

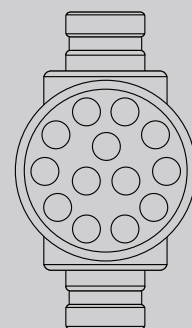
## POREX® TMF 13-Tubular Membrane Filter (TMF) Modules

Optimal high solids separation at high flux rates

POREX TMF cross-flow tubular membrane modules contain Porex's unique, structural membrane tubes. The superior strength of the membrane/substrate composite allows higher operating and backwash pressures for superior solids removal efficiency, higher flux and reduced system footprint. The structural composite membrane features PVDF membrane bonded to PVDF substrate or anchored to PE substrate.

### TMF Series Features:

- Consistent, reliable solid/liquid separations and long service life
- Unique support with PVDF membrane offers high performance tubular membrane with superior operating characteristics
- Sintered PVDF substrate with PVDF membrane offers high temperature and improved chemical compatibility (pH range of 0–14)
- PVDF/PVDF composite option offers increased abrasion resistance and enhanced membrane durability
- Three distinct membrane pore sizes available on two different substrate options
- Uniform, thermally-bonded omni-directional substrate pore structure provides an optimized support structure for tubular membranes and enhanced membrane durability
- Now available in multiple tube quantities and diameters for increased surface area and flux



### Chemical Resistance:

POREX TMF modules are resistant to a broad spectrum of corrosive chemicals and reagents as well as pH ranges of 0 to 14. Typically, pilot feasibility tests are needed to determine the actual TMF module performance under real operating conditions.

For additional information on our TMF Tubular Membrane Filters call 866-515-7783 or visit our web site at [www.porexfiltration.com](http://www.porexfiltration.com).

### Operating Specifications

|                            |                                 |
|----------------------------|---------------------------------|
| Pre-Use Wetting Agent      | IPA                             |
| Water Flux                 | >200 GFD (340 LMH)              |
| Cross Flow Liquid Velocity | 10 – 16 ft/sec (3.0 to 4.9 m/s) |
| pH Range                   | 0 – 14                          |
| Max Backpulse Pressure     | 20 psi (138 kPa) at 25°C        |
| Max Differential Pressure  | 60 psi (414 kPa) at 25°C        |
| Max Solids                 | 18%                             |
| Min Solids                 | 0.25%                           |
| Max Viscosity              | 50 cp                           |
| Min Viscosity              | <1 cp                           |

### Physical Specifications

| Modules                   |                                             |
|---------------------------|---------------------------------------------|
| Housing Diameter          | 6" Sc40                                     |
| Filtrate Port (Qty 2)     | ø2.875" x 1.89" L pipe stub                 |
| Retentate Ports           | 6" pipe Anvil Gruvlok groove                |
| Mounting Required         | Horizontal; 2 point                         |
| Module Length             | 72" (1829 mm)                               |
| Tubes                     |                                             |
| Number of Tubes           | 13                                          |
| Nominal ID                | 1" (25.4 mm)                                |
| Nominal OD                | 1.34" (34 mm)                               |
| Total Active Surface Area | 19.8 ft <sup>2</sup> (1.84 m <sup>2</sup> ) |
| Internal Liquid Volume    |                                             |
| Filtrate Volume           | 3.06 gallons (11.58 ltr)                    |
| Concentrate Volume        | 3.18 gallons (12.04 ltr)                    |
| Total Volume              | 6.25 gallons (23.66 ltr)                    |
| Materials of Construction |                                             |
| Potting                   | Solvent Cement                              |
| Internal Supports         | Polypropylene                               |
| Gasket Material           | None                                        |
| Preservative              | Propylene Glycol                            |
| Membrane                  | PVDF                                        |

## ▶ POREX® TMF 13-Tubular Membrane Filter (TMF) Modules

| Maximum Cleaning | Solution Strength     |
|------------------|-----------------------|
| Bleach (NaOCl)   | < 17% to 100°F (38°C) |
| Caustic (NaOH)   | < 15% to 104°F (40°C) |
| Acid (HCl)       | < 15% to 140°F (60°C) |
| Peroxide (H2O2)  | < 5% to 100°F (38°C)  |

### Coupling and Tubing Specifications

#### Filtrate Port Vinyl Tubing Specifications

|                       |                     |
|-----------------------|---------------------|
| I.D.                  | 3 in. (76.2 mm)     |
| O.D.                  | 3 1/2 in. (88.9 mm) |
| Wall Thickness        | 1/4 in. (6.35 mm)   |
| Approx. Max. Pressure | 21 psi at 70° F     |
| Weight (lbs / 100 ft) | 144                 |

#### Gruvlok Coupling Specifications

|                          |                                |
|--------------------------|--------------------------------|
| Gruvlok Model            | Anvil 7001 Standard Coupling   |
| Sized                    | 6 in.                          |
| Standard Gasket          | C Style                        |
| Standard Gasket Material | Grade E (EPDM)                 |
|                          | suitable for most applications |
| Approx. Weight Each      | 11.8 lbs (5.4 kg)              |

#### Vitauclic Coupling Specifications

|                          |                                |
|--------------------------|--------------------------------|
| Vitauclic Model          | 77 or 75 flexible coupling     |
| Sized                    | 6 in.                          |
| Standard Gasket Material | Grade E (EPDM)                 |
|                          | suitable for most applications |
| Approx. Weight Each      | 7 lbs (3.2 kg)                 |

| Item Number  | Description                                 | Nominal Pore Size (µm) | Maximum Continuous Operating Temperature* | Housing     | Substrate Tube | Shipping Dimensions (inch) (mm)     | Shipping Weight (lbs) (kg) |
|--------------|---------------------------------------------|------------------------|-------------------------------------------|-------------|----------------|-------------------------------------|----------------------------|
| MME3005613VP | 13 Tube PVC Module / PE 1" tube - 0.05µm    | 0.05µm                 | 43°C / 110°F                              | Grade 1 PVC | UHMWPE         | 12 x 7.5 x 75.5<br>305 x 191 x 1918 | 45<br>20.41                |
| MME3S01613VP | 13 Tube PVC Module / PE 1" tube - 0.1µm     | 0.1µm                  | 43°C / 110°F                              | Grade 1 PVC | UHMWPE         | 12 x 7.5 x 75.5<br>305 x 191 x 1918 | 45<br>20.41                |
| MME3S05613VP | 13 Tube PVC Module / PE 1" tube - 0.5µm     | 0.5µm                  | 43°C / 110°F                              | Grade 1 PVC | UHMWPE         | 12 x 7.5 x 75.5<br>305 x 191 x 1918 | 45<br>20.41                |
| MME3005613VC | 13 Tube CPVC Module / PE 1" tube - 0.05µm   | 0.05µm                 | 43°C / 110°F                              | CPVC        | UHMWPE         | 12 x 7.5 x 75.5<br>305 x 191 x 1918 | 47.1<br>21.36              |
| MME3S01613VC | 13 Tube CPVC Module / PE 1" tube - 0.1µm    | 0.1µm                  | 43°C / 110°F                              | CPVC        | UHMWPE         | 12 x 7.5 x 75.5<br>305 x 191 x 1918 | 47.1<br>21.36              |
| MME3S05613VC | 13 Tube CPVC Module / PE 1" tube - 0.5µm    | 0.5µm                  | 43°C / 110°F                              | CPVC        | UHMWPE         | 12 x 7.5 x 75.5<br>305 x 191 x 1918 | 47.1<br>21.36              |
| MMV3005613VP | 13 Tube PVC Module / PVDF 1" tube - 0.05µm  | 0.05µm                 | 60°C / 140°F                              | Grade 1 PVC | PVDF           | 12 x 7.5 x 75.5<br>305 x 191 x 1918 | 59.1<br>26.8               |
| MMV3S01613VP | 13 Tube PVC Module / PVDF 1" tube - 0.1µm   | 0.1µm                  | 60°C / 140°F                              | Grade 1 PVC | PVDF           | 12 x 7.5 x 75.5<br>305 x 191 x 1918 | 59.1<br>26.8               |
| MMV3S05613VP | 13 Tube PVC Module / PVDF 1" tube - 0.5µm   | 0.5µm                  | 60°C / 140°F                              | Grade 1 PVC | PVDF           | 12 x 7.5 x 75.5<br>305 x 191 x 1918 | 59.1<br>26.8               |
| MMV3005613VC | 13 Tube CPVC Module / PVDF 1" tube - 0.05µm | 0.05µm                 | 80°C / 176°F                              | CPVC        | PVDF           | 12 x 7.5 x 75.5<br>305 x 191 x 1918 | 61.1<br>27.71              |
| MMV3S01613VC | 13 Tube CPVC Module / PVDF 1" tube - 0.1µm  | 0.1µm                  | 80°C / 176°F                              | CPVC        | PVDF           | 12 x 7.5 x 75.5<br>305 x 191 x 1918 | 61.1<br>27.71              |
| MMV3S05613VC | 13 Tube CPVC Module / PVDF 1" tube - 0.5µm  | 0.5µm                  | 80°C / 176°F                              | CPVC        | PVDF           | 12 x 7.5 x 75.5<br>305 x 191 x 1918 | 61.1<br>27.71              |

\* For operation at higher than listed temperatures, contact your Porex representative. Note: rapid temperature changes can damage the Filter Modules.

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