DilutionStation

Flexible Liquid Handling Systems

- Rapid sample and standard prep
- Automate time-consuming tasks
- Touchscreen interface for choosing from unlimited methods
- Customize methods to mirror your exact manual workflow

DilutionStation Liquid Handling System

DilutionStation is a compact yet powerful system that automates routine lab tasks using flexible, user-friendly software accessible through a touchscreen interface.

Automatic and Flexible Sample Preparation, Built for Your Lab

Streamline your workflow with ESI's compact, customizable **Dilution**Station. From simple dilution and acidification to complex serial dilution and standards preparation, our platforms handle routine sample prep tasks with speed and precision – tailored exactly to your lab's procedures.

Intuitive Software for Complete Control

Powered by LabSymphony, our user-friendly software supports an unlimited number of custom methods, real-time adaptability, and quick editing – all accessible directly from the home screen of the touchscreen interface. Sample run lists can be automatically generated and exported as .csv files for seamless integration with your analysis software.

Save Time & Reduce Costs

Let **Dilution**Station handle the tedious, repetitive tasks so your team can focus on more important work. Designed for efficiency, it helps reduce consumables costs, minimize employee training time, and lower maintenance expenses with acid-resistant components and user-friendly maintenance features.

Applications

Automation That Adapts to Every Lab

Whether you're running a high-throughput testing facility or a multi-method research lab, **Dilution**Station delivers reliable, consistent sample preparation that saves time and reduces manual effort.

Serving a Wide Range of Industries

DilutionStation is trusted in labs around the world preparing samples and standards for analytical techniques such as:

- ICP
- ICPMS
- HPLC
- µHPLC
- GC
- GCMS
- IC

DilutionStation Capabilities

Diluting	✓
Serial Diluting	✓
Spiking	✓
Mixing	✓
Aliquoting	✓
Standards Prep	✓
Vial Cleaning	✓
Exporting	✓

Automate Simple and Complex Sample Prep with Ease

DilutionStation automates a wide range of routine sample preparation tasks with precision and ease. For straightforward workflows like single-step dilution, acidification, internal standard addition, dispensing, and mixing, **Dilution**Station eliminates manual pipetting and variability – ensuring consistent results and freeing up valuable technician time.

For more complex workflows, **Dilution**Station offers powerful capabilities that go beyond basic automation. It can perform multi-step serial dilutions, split a single source sample into multiple vials for different analytical methods, and handle dilution protocols involving multiple reagents or diluents. These advanced features make it ideal for labs that require both flexibility and reliability in their sample preparation process.

Benefits and Features

DilutionStation streamlines typical daily workflows into a reliable, hands-free system – saving your lab time, reducing variability, and improving data quality.

Increased Throughput

Prepare more samples in less time, freeing up your hands for more important tasks. **Dilution**Station can prepare hundreds of accurate dilutions per day without technician oversight.

Improved Precision and Accuracy

Syringe-driven automation ensures consistent volumes and dilution factors across all samples – no more variability from manual pipetting.

Reproducible Results

Each dilution follows a programmed method, eliminating inconsistencies and minimizing rework or reruns caused by preparation errors.

Customizable Workflows

Design methods that match your lab's exact dilution protocols, from single-step to multi-step serial dilutions – no rigid templates or limitations.

Cleaner, Safer Workflow

Reduce the risk of contamination and exposure to reagents by minimizing human contact with samples and acids.

Compact, Lab-friendly Design

DilutionStation fits into crowded workspaces while replacing multiple pieces of manual prep equipment with a single streamlined unit.

DilutionStation Features

Integrated Touchscreen

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

ULPAclean 10 Filter *(Optional)*

- Removes 99.9995% of airborne particles with size of 0.1 μm or larger

Clean3V Enclosure *(Standard Option)*

- Clean sample environment
- Protects lab from harmful fumes
- Includes three vertical sliding doors

StationPump

- Inert, metal-free syringe – up to 50 mL
- Precise aliquots as low as <10 μL

Dual Overflowing Rinse Stations

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

AutoAlign Arm

- Self-aligns after encountering capped sample tube
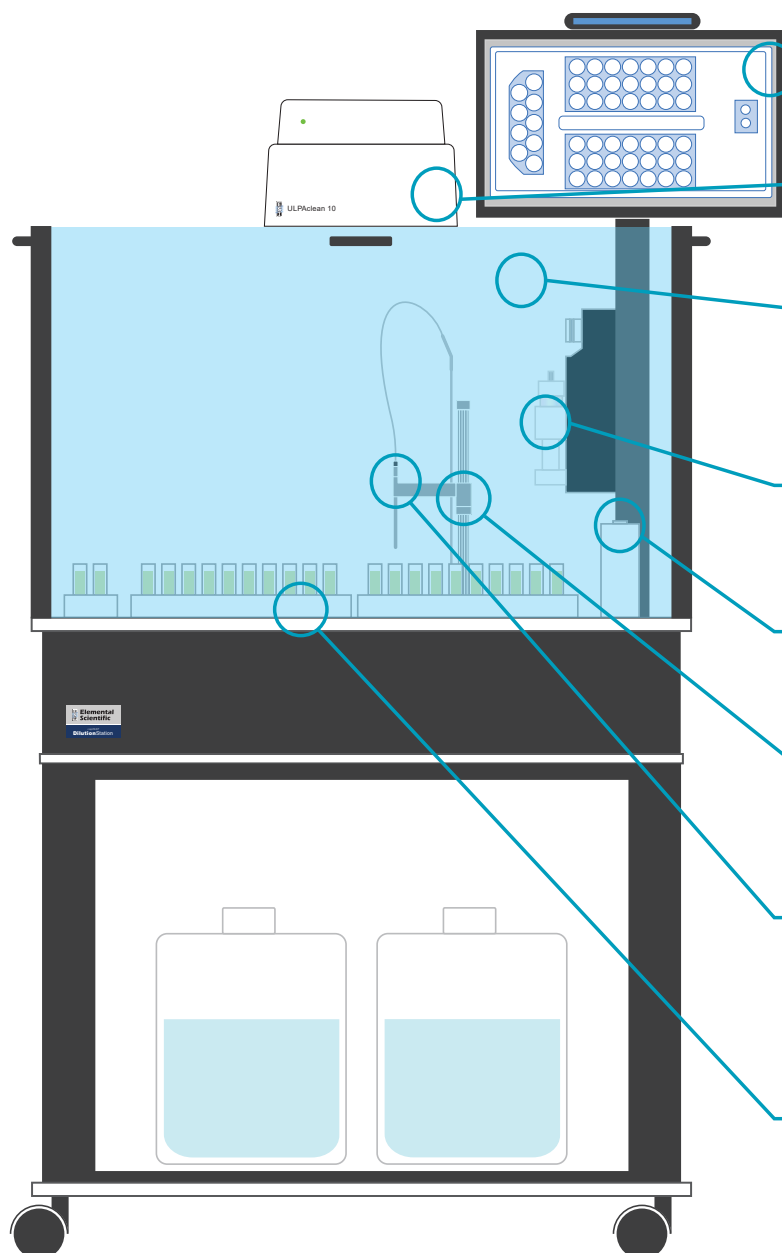- Automatically goes to the right position every time

Versatile Sample Probe

Several specialized probe options available including:
- Dual lumen probe – provides simultaneous gas mixing while dispensing
- Micro-volume needle probe

Flexible Sample Deck

- Accomodates vessels of all shapes and sizes
- Nine-microplate PTFE deck available for 4DX capacity

LabSymphony Software

Customized Procedures Built for Your Lab

- Includes levels of user permissions with logins to protect validated methods from unauthorized modification and preserve audit trail requirements
- Unlimited number of custom-built methods designed to align with your lab's specific procedures, providing complete flexibility
- Methods are easily accessible right from the home screen, allowing technicians to quickly select and start the prep method
- User interface adapts in real time to the current status of the preparation process, ensuring smooth, efficient operation
- Methods can be easily edited and revalidated to accommodate changing requirements, giving labs full control over their sample preparation workflows

Key Feature: Sample Run List Export

LabSymphony optimizes sample preparation and analysis for a wide range of analyzers by automating the generation of sample run lists, which can be exported as .csv files for easy import into instrument run lists.

The .csv export includes critical information such as sample name, rack and vial locations, dilution factors, and total volumes, ensuring a smooth transfer of data into the analysis software and minimizing user intervention.
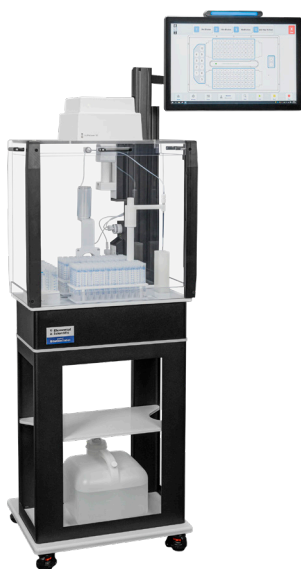
Capacities and Options

DilutionStation capacities include two, four, and eight-rack autosamplers, as well as bechtop versions for all sizes. A variety of additional options are also offered to meet your lab's needs.

	2DXCi	4DXCi	8DXCi
System Dimensions			
Height (cm)	183	183	183
Width (cm)	58	81	84
Depth (cm)	41	43	66
Number of Racks	2	4	8

Option	Description
Filtration Capability	Automated syringe-driven luer-based filtration of samples with intelligent backpressure monitoring
Clean3V Enclosure	Protects samples from airborne contaminants and isolates samples from the lab environment
ULPAClean10 Air Purifying Filter	Purifies air entering enclosure to prevent outside contamination
Fluoronetic Autosampler	Chemically-inert automation protects against corrosion and reduces contamination risk
Mass Flow Controlled Pneumatic Mixing	Automatically mixes as sample is prepared, resulting in a homogenized sample ready for analysis
Multi-diluent Capability	Provides designated flowpath for up to five different diluents, reducing carryover and enabling rapid diluent switching within a single system

2DXCi **Dilution**Station   4DXCi **Dilution**Station   8DXCi **Dilution**Station

*Dilution*Station benchtop versions also available