



Sartobind® 96-well plates

High Throughput Screening with IEX and HIC Membrane Chromatography

Product Information

High throughput screening (HTS) with 96-well plates is commonly used to optimize biopharmaceutical development and reduce process development time lines.



Automated or manual optimization of chromatographic steps should be one of the standard procedures in purification. Membrane adsorbers in 96-well plate format in combination with a vacuum filtration unit or a centrifuge are ideal tools for rapid screening of purification conditions for target molecules.

The 96-well plate features a modular design of individual 8-strip units set into a 96-well holding frame. A silicone gasket seals the plate set-up of 12 individual 8-strip units for vacuum processing. The individual 8-strips can be processed with the Vac8 (VW08VAC01) or full plate set-up with the Vac96 vacuum manifold (VW96VAC01). Operation with a centrifuge does not require a gasket seal.

Sartobind® 96-well plates are available with four different membrane chemistries: Sartobind® STIC PA and Q anion exchangers, S cation exchanger and Sartobind® Phenyl as a hydrophobic interaction chromatography matrix.

Applications

Sartobind® plates are useful to optimize purification conditions of recombinant proteins (Mabs) and vaccines in Design of Experiments (DoE) studies.

Once optimal conditions have been determined, Sartobind® capsules should be used for estimation of binding capacity, the absolute removal of contaminants (virus, endotoxin etc.) or flow rate for further scale up.

Contaminant removal

- Host cell proteins
- DNA
- Endotoxins
- Viruses
- Aggregates

Bind & elute

- Viruses
- Proteins

Screening parameters in flowthrough and bind & elute modes

- Buffer type
- Buffer composition
- pH
- Conductivity
- Concentration of target molecule
- Additives
- Wash step

Technical Data

Base membrane	Stabilized reinforced cellulose
Nominal pore size	> 3 μm
Bed height	0.8 mm
Bed volume	19 μl well
Adsorption area	0.7 cm^2 well

Membrane Types and Ligands

Strong basic anion exchanger	Quaternary ammonium (Q) $\text{R-CH}_2\text{-N}^+(\text{CH}_3)_3$
Salt tolerant anion exchanger	Primary amine (PA)
Strong acidic cation exchanger	Sulfonic acid (S) $\text{R-CH}_2\text{-SO}_3^-$
Hydrophobic interaction membrane	Phenyl

Binding Capacity* [mg | ml] and [mg | well]

Q	29 0.55
PA	50 0.95
S	25 0.48
Phenyl	14.5 0.28

Materials

8-strip units	Polypropylene
Holding frame	Polystyrene
Collection plate	Polypropylene

Operation

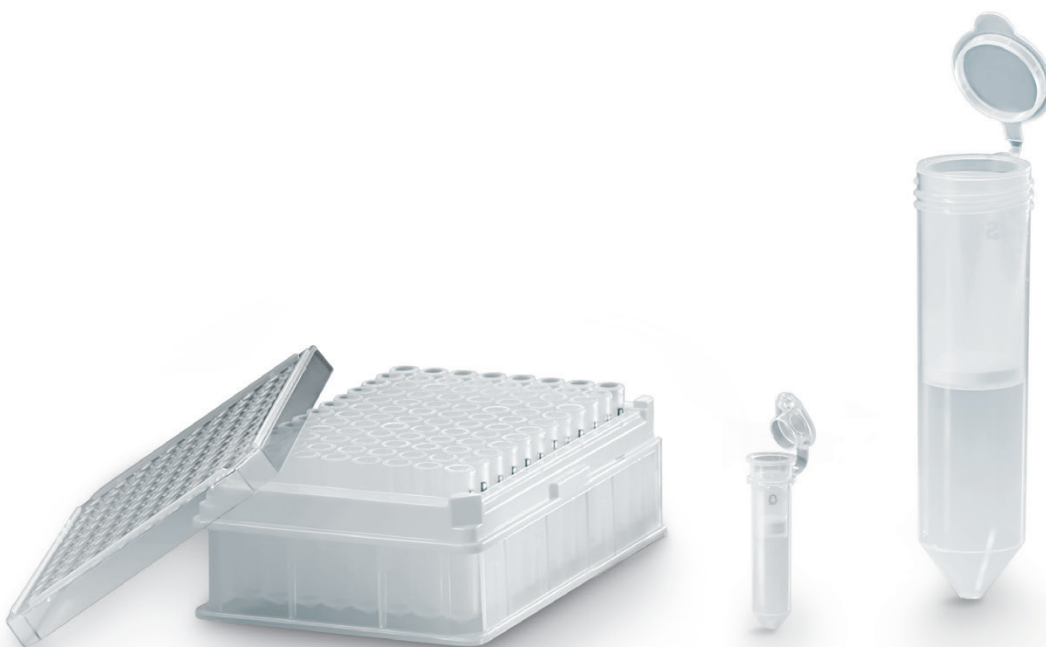
With vacuum manifold or centrifuge

Short term	Q:	2 – 14
pH compatibility	PA:	2 – 14
	S:	3 – 14
	Phenyl:	2 – 14

Chemical stability

Stable in common chromatography buffers
unstable to peroxide and other oxidizing or reactive reagents

* Reference proteins: Bovine serum albumin for Q and PA, lysozyme for S and bovine IgG for Phenyl. The data is based on the typical dynamic binding capacity at 10% breakthrough measured with MA 15 units (bed height 0.8 mm, bed volume 0.41 ml) at 10 ml/min



Ordering Information

Article No.	Description	Quantity
96-well plate		
99IEXQ42GC-----V	Sartobind® Q 96-well plate, 2 units	2 (24 × 8-strips)
99IEXQ42GC-----D	Sartobind® Q 96-well plate, 10 units	10 (120 × 8-strips)
99STPA42GC-----V	Sartobind® STIC PA 96-well plate, 2 units	2 (24 × 8-strips)
99STPA42GC-----D	Sartobind® STIC PA 96-well plate, 10 units	10 (120 × 8-strips)
99IEXS42GC-----V	Sartobind® S 96-well plate, 2 units	2 (24 × 8-strips)
99IEXS42GC-----D	Sartobind® S 96-well plate, 10 units	10 (120 × 8-strips)
99HICP42GC-----V	Sartobind® Phenyl 96-well plate, 2 units	2 (24 × 8-strips)
99HICP42GC-----D	Sartobind® Phenyl 96-well plate, 10 units	10 (120 × 8-strips)

Vacuum Manifold and Accessories

VW96VAC01	Vac96 vacuum manifold	1
VW96VAA02	Vac96 liquid trap and reservoir	1
VW96VAA04	96 deep well collection plate 2 ml (square wells)	25
VW96VAA05	Replacement seal for Vac96 vacuum manifold	1
VW08VAC01	Vac8 vacuum manifold	1
VW08VAA02	Vac8 liquid trap and reservoir	1
VW08VAA03	8-well collection strips 1.2 ml (round wells)	125
VW08VAA04	Replacement seal for Vac8 vacuum manifold	1
16612	Vacuum pump, 98%, 220 V, 50 Hz	1
16615	Vacuum pump, 98%, 110 V, 60 Hz	1

Required equipments for vacuum operation

96-well plate

Vac96 Vacuum manifold (VW96VAC01)

96 deep well collection plate (VW96VAA04)

Vacuum pump or vacuum source capable of applying vacuum at 350 mbar (35 kPa, 5 psi)

Optional: Liquid trap (VW96VAA02)

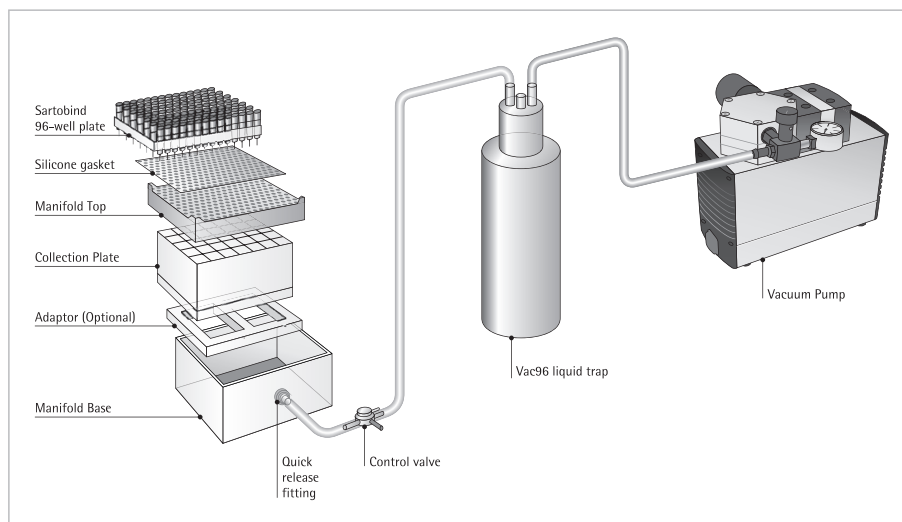
8-strip

Vac8 vacuum manifold (VW08VAC01)

8-well collection strips (VW08VAA03)

Vacuum pump or vacuum source capable of applying vacuum at 350 mbar (35 kPa, 5 psi)

Optional: Liquid trap (VW08VAA02)



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