porvair filtration group

# Hydrofil™

## Nylon 6.6 Membrane Cartridge Filters

**Microbially rated cartridge filters featuring the latest developments in membrane technology, Hydrofil™ cartridges, are based on a naturally hydrophilic nylon membrane.**

Hydrofil™ cartridges exploit the narrow pore size distribution and high void volume of the media to provide a choice of cartridges capable of meeting the requirements of most applications. Careful media selection ensures that Hydrofil™ cartridges are very suited to critical particle control down to 0.01 micron ratings. These cartridges offer high flux rates and low differential pressures, a feature common to nylon membranes.

Hydrofil™ cartridges benefit from high protein binding characteristics of nylon membranes. They are highly resistant to integrity failure caused by steam sterilisation and have excellent chemical compatibility characteristics. Hydrofil™ cartridges provide a combination of features and benefits previously unavailable from cartridges based on PVDF, mixed esters of cellulose or polysulphone membranes.

## Typical Applications

- Biopharmaceuticals: Bioburden reduction and clarification
- Electronics and semiconductors
- Fine chemicals
- Beverages
- Pure water supply (18MΩ.cm)

## Ordering Information

**Product Code:** 1 2 3 4 5 6 7

| 1: Membrane | |
|---|---|
| HT | Hydrofil™ |

| 2: Pore rating | |
|---|---|
| 10 | 0.1µm |
| 20 | 0.2µm |
| 45 | 0.45µm |

| 3: Version | |
|---|---|
| R | Rinsed |
| S | Standard |

| 4: Length (Nominal) | |
|---|---|
| 1 | 10" (254mm) |
| 2 | 20" (508mm) |
| 3 | 30" (762mm) |
| 4 | 40" (1016mm) |
| 5 | 5" (125mm) |

| 5: End Fitting | |
|---|---|
| A | Code 3 |
| B | Code 7 |
| C | Code 8 |
| F | N SOE |
| G | G DOE (short) |
| H | G SOE |
| J | 216 (218), fin |
| K | Code 2 |
| L | 223, fin (no lugs) |
| M | DOE |
| S | Code 28, fin (3 lugs) |
| T | 223, flat (no lugs) |
| U | 224, fin |
| V | 226, fin |
| W | F20 +Code 7 (SS Core) |
| X | F20 +Code 2 (SS Core) |
| Y | BS832, flat |
| Z | F20 +Code Y (SS Core) |

| 6: Seals | |
|---|---|
| A | Ethylene Propylene |
| B | Silicone |
| C | Viton® |
| D | Nitrile |
| E | FEP Encap. Viton® |
| G | FEP Encap. Silicone |
| J | DOE PTFE |

| 7: Additional | |
|---|---|
| A | N+U |
| N | Non-steamable (no insert) |
| P | Pharma Grade |
| U | Unbranded |

## Features and Benefits

- Guaranteed microbial ratings
- Excellent chemical compatibility
- Cartridge integrity and low TOC levels
- Suitable for steam sterilising
- Full traceability
- Controlled manufacturing environment

## Specifications

### Materials of Manufacture

| | |
|---|---|
| Filter membrane: | Nylon 6,6 |
| Membrane support: | Polypropylene |
| Irrigation mesh (support): | Polypropylene |
| Drainage layer: | Polypropylene |
| Inner core: | Polypropylene |
| Outer support: | Polypropylene |
| End fittings: | Polypropylene |
| Support ring: | Stainless steel |

### Cartridge Dimensions (Nominal)

Effective Filtration Area:
0.63m² (6.8ft²) per 10" module

| | | |
|---|---|---|
| Diameter: | 70mm (2.8") | |
| Length: | 1 module: | 254mm (10") |
| | 2 modules: | 508mm (20") |
| | 3 modules: | 762mm (30") |
| | 4 modules: | 1016mm (40") |

Other size formats (including juniors) are available upon request.

### Cartridge Treatment

| | |
|---|---|
| Standard: | Cleaned and flushed with pyrogen-free water |
| Rinsed: | Ultra-clean, pulse flushed to give a system resistivity of 18MΩ.cm |

### Gaskets and O-Rings

FDA approved Ethylene Propylene, FEP encapsulated, Silicone, Viton® or Nitrile

### Maximum Differential Pressure

Normal flow direction at:

| | |
|---|---|
| 20°C (68°F): | 6.0bar (87psi) |
| 80°C (176°F): | 4.0bar (58psi) |
| 100°C (212°F): | 3.0bar (44psi) |
| 120°C (248°F): | 2.0bar (29psi) |

Reverse flow direction at:

| | |
|---|---|
| 20°C (68°F): | 2.1bar (30psi) |
| 80°C (176°F): | 1.0bar (15psi) |
| 100°C (212°F): | 0.5bar (7psi) |

### Operating Temperature

Maximum continuous: 60°C (140°F)

### Sterilisation

*In situ* steam 40 x 25 min cycles at 121°C (250°F).

### Extractables

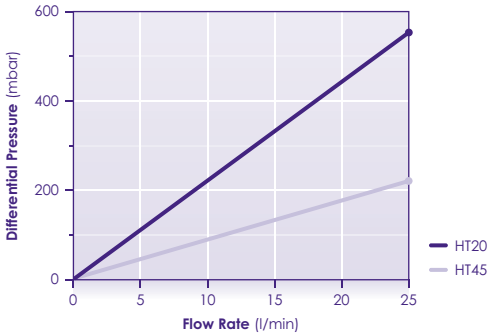
Minimum total extractables. Please refer to the Hydrofil™ Validation Guide.

### Integrity Testing

Each Hydrofil™ module of every cartridge is individually integrity tested using the Diffusive Flow Test, which correlates to the HIMA and ASTM F838-05 bacterial challenge tests. Non-destructive integrity tests, such as Pressure Hold, Diffusive Flow and Bubble Point, can be performed by customers. Please contact us for procedural details.

### Clean Water Flow Rates

- Typical clean water flow rate:
  A 254mm (10") Hydrofil™ single cartridge exhibits the flow-**Δ**P characteristics indicated below, for solutions with a viscosity of 1 centipoise.
- Other solutions:
  For solutions with a viscosity other than 1 centipoise, multiply the indicated differential pressure by the viscosity in centipoise.



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