

# MOTT SURFACE MOUNT GAS PURIFIERS

## 100 PPT PURIFICATION - 1.5 nm FILTRATION

**mott**  
MISSION CRITICAL PRECISION

### MSMP-75 SERIES - ULTRA HIGH PURITY PURIFICATION

#### DESCRIPTION

Mott's Ultra High Purity Surface Mount Gas Purifiers provide up to 100 parts-per-trillion (PPT) purification with 9-log filtration of particles down to 1.5 nanometers. Flow up to 3 SLPM with a lifetime of 1 year or more. Mott's gas purifiers uphold the highest standard of purity for gas delivery systems.

#### APPLICATIONS

For use with C-Seal 1.125" surface mount gas delivery systems and in ultra high purity gas box systems. Compatible with caustic process gases such as HBr, NH<sub>3</sub>, and Cl<sub>2</sub>.

#### OPERATING CONDITIONS

- » Max Operating Pressure: 1800 psig (124.1 barg)
- » Operating Temperature Range: 0°C-50°C (32°F-120°F)
- » Max Differential Pressure: 150 psid (10.3 bar)

#### MATERIALS

- » Hardware: Alloy 22\*
- » Filter Medium: Alloy 22\* Fiber
- » Wetted Hardware Surface Finish: 5 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

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



FEATURES	BENEFITS
All-Metal Capabilities	Withstands high temperatures and pressures
All-Welded Construction	No mechanical seals
Standard IGS Interface	Consumes less space than in-line designs. Easy retrofit
Design Flexibility	Wide range of materials, configurations and flow rates
Modular IGS Design	Ease of installation, reduced part variations and inventories

## PART DESCRIPTION

### Mott Surface Mount Purifiers

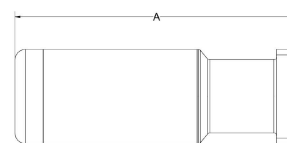
**MSMP - 75 - 03 - AG-301 - 1.5NM**

C-Seal, 1.125"  
Sq Base

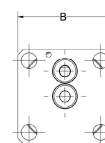
3 SLPM  
Flow Rate

Class  
AG-301

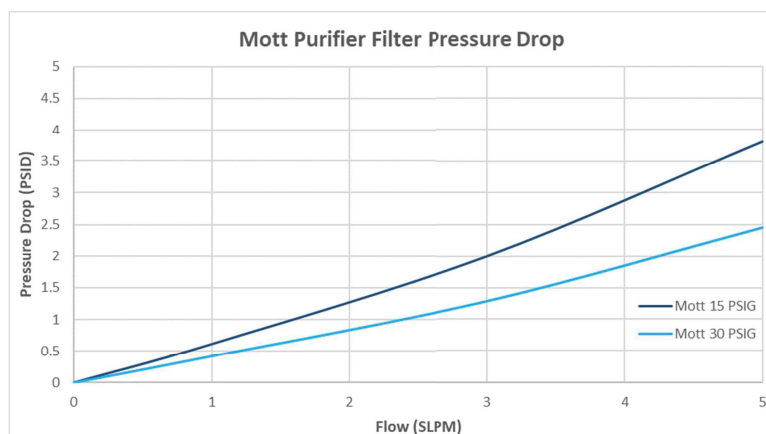
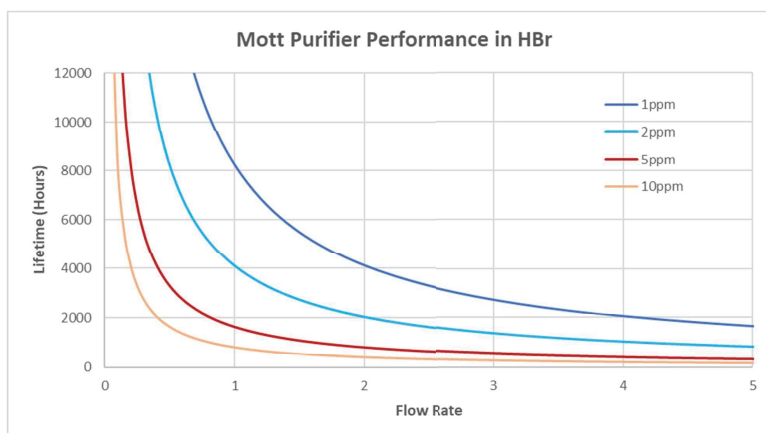
1.5 nm Filter



A = 3.30"



B = 1.125"



## COMMON FILLS

Class	Gas Type	Gases Purified	Impurities Removed	Purity**	Regen
AG	Acid/Corrosive	BCl <sub>3</sub> , BF <sub>3</sub> , Cl <sub>2</sub> , ClF <sub>3</sub> , F <sub>2</sub> , HBr, HCl, HF, NF <sub>3</sub> , SF <sub>4</sub> , WF <sub>6</sub>	H <sub>2</sub> O	<1 PPB	No
HG	Hydride	AsH <sub>3</sub> , B <sub>2</sub> H <sub>6</sub> , CH <sub>4</sub> , D.C.S.(SiH <sub>2</sub> Cl <sub>2</sub> ), Ge <sub>2</sub> H <sub>6</sub> , GeH <sub>4</sub> , H <sub>2</sub> Se, NH <sub>3</sub> , PH <sub>3</sub> , SF <sub>6</sub> , SiH <sub>2</sub> , SiH <sub>4</sub> , Si <sub>2</sub> H <sub>6</sub> , DMHZ, Hydride/Carrier gas mix	CO, CO <sub>2</sub> , H <sub>2</sub> O, O <sub>2</sub> , Organics	<1 PPB	No

- » Other standard and custom fills available to fit application requirements
- » Transportation protocols required for dangerous goods

\*\* Typical Outlet Purity. See Fill Class Spec Sheet.