

Microcap™ PNY

Pleated Nylon Membrane Capsules



Microcap™ PNY capsules are designed to be used for sterilising grade filtration. The high quality nylon membrane is optimised for retention. PNY capsule filter elements are 100% integrity tested during production.

Nylon capsules see broad service in sterile fill applications in SVPs and as bioburden management filters in LVPs. Media and service liquid filtration are other common applications for this membrane.

Additional applications for Microcap™ PNY capsule filters include the final filtration of bulk pharmaceutical chemicals, USP Purified Water, Water for Injection (WFI), buffers, solvents, alcohols and other excipients. Nylon is particularly suited for the filtration of solvents because of its broad compatibility and low level of extractables.

Typical Applications

- Bulk pharmaceutical chemicals
- SVPs and LVPs
- Buffers and other media
- Solvents
- WFI water
- Feedstock

Features and Benefits

- Optimised for retention.
- Broad solvent compatibility.
- Guaranteed microbial ratings.
- Excellent chemical compatibility.
- Low TOC levels.
- USP Class VI approved.
- Uses FDA compliant materials.

Ordering Information

Product Code: 7018- 5- xxx - x - xx - x x

| Micron Rating (µm) | | Pre-sterilised | | Length (in) | | Inlet | | Outlet | |
|--------------------|------|----------------|-------------|-------------|----|-------|----------------------|--------|----------------------|
| P10 | 0.10 | N | Non-sterile | 02 | 2 | A | 1/4" Female NPT | A | 1/4" Female NPT |
| P22 | 0.22 | S | Sterile | 05 | 5 | B | 1/4" Male NPT | B | 1/4" Male NPT |
| P45 | 0.45 | | | 10 | 10 | C | 3/8" Female NPT | C | 3/8" Female NPT |
| P65 | 0.65 | | | 20 | 20 | D | 1/2" Female NPT | D | 1/2" Female NPT |
| | | | | 30 | 30 | E | 1/2" Male NPT | E | 1/2" Male NPT |
| | | | | | | F | 1" - 1 1/2" Sanitary | F | 1" - 1 1/2" Sanitary |
| | | | | | | G | Hose Barb | G | Hose Barb |

Specifications

Materials of Manufacture

| | |
|---------------------|--------------------|
| Housing: | Polypropylene |
| Filtration media: | Nylon 6,6 membrane |
| Media support: | Polypropylene |
| End caps: | Polypropylene |
| Centre core: | Polypropylene |
| Outer support cage: | Polypropylene |
| Sealing method: | Thermal bonding |

Sanitisation/Sterilisation

| | |
|------------------------|--|
| Autoclave: | 121°C (250°F), 30 min, 5+ cycles. |
| Chemical sanitisation: | Nylon does not tolerate aggressive chemical sanitisation protocols. Nylon membrane cartridges are best sanitised with 1% hydrogen peroxide or 1% hydrogen peroxide and peracetic acid. Follow the manufacturers instructions for use on nylon filter devices. |
| Note: | Microcap™ PNY capsules are not designed for steam-in-place (SIP). |
| Pre-Sterilised: | PNY capsules are offered in both non- and pre-sterilised forms. |

Flow Rate

The following table represents typical water flow at a one psi (69mbar) pressure differential across a single 2 inch capsule with 1.2ft² (0.11m²) of media with 1" sanitary ports. The test fluid is water at ambient temperature. Higher pressure drops are acceptable, but as flows increase the pressure drop of the housing becomes more apparent.

| Pore size (µm) | 0.10 | 0.22 | 0.45 | 0.65 |
|----------------|------|------|------|------|
| GPM | 0.14 | 0.25 | 0.43 | 0.60 |
| LPM | 0.53 | 0.95 | 1.63 | 2.27 |

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: | 43C (110F) at 2.1bar (30psi) in water |
| Reverse differential pressure: | 3.4bar (50psi) at 20°C (68°F) |
| Recommended changeout pressure: | 2.4bar (35psi) |

Filtration Area

| Media | Capsule length | | | | |
|---------------------|---|---|---|--|--|
| | 2" | 5" | 10" | 20" | 30" |
| Nylon, 6,6 membrane | 1.2ft ² (0.11m ²) | 3.3ft ² (0.31m ²) | 7.0ft ² (0.65m ²) | 14.0ft ² (1.30m ²) | 21.0ft ² (1.95m ²) |

Integrity Test Specifications

| Pore size | Test pressure (psi) | Max. diffusive flow (cc/min -water wetted membrane) | | | | |
|-----------|---------------------|---|-----|-----|-----|-----|
| | | 2" | 5" | 10" | 20" | 30" |
| 0.10 | 48 | 2.1 | 7.1 | 15 | 30 | 45 |
| 0.22 | 35 | 2.1 | 7.1 | 15 | 30 | 45 |
| 0.45 | 20 | 2.1 | 7.1 | 15 | 30 | 45 |
| 0.65 | 15 | 2.1 | 7.1 | 15 | 30 | 45 |