

## STERYFLUS MINI CARTRIDGES

**STERYFLUS-TSP** mini cartridges are an important advance in membrane filter cartridge technology. These mini cartridges are specifically designed for sterile filtration in pharmaceutical and food & beverage applications. The filter membrane is a **hydrophilic PES (Polyethersulphone)** with liquid absolute filtration rating of **0.2** and **0.45** micron, pleated with upstream and downstream support layers in polyester. All construction materials are chemically and biologically inert according to **FDA, USP** and **EC** directives. **STERYFLUS-TSP** are manufactured in Clean Rooms rated class 10,000 and class 100 according to **cGMP** guidelines. Extensive testing is conducted to assure filter elements of highest quality. Each mini cartridge is subjected to integrity test before releasing from production. Furthermore, it is possible for customers to re-verify the integrity of **STERYFLUS-TSP** cartridges **IN SITU**. **STERYFLUS-TSP** mini cartridges have a **Validation Guide** which is available upon request.



### CONSTRUCTION MATERIALS

<b>Filter media:</b>	PES membrane
<b>Upstream drainage:</b>	Nonwoven polyester
<b>Downstream drainage:</b>	Nonwoven polyester
<b>Core &amp; Cage:</b>	Moulded polypropylene
<b>End caps:</b>	Moluded polypropylene

### DIMENSIONS

External diameter	56 mm
Length	135 mm (size 1001)
Other lengths available on request	

### OPERATING SPECIFICATIONS

- max continuous temperature:	65 ° C
- steam sterilization cumulative time:	20h at 125°C or 40h at 121°C
- chemical sanitization:	compatible with standard chemical sanitising agents
- pressure drop recommended for replacement:	2,0 bar at 25 °C
- max pressure drop:	5,0 bar at 25 °C

### FILTRATION RATING

FILTRATION CLASS	LIQUID ABSOLUTE FILTRATION RATING
ZYY	0.2 µm double layer membrane
ZY	0.2 µm single layer membrane
ZT	0.45 single layer membrane
ZK	0.65 single layer membrane

### WATER FLOW RATE

FILTRATION CLASS	l/h (ΔP = 0.1 bar)
ZYY	250
ZY	400
ZT	600
ZK	800

### INTEGRITY TEST

FILTRATION CLASS	ACCEPTABLE LIMIT FOR DIFFUSION FLOW TEST (ml/min)*
ZYY	≤ 7 at 2.8 bar
ZY	≤ 7 at 2.8 bar
ZT	≤ 5 at 1.7 bar
ZK	≤ 10 at 1.7 bar

(\*The DIFFUSION FLOW TEST is performed using water as wetting liquid

### BACTERIAL RETENTION

**STERYFLUS-TSP** membrane cartridges are validated for retention of the microorganisms reported in the Table according to ASTM F838-83 reapproved 1993 ( $\geq 10^7$  CFU/cm<sup>2</sup> effective filtration area).

FILTRATION CLASS	MICROORGANISM USED FOR MICROBIOLOGICAL TEST
ZY, ZYY	<i>Brevundimonas diminuta</i> in liquid
ZT	<i>Serratia marcescens</i> in liquid

### GLOBAL MIGRATION TEST

**STERYFLUS-TSP** membrane cartridges meet the European directives 82/711/EEC, 85/572/EEC, 90/128/EEC, 92/39/EEC, 93/8/EEC, 93/9/EEC, 2002/72/EC, 2004/19/EC.

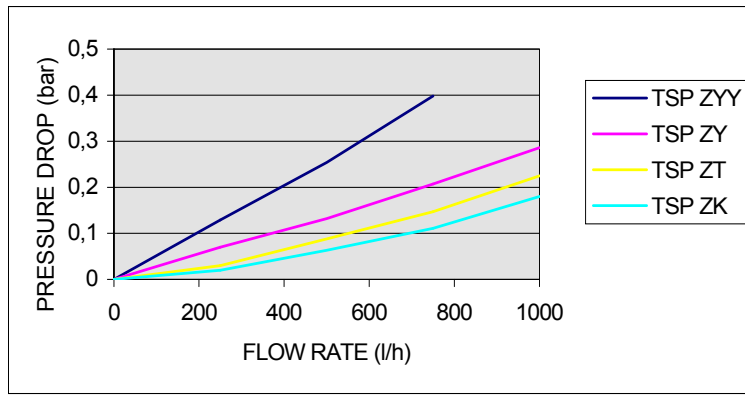
### TOXICITY

Component materials meet the **USP XXV class VI Biological Test for Plastics**.  
Test data is available upon request.

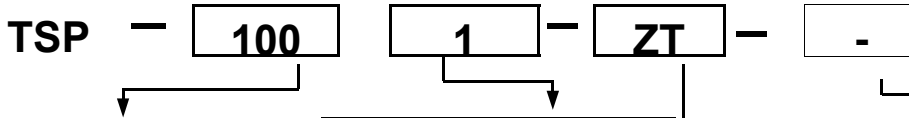
### EXTRACTABLE SUBSTANCES

**STERYFLUS-TSP** cartridges meet **USP XXVII** requirements.

### AIR FLOW RATE CURVES



### STERYFLUS – TSP MINI CARTRIDGES SELECTION CODE



END CAPS	CONFIGURATION
1001	100

NOMINAL LENGTH	INDEX
(135 mm)	1

ABSOLUTE FILTRATION RATING (micron)	FILTRATION CLASS
0.2	ZYY
0.2	ZY
0.45	ZT
0.65	ZK

CONFIGURATION	GASKET		
	STANDARD	EPDM	
100	SPECIAL	SILICONE	S
	FOR APPLICATIONS WITH SOLVENTS, GASKETS IN VITON AND TEFLON ARE AVAILABLE UPON REQUEST.		
EXTRA			

### TECHNICAL SUPPORT

Bea Technologies S.p.a manufactures a broad range of filter elements and systems that are used with confidence and satisfaction by customers worldwide in beverage, food and many other demanding industries. The highly experienced team of technical experts at Bea Technologies S.p.a is available to help customers select the best performing and most cost effective filter for particular application.



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