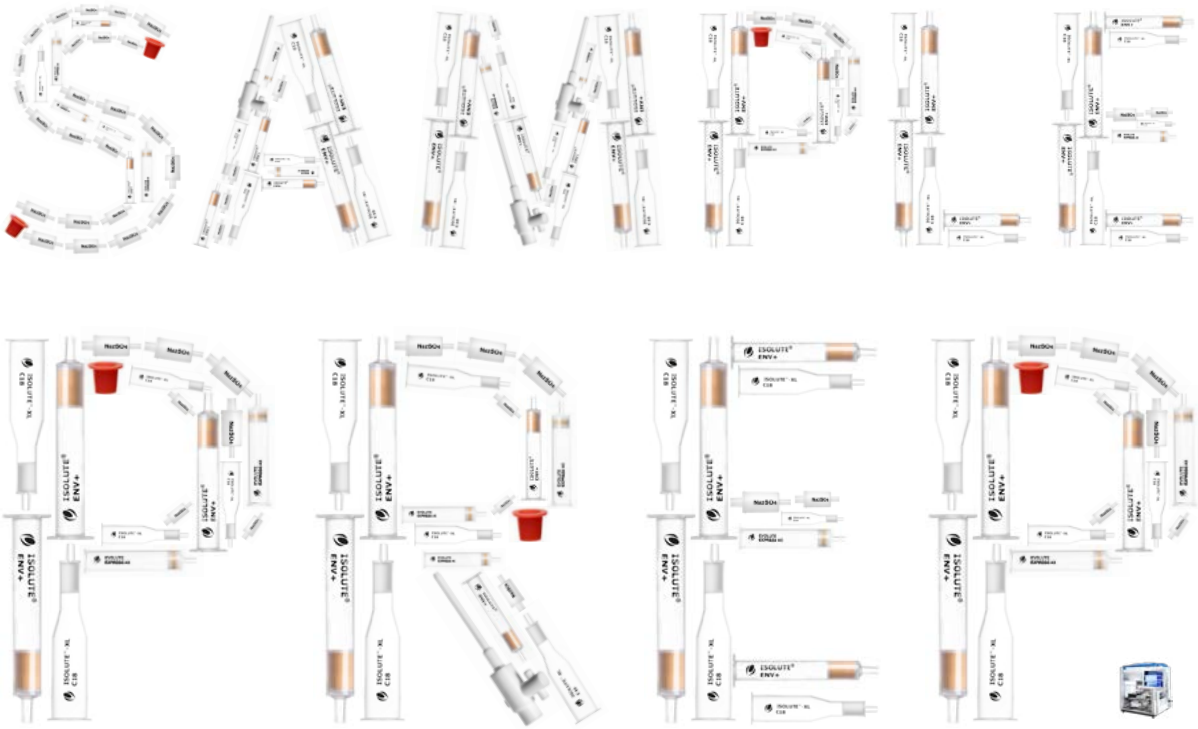
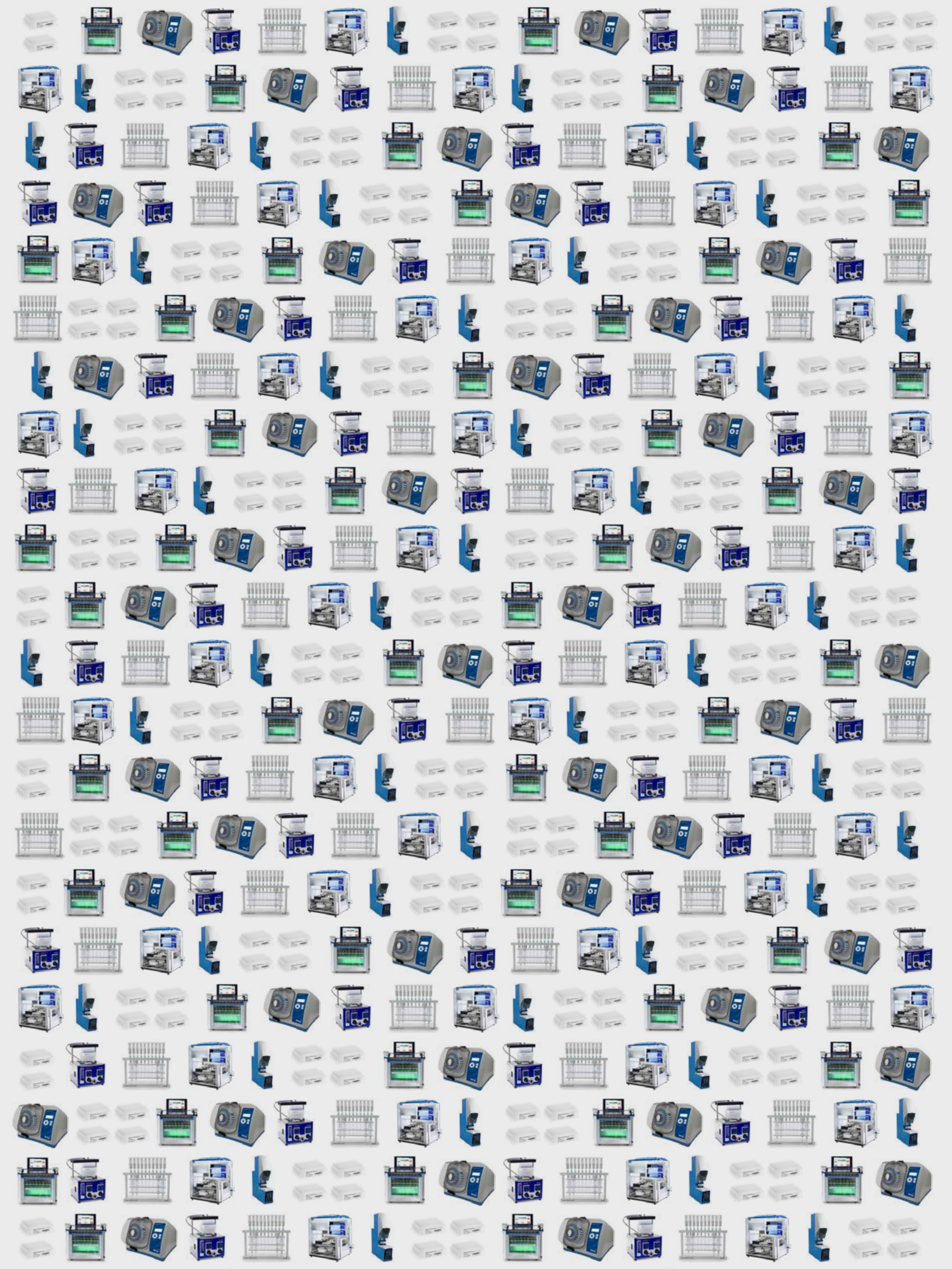
Analytical Sample Preparation

Catalog



Biotage®



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Highlights

Biotage® Mikro

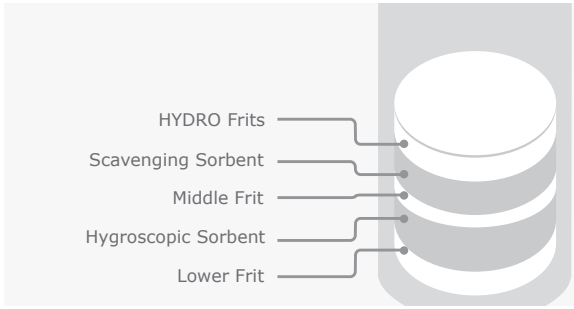
Microelution SPE. Packed with 2 mg per well of wettable polymeric EVOLUTE® sorbents, for elution volumes as low as 20 µL.

33

Biotage® Lysera

Fast and easy grinding, lysing, and homogenizing of biological samples prior to sample preparation. Available with a wide range of accessories for various sample sizes.

73



ISOLUTE® HYDRO DME+

Fast and affordable clean up of urine samples for LC-MS/MS. With Dual Mode Extraction (DME) and Biotage® HYDRO frit technology for in-situ urine hydrolysis.

17

ISOLUTE® SLE+

Load–Wait–Elute. The trusted extraction product for a diverse range of analytes from aqueous samples. Fits perfectly with Biotage® Extrahera™ for automated sample extractions.

23

EVOLUTE® EXPRESS

The flagship solid phase extraction product for ultimate cleanliness. Features advanced water-wettable polymer sorbents and EXPRESS frit technology, enabling the revolutionary Load–Wash–Elute procedure. Available in five chemistries.

28

ISOLUTE® ENV+

The SPE sorbent of choice for environmental and agrochemical applications. Contains hyper-cross linked polystyrene polymer sorbent for a wide range of polar water soluble analytes.

36

Biotage® Extrahera™

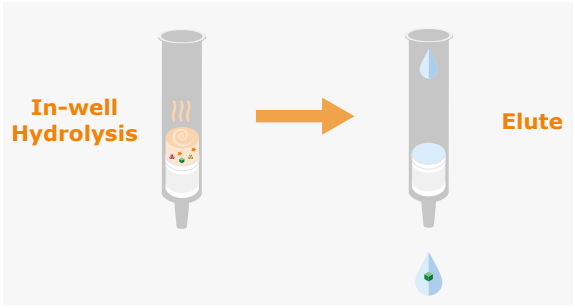
Automated sample preparation. Compatible with all industry standard extraction techniques. With positive pressure processing, disposable pipette sample transfer, and a host of software features, it's the perfect partner for your laboratory.

61

TurboVap®

Watch your samples dry. The near 360° view of your samples inside the unit is novel. Multi-racks, touch screen control, pressure profiling and the fastest evaporation rates available has made TurboVap® the market leader for nitrogen blow down evaporators.

78



Hydro Frit Technology

No need for off-line hydrolysis. HYDRO frits enable hydrolysis of urine samples right in the column or plate, providing a truly streamlined workflow.

18, 32

ACT Plate Adapter

Prevents cross contamination during evaporation in 96 well plate based assays, decreasing the risks of false positives. Easily cleaned and reusable

86

This is Biotage

Biotage is a global Life Science company that develops innovative and effective solutions for bioanalytical chemistry applications and workflow.

In analytical sample preparation, our story goes back as far as 1969, when a small start-up in Wales going by the name of Jones Chromatography pioneered a range of columns and consumables for GC and LC. Out of Jones Chromatography came International Sorbent Technology (IST), founded in 1992. With a focus on product quality in sample preparation, ISOLUTE® solid phase extraction products for bioanalytical, clinical, forensic, environmental, agrochemical and food applications led the field.

Several mergers and acquisitions later, that business is now integrated into what Biotage is today: a global company dedicated to developing high quality products for advancements in life science.

The quality ethos continues: batch-to-batch reproducibility and production of fines free sorbents are an integral part of the manufacturing process. With fully automated column packing robotics for sorbent dispensing and frit fitting, high quality column and plate packing is guaranteed.

Now under the Biotage umbrella, the original ISOLUTE solid phase extraction products are complemented by a variety of novel extraction techniques, sorbents and format

options delivering high analyte recoveries and extract purity. Biotage continues to develop innovative solutions for today's sample preparation challenges.

Biotage is not just committed to providing industry leading sample preparation consumables; our goal is to provide practical workflow solutions to our customers. With this in mind our analytical product offerings include homogenizers, automated sample preparation instruments such as Extrahera™ through to evaporation in the TurboVap®.

Solutions and support for our customers every step of the way.

Biotage®

2020
- PhyNexus
- Horizon technology

2010
- MIP Technologies

- Argonaut

2000
- personalchemistry
- Biotage

- PYROSEQUENCING

- IST®

1990

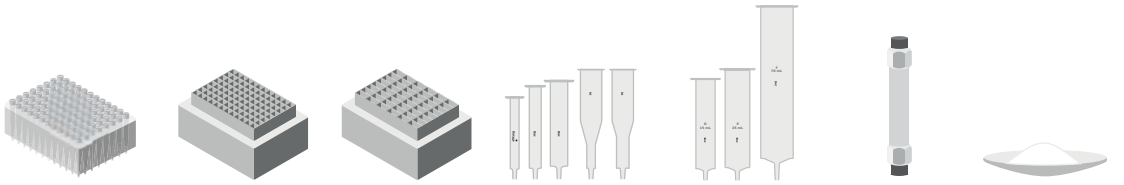
1980

1970
- JONESCHROMATOGRAPHY

Choose Your Sample Preparation Solution

	Technique	Increase column lifetime	Remove particulates	Remove proteins	Remove phospholipids	Remove urine matrix components	Remove β-glucuronidase	Desalt	Solvent switch	Targeted analyte extraction	Concentrate	Eliminate SPE conditioning/ equilibration	In-situ hydrolysis	Recommended Product
		Feature												
	 Filtration	✓	✓											ISOLUTE® FILTER+
	 Protein Precipitation	✓	✓	✓			✓							ISOLUTE® PPT+
	 Dual Mode Extraction	✓	✓	✓		✓	✓	✓					✓	ISOLUTE® HYDRO DME+
	 Phospholipid Depletion	✓	✓	✓	✓		✓	✓						ISOLUTE® PLD+
	 QuEChERS	✓		✓	✓		✓							ISOLUTE® QuEChERS
	 Supported Liquid Extraction	✓	✓	✓	✓	✓	✓	✓	✓	✓				ISOLUTE® SLE+
Solid Phase Extraction	 Silica based SPE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			ISOLUTE® SPE
	 Polymeric SPE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		EVOLUTE® EXPRESS SPE
	 Polymeric SPE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	EVOLUTE® HYDRO SPE
	 Polymeric SPE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		Biotage™ Mikro

Choose Your Sample Preparation Solution



Available formats

	Microelution plate	96-well plate	48-well plate	1,3, XL or 6 mL columns	15, 25 or 70 mL columns	On-line extraction column	Bulk material
		✓					
		✓					
		✓		✓			
		✓		✓			
							
		✓	✓	✓	✓		
		✓		✓	✓	✓	✓
		✓		✓		✓	
		✓					
	✓						

How to Place Your Order

In this catalog product information is displayed with easy-to-follow application details and supporting documentation. Ordering information is found following each product listing.

How to Order

You can order through our web site **www.biotage.com**. Alternatively, you may place your order by telephone, email or fax.

Europe

Main Office: +46 18 56 59 00
Toll Free: +800 18 56 57 10
Fax: +46 18 59 19 22
Order Tel: +46 18 56 57 10
Order Fax: +46 18 56 57 05
order@biotage.com

North & Latin America

Main Office: +1 704 654 4900
Toll Free: +1 800 446 4752
Fax: +1 704 654 4917
Order Tel: +1 704 654 4900
Order Fax: +1 434 296 8217
ordermailbox@biotage.com

When placing your order please have available:

- Your purchase order number
- Biotage part number(s)
- Product description(s)
- Shipping address
- Billing address
- Contact person, including telephone number
- Product user name and department

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Please visit our web site at
www.biotage.com for contact details.

Orders can also be placed using your VISA or MasterCard account (and American Express **IN THE US ONLY**).

Biotage® 1-Point Support™

www.biotage.com

The Biotage website offers our customers easy access to current information on new products, applications, and events.

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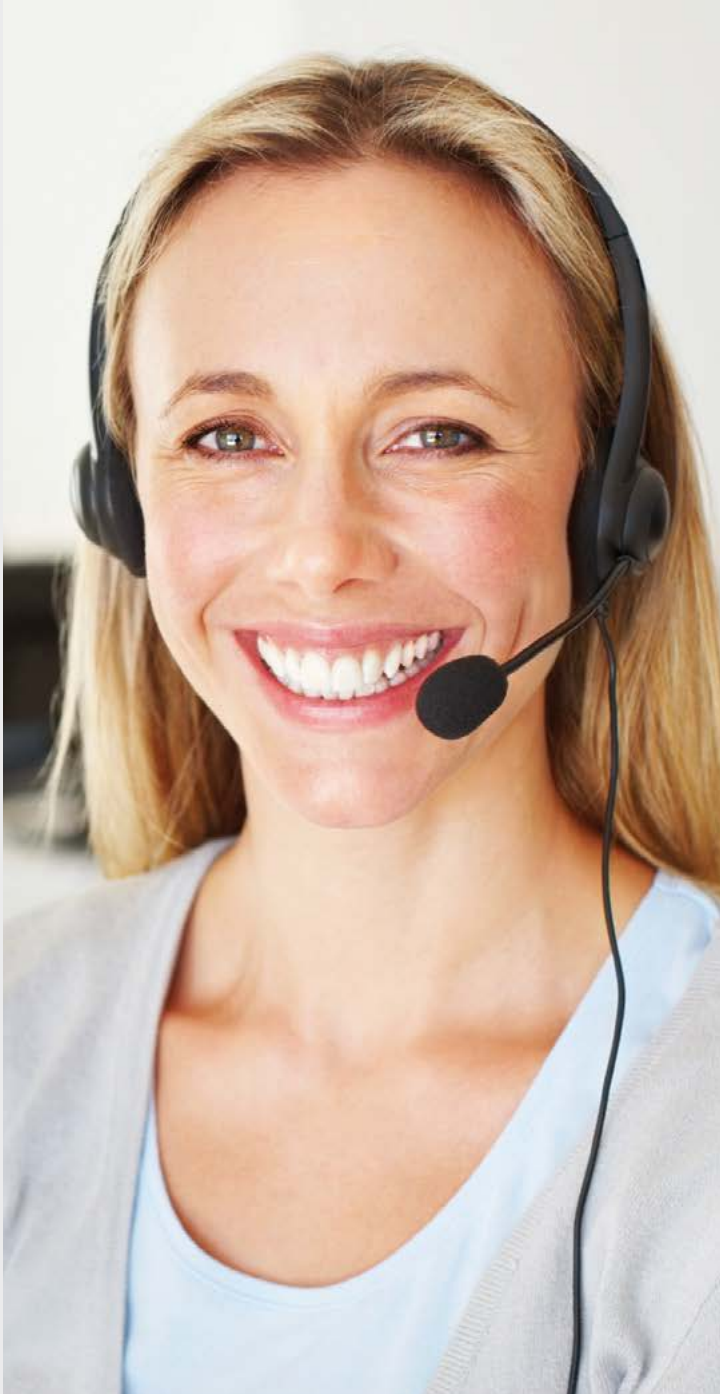
Email: india@biotage.com

To locate a distributor

Please visit our website at
www.biotage.com



Customer Support and Resources

Method Development and Troubleshooting Advice

Biotage is ready to assist you with our team of analytical chemists who have many years of experience in providing practical, theoretical and technical knowledge relating to sample preparation techniques.

If you need help choosing the best sample preparation method for your application, or want to solve an existing sample preparation problem, please contact your local Biotage 1-Point Support™ team who will ensure you receive fast advice from our sample preparation experts.

Technical Information

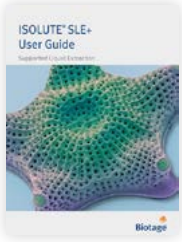
Throughout this catalog, we highlight chemistry data sheets and application notes that provide detailed information on sample preparation techniques and SPE sorbents.

Literature Library

Biotage's literature library is a vital resource for analytical chemists looking to optimize sample preparation procedures. As sample preparation experts, Biotage are dedicated to finding the ideal solution to your sample preparation requirements with a regularly updated library containing application notes, technical notes and scientific presentations. The Biotage literature library has been optimized to provide the most appropriate, efficient and effective sample preparation solutions, taking into consideration matrix effects, analyte structure/functionality and relevant regulatory requirements.

The Biotage literature library is fully searchable by keyword, analyte, matrix, analytical technique, format, product type and industry type. This search feature allows you to obtain relevant application notes suitable for your needs in an efficient and dynamic manner. Visit the Biotage literature library **www.biotage.com**.

ISOLUTE® SLE+ User Guide



Find out how to develop simple load-wait-elute extraction methods, and get the best results from ISOLUTE® SLE+ supported liquid extraction products.
Literature part number UI304.

EVOLUTE® EXPRESS User Guide

Learn how to optimize methods, and speed up your SPE by eliminating conditioning and equilibration steps using EVOLUTE® EXPRESS columns and 96-well plates.
Literature part number UI330.

QuickStart Guide to SPE

See our QuickStart Guide for a comprehensive introduction to solid phase extraction.
Literature part number UI331.

Avoiding Cross Talk in 96-well Sample Preparation

Use simple practical strategies, hints and tips to mitigate or avoid cross-well contamination or 'cross talk' in high throughput 96-well based sample preparation.
Literature part number PPS387.

To download a copy of any of the above guides please visit www.biotage.com.

Product Quality

Biotage is committed to developing and manufacturing sample preparation products of the highest quality. State-of-the-art manufacturing techniques are supported by a comprehensive quality control (QC) testing program documented under our ISO9001:2015 registered Quality Management System.

All the components used to make our sample preparation products (tubes, frits, 96-well plates and sorbents) are rigorously cleaned and QC tested to ensure they meet our demanding purity specifications.

We use sophisticated instrumental techniques to confirm the physical and chemical nature of every batch of sorbent – ensuring reproducible performance in your application.

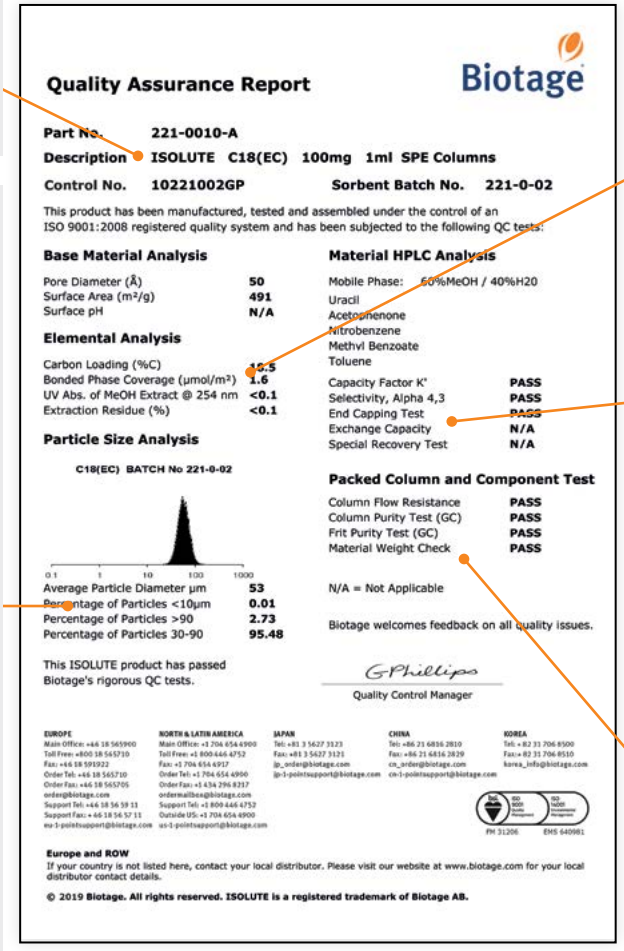
Every ISOLUTE® or EVOLUTE® product is accompanied by a detailed quality assurance (QA) report for your reference. This page explains the importance of the information it contains, and the impact this has on every sample preparation procedure you perform.

Reproducible sorbent mass packed into SPE columns:

- Column capacity and analyte elution volume requirements are constant
- Consistent column-to-column and batch-to-batch recoveries

Well controlled particle size distribution with minimal fines from column-to-column and batch-to-batch:

- Reliable sample processing using manifolds and automated devices
- Consistent flow through columns, from column-to-column and batch-to-batch
- Low back pressure – automation friendly
- Gravity loading of samples with some column configurations
- No fines in final extract to plug injectors or absorb analytes when sample is reconstituted in another solvent
- No channeling in sorbent beds minimizes sorbent mass requirements, reducing elution volumes and costs
- Minimal drying time, reproducible from batch-to-batch
- Large sorbent mass columns with good flow characteristics



Quality Assurance Report

Biotage

Part No. 221-0010-A

Description ISOLUTE C18(EC) 100mg 1ml SPE Columns

Control No. 10221002GP Sorbent Batch No. 221-0-02

This product has been manufactured, tested and assembled under the control of an ISO 9001:2008 registered quality system and has been subjected to the following QC tests:

Base Material Analysis

Pore Diameter (Å)	50
Surface Area (m²/g)	491
Surface pH	N/A

Elemental Analysis

Carbon Loading (%C)	16.5
Bonded Phase Coverage (µmol/m²)	1.6
UV Abs. of MeOH Extract @ 254 nm	<0.1
Extraction Residue (%)	<0.1

Particle Size Analysis

C18(EC) BATCH No 221-0-02

Average Particle Diameter µm	53
Percentage of Particles <10µm	0.01
Percentage of Particles >90	2.73
Percentage of Particles 30-90	95.48

This ISOLUTE product has passed Biotage's rigorous QC tests.

Material HPLC Analysis

Mobile Phase: 60%MeOH / 40%H20

Uracil
Acetophenone
Nitrobenzene
Methyl Benzoate
Toluene

Capacity Factor K'	PASS
Selectivity, Alpha 4,3	PASS
End Capping Test	PASS
Exchange Capacity	N/A
Special Recovery Test	N/A

Packed Column and Component Test

Column Flow Resistance	PASS
Column Purity Test (GC)	PASS
Frit Purity Test (GC)	PASS
Material Weight Check	PASS

N/A = Not Applicable

Biotage welcomes feedback on all quality issues.

GPhillips
Quality Control Manager

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Europe and ROW

If your country is not listed here, contact your local distributor. Please visit our website at www.biotage.com for your local distributor contact details.

Reproducible, optimized chemistry for ISOLUTE® and EVOLUTE® EXPRESS sorbents:

- Minimize method development time
- Eliminate need for time-consuming method changes when different batches of sorbent are used

High and reproducible capacities of ISOLUTE® and EVOLUTE® EXPRESS ion exchange sorbents:

- Reproducible high recoveries in ion exchange SPE without using columns with excessively large sorbent mass
- Saves time, money and increases analyte concentration in final extract

High purity sorbents, frits, columns and 96-well plates:

- The purity of all the components used to manufacture ISOLUTE® and EVOLUTE® EXPRESS products are monitored to ensure compatibility with the most demanding applications


ISOLUTE® FILTER+ Plate 25 µm/0.2 µm

ISOLUTE® FILTER+

High Performance Filtration Plates

Protection for Your uHPLC-MS/MS System

Versatile filtration for multiple sample matrices, including:

- Urine samples
- Tissue homogenates
- Pre-precipitated blood samples

ISOLUTE® FILTER+ plates provide effective, workflow friendly filtration of diverse biological samples, and are ideal for use with urine prepared by 'dilute and shoot' prior to uHPLC-MS/MS analysis. ISOLUTE FILTER+ plates are designed to prevent sample particulates from reaching the analytical uHPLC column, protecting the analytical system from particulate build up over time.

The plates contain a wettable 0.2 µm membrane filter for high performance particulate removal, topped by a depth filter to prevent blocking of the membrane and can be processed using manual or automated positive pressure or vacuum manifold processing systems. The plate outlet penetrates into the collection plate to prevent sample cross talk.

Filtered samples will be particulate free and visually clearer.

ISOLUTE® FILTER+

Part Number	Description	Qty.
120-2000-P05	ISOLUTE FILTER+ Plate 25 µm/0.2 µm	5
120-2000-P25	ISOLUTE FILTER+ Plate 25 µm/0.2 µm	25

ISOLUTE® PPT+
Protein Precipitation Products

Fast, Simple Protein Removal

Protein Precipitation Plates

The optimized filtration system in ISOLUTE® PPT+ plates provides an easy to automate solution for efficient protein removal from biological fluid samples.

ISOLUTE® PPT+ Protein Precipitation Plate

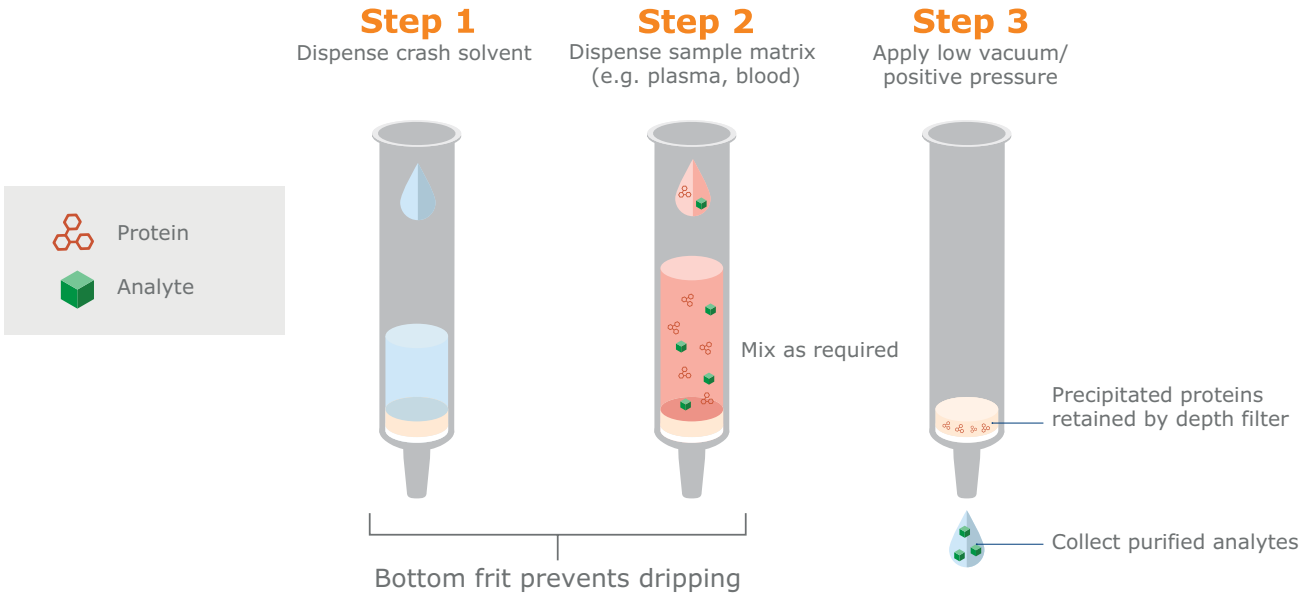
Part Number	Description	Qty.
120-2040-P01	ISOLUTE PPT+ Fixed Well Plate, 2 mL	1

Accessories

Part Number	Description	Qty.
121-5202	Collection plate, 1 mL, Square	50
121-5203	Collection plate, 2 mL, Square	50
121-5213	Collection plate, 2 mL, Round	50

Support Documents for ISOLUTE® PPT+

TN130: Sample Preparation using ISOLUTE PPT+ Protein Precipitation Plates.



Protein precipitation procedure using ISOLUTE® PPT+ plates.

ISOLUTE® HYDRO DME+

Dual Mode Extraction Products

ISOLUTE® HYDRO DME+

Dual Mode Extraction 96-well Plates and Columns

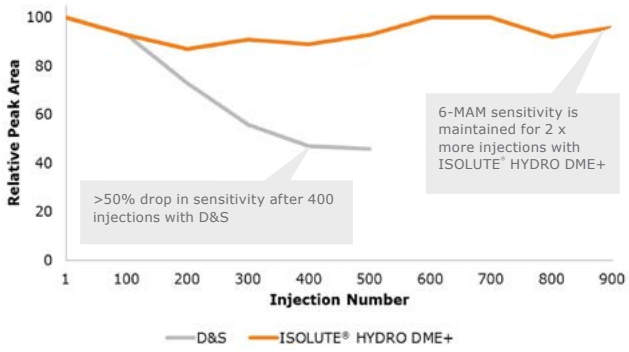
- Simple pass through workflow
- Effective matrix clean up
- In-well/on-column hydrolysis

ISOLUTE® HYDRO DME+ plates and columns provide extremely efficient removal of matrix components and hydrolysis enzyme from urine samples, using a simple pass through workflow.

The easily automatable process requires little to no method development. Samples can be directly injected after clean up, eliminating the need for time consuming evaporation steps.

The inclusion of Biotage® HYDRO frit technology means that urine samples can be hydrolyzed in-situ in the well or column, eliminating the need for post hydrolysis sample transfer steps.

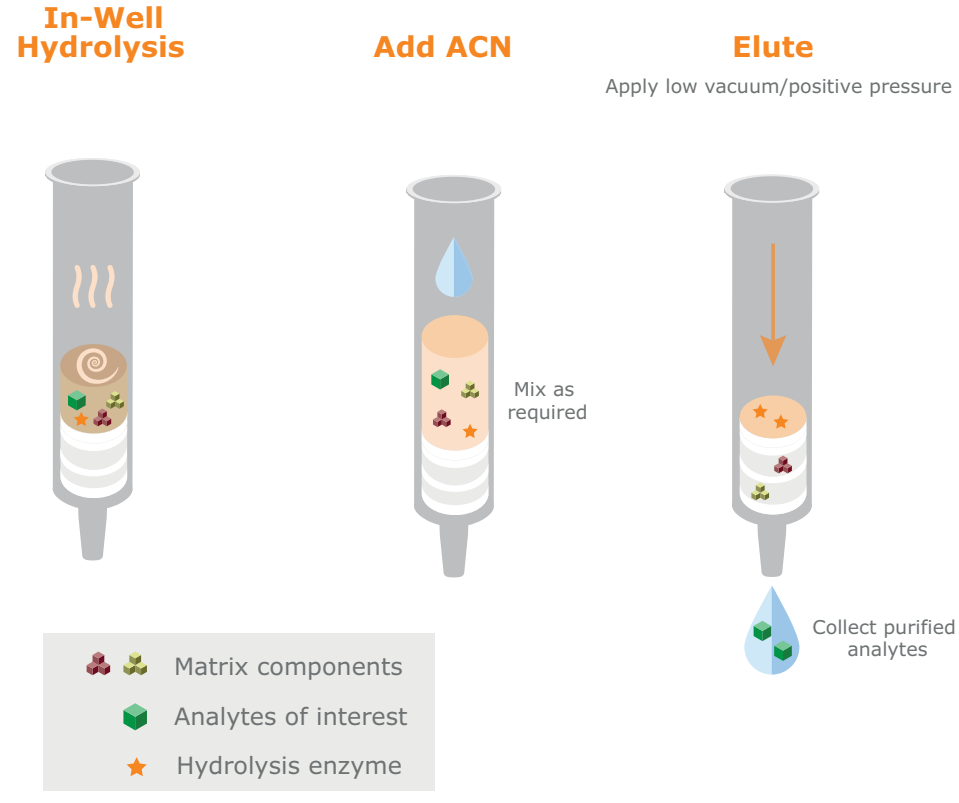
Compared to the dilute and shoot approach, analyte sensitivity is increased, and instrument sensitivity is maintained over multiple injections, improving assay robustness and reducing costly downtime.



ISOLUTE® HYDRO DME+ maintains analyte sensitivity (area count) without significant drop off over multiple injections, whereas D&S sensitivity drops by >50% after 400 injections. This is because of effective matrix removal with ISOLUTE HYDRO DME+. In fact, ISOLUTE HYDRO DME+ maintains signal without significant drop off for more than twice as long. This implies that the time between source cleans is at least 2 x longer than with D&S.

ISOLUTE® HYDRO DME+

Part Number	Description	Qty.
970-0400-PZ01	ISOLUTE HYDRO DME+ 400 mg Plate	1
970-0040-BZ	ISOLUTE HYDRO DME+ 400 mg/3 mL Columns	50



ISOLUTE® HYDRO DME+ urine clean-up workflow with in-situ hydrolysis.

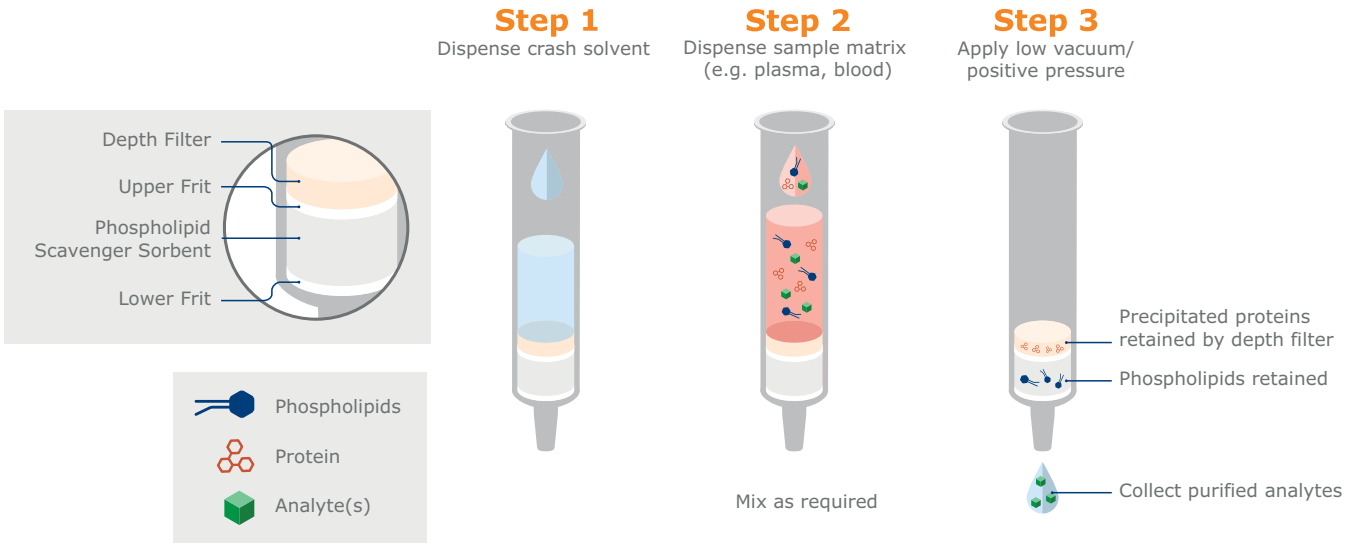
ISOLUTE® PLD+ Protein and Phospholipid Removal Products

Simple, Effective Sample Clean up for LC-MS/MS

ISOLUTE® PLD+

Protein and Phospholipid Removal Columns and Plates

ISOLUTE® PLD+ Protein and Phospholipid Removal products provide a very effective but extremely simple sample clean up for blood based samples prior to LC-MS/MS analysis. Requiring next to no method development, ISOLUTE PLD+ can be integrated quickly and easily into routine workflow, increasing productivity and reducing instrument downtime. ISOLUTE PLD+ products remove ›99 % of plasma proteins and phospholipids, the main causes of ion suppression, leading to cleaner extracts and increased sensitivity (signal-to-noise (S/N)) for a broad range of analytes.



Typical ISOLUTE® PLD+ procedure.

Using a simple solvent crash/filtration based procedure, proteins and phospholipids are simultaneously removed from plasma and other blood based samples while high, reproducible analyte recoveries are maintained. The optimized frit arrangement acts as a depth filter, efficiently trapping precipitated proteins, without blocking or plugging.

ISOLUTE PLD+ plates and columns can be processed using positive pressure, vacuum processing or automated sample processing systems – see page 61 for Automated Sample Processing Products and page 67 for Manual Sample Processing Products.

ISOLUTE® PLD+ Protein and Phospholipid Removal Products

Part Number	Description	Qty.
918-0050-P01	ISOLUTE PLD+ Protein and Phospholipid Removal Plate	1
918-0005-AG	ISOLUTE PLD+ Protein and Phospholipid Columns 50 mg/1 mL (Tabless)	100

Accessories

Part Number	Description	Qty.
121-5202	Collection Plate, 1 mL, Square	50
121-5203	Collection Plate, 2 mL, Square	50
121-5213	Collection Plate, 2 mL, Round	50

For more information, visit www.biotage.com

ISOLUTE® QuEChERS

Fast and Efficient Clean up of Complex Food Samples

ISOLUTE® QuEChERS

ISOLUTE® QuEChERS (**Q**uick, **E**asy, **C**heap, **E**ffective, **R**ugged and **S**afe) products provide simple clean up of complex samples using salt assisted extraction and partitioning, followed by dispersive SPE. The pre-weighed extraction and clean up tubes conform to AOAC and EN methodologies, and include options for waxed and highly pigmented fruit and vegetable samples.

Extraction Tubes

Part Number	Description	Tube	Pack Size	$MgSO_4$	Na Acetate	Na Citrate	Na Citrate sesqui-hydrate	NaCl
Q0010-15V	15 g QuEChERS AOAC 15 mL Extraction Tube	15 mL	25	6 g	1.5 g			
Q0020-15V	10 g QuEChERS EN 15 mL Extraction Tube	15 mL	25	4 g		1 g	0.5 g	1 g

Clean up Tubes

Part Number	Description	Tube	Pack Size	PSA	$MgSO_4$ (purest)	C18(EC)	GCB
Q0030-15V	AOAC Fruit and Vegetables Clean up Tube	15 mL	25	400 mg	1200 mg		
Q0035-15V	EN Fruit and Vegetable Clean up Tube	15 mL	25	150 mg	900 mg		
Q0050-15V	AOAC Waxed Fruit and Vegetables Clean up Tube	15 mL	25	400 mg	1200 mg	400 mg	
Q0060-15V	EN Waxed Fruit and Vegetables Clean up Tube	15 mL	25	150 mg	900 mg	150 mg	
Q0070-15V	AOAC Pigmented Fruit and Vegetables Clean up Tube	15 mL	25	400 mg	1200 mg		400 mg
Q0080-15V	EN Pigmented Fruit and Vegetables Clean up Tube	15 mL	25	150 mg	900 mg		15 mg
Q0090-15V	EN Highly Pigmented Fruit and Vegetables Clean up Tube	15 mL	25	150 mg	900 mg		45 mg

Centrifuge Tubes

Part Number	Description	Tube	Pack Size
Q0000-50V	50 mL Centrifuge Tube with Rack	50 mL	25

ISOLUTE® SLE+ Supported Liquid Extraction Products

Simple Load-Wait-Elute Methodology

ISOLUTE® SLE+

Supported Liquid Extraction Columns and Plates

ISOLUTE® SLE+ Supported Liquid Extraction products are designed to provide stress free extraction of analytes from biological fluids, using a simple **Load-Wait-Elute** methodology.

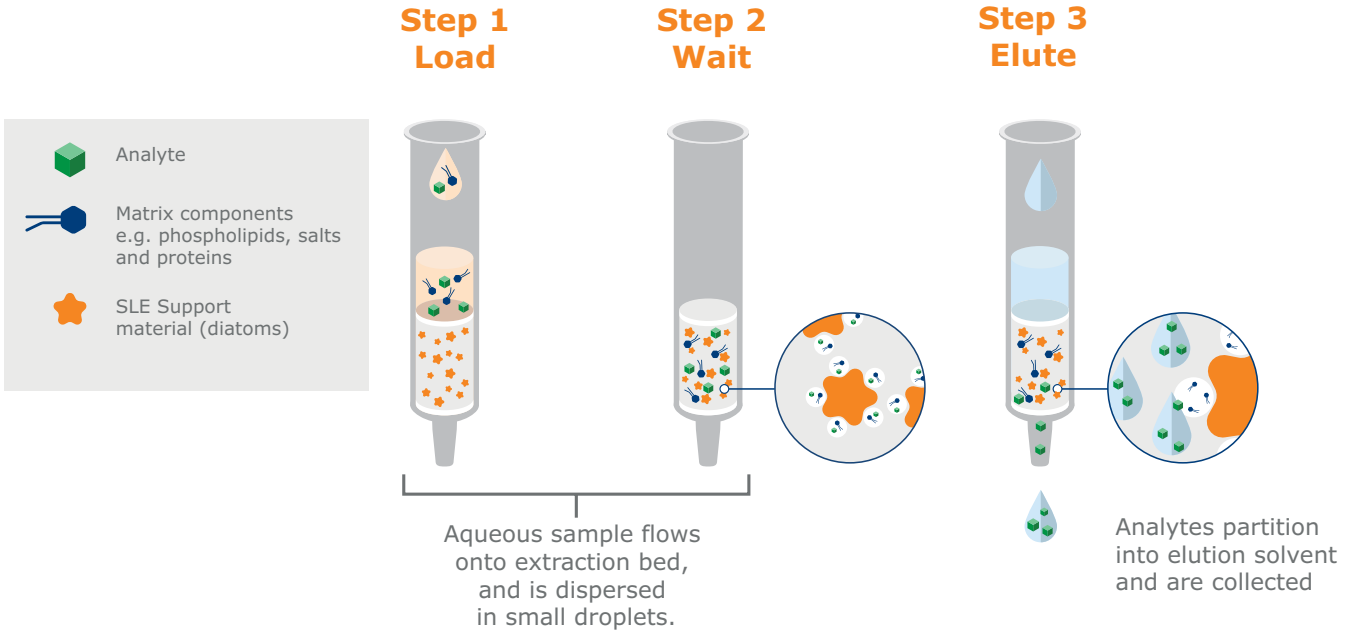
The supported liquid extraction (SLE) process is analogous to traditional liquid-liquid extraction (LLE) and utilizes the same water immiscible solvent systems for analyte extraction. Instead of shaking the two immiscible phases together, in SLE, the aqueous sample is immobilized on an inert support, and the organic phase flows through the support, eliminating problems such as emulsion formation and low analyte recoveries.

Methods with high analyte recoveries, and clean, protein and phospholipid free extracts, are easy to develop and automation is simple.

Select the correct ISOLUTE SLE+ product based on the volume of sample to be extracted (**see table below**). Extraction solvent volumes are also listed.

Recommended sample and elution volumes for ISOLUTE® SLE+ products.

Product Description	Maximum Load Volume	Elution Protocol/Volume
200 µL 96-well Plate	200 µL	1 x 1 mL
400 µL 96-well Plate	400 µL	2 x 900 µL or 3 x 700 µL
1 mL 48-well Plate	1 mL	5 x 1 mL
200 µL Array well/Plate	200 µL	2 x 600 µL
400 µL Array well/Plate	400 µL	3 x 750 µL
400 µL Column	400 µL	2 x 900 µL
1 mL Column	1 mL	2 x 2.5 mL
2 mL Column	2 mL	2 x 5 mL
5 mL Column	5 mL	3 x 8 mL
10 mL Column	10 mL	2 x 20 mL



Typical ISOLUTE® SLE+ procedure.

ISOLUTE® SLE+ 1 mL Sample Volume

ISOLUTE® SLE+ 1 mL Supported Liquid Extraction Plate (48-well)

96-well Plates

Part Number	Description	Qty.
820-0200-P01	ISOLUTE SLE+ 200 µL Supported Liquid Extraction Plate	1
820-0400-P01	ISOLUTE SLE+ 400 µL Supported Liquid Extraction Plate	1

48-well Plates

Extract 1 mL sample volumes in high throughput microplate format

Part Number	Description	Qty.
820-1000-Q01	ISOLUTE SLE+ 1 mL Supported Liquid Extraction Plate (48-well)	1

Columns

Part Number	Description	Qty.
820-0055-B	ISOLUTE SLE+ 400 µL Sample Volume	50
820-0055-BG	ISOLUTE SLE+ 400 µL Sample Volume (Tabless)	50
820-0140-C	ISOLUTE SLE+ 1 mL Sample Volume	30
820-0140-CG	ISOLUTE SLE+ 1 mL Sample Volume (Tabless)	30
820-0290-D	ISOLUTE SLE+ 2 mL Sample Volume	20
820-0690-E	ISOLUTE SLE+ 5 mL Sample Volume	20
820-1420-F	ISOLUTE SLE+ 10 mL Sample Volume	16

Bulk Packs

To reduce packaging and improve workflow, ISOLUTE® SLE+ columns are available in bulk pack sizes

Part Number	Description	Qty.
820-0055-B-500	ISOLUTE SLE+ 400 µL Sample Volume	500
820-0055-BG-500	ISOLUTE SLE+ 400 µL Sample Volume (Tabless)	500
820-0140-C-1000	ISOLUTE SLE+ 1 mL Sample Volume	1000
820-0140-CG-1000	ISOLUTE SLE+ 1 mL Sample Volume (Tabless)	1000
820-0290-D-1000	ISOLUTE SLE+ 2 mL Sample Volume	1000

Array Wells

Part Number	Description	Qty.
820-0200-T	ISOLUTE SLE+ 200 µL Array Wells	100
820-0400-T	ISOLUTE SLE+ 400 µL Array Wells	100
120-1000-P01	ISOLUTE Array Base Plate	1
120-1200	ISOLUTE Base Plate Sealing Strips (strips of 8)	50

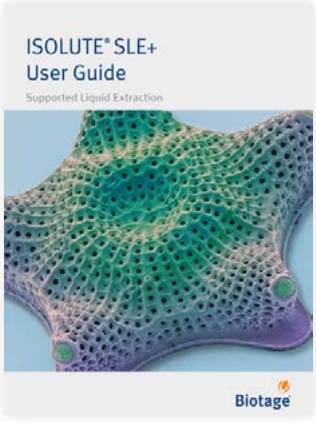
Accessories

Part Number	Description	Qty.
121-5202	Collection plate, 1 mL, Square	50
121-5203	Collection plate, 2 mL, Square	50
121-5213	Collection plate, 2 mL, Round	50
121-5210	Collection plate, 5 mL, 48-Well	20

ISOLUTE® SLE+ User Guide

For further information download the ISOLUTE® SLE+ User Guide from **www.biotage.com**.

Literature part number UI304.



Biotage are constantly developing new applications on ISOLUTE® SLE+ products. Visit **www.biotage.com** for the latest information.


EVOLUTE® EXPRESS CX
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EVOLUTE® SPE Products

Polymeric SPE Products

EVOLUTE® EXPRESS

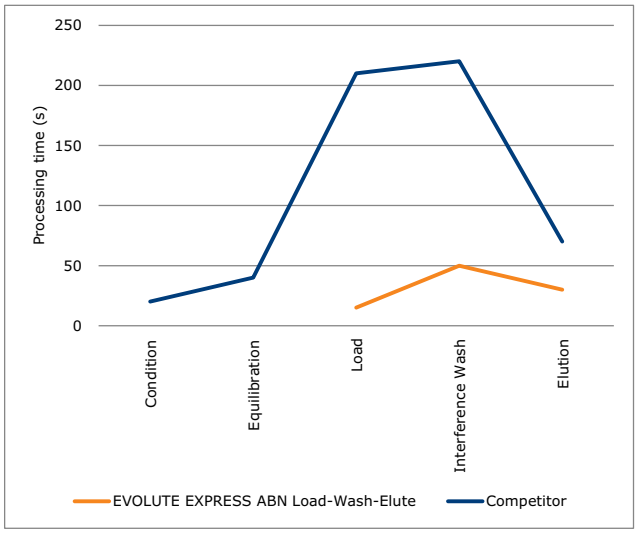
Load-Wash-Elute SPE Columns and Plates

EVOLUTE® EXPRESS represents a leap forward in high throughput solid phase extraction. The EVOLUTE EXPRESS range of SPE columns and 96-well plates combine powerful EVOLUTE sorbent chemistry with innovative features that enhance productivity. With improved flow-through characteristics and by eliminating the need for conditioning and equilibration, sample preparation time can be cut by more than 1/3 using the simplified **Load-Wash-Elute** procedure.

Standard SPE Procedure	EVOLUTE® EXPRESS Load-Wash-Elute Procedure
Condition	Not Required
Equilibrate	Not Required
Load	Load
Wash	Wash
Elute	Elute

Fast and Efficient Flow Rates

EVOLUTE® EXPRESS products dramatically improve flow characteristics and enhance sample preparation productivity. Flow rates are fast and consistent even when loading aqueous biological fluid sample directly onto a dry column.



10 mg/1 mL EVOLUTE® EXPRESS vs. competitor 10 mg/1 mL equivalent. N=12 for each product. Columns processed using the Biotage® PRESSURE+ instrument. Columns processed at 1 psi unless otherwise stated. Sample was pooled human urine diluted 1:3 with water.

Due to the difficulty in measuring times for each individual column, figures for the time to complete flow for the slowest flowing column are shown. For example for 10 mg EVOLUTE EXPRESS ABN load-wash-elute method, all samples loaded in less than 15 s, whereas for the competitor product, sample loading on all columns was complete after 210 s, and increased pressure (up to 5 psi) was required to load the total volume.

EVOLUTE® polymer-based SPE sorbents extract neutral, acidic and basic analytes from biological fluids and other aqueous matrices, the EVOLUTE retention and elution characteristics are completely predictable and extractions on these robust sorbents are not affected by drying of the sorbent bed during sample processing.

EVOLUTE® EXPRESS ABN

» For simultaneous extraction of acidic, basic and/or neutral analytes

EVOLUTE® EXPRESS CX

» For extraction of basic analytes

EVOLUTE® EXPRESS WCX

» For extraction of strongly basic analytes

EVOLUTE® EXPRESS AX

» For extraction of acidic analytes

EVOLUTE® EXPRESS WAX

» For extraction of strongly acidic analytes

Flexible Format for Cost Efficiency

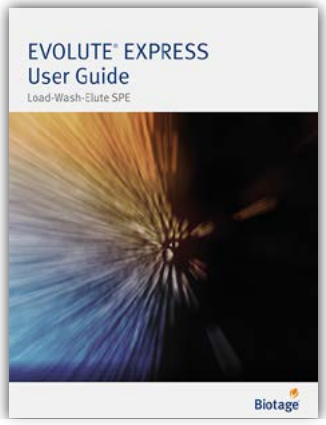
EVOLUTE® EXPRESS columns are supplied as standard in the tabless (or flangeless) format. Up to 96 of the 1 mL format columns can populate a base plate for processing using the Biotage® Extrahera™, PRESSURE+ or vacuum manifold, as a cost effective, modular alternative to a 96-well plate.

Improved Workflow with In-well Hydrolysis

NEW EVOLUTE HYDRO solid phase extraction plates combine EVOLUTE SPE sorbents with Hydro frit technology, enabling effective in-situ in-well hydrolysis of urine samples. Sample clean-up is performed in the same plate, without the need to transfer samples, saving time and reducing risky sample handling steps.

EVOLUTE® EXPRESS User Guide

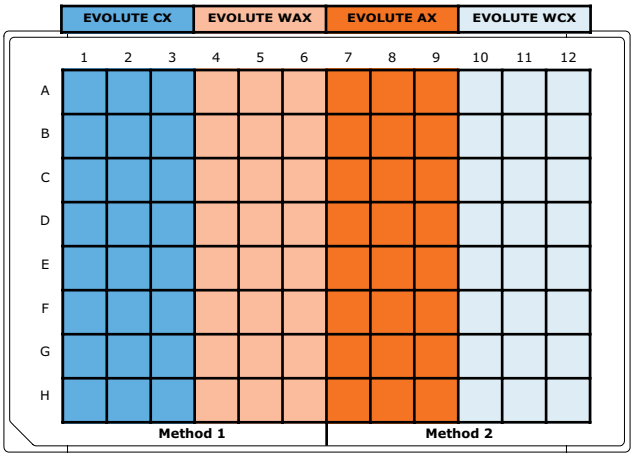
For more information download the EVOLUTE® EXPRESS User Guide from www.biotage.com **www.biotage.com**. Literature part number UI330.



Biotage are constantly developing new applications on EVOLUTE® EXPRESS products. Visit www.biotage.com for the latest information.

EVOLUTE® EXPRESS Sorbent Selection Plate

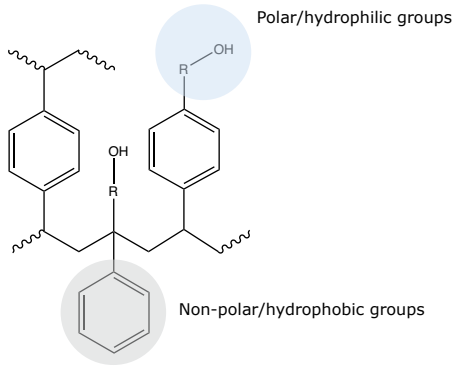
The EVOLUTE® EXPRESS Sorbent Selection plate contains the four mixed-mode EVOLUTE sorbents CX, WCX, AX and WAX on one plate.



EVOLUTE® EXPRESS Sorbent Selection Plate

Part Number	Description	Qty.
650-0010-PX01	EVOLUTE EXPRESS 10 mg Sorbent Selection Plate	1
650-0030-PX01	EVOLUTE EXPRESS 30 mg Sorbent Selection Plate	1

EVOLUTE® EXPRESS ABN



Chemical structure of EVOLUTE® EXPRESS ABN

Chemical Description: Water wettable polystyrene-divinylbenzene incorporating non-ionizable hydroxyl groups.

Average particle size	30 µm, 50 µm
Pore diameter	40 Å
Sorbent Type	Wettable non-polar sorbent with no secondary interactions

Application: EVOLUTE® ABN can be used to extract a diverse range of acidic, neutral and basic analytes from biological fluids and other aqueous matrices. Performance is not adversely affected by drying the sorbent.

EVOLUTE® EXPRESS ABN Tabless SPE Columns

Part Number	Description	Qty.
600-0001-AXG	EVOLUTE EXPRESS ABN 10 mg/1 mL	100
600-0003-AXG	EVOLUTE EXPRESS ABN 30 mg/1 mL	100
610-0006-BXG	EVOLUTE EXPRESS ABN 60 mg/3 mL	50
610-0010-BXG	EVOLUTE EXPRESS ABN 100 mg/3 mL	50
610-0015-CXG	EVOLUTE EXPRESS ABN 150 mg/6 mL	30
610-0050-CXG	EVOLUTE EXPRESS ABN 500 mg/6 mL	30

EVOLUTE® EXPRESS ABN 96-well SPE Plates

Part Number	Description	Qty.
600-0010-PX01	EVOLUTE EXPRESS ABN 10 mg Plate	1
600-0030-PX01	EVOLUTE EXPRESS ABN 30 mg Plate	1

EVOLUTE® EXPRESS ABN On-line Cartridges

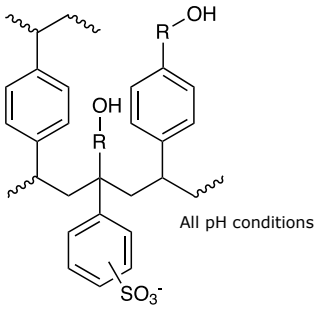
Part Number	Description	Qty.
OSPE-620-32150	EVOLUTE® EXPRESS ABN On-line SPE Cartridge 30 x 2.1 mm	1

6 mL EVOLUTE EXPRESS ABN Tabless Column

Support Documents for EVOLUTE® EXPRESS ABN

PPS423: EVOLUTE EXPRESS On-line Cartridges for Integrated Sample Preparation and Analysis

EVOLUTE® EXPRESS CX



Chemical structure of EVOLUTE® EXPRESS CX

Chemical Description: Sulfonic acid modified polystyrene-divinylbenzene incorporating non-ionizable hydroxyl groups.

Average particle size	30 µm, 50 µm
Pore diameter	40 Å
Sorbent Type	Mixed-mode non-polar/strong cation exchange
Exchange capacity	0.5 mmol/g

Application: EVOLUTE® CX can be used to extract basic analytes from biological fluids and other aqueous matrices. Performance is not adversely affected by drying the sorbent.

EVOLUTE® EXPRESS CX Tabless SPE Columns

Part Number	Description	Qty.
601-0001-AXG	EVOLUTE EXPRESS CX 10 mg/1 mL	100
601-0003-AXG	EVOLUTE EXPRESS CX 30 mg/1 mL	100
611-0006-BXG	EVOLUTE EXPRESS CX 60 mg/3 mL	50
611-0010-BXG	EVOLUTE EXPRESS CX 100 mg/3 mL	50
611-0015-CXG	EVOLUTE EXPRESS CX 150 mg/6 mL	30
611-0050-CXG	EVOLUTE EXPRESS CX 500 mg/6 mL	30

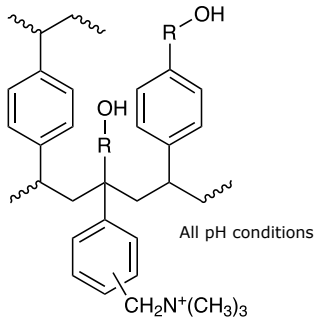
EVOLUTE® EXPRESS CX 96-well SPE Plates

Part Number	Description	Qty.
601-0010-PX01	EVOLUTE EXPRESS CX 10 mg Plate	1
601-0030-PX01	EVOLUTE EXPRESS CX 30 mg Plate	1

1 mL EVOLUTE® EXPRESS CX Tabless Column

EVOLUTE EXPRESS products can be used with the Load-Wash-Elute procedure. See **www.biotage.com** for more information.

EVOLUTE® EXPRESS AX



Chemical structure of EVOLUTE® EXPRESS AX

Chemical Description: Quaternary amine modified polystyrene-divinylbenzene incorporating non-ionizable hydroxyl groups.

Average particle size	30 µm, 50 µm
Pore diameter	40 Å
Sorbent Type	Mixed-mode non-polar/strong anion exchange
Exchange capacity	0.7 mmol/g

Application: EVOLUTE® AX can be used to extract acidic analytes from biological fluids and other aqueous matrices. Performance is not adversely affected by drying the sorbent.

EVOLUTE® EXPRESS AX Tabless SPE Columns

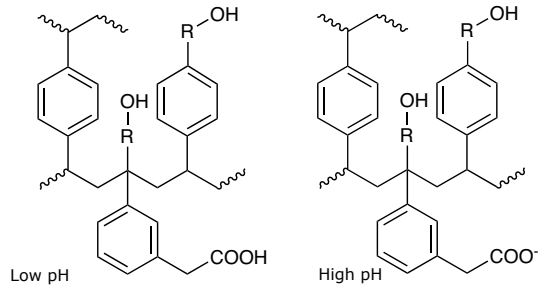
Part Number	Description	Qty.
603-0001-AXG	EVOLUTE EXPRESS AX 10 mg/1 mL	100
603-0003-AXG	EVOLUTE EXPRESS AX 30 mg/1 mL	100
613-0006-BXG	EVOLUTE EXPRESS AX 60 mg/3 mL	50
613-0010-BXG	EVOLUTE EXPRESS AX 100 mg/3 mL	50
613-0015-CXG	EVOLUTE EXPRESS AX 150 mg/6 mL	30
613-0050-CXG	EVOLUTE EXPRESS AX 500 mg/6 mL	30

EVOLUTE® EXPRESS AX 96-well SPE Plates

Part Number	Description	Qty.
603-0010-PX01	EVOLUTE EXPRESS AX 10 mg Plate	1
603-0030-PX01	EVOLUTE EXPRESS AX 30 mg Plate	1

3 mL EVOLUTE® EXPRESS AX Tabless Column

EVOLUTE® EXPRESS WCX



Chemical structure of EVOLUTE® EXPRESS WCX

Chemical Description: Carboxylic acid modified polystyrene-divinylbenzene incorporating non-ionizable hydroxyl groups.

Average particle size	30 µm, 50 µm
Pore diameter	40 Å
Sorbent Type	Mixed-mode non-polar/weak cation exchange (pK_a~5)
Exchange capacity	0.4 mmol/g

Application: EVOLUTE® WCX can be used to extract strongly basic analytes (e.g. quaternary amines) from biological fluids and other aqueous matrices. Performance is not adversely affected by drying the sorbent.

EVOLUTE® EXPRESS WCX Tabless SPE Columns

Part Number	Description	Qty.
602-0001-AXG	EVOLUTE EXPRESS WCX 10 mg/1 mL	100
602-0003-AXG	EVOLUTE EXPRESS WCX 30 mg/1 mL	100
612-0006-BXG	EVOLUTE EXPRESS WCX 60 mg/3 mL	50
612-0010-BXG	EVOLUTE EXPRESS WCX 100 mg/3 mL	50
612-0015-CXG	EVOLUTE EXPRESS WCX 150 mg/6 mL	30
612-0050-CXG	EVOLUTE EXPRESS WCX 500 mg/6 mL	30

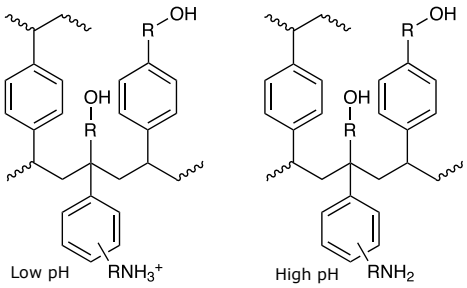
EVOLUTE® EXPRESS WCX 96-well SPE Plates

Part Number	Description	Qty.
602-0010-PX01	EVOLUTE EXPRESS WCX 10 mg Plate	1
602-0030-PX01	EVOLUTE EXPRESS WCX 30 mg Plate	1

10 mg EVOLUTE® EXPRESS WCX 96-well Plate

EVOLUTE EXPRESS products can be used with the Load-Wash-Elute procedure. See **www.biotage.com** for more information.

EVOLUTE® EXPRESS WAX



Chemical structure of EVOLUTE® EXPRESS WAX

Chemical Description: Primary-secondary amine modified polystyrene-divinylbenzene incorporating non-ionizable hydroxyl groups.

Average particle size	30 µm, 50 µm
Pore diameter	40 Å
Sorbent Type	Mixed-mode non-polar/weak anion exchange (pK_a~10)
Exchange capacity	0.3 mmol/g, 0.7 mmol/g

Application: EVOLUTE® WAX can be used to extract strongly acidic analytes (e.g. sulfonic acids) from biological fluids and other aqueous matrices. Performance is not adversely affected by drying the sorbent.

EVOLUTE® EXPRESS WAX Tabless SPE Columns

Part Number	Description	Qty.
604-0001-AXG	EVOLUTE EXPRESS WAX 10 mg/1 mL	100
604-0003-AXG	EVOLUTE EXPRESS WAX 30 mg/1 mL	100
614-0006-BXG	EVOLUTE EXPRESS WAX 60 mg/3 mL	50
614-0010-BXG	EVOLUTE EXPRESS WAX 100 mg/3 mL	50
614-0015-CXG	EVOLUTE EXPRESS WAX 150 mg/6 mL	30
614-0050-CXG	EVOLUTE EXPRESS WAX 500 mg/6 mL	30

EVOLUTE® EXPRESS WAX 96-well SPE Plates

Part Number	Description	Qty.
604-0010-PX01	EVOLUTE EXPRESS WAX 10 mg Plate	1
604-0030-PX01	EVOLUTE EXPRESS WAX 30 mg Plate	1

3 mL EVOLUTE® EXPRESS WAX Tabless Column.

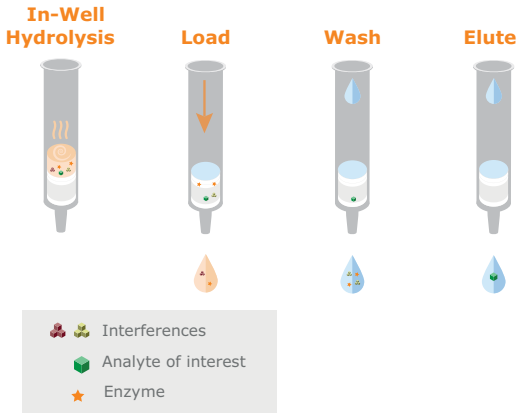
EVOLUTE EXPRESS products can be used with the Load-Wash-Elute procedure.

See **www.biotage.com** for more information.

EVOLUTE® HYDRO SPE Plates and Columns

EVOLUTE® HYDRO plates and columns contain the Hydro frit technology system, which reliably holds up sample and hydrolysis enzyme during incubation at elevated temperatures, and reduces clogging during subsequent clean up steps.

By combining Hydro frit technology with water wettable EVOLUTE sorbents, EVOLUTE HYDRO SPE products allow the hydrolyzed sample to be loaded directly onto the SPE bed for clean-up. Conditioning and equilibration steps are eliminated, saving time and reducing costs.



EVOLUTE® HYDRO SPE Plates

Part Number	Description	Qty.
601-0010-PZ01	EVOLUTE HYDRO CX 10 mg Plate	1
601-0030-PZ01	EVOLUTE HYDRO CX 30 mg Plate	1
600-0010-PZ01	EVOLUTE HYDRO ABN 10 mg Plate	1
600-0030-PZ01	EVOLUTE HYDRO ABN 30 mg Plate	1

EVOLUTE® HYDRO SPE Columns

Part Number	Description	Qty.
600-0001-AZG	EVOLUTE® HYDRO ABN 10 mg/1 mL (Tabless)	100
600-0003-AZG	EVOLUTE® HYDRO ABN 30 mg/1 mL (Tabless)	100
610-0006-BZG	EVOLUTE® HYDRO ABN 60 mg/3 mL (Tabless)	50
610-0015-CZG	EVOLUTE® HYDRO ABN 150 mg/6 mL (Tabless)	30
601-0001-AZG	EVOLUTE® HYDRO CX 10 mg/1 mL (Tabless)	100
601-0003-AZG	EVOLUTE® HYDRO CX 30 mg/1 mL (Tabless)	100
611-0006-BZG	EVOLUTE® HYDRO CX 60 mg/3 mL / (Tabless)	50
611-0015-CZG	EVOLUTE® HYDRO CX 150 mg/6 mL (Tabless)	30

'Tabbed' columns are also available (remove 'G' suffix from part number). For more information, visit www.biotage.com and download PPS456.

Biotage® Mikro

Solid Phase Extraction Microelution Plates

Biotage® Mikro

Solid Phase Extraction Microelution Plates

Biotage® Mikro SPE plates provide excellent sample clean up while enhancing manual or automated sample preparation workflow and delivering reproducible, high sensitivity analytical results.

Immediate Gains in Analyte Sensitivity

Biotage® Mikro products are designed with very low dead volumes in the extraction tips, meaning less elution solvent is needed to recover the analytes. Elution in much smaller volumes (as low as 20 µL for an optimized method) means that you have a much higher analyte concentration in the eluent compared to standard format SPE, giving you immediate sensitivity improvements.

Enhanced Workflow

Combining reliable EVOLUTE® SPE sorbents with low elution volumes, Biotage® Mikro SPE plates allow you speed up your SPE by eliminating up to 3 of the steps required in traditional SPE workflows, and deliver high analyte recoveries in less time.

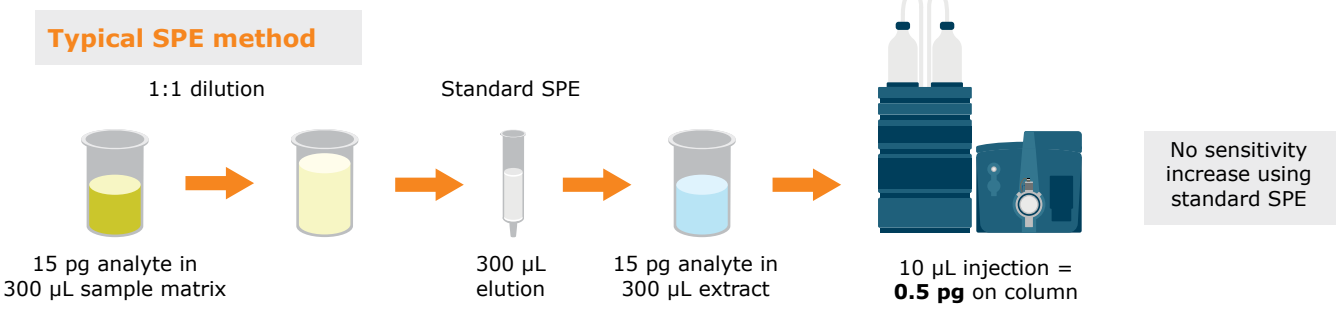
- Load-Wash-Elute SPE procedures eliminate traditional conditioning and equilibration steps
- Low elution volumes mean troublesome evaporation steps can be avoided

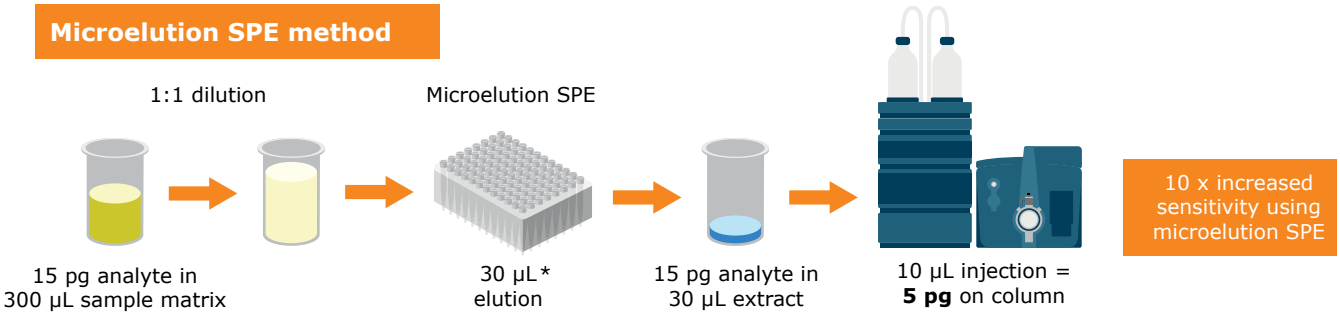
Microelution with the EVOLUTE® Advantage

Available packed with the full range of EVOLUTE® sorbents, Biotage® Mikro plates deliver high analyte recoveries and cleaner extracts whatever your application.

Biotage® Mikro SPE Plates

Part Number	Description	Qty.
600-0002-LVP	Biotage Mikro ABN 2 mg Plate	1
601-0002-LVP	Biotage Mikro CX 2 mg Plate	1
602-0002-LVP	Biotage Mikro WCX 2 mg Plate	1
603-0002-LVP	Biotage Mikro AX 2 mg Plate	1
604-0002-LVP	Biotage Mikro WAX 2 mg Plate	1



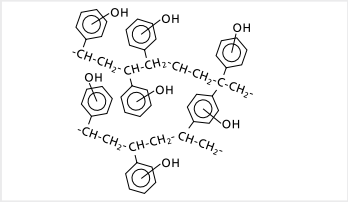


*for an optimized method, elution is possible in volumes as low as 20 µL. This is highly analyte and method dependent.

ISOLUTE® SPE Products

Sorbents and Formats for a Wide Range of Sample Preparation Applications

ISOLUTE® ENV+



Chemical structure of ISOLUTE® ENV+, a hydroxylated polystyrene divinylbenzene co-polymer

Average particle size	110 µm
Pore diameter	800 Å
Sorbent Type	Non-Polar

Application: Extraction of very polar compounds that are not retained by C8 and C18 non-polar silica based sorbents.

ISOLUTE® ENV+ SPE Columns

Part Number	Description	Qty.
915-0001-A	ISOLUTE ENV+ 10 mg/1 mL	100
915-0002-A	ISOLUTE ENV+ 25 mg/1 mL	100
915-0002-G	ISOLUTE ENV+ 25 mg/10 mL	50
915-0005-A	ISOLUTE ENV+ 50 mg/1 mL	100
915-0005-AG	ISOLUTE ENV+ 50 mg/1 mL (Tabless)*	100
915-0005-B	ISOLUTE ENV+ 50 mg/3 mL	50
915-0005-G	ISOLUTE ENV+ 50 mg/10 mL	50
915-0010-A	ISOLUTE ENV+ 100 mg/1 mL	100
915-0010-B	ISOLUTE ENV+ 100 mg/3 mL	50
915-0010-BA	ISOLUTE ENV+ 100 mg/3 mL (ASPEC Adaptor)	50
915-0010-BG	ISOLUTE ENV+ 100 mg/3 mL (Tabless)*	50
915-0010-C	ISOLUTE ENV+ 100 mg/6 mL	30
915-0010-H	ISOLUTE ENV+ 100 mg/10 mL	50
915-0020-B	ISOLUTE ENV+ 200 mg/3 mL	50
915-0020-C	ISOLUTE ENV+ 200 mg/6 mL	30
915-0020-CD	ISOLUTE ENV+ 200 mg/6 mL (Depth filter)	30
915-0020-CG	ISOLUTE ENV+ 200 mg/6 mL (Tabless)*	30
915-0050-B	ISOLUTE ENV+ 500 mg/3 mL	50
915-0050-BG	ISOLUTE ENV+ 500 mg/3 mL (Tabless)*	50
915-0050-C	ISOLUTE ENV+ 500 mg/6 mL	30
915-0050-D	ISOLUTE ENV+ 500 mg/15 mL	20
915-0100-C	ISOLUTE ENV+ 1 g/6 mL	30
915-0100-E	ISOLUTE ENV+ 1 g/25 mL	20

ISOLUTE® ENV+ Fixed Well Plates

Part Number	Description	Qty.
915-0010-P01	ISOLUTE-96 ENV+ 10 mg plate	1
915-0040-P01	ISOLUTE-96 ENV+ 40 mg plate	1

ISOLUTE® ENV+ On-line Cartridges

Part Number	Description	Qty.
OSPE-916-32150	ISOLUTE® ENV+ On-line SPE Cartridge 30 x 2.1 mm	1

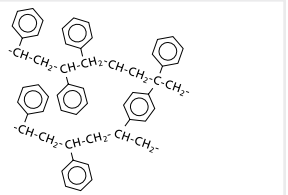
Support Documents for ISOLUTE® ENV+

TN109: Method Development in Solid Phase Extraction using ISOLUTE ENV+ SPE Columns for the Extraction of Aqueous Samples

PPS422: ISOLUTE ENV+ On-line SPE Cartridges

1 mL ISOLUTE® ENV+ Column

ISOLUTE® 101



Chemical structure of ISOLUTE® 101, an unmodified polystyrene divinylbenzene co-polymer

Average particle size	50 µm
Pore diameter	100 Å
Sorbent Type	Non-Polar

Application: Extraction of polar compounds from aqueous sample matrices.

ISOLUTE® 101 SPE Columns

Part Number	Description	Qty.
101-0002-A	ISOLUTE 101 25 mg/1 mL	100
101-0010-B	ISOLUTE 101 100 mg/3 mL	50
101-0020-B	ISOLUTE 101 200 mg/3 mL	50
101-0020-C	ISOLUTE 101 200 mg/6 mL	30
101-0050-B	ISOLUTE 101 500 mg/3 mL	50
101-0050-C	ISOLUTE 101 500 mg/6 mL	30

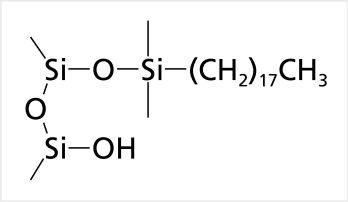
Support Documents for ISOLUTE® 101

TN119: Method Development in Solid Phase Extraction using ISOLUTE 101 SPE Columns for the Extraction of Aqueous Samples

3 mL ISOLUTE® 101 Column

*Tabless columns for use with PRESSURE+ Positive Pressure Manifolds and other automated SPE systems. Other tabless columns are available, contact Biotage for details.

ISOLUTE® C18



Chemical structure of C18 Octadecyl (non-endcapped) silane covalently bonded to the surface of a silica particle

Average particle size	50 µm
Pore diameter	60 Å
Sorbent Type	Non-Polar

Application: Most commonly used C18 sorbent for the extraction of acidic, neutral and basic compounds from aqueous matrices. Secondary silanol or ionic interactions can be used to enhance extract purity and method robustness for basic compounds.

ISOLUTE® C18 SPE Columns

Part Number	Description	Qty.
220-0002-A	ISOLUTE C18 25 mg/1 mL	100
220-0005-A	ISOLUTE C18 50 mg/1 mL	100
220-0010-A	ISOLUTE C18 100 mg/1 mL	100
220-0010-AGA	ISOLUTE C18 100 mg/1 mL (Tabless, ASPEC Adaptor)	100
220-0010-B	ISOLUTE C18 100 mg/3 mL	50
220-0010-BG	ISOLUTE C18 100 mg/3 mL (Tabless)*	50
220-0010-G	ISOLUTE C18 100 mg/10 mL	50
220-0020-B	ISOLUTE C18 200 mg/3 mL	50
220-0020-C	ISOLUTE C18 200 mg/6 mL	30
220-0020-H	ISOLUTE C18 200 mg/10 mL	50
220-0050-B	ISOLUTE C18 500 mg/3 mL	50
220-0050-BG	ISOLUTE C18 500 mg/3 mL (Tabless)*	50
220-0050-C	ISOLUTE C18 500 mg/6 mL	30
220-0050-CG	ISOLUTE C18 500 mg/6 mL (Tabless)*	30
220-0050-H	ISOLUTE C18 500 mg/10 mL	50
220-0100-B	ISOLUTE C18 1 g/3 mL	50
220-0100-C	ISOLUTE C18 1 g/6 mL	30
220-0100-CG	ISOLUTE C18 1 g/6 mL (Tabless)*	30
220-0200-C	ISOLUTE C18 2 g/6 mL	30
220-0200-D	ISOLUTE C18 2 g/15 mL	20
220-0500-E	ISOLUTE C18 5 g/25 mL	20
220-1000-F	ISOLUTE C18 10 g/70 mL	16
220-2000-F	ISOLUTE C18 20 g/70 mL	16

ISOLUTE®-96 C18 Fixed Well Plates

Part Number	Description	Qty.
220-0025-P01	ISOLUTE-96 C18 25 mg plate	1
220-0050-P01	ISOLUTE-96 C18 50 mg plate	1
220-0100-P01	ISOLUTE-96 C18 100 mg plate	1

Also available in bulk sorbent, see page 54.

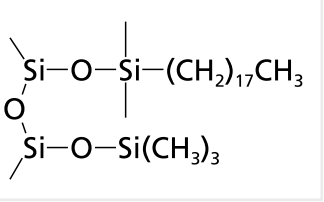
Support Documents for ISOLUTE® C18

TN101: Method Development in Solid Phase Extraction using Non-polar ISOLUTE® SPE Columns for the Extraction of Aqueous Samples

TN112: General Approach to the Extraction of Basic Drugs from Biological Fluids using Non-polar Non-endcapped Sorbents

TN126: Method Development in Solid Phase Extraction using Non-polar ISOLUTE® SPE Columns for the Extraction of Drugs from Biological Fluid Samples

ISOLUTE® C18(EC)



Chemical structure of C18 Octadecyl (endcapped) silane and trimethyl silyl group covalently bonded to the surface of a silica particle

Average particle size	50 µm
Pore diameter	60 Å
Sorbent Type	Non-Polar

Application: Extraction of polar and non-polar compounds from aqueous sample matrices. Reduced secondary interactions compared to ISOLUTE C18.

ISOLUTE® C18(EC) SPE Columns

Part Number	Description	Qty.
221-0002-A	ISOLUTE C18(EC) 25 mg/1 mL	100
221-0005-A	ISOLUTE C18(EC) 50 mg/1 mL	100
221-0010-A	ISOLUTE C18(EC) 100 mg/1 mL	100
221-0010-B	ISOLUTE C18(EC) 100 mg/3 mL	50
221-0010-C	ISOLUTE C18(EC) 100 mg/6 mL	30
221-0010-G	ISOLUTE C18(EC) 100 mg/10 mL	50
221-0020-B	ISOLUTE C18(EC) 200 mg/3 mL	50
221-0020-C	ISOLUTE C18(EC) 200 mg/6 mL	30
221-0020-H	ISOLUTE C18(EC) 200 mg/10 mL	50
221-0050-B	ISOLUTE C18(EC) 500 mg/3 mL	50
221-0050-C	ISOLUTE C18(EC) 500 mg/6 mL	30
221-0050-CD	ISOLUTE C18(EC) 500 mg/6 mL (Depth filter)	30
221-0050-H	ISOLUTE C18(EC) 500 mg/10 mL	50
221-0100-B	ISOLUTE C18(EC) 1 g/3 mL	50
221-0100-C	ISOLUTE C18(EC) 1 g/6 mL	30
221-0100-CD	ISOLUTE C18(EC) 1 g/6 mL (Depth filter)	30
221-0100-L	ISOLUTE C18(EC) 1 g/6 mL (Glass)	30
221-0200-C	ISOLUTE C18(EC) 2 g/6 mL	30
221-0200-D	ISOLUTE C18(EC) 2 g/15 mL	20
221-0500-E	ISOLUTE C18(EC) 5 g/25 mL	20
221-1000-F	ISOLUTE C18(EC) 10 g/70 mL	16

ISOLUTE®-96 C18(EC) Fixed Well Plates

Part Number	Description	Qty.
221-0025-P01	ISOLUTE-96 C18(EC) 25 mg plate	1
221-0050-P01	ISOLUTE-96 C18(EC) 50 mg plate	1
221-0100-P01	ISOLUTE-96 C18(EC) 100 mg plate	1

Also available in bulk sorbent, see page 54.

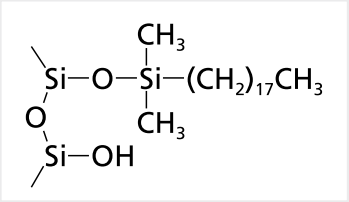
Support Documents for ISOLUTE® C18(EC)

TN101: Method Development in Solid Phase Extraction using Non-polar ISOLUTE® SPE Columns for the Extraction of Aqueous Samples

3 mL ISOLUTE® C18(EC) Column

*Tabless columns for use with PRESSURE+ Positive Pressure Manifolds and other automated SPE systems. Other tabless columns are available, contact Biotage for details.

ISOLUTE® MFC18



Chemical structure of monofunctional C18 silane covalently bonded to the surface of a silica particle

Average particle size	50 µm
Pore diameter	125 Å
Sorbent Type	Non-Polar

Application: Extraction from aqueous matrix using both non-polar interactions (for acidic, neutral and basic compounds) and readily accessible secondary silanol or ionic interactions (for basic compounds only). Not the ideal choice when working at extreme pH, C18 is the preferred option for these methods.

ISOLUTE® MFC18 SPE Columns

Part Number	Description	Qty.
240-0002-A	ISOLUTE MFC18 25 mg/1 mL	100
240-0005-A	ISOLUTE MFC18 50 mg/1 mL	100
240-0005-AA	ISOLUTE MFC18 50 mg/1 mL (ASPEC Adaptor)	100
240-0005-G	ISOLUTE MFC18 50 mg/10 mL	50
240-0010-A	ISOLUTE MFC18 100 mg/1 mL	100
240-0010-B	ISOLUTE MFC18 100 mg/3 mL	50
240-0010-G	ISOLUTE MFC18 100 mg/10 mL	50
240-0050-B	ISOLUTE MFC18 500 mg/3 mL	50
240-0050-C	ISOLUTE MFC18 500 mg/6 mL	30
240-0050-H	ISOLUTE MFC18 500 mg/10 mL	50
240-0100-C	ISOLUTE MFC18 1 g/6 mL	30
240-0200-D	ISOLUTE MFC18 2 g/15 mL	20

ISOLUTE®-96 MFC18 Fixed Well Plates

Part Number	Description	Qty.
240-0025-P01	ISOLUTE-96 MFC18 25 mg plate	1

Also available in bulk sorbent, see page 54.

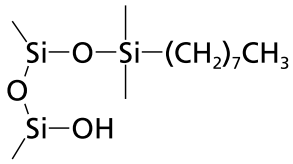
Support Documents for ISOLUTE® MFC18

TN101: Method Development in Solid Phase Extraction using Non-polar ISOLUTE® SPE Columns for the Extraction of Aqueous Samples

TN112: General Approach to the Extraction of Basic Drugs from Biological Fluids using Non-polar Non-endcapped Sorbents

6 mL ISOLUTE® MF C18 Column

ISOLUTE® C8



Chemical structure of C8 silane covalently bonded to the surface of a silica particle

Average particle size	50 µm
Pore diameter	60 Å
Sorbent Type	Non-Polar

Application: Most commonly used C8 sorbent for the extraction of acidic, neutral and basic compounds from aqueous matrices. Secondary silanol or ionic interactions can be used to enhance extract purity and method robustness for basic compounds.

ISOLUTE® C8 SPE Columns

Part Number	Description	Qty.
290-0002-A	ISOLUTE C8 25 mg/1 mL	100
290-0005-A	ISOLUTE C8 50 mg/1 mL	100
290-0010-A	ISOLUTE C8 100 mg/1 mL	100
290-0010-B	ISOLUTE C8 100 mg/3 mL	50
290-0010-BA	ISOLUTE C8 100 mg/3 mL (ASPEC Adaptor)	50
290-0010-C	ISOLUTE C8 100 mg/6 mL	30
290-0020-B	ISOLUTE C8 200 mg/3 mL	50
290-0020-C	ISOLUTE C8 200 mg/6 mL	30
290-0020-H	ISOLUTE C8 200 mg/10 mL	50
290-0050-B	ISOLUTE C8 500 mg/3 mL	50
290-0100-B	ISOLUTE C8 1 g/3 mL	50
290-0100-C	ISOLUTE C8 1 g/6 mL	30

ISOLUTE®-96 C8 Fixed Well Plates

Part Number	Description	Qty.
290-0025-P01	ISOLUTE-96 C8 25 mg plate	1
290-0050-P01	ISOLUTE-96 C8 50 mg plate	1
290-0100-P01	ISOLUTE-96 C8 100 mg plate	1

Also available in bulk sorbent, see page 54.

Support Documents for ISOLUTE® C8

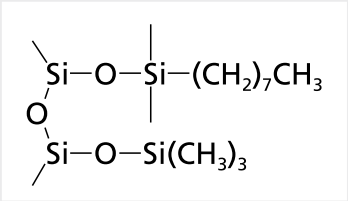
TN101: Method Development in Solid Phase Extraction using Non-polar ISOLUTE® SPE Columns for the Extraction of Aqueous Samples

TN112: General Approach to the Extraction of Basic Drugs from Biological Fluids using Non-polar Non-endcapped Sorbents

TN126: Method Development in Solid Phase Extraction using Non-polar ISOLUTE® SPE Columns for the Extraction of Biological Fluid Samples

1 mL ISOLUTE® C8 Column

ISOLUTE® C8(EC)



Chemical structure of C8 silane and trimethyl silyl group covalently bonded to the surface of a silica particle

Average particle size	50 µm
Pore diameter	60 Å
Sorbent Type	Non-Polar

Application: Extraction from aqueous matrix using non-polar interactions (for acidic, neutral and basic compounds).

ISOLUTE® C8(EC) SPE Columns

Part Number	Description	Qty.
291-0002-A	ISOLUTE C8(EC) 25 mg/1 mL	100
291-0010-A	ISOLUTE C8(EC) 100 mg/1 mL	100
291-0010-B	ISOLUTE C8(EC) 100 mg/3 mL	50
291-0020-B	ISOLUTE C8(EC) 200 mg/3 mL	50
291-0050-B	ISOLUTE C8(EC) 500 mg/3 mL	50
291-0050-C	ISOLUTE C8(EC) 500 mg/6 mL	30
291-0100-B	ISOLUTE C8(EC) 1 g/3 mL	50
291-0100-C	ISOLUTE C8(EC) 1 g/6 mL	30

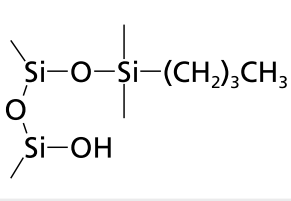
Also available in bulk sorbent, see page 54.

Support Documents for ISOLUTE® C8(EC)

TN101: Method Development in Solid Phase Extraction using Non-polar ISOLUTE® SPE Columns for the Extraction of Aqueous Samples

3 mL ISOLUTE® C8(EC) Column

ISOLUTE® C4



Chemical structure of C4 silane covalently bonded to the surface of a silica particle

Average particle size	50 µm
Pore diameter	60 Å
Sorbent Type	Non-Polar

Application: Extraction from aqueous matrix using non-polar interactions (for acidic, neutral and basic compounds). Secondary silanol or ionic interactions can be used to enhance extract purity and method robustness for basic compounds.

ISOLUTE® C4 SPE Columns

Part Number	Description	Qty.
390-0010-A	ISOLUTE C4 100 mg/1 mL	100
390-0010-B	ISOLUTE C4 100 mg/3 mL	50
390-0020-B	ISOLUTE C4 200 mg/3 mL	50
390-0050-C	ISOLUTE C4 500 mg/6 mL	30

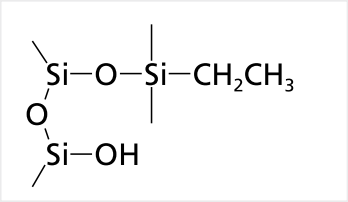
Support Documents for ISOLUTE® C4

TN101: Method Development in Solid Phase Extraction using Non-polar ISOLUTE® SPE Columns for the Extraction of Aqueous Samples

TN112: General Approach to the Extraction of Basic Drugs from Biological Fluids using Non-polar Non-endcapped Sorbents

6 mL ISOLUTE® C4 Column

ISOLUTE® C2



Chemical structure of C2 silane covalently bonded to the surface of a silica particle

Average particle size	50 µm
Pore diameter	60 Å
Sorbent Type	Non-Polar

Application: Most commonly used C2 sorbent for the extraction of acidic, neutral and basic compounds from aqueous matrices. Secondary silanol or ionic interactions can be used to enhance extract purity and method robustness for basic compounds.

ISOLUTE® C2 SPE Columns

Part Number	Description	Qty.
320-0002-A	ISOLUTE C2 25 mg/1 mL	100
320-0005-A	ISOLUTE C2 50 mg/1 mL	100
320-0010-A	ISOLUTE C2 100 mg/1 mL	100
320-0010-B	ISOLUTE C2 100 mg/3 mL	50
320-0010-G	ISOLUTE C2 100 mg/10 mL	50
320-0050-B	ISOLUTE C2 500 mg/3 mL	50

ISOLUTE®-96 C2 Fixed Well Plates

Part Number	Description	Qty.
320-0025-P01	ISOLUTE-96 C2 25 mg plate	1
320-0100-P01	ISOLUTE-96 C2 100 mg plate	1

Also available in bulk sorbent, see page 54.

Support Documents for ISOLUTE® C2

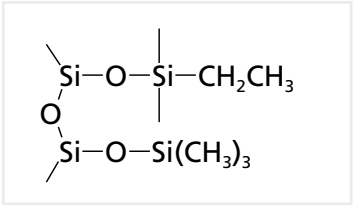
TN101: Method Development in Solid Phase Extraction using Non-polar ISOLUTE® SPE Columns for the Extraction of Aqueous Samples

TN112: General Approach to the Extraction of Basic Drugs from Biological Fluids using Non-polar Non-endcapped Sorbents

TN126: Method Development in Solid Phase Extraction using Non-polar ISOLUTE® SPE Columns for the Extraction of Biological Fluid Samples

1 mL ISOLUTE® C2 Column

ISOLUTE® C2(EC)



Chemical structure of C2 silane and trimethyl silyl group covalently bonded to the surface of a silica particle

Average particle size	50 µm
Pore diameter	60 Å
Sorbent Type	Non-Polar

Application: Extraction from aqueous matrix using non-polar interactions (for acidic, neutral and basic compounds).

ISOLUTE® C2(EC) SPE Columns

Part Number	Description	Qty.
321-0002-A	ISOLUTE C2(EC) 25 mg/1 mL	100
321-0010-B	ISOLUTE C2(EC) 100 mg/3 mL	50
321-0020-B	ISOLUTE C2(EC) 200 mg/3 mL	50
321-0050-B	ISOLUTE C2(EC) 500 mg/3 mL	50

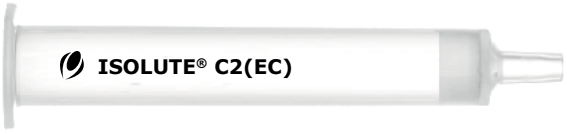
ISOLUTE®-96 C2(EC) Fixed Well Plates

Part Number	Description	Qty.
321-0025-P01	ISOLUTE-96 C2(EC) 25 mg plate	1

Also available in bulk sorbent, see page 54.

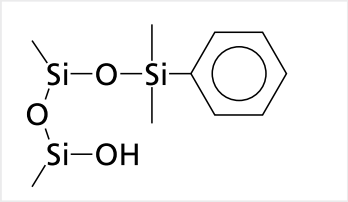
Support Documents for ISOLUTE® C2(EC)

TN101: Method Development in Solid Phase Extraction using Non-polar ISOLUTE® SPE Columns for the Extraction of Aqueous Samples



3 mL ISOLUTE® C2(EC) Column

ISOLUTE® PH



Chemical structure of phenyl silane covalently bonded to the surface of a silica particle

Average particle size	50 µm
Pore diameter	60 Å
Sorbent Type	Non-Polar

Application: Extraction from aqueous matrix using both non-polar interactions (for acidic, neutral and basic compounds) and secondary silanol or ionic interactions (for basic compounds only). This sorbent exhibits a different selectivity compared with C18 and C8 phases when both aromatic and non-aromatic compounds are being extracted.

ISOLUTE® PH SPE Columns

Part Number	Description	Qty.
360-0002-A	ISOLUTE PH 25 mg/1 mL	100
360-0010-B	ISOLUTE PH 100 mg/3 mL	50
360-0050-B	ISOLUTE PH 500 mg/3 mL	50
360-0050-C	ISOLUTE PH 500 mg/6 mL	30

ISOLUTE®-96 PH Fixed Well Plates

Part Number	Description	Qty.
360-0025-P01	ISOLUTE-96 PH 25 mg plate	1
360-0050-P01	ISOLUTE-96 PH 50 mg plate	1
360-0100-P01	ISOLUTE-96 PH 100 mg plate	1

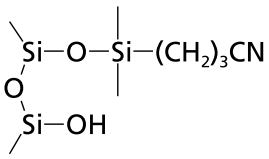
Support Documents for ISOLUTE® PH

TN101: Method Development in Solid Phase Extraction using Non-polar ISOLUTE® SPE Columns for the Extraction of Aqueous Samples

TN112: General Approach to the Extraction of Basic Drugs from Biological Fluids using Non-polar Non-endcapped Sorbents

6 mL ISOLUTE® PH Column

ISOLUTE® CN



Chemical structure of cyanopropyl silane covalently bonded to the surface of a silica particle

Average particle size	50 µm
Pore diameter	60 Å
Sorbent Type	Non-Polar

Application: Extraction from aqueous matrix using both non-polar interactions (for acidic, neutral and basic compounds) and secondary silanol or ionic interactions (for basic compounds only). Can also be used in polar SPE mode.

ISOLUTE® CN SPE Columns

Part Number	Description	Qty.
420-0005-A	ISOLUTE CN 50 mg/1 mL	100
420-0050-B	ISOLUTE CN 500 mg/3 mL	50
420-0050-C	ISOLUTE CN 500 mg/6 mL	30
420-0100-C	ISOLUTE CN 1 g/6 mL	30

ISOLUTE®-96 CN Fixed Well Plates

Part Number	Description	Qty.
420-0100-P01	ISOLUTE-96 CN 100 mg plate	1

Support Documents for ISOLUTE® CN

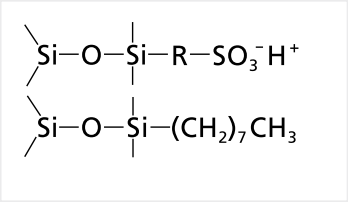
TN101: Method Development in Solid Phase Extraction using Non-polar ISOLUTE® SPE Columns for the Extraction of Aqueous Samples

TN102: Method Development in Solid Phase Extraction using Polar ISOLUTE® SPE Columns for the Extraction of Non-aqueous Samples

TN112: General Approach to the Extraction of Basic Drugs from Biological Fluids using Non-polar Non-endcapped Sorbents

1 mL ISOLUTE® CN Column

ISOLUTE® HCX



ISOLUTE® HCX combines C8 (Octyl) and sulfonic acid functionalities

Average particle size	50 µm
Pore diameter	60 Å
Sorbent Type	Mixed-Mode

Application: The first choice sorbent for extracting drugs of abuse from biological fluid samples.

ISOLUTE® HCX SPE Columns

Part Number	Description	Qty.
902-0002-A	ISOLUTE HCX 25 mg/1 mL	100
902-0005-A	ISOLUTE HCX 50 mg/1 mL	100
902-0010-A	ISOLUTE HCX 100 mg/1 mL	100
902-0010-B	ISOLUTE HCX 100 mg/3 mL	50
902-0013-A	ISOLUTE HCX 130 mg/1 mL	100
902-0013-B	ISOLUTE HCX 130 mg/3 mL	50
902-0013-C	ISOLUTE HCX 130 mg/6 mL	30
902-0013-H	ISOLUTE HCX 130 mg/10 mL	50
902-0020-B	ISOLUTE HCX 200 mg/3 mL	50
902-0020-H	ISOLUTE HCX 200 mg/10 mL	50
902-0030-B	ISOLUTE HCX 300 mg/3 mL	50
902-0030-C	ISOLUTE HCX 300 mg/6 mL	30
902-0030-H	ISOLUTE HCX 300 mg/10 mL	50
902-0050-C	ISOLUTE HCX 500 mg/6 mL	30

ISOLUTE®-96 HCX Fixed Well Plates

Part Number	Description	Qty.
902-0025-P01	ISOLUTE-96 HCX 25 mg plate	1
902-0100-P01	ISOLUTE-96 HCX 100 mg plate	1

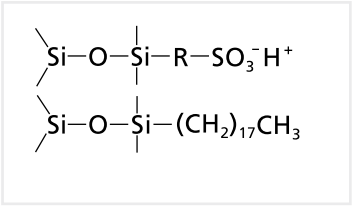
Support Documents for ISOLUTE® HCX

TN116: Generic Method for the Extraction of Basic Drugs from Biological Fluids using ISOLUTE® Mixed-mode SPE Columns and 96-well Plates

TN125: Method Development in Solid Phase Extraction using ISOLUTE® HCX for the Extraction of Drugs from Biological Fluid Samples

3 mL ISOLUTE® HCX Column

ISOLUTE® HCX-3



ISOLUTE® HCX-3 combines C18 (Octadecyl) and sulfonic acid functionalities

Average particle size	50 µm
Pore diameter	60 Å
Sorbent Type	Mixed-Mode

Application: Extraction of basic analytes from aqueous matrix using dual non-polar and strong cation exchange interactions. A good alternative to HCX for basic compounds that require more retentive non-polar character from the mixed-mode sorbent.

ISOLUTE® HCX-3 SPE Columns

Part Number	Description	Qty.
905-0002-A	ISOLUTE HCX-3 25 mg/1 mL	100
905-0010-A	ISOLUTE HCX-3 100 mg/1 mL	100

ISOLUTE®-96 HCX-3 Fixed Well Plates

Part Number	Description	Qty.
905-0025-P01	ISOLUTE-96 HCX-3 25 mg plate	1
905-0050-P01	ISOLUTE-96 HCX-3 50 mg plate	1
905-0100-P01	ISOLUTE-96 HCX-3 100 mg plate	1

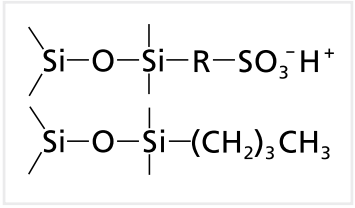
Also available in bulk sorbent, see page 54.

Support Documents for ISOLUTE® HCX-3

TN116: Generic Method for the Extraction of Basic Drugs from Biological Fluids using ISOLUTE® Mixed-mode SPE Columns and 96-well Plates

1 mL ISOLUTE® HCX-3 Column

ISOLUTE® HCX-5



ISOLUTE® HCX-5 combines C4 (Butyl) and sulfonic acid functionalities

Average particle size	50 µm
Pore diameter	60 Å
Sorbent Type	Mixed-Mode

Application: HCX-5 provides the cleanest extract of all the mixed-mode sorbents. Ideal choice where the basic analyte to be extracted has sufficient non-polar character to be well retained by the C4 non-polar component of the mixed-mode sorbent.

ISOLUTE® HCX-5 SPE Columns

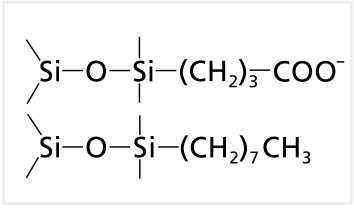
Part Number	Description	Qty.
906-0002-A	ISOLUTE HCX-5 25 mg/1 mL	100
906-0010-A	ISOLUTE HCX-5 100 mg/1 mL	100
906-0010-G	ISOLUTE HCX-5 100 mg/10 mL	50
906-0013-H	ISOLUTE HCX-5 130 mg/10 mL	50

Support Documents for ISOLUTE® HCX-5

TN116: Generic Method for the Extraction of Basic Drugs from Biological Fluids using ISOLUTE® Mixed-mode SPE Columns and 96-well Plates

10 mL (3 mL XL) ISOLUTE® HCX-5 Column

ISOLUTE® HCX-Q



ISOLUTE® HCX-Q combines C8 (Octyl) and carboxylic acid functionalities

Average particle size	50 µm
Pore diameter	60 Å
Sorbent Type	Mixed-Mode

Application: Extraction of quaternary amine and polybasic analytes from aqueous matrix using dual non-polar and weak cation exchange interactions.

ISOLUTE® HCX-Q SPE Columns

Part Number	Description	Qty.
986-0002-A	ISOLUTE HCX-Q 25 mg/1 mL	100
986-0005-A	ISOLUTE HCX-Q 50 mg/1 mL	100
986-0010-A	ISOLUTE HCX-Q 100 mg/1 mL	100

ISOLUTE®-96 HCX-Q Fixed Well Plates

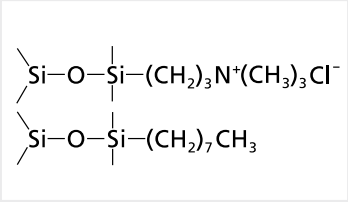
Part Number	Description	Qty.
986-0025-P01	ISOLUTE-96 HCX-Q 25 mg plate	1
986-0100-P01	ISOLUTE-96 HCX-Q 100 mg plate	1

Support Documents for ISOLUTE® HCX-Q

TN129: Generic Method for the Extraction of Quaternary Amine and Polybasic Drugs from Biological Fluids using ISOLUTE® HCX-Q SPE Columns and 96-well Plates

1 mL ISOLUTE® HCX-Q Column

ISOLUTE® HAX



ISOLUTE® HAX combines C8 (Octyl) and quaternary amine functionalities

Average particle size	50 µm
Pore diameter	60 Å
Sorbent Type	Mixed-Mode

Application: Extraction of acidic analytes from aqueous matrix using dual non-polar and strong anion exchange interactions. Suitable for a broad range of acidic compounds.

ISOLUTE® HAX SPE Columns

Part Number	Description	Qty.
903-0002-A	ISOLUTE HAX 25 mg/1 mL	100
903-0005-AG	ISOLUTE HAX 50 mg/1 mL (Tabless)	100
903-0010-A	ISOLUTE HAX 100 mg/1 mL	100
903-0020-B	ISOLUTE HAX 200 mg/3 mL	50
903-0020-C	ISOLUTE HAX 200 mg/6 mL	30
903-0020-H	ISOLUTE HAX 200 mg/10 mL	50
903-0050-B	ISOLUTE HAX 500 mg/3 mL	50
903-0100-C	ISOLUTE HAX 1 g/6 mL	30

ISOLUTE®-96 HAX Fixed Well Plates

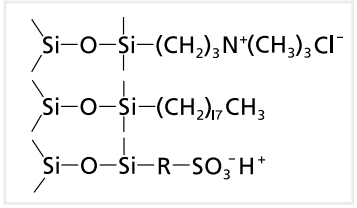
Part Number	Description	Qty.
903-0025-P01	ISOLUTE-96 HAX 25 mg plate	1

Support Documents for ISOLUTE® HAX

TN127: Method Development in Solid Phase Extraction using ISOLUTE® HAX for the Extraction of Drugs from Biological Fluid Samples

3 mL ISOLUTE® HAX Column

ISOLUTE® Multimode



ISOLUTE® Multimode combines C18 (Octadecyl), quaternary amine and sulfonic acid functionalities

Average particle size	50 µm
Pore diameter	60 Å
Sorbent Type	Mixed-Mode

Application: Isolation of small neutral highly water soluble species from complex mixtures.

ISOLUTE® Multimode SPE Columns

Part Number	Description	Qty.
904-0010-A	ISOLUTE Multimode 100 mg/1 mL	100
904-0030-B	ISOLUTE Multimode 300 mg/3 mL	50
904-0030-C	ISOLUTE Multimode 300 mg/6 mL	30
904-0030-H	ISOLUTE Multimode 300 mg/10 mL	50
904-0050-B	ISOLUTE Multimode 500 mg/3 mL	50
904-0100-C	ISOLUTE Multimode 1 g/6 mL	30

ISOLUTE®-96 Multimode Fixed Well Plates

Part Number	Description	Qty.
904-0100-P01	ISOLUTE-96 Multimode 100 mg plate	1

Also available in bulk sorbent, see page 54.

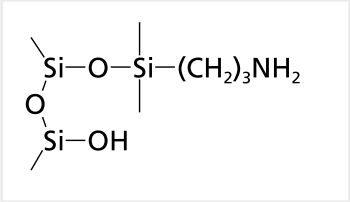
Support Documents for ISOLUTE® Multimode

IST1022: Extraction of Aflatoxins from Cereals

IST1076: Extraction of Acrylamide from Cooked Foodstuffs

1 mL ISOLUTE® Multimode Column

ISOLUTE® NH2



Chemical structure of NH2 aminopropyl silane covalently bonded to the surface of a silica particle

Average particle size	50 µm
Pore diameter	60 Å
Sorbent Type	Weak anion exchange (pK_a 9.8) or polar
Exchange capacity	0.6 meq/g

Application: Extraction of strong acids and polyacidic compounds from aqueous sample matrix. Analyte elution can be performed by neutralizing charge on the sorbent. Sorbent supplied as the free base.

Alternatively, ISOLUTE® NH2 can be used for extraction of polar compounds from a non-polar matrix using hydrogen bonding retention mechanism. Less retentive than SI.

ISOLUTE® NH2 SPE Columns

Part Number	Description	Qty.
470-0002-A	ISOLUTE NH2 25 mg/1 mL	100
470-0005-A	ISOLUTE NH2 50 mg/1 mL	100
470-0005-G	ISOLUTE NH2 50 mg/10 mL	50
470-0010-A	ISOLUTE NH2 100 mg/1 mL	100
470-0010-AG	ISOLUTE NH2 100 mg/1 mL (Tabless)	100
470-0010-B	ISOLUTE NH2 100 mg/3 mL	50
470-0010-C	ISOLUTE NH2 100 mg/6 mL	30
470-0010-G	ISOLUTE NH2 100 mg/10 mL	50
470-0020-B	ISOLUTE NH2 200 mg/3 mL	50
470-0050-B	ISOLUTE NH2 500 mg/3 mL	50
470-0050-C	ISOLUTE NH2 500 mg/6 mL	30
470-0050-H	ISOLUTE NH2 500 mg/10 mL	50
470-0100-C	ISOLUTE NH2 1 g/6 mL	30
470-0100-CG	ISOLUTE NH2 1 g/6 mL (Tabless)*	30
470-0200-C	ISOLUTE NH2 2 g/6 mL	30
470-0200-D	ISOLUTE NH2 2 g/15 mL	20
470-0500-E	ISOLUTE NH2 5 g/25 mL	20

ISOLUTE®-96 NH2 Fixed Well Plates

Part Number	Description	Qty.
470-0100-P01	ISOLUTE-96 NH2 100 mg plate	1

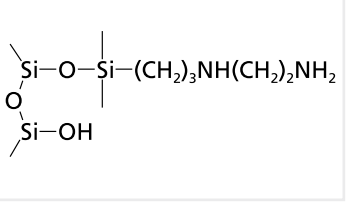
Also available in bulk sorbent, see page 54.

Support Documents for ISOLUTE® NH2

TN102: Method Development in Solid Phase Extraction using Polar ISOLUTE® SPE Columns for the Extraction of Non-aqueous Samples

TN104: Method Development in Solid Phase Extraction using ISOLUTE®NH2 SPE Columns for the Extraction of Aqueous Samples

ISOLUTE® PSA



Chemical structure of PSA ethylenediamine-n-propyl silane covalently bonded to the surface of a silica particle

Average particle size	50 µm
Pore diameter	60 Å
Sorbent Type	Weak anion exchange (pK_a 10.1 and 10.9) or polar
Exchange capacity	0.4 meq/g

Application: ISOLUTE® PSA can be used to extract strong acids and polyacidic compound from aqueous sample matrix. Analyte elution can be achieved by neutralizing the charge on the sorbent. Sorbent will complex with certain metal ions. Supplied as free base.

Alternatively, ISOLUTE® PSA can be used for extraction of polar compounds from a non-polar matrix using a hydrogen bonding retention mechanism. Less retentive than silica when used in this mode.

ISOLUTE® PSA SPE Columns

Part Number	Description	Qty.
480-0020-B	ISOLUTE PSA 200 mg/3 mL	50
480-0050-B	ISOLUTE PSA 500 mg/3 mL	50
480-0050-C	ISOLUTE PSA 500 mg/6 mL	30
480-0050-H	ISOLUTE PSA 500 mg/10 mL	50
480-0100-C	ISOLUTE PSA 1 g/6 mL	30

Also available in bulk sorbent, see page 54.

Support Documents for ISOLUTE® PSA

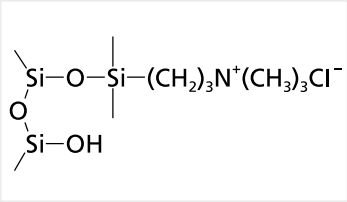
TN102: Method Development in Solid Phase Extraction using Polar ISOLUTE® SPE Columns for the Extraction of Non-aqueous Samples

TN105: Method Development in Solid Phase Extraction using ISOLUTE® PSA SPE Columns for the Extraction of Aqueous Samples

6 mL ISOLUTE® PSA Column

*Tabless columns for use with PRESSURE+ Positive Pressure Manifolds and other automated SPE systems. Other tabless columns are available, contact Biotage for details.

ISOLUTE® SAX



Chemical structure of SAX quaternary amine silane covalently bonded to the surface of a silica particle

Average particle size	50 µm
Pore diameter	60 Å
Sorbent Type	Strong anion exchange
Exchange capacity	0.6 meq/g

Application: Extraction of acidic analytes from aqueous sample matrix. Supplied with chloride counter ion.

ISOLUTE® SAX SPE Columns

Part Number	Description	Qty.
500-0002-A	ISOLUTE SAX 25 mg/1 mL	100
500-0005-A	ISOLUTE SAX 50 mg/1 mL	100
500-0010-A	ISOLUTE SAX 100 mg/1 mL	100
500-0010-B	ISOLUTE SAX 100 mg/3 mL	50
500-0010-C	ISOLUTE SAX 100 mg/6 mL	30
500-0020-B	ISOLUTE SAX 200 mg/3 mL	50
500-0050-B	ISOLUTE SAX 500 mg/3 mL	50
500-0050-C	ISOLUTE SAX 500 mg/6 mL	30
500-0050-H	ISOLUTE SAX 500 mg/10 mL	50
500-0100-B	ISOLUTE SAX 1 g/3 mL	50
500-0100-C	ISOLUTE SAX 1 g/6 mL	30
500-0200-D	ISOLUTE SAX 2 g/15 mL	20
500-0500-E	ISOLUTE SAX 5 g/25 mL	20

ISOLUTE-96 SAX Fixed Well Plates

Part Number	Description	Qty.
500-0025-P01	ISOLUTE-96 SAX 25 mg plate	1
500-0050-P01	ISOLUTE-96 SAX 50 mg plate	1
500-0100-P01	ISOLUTE-96 SAX 100 mg plate	1

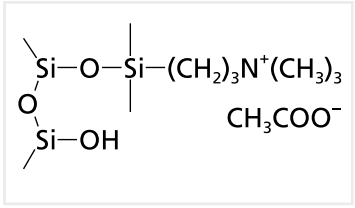
Also available in bulk sorbent, see page 54.

Support Documents for ISOLUTE® SAX

TN103: Method Development in Solid Phase Extraction using ISOLUTE®PE-AX and SAX SPE Columns for the Extraction of Aqueous Samples

1 mL ISOLUTE® SAX Column

ISOLUTE® PE-AX



Chemical structure of PE-AX quaternary amine silane covalently bonded to the surface of a silica particle

Average particle size	50 µm
Pore diameter	60 Å
Sorbent Type	Strong anion exchange
Exchange capacity	0.6 meq/g

Application: Extraction of acidic analytes from aqueous sample matrix. Supplied with acetate counter ion for more efficient extraction of acidic analytes including those with polar/water soluble characteristics.

ISOLUTE® PE-AX SPE Columns

Part Number	Description	Qty.
503-0002-A	ISOLUTE PE-AX 25 mg/1 mL	100
503-0010-A	ISOLUTE PE-AX 100 mg/1 mL	100
503-0010-B	ISOLUTE PE-AX 100 mg/3 mL	50
503-0010-C	ISOLUTE PE-AX 100 mg/6 mL	30
503-0020-B	ISOLUTE PE-AX 200 mg/3 mL	50
503-0050-B	ISOLUTE PE-AX 500 mg/3 mL	50
503-0050-C	ISOLUTE PE-AX 500 mg/6 mL	30
503-0100-C	ISOLUTE PE-AX 1 g/6 mL	30

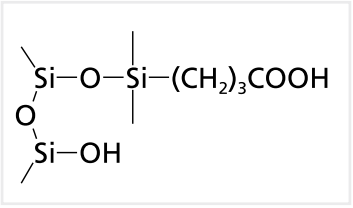
Also available in bulk sorbent, see page 54.

Support Documents for ISOLUTE® PE-AX

TN103: Method Development in Solid Phase Extraction using ISOLUTE®PE-AX and SAX SPE Columns for the Extraction of Aqueous Samples

3 mL ISOLUTE® PE-AX Column

ISOLUTE® CBA



Chemical structure of CBA silane covalently bonded to the surface of a silica particle

Average particle size	50 µm
Pore diameter	60 Å
Sorbent Type	Weak cation exchange (pK_a 4.8) or polar
Exchange capacity	0.6 meq/g

Application: Extraction of strong bases and polybasic compounds from aqueous sample matrix. Analyte elution can be performed by neutralizing charge on the sorbent.

ISOLUTE® CBA SPE Columns

Part Number	Description	Qty.
520-0002-A	ISOLUTE CBA 25 mg/1 mL	100
520-0005-A	ISOLUTE CBA 50 mg/1 mL	100
520-0010-A	ISOLUTE CBA 100 mg/1 mL	100
520-0010-B	ISOLUTE CBA 100 mg/3 mL	50
520-0010-C	ISOLUTE CBA 100 mg/6 mL	30
520-0020-B	ISOLUTE CBA 200 mg/3 mL	50
520-0050-B	ISOLUTE CBA 500 mg/3 mL	50
520-0050-C	ISOLUTE CBA 500 mg/6 mL	30
520-0050-H	ISOLUTE CBA 500 mg/10 mL	50
520-0100-C	ISOLUTE CBA 1 g/6 mL	30
520-0200-D	ISOLUTE CBA 2 g/15 mL	20

ISOLUTE®-96 CBA Fixed Well Plates

Part Number	Description	Qty.
520-0025-P01	ISOLUTE-96 CBA 25 mg plate	1
520-0050-P01	ISOLUTE-96 CBA 50 mg plate	1
520-0100-P01	ISOLUTE-96 CBA 100 mg plate	1

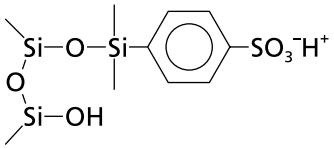
Also available in bulk sorbent, see page 54.

Support Documents for ISOLUTE® CBA

TN108: Method Development in Solid Phase Extraction using ISOLUTE® CBA SPE Columns for the Extraction of Aqueous Samples

6 mL ISOLUTE® CBA Column

ISOLUTE® SCX



Chemical structure of benzenesulfonic acid functional group covalently bonded to the surface of a silica particle

Average particle size	50 µm
Pore diameter	60 Å
Sorbent Type	Strong cation exchange
Exchange capacity	0.4 meq/g

Application: Extraction of basic analytes from aqueous or partially aqueous sample matrix. Supplied in the protonated form.

ISOLUTE® SCX SPE Columns

Part Number	Description	Qty.
530-0005-A	ISOLUTE SCX 50 mg/1 mL	100
530-0010-A	ISOLUTE SCX 100 mg/1 mL	100
530-0010-B	ISOLUTE SCX 100 mg/3 mL	50
530-0010-G	ISOLUTE SCX 100 mg/10 mL	50
530-0010-H	ISOLUTE SCX 100 mg/10 mL	50
530-0020-B	ISOLUTE SCX 200 mg/3 mL	50
530-0020-H	ISOLUTE SCX 200 mg/10 mL	50
530-0050-B	ISOLUTE SCX 500 mg/3 mL	50
530-0050-C	ISOLUTE SCX 500 mg/6 mL	30
530-0050-H	ISOLUTE SCX 500 mg/10 mL	50
530-0100-B	ISOLUTE SCX 1 g/3 mL	50
530-0100-C	ISOLUTE SCX 1 g/6 mL	30
530-0200-D	ISOLUTE SCX 2 g/15 mL	20
530-0500-E	ISOLUTE SCX 5 g/25 mL	20

ISOLUTE®-96 SCX Fixed Well Plates

Part Number	Description	Qty.
530-0025-P01	ISOLUTE-96 SCX 25 mg plate	1
530-0050-P01	ISOLUTE-96 SCX 50 mg plate	1

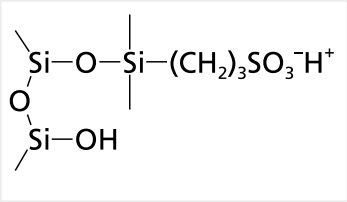
Also available in bulk sorbent, see page 54.

Support Documents for ISOLUTE® SCX

TN106: Method Development in Solid Phase Extraction using ISOLUTE® SCX and SCX-3 SPE Columns for the Extraction of Aqueous Samples

6 mL ISOLUTE® SCX Column

ISOLUTE® SCX-2



Chemical structure of propylsulfonic acid functional group covalently bonded to the surface of a silica particle

Average particle size	50 µm
Pore diameter	60 Å
Sorbent Type	Strong cation exchange
Exchange capacity	0.6 meq/g

Application: Extraction of basic analytes from aqueous or partially aqueous sample matrix. Supplied in the protonated form. Sorbent of choice if strong cation exchange is primary retention mechanism, or, if aqueous conditions required for analyte elution. For methods listing PRS as the SPE sorbent, SCX-2 is a direct replacement.

ISOLUTE® SCX-2 SPE Columns

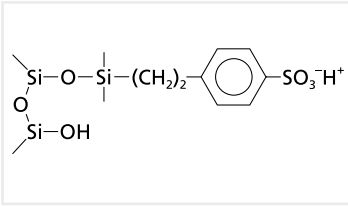
Part Number	Description	Qty.
532-0002-A	ISOLUTE SCX-2 25 mg/1 mL	100
532-0005-A	ISOLUTE SCX-2 50 mg/1 mL	100
532-0010-A	ISOLUTE SCX-2 100 mg/1 mL	100
532-0010-B	ISOLUTE SCX-2 100 mg/3 mL	50
532-0020-A	ISOLUTE SCX-2 200 mg/1 mL	100
532-0020-B	ISOLUTE SCX-2 200 mg/3 mL	50
532-0050-B	ISOLUTE SCX-2 500 mg/3 mL	50
532-0050-BG	ISOLUTE SCX-2 500 mg/3 mL (Tabless)*	50
532-0050-C	ISOLUTE SCX-2 500 mg/6 mL	30
532-0050-H	ISOLUTE SCX-2 500 mg/10 mL	50
532-0100-B	ISOLUTE SCX-2 1 g/3 mL	50
532-0100-C	ISOLUTE SCX-2 1 g/6 mL	30
532-0200-C	ISOLUTE SCX-2 2 g/6 mL	30

Support Documents for ISOLUTE® SCX-2

TN107: Method Development in Solid Phase Extraction using ISOLUTE® SCX-2 SPE Columns for the Extraction of Aqueous Samples

3 mL ISOLUTE® SCX-2 Column

ISOLUTE® SCX-3



Chemical structure of ethylbenzene sulfonic acid functional group covalently bonded to the surface of a silica particle

Average particle size	50 µm
Pore diameter	60 Å
Sorbent Type	Strong cation exchange
Exchange capacity	0.6 meq/g

Application: Extraction of basic analytes from aqueous or partially aqueous sample matrix. Supplied in the protonated form. Sorbent of choice where significant non-polar secondary interactions are required.

ISOLUTE® SCX-3 SPE Columns

Part Number	Description	Qty.
533-0002-A	ISOLUTE SCX-3 25 mg/1 mL	100
533-0005-A	ISOLUTE SCX-3 50 mg/1 mL	100
533-0010-A	ISOLUTE SCX-3 100 mg/1 mL	100
533-0010-B	ISOLUTE SCX-3 100 mg/3 mL	50
533-0020-B	ISOLUTE SCX-3 200 mg/3 mL	50
533-0050-B	ISOLUTE SCX-3 500 mg/3 mL	50
533-0050-C	ISOLUTE SCX-3 500 mg/6 mL	30
533-0100-C	ISOLUTE SCX-3 1 g/6 mL	30

ISOLUTE®-96 SCX-3 Fixed Well Plates

Part Number	Description	Qty.
533-0025-P01	ISOLUTE-96 SCX-3 25 mg plate	1
533-0050-P01	ISOLUTE-96 SCX-3 50 mg plate	1
533-0100-P01	ISOLUTE-96 SCX-3 100 mg plate	1

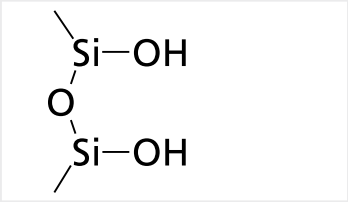
Support Documents for ISOLUTE® SCX-3

TN106: Method Development in Solid Phase Extraction using ISOLUTE® SCX and SCX-3 SPE Columns for the Extraction of Aqueous Samples

6 mL ISOLUTE® SCX-3 Column

*Tabless columns for use with PRESSURE+ Positive Pressure Manifolds and other automated SPE systems. Other tabless columns are available, contact Biotage for details.

ISOLUTE® SI



Chemical structure of silanol groups on the surface of a silica particle

Average particle size	50 µm
Pore diameter	60 Å
Sorbent Type	Polar
Nominal moisture content	7%

Application: Extraction of polar compounds from a non-polar sample matrix using hydrogen bonding retention mechanism.

ISOLUTE® SI SPE Columns

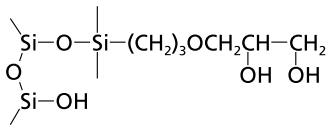
Part Number	Description	Qty.
460-0002-A	ISOLUTE SI 25 mg/1 mL	100
460-0005-A	ISOLUTE SI 50 mg/1 mL	100
460-0010-A	ISOLUTE SI 100 mg/1 mL	100
460-0010-B	ISOLUTE SI 100 mg/3 mL	50
460-0010-G	ISOLUTE SI 100 mg/10 mL	50
460-0020-B	ISOLUTE SI 200 mg/3 mL	50
460-0020-H	ISOLUTE SI 200 mg/10 mL	50
460-0050-B	ISOLUTE SI 500 mg/3 mL	50
460-0050-C	ISOLUTE SI 500 mg/6 mL	30
460-0050-L	ISOLUTE SI 500 mg/6 mL (Glass)	30
460-0050-H	ISOLUTE SI 500 mg/10 mL	50
460-0100-B	ISOLUTE SI 1 g/3 mL	50
460-0100-C	ISOLUTE SI 1 g/6 mL	30
460-0100-CG	ISOLUTE SI 1 g/6 mL (Tabless)*	30
460-0100-L	ISOLUTE SI 1 g/6 mL (Glass)	30
460-0100-D	ISOLUTE SI 1 g/15 mL	20
460-0200-C	ISOLUTE SI 2 g/6 mL	30
460-0200-L	ISOLUTE SI 2 g/6 mL (Glass)	30
460-0200-D	ISOLUTE SI 2 g/15 mL	20
460-0500-E	ISOLUTE SI 5 g/25 mL	20
460-1000-F	ISOLUTE SI 10 g/70 mL	16
460-2500-F	ISOLUTE SI 25 g/70 mL	16

Also available in bulk sorbent, see page 54.

Support Documents for ISOLUTE® SI

TN102: Method Development in Solid Phase Extraction using Polar ISOLUTE® SPE Columns for the Extraction of Non-aqueous Samples

ISOLUTE® DIOL



Chemical structure of DIOL silane covalently bonded to the surface of a silica particle

Average particle size	50 µm
Pore diameter	60 Å
Sorbent Type	Polar

Application: Extraction of polar compounds from a non-polar sample matrix using hydrogen bonding retention mechanism. Less retentive sorbent than SI. Can also be used as a non-polar sorbent with aqueous sample matrices.

ISOLUTE® DIOL SPE Columns

Part Number	Description	Qty.
430-0010-A	ISOLUTE DIOL 100 mg/1 mL	100
430-0010-B	ISOLUTE DIOL 100 mg/3 mL	50
430-0020-B	ISOLUTE DIOL 200 mg/3 mL	50
430-0050-B	ISOLUTE DIOL 500 mg/3 mL	50
430-0050-C	ISOLUTE DIOL 500 mg/6 mL	30
430-0050-H	ISOLUTE DIOL 500 mg/10 mL	50

Also available in bulk sorbent, see page 54.

Support Documents for ISOLUTE® DIOL

TN102: Method Development in Solid Phase Extraction using Polar ISOLUTE® SPE Columns for the Extraction of Non-aqueous Samples

3 mL ISOLUTE® DIOL Column

*Tabless columns for use with PRESSURE+ Positive Pressure Manifolds and other automated SPE systems. Other tabless columns are available, contact Biotage for details.

ISOLUTE® FL

Average particle size	150–250 µm
Pore diameter	60 Å
Nominal moisture content	<2%
Surface pH	8
Sorbent Type	Polar

Application: Extraction of polar compounds from a non-polar sample matrix. Alternative to silica based polar sorbents. Minimal retention of basic compounds. Activated for separation of chlorinated pesticides.

ISOLUTE® FL SPE Columns

Part Number	Description	Qty.
712-0010-B	ISOLUTE FL 100 mg/3 mL	50
712-0020-H	ISOLUTE FL 200 mg/10 mL	50
712-0010-A	ISOLUTE FL 100 mg/1 mL	100
712-0020-B	ISOLUTE FL 200 mg/3 mL	50
712-0050-B	ISOLUTE FL 500 mg/3 mL	50
712-0050-C	ISOLUTE FL 500 mg/6 mL	30
712-0050-H	ISOLUTE FL 500 mg/10 mL	50
712-0050-L	ISOLUTE FL 500 mg/6 mL (Glass)	30
712-0100-B	ISOLUTE FL 1 g/3 mL	50
712-0100-C	ISOLUTE FL 1 g/6 mL	30
712-0200-D	ISOLUTE FL 2 g/15 mL	20
712-0500-E	ISOLUTE FL 5 g/25 mL	20
712-2000-F	ISOLUTE FL 20 g/70 mL	16

Also available in bulk sorbent, see page 54.

Support Documents for ISOLUTE® FL

IST1080: Multi-residue Extraction and Clean up of Pesticides from Fruits and Vegetables

ISOLUTE® HM-N

Columns for Supported Liquid Extraction

Part Number	Description	Qty.
800-0040-BM	ISOLUTE HM-N (300 µL sample)	100
800-0040-BMG	ISOLUTE HM-N (300 µL sample) (Tabless)*	100
800-0100-CM	ISOLUTE HM-N (1 mL sample)	100
800-0220-DM	ISOLUTE HM-N (3 mL sample)	100
800-0350-EM	ISOLUTE HM-N (5 mL sample)	100
800-0700-FM	ISOLUTE HM-N (10 mL sample)	50
800-1300-FM	ISOLUTE HM-N (20 mL sample)	50

*Tabless columns for use with PRESSURE+ Positive Pressure Manifolds and other automated SPE systems. Other tabless columns are available, contact Biotage for details.

Also available in bulk sorbent, see page 54.

ISOLUTE® HM-N (1 mL sample)

ISOLUTE® Alumina

High activity, 50–200 µm particle size range alumina, available in acidic, neutral and basic surface pH options. The surface of the alumina can absorb molecules by interaction with the aluminum metal center, hydrogen bonding with surface hydroxyl groups, or by ion exchange if the surface carries a charge. The extent of these different interactions can be enhanced by control of the surface pH by treatment with acidic, basic or neutral solutions.

ISOLUTE® AL-A

Acid washing results in a surface with decreased capacity for basic compounds. Compounds are retained by ion exchange with the positively charged surface or by specific interactions with the metal center. ISOLUTE® AL-A has a nominal moisture content of <0.1% (Brockmann Activity I/Super 1 grade), and surface pH of 4.5.

ISOLUTE® AL-N

Neutral surface allows interactions of the aluminum metal center with compounds whose heteroatoms are electronegative (e.g. N, O, P & S) or whose highly aromatic structure makes them “electron rich”. The adsorbent can be useful for retaining amines and aromatic compounds from either aqueous or non-aqueous solvents. ISOLUTE® AL-N has a nominal moisture content of <0.1% (Brockmann Activity I/Super 1 grade), and surface pH of 7.5. Also available in bulk sorbent, see page 53.

ISOLUTE® AL-B

Washing this material with a basic solution results in a net negative charge. Cationic compounds are retained on the negatively charged surface or by specific interactions with the metal center. ISOLUTE® AL-B has a nominal moisture content of <0.1% (Brockmann Activity I/Super 1 grade), and surface pH of 10.

Column Configuration	Qty.	Part Numbers		
		AL-A	AL-N	AL-B
50 mg/1 mL	100	713-0005-A	—	—
100 mg/1 mL	100	713-0010-A	—	715-0010-A
200 mg/3 mL	50	713-0020-B	714-0020-B	715-0020-B
500 mg/3 mL	50	713-0050-B	714-0050-B	715-0050-B
500 mg/6 mL	30	713-0050-C	714-0050-C	—
1 g/3 mL	50	—	714-0100-B	—
1 g/6 mL	30	713-0100-C	714-0100-C	715-0100-C
2 g/6 mL	30	—	714-0200-C	—
2 g/15 mL	20	713-0200-D	714-0200-D	—
5 g/25 mL	20	—	714-0500-E	715-0500-E
10 g/70 mL	16	—	714-1000-F	715-1000-F

ISOLUTE® EPH SPE Columns

Fractionate extractable petroleum hydrocarbons in soil extracts prior to GC analysis. ISOLUTE® EPH columns are optimized to ensure no breakthrough of lower MW aromatic hydrocarbons (PAHs) in the aliphatic fraction. Application notes with methodology optimized for automated SPE processing are available. See technical note TN142 for more information and download application note AN877 (Biotage® Extrahera™) or AN704 (RapidTrace®) for automated methods.

3 mL ISOLUTE® EPH Column

Part Number	Description	Qty.
928-0145-B	ISOLUTE EPH 1.45 g/3 mL Columns for Automated Method	50
928-0500-E	ISOLUTE EPH 5 g/25 mL Columns for Manual Method	20

ISOLUTE® Layered SPE Columns

Simultaneously extract analytes with a broad range of polarity characteristics from aqueous samples or clean up complex solvent extracts. Download technical note PPS428 'Optimizing Extraction of Multi-analyte Suites from Water Samples Using Layered Solid Phase Extraction Columns' for more information.

Part Number	Description	Qty.
933-0050-B	ISOLUTE C2/C18(EC) 500 mg/3 mL	50
933-0100-C	ISOLUTE C2/C18(EC) 1 g/6 mL	30
934-0040-C	ISOLUTE C8/ENV+ 400 mg/6 mL	30
932-0035-B	ISOLUTE C18(EC)/ENV+ 350 mg/3 mL	50
935-0040-C	ISOLUTE C18/ENV+ 400 mg/6 mL	30
981-0100-B	ISOLUTE SCX-2/SAX 1 g/3 mL	50
973-0170-B	ISOLUTE ACSIL/SCX-2/SIL 1.7 g/3 mL	50
973-0170-C	ISOLUTE ACSIL/SCX-2/SIL 1.7 g/6 mL	30

ISOLUTE® PAH SPE Columns

Extract PAHs from water samples containing polar interferences such as humic acids. The layered column removes humic acids from the final extract, so that they cannot interfere in the final analysis. Download application note IST1025A for more information.

Part Number	Description	Qty.
927-0075-B	ISOLUTE PAH 750 mg/3 mL	50
927-0075-BD	ISOLUTE PAH 750 mg/3 mL (Depth Filter)	50
927-0150-C	ISOLUTE PAH 1.5 g/6 mL	30
927-0150-CA	ISOLUTE PAH 1.5 g/6 mL (ASPEC Adapter)	30

ISOLUTE® SAX/PSA Columns

Remove polar interferences and pigments from plant extracts prior to pesticide residue analysis. Download application note IST1027A for more information.

Part Number	Description	Qty.
924-0100-C	ISOLUTE SAX/PSA 1 g/6 mL	30
924-0200-C	ISOLUTE SAX/PSA 2 g/6 mL	30

ISOLUTE® TPH SPE Columns

Extract total petroleum hydrocarbons from water samples and eliminate tedious shaking and emulsion problems common in liquid-liquid extraction methods. Download application note IST1042 for more information.

Part Number	Description	Qty.
752-0100-C	ISOLUTE TPH 1 g/6 mL	30

6 mL ISOLUTE® TPH Column

ISOLUTE® O & G SPE Columns

Extract total Oil and Grease from water samples and fractionate into HEM and SGT-HEM fractions in one step. Application note IST1005 meets US EPA 1664 guidelines.

Part Number	Description	Qty.
753-0100-C	ISOLUTE O&G 1 g/6 mL	30
753-0100-CD	ISOLUTE O&G 1 g/6 mL (Depth Filter)	30
753-0300-F	ISOLUTE O&G 3 g/70 mL	16
753-0300-FD	ISOLUTE O&G 3 g/70 mL (Depth Filter)	16

ISOLUTE® Na_2SO_4/FL SPE Columns

Remove halogenated interferences from mineral oil extracts. Application note IST1077 complies with the ISO9377-2:200 method.

Part Number	Description	Qty.
976-0400-C	ISOLUTE Na_2SO_4/FL 4 g/6 mL	30

6 mL ISOLUTE® Na_2SO_4/FL Column

ISOLUTE® Myco SPE Columns

ISOLUTE® Myco SPE columns offer simple and efficient multiple mycotoxin sample preparation from a wide range of matrices, ideally suited for selective and fast LC-MS/MS analysis. ISOLUTE Myco SPE columns contain a novel polymer based sorbent designed specifically to be selective enough to isolate a wide variety of different mycotoxins.

ISOLUTE® Myco Columns

Part Number	Description	Qty.
150-0006-BG	ISOLUTE Myco 60 mg/3 mL (Tabless)*	50

Support Documents for ISOLUTE® Myco

PPS318: ISOLUTE® Myco Solid Phase Extraction Columns

ISOLUTE® Bulk Sorbents

The same high quality sorbents used to manufacture ISOLUTE® SPE columns and 96-well plates are also available in bulk. The tightly controlled physical and chemical properties of these sorbents which provide reproducible performance in SPE procedures also ensure their suitability when used in applications that require loose material.

Non-Polar Sorbents

Part Number	Description	Qty.
9220-0025	ISOLUTE C18, Bulk	25 g
9220-0100	ISOLUTE C18, Bulk	100 g
9221-0025	ISOLUTE C18(EC)*, Bulk	25 g
9221-0100	ISOLUTE C18(EC)*, Bulk	100 g
9221-1000	ISOLUTE C18(EC)*, Bulk	1 Kg
9240-1000	ISOLUTE MFC18, Bulk	1 Kg
9290-0100	ISOLUTE C8, Bulk	100 g
9291-0100	ISOLUTE C8(EC)*, Bulk	100 g
9320-0100	ISOLUTE C2, Bulk	100 g
9321-0100	ISOLUTE C2(EC)*, Bulk	100 g

*(EC) - endcapped, a chemical process to reduce the concentration of silica surface silanol groups that provide polar and weak cation exchange secondary interactions. For more details see the QuickStart Guide to SPE. Literature part number UI331.

Mixed-Mode Sorbents

Part Number	Description	Qty.
9905-0010	ISOLUTE HCX-3, Bulk	10 g
9904-0025	ISOLUTE Multimode, Bulk	25 g

Polar Sorbents

Part Number	Description	Qty.
9460-0100	ISOLUTE SI, Bulk	100 g
9470-0025	ISOLUTE NH2, Bulk	25 g
9470-0100	ISOLUTE NH2, Bulk	100 g
9480-0100	ISOLUTE PSA, Bulk	100 g
9712-0100	ISOLUTE FL, Bulk	100 g
9430-0025	ISOLUTE DIOL, Bulk	25 g
9430-0100	ISOLUTE DIOL, Bulk	100 g
9714-0100	ISOLUTE AL-N, Bulk	100 g

Ion Exchange Sorbents

Part Number	Description	Qty.
9480-0100	ISOLUTE PSA, Bulk	100 g
9500-0025	ISOLUTE SAX, Bulk	25 g
9500-0100	ISOLUTE SAX, Bulk	100 g
9503-0100	ISOLUTE PE-AX, Bulk	100 g
9520-0100	ISOLUTE CBA, Bulk	100 g
9530-0025	ISOLUTE SCX, Bulk	25 g
9530-0100	ISOLUTE SCX, Bulk	100 g

ISOLUTE HM-N, a modified form of diatomaceous earth, is also available in bulk. The material is used for applications requiring an inert support as part of the sample preparation process (e.g. SFE). For details of pre-packed columns containing ISOLUTE HM-N, see page 50.

Inert Support (modified diatomaceous earth)

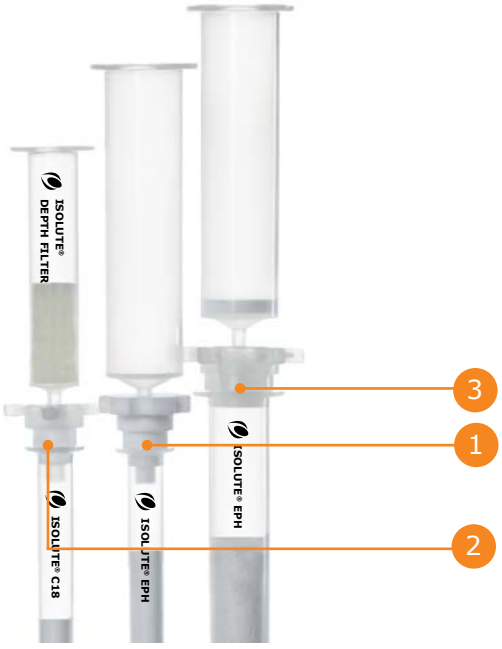
Part Number	Description	Qty.
9800-0025	ISOLUTE HM-N, Bulk	25 g
9800-0500	ISOLUTE HM-N, Bulk	500 g
9800-1000	ISOLUTE HM-N, Bulk	1 Kg
9800-5000	ISOLUTE HM-N, Bulk	5 Kg
9800-10000	ISOLUTE HM-N, Bulk	10 Kg

Sample Preparation Accessories

ISOLUTE® Column Adaptors

Column adaptors attach empty reservoirs, filtration columns and depth filters to SPE columns.

Part Number	Description		Qty.
120-1100	PTFE Adaptor - 1, 3 & 6 mL and XL (Columns A, B, C, G & H)	1	10
120-1101	PE Adaptor - 1, 3 & 6 mL (Columns A, B & C)	2	10
120-1102	PE Adaptor - 15 & 25 mL (Columns D & E)	3	10



ISOLUTE® Depth Filter Reservoirs

Reservoirs with pre-fitted depth filters remove particulate matter from aqueous samples, and prevent column blockage. Also allow for separate analysis of particulate bound compounds.

Part Number	Description		Qty.
120-1003-CD	ISOLUTE Depth Filter Reservoir, 6 mL	4	100
120-1009-FD	ISOLUTE Depth Filter Reservoir, 70 mL	5	50

ISOLUTE® Column Caps

Seal prepared columns, sample loaded columns or immunoaffinity columns for transportation or storage.

Part Number	Description	Column Type	Qty.
1201-0120	Bottom Luer Cap, Fits all Columns	All	100
1201-0121-A	Top Cap, 1 mL Column	A	100
1201-0122-B	Top Cap, 3 mL Column	B	100
1201-0123-C	Top Cap, 6 mL Column	C	100
1201-0125-H	Top Cap, 10 mL – XL Column	G & H	100
1201-0126-D	Top Cap, 15 mL Column	D	100
1201-0127-E	Top Cap, 25 mL Column	E	100
1201-0128-F	Top Cap, 70 mL Column	F	100

ISOLUTE® Empty Reservoirs

Stack above SPE columns to increase the reservoir volume.

Part Number	Description	Qty.
120-1001-A	ISOLUTE Reservoir 1 mL	100
120-1002-B	ISOLUTE Reservoir 3 mL	100
120-1003-C	ISOLUTE Reservoir 6 mL	100
120-1003-CG	ISOLUTE Reservoir 6 mL (Tabless)	100
120-1004-G	ISOLUTE Reservoir 10 mL (G)	50
120-1005-H	ISOLUTE Reservoir 10 mL (H)	50
120-1006-D	ISOLUTE Reservoir 15 mL	100
120-1007-E	ISOLUTE Reservoir 25 mL	100
120-1009-F	ISOLUTE Reservoir 70 mL	50
120-1010-J	ISOLUTE Reservoir 150 mL	25

ISOLUTE® Frits

10 and 20 µm porosity sintered polyethylene frits to fit all SPE column sizes.

ISOLUTE® 10 µm Frits

Part Number	Description	Qty.
120-1061-A	ISOLUTE Frits, 1 mL (6 mm) 10 µm PE	100
120-1062-B	ISOLUTE Frits, 3 mL (9 mm) 10 µm PE	100
120-1063-C	ISOLUTE Frits, 6 mL (13 mm) 10 µm PE	100
120-1065-D	ISOLUTE Frits, 15 mL (16 mm) 10 µm PE	100
120-1066-E	ISOLUTE Frits, 25 mL (20 mm) 10 µm PE	100
120-1067-F	ISOLUTE Frits, 70 mL (27 mm) 10 µm PE	100

ISOLUTE® 20 µm Frits

Part Number	Description	Qty.
120-1031-A	ISOLUTE Frits, 1 mL (6 mm) 20 µm PE	100
120-1033-B	ISOLUTE Frits, 3 mL (9 mm) 20 µm PE	100
120-1035-C	ISOLUTE Frits, 6 mL (13 mm) 20 µm PE	100
120-1036-D	ISOLUTE Frits, 15 mL (16 mm) 20 µm PE	100
120-1037-E	ISOLUTE Frits, 25 mL (20 mm) 20 µm PE	100
120-1038-F	ISOLUTE Frits, 70 mL (27 mm) 20 µm PE	100

ISOLUTE® Sodium Sulfate Drying Cartridges

Dry organic solvents with this easy to use format (contains 2.5 g of high purity sodium sulfate per cartridge). Stack beneath SPE columns during elution for efficient in-line solvent drying.

Part Number	Description	Qty.
802-0250-M	ISOLUTE Sodium Sulfate Drying Cartridge	50

ISOLUTE® Single Fritted Reservoirs

Part Number	Description	Qty.
ISOLUTE® 10 µm PE Fritted Reservoirs		
120-1161-A	ISOLUTE Single Fritted Reservoir, 1 mL/10 µm PE	100
120-1162-B	ISOLUTE Single Fritted Reservoir, 3 mL/10 µm PE	100
120-1163-C	ISOLUTE Single Fritted Reservoir, 6 mL/10 µm PE	100
120-1164-H	ISOLUTE Single Fritted Reservoir, 10 mL/10 µm PE	50
120-1165-D	ISOLUTE Single Fritted Reservoir, 15 mL/10 µm PE	100
120-1166-E	ISOLUTE Single Fritted Reservoir, 25 mL/10 µm PE	100
120-1167-F	ISOLUTE Single Fritted Reservoir, 70 mL/10 µm PE	50
ISOLUTE® 20 µm PE Fritted Reservoirs		
120-1122-B	ISOLUTE Single Fritted reservoir, 3 mL/20 µm PE	100
120-1123-C	ISOLUTE Single Fritted Reservoir, 6 mL/20 µm PE	100
120-1124-G	ISOLUTE Single Fritted Reservoir, 10 mL/20 µm PE	50
120-1124-H	ISOLUTE Single Fritted Reservoir, 10 mL/20 µm PE	50
120-1125-D	ISOLUTE Single Fritted Reservoir, 15 mL/20 µm PE	100
120-1126-E	ISOLUTE Single Fritted Reservoir 25 mL/20 µm PE	100
120-1128-F	ISOLUTE Single Fritted Reservoir 70 mL/20 µm PE	50
ISOLUTE® 5 µm PTFE Fritted Reservoirs		
120-1193-C	ISOLUTE Single Fritted Reservoir 6 mL/5 µm PTFE	100
120-1193-CG	ISOLUTE Single Fritted Reservoir 6 mL (Tabless) 5 µm PTFE	100

ISOLUTE® Filtration Columns

Pre-fitted with two 20 µm polyethylene frits. Use as standalone filters or stacked above an SPE column.

Part Number	Description	Qty.
120-1021-A	ISOLUTE Double Fritted Filtration Column, 1 mL/20 µm PE	100
120-1022-B	ISOLUTE Double Fritted Filtration Column, 3 mL/20 µm PE	100
120-1023-C	ISOLUTE Double Fritted Filtration Column, 6 mL/20 µm PE	100
120-1024-H	ISOLUTE Double Fritted Filtration Column, 10 mL/20 µm PE	50
120-1025-D	ISOLUTE Double Fritted Filtration Column, 15 mL/20 µm PE	100
120-1026-E	ISOLUTE Double Fritted Filtration Column, 25 mL/20 µm PE	100
120-1028-F	ISOLUTE Double Fritted Filtration Column, 70 mL/20 µm PE	50

ISOLUTE® Filtration Plates

Each well contains a 20 µm polyethylene frit for high throughput filtration applications.

Part Number	Description	Qty.
120-1022-P01	Filtration Plate, Fixed Well, 2 mL/20 µm	1
120-1022-P05	Filtration Plate, Fixed Well, 2 mL/20 µm	5

Plate Sealing Accessories

Seal wells and Luer outlets of ISOLUTE®-96 fixed well plates. Piercable sealing cap can also be used to seal collection plates.

Part Number	Description	Qty.
121-5204	Piercable Sealing Cap	50
121-5205	Luer Cap Mat	25

Deep Well Collection Plates

Constructed from high purity, solvent resistant polypropylene.

	Part Number	Description	Qty.
1	121-5201	Collection Plate, 350 µL	50
2	121-5202	Collection Plate, 1 mL Square	50
3	121-5203	Collection Plate, 2 mL Square	50
4	121-5213	Collection Plate, 2 mL Round	50
5	121-5210	Collection Plate, 5 mL, 48-Well	20
6	121-5208	Collection Plate, 10 mL 24-Well	50

1

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Biotage® Extrahera™

Biotage® Extrahera™

Biotage® Extrahera™ is a compact eight channel sample preparation automation system, designed for speed, flexibility and with end user operation in mind. The system has been designed to automatically process methods using well plate or column consumables. Ideal for processing Supported Liquid Extraction (SLE), Solid Phase Extraction (SPE), Phospholipid Depletion (PLD) and Protein Precipitation (PPT) based methods. The system benefits from a compact two level layout for solvent and sample pipette tips, extraction consumables and samples. The lower level features an innovative carousel based design. Switching between processing either well plates or columns can be achieved in less than five minutes. The system processes a full standard SPE plate method in less than 30 minutes including sample pre-treatment, conditioning, equilibration, load, wash and elution steps – even when using volatile and low surface tension solvents.

- Fully automated sample processing station
- Supports 96 and 48 position fixed well plates and ninety six tabless 1 mL columns or twenty four 1, 3, or 6 mL industry standard columns
- Features five automatically pump fed solvent reservoirs
- Built in controller with 12” touch screen graphical user interface
- Simple & intuitive method creation
- Compact footprint
- Built in fume-hood capabilities suitable for bench top usage
- Positive pressure processing for accurate control of flow
- Specified 50 to 1000 µL liquid handling performance
- Aspirate/dispense mixing
- Ultrasonic sensing
- Three elution positions for fraction collection and multiple elution

Biotage® Extrahera™ Brochure

For further information download the Extrahera brochure from **www.biotage.com**. Literature part number PPS353.

Part Number	Description	Qty.
414001	Biotage Extrahera	1
415040	Configuration Kit 96 Positions Dual Flow	1
415041	Configuration Kit 24 Positions Dual Flow	1
415603SP	Pressure Head Seal Self Adhesive 24 Positions	5
415604SP	Pressure Head Seal Self Adhesive 96 Positions	5
414253SP	Column Rack 96 x 1 mL (tabless)	1
414169SP	Column Rack 24 x 1 mL	1
414174SP	Column Rack 24 x 3 mL	1
413640SP	Column Rack 24 x 6 mL (tabless)	1
414255SP	Sample Rack 13 x 100 mm 24 Positions	1
414254SP	Sample Rack 16 x 100 mm 24 Positions	1
415491	Sample/Collection Rack (24 Positions, 12 x 75 mm Tubes)	1
415585	Sample/Collection Rack (24 Positions, 16 x 75 mm Tubes)	1
415492	Sample/Collection Rack (24 Positions, 18 x 75 mm Tubes)	1
413282	16 x 75 mm Test Tube	1000
C44651	12 x 75 mm Test Tube	1000
C40707	13 x 100 mm Test Tube	1000
C40708	16 x 100 mm Test Tube	1000
414574	18 x 75 mm Test Tube	304
121-5202	96-well Collection Plate, 1 mL, Square	50
121-5203	96-well Collection Plate, 2 mL, Square	50
121-5213	96-well Collection Plate, 2 mL, Round	50
121-5210	48-well Collection Plate, 5 mL	20
121-5208	24-well Collection Plate, 10 mL	25
414511SP	Collection Rack 12 x 75 mm 24 Positions	1
414578SP	Inserts for 12 x 32 mm vials for Collection Rack 12 x 75 mm 24 Positions	24

Part Number	Description	Qty.
413991SP	Solvent Rack for 25 mL Reservoirs	1
414045SP	Solvent Reservoir 25 mL	25
414214SP	Solvent Reservoir 100 mL	5
415560SP	Solvent Rack for 100 mL Reservoirs	1
414330SP	Kit, Solvent Inlet Lines (S1-S5)	5
414579	Extrahera Solvent Safety Kit (incl. GL45 Caps, Filters and Bottles)	1
413686SP	Tip Rack Holder	1
414141	Biotage Disposable Tips 1000 µL Clear	10 x 96
414201SP	Flow-Through Plate 96	1
414516SP	Flow-Through Plate 48	1
414203SP	Flow-Through Plate 24	1
414703SP	Spacer for µElution and SPEC Fixed Well Plates	1
414702SP	Matrix Tube retaining Plate	1
414272SP	Waste Kit incl. Waste Reservoir 5 L and Tubing	1
414218SP	Pipette Tip Waste Bin	1
414565SP	Extraction Waste Collector for Lifter	1
414137SP	Waste Tubing	1
411916SP	Fuse, 4 A/250 VAC, 5x20mm	5
C67361	Mains Cord-Set (EU)	1
C65902	Mains Cord-Set (US/CA)	1
C128195	Mains Cord-Set (UK)	1
356330SP	Vacuum Pump ME1C, 100 to 230VAC 50/60Hz	1
SER-EX-SAP	Service Agreement - Priority - Extrahera	
SER-EX-SAL	Service Agreement - Limited - Extrahera	
SER-EX-FYMP	First Year Maintenance Package Extrahera	
SER-EX-IN	Installation Extrahera	
SER-EX-IQOQ	IQ/OQ Extrahera	

Biotage® Extrahera™ GLP

With our new GLP software package, users can combine the utility of the system's advanced lab automation with the organizational features used under Good Laboratory Practices. Whether you operate in a GLP workspace, or you simply need to tidy up your lab's workflow, the Extrahera GLP software package has the tools you need to successfully organize your lab.

Part Number	Description	Qty.
416990	GLP Package - On Site Activation	1
416932SP	GLP Package - Upgrade Kit	1

Highlighted Features

Manage

- Oversee system control and access with five distinct User Roles. User roles designed to match lab personnel with their training and expertise.

Secure

- Maintain system and data security.
- Incorporated password protection, timed sessions, and restricted USB port access.

Network

- Network integration allows for backup/ restore or export of reports and audit trails to your local area network or LIMS system.
- Receive email alerts for system pauses or errors and view your runs on your laptop using the remote viewing option.

Audit

- Automatically monitor all system operations with precision tracking.
- Generate a clear audit trail documenting all activities, including user credentials and reasons for making any method changes.

Biotage® Extrahera GLP Brochure

For further information download the Biotage® Extrahera™ GLP Brochure from **www.biotage.com**
Literature part number PPS598.V.1.

Biotage® PRESSURE+ 48 and PRESSURE+ 96

Positive Pressure Manifolds

Biotage® PRESSURE+ 48 and PRESSURE+ 96

Biotage® PRESSURE+ manifolds deliver positive pressure, parallel processing for 96 well plates, 1 mL, 3 mL and 6 mL column formats. The systems utilize a consistent, uniform flow of positive pressure to move both low and high viscosity liquids through SPE plates and columns.

Biotage® PRESSURE+ 96

Part Number	Description
PPM-96	PRESSURE+ 96 Positive Pressure Manifold 96 position. Includes 1 x 1 mL 96 well collection plate, 1 x 2 mL 96 well collection plate, 1 x 10 mL 24 well collection plate (waste plate), 96-column sealing gasket, gas supply adaptor kit (6' of 1/8" i.d. polyethylene tubing and 1/8" and 1/4" NPT connectors), User Manual CD-ROM.

Accessories

PPM-A96-CH	PRESSURE+ 96 Tabless 1 mL Column Holder
PPM-A96-SPCR	PRESSURE+ 96 Spacer (16 mm) for µElution Plates
PPM-A96-GSKT	PRESSURE+ 96 Sealing Gasket 96 Position
PPM-A96-1024	PRESSURE+ 96 Collection Tray 10 mL 24 Well
PPM-GA	PRESSURE+ Gas Supply Adaptor for all Models

Biotage® PRESSURE+ 48

Part Number	Description
PPM-48	PRESSURE+ 48 Positive Pressure Manifold 48 Position. Includes sealing gasket 48 position, gas supply adaptor kit (6' of 1/8" i.d. polyethylene tubing and 1/8" and 1/4" NPT connectors), waste bin rack, waste bin inserts, User Manual CD-ROM. Racks must be ordered separately.

Racks

PPM-A48-1RCK	PRESSURE+ 48 SPE Column Rack 1 mL
PPM-A48-3RCK	PRESSURE+ 48 SPE Column Rack 3 mL
PPM-A48-6RCK	PRESSURE+ 48 SPE Column Rack 6 mL
PPM-A48-1232	PRESSURE+ 48 Sample Vial Rack 12 x 32 mm
PPM-A48-1275	PRESSURE+ 48 Collection Rack 12 x 75 mm
PPM-A48-13100	PRESSURE+ 48 Collection Rack 13 x 100 mm
PPM-A48-16100	PRESSURE+ 48 Collection Rack 16 x 100 mm
415690SP	TurboVap P+ Multi Rack (48 Positions, 12–13 mm Tubes)
415675SP	TurboVap P+ Rack (48 Positions, 16 x 100 mm Tubes)

Accessories

PPM-A48-GSKT	PRESSURE+ 48 Sealing Gasket 48 position
PPM-A48-WST	PRESSURE+ 48 Waste Bin Inserts, pack of 3
PPM-A48-WSTRCK	PRESSURE+ 48 Waste Bin Rack with Inserts, pack of 3
PPM-GA	PRESSURE+ Gas Supply Adaptor for all Models

Biotage® VacMaster 10, 20, 96 and Accessories

Sample Processing Manifolds

Biotage® VacMaster™ 10 and 20

10 or 20 position vacuum manifolds for SPE, SLE and filtration applications.

VacMaster™ 10 Sample Processing Manifold

Part Number	Description
121-1010	VacMaster-10 Sample Processing Manifold (with 10 mm Rack)
121-1012	VacMaster-10 Sample Processing Manifold (with 12 mm Rack)
121-1016	VacMaster-10 Sample Processing Manifold (with 16 mm Rack)
121-1027	VacMaster-10 Sample Processing Station (with 27 mm Rack)

VacMaster™ 10 Replacement Parts

Part Number	Description	Qty.
121-1039	Replacement Tank with Fittings	1
121-1045	Replacement Lid with Fittings	1
121-1030	Silicone Lid Gasket	1
121-1133	Replacement Rack, 12 mm	1
121-1134	Replacement Rack, 16 mm	1

VacMaster™ 20 Sample Processing Manifold

Part Number	Description
121-2010	Sample Processing Manifold (with 10 mm Rack)
121-2012	Sample Processing Manifold (with 12 mm Rack)
121-2016	Sample Processing Manifold (with 16 mm Rack)

VacMaster 20 Replacement Parts

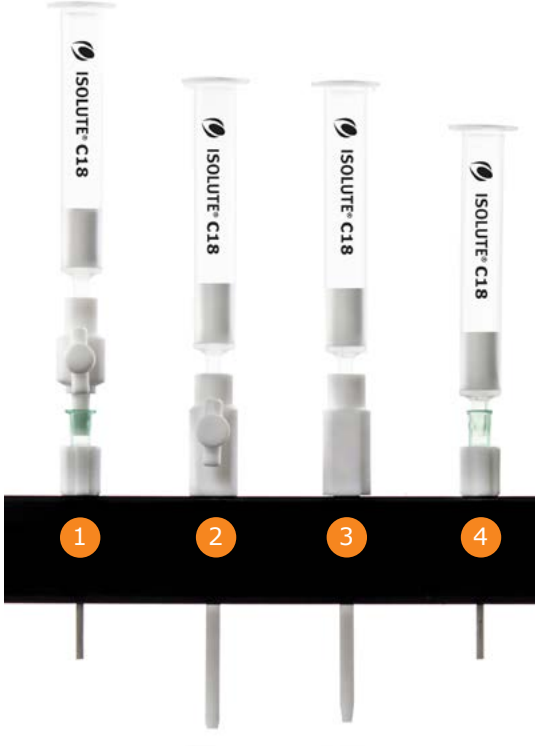
Part Number	Description	Qty.
121-2068	Replacement Tank with Fittings	1
121-2075	Replacement Lid with Fittings	1
121-2059	Silicone Lid Gasket	1
121-2161	Replacement Rack, 10 mm	1
121-2162	Replacement Rack, 12 mm	1
121-2163	Replacement Rack, 16 mm	1

VacMaster Accessories

Part Number	Description	Qty.
121-0010	PTFE 'T' Valve (for connecting 2 tanks)	1

PTFE Stopcock Option and Spare Parts

	Part Number	Description	Qty.
1	121-0009	Universal PTFE Stopcock	10
2	121-0001	PTFE Stopcock/Needle Unit	10
3	121-0002	PTFE Needle	10
4	121-0003	Stainless Steel Needle	20
	121-0004	Stainless Steel Needle Retainer	10
	121-0005	Port Sealing Plugs	30
	121-0009-S	PTFE Stopcock - Pressure Positive	10



Biotage® VacMaster™ 96

Vacuum manifold for processing 96-well SPE, SLE or filtration plates.

Part Number	Description	Qty.
121-9600	VacMaster-96 Sample Processing Manifold (Without Vacuum Control)	1

Vacuum Control Options

Part Number	Description	Qty.
121-9601	VacMaster VCU-1 Vacuum Control Unit	1
121-9602	VacMaster VCU-2 Vacuum Control and Generation Unit	1

96 Well Collection Plates-Deep Well

Part Number	Description	Qty.
121-5202	Collection Plate, 1 mL, Square	50
121-5203	Collection Plate, 2 mL, Square	50
121-5213	Collection Plate, 2 mL, Round	50

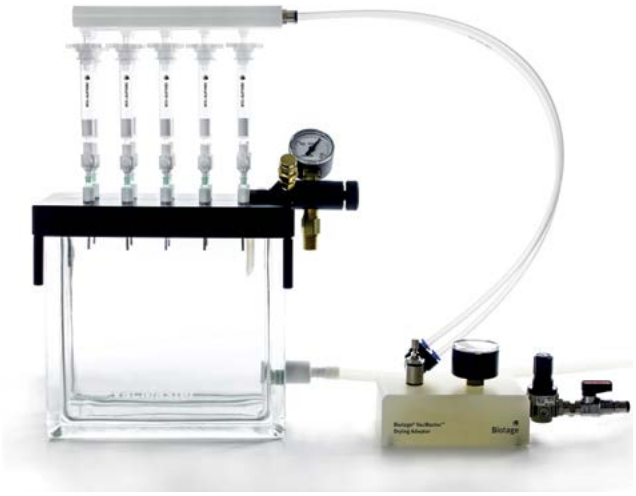
Replacement Parts

Part Number	Description		Qty.
121-9612	VacMaster-96 Replacement Gasket	1	1
121-9613	VacMaster-96 Replacement O-ring	2	1
121-9614	Collection Plate Spacer (2 mm) for Deep Well Collection Plates	3	1
121-9610	Array Insert (6 mm), Acetal	4	1
121-9615	Collection Plate Spacer (29 mm) for Shallow Well Collection Plates	5	1
121-9611	VacMaster-96 Insert (12 mm) for "Shallow Skirt" Plates	6	1

Biotage® VacMaster™ Drying Adaptor

Connect to laboratory air or nitrogen supply to dry 10 or 20 SPE columns simultaneously.

Part Number	Description	Qty.
124-1001	VacMaster-10 Drying Adaptor for 1, 3 & 6 mL Columns	1
124-2001	VacMaster-20 Drying Adaptor for 1, 3 & 6 mL Columns	1
124-2002	VacMaster-20 Drying Adaptor for 15 and 20 mL Columns	1



Biotage® VacMaster™ Trap Kit

Waste traps should be installed between the outlet of the VacMaster™ sample processing manifold and the vacuum source, trapping all waste liquids exiting the manifold. Compatible with VacMaster 10 & 20 and -96 processing manifolds, VacMaster Trap Kits are available with 1 L or 10 L capacity.

Part Number	Description	Qty.
121-2095	VacMaster Trap Kit 1 L	1
121-2195	VacMaster Trap Kit 10 L	1

Biotage® Gravity Rack

Process up to 20 samples simultaneously under gravity.

Part Number	Description	Qty.
123-2016	Gravity Rack with 16 mm Collection Tube Rack	1
123-2019	Gravity Rack with 19 mm Collection Tube Rack	1

Accessories

Part Number	Description	Qty.
121-0009	Universal PTFE Stopcock	10
121-0001	PTFE Stopcock/Needle Unit	10
121-0002	PTFE Needle Unit	10
121-0003	Stainless Steel Needle	20
121-0004	Stainless Steel Needle Retainer	10

Biotage® VacMaster™ Large Volume Extraction (LVE) Kit

For unattended loading of large volume samples. Inert PTFE tubing prevents sample contamination.

Part Number	Description	Qty.
121-2090	VacMaster LVE Kit for 1, 3 and 6 mL Columns	1
121-2091	VacMaster LVE Kit for 15 mL and 25 mL SPE Columns	1
121-2092	VacMaster LVE Kit for 70 mL SPE Columns	1
121-2094	VacMaster LVE Kit XL	1

Biotage® Lysera

Biotage® Lysera

Bead Mill Homogenizer

Biotage® Lysera is the most advanced and easy to use bead mill homogenizer available. It is specifically designed for grinding, lysing, and homogenizing biological samples prior to sample preparation.

The convenient front-loading design maximizes laboratory bench space, and the removable tube carriage allows for sample pre-cooling and more efficient sample loading. The Biotage® Lysera stores up to 99 programs for standardized and reproducible results, and has an advanced sample temperature monitoring system and a multilingual user interface.

All Soft tissues (bacteria, liver, brain, skin, etc.); Hard/ Tough tissues (bones, corn, hair, seeds, soil, etc.) and micro-organisms (gram+, gram-, yeast, etc.) can be homogenized with one of 8 adapted bead mixes.

- Wide range of accessories for any sample size - 24 x 0.5 mL, 24 x 1.5 mL, 24 x 2 mL, 12 x 7 mL, 3 x 15 mL, 6 x 30 mL, 3 x 50 mL, or 96-well strip well tubes
- Broadest performance range (0.8 m/s–8 m/s) and highest disruptive energy of comparable bead mill products.
- No cool down required between runs: process hundreds of samples per day
- Convenient front loading design, 99 programmable memory settings, and multilingual user interface
- Disposable tubes ensure no threat of cross-contamination or sample degradation
- Advanced carriage motion optimizes bead movement inside the sample tubes to minimize swirling. This increases processing efficiency and reduces sample heating
- Wide variety of sample processing, in volumes ranging from 20 µL–50 mL

Optimized Tube Motion Ensures Highest Performance

Biotage® Lysera is designed with a unique carriage motion to ensure that the intra-tube bead movement reduces swirling and results in the highest bead impact forces of any bead mill on the market. The increased power of the Biotage® Lysera decreases processing time and reduces sample heating to maximize sample homogenization efficiency

Increased Recovery

The Biotage® Lysera unique tube carriage motion coupled with sample specific bead beating materials ensure that a thorough homogenate is achieved regardless of the sample type. The high lysing efficiency of the Biotage® Lysera results in a increase in analyte recovery and increases the sensitivity of the downstream assay.

Part Number	Description	Qty.
19-060	Biotage® Lysera	1
19-010-330	96 Strip Well Tube Carriage Kit	1
19-010-310S	1.5 mL Tube Carriage Kit	1
19-010-310	2 mL Tube Carriage Kit	1
19-345-007	7 mL Tube Carriage Kit	1
19-345-015	15 mL Tube Carriage Kit	1
19-345-035	30 mL Tube Carriage Kit	1
19-345-050	50 mL Tube Carriage Kit	1
19-8005B	Cryo Cooling Unit	1
19-610	Hard Tissue Grinding Mix (1.5 mL Tubes)	50
19-6158	Hard Tissue Homogenizing Mix (15 mL Tubes)	50
19-617	Soft Tissue Homogenizing Mix (1.5 mL Tubes)	50
19-618	Hard Tissue Homogenizing Mix (1.5 mL Tubes)	50
19-620	Hard Tissue Grinding Mix (2 mL Reinforced Tubes) Nuclease Free	50
19-621	Micro-Organism Lysing Mix (2 mL Tubes)	50
19-622	Tough Micro-Organism Lysing Mix (2 mL Tubes) Nuclease Free	50
19-623	Small Volume Micro-Organism Lysing Mix (2 mL Tubes with 0.5 mL insert)	50
19-624	Hard & Fibrous Tissue Mix (2 mL Tubes)	50
19-625	Small Volume Soil Homogenizing Mix (2 mL Tubes with 0.5 mL Insert)	50
19-626	Soft Tissue Homogenizing Mix (2 mL Tubes with 0.5 mL insert)	50
19-627	Soft Tissue Homogenizing Mix (2 mL Tubes) Nuclease Free	50

Part Number	Description	Qty.
19-628	Hard Tissue Homogenizing Mix (2 mL Reinforced Tubes) Nuclease Free	50
19-6350	Hard Tissue Grinding Mix (30 mL Tubes)	50
19-6357	Soft Tissue Homogenizing Mix (30 mL Tubes)	50
19-6358	Hard Tissue Homogenizing Mix (30 mL Tubes)	50
19-640	Bulk 2.4 mm Metal Beads - 500 grams	1
19-642	Bulk 0.5 mm Glass Beads - 400 grams	1
19-645	Bulk 1.4 mm Ceramic Beads - 325 grams	1
19-646	Bulk 2.8 mm Ceramic Beads - 325 grams	1
19-682	Bulk 6.5 mm Ceramic Beads - 325 grams	1
19-649	Bulk 2 mL Reinforced Tubes with Screw Caps	1000
19-6508	Hard Tissue Homogenizing Mix (50 mL Tubes)	50
19-651	Bulk 7 mL Reinforced Tubes with screw caps	1000
19-6615	Bulk 15 mL Tubes with Leak Proof Screw Caps	100
19-6635	Bulk 30 mL Tubes with Leak Proof Screw Caps	100
19-6650	Bulk 50 mL Tubes with Leak Proof Screw Caps	100
19-670	Hard Tissue Grinding Mix (7 mL Tubes)	50
19-677	Soft Tissue Homogenizing Mix (7 mL Tubes)	50
19-678	Hard Tissue Homogenizing Mix (7 mL Tubes)	50
19-696	1.2 mL 96 Strip Well Tubes	960

Evaporation

TurboVap® Product Family

Biotage® TurboVap® II (part number 415001).

Biotage® TurboVap® LV (part number 415000).

The new TurboVap® evaporator is a second generation product which builds on the solid foundations of the classic TurboVap product and incorporates many new features.

The system is based around an interchangeable design which allows users to switch between the functionality they are presently accustomed to in the classic TurboVap® LV and II instruments. The TurboVap EH allows seamless use of Biotage® Extrahera™ collection racks in the new system.

TurboVap® II rack with end-point sensors (part number 415100).

TurboVap® LV Multi Rack (part number 414964).

The TurboVap® P+ manifold and racks allow evaporation of up to 48 samples that have been processed using a Biotage® PRESSURE+ 48 Positive Pressure Manifold. They are designed to streamline workflow following sample processing on a PRESSURE+ 48 unit. Samples are processed as normal on the PRESSURE+ 48 unit but by using specialized collection racks can be transferred immediately into the TurboVap P+ for evaporation.

The new TurboVap has many new and improved hardware features versus the old style units, notably enhanced visibility, removable and replaceable nozzles, on the fly nozzle adjustment, easily exchangeable manifolds to switch between LV, II, EH and P+ configurations, evaporation flow gradients, drain port and touch screen interface. To complement the TurboVap are a series of Multi Racks that allow end users much greater flexibility in the variety of different tube/vial sizes they can process from just one rack. Acid resistant PTFE coated versions of the TurboVap LV and II instruments are available.

Part Number	Description
TurboVap® LV	
415000	TurboVap LV (includes 415408 Manifold, but no Multi Rack)
416200	TurboVap LV - PTFE Coated Manifold (Rack must be ordered separately)
415408	TurboVap LV Manifold (48 Nozzles)
416129SP	TurboVap LV Manifold (48 Nozzles) - PTFE Coated (for upgrade of 415000)
415489	TurboVap LV Multi Rack (48 Positions, 10–16 mm Mini Vials)
414964	TurboVap LV Multi Rack (48 Positions, 10–20 mm Tubes)
415129	TurboVap LV Multi Rack (24 Positions, 21–32 mm Tubes)
415656SP	Aqua Stabil, 100 mL

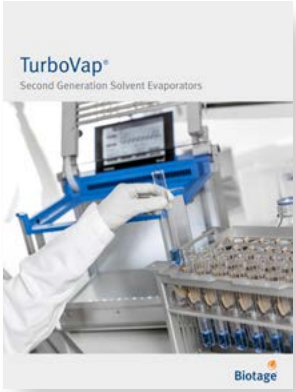
Part Number	Description
TurboVap® II	
415001	TurboVap II (Includes 415222 Manifold, but no Rack)
416201	TurboVap II - PTFE Coated Manifold (Rack must be ordered separately)
415222	TurboVap II Manifold (6 Nozzles)
415830SP	TurboVap II Manifold (6 Nozzles) - PTFE Coated (for upgrade of 415001)
415100	TurboVap II Rack with End-Point Sensors (6 Positions, 200 mL Tubes)
415535	TurboVap II Rack with End-Point Sensors (6 Positions, 50 mL Tubes)
415494	TurboVap II Multi Rack without End-Point Sensors (6 Positions, 50/200 mL Tubes)

Part Number	Description
TurboVap® EH	
415540	TurboVap EH (Includes 415490 Manifold, but no Rack Holder or Rack)
415490	TurboVap EH Manifold (2 x 24 Nozzles)
415510	TurboVap EH Sample/Collection Rack Holder (2 Positions)
415491	Sample/Collection Rack (24 Positions, 12 x 75 mm Tubes)
415585	Sample/Collection Rack (24 Positions, 16 x 75 mm Tubes)
415492	Sample/Collection Rack (24 Positions, 18 x 75 mm Tubes)

TurboVap® EH P+ Configuration	
415682SP	TurboVap P+ Manifold (48 Nozzles)
415675SP	TurboVap P+ Rack (48 Positions, 16 x 100 mm Tubes)
415690SP	TurboVap P+ Multi Rack (48 Positions, 12-13 mm Tubes)

Evaporation Brochure

For further information download the Evaporation brochure from **www.biotage.com**.
Literature part number PPS438.



Biotage® SPE Dry 96 Sample Concentrator System

Part Number	Description
SD-9600-DHS-NA	SPE Dry 96 Sample Concentrator System, 100/120V
SD-9600-DHS-EU	SPE Dry 96 Sample Concentrator System, 220/240V
SD-9600-DHS-T-NA	SPE Dry 96 Sample Concentrator System, with PTFE Coated Needles (Top Head Only), 100/120V
SD-9600-DHS-T-EU	SPE Dry 96 Sample Concentrator System, with PTFE Coated Needles (Top Head Only), 220/240V

Biotage® SPE Dry 96 Dual Sample Concentrator System

Part Number	Description
SD2-9600-DHS-NA	SPE Dry 96 Dual Sample Concentrator System, 100/120V
SD2-9600-DHS-EU	SPE Dry 96 Dual Sample Concentrator System, 220/240V
SD2-9600-DHS-T-NA	SPE Dry 96 Dual Sample Concentrator System, with PTFE Coated Needles (Top Head Only), 100/120V
SD2-9600-DHS-T-EU	SPE Dry 96 Dual Sample Concentrator System, with PTFE Coated Needles (Top Head Only), 220/240V

For further information on the Biotage® SPE Dry 96 and SPE Dry 96 Dual Sample Concentrator Systems download Product Note PPS447.

Biotage® SPE Dry 96 Dual.

Biotage® ACT Plate Adapter

Protect your samples from cross contamination (cross talk) during evaporation. Designed for use with square well collection plates, Biotage® ACT (Anti Cross Talk) Plate Adapter is compatible with Biotage® SPE Dry 96 and SPE Dry 96 Dual Sample Concentrator Systems.

Part Number	Description	Qty.
414355SP	Biotage® ACT Plate Adapter	1
121-5202	Collection Plate, 1 mL, Square	50
121-5203	Collection Plate, 2 mL, Square	50

Avoiding Cross Talk Brochure

For further information download the Avoiding Cross Talk brochure from **www.biotage.com**.
Literature part number PPS387.

Products for Clinical Research

Products for Clinical Research

Today's clinical laboratories need fast, accurate analytical results, so reliable, high throughput sample preparation is essential. Our sample preparation products provide solutions that match both the high throughput requirements and challenging sample clean-up needed for clinical samples.

We understand how cleaner sample extracts mean reduced matrix effects in LC-MS/MS analysis, giving better sensitivity for low analyte concentrations, and also reduce costly instrumental downtime. So we have developed a range of effective sample preparation products that effectively remove matrix components from biological fluid samples, and deliver high analyte recoveries.

Method development time is often at a premium, so our products are easy to incorporate into your laboratory workflow, and are supported by detailed application notes. Procedures are optimized for automation, improving reliability and throughput while reducing cost per sample.

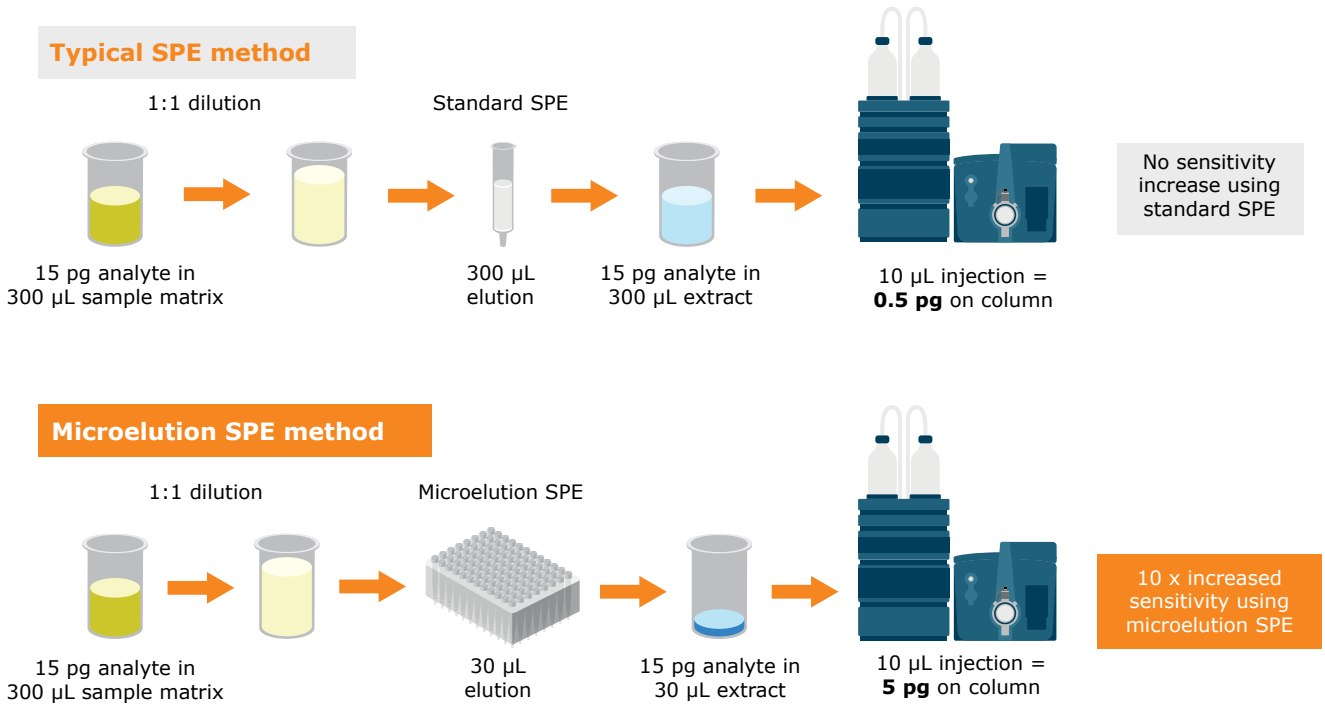
Biotage® Extrahera™

Biotage® Extrahera™ is an automation system for sample preparation. With its simple, intuitive software, it can be quickly adopted into the laboratory, and can be used for both processing routine samples and faster method development. By reducing manual processes, Biotage Extrahera improves robustness and reliability, and minimizing errors and freeing lab staff for more valuable activities. See page 62 for further details.

Biotage® Mikro

Increase sensitivity without compromising on sample throughput using Biotage® Mikro solid phase extraction microelution plates.

Their optimized bed dimensions containing 2 mg of EVOLUTE® SPE sorbents are taller and narrower than traditional 10 mg SPE plates. This provides high capacity with very low elution volumes. Load up to 600 µL of sample and elute in volumes as low as 20 µL (application dependent). >10 x concentration factor can eliminate the need for time consuming evaporation steps.



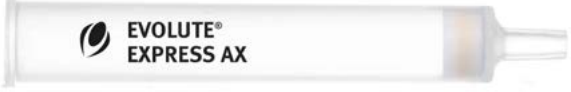
Schematic of workflow using 10 mg SPE plate vs Biotage® Mikro plate.

Biotage® SPE Dry™

Biotage SPE Dry 96 sample concentrators are high throughput evaporators capable of evaporating either one or two 96-well plates in parallel. The small footprint saves valuable space in fume hoods, and heated gas flows above and below the plate give fast, controllable evaporation. PTFE options are available for neo-natal applications. Also compatible with 24, 48 and 384-well plate formats. See page 80 for further details

EVOLUTE® EXPRESS

Excellent biofluid compatibility means that EVOLUTE® EXPRESS SPE products are ideal for extraction of therapeutic drugs and clinical biomarkers from biological fluids. Available in five media choices, the optimized pore size means extracts deliver reduced matrix effects and reduced instrument downtime. Wettable EXPRESS frit technology ensures fast, reproducible flows even with viscous samples, and reliable performance in automated procedures. See page 28 for further details.



ISOLUTE® PLD+ Protein and Phospholipid Removal Products

ISOLUTE® PLD+ Protein and Phospholipid Removal Plates and Columns provide a very effective but extremely simple sample clean-up of blood based samples (whole blood, plasma, serum) for LC-MS/MS analysis. Extracts are free of proteins and phospholipids. Requiring next to no method development, ISOLUTE PLD+ can be integrated quickly and easily into routine workflow, increasing productivity and reducing instrument downtime. See page 20 for further details.

ISOLUTE® SLE+ Supported Liquid Extraction Products

ISOLUTE® SLE+ Supported Liquid Extraction products effectively automate traditional liquid-liquid extraction methods using a simple Load-Wait-Elute procedure. High analyte recoveries are obtained without any offline steps such as protein precipitation, sample extracts are free of proteins and phospholipids. Application notes include important clinical targets such as vitamin D metabolites and endogenous steroid panels. See page 24 for further details.

Search the wide range of clinical applications on www.biotage.com


HOSP. CLASS
DEPENDENT
CODE
ADDRESS
URGENT
FUNCTIONS
FREE T4

Products for Forensic and Clinical Toxicology

Products Forensic and Clinical Toxicology

Biotage manufacture a wide range of products for use in the area of forensic and clinical toxicology, and doping control in animal and human sports.

Biotage is dedicated to developing sample preparation products that solve the daily challenges faced in toxicology laboratories worldwide: whether it's difficult matrices such as urine, saliva, hair and post mortem blood; broad (and growing) analyte panels or increasing throughput requirements. Our focus is on providing our customers the complete toolbox to solve their analytical challenges.

We understand your need to reduce matrix effects in LC-MS/MS, without compromising speed, simplicity or analyte recovery in your sample preparation.

With the increasing use of automation in sample preparation, we focus on the development of reliable, easily automated techniques and procedures, which can maximize the use of automated extraction systems.

Biotage® ACT Plate Adapter

Biotage® ACT (Anti Cross Talk) plate adapter is a novel (patent pending) solution to the phenomenon of hot spot cross contamination, or cross talk, during evaporation in 96-well plate based assays. The simple but effective design prevents cross talk on evaporation when using the Biotage® SPE Dry 96, decreasing the risks of falsely elevated results, which would otherwise compromise analytical results.
See page 80 for further details.

Biotage® Extrahera™

Biotage® Extrahera™ is an automation system for sample preparation. Available in two interchangeable formats, supporting both individual column and 96-well plate extractions, the system provides excellent value automation. Compatible with all industry standard extraction techniques including supported liquid extraction, Extrahera handles biological samples including blood with ease. Featuring positive pressure processing of your samples, disposable pipette sample transfer and a simple user interface, it is the perfect partner for your toxicology laboratory. See page 62 for further details.

Biotage® Mikro

Increase sensitivity without compromising on sample throughput using Biotage® Mikro solid phase extraction microelution plates.

Their optimized bed dimensions containing 2 mg of EVOLUTE SPE sorbents are taller and narrower than traditional 10 mg SPE plates. This provides high capacity with very low elution volumes. Load up to 600 uL of sample and elute in volumes as low as 20 µL (application dependent). ›10 x concentration factor can eliminate the need for time consuming evaporation steps. See page 34 for further details.

Biotage® Lysera

Lyse or homogenize the toughest samples in seconds. Biotage® Lysera is the most advanced and easy to use bead mill homogenizer available. It is specifically designed for grinding, lysing, and homogenizing solid or semi solid samples prior to sample preparation. Great for tissue, bone, and other challenging matrices.
See page 74 for further details.

Biotage® SPE Dry

Designed for high throughput laboratories, the Biotage® SPE Dry 96 and Biotage® SPE Dry 96 Dual Sample Concentrator Systems provide efficient solvent evaporation in microplate format and are compatible with 24, 48, 96 and 384 well collection plates. Heated gas flow from above and below the collection plate ensures efficient solvent evaporation. Combine with the Biotage® ACT Plate Adapter to decrease the risk of hot spot cross contamination.
See page 80 for further details.

EVOLUTE® HYDRO CX

EVOLUTE® HYDRO CX Solid Phase Extraction plates combine robust, high quality EVOLUTE SPE sorbents with HYDRO frit technology. This technology enables effective in-situ hydrolysis of urine samples in the well plate for toxicology applications. Sample clean-up is then performed directly eliminating the need for off-line hydrolysis, this leads to significant time saving and reduction in sample handling, reducing potential errors and sample losses, providing a truly streamlined workflow. Our optimized extraction protocol means EVOLUTE HYDRO CX is ideal for extraction of large suites of prescribed and illicit drugs.
See page 32 for further details

ISOLUTE® FILTER+ High Performance Filtration Plates

ISOLUTE® FILTER+ plates provide effective, workflow friendly filtration of biological samples, perfect for use in dilute and shoot of urine samples prior to LC-MS/MS analysis in forensic toxicology applications. ISOLUTE FILTER+ plates are designed to prevent sample particulates from reaching the analytical LC column, protecting the analytical system from particulate build up over time.
See page 14 for further details.

ISOLUTE® HYDRO DME+ Dual Mode Extraction Products

ISOLUTE® HYDRO DME+ provides a fast and affordable way to clean-up urine samples for LC-MS/MS in forensic toxicology applications. The Dual Mode Extraction (DME) provides effective removal of matrix components from urine using a combination of liquid partitioning and scavenging using a simple pass through workflow highly suited to the demands in today's toxicology laboratories.
See page 18 for further details.

ISOLUTE® SLE+ Supported Liquid Extraction Products

ISOLUTE® SLE+ Supported Liquid Extraction products effectively automate traditional liquid-liquid extraction methods using a simple Load - Wait – Elute procedure. High analyte recoveries are obtained without any offline steps such as protein precipitation, sample extracts are free of proteins and phospholipids. Application notes cover all important drugs of abuse classes and matrices.
See page 24 for further details.

Products for Environmental Analysis

Products for Environmental Analysis

Extract purity is essential for reliable analyte quantification at low ppb levels in environmental applications. ISOLUTE® and EVOLUTE® SPE column components (sorbents, columns and frits) and Sample Processing Manifolds and accessories meet these very demanding requirements, from sample loading, clean up, concentration and evaporation.

ISOLUTE® ENV+

Improve polar analyte recovery with ISOLUTE ENV+, a highly retentive non-polar SPE phase for the extraction of polar analytes that are not retained by C18 or C8 sorbents.

It's high surface area and optimized pore structure make it ideal for extraction of very polar analytes, such as phenols and acid herbicides, and samples can be loaded at up to 100 mL/min. ISOLUTE ENV+ has a very high capacity for polar compounds (up to 50 % by weight for caffeine) reducing analyte breakthrough and improving recovery for even the most polar of compounds. It is totally water wettable, so it will never become de-conditioned, even if it runs dry. Also available in ISOLUTE ENV+ On-line SPE Cartridge format. See Page 36 for further details.

ISOLUTE® EPH

SPE columns for fractionation of aliphatics and aromatics in soil. Simply and reliably fractionate aliphatics from aromatics in soil extracts, for GC-FID or GC-MS analysis. Manual and automated methods for RapidTrace® and Biotage®Extrahera™ are available. See Page 51 for further details.

ISOLUTE® Layered SPE Columns

Combined extraction of analytes with widely differing properties saves time and reduces laboratory and collection costs. ISOLUTE Layered SPE columns are designed for efficient extraction of multi-analyte suites. Layers of different SPE sorbents are contained in a single SPE column, enabling a broader range of analytes to be extracted than with a single sorbent. See PPS428 and Page 51 for further details.

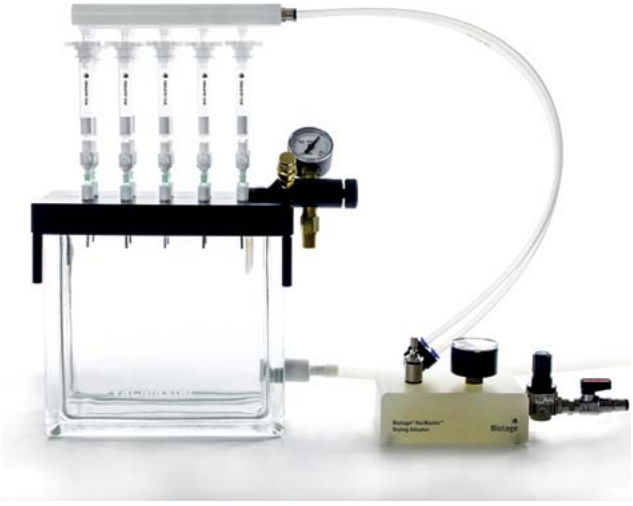
TurboVap® II

The new TurboVap® II evaporator is built on the solid foundations of reliability and performance that made it the market leader. The unit provides parallel evaporation of up to 6 samples in either 50 mL or 200 mL glassware with end point detection to minimize volatile analyte losses. If end point detection is not required, up to 24 samples in 50 mL glassware can be evaporated in parallel by swapping out the manifold and exchanging the rack. The modern design incorporates near 360° visibility for samples being evaporated. Stored methods and flow gradients quickly, safely and efficiently evaporate samples according to existing SOPs. See page 78 and brochure PPS438 for further details.

Biotage® VacMaster™ Accessories

Biotage® VacMaster™ Drying Adapter: Complete removal of aqueous sample from the SPE column before elution with water immiscible solvents improves analyte recovery, reproducibility and throughput in manual sample processing. The VacMaster drying adaptor directs a stream of gas efficiently onto the column, significantly improving drying times compared to vacuum aspirated airflow.

Biotage® VacMaster™ LVE Kits: manual loading of large volume water samples onto multiple SPE columns on a vacuum manifold can be time consuming and inefficient. This simple but effective kit uses inert materials to prevent contamination, and allows unattended loading of multiple samples simultaneously. See Page 67 for further details.



Products for Food Analysis

Products for Food Analysis

Sample preparation in food and agrochemical applications is often complicated by the nature of the original sample matrix. In residue analysis, common sample types such as fruit, vegetables, soil or tissue are solid or semisolid, and need specific sample pre-treatment methods to allow extraction of analytes. Some liquid samples, such as milk, have high fat concentrations, making them difficult to handle using traditional methods.

In addition, the complexity of these matrices requires additional clean-up to remove interferences prior to analysis, particularly for low-level residue work. This section highlights a range of products and techniques for simplifying sample handling and clean-up of these difficult samples.

Biotage® Lysera

Lyse or homogenize the toughest samples in seconds. Biotage® Lysera is the most advanced and easy to use bead mill homogenizer available. It is specifically designed for grinding, lysing, and homogenizing solid or semi solid samples prior to sample preparation. Great for tissue and other food matrices. See Page 74 and PPS453 for further details.

ISOLUTE® Multimode

Acrylamide extraction: ISOLUTE Multimode is a mixed-mode sorbent frequently used in 'scavenging' mode for isolation of compounds from complex mixtures. Ideal for extraction of acrylamide from fried foods. See application note IST1076A and page 44 for further details.

ISOLUTE® Myco

ISOLUTE® Myco SPE columns offer simple and efficient multiple mycotoxin sample preparation from a wide range of matrices, ideally suited for selective and fast LC-MS/MS analysis. ISOLUTE Myco SPE columns contain a novel polymer-based sorbent designed specifically to be selective enough to isolate a wide variety of different mycotoxins. One product with multiple applications, simplifying and streamlining your mycotoxin analysis procedures. See page 52 for further details.

TurboVap® LV

Evaporate samples from 2 mL to 50 mL quickly and safely using the new TurboVap LV. Different sample tube sizes are easily accommodated using the innovative Multi Rack system, extending the utility of the evaporator. For accredited methods, push button recall and use of stored methods comes as standard, saving time and effort in programming. Save valuable lab space with the new smaller footprint, and evaporate with confidence! See page 78 for further details.

ISOLUTE® QuEChERS

Fast and efficient clean-up of complex food samples. ISOLUTE QuEChERS products include extraction tubes for the initial extraction and partitioning of analytes from homogenized food samples, and clean-up tubes for the dispersive SPE. All ISOLUTE QuEChERS products come packed in a rack for ease of storage and use on the bench. Solvent resistant paper labels aid hassle free sample identification. See page 22 for further details.

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Limited Warranty

Biotage warrants that Biotage Consumables, including all FLASH®, FLASH+®, ISOLUTE®, EVOLUTE® and Samplet® purification cartridges, scavenger resins, solid-bound reagents and microwave vials, will be of good quality and workmanship, and will meet the applicable product specification. This warranty applies only to the initial test performed at the Customer's facility upon the initial start-up of the consumables and expires at the time the user applies an actual sample to the consumable. If the cartridge is packed with media provided by the Customer, the Biotage warranty applies only to the plastic tube, frits, and labor required for packing and testing the cartridge. Biotage will not be liable for any damage to media provided by the Customer that may be caused when Biotage packs such media in accordance with Biotage's standard operating procedures.

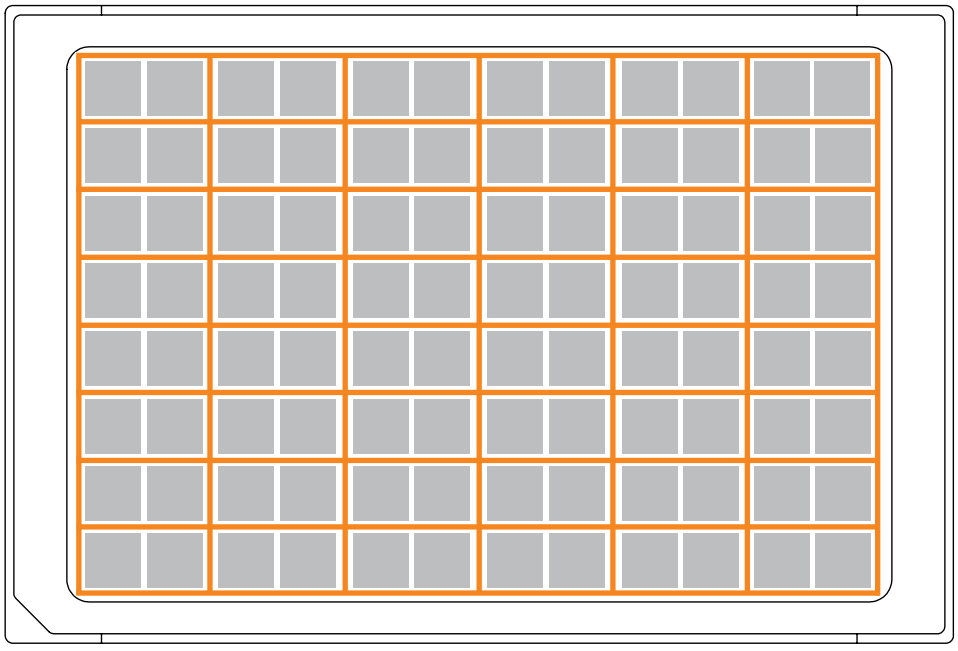
Should any Biotage consumable fail to meet the limited warranty above after being tested in accordance with the applicable Biotage standard operating procedures, Biotage will provide, at its sole option, either a replacement cartridge or reaction vial. If a cartridge, it will be packed with the original media, or packed with new media, at no cost to the Purchaser. If such failed cartridge is packed with media provided by the Purchaser, Biotage will make a reasonable effort to re-pack the original media, or pack a replacement cartridge with new media provided by the Purchaser.

Returns of any Consumable must be authorized in advance. Please contact Biotage for a Return Authorization (RA) number and shipping instructions. All claims must be made within thirty (30) days of shipment from Biotage, or after the initial test of the cartridge at the Customer's facility, whichever is first.

BIOTAGE MAKES NO OTHER WARRANTY, EXPRESSED OR IMPLIED, INCLUDING MERCHANTABILITY OR SUITABILITY FOR ANY PURPOSE.

BIOTAGE WILL NOT BE LIABLE IN ANY EVENT FOR SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES WHETHER ARISING IN TORT, UNDER ANY WARRANTY OR OTHERWISE.

Actual Size 48- and 96-well Plate

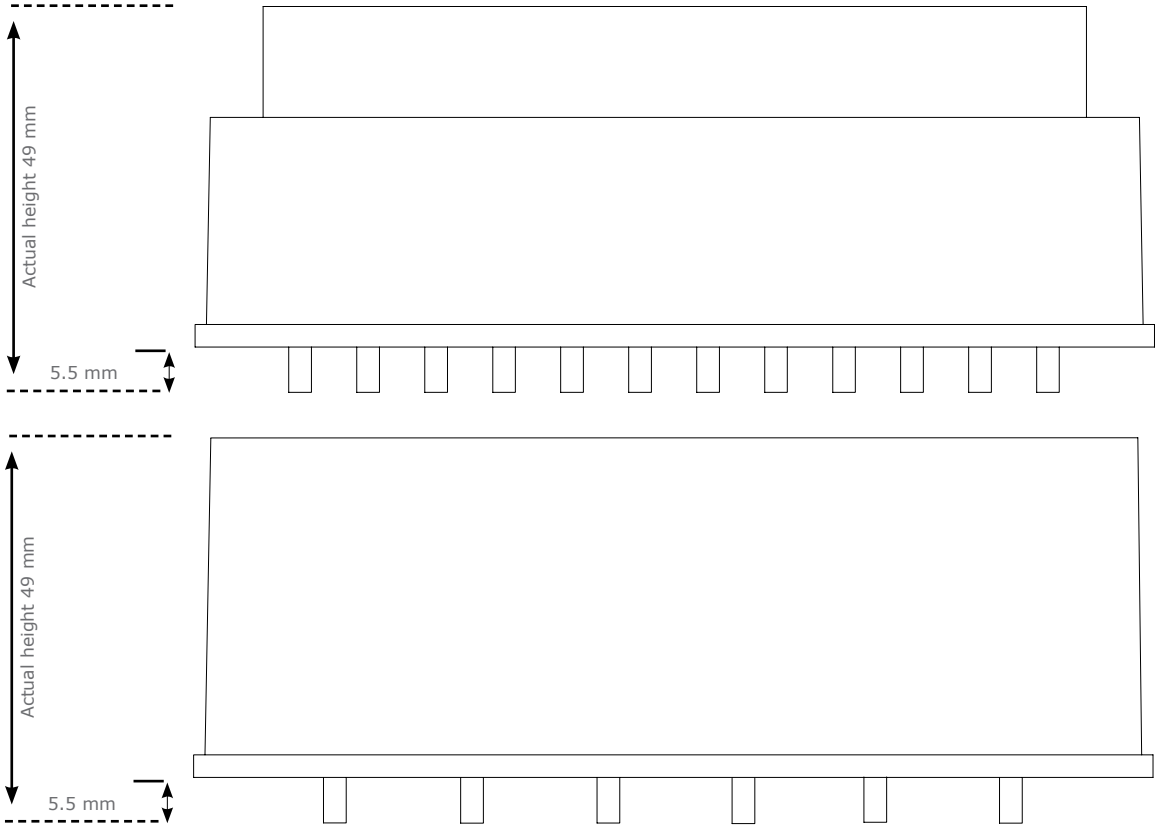


Shows the distribution of the wells in the 48-well format
part number suffix = Q01

Represents the 96-well format
part number suffix = P01

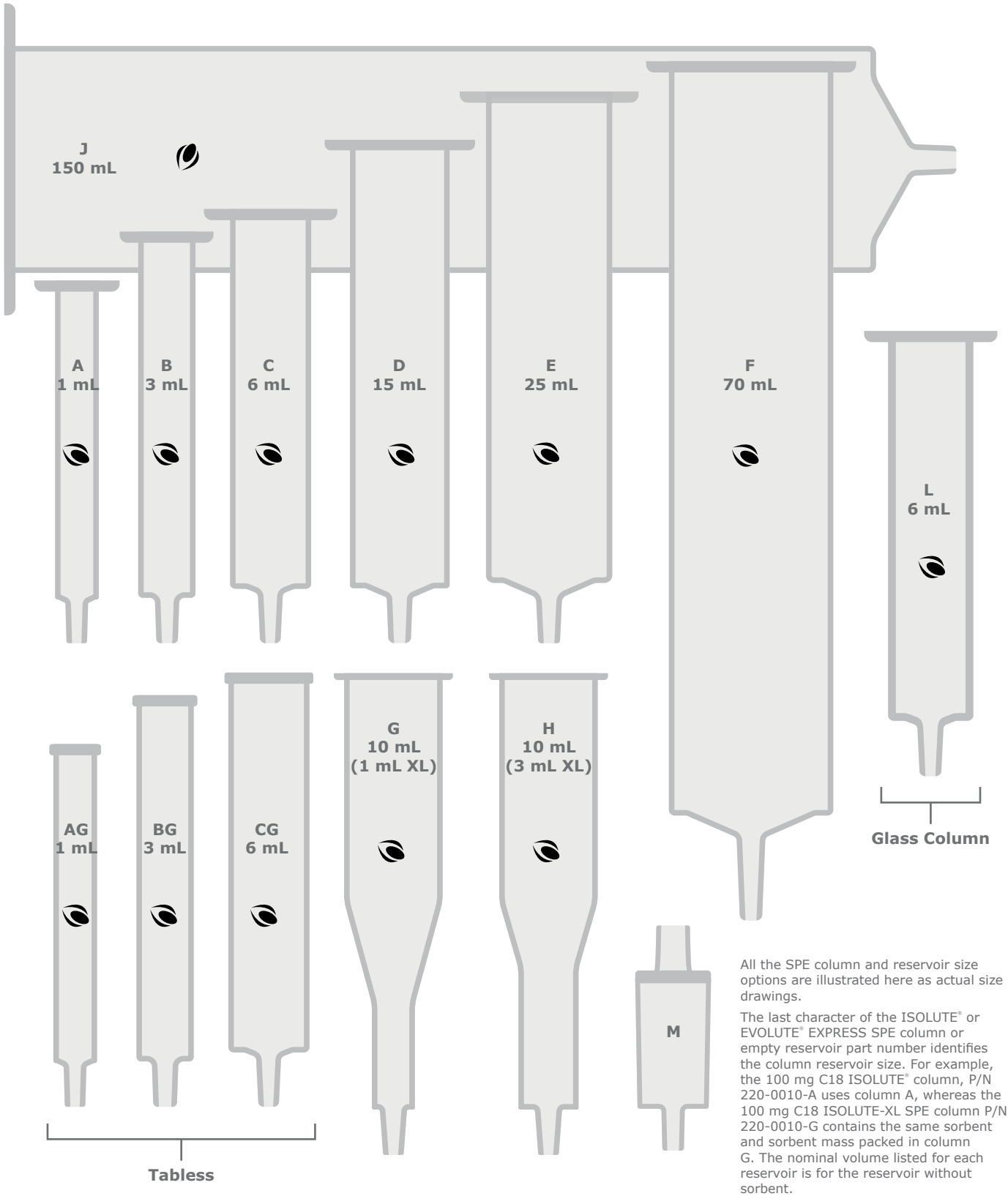
As with individual columns, the last character(s) of the part number identifies the format/column type. The suffix for 96-well plates is –P01; 48-well plates is –Q01.

Actual size diagrams of the 96-well and 48-well fixed well plates are shown below. To prevent cross talk when processing plates, well outlets should penetrate the collection plate correctly.



Side elevation (actual size) 96-well plate (top) and 48-well plate (bottom).

Actual Size Columns



All the SPE column and reservoir size options are illustrated here as actual size drawings.

The last character of the ISOLUTE® or EVOLUTE® EXPRESS SPE column or empty reservoir part number identifies the column reservoir size. For example, the 100 mg C18 ISOLUTE® column, P/N 220-0010-A uses column A, whereas the 100 mg C18 ISOLUTE-XL SPE column P/N 220-0010-G contains the same sorbent and sorbent mass packed in column G. The nominal volume listed for each reservoir is for the reservoir without sorbent.

Tabless columns (1, 3 and 6 mL) for use on Biotage® PRESSURE+ and Biotage® Extrahera™ systems are also available.

Sorbent Specifications

Sorbent Phase	Category/Type	Bonded Fraction Group/Base Material	Endcapped
ABN	Non-polar/Wettable	Wettable Hydroxylated Poly Styrene Divinylbenzene (PSDVB)	
CX	Non-polar/Strong Cation Exchange/Wettable	Wettable Hydroxylated PSDVB/Benzenesulfonic Acid	
AX	Non-polar/Strong Anion Exchange/Wettable	Wettable Hydroxylated PSDVB/Quaternary Amine	
WCX	Non-polar/Weak Cation Exchange/Wettable	Wettable Hydroxylated PSDVB/Carboxylic Acid	
WAX	Non-polar/Weak Anion Exchange/Wettable	Wettable Hydroxylated PSDVB/Primary-Secondary Amine	
ENV+	Non-polar/Wettable	Wettable Hydroxylated PSDVB	
101	Non-polar	PSDVB	
C18	Non-polar	Trifunctional Octadecyl/Silica Based	No
C18(EC)	Non-polar	Trifunctional Octadecyl/Silica Based	Yes
MFC18	Non-polar	MonoFunctional Octadecyl/Silica Based	No
C8	Non-polar	Octyl/Silica Based	No
C8(EC)	Non-polar	Octyl/Silica Based	Yes
C4	Non-polar	Butyl/Silica Based	No
C2	Non-polar	Ethyl/Silica Based	No
C2(EC)	Non-polar	Ethyl/Silica Based	Yes
PH	Non-polar	Phenyl/Silica Based	No
CN	Polar/Non-polar	CyaNo/Silica Based	No
HCX	Non-polar/Strong Cation Exchange	Octyl/Sulfonic Acid/Silica Based	No
HCX-3	Non-polar/Strong Cation Exchange	Octadecyl/Sulfonic Acid/Silica Based	No
HCX-5	Non-polar/Strong Cation Exchange	Butyl/Sulfonic Acid/Silica Based	No
HCX-Q	Non-polar/Weak Cation Exchange	Octyl/Carboxylic Acid/Silica Based	No
HAX	Non-polar/Strong Anion Exchange	Octyl/Quaternary amine/Silica Based	No
Multimode	Non-polar/Strong Cation Exchange/Strong Anion Exchange	Octadecyl/Sulfonic acid/Quaternary Amine/Silica Based	No
NH2	Polar/Weak Anion Exchange	Aminopropyl/Silica Based	No
PSA	Polar/Weak Anion Exchange	Ethylenediamine-n-propyl/Silica Based	No
SAX	Strong Anion Exchange	Quaternary Amine (Chloride Counter Ion)/Silica Based	No
PE-AX	Strong Anion Exchange	Quaternary Amine (Acetate Counter Ion)/Silica Based	No
CBA	Weak Cation Exchange	Carboxypropyl/Silica Based	No
SCX	Strong Cation Exchange	Benzenesulfonic Acid/Silica Based	No
SCX-2	Strong Cation Exchange	Propylsulfonic Acid/Silica Based	No
SCX-3	Strong Cation Exchange	Ethylbenzenesulfonic Acid/Silica Based	No
SI	Polar	Silica	No
DIOL	Polar	Diol/Silica Based	No
FL	Polar	Florisil	
AL-A	Polar	Aluminum Oxide (Acidic)	
AL-B	Polar	Aluminum Oxide (Basic)	
AL-N	Polar	Aluminum Oxide (Neutral)	
EPH	Application Specific	Silica/Alumina Based	
PAH	Application Specific	Silica Based	
SAX/PSA	Polar/Weak Anion Exchange	Silica Based	No
TPH	Application Specific	Silica Based	
O&G	Application Specific	Silica based	
Myco	Application Specific	PSDVB/Imidazole Based	

Format (96-well Plate, Column, On-Line, Bulk)	Typical Carbon Load %	Surface Area m^2/g	Particle Size and Shape	Mean Pore Size Å	pK_a	Exchange Capacity (meq/g)	Additional Information
96-well Plate, Column, On-Line		500	30 µm/50 µm, spherical	40 Å			
96-well Plate, Column		550	30 µm/50 µm, spherical	40 Å	<1	0.5	
96-well Plate, Column		300	30 µm/50 µm, spherical	40 Å	Quaternary	0.7	
96-well Plate, Column		550	30 µm/50 µm, spherical	40 Å	~5	0.4	
96-well Plate, Column		350	30 µm/50 µm, spherical	40 Å	~10	0.3/0.7	
96-well Plate, Column, On-Line		1000	110 µm, Irregular	800 Å			
Column		400	50 µm, Spherical	100 Å			
96-well Plate, Column, Bulk	17.7	500	50 µm, Irregular	60 Å			
96-well Plate, Column, Bulk	18.1	500	50 µm, Irregular	60 Å			
96-well Plate, Column, Bulk	12.7	500	50 µm, Irregular	125 Å			
96-well Plate, Column, Bulk	11.7	500	50 µm, Irregular	60 Å			
Column, Bulk	12.2	500	50 µm, Irregular	60 Å			
Column	7.1	500	50 µm, Irregular	60 Å			
96-well Plate, Column, Bulk	4.5	500	50 µm, Irregular	60 Å			
96-well Plate, Column, Bulk	5.3	500	50 µm, Irregular	60 Å			
96-well Plate, Column	9.8	500	50 µm, Irregular	60 Å			
96-well Plate, Column	7.9	500	50 µm, Irregular	60 Å			
96-well Plate, Column	7.4	500	50 µm, Irregular	60 Å			
96-well Plate, Column	13.0	500	50 µm, Irregular	60 Å			
Column	5.2	500	50 µm, Irregular	60 Å			
96-well Plate, Column	10.0	500	50 µm, Irregular	60 Å			
96-well Plate, Column	7.8	500	50 µm, Irregular	60 Å			
96-well Plate, Column, Bulk	9.3	500	50 µm, irregular	60 Å			
96-well Plate, Column, Bulk		500	50 µm, Irregular	60 Å	9.8	0.6	
Column, Bulk		500	50 µm, Irregular	60 Å	10.1/10.9	0.4	
96-well Plate, Column, Bulk		500	50 µm, Irregular	60 Å	Quaternary	0.6	
Column, Bulk		500	50 µm, Irregular	60 Å	Quaternary	0.6	
96-well Plate, Column, Bulk		500	50 µm, Irregular	60 Å	4.8	0.6	
96-well Plate, Column, Bulk		500	50 µm, Irregular	60 Å	<1	0.4	
Column		500	50 µm, Irregular	60 Å	<1	0.6	Equivalent to PRS
96-well Plate, Column		500	50 µm, Irregular	60 Å	<1	0.6	
Column, Bulk		500	50 µm, Irregular	60 Å			Nominal Moisture 7%
Column, Bulk		500	50 µm, Irregular	60 Å			
Column, Bulk		300	150-250 µm, Irregular				Nominal Moisture <2%
Column		200	50-200 µm, Irregular				Nominal Moisture <0.1%. Surface pH 4.5
Column		200	50-200 µm, Irregular				Nominal Moisture <0.1%. Surface pH 10
Column, Bulk		200	50-200 µm, Irregular				Nominal Moisture <0.1%. Surface pH 7.5
Column							
Column							
Column		500	50 µm, Irregular	60 Å			
Column							
Column							
Column		75	55 µm, Spherical	270 Å			

Notes

Notes

TurboVap®

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