

# VIVAPRODUCTS

Protein Purification and Separation Technologies

*Your Source for Clinical & Forensic Concentrators*

*Call us at 800-456-4633*

## Vivaspin® 4 and Vivaspin® 6

Concentration & Purification of Clinical Biological Samples



Vivaspin® ultrafiltration concentrators are disposable devices for biological samples. Vivaspin® 4 is suitable for sample volumes from 1 to 4 ml while Vivaspin® 6 can handle samples up to 6 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

- 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® 4	Vivaspin® 6
Fixed angle rotor	4 ml	6 ml
Swinging bucket rotor	4 ml	6 ml

### Dimensions

Total Length	122 mm	122 mm
Width	17 mm	17 mm
Active membrane area	2.0 cm <sup>2</sup>	2.5 cm <sup>2</sup>
Hold-up volume (membrane & support)	< 10 µl	< 10 µl
Dead stop volume	20 µl	30 µl

### Materials of Construction

Body	Polycarb.	Polycarb.
Filtrate vessel	Polyprop.	Polycarb.
Concentrator cap	Polycarb.	Polyprop.
Membrane *	PES	PES

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

### Equipment Required

#### Centrifuge

Rotor cavity	To fit 15 ml (17 mm) conical bottom tubes	To fit 15 ml (17 mm) conical bottom tubes
Fixed Rotor-Minimum Angle	25°	25°
Fixed Rotor-Max. Speed	10,000 g **	10,000 g **
** lower g force for these membranes: ≥ 100,000 PES		
Swinging Bucket-Max. Speed	4,000 g	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® 4 4 ml@5,000 g Fixed angle		Vivaspin® 6 6 ml@7,500 g Fixed angle		Vivaspin® 6 6 ml@3,000 g Swinging Bucket	
	Time	Rec.	Time	Rec.	Time	Rec.
Cytochrome c-0.25 mg/ml (12,400 MW)						
5,000 MWCO PES	No data		90	97%	No data	
BSA-1.0 mg/ml (66,000 MW)						
5,000 MWCO PES	15	96%	12	98%	20	98%
10,000 MWCO PES	10	96%	10	98%	13	98%
30,000 MWCO PES	10	95%	9	97%	12	98%
IgG-0.25 mg/ml (160,000 MW)						
30,000 MWCO PES	10	95%	15	95%	18	96%
50,000 MWCO PES	10	95%	14	95%	17	96%
100,000 MWCO PES	10	95%	12	91%	15	91%

### Ordering Information

Molecular Weight Cutoff (MWCO)	Pack Size	Vivaspin® 4 PES membrane	Vivaspin® 6 PES membrane
3,000 MWCO	25		VS0691
3,000 MWCO	100		VS0692
5,000 MWCO	25	VS0413	VS0611
5,000 MWCO	100	VS0414	VS0612
10,000 MWCO	25	VS0403	VS0601
10,000 MWCO	100	VS0404	VS0602
10,000 MWCO	500	VS0405	
30,000 MWCO	25	VS0423	VS0621
30,000 MWCO	100	VS0424	VS0622
50,000 MWCO	25	VS0433	VS0631
50,000 MWCO	100	VS0434	VS0632
100,000 MWCO	25	VS0443	VS0641
100,000 MWCO	100	VS0444	VS0642
300,000 MWCO	25		VS0651
300,000 MWCO	100		VS0652
1,000,000 MWCO	25		VS0661
1,000,000 MWCO	100		VS0662
0.2 µm	25	VS0473	VS0671
0.2 µm	100	VS0474	VS0672
Starter Pack (5 each 5K, 10K, 30K, 50K & 100K MWCO)	25	VS0453	VS0651

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