# TPM™ Series Filter Cartridges

### Titanium Porous Metal Technology

TPM series filters are porous titanium filters designed for applications involving heat, gases, aggressive chemicals, cryogenics or polymers. Made from titanium powder, that is sintered to form a rugged, fixed pore structure, TPM filters are made to withstand temperature extremes, high pressures and repeated cleaning/backwash cycles. There are no longitudinal seams, for improved mechanical strength and corrosion resistance. TPM filters are produced in a range of configurations and micron ratings to perform in a variety of liquid and gas applications.

### Features–Benefits

- Constructed entirely of sintered titanium powder
  – Offers high corrosion resistance
- Cleanable/Backwashable – Allows for re-use
  – Maximum economy
- High Temperature Sintering – No media migration
- Various gasket/O-Ring materials and configurations
  – Easily retrofits most systems

### Product Specifications

| | |
|---|---|
| *Media:* | *Titanium* |
| *End caps:* | *Titanium* |
| *Gaskets/O-Rings:* | *EPR, Buna-N, Viton, Teflon Encapsulated Viton (O-Rings only), Teflon (gasket only)* |
| *Micron ratings:* | *0.5, 2, 5, 10, 15, 35 µm* |
| **Dimensions** | |
| *Nominal lengths:* | *10'', 20'', 30'' (25.4, 50.8, 76.2 cm)* |
| *Outside diameter:* | *2.75'' (70 mm) or 2.36'' (60 mm)* |
| **Operating Parameters** | |
| *Maximum operating* | *700°F (371°C)** |
| *Maximum differential pressure:* | *250 psid (17.4 bar) forward) 50 psid (3.5 bar) reverse* |
| *Recommended change-out pressure:* | *35 psid (2.4 bar)* |

### Typical Applications

- Corrosive liquids and gases
- Cryogenic fluids
- High viscosity solutions
- Process steam
- High temperature liquids and gases
- Catalyst recovery

## TPM Nomenclature Information

| TPM | S | 10 | -30 | M1 | N |
|---|---|---|---|---|---|
| **Filter Type**<br>TPM Series Filters | | **Retention Rating (microns)**<br>**0.5**<br>**2**<br>**5**<br>**10**<br>**15**<br>**35** | **Nominal Length (inches)**<br>**-10**<br>**-20**<br>**-30** | **End Configuration**<br>**P** Double Open End *<br>**P2** 226/Flat Single Open End<br>**P3** 222/Flat Single Open End<br>**M1** ¾ Inch MNPT Threads<br>**M2** 1 Inch MNPT Threads | **Gasket or O-Ring**<br>**S** Silicone<br>**B** Buna-N<br>**E** EPDM<br>**V** Viton<br>**T** Teflon endcap. Viton (O-Rings only)<br>**T** Teflon (gasket only)<br>**N** None |
| **Diameter Option**<br>**Blank** 2.75" diameter<br>**S** Slim 2.36" diameter | | | | | |

*Example: TPM S10-30M1N*

### Removal Efficiency

| *Beta Ratio Efficiency* | *Beta 200 99.5%* | *Beta 20 95%* | *Beta 10 90%* |
|---|---|---|---|
| *0.5 micron* | *0.5 micron* | *0.3 micron* | *0.1 micron* |
| *2 microns* | *2 micron* | *0.8 micron* | *0.4 microns* |
| *5 microns* | *5 micron* | *3 microns* | *1 microns* |
| *10 microns* | *10 microns* | *8 microns* | *5 microns* |
| *15 microns* | *15 microns* | *12 microns* | *10 microns* |
| *35 microns* | *35 microns* | *32 microns* | *28 microns* |

$$\text{Beta Ratio} = \frac{\text{Upstream particle counts}}{\text{Downstream particle counts}}$$

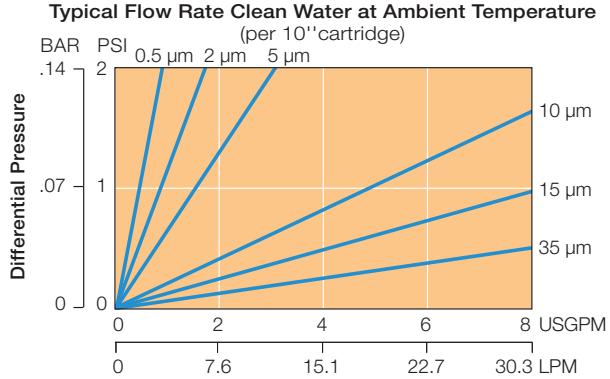
The micron ratings shown at various efficiency and beta ratio value levels were determined through laboratory testing, and can be used as a guide for selecting cartridges and estimating their performance. Under actual field conditions, results may vary somewhat from the values shown due to the variability of filtration parameters.

Testing was conducted using the single-pass test method, water at 2.5 gpm/10'' cartridge. Contaminant's included latex beads, coarse and fine test dust. Removal efficiencies were determined using dual laser source particle counters.

*Note: DOE style is not compatible with SCB housings.

### TPM 2.36" (60 mm) FLOW RATE

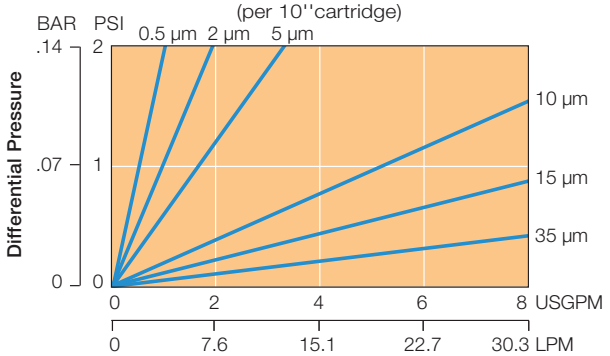
**Typical Flow Rate Clean Water at Ambient Temperature**
(per 10''cartridge)




For liquids other than water, multiply pressure drop by the fluid viscosity in centipoise

### TPM 2.75" (70 mm) FLOW RATE

**Typical Flow Rate Clean Water at Ambient Temperature**
(per 10''cartridge)




For liquids other than water, multiply pressure drop by the fluid viscosity in centipoise

Specialty