

Biotage® Extrahera™

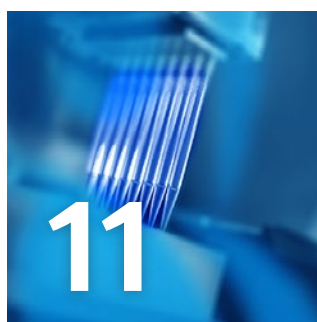
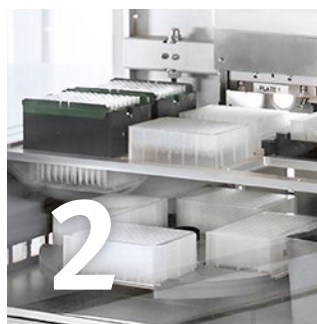
More Processing – Less Programming



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About Biotage

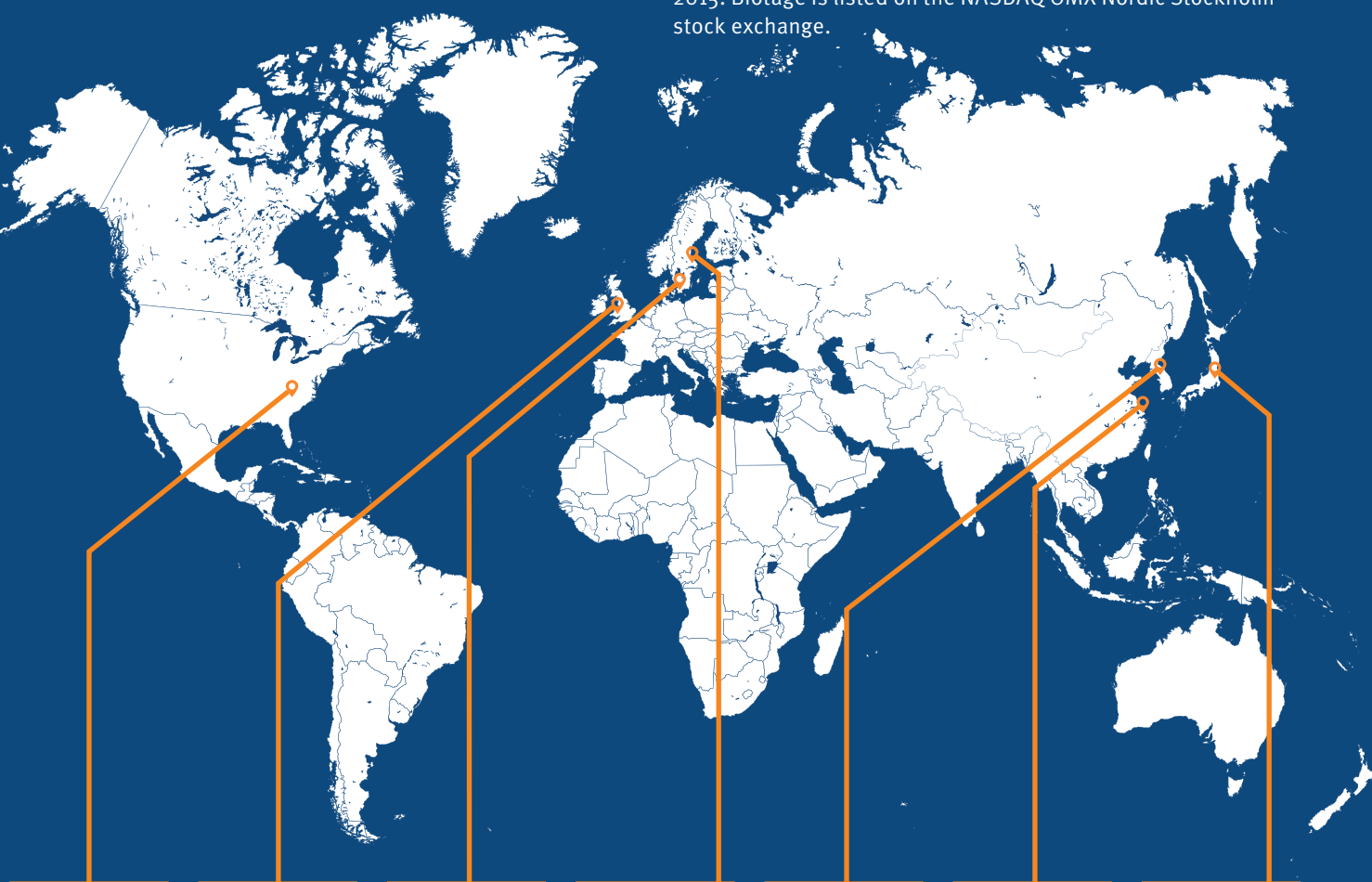
We offer high quality equipment, knowledge and experience in the areas of analytical chemistry, medicinal chemistry, peptide synthesis, separation and purification. Customers include companies within the pharmaceutical, biotech, food, manufacturing, and fine chemicals industries, as well as leading academic institutes.

Vision

“Our vision is to be the first choice for our employees, customers and shareholders by creating smart and efficient solutions in the fields of chemical synthesis and separations science”

Who Are We?

We are a global company headquartered in Uppsala, Sweden. We have offices in the US, UK, China and Japan. Biotage has approximately 293 employees and had sales of 610 MSEK in 2015. Biotage is listed on the NASDAQ OMX Nordic Stockholm stock exchange.



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Japan 136-0071

Automated Sample Preparation

No More Tedious Manual Labor

Here are six reasons why we think you would be making an excellent choice putting an Extrahera™ in your laboratory.

- » It is really easy to set up methods
- » With its small footprint you save lab space
- » Process well plates or columns on one system
- » Save solvents, time and money
- » You will receive consistent, accurate results
- » You will have a system optimized for top performing consumables



ISOLUTE® SLE+

Achieve high analyte recovery using a Load-Wait-Elute procedure.



EVOLUTE® EXPRESS

Powerful EVOLUTE sorbent chemistries combined with improved flow through characteristics.



ISOLUTE® PLD+

Remove >99 % of plasma proteins and phospholipids – improved analyte sensitivity.



- 📄 **Extraction of Methylmalonic Acid from Serum Using ISOLUTE® SLE+ Prior to LC-MS/MS Analysis**
Application Note AN851.v1
- 📄 **Extraction of Methylmalonic Acid from serum Using EVOLUTE® EXPRESS WAX Prior to LC-MS/MS Analysis**
Application Note AN848.v1
- 📄 **Extraction of 25-hydroxy Vitamin D from Serum Using ISOLUTE® PLD+ Prior to LC-MS/MS Analysis**
Application Note AN842.v1



Click to go to the document, alternatively find them by searching for the title or the part number on www.biotage.com



Extrahera [ik-strə-hī-rə] v. (Swedish).
To get, pull, or draw out, usually with special effort, skill, or force; to separate or obtain a compound from a mixture by pressure, distillation, treatment with solvents, or the like.





A Clean User Interface

Creating a Method is Simpler than Ever

The clean and simple user interface delivered with Extrahera makes setting up your system a joyful and easy task. It also means you can focus on other important tasks – less programming, more processing.

We believe that programming automation should be as easy as 1..2..3 and that is exactly what it takes to build a method using ISOLUTE® SLE+ on Extrahera

- » Pretreatment
- » Load
- » Elution

Database entries are selected during the three step tabbed process whereby an operator can toggle any part of a method On/Off easily. Save and re-use your favorite methods and generate pdf reports of your runs.



Small Footprint

Make the Most of Your Laboratory Space

The compact and intelligent design of Biotage® Extrahera™ means you do not waste any of your precious lab space. It also has an enclosed processing area and an integral exhaust fan that protects you and your colleagues.





Columns or Well Plates

Handles Both Formats

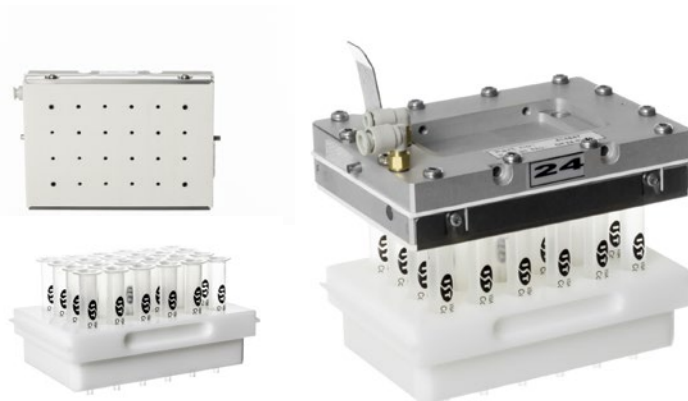
Depending on your industry, application or even matrix, the choice of consumable format may change. Maybe you are considering moving methods from columns to well plates for higher throughput.

With Extrahera, swapping between processing 1, 3 or 6 mL columns to a well plate format can be achieved in a matter of minutes.

24 Position Configuration

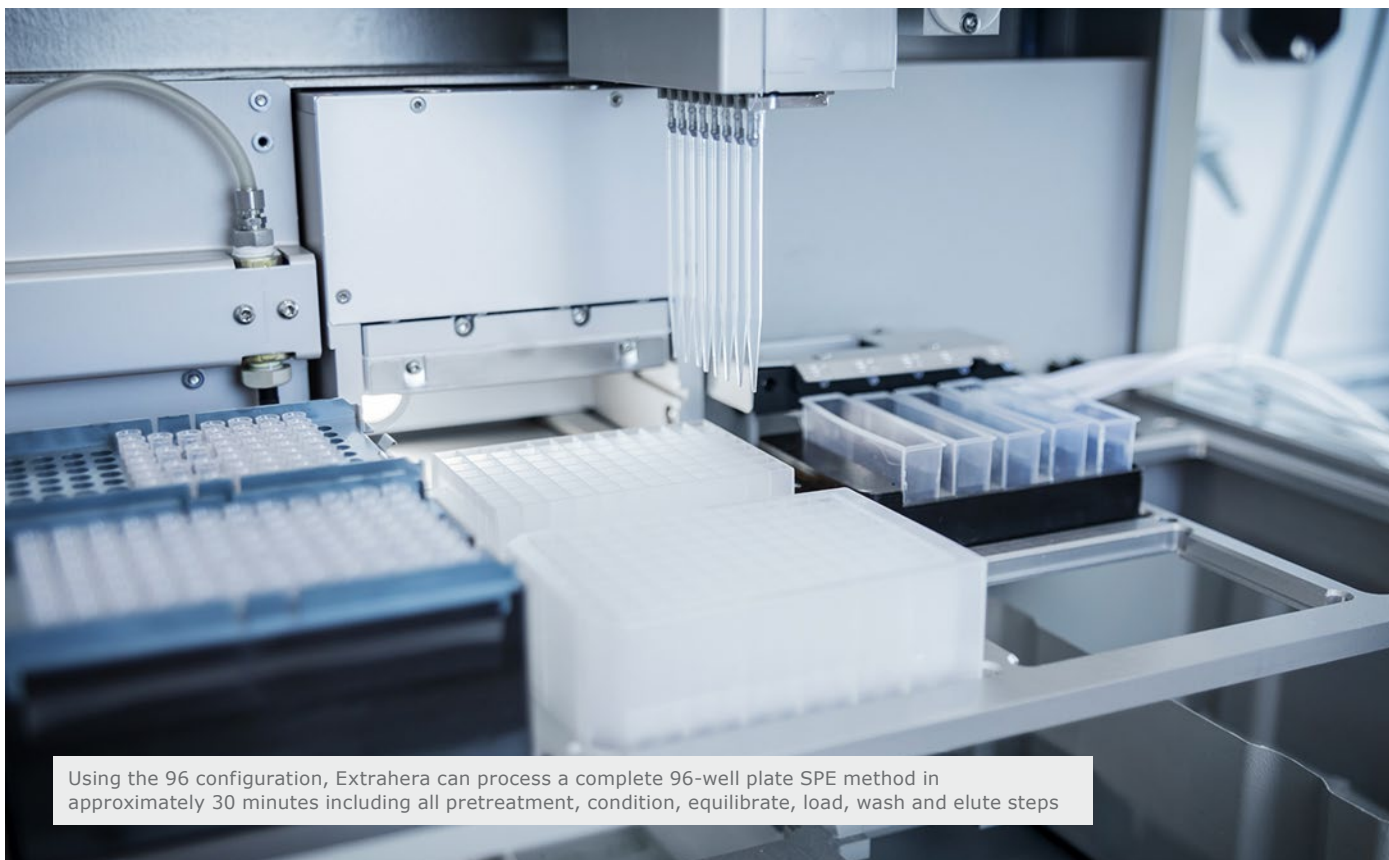
Utilize 4 pipette channels in parallel to process columns in either 1, 3 or 6 mL sizes.

Just switch the pressure head (as easy as releasing two screws), configure the software accordingly (the push of a button) and you are ready to process samples according to your current needs.

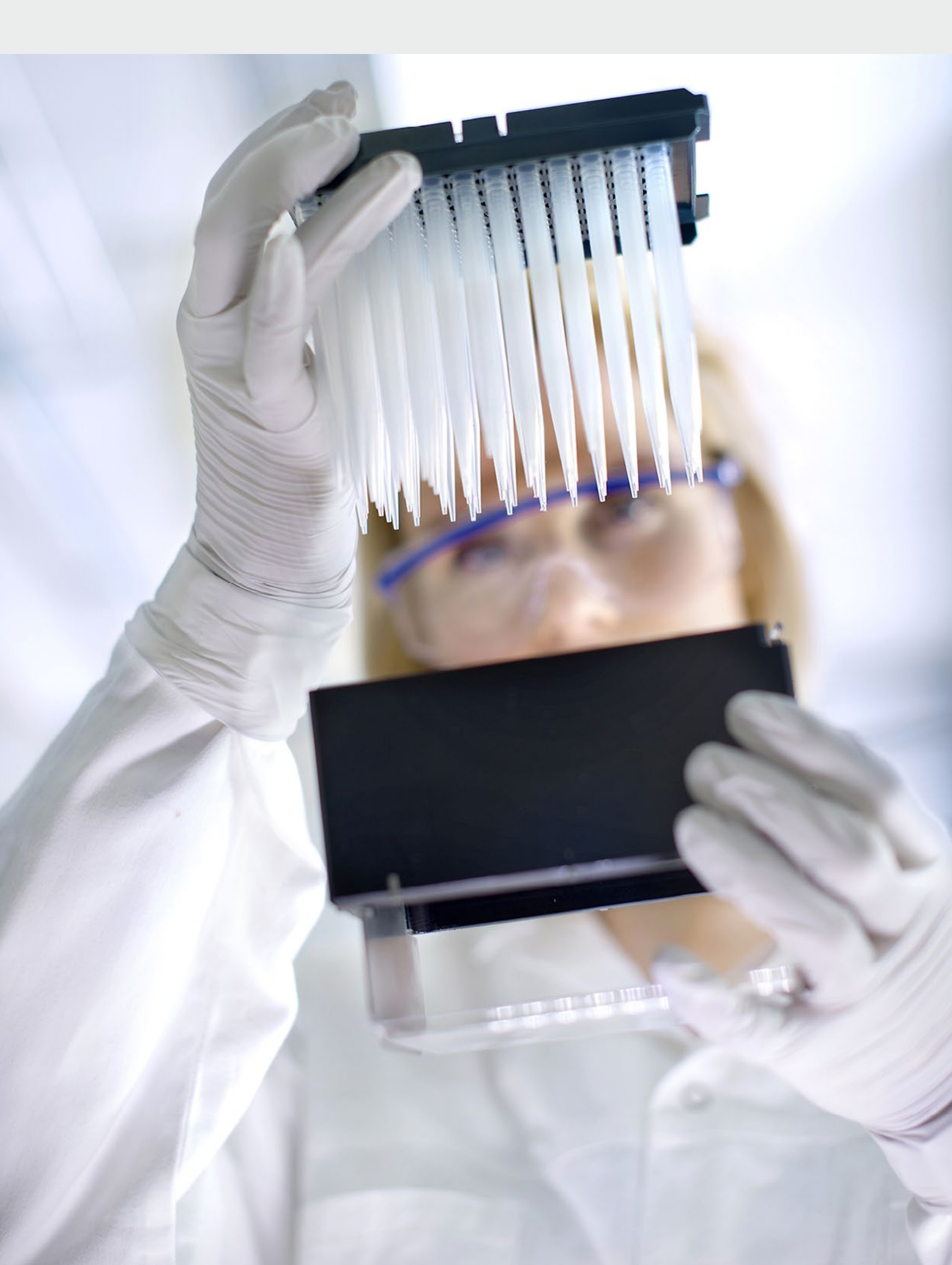


96 Position Configuration

Utilize the full capability of Extrahera, 8 pipette channels operate in parallel. Allowing you to process 96 or 48 well plate formats. Additionally using this configuration, 1 mL columns and other modular ANSI 96 formats can be handled.



Using the 96 configuration, Extrahera can process a complete 96-well plate SPE method in approximately 30 minutes including all pretreatment, condition, equilibrate, load, wash and elute steps



Here is a Clever Tip

Saves You Solvent, Samples, Time and Money

Biotage® Extrahera™ uses industry standard clear automation tips for all liquid movements. The system has two tip rack positions, the first for reagents and solvent, the second for samples. Extrahera also features intelligent tip reuse options for your methods.

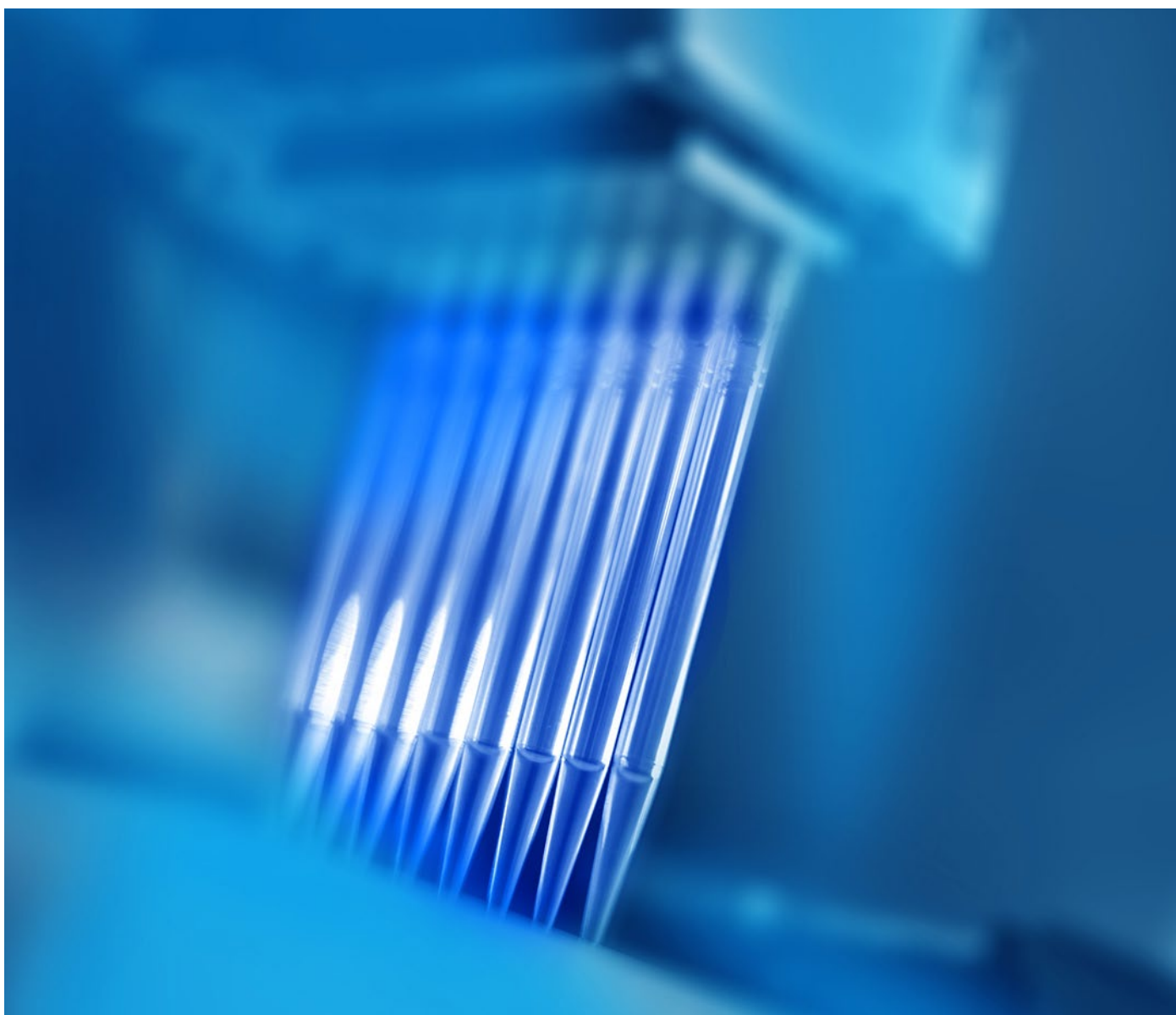
Pipetting specifications vary between 50 µL up to 1 mL suitable for challenging

low volume applications, and equally capable of handling larger sample or reagent volumes by using multiple 1 mL aliquots.

By design the system has been optimized to cope with volatile and low surface tension solvents used during SLE and some SPE procedures. Dichloromethane, chloroform, methyl

tert-butyl ether and diisopropyl ether have all been used successfully.

Pipetting characteristics can be tuned and optimized for all reagents and samples on the system to suit your requirements. The software contains a comprehensive database of commonly used reagents as a solid starting point.



Positive Pressure at Heart

Get the Most Out of Your Samples

At the heart of Extrahera is the positive pressure unit (patent pending) that keeps things moving whatever your method; SPE, SLE, PLD or PPT.

The benefits of positive pressure versus vacuum based processing mean that you can process your samples with a high degree of flow control, uniformity of processing across an entire well plate

even in instances of slow flowing of viscous samples.

The software features gradient flow control and when used in combination with the flow through plate, plate lifter with vacuum assisted waste stream, not only are you preventing cross talk and sample to sample contamination, you can have absolute confidence in your data.





Consumables and Accessories

Power to Your Engine

High Quality Consumables



ISOLUTE® SLE+

The Trusted Original SLE

ISOLUTE® SLE+ plates and columns are used for the supported liquid extraction of a diverse range of analytes from aqueous samples such as biological fluids (including whole blood, plasma, serum, urine and oral fluid), using a simple load-wait-elute procedure.

Watch the Video ISOLUTE® SLE+

vimeo.com/119961214



EVOLUTE® EXPRESS

Solid Phase Extraction Made Simple

The EVOLUTE® EXPRESS range of SPE columns and 96-well plates has improved flow-through characteristics and by eliminating the need for conditioning and equilibration, samples can be prepared much faster using the simplified Load-Wash-Elute procedure.

Watch the Video EVOLUTE® EXPRESS

vimeo.com/124823929



ISOLUTE® PLD+

Effortlessly Enhance Analyte Sensitivity

ISOLUTE® PLD+ Protein and Phospholipid Removal Plates and Columns provide a very effective but extremely simple sample clean-up for 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.

Watch the Video ISOLUTE® PLD+

vimeo.com/122739561

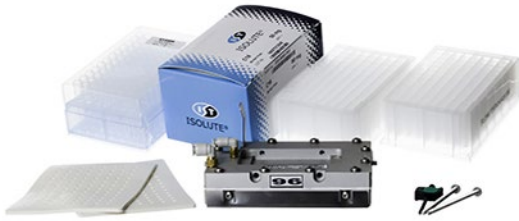


ISOLUTE® PPT+

Fast, Simple Protein Removal

Sample preparation using ISOLUTE® PPT+ Protein Precipitation Plates is fast and simple. The optimized filtration system in ISOLUTE PPT+ plates provides an easy to automate solution for efficient protein removal. The procedure is streamlined, with no awkward off-line steps.

Configuration Kits



Configuration Kit 96 Positions Dual Flow

Part Number: 415040

The configuration kit for 96 position includes

Description	Part Number
Pressure Head DF-96 cpl	414846
Sealing 96	415604
Flow Through Plate	414201
Flagdriver, TX9	414561
Checkout Kit 96	414357
Col Plate 96X2	414200
ISOLUTE®-96 C18 50 mg plate	220-0050-P01
Extrahera Calibration vials, plastic 1 mL, 96 pcs	414509



Configuration Kit 24 Positions Dual Flow

Part Number: 415041

The configuration kit for 24 position includes

Description	Part Number
Pressure Head DF-24 cpl	414847
Flow Through Plate 24	414203
Sealing 24	415603
Flagdriver, TX9	414561
Checkout Kit 24	414356
Col Plate 24x10	414202
ISOLUTE® C18 100 mg/3 mL	220-0010-B
Column Rack 24x3 mL	414174
Extrahera Calibration vials, plastic 1 mL, 96 pcs	414509

Collection Plates



96 Well Collection Plate

1 mL Square

Part Number: 121-5202



96 Well Collection Plate

350 µL Square

Part Number: 121-5201



96 Well Collection Plate

2 mL Square

Part Number: 121-5203



48 Well Collection Plate

5 mL Square

Part Number: 121-5210



96 Well Collection Plate

2 mL Round

Part Number: 121-5213



24 Well Collection Plate

10 mL Square

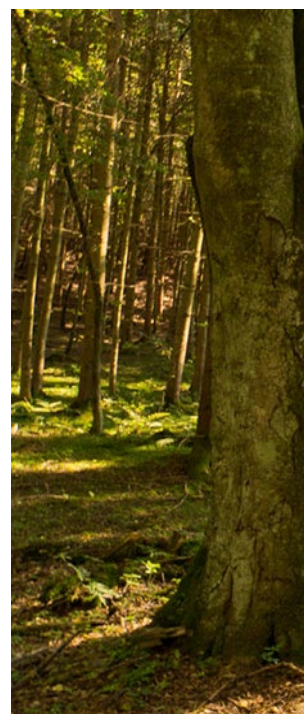
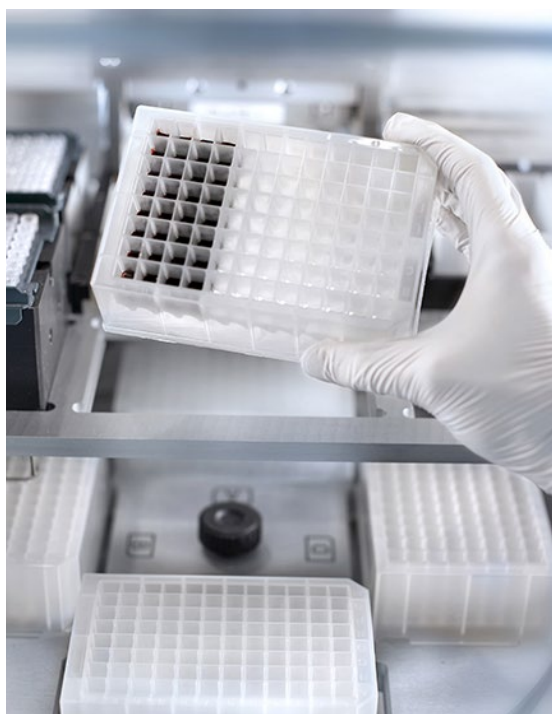
Part Number: 121-5208

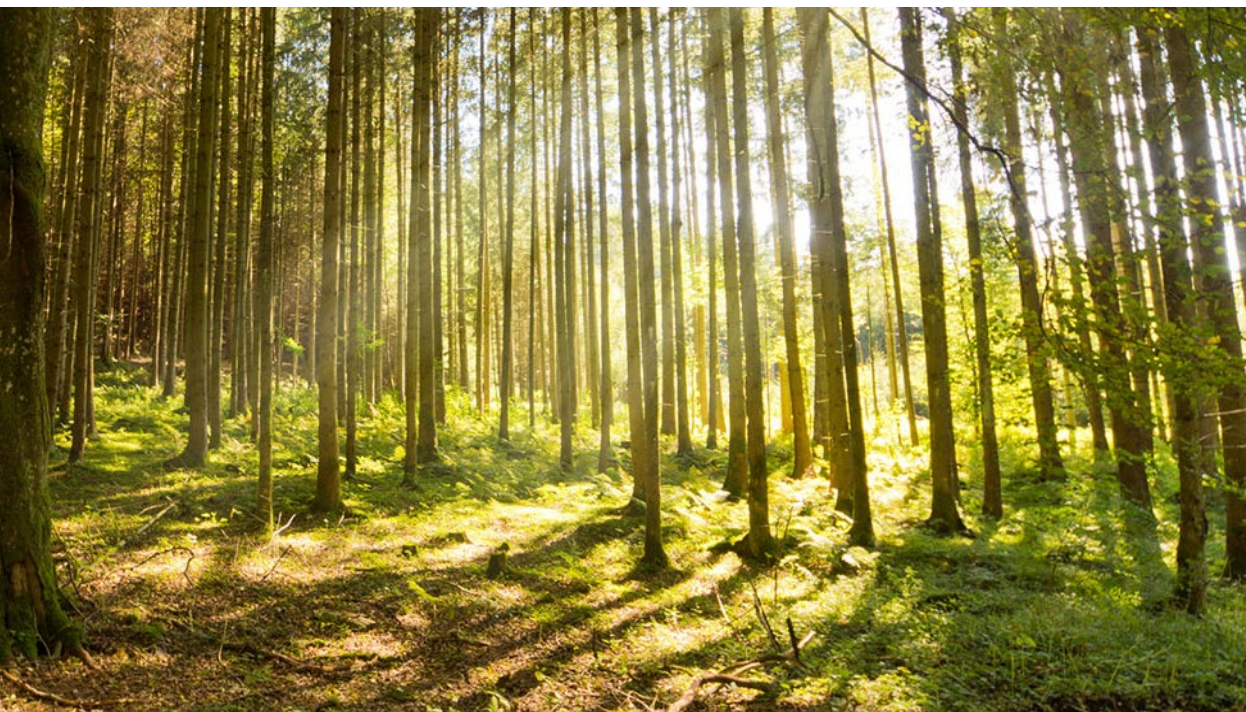
Biotage® Extrahera™

Who is it For?

The versatility of Extrahera makes it suitable for all areas of analytical chemistry.




- » Pharmaceutical
- » Biotechnology
- » Hospital & clinical testing
- » Forensic testing
- » Contract research organizations (CROs)
- » Academic organizations
- » Food (human and animal)
- » Beverage testing laboratories
- » General environmental testing
- » Government research & testing
- » Tobacco industry








Technical Specifications








Liquid Handling

	Pipetting specifications	Up to 1000 µL in one aliquot, larger volumes handled in multiple aliquots At 50 µL: ±2.0% accuracy and 1.0% CV* At 100 µL: ±2.0% accuracy and 1.0% CV* At 500 µL: ±1.5% accuracy and 1.0% CV* At 1000 µL: ±1.0% accuracy and 1.0% CV* *Values derived using a 1000 µL tip.
	Solvent capacity	5 solvent pumps with automatic feed in from external reservoirs, with additional capacity for an extra 5 manually filled solvent reservoirs (5 x 25 mL or 5 x 100 mL)
	Pressure unit	0–5 bar positive pressure (0.1 bar increments)

Sample Processor

	Format	96-well extraction plates, 48-well extraction plates, 96-array plates for 1 and 2 mL wells 96-position extraction racks for 1 mL tabless columns (A format) 24-position extraction racks for 1, 3, and 6 mL columns (A, B, and C format)
	Plate positions	6 position upper deck used for sample, extraction plates, pipette tips and solvents. 4 positions on lower deck carousel for multiple elution and waste.
	Disposable tips	1000 µL clear tips

System Requirements

	Temperature	Operating Temperature: 15–32 °C Storage and transportation temperature: -25 °C to 60 °C
	Humidity	10–95% RH
	Electrical supply	100 to 240 V~, 50/60 Hz
	Fuses	T4A at the power inlet (2 required)
	Maximum power consumed	300 VA
	Pressurized air supply	>5 L/min (0.18 cubic feet/min), 6 ± 0.2 bar (0.6 ± 0.02 MPa; 87 ± 3 psi)
	Inert gas supply	AIR port requirements: >5 L/min (0.18 cubic feet/min), 6 ± 0.2 bar (0.6 ± 0.02 MPa; 87 ± 3 psi) N2 port requirements: 1 L/min (0.04 cubic feet/min) during processing and 70 L/min (2.5 cubic feet/min) during plate dry, 6 ± 0.2 bar (0.6 ± 0.02 MPa, 87 ± 3 psi)

**Vacuum supply**

Partial pressure range: < 500 mbar (50 kPa; 7 psi)
Flow rate: ≥ 8.3 L/min (0.29 cubic feet/min)

**Weight**

75 kg (165 lbs)

**Dimensions
(WxDxH)**

Without touch screen: 610 x 510 x 730 mm (24.0" x 22.1" x 28.7")
With touch screen: 860 x 570 x 730 mm (33.8" x 22.4" x 28.7")

Max sound level 65 dB(A)

Interfaces**Touch screen**

12" Capacitive Touch

**Ethernet LAN**

Complies with IEEE 802.3 (ANSI 8802-3)

**USB**

USB 2.0

Other**Certifications**

CE, CSA certified



Service Information

With a Biotage service agreement you can lock-in annual service costs to avoid unexpected expenses and eliminate the effort to generate a separate order for a service visit. Biotage systems with Priority Service Agreements are repaired on average five days quicker than units scheduled for on-demand service. Biotage service agreements are available in three standard tiers with the ability to customize for multiple units.

- » Value – Service agreement cost can be significantly less than the cost of a single repair.
- » Control – Your annual maintenance costs will be fixed with no surprises.
- » Faster response – Eliminate the time to generate and approve a purchase request.
- » No hassle – With a service agreement, simply contact Biotage 1-Point Support for fast resolution.

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Biotage® 1-Point Support™





Ordering Information

Part no.	Description	Qty.	Part no.	Description	Qty.
414001	Biotage Extrahera	1	414330SP	Kit, Solvent Inlet Lines (S1-S5)	5
415040	Configuration Kit 96 Positions Dual Flow	1	414579	Solvent Safety Kit (inc. GL45 Caps, Filters and Bottles, Qty. 5)	1
415041	Configuration Kit 24 Positions Dual Flow	1	413686SP	Tip Rack Holder	1
414253SP	Column Rack 96 x 1 mL (tabless)	1	414141	Biotage Disposable Tips 1000 µL Clear	10x96
414169SP	Column Rack 24 x 1 mL	1	414201SP	Flow-Through Plate 96	1
414174SP	Column Rack 24 x 3 mL	1	414516SP	Flow-Through Plate 48	1
413640SP	Column Rack 24 x 6 mL (tabless)	1	414203SP	Flow-Through Plate 24	1
414256SP	Sample Rack 12 x 75 mm 24 Positions	1	414703SP	Spacer for µElution and SPEC Fixed Well Plates	1
414255SP	Sample Rack 13 x 100 mm 24 Positions	1	414702SP	Matrix Tube retaining Plate	1
414254SP	Sample Rack 16 x 100 mm 24 Positions	1	414272SP	Waste Kit incl. Waste Reservoir 5 L and Tubing	1
C44651	12 x 75 mm Test Tube	1000	414218SP	Pipette Tip Waste Bin	1
C40707	13 x 100 mm Test Tube	1000	415985SP	Extraction Waste Collector for Lifter	1
C40708	16 x 100 mm Test Tube	1000	414137SP	Waste Tubing	1
414574	Collection Vials 18 x 75 mm	304	411916SP	Fuse, 4A/250VAC, 5x20mm	5
121-5202	96-Well Collection Plate, 1 mL, Square	50	C67361	Mains Cord-Set (EU)	1
121-5203	96-Well Collection Plate, 2 mL, Square	50	C65902	Mains Cord-Set (US/CA)	1
121-5213	96-Well Collection Plate, 2 mL, Round	50	C128195	Mains Cord-Set (UK)	1
121-5210	48-Well Collection Plate, 5 mL	20	356330SP	Vacuum Pump ME1C, 100 to 230VAC 50/60Hz	1
121-5208	24-Well Collection Plate, 10 mL	50	SER-EX-IN	Installation - Extrahera	
414511SP	Collection Rack 12 x 75 mm 24 Positions	1	SER-EX-SAP	Service Agreement - Priority - Extrahera	
414512SP	Collection Rack 18 x 75 mm 24 Positions	1	SER-EX-SAL	Service Agreement - Limited - Extrahera	
414578SP	Inserts for 12 x 32 mm vials for Collection Rack 12 x 75 mm 24 Positions	24	SER-EX-FYMP	First Year Maintenance Package - Extrahera	
415604SP	Pressure Head Seal Self Adhesive 96 Positions	5	SER-EX-IQOQ	IQ/OQ - Extrahera	
415603SP	Pressure Head Seal Self Adhesive 24 Positions	5	SER-EX-FYMP-Q	FYMP and Qualification Package - Extrahera	
413991SP	Solvent Rack for 25 mL Reservoirs	1	SER-EX-SAP-Q	Priority Service Agreement and Qualification Package - Extrahera	
414045SP	Solvent Reservoir 25 mL	25			
414215SP	Solvent Rack for 100 mL Reservoirs	1			
414214SP	Solvent Reservoir 100 mL	5			

Learn More

We recommend only genuine Biotage accessories should be used in the system. To order consumables and accessories, see contact information on the back of this document. To find out more about Extrahera and related products, go to the product page on www.biotage.com

 **Comparison of Biotage® Extrahera™ vs. Manual Sample Processing Using a Vacuum Manifold**
Technical Note (PPS366)

 **Biotage® Extrahera™ Precision and Accuracy Performance**
96 Well Plate (PPS358)
24 Position (PPS360)




Click to go to the document, alternatively find them by searching for the title or the part number on www.biotage.com

 **Biotage® Extrahera™ System Demonstration**

vimeo.com/125770550



 **Biotage® Extrahera™ Tutorial Software Overview**

vimeo.com/126358181



Your Complete Partner for Effective Chemistry

Biotage is a worldwide supplier of instruments and accessories designed to facilitate the work of laboratory and process chemists. With our deep knowledge of the industry, academic contacts and in-house R&D teams, we can deliver the best solutions to your challenges. We take great pride in our flexibility and ability to meet our customer's individual needs. With strong foundations in both analytical, organic and process chemistry, we can offer the widest range of solutions available on the market.

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