

# MOTT GAS PURIFIERS HIGH PURITY MICRO-BULK SERIES

**mott**  
MISSION CRITICAL PRECISION

## GAS PURIFIERS <100 PPT FOR MODERATE FLOW RATES HIGHEST STANDARD OF PURITY

Mott's micro-bulk gas purifiers offer moderate flow rates, serving high purity and permanently installed gas delivery systems. Whether a micro-bulk gas purifier, pressure regulator station, or flow control panel, Mott's micro-bulk purifier solutions are designed to meet the specific requirements of any gas delivery system by allowing for customization of critical features. These purifiers protect sensitive downstream instrumentation and are also used to remove potential contamination spikes which could affect critical wafer processing consistency.

### APPLICATIONS

- » High production rate weld gas/purge gas
- » Glove box purge gas
- » Annealing cover gas
- » Ultra-high purity applications
- » Additive Manufacturing

### OPTIONS

- » Custom inlet/outlet fittings
- » Manual valve options
- » Competitive length matching



### FEATURES

- » 316L stainless steel construction
- » 1.5 nm outlet filtration
- » High-flow 316L stainless steel fiber media
- » Nominal flow rates to 2300 slpm
- » CE certification available

### OPERATING CONDITIONS

- » Max Operating Pressure  
200 PSIG (13.79 BAR)  
150 PSIG (10.34 BAR) - 6" OD Only
- » Typical Operating Temperature Range  
0°C-50°C (32°F-120°F)
- » Max Operating Temperature  
50°C (120°F)
- » Nominal Flow Rate  
See table
- » Max Flow Rate  
10 slpm to 2300 slpm

### SPECIFICATIONS

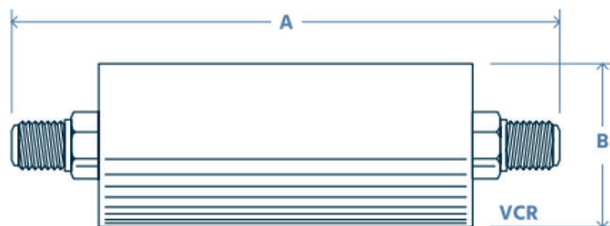
|                                    |   |
|------------------------------------|---|
| Material:                          | 316L stainless steel  |
| Flexible Sizes and Configurations: | Inlet/outlet fittings and valves, face-to-face matching available                                   |
| Filtration:                        | 0.0015 µm standard  |
| Helium Leak Rating:                | 1 x 10 <sup>-9</sup> atm cc/sec   |
| Outlet Purity:                     | < 100 PPT (see fill class spec sheet)   |
| Pressure Drop:                     | < 1 ATM   |
| Wetted Hardware Surfaces:          | Electro-polished, < 10Ra, 316L stainless steel  |
| Lifetime                           | One year given 24/7 operation at nominal flow rate and typical 5N (99.999%) combined inlet impurity |

## PART DESCRIPTION

### Mott Gas Purifier Micro-Bulk Description Example

MGP – 40-176 – IG-101 – 1.5NM – V3

4.0" OD x 17.6" Lg Class Code-Inert 1.5 nm Filter ½" VCR



VCR is a registered trademark of Swagelok Company

## SIZES

| Micro-Bulk Purifiers |        |  |                  |                  |
|----------------------|--------|--|------------------|------------------|
| OAL (A)              |        | Purifier Nominal Flow Rates (Min-Max, Class Dependent) |                  |                  |
| Inch                 | mm     | 3" OD (76.2 mm)  | 4" OD (101.6 mm) | 6" OD (152.4 mm) |
| 7.9                  | 200.7  | 12 - 43 **   | -                | -                |
| 8.2                  | 208.2  | 17 - 45 **   | -                | -                |
| 10.0                 | 254.0  | 17 - 59 **   | 30 - 103         | -                |
| 12.5                 | 317.5  | 23 - 78  | 40 - 137         | -                |
| 17.6                 | 447.0  | 35 - 128 **  | 59 - 206 **      | -                |
| 20.0                 | 508.0  | 39 - 134   | 64 - 229 **      | 150 - 536        |
| 27.6                 | 701.0  | 55 - 192   | 97 - 340         | 210 - 760 **     |
| 29.0                 | 736.6  | 58 - 202   | 101 - 360        | 214 - 766        |
| 30.9                 | 784.9  | -  | 109 - 385        | 226 - 808        |
| 35.1                 | 891.5  | -  | 145 - 439 **     | 242 - 866        |
| 39.3                 | 998.2  | -  | -                | 310 - 1120 **    |
| 42.7                 | 1084.6 | -  | -                | 342 - 1224       |
| 51.0                 | 1295.4 | -  | -                | 410 - 1480 **    |

- » Custom designs and fittings available
- » Nominal flow rates and outlet purity are based on 1 year service life at 5Ns inlet purity
- » OAL's above based on 1/2" fittings and 3/4" for 6" OD vessels
- » \*\* items are standard products, subject to reduced lead times
- » Competitive length matching available
- » Contact us for more information.

## COMMON FILLS

| Class | Gas Type       | Gases Purified  | Impurities Removed  | Purity** | Regen |
|-------|----------------|---|---|----------|-------|
| IG    | Inert          | N <sub>2</sub> , Ar, He, Kr, Ne, Xe   | CO, CO <sub>2</sub> , H <sub>2</sub> , H <sub>2</sub> O, NMHC, O <sub>2</sub> , Acids, Bases, Refractory Compounds, Organics  | <100 PPT | Yes*  |
| RG    | Hydrogen       | H <sub>2</sub> , D <sub>2</sub> , H <sub>2</sub> Inert Mixtures   | CO, CO <sub>2</sub> , H <sub>2</sub> O, NMHC, O <sub>2</sub> , Acids, Bases, Refractory Compounds, Organics                   | <100 PPT | Yes*  |
| 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    |
| OG    | Oxygen/CDA     | O <sub>2</sub> , CDA  | CO, CO <sub>2</sub> , H <sub>2</sub> , H <sub>2</sub> O, THC, NHMC, Amines, NOx, Acids, Bases, Refractory Compounds, Organics | <100 PPT | Yes*  |
| CO2   | Carbon Dioxide | CO <sub>2</sub>   | CO, H <sub>2</sub> , H <sub>2</sub> O, NHMC, Amines, NOx, Acids, Bases, Refractory Compounds, Organics                        | <100 PPT | Yes*  |

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

- \* Factory Regenerable Dependent Upon Mix of Impurity Removals
- \*\* Typical Outlet Purity. See Fill Class Spec Sheet.