Automate your processes Automate your lab Innovate

Sample Handler

with *Easy***PREP** sample handler

The Sample Handler is designed for ICP labs to automate Pre- and Post- Digestion sample preparation

> Dispense up to 7 Reagents Prepare Calibration Curve Perform Serial Dilutions Normalize Samples Transfer Samples Aliquot Samples Dilute Samples

> > SAMPLE PREP made *Easy*/PREP

AUTOMATED

Preparation

Sample

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SCP SCIENCE www.scpscience.com The Sample Handler is designed for ICP labs to automate Pre and Post digestion sample preparation. It also provides ICP labs with the capability to perform other tedious liquid handling operations. The instrument is built to work in corrosive environments and handle the strongest acids, such as concentrated hydrofluoric acid.

Overview

Improve productivity by assigning your personnel to value added tasks.

Ensure that the lab complies to your accuracy and precision requirements. Ensure Repeatability of sample to sample with manual tasks.

Quick reference and tracking of result records.

FOR ICP/ICP-MS LABS

• The Sample Handler provides ICPlabs with the capability to perform other tedious liquid handling operations specific to your labs' workflow applications.

AUTOMATE SAMPLE NORMALIZATION

- Automated sample normalization saves time, improves precision and eliminates human errors.
- Ultrasonic Level Sensing performs Normalization to a wide range of volumes based on customer requirements.
- The AccuNORM* executes Normalization with Class A Accuracy.

USES LABS' EXISTING DIGESTION AND ICP AUTOSAMPLER RACKS RACKS

- Compatible with most digestion system racks. Designed to adapt to most digestion and ICP autosampler racks and vessels.
- Provides all the necessary flexibility to seamlessly automate lab method.
- Samples can be batched and transferred to, or from, the Sample Handler, using the labs' existing digestion and ICP racks.

CORROSION RESISTANT

- Built to operate in a corrosive environment.
- The Sample Handler can handle the most corrosive including Hydrofluoric Acid.

Software Features

- Intuitive method development allows: Addition of up to 7 reagents, aliquoting and sample dilution, standard addition, reagent dispensing, and sample transfers. Normalization and non-fixed ratio serial dilution functions can also be programed.
- Automated calibration curve preparation for ICP instruments.
- Insert breaks in the method to allow offline manipulation such as digestion.
- Save common methods for fast setup of routine operations.
- Customizable rack configuration to accommodate most rack vessels and capacity requirements.
- Create your own rack configurations and visualize them on the screen
- Preconfigured to accommodate transfer of *Digi***TUBE** content to *Nova***Wave** racks.
- The Inert Gas Bubble Stirrer Accessory provides sample homogenization with controlled duration and speed at any point during the process.
- Visualization of run status in real-time.
- Advanced functions allow software controlled dispensing and transfer parameters based on speed, viscosity, density, etc.
- Load sample ID lists via optiona Bar Code Reader.

Dispensing volume accuracy and precision

System calibration of dispensing accuracy conforms to ISO 8655-5 and compliant with ISO 17025. ISO 8655-4 tolerance limits are:

					_	
Syringe Volume	Accuracy		racy Precision		NOTES: a. (
ml	± %	± µl ^a	± % ^b	± µl°	b.	(
1	0.6	6.0	0.2	2.0	C.	(
5	0.6	30.0	0.2	10.0		
10	0.6	60.0	0.2	20.0		
25	0.6	150.0	0.2	50.0		
50	0.6	300.0	0.2	100		

Calculated as deviation from the mean for 10 replicate measurements. Calculated as the coefficient of variation for 10 replicate measurements. Calculated as the standard deviation for 10 replicate measurements.

Typical Sample Preparation Procedure

SAMPLES NEVER LEAVE THE 1. Weigh samples into tared 50 ml DigiTUBEs and insert them into a *DigiPREP* rack. Transfer the rack SAMPLE TUBES WHICH NEVER to the Sample Handler. LEAVE THE RACKS THROUGHOUT THE DIGESTION PROCESS. The Sample Handler is designed to maximize efficiency by automating the Digestion Process while requiring the least sample transfers possible. 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 *Digi*PREP 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: + / - 0.250 ml. 6. Sample Handler: Transfer samples from the 50 ml *Digi*TUBE rack to a 15 ml autosampler tube rack. Analyze by ICP or AA. 7

7. AA, ICP or ICP/MS : analyze your samples.

Sample Handler Ordering Information

STEP 1 - ORDER INSTRUMENT	Г				
Description	Catalog #				
<i>Easy</i> PREP Sample Handler (110V/230V), with software	010-400-001				
ITEMS INCLUDED IN THE BASIC	CONFIGURATION				
Description	Catalog #				

Full tray, for Sample Handler	
Dispensing tip	
EasyPREP 8ML Dispensing Tubing, (pk/4)	
Eddy The one bioponomy rubing, (prv r)	

STEP 2 - SELECT SYRINGE PUMP

Description	Catalog #
Syringe Pump, 1 ml, 5 ml, 10 ml, 25 ml	010-400-018
Syringe Pump, 50 ml	010-400-019
Syringe Pump for HF, 5 ml	010-400-009

ISO 17025 and ISO 8655-5 COMPLIANT

Request Instrument Certification SYSTEM CALIBRATION OF DISPENSING ACCURACY CERTIFICATION Catalog # 010-400-050

STEP 3 - SELECT SYRINGE

Description	Catalog #
Syringe, 1 ml	010-400-102
Syringe, 5 ml	010-400-104
Syringe for HF, 5 ml	010-400-106
Syringe,10 ml	010-400-108
Syringe, 25 ml	010-400-110
Syringe, 50 ml	010-400-112

STEP 4 - SELECT RACK

Description	Catalog #
Rack, 54 positions, <i>Digi</i> PREP MS, 15ml	010-515-027
Rack, 40 positions, <i>DigiPREP</i> Jr, 15ml	010-515-023
Rack, 12 positions, for CETAC Autosampler, 50 ml tubes	010-510-050
Rack, 18 positions, for Hotblock, 50 ml tubes	010-500-025
Rack, 40 positions, 16 mm tubes	130-012-102
Rack, 24 positions, for <i>Digi</i> PREP Jr, 50 ml <i>Digi</i> TUBEs	010-505-021
Rack, 24 positions, for <i>Digi</i> PREP, MS/LS 50 ml <i>Digi</i> TUBEs	010-500-021
Rack, custom	PLEASE CONTACT US
Rack, <i>Nova</i> WAVE Transport Rack, 12 positions, 50/75 ml vessels	010-400-044

24.41"

ACCESSORIES

Description				Catalog #
Half tray, for use with NovaWAVE Transport Rack	<			010-400-098
Barcode reader, for rapid loading of sample identific	ation			010-600-034
AccuNORM, required to normalize sample volumes				010-400-090
Bubble Stirrer, with inert gas feature				010-400-092
7 ml loop, for larger sample volumes, prevents sample from entering the syringe			010-400-048	
Dispensing tip replacement			010-400-093	
Piercing Needle 1.2×0.4 L=150 w/fitting				010-400-026
Pipetting Needles Nickel-plated hub; 18 gauge; 6 in. length			010-400-022	
Dispensing Tip, PEEK			010-400-024	
Fume Hood, protects samples from environmental contamination and vice versa when using Sample Handler, Inside dimensions: D 37.2 x W 31 x H 31.7, Outside dimensions: D 43 x W 32.7 x H 35.7				010-400-094
PC with Windows OS				010-400-008
TO LEARN MORE	COMPUTER SYSTEM REQUIREMENTS INSTR		MENT DIMENSIONS	
Please contact one of our sales	PC Processor:	1GHz or superior	Length	27.56"
representatives at sales@scpscience.com	RAM memory:	1 GB RAM	Depth	25.98"

representatives at sales@scpscience.com Daw memory. Fide name Depth Disk minimum space: 1 GB free Height	
or visit our website www.scpscience.com Ports: 1 USB port available	
or contact one of our regional offices below Operating System: Windows 8, Windows 7, Windows XP	

To learn more, please contact one of our Sales Representatives online, or at one of our regional offices below.

CORPORATE HEADQUARTERS	USA	FRANCE	GERMANY
Phone: +1 (800) 361-6820 Fax: +1 (800) 253-5549	Phone: +1 (800) 361-6820 Fax: +1 (800) 253-5549	Phone: +33 (0) 1 69 18 71 17 Fax: +33 (0) 1 60 92 05 67	Phone: +49 (0) 8342-89560-61 Fax: +49 (0) 8342-89560-69
CORPORATE: Phone: +1 (514) 457-0701 Fax: +1 (514) 457-4499 www.scpscience.com sales@scpscience.com			