

Analytical Sample Preparation

2017 Catalog





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Biotage[®] 1-Point Support[™]

The Answer to All Your Questions

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/applications.

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.

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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To locate a distributor

Please visit our website at

www.biotage.com



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

Japan

Tel: +81 3 5627 3123
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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**).



Biotech 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 ISO9001:2008 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.

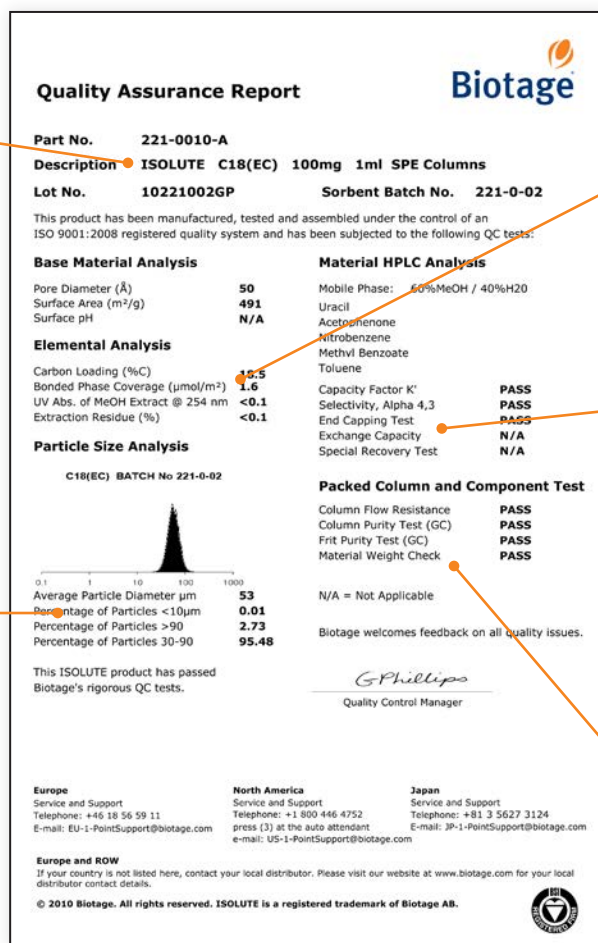
Every ISOLUTE® or EVOLUTE® EXPRESS product is accompanied by a detailed quality assurance (QA) report for your reference. This page explains the importance of the information it contains, and the impact this has on every sample preparation procedure you perform.

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



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:

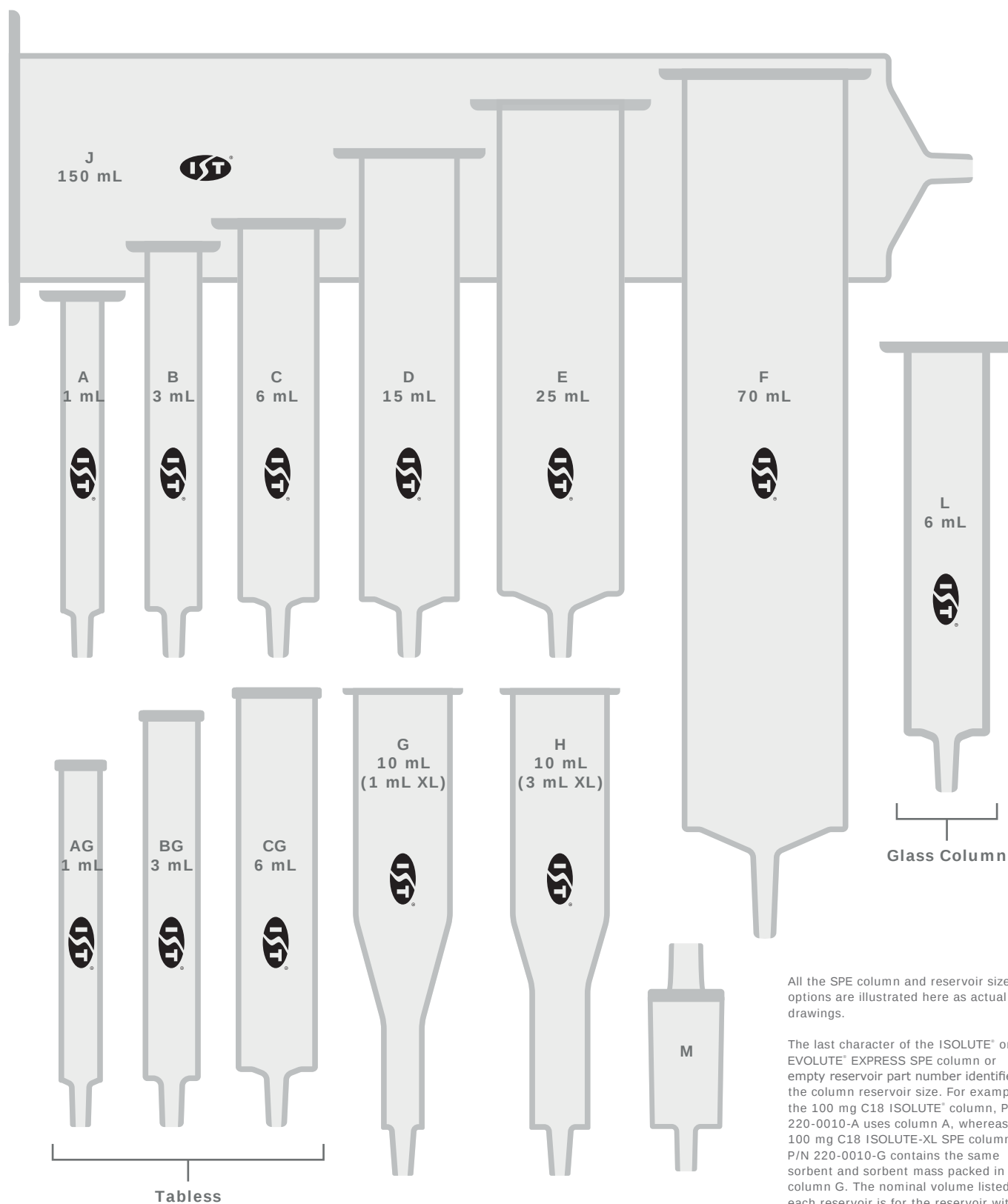
- » The purity of all the components used to manufacture ISOLUTE® and EVOLUTE® EXPRESS products are monitored to ensure compatibility with the most demanding applications



Sample Preparation Format Options

Sample Preparation Format Options

Actual Size Columns



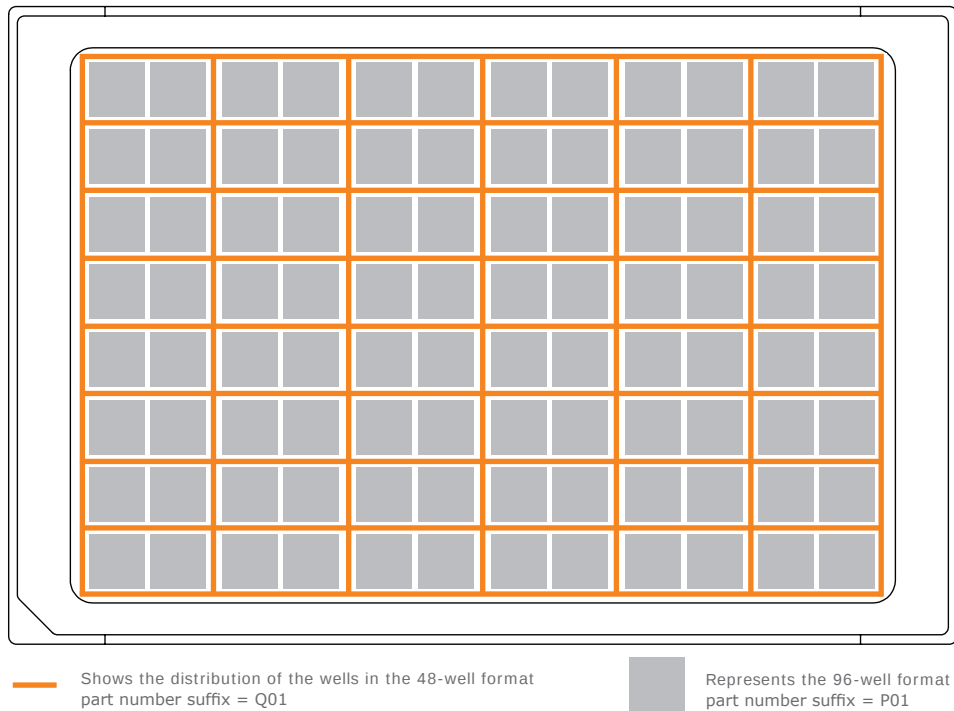
All the SPE column and reservoir size options are illustrated here as actual size drawings.

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.

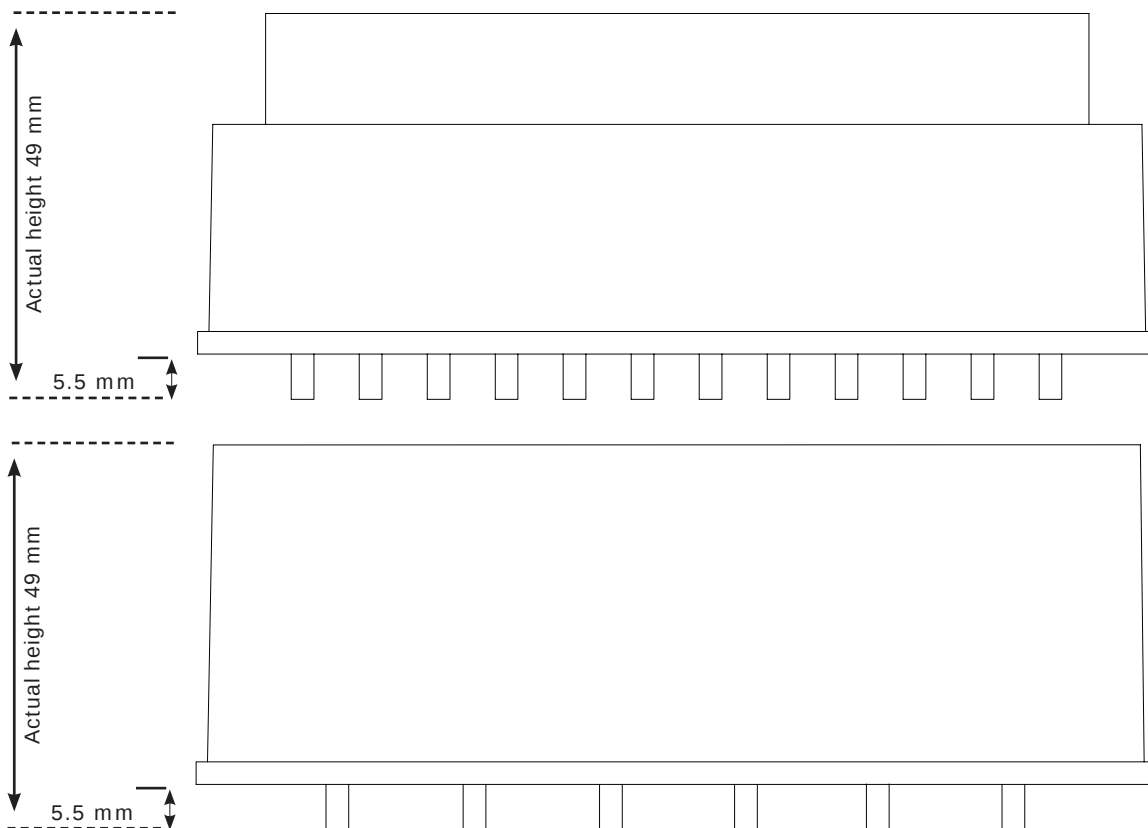
Sample Preparation Format Options

Actual Size 48- and 96-Well Plate



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).



ISOLUTE® SLE+ 200µl
Fixed Well Plate
PART No. 820-0200-P01
LOT No. 130213035A

ISOLUTE® SLE+ Supported Liquid Extraction Products

Simple Load-Wait-Elute Methodology

Supported Liquid Extraction

Achieving Simplicity and Success in Sample Preparation

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.

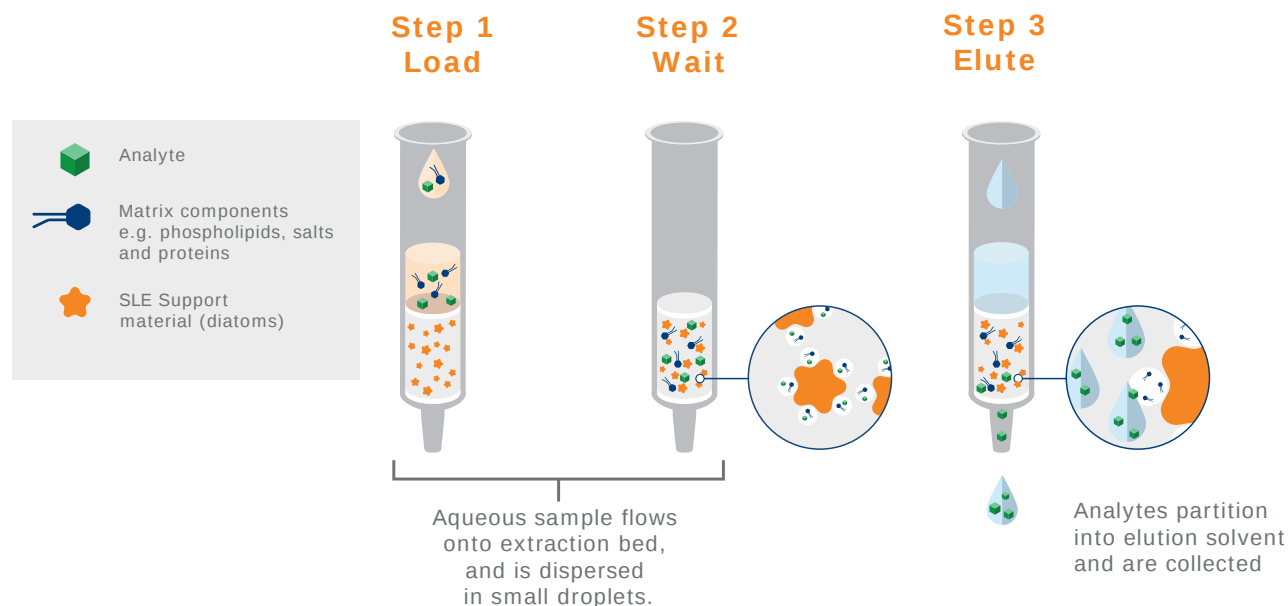
Methods with high analyte recoveries, and clean, protein and phospholipid free extracts, are easy to develop and automation is simple.

Select the correct ISOLUTE SLE+ product based on the volume of sample to be extracted (**see Table 1**). Extraction solvent volumes are also listed.

Table 1.

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.

Supported Liquid Extraction

Achieving Simplicity and Success in Sample Preparation



96-Well Plates

Part Number	Description	Qty.
820-0200-P01	ISOLUTE SLE+ 200 μ L Supported Liquid Extraction Plate	1
820-0400-P01	ISOLUTE SLE+ 400 μ L 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 μ L Sample Volume	50
820-0055-BG	ISOLUTE SLE+ 400 μ L 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 μ L Sample Volume	500
820-0055-BG-500	ISOLUTE SLE+ 400 μ L 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

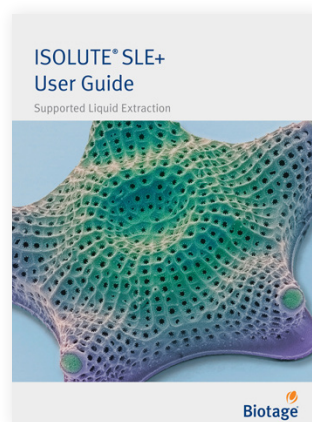
Part Number	Description	Qty.
820-0200-T	ISOLUTE SLE+ 200 μ L Array Wells	100
820-0400-T	ISOLUTE SLE+ 400 μ L Array Wells	100
120-1000-P01	ISOLUTE Array Base Plate	1
120-1200	ISOLUTE Base Plate Sealing Strips (strips of 8)	50

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.



ISOLUTE® PLD+ 50mg
Fixed Well Plate
PART No. 918-0050-P01
LOT No. 13357302GA



Biotage 

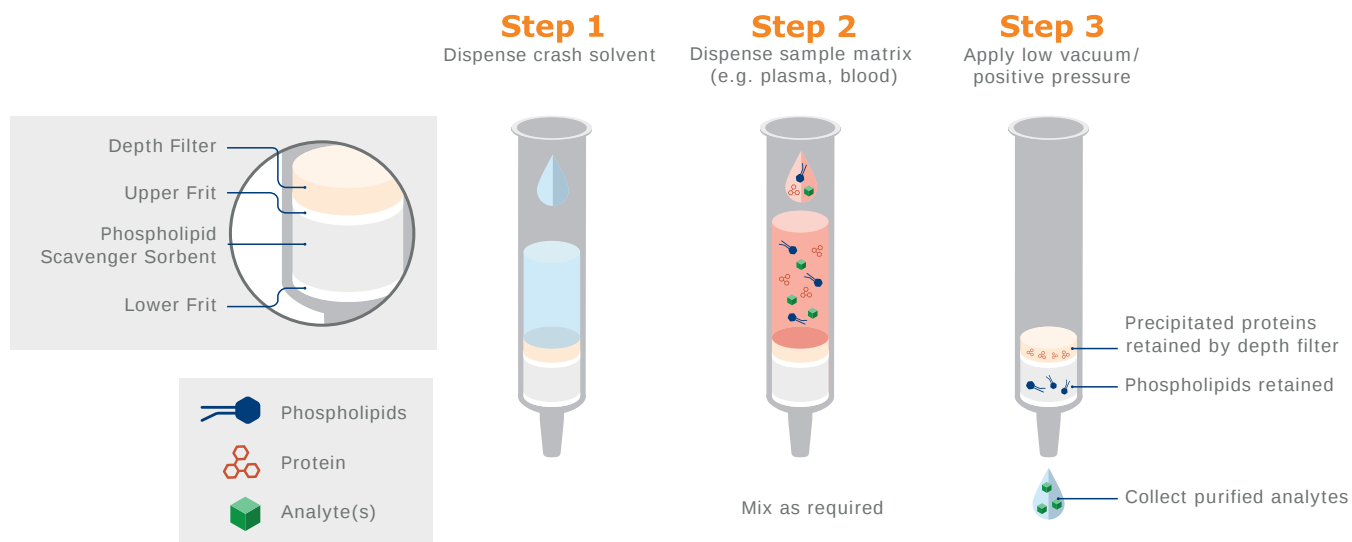
ISOLUTE[®] PLD+ Protein and Phospholipid Removal Products

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 Manual Sample Processing Products and page 67 for Automated 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 (Tablets)	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

EVOLUTE® EXPRESS SPE Products

Load-Wash-Elute 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.

Step 1 Load



Step 2 Wash



Step 3 Elute



Interferences

Analyte of interest

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.

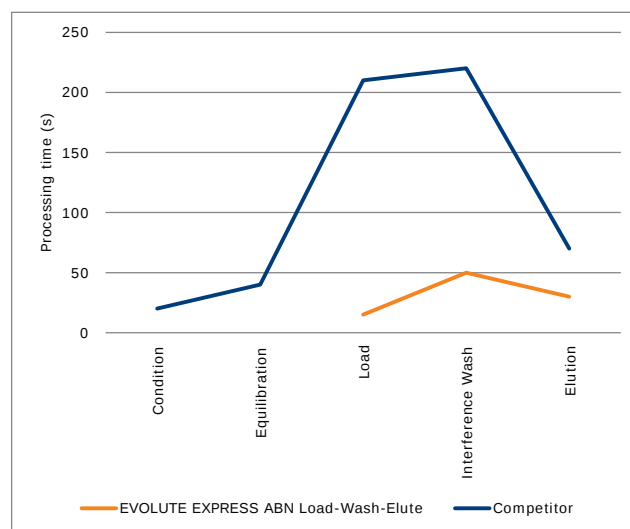


Figure 1. 10 mg/1 mL EVOLUTE® EXPRESS vs. competitor 10 mg/1 mL equivalent. N=12 for each product. Columns processed using the Biotage® PRESSURE+ instrument. Columns processed at 1 psi unless otherwise stated. Sample was pooled human urine diluted 1:3 with water.

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



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.

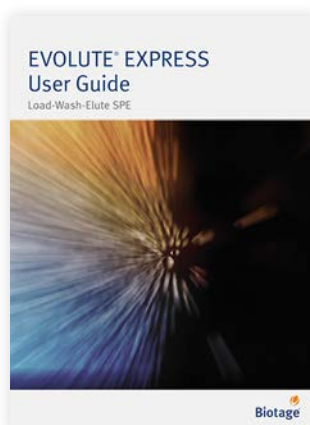
	EVOLUTE CX			EVOLUTE WAX			EVOLUTE AX			EVOLUTE WCX		
	1	2	3	4	5	6	7	8	9	10	11	12
A												
B												
C												
D												
E												
F												
G												
H												
Method 1						Method 2						

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

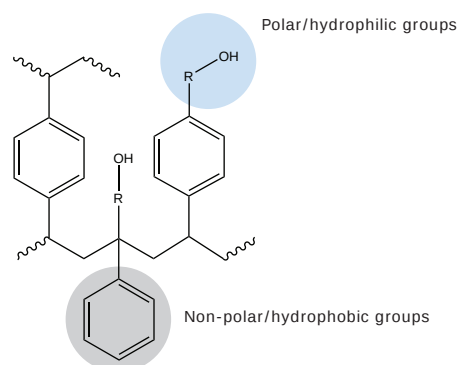
EVOLUTE® EXPRESS User Guide

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 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 Tableless SPE Columns

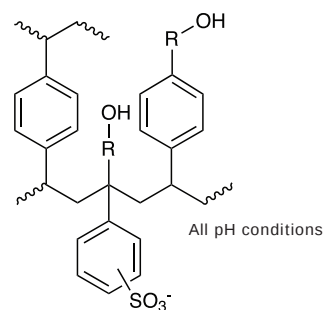
Part Number	Description	Qty.
600-0001-AXG	EVOLUTE EXPRESS ABN 10 mg/1 mL	100
600-0003-AXG	EVOLUTE EXPRESS ABN 30 mg/1 mL	100
610-0006-BXG	EVOLUTE EXPRESS ABN 60 mg/3 mL	50
610-0010-BXG	EVOLUTE EXPRESS ABN 100 mg/3 mL	50
610-0015-CXG	EVOLUTE EXPRESS ABN 150 mg/6 mL	30
610-0050-CXG	EVOLUTE EXPRESS ABN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

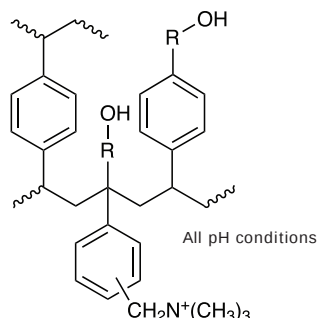
EVOLUTE EXPRESS CX 96-well SPE Plates

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



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 Tableless SPE Columns

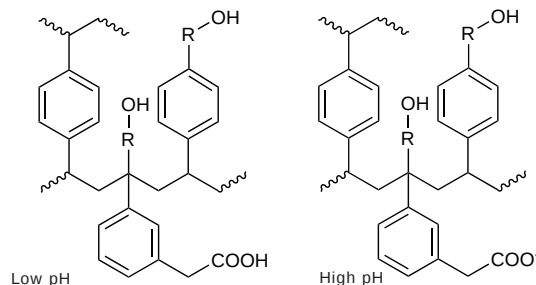
Part Number	Description	Qty.
603-0001-AXG	EVOLUTE EXPRESS AX 10 mg/1 mL	100
603-0003-AXG	EVOLUTE EXPRESS AX 30 mg/1 mL	100
613-0006-BXG	EVOLUTE EXPRESS AX 60 mg/3 mL	50
613-0010-BXG	EVOLUTE EXPRESS AX 100 mg/3 mL	50
613-0015-CXG	EVOLUTE EXPRESS AX 150 mg/6 mL	30
613-0050-CXG	EVOLUTE EXPRESS AX 500 mg/6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



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 (pKa~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 Tableless 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

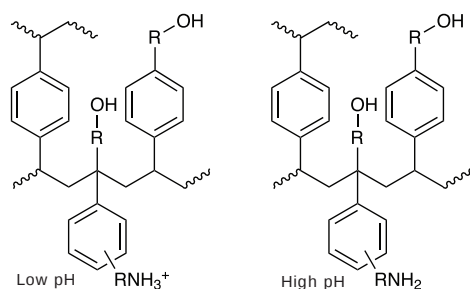
EVOLUTE EXPRESS WCX 96-well SPE Plates

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



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 $\text{\AA}$
Sorbent Type	Mixed-mode non-polar/weak anion exchange ($\text{pK}_a \sim 5$)
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 Tableless 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

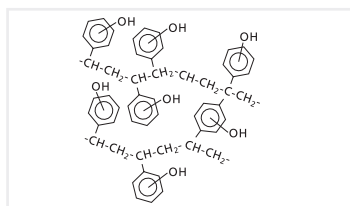


EVOLUTE EXPRESS products can be used with the Load-Wash-Elute procedure. See www.biotage.com for more information.

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

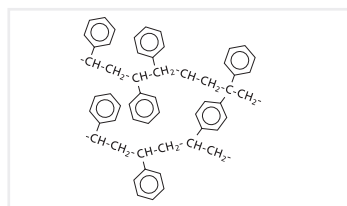
ISOLUTE ENV+ Fixed Well Plates

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

Support Documents for ISOLUTE® ENV+

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

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

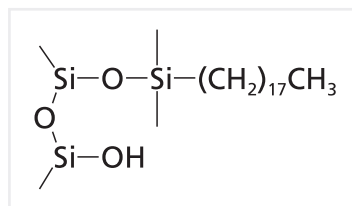
Support Documents for ISOLUTE® 101

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



*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

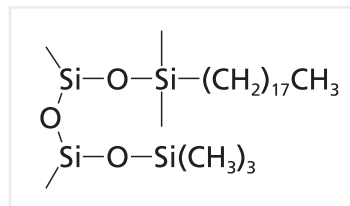


Chemical structure of C18
Octadecyl (non-encapped)
silane covalently bonded to the
surface of a silica particle

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(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 compounds from aqueous sample matrices.

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 46.

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-encapped 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) 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

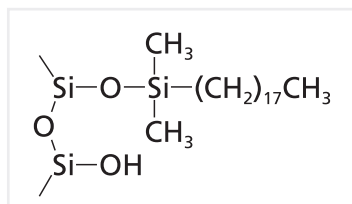
Also available in bulk sorbent, see page 46.

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

*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

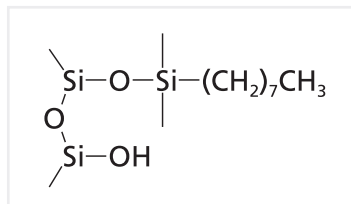
Also available in bulk sorbent, see page 46.

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-encapped Sorbents

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 46.

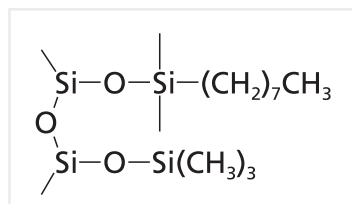
Support Documents for ISOLUTE® C8

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-encapped Sorbents

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

ISOLUTE® C8(EC)

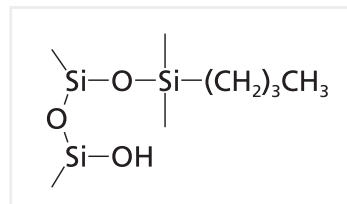


Chemical structure of C8 silane and trimethyl silyl group covalently bonded to the surface of a silica particle

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® 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 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 46.

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

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

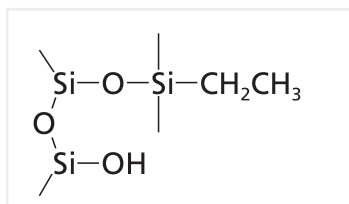
Support Documents for ISOLUTE® C4

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-encapped Sorbents



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 46.

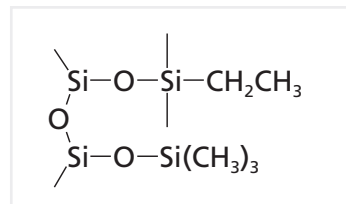
Support Documents for ISOLUTE® C2

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-encapped Sorbents

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

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

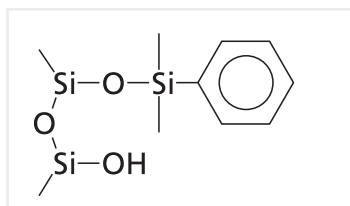
Also available in bulk sorbent, see page 46.

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



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

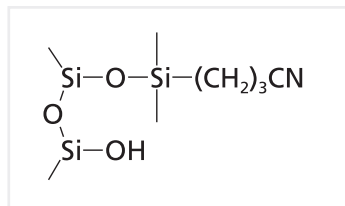
Part Number	Description	Qty.
360-0025-P01	ISOLUTE-96 PH 25 mg plate	1
360-0050-P01	ISOLUTE-96 PH 50 mg plate	1
360-0100-P01	ISOLUTE-96 PH 100 mg plate	1

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-encapped Sorbents

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

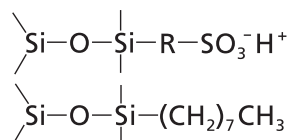
TN101: Method Development in Solid Phase Extraction using Non-polar ISOLUTE® SPE Columns for the Extraction of Aqueous Samples

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-encapped Sorbents



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

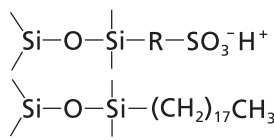
Part Number	Description	Qty.
902-0025-P01	ISOLUTE-96 HCX 25 mg plate	1
902-0100-P01	ISOLUTE-96 HCX 100 mg plate	1

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

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

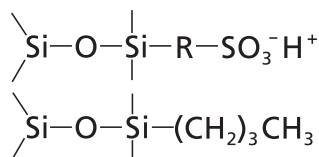
Also available in bulk sorbent, see page 46.

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



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.

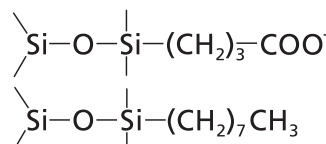
ISOLUTE HCX-5 SPE Columns

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

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

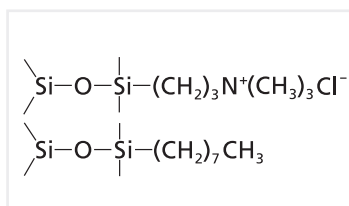
Part Number	Description	Qty.
986-0025-P01	ISOLUTE-96 HCX-Q 25 mg plate	1
986-0100-P01	ISOLUTE-96 HCX-Q 100 mg plate	1

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



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
903-0010-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

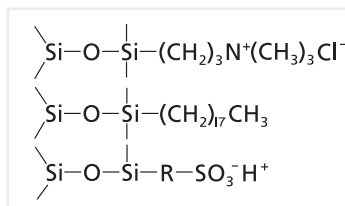
ISOLUTE-96 HAX Fixed Well Plates

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

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 46.

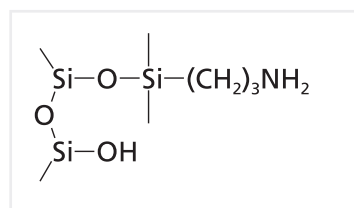
Support Documents for ISOLUTE® Multimode

IST1022: Extraction of Aflatoxins from Cereals

IST1076: Extraction of Acrylamide from Cooked Foodstuffs



ISOLUTE® NH2



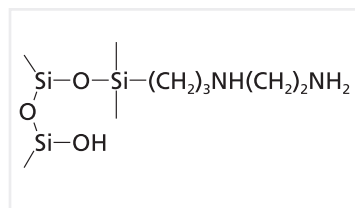
Chemical structure of NH2 aminopropyl silane covalently bonded to the surface of a silica particle

Average particle size	50 µm
Pore diameter	60 Å
Sorbent Type	Weak anion exchange (pKa 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® 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 (pKa 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 NH2 SPE Columns

Part Number	Description	Qty.
470-0002-A	ISOLUTE NH2 25 mg /1mL	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-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 46.

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 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 46.

Support Documents for ISOLUTE® PSA

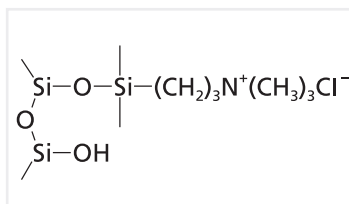
TN102: Method Development in Solid Phase Extraction using Polar ISOLUTE® SPE Columns for the Extraction of Non-aqueous Samples

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



*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

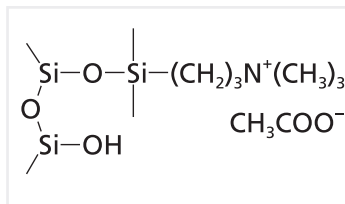
Part Number	Description	Qty.
500-0025-P01	ISOLUTE-96 SAX 25 mg plate	1
500-0050-P01	ISOLUTE-96 SAX 50 mg plate	1
500-0100-P01	ISOLUTE-96 SAX 100 mg plate	1

Also available in bulk sorbent, see page 46.

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

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

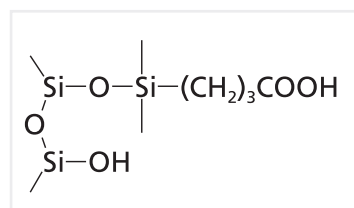
Also available in bulk sorbent, see page 46.

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



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

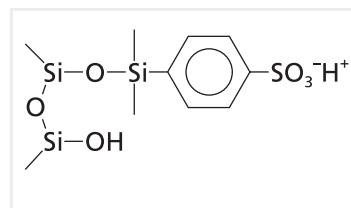
Part Number	Description	Qty.
520-0025-P01	ISOLUTE-96 CBA 25 mg plate	1
520-0050-P01	ISOLUTE-96 CBA 50 mg plate	1
520-0100-P01	ISOLUTE-96 CBA 100 mg plate	1

Also available in bulk sorbent, see page 46.

Support Documents for ISOLUTE® CBA

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

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

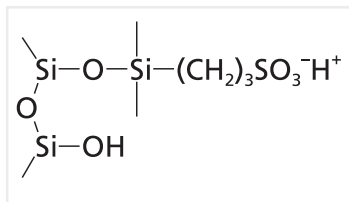
Part Number	Description	Qty.
530-0025-P01	ISOLUTE-96 SCX 25 mg plate	1
530-0050-P01	ISOLUTE-96 SCX 50 mg plate	1

Also available in bulk sorbent, see page 46.

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

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

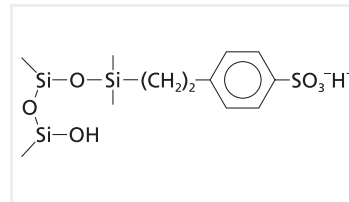
Part Number	Description	Qty.
532-0002-A	ISOLUTE SCX-2 25 mg/1 mL	100
532-0005-A	ISOLUTE SCX-2 50 mg/1 mL	100
532-0010-A	ISOLUTE SCX-2 100 mg/1 mL	100
532-0010-B	ISOLUTE SCX-2 100 mg/3 mL	50
532-0020-A	ISOLUTE SCX-2 200 mg/1 mL	100
532-0020-B	ISOLUTE SCX-2 200 mg/3 mL	50
532-0050-B	ISOLUTE SCX-2 500 mg/3 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



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

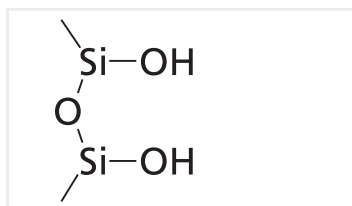
Support Documents for ISOLUTE® SCX-3

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



* 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

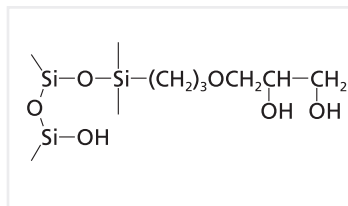


Chemical structure of silanol groups on the surface of a silica particle

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® 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 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 46.

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 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 46.

Support Documents for ISOLUTE® DIOL

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



*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 46.

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

Also available in bulk sorbent, see page 46.

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

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% (Brockman 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% (Brockman Activity I/Super 1 grade), and surface pH of 7.5. Also available in bulk sorbent, see page 46.

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% (Brockman 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 AN703 (ASPEC) or AN704 (RapidTrace) for automated methods.



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 Multianalyte 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. Manual and automated methodologies are available, download application notes IST1042 and IST1018 respectively for more information.

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

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® Na₂SO₄/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 ₂ SO ₄ /FL 4 g/6 mL	30

ISOLUTE® Myco SPE Columns

Solid Phase Extraction Columns for Mycotoxin Analysis

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 SPE columns are available in tabless (flangeless) format for use on both manual and automated sample processing manifolds and systems.

- » Matrix specific application notes: Each method confidently meets the maximum residue limits (MRL) set down by EU and US regulations in terms of detection limits, %RSD and recoveries, in most cases far exceeding these requirements.
- » ISOLUTE Myco clean up methods are quick, simple to use and require no offline steps; making the technique suitable for automation, especially useful for high throughput testing laboratories.
- » Unlike immunoaffinity columns, ISOLUTE Myco columns are cost effective, easy to use and have no special storage requirements.

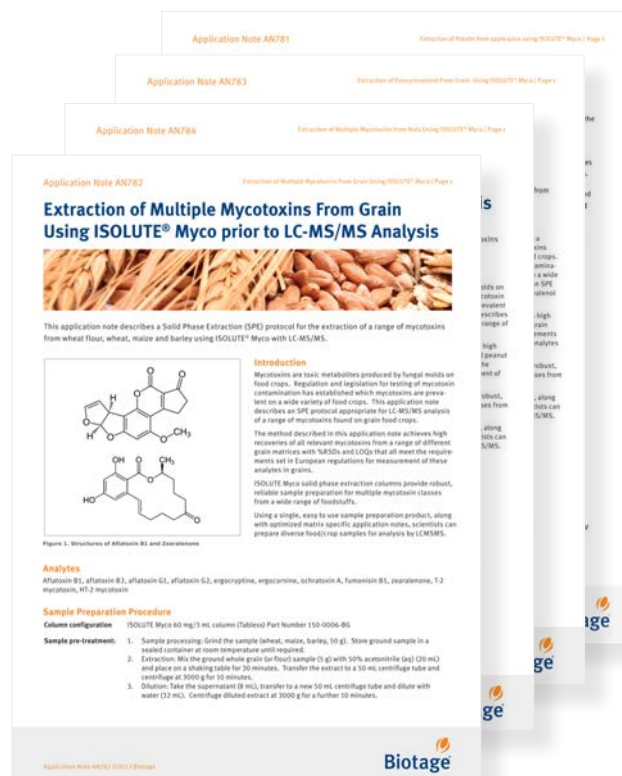


ISOLUTE Myco Columns

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

Matrix Specific Application Notes

- » AN781 Extraction of Patulin from clear Apple Juice Using ISOLUTE® Myco prior to LC-MS/MS Analysis
- » AN782 Extraction of Multiple Mycotoxins From Grain Using ISOLUTE® Myco prior to LC-MS/MS Analysis
- » AN783 Extraction of Deoxynivalenol From Grain Using ISOLUTE® Myco prior to LC-MS/MS Analysis
- » AN784 Extraction of Multiple Mycotoxins From Nuts Using ISOLUTE® Myco prior to LC-MS/MS Analysis
- » AN785 Extraction of Aflatoxins and Ochratoxin from Dried Chili Using ISOLUTE® Myco prior to LC-MS/MS
- » AN804 Extraction of Multiple Mycotoxins From Animal Feed Using ISOLUTE® Myco SPE Columns prior to LC-MS/MS Analysis
- » AN807 Extraction of Aflatoxin M1 From Infant Formula Using ISOLUTE® Myco SPE Columns prior to LC-MS/MS Analysis
- » AN823 Extraction of Multiple Mycotoxins From Cereal Based Infant Food Using ISOLUTE® Myco prior to UHPLC MS/MS Analysis



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

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

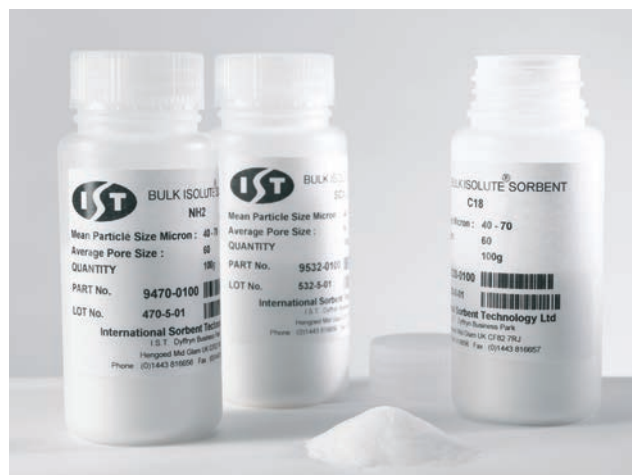
Part Number	Description	Qty.
9905-0010	ISOLUTE HCX-3, Bulk	10 g
9904-0025	ISOLUTE Multimode, Bulk	25 g

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 40](#).

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

On-line SPE Cartridges

For Integrated Sample Preparation and Analysis

Biotage® On-line SPE Cartridges

For Integrated Sample Preparation and Analysis



The on-line approach to sample preparation has grown in popularity because of its advantages in improved workflow and reduced sample handling.

- » Little or no sample pre-treatment
- » Totally automated procedures
- » High precision and accuracy
- » Elimination of blow down and reconstitution steps
- » Reduced solvent use and disposal costs

Trace analysis of organics in water traditionally involves large sample volumes, labor intensive procedures and relatively high use of solvents. The on-line SPE approach uses a simple, well established hardware setup, and fully integrates sample preparation into the analytical workflow. Typical sample volumes of 1–10 mL, and lower solvent usage mean sample collection, transport and handling, along with solvent disposal costs, are much reduced.

Biotage on-line SPE columns consist of high purity, low dead volume stainless steel components for use in SPE-LC-MS/MS applications, and are packed with high performance ISOLUTE® ENV+ and EVOLUTE® EXPRESS ABN sorbents.

Part Number	Description	Qty.
OSPE-620-32150	EVOLUTE® EXPRESS ABN On-line SPE Cartridge 30 x 2.1 mm	1
OSPE-916-32150	ISOLUTE® ENV+ On-line SPE Cartridge 30 x 2.1 mm	1

	ISOLUTE® ENV+ On-line SPE Cartridges	EVOLUTE® EXPRESS ABN On-line SPE Cartridges
Nominal Particle Size	40 µm	20 µm
Pore Size	800 Å	40 Å
Surface Area	1000 m ² /g	400 m ² /g
pH Stability	1–14	1–14
Applications	Polar organics Acid herbicides Explosives Phenols	Pharmaceutical Personal care products General organics Acidic, basic and neutrals

Sorbents and columns are fully QC tested to ensure excellent performance and reproducibility.

Biotage on-line SPE columns can be used with most commercially available on-line SPE systems.

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

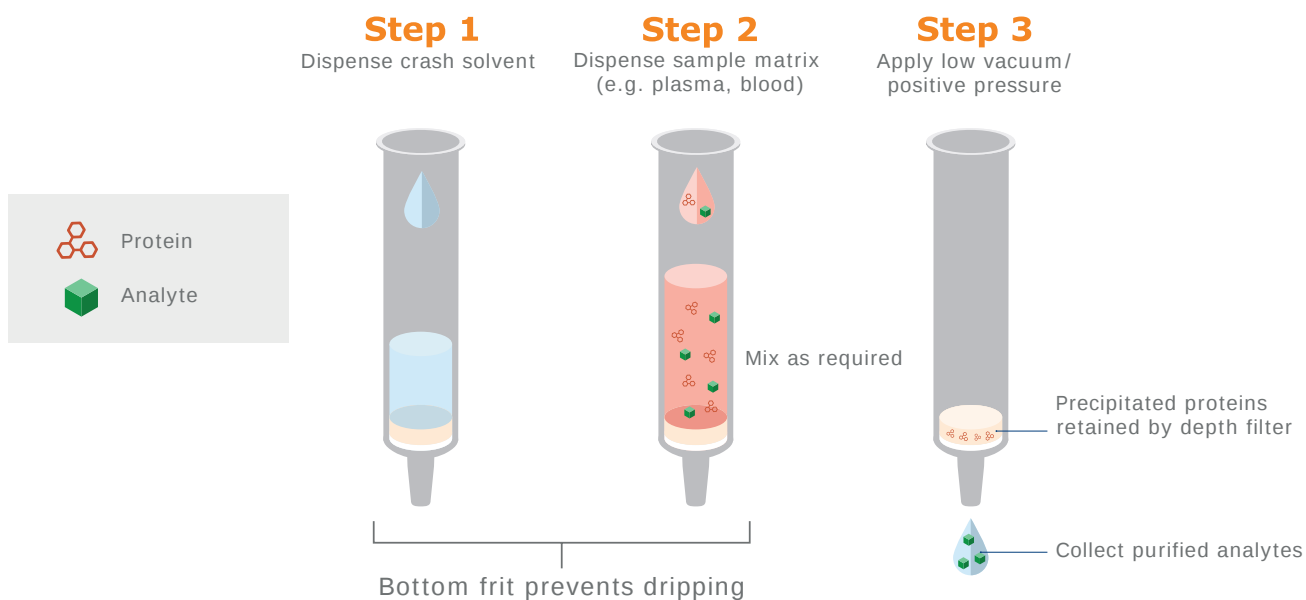
Part Number	Description	Qty.
120-2040-P01	ISOLUTE PPT+ Fixed Well Plate, 2 mL	1

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® 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

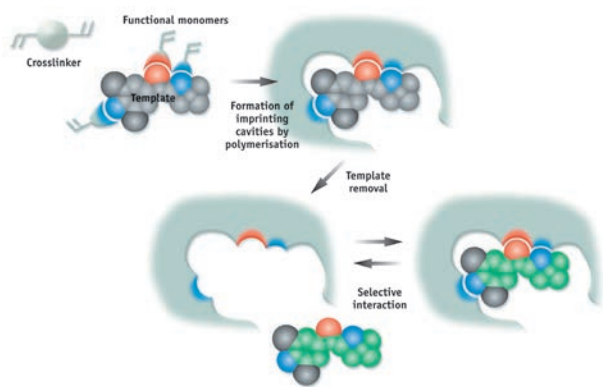
Part Number	Description	Tube	Pack Size
Q0000-50V	50 mL Centrifuge Tube with Rack	50 mL	25

AFFINILUTE™ MIP

Molecularly Imprinted Polymers

AFFINILUTE™ MIP

Biotage AFFINILUTE™ MIP products offer analytical chemists ultimate selectivity compared with standard solid phase extraction techniques. Unlike other methods, AFFINILUTE MIP products rely on the specific molecular structure of the analyte for targeted capture resulting in exceptional clean up. AFFINILUTE MIP columns combine high affinity with standard flow through sample preparation methodology.



Mechanism of MIP formation. Unlike most separation particles that exhibit only non-selective interactions, MIP particles have a selective synthetic recognition site (or imprint), which is sterically and chemically complementary to a particular analyte or class of analytes. The interactions mimic antibody or receptor binding and are stronger than interactions obtained with conventional separation materials.

Part Number	Description	Qty.
M01-0002-G	AFFINILUTE MIP Clenbuterol 25 mg/10 mL	50
M02-0002-B	AFFINILUTE MIP Beta-agonists 25 mg/3 mL	50
M02-0002-G	AFFINILUTE MIP Beta-agonists 25 mg/10 mL	50
M06-0002-B	AFFINILUTE MIP NNAL 25 mg/3 mL	50
M06-0002-G	AFFINILUTE MIP NNAL 25 mg/10 mL	50
M08-0002-G	AFFINILUTE MIP Triazines 25 mg/10 mL	50
M10-0002-B	AFFINILUTE MIP Chloramphenicol 25 mg/3 mL	50
M10-0002-G	AFFINILUTE MIP Chloramphenicol 25 mg/10 mL	50
M18-0002-B	AFFINILUTE MIP Beta-blockers 25 mg/3 mL	50
M18-0002-G	AFFINILUTE MIP Beta-blockers 25 mg/10 mL	50
M21-0005-B	AFFINILUTE MIP TSNAs 50 mg/3 mL	50
M21-0005-G	AFFINILUTE MIP TSNAs 50 mg/10 mL	50
M28-0002-B	AFFINILUTE MIP Amphetamines 25 mg/3 mL	50
M34-0005-B	AFFINILUTE MIP Nitroimidazoles 50 mg/3 mL	50
M69-0002-B	AFFINILUTE MIP Fluoroquinolones 25 mg/3 mL	50
M72-0002-B	AFFINILUTE MIP NSAIDs 25 mg/3 mL	50
M72-0002-G	AFFINILUTE MIP NSAIDs 25 mg/10 mL	50
M73-0002-B	AFFINILUTE MIP PAH 25 mg/3 mL	50
M73-0010-H	AFFINILUTE MIP PAH 100 mg/10 mL	50



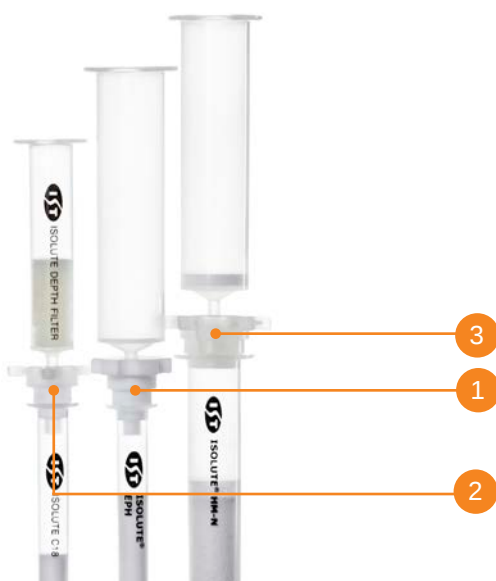
For more information, visit www.biotage.com

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)	10
120-1101	PE Adaptor - 1, 3 & 6 mL (Columns A, B & C)	10
120-1102	PE Adaptor - 15 & 25 mL (Columns D & E)	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, 6 mL	100
120-1009-FD	ISOLUTE Depth Filter, 70 mL	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.

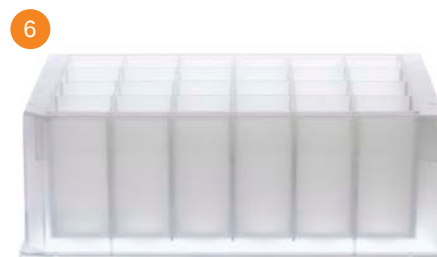
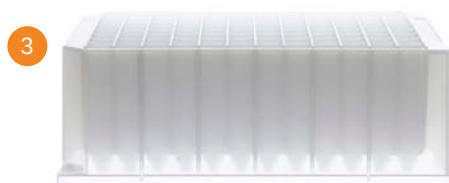
Part Number	Description	Qty.
121-5204	Piercable Sealing Cap	50
121-5205	Luer Cap Mat	25



Deep Well Collection Plates

Constructed from high purity, solvent resistant polypropylene.

Part Number	Description	Qty.
1 121-5201	Collection Plate, 350 μ L	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





Manual Sample Processing Products and Accessories

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 μ Elution 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

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 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

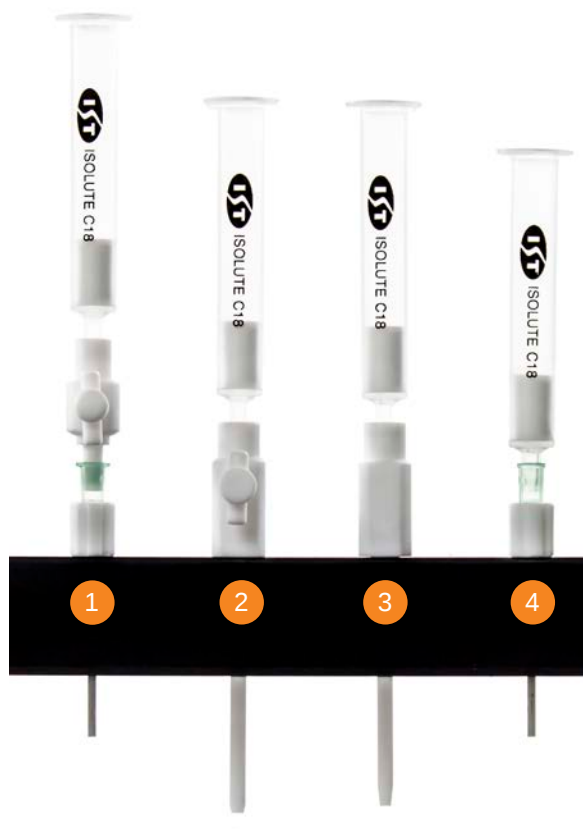
Part Number	Description	Qty.
121-2068	Replacement Tank with Fittings	1
121-2075	Replacement Lid with Fittings	1
121-2059	Silicone Lid Gasket	1
121-2161	Replacement Rack, 10 mm	1
121-2162	Replacement Rack, 12 mm	1
121-2163	Replacement Rack, 16 mm	1

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

Sample Processing Manifold

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

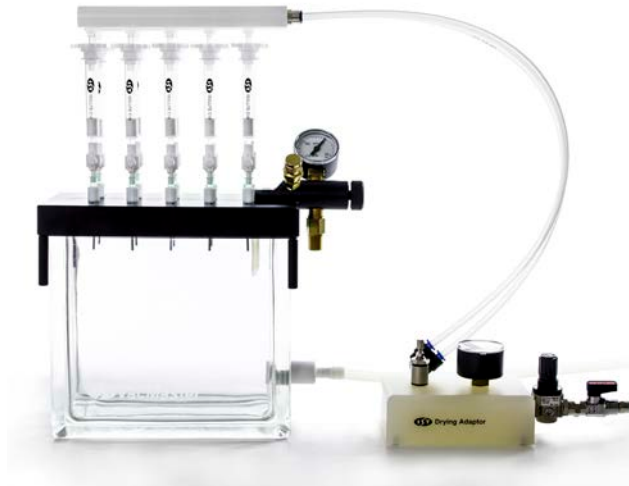
Part Number	Description		Qty.
121-9612	VacMaster-96 Replacement Gasket	1	1
121-9613	VacMaster-96 Replacement O-ring	2	1
121-9614	Collection Plate Spacer (2 mm) for Deep Well Collection Plates	3	1
121-9610	Array Insert (6 mm), Acetal	4	1
121-9615	Collection Plate Spacer (29 mm) for Shallow Well Collection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

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



Automated Sample Processing Products

Biotage® Extrahera™

Biotage® Extrahera™ is a compact eight channel automation instrument, 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 & 48 fixed well plates and 96 tableless 1 mL columns or 1, 3 and 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
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
414256SP	Sample Rack 12 x 75 mm 24 Positions	1
414255SP	Sample Rack 13 x 100 mm 24 Positions	1
414254SP	Sample Rack 16 x 100 mm 24 Positions	1
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	Collection Vials 18 x 75 mm	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
414512SP	Collection Rack 18 x 75 mm 24 Positions	1
414578SP	Inserts for 12 x 32 mm vials for Collection Rack 12 x 75 mm 24 Positions	24
413629SP	Pressure Head Seal 96 Positions	5
414148SP	Pressure Head Seal 24 Positions	5
413991SP	Solvent Rack for 25 mL Reservoirs	1

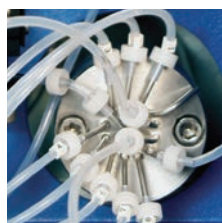
Part Number	Description	Qty.
414045SP	Solvent Reservoir 25 mL	25
414215SP	Solvent Rack for 100 mL Reservoirs	1
414214SP	Solvent Reservoir 100 mL	5
414330SP	Kit, Solvent Inlet Lines (S1-S5)	5
414579	Extrahera Solvent Safety Kit (incl. GL45 Caps, Filters and Bottles)	1
413686SP	Tip Rack Holder	1
414141	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, 4A/250VAC, 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	

RapidTrace®+

Automated High Throughput Solid Phase Extraction



Closed fluid path system with segregated waste lines maintain integrity of sample.



Eight solvent/reagent lines for maximum methods flexibility.



Magnetically encoded racks of routine samples.



Reagent mixing chamber allows automated online reagent blending in the method.



Positive pressure, stepper motor syringe pump delivers precise flow rates.



Compatible 1, 3 and 6 mL version SPE columns.

Part Number	Description
C50000	RapidTrace+ Workstation, 1 mL and 3 mL (10 Columns)
C125713	RapidTrace+ Workstation, 6 mL (5 columns). 3 mL and 1 mL operation possible by purchasing appropriate plunger (see accessories brochure)
C52006	RapidTrace Start-Up Kit with Software
C52689	RapidTrace Notebook Controller

RapidTrace®+ Brochure

For further information download the RapidTrace+ brochure from www.biotage.com. Literature part number PPS395.

Part Number	Description	Qty.
Racks (Each RapidTrace+ requires one rack)		
C50974	13 x 100 mm Sample Tube 12 x 75 Fraction Tube	1
C50976	13 x 100 mm Sample Tube 12 x 75 Fraction Tube	1
C58309	13 x 100 mm Sample Tube 13 x 100 mm Fraction Tube	1
C56786	16 x 100 mm Sample Tube 16 x 100 mm Fraction Tube	1
C56536	13 x 100 mm Sample Tube 12 x 75 mm Fraction Tube (9 Position Chilled Rack)	1
C133968	40 mL Sample Flask (5 position) 16 x 100 Fraction Tube (10 position)	1



Evaporation

Biotage® SPE Dry 96 and 96 Dual Sample Concentrator System

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

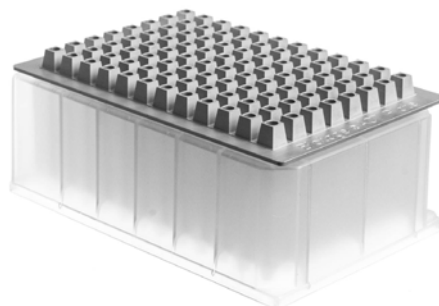
Part Number	Description
SD2-9600-DHS-NA	SPE Dry 96 Dual Sample Concentrator System, 100/120V
SD2-9600-DHS-EU	SPE Dry 96 Dual Sample Concentrator System, 220/240V
SD2-9600-DHS-T-NA	SPE Dry 96 Dual Sample Concentrator System, with PTFE Coated Needles (Top Head Only), 100/120V
SD2-9600-DHS-T-EU	SPE Dry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



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.



TurboVap® Product Family



TurboVap® II (Part Number 415001).



TurboVap® LV (Part Number 415000).

The new TurboVap® is a second generation product which builds on the solid foundations of the existing TurboVap product line 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 old style TurboVap LV and II instruments. The TurboVap EH allows seamless use of Biotage® Extrahera™ collection racks in the new system.

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 and EH 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.

Part Number	Description
-------------	-------------

TurboVap LV

415000	TurboVap LV (includes 415408 Manifold, but no Multi Rack)
415408	TurboVap LV Manifold (48 Nozzles)
415489	TurboVap LV Multi Rack (48 Positions, Mini Vials)
414964	TurboVap LV Multi Rack (48 Positions, 10–20 mm Tubes)
415129	TurboVap LV Multi Rack (24 Positions, 21–30 mm Tubes)

TurboVap II

415001	TurboVap II (Includes 415222 Manifold, but no Rack)
415222	TurboVap II Manifold (6 Nozzles)
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)

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® II Rack with End-Point Sensors
(Part Number 415100).



TurboVap® LV Multi Rack
(Part Number 414964).

TurboVap® 96

The TurboVap® 96 Concentration Workstation is a high speed concentrator designed to work with 96-well microplates and deep-well plates. It is an efficient alternative to the constant monitoring and long evaporation times that are characteristic of conventional techniques—with the added bonus of unattended operation.

Part Number	Description
TurboVap 96	
C103263	TurboVap 96, 100/120V
C103264	TurboVap 96, 220/240V



Evaporation Brochure

For further information download the Evaporation brochure from www.biotage.com. Literature part number PPS296.



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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.

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