

Vivaspin® 20



5–20 ml samples

Vivaspin® 20 ml centrifugal concentrators have been developed to offer increased volume flexibility and performance.

Vivaspin® 20 handles up to 20 ml in swing bucket centrifuges and 14 ml in 25° fixed angle rotors accepting 50 ml centrifuge tubes.



Featuring twin vertical membranes for unparalleled filtration speeds the Vivaspin® 20 can achieve 100x plus concentrations.

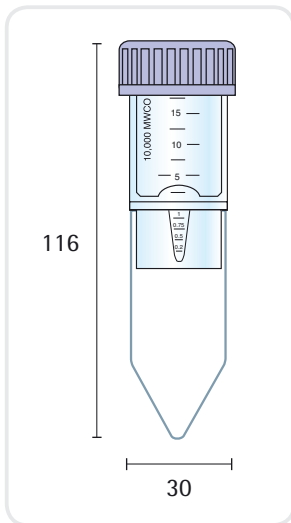
Remaining volume is easy to read off the printed scale on the side of the concentrator and the modified dead stop pocket further simplifies direct pipette recovery of the final concentrate.

More process flexibility

Vivaspin® 20 is available with unique accessories and operating methods that are designed to provide more process flexibility and further time saving.

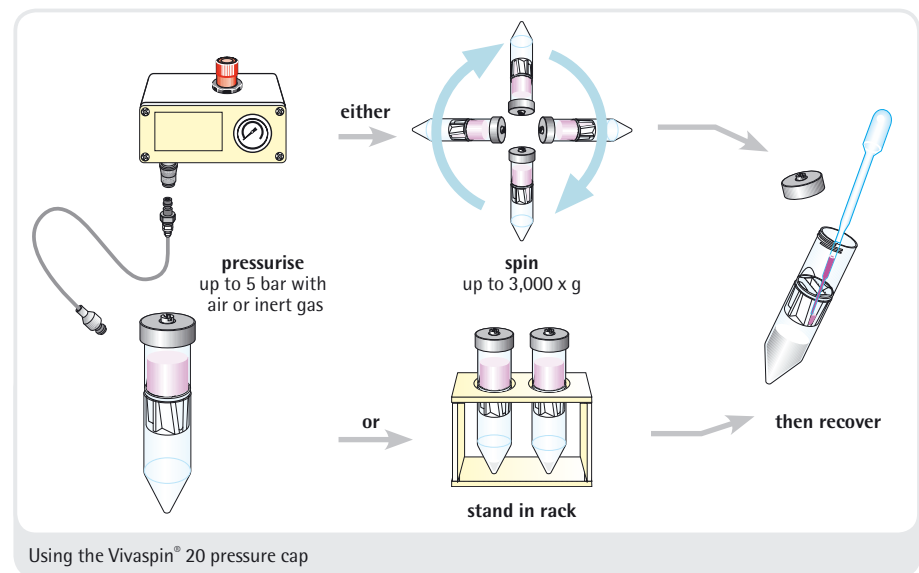
Gas pressure filtration

When an appropriate centrifuge is unavailable, or for single sample processing, Vivaspin® 20 can be filled with up to 15 ml and then pressurised for bench top concentration. For even faster processing, gas pressure can be combined with centrifugal force. "Pressure-fugation" is particularly suitable for difficult or viscous samples such as serum, or when using a low process temperature which reduces filtration speed, and generally when minimum process time is essential.



Technical specifications Vivaspin® 20

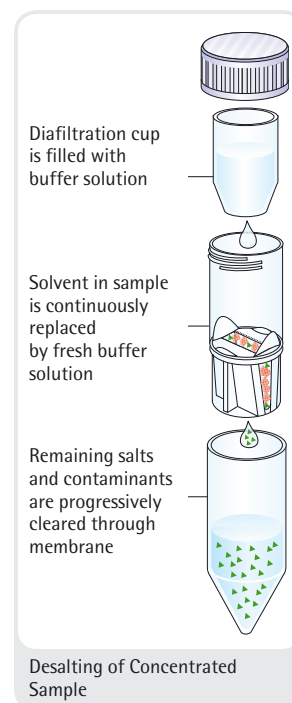
| | | |
|---------------------------|----------------------------|---------------------------|
| Concentrator capacity | Swing bucket rotor | 20 ml |
| | Fixed angle rotor | 14 ml |
| | With pressure head | 15 ml |
| Dimensions | Total length | 116 mm |
| | | 125 mm with pressure head |
| | Width | 30 mm |
| | Active membrane area | 6.0 cm ² |
| | Hold-up volume of membrane | < 20 µl |
| | Dead stop volume | 50 µl |
| Materials of construction | Body | Polycarbonate |
| | Filtrate vessel | Polycarbonate |
| | Concentrator cap | Polypropylene |
| | Pressure head | Acetal aluminium |
| | Membrane | Polyethersulfone |
| | | |



Desalting with Vivaspin® 20

In this procedure following concentration, a diafiltration cup is filled with buffer and then spun one time to achieve 98% salt removal. This compares to the need for two spins to achieve the same result with the traditional refill and re-spin procedure.

The improved performance is due to the constant washing action of the buffer solution in the diafiltration cup as it replaces solvent and salts as they pass through the ultrafiltration membrane.



Equipment required Vivaspin® 20

Centrifuge

| | | |
|---------------------|---|---|
| Rotor type | Swing bucket | Fixed angle |
| Minimum rotor angle | – | 25° |
| Rotor cavity | To fit 50 ml (30 mm) conical bottom tubes | To fit 50 ml (30 mm) conical bottom tubes |
| Maximum speed | 5,000 g* | 8,000 g* |

Optional pressure accessories

Air pressure controller (APC) complete with pressure gauge, regulator, over-pressure safety valve, female connector to Sartorius Stedim Biotech pressure products and 1 m extension line (4 mm pneumatic tubing) with male and female connectors and 1 m of 6 mm inlet tubing

Prod no. VCA002

Charge valve

Prod no. VCA005

VS20 pressure head

Prod no. VCA200

Concentrate recovery

| | | |
|-----------------|--------------------------|--------------------------|
| Pipette type | Fixed or variable volume | Fixed or variable volume |
| Recommended tip | Thin gel loader type | Thin gel loader type |

* Please note, devices with membrane MWCO >100 kDa need to be processed at lower g forces. See data sheets for details.

Performance characteristics

| Mode | Time to concentrate up to 30x [min.] at 20°C and solute recovery % | | | | | | | |
|---|--|------|-----------------|------|-----------|------|-----------------|------|
| | Centrifuge | | Centrifuge | | Bench top | | Press-fuge | |
| Rotor | Swing bucket | | 25° Fixed angle | | Pressure | | Swing bucket | |
| Centrifugal speed pressure | 3,000 g | | 6,000 g | | 4 bar | | 3,000 g + 4 bar | |
| Start volume | 20 ml | | 14 ml | | 10 ml | | 10 ml | |
| | Min. | Rec. | Min. | Rec. | Min. | Rec. | Min. | Rec. |
| Cytochrome c 0.25 mg/ml (12,400 MW) | | | | | | | | |
| 3,000 MWCO PES | 110 | 97% | 180 | 96% | 60 | 96% | – | – |
| BSA 1.0 mg/ml (66,000 MW) | | | | | | | | |
| 5,000 MWCO PES | 23 | 99% | 29 | 99% | 50 | 98% | 14 | 98% |
| 10,000 MWCO PES | 16 | 98% | 17 | 98% | 32 | 97% | 8 | 97% |
| 30,000 MWCO PES | 13 | 98% | 15 | 98% | 32 | 97% | 8 | 97% |
| IgG 0.25 mg/ml (160,000 MW) | | | | | | | | |
| 30,000 MWCO PES | 27 | 97% | 20 | 95% | 46 | 94% | 13 | 97% |
| 50,000 MWCO PES | 27 | 96% | 22 | 95% | 46 | 93% | 13 | 96% |
| 100,000 MWCO PES | 25 | 91% | 20 | 90% | 42 | 88% | 12 | 94% |
| Latex beads 0.004% in DMEM + 10% FCS (0.055 µm) | | | | | | | | |
| 300,000 MWCO PES | 20 | 99% | 35 | 99% | 10 | 99% | – | – |
| Latex beads 0.004% in DMEM + 10% FCS (0.24 µm) | | | | | | | | |
| 1,000,000 MWCO PES | 4 | 99% | 12 | 99% | 4 | 99% | – | – |
| Yeast 1.0 mg/ml (<i>S. Cerevisiae</i>) | | | | | | | | |
| 0.2 µm PES | 15 | 95% | 5 | 95% | 20 | 95% | 2 | 95% |

Ordering information

| Vivaspin® 20 Polyethersulfone | Pack size | Prod. no. |
|--|------------------|------------------|
| 3,000 MWCO | 12 | VS2091 |
| 3,000 MWCO | 48 | VS2092 |
| 5,000 MWCO | 12 | VS2011 |
| 5,000 MWCO | 48 | VS2012 |
| 10,000 MWCO | 12 | VS2001 |
| 10,000 MWCO | 48 | VS2002 |
| 30,000 MWCO | 12 | VS2021 |
| 30,000 MWCO | 48 | VS2022 |
| 50,000 MWCO | 12 | VS2031 |
| 50,000 MWCO | 48 | VS2032 |
| 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 | VS2071 |
| 0.2 µm | 48 | VS2072 |
| Starter pack (2 of each 5 k, 10 k, 30 k, 50 k, 100 k, 0.2 µm) | 12 | VS20S1 |

Vivaspin® 20 accessories

| | | |
|--------------------------------|----|--------|
| Air pressure controller (APC) | 1 | VCA002 |
| Charge valve for pressure head | 1 | VCA005 |
| Diafiltration cups | 12 | VSA005 |
| Female connector | 1 | VCA010 |
| Male connector | 1 | VCA011 |
| 4 mm OD pneumatic tube (3 m) | 1 | VCA012 |
| Vivaspin® 20 pressure head | 1 | VCA200 |



WolfLabs

Pricing on any accessories shown can be found by keying the part number into the search box on our website.

The specifications listed in this brochure are subject to change by the manufacturer and therefore cannot be guaranteed to be correct. If there are aspects of the specification that must be guaranteed, please provide these to our sales team so that details can be confirmed.

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