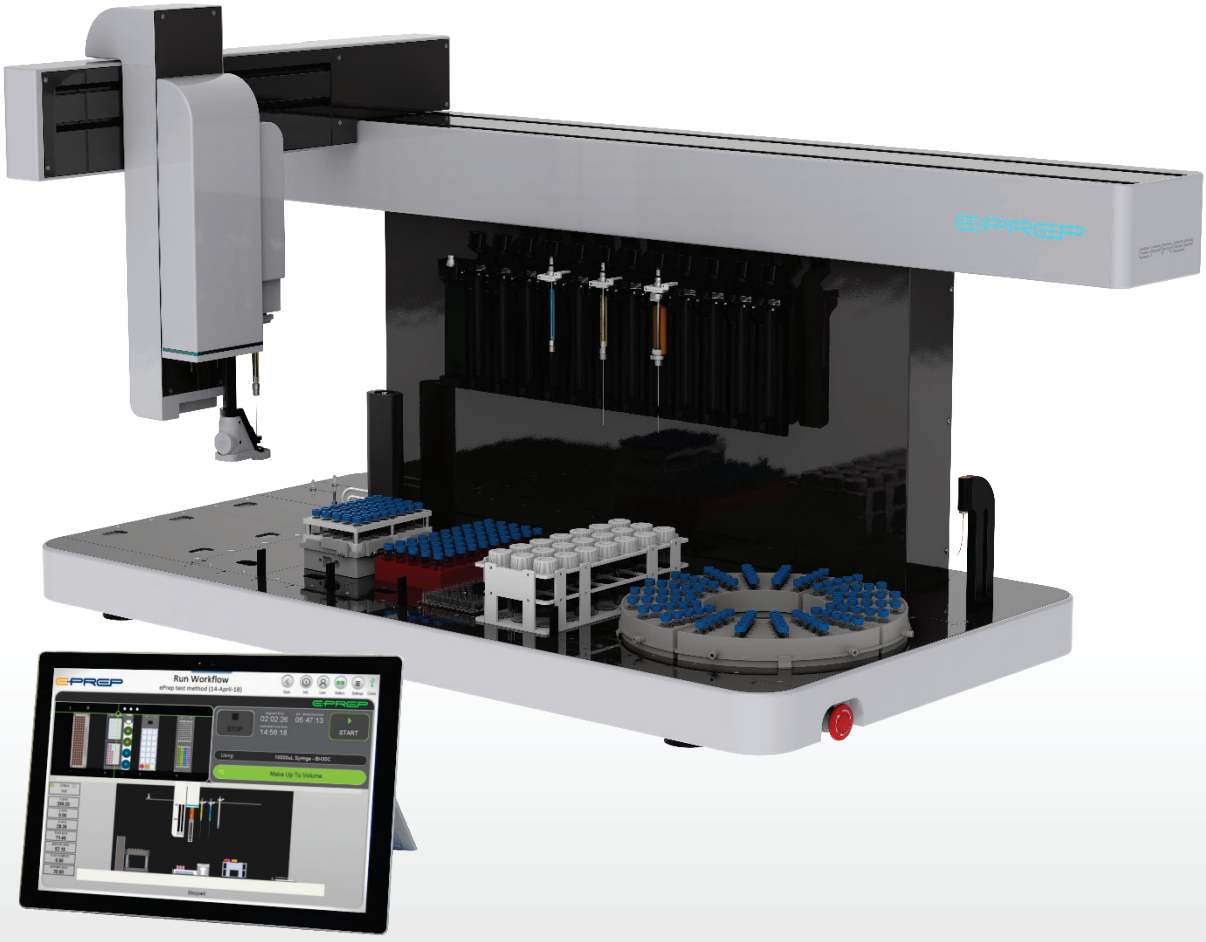
Robotic Sample Preparation for Analytical Laboratories

Accurate, Affordable, and Adaptable Workflow Automation



ePrep Sample Preparation Workstation

automation for every laboratory

ePrep® Sample Preparation Workstation

Designed to automate analytical syringe operation for ultimate precision and accuracy, ePrep helps you achieve:

GREATER EFFICIENCY AND PRODUCTIVITY
Take 5-15 minutes to program your workflow and ePrep will do the rest for you

SIMPLE METHOD OPTIMIZATION AND VALIDATION
ePrep's highly adaptable software allows you to test different variables to find the best performing method

IMPROVED RESULTS
Eliminate human error and variability in sample preparation skill to easily validate your methodology

GREENER PROCESSES
Automate with syringes allows you to accurately use smaller volumes of reagents and solvents resulting in less wastage

ePrep Capabilities

Precise Control of Small Volume Dispensing
ePrep boasts unparalleled accuracy and precision for liquid handling, capable of dispensing small volumes down to 0.1µL

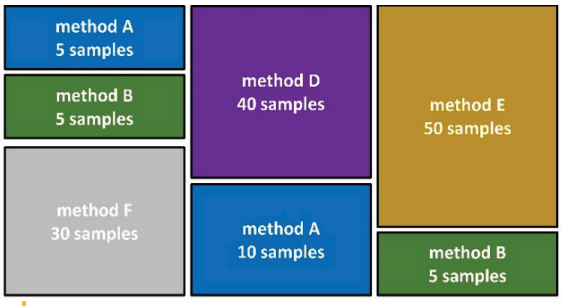
"High Pressure" Applications
Suitable for applications requiring pressurised, positive displacement such as microSPE and filtering

Suitable for Volatile Organics
With analytical syringe, sealed vials can be used to contain volatile organics to prevent sample loss and potential hazard. Important in applications such as VOC and toxic samples

Versatile Robotic Syringe Change
Syringe volume can be changed during a workflow to reduce dispense error and improve efficiency (reduced washing)

Thorough Tool Wash
ePrep washes syringes between tasks, effectively eliminating detectable carryover. Single use syringes can also be used

Designed for Analytical Chemistry



The Dilemma of Sample Preparation in Analytical Laboratories

Typically, an analytical laboratory has different sample preparation workflows [type (A) – (F) with varying sample batch sizes (5 – 185 samples) analysed on different instruments.

ePrep helps analytical laboratories by providing a flexible automation solution capable of switching rapidly between different methods even if for a small number of samples.

Highly Flexible and Adaptable

- Rapid programming and modular configuration allow the ePrep to be setup and operational within minutes
- Independent operation allows a single ePrep to feed multiple analytical instruments uninterrupted, maximising efficiency

Easy to Use

- ePrep's proprietary touch screen software is designed to be used independent of user skill. Workflows are created and executed in just minutes using 'drag-and-drop' style operation
- Features workflow validation checking, error feedback, and tool identification

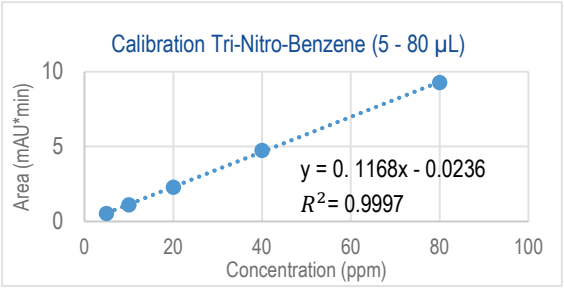
Complete Workflow

Using analytical syringes rather than pipettes, ePrep can precisely control micro volumes and flowrates at high pressure allowing separation, filtering, and membrane tasks to be used in a workflow sequence

Validated Results

ePrep allows samples to be prepared the same way every time eliminating errors, saving time, and avoiding repeat:

- With typical volume accuracy and reproducibility of ≤ 0.3%, the improved data quality produced using the ePrep eliminates the need for duplicate and triplicate samples
- Predefined wash and purge routines minimise carry over eliminating errors



Calibration curve of Tri-nitrobenzene from an ePrep 5µL-80µL serial dispense. R^2 = 0.9997

Target Applications

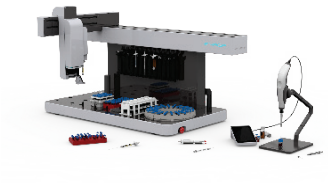
- Ideal for preparing samples of small-to-medium batch sizes, typically found in chromatography laboratories
- **Application Areas**: Especially suited for critical environmental, clinical, biotechnology, and food sample preparation using small volumes, sealed vials, and pressure applications with analytical syringes
- **Calibration Standard**: Excellent for preparation of samples with standard additions according to their associated reference calibration standards

Simple Setup

Add Task → Select Syringe → Set Options → Define Racks → Specify Vial Positions

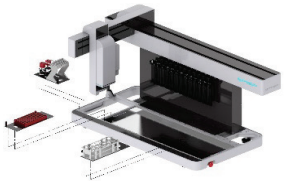
Key Features

COMPLETE AUTOMATION



Dilution, sample aliquot, standard addition, filtering, microSPE…and more. A range of add-on accessories are available for complete workflow automation

FLEXIBLE CONFIGURATION

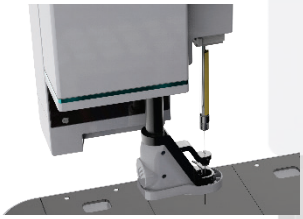


Rapid configuration of vial racks, accessories and elements to perform a range of sample preparation tasks

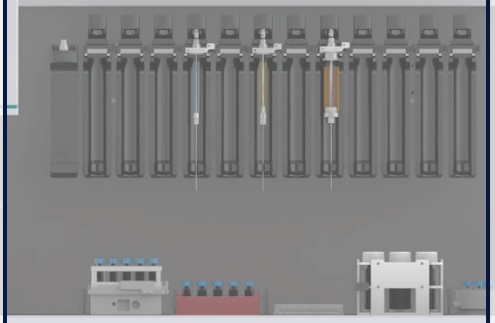
WORKFLOW AND CONFIGURATION DEPOSITORY

Sample preparation methods and calibration standards can be stored for repeated use and sharing with other laboratories

ROTATING FOOT



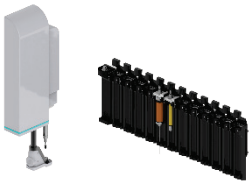
Enables syringe interchange, filter, and SPE cartridge handling



ANALYTICAL SYRINGES

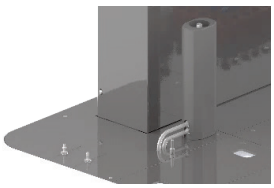
Analytical syringes enable high precision and accuracy dispensing down to 2µL

ROBOTIC SYRINGE CHANGE



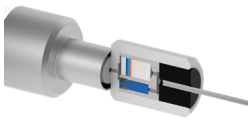
XCHANGE® technology enables automated and timely exchange of the necessary syringes and tools in a Workflow

CLEANING STATION



Syringe wash station for zero carryover, clean sample processing, and waste disposal

AUTOMATED MICROSPE & FILTERING



µSPEed cartridges enable high Resolution SPE for clean, low volume, no blowdown prep. Standard Disk Filters automate Sample filtering

Tool Options

ePrep Needle Syringes

100µL, 1mL & 10mL

for liquid dispensing

ePrep eZy-Connect™ Syringes

100µL, 1mL & 10mL

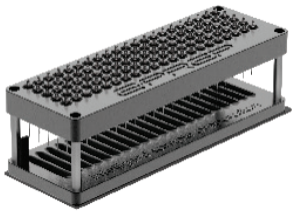
for µSPEed cartridges

ePrep Vial Gripper

for transfer of vials and

barcode read

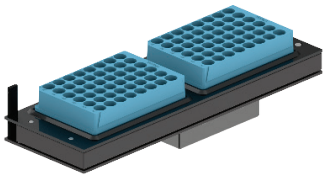
Popular Accessory Options



µSPEed Cartridge Rack

50mL Reagent Jar Kit

Bulk Solvent Manifold

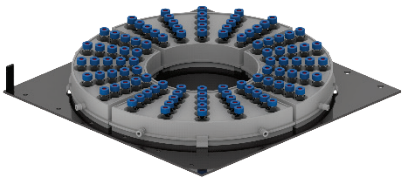


Vial Vortex Mixer

Barcode Reader Module

Rack/Vial Adapter Plates

To allow the processing of samples from sample vials directly into autosampler racks, ePrep has a range of deck Adapter Plates for most common sample and instrument rack designs. These include **BelArt, Supelco, Wheaton, 96 Well Plates, Agilent, Shimadzu, Thermo, Waters and CTC-PAL**. Each Adapter Plate has a corresponding software profile for simple programming of vial identification and position within an ePrep Workflow



Technical Specifications

Model
GL950X, P/N 01-01000-01, ePrep Sample Preparation Workstation

LIQUID HANDLING AND SAMPLE PREPARATION

Liquid Handling Precision
Liquid: 0.3% RSD dispensed at 5% syringe volume position.
Mechanical: ±50µm plunger displacement precision.

Liquid Handling Accuracy
< ±1.0% of total syringe volume with an uncalibrated syringe, Syringes can be calibrated for greater accuracy.

Carry-over
For multi-use liquid handling tools an integrated wash station is used to control and eliminate carry over. The carry-over actually achieved depends on the syringe type, sample characteristics, and user set parameters in the software.

Volume Range
Minimum volume: 5µL (precision of lower volumes is based on operating conditions).
Maximum volume: 10mL per dispense with unlimited volume achievable using multiple aspirate/dispense cycles.

Flow Rates
100µL syringe: 5nL/min - 18.0 mL/min
1mL syringe: 50nL/min - 33.0 mL/min
10mL syringe: 500nL/min - 36.0 mL/min

OPERATIONAL INFORMATION

Sample Capacity
Samples/Reagents can be contained in a wide variety of vial sizes and racks depending on deck configuration and application. Typical dispense volumes are between 10µL to 10mL.
Total 880mm x 330mm deck space.
Supports a wide range of vials from 96 well micro titer plates through typical 1.5mL vials to 60mL bottles.

Laboratory
Sealed vial operation means a cover is not required. It is suggested well ventilated and climate-controlled environment is used. If using toxic materials, take appropriate safety precautions.

Safety
Rapid emergency stop is activated when the ePrep system detects the presence of personnel and obstructions in the work area.

Tablet Controller and Software
Microsoft® Touch Screen Surface Pro® (Supplied) including ePrep's Axis rapid Workflow development software (English only) and lifetime updates.

Connectivity Tablet-to-Instrument
USB or Bluetooth

Data Security
Multi-level rights controlled by user login.
Software logs Date/Time, Output ID, Workflow ID, Processes. Log report formats in TXT and PDF.
21CFR Part 11 compliance.

Wash Station
Deck mounted syringe Wash Station. Pump driven with active waste removal. External solvent and waste reservoirs (reservoirs not supplied).

Asset Identification
RFID identification on syringes, tools and racks. Optional 1D and 2D bar code identification on vials.

Available Accessories (Optional)
Shaker, Gripper, Barcode Reader, Direct Detector Interface, Multiport Reagent Manifold, µSPEed Cartridge Rack

SYSTEM INFORMATION

Instrument Dimensions (L x W x H)
1370mm x 694mm x743mm

Weight
65kg

Voltage
24V, 221W, 9.2A DC Power Pack; 100-240 Volt AC input; Requires country specific IEC C13 power cable (not supplied). Battery backup for continual operation even with power interruption.

ePrep Connection Ports
3 x Serial Comm Ports, 4 x Digital Output, 4 x Digital Input, 4 x Relay

Operating Temperature
10-35°C, 0-80% relative humidity

Operating Sound Level
Typical 80dB

Compliance
CE, FCC, IC, RCM, RoHS, Safety EN 61010, EMC 61326

Warranty
12 months

Specifications are subject to change without notice

Ordering Information

ePrep Workstation

Image	Part No	Description
	**01-01000-01**	ePrep Sample Preparation WorkStation Supplied with: Wash Station, Power Supply, Surface Pro Control Tablet, Cabling and Starter Kit including Adapter Plates, Vial Racks, Vials, ePrep Syringes and Spares

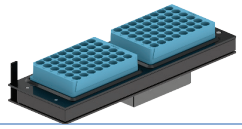
Adapter Plates

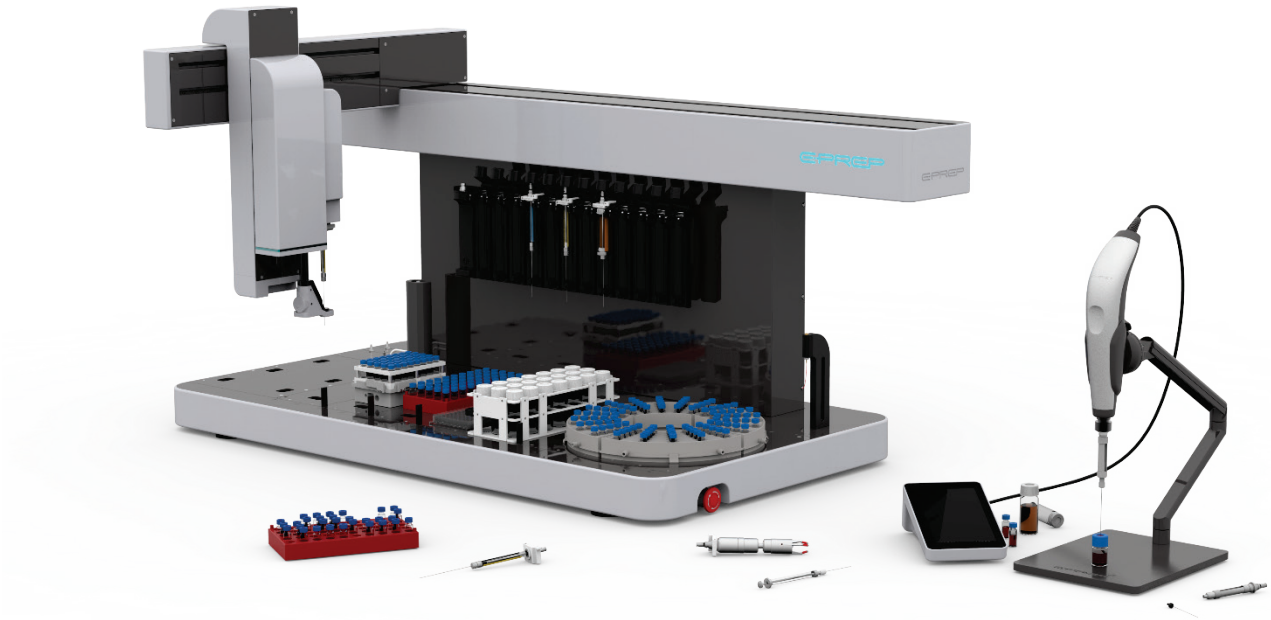
See Website for Sample and Autosampler Rack Adapter Plates

Syringes and Tools

See Website for Syringes and Tools

Accessories

Image	Part No	Description
Vortex Mixer		
	**01-04100-01**	Vortex Mixer kit including power supply Country-specific IEC C13 power cable is not included
µSPEed Cartridge Rack		
	**01-04160-01**	Rack for µSPEed Cartridges (96 cartridges) Supplied with 500 µL ePrep Syringe Note: Cartridges sold separately
Barcode Reader Module		
	**01-04010-01**	Barcode Reader Module Supplied with gripper and installation tools
Bulk Solvent Manifold		
	**01-04200-01**	Bulk Solvent Manifold Supplied with 4 meters of 2 mm ID connecting tubing, 10 x Inline Filters Barcode



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