

FASTFluidic GTX Microsampling

Automated and precise single-digit microliter aliquots with automated uncapping, recapping, and barcode reading



FASTFluidic GTX

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Single-Digit μ L Sampling and Diluting with FASTFluidic GTX

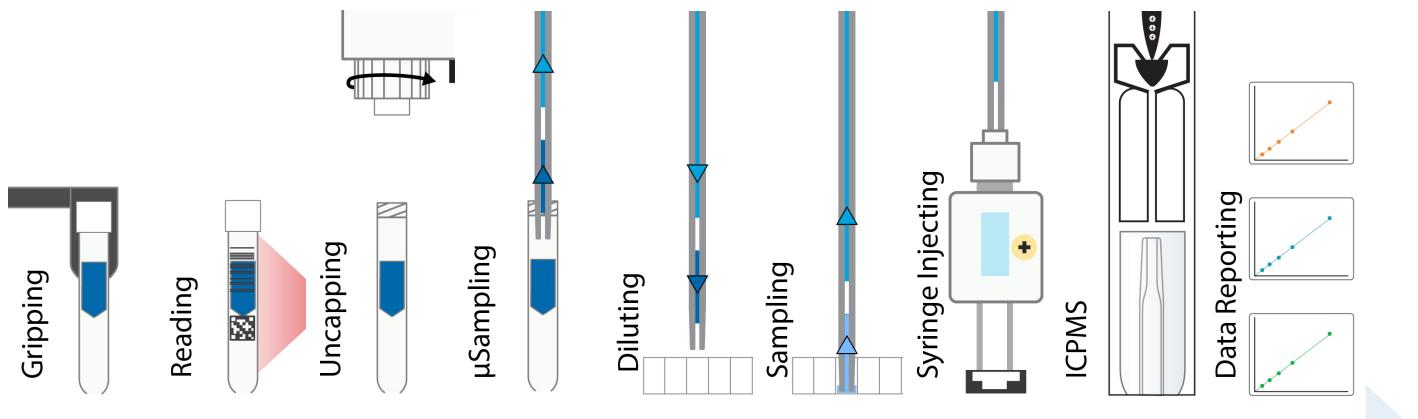
Synopsis

FASTFluidic GTX delivers consistent and precise single-digit μ L aliquots using syringe-driven automation – expanding laboratory capabilities for precious and small-volume samples.

FASTFluidic GTX combines ESI's next-generation GTX autosampler with the latest FASTFluidic syringe driven liquid handling technology. Metal-free automated sampling and dilution of microvolume samples reduces variability inherent to pipetting and minimizes contamination and evaporation risks.

This technology enables labs to conserve limited sample volumes, decrease the need for repeat analyses, streamline the preparation of calibration standards with minimal co-dilution, and reduce overall waste, time spent, and operation costs.

Applications that benefit from automated sampling of single-digit microliter volumes include workflows involving precious, small-volume solutions such as geochemical isotope ratio analysis, radio-pharmaceuticals, glovebox environments, microvolume clinical specimens, and sample pre-screening, which can also be automated with this approach.

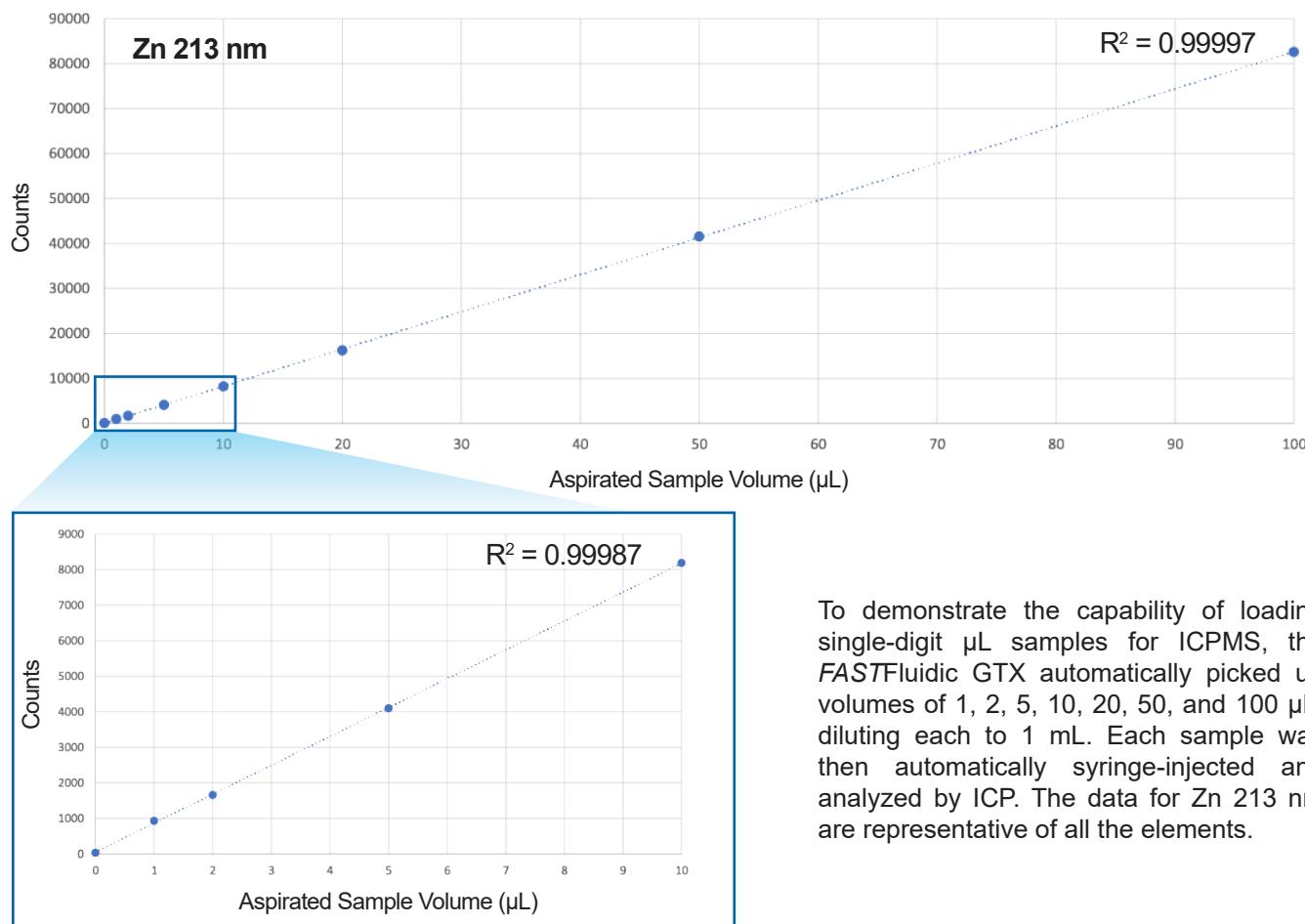


FASTFluidic GTX automatically aspirates sample volumes between 1 and 100 μ L, and dilutes each to a final volume of 1 mL before directly injecting for ICPMS analysis.

Learn More

Linearity of Microsampling Benchtop Dilutions

Linearity of 1 μ L to 100 μ L Automatically Sampled (n = 10)



To demonstrate the capability of loading single-digit μ L samples for ICPMS, the FASTFluidic GTX automatically picked up volumes of 1, 2, 5, 10, 20, 50, and 100 μ L, diluting each to 1 mL. Each sample was then automatically syringe-injected and analyzed by ICP. The data for Zn 213 nm are representative of all the elements.

Run-to-Run Reproducibility of Automated 1-100 μ L Sample Volumes

The average intensity of Zn 213 across 10 separate runs, SD & 1-3% RSD demonstrate the reproducibility and consistency of the system's automated μ L aspiration and preparation capability.

Aspirated Sample Volume (μ L)	Final Volume (μ L)	Dilution Factor	Zn 213 Avg. Intensity (counts)	Standard Deviation	RSD
1	1000	1000	934	30.9	3.3%
2	1000	500	1661	28.3	1.7%
5	1000	200	4101	56.7	1.4%
10	1000	100	8191	224.9	2.7%
20	1000	50	16231	497.2	3.1%
50	1000	20	41583	861.3	2.1%
100	1000	10	82609	1986.5	2.4%



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