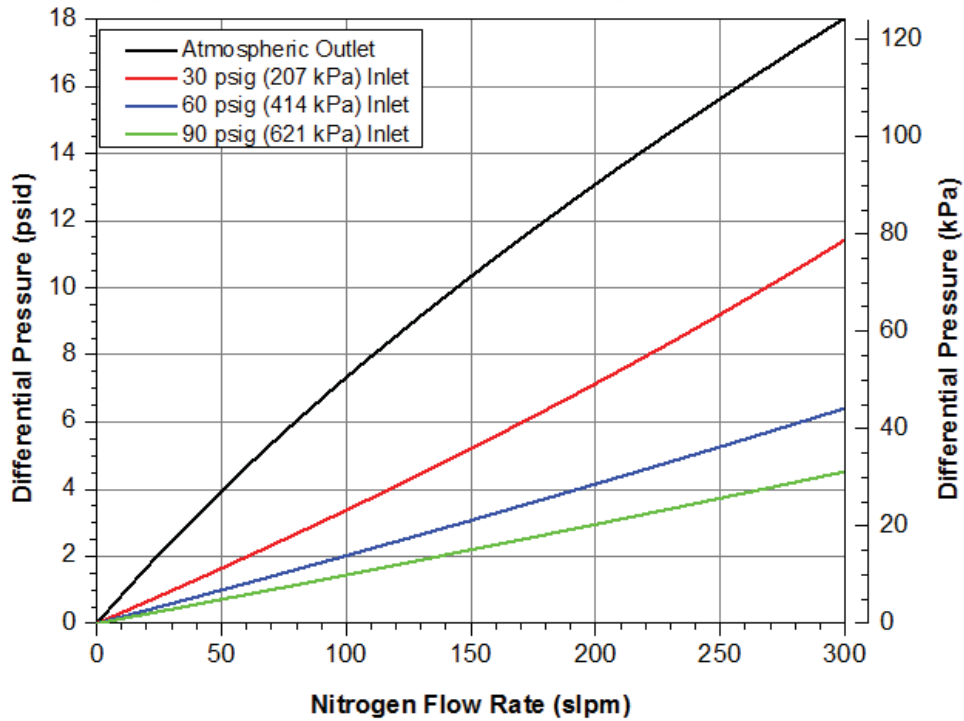
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|--|---|
| Particle Removal Size: | ≥ 0.0015 μm |
| Filter Efficiency (Log Reduction Value): | ≥ 9 LRV (99.9999999% reduction in particles). Confirmed at the most penetrating particle size of 0.08 μm per SEMI F38-0699 test method |
| Helium Leak Rating: | 1 x 10 ⁻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 GSP515H1 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 |
|------------------|-------------|------------------------------|-------------|-------------|-------------|
| GSP515H1FF11 | 6812038 | 1/4 inch Male/Male Face Seal | 5.00/127.0 | 1.50/38.1 | 1.062/26.9 |
| GSP515H1FF33 | 6812048 | 1/2 inch Male/Male Face Seal | 5.00/127.0 | 1.50/38.1 | 1.062/26.9 |

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