

Isolera™ LS

FLASH Purification System



Scale from milligrams to >150 g on a single system using a single method

The Biotage Isolera LS development-scale flash purification system dramatically shortens large-scale purification run-times with flow rates of 50-500 mL/minute. Simply select or create a method, load your sample, and run – it's that easy. New advanced features include: solvent-saving Gradient Optimization (GO), the ability to collect fractions on two separate wavelengths, use of up to four solvents in a single gradient and add a third isocratic co-solvent. A UV-VIS detector increases detection to 200-800nm.

Gradient Optimization

The gradient optimization "GO" feature converts a linear gradient into a step-gradient, optimizing elution conditions around a user-identified peak. Simply separate your sample on a small Biotage flash cartridge with a linear gradient and press the Optimize button. Select the peak of choice and a new step-gradient method is created which is scalable to any larger-scale Biotage flash cartridge.

Flow rates of 50 to 500 mL/min

Higher flow rates of 50 to 500 mL/min, dramatically shortens purification runs. 1500 g SNAP cartridges purify samples up to 150 g further improving capacity and productivity (Figure 1).

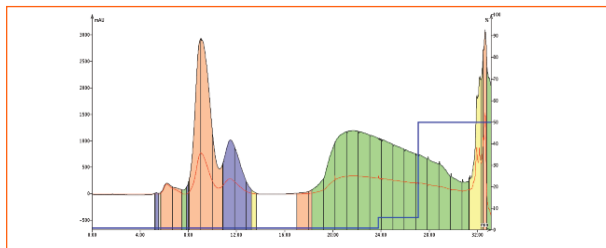


Figure 1. 30 g of a lipophilic oil was purified in only 32 minutes using a SNAP 1500 g cartridge at a flow rate of 500 mL/min.

Method evaluation and scale-up on one system

Develop methods by choosing one of the system's default gradients, entering your own gradient or using the system's unique built-in TLC-to-gradient feature. Isolera LS has a milligram to >150 g purification range. This provides chemists the ability to evaluate a method on a smaller sample prior to scale-up, reducing solvent usage and method development time as shown in Figure 2.

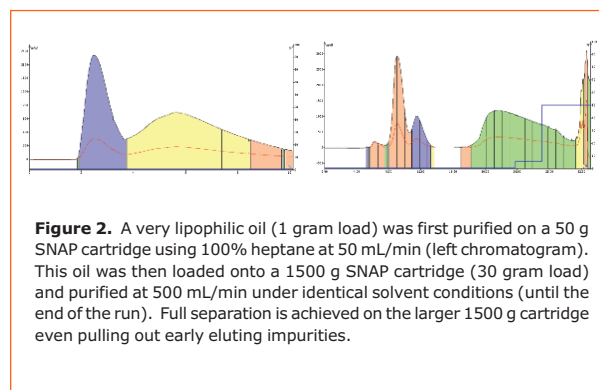


Figure 2. A very lipophilic oil (1 gram load) was first purified on a 50 g SNAP cartridge using 100% heptane at 50 mL/min (left chromatogram). This oil was then loaded onto a 1500 g SNAP cartridge (30 gram load) and purified at 500 mL/min under identical solvent conditions (until the end of the run). Full separation is achieved on the larger 1500 g cartridge even pulling out early eluting impurities.

Unique sample loading pump

The Isolera LS overcomes manual injection issues such as leaks or spills with a built-in peristaltic pump. Made with flexible inert fluoropolymer tubing, this pump enables liquid samples to be efficiently pumped directly into your SNAP 750 g or SNAP 1500 g flash cartridge.

External dry loading vessel

For samples requiring pre-adsorption onto a solid support, a 500 g capacity dry load vessel accessory is available. The dry load vessel has an adjustable bed for samples as low as 100 g and mounts directly onto the Isolera LS saving precious space.

Fraction capacity up to 320 L

The Biotage Isolera LS has a standard capacity of 9.6 liters. For additional fraction capacity (up to 320 L) a funnel rack kit is available. The funnel rack kit comes with two racks (16 funnels each) and a cart with wheels that holds the system, collection vessels, and a leak detector.

Use up to four solvents in a gradient

The Isolera LS provides dual-binary gradient capability for purifying samples with diverse polarity ranges. A simple hexane/ethyl acetate gradient becomes a powerful hexane/ethyl acetate to ethyl acetate/methanol gradient without solvent immiscibility or emulsions, providing a more efficient way to purify complex sample mixtures.

Maximize solubility and product recovery

Compound precipitation can cause problems with compound recovery and system overpressure. Isolera LS is designed to help alleviate this issue by offering the capability to pump a third solvent isocratically during a binary gradient to maintain compound solubility.

SNAP 750 g and 1500 g cartridges

SNAP 750 g and 1500 g cartridges maximize productivity by providing the highest sample loading capacity, fastest throughput and superior large-scale separations as shown in Figure 3.

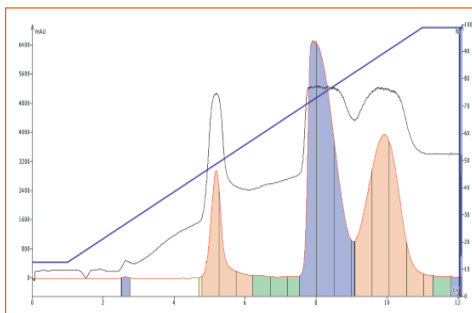


Figure 3. 80 g (>10% load) of a crude reaction mixture with a TLC $\Delta CV < 1$ was separated with high resolution on a SNAP 750 g cartridge at 200 mL/min.

System Specifications

Solvent delivery	Two electric HPFC pumps
Flow rate	50 – 500 mL/min
Pressure limit	145 psi (10 bar) (up to 450 mL/min), 100 psi (7 bar) at 500 mL/min
UV Detection	Variable dual-wavelength (200 – 400 nm) UV-VIS dual-wavelength (200 – 800 nm)
Flow cell path length	0.3 mm
UV collection modes	One wavelength, Two wavelengths
Fractionation modes	Volume, threshold, threshold with volume, low slope, medium slope, custom slope
Collection vessels	Test tubes (17.5 mm, 18 mm and 25 mm) and bottles (120 mL, 240 mL, and 480 mL)
Power	100 – 240 VAC, 50/60 Hz, 4.0 A
System control & data management	On-board computer with 10.4" diagonal touch screen interface
Dimensions (W x H x D)	577 mm (22.7") x 596 mm (23.5") x 497 mm (19.6"),
Weight	30-35 kg (66 - 77 lb)
Certifications	CE, cTÜVus

Funnel Rack Kit

Dimensions (W x H x D)	960 mm (37.8") x 1060 mm (41.7") x 660 mm (26.0"),
Weight	40 kg (88 lb without Isolera or Bottles)

Ordering Information

Part Number	Description
ISO-1LSV	Isolera 1, sample load pump, variable 200-400 nm detector, and expanded fraction collector bed
ISO-1LSW	Isolera 1 with UV-VIS, sample load pump, variable 200-800 nm detector, and expanded fraction collector bed
DLV-500	Dry load vessel kit with holder, one empty cartridge and frit
DLV-505	Replacement dry load vessels and frits (4/pk)
FNRK-032	Funnel rack kit with cart, two racks, (16 funnels each) and leak detector
FSK0-1107-0750	SNAP 750 g KP-SIL cartridges, 2/cs
FSK0-1107-1500	SNAP 1500 g KP-SIL cartridges, 2/cs
411792	Test tube rack, 18 x 150 mm, 4/pk
411793	Test tube rack, 25 x 150 mm, 4/pk
411794	Bottle rack, 120 mL, 4/pk
411934	Bottle rack, 240 mL, 1/pk
411929	Bottle rack, 480 mL, 1/pk
08742	120 mL bottles, 96/cs
08743	240 mL bottles, 84/cs
411935	480 mL bottles, 24/cs
412896	Conductive PTFE Funnel Rack Tubing, 8/pk
412921	GL 45 caps with Sept for Schoot/Corning Bottles, 8/pk



Isolera LS shown with optional Funnel Rack Kit and Cart

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