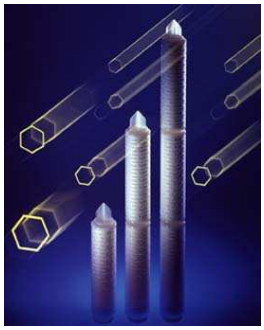
STERYFLUS TSP MULTI-LAYERS



- Integrity testable in situ
- Repeatedly steamable in situ or in autoclave
- Sanitizable
- Thermowelded construction
- EC-listed materials for Food contact
- FDA-listed materials per CFR21
- Bio-Safety per USP-Plastics

STERYFLUS TSP MULTI-layers is utilized in the pharmaceutical and food & beverage general application. The biological grade PH, prefluxed with non-pyrogenic water and with certification of quality reporting the serial number, is utilized in critical applications.
The filter media is constituded by PES (Hydrophilic Polyethersulfone) absolute filtration rating membrane; upstream borosilicate microfibers layer provides prefiltration to protect the membrane; the depht matrix of the borosilicate media retains particle matters as well as deformable contaminants like colloids, granting the cartridges with longer service life.
Manufacturing is completed in a controlled environment; each cartridge is integrity tested and the limits of acceptability are monitored on regular basis by bacteria challenge test.

MATERIALS OF CONSTRUCTION

Filter media	PES membrane + borosilicate microfiber
Upstream supports	polypropylene
Downstream supports	polypropylene
Internal Core	polypropylene
External Cage	polypropylene
End caps / Adapters	polypropylene

FOOD-SAFETY

STERYFLUS TSP MULTILAYERS filter element materials meet (EU) regulation 10/2011 and its amendments, regulations (EC) 1935/2004 and 1895/2005.

BIO-SAFETY

Filter media and components pass USP Biological Reactivity and Chemical-Physical tests for CLASS VI plastics.
Specific for "PH" grade: the filter meets USP "Water for injection" requirements for particle release and the effluent is Non-Pyrogenic per USP Bacterial Endotoxins (< 0,25 EU/ml).

QUALITY STANDARDS

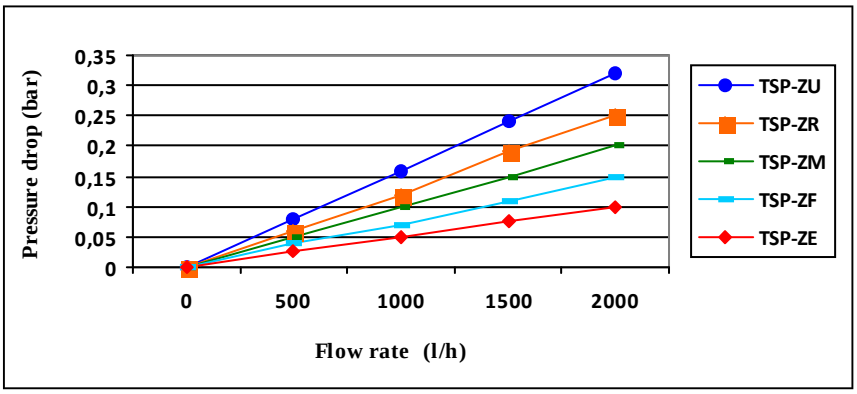
Produced under a certified Quality System to guarantee traceability of manufacturing records and integrity testing results.

OPERATING CONDITIONS

- max. continuous temperature	65 °C
- max. cumulative time of steam sterilization	20 hours at 125 °C or 40 hours at 121 °C with cycles of 30 minutes
- sanitization with hot water	80 °C max
- sanitization with chemicals	can be sanitized by standard chemical agents
- max. differential pressure	5,0 bar at 25 °C - 1,7 bar at 80 °C
- recommended change out differential pressure	2,0 bar at 25 °C
- recommended rinse up volume	3 liters/10" cartridge

CODE	ABSOLUTE FILTRATION RATING IN LIQUIDS	BACTERIAL RETENTION $>10^7$ CFU/cm^2	ACCEPTABLE LIMIT FOR DIFFUSION TEST WITH WATER FOR 10" CARTRIDGE (ml/min)
ZU	0,2 µm	Brevundimonas diminuta	≤ 14 @ 2,3 bar
ZR	0,45 µm	Serratia marcescens	≤ 10 @ 1,7 bar
ZM	0,65 µm	N.A	≤ 20 @ 1,1 bar
ZF	0,8 µm	N.A	≤ 25 @ 0,9 bar
ZE	1,2 µm	N.A	≤ 25 @ 0,8 bar
*as per ASTM F838			

WATER FLOW RATE FOR 10" CARTRIDGE



STERYFLUS TSP MULTILAYER ORDERING INFORMATION

TSP - 207 1 - ZU - [ ] - PH - [ ]

END FITTING	CODE
DOE: double open end with flat gaskets.	**200**
SOE: open end with (1) O-Ring 2.20. Blind end with flat top.	**202**
SOE: open end with (2) O -Ring 2.222. Blind end with flat top.	**203**
SOE: open end with (2) O -Ring 2.226 and 2 bayo-net locks. Blind end with fin.	**207**
SOE: open end with (2) O -Ring 2.222. Blind end with fin.	**208**
SOE: open end with (2) O -Ring 2.222 and 3 bayo-net locks. Blind end with fin.	**212**

ABSOLUTE FILTRATION RATING micron	CODE
0,2	**ZU**
0,45	**ZR**
0,65	**ZM**
0,8	**ZF**
1,2	**ZE**

CODE	NOMINAL LENGTH
1	10"
2	20"
3	30"
4	40"

CODE	PACKING TYPE
No code	Single box

CODE	PRODUCT GRADE
No code	Biological Grade; Tested and prefluxed
PH	Biological Grade; tested and prefluxed with non-pyrogenic water. Quality Certification in the box.
PHH	Biological Grade; tested and prefluxed with non-pyrogenic water. Quality Certification, with serial number, in the box.

CODE	GASKETS	
No code	Standard	Silicone
E	On request	EPDM
T	On request	Teflon only for code 200

DS-TSP MULT-568–UK-17

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