

Biotage® Selekt Family

Advanced Automated Flash Purification Systems



This Is Biotage

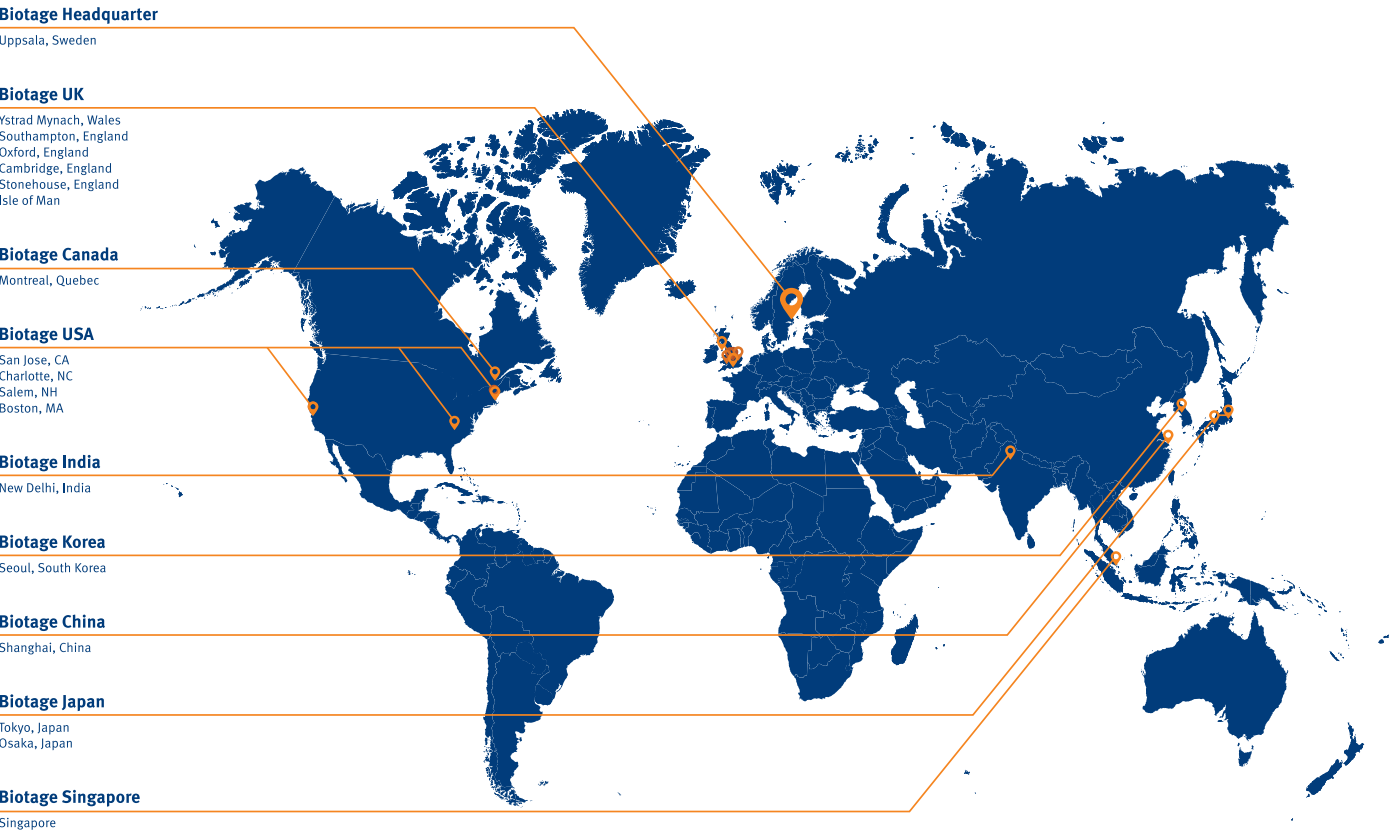
Welcome to our world

Biotage is a Global Impact Tech Company committed to solving society’s problems. We offer workflow solutions and products to customers in drug discovery and development, analytical testing and water and environmental testing.

Biotage is contributing to sustainable science with the goal to make the world healthier, greener and cleaner – **HumanKind Unlimited.**

Our customers span a broad range of market segments including pharmaceutical, biotech, contract research and contract manufacturers as well as clinical, forensic and academic laboratories in addition to organizations focused on food safety, clean water and environmental sustainability.

Biotage is headquartered in Uppsala in Sweden and employs approx. 700 people worldwide. The Group had sales of 1,566 MSEK in 2022 and our products are sold in more than 80 countries. Biotage’s share (BIOT) is listed in the Large Cap segment on the NASDAQ Stockholm.

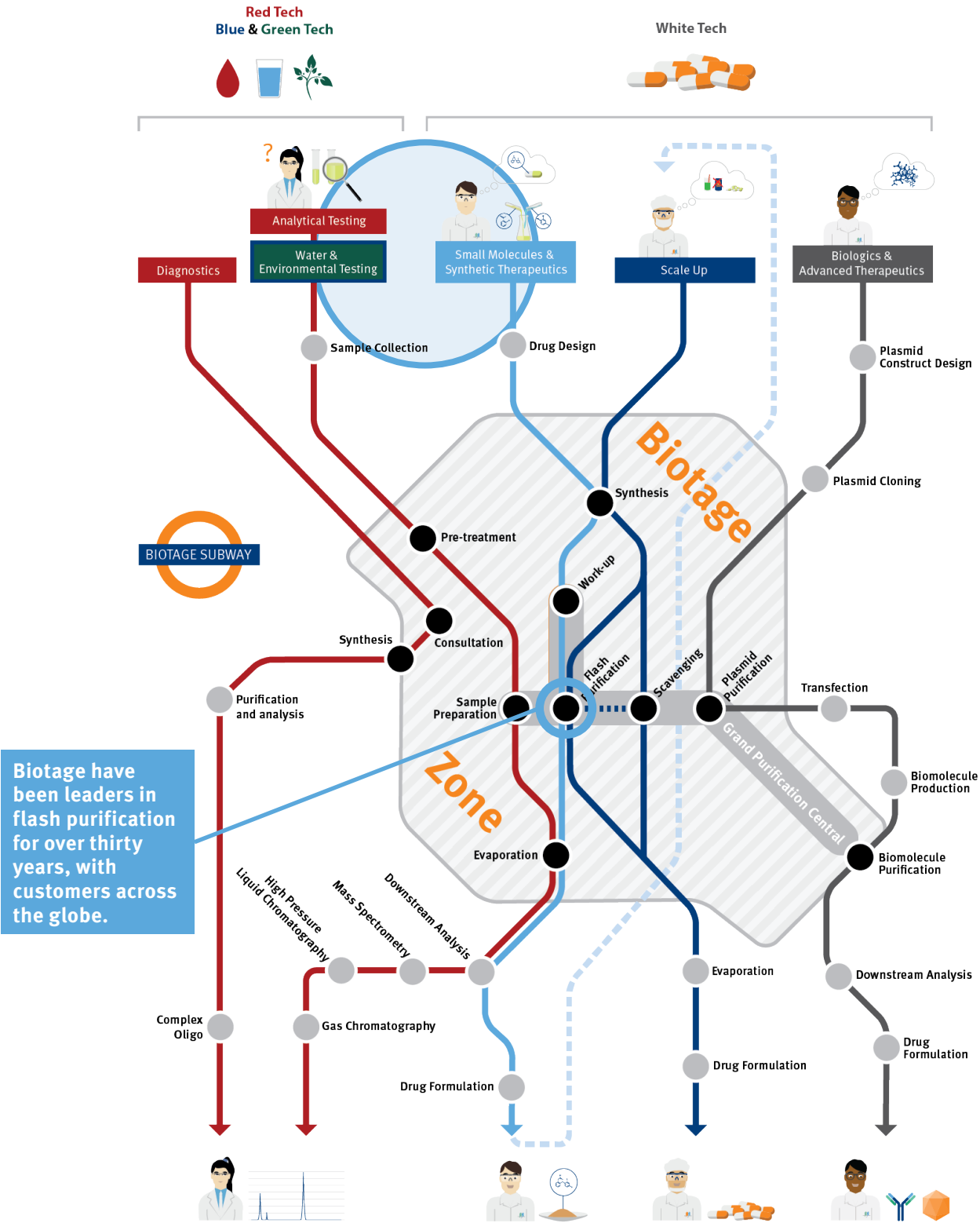


Vision

Biotage helps to shape the sustainable science of tomorrow and our future society for the benefit of humankind.

Mission

We help our customers make the world a healthier, greener, and cleaner place – **HumanKind Unlimited.**



Built by chemists for chemists,
these systems are for
scientists as they explore new
avenues of research.

The Biotage® Selekt Family

faster, simpler, greener – better flash purification

The Selekt family of flash purification systems follows the design principles underpinning Biotage's approach to drug discovery – faster, simpler, greener and as a result, better.

Faster

High flow rates and smaller Biotage® Sfär high-capacity columns means Selekt delivers extremely fast purifications, so you get your samples when you need them. On the Selekt system, two column channels allow you to simply switch between normal and reverse phase separations on a single instrument, eliminating the need to flush solvent lines every time you change phase. The result? Faster purified sample delivery, so you can move on to the next stage in your workflow, without the trip to preparative HPLC.

Simpler

With a large touchscreen and an intuitive, colorful graphical user interface, programming the Selekt family of instruments could not be easier – no need to waste time looking through manuals to recall how to purify your sample. Sfär column loadings can be seen by scanning them with the QR code reader.

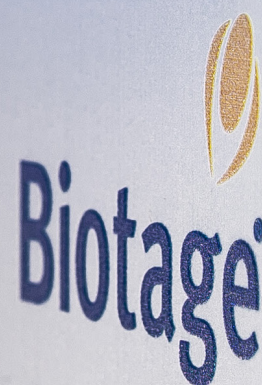
Racks are detected by Selekt for accurate identification. A powerful TLC-to-flash method editor creates methods based on your sample's behavior, ensuring that you get the best purification possible.

Greener

With Sfär high loading columns, column size can be minimized. Smaller Sfär columns means lower solvent consumption and less plastic disposal, greatly reducing the impact of purifying your compounds on the green footprint of the laboratory.

...Better

The Selekt family of flash purification systems allow you to do the purifications you need quickly, simply and with reduced impact to the environment. Flash purification... better.



For Purification, Selekt Biotage...

Biotage have been the providers of choice in flash purification for many large pharma, contract research and academic institutions, with thousands of instruments installed in laboratories across the globe. If you are looking to purify your compounds, why should you select Biotage?

Selekt reliability and robustness

Biotage's instruments have a reputation for quality of design, robust performance and reliability that is second to none. For this reason, both Biotage® Selekt systems come with a five year warranty. Your work is important to you, so that is why it is important to us that your flash system performs exactly as you need, when you need it.

Selekt speed and productivity

The Selekt family are the fastest flash purification systems at any given column size on the market. Using a combination of high flow rates, high-pressure stability and high loading columns, the Selekt family delivers the pure compounds you need with speed and efficiency, so you can get on with the real work. Science.

Selekt simplicity

The touch screens of the Selekt family gives access to a powerful integrated software interface where all aspects of the purification can be controlled with just a few clicks. The software has been built with ease of use in mind to produce an intuitive interface – no need to learn complex procedures to get your work done.

Selekt versatility

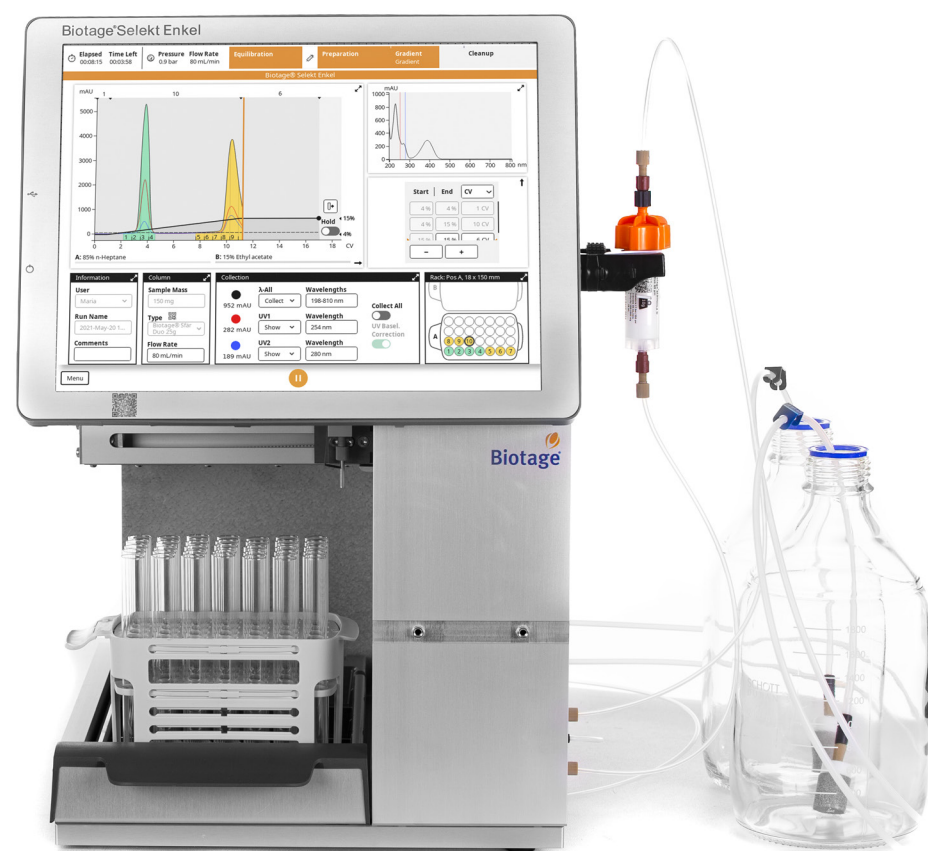
With up to two separate column channels allowing two different columns sizes or reverse/normal phase on the system, to four separate solvent lines, the Selekt is a versatile solution to all your flash purification requirements. No need to flush solvent lines to move from normal to reverse phase, simply switch to the second line for a no fuss transition in your chromatography. For laboratories that focus on single phase applications at smaller scale instead, Biotage® Selekt Enkel provides optimum flow rate and pressure performance.

Selekt greener chemistry

The high loading capacity of Biotage® Sfär columns means that for any purification, a Biotage column is much smaller than those of other manufacturers. The result? Fast separations that save solvent and leave less plastic to dispose of, for a greener approach to your chemistry.

Selekt Support

Biotage instrumentation is covered by our experienced service and support team. If you encounter any issues with your system or need advice on your work, Biotage is here to help.



Biotage® Selekt Enkel

Modular system for small scale lab Applications

The Selekt Enkel system is a modular flash system for small-scale applications that can be configured to suit the needs of your laboratory. Selekt Enkel is optimized for applications of columns up to 100 g.

Two solvent lines, one column line

Selekt Enkel is equipped with two separate solvent lines for gradient solvent systems, and one column line for columns up to 100 g. Changing solvent conditions means flushing the solvent and column lines so Selekt Enkel is best suited for laboratories that perform similar applications with robustness and reliability.

Columns from 5 to 100 g

Selekt Enkel can routinely run lab scale Sfär columns from 5 g to 100 g, and the system is dedicated to smaller scale routine laboratory samples.

UV detection

The Selekt Enkel comes with UV detection, suitable for the detection of the majority of common molecules.

Modular design

The Selekt Enkel system is modular, so that additional features can be added to the system to meet user desires. For example, while QR code reading of column data comes as standard, RFID tag based intelligent rack handling is an additional add-on. This modularity means that the Selekt Enkel can be upgraded as desired to suit the needs of your laboratory.



Biotage® Selekt

Versatile Flash System for All Applications

Biotage® Selekt is a high performance flash instrument capable of taking on any application. With a maximum flow rate of 300 mL/min and a pressure capability of 30 bar, Selekt is the most versatile option for flash purification applications on columns up to 1.85 kg.

Four Solvent Lines, Two Column Lines

Selekt is equipped with four separate solvent lines allowing two different solvent systems (such as normal and reverse phase) to be set up simultaneously, and two columns lines that can each be dedicated to a solvent system. As a result, Selekt can automatically switch between applications with a flick of the touchscreen for ultimate application versatility.

Columns From 5 g to 1.85 kg

Selekt can routinely run lab scale Sfär columns from 5 to 340 g for laboratory scale reactions. With the addition of a safety valve, Selekt can run columns up to 1.85 kg for larger scale reactions, making Selekt the ideal versatile choice for the research laboratory.

UV/Vis detection

The Selekt can be fitted with a full UV/Vis detector, giving versatile detection options for molecules of different absorption maxima.

Simple by design

Packed with a wealth of ease-of-use features, you will never need to open the Selekt manual to get your work done. Features such as column QR code reader, automatic rack recognition, and network integration means that with Selekt, purifications will never be the bottleneck in your work.

Features & Specifications



Performance	Solvent Channels
	Column Channels
	Flow Rate (mL/min.)
	Pressure Limit
	Column Size Range
	UV Detection
Ease of Use	Screen Interface
	Column Identification
	Rack Identification
	Spektra license
	Column Placement
Accessories	Network Access
	Extended Bed
	Online help

Biotage® Selekt Enkel
Two Solvent Channels
One Column Channel
1–150
218 psi/15 bar
Up to 100 g
UV Only
15" Touch
QR Code Scanner
Rack Handling, Optional RFID ✕
Optional ✕
Front and Side
Optional ✕
Optional ✕
Available

Biotage® Selekt
Four Solvent Channels
Two Column Channels
1–300
435 psi/30 bar
Up to 340 g (larger columns may be used with the pressure valve)
UV/UV-Vis
15" Touch
QR Code Scanner
Rack Handling + RFID
Optional ✕
Front and Side
Included
Optional
Available

Online help with instruction videos.

Large 15" touch screen with full system control.

QR code reader for column identification.

RFID enabled rack.

Two channels with columns mounted either on the side or front on Biotage® Selekt.

Biotage® Selekt Enkel has one channel and column attachment on the side only.

Compact size <14".

✕ Installed by Service Engineer

Accessories

The Selekt family has a number of accessories that increase the functionality of the systems to suit your application needs

Spektra – Biotage® Selekt and Biotage® Selekt Enkel

The Spektra software upgrade is featured on page 10.



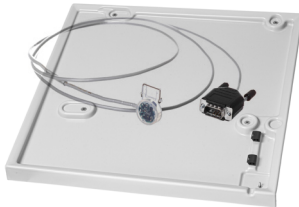
Extended bed – Biotage® Selekt and Biotage® Selekt Enkel

The Biotage® Selekt and Selekt Enkel systems can be fitted with an extended collection bed, adding an additional three rack positions for larger numbers of collection fractions.



Solvent Tray – Biotage® Selekt and Biotage® Selekt Enkel

An external tray beneath the Selekt or Selekt Enkel system allows any solvent spills to be contained and features a solvent leak sensor for additional safety.

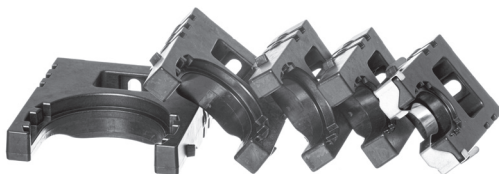


Secondary solvent container – Biotage® Selekt and Biotage® Selekt Enkel

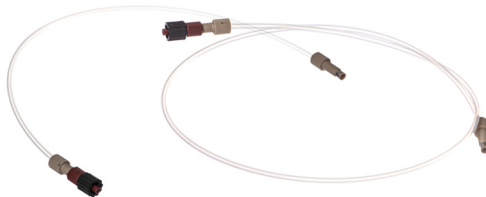
Selekt and Selekt Enkel top panels may be removed and replaced with a secondary solvent container. This container has sufficient volume to collect any solvent spilt by damage to a solvent or waste reservoir, and may be connected to a solvent sensor to increase operational safety. It may also be used as a waste containment vessel with solvent sensing.



Column Holders



Column Inlet Tubing



Large Column Holder



Safety valve

The safety valve kit is required when running columns or combinations (e.g. column and dry load vessel) with a total CV larger than 0.8 L, e.g. 750 g up to 1.85 kg in size.



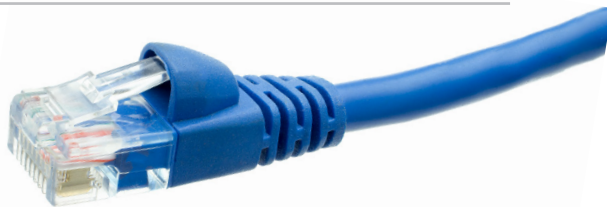
Intelligent RRID rack handling – Biotage® Selekt Enkel

Rack handling allows racks to be tagged and followed by the Selekt Enkel system, so that specific racks can be associated with particular purification runs, making tracking of samples simple. This feature is standard on Selekt.



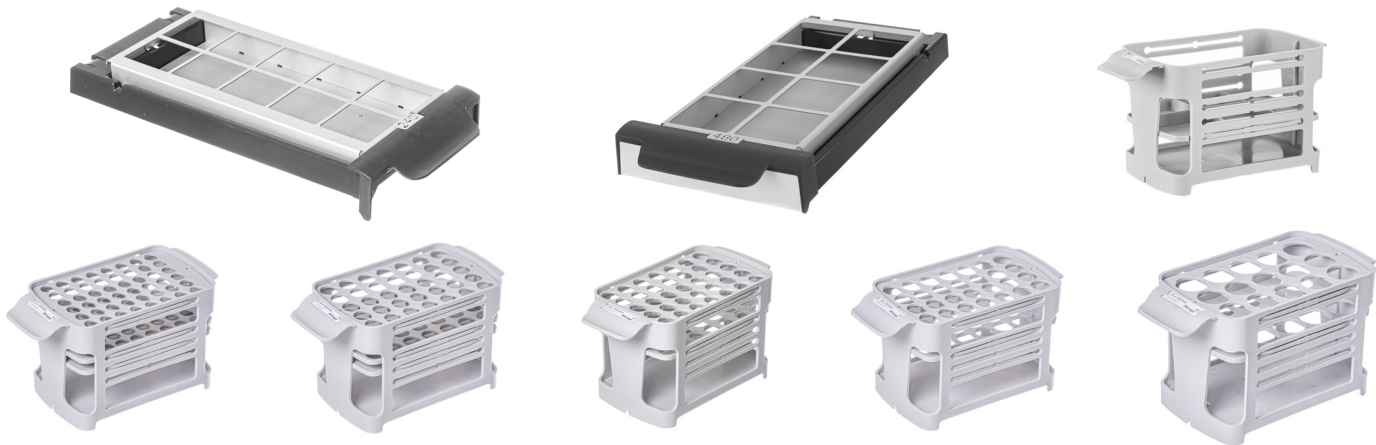
Networking – Biotage® Selekt Enkel

Saving data to an external network is possible with this add on. This feature is standard on Selekt.



Racks

Complete set of racks available for 13 x 100 mm tubes to 480 mL flasks.



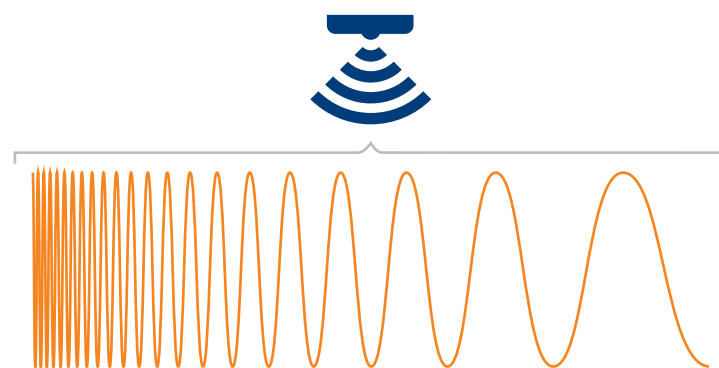


Biotage® Spektra – Intelligent Detection

Spektra software is an add-on to the Selekt family systems that provides functionality to greatly enhance detection and fractionation capabilities. If your compounds have a poor UV chromophore or the solvent masks their absorption, Spektra is the answer.

Every wavelength at once

The lambda-all feature of Spektra software allows all wavelengths to be scanned at once, giving a full spectral analysis of peaks as they elute from the flash column. The lambda max for a compound isn't needed – if it absorbs within the specified wavelength range, Spektra will detect it. On the instrument lambda-all and two individual wavelengths can be displayed at once. Spektra also allows post-processing of the run for further analysis.

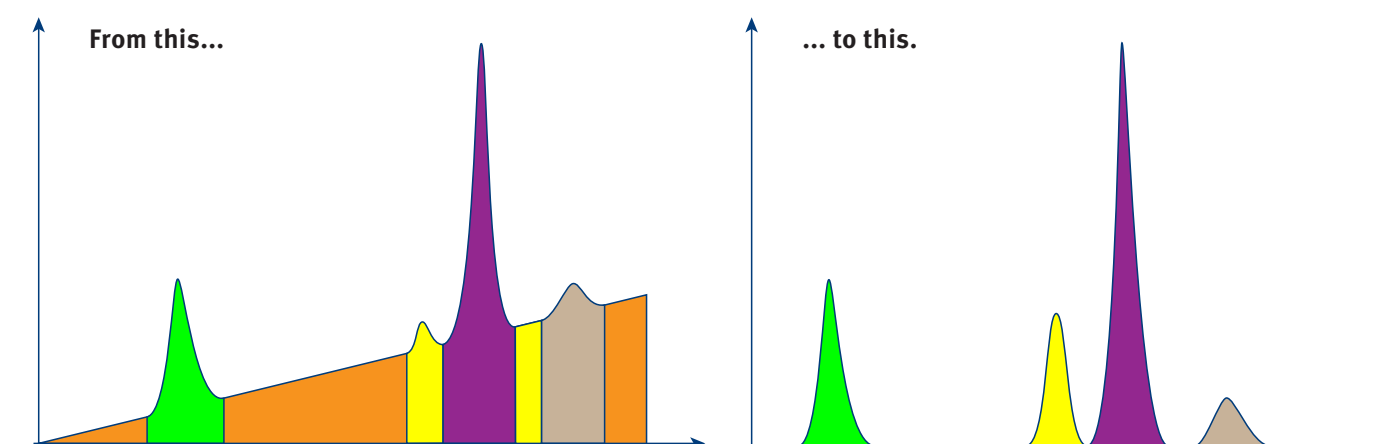


True baseline correction

Spektra performs real baseline corrections, so that you know the peaks you are seeing in your data, and the fractions you are collecting, are real. This is performed automatically by the system running a rapid gradient at the start of the run and determining the UV absorbance. This correction is then applied real-time when you perform the actual purification.

No smoothing algorithms. Baseline correction based on just real data.

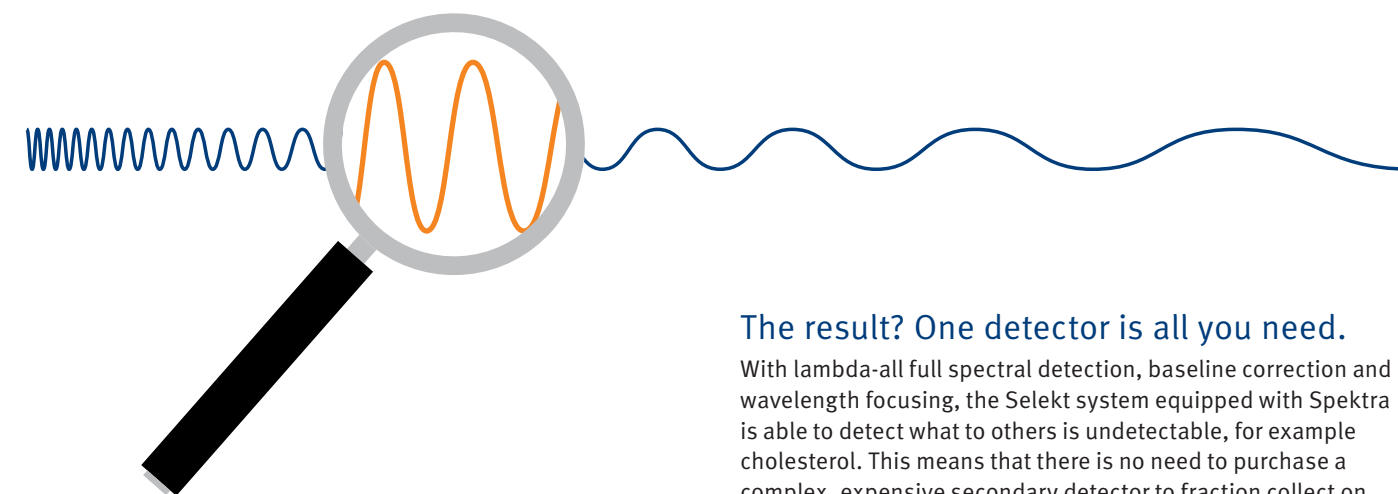
Flattening the baseline in this way allows even weakly absorbing peaks that would otherwise be hard to distinguish over the baseline to be seen. This feature also allows for the use of less commonly used solvents such as acetone or methyl benzene (toluene).



Wavelength focusing

Since organic molecules absorb UV light over bands covering several wavelengths, selecting one or two specific wavelengths limits the UV response compared to looking at a wavelength range. Even using a range of wavelengths may not improve detection unless the range is narrow. This is especially true for those organic compounds not blessed with aromaticity, conjugation, or other UV absorbing functionality.

In lambda-all detection, the response from every wavelength is summed and divided by the number of wavelengths over the specified wavelength range. As a result, if the wavelength range is focused to a narrow range, the response increases proportionally. This can be used to maximize peaks from even very weakly absorbing compounds and detect a response that others miss by utilizing a narrow absorption range.



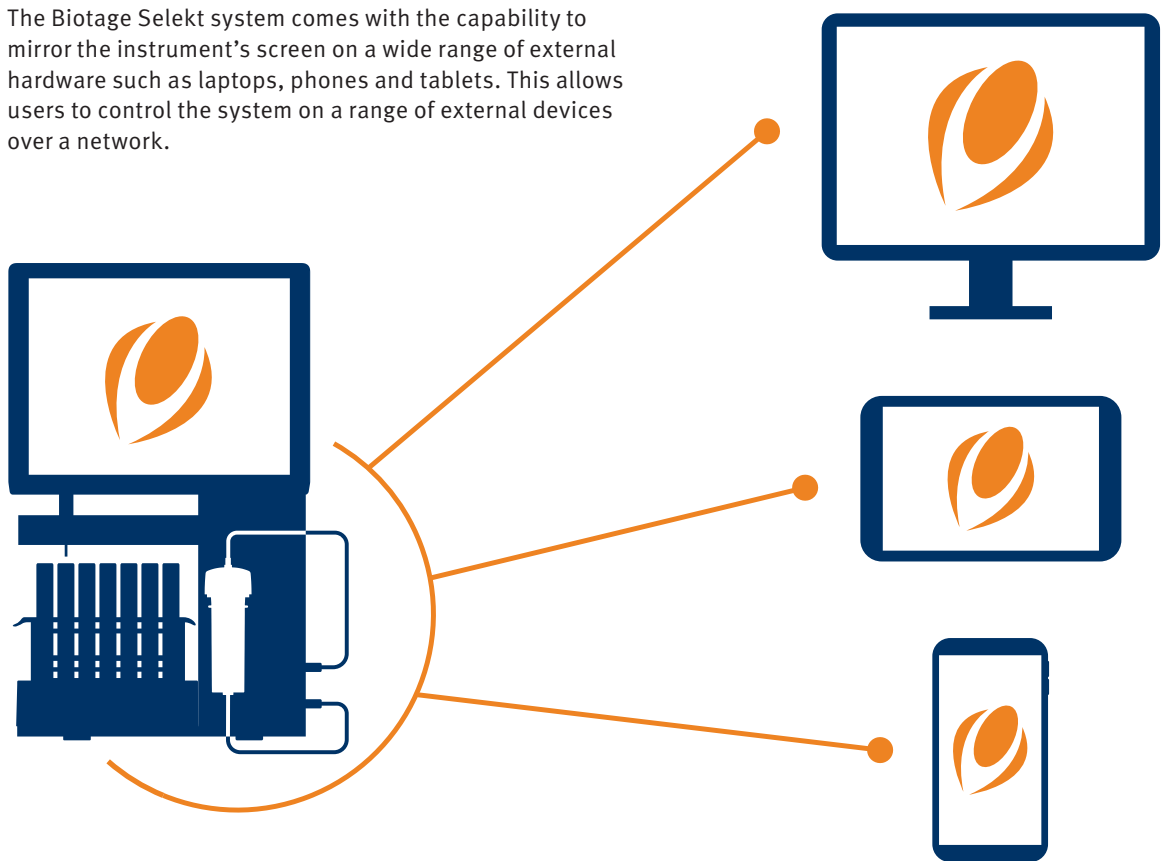
The result? One detector is all you need.

With lambda-all full spectral detection, baseline correction and wavelength focusing, the Selekt system equipped with Spektra is able to detect what to others is undetectable, for example cholesterol. This means that there is no need to purchase a complex, expensive secondary detector to fraction collect on species with poor UV absorbance – Spektra does the job for you.

Biotage® Selekt Goes Remote

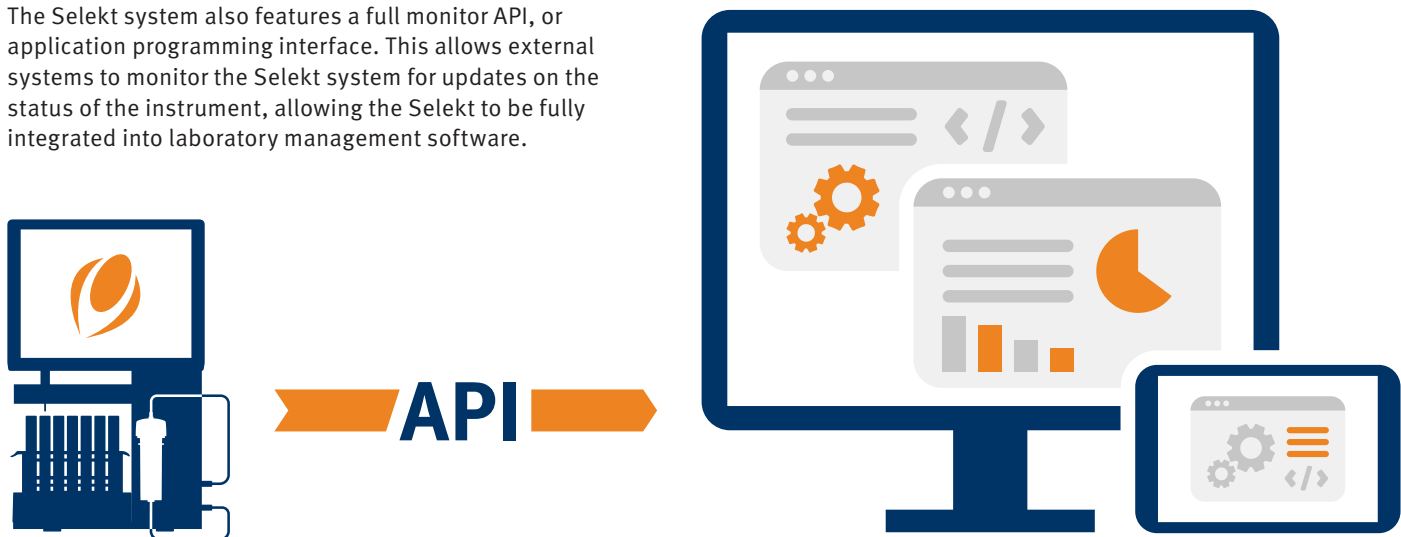
Biotage® Selekt Remote Control

The Biotage Selekt system comes with the capability to mirror the instrument's screen on a wide range of external hardware such as laptops, phones and tablets. This allows users to control the system on a range of external devices over a network.



Biotage® Selekt Monitor API

The Selekt system also features a full monitor API, or application programming interface. This allows external systems to monitor the Selekt system for updates on the status of the instrument, allowing the Selekt to be fully integrated into laboratory management software.



Biotage® Selekt Security Pack

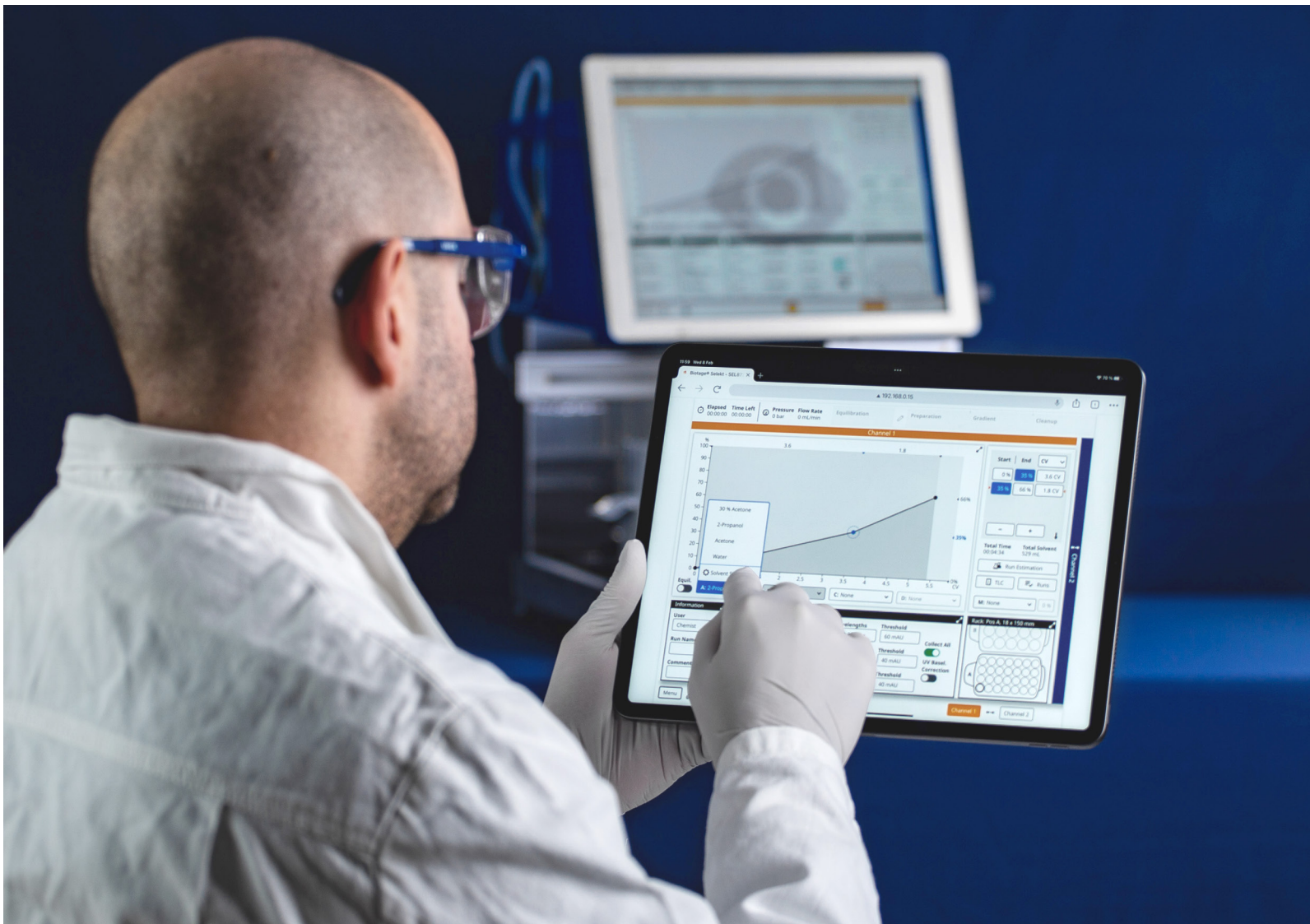
Biotage® Selekt Login and Lockscreen

The Biotage Selekt features password protected logins and the ability to lock the screen, so that only authorised individuals can access a run in progress (except to stop the pump in the case of a leak). This feature also works when employing the remote access accessory.



Biotage® Selekt Encryption

When accessing a Biotage Selekt system remotely, end-to-end encryption is employed to ensure your data and information remains totally secure.



Biotage® Liquid Level Sensor

Biotage® Liquid Level Sensor is an innovative technology*, providing true solvent management by streamlining solvent use and waste management before, during, and after your run. Compatible with our Biotage® Selekt family of purification systems, our Liquid Level Sensor is designed to enhance efficiency in your laboratory. This gives you the confidence that your separation will not run out of solvent or overflow the waste container.

Benefits with Biotage® Liquid Level Sensor

Real-Time Solvent and Waste Monitoring

Biotage® Liquid Level Sensor constantly keeps track of your solvent and waste volumes, enabling full control over your liquid handling. You will know from the start the required solvent and expected waste volumes and the sensor monitors liquid levels throughout your run.

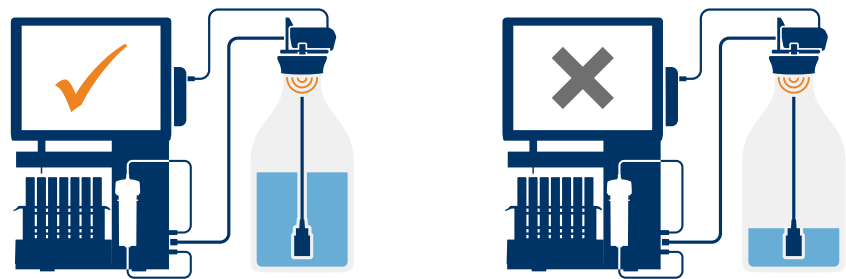
Safe Liquid Handling

There is no risk of a failed run due to inadequate liquid handling, as Biotage® Liquid Level Sensor pauses the process and notifies you to fill a solvent reservoir or empty the waste reservoir. Our tube holder keeps the solvent filter on the bottom of the reservoir and the waste line in position, so you don't have to worry about aspirating air or spilling liquid.

Workflow Flexibility

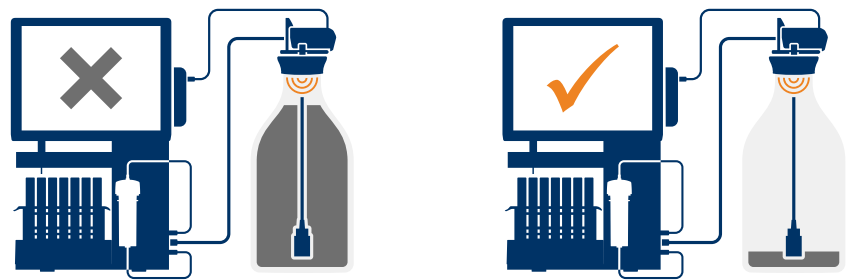
For a true plug and play experience, use Biotage® Liquid Level Sensor with our pre-calibrated Biotage reservoirs. You can also use standard reservoirs with GL45 and 38-430 thread sizes, or other sizes with the help of our Universal Cap Adapter. For additional convenience, calibration files for reservoirs can be transferred between systems, so you only need to calibrate your reservoir once.

Solvent detection



When the solvent surface is 30 mm from the bottom of the reservoir, the run is automatically paused and the user will be prompted to refill the solvent reservoir.

Waste detection



When the waste level is at 95% of the set capacity, the run is automatically paused and the user will be prompted to empty the waste reservoir.

*Biotage® Liquid Level Sensor is pending a patent.



Accessories

Biotage® Liquid Level Sensor

Reservoirs

Biotage provides pre-calibrated Biotage reservoirs for a true plug and play experience.



Caps

Biotage® Liquid Level Sensor is supported by caps for GL45 and 38-430 reservoirs.



Universal Cap Adapter

For reservoirs that do not have the GL45 or 38-430 reservoir thread.

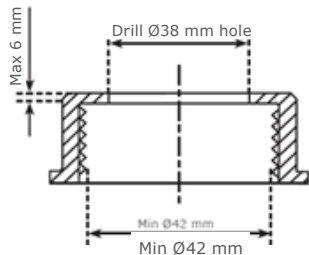


Figure 1. Universal Cap Adapter can be used with reservoirs that have a cap with 1) an inner diameter of 42 mm or larger and 2) a maximum top thickness of 6 mm.



Figure 2. A: Universal Cap Adapter. B: The cap with the 38 mm hole on top of the adapter. C: The 38-430 cap attached to the adapter and the modified cap.

Accessories

Only Biotage consumables and accessories can be used with the system.

Technical Specifications

Biotage® Liquid Level Sensor

General System Specifications

Fume Hood/ Ventilation System

A laboratory fume hood with the capacity to handle leakage of solvents and provide suitable airflow to prevent the build-up of flammable vapors.

Location

Indoor use only. No wet locations. Biotage® Liquid Level Sensor must be placed on a stable, and flat level surface.

Ambient Temperature

Operating: 15°C to 32°C (59°F to 90°F). Storage and transportation: -25°C to 60°C (-13°F to 140°F).

Humidity

20% to 90% RH (non-condensing).

Altitude

Operation: up to 2000 m (6562 ft).

Pollution Degree

The Biotage® Liquid Level Sensor kit shall be installed and used in a level 2 environment in accordance with EN 60664-1.

Electrical Supply

24 V

Max Power Consumed

500 mA

Materials

PEEK (tube holder), PPS (sensor house, cap, and universal cap adapter), PP (hub), TPE partly coated with PO (sensor cable)

Weight

Hub: 133.5 g (0.29 lbs)
Sensor: 64.2 g (0.14 lbs)

Dimensions

Hub: 157 x 85 x 32 mm (6.2" x 3.3" x 1.3")
Sensor: 63 x 55 x 27 mm (2.5" x 2.2" x 1.1")

IP classification

IP54 for the sensor

RF Type (Sensor)

Transceiver

Operating frequency range

57 to 64 GHz

Radar Peak Output Power

18 dBm

Sensor cable length

1.8 m (70.9")



Selekt Systems and Sfär Columns

Perfect Partners

The Biotage Selekt family of flash of purification systems are complemented by the high-performance Sfär column range – the perfect partners for advanced sample purification.

- » Available in normal, reverse and bio phases
- » Sizes range from 5 g to 340 g for purification of mg to multi-gram samples
- » Highest loading of any flash columns, for reduced solvent use, run time and cost
- » Smaller columns means greener purifications

For more information, view our **Sfär Column brochure**



Simplify Sample Scale-up

The Selekt systems are designed to facilitate simple scale-up to Biotage’s large-scale flash purification systems, for sample sizes up to multi-kilogram.

- » Use of the same media in small and large scale columns for reproducible scale-up
- » Simple procedures to move from small to large scale
- » Support from our dedicated scale-up team

For more information of Biotage’s large scale flash products, visit **biotage.com**



Ordering Information

Part Number	Description
Instruments	
SEL-2SV	Biotage® Selekt, Two Channel, Single Collection Bed, UV Detector
SEL-2SW	Biotage® Selekt, Two Channel, Single Collection Bed, UV-VIS Detector
SEL-2EV	Biotage® Selekt, Two Channel, Extended Collection Bed, UV Detector
SEL-2EW	Biotage® Selekt, Two Channel, Extended Collection Bed, UV-VIS Detector
SEL-ESV	Biotage® Selekt Enkel single channel, single collection bed, UV detector
Software	
SEL-SPK	Biotage® Spektra Software Package
SEL-RC	Biotage® Selekt Remote Control
SEL-mAPI	Biotage® Selekt Monitor API
Accessories	
417538SP	Cartridge holder 5 g/10 g with O-ring
417539SP	Cartridge holder 25 g with O-ring
415343SP	Column Holder Sfär 50/100 g
415337SP	Column Holder Sfär 200/350 g, 1 pcs.
416301SP	13 x 100 mm RFID Rack (incl. 3 pcs.)
416302SP	16 x 100 mm RFID Rack (incl. 3 pcs.)
416303SP	16 x 150 mm RFID Rack (incl. 3 pcs.)
416305SP	18 x 150 mm RFID Rack (incl. 3 pcs.)
416306SP	25 x 150 mm RFID Rack (incl. 3 pcs.)
416307SP	120 mL flask RFID Rack (incl. 3 pcs.)
416230SP	240 mL flask RFID Rack (holds 10 flasks)
416225SP	480 mL flask RFID Rack (holds 8 flasks)
416321SP	Biotage® Selekt Secondary Solvent Containment
416410SP	Biotage® Selekt Instrument Tray with Solvent Sensor
417501SP	Biotage® Selekt Enkel network upgrade kit
417502SP	Biotage® Selekt Enkel extended bed upgrade kit
417504SP	Biotage® Selekt Enkel RFID upgrade kit
417115SP	Biotage® Safety Valve Kit
412358	XL Fitting, Female Luer, Assembly – Isolera™ LS
412422	750 g / 1500 g Holder Assembly – Isolera™ LS
412537	Male Luer outlet fitting for SNAP 750 g and 1500 g cartridges

Part Number	Description
418776	Biotage® Selekt Liquid Level Sensor Kit
418843	Biotage® Selekt Enkel Liquid Level Sensor Kit
418758SP	Biotage® Liquid Level Sensor Hub
418536SP	Biotage® Liquid Level Sensor
418777SP	Tube holder
418523SP	Reservoir 5 L, GL45
418524SP	Reservoir 10 L, GL45
418528SP	GL45 Cap
418529SP	38-430 Cap
418571SP	Universal Cap Adapter
418841SP	Funnel
418956SP	Cable and tube support kit

Biotage® Selekt



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.

EUROPE

Main Office: +46 18 565900
Fax: +46 18 591922
Order Tel: +46 18 565710
Order Fax: +46 18 565705
order@biotage.com
Support Tel: +46 18 56 59 11
Support Fax: + 46 18 56 57 11
eu-1-pointsupport@biotage.com

NORTH & LATIN AMERICA

Main Office: +1 704 654 4900
Toll Free: +1 800 446 4752
Fax: +1 704 654 4917
Order Tel: +1 800 446 4752
Order Fax: +1 704 654 4917
ordermailbox@biotage.com
Support Tel: +1 800 446 4752
us-1-pointsupport@biotage.com

JAPAN

Tel: +81 3 5627 3123
Fax: +81 3 5627 3121
jp_order@biotage.com
jp-1-pointsupport@biotage.com

CHINA

Tel: +86 21 68162810
Fax: +86 21 68162829
cn_order@biotage.com
cn-1-pointsupport@biotage.com

KOREA

Tel: +82 31 706 8500
Fax: +82 31 706 8510
korea_info@biotage.com
kr-1-pointsupport@biotage.com

INDIA

Tel: +91 11 45653772
india@biotage.com

Distributors in other regions
are listed on www.biotage.com

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