



Sartobind[®] 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 (like a filter)
- Re-usable or disposable



Product Information

The Sartobind 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 directly 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 (see picture above: with Luer to UNF10-32 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

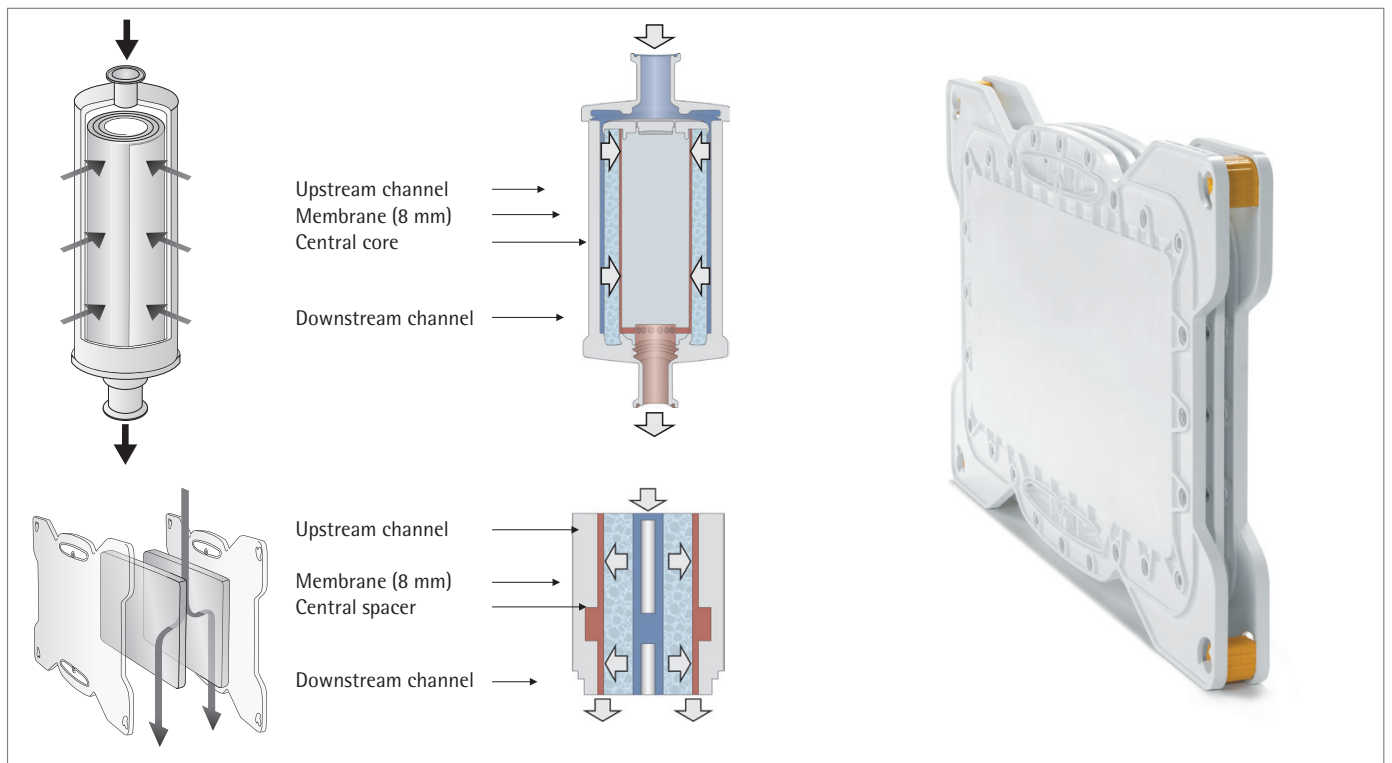
- Aggregates
- Host cell proteins
- Viruses
- Endotoxins

Capture

- Conjugated vaccines, viruses and phages
- Oligonucleotides



96 well plates | HIC pico device 0.08 mL




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

Technical Data

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

Dimensions and Connections

Membrane volume 4 mm	1 mL	75 mL	200 mL	400 mL	600 mL	2,500 mL	800 mL
Membrane volume 8 mm	3 mL	150 mL	400 mL	800 mL	1,200 mL	5,000 mL	1,600 mL
Size	Nano	5"	10"	20"	30"	Jumbo	Cassette



Membrane area cm ² 4 mm	36.4	2,700	7,300	14,600	22,000	91,000	29,000*
Membrane area cm ² 8 mm	110	5,500	14,600	29,000	44,000	182,000	58,000*
Void volume mL MV** 4 mm	3.5 3.5	2.7 200	2.7 540	2.7 1,080	2.7 1,600	2.8 7,000	3.1 2500*
Void volume mL MV** 8 mm	1.3 4	1.3 200	1.4 540	1.4 1,080	1.3 1,600	1.4 7,000	1.8 2900*
Dimensions one device (height × diameter) mm	37 × 33 h × Ø	190 × 77 h × Ø	350 × 100 h × Ø	570 × 100 h × Ø	810 × 100 h × Ø	850 × 302 h × Ø	634 × 387 × 49 w × h × t
Connectors	Luer female	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)
Hose barb version (height × diameter) mm	n.a.	203 × 77	n.a.	n.a.	n.a.	n.a.	n.a.
Approximate weight	10 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

n.a. = not available, *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 Luer male PEEK adapters to UNF 10-32 female, manual, certificate	4	8	3	0.044	0.015	0.4 (4/58)
96HICP42E9BFF	Sartobind Phenyl 150 mL, 8 mm, 3/4" sanitary clamp, manual, certificate	1	8	150	2.2	0.75	0.4 (4/58)
96HICP42E1HSS	Sartobind Phenyl 400 mL, 8 mm, 1 1/2" sanitary clamp, manual, certificate	1	8	400	5.8	2	0.4 (4/58)
96HICP42E2LSS	Sartobind Phenyl 800 mL, 8 mm, 1 1/2" sanitary clamp, manual, certificate	1	8	800	11.6	4	0.4 (4/58)
96HICP42E3FSS	Sartobind Phenyl 1.2 L, 8 mm, 1 1/2" sanitary clamp, manual, certificate	1	8	1,200	17.6	6	0.4 (4/58)
96HICP42E3ESS	Sartobind Phenyl 5 L, 8 mm, 1 1/2" 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, 1 1/2" sanitary clamp via manifold set (accessory), manual, certificate	1	8	1,600	23.2	8	0.2 (2/29)




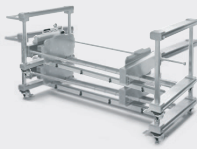

Related products

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--D	Sartobind Selection Kit pico 0.08 mL, Q, S and STIC PA	3

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
1ZA0GV0003		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
16290		Sartocheck® 3 Plus Integrity Tester	1
26288---FT		Sartocheck® 4 Plus Filter Integrity Tester	1

Order number		Description	Quantity
29Z-S00001		Manifold set for Sartoclear® Sartobind®, 1 1/2" 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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in the EU on paper bleached without chlorine.
Publication No.: SL-2064-e161206
Order No.: 85032-535-77 - Ver. 12 | 2016

Chromatography as easy as filtration



◀ Sartobind App
www.sartorius-stedim.com/apps