

PreFlow™

MEMBRANE FILTERS

The PreFlow™ media provides protection for sterilizing-grade filters, including 0.2 µm and 0.1 µm filters, during the processing of biological fluids. The fixed-pore structure and proprietary resin-bonded glass-fiber composite media provide high capacity for fine contaminants, resulting in extended service life.

Applications

The PreFlow range of filters has been specifically designed for the prefiltration of biological fluids, including:

- Serum
- Vaccines
- Tissue culture media
- Protein solutions

Features and benefits

The features and benefits of PreFlow filters include:

- High solids capacity for improved economics.
- Effective and reliable protection of final filters, including 0.2 µm and 0.1 µm sterilizing grade. This can result in much higher throughputs and longer filter life.
- A selection of particulate removal efficiencies to optimize each application.
- A choice of cartridge lengths to match appropriate flow rates.
- The high strength design supports multiple autoclave cycles and extended use.



Fig 1. PreFlow filter cartridges.

High quality standards

We manufacture PreFlow filters to high standards of quality assurance and cleanliness in accordance with BS EN ISO9001:2015. We supply each filter with a test certificate that confirms its suitability for use in pharmaceutical applications. We test samples for effluent quality. Our cartridges meet USP biological reactivity, *In vivo*, for Class VI – 121°C plastics.

Testing includes:

- Cleanliness
- Total organic carbon (TOC)
- pH shift
- Endotoxins

AB filter cartridges

Technical specifications

Typical water flow rate* at 20°C

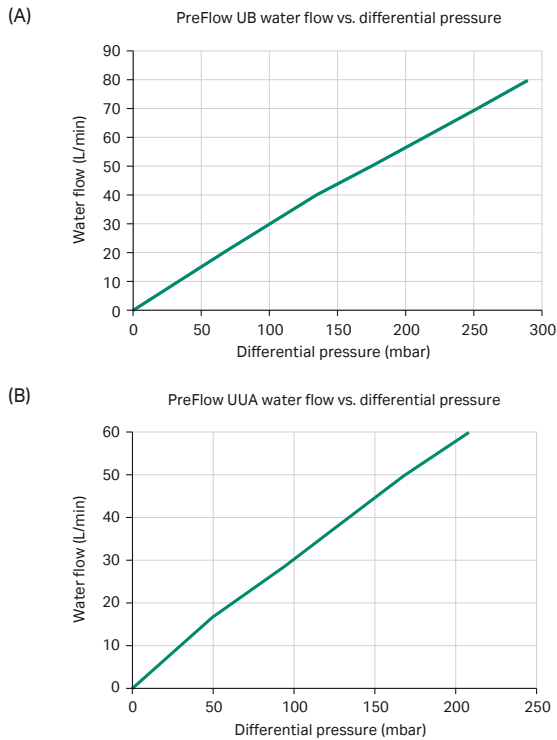


Fig 2. Typical liquid flow rates per 254 mm (10 in.) filter cartridge for (A) 0.45 µm UB membrane and (B) 0.2 µm UUA membrane; water at 20°C, viscosity 1 cP.

* For fluids at 1 cP viscosity. As a general guide, for other viscosities multiply pressure drop by viscosity in cP.

Materials of construction

Filter membrane	Resin-bonded glass fiber
Support/drainage	Polyester
Core/cage/end caps	Polypropylene
Adapter	Polypropylene with an encapsulated stainless steel reinforcing ring
O-rings	Silicone elastomer

Extractables

Extractables in DI water at 20°C	Typically, < 160 mg per 254 mm (10 in.) element pre-autoclave
	Typically, < 170 mg per 254 mm (10 in.) element post-autoclave

Steam/autoclaving sterilization

	0.45 µm (UB) filter	0.2 µm (UUA) filter
Maximum exposure	3 × 1 hour at 125°C	3 × 1 hour at 140°C

Maximum operating pressure and temperature in compatible fluids†

	0.45 µm (UB) filter	0.2 µm (UUA) filter
Maximum differential pressure, forward direction	5.8 bard at 20°C	5.5 bard at 25°C

† Fluids that do not soften, swell, attack or adversely affect the filter or materials of construction

Ordering information

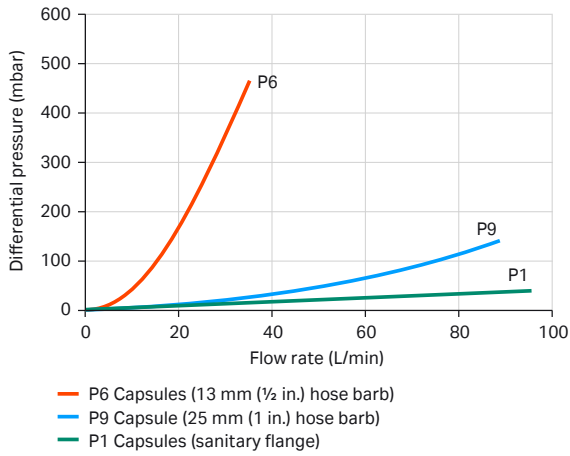
Code	Nominal length	Code	Rating	Adapter style	Pharmaceutical grade	O-ring material
1	254 mm (10 in.)	UUA	0.2 µm	7	P	H4
2	508 mm (20 in.)	UB	0.45 µm			
3	762 mm (30 in.)					

This is a guide to the product code structure only. For availability of specific options, please contact us.

Kleenpak Nova capsule filters

Technical specifications

(A) Kleenpak Nova NP Capsule — Typical water flow rates at 20°C (68°F)



(B) Kleenpak Nova NT Capsule — Typical water flow rates at 20°C (68°F)

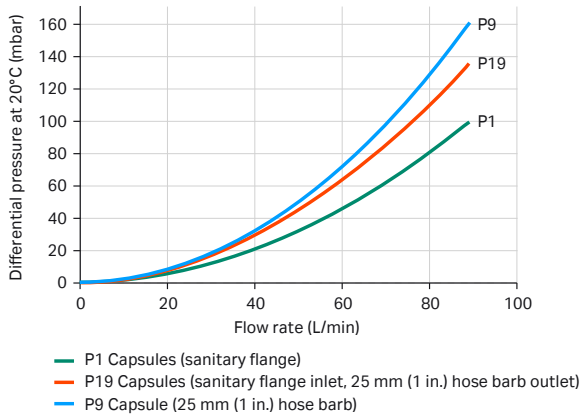


Fig 3. Typical liquid flow rates per empty Kleenpak Nova capsule for (A) In-line NP style and (B) T-style NT capsules; water at 20°C, viscosity 1 cP.

Operating conditions*

Maximum operating temperature	40°C (104°F)
Maximum operating pressure	3 barg (43.5 psig) at 40°C (104°F)

* With compatible fluids which do not soften, swell or adversely affect the product or its materials of construction.

Capsule materials of construction

Housing bowl	Polypropylene
Housing head†	Polypropylene
O-rings	Silicone elastomer

† Formulated with TiO₂ whitener which does not contribute to organic extractables.

Sterilization

Autoclave (maximum)	3 × 1 hour, 125°C
Gamma-irradiation (G option only)	Maximum dosage: 50 kGy

Consult us for procedures.

Nominal dimensions

In-line	NP6	NP7	NP8
Maximum diameter (including valves)	154 mm	154 mm	154 mm
Length with hose barb inlet and outlet	397 mm	644 mm	895 mm
Length with sanitary inlet and outlet	335 mm	584 mm	834 mm
T-style	NT6	NT7	NT8
Maximum diameter (including valves)	240 mm	240 mm	240 mm
Length	349 mm	598 mm	848 mm

Ordering information

Example part number NP6UUAP1G

Code		Capsule style		Code		Filter size		Code		Filter type		Code		Filter grade		Code		Connection options		Code		Sterilization status	
NP	In-line	6	AB1 10 in. (254 mm)	UUA	0.2 µm rated PreFlow filter	P	Pharmaceutical with certificate of test and full traceability	1	1 – 1½ in. sanitary flange inlet and outlet	G	Non-sterilized												
NT	T-style	7	AB2 20 in. (508 mm)	UB	0.45 µm rated PreFlow filter			19	25 mm (1 in.) single-barb hose barb inlet and outlet	S	Pre-sterilized												
		8	AB3 30 in. (762 mm)					9	1 – 1½ in. sanitary flange inlet and 25 mm (1 in.) single-barb hose barb outlet														
																Options for in-line only							
								6	13 mm (½ in.) single-barb hose barb inlet and outlet														
								16	1 – 1½ in. sanitary flange inlet and 13 mm (½ in.) single-barb hose barb outlet														
																Options for T-style only							
								1H	1 – 1½ in. sanitary flange inlet and outlet, with 13 mm (½ in.) sanitary port on inlet														
								1H9	1 – 1½ in. sanitary flange inlet and 25 mm (1 in.) single-barb hose barb outlet, with 13 mm (½ in.) sanitary port on inlet														

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