



# Sartobran® P 0.1 µm

## Sterilizing Grade Filter Cartridges



### Description

Sartobran® P 0.1 µm rated, high-flow filter elements are designed to give enhanced sterility assurance for applications with microorganisms present that can pass through 0.2 µm rated sterilizing grade filters. The Sartobran P's cellulose acetate membrane offers ultra low binding properties for proteins and preservatives, making Sartobran P filters the ideal choice for filtration of high value bio-pharmaceutical products.

### Applications

All applications which require sterilizing grade filtration with retention finer than conventional 0.2 µm sterilizing grade filters for removal of unusually small microorganisms. This typically includes:

- Bio-processed pharmaceuticals
- Long term filling operations
- Filtration in pharmaceutical water systems

### Flow Rates

Higher flow rates than other 0.1 µm rated filters provide short filtration time and gentle product treatment, even if replacement of conventional 0.2 µm rated filters is necessary.

### Total Throughput

Due to the "built-in prefiltration" by a 0.45 µm membrane, Sartobran P 0.1 µm filters provide higher total throughputs than any other 0.1 µm rated filter for economical process design.

### Highest Product Yield

The ultra low adsorption characteristic of the Sartobran P's cellulose acetate membrane provides the highest product yield – especially important for high value proteins.

### Flexibility

Sartobran® P 0.1 µm filters are available in traditional cartridge formats and disposable capsules from 500 cm<sup>2</sup> to 1.8 m<sup>2</sup> for simple linear scale up and process flexibility.

### Quality Control

Each individual element is integrity tested by diffusion and bubble point test prior to release, assuring absolute reliability.

### Documentation

Sartobran® P cartridges are designed, developed and manufactured in accordance with an ISO 9001 certified Quality Management System. A Validation Guide and Extractables Guide are available for compliance with regulatory requirements.

### Specifications

#### Materials

Prefilter Membrane:	Cellulose Acetate
Endfilter Membrane:	Cellulose Acetate
Support Fleece:	Polypropylene
Core:	Polypropylene
End Caps:	Polypropylene
O-Rings:	Silicone (optional EPDM or Viton)

#### Pore Size

0.45 µm + 0.1 µm

#### Available Sizes | Filtration Area

#### Cartridges

Size 0	5"	0.3 m <sup>2</sup>	3.2 ft <sup>2</sup>
Size 1	10"	0.6 m <sup>2</sup>	6.5 ft <sup>2</sup>
Size 2	20"	1.2 m <sup>2</sup>	12.9 ft <sup>2</sup>
Size 3	30"	1.8 m <sup>2</sup>	19.4 ft <sup>2</sup>

#### Mini Cartridges

Size 8	0.1 m <sup>2</sup>	1.1 ft <sup>2</sup>
Size 9	0.2 m <sup>2</sup>	2.2 ft <sup>2</sup>

#### Available Adapters Cartridges

21, 25, 27, 28

#### Available Adapter Mini Cartridges

15

#### Operating Parameters

Max. Allowable Differential Pressure:	5 bar   72.5 psi at 20°C
	2 bar   29 psi at 80°C
Max. Allowable Back Pressure:	2 bar   29 psi at 20°C

### По вопросам продаж и поддержки обращайтесь:

Астана+7(7172)727-132, Волгоград(844)278-03-48, Воронеж(473)204-51-73, Екатеринбург(343)384-55-89,  
Казань(843)206-01-48, Краснодар(861)203-40-90, Красноярск(391)204-63-61, Москва(495)268-04-70,  
Нижний Новгород(831)429-08-12, Новосибирск(383)227-86-73, Ростов-на-Дону(863)308-18-15, Самара(846)206-03-16,  
Санкт-Петербург(812)309-46-40, Саратов(845)249-38-78, Уфа(347)229-48-12

**sst@nt-rt.ru || sartorius.nt-rt.ru**

## Specifications

### Extractables

Sartobran® P 0.1 µm rated filter cartridges meet or exceed the requirements for WFI quality standards set by the current USP.

### Regulatory Compliance

100% Individually integrity tested

Integrity test correlated to HIMA/ASTM F 838-05 Bacteria Challenge Test.

Non-pyrogenic according to USP Bacterial Endotoxins

Passes USP Plastics Class VI Test

Non-fiber releasing according to 21 CFR

## Sterilization

### In-Line Steam Sterilization

134 °C, 20 min. at max differential pressure of 0.5 bar | 7 psi

### Autoclaving

134 °C, 2 bar | 29 psi, 30 min

### Sterilization Cycles

In-Line Sterilization: Min. 25  
(only cartridges)

Autoclaving: Min. 25

## Technical References

### Validation Guide:

SPK5726-e

### Extractables Guide:

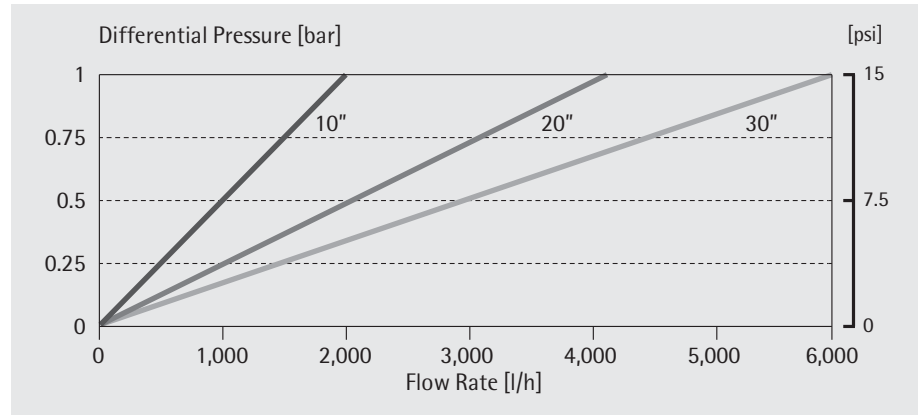
SPK5720-e

## Ordering Information

Order Code	Pore Size [µm]	Pack Size [Pieces]	Test Pressure [bar   psi]	Max. Diffusion [ml/min]	Min. Bubble Point [bar   psi]
<b>Standard Cartridges</b>					
523**58H0----P	0.1	1	3.0   44	10	3.8   55
523**58H1----P	0.1	1	3.0   44	15	3.8   55
523**58H2----P	0.1	1	3.0   44	30	3.8   55
523**58H3----P	0.1	1	3.0   44	45	3.8   55
<b>Mini Cartridges</b>					
5231558H8-----B	0.1	5	3.0   44	4	3.8   55
5231558H9-----B	0.1	5	3.0   44	5	3.8   55

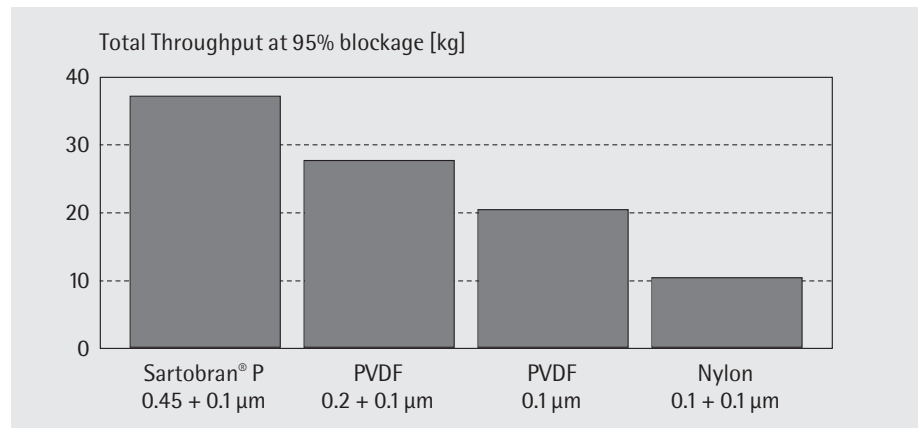
\*\* : Adapter Type

Water Flow Rates for 10", 20" and 30" Cartridges



Standardized at 20 °C

Total Throughput Comparison



10" Cartridge format



# Sartobran® P 0.2 µm

## Sterilizing Grade Filter Cartridges



### Description

Sartobran® P sterilizing grade filter cartridges have proven throughout the years to be the first choice in the bio-pharmaceutical industry for all applications requiring low adsorption capabilities. The unique ultra low unspecific binding capacity of the cellulose acetate membranes assures highest protein yield and rapid preservative recovery. Sartobran® P filters are ideally suited for processing high value biological solutions like dilute protein solutions and pharmaceuticals sensitive to adsorption like dilute preservative solutions.

### Applications

Sartobran® P filters are ideally suited for all applications that require highest product recovery rates like:

- Coagulation Factors, Albumine, IgG
- Bacterial and Viral Vaccines
- MAB's
- Bio-processed Pharmaceuticals
- Diagnostics
- Purified Protein Solutions
- Biological Fluids
- Solutions containing Preservatives

### Highest Product Yield

The Sartobran® P's cellulose acetate membrane provides the lowest unspecific adsorption of any membrane material available, ensuring the highest product recovery rates.

### Performance

Due to the "built-in prefiltration" by a 0.45 µm membrane, Sartobran® P 0.2 µm filters provide excellent total throughputs and higher flow rates at low differential pressure for gentle product treatment.

### Flexibility

Sartobran® P 0.2 µm filters are available in traditional cartridge formats and disposable capsules from 150 cm<sup>2</sup> to 1.8 m<sup>2</sup> for simple linear scale up and process flexibility.

### Microbiological Retention

Sartobran® P 0.2 µm rated filter cartridges are fully validated as sterilizing grade filter elements according to HIMA and ASTM F-838-05 guidelines.

### Quality Control

Each individual element is integrity tested by diffusion and bubble point test prior to release, assuring absolute reliability.

### Documentation

Sartobran® P cartridges are designed, developed and manufactured in accordance with an ISO 9001 certified Quality Management System. A Validation Guide and Extractables Guide are available for compliance with regulatory requirements.

### Specifications

#### Materials

Prefilter Membrane:	Cellulose Acetate
Endfilter Membrane:	Cellulose Acetate
Support Fleece:	Polypropylene
Core:	Polypropylene
End Caps:	Polypropylene
O-Rings:	Silicone (optional EPDM or Viton)

#### Pore Size

0.45 µm + 0.2 µm

#### Available Sizes | Filtration Area

#### Cartridges

Size 0	5"	0.3 m <sup>2</sup>	3.2 ft <sup>2</sup>
Size 1	10"	0.6 m <sup>2</sup>	6.5 ft <sup>2</sup>
Size 2	20"	1.2 m <sup>2</sup>	12.9 ft <sup>2</sup>
Size 3	30"	1.8 m <sup>2</sup>	19.4 ft <sup>2</sup>

#### Mini Cartridges

Size 7	0.05 m <sup>2</sup>	0.54 ft <sup>2</sup>
Size 8	0.1 m <sup>2</sup>	1.1 ft <sup>2</sup>
Size 9	0.2 m <sup>2</sup>	2.2 ft <sup>2</sup>

#### Available Adapters Cartridges

21, 25, 27, 28

#### Available Adapters Mini Cartridges

15, 18

#### Operating Parameters

Max. Allowable Differential Pressure:	5 bar   72.5 psi at 20°C (Cartridges)
	2 bar   29 psi at 80°C (Cartridges)

Max. Allowable Back Pressure:	2 bar   29 psi at 20°C
-------------------------------	------------------------

## Specifications

### Extractables

Sartobran® P 0.2 µm rated filter cartridges meet, or exceed the requirements for WFI quality standards set by the current USP.

### Regulatory Compliance

100% Individually integrity tested

Integrity test correlated to HIMA/ASTM F 838-05 Bacteria Challenge Test

Non-pyrogenic according to USP Bacterial Endotoxins

Passes USP Plastics Class VI Test

Non-fiber releasing according to 21 CFR

## Sterilization

### In-Line Steam Sterilization

134 °C, 20 min. at max differential pressure of 0.5 bar | 7 psi

### Autoclaving

134 °C, 2 bar | 29 psi, 30 min

### Sterilization Cycles

In-Line Sterilization: Min. 25  
Autoclaving: Min. 25

## Technical References

### Validation Guide:

SPK 5726-e

### Extractables Guide:

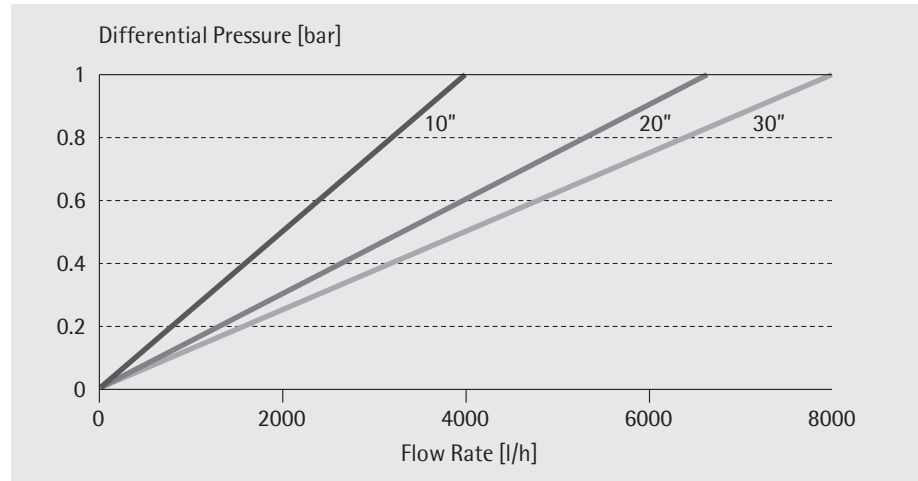
SPK5720-e

## Ordering Information

Order Code	Pore Size [µm]	Pack Size [Pieces]	Test Pressure [bar   psi]	Max. Diffusion [ml/min]	Min. Bubble Point [bar   psi]
<b>Standard Cartridges</b>					
523**07H0----P	0.2	1	2.5   36	10	3.2   46
523**07H1----P	0.2	1	2.5   36	15	3.2   46
523**07H2----P	0.2	1	2.5   36	30	3.2   46
523**07H3----P	0.2	1	2.5   36	45	3.2   46
<b>Mini Cartridges</b>					
523**07H7-----B	0.2	5	2.5   36	3	3.2   46
523**07H8-----B	0.2	5	2.5   36	4	3.2   46
523**07H9-----B	0.2	5	2.5   36	5	3.2   46

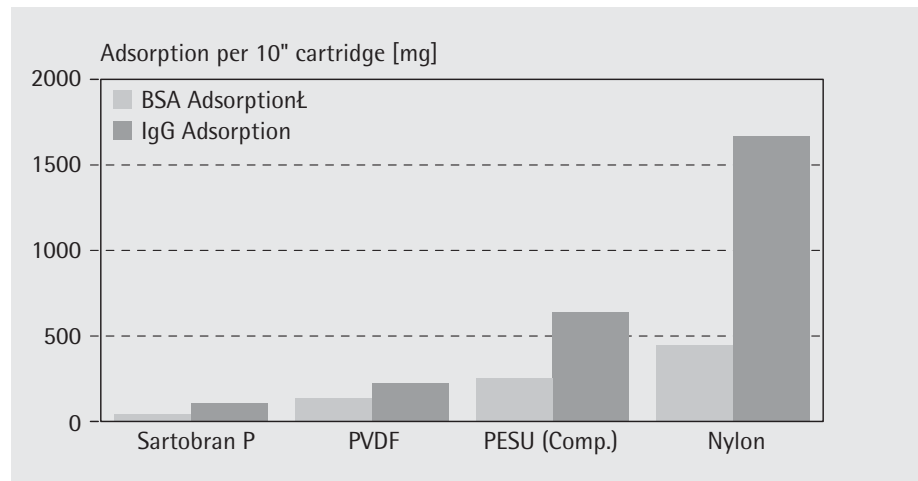
\*\* : Adapter Type

## Water Flow Rates for Standard Cartridges



Standardized at 20 °C

## Total Throughput Comparison



10" Cartridge format



# Sartobran® P 0.45 µm

## Bioburden and Particle Reductive Filter Cartridges



### Description

Sartobran® P 0.45 µm rated filter cartridges are ideally suited for bioburden and particle removal from bio-pharmaceutical solutions for protection of subsequent downstream processing equipment or sterilizing grade filters. The unique low unspecific binding capacity of the cellulose acetate membranes assures highest protein yield and rapid preservative recovery.

### Applications

Sartobran® P filters are ideally suited for prefiltration of high value biological solutions and pharmaceuticals sensitive to adsorption as well as for final filtration of LVP's and Buffers. Typical applications are filtration of:

- Coagulation Factors, Albumine, IgG
- Bacterial and Viral Vaccines
- MAB's
- Bio-processed Pharmaceuticals
- Diagnostics
- Purified Protein Solutions
- LVP
- Buffers

### Highest Product Yield

The cellulose acetate membrane of the Sartobran® P filters provides the lowest unspecific adsorption of all membrane materials available for highest product recovery rates.

### Performance

Due to the "built-in prefiltration" by a 0.65 µm membrane, Sartobran® P 0.45 µm filters provide excellent total throughputs and higher flow rates at low differential pressure for gentle product treatment.

### Flexibility

Sartobran® P 0.45 µm filters are available in traditional cartridge formats and disposable capsules from 300 cm<sup>2</sup> to 1.8 m<sup>2</sup> for simple linear scale up and process flexibility.

### Quality Control

Each individual element is tested for integrity by diffusion and bubble point test prior to be released assuring absolute reliability.

### Documentation

Sartobran® P cartridges are designed, developed and manufactured in accordance with an ISO 9001 certified Quality Management System. A Validation Guide and Extractables Guide are available for compliance with regulatory requirements.

### Specifications

#### Materials

Prefilter Membrane:	Cellulose Acetate
Endfilter Membrane:	Cellulose Acetate
Support Fleece:	Polypropylene
Core:	Polypropylene
End Caps:	Polypropylene
O-Rings:	Silicone (optional EPDM or Viton)

#### Pore Size

0.65 µm + 0.45 µm

#### Available Sizes | Filtration Area

#### Cartridges

Size 0	5"	0.3 m <sup>2</sup>	3.2 ft <sup>2</sup>
Size 1	10"	0.6 m <sup>2</sup>	6.5 ft <sup>2</sup>
Size 2	20"	1.2 m <sup>2</sup>	12.9 ft <sup>2</sup>
Size 3	30"	1.8 m <sup>2</sup>	19.4 ft <sup>2</sup>

#### Mini Cartridges

Size 7	0.05 m <sup>2</sup>	0.54 ft <sup>2</sup>
Size 8	0.1 m <sup>2</sup>	1.1 ft <sup>2</sup>
Size 9	0.2 m <sup>2</sup>	2.2 ft <sup>2</sup>

#### Available Adapters Cartridges

21, 25, 27, 28

#### Available Adapter Mini Cartridges

15

#### Operating Parameters

Max. Allowable Differential Pressure:	5 bar   72.5 psi at 20°C
	2 bar   29 psi at 80°C
Max. Allowable Back Pressure:	2 bar   29 psi at 20°C

## Specifications

### Extractables

Sartobran® P 0.45 µm rated filter cartridges meet or exceed the requirements for WFI quality standards set by the current USP.

### Regulatory Compliance

100% Individually integrity tested

Integrity test correlated to HIMA/ASTM F 838-05 Bacteria Challenge Test

Non-pyrogenic according to USP Bacterial Endotoxins

Passes USP Plastics Class VI Test

Non-fiber releasing according to 21 CFR

## Sterilization

### In-Line Steam Sterilization

134 °C, 20 min. at max differential pressure of 0.5 bar | 7 psi

### Autoclaving

134 °C, 2 bar | 29 psi, 30 min

### Sterilization Cycles

In-Line Sterilization: Min. 25

Autoclaving: Min. 25

## Technical References

### Validation Guide:

SPK 5726-e

### Extractables Guide:

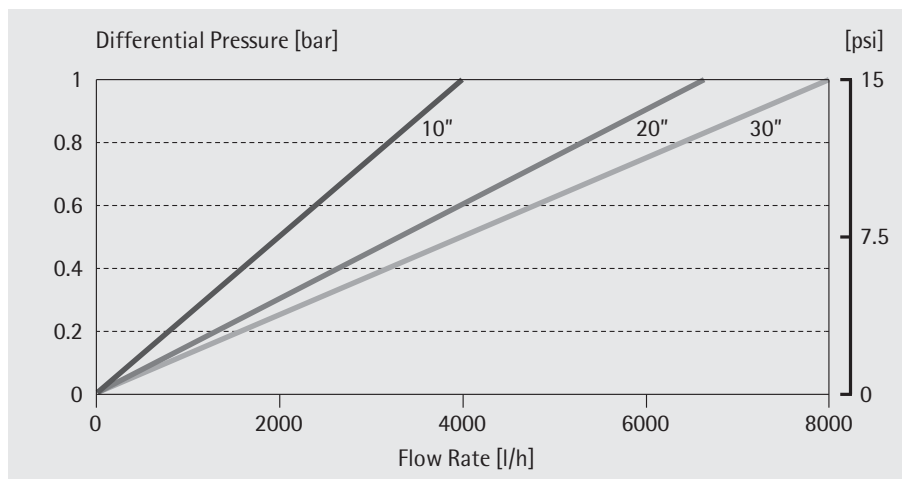
SPK5720-e

## Ordering Information

Order Code	Pore size [µm]	Pack size [Pieces]	Test Pressure [bar   psi]	Max. Diffusion [ml/min]	Min. Bubble Point [bar   psi]
<b>Standard Cartridges</b>					
523**06D0----P	0.45	1	1.5   22	10	2.0   29
523**06D1----P	0.45	1	1.5   22	15	2.0   29
523**06D2----P	0.45	1	1.5   22	30	2.0   29
523**06D3----P	0.45	1	1.5   22	45	2.0   29
<b>Mini-Cartridges</b>					
5231506D7-----B	0.45	5	1.5   22	3	2.0   29
5231506D8-----B	0.45	5	1.5   22	4	2.0   29
5231506D9-----B	0.45	5	1.5   22	5	2.0   29

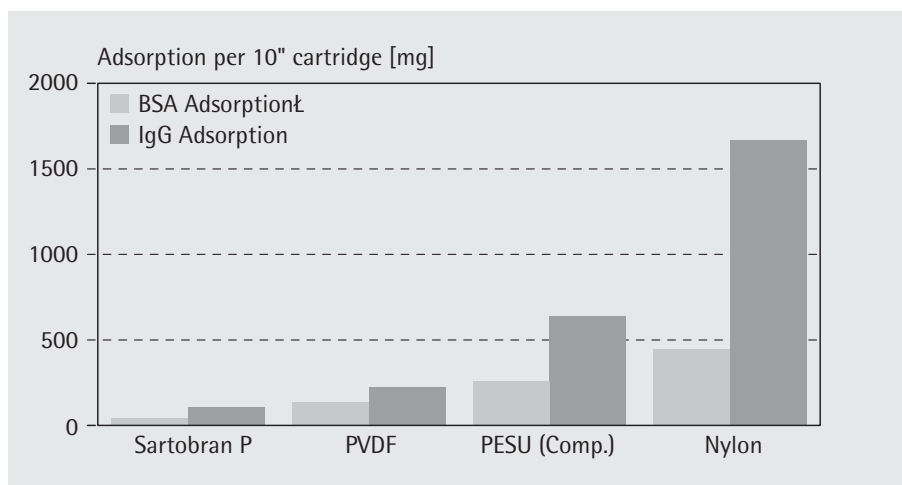
\*\* : Adapter Type

## Water Flow Rates for Standard Cartridges



Standardized at 20 °C

## Total Throughput Comparison



10" Cartridge format

## По вопросам продаж и поддержки обращайтесь:

Астана+7(7172)727-132, Волгоград(844)278-03-48, Воронеж(473)204-51-73, Екатеринбург(343)384-55-89,  
 Казань(843)206-01-48, Краснодар(861)203-40-90, Красноярск(391)204-63-61, Москва(495)268-04-70,  
 Нижний Новгород(831)429-08-12, Новосибирск(383)227-86-73, Ростов-на-Дону(863)308-18-15, Самара(846)206-03-16,  
 Санкт-Петербург(812)309-46-40, Саратов(845)249-38-78, Уфа(347)229-48-12

sst@nt-rt.ru || sartorius.nt-rt.ru