

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 ⁻⁹ 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)		Nominal Flow (slpm) / Max Flow (slpm)*		
Inch	mm	3" OD (76.2 mm)	4" OD (101.6 mm)	6" OD (152.4 mm)
7.9	200.7	11 / 60	-	-
10.0	254.0	20 / 98	30 / 157	-
12.5	317.5	25 / 123	40 / 209	-
17.6	447.0	33 / 174	60 / 312	132 / 695
20.0	508.0	39 / 205	70 / 365	156 / 821
27.6	701.0	56 / 294	100 / 523	225 / 1175
29.0	736.6	59 / 310	105 / 552	237 / 1241
30.9	784.9	-	113 / 591	254 / 1330
35.1	891.5	-	130 / 679	291 / 1525
39.3	998.2	-	-	328 / 1723
42.7	1084.6	-	-	359 / 1880
51.0	1295.4	-	-	433 / 2270

- » 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

- » Valve length for 1/2" fittings = 5.34" / 135.6 mm (FVCR x FVCR)
- » Weights range from 1 to 10 lbs based on size and fill material
- » Competitive length matching available
- * Flow may vary based on fill type and purifier size. Contact us for more information.

COMMON FILLS

Class	Gas Type	Gases Purified	Impurities Removed	Purity**	Regen
IG	Inert	N ₂ , Ar, He, Kr, Ne, Xe	CO, CO ₂ , H ₂ , H ₂ O, NMHC, O ₂ , Acids, Bases, Refractory Compounds, Organics	<100 PPT	Yes*
RG	Hydrogen	H ₂ , D ₂ , H ₂ Inert Mixtures	CO, CO ₂ , H ₂ O, NMHC, O ₂ , Acids, Bases, Refractory Compounds, Organics	<100 PPT	Yes*
AG	Acid/Corrosive	BCl ₃ , BF ₃ , CL ₂ , CIF ₃ , F ₂ , HBr, HCl, HF, NF ₃ , SF ₄ , WF ₆	H ₂ O	<1 PPB	No
HG	Hydride	AsH ₃ , B ₂ H ₆ , CH ₄ , D.C.S.(SiH ₂ Cl ₂), Ge ₂ H ₆ , GeH ₄ , H ₂ Se, NH ₃ , PH ₃ , SF ₆ , SiH ₂ , SiH ₄ , Si ₂ H ₆ , DMHZ, Hydride/Carrier gas mix	CO, CO ₂ , H ₂ O, O ₂ , Organics	<1 PPB	No
OG	Oxygen/CDA	O ₂ , CDA	CO, CO ₂ , H ₂ , H ₂ O, THC, NHMC, Amines, NOx, Acids, Bases, Refractory Compounds, Organics	<100 PPT	Yes*
CO2	Carbon Dioxide	CO ₂	CO, H ₂ , H ₂ 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.