

## Vivaspin® 500 and Vivaspin® 2

Concentration & Purification of Clinical Biological Samples



Vivaspin® ultrafiltration concentrators are disposable devices for biological samples. Vivaspin® 500 is suitable for sample volumes from 100-500 µl while Vivaspin® 2 can handle samples up to 2 ml. The patented vertical membrane design and thin channel filtration chamber (US 5,647,990) minimizes membrane fouling and provides high speed concentrations.

### Vivaspin® Applications

- Concentrate spinal fluid prior to electrophoresis for diagnosis of meningitis and multiple sclerosis.
- Concentrate antigens in urine & serum (*Legionella*, *Pneumonia*, *Streptococcus B*, *Coccidioides*) prior to immunoassays.
- 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.
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® 500	Vivaspin® 2
Fixed angle rotor	0.5 ml	2.0 ml
Swinging bucket rotor	N/A	3.0 ml

### Dimensions

Total Length	50 mm	126 mm
Width	11 mm	17 mm
Active membrane area	0.5 cm <sup>2</sup>	1.2 cm <sup>2</sup>
Hold-up volume	< 5 µl	< 10 µl
(membrane & support)		
Dead stop volume**	5 µl	8 µl
**Dead stop volume may vary depending on sample, temperature and rotor		

### Materials of Construction

Body	Polycarb.	Polycarb.
Filtrate vessel	Polyprop.	Polycarb.
Concentrator cap	Polycarb.	Polycarb.
Membrane *	PES	PES, CTA, HY

Polycarb. = Polycarbonate, Polyprop. = Polypropylene  
\* See other side for membrane descriptions

### Equipment Required

#### Centrifuge

Rotor cavity	To fit 2.2 ml (11 mm) conical bottom tubes	To fit 15 ml (17 mm) conical bottom tubes
Fixed Rotor - Minimum Angle	40°	25°
Fixed Rotor - Max. Speed	12,000 g	8,000 g
Swinging Bucket -Max. Speed	N/A	4,000 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® 500 0.5 ml@12,000 g Fixed angle		Vivaspin® 2 2.0 ml@5,000 g Fixed angle	
	Time	Rec.	Time	Rec.
Aprotinin-0.25 mg/ml (6,500 MW) 3,000 MWCO PES	30	96%	50	96%
BSA-1.0 mg/ml (66,000 MW)				
5,000 MWCO PES	15	96%	12	98%
10,000 MWCO PES	5	96%	8	98%
10,000 MWCO CTA	N/A		10	96%
10,000 MWCO HY	N/A		12	98%
20,000 MWCO CTA	N/A		5	96%
30,000 MWCO PES	5	95%	8	97%
30,000 MWCO HY	N/A		5	97%
IgG-0.25 mg/ml (160,000 MW)				
20,000 MWCO CTA	N/A		6	97%
30,000 MWCO PES	10	96%	10	96%
50,000 MWCO PES	10	96%	10	96%
100,000 MWCO PES	10	96%	8	95%

## Ordering Information

Molecular Weight Cutoff (MWCO)	Pack Size	Vivaspin® 500 PES membrane	Vivaspin® 2 PES membrane	Vivaspin® 2 CTA membrane	Vivaspin® 2 HY membrane
2,000 MWCO	25				VS02H91
2,000 MWCO	100				VS02H92
3,000 MWCO	25	VS0191	VS0291		
3,000 MWCO	100	VS0192	VS0292		
5,000 MWCO	25	VS0111	VS0211	VS02U1	VS02H11
5,000 MWCO	100	VS0112	VS0212	VS02U2	VS02H12
10,000 MWCO	25	VS0101	VS0201	VS02V1	VS02H01
10,000 MWCO	100	VS0102	VS0202	VS02V2	VS02H02
20,000 MWCO	25			VS02X1	
20,000 MWCO	100			VS02X2	
30,000 MWCO	25	VS0121	VS0221		VS02H21
30,000 MWCO	100	VS0122	VS0222		VS02H22
50,000 MWCO	25	VS0131	VS0231		
50,000 MWCO	100	VS0132	VS0232		
100,000 MWCO	25	VS0141	VS0241		
100,000 MWCO	100	VS0142	VS0242		
300,000 MWCO	25	VS0151	VS0251		
300,000 MWCO	100	VS0152	VS0252		
1,000,000 MWCO	25	VS0161	VS0261		
1,000,000 MWCO	100	VS0162	VS0262		
0.2 µm	25	VS0171	VS0271		
0.2 µm	100	VS0172	VS0272		
Starter Pack (5 each 5K, 10K, 30K, 50K & 100K MWCO)	25	VS01S1	VS02S1		

Manufactured by: Sartorius Stedim Lab Ltd. • Sperry Way, Stonehouse Park, Gloucestershire, GL10 3UT, UK • [www.sartorius-stedim.com](http://www.sartorius-stedim.com)

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