PREPOR PES Filter Cartridges

- liquid filters
- polyethersulphone

PREPOR PES is an innovative particulate grade membrane prefilter cartridge designed to work in harmony with final sterilizing filters, to guarantee the highest levels of performance and security.

PREPOR PES combines high flow rate characteristics with good microbial reduction and minimum product adsorption by using the latest hydrophilic polyethersulphone membrane technology.

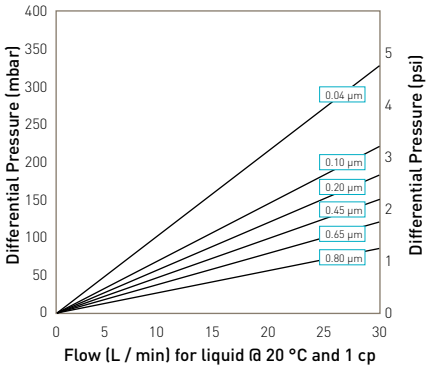
PREPOR PES uses all polypropylene hardware to offer good chemical compatibility and low extractables and is suitable for use in many pharmaceutical applications including terminal and aseptic filtration, ophthalmics, biologicals, serum, SVPs, LVPs and other complex liquids.

Note: PREPOR is a registered trademark of Parker domnick hunter

Features and Benefits

- Micron rating from 0.04 to 0.8 micron
- Versatile particulate grade membrane filter for bioburden reduction and prefiltration duties
- High filtration area with asymmetrical membrane giving long life and high flow rates
- Available in a comprehensive range of end cap configurations for retrofitting existing applications

Performance Characteristics



For K size for a given flow rate multiply 10˝ size differential pressure by 2

10˝ Size (250 mm) Cartridge

Specifications

Materials of Construction

- Filtration Membrane: Polyethersulphone
- Upstream Support: Polypropylene
- Downstream Support: Polypropylene
- Inner Support Core: Polypropylene
- Outer Protection Cage: Polypropylene
- End Caps: Polypropylene
- End Cap Insert (if applicable): 316L Stainless Steel*

**Not available in B & L endcap variants*

- Standard o-rings/gaskets: Silicone / EPDM
- Capsule Body: Polypropylene
- Capsule Vent Seals: Silicone
- Filling Bell: Polycarbonate

Food and Biological Safety

Materials conform to the relevant requirements of 21CFR Part 177, EC1935 / 2004 and current USP Plastics Class VI - 121 °C and ISO10993 equivalents.

Recommended Operating Conditions

Up to 70 °C (158 °F) continuous operating temperature and higher short-term temperatures during CIP to the following limits:

Temperature °C	Temperature °F	Max. Forward dP (bar)	Max. Forward dP (psi)
20	68	5.0	72.5
40	104	4.0	58.0
60	140	3.0	43.5
80	176	2.0	29.0
90	194	1.0	14.5
>100 (steam)	>212 (steam)	0.3	4.0

Capsules may be operated up to a temperature of 40 °C (104 °F) at line pressures up to 5.0 barg (72.51 psig) for liquids.

Effective Filtration Area (EFA)

10" (250 mm) Up to 0.69 m^2 (7.42 ft^2)

Cleaning and Sterilization

PREPOR PES cartridges can be repeatedly steam sterilized in situ or autoclaved at up to 130 °C (266 °F). They can be sanitized with hot water at up to 90 °C (194 °F) and are compatible with a wide range of chemicals. Capsules can be repeatedly autoclaved up to 130 °C (266 °F).

To maximize the life of the cartridge, the differential pressure across the cartridge should not exceed 0.3 barg (4.35 psig) at 130 °C (266 °F).

Retention Characteristics

While the PREPOR PES product is rated for particulate retention, the performance of PREPOR PES products has been assessed to bacterial titre reduction using a challenge methodology based on the ASTM F838-05 methodology applied to sterilizing grade filters. Typical levels are given below:

Organism	Approx. Cell* Size (µm)	Typical Titre Reduction 0.2	0.45	0.65	0.8	1.2
Brevundimonas diminuta	0.5 - 1.0 x 1.5 - 5.0	$>10^{10}$	10^{5}	10^{2}	-	-
Serratia marcescens	0.5 - 0.8 x 0.9 - 2.0	$>10^{12}$	10^{10}	10^{7}	10^{4}	10^{2}
Oenococcus oenos	0.5 - 0.7 x 0.7 - 1.2	$>10^{12}$	10^{12}	10^{8}	10^{5}	10^{3}

Ordering Information

Cartridges

ZCPS □ - □ □ □ □

Code	Length (Nominal)	
B*	2.5"	(65 mm)
A*	5"	(125 mm)
K	5"	(125 mm)
1	10"	(250 mm)
2	20"	(500 mm)
3	30"	(750 mm)
4	40"	(1000 mm)

** Supplied in packs of 3.*

Code	Micron
004	0.04 µm
010	0.10 µm
020	0.20 µm
045	0.45 µm
065	0.65 µm
080	0.80 µm

Code	Endcap (10")
B*	dh DOE
C	BF / 226 Bayonet
D	Fin / 222
E	Flat Top / 222
G	Recess / 222
H	UF Retrofit
J	SOE (no o-ring)
L*	dh DOE
N	Internal 213
R	BF / 222 Bayonet

Code	Endcap (Demi)
SK	Retrofit
T	TRUESEAL
Y	Demi Stub
Z	Demi A & B Std

** EPDM gaskets supplied as standard*

Code	Variant
E	Electronics
P	Pharmaceutical

Code	O-rings
E	EPDM
P	PTFE Encapsulated Silicone
S*	Silicone
V	Viton

**Silicone o-ring supplied as standard without having to specify the 'S' code.*

Capsules

ZEPS □ - □ □ □ - □ □ □ - □

Code	Length (Nominal)	
E	4.4"	(113 mm)
B	5.5"	(140 mm)
A	7.9"	(200 mm)

Code	Micron
004	0.04 µm
010	0.10 µm
020	0.20 µm
045	0.45 µm
065	0.65 µm
080	0.80 µm

Code	Inlet Connection
T	1" Tri-Clamp
N	1/2" NPT Male
H	1/2" Hosebarb
G	Stepped Hosebarb
M	1/4" NPT Male
Q	Walther QC
R	Grommel / QC
V	3/8" NPT Female

Code	Outlet Connection
T	1" Tri-Clamp
N	1/2" NPT Male
H	1/2" Hosebarb
G	Stepped Hosebarb
M	1/4" NPT Male
Q	Walther QC
R	Grommel / QC
V	3/8" NPT Female

Code	Variant
P	Pharmaceutical

Code	Grade
N	Supplied Non-Sterile
S	Supplied Gamma Pre-sterilized

Code	Pack N°
3	Pack of 3

Code	Accessory
FB	Filling Bell

G & H connections only

** Approx. values as in "Holt, J.G., Krieg, N.R., Sneath, P.H.A., Staley, J.T., Williams, S.T., 1994. Bergey's Manual of Determinative Bacteriology, Ninth Edition, Williams & Wilkins".*