

# EasyPREP Sample Handler

## Sample Preparation for ICP & AA Analysis

### Options:

- Normalization
- Stirring

- Acid Resistant Construction
- Perform Sample Dilutions
- Create Calibration Standards automatically
- Perform Standard Additions
- Add Multiple Reagents
- Add Internal Standards
- Reduce Matrix Effects through Automated Sample Preparation



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# Robotic Liquid Handling

Lab Automation Saves Time - Improves Precision



## OVERVIEW

- Several manual laboratory procedures may be automated using **Sample Handler** to increase laboratory productivity while lowering the risk of human errors.
- Applications for the Sample Handler include:
  - Reagent additions – up to 7 reagents
  - Sample dilutions
  - Sample aliquoting
  - Sample transfers
  - Normalization (Optional)
  - Stirring (Optional)

- **Sample Handler's** user-friendly software offers intuitive method development configurations for your sample needs. The user may design a procedure to add reagents, dilute, aliquot and transfer samples to a designated rack position.

## ADDITIONAL FEATURES

- User-friendly software makes lab implementation quick and simple.
- Create your own rack configurations and visualize it on the screen.
- Handles volumes from  $\mu\text{L}$  to liters.
- Use in conjunction with racks and tubes from a variety of instruments including the **DigiPREP** Graphite Block and **NovaWAVE** Microwave digestion systems available from SCP SCIENCE.



## BENEFITS

- Improve precision of liquid sample handling.
- Increase productivity by performing off-hours operations automatically.
- Eliminate mistakes through technician fatigue and inattention.
- Reduce labor costs.
- Flexible lab solutions for multiple applications.
- Improve traceability by keeping records of sample ID, sample process, date and time.

## BUBBLE STIRRING (OPTIONAL)

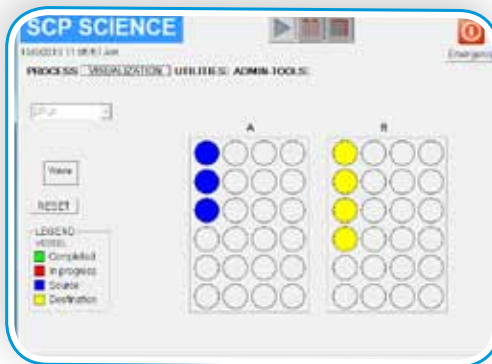
**Additional probe and air pump for blowing bubbles into the vessels**

- Stir your samples before pipetting and/or after dilution.
- Stirring power and duration controlled by operator.

## AccuNORM NORMALIZATION (OPTIONAL)

**Ultrasonic probe for contactless level sensing**

- Save time and improve precision using **Sample Handler's** **AccuNORM** Normalization Accessory.
- Select a normalization volume and **Sample Handler** takes care of the rest.
- Move racks of digested samples to **Sample Handler** where all sample tubes will be accurately filled to the volume specified. Samples are then ready for AA or ICP analysis.

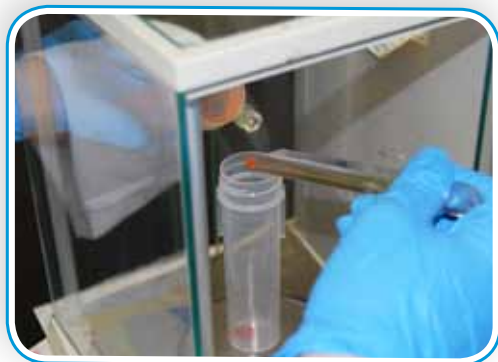




## TYPICAL SAMPLE PREPARATION PROCEDURE

1. Weigh samples into tared 50 ml **DigiTUBE**s and insert them into a **DigiPREP** rack. Transfer the rack to the **Sample Handler**.

2. **Sample Handler:** Dilute, add acid and other reagents to each sample.



3. Transfer the rack with the 50 ml **DigiTUBE** samples from the **Sample Handler** to the **DigiPREP** digestion system. Digest samples.

4. **Sample Handler:** Once digestion is complete, return the rack with samples to the **Sample Handler**. Add internal standard directly into each sample **DigiTUBE**.



5. **Sample Handler + AccuNORM:** Normalize the sample in the 50 ml **DigiTUBE** using **AccuNORM** with a precision of:  $\pm 0.250$  ml.

6. **Sample Handler:** Transfer samples from the 50 ml **DigiTUBE** rack to a 15 ml autosampler tube rack. Analyze by ICP or AA.



# Robotic Liquid Handling

## Lab Automation Saves Time and Improves Precision



### SAMPLE HANDLER PUMP – SAMPLE DELIVERY SPECIFICATIONS:

- Fully automated, precision motorized syringe pump.
- Sample probe made from resistant PEEK.
- Minimum dispensing volume:
  - 20 µL with 1 ml syringe.
  - 50 µL with 5 ml and 10 ml syringe.
  - 100 µL with 25 ml syringe.
- Precision:
  - RSD<1% for volumes >1 ml.
  - RSD<3% for volumes <1 ml.
- Dispensing of up to 7 different reagents using acid resistant, ceramic switching valve.
- Washing station to clean the inside and outside of probe.

### SAMPLE HANDLER DESIGNED FOR USE IN AA AND ICP LABS:

- Designed for operations in labs where the presence of acid vapors may exist.
- Minimum metal components to reduce the risk of metal contamination from the instrument.
- Complete acid resistant Kydex single piece housing.
- Non vapor penetrating electrical components (switches, connections, etc).
- Electronic cards with special coating to prevent acid vapor corrosions.
- Acid resistant bellows protects metal slides and closes openings in the instrument.
- Acid resistant system including PEEK Probe, Fluoropolymer tubing, plastic connectors, and ceramic valve is capable of handling sample/solution/reagent.

Using the Configuration Chart below, choose the correct syringe and probe to suit your sample needs.

CONFIGURATION CHART FOR ROBOTIC <b>SAMPLE HANDLER</b>		
Item	Description	Catalogue #
<b>EasyPREP Sample Handler</b>	Corrosion Resistant Model	010-400-001
Syringes	1 ml (comes with 1/32" ID tubing and fitting)	010-400-012
	5 ml (comes with 1/16" ID tubing and fitting)	010-400-014
	10 ml (comes with 1/16" ID tubing and fitting)	010-400-016
	25 ml (comes with 1/16" ID tubing and fitting)	010-400-018
Probe	PEEK	010-400-024

SPECIFICATIONS		
Dimensions	Length	70 cm / 27.5 in
	Depth	65 cm / 25.75 in
	Height	62 cm / 24.25 in
Weight	34 kg / 75 lb	
Speed	250 mm/s	
Power	95~260V, 50~60Hz, 0.8A/0.4A 96W	
PC Control	Communication Port	USB
	Software	EPSH 3.1

OPTIONS		
Item	Description	Catalogue #
Normalization	<b>AccuNORM</b> , fill-to-volume accessory	010-400-090
Barcode Reader	Barcode Reader and Probe	010--600-034
Bubble Stirring	Bubble stirring for <b>Sample Handler</b>	010-400-092
Fume Hood	Fume Hood for <b>Sample Handler</b>	010-400-094
Tubing	Fluoropolymer Tubing 2" with PEEK Connector*	010-400-020
Racks	Rack for <b>NovaWAVE</b> 50 and 75 ml Vessels, 12 positions	010-600-038
	Stand for <b>NovaWAVE</b> vessels, <b>EasyPREP</b>	010-400-044
	Rack, Autosampler, 10 ml tubes, 16x100 mm, 40 positions	010-400-032
	Rack, Autosampler, 50 ml tubes, 30 mm diam., 12 positions	010-510-050
	Rack, Hotblock, 50 ml tubes, 18 positions	010-500-025
	Rack, <b>DigiPREP MS/LS</b> , 50 ml tubes, 24 positions	010-500-021
	Rack, <b>DigiPREP Jr</b> , 50 ml tubes, 24 positions	010-505-021
	Rack, <b>DigiPREP MINI</b> , 50 ml tubes, 9 positions	010-510-021

\* Used to connect each different reagent bottle to ceramic valve.