

**User Manual**

# Sartoclear Dynamics<sup>®</sup> Lab Filter Aid

For research use only



1000044321

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A pdf version of this user manual is available in English, German, French and Spanish on our website at [www.sartorius.com/sdlusermanuals](http://www.sartorius.com/sdlusermanuals)

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# 1 Liability

The product described in this document is intended to be used for clarification of mammalian cell cultures prior to sterile filtration. Sartorius shall not assume any liability if the product is not used as intended. The use of this product for other applications or in a manner other than described in this user manual may result in personal injury or malfunction of the product. Please follow the instructions of this user manual to ensure your own safety and to obtain optimal filtration results.

In the interest of product development, we reserve the right to make changes without prior notice.

## 2 Product Description and Application

The Sartoclear Dynamics® Lab filter aid has been designed for the clarification of mammalian cell cultures and eliminates the need for centrifugation to clarify your cell cultures at the harvest step prior to sterile filtration.

The pouches delivered in this box are filled with pre-wetted diatomaceous earth (DE) as a filter aid. This aid does away with handling and health issues associated with standard powder-based filter aids.

The Sartoclear Dynamics® Lab filter aid is available only with Sartolab® RF bottle-top filters for the clarification and sterile filtration of your cell culture in one step. Different combinations are available and described in the next chapter.

### 3 Contents and Ordering Information

Order Number	Description	Qty. of Pouches per Box
SDLKG-01.0-----2	Each pouch contains 1 g of diatomaceous earth, pre-wetted	24
SDLKG-05.0-----2	Each pouch contains 5 g of diatomaceous earth, pre-wetted	24
SDLKG-10.0-----2	Each pouch contains 10 g of diatomaceous earth, pre-wetted	24

The filter aid contained in the pouches is made of highly pure diatomaceous earth (Celpure®\* C300 – pharmaceutical-grade) pre-wetted with ultrapure water and is therefore dust-free.

The pouches are gamma-irradiated with  $\geq 25$  kGy to ensure a level of  $< 0.5$  EU/mL endotoxin for 40 g of DE per liter cell culture; a certificate of quality is available in each box.

The filter aid boxes (SDLKG-01.0-----2, SDLKG-05.0-----2, SDLKG-10.0-----2) are sold in combination with Sartolab® RF bottle-top filters only.

The Sartoclear Dynamics® Lab V (SDLV) kits contain bottle-top filters and pouches of filter aid. Different versions are available depending on the volume of cell culture to be filtered and the quantity of the filter aid needed to ensure rapid filtration.

The following kits are available:

\* Celpure® is a trademark of Advanced Minerals

## Sartoclear Dynamics® Lab V Kits

Order Number	Description	Qty. of Units
<b>Filtration of up to 50 mL mammalian cell culture</b>		
SDLV-0050-01E0-2	<p><b>Sartoclear Dynamics® Lab V, 50 mL, 1 g – 0.22 µm PES</b>            Filtration of up to 50 mL with 1 g of DE per unit.            Contents:            1 × 180E01-----2                (24 × Sartolab® RF 50; 0.22 µm; PES, single-packaged; sterile)            1 × SDLKG-01.0-----2                (24 × pouches of filter aid, 1 g)</p>	24
SDLV-0050-02E0-2	<p><b>Sartoclear Dynamics® Lab V, 50 mL, 2 g – 0.22 µm PES</b>            Filtration of up to 50 mL with 2 g of DE per unit.            Contents:            1 × 180E01-----2                (24 × Sartolab® RF 50; 0.22 µm; PES, single-packaged; sterile)            2 × SDLKG-01.0-----2                (48 × pouches of filter aid, 1 g)</p>	24

Order Number	Description	Qty. of Units
SDLV-0050-01F0-2	<p><b>Sartoclear Dynamics® Lab V, 50 mL, 1 g – 0.45 µm PES</b> Filtration of up to 50 mL with 1 g of DE per unit. Contents: 1 × 180F01-----2 (24 × Sartolab® RF 50; 0.45 µm; PES, single-packaged; sterile) 1 × SDLKG-01.0-----2 (24 × pouches of filter aid, 1 g)</p>	24
SDLV-0050-02F0-2	<p><b>Sartoclear Dynamics® Lab V, 50 mL, 2 g – 0.45 µm PES</b> Filtration of up to 50 mL with 2 g of DE per unit. Contents: 1 × 180F01-----2 (24 × Sartolab® RF 50; 0.45 µm; PES, single-packaged; sterile) 2 × SDLKG-01.0-----2 (48 × pouches of filter aid, 1 g)</p>	24
<b>Filtration of &gt; 50 mL to 150 mL mammalian cell culture</b>		
SDLV-0150-02C--E	<p><b>Sartoclear Dynamics® Lab V, 150 mL, 2 g</b> Filtration of up to 150 mL with 2 g of DE per unit. Contents: 1 × 180C1-----E (12 × Sartolab® RF 150; 0.22 µm; PES; single-packaged; sterile) 1 × SDLKG-01.0-----2 (24 × pouches of filter aid, 1 g)</p>	12

Order Number	Description	Qty. of Units
SDLV-0150-05C--2	<p><b>Sartoclear Dynamics® Lab V, 150 mL, 5 g</b>            Filtration of up to 150 mL with 5 g of DE per unit.            Contents:            2 × 180C1-----E                (24 × Sartolab® RF 150; 0.22 µm; PES, single-packaged; sterile)            1 × SDLKG-05.0-----2                (24 × pouches of filter aid, 5 g)</p>	24
<b>Filtration of up to 250 mL mammalian cell cultures</b>		
SDLV-0250-05C--2	<p><b>Sartoclear Dynamics® Lab V, 250 mL, 5 g</b>            Filtration of up to 250 mL with 5 g of DE per unit.            Contents:            2 × 180C7-----E                (24 × Sartolab® RF 250; 0.22 µm; PES; single-packaged; sterile)            1 × SDLKG-05.0-----2                (24 × pouches of filter aid, 5 g)</p>	24
SDLV-0250-10C--2	<p><b>Sartoclear Dynamics® Lab V, 250 mL, 10 g</b>            Filtration of up to 250 mL with 10 g of DE per unit.            Contents:            2 × 180C7-----E                (24 × Sartolab® RF 250; 0.22 µm; PES; single-packaged; sterile)            1 × SDLKG-10.0-----2                (24 × pouches of filter aid, 10 g)</p>	24

Order Number	Description	Qty. of Units
<b>Filtration of up to 500 mL mammalian cell cultures</b>		
SDLV-0500-05C--2	<b>Sartoclear Dynamics® Lab V, 500 mL, 5 g</b> Filtration of up to 500 mL with 5 g of DE per unit. Contents: 2 × 180C2-----E (24 × Sartolab® RF 500; 0.22 µm; PES; single-packaged; sterile) 1 × SDLKG-05.0-----2 (24 × pouches of filter aid, 5 g)	24
SDLV-0500-10C--2	<b>Sartoclear Dynamics® Lab V, 500 mL, 10 g</b> Filtration of up to 500 mL with 10 g of DE per unit. Contents: 2 × 180C2-----E (24 × Sartolab® RF 500, 0.22 µm, PES, single-packaged; sterile) 1 × SDLKG-10.0-----2 (24 × pouches of filter aid, 10 g)	24
SDLV-0500-20C--E	<b>Sartoclear Dynamics® Lab V, 500 mL, 20 g</b> Filtration of up to 500 mL with 20 g of DE per unit. Contents: 1 × 180C2-----E (12 × Sartolab® RF 500; 0.22 µm; PES; single-packaged; sterile) 1 × SDLKG-10.0-----2 (24 × pouches of filter aid, 10 g)	12



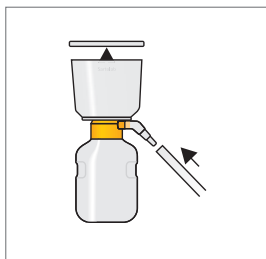
Order Number	Description	Qty. of Units
<b>Filtration of up to 1 L mammalian cell cultures</b>		
SDLV-1000-10C--2	<b>Sartoclear Dynamics® Lab V, 1,000 mL, 10 g</b> Filtration of up to 1 L with 10 g of DE per unit. Contents: 2 × 180C3-----E (24 × Sartolab® RF 1000; 0.22 µm; PES; single-packaged; sterile) 1 × SDLKG-10.0-----2 (24 × pouches of filter aid, 10 g)	24
SDLV-1000-20C--E	<b>Sartoclear Dynamics® Lab V, 1,000 mL, 20 g</b> Filtration of up to 1 L with 20 g of DE per unit. Contents: 1 × 180C3-----E (12 × Sartolab® RF 1000; 0.22 µm; PES; single-packaged; sterile) 1 × SDLKG-10.0-----2 (24 × pouches of filter aid, 10 g)	12
SDLV-1000-40C--E	<b>Sartoclear Dynamics® Lab V, 1,000 mL, 40 g</b> Filtration of up to 1 L with 40 g of DE per unit. Contents: 1 × 180C3-----E (12 × Sartolab® RF 1000; 0.22 µm; PES; single-packaged; sterile) 2 × SDLKG-10.0-----2 (48 × pouches of filter aid, 10 g)	12

## 4 Directions for Use

- 1 Carefully cut open the bag and remove the Sartolab® RF unit; check that it is correctly tightened.

Attach it to a vacuum system; e.g., Microsart® e-jet pump, order no. 166MP-4 (vacuum max. 0.4 bar), using the connector.

See also the user manual supplied with the Sartolab® RF units for more detailed information on the filtration process.



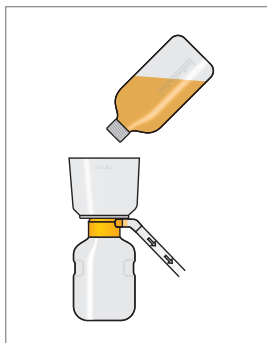
- 2 Use the appropriate number of filter aid pouches per filtration unit.

To determine the quantity of filter aid needed, please refer to the next chapter "Typical Performance Data." Open the pouch(es), pour the filter aid into your cell culture and mix to homogenize.

Discard the empty pouches.

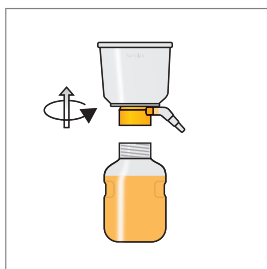


- 3 Immediately after mixing the filter aid with the cell culture broth, remove the dust cover from the bottle-top filter, pour the cell culture | filter aid mixture into the Sartolab® RF and place the dust cover back on. Then apply vacuum to the filtration unit to filter.

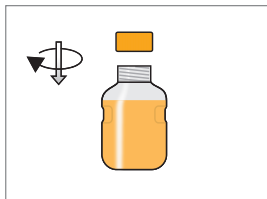


- 4 After completion of filtration, disconnect the filter unit from the vacuum source and remove the receiver bottle from the filter unit by unscrewing it from the filter adapter.

Discard the upper part in accordance with your local legislation.



- 5 Cap the sterile-filtered supernatant in the receiver flask and process later or concentrate for downstream purification.



## 5 Typical Performance Specifications

The filterability of mammalian cell cultures depends on various factors, e.g., cell type, density and viability of the cells.

Since cell cultures can be very different, we recommend that you use 10, 20 or 40 g of filter aid per liter of cell culture.

Using a Sartolab® RF unit with double the volume of the solution to be filtered can also accelerate a filtration run (higher surface area of filtration).

Below is a table with a few examples for guidance:

<b>Cell Line</b>	<b>Cell Density</b>	<b>Viability</b>	<b>Volume</b>	<b>Qty. of Filter Aid Pouches per Filtration</b>	<b>Order Number of the Kit</b>
CHO Cells	15 Mio. cells/mL	86%	500 mL	2 pouches of 10 g	SDLV-0500-20C--E
CHO Cells	14 Mio. cells/mL	3%	1,000 mL	4 pouches of 10 g	SDLV-1000-40C--E
HEK Cells	8 Mio. cells/mL	90%	500 mL	2 pouches of 10 g	SDLV-0500-20C--E
HEK Cells	4 Mio. cells/mL	94%	500 mL	1 pouch of 5 g	SDLV-0500-05C--2

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## 6 Storage and Disposal

Store the Sartoclear Dynamics® Lab filter aid pouches at room temperature.

All components of the Sartoclear Dynamics® Lab filter aid can be disposed of using regular waste removal methods in accordance with your local legislation.

## 7 Application Support

Contact your local Sartorius representative to obtain general information and technical specifications or contact one of our application product specialists from around the globe who will be happy to support you.

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## 8 Return of Used Products

All used materials must be properly sterilized before shipping these back to Sartorius. This will allow our staff to handle them with minimal risk during inspection of products.

The law requires that a return shipment form (available through your local Sartorius representative) be completed prior to shipping of used filter materials.

Thank you for choosing this Sartorius product. We appreciate your business and look forward to serving your needs in the future.

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The information and figures contained in these instructions correspond to the version date specified below.

Sartorius reserves the right to make changes to the technology, features, specifications and design of the equipment without notice. Masculine or feminine forms are used to facilitate legibility in these instructions and always simultaneously denote the other gender as well.

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