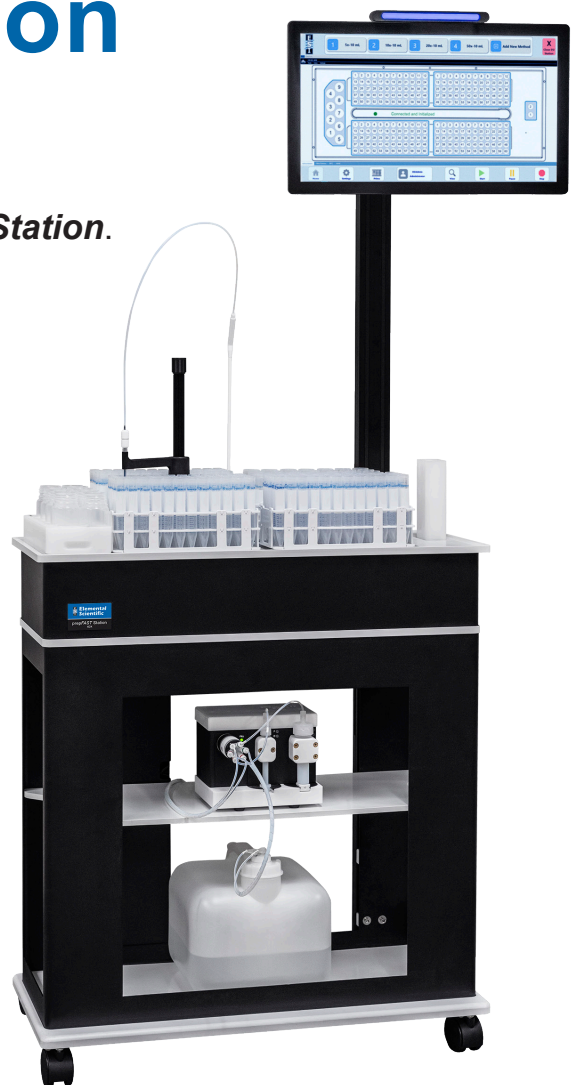# prep*FAST* Station

Automated Offline
Sample Preparation System

Countless Sample Preparation Needs. One *Station*.

Benefits and Capabilities

Better Results

- Increase precision and accuracy with fully-automated sample preparation
- Improve reproducibility and eliminate inconsistent manual dilutions

Customized Hardware & Software

- Unlimited number of predefined custom methods selectable on integrated touchscreen interface
- Available in four models with several hardware options available to conform to your sample preparation needs

Time & Cost Savings

- Significantly decrease your sample preparation time
- Eliminate the time spent training employees tedious manual sample preparation methods

prepFAST Station Capabilities

- Autodilution
- Acidification
- Internal Standard Addition
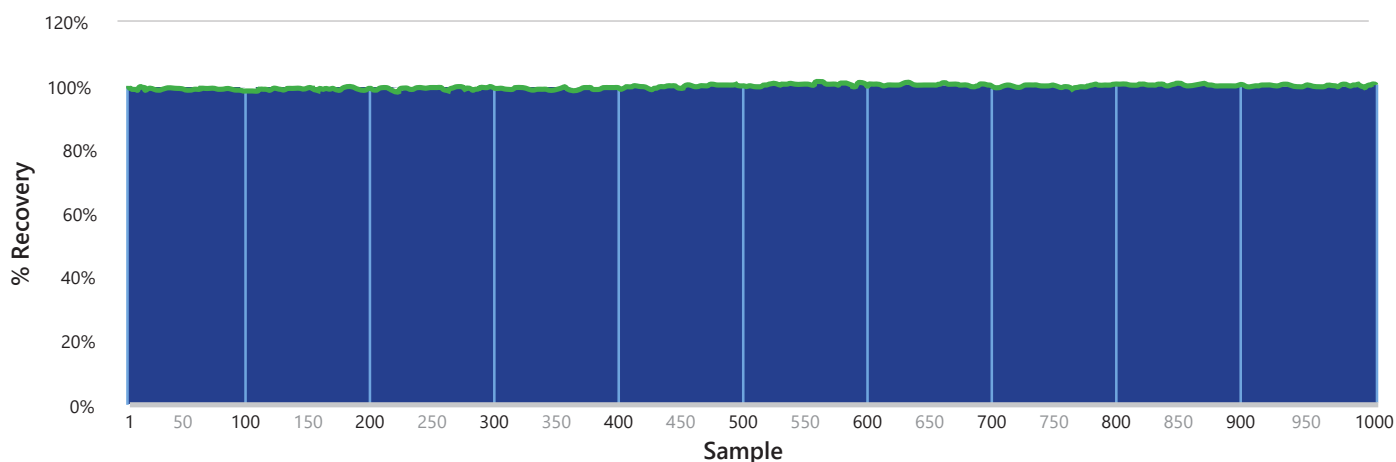- Standards Preparation
- Sample Mixing
- Vessel Cleaning

2DX Station

4DX Station

8DX Station

14DX Station

Better Sample Preparation and Results

Accuracy
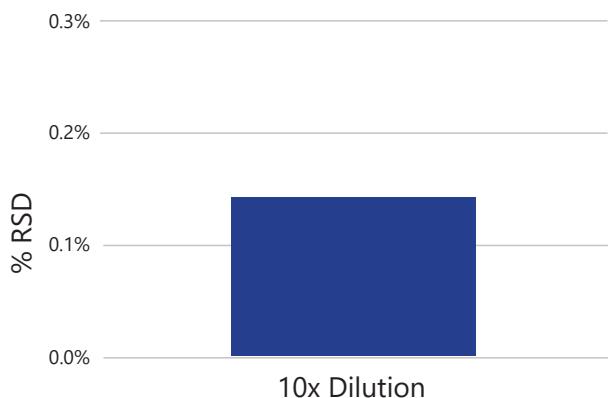
Average Accuracy: 100% ± 1%

prep*FAST* Station automatically dilutes samples and standards at a high level of accuracy. ICPMS recovery for 1000 samples of Be, Ni, Cu, As, and Pb averaged 100% ± 1% at a 10x dilution factor.

Precision

Average Precision: <0.2% RSD

prep*FAST* Station produces superior results equal to or above the quality of manual dilutions without the hassle. prep*FAST* Station can dilute samples as low as 0.2% RSD or better depending on the final prepared sample volume.
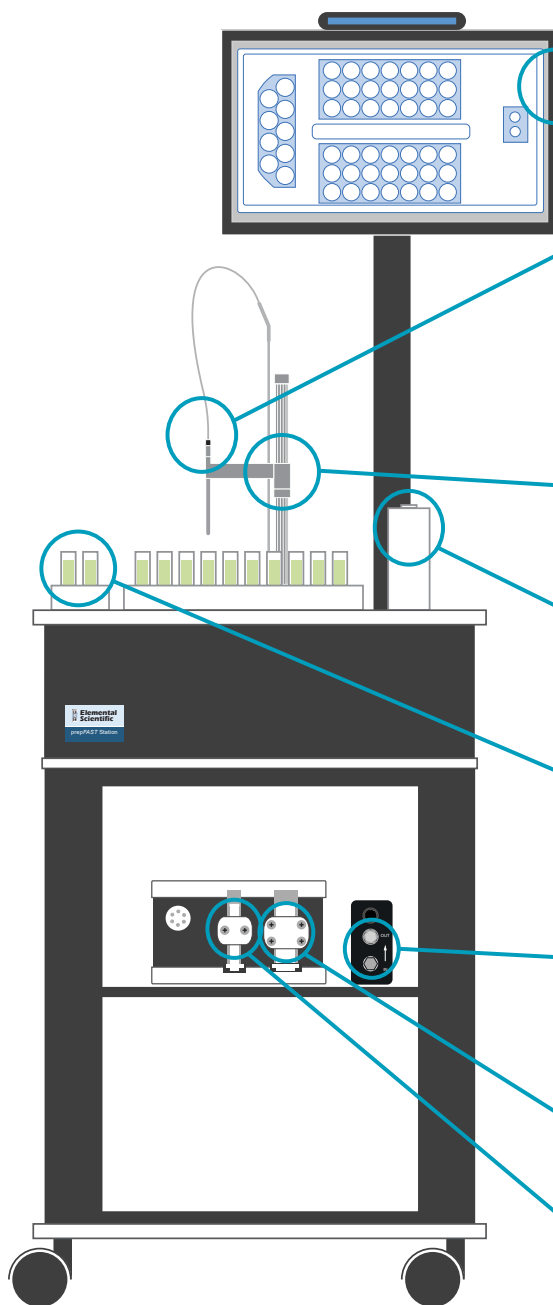

Carryover

Average Carryover: 0.0014%

prep*FAST* has low carryover and minimal cross-contamination. The probe is rinsed internally and externally in a dual rinse station before and after preparing each sample. Rinseout after processing a high multielement standard shows a signal reduction factor averaging 82,000x, equivalent to 0.0012% carryover – comparable to the best rinseout data expected using ICPMS.

Analyte	Reduction Factor	Analyte	Reduction Factor
Be 9	4800	Ce 140	4800
Mn 55	22000	Ta 181	22000
Cu 63	31000	Pb 208	31000
As 75	180000	U 238	180000
Ba 138	150000	**Average**	**82000**
		Carryover = 0.0012%	

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prep*FAST* Station Features

Integrated Touchscreen

- Easy-to-use software
- Stores an unlimited number of custom methods

Dual Lumen Probe

- Two channels integrated in one probe
- One channel for picking up sample aliquot
- Second channel for mixing diluted sample in the destination vial
- Second probe can also be used to stir up sample prior to aliquot

AutoAlign Arm

- Self-aligns after encountering capped sample tube
- Metal-free fluoropolymer probe aligner

Dual Overflowing Rinse Stations

- Ultra-low cross-contamination
- Independently pumped for low rinse consumption

Sample Containers

- Hundreds of compatible racks and vials
- Compatible with microplates

Mass Flow Controller

- Used to mix samples after each sample is prepared
- Can be used to mix samples prior to aliquot to ensure homogenous sample uptake

Diluent Syringe

- Used to add diluent in Destination vial

Sample Syringe

- Used to pick up sample aliquot from source vial

Integrated Touchscreen Interface

User-Friendly

- Proprietary, intuitive software is easy-to-use and responsive to the current status of the method

- Simply turn on the tablet, select your desired method, and let prep*FAST* Station do the work for you

Customizable

- Sample preparation methods are easily customized to meet your exact specifications

- Quickly navigate to your methods on the home screen with easy access to a library of an unlimited number of custom methods

Fully-Integrated

- Clean, integrated system design without any visible cables or cords

- Eliminate need to clean off valuable lab bench space for separate computer

LED Beam
Displays current status of method

Sample Preparation Processes

High Throughput Labs

prep*FAST* Station provides the highest level of time and cost savings to laboratories with repetitive high throughput sample preparation processes. Automated sample preparation will significantly increase laboratory efficiency and can improve the daily sample throughput.

Multi-Functional Labs

prep*FAST* Station especially benefits labs with multiple types of sample preparation methods. The fully-automated sample preparation system allows you to select numerous preparation methods and walk away, freeing up time for more important tasks.

With prep*FAST* Station preparing samples, you will no longer have to worry about inconsistency between manual dilutions, thus improving precision and accuracy.

Laboratory Classification

Market & Industry

prep*FAST* Station automates sample preparation for all types of labs including:

- Agriculture & Food
- Clinical & Life Sciences
- Earth Sciences
- Environmental
- Mining & Materials
- Pharmaceutical

Application

prep*FAST* Station can help laboratories in need of sample preparation for several applications including:

- Blood, Urine, & Serum Sample Dilution for Heavy Metals
- Drinking Water & Soil Analysis
- Four Acid Digestion
- USP <232>/<233> Sample Testing

Technical Specifications

Station Specifications

	2DX	4DX	8DX	14DX
System Dimensions				
- Height	69"	69"	69"	69"
- Width	26"	35"	35"	46"
- Depth	13.6"	13.6"	24"	26"
Fluid Contact Material	Components within sample flow path are inert, non-metallic materials			
Power Requirements	110-240 V, 47-63 Hz, 7.2 A One power outlet needed			
Gas MFC Requirements	Ar/N, 1/4" or 4 mm tubing			

Rack Capacity

	2DX	4DX	8DX	14DX
Large Racks	2	4	8	14
Microtiter Plates	4	6	-	-
Maximum Sample Capacity				
- 50 mL	52	120	180	384
- 15 mL	120	240	360	576
- 8 mL	180	360	720	1260
- MT-96	384	576	-	-