

## Ultrafiltration Family



turning science into solutions

# Vivaspin Ultrafiltration Family – Sample Concentration up to 20 ml Initial Volume

With their broad range of volume capacities and MWCOs, Vivaspin centrifugal concentrators offer the optimal solution to any concentration or buffer exchange application.

Due to their particular vertical membrane design they achieve highest flow rates and recoveries.

The patented dead-stop technology allowing direct recovery of the concentrate without further respin assures incomparably safe sample handling and convenience.



Vivaspin 500  
500  $\mu$ l\* – 5  $\mu$ l\*\*



Vivaspin 2  
2 ml – 8  $\mu$ l



Vivaspin 6  
6 ml – 30  $\mu$ l



Vivaspin 15R  
15 ml – 30  $\mu$ l

## Vivaspin Applications

- Concentration of biological samples containing antigens, antibodies or enzymes
- Concentration of diluted protein samples from chromatography eluates
- Desalting or diafiltration | buffer exchange
- Sample concentration for crystallization and NMR spectroscopy
- Removal of very small or large contaminants

## Features

- Vertical, large membrane design
- Integrated Dead-Stop-Volume
- Low-binding materials
- No Re-spin necessary
- Broad volume range from 0.5 – 20 ml
- Wide MWCO range from 2 kDa – 0.2  $\mu$ m

## Benefits

- Fast, minimal membrane blocking
- No risk (to concentrate to dryness)
- High recovery
- Easy handling, fast
- High volume flexibility
- High MWCO flexibility

## Features

- Vivaspin Turbo range for fastest concentration speed and highest recoveries
- Angular dead-stop pocket in Vivaspin Turbo range

## Benefits

- Saving time combined with virtually complete concentrate recovery
- Easy and complete concentrate recovery due to pipette friendly access



Vivaspin 20

20 ml – 50  $\mu$ l



Vivaspin Turbo 4

4 ml – 30  $\mu$ l



Vivaspin Turbo 15

15 ml – 100  $\mu$ l



\* Volume

\*\* Dead stop vol.

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- High MWCO flexibility

Ordering Information

Vivaspin – PES Membrane

| MWCO              | 3 kDa  | 5 kDa <sup>(1)</sup> | 10 kDa <sup>(1)</sup> | 30 kDa <sup>(1)</sup> | 50 kDa <sup>(1)</sup> | 100 kDa <sup>(1)</sup> | 300 kDa       | 1,000 kDa     | 0.2 µm       | <sup>(1)</sup> 5 of each |
|-------------------|--------|----------------------|-----------------------|-----------------------|-----------------------|------------------------|---------------|---------------|--------------|--------------------------|
| Product           | Volume | Dead-stop vol        |                       |                       |                       |                        |               |               |              |                          |
| Vivaspin 500      | 0.5 ml | 5 µl                 | V50191 (25)*          | V50111 (25)           | V50101 (25)           | V50121 (25)            | V50131 (25)   | V50141 (25)   | V50151 (25)  | V50171 (25) V50151 (25)  |
|                   |        |                      | V50192 (100)          | V50112 (100)          | V50102 (100)          | V50122 (100)           | V50132 (100)  | V50142 (100)  | V50152 (100) | V50172 (100)             |
| Vivaspin 2        | 2 ml   | 8 µl                 | V50291 (25)           | V50211 (25)           | V50201 (25)           | V50221 (25)            | V50231 (25)   | V50241 (25)   | V50251 (25)  | V50271 (25) V50251 (25)  |
|                   |        |                      | V50292 (100)          | V50212 (100)          | V50202 (100)          | V50222 (100)           | V50232 (100)  | V50242 (100)  | V50252 (100) | V50272 (100)             |
| Vivaspin Turbo 4  | 4 ml   | 30 µl                | V504191 (25)          | V504111 (25)          | V504101 (25)          | V504121 (25)           | V504131 (25)  | V504141 (25)  |              |                          |
|                   |        |                      | V504192 (100)         | V504112 (100)         | V504102 (100)         | V504122 (100)          | V504132 (100) | V504142 (100) |              |                          |
| Vivaspin 6        | 6 ml   | 30 µl                | V50691 (25)           | V50611 (25)           | V50601 (25)           | V50621 (25)            | V50631 (25)   | V50641 (25)   | V50651 (25)  | V50671 (25) V50651 (25)  |
|                   |        |                      | V50692 (100)          | V50612 (100)          | V50602 (100)          | V50622 (100)           | V50632 (100)  | V50642 (100)  | V50652 (100) | V50672 (100)             |
| Vivaspin Turbo 15 | 15 ml  | 100 µl               | V515191               | V515111 (12)          | V515101 (12)          | V515121 (12)           | V515131 (12)  | V515141 (12)  |              |                          |
|                   |        |                      | V515191               | V515112 (48)          | V515102 (48)          | V515122 (48)           | V515132 (48)  | V515142 (48)  |              |                          |
| Vivaspin 20       | 20 ml  | 50 µl                | V52091 (12)           | V52011 (12)           | V52001 (12)           | V52021 (12)            | V52031 (12)   | V52041 (12)   | V52051 (12)  | V52071 (12) V52051 (12)  |
|                   |        |                      | V52092 (48)           | V52012 (48)           | V52002 (48)           | V52022 (48)            | V52032 (48)   | V52042 (48)   | V52052 (48)  | V52072 (48)              |

Vivaspin – Hydrosart® Membrane

| MWCO         | 2 kDa  | 5 kDa         | 10 kDa        | 30 kDa                      |
|--------------|--------|---------------|---------------|-----------------------------|
| Product      | Volume | Dead-stop vol |               |                             |
| Vivaspin 2   | 2 ml   | 8 µl          | V502H91 (25)* | V502H11 (25) V502H21 (25)   |
|              |        |               | V502H92 (100) | V502H12 (100) V502H22 (100) |
| Vivaspin 15R | 15 ml  | 30 µl         | V515RH91 (12) | V515RH11 (12) V515RH21 (12) |
|              |        |               | V515RH92 (48) | V515RH12 (48) V515RH22 (48) |

Vivaspin – CTA Membrane

| MWCO       | 5 kDa  | 10 kDa        | 20 kDa                                 |
|------------|--------|---------------|----------------------------------------|
| Product    | Volume | Dead-stop vol |                                        |
| Vivaspin 2 | 2 ml   | 8 µl          | V502U1 (25) V502V1 (25) V502X1 (25)    |
|            |        |               | V502U2 (100) V502V2 (100) V502X2 (100) |

Vivaspin Additional Devices

| Product Description              | Qty per Box | Order No. |
|----------------------------------|-------------|-----------|
| Vivaspin 20 – Diafiltration cups | 12          | V5A005    |

\* Volume  
\*\* Dead-stop vol.  
(Qty per box in parenthesis)



Vivaspin 20  
20 ml – 50 µl



# Vivacell Pressure Units – Sample Concentration up to 250 ml Initial Volume

Vivacell – Put your proteins under pressure! Pressurization, centrifugation or both – the choice is yours. Sartorius offers the Vivacell product range of pressurizable and centrifugal concentrators for sample volumes from 20 ml to 250 ml. The patented vertical membrane design guarantees highest performance and unmatched flexibility.

Vivacell products are unique and innovative concentrators that can be pressurized and centrifuged, or a combination of both for fast and safe sample concentration.

Benefit from our patented dead-stop technology, high process speeds and direct concentrate recovery without the need for reverse spinning!

## Vivacell Family

### Vivacell 70 – Centrifugation | Pressure

| MWCO    | Vivacell 70; Volume = 70 ml; Dead stop vol. = 150 µl |
|---------|------------------------------------------------------|
| 5 kDa   | VS6011 (2)*, VS6012 (10)                             |
| 10 kDa  | VS6001 (2), VS6002 (10)                              |
| 30 kDa  | VS6021 (2), VS6022 (10)                              |
| 50 kDa  | VS6031 (2), VS6032 (10)                              |
| 100 kDa | VS6041 (2), VS6042 (10)                              |
| 0.2 µm  | VS6071 (2), VS6072 (10)                              |



### Vivacell 100 – Centrifugation | Pressure

| MWCO      | Vivacell 100; Volume = 100 ml; Dead stop vol. = 350 µl |
|-----------|--------------------------------------------------------|
| 5 kDa     | VC1011 (2), VC1012 (10)                                |
| 10 kDa    | VC1001 (2), VC1002 (10)                                |
| 30 kDa    | VC1021 (2), VC1022 (10)                                |
| 50 kDa    | VC1031 (2), VC1032 (10)                                |
| 100 kDa   | VC1041 (2), VC1042 (10)                                |
| 300 kDa   | VC1051 (2), VC1052 (10)                                |
| 1,000 kDa | VC1061 (2), VC1062 (10)                                |
| 0.2 µm    | VC1071 (2), VC1072 (10)                                |



### Vivacell 250 – Pressure

| MWCO    | Vivacell 250; Volume = 250 ml; Dead stop vol. = 600 µl |
|---------|--------------------------------------------------------|
| 5 kDa   | VC2511 (5)                                             |
| 10 kDa  | VC2501 (5)                                             |
| 30 kDa  | VC2521 (5)                                             |
| 50 kDa  | VC2531 (5)                                             |
| 100 kDa | VC2541 (5)                                             |
| 0.2 µm  | VC2571 (5)                                             |

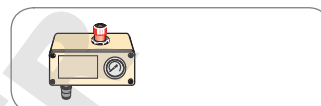


\* (Qty per box in parenthesis)

## Vivacell – Accessories for Different Applications

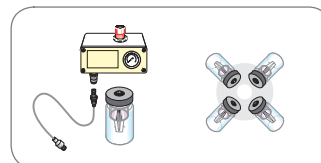
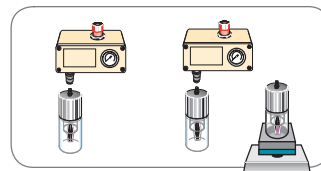
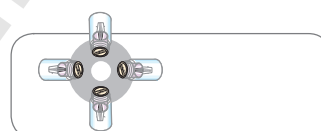
### APC

| Description                                                                                                                                                      | Qty per Box | Order No. |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-----------|
| <b>Air Pressure Controller</b>                                                                                                                                   |             |           |
| Includes pressure gauge, regulator, over-pressure safety valve, female connector and 1 m extension line (4 mm pneumatic tubing) with connectors and inlet-tubing | 1           | VCA002    |



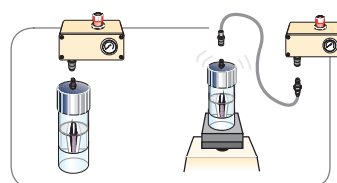
### Vivacell 70

| Description                                                | Qty per Box | Order No. |
|------------------------------------------------------------|-------------|-----------|
| <b>Centrifugation</b>                                      |             |           |
| Vivacell centrifuge bottle-standard caps – swing out rotor | 4           | VSA003    |
| Modified caps with centrifuge bottle – fixed angle rotor   | 2           | VCA004    |
| <b>Pressurize &amp; Pressure-shake</b>                     |             |           |
| Female connector                                           | 1           | VCA010    |
| Male connector                                             | 1           | VCA011    |
| 4 mm pneumatic tubing                                      | 1           | VCA012    |
| Pressure head with reservoir and filtrate bottle           | 1           | VCA700    |
| <b>Pressure-fugea</b>                                      |             |           |
| Charge valve for pressure-fuge head                        | 1           | VCA005    |
| Vivacell replacement seals for pressure-fuge head          | 10          | VCA007    |
| Female connector                                           | 1           | VCA010    |
| Male connector                                             | 1           | VCA011    |
| 4mm pneumatic tubing                                       | 1           | VCA012    |
| Pressure-fuge head                                         | 2           | VCA701    |



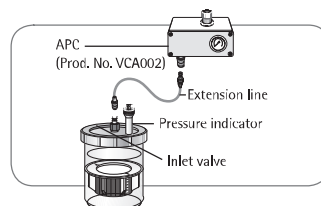
### Vivacell 100

| Description                              | Qty per Box | Order No. |
|------------------------------------------|-------------|-----------|
| <b>Pressurize &amp; Pressure-shake</b>   |             |           |
| Sanoprene replacement seals              | 10          | VCA014    |
| Female connector                         | 1           | VCA010    |
| Male connector                           | 1           | VCA011    |
| 4 mm pneumatic tubing                    | 1           | VCA012    |
| Pressure head with replacement seals (5) | 1           | VCA800    |



### Vivacell 250

| Description                                                                      | Qty per Box | Order No. |
|----------------------------------------------------------------------------------|-------------|-----------|
| <b>Pressurize &amp; Pressure-shake</b>                                           |             |           |
| Replacement pressure indicator                                                   | 1           | VCA008    |
| Vivacell maintenance kit (sample reservoir, filtrate container and O-ring seals) | 1           | VCA009    |
| Female connector                                                                 | 1           | VCA010    |
| Male connector                                                                   | 1           | VCA011    |
| 4 mm pneumatic tubing                                                            | 1           | VCA012    |
| Replacement pressure head & screw closure                                        | 1           | VCA015    |
| Vivacell 250 complete with accessories                                           | 1           | VCA250    |
| Vivacell 250 starter kit                                                         | 5           | VC25S1    |



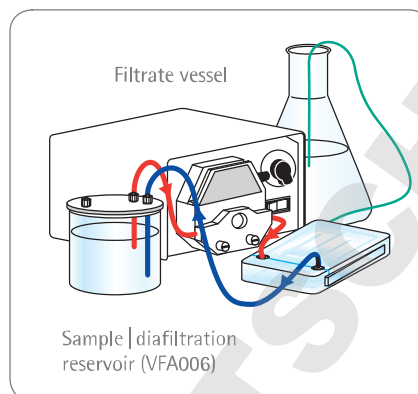
# Vivaflow Crossflow Cassettes – Sample Concentration up to 5 l

Plug and Play Convenience – Vivaflow units are easy to use, and provide an optimal performance, flexibility and economy which is unrivalled by any crossflow system on the market for laboratory needs. The devices are easy to set up and need only a standard peristaltic pump to operate.

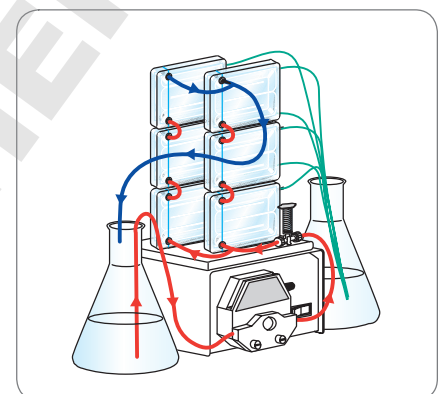
## Vivaflow Setup

### 100 ml to 3 Liters

**Vivaflow 50** is a disposable, modular crossflow device, which can be easily scaled up to 6 units that run both in parallel and in series. Vivaflow 50 saves regeneration time and is the economical choice for concentration and buffer exchange of 0.1 ml to 3 l samples containing proteins, viruses and nanoparticles.



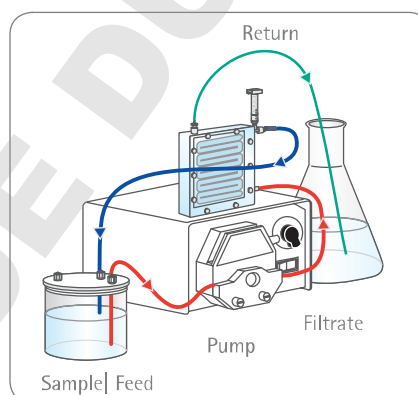
Vivaflow 50  
Single module



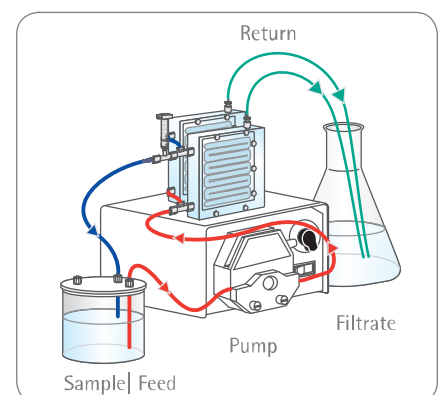
Vivaflow 50  
Multiple modules

### 100 ml to 1 Liter

**Vivaflow 50R** is a reusable crossflow device featuring a unique, low-binding modified regenerated cellulose membrane, Hydrosart®. Therefore, it is the ideal choice for concentrating expensive samples like viruses and antibodies. Vivaflow 50R can be scaled up with one additional unit to increase the flow speed for concentrating initial sample volumes of up to 1 l.



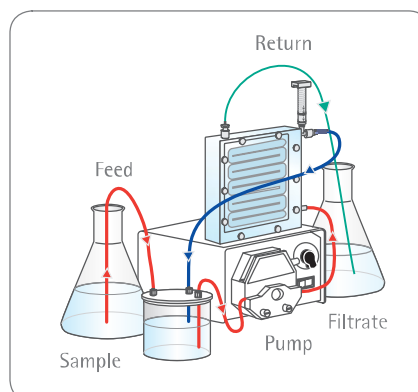
Vivaflow 50R  
Single module



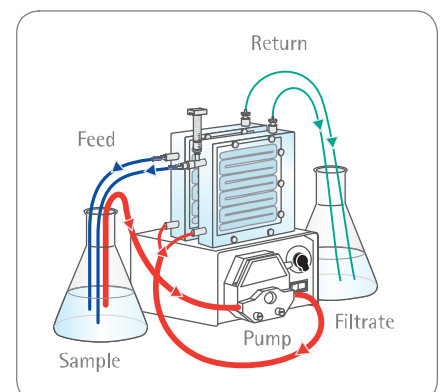
Vivaflow 50R  
Two modules

### 0.5 to 5 Liters

**Vivaflow 200**, like Vivaflow 50R, is a reusable crossflow device, but is available in a choice of membranes: modified regenerated cellulose, Hydrosart® and PES. This device is perfect for concentrating expensive samples like viruses and antibodies. Vivaflow 200 can be scaled up with one additional unit to increase the flow speed for concentrating initial sample volumes of up to 5 l.



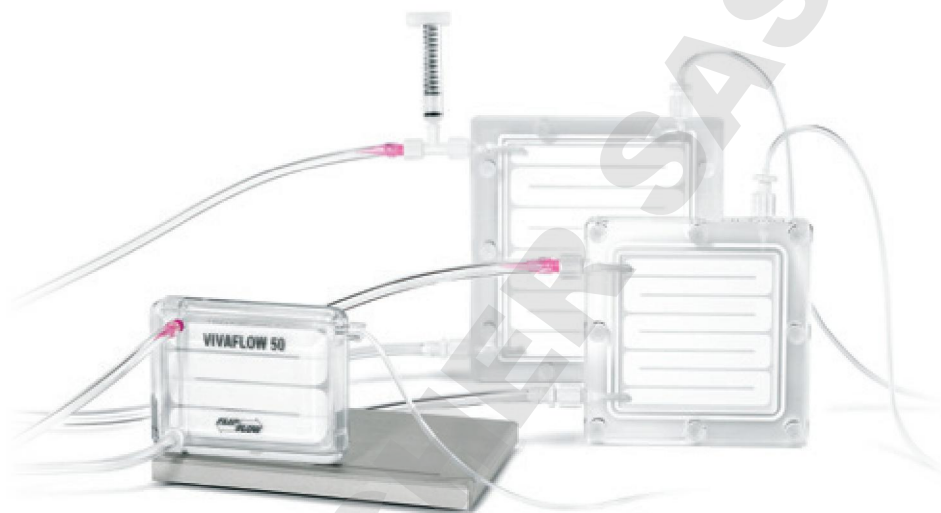
Vivaflow 200  
Single module



Vivaflow 200  
Two modules

## Vivaflow Applications

- Antibody | recombinant protein concentration | diafiltration in biopharma research
- Concentration of small production lots of proteins for diagnostic purposes
- Concentration of viruses from cell culture supernatants or of environmental samples
- Nanoparticle concentration



## Ordering Information

### Vivaflow – PES Membrane

| MWCO         | 3 kDa    | 5 kDa    | 10 kDa      | 30 kDa      | 50 kDa     | 100 kDa    | 1000 kDa   | 0.2 µm                           |
|--------------|----------|----------|-------------|-------------|------------|------------|------------|----------------------------------|
| Product      | Volume** | Min vol. |             |             |            |            |            |                                  |
| Vivaflow 50  | 3 l      | 10 ml    | VF05P9 (2)* | VF05P1 (2)* | VF05P0 (2) | VF05P2 (2) | VF05P3 (2) | VF05P4 (2) VF05P6 (2) VF05P7 (2) |
| Vivaflow 200 | 5 l      | 20 ml    | VF20P9 (1)  | VF20P1 (1)  | VF20P0 (1) | VF20P2 (1) | VF20P3 (1) | VF20P4 (1) VF20P7 (1)            |

### Vivaflow – RC Membrane

| MWCO        |          | 100 kDa  |             |
|-------------|----------|----------|-------------|
| Product     | Volume** | Min vol. |             |
| Vivaflow 50 | 3 l      | 10 ml    | VF05C4 (2)* |

### Vivaflow – Hydrosart® Membrane

| MWCO         | 2 kDa    | 5 kDa    | 10 kDa  | 30 kDa | 100 kDa              |
|--------------|----------|----------|---------|--------|----------------------|
| Product      | Volume** | Min vol. |         |        |                      |
| Vivaflow 50R | 1 l      | 10 ml    |         | VF05H1 | VF05H0 VF05H2 VF05H4 |
| Vivaflow 200 | 5 l      | 20 ml    | VF 20H9 | VF20H1 | VF20H0 VF20H2 VF20H4 |

### Vivaflow – Complete System (Pump, Easy Load Pump Head & Tubing)

| Product Description | Order No. |
|---------------------|-----------|
| Vivaflow 50         | VFS504    |
| Vivaflow 50R   200  | VFS204    |

\* (Qty per box in parenthesis)

\*\* Volume refers to maximal recommended volume with multiple units

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