

Automated sample preparation system for environmental and PFAS extraction workflows

- Biotage® PrepXpert-8

Biotage® PrepXpert-8 is a fully automated 8-channel sample preparation system designed to simplify and accelerate high-throughput workflows in environmental and PFAS analysis. With advanced automation features integrated throughout, the system minimizes manual handling, reduces contamination risk, and ensures consistent, reproducible results.

From fully automated extraction and quiet bottle rinsing to cartridge clog detection and liquid level monitoring, Biotage® PrepXpert-8 delivers reliable performance with minimal user intervention. The intuitive touchscreen interface supports secure method management and traceable run reporting.

The system supports sample volumes from 10 to 1500 mL and is compatible with 1, 3, 6, and 15 mL cartridges, including stacked configurations. For added flexibility, Biotage® PrepXpert-8 also supports dual-method operation, enabling parallel processing of different chemistries or staggered workflows, ideal for laboratories managing diverse sample types or developing new methods.



System benefits:

1. Designed to support PFAS testing

Engineered specifically for PFAS analysis with minimal fluorinated materials in the wetted flow path to reduce background contamination and ensure reliable results.

2. Intuitive, audit-friendly software

Features a touchscreen interface with software designed for traceability, audit compliance, and seamless LIMS integration. Run reports are easily accessible and support regulatory workflows.

3. Easy sample handling with direct loading and rinsing

Simplifies sample preparation with direct loading and rinsing, compatible with various container types and up to two stacked columns for enhanced efficiency.

4. Sample volumes from 10 to 1500 mL

Accommodates a broad range of sample volumes, making it suitable for diverse testing requirements.

5. Single or dual-method operation

Supports flexible workflows with single or dual-method capabilities, enabling increased throughput across a wide range of sample types.

6. Automatic reagent and waste level monitoring

Continuously monitors reagent and waste levels to reduce manual checks and prevent workflow interruptions.

7. Clog detection

Detects clogged cartridges in real-time to minimize downtime and ensure consistent performance.

8. Seamless integration with Biotage consumables

Works effortlessly with Biotage EVOLUTE[®] PFAS, EVOLUTE[®] PFAS+, and ISOLUTE[®] cartridges, as well as TurboVap[®] evaporators, for a complete and efficient sample preparation workflow.



Software

Biotage® PrepXpert-8 is operated through a modern touchscreen interface that combines user-friendly design with advanced functionality for regulated laboratory environments. The software is built to support both manual and automated workflows, giving users the flexibility to develop, test, and execute methods with confidence and precision.

In method mode, users can create and customize methods using a visual editor. Each method is composed of a sequence of operations such as condition, load, wash, elute, rinse, purge, and dry (Fig 1). Parameters like flow rate, volume, and destination can be adjusted to meet specific application needs. This level of control allows laboratories to fine-tune their workflows for optimal performance and compliance.

The system supports both Linked Mode and Split Mode, offering flexibility for high-throughput labs or method development environments. In Linked Mode, all eight channels operate under a single method, ideal for processing large batches of similar samples efficiently. In Split Mode, the system divides into two independent banks of four channels each, allowing two different methods to run simultaneously (Fig 2). This is especially useful for testing different chemistries in parallel or staggering sample interactions to optimize throughput and resource use. Each mode is selectable from the touchscreen interface and can be configured with separate reagents, flow rates, and timing parameters.

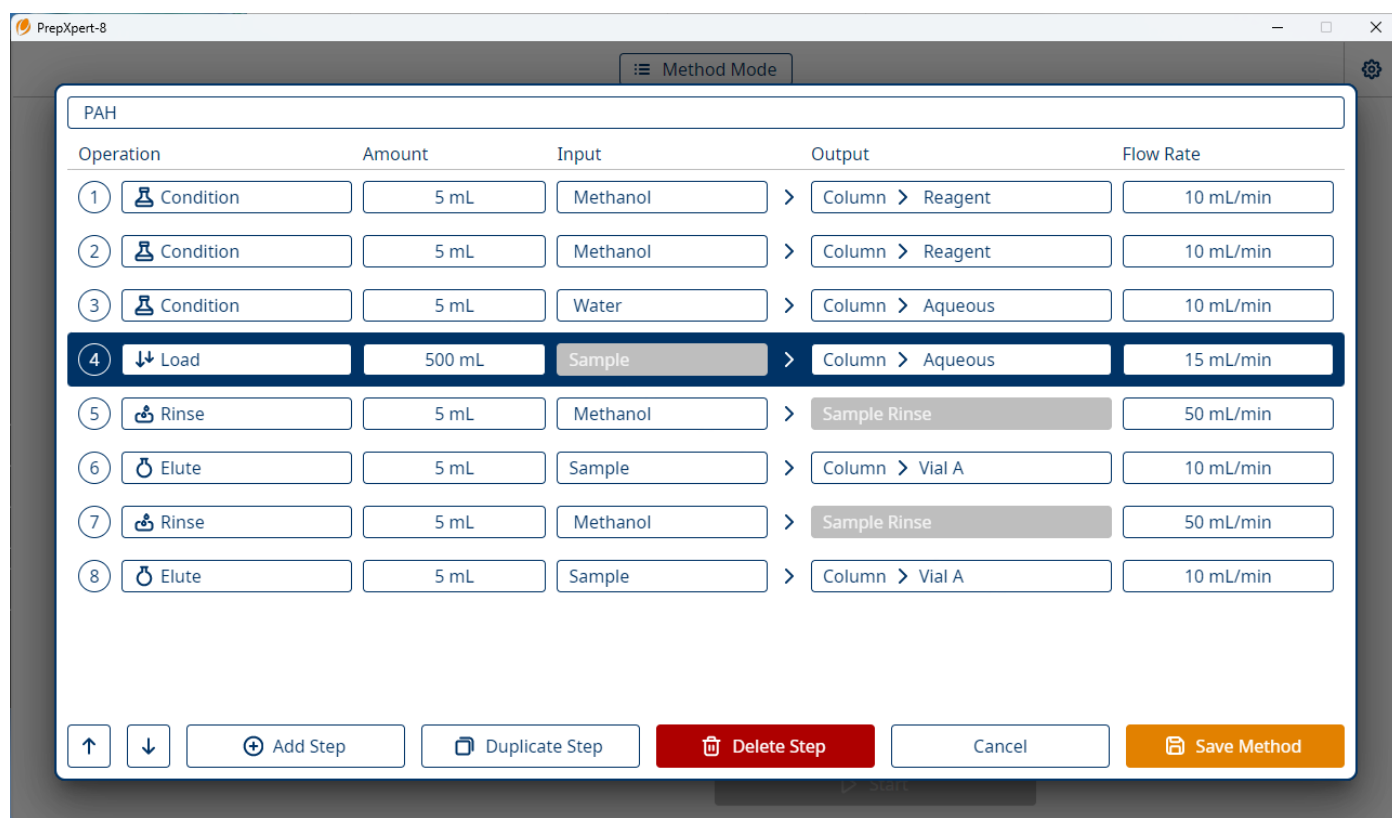


Fig 1. Method editor in Biotage® PrepXpert-8 software. Step-by-step interface for building and customizing sample preparation methods, with adjustable parameters for each operation.

Traceability is built into every run. The software automatically generates detailed reports that include sample and operator information, method details, and system status. These reports can be exported via USB and integrated into LIMS systems, supporting full audit readiness and data integrity.

Access control features allow administrator to restrict method editing and system settings through password-protected profile. This ensures secure access to critical functions while supporting streamlined operation for routine users. Users can

also import and export methods via USB, making it easy to share validated protocols across multiple systems or locations. Created methods can be used as templates and easily duplicated and customized to support specific workflows.

Real-time monitoring enhances operational control. The interface provides live updates on method progress, reagent levels, and system diagnostics, while LED indicators and audible alerts offer immediate feedback on system status and user actions.

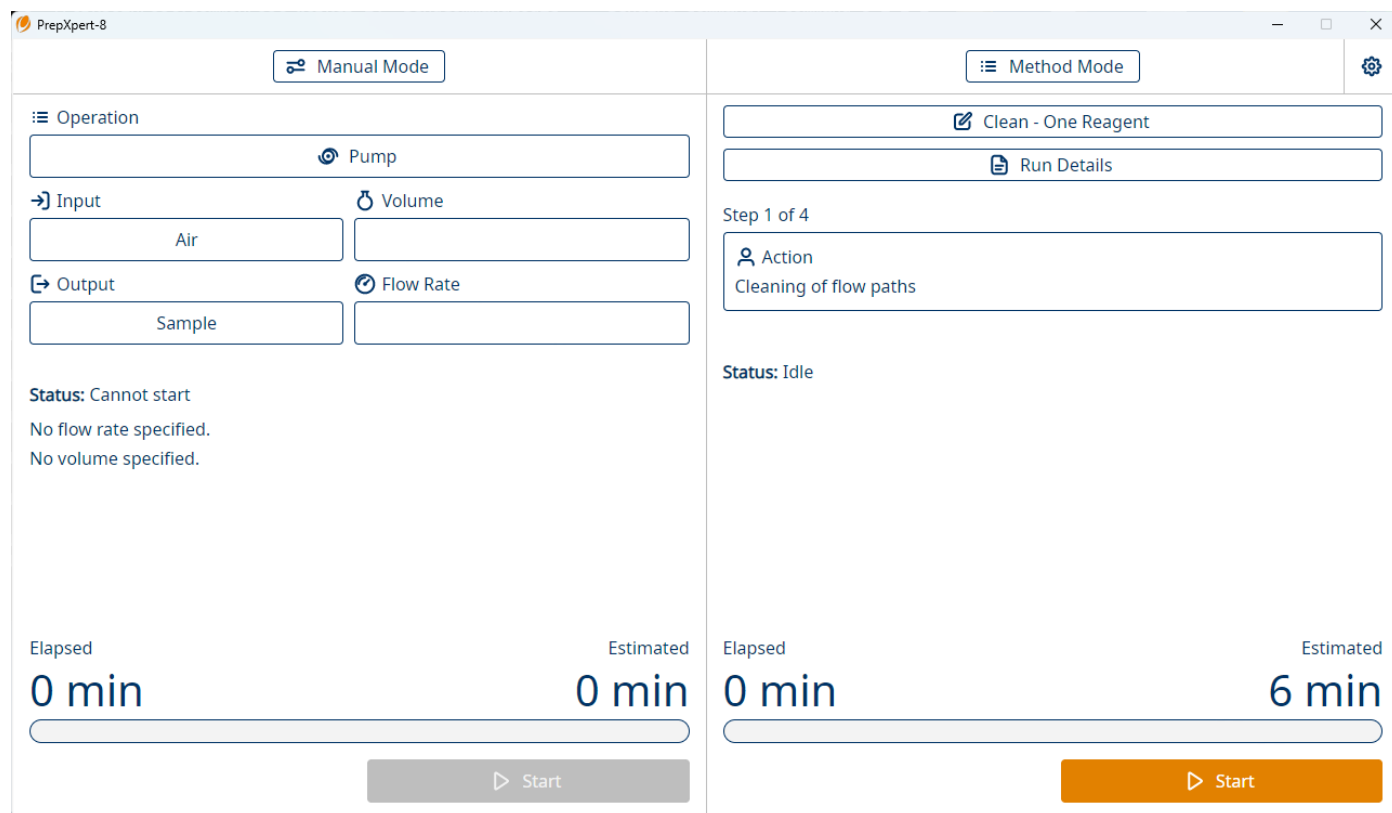


Fig 2. Split Mode interface in Biotage® PrepXpert-8 software. Two independent workflows run in parallel across separate banks, allowing simultaneous execution of different methods or manual operations.

Workflow integration

Biotage® PrepXpert-8 is designed to integrate seamlessly into Biotage's complete sample preparation ecosystem, enabling a fully automated and optimized workflow from extraction to evaporation.

Compatible components:

- **EVOLUTE® PFAS and EVOLUTE® PFAS+ SPE cartridges**
Designed for low-background PFAS analysis with minimal fluorinated materials in the flow path.
- **ISOLUTE® cartridges**
Available in 1, 3, 6, and 15 mL formats for flexible sample handling.
- **TurboVap® evaporators**
Automated solvent evaporation system for post-extraction concentration.

Workflow advantages:

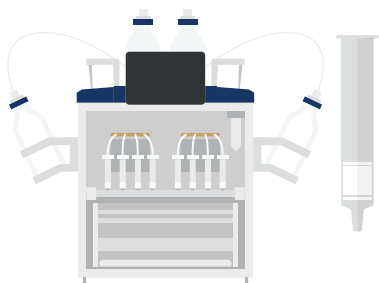
- Supports regulatory methods such as EPA 533, DIN EN 17892-09, and ES04506.1
- Reduces manual handling and variability
- Ensures compatibility across all steps of the sample preparation process
- Scalable for both routine testing and method development

Applicable application chemistries

Biotage® PrepXpert-8 is designed to support a wide range of sample preparation chemistries, from PFAS analysis to general-purpose semi-volatile organic compounds (SVOC) workflows, without compromising performance or flexibility. Unlike conventional systems, its internal components are carefully selected to minimize sample background, making it ideal for sensitive applications.

To accommodate diverse workflows, the system allows quick and straightforward switching between chemistries. Laboratories simply install the appropriate external tubing kit, polyethylene for PFAS workflows or polytetrafluoroethylene (PTFE) for aggressive solvents such as dichloromethane or acetone. This modular setup allows users to transition between applications in just minutes, with no downtime, and no compromise on data quality.

Whether working with regulated contaminants or developing new analytical methods, Biotage® PrepXpert-8 delivers the adaptability and reliability needed to support efficient and confident operation.



EVOLUTE® PFAS and
EVOLUTE® PFAS+ SPE
cartridges or ISOLUTE®
cartridges



TurboVap®
evaporation



Analyze

Technical specifications

Dimensions (W x D x H)	460 x 480 x 590 mm (18.1 x 18.9 x 23.2 in)
Weight	35 kg (77.2 lb)
Electrical	90-264 VAC at 50/60 Hz
Touch screen	8"
Max. sound level	75 dB(A)
Inert gas supply	Dry nitrogen at 5-10 bar (72-145 psi)
Ventilation system	Fume hood or equivalent enclosure, or connected to a ventilation system via the exhaust outlet.
Minimum exhaust capacity	1 m ³ /min (35.3 ft ³ /min)
Solvent supply	6 attached reagents
Supported cartridge sizes	1, 3, 6 and 15 mL (tabbed and tabless)
Simultaneous run of methods	2
Certifications	CE, CB and NRTL

Ordering information

System

Product number	Description	Quantity
419800	Biotage® PrepXpert-8 Contains: • System • Reagent Bottle Safety Rail • Tubing Installation Tool	1



Tubing and accessories

Product number	Description	Quantity
419887	Reagent Tubing, PE	6
419890	Reagent Tubing, PTFE	6
419915	Reagent Cap, 38x430	6
419917	Reagent Cap, GL45	6
419894	Sample Tubing, PE	8
419898	Sample Tubing, PTFE	8
419903	Column Tubing, PE	8
419905	Column Tubing, PTFE	8
419899	Column Adapter, 1/3/6 mL	8
419985	Column Adapter, 15 mL	8
419909	Sample Rinse Tubing, PE	8
419913	Sample Rinse Tubing, PTFE	8
419982	Bottle Rinse Head, GL45	2
419984	Bottle Rinse Head, 43x415	2
420070	Bottle Rinse Head, 33x400	2
420068	Bottle Rinse Head, 45x400	2
419885	Nitrogen Tubing, 2 m	1
419910	Waste Tubing, 2 m	1

Racks

Product number	Description	Quantity
419514	Collection Rack, 13-25 mm / 25-35 mm x 165 mm	1
419901	Sample Bottle Rack	1



Waste system

Product number	Description	Quantity
49-2818-03	20 L Carboy	1
27-0042	2.5 L Glass Container	1
50-0043-03	Glass Waste Manifold	1

Miscellaneous

Product number	Description	Quantity
419907	Sip Tube, PEEK	8
419611	Exhaust Hose and Connector	1
419922	Column Stacking Adapter	4
419912	Reagent Bottle Safety Rail	1
417560	Tubing Installation Tool	

Consumables

Product number	Description	Quantity
49-2814-01	3.1 um Syringe Filters, (50/pk)	50
120-1001-A	Blank Column, 1 mL	100
120-1002-B	Blank Column, 3 mL	100
120-1003-C	Blank Column, 6 mL	100
120-1006-D	Blank Column, 15 mL	100