

# Sartobind<sup>®</sup> Phenyl, 8 mm bed height

Hydrophobic Interaction  
Membrane Chromatography

## Benefits

- Designed for high speed flow-through polishing aggregate removal as well as bind and elute chromatography
- Recommended flow rate of 5 membrane volumes/min
- Easy and simple handling
- Re-usable or disposable

## Product Information

The Sartobind<sup>®</sup> Phenyl capsules and cassettes with 8 mm bed height are membrane chromatography devices for large scale capturing and impurity removal at typical hydrophobic interaction conditions known from HIC columns but at much higher flow rates. The hydrophobic interaction phenyl ligand is covalently attached onto the surface of the stabilized reinforced cellulose. The membrane pore size of >3  $\mu\text{m}$  allows large proteins and aggregates to enter the macroporous structure achieving high binding capacity without size exclusion effects.



In the capsules the membrane is rolled up to form a cylinder with a bed height of 8 mm around a central solid core. The cassettes contain two membrane stacks of 8 mm bed height with a central spacer inbetween. The optimized design of fluid channels reduces the void volume significantly. The internal support structures and the outer shell of the capsules are made from polypropylene and from acrylonitrile butadiene styrene (ABS) for the cassettes. The membrane geometry and the flow path is identical in all devices. Sartobind® nano 3 mL is the recommended scale down model to start with (with Luer connector to UNF 10-32 PEEK adapters). If sample amount is limited, Sartobind® Phenyl pico units with 0.08 mL bed volume and 4 mm bed height are available. For buffer and conditions screening, 96-well plates with a bed height of 0.8 mm can be used.

## Applications

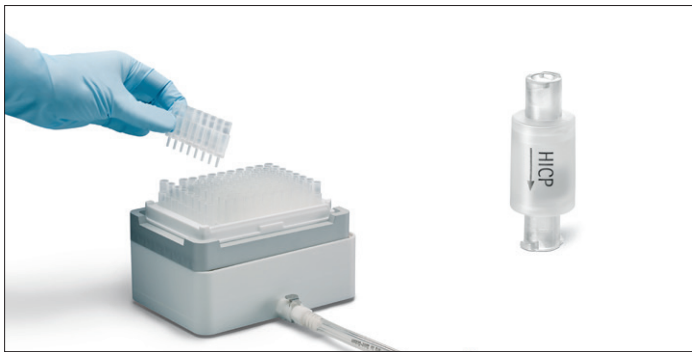
Target molecules to be purified: monoclonal antibodies, recombinant proteins, conjugated proteins, glycoproteins, antibody drug conjugates (ADCs), virus particles, virus like particles (VLPs)

### Polishing

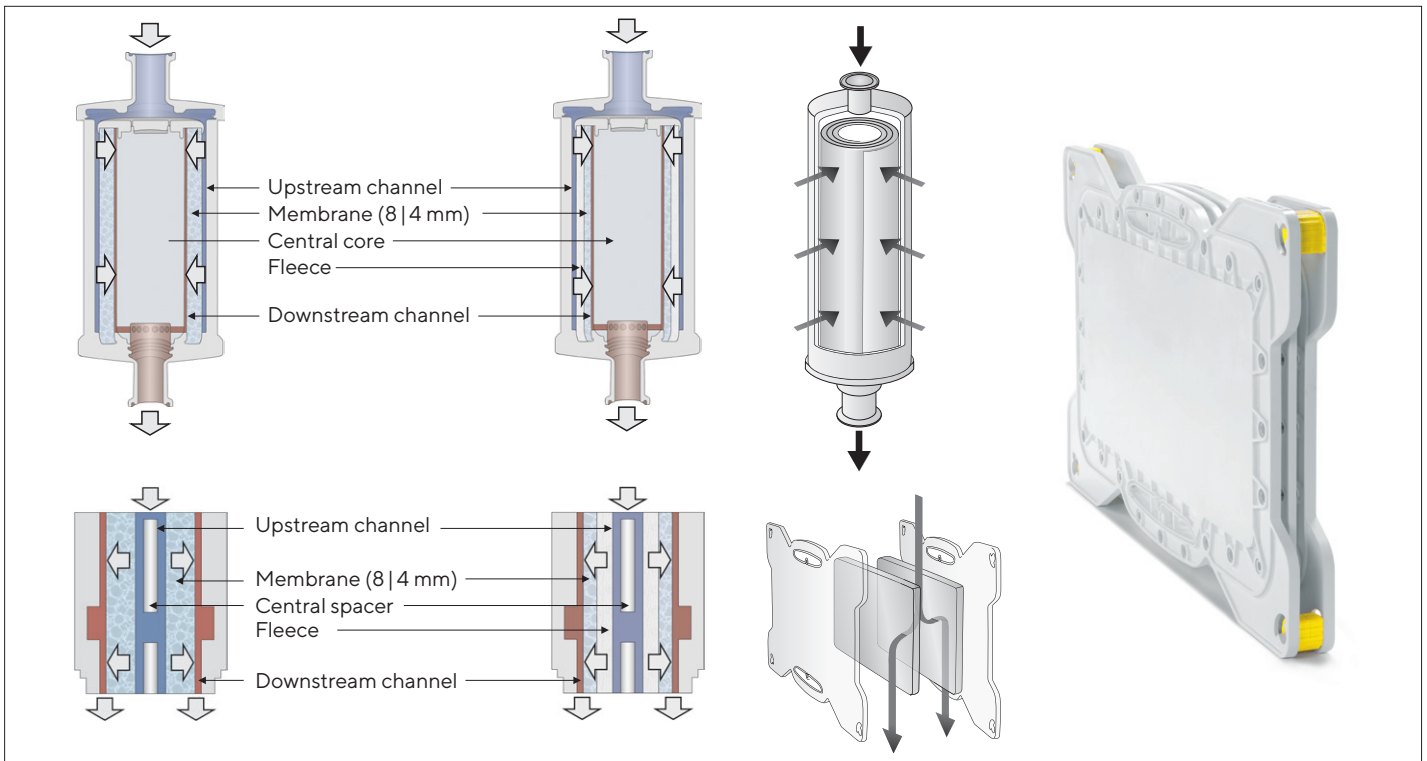
- Aggregates
- Host cell proteins
- Viruses
- Endotoxins

### Capture

- Conjugated vaccines, viruses and phages
- Oligonucleotides



96-well plates | Phenyl pico device 0.08 mL

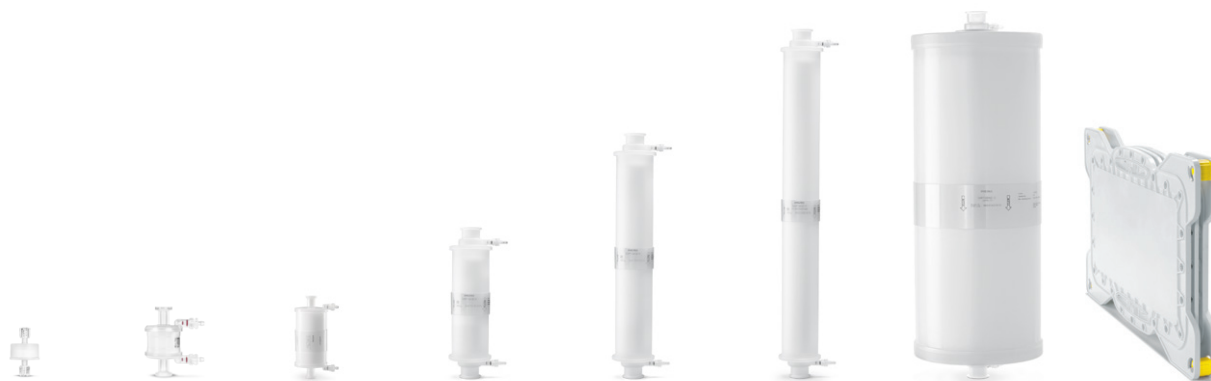


Cutaway view and flow path of a capsule (upper figures) and a cassette (lower figures)

# Technical Specifications

<b>Membrane materials</b>		
Matrix	Stabilized reinforced cellulose	
Membrane thickness   membrane volume = membrane area	275 $\mu\text{m}$   1 mL = 36.4 $\text{cm}^2$	
Nominal pore size	> 3 $\mu\text{m}$	
Hydrophobic interaction ligand	HIC: Phenyl (R-NH-C <sub>6</sub> H <sub>5</sub> )	
<b>Capsule materials</b>		
Outer cage, inner core, end caps, capsule housing, nonwoven, fleece	Polypropylene	
O-ring in vent valve (except nano)	EPDM (ethylene propylene diene monomer)	
<b>Cassette materials</b>		
Outer cage, seal, nonwoven, fleece	ABS, silicone, polyethylene	
<b>Operation</b>		
Depyrogenation	1 N NaOH for 30 minutes at 20 °C	
Integrity testing	By the diffusion test method with Sartocheck® 5 Plus	
<b>Typical dynamic binding capacity at 10% breakthrough</b>		
Phenyl (polyclonal bovine IgG, 50 mM potassium phosphat, 0.9 M (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> , pH 7.5)	14.6 mg/mL (0.4 mg/cm <sup>2</sup> )	
<b>Ligand density</b>		
Phenyl	3 $\mu\text{eq}/\text{cm}^2$	
<b>pH stabilities</b>		
	Short term	Long term
Phenyl	pH 2 - 14	pH 3 - 13

## Dimensions and Connections



Size	nano	mini	5"	10"	20"	30"	Jumbo	Cassette
Membrane volume   8 mm	3 mL	20 mL	150 mL	400 mL	800 mL	1,200 mL	5,000 mL	1,600 mL
Membrane area cm <sup>2</sup>   8 mm	110	728	5,500	14,600	29,000	44,000	182,000	58,000*
Void volume 8 mm MV**   mL	1.3   4	1.6   32	1.3   200	1.4   540	1.4   1,080	1.3   1,600	1.4   7,000	1.8   2,900*
Dimensions one device (height x diameter) mm	37 x 31	70-110 x 54.5	190 x 77	350 x 100	570 x 100	810 x 100	850 x 302	634 x 387 x 49 w x h x t
Connectors	Luer female	Luer female Sanitary 3/4" 25 mm outer, 14 mm inner diameter Hose barb 1/2", 12.7 mm	Sanitary 3/4" 25 mm outer, 14 mm inner diameter	Sanitary 1 1/2" 50.5 mm outer, 36 mm inner diameter	Sanitary 1 1/2" 50.5 mm outer, 36 mm inner diameter	Sanitary 1 1/2" 50.5 mm outer, 36 mm inner diameter	Sanitary 1 1/2" 50.5 mm outer, 36 mm inner diameter	Sanitary 1 1/2" 50.5 mm outer, 36 mm inner diameter via manifolds (accessory)
Approximate weight	10 g	65 g	400 g	760 g	1.3 kg	1.9 kg	16 kg 20 kg wet 23 kg filled	4.9 kg* 6.0 kg* wet

\*Multiply with the number of used cassettes \*\*MV = membrane volume (including the porosity of the membrane which is 80%)

# Ordering Information

## Sartobind® Phenyl Capsules

Order number	Description	Quantity	Bed height [mm]	Bed volume [mL]	Protein binding capacity [g]	Recommended flow rate [L/min]	Maximum pressure [MPa] (bar/psig)
96HICP42EUC11--A	Sartobind® Phenyl 3 mL, 8 mm, Luer female connectors, 2 PEEK adapters Luer male to UNF 10-32 female, manual, certificate	4	8	3	0.044	0.015	0.4 (4/58)
96HICP42E4J11--A	Sartobind® Phenyl mini 20 mL, 8 mm, Luer female connectors, 8 PEEK adapters Luer male to UNF 10-32 female, manual, certificate	4	8	20	0.293	0.1	0.4 (4/58)
96HICP42E4JFF--A	Sartobind® Phenyl mini 20 mL, 8 mm, ¾" sanitary clamp, manual, certificate	4	8	20	0.293	0.1	0.4 (4/58)
96HICP42E4JOO--A	Sartobind® Phenyl mini 20 mL, 8mm, hose barb connectors, manual, certificate	4	8	20	0.293	0.1	0.4 (4/58)
96HICP42E9BFF	Sartobind® Phenyl 150 mL, 8 mm, ¾" sanitary clamp, manual, certificate	1	8	150	2.2	0.75	0.4 (4/58)
96HICP42E1HSS	Sartobind® Phenyl 400 mL, 8 mm, 1½" sanitary clamp, manual, certificate	1	8	400	5.8	2	0.4 (4/58)
96HICP42E2LSS	Sartobind® Phenyl 800 mL, 8 mm, 1½" sanitary clamp, manual, certificate	1	8	800	11.6	4	0.4 (4/58)
96HICP42E3FSS	Sartobind® Phenyl 1.2 L, 8 mm, 1½" sanitary clamp, manual, certificate	1	8	1,200	17.6	6	0.4 (4/58)
96HICP42E3ESS	Sartobind® Phenyl 5 L, 8 mm, 1½" sanitary clamp, manual, certificate	1	8	5,000	72.8	25	0.3 (3/43.5)
98HICP42E-P	Sartobind Phenyl Cassette 1.6 L, 8 mm, 1½" sanitary clamp via manifold set (accessory), manual, certificate	1	8	1,600	23.2	8	0.2 (2/29)





## Related Products



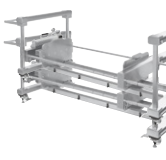

Order number	Description	Quantity
99HICP42GC-----V	Sartobind® Phenyl 96-well plate	2
99HICP42GC-----D	Sartobind® Phenyl 96-well plate	10
92HICP42DD-11--D	Sartobind® Phenyl pico 0.08 mL	10
92MU0142DD-11	Sartobind® Selection Kit pico 0.08 mL, Q, S and STIC PA	each 1

Sartobind® 96-well plate. Data sheet: order no.: 85032-543-28

Sartobind® pico 0.08 mL. Data sheet: order no.: 85032-541-71

# Accessories

Order number		Description	Quantity
1ZA---0004		Adapter Luer male to UNF 10-32 female, PEEK	1
1ZAOGV0003		Adapter UNF 10-32 female to sanitary 3/4", 25 mm, polyoxymethylene	2
5ZALB-0002		Distribution adapter for 3 × 200 to 1,200 mL (10 – 30") capsules, 1 × 2", 3 × 1 1/2", sanitary, stainless steel	1
7ZAL-V0013		Reducing adapter 1 1/2" (50.5 mm) to 3/4" (25 mm), sanitary	1
7ZAL-V0010		Reducing adapter 2" (64 mm) to 1 1/2" (50.5 mm), sanitary	1
9ZGL--0102		Trolley for Jumbo 2.5 or 5 L, stainless steel	1
26787---FT---P		Sartocheck® 5 Plus Filter Integrity Tester	1


Order number	Image	Description	Quantity
29Z--S00001		Manifold set for Sartoclear®   Sartobind®, 1½" sanitary clamp	2
2ZGL--0005		Pilot Filter Holder for Sartoclear®   Sartobind®	1
2ZGL--0006		Process Filter Holder for Sartoclear®   Sartobind®	1
2ZGL--0007		Double process Filter Holder for Sartoclear®   Sartobind®	1
2ZGL--0008		Drip pan for Pilot Filter Holder	1
2ZGL--0015		Drip pan for Process and double Process Filter Holder	1

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 **To find out more about chromatography membranes, visit**  
[www.sartorius.com/chromatography-membranes](http://www.sartorius.com/chromatography-membranes)