

Mass Directed Flash Chromatography by Biotage

Biotage® Dalton Mass Detectors



Why Do Companies Around the World Choose the Biotage Approach to Flash Purification?

As a pioneer of automated Flash purification, Biotage counts many major companies as customers. These organizations have selected Biotage as a partner because they receive the fastest and most cost efficient route to compound purification. They enjoy purification done right the first time, every time.

Here at Biotage we are committed to developing tools for a seamless workflow that gets projects to completion. Our Accelerated Chromatographic Isolation (ACI) enabled Isolera™ systems and SNAP Ultra flash cartridges deliver the most reliable and rapid purifications possible.

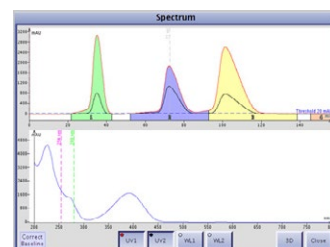
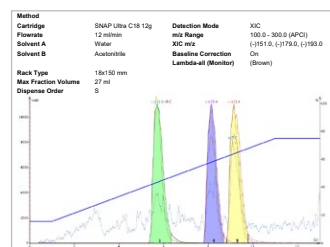
Flash Purification with Mass Detection

Why choose Flash Chromatography with integrated mass identification?

Identification of the mass of eluting compounds as they are isolated provides the information you want, when you want it.

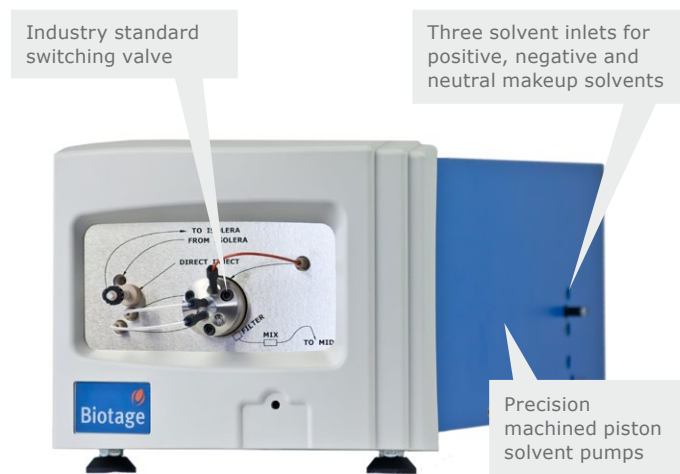
Benefits include:

- » Immediate identification of compounds
- » Samples separated by mass-to-charge ratio
- » Sample crude mixtures directly



Biotage Coupling Technologies

The key to success in mass-directed flash purifications is integrating the high flow rates and broad variety of organic solvents used in flash with the low sample volumes required by mass spectrometers. To achieve this, Biotage has developed Isolera™ Spektra enhanced detection and Isolera™ Nanolink. These reliable and robust technologies simplify the day-to-day operation of Biotage Dalton systems.



Isolera™ Spektra

Enabling Isolation of Pure Compounds

Isolera™ Spektra is a powerful software for Isolera™ flash systems, combining instrument control with extended features for flash purification.

Features

- » Baseline correction
- » Advanced λ -All detection
- » Preview your run in the built-in simulator
- » PDA spectral analysis
- » MS analysis capability through a wizard interface
- » Automatic handling of mass spectrography parameters
- » Allows direct mass spectrography analysis of crude mixtures

Biotage® Nanolink

Integrating Mass Detection with Flash Purification

An intelligent coupling system which ensures worry-free and reliable hyphenated operation between the flash chromatograph and mass detector. Nanolink is fully automated – there's no need for manual adjustments during setup or operation.

Features

- » Eliminates flow splitter optimization
- » Automatic sampling
- » Automatic flow adjustment

m/z Range 10–2000.

Collect on TIC enables you to collect and fractionate based on all compounds seen by the mass detector.

Industry standard direct injection port ensures rapid and precise sample analysis.

Automatically switches between positive and negative ionization.

Supports atmospheric pressure chemical ionization (APCI) and electrospray ionization (ESI) of the sample.

A single quadrupole analyzer filters the ions according to their mass-to-charge ratios (m/z) and directs them into the detection system.



Biotage® Dalton 2000

Isolera™ Dalton 2000

Full mass spectral analysis capability including post-run analysis, collection based on TIC, and polarity switching during the run.

Applications

- » Mass directed purifications of all types of reaction mixtures
- » Purification of known samples
- » m/z Information from purification of unknown compounds
- » Natural product analysis

Quick Facts

- » m/z Range 10–2000
- » Collect and fractionate based on total ion count or extracted ion signals
- » APCI ion source (ESI optional)
- » Full spectral analysis post run
- » ASAP Probe for liquid and solid phase analysis
- » External roughing pump



Isolera™ Dalton 2000 with Biotage® Dalton 2000 Mass Detector, Isolera™ Four flash system, Biotage® Nanolink and external roughing pump.

Miniaturized mass analyzer optimized for use in flash chromatography, providing instant confirmation of the collected fraction's mass.

m/z Range
80–800 m/z

Small footprint,
fits in a regular
fume hood.

Internal vacuum
pumps with 30 minute
pump down time.



Isolera™ Dalton Mass Detector

Isolera™ Dalton

Miniaturized system for laboratories where space is a premium.

Applications

- » Mass directed purification of simple reaction mixtures
- » Purification of known samples
- » Small sample volumes

Quick Facts

- » Miniaturized design
- » Internal roughing pump
- » m/z Range 80–800
- » Collect and fractionate based on up to four masses per run
- » Nano-ESI ion source

Learn More

🕒 Isolera™ Dalton - Flash Chromatography with Integrated Mass Identification



Isolera™ Dalton System with Isolera™ Dalton Mass Detector, Isolera™ One flash system, and Biotage® Nanolink.

Technical Specifications

	Biotage [®] Dalton 2000	Isolera [™] Dalton Mass Detector
Dimensions (w x d x h)	28 x 56 x 66 cm	35.5 x 56 x 25 cm
Weight	54 kg	32 kg
Ion source	APCI (ESI optional)	ESI nano spray
Flow rate range	Flash separation at 10–100 mL/min	Flash separation at 10–100 mL/min
Sampling adjustment	Automatic split flow interface	Automatic split flow interface
Acquisition modes	Positive and negative ionization in parallel	Selectable positive or negative ionization
Detection range (m/z)	10–2000	80–800
Resolution	< 0.7 FWHM m/z	0.7 ±0.1 FWHM m/z
Detection accuracy	±0.1 m/z	±0.5 m/z
Mass fractionation limit	4	4
Make up solvents	One (pure)	Three (mixtures)
Nitrogen gas pressure	4.1–6.9 bar (60–100 psi), minimum 98% purity	2–6 bar (29–87 psi), minimum 99.9% purity
Gas consumption	8 L/min	2.5 L/min
Accessories	ASAP direct probe analysis	N/A
Custom mass intervals	Yes	N/A
Collect on TIC	Yes	N/A
Automatic stop on target mass	Yes	N/A
Post run analysis	Built into software and offline	Offline only
Vacuum pumps	Internal turbo pump, external rotary vane roughing pump	Integrated turbo and foreline roughing vacuum pump
Control interface	Isolera [™] Spektra	Isolera [™] Spektra
User serviceable parts	Heated inlet capillary with o-ring and Corona needle	spraychip [®] (chip based ESI source), vac-chip [™]
Certifications	CE, TÜV, FCC	CE, cTÜVus



Ordering Information

Description	Part Number	Description	Part Number
Mass Detectors		Mass Detectors	
Biotage Dalton 2000 Mass Detector APCI 230 VAC incl roughing pump	DALT-2000-APCI-230V	Exterior tubing kit (without SFI tubes and solvent inlet tubes)	413875
Biotage Dalton 2000 Mass Detector APCI 115 VAC incl roughing pump	DALT-2000-APCI-115V	Solvent inlet tubing with filter (pack of 3)	413460
Biotage Dalton 2000 Mass Detector APCI 100 VAC incl roughing pump	DALT-2000-APCI-100V	Tubes, 20x150mm, for cleaning the vac-chip™	413890
Biotage Dalton 2000 Nanolink	DALT-2000-NLINK	DFI, Direct Flow Interface cpl.	413743
Isolera Dalton Nanolink	ISO-DALT-NLINK	SFI, Split Flow Interface (Includes tubing for 1ml/min split)	413741
Isolera Dalton Mass Detector	ISO-DALT-DET	MID 4100 Calibration kit	ISO-DALT-CALIB
Spektra License for Dalton 2000	DALT-2000-SW		
Mass Detector Accessories		Isolera One	
Dalton 2000 ASAP kit, probe, capillary stand, APCI source port	UP-ASAP-SNL	Isolera One, One Channel, Single Collection Bed, 200-400 nm Detector	ISO-1SV
Dalton 2000 APCI Ion source	IS-APCI-S01	Isolera One, One Channel, Single Collection Bed, 200-800 nm UV-VIS Detector	ISO-1SW
Dalton 2000 ESI Ion source	IS-ESI-S01	Isolera One, One Channel, Extended Collection Bed, 200-400 nm Detector	ISO-1EV
Dalton 2000 Glass capillaries for ASAP, pk 100	CAP-ASAP	Isolera One, One Channel, Extended Collection Bed, 200-800 nm UV-VIS Detector	ISO-1EW
Vac-chip™ 100	413712		
Spraychip® 200	413711	Isolera Four	
Massscape SW for Personal Computer	413874	Isolera Four, Four Channels, Single Collection Bed, 200-400 nm Detector	ISO-4SV
Vac-chip™ O-ring (Pack of 4)	413872	Isolera Four, Four Channels, Single Collection Bed, 200-800 nm UV-VIS Detector	ISO-4SW
250ul gastight syringe	413710	Isolera Four, Four Channels, Extended Collection Bed, 200-400 nm Detector	ISO-4EV
Microfilter for make up flow (pack of 5)	413484	Isolera Four, Four Channels, Extended Collection Bed, 200-800 nm UV-VIS Detector	ISO-4EW
Microfilter holder with 2m filter (pack of 2)	413483		
Needle Port (pack of 2)	413487		
Splitter maintenance kit (pack of 3)	413714		



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