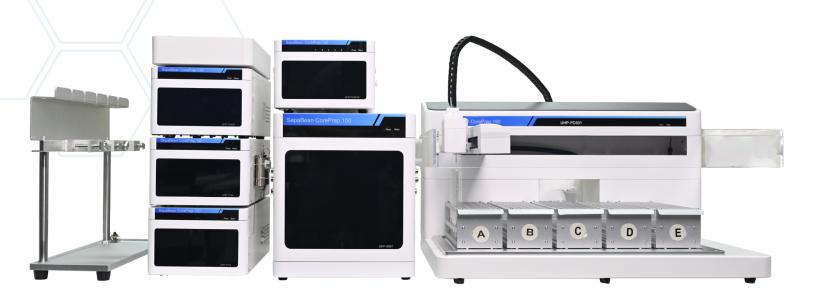


SepaBeanTM CorePrep 150

High Pressure Preparative Liquid Chromatography System



Simplify your purification, maximize your efficiency!

Santai Science Inc.

Introduction

Introduction

Welcome to the SepaBean™ CorePrep 150 system Brochure, your complete guide to Santai Science's nextgeneration preparative liquid chromatography solutions.

The SepaBean™ CorePrep 150 is an advanced high pressure preparative chromatography system engineered to deliver unmatched purification performance. Designed for efficiency, reliability, and ease of use, it integrates cutting-edge technologies that simplify workflows, reduce maintenance, and maximize productivity in both research and production environments. preparative liquid chromatography technologies.

This brochure showcases our innovative high pressure preparative chromatography machine designed to enhance purification efficiency, reliability, and simplify maintenance.

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Explore the Santai Science Portfolio

Explore the Santai Science Portfolio

At Santai Science, we take pride in offering a diverse portfolio of advanced separation and purification solutions tailored to meet the evolving needs of scientists and professionals worldwide. From innovative chromatography systems to high-performance consumables, our products are designed to deliver precision, efficiency, and reliability. Browse below to discover how our cutting-edge technologies can empower your research and applications.

SepaBean[™] Chromatography machines & SepaFlash[™] Columns

Product Line	SepaBean™ machines	SepaFlash™ FP LT-ELSD	SepaFlash™ Columns
Picture			
Description	SepaBean™ machines deliver efficient and user-friendly flash chromatography solutions for diverse applications. Available Models: • SepaBean™ machine U • SepaBean™ machine T • SepaBean™ machine • SepaBean™ machine • SepaBean™ machine • SepaBean™ machine L	The SepaFlash™ FP LT-ELSD is a low-temperature evaporative light scattering detector, ideal for non-chromophoric analytes like carbohydrates, lipids, and polymers. It ensures high sensitivity, low noise, and optimal detection of thermally unstable compounds, compatible with all SepaBean™ models.	SepaFlash™ columns deliver precise, durable, and efficient purification for diverse chromatography applications. Available Series: SepaFlash™ Standard SepaFlash™ Large Size SepaFlash™ HP, Bio & Bonded SepaFlash™ iLOK™ & iLOK™-SL SepaFlash™ iLOK™ Large-Size

Other SepaFlash™ Products

Product Line	SepaFlash™ Ultra-Pure Bare Silica Gels	SepaFlash™ Ultra-Pure Bonded Silica Gels	SepaFlash™ TLC Plates
Picture	Destroy William Control William Contro	Spoked With the spoke of the s	
Description	SepaFlash™ Ultra-Pure bare silica gels in bulk provide high-quality phases for chromatography, available in both irregular and spherical shapes. With particle sizes ranging from 10 μm to 200 μm and pore diameters from 50 Å to 300 Å, these silicas meet diverse application needs. They are offered in convenient 1 kg, and 25 kg containers.	SepaFlash™ Ultra-Pure bonded silica gels offer versatile chromatography solutions in irregular or spherical shapes, with particle sizes from 10 µm to 40 - 75 µm and pore diameters of 50 Å to 300 Å. Available in reversed phase, normal phase, ion-exchange, HILIC, and alumina phases.	SepaFlash™ TLC plates are manufactured with high-quality media to match the sorbents in SepaFlash™ flash columns. This alignment ensures greater reproducibility in method development. Available with aluminum and glass backings, these plates come in a wide range of sizes from 2.5 x 7.5 cm to 20 x 20 cm, supporting both analytical and preparative chromatography needs.

About Santai

Discover Santai Technologies

Founded in 2004, Santai Technologies is a leading technology company dedicated to advancing separation and purification tools. With over 20 years of expertise, we have become a trusted partner for professionals and scientists across the pharmaceutical, biotechnology, fine chemicals, natural products, and petrochemical industries.

Santai is renowned worldwide for its outstanding flash chromatography instruments and consumables, setting new benchmarks for efficiency, precision, and reliability in the global market.



About Santai Science

Established in 2018 as a sister company of Santai Technologies, Santai Science is headquartered in Montreal, Canada. Its core mission centers on the commercialization of cutting-edge separation and purification tools, including product demonstrations and specialized services.

Santai Science also plays a vital role in providing customer training, delivering technical support, and managing order processing and shipment directly from its Montreal office.

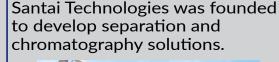
Our Extensive Global Reach

Santai operates and maintains warehousing services across America, Asia, India, and Europe. This strategic global presence ensures that our products and services are readily accessible and efficiently delivered to clients around the world.

Santai: Over 20 Years of Innovation in Chromatography

For two decades, Santai has been a leader in chromatography innovation, providing cutting-edge solutions that streamline purification processes for scientists worldwide. With our advanced SepaBean™ machines and SepaFlash™ columns enhancing efficiency, we remain committed to innovation and quality, continually empowering researchers with more effective purification technologies.







2004

2005



The SepaFlash™ Standard Series was launched, leveraging proprietary packing technology for enhanced performance. The SepaFlash™ HP Series has been launched, offering enhanced pressure resistance.



2009



2013

The SepaFlash™ iLOK™ has been launched, providing the convenience of manual assembly options.

and SepaFlash™ Bonded Series have been launched.



2016



2015

The SepaBean[™] machine was launched as a unique flash chromatography system with and flexible sample loading networking capabilities and built-in intelligence.

The SepaFlash™ Standard Size 3 kg | Santai Science was founded in Canada, alongside the iLOK™-SL flash column with 15 % free space for solid loading.



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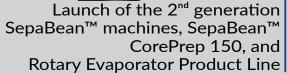


The SepaBean™ machine L was launched, featuring large 5 kg and 10 kg flash columns designed for the pilot-scale market. The iLOK™ Large Size empty columns (800 g to 7 kg) were launched, together with new product lines like bulk silica gels and TLC plates.



2024-2025









SepaBean™ CorePrep 150

Simplify your purification, maximize your efficiency!

Product Overview

The SepaBean™ CorePrep 150 is a high-pressure preparative LC system built for reliable, accurate, and cost-effective purification. With flexible flow rates, multiple detector options, and smart Internet of Things (IoT) features, it simplifies method development and boosts efficiency across research and production labs.

Key Features

High Pressure and Performance System

Achieves up to 40 MPa (5,800 psi / 400 bar) with precise flow rates up to 150 mL/min. This capability supports rapid method development using a broad range of preparative columns, including smaller particle sizes and series configurations. It also enables higher flow rates, offering greater flexibility in method optimization.

Flexible and Adaptable

Equipped with multiple detector options (UV-Vis dual wavelength, optional ELSD), an autosampler with expandable injection volumes, and an optional column selector supporting up to 5 preparative columns. This modular design provides unmatched adaptability to fit diverse purification workflows.

Accurate Collection

A high-precision automated fraction collector minimizes dead volume and sample diffusion, ensuring accurate recovery and reproducibility. Compatible with a wide range of test tube racks, it provides reliability and flexibility in sample collection.

Smart and Connected

Featuring intuitive control software integrated with Internet of Things (IoT) connectivity, the system offers real-time remote monitoring, automatic safety interventions, and instant mobile alerts. This guarantees secure operation, peace of mind, and maximized uptime.

Innovation You Can Trust

Backed by over 20 years of expertise in chromatography, Santai Science brings cutting-edge technology to the SepaBean™ CorePrep 150. Engineered for high-pressure performance, reliability, and ease of use, it empowers researchers to achieve superior purification results while reducing time, effort, and maintenance costs.



Overview of the Complete Set Design

The SepaBean™ CorePrep 150 combines high-pressure pumping, precise detection, automated injection, and accurate fraction collection. With an optional column selector and Internet of Things (IoT) connectivity, its modules work seamlessly to deliver reliable and efficient purification.

• Supports up to 5 columns with diameters up to 50 mm and lenghts up to 250 mm • UV-Vis 200 - 800 nm dual wavelength detector • Optional ELSD detector • Optional ELSD detector • UV-Vis 200 - 800 nm dual wavelength detector • Optional ELSD detector • Optional ELSD detector • Things (IoT) module, the system automatically performs safety interventions and sends instant notifications to the user's mobile device

Pumping System

- Flow Rate: 1 150 mL/min
- Operating Pressure: up to 40 MPa (5,800 psi / 400 bar)
- Optional sample pump available

Autosampler

- Compatible with 2 test tube racks, adaptable to various test tube sizes
- Equipped with a standard 5 mL injection loop, expandable to 20 mL
- Built-in cleaning function for both inner and outer needle walls

Fraction Collector

- Split-type 2D automatic fraction collector: automatically selects and sets the coordinates of test tube racks or collection bottles
- Supports up to 5 racks, compatible which test tubes of various sizes

SepaBean™ CorePrep 150 - Complete Set Specifications

Characteristics	Specifications
Part Number	SPBUHP150
Description	SepaBean [™] CorePrep 150 - Ultra-high Pressure Liquid Chromatography System, Complete Set. Maximum flow rate: 150 mL/min. Compatible with 200 - 800 nm UV dual-wavelength detector. Maximum pressure resistance: 40 MPa (5,800 psi / 400 bar).
Included in the Complete Set	The SepaBean™ CorePrep 150 - Complete Set comes with two pumping systems, a UV-Vis detector, an autosampler, a fraction collector, and an integrated power supply with communication module. Available Options: for greater flexibility, the system can be extended with a column selector (up to 5 preparative columns) and an ELSD detector.
Control Device	External PC with intuitive control software
Dimensions (H x W x D)	580 x 1,750 x 660 mm (excluding Column Selector Module)
Flow Rate Range	0 - 150 mL/min
Power Supply	220 V AC, total power 1,000 W
Operating Pressure	≤ 40 MPa (≤ 5,800 psi / ≤ 400 bar) (316 L Pump Head)
Tubing Connection	1/16" standard pipe connection
Weight	155 kg (342 lbs), excluding Column Selector Module)

Module Features and Specifications

Introduction

The SepaBean™ CorePrep 150 is built from modular components that work seamlessly together to deliver high-performance preparative chromatography. Each module plays a key role in system operation. The following section highlights the main features and specifications of each module.

Fraction Collector

- Compact and Independent Design: Supports up to 5 test tube racks without interference, ensuring efficient use of space.
- Flexible Compatibility: Accommodates 13 mm, 16 mm, and 18 mm test tubes, easily selectable to fit different application needs.
- Accurate Flow Control: Optimized pipeline design minimizes delay and dead volumes, reducing sample diffusion and ensuring precise collection.
- High-Precision Switching: Equipped with a robust three-way valve, the system enables reliable position switching while keeping waste and collection channels independent, ensuring leak-free operation and high recovery rates.



Fraction Collector Specifications

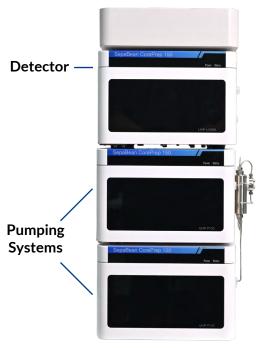
Characteristics	Specifications
Part Number	UHP-FC501
Description	High Pressure Fraction Collector Module
Dimensions (H x W x D)	680 x 837 x 658 mm
Flow Rate Range	0 - 150 mL/min
Power Supply	100 - 240 V AC, power 75 W
Sample Rack Capacity	 13 x 100 mm, 9 mL, 96 wells 16 x 100 mm, 15 mL, 75 wells 18 x 150 mm, 25 mL, 70 wells (The maximum test tube height supported is 180 mm)
Supported Racks	Supports up to 5 test tube racks
Switching Speed	Switching speed reaches a maximum of 0.1 seconds
Weight	45 kg (99 lbs)

Detector

- Dual Optical System: Enables simultaneous dual-wavelength detection for enhanced analytical flexibility.
- High-Precision Monochromator: Advanced optical control ensures superior wavelength accuracy and stability.
- Independent Optical Path Design: Proprietary development of the optical path and detachable circulation flow cell enables quick maintenance and reliable operation.

Detector Specifications

Characteristics	Specifications
Part Number	UHP-UV800
Description	200 - 800 nm UV Variable Wavelength Detector
Baseline Drift	± 2 x 10 ⁻⁴ AU
Baseline Noise	± 0.5 x 10 ⁻⁵ AU
Detection Range	0 - 2 AU
Dimensions (H x W x D)	172 x 240 x 450 mm
Flow Cell Optical Path	2.1 mm path length
Flow Cell Volume	10 μL
Power Supply	100 - 240 V AC, power 75 W
Wavelength Accuracy	1 nm
Wavelength Precision	± 0.1 nm
Weight	18 kg (40 lbs)



Pumping System

- **Dual Floating Plunger Design:** Parallel, floating plungers ensure high accuracy and extend the service life of the sealing ring.
- Easy Maintenance: Built-in plunger cleaning channel removes salt residues without disassembling the pump head; the embedded design allows quick disassembly and reset.
- **High-Stability Motor:** Servo motor with secondary transmission delivers higher torque at reduced speed, improving pump gradient stability and consistent flow rates.
- **Durable Linear Bearings:** Ball-type linear bearings reduce tangential forces under pressure, enhancing stability and extending sealing ring lifetime, unlike traditional plastic bearings that struggle with high-pressure stability.
- **Precision Machining:** Pump heads are engineered for concentricity, while floating high-pressure sealing sleeves provide superior sealing strength and long-term stability compared to conventional machined pump heads.

Pumping System Specifications

Characteristics	Specifications
Part Number	UHP-P150
Description	High Pressure Pumping System, 150 mL
Dimensions (H x W x D)	172 x 278 x 450 mm (including mixer)
Flow Accuracy	± 1 %
Flow Rate Range	0.01 ~ 150 mL/min, increment 0.01 mL/min
Flow Repeatability RSD	≤ 1 %
Gradient Accuracy	≤ 1.5 %
Operating Pressure	≤ 40 MPa (≤ 5,800 psi / ≤ 400 bar) (316 L pump head)
Power Supply	100 - 240 V AC, power 300 W (single pump)
Pressure Pulsation	≤ 0.5 MPa (≤ 72.5 psi / ≤ 5 bar)
Tubing Connection	1/16" standard pipe connection
Weight	18.5 kg (41 lbs), including mixer



Pumping System
Overview

Integrated Power Supply

- **Compact Integration:** Combines power distribution and communication control in a single, streamlined unit.
- Smart Connectivity: Internet of Things (IoT) enabled for real-time monitoring, safety interventions, and instant mobile notifications.
- **Stable and Reliable:** Ensures consistent system performance with reduced wiring and simplified setup.

Integrated Power Supply Specifications

Characteristics	Specifications
Part Number	UHP-PCM150
Description	High Pressure Integrated Power Supply and Communication Module
Dimensions (H x W x D)	172 x 240 x 461 mm
Internet of Things (IoT) Module	Support China Mobile / China Unicom / China Telecom SIM cards
Power Supply	110 - 220 V AC, power 100 W (200 W with column switching module)
Weight	10 kg (22 lbs)



Column Selector

- Flexible Column Switching: Supports up to 5 columns with reliable, automated switching.
- Streamlined Workflows: Eliminates manual reconnections, saving time and reducing the risk of errors.
- **Seamless Integration:** Works directly with the control software for quick method changes and improved efficiency.
- Versatile Column Compatibility: Accommodates column diameters from 4.6 to 50 mm and lengths of 100, 150, or 250 mm for a wide range of applications.



Column Selector Specifications

Characteristics	Specifications
Part Number	UHP-ACSC501
Description	Automatic Preparative Column Selector Module
Dimensions (H x W x D)	460 × 520 × 190 mm
Number of Channels	Supports up to 5 channels
Power Supply	110 - 220 V AC, power 100 W (200 W with integrated power box)
Weight	5 kg (11 lbs)

Autosampler (Injector)

- Flexible Tube Rack Design: Compatible with 5 mL, 9 mL, and 15 mL sample tubes, offering versatile combinations.
- Independent Injection Module: Operates separately from the collection process, enabling both single injections and repeated stacking without delays.
- Wide Injection Range: Adjustable volumes from 100 μ L to 10 mL (± 1 μ L) with precise control; injection speed can scale from small to large volumes within 30 seconds.
- **High Reproducibility:** Residual injection rate below 0.01 % ensures accurate performance even with complex samples.
- Expandable Capacity: Reserved switching port supports larger sample injections, extending the range up to 100 μL 20 mL.

Autosampler Specifications

Characteristics	Specifications
Part Number	UHP-AS01
Description	High Pressure Autosampler
Carryover Effect	≤ 0.01 %
3-Dimensional	XYZ Axis
Dimensions (H x W x D)	400 x 340 x 525 mm
Injection Accuracy	± 2 %
Injection Dead Volume	310 μL
Injection Precision	RSD ≤ 1 %
Injection Time	The injection cycle time is 32 seconds for a standard 5 mL injection and 50 seconds for a standard 10 mL injection
Injection Volume	$100~\mu L$ to 5 mL with a standard 5 mL quantitative loop, minimum increment of 1 μL , and can be expanded up to 20 mL
Needle Wash	Thorough cleaning of inner and outer walls of the injection needle
Sample Rack Options	 10 x 75 mm, 5 mL, 112 wells 13 x 100 mm, 9 mL, 72 wells 30 x 100 mm, 40 mL, 6 wells
Power Supply	100 - 240 V AC, power 75 W
Weight	35 kg (77 lbs)



Ordering Information

Available SepaBean™ CorePrep 150 Components

The table below lists all components available for the high pressure preparative LC system.

Item Number	Description
SPBUHP150	SepaBean [™] CorePrep 150 - Ultra-high Pressure Liquid Chromatography System, Complete Set. Maximum flow rate: 150 mL/min. Compatible with 200 - 800 nm UV dual-wavelength detector. Maximum pressure resistance: 40 MPa (5,800 psi / 400 bar).
UHP-FC501	SepaBean™ CorePrep 150 - High Pressure Fraction Collector Module
UHP-ACSC501	SepaBean™ CorePrep 150 - Automatic Preparative Column Selector Module
UHP-PCM150	SepaBean™ CorePrep 150 - High Pressure Integrated Power Supply and Communication Module
UHP-UV800	SepaBean™ CorePrep 150 - 200 - 800 nm UV Variable Wavelength Detector
UHP-P150	SepaBean™ CorePrep 150 - High Pressure Pumping System, 150 mL
UHP-AS01	SepaBean™ CorePrep 150 - High Pressure Autosampler

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Intelligent and Intuitive Software Control

The SepaBean[™] CorePrep 150 is powered by a next-generation control platform designed for precision, flexibility, and ease of use. From method setup and gradient programming to fraction collection and data processing, every function is accessible through a clear, unified interface.

This intelligent software environment ensures complete system control and data integrity while optimizing performance for both routine and complex preparative workflows.

Key Features

Unified System Control

Centralized management of pumps, detectors, columns, and fraction collectors ensures seamless coordination and consistent operation throughout each run.

Real-Time Monitoring

Live visualization of pressure, flow rate, and detector response provides clear insight into every stage of the purification process.

Flexible Method Configuration

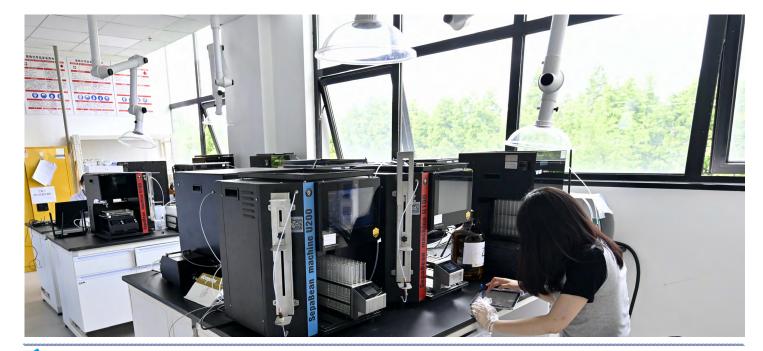
Injection, collection, and gradient parameters can be easily customized to meet specific application needs and optimize performance.

Automatic Data Logging

All run parameters, chromatograms, and collection results are automatically recorded and securely stored, ensuring complete traceability and simplifying both data review and method validation.

User-Friendly Interface

The intuitive layout and logical workflow minimize setup time and training, enhancing productivity and reducing operational errors.



Santai Science Inc. - Over 20 Years of Chromatography Excellence

Hardware Parameter Setting

The hardware settings interface provides full visibility and configuration of each module within the SepaBean™ CorePrep 150 system. Users can monitor pump performance, define detector channels, set column parameters, and manage rack configurations for both the autosampler and fraction collector, all from a single screen. The modular design ensures that every connected component communicates seamlessly with the control software, allowing smooth method setup and real-time status tracking.

Main Advantages

- Clear overview of all modules and operating parameters
- Quick setup of pump flow rates, detector wavelengths, and column types
- Flexible tray and rack selection for sample and fraction collection
- Customizable naming and parameter fields for easy documentation

Gradient Method Editing

The gradient editor is engineered for simplicity and precision, enabling effortless creation and optimization of multi-step gradient programs. Users can insert, delete, or adjust gradient points through a drag-and-drop interface while visualizing the solvent composition curve in real time. The form-based structure supports rapid method development and ensures reproducibility, even for complex multi-solvent gradients.

Features

- One-click insertion and graphical editing of gradient steps
- Adjustable parameters for flow, time, and solvent ratio
- Preset and manual collection triggers selectable within the same interface
- Copy, modify, and reuse saved methods to reduce setup time
- Step-specific injection and repeat functions for advanced applications

Multiple Collection Modes

To accommodate a wide range of purification strategies, the SepaBean™ CorePrep 150 offers flexible collection options, from full-range recovery to precise, peak-based fractionation. Automatic algorithms detect peak start and end points using slope recognition and threshold settings, ensuring accurate and efficient fraction collection. These automated strategies minimize solvent waste, reduce human intervention, and enhance reproducibility across runs.

Available Modes

- Full Collection: Captures all eluted material for complete sample recovery.
- Peak Collection: Isolates compounds at defined peaks for targeted purification.
- Threshold Collection: Uses customizable signal thresholds for selective capture.
- Slope or M-Shape Cutting: Optimizes fraction boundaries for high-purity results.

Overlay and Stacking Injections Functions

The SepaBean™ CorePrep 150 supports advanced injection modes for continuous or large-volume preparations. Through intelligent scheduling, the system can perform repeated sample injections without interruption, maximizing throughput and reducing downtime. By combining automation with precise flow control, these modes minimize solvent consumption, improve productivity, and maintain chromatographic precision across extended operations.

- Overlay Injection: Repeats small-volume injections sequentially to process large samples continuously.
- **Stacking Injection:** Overlaps successive injections to merge non-target impurities and shorten total runtime, particularly effective under isocratic conditions such as chiral separations.

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Contact Us



Simplify your purification, maximize your efficiency!

Santai Science Inc.

How to Order Santai Science Products

At Santai Science, we take pride in providing our products directly to customers from our Montreal office. Our dedicated team, is here to support your needs every step of the way.

To ensure a smooth ordering process, please include the following details with your order:

- Company information: billing and shipping addresses.
- Order details: purchase order number or credit card information, item numbers, product descriptions, quantities, and unit of measure.
- End-user information: full name, email address, and phone number of the end user.



By Phone

You can place an order with our customer service team in French or English, Monday to Friday, between 8:30 AM and 5:30 PM Montreal time (GMT-5).

Phone: +1 514 505 1378

By Email

Orders can be emailed to the following address:

order@santaisci.com

Online Ordering

- 1. Visit our website at <u>www.santaisci.com</u> and explore our "Online Store" by clicking the tab in the top menu bar or the shopping cart icon on the right-hand side.
- 2. Browse our product catalog and select the items you wish to order, specifying the desired quantities.

 Once you're ready, click on the shopping cart icon to proceed to checkout.
- 3. You have several options for checkout:
- Use express checkout with "Shop Pay" or "Google Pay."
- Log in to your account, or create one if you'd like.
- Proceed as a guest.
- 4. Fill out all the required fields in the form, providing your contact information, selecting your preferred shipping method, and entering your payment details based on the chosen method.
- 5. Once all the information has been entered, click the "Pay Now" button at the bottom of the page to complete your payment.



Why Choose Santai

At Santai Science, we are committed to empowering your success with our global reach, innovative technologies, and unwavering support. Here's why partnering with us is the right choice for your chromatography needs:

- Global presence: Santai Science seamlessly delivers world-class chromatography solutions to customers worldwide, ensuring quality and reliability no matter where you are. No matter where you are, our global presence ensures you receive the quality and reliability you deserve.
- Innovative solutions for excellence: elevate your scientific pursuits with our cutting-edge chromatography technologies. Designed with precision and innovation, our solutions empower you to achieve unparalleled results in your research and applications.
- Unwavering customer support: your success is our priority. At Santai Science, we go beyond boundaries to provide dedicated, personalized support. Wherever you are, you can count on us to be your trusted partner every step of the way.

Choose Santai Science - because your success drives our innovation.





SepaBean[™] Family

machine U



machine T



machine



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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