

VIVAPRODUCTS

Protein Purification and Separation Technologies

Your Source for Clinical & Forensic Concentrators

Call us at 800-456-4633

Vivaspin® 15 and Vivaspin® 20

Concentration & Purification of Clinical Biological Samples



Vivaspin® ultrafiltration concentrators are disposable devices for biological samples. Vivaspin® 15 is suitable for sample volumes from 2 to 15 ml while Vivaspin® 20 can handle samples up to 20 ml. The patented vertical membrane design and thin channel filtration chamber (US 5,647,990) minimizes membrane fouling and provides high speed concentrations. Vivaspin® 15R (not pictured) is supplied with the Hydrosart® membrane to provide excellent sample recovery. It is similar in appearance to the Vivaspin® 20.

Vivaspin® Applications

- Concentration of urine prior to electrophoresis for diagnosis of multiple myeloma and amyloidosis.
- Concentrate spinal fluid prior to electrophoresis for diagnosis of meningitis and multiple sclerosis.
- Free drug & hormone (T3 / T4) analysis. Process samples in about 30 minutes instead of 17 hours for equilibrium dialysis.
- Protein removal from serum & cell / tissue lysates.
- Exchange buffers for proteomic peptide samples.
- Prepare samples for mass spectrometry.

Features	Benefits
Vertical membrane design	Fast filtration rates.
Integrated dead stop	No risk of over concentration. No need to re-spin samples.
Low binding materials	High sample recovery.
Wide range of MW cutoffs	Choose MW cutoff for your specific application.
Large Vivaspin® family of devices	Can process samples from 100 µl to 20 ml with similar methodology.

Technical Specifications

Concentrator Capacity	Vivaspin® 15	Vivaspin® 15R	Vivaspin® 20
Fixed angle rotor	8 ml	12.5 ml	14 ml
Swinging bucket rotor	15 ml	15 ml	20 ml

Dimensions

	Vivaspin® 15	Vivaspin® 15R	Vivaspin® 20
Total Length	76 mm	116 mm	116 mm
Width	25.5 mm	30 mm	30 mm
Active membrane area	4.0 cm ²	3.9 cm ²	6.0 cm ²
Hold-up volume (membrane & support)	< 20 µl	< 20 µl	< 20 µl
Dead stop volume	50 µl	30 µl	50 µl

Materials of Construction

	Vivaspin® 15	Vivaspin® 15R	Vivaspin® 20
Body	Polycarb.	Polycarb.	Polycarb.
Filtrate vessel	Polyprop.	Polycarb.	Polycarb.
Concentrator cap	Polycarb.	Polyprop.	Polyprop.
Membrane *	PES	HY	PES

Polycarb. = Polycarbonate, Polyprop. = Polypropylene

* See other side for membrane descriptions

Equipment Required

Centrifuge

Rotor cavity	To fit 50 ml (30 mm) conical bottom tubes #	To fit 50 ml (30 mm) conical bottom tubes	To fit 50 ml (30 mm) conical bottom tubes

Vivaspin® 15 can also fit 29 x 104 mm round bottom tubes

Fixed Rotor- Minimum Angle	25°	25°	25°
Fixed Rotor- Max. Speed	3,000 g	6,000 g	8,000 g **
** lower g force for these membranes: ≥ 100,000 PES			
			6,000 g

Swinging Bucket- Max. Speed	3,000 g **	3,000 g	5,000 g **
** lower g force for these membranes: ≥ 100,000 PES			
	2,000 g		3,000 g

Pipettes for Sample Delivery & Recovery

Fixed or variable volume may be used. For maximum recovery, a thin gel loader type is recommended.

Membrane Selection Guide

Polyethersulfone (PES)

A good general purpose membrane for most solutions. Has low fouling characteristics with very good flow rates. Tolerates a broad pH range (from 1 to 9).

Cellulose Triacetate (CTA)

Good hydrophilic properties with very low non specific binding. Cast without a membrane support that could bind filtered solutes. Use when recovery of filtrate is most important (free drug or hormone testing).

Hydrosart® (HY)

Similar to regenerated cellulose but with better performance characteristics and low protein binding. Good choice for concentration and desalting of proteins that may bind to other membranes such as immunoglobulin fractions.

Performance Characteristics

Time (in min.) to concentrate 30x at 20° C with rotor type shown. Also showing sample % recovery.

	Vivaspin® 15 15 ml@2,000 g Swinging bucket		Vivaspin® 15R 12.5 ml@6,000 g Fixed angle		Vivaspin® 20 14 ml@6,000 g Fixed angle	
	Time	Rec.	Time	Rec.	Time	Rec.
Cytochrome c-0.25 mg/ml (12,400 MW)						
3,000 MWCO PES	N/A		N/A		180	96%
5,000 MWCO PES	55	97%	N/A		No data	
5,000 MWCO HY	N/A		45	96%	N/A	
10,000 MWCO HY	N/A		18	94%	N/A	
BSA-1.0 mg/ml (66,000 MW)						
5,000 MWCO PES	40	97%	N/A		29	99%
10,000 MWCO PES	25	97%	N/A		17	98%
30,000 MWCO PES	25	96%	N/A		15	98%
30,000 MWCO HY	N/A		15	98%	N/A	
IgG-0.25 mg/ml (160,000 MW)						
30,000 MWCO PES	30	94%	N/A		20	95%
30,000 MWCO HY	N/A		25	96%	N/A	
50,000 MWCO PES	30	94%	N/A		22	95%
100,000 MWCO PES	30	90%	N/A		20	90%

Ordering Information

Molecular Weight Cutoff (MWCO)	Pack Size	Vivaspin® 15 PES membrane	Vivaspin® 15R HY membrane	Vivaspin® 20 PES membrane
2,000 MWCO	12		VS15RH91	
2,000 MWCO	48		VS15RH92	
3,000 MWCO	12			VS2091
3,000 MWCO	48			VS2092
5,000 MWCO	10	VS1511		
5,000 MWCO	40	VS1512		
5,000 MWCO	12		VS15RH11	VS2011
5,000 MWCO	48		VS15RH12	VS2012
10,000 MWCO	10	VS1501		
10,000 MWCO	40	VS1502		
10,000 MWCO	12		VS15RH01	VS2001
10,000 MWCO	48		VS15RH02	VS2002
30,000 MWCO	10	VS1521		
30,000 MWCO	40	VS1522		
30,000 MWCO	12		VS15RH21	VS2021
30,000 MWCO	48		VS15RH22	VS2022
50,000 MWCO	10	VS1531		
50,000 MWCO	40	VS1532		
50,000 MWCO	12			VS2031
50,000 MWCO	48			VS2032
100,000 MWCO	10	VS1541		
100,000 MWCO	40	VS1542		
100,000 MWCO	12			VS2041
100,000 MWCO	48			VS2042
300,000 MWCO	12			VS2051
300,000 MWCO	48			VS2052
1,000,000 MWCO	12			VS2061
1,000,000 MWCO	48			VS2062
0.2 µm	12	VS1571		VS2071
0.2 µm	48	VS1572		VS2072
Conical bottom tubes & lids	100	VSA001		
Starter Pack	10	VS15S1		
Starter Pack	12			VS20S1

(10 pack has 2 each 5K, 10K, 30K, 50K & 100K MWCO)(12 pack also includes 2 each 0.2 µm)

Manufactured by: Sartorius Stedim Biotech GmbH • August-Spindler-Strasse 11
37079 Goettingen, Germany • www.sartorius-stedim.com • P: +49.551.308.0 • F: +49.551.308.3289

North American Distributors:

VIVAPRODUCTS, Inc.

521 Great Road • Littleton, MA 01460 • www.vivaproducts.com • Phone: 800.456.4633 • Fax: 877.289.8482

Visit our website www.vivaproducts.com for pricing and on-line ordering!