SARTORIUS

Product Datasheet

Sartopure® PP3

Particle Reduction Filter Elements for food and beverage applications

Product Information

Sartopure® PP3 filter elements are high performance polypropylene fleece based pre-filters that improve your product quality. Advanced fleece materials and composition not only extend service life of your downstream membrane but also reduce filter consumption in total.

The Sartopure® PP3 polypropylene fleece based pre-filter platform is the result of decades of experience in pre-filtration. This development has led to a filter with an uncompromising combination of highest total throughput and protective abilities. The outstanding filtration ability allows for a significant reduction in filtration area, a reduction in product contact with the filter, and a higher product yield, essentially reducing filter consumption and the overall cost for pre-filtration. Sartopure® PP3 the ideal choice for particle retention, clarification and protection of final membrane for all application in the food and beverage market.

Robust processes
The Sartopure® PP3 series provides highest robustness in pre-filtration applications based on the unique retention performance of the fleece materials. They retain particles with highest efficiency even under varying process conditions. This assures secure and reliable operation.

Respect of your beverage caracteristic
The all polypropylene construction of Sartopure® PP3 provides very low adsorption assuring the high respect of your wine, beer aroma and taste.

High Flexibility
Sartopure® PP3 filter elements are available with a broad variety of retention ratings from 0.45 µm all the way up to 100 µm making them ideally suited for numerous pre-filtration applications.

Broad Compatibility and Low Extractables
Sartopure® PP3 filter elements are completely made from polypropylene. This assures a broad chemical compatibility with a large number of solvents, acids and bases. Polypropylene is a highly chemically resistant material, enabling the Sartopure® PP3 to be chemically regenerated (pH 1 – 14) The all polypropylene construction guarantees a small extractable footprint.

Applications
- Clarification and retention of particles and colloids in water
- Clarification of beer downstream of diatomaceous earth filters and | or following PVPP stabilization
- Clarification of fruit juice
- Clarification and fine particles retention of wine and spirits
- Protection of sterile filtration membrane as Aquasart® PS, Aquasart® Plus, Sartocool® and Vinosart® PS.

Cost Saving
The high performance polypropylene fleeces show significantly increased total throughput performance and outstanding protective effectiveness. This allows downsizing of the required filtration area for pre- and final sterilizing grade filtration steps, resulting in significant cost savings.

Documentation
Sartopure® PP3 filter elements are designed, developed and manufactured in accordance with a ISO 9001 certified Quality Management System. A Validation Guide and an Extractables Guide are available for compliance with regulatory requirements.

All the raw materials used to produce the Sartopure® cartridge comply with the European Union Regulation (EC) No. 1935/2004 as well as the Regulation (EU) No. 10/2011 concerning plastic materials and articles intended to come into contact with foodstuffs.

These guidelines for plastics allow the use in food and beverage applications.

All materials used meet the requirements of the FDA.

Technical Data

Available Sizes		Filtration Area [m² | ft²]		
Cartridges | T-Style Maxicaps® | In-line Maxicaps®	**Retention Rate**	**0.45 µm**	**0.65 µm – 3 µm**	**5 µm – 100 µm**
Size 1		0.4 | 4.3	0.45 | 4.8	0.65 | 7.0
Size 2		0.8 | 8.6	0.9 | 9.7	1.3 | 14
Size 3		1.2 | 12.9	1.35 | 14.5	1.95 | 21

Midicaps® | Mini Cartridges	**Retention Rate**	**0.45 µm**	**0.65 µm – 3 µm**	**5 µm – 100 µm**
Size 7		0.04 | 0.43	0.05 | 0.54	0.065 | 0.7
Size 8		0.08 | 0.86	0.09 | 0.97	0.12 | 1.3
Size 9		0.13 | 1.4	0.15 | 1.6	0.21 | 2.3
Size 0*		0.26 | 2.8	0.30 | 3.2	0.42 | 4.5

Capsules	**Retention Rate**	**0.45 µm**	**0.65 µm – 1.2 µm**	**3 µm – 100 µm**
Size 4		0.012 | 0.13	0.013 | 0.14	0.018 | 0.19
Size 5		0.024 | 0.26	0.026 | 0.28	0.036 | 0.39

*only for Midicaps®

Max. Allowable Differential Pressure

Cartridges | Midicaps®
5 bar | 72.5 psi at 20°C
2 bar | 29 psi at 80°C

T-Style Maxicaps® | In-line Maxicaps®
5 bar | 72.5 psi at 20°C
3 bar | 43.5 psi at 50°C

Capsules
4 bar | 58 psi at 20°C
2 bar | 29 psi at 80°C

Max. Allowable Back Pressure

2 bar | 29 psi at 20°C
(for all elements)

Max. Operating Pressure

Cartridges | T-Style Maxicaps® | In-line Maxicaps® | Midicaps® | Mini Cartridges
5 bar | 72.5 psi at 20°C

Capsules
4 bar | 58 psi at 20°C

Materials

Filter Membrane
Polypropylene fleece

Support Fleece
Polypropylene

Core
Polypropylene

End Caps
Polypropylene

Housing
Polypropylene

O-Rings
Silicone (optional EPDM or Fluoroelastomer)

Available Retention Rates

0.45 µm, 0.65 µm, 1.2 µm, 3 µm, 5 µm,
8 µm, 20 µm, 50 µm, 100 µm

Technical References

Validation Guide	3221262
Extractables Analysis	2552579 for 0.45 µm 2544688 for 0.65 µm to 100 µm

Regulatory Compliance

- Designed, developed and manufactured in accordance with an ISO 9001 certified Quality Management System
- Meet or exceed the requirements for WFI quality standards set by the current USP
- Non pyrogenic according to USP Bacterial Endotoxins
- USP Plastic Class VI Test

Sterilization

Cartridges

- In-Line Steam Sterilization
  134 °C, 20 min. at max differential pressure of 0.5 bar | 7.25 psi
  Min. 25 Sterilization Cycles

or

- Autoclaving
  134°C, 2 bar, 30 min
  Min. 25 Sterilization Cycles

- Other sterilization cycles
  In-line steam sterilization 110°C, 30 minutes, ΔP max 0.5 bar
  In-line hot water sterilization 85 – 95°C, 30 min, ΔP max 0.5 bar
  In-line sterilization: minimum 100 cycles"

T-Style Maxicaps® | In-line Maxicaps® | Midicaps® | Capsules

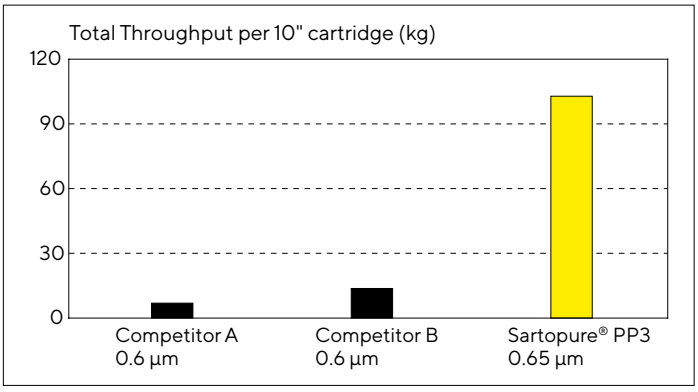
- Autoclaving
  134°C, 2 bar, 30 min
  Min. 5 Sterilization Cycles (T- Style Maxicaps® | In-line Maxicaps®)
  Min. 25 Sterilization Cycles (Midicaps® | Capsules)

  Note: T-Style Maxicaps®, In-line Maxicaps® Midicaps® and Capsules cannot be in-line steam sterilized

Performance

Standard Test Media 3-fold Concentrated

Total Throughput Comparison



Ordering Information

Cartridge

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Filter Design
21: Double open end cartridge with flat gasket
25: 2 Flange Bayonet adapter with 226 double o-ring
27: Bayonet adapter with 222 double o-ring
28: 3 Flange Bayonet adapter with 222 double o-ring

Pore Size
06: 0.45 µm
05: 0.65 µm
03: 1.2 µm
02: 3 µm
42: 5 µm
01: 8 µm
20: 20 µm
50: 50 µm
98: 100 µm

Filter Size
1: 0.4 m² | 4.3 ft² (10″)
2: 0.8 m² | 8.6 ft² (20″)
3: 1.2 m² | 12.9 ft² (30″)

1: 0.45 m² | 4.8 ft² (10″)
2: 0.9 m² | 9.7 ft² (20″)
3: 1.35 m² | 14.5 ft² (30″)

1: 0.65 m² | 7 ft² (10″)
2: 1.3 m² | 14 ft² (20″)
3: 1.95 m² | 21 ft² (30″)

T-Style Maxicaps® | In-line Maxicaps®

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Filter Design
73: In-line Maxicaps®
83: T-Style Maxicaps®

Pore Size
06: 0.45 µm
05: 0.65 µm
03: 1.2 µm
02: 3 µm
42: 5 µm
01: 8 µm
20: 20 µm
50: 50 µm
98: 100 µm

Filter Size
1: 0.4 m² | 4.3 ft² (10″)
2: 0.8 m² | 8.6 ft² (20″)
3: 1.2 m² | 12.9 ft² (30″)

1: 0.45 m² | 4.8 ft² (10″)
2: 0.9 m² | 9.7 ft² (20″)
3: 1.35 m² | 14.5 ft² (30″)

1: 0.65 m² | 7 ft² (10″)
2: 1.3 m² | 14 ft² (20″)
3: 1.95 m² | 21 ft² (30″)

Connector Inlet
S: 1½″ Tri-Clamp 50 mm
O: ½″ single stepped hose barb

Connector Outlet
S: 1½″ Tri-Clamp 50 mm
O: ½″ single stepped hose barb

Midicaps®

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Pore Size
06: 0.45 µm
05: 0.65 µm
03: 1.2 µm
02: 3 µm
42: 5 µm
01: 8 µm
20: 20 µm
50: 50 µm
98: 100 µm

Filter Size
7: 0.04 m² | 0.43 ft²
8: 0.08 m² | 0.86 ft²
9: 0.13 m² | 1.4 ft²
0: 0.26 m² | 1.8 ft²

7: 0.05 m² | 0.54 ft²
8: 0.09 m² | 0.97 ft²
9: 0.15 m² | 1.61 ft²
0: 0.30 m² | 3.23 ft²

7: 0.65 m² | 0.7 ft²
8: 0.12 m² | 1.3 ft²
9: 0.21 m² | 2.26 ft²
0: 0.42 m² | 4.52 ft²

Connector Inlet
S: 1½″ Tri-Clamp 50 mm
O: ½″ single stepped hose barb

Connector Outlet
S: 1½″ Tri-Clamp 50 mm
O: ½″ single stepped hose barb

Packing Size
A: box of 4 (size 7,8,9)
V: box of 2 (size 0)

Mini Cartridge

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Pore Size
05: 0.65 µm
03: 1.2 µm
02: 3 µm

42: 5 µm
01: 8 µm
(only size 9)
20: 20 µm
(only size 9)

Filter Size
7: 0.05 m² | 0.54 ft²
8: 0.09 m² | 0.97 ft²
9: 0.15 m² | 1.61 ft²

7: 0.65 m² | 0.7 ft²
8: 0.12 m² | 1.3 ft²
9: 0.21 m² | 2.26 ft²

Packing Size
B: box of 5

Capsules

505	13	■	P	■	--	■	■	--	B

Pore Size
06: 0.45 µm

05: 0.65 µm
03: 1.2 µm

02: 3 µm
42: 5 µm
01: 8 µm
20: 20 µm
50: 50 µm
(only size 4)
98: 100 µm
(only size 4)

Filter Size
4: 0.012 m² | 0.13 ft²
5: 0.024 m² | 0.26 ft²

4: 0.013 m² | 0.14 ft²
5: 0.026 m² | 0.28 ft²

4: 0.018 m² | 0.19 ft²
5: 0.036 m² | 0.39 ft²

Connector Inlet
S: 1½" Tri-Clamp 50 mm
(only size 4)
O: ¼" multiple stepped
hose barb (not available
for 50 & 100µm)

Connector Outlet
S: 1½" Tri-Clamp 50 mm
(only size 4)
O: ¼" multiple stepped
hose barb (not available
for 50 & 100µm)

Packing Size
B: box of 5

Check the availability of your desired configuration with your Sartorius sales representative or online at sartorius.com

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