E S I Elemental Scientific

TRAXStation
Filtering

Produces >1400 autofiltrations (0.45 µm) per 24 hour day, alleviating lab staff fatigue

StationPump

Patent Pending LuerProbe

TRAXStation

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Automating Filtration: Uncapping, Sampling and Consistent Syringe-Driven Autofiltration Using 13 mm Filters

Synopsis

TRAXStation with LuerProbe automatically filters samples using any size luer filter. This study evaluates back pressure profiles and consistency of filtrate volume produced while auto-filtering samples using 13 mm 0.45 µm Luer filters. The automated high-pressure syringe-driven filtration process generates more consistent pressure than manual filtration, permitting use of 13 mm filters in place of conventional 33 mm 0.45 µm filters. **TRAX**Station monitors back pressure in real time and adjusts syringe speed to compensate for higher pressures generated when samples with high levels of suspended solids are filtered. Advantages of 13 mm filters include lower cost, higher pressure rating, and capacity of up to 480 filters at a time.

Maximum 0.45 µm Filter Capacity

		Filter Diameter	
		33 mm	**13 mm**
TRAXStation Model	**2x2x1**	42	120
	4x2x2	84	240
	4x4x2	168	480

Gripping   Reading   Uncapping   Sampling   Filtering

12 mL   10 mL
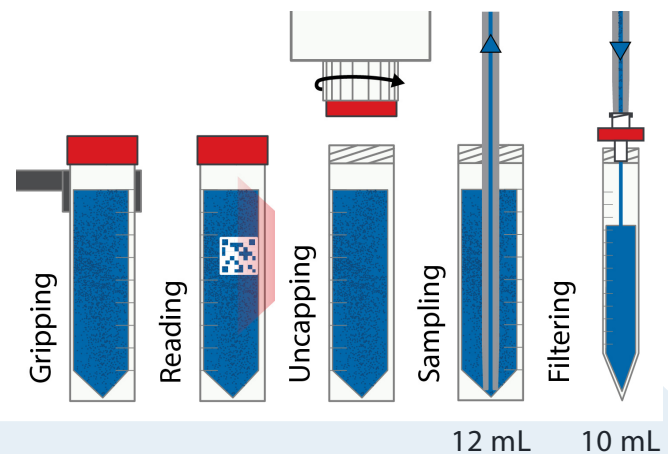
TRAXStation automatically and completely prepares samples for analysis. LuerProbe is used for sampling and filtering steps. Other probe options are available.

Learn More

Comparison of Pressure Stability in Manual Filtration vs. **TRAX**Station Syringe-driven Autofiltration Using 13 mm 0.45 µm Filters
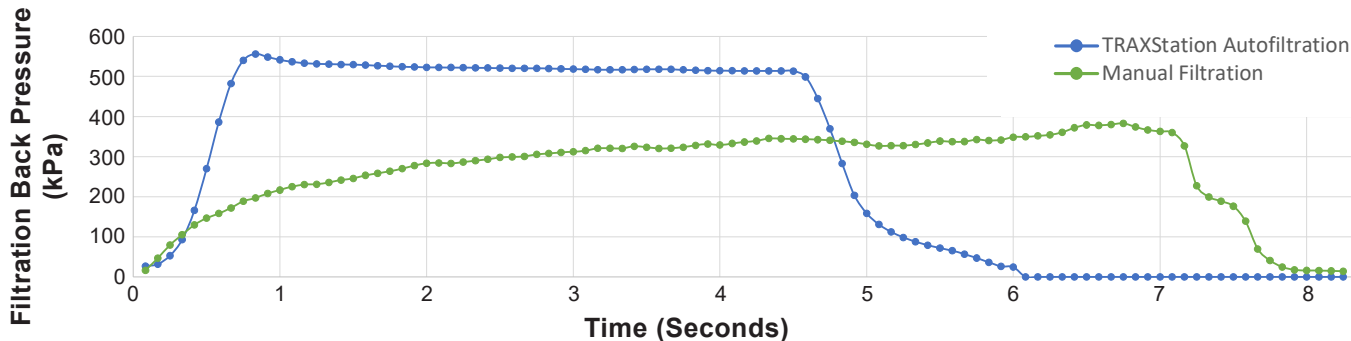
Comparison of 100 pressure measurements (kPa) taken at regular intervals during the filtration of a single sample using 13 mm 0.45 µm filters – manual filtration versus **TRAX**Station. **TRAX**Station's syringe-driven autofiltration generates higher and more consistent pressure, exceeding the pressure achieved through manual filtration even under maximum exertion. This results in faster sample-to-sample filtration times and demonstrates the enhanced pressure control and reliability of **TRAX**Station, which consistently produces the desired filtrate volume, improves throughput, and alleviates fatigue on lab staff.

Reproducibility of Final Filtrate Volume Following Autofiltration Using 13 mm 0.45 µm Filters
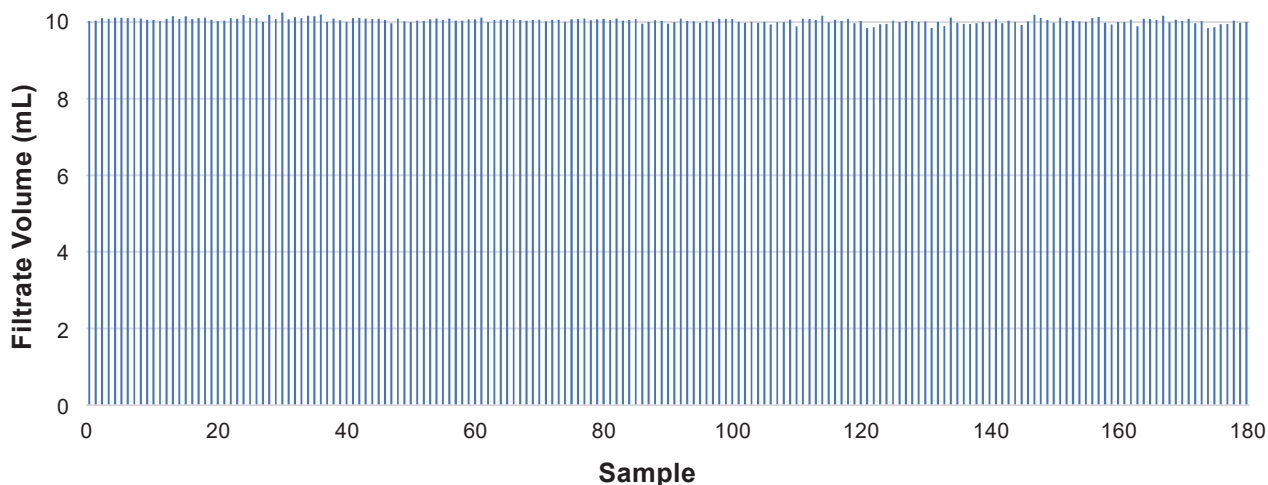
Automatic filtration of 180 samples using 13 mm 0.45 µm filters automated using **TRAX**Station with LuerProbe. 12 mL of sample was initially taken up, then the filter was attached, and a portion dispensed to waste. The target filtrate volume in the tube was 10 mL, with an average actual volume of 10.05 mL and an RSD of 0.64%, indicating high reproducibility of the automated filtration process.

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