

SepaFlash™ Columns

iLOK™ & iLOK™-SL Series

Universal flash cartridges for solid load or liquid injection. Available in empty, pre-packed, or 85 % pre-packed options.



Simplify your purification, maximize your efficiency!

Santai Science Inc.

SepaFlash™ iLOK™ & iLOK™-SL Series

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Product Overview

SepaFlash™ iLOK™ cartridges offer flexible solid and liquid loading options, available pre-packed or empty with screw caps, and withstand up to 200 psi (13.8 bar).

The iLOK™-SL (Twist-Cap) version provides 15 % free space for solid loading or with an inserter for liquid injection.

SepaFlash™ iLOK™ III large-size solid-load cartridges are easy to assemble, handle high sample loads, and support demanding applications. Available in five sizes (800 g to 7 kg) with a 100 psi (6.9 bar) rating, they are compatible with most high-flow systems and adaptable to various tubing diameters.

Key Features

■ Innovative Design

The innovative patented design of SepaFlash™ iLOK™ cartridges enables easy manual assembly and offers versatility in sample loading methods, supporting both solid loading and direct liquid injection.

■ Highly Reproducible

Our exclusive, proprietary dry-packing technique ensures high resolution and reproducibility, making it ideal for routine purifications.



SepaFlash™ iLOK™
Empty Solid-Load Cartridge Series



SepaFlash™ iLOK™ & iLOK™-SL
Pre-packed Solid-Load Cartridge Series



SepaFlash™ iLOK™ III Large-Size
Empty Solid-Load Cartridge Series

iLOK™ Column Design

Fully compatible with all instruments on the market!

The patented disbursing structure ensures superior flow distribution.

Polyethylene frits prevent media leakage while allowing efficient passage of the mobile phase.

End fittings on both sides protect the media from moisture exposure.

Luer-Lok® end fittings ensure compatibility with any flash systems.

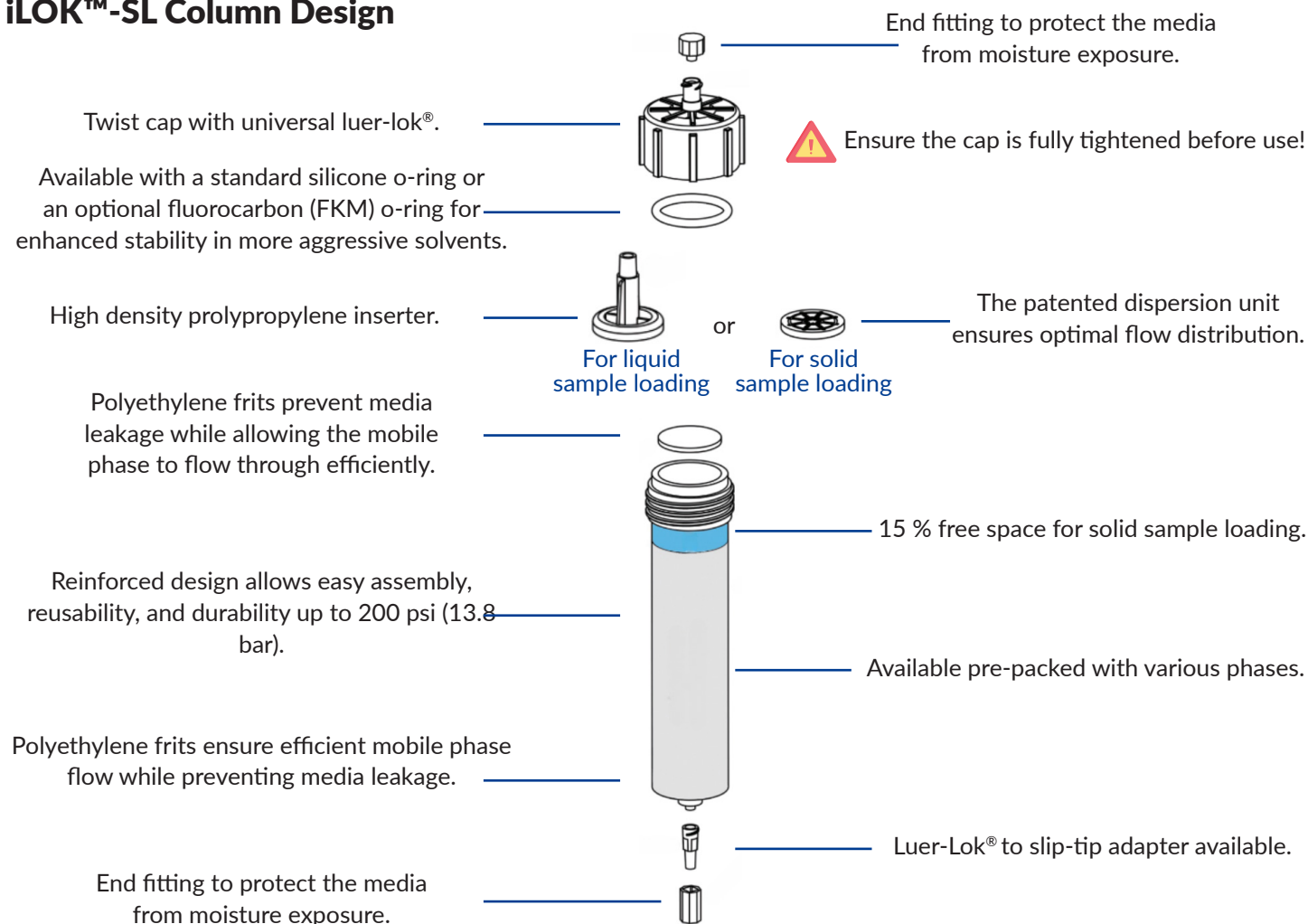
A comprehensive label provides all essential information needed for effective column use.

Available in two formats: empty or pre-packed with various phases.

The innovative reinforced column design allows for easy manual assembly and reusability, providing durability under pressures up to 200 psi (13.8 bar). Ensure the cap is fully tightened before use.



iLOK™-SL Column Design



Column Characteristics

The table below presents the characteristics of the SepaFlash™ Cartridges - iLOK™ & iLOK™-SL series.

Column Code	Column Size	Column ID x Length (mm)	Sample Size (g)	Volume (mL)	Recommended Flow Rate (mL/min)	Maximum Pressure (psi / bar)
Small Size Formats (available empty and pre-packed)						
004	4 g	12.8 x 60	0.004 - 0.400	8	15 - 40	200 / 13.8
012	12 g	21.8 x 76	0.012 - 1.200	27	30 - 60	
025	25 g	21.6 x 126	0.025 - 2.500	46	40 - 70	
040	40 g	26.8 x 125	0.040 - 4.000	70	60 - 150	
060	60 g	36.6 x 99	0.060 - 6.000	104	50 - 100	
080	80 g	31.2 x 193	0.080 - 8.000	147	80 - 220	150 / 10.3
100	100 g	60.4 x 61	0.100 - 10.000	176	60 - 150	200 / 13.8
120	120 g	36.6 x 204	0.120 - 12.000	215	80 - 220	150 / 10.3
220	220 g	60.6 x 131	0.220 - 22.000	377		
330	330 g	60.6 x 187	0.330 - 33.000	539		
Large-Size Formats (Available only as empty cartridges. Sample size and flow rate are provided for reference and may require adjustments.)						
0800B-1	800 g	127 x 140	0.8 - 80.0	1,395	200 - 400	100 / 6.9
1600B-1	1,600 g	127 x 250	1.6 - 160.0	2,760		
3000B-1	3 kg	127 x 440	3.0 - 300.0	5,165		
5000B-1	5 kg	127 x 692	5.0 - 500.0	8,610	200 - 500	
7000B-1	7 kg	127 x 1,000	7.0 - 700.0	12,510		



Available Sorbents

Bare Silica Gels and Aluminas

The SepaFlash™ iLOK™ and iLOK™-SL cartridges are available with a range of sorbents, including irregular and spherical bare silica gels, as well as aluminas. The table below provides specifications for each sorbent.

Parameters	Bare Silica Gels and Aluminas						
	5101	2102, -SP*	2102, -SP(H)*	2102, -SP(S)*	8601, -A*	8601, -B*	8601, -N*
Series	Standard	Platinum	Ruby	Sapphire	Standard	Standard	Standard
Phase	Bare Silica	Bare Silica	Bare Silica	Bare Silica	Acidic Alumina	Basic Alumina	Neutral Alumina
Particle Shape	Irregular	Spherical	Spherical	Spherical	Irregular	Irregular	Irregular
Particle Size	40 - 63 µm	20 - 45 µm	25 µm	25 µm	50 - 75 µm	50 - 75 µm	50 - 75 µm
Pore Diameter	60 Å	70 Å	50 Å	100 Å	55 Å	55 Å	55 Å
Typical Surface Area	500 m ² /g	500 m ² /g	700 m ² /g	500 m ² /g	155 m ² /g	155 m ² /g	155 m ² /g
pH	6.5 - 7.5	6.0 - 8.0	5.0 - 8.0	5.0 - 8.0	3.8 - 4.8	9.0 - 10.0	6.5 - 7.5
Loading Capacity	0.1 - 4 %	0.1 - 15 %	0.1 - 30 %	0.1 - 30 %	0.1 - 4 %	0.1 - 4 %	0.1 - 4 %

* Added at the end of the product number

Reversed Phase Silica Gels

The SepaFlash™ iLOK™ and iLOK™-SL cartridges come pre-packed with a selection of high-quality reversed-phase silica gels. The table below provides details on the specific characteristics of each phase.

Parameters	Reversed Phase Silica Gels						
	5221, -SP*	8222, -SP*	5222, -SP(AQ)*	5822, -SP*	5822, -SP(AQ)*	5B22, -SP*	5C22, -SP*
Series	Reversed Phase	Reversed Phase	Reversed Phase	Reversed Phase	Reversed Phase	Bonded	Bonded
Phase	C18	C18	C18 Aqueous	C8	C8 Aqueous	Phenyl	Phenyl-Hexyl
Particle Shape	Spherical	Spherical	Spherical	Spherical	Spherical	Spherical	Spherical
Particle Size	40 - 75 µm	20 - 45 µm	20 - 45 µm	20 - 45 µm	20 - 45 µm	20 - 45 µm	20 - 45 µm
Pore Diameter	100 Å	100 Å	100 Å	100 Å	100 Å	100 Å	100 Å
Typical Loading	17 % Carbon	17 % Carbon	10 % Carbon	7 % Carbon	7 % Carbon	10 % Carbon	10 % Carbon
Endcapping	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Loading Capacity	0.1 - 1.5 %	0.1 - 2 %	0.1 - 2 %	0.1 - 2 %	0.1 - 2 %	0.1 - 2 %	0.1 - 2 %

* Added at the end of the product number

Other Bonded Silica Gels

Additional bonded silica gels are available in SepaFlash™ iLOK™ and iLOK™-SL cartridges, enabling a wide range of versatile applications.

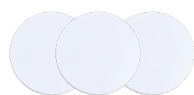
Parameters	Other Bonded Silica Gels						
	5502, -SP(H)*	5501, -IR*	5922, -SP*	5622, -SP*	5322, -SP*	5001, -IR*	5701, -IR*
Series	Bonded	Bonded	Bonded	Bonded	Bonded	Bonded	Bonded
Phase	Amino (NH ₂)	Amino (NH ₂)	Diol (HILIC-D)	ARG (HILIC)	Cyano (CN)	SAX	SCX
Particle Shape	Spherical	Irregular	Spherical	Spherical	Spherical	Irregular	Irregular
Particle Size	20 - 30 µm	40 - 63 µm	20 - 45 µm	20 - 45 µm	20 - 45 µm	40 - 63 µm	40 - 63 µm
Pore Diameter	50 Å	60 Å	100 Å	100 Å	100 Å	60 Å	60 Å
Typical Loading	1.8 mmol/g	1.3 mmol/g	5 % Carbon	6 % Carbon	5.5 % Carbon	1.3 mmol/g	10 % Carbon
Endcapping	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Loading Capacity	0.1 - 3 %	0.1 - 2 %	0.1 - 2 %	0.1 - 2 %	0.1 - 2 %	0.200 - 0.260 meq/g	0.307 - 0.341 meq/g

* Added at the end of the product number



SepaFlash™ iLOK™ Empty Cartridges: Three Application Options

The SepaFlash™ iLOK™ empty cartridges are a versatile product that can be used as a solid-load column, a chromatographic column, or in a combined application for both purposes. These products are supplied as a complete package, including a column tube, screw cap, o-ring, frits (x3), and end caps. Optional frit insertion rod and closing screw cap tools are available. We also offer pre-packed iLOK™ cartridges for those seeking a ready-to-use solution.



Polyethylene
frits



Silicone or fluorocarbon
(FKM) o-ring



Frit insertion rod tool
(various sizes available)



Cap screwing tool
(two sizes available)

Using the SepaFlash™ iLOK™ Cartridges: A Step-by-Step Guide

Step 1:

Unscrew and remove the cap from the iLOK™ empty column tube, remove the frit, and place the column tube on a support stand.



Step 2:

Fill the column tube with silica gel mixed with the sample (for solid-load), the adsorbent (for chromatographic column) or with 85 % of silica (for combined application as shown on the picture). Tap gently to settle and avoid overfilling.



Step 3:

Place the frit on the top of the column tube.



Step 4:

Use the insertion tool to press the frit into the column tube, ensuring the frit is as straight as possible.



**Complete the next two steps only for the combined application.
For solid-load or chromatographic column use, proceed directly to Step 7.**

Step 5:

Add the silica gel mixed with the sample to the top of the column (blue section), gently tap to settle and place the second frit on the column tube.



Step 6:

Use the insertion tool to press the frit into the column tube, ensuring the frit is as straight as possible.



Step 7:

Finally, securely fasten the column by fully tightening it with the cap screwing closing tool.



Step 8:

Your SepaFlash™ iLOK™ cartridge is now ready for use. It is recommended to perform a pre-equilibration step with 3 - 5 column volumes before loading your sample.



Ensure the cap is fully tightened before use!

SepaFlash™ iLOK™-SL

Each SepaFlash™ iLOK™-SL cartridge features a built-in inserter for convenient liquid injection with a syringe.

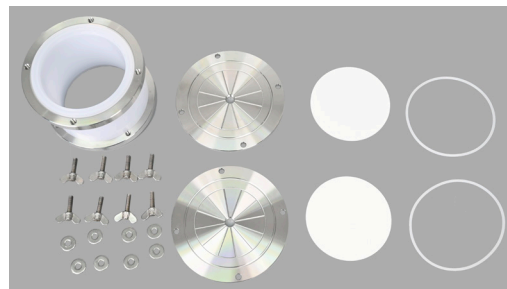
For solid loading, remove the inserter and follow steps 5 to 8 as outlined above, replacing the frit with the dispersion unit at step 6.



SepaFlash™ iLOK™ III Large-Size Empty Solid-Load Cartridges

The SepaFlash™ iLOK™ III large-size empty solid-load cartridges are designed for easy manual assembly and accommodate higher sample loads, making them ideal for demanding applications. Available in five sizes (800 g, 1,600 g, 3 kg, 5 kg, and 7 kg), these cartridges are compatible with most high-flow flash chromatography systems. Adapters are also available to accommodate tubing of various outer diameters.

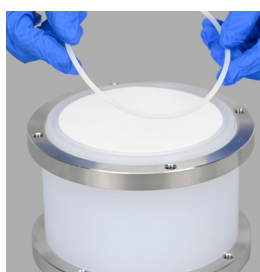
The iLOK™ III large-size empty solid-load cartridge offers a practical and cost-effective solution. The iLOK™ III empty solid-load cartridge features reusable stainless steel components (end caps (x2), retaining rings (x2), and washers & butterfly screw bolts (x8)) ensuring long-term use and cost efficiency. Disposable parts, including the column tube (x1), frits (x2), and sealing rings (x2), can be replaced as needed after contamination, offering convenience and reduced operational costs.



Using the SepaFlash™ iLOK™ III Large-Size Empty Solid-Load Cartridges: A Step-by-Step Guide

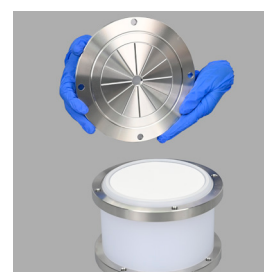
Step 1:

Put the column on a stable surface. Position the frit at the opening of the column tube, then press it into the tube in a single direction until it sits flat. Place the sealing ring in the groove of the column tube.



Step 2:

Place the end cap on the top of the sealing ring.



Step 3:

Insert the washer and the butterfly screw bolt into each of the four (4) holes.



Step 4:

Hand-tighten the four (4) butterfly bolts to firmly secure the end cover.



Step 5:

Flip the column onto the bench and fill the tube with the appropriate chromatographic media or solid sample as needed.



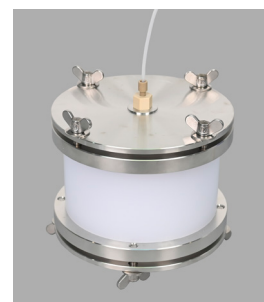
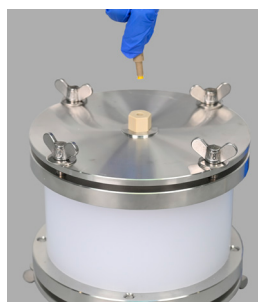
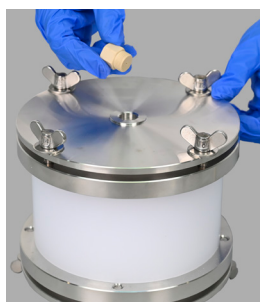
Step 6:

Place the top frit evenly on the packed media bed, ensuring it is aligned horizontally. Then repeat steps 2 through 4 precisely.



Step 7:

Connect the tubing adapters to the cartridge's inlet and outlet, selecting the appropriate size (1/8-inch, 3/16-inch, or 1/4-inch, 3/8-inch OD).



BLL-0506-XXX-2: Adapter kit for SD800 - SD7000

Where XXX is:

- 032 for 1/8-inch
- 048 for 3/16-inch
- 064 for 1/4-inch



Ordering Information

This section will guide you in building your SepaFlash™ iLOK™(SD) and iLOK™-SL (SL) cartridges product number. Each number follows the structure:

[SD or SL]-[Phase Code]*-[Column Code]

Ex: SepaFlash™ iLOK™ Empty Solid-Load Cartridges, 120 g (with screw cap, frits, disbursing unit, O-ring and end tips): **SD-0000-120**

SepaFlash™ iLOK™-SL Cartridges, High-Efficiency, Spherical C18, 20 - 45 µm, 100 Å, 4 g: **SL-8222-004-SP**

* Please use phase code "0000" for empty cartridges.

Available Accessories

The table below highlights the most popular accessories for the SepaFlash™ iLOK™ and iLOK™-SL (SL) series.

Item Number	Description	Qty / Box	Item Number	Description	Qty / Box
Top Frit (16 - 20 μm) for iLOK™ Series			Bottom Frit (16 - 20 μm) for iLOK™ Series		
PF-113-SD-004	Top frit for 4 g iLOK™	50	PF-213-SD-004	Bottom frit for 4 g iLOK™	50
PF-113-SD-012	Top frit for 12 g iLOK™		PF-213-SD-012	Bottom frit for 12 g iLOK™	
PF-113-SD-025	Top frit for 25 g iLOK™		PF-213-SD-025	Bottom frit for 25 g iLOK™	
PF-123-SD-040	Top frit for 40 g iLOK™		PF-223-SD-040	Bottom frit for 40 g iLOK™	
Top Frit (20 - 25 μm) for iLOK™ Series			Bottom Frit (20 - 25 μm) for iLOK™ Series		
PF-124-SD-060	Top frit for 60 g iLOK™	20	PF-224-SD-060	Bottom frit for 60 g iLOK™	50
PF-124-SD-080	Top frit for 80 g iLOK™		PF-224-SD-080	Bottom frit for 80 g iLOK™	
PF-134-SD-100	Top frit for 100 g iLOK™		PF-234-SD-100	Bottom frit for 100 g iLOK™	
PF-124-SD-120	Top frit for 120 g iLOK™		PF-224-SD-120	Bottom frit for 120 g iLOK™	
PF-134-SD-220	Top frit for 220 g iLOK™		PF-234-SD-220	Bottom frit for 220 g iLOK™	
PF-134-SD-330	Top frit for 330 g iLOK™		PF-234-SD-330	Bottom frit for 330 g iLOK™	
PF-034-SD-0800B-7000B	Top frit for 800 g to 7 kg iLOK™ large-size	1	PF-034-SD-0800B-7000B	Bottom frit for 800 g to 7 kg iLOK™ large-size	1
PF-134-S-10KG	Top frit for 10 kg iLOK™ large-size		PF-234-S-10KG	Bottom frit for 10 kg iLOK™ large-size	
Standard Silicone O-Ring for iLOK™ Series			Fluorocarbon (FKM) O-Ring for iLOK™ Series		
OS-SD-004	O-ring for 4 g iLOK™	50	OS-SD-004-F	FKM O-ring for 4 g iLOK™	50
OS-SD-012	O-ring for 12 g iLOK™		OS-SD-012-F	FKM O-ring for 12 g iLOK™	
OS-SD-025	O-ring for 25 g iLOK™		OS-SD-025-F	FKM O-ring for 25 g iLOK™	
OS-SD-040	O-ring for 40 g iLOK™		OS-SD-040-F	FKM O-ring for 40 g iLOK™	
OS-SD-060	O-ring for 60 g iLOK™	20	OS-SD-060-F	FKM O-ring for 60 g iLOK™	20
OS-SD-080	O-ring for 80 g iLOK™		OS-SD-080-F	FKM O-ring for 80 g iLOK™	
OS-SD-100	O-ring for 100 g iLOK™		OS-SD-100-F	FKM O-ring for 100 g iLOK™	
OS-SD-120	O-ring for 120 g iLOK™		OS-SD-120-F	FKM O-ring for 120 g iLOK™	
OS-SD-220	O-ring for 220 g iLOK™	1	OS-SD-220-F	FKM O-ring for 220 g iLOK™	1
OS-SD-330	O-ring for 330 g iLOK™		OS-SD-330-F	FKM O-ring for 330 g iLOK™	
Frit Insertion Rod Tool			Disposable Parts for iLOK™ III Large-Size Series		
TO-PF-IR-001	Frit insertion rod tool for 4 g iLOK™	1	ET-SD0800B-1	Disposable plastic column 800 g	1
TO-PF-IR-002	Frit insertion rod tool for 12 g, 25 g & 40 g iLOK™		ET-SD1600B-1	Disposable plastic column 1,600 g	
TO-PF-IR-003	Frit insertion rod tool for 80 g & 120 g iLOK™		ET-SD3000B-1	Disposable plastic column 3 kg	
TO-PF-IR-004	Frit insertion rod tool for 220 g & 330 g iLOK™		ET-SD5000B-1	Disposable plastic column 5 kg	
Cap Screwing Tool			ET-SD7000B-1	Disposable plastic column 7 kg	1
TO-SD-0104	Cap screwing tool for 60 g & 330 g iLOK™	1	PF-034-SD-0800B-7000B	Disposable frit for large-size 800 g to 7 kg iLOK™ III	
TQ-001	Bench clamp for iLOK™ cartridge screwing cap		OS-SD-0800B-7000B-1	Disposable sealing ring for large-size 800 g to 7 kg iLOK™ III	
TO-SD-0103	Cap screwing tool for for 60 g & 330 iLOK™ and bench clamp		Reusable Parts for iLOK™ III Large-Size Series		
			CNTK-SD-0800B-7000B-1	Reusable assembly for large-size iLOK™ III 800 g to 7 kg, including one stainless steel cap, retaining ring, & sealing ring, and four butterfly screw bolts	1



SepaBean™ Family

machine U

(entry-level)



machine T

(best-seller)



machine

(standard version)



machine 2

(medium pressure)



machine L

(scale-up)



SepaFlash™ Columns

Standard Series



Large Size Series



HP, Bio & Bonded Series



iLOK™ Series

(empty & pre-packed)



iLOK™ - SL Series

(Solid-load cartridges)



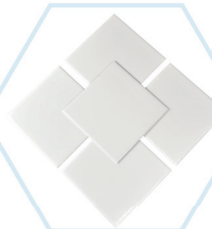
Ultra-Pure Bare Silica Gels



Ultra-Pure Bonded Silica Gels



TLC Plates



Other SepaFlash™ Products



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