SANTAI

SepaFlash™ Columns

Standard & Large size Series

Achieve high resolution and precision with Ultra-Pure silica gel and advanced dry packing, rated up to 300 psi.

Simplify your purification, maximize your efficiency!

Santai Science Inc.

SepaFlash™ Standard & Large Size Series

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Product Overview

SepaFlash™ standard and large size columns are engineered to deliver reliable, high-purity results with exceptional ease and efficiency. Whether purifying milligrams or scaling up to one kilogram, SepaFlash™ offers the ideal solution for fast, straightforward purification. The Luer-Lok™ end fittings ensure compatibility with any flash system, providing a seamless workflow and consistent performance for a smoother purification process.

SepaFlash™ Standard Series

Key Features

- **Highly Reproducible**
  SepaFlash™ standard series and large size columns deliver reliable and reproducible results with a proprietary dry packing technique that ensures a uniform sorbent bed. This minimizes channeling, offering tighter bands, better peak definition, and higher resolution for consistent, high-quality purification.

- **Versatile**
  SepaFlash™ standard series and large size columns offer versatility with sizes ranging from 4 g to 10 kg, enabling purification from 10 mg to 1 kg. Packed with high-efficiency silica gels, they provide outstanding performance at a cost-effective price, making them ideal for a wide range of purification needs.

SepaFlash™ Large Size

Fully compatible with all instruments on the market!

Column Design

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.

The innovative one-piece column design withstands pressures up to 300 psi (20.7 bar), guaranteeing 100 % leak-free performance. It is available with a range of irregular and spherical silica gels, aluminas, and other media, all packed with precision using advanced semi-automated dry packing technology for versatile application across various needs.

Column Caracteristics

The table below presents the characteristics of the SepaFlash™ Standard & Large Size Series.

Column Code	Typical Sorbent Weight*	Column ID x Length (mm)	Recommended Flow Rate (mL/min)**					Maximum Pressure (psi / bar)
			Bare Irregular Silica Gels	Bare Spherical Silica Gels	All Aluminas	Functionalized Silicas		
						15 µm & 20 - 30/45 µm	40 - 63/75 µm	
004	4 g	12.4 x 113.8	15 - 40	15 - 30	10 - 30	Available in the SepaFlash™ SW (Spin-Welded) Column Series.		300 / 20.7
012	12 g	21.4 x 134.8	30 - 60	25 - 50	15 - 45			
025	25 g	21.4 x 184.0						
040	40 g	26.7 x 184.4	40 - 70	30 - 60	20 - 50			
080	80 g	31.2 x 257.4	50 - 100	40 - 80	30 - 70			250 / 17.2
120	120 g	38.6 x 261.5	60 - 150	45 - 90	40 - 80			
220	220 g	61.4 x 223.5	80 - 220	60 - 120	50 - 120			200 / 13.8
330	330 g	61.4 x 280.2						
800	800 g	78.2 x 382.9	100 - 300	200 - 300	100 - 200	40 - 80	50 - 100	100 / 6.9
1600	1,600 g	103.8 x 432.4	200 - 500		150 - 300			
3000	3 kg	127.5 x 509.5		300 - 400				
5000	5 kg	127.5 x 770.0		350 - 450				
010K	10 kg	172.5 x 850.0	300 - 1,000	400 - 500	200 - 600			

** Typical weight listed in this table is for the bare silica gel. ** Please refer to tables on page 6 & 7 for recommended flow rate per sorbent code.*

Using the SepaFlash™ Column: A Step-by-Step Guide

Cartridge Installation

The SepaFlash™ Standard Series columns are designed with universal connectors, ensuring full compatibility with all flash chromatography systems available on the market.

- Securely attach the cartridge to your flash chromatography system, ensuring a proper fit with the connectors.
- Once the cartridge is installed, refer to the user guide of the system and follow the provided instructions for optimal setup and operation.

Note: Keep end caps on when not in use; remove only for installation.

Sample Loading

The solubility of the compound determines whether to use liquid or dry loading when introducing the sample onto the SepaFlash™ column.

- **Liquid loading** involves dissolving the sample in the minimum amount of the weakest possible solvent. The dissolved sample is then added to the top of the SepaFlash™ column or introduced via the sample injector using a syringe.

- **Dry loading** is recommended when the sample has limited solubility in weak solvents. In this case, a stronger solvent is used to fully dissolve the sample, which is then pre-adsorbed onto a small quantity of sorbent. After evaporating the solvent using a rotary evaporator, the sample-sorbent mixture is loaded into an empty SepaFlash™ iLOK™ empty solid-load cartridge, which is placed on top of the flash column or directly on the 15 % free space of the SepaFlash™ iLOK™-SL openable column (twist-cap).

Available Sorbents for Standard & Large Size Series

Bare Silica Gels

SepaFlash™ Standard & Large Size columns are available with both bare irregular silica and alumina, offering versatile application options. The table below outlines the sorbent specifications.

Parameters	Available Sorbents of Standard & Large Size Series				
	5101 ☆	2102, -SP(S)* ☆	8601, -A*	8601, -B*	8601, -N*
Series Name	Standard	Sapphire	Standard	Standard	Standard
Phase	Bare Silica	Bare Silica	Acidic Alumina	Basic Alumina	Neutral Alumina
Particle Shape	Irregular	Spherical	Irregular	Irregular	Irregular
Particle Size	40 - 63 µm	25 µm	50 - 75 µm	50 - 75 µm	50 - 75 µm
Pore Diameter	60 Å	100 Å	55 Å	55 Å	55 Å
Typical Surface Area	500 m^2/g	500 m^2/g	155 m^2/g	155 m^2/g	155 m^2/g
pH	6.5 - 7.5	5.0 - 8.0	3.8 - 4.8	9.0 - 10.0	6.5 - 7.5
Loading Capacity	0.1 - 4 %	0.1 - 30 %	0.1 - 4 %	0.1 - 4 %	0.1 - 4 %
Column Formats	From 4 g up to 10 kg				

** Added at the end of the product number* ☆ *Most popular phases*

Functionalized Silica Gels

The SepaFlash™ Large Size Series offers a wide range of functionalized silica gels. The table below provides detailed specifications for each phase, along with the available column formats for each type of sorbent.

Parameters	Reversed Phase Series					
	8201, -IR*	5223, -SP*	8222, -SP* ☆	5222, -SP(THE)*	5221, -SP*	5223, -SP(AQ)*
Series	Reversed Phase	Reversed Phase	Reversed Phase	Reversed Phase	Reversed Phase	Reversed Phase
Phase	C18	C18	C18	C18 THE	C18	C18 Aqueous
Particle Shape	Irregular	Spherical	Spherical	Spherical	Spherical	Spherical
Particle Size	40 - 63 µm	15 µm	20 - 45 µm	20 - 45 µm	40 - 75 µm	15 µm
Pore Diameter	60 Å	100 Å	100 Å	100 Å	100 Å	100 Å
Typical Loading	17 % Carbon	17 % Carbon	17 % Carbon	18.5 % Carbon	17 % Carbon	10 % Carbon
Endcapping	Yes	Yes	Yes	Yes	Yes	Yes
Loading Capacity	0.1 - 2 %	0.1 - 2 %	0.1 - 2 %	0.1 - 2 %	0.1 - 1.5 %	0.1 - 2 %
Column Formats	From 800 g up to 10 kg					

*Note: all product numbers for the Large Size Series packed with functionalized silica gels begin with **SW** instead of **S**.*

** Added at the end of the product number* ☆ *Most popular phases*

SepaFlash™ Column Compatibility

SepaFlash™ Standard Series Columns are designed for broad compatibility with various flash chromatography systems. Featuring Luer-Lok® end fittings, these columns ensure seamless integration with a wide range of systems, including:

- Santai Science® SepaBean™
- Advion-Interchim® puriFlash®
- Biotage® Isolera® & Selekt®
- Buchi® Pure®
- Teledyne Isco® CombiFlash®

Depending on the equipment used, an adapter may be required to use the SepaFlash™ Large Size Series. Please refer to the application note for further details.

BLL-0304: Luer connector kit for large columns (800 g, 1,600 g, 3 kg, and 5 kg)

BLL-NPT635-XXX: 10 kg cartridge adaptor available for 1/2, 3/8, 3/16, and 1/8 inches

Available Sorbents for Large Size Series

Bare Silica Gels

The SepaFlash™ Large Size Series offers a range of spherical silica gels. For detailed specifications, please refer to the table below outlining the available silica options.

Parameters	Available Spherical Silicas of Large Size Series				
	5102	2101, -SP*	2101, -SP(H)*	2102, -SP*	2102, -SP(H)*
Series Name	Fusion	Platinum	Ruby	Platinum	Ruby
Phase	Bare Silica	Bare Silica	Bare Silica	Bare Silica	Bare Silica
Particle Shape	Irregular	Spherical	Spherical	Spherical	Spherical
Particle Size	25 - 40 µm	40 - 75 µm	50 µm	20 - 45 µm	25 µm
Pore Diameter	60 Å	70 Å	54 Å	70 Å	50 Å
Typical Surface Area	500 m^2/g	500 m^2/g	700 m^2/g	500 m^2/g	700 m^2/g
pH	6.5 - 7.5	6.0 - 8.0	6.0 - 8.0	6.0 - 8.0	5.0 - 8.0
Loading Capacity	0.1 - 15 %	0.1 - 10 %	0.1 - 30 %	0.1 - 15 %	0.1 - 30 %
Column Formats	From 800 g up to 10 kg				

* *Added at the end of the product number* ☆ *Most popular phases*

Reversed Phase Series	Bio Series		Bonded Series			Parameters
5222, -SP(AQ)* ☆	BIO-5272, -SP*	BIO-5872, -SP*	5501, -IR*	5622, -SP*	5322, -SP*	
Reversed Phase	Bio	Bio	Bonded	Bonded	Bonded	**Series**
C18 Aqueous	C18	C8	Amino (NH_2)	ARG (HILIC)	Cyano (CN)	**Phase**
Spherical	Spherical	Spherical	Irregular	Spherical	Spherical	**Particle Shape**
20 - 45 µm	20 - 45 µm	20 - 45 µm	40 - 63 µm	20 - 45 µm	20 - 45 µm	**Particle Size**
100 Å	300 Å	300 Å	60 Å	100 Å	100 Å	**Pore Diameter**
10 % Carbon	6 % Carbon	3 % Carbon	1.3 mmol/g	6 % Carbon	5.5 % Carbon	**Typical Loading**
Yes	Yes	Yes	Yes	Yes	Yes	**Endcapping**
0.1 - 2 %	0.1 - 1 %	0.1 - 1 %	0.1 - 2 %	0.1 - 2 %	0.1 - 2 %	**Loading Capacity**
From 800 g up to 10 kg			From 800 g up to 3 kg			**Column Formats**

Ordering Information

This section will guide you in building your SepaFlash™ Column product number. Each number follows the structure:

S-[Phase Code]-[Column Code]

Ex: SepaFlash™ Column - Standard Series, Irregular Silica, 40 - 63 µm, 60 Å, 330 g: **S-5101-0330**
SepaFlash™ Column - Standard Series, Neutral Alumina, 50 - 75 µm, 55 Å, 40 g: **S-8601-0040-N**
SepaFlash™ Column - HP Ruby Series, 25 µm, 50 Å, 5 kg: **SW-2102-5000-SP(H)**

We take pride in being the only company that allows customers to purchase the exact number of units they need, providing flexibility tailored to your specific requirements.

Typical Column Characteristics for the Standard & Large Size Series

Bare Silica Gels & Aluminas

The table below presents the characteristics of the SepaFlash™ Standard column series.

Column Code	Sorbent	Description of the Sorbent	Sorbent Code	Typical Silica Weight	Typical Column Volume (mL)	Flow Rate (mL/min)
0004	Silica	Irregular 40 - 63 µm, 60 Å	5101	4 g	6	15 - 40
		Spherical 25 µm, 100 Å	2102-SP(S)	4 g	6	15 - 30
	Alumina	Irregular 50 - 75 µm, 55 Å	8601-A, -B & -C	8 g	6	10 - 30
0012	Silica	Irregular 40 - 63 µm, 60 Å	5101	12 g	20	30 - 60
		Spherical 25 µm, 100 Å	2102-SP(S)	14 g	24	25 - 50
	Alumina	Irregular 50 - 75 µm, 55 Å	8601-A, -B & -C	24 g	20	15 - 45
0025	Silica	Irregular 40 - 63 µm, 60 Å	5101	25 g	32	30 - 60
		Spherical 25 µm, 100 Å	2102-SP(S)	23 g	40	25 - 50
	Alumina	Irregular 50 - 75 µm, 55 Å	8601-A, -B & -C	50 g	30	15 - 45
0040	Silica	Irregular 40 - 63 µm, 60 Å	5101	40 g	50	40 - 70
		Spherical 25 µm, 100 Å	2102-SP(S)	33,2 g	58	30 - 60
	Alumina	Irregular 50 - 75 µm, 55 Å	8601-A, -B & -C	80 g	48	20 - 50
0080	Silica	Irregular 40 - 63 µm, 60 Å	5101	80 g	110	50 - 100
		Spherical 25 µm, 100 Å	2102-SP(S)	73 g	127	40 - 80
	Alumina	Irregular 50 - 75 µm, 55 Å	8601-A, -B & -C	160 g	105	30 - 70
0120	Silica	Irregular 40 - 63 µm, 60 Å	5101	120 g	155	60 - 150
		Spherical 25 µm, 100 Å	2102-SP(S)	107 g	186	45 - 90
	Alumina	Irregular 50 - 75 µm, 55 Å	8601-A, -B & -C	240 g	145	40 - 80
0220	Silica	Irregular 40 - 63 µm, 60 Å	5101	220 g	280	80 - 220
		Spherical 25 µm, 100 Å	2102-SP(S)	205 g	358	60 - 120
	Alumina	Irregular 50 - 75 µm, 55 Å	8601-A, -B & -C	440 g	260	50 - 120
0330	Silica	Irregular 40 - 63 µm, 60 Å	5101	330 g	430	80 - 220
		Spherical 25 µm, 100 Å	2102-SP(S)	287 g	501	60 - 120
	Alumina	Irregular 50 - 75 µm, 55 Å	8601-A, -B & -C	660 g	405	50 - 120
0800	Silica	Irregular 40 - 63 µm, 60 Å	5101	800 g	1,050	100 - 300
		Spherical 25 µm, 100 Å	2102-SP(S)	708 g	1,235	200 - 300
	Alumina	Irregular 50 - 75 µm, 55 Å	8601-A, -B & -C	1,600 g	860	100 - 200
1600	Silica	Irregular 40 - 63 µm, 60 Å	5101	1,600 g	2,000	200 - 500
		Spherical 25 µm, 100 Å	2102-SP(S)	1,414 g	2,468	200 - 300
	Alumina	Irregular 50 - 75 µm, 55 Å	8601-A, -B & -C	3.2 kg	1,680	150 - 300
3000	Silica	Irregular 40 - 63 µm, 60 Å	5101	3.0 kg	3,850	200 - 500
		Spherical 25 µm, 100 Å	2102-SP(S)	2.6 kg	4,626	300 - 400
	Alumina	Irregular 50 - 75 µm, 55 Å	8601-A, -B & -C	6.0 kg	3,250	150 - 300
5000	Silica	Irregular 40 - 63 µm, 60 Å	5101	5.0 kg	6,450	200 - 500
		Spherical 25 µm, 70 - 90 Å	2102-SP(S)	4.4 kg	7,709	350 - 450
	Alumina	Irregular 50 - 75 µm, 55 Å	8601-A, -B & -C	10.0 kg	3,675	150 - 300
010K	Silica	Irregular 40 - 63 µm, 60 Å	5101	10.0 kg	13,000	300 - 1,000
		Spherical 25 µm, 100 Å	2102-SP(S)	8.8 kg	15,415	400 - 500
	Alumina	Irregular 50 - 75 µm, 55 Å	8601-A, -B & -C	20.0 kg	7,349	200 - 600

Typical Column Characteristics for the Large Size Series

Bare Silica Gels

The table below outlines the characteristics of the SepaFlash™ Large Size Series, packed with bare silica gels.

Column Code	Series	Description of Bare Silica Gels	Sorbent Code	Typical Silica Weight	Typical Column Volume (mL)	Flow Rate (mL/min)
800	Platinum	Spherical 40 - 75 µm, 70 Å	2101-SP	800 g	1,207	50 - 100
	Fusion	Spherical 20 - 45 µm, 70 Å	2102-SP		1,034	
	Platinum	Irregular 25 - 45 µm, 60 Å	5102		1,186	
	Ruby	Spherical 25 µm, 50 Å & 50 µm, 54 Å	2101-SP(H) & 2102-SP(H)		1,172 / 1,207	
1600	Platinum	Spherical 40 - 75 µm, 70 Å	2101-SP	1,600 g	2,414	
	Fusion	Spherical 20 - 45 µm, 70 Å	2102-SP		2,069	
	Platinum	Irregular 25 - 45 µm, 60 Å	5102		2,373	
	Ruby	Spherical 25 µm, 50 Å & 50 µm, 54 Å	2101-SP(H) & 2102-SP(H)		2,345 / 2,414	
3000	Platinum	Spherical 40 - 75 µm, 70 Å	2101-SP	3 kg	4,343	
	Fusion	Spherical 20 - 45 µm, 70 Å	2102-SP		3,685	
	Platinum	Irregular 25 - 45 µm, 60 Å	5102		4,224	
	Ruby	Spherical 25 µm, 50 Å & 50 µm, 54 Å	2101-SP(H) & 2102-SP(H)		4,521 / 4,526	
5000	Platinum	Spherical 40 - 75 µm, 70 Å	2101-SP	5 kg	7,543	
	Fusion	Spherical 20 - 45 µm, 70 Å	2102-SP		6,466	
	Platinum	Irregular 25 - 45 µm, 60 Å	5102		7,415	
	Ruby	Spherical 25 µm, 50 Å & 50 µm, 54 Å	2101-SP(H) & 2102-SP(H)		7,328 / 7,392	
010K	Platinum	Spherical 40 - 75 µm, 70 Å	2101-SP	10 kg	15,086	
	Fusion	Spherical 20 - 45 µm, 70 Å	2102-SP		12,931	
	Platinum	Irregular 25 - 45 µm, 60 Å	5102		14,077	
	Ruby	Spherical 25 µm, 50 Å & 50 µm, 54 Å	2101-SP(H) & 2102-SP(H)		15,071 / 15,690	

Functionalized Silica Gels

The table below presents the characteristics of the SepaFlash™ Large Size columns packed with functionalized silica gels.

Column Code	Description of Functionalized Silica Gels	Typical Silica Weight (g)	Typical Column Volume (mL)	Flow Rate (mL/min)
800	Irregular 40 - 63 µm, 60 Å / Spherical 40 - 75 µm, 70 Å	840 / 850	1,086 / 1,099	50 - 100
	Spherical 15 µm, 100 Å / Spherical 20 - 45 µm, 300 Å (Bio series)	840 / 755	1,159 / 976	40 - 80
	Spherical 20 - 45 µm, 100 Å, C18, C8, & C4 / ARG, CN, & PHE	863	1,352/1,222	
1600	Irregular 40 - 63 µm, 60 Å / Spherical 40 - 75 µm, 70 Å	1,980 / 1,660	2,458 / 2,576	50 - 100
	Spherical 15 µm, 100 Å / Spherical 20 - 45 µm, 300 Å (Bio series)	1,680 /1,748	2,317 / 2,260	40 - 80
	Spherical 20 - 45 µm, 100 Å, C18, C8, & C4 / ARG, CN, & PHE	1,726	2,731 / 2,444	
3000	Irregular 40 - 63 µm, 60 Å / Spherical 40 - 75 µm, 70 Å	3,800 / 3,188	4,717 / 4,122	50 - 100
	Spherical 15 µm, 100 Å / Spherical 20 - 45 µm, 300 Å (Bio series)	3,150 / 3,268	4,345 / 4,226	40 - 80
	Spherical 20 - 45 µm, 100 Å, C18, C8, & C4 / ARG, CN, & PHE	3,600 / 3,323	5,241 / 4,583	
5000	Irregular 40 - 63 µm, 60 Å / Spherical 40 - 75 µm, 70 Å	6,300 / 5,250	7,821 / 6,789	50 - 100
	Spherical 15 µm, 100 Å	5,248	7,239	40 - 80
	Spherical 20 - 45 µm, 100 Å, C18, C8, & C4	6,300	8,690	
010K	Irregular 40 - 63 µm, 60 Å / Spherical 40 - 75 µm, 70 Å	12,600 / 10,490	15,641 / 13,565	50 - 100
	Spherical 15 µm, 100 Å	10,492	14,472	40 - 80
	Spherical 20 - 45 µm, 100 Å, C18, C8, & C4	12,600	17,379	

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)

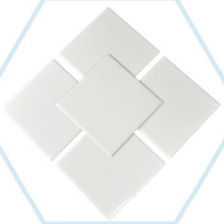
iLOK™ - SL Series
(Solid-load cartridges)

Other SepaFlash™ Products

Ultra-Pure Bare Silica Gels

Ultra-Pure Bonded Silica Gels

TLC Plates



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PDS-SPFSLS, v1.0, 12/24