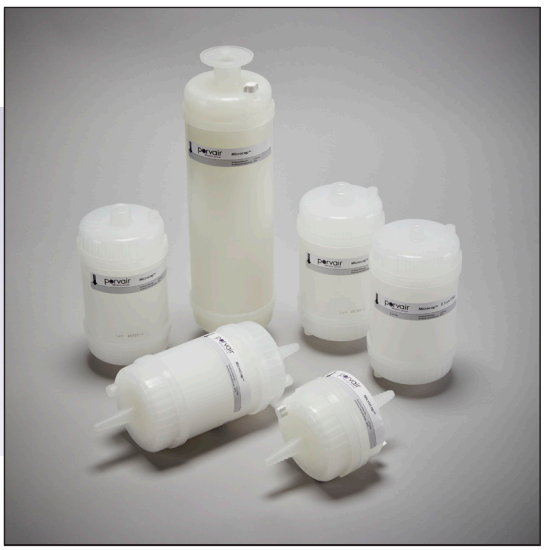
porvair filtration group

# Microcap™ PPTFE

## PTFE Pleated Membrane Capsules



**Microcap™ PPTFE capsules are manufactured for the critical needs of the pharmaceutical industry.**

Made with highly hydrophobic polytetrafluoroethylene (PTFE) membrane, these capsules are used for the filtration of non-aqueous liquids, aggressive solvents, compressed gases and as vent filters. Each module is individually tested using the water intrusion method before it is released from manufacture.

The capsule media surface area, filter core design, pleat configuration and pleat packing density have been optimised to provide increased life resulting in lower filtration operating costs.

## Typical Applications

- Solvent filtration
- Fermentation air
- Tank vent filters
- Process gas
- Compressed air filtration

## Features and Benefits

- Optimised for maximum filter life.
- Guaranteed microbial ratings.
- Maximized bio-burden reduction.
- Integrity at low TOC levels.

## Ordering Information

**Product Code:** 7018- 3- xxx - x - xx - x x

| Micron Rating (µm) | |
|---|---|
| P10 | 0.1 |
| P22 | 0.22 |
| P45 | 0.45 |
| 001 | 1 |
| 003 | 3 |
| 005 | 5 |

| Pre-sterilised | |
|---|---|
| N | Non-sterile |

| Length (in) | |
|---|---|
| 02 | 2 |
| 05 | 5 |
| 10 | 10 |
| 20 | 20 |
| 30 | 30 |

| Inlet | |
|---|---|
| A | 1/4" Female NPT |
| B | 1/4" Male NPT |
| C | 3/8" Female NPT |
| D | 1/2" Female NPT |
| E | 1/2" Male NPT |
| F | 1" - 1 1/2" Sanitary |
| G | Hose Barb |

| Outlet | |
|---|---|
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## Specifications

### Materials of Manufacture

| | |
|---|---|
| Housing: | Polypropylene |
| Filtration media: | PTFE membane (absolute rated) |
| Media support: | Polypropylene |
| End caps: | Polypropylene |
| Centre core: | Polypropylene |
| Outer support cage: | Polypropylene |
| Sealing method: | Thermal bonding |

### Sanitisation/Sterilisation

| | |
|---|---|
| Autoclave: | 120°C (250°F), 30 min, 5+ cycles. |
| Chemical sanitisation: | Industry standard concentrations of hydrogen peroxide, peracetic acid, sodium hypochlorite and other selected chemicals. |
| Note: | Microcap™ PPTFE capsules are not to be used in steam. |

### Flow Rate

The following tables represent typical water flow at a one psi (69bar) pressure differential across a single 2 inch capsule with 1.0 ft² (0.093 m²) of media with 1/2" FNPT ports. The liquid test fluid is water at ambient temperature. The gas test fluid is compressed air at ambient temperature. Higher pressure drops are acceptable, but as flows increase the pressure drop of the housing becomes more apparent.

| Air/Gas flow rates | | | | | | |
|---|---|---|---|---|---|---|
| **µm rating** | 0.10 | 0.22 | 0.45 | 1.0 | 3.0 | 5.0 |
| **SCFM** | 3.0 | 4.9 | 9 | 11 | >11 | >11 |

| Liquid flow rates | | | | | | |
|---|---|---|---|---|---|---|
| **µm rating** | 0.10 | 0.22 | 0.45 | 1.0 | 3.0 | 5.0 |
| **GPM** | 0.15 | 0.24 | 0.76 | 1.2 | 1.4 | 1.6 |
| **LPM** | 0.57 | 0.91 | 2.87 | 4.54 | 5.30 | 6.06 |

### Maximum Operating Parameters

| | |
|---|---|
| Liquid operational pressure: | 5.5bar (80psi) at 20°C (68°F) |
| Gases operational pressure: | 4.1bar (60psi) at 20°C (68°F) |
| Operating temperature: | 43°C (110°F) at 2.1bar (30psi) in water |
| Forward differential pressure: | 3.4bar (50psi) at 20°C (68°F) |
| Reverse differential pressure: | 2.7bar (40psi) at 20°C (68°F) |
| Recommended changeout pressure: | 2.4bar (35psi) |

### Filtration Area

| Media | Capsule length | | | | |
|---|---|---|---|---|---|
| | 2" | 5" | 10" | 20" | 30" |
| PTFE membrane | 1.0ft² (0.09m²) | 3.0ft² (0.28m²) | 8.2ft² (0.76m²) | 16.4ft² (1.53m²) | 24.6ft² (2.29m²) |

### Integrity Test Specifications

(per 1.0 ft2 (930 cm2) 60/40 IPA/water wetted membrane)

| Pore size (µm) | Bubble point |
|---|---|
| 0.10 | 1.52bar (22psi) |
| 0.22 | 1.2bar (18psi) |
| 0.45 | 621bar (9psi) |
| 1.0 | 414bar (6psi) |
| 3.0 | 138bar (2psi) |
| 5.0 | 69bar (1psi) |

### Validation

Our biopharmaceutical grade capsules are validated using test procedures based on ASTM Method F838-05 and HIMA protocols.

The challenge level is 107 organisms per cm2 of filter media: 0.22 µm challenged with Brevundimonas diminuta;



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