

Vivaspin® Turbo 15 RC

Acquire the Fastest Sample Concentration with the Highest Recoveries for Your Protein Samples

Benefits

- Unique optimal membrane choice (PES and RC)
- Complete recoveries
- Fastest concentrations
- Highest chemical resistance
- Easy retentate collection
- Graduated and markable

Product Information

Vivaspin® Turbo centrifugal concentrators offer the optimal choice for maximum concentration or buffer exchange applications, with their broad range of MWCOs and market unique membrane choice of RC and PES membrane.

The Vivaspin® Turbo 15 RC concentrators are the Regenerated Cellulose concentrators with the highest flow rates on the market due to their large, twin vertical membranes and sleek internal profile, which minimize protein polarization and subsequent fouling of the membrane and ensures maximum process speeds right down to the last 100 µL.



Working Principle

Centrifugation provides the vector to clear solvent and micro molecules through an ultrafiltration membrane to separate macromolecular species and solvents primarily on the basis of size. It is particularly appropriate for the concentration of macromolecules and can also be used to purify molecular species or for solvent | buffer exchange. Ultrafiltration is a non-denaturing method that is more efficient, flexible and gentle than alternative processes.

High Performance

In a single spin, 15 mL solutions can be concentrated up to 150X. Samples can be typically concentrated in 5–20 minutes with macromolecular recoveries in excess of 90%.

Two Membrane Choices

The Vivaspin® Turbo devices are the only concentrators in this volume range to offer both PES and RC membrane types. Finally, users can have one manufacturer for both membranes and the membrane best for the sample in question.

Optimized Design for Fastest Concentration Results

The Vivaspin® Turbo's optimized design, its sleek internal profile, ensures maximum process speeds right the way down to the last few micro liters. The UV and ultrasonic joining technologies allow for a smooth joint transition between membrane and plastic housing, allowing all of your valuable sample to be collected into the unique pipette friendly dead stop pocket.

The Ultimate in Centrifugal Ultrafiltration Technology

Sleek internal design

Ensures maximum process speed for the complete filtration.

Large twin vertical membranes

A fouling of the membrane is avoided due to minimized protein polarization.

Unique angular dead stop pocket

The dead stop pocket in the Vivaspin® Turbo 15 RC is easy to access with standard 200 µL pipette tips due to its patent pending angular design. It eliminates the risk of the sample running to dryness while allowing highest recovery of the concentrate.

Optimized Choice of Materials for High Chemical Compatibility

The combination Regenerated Cellulose (RC), Styrene Butadiene Block Co-Polymer and Polypropylene (PP) allows sanitation and passivation of the Vivaspin® Turbo 15 RC units.

Regenerated Cellulose membranes are preferred for general sample types, due to their low fouling characteristics, exceptional flux, neutral membrane charge, and broad chemical compatibility.

Applications

Sample preparation

- Sample concentration:
 - Proteins; mAb, membrane proteins
 - Virus; Lentivirus, AAV, cytomegalovirus
 - Extracellular Vesicles; exosomes, microparticles
 - Nanoparticles; heavy metals, inorganics
 - Other Macromolecules; DNA, plasmids, lipids
- Desalting | dialysis
- Buffer | solvent exchange

Your sample is often the result of several months of research. Your sample is valuable, and Vivaspin® Turbo range provides highest recovery.

Summary

For scientists and lab technicians who need to quickly and safely concentrate biological samples of 4 mL to 15 mL initial volume up to 150 fold, Sartorius offers the Vivaspin® Turbo 15 RC range.

Unlike other ultrafiltration units, Vivaspin® Turbo 15 RC are equipped with an angular dead stop pocket, which enables reproducible and complete recoveries, while being the fastest in the market. The Vivaspin® Turbo 15 PES option is available when membrane-target optimization is a consideration.

Technical Specifications

Vivaspin® Turbo 15 RC

| | | |
|-------------------------------------|--|-----------------------------|
| Materials | Body | Styrene butadiene copolymer |
| | Filtrate vessel | Polypropylene |
| | Concentrator cap | Polypropylene |
| | Membrane | Regenerated Cellulose (RC) |
| Dimensions | Total length (concentrator insert) | 77 mm |
| | Total length (in tube with cap) | 118 mm |
| | Diameter (concentrator insert) | 27 mm |
| | Active membrane area | 8.1 cm ² |
| | Hold up volume of membrane | <10 µL |
| | Dead stop volume in swing out | 100 µL |
| | Dead stop volume in fixed angle | 60 µL |
| Concentrator capacity | Swing bucket rotor | 15 mL |
| | Fixed angle rotor (25°) | 9 mL |
| Maximum speed (5 kDa–50 kDa) | Swing bucket rotor | 4,000 x g |
| Maximum speed (100 kDa) | Swing bucket rotor | 3,000 x g |
| | Fixed angle rotor (25°) | 4,000 x g |
| | | |
| Sanitization | ETO or 70% EtOH | |
| Membrane passivation | 5% Tween 20 5% SDS 5% Triton X-100 | |

Performance Characteristics

Vivaspin® Turbo 15 RC

Average time to concentrate up to 30X [min.] at 20° C and solute recovery %

| | Rotor: Swing bucket Centrifugal speed: 4,000 x g Start volume: 15 mL | | Rotor: Fixed angle (25°) Centrifugal speed: 6,000 x g Start volume: 9 mL | |
|---|--|------|--|------|
| | Min. | Rec. | Min. | Rec. |
| Lysozyme* (14,300 MW) | | | | |
| 5 MWCO RC | 23 | 94% | 25 | 92% |
| α-Chymotrypsin** (25,000 MW) | | | | |
| 10 MWCO RC | 7 | 93% | 9 | 92% |
| BSA** (66,000 MW) | | | | |
| 10 MWCO RC | 8 | 94% | 10 | 98% |
| 30 MWCO RC | 4 | 96% | 4 | 93% |
| Gamma Globulins (inc IgG)** (160,000 MW) | | | | |
| 50 MWCO RC | 17 | 95% | 12 | 96% |
| 100 MWCO RC*** | 18 | 89% | 11 | 89% |

* 0.25 mg/mL

** 1 mg/mL

*** 3,000 g x centrifugal speed

Ordering Information

Vivaspin® Turbo 15 RC centrifugal concentrators, disposable ultrafiltration units, for processing sample volumes of 4–15 mL, regenerated cellulose ultrafiltration membrane.

Vivaspin® Turbo 15 RC

| Cut off | Quantity | Order no. |
|--------------|----------|-----------|
| 5,000 MWCO | 12 | VS15TR11 |
| 5,000 MWCO | 48 | VS15TR12 |
| 10,000 MWCO | 12 | VS15TR01 |
| 10,000 MWCO | 48 | VS15TR02 |
| 30,000 MWCO | 12 | VS15TR21 |
| 30,000 MWCO | 48 | VS15TR22 |
| 50,000 MWCO | 12 | VS15TR31 |
| 50,000 MWCO | 48 | VS15TR32 |
| 100,000 MWCO | 12 | VS15TR41 |
| 100,000 MWCO | 48 | VS15TR42 |



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