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High Purity Products

# Mott GasShield® Point-Of-Use Gas Filters.



# GasShield® POU Filters.

For maximum filtration efficiency, strength and reliability, the GasShield POU filter line is the industry's first and still largest collection of all-metal filters. Which means Mott offers the greatest assurance of having the precise filter you require – whether it's Hastelloy® C-22 to withstand corrosive gases, or Mott PENTA® Nickel to offer ΔPs comparable to Teflon®. Key GasShield POU features include:

## 9 log reduction value.

- Greater than 99.9999999% removal of all particles down to 0.003µm; confirmed at the most penetrating particle size of 0.1µm.

## High-performance operation.

- Operating temperatures up to 450°C (inert gas).
- Able to withstand 1000 psi differential (69 bar) pressure @ 20°C.
- All units are He leak-tested to a maximum  $1 \times 10^{-9}$  atm cc/sec.
- Parts per trillion dry down achievable.
- >1 trillion particles retained at the rated flow with zero particles detected downstream of tested filters.
- Particle shedding of <1 particle/ft<sup>3</sup> in accordance with SEMI F43.

## Rugged, high-quality construction.

- 5 Ra surface finish on all internal hardware components.
- Media is sintered with no binders or slurry so "the only material of construction of the media is the media."
- Minimized surface area permits required flow characteristics at >9 log particle retention.
- Filter element is designed to provide required flow at minimal pressure drop while minimizing surface area to provide virtually zero out-gassing.
- All-welded construction eliminates out-gassing which accompanies polymeric filters.

## Materials of construction.

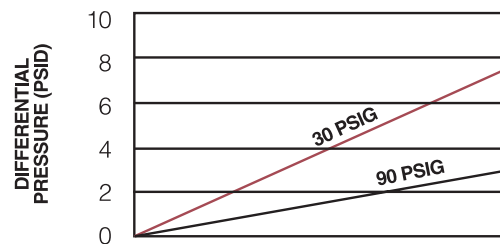
- Standard GasShield POU filters are offered with 316L stainless steel porous metal media in 316L VAR/ electropolished stainless steel or nickel housings.

- Mott also offers POU filters made of Hastelloy C-22 for use in corrosive gas applications such as HCl, HBr and WF<sub>6</sub>. We are the only filter supplier to the semiconductor industry to offer filter media and housings in Hastelloy C-22.
- We also manufacture nickel filters capable of filtration at higher flow rates.

## Clean start-to-finish packaging.

- Preconditioned with clean dry nitrogen.
- Class 100 clean room packaged. Multiple bags to ensure dryness.
- Packaging is designed to maintain the purity of the filter prior to installation.

TYPICAL DIFFERENTIAL PRESSURE vs. FLOW



|             |   |    |
|-------------|---|----|
| POU-05-Sxx  | 0 | 10 |
| POU-015-Sxx | 0 | 20 |
| POU-3-Sxx   | 0 | 30 |
| POU-10-Sxx  | 0 | 75 |

## GasShield® GasketFilter™.

Fits inside 1/4" face seal fittings.



- Available in patented NanoMetal® Nickel Media.
- Complete compatibility with most process gases.
- Eliminates size constraints.
- True 0.003µm filtration.
- Ideal for flows 1 slpm and less.
- Utilize as a component protection device.
- Maximum recommended operating temperature of 450°C (inert gas).
- Maximum differential pressure (20°C) is 1000 psid.

# GasShield® POU Filters.

## Ordering Information.

Mott GasShield POU filters are available in the following standard configurations. Other configurations may be available on special order. Consult the factory.

| Catalog Number         | Computer Part No. (CPN*) | Maximum Rated Flow (slpm) | Filter Element Material | Housing Material | Standard Inlet/Outlet Connection** | Maximum Inlet Pressure (psig/bar) at 20° C | Maximum Differential Pressure (psid/bar) | Overall Length (Inches/mm) |
|------------------------|--------------------------|---------------------------|-------------------------|------------------|------------------------------------|--|--|----------------------------|
| <b>STAINLESS STEEL</b> |                          |                           |                         |                  |                                    |  |  |                            |
| POU-05-SV1             | 6800017                  | 10                        | 316L SS                 | 316L SS/VAR      | 1/4" Male Face Seal                | 3750/258.6                                 | 1000/69                                  | 3.31/84                    |
| POU-015-SV1            | 6800049                  | 30                        | 316L SS                 | 316L SS/VAR      | 1/4" Male Face Seal                | 3750/258.6                                 | 1000/69                                  | 5.00/127                   |
| POU-015-ST1            | 6800029                  | 30                        | 316L SS                 | 316L SS/VAR      | 1/4" Tube Stub                     | 3750/258.6                                 | 1000/69                                  | 5.00/127                   |
| POU-3-SV1              | 6800001                  | 60                        | 316L SS                 | 316L SS/VAR      | 1/4" Male Face Seal                | 2500/172.4                                 | 1000/69                                  | 3.31/84                    |
| POU-10-SV1             | 6800003                  | 150                       | 316L SS                 | 316L SS/VAR      | 1/4" Male Face Seal                | 2500/172.4                                 | 1000/69                                  | 5.00/127                   |
| POU-10-SV2             | 6800006                  | 150                       | 316L SS                 | 316L SS/VAR      | 3/8" Male Face Seal                | 2500/172.4                                 | 1000/69                                  | 5.00/127                   |
| <b>NICKEL</b>          |                          |                           |                         |                  |                                    |  |  |                            |
| POU-05-NSV1            | 6800052                  | 30                        | Nickel                  | 316L SS/VAR      | 1/4" Male Face Seal                | 3750/258.6                                 | 1000/69                                  | 3.31/84                    |
| POU-05-NST1            | 6800070                  | 30                        | Nickel                  | 316L SS/VAR      | 1/4" Tube Stub                     | 3750/258.6                                 | 1000/69                                  | 3.31/84                    |
| POU-3-NSV1             | 6800067                  | 100                       | Nickel                  | 316L SS/VAR      | 1/4" Male Face Seal                | 2500/172.4                                 | 1000/69                                  | 3.31/84                    |
| <b>HASTELLOY</b>       |                          |                           |                         |                  |                                    |  |  |                            |
| POU-05-HV1             | 6800040                  | 8                         | Hastelloy C-22          | Hastelloy C-22   | 1/4" Male Face Seal                | 3750/258.6                                 | 1000/69                                  | 3.31/84                    |
| POU-3-HV1              | 6800002                  | 45                        | Hastelloy C-22          | Hastelloy C-22   | 1/4" Male Face Seal                | 3750/258.6                                 | 1000/69                                  | 3.31/84                    |
| POU-10-HV1             | 6800004                  | 100                       | Hastelloy C-22          | Hastelloy C-22   | 1/4" Male Face Seal                | 3750/258.6                                 | 1000/69                                  | 3.31/84                    |

\*Order by CPN.

\*\*Optional end connections are available on request.

## Mott Catalog Number Configuration

