

## 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 0.08μm.

## 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.

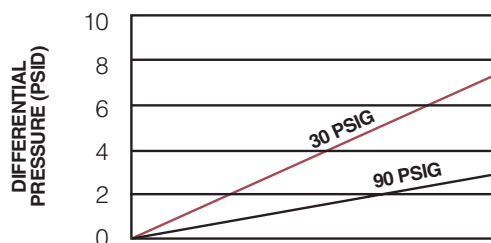
- Standard GasShield POU filters are offered with 316L stainless steel porous metal media in 316L VAR/ electropolished stainless steel or nickel housings.

- 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  |
| POU-30-Sxx  | 0 | 250 |

FLOW (SLPM)

## 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.

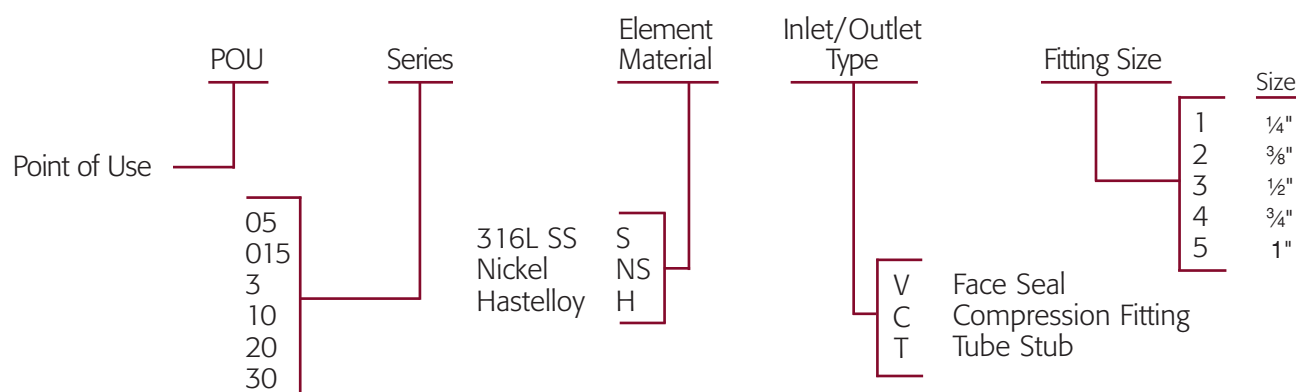
Mott GasShield POU filters are available in the following standard configurations. Other configurations may be available on special order. Consult the factory.

| 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                   |
| POU-30-SV3             | 6800074                  | 300                       | 316L SS                 | 316 SS/VAR       | 1/2" Male Face Seal                | 2500/172.4                                 | 1000/69                                  | 11.22/285                  |
| <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                                  | 5.00/127                   |

\*Order by CPN.

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

## Mott Part Number Configuration



## Limited Warranty

Mott Corporation ("Mott") warrants its GasShield® gas 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.

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ISO 9001:2008 CERTIFIED

HPPOU Rev 5 0109