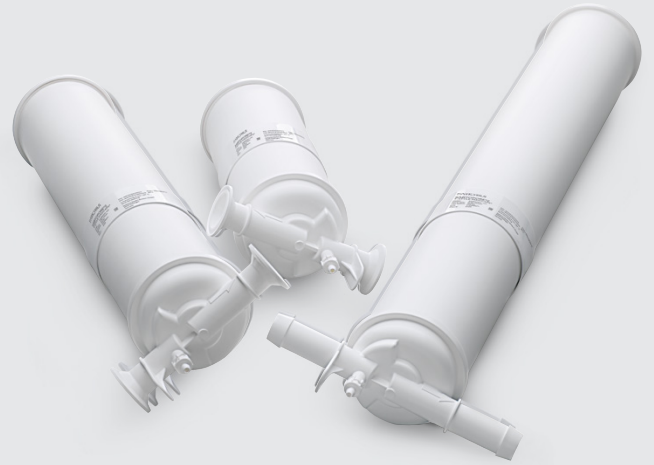


# Sartoguard GF

## Membrane Prefiltration Filter Elements



### Product Information

Sartoguard GF filter elements are polyethersulfone membrane based prefilters. The membrane double layer is protected by a layer of glass fiber fleece material. They combine the defined retention performance of membrane filters with the high total throughput capacity of depth filter material. Therefore, Sartoguard GF prefilters offering optimal protection of sterile filters and validated bioburden reduction.

### Applications

Sartoguard GF filter elements are typically used for prefiltration of:

- Cell Culture Media
- Buffers
- Serum
- Ophthalmics
- Large Volume Parenterals
- Colloid and lipid containing liquids

## Efficiency

The glassfiber material provides high particle loading capacity and effective retention of large and small particles as well as excellent turbidity reduction. The heterogeneous double layer PES membranes provide secure and reliable retention needed for critical applications.

## Reliable Retention

Sartoguard GF filters are available with 0.1 µm and 0.2 µm nominal retention rating. The 0.1 µm rated filters typically provides a LRV of 6 per cm<sup>2</sup> filtration area for *Brevundimonas Diminuta*, while the 0.2 µm rated filter typically provides a LVR of 6 per cm<sup>2</sup> filtration area for *Serratia Marcescens*.

## Flexibility

Sartoguard GF filters are available as cartridges, capsules, Midicaps<sup>®</sup> and T-Style Maxicaps<sup>®</sup> providing utmost flexibility for integration into any filtration process independent from the batch size.

## Technical Data

Available Sizes	Filtration Area	Max. Diffusion [mL/min]		Min. Bubble Point [bar   psi]	
		0.1 µm (nom.) at 1.5 bar   22 psi	0.2 µm (nom.) at 1.2 bar   17.5 psi	0.1 µm (nom.)	0.2 µm (nom.)
<b>Cartridges, Maxicaps<sup>®</sup>, T-Style Maxicaps<sup>®</sup></b>					
Size 1 (10")	0.45 m <sup>2</sup>   4.8 ft <sup>2</sup>	17	19	n. a.	2.3   33
Size 2 (20")	0.9 m <sup>2</sup>   9.6 ft <sup>2</sup>	34	38	n. a.	2.3   33
Size 3 (30")	1.35 m <sup>2</sup>   14.5 ft <sup>2</sup>	51	57	n. a.	2.3   33
<b>Midicaps<sup>®</sup></b>					
Size 8	0.08 m <sup>2</sup>   0.9 ft <sup>2</sup>	6	7	n. a.	2.3   33
Size 9	0.15 m <sup>2</sup>   1.6 ft <sup>2</sup>	9	10	n. a.	2.3   33
Size 0	0.3 m <sup>2</sup>   3.2 ft <sup>2</sup>	11	12	n. a.	2.3   33
<b>Capsules</b>					
Size 4	0.012 m <sup>2</sup>   0.13 ft <sup>2</sup>	2	2	n. a.	2.3   33

## Quality and Security

Sartoguard GF filter elements are individually tested for integrity during production. The integrity of the filters can be verified onside before and after use by a diffusion or bubble-point (0.2 µm) test.

## Scalability

Sartoguard GF filter elements are available in a broad range of sizes and formats to provide linear scale-up from R&D to process scale.

## Documentation

Sartoguard GF filter elements are designed, developed and manufactured in accordance with an ISO 9001 certified Quality Management System. A Validation Guide is available for compliance with regulatory requirements.

## Max. Allowable Differential Pressure

### Cartridges

2 bar | 29 psi at 80 °C

### Cartridges | Midicaps® | T-Style Maxicaps®

5 bar | 72.5 psi at 20 °C

### T-Style Maxicaps® | Midicaps®

3 bar | 43.5 psi at 50 °C

### Capsules

4 bar | 58 psi at 20 °C

2 bar | 29 psi at 50 °C

## Max. Allowable Back Pressure

2 bar | 29 psi at 20 °C

(all elements)

## Materials

### Prefilter Membrane

PES, asymmetric

### Final Membrane

PES, asymmetric

### Filter active Fleece

Glass Fiber

### Support fleeces

Polypropylene

### Core

Polypropylene

### End caps

Polypropylene

### Housing

Polypropylene

### O-Rings

Silicone (optional: EPDM  
or Fluoroelastomer)

## Retention Rates

0.2 µm + 0.1 µm (nom.)

0.8 µm + 0.2 µm (nom.)

## Extractables

Sartoguard GF filter elements meet, or exceed the requirements for WFI quality standards set by the current USP after preflushing.

## Regulatory Compliance

- Individually integrity tested during production
- Onside integrity testable by diffusion or bubble-point test
- Non pyrogenic according to USP Bacterial Endotoxins
- Pass USP Plastic Class VI Test
- Non fiber releasing according to 21 CFR



# Sterilization

## Cartridges

In-Line Steam Sterilization:  
Max. 134 °C, 20 min. at max differential pressure  
of 0.5 bar | 7.25 psi

or

Autoclaving:  
Max. 134 °C, 2 bar, 30 min

## Maxicaps | T-Style Maxicaps® | Midicaps® | Capsules

Autoclaving:  
Max. 134 °C, 2 bar, 30 min

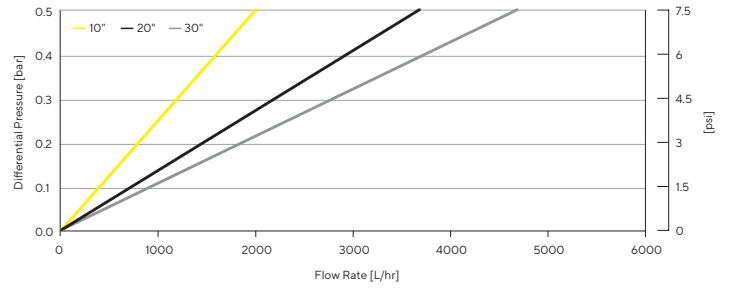
Only cartridges can be in-line steam sterilized

# Technical References

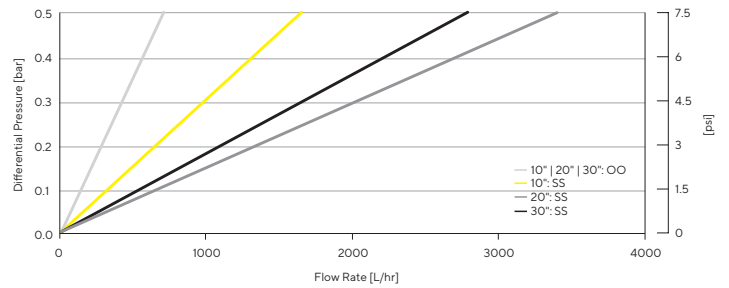
Validation Guide      DIR No.: 2980189

# Performance

## Water Flow Rates for Standard Cartridges of Sartoguard GF 0.2 µm nominally



## Water Flow Rates for Midicaps® of Sartoguard GF 0.2 µm nominally



# Ordering Information

## Cartridges



548	25	■	■	■			
<b>Retention Rates</b> 58: 0.1 µm (nom.) 07: 0.2 µm (nom.)		<b>Pore Size Filter</b> M: 0.2 µm G: 0.8 µm		<b>Filter Size</b> 1: 0.45 m <sup>2</sup>   4.8 ft <sup>2</sup> (10") 2: 0.9 m <sup>2</sup>   9.6 ft <sup>2</sup> (20") 3: 1.35 m <sup>2</sup>   14.5 ft <sup>2</sup> (30")			

## Maxicaps®



547	73	■	■	■	■	■	■		
<b>Retention Rates</b> 58: 0.1 µm (nom.) 07: 0.2 µm (nom.)		<b>Pore Size Filter</b> M: 0.2 µm G: 0.8 µm		<b>Filter Size</b> 1: 0.45 m <sup>2</sup>   4.8 ft <sup>2</sup> (10") 2: 0.9 m <sup>2</sup>   9.6 ft <sup>2</sup> (20") 3: 1.35 m <sup>2</sup>   14.5 ft <sup>2</sup> (30")		<b>Sterilization</b> --: autoclavable		<b>Connector Inlet</b> S: 1½" Tri-Clamp 50.5 mm O: ½" single stepped hose barb F: ¾" tri-clamp 25 mm	<b>Connector Outlet</b> S: 1½" Tri-Clamp 50.5 mm O: ½" single stepped hose barb F: ¾" tri-clamp 25 mm

## Midicaps®



548	13	■	■	■	■	■	■	--	■	
<b>Retention Rates</b> 58: 0.1 µm (nom.) 07: 0.2 µm (nom.)		<b>Pore Size Filter</b> M: 0.2 µm G: 0.8 µm		<b>Filter Size</b> 8: 0.08 m <sup>2</sup>   0.9 ft <sup>2</sup> 9: 0.15 m <sup>2</sup>   1.6 ft <sup>2</sup> 0: 0.3 m <sup>2</sup>   3.2 ft <sup>2</sup>		<b>Sterilization</b> --: autoclavable		<b>Connector Inlet</b> S: 1½" Tri-Clamp 50.5 mm O: ½" single stepped hose barb F: ¾" tri-clamp 25 mm		<b>Packing Size</b> A: box of 4 (size 7, 8, 9) V: box of 2 (size 0)
								<b>Connector Outlet</b> S: 1½" Tri-Clamp 50.5 mm O: ½" single stepped hose barb F: ¾" tri-clamp 25 mm		

## T-Style Maxicaps®



548	83	■	■	■	--	■	■	
<b>Retention Rates</b> 58: 0.1 µm (nom.) 07: 0.2 µm (nom.)		<b>Pore Size Filter</b> M: 0.2 µm G: 0.8 µm		<b>Filter Size</b> 1: 0.45 m <sup>2</sup>   4.8 ft <sup>2</sup> (10") 2: 0.9 m <sup>2</sup>   9.6 ft <sup>2</sup> (20") 3: 1.35 m <sup>2</sup>   14.5 ft <sup>2</sup> (30")		<b>Connector Inlet</b> S: 1½" Tri-Clamp 50.5 mm O: ½" single stepped hose barb Y: 1" single stepped hose barb		<b>Connector Outlet</b> S: 1½" Tri-Clamp 50.5 mm O: ½" single stepped hose barb Y: 1" single stepped hose barb

## Capsules




548	13	■	■	4	■	■	■	--	B	
<b>Retention Rates</b> 58: 0.1 µm (nom.) 07: 0.2 µm (nom.)		<b>Pore Size Filter</b> M: 0.2 µm G: 0.8 µm		<b>Sterilization</b> --: autoclavable		<b>Connector Inlet</b> S: ¾" Tri-Clamp 25 mm O: ¼" multiple stepped hose barb		<b>Connector Outlet</b> S: ¾" Tri-Clamp 25 mm O: ¼" multiple stepped hose barb		<b>Packing Size</b> B: box of 5

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Specifications subject to change without notice.

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