

# **EasyPREP - UNATTENDED LABORATORY AUTOMATION**

The *Easy*PREP line of laboratory automation includes:

- **56 Sample Handler** automated Liquid Sample Preparation for ICP-AES/MS labs
- 60 TitrEC automated Electro Chemistry Analyzer
- **62 BOD-200** automated Biological Oxygen Demand Analyzer
- **64 COD-200** automated Chemical Oxygen Demand Analyzer
- 66 AutoCHEM automated Chemistry Analyzer
- 68 Supplies for Skalar SAN Systems

# **Automated Liquid Sample Preparation for ICP-AES/MS SAMPLE HANDLER**

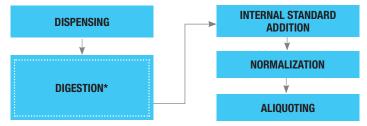
The Sample Handler is designed for ICP-AES/MS labs to automate Pre and Post digestion sample preparation. It also provides ICP-AES/MS labs with the capability to perform other tedious liquid handling operations. The instrument is built to work in corrosive environments and handle the strongest acids,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



- Chemically resistant Acid/Base dispensing valves
- System calibration of dispensing accuracy according to ISO 8655-5 and compliant with ISO 17025.
- Acid resistant housing and components.
- Protective coating on electronic cards prevents vapor attack.

Improved operational efficiency allows laboratories to take on new projects and reallocate personnel towards higher value tasks.

#### FULL PRE/POST DIGESTION PROCESS UNATTENDED AUTOMATION



\*Digestion - Not performed by the Sample Handler. Use *DigiPREP* block digestion system (page 20) or *NovaWAVE* microwave digestion system (page 50.)

# UNATTENDED SAMPLE PREPARATION AUTOMATION FOR DIGESTION/ANALYSIS METHODS

- Dispense up to 7 reagents
- Sample Dilution
- Sample Aliquoting
- Sample Transfer
- Sample Normalization
- Serial Dilutions
- Calibration Curve Preparation
- Internal Standard Addition

#### **Features**

Compliment lab process workflow. Samples can be batched and transferred to or from the Sample Handler.

Samples never leave the sample tubes which never leave the racks throughout the digestion process.

Compatible with most digestion system racks.

Auto-rinsing wash station prevents cross contamination.

User friendly software, LIMS compatible.

#### **Options**

Ultrasonic level sensing executes normalization with Class A accuracy in a wide range of volumes based on customer requirements.

Bubble stirrer, with inert gas technology, provides thorough mixing of samples.

Track individual samples through barcoding.

Add a second dispensing pump for additional or non compatibale reagents.

### **Automated Liquid Sample Preparation for ICP-AES/MS SAMPLE HANDLER**

## **ORDERING INFORMATION**



Catalog No.

010-400-098

010-600-034

010-400-090

010-400-092

010-400-048

010-400-093

010-400-026

010-400-022

010-400-024

010-400-094

010-400-008

#### **STEP 1 - ORDER INSTRUMENT**

Description	Catalog No.
EasyPREP Sample Handler (110V/230V), with software	010-400-001

#### ITEMS INCLUDED IN THE BASIC CONFIGURATION

Description	Catalog No.
Full tray for Cample Handler	010 400 006
Full tray, for Sample Handler	010-400-096
Dispensing tip	010-400-025
EasyPREP Dispensing Tubing, (pk/7)	010-400-020

#### **STEP 2 - SELECT SYRINGE PUMP**

Description	Catalog No.
*Syringe Pump, 1 ml, 5 ml, 10 ml, 25 ml	010-400-018
Syringe Pump, 50 ml	010-400-119
Syringe Pump for HF, 5 ml	010-400-109

#### \* Standard

### **STEP 4 - SELECT RACK**

Bubble Stirrer, with inert gas feature

Dispensing tip, PEEK (pk/1)

PC with Windows OS

Dispensing tip replacement, for Bubble Stirrer

Piercing Needle 1.2 × 0.4 L=150 w/fitting

the syringe

Description	Catalog No.
Rack, <i>Digi</i> PREP MS, 15ml tubes, 54 positions	010-515-027
Rack, <i>Digi</i> PREP Jr, 15ml tubes, 40 positions	010-515-023
Rack, for CETAC Autosampler, 50 ml tubes, 12 positions	010-510-050
Rack, for Hotblock, 50 ml tubes, 18 positions	010-500-025
Rack, for CETAC Autosampler, 16 mm tubes, 40 positions	130-012-102
Rack, for CETAC Autosampler, 15 mm tubes, 60 positions	020-020-120
Rack, for <i>Digi</i> PREP Jr, 50 ml <i>Digi</i> TUBEs, 24 positions	010-505-021
Rack, for <i>Digi</i> PREP, MS/LS 50 ml <i>Digi</i> TUBEs, 24 positions	010-500-021
Rack, custom	PLEASE CONTACT US
Rack, <i>Nova</i> <b>WAVE</b> Transport Rack, 50/75 ml vessels, 12 positions	010-400-044

#### **STEP 3 - SELECT CORRESPONDING SYRINGE**

Description	Catalog No.
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

ISO 17025
and
ISO 8655-5
<b>COMPLIANT</b>

#### **Request Instrument Certification**

#### **SPECIAL CERTIFICATION**

SYSTEM CALIBRATION OF DISPENSING ACCURACY Catalog No. 010-400-050

## **ACCESSORIES Description** Half tray, for use with *NovaWAVE* Transport Rack Barcode reader, for rapid loading of sample identification AccuNORM, required to normalize sample volumes

7 ml loop, for larger sample volumes, prevents sample from entering

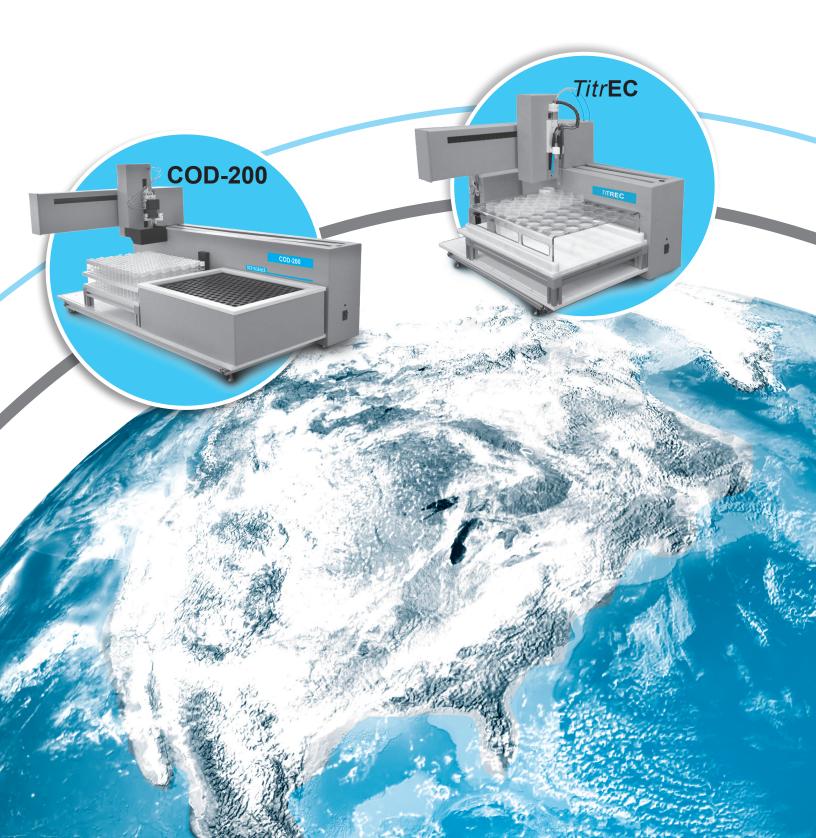
Pipetting Needles, Nickel-plated hub; 18 gauge; 6 in. length

(Computer System Requirements can be found on page 63)

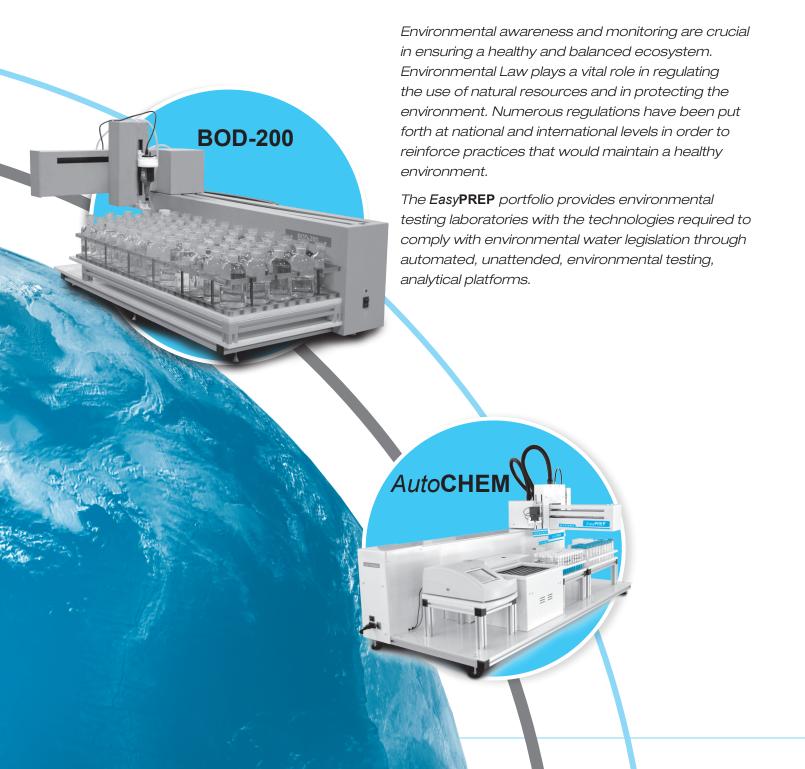
Fume Hood, protects samples from environmental contamination and vice versa when using Sample Handler, Inside dimensions:

D 37.2 x W 31 x H 31.7, Outside dimensions: D 43 x W 32.7 x H 35.7

# **EasyPREP - AUTOMATED ENVIRONMENTAL TESTING**



### **EasyPREP - AUTOMATED ENVIRONMENTAL TESTING**



# Automated Electro Chemistry Analyzer TitrEC

### Designed for pH - Conductivity - Alkalinity measurements within the same vessel

The *Titr***EC** is a multiparameter robotic platform designed for automated electrochemical measurements of large numbers of samples operating under the stringent requirement of regulated environments.

Improved operational efficiency allows laboratories to take on new projects and reallocate personnel towards higher value tasks.

*Titr***EC** features corrosion resistant components and is designed for long lasting laboratory operation:

- Acid resistant housing and components
- Acid and base dispensing using a chemically resistant, ceramic switching valve in contact with reagents
- Electronic cards with special coating to prevent corrosion



#### **Features**

Full Process Automation provides unattended capability for:

- pH Measurement
- pH Adjustment
- pH end-point titration: alkalinity and acidity
- Electro conductivity measurement

Bidirectional titration of acid and base

Up to 7 point calibration for pH and EC

Auto washing station prevents sample cross-contamination

Barcoding capability provides automatic loading of sample and rack IDs.

User friendly software, LIMS compatible

Accommodates 100ml sample vessels, 47 positions

Simultaneous pH & EC measurement provides quick generation of results



## **SPECIFICATIONS**

pH Probe	Specifications	EC Probe	Specifications
Measuring range:	0 – 14 pH units	Measuring range:	100-10,000 uS/cm
Precision:	≤0.5%	Precision:	<2%
Accuracy:	1% of reading	Accuracy:	10% reading
Electrode slope:	58 mV/pH units	Working temperature:	<2%
Asymmetry:	±15 mV	Cell constant:	0.8 - 1.2 cm <sup>-1</sup>

### **Automated Electro Chemistry Analyzer TitrEC**

## **ORDERING INFORMATION**



STEP 1 - ORDER INSTRUMEN	Т
Description	Catalog No.
TitrEC (110V/230V), with software	010-410-001

#### ITEMS INCLUDED IN THE BASIC CONFIGURATION

Description	Catalog No.
Platform, 47 positions	010-450-030
Rack, for 100 ml Tubes, 47 positions	010-410-014
Temperature Probe	010-410-011
pH Probe	010-410-010
Conductivity Probe	010-410-012
Acid/Base Bidirectional Titrant Delivery Buret	010-410-018
Blade Stirrer	010-410-016
Replacement Dispensing Tubing	010-410-021

ISO 17025		
and		
ISO 8655-5		
COMPLIANT		

#### **Request Instrument Certification**

#### **SPECIAL CERTIFICATION**

SYSTEM CALIBRATION OF DISPENSING ACCURACY Catalog No. 010-400-050



#### **NEW AUTOMATIC TITRATOR** AND ELECTROCHEMICAL ANALYZER.

CONTACT OUR SALES DEPARTMENT FOR MORE INFORMATION SALES@SCPSCIENCE.COM

STEP 2 - SELECT SYRINGE PUMP	
Description	Catalog No.
*Syringe Pump, 1 ml, 5 ml, 10 ml, 25 ml	010-400-018
Syringe Pump, 50 ml	010-400-119
Syringe Pump for HF, 5 ml	010-400-109

\* Standard

#### **STEP 3 - SELECT CORRESPONDING SYRINGE**

Description	Catalog No.
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

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Description	Catalog No.
Barcode reader, for rapid loading of sample identification	010-600-034
Sample Handler Accessory, for TitrEC (see description below)	010-410-005
AccuNORM, required to normalize sample volumes, used with Sample Handler Accessory	010-400-090
Bubble Stirrer, with inert gas feature, used with Sample Handler Accessory	010-400-092
Fume Hood, protects samples from environmental contamination and vice versa when using <i>Titr</i> <b>EC</b> , 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 (Computer System Requirements can be found on page 63)	010-400-008

# PERFORMING ICP ANALYSIS?

BENEFIT FROM THE SAMPLE HANDLER CAPABILITIES ON YOUR TITLEC BY ADDING THE SAMPLE HANDLER ACCESSORY

Sample Preparation Accessory - Automated sample preparation for digestion and other laboratory methods

- Dispense up to 7 Reagents
- Sample Dilution
- Sample Aliquoting
- Sample Transfer

- Sample Normalization
- Serial Dilutions
- Calibration Curve Preparation
- Internal Standard Addition

See Page 56 for **Specifications** 

Sample Handler Accessory, Titr**EC** 010-410-005

# Automated BOD, CBOD and DO Analysis BOD-200

The BOD-200 provides users with the capability to conduct BOD, CBOD and DO analysis. Analyze CBOD in conjunction with BOD to verify if non-compliant BOD results are due to nitrification and to obtain results more reflective of real effluent quality when under nitrifying conditions.

Biochemical oxygen demand, BOD, measures oxygen depletion which represents the breakdown of organic material by microorganisms.

Carbonaceous BOD, CBOD, measures oxygen depletion from the breakdown of organic material by microorganisms in which the contribution from nitrogenous bacteria has been suppressed.

The BOD-200 operates with an Optical Dissolved Oxygen Probe, providing accurate and reproducible results. The Optical Probe requires no membrane maintenance or electrolyte re-filling and is characterized by its stable response, minimal drift and fewer single point-calibrations.

Full Process Automation provides unattended:

Automated Seed Addition

Automated Inhibitor Addition

Automated Sample Dilution

Automated Sample Homogenization

Automated Data Acquisition, Calculation and Storage

#### **Features**

BOD, CBOD and DO unattended automated analysis

Optimize laboratory management by opting for a 5 or 7-day incubation periods

Accommodates 300ml reusable glass and/or disposable bottles and 60 ml glass re-usable bottles

Barcoding option provides sample, bottle and rack tracking throughout the process

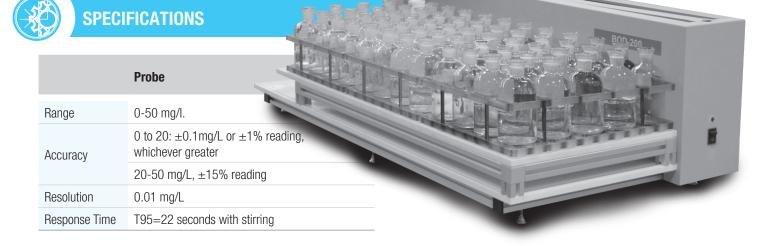
Auto wash station prevents cross contamination

User-friendly software, LIMS compatible

Compliant with laboratory standards:

ISO 5815-1 | EN-1899-1 | EN-1899-2 | EN-5814 (2012) | EPA 405.1

DESIGNED FOR
STATE, MUNICIPAL,
AND COMMERCIAL
ENVIRONMENTAL
TESTING LABS



### **Automated BOD, CBOD and DO Analysis BOD-200**

	Computer System Requirements
PC Processor:	1GHz or superior
RAM memory:	1 GB RAM
Disk minimum space:	1 GB free
Ports:	1 USB port available
Operating System:	Windows 8, Windows 7, Windows XP





500ml/ea

10g/ea

10g/ea

250-110-400

250-110-500

250-110-600



#### **STEP 1 - ORDER INSTRUMENT Description** Catalog No. BOD-200 (110V/230V), with software 010-420-001

# ITEMS INCLUDED IN THE BASIC CONFIGURATION

Description	Catalog No.
BOD Optical Probe	010-420-030
Platform BOD-200, Universal for 300 and 60 ml bottles	010-420-092
BOD Dispensing Replacement Tubing	010-420-088

#### **STEP 2 - SELECT 3 RACKS**

Description	Bottle Volume	Bottle capacity/ Rack	Catalog No.
BOD bottle Rack, glass	60 ml	42	010-420-044
BOD bottle Rack, disposable plastic	300 ml	20	010-420-040
BOD bottle Rack, glass	300 ml	20	010-420-042

#### **ACCESSORIES**

Description	Catalog No.
Barcode Reader, for rapid loading of sample identification	010-600-034
BOD Bottle Cap for 60 ml and 300 ml, plastic or glass bottles, pk. 25	010-420-018
BOD Probe Sensor Replacement Cap	010-420-090
BOD Dispensing Replacement Tubing	010-420-088
PC with Windows OS	010-400-008
Optical Probe Replacement Stirrer	010-420-034

Description	Size & Qty.	Catalog No.
BOD reagent kit containing reagents required to prepare BOD dilution water. See page 204	500ml/ea	250-110-150
Buffer pH 7.2 (phosphate), for BOD	500ml/ea	250-110-100
Calcium Chloride, CaCl <sub>2</sub> , 2.75% w/v	500ml/ea	250-110-200
Ferric Chloride, FeCl <sub>3</sub> , 0.025% w/v	500ml/ea	250-110-300

**STANDARDS & REAGENTS** 

Magnesium Sulfate, MgSO<sub>4</sub>, 2.25%w/v

BOD Glucose Powder for check solution

BOD Glutamic Acid for check solution

### **BOTTLES**

Description	Qty (pk)	Catalog No.
BOD disposable plastic bottles, numbered, 300 ml	100	010-420-010
BOD glass bottles, numbered with Stopper, 300 ml	24	010-420-024
BOD glass bottles, barcoded with Stopper, 300 ml	24	010-420-066 to 010-420-084 010-420-106 to 010-420-120
BOD glass bottles, barcoded with Stopper, 60 ml	36	010-420-060 to 010-420-064

# Automated Chemical Oxygen Demand Analyzer COD-200

This, all-in-one, unattended COD analysis system automates the mixing, heating, cooling and analysis of COD samples.

COD tubes are placed in a digestion block for sample digestion, followed by shaking and cooling. They are then transferred to the spectrophotometer where sample are analyzed. The measurement activity and concentration calculations are displayed in real-time on the screen.

The COD-200 offers turbidity detection. In turbid samples, light scattered from solid particles may interfere with the sample's measured absorbance. In COD analysis, the presence of turbidity can cause deviations of up to 30% from the real sample value. This capability allows the end user to confidently analyze samples knowing that the turbidity level is adequate for COD analysis.



#### **Features**

Sample capacity of 217 COD tubes

Turbidity detection capability

Measure samples 0.5 mg/l to 1500 mg/l

Fully automated system from sample pick up to output of results

Includes: digestion, sample time tracking, shaking, analysis, data transposition and storage

#### **Features**

Complies with ISO 15705, ISO 8467 and EPA 410.4

Digestion block with a heating temperature range from ambient to 180 $^{\circ}$  C

User friendly software with graphical display of the samples being processed

LIMS compatible output file. Sample ID's are saved for full traceability

Computer system requirements can be found on page 63

# Automated Chemical Oxygen Demand Analyzer COD-200

#### THE COD-200 OFFERS ANALYSIS OF THE FOLLOWING METHODS:

Chemistry	LED Wavelength (nm)	LED Bandwidth (nm)	Method	Detection Limit	Detection Range	Accuracy (% of reading)	Precision (% of reading)
Potassium Permanganate	525	35	ISO 8467	0.5 ppm	0.5 - 10 mg/L 0 <sub>2</sub>	5	3.5
Potassium Dichromate	590	20	ISO 15705 EPA 410.4		3 - 100 mg/L 0 <sub>2</sub>	3.5	5
				3 ppm	100 - 500 mg/L 0 <sub>2</sub>	2.5	1
			LFA 410.4		500 - 1500 mg/L 0 <sub>2</sub>	0.5	0.3
Potassium Dichromate	420	16	ISO 15705	5 ppm	5 - 150 mg/L 0 <sub>2</sub>	3.5	3
Turbidity Detection	850	37		2.5 NTU	2.5 - 50 NTU		

# ORDERING INFORMATION



STEP 1 - ORDER INSTRUMENT	
Description	Catalog No.
COD (110V/230V) with software	010-440-001

ITEMS INCLUDED IN THE BASIC CONFIGURATION				
Description	Catalog No.			
Spectrophotometer for COD-200				
Digestion system, 217 positions for 12ml tubes				
Rack, Removable for 217 tubes COD-200	010-440-009			
Air assisted gripper (compressor not included)				

STEP 2 - SELECT 1 OR MORE CHEMISTRIES				
Description	Catalog No.			
Potassium Permanganate, 520nm, ISO 8467	010-440-032			
Potassium Dichromate, 590nm, ISO 15705, EPA 410.4	010-440-030			
Potassium Dichromate, 420nm, ISO 15705	010-440-034			
Turbidity Detection, 850nm	010-440-036			

ACCESSURIES	
Description	Catalog No.
Air Compressor, 50 l/min - 1.77 CFM & 8 bar - 116 psi	010-400-060
Barcode reader, for rapid loading of sample identification	010-600-034
PC with Windows OS (Computer System Requirements can be found on page 63)	010-400-008

STANDARDS & REAGENTS				
Description	Concentration	Qty	Catalog No.	
COD Tubes	0-150 ppm	box/25	250-130-006	
COD Tubes	0-1500 ppm	box/25	250-130-016	
COD Tubes	0-15,000 ppm	box/25	250-130-026	
COD Tubes	0-150 ppm	CS/200	250-130-007	
COD Tubes	0-1500 ppm	CS/200	250-130-017	
COD Tubes	0-15,000 ppm	CS/200	250-130-027	
COD CRM	low level	5 ml	140-715-101	
COD CRM	high level	20 ml	140-715-102	
COD Control Solution	100 ppm 0 <sub>2</sub>	125 ml	250-130-512	
tCOD Control Solution	100 ppm 0 <sub>2</sub>	500 ml	250-130-550	
COD Control Solution	100 ppm 0 <sub>2</sub>	1L	250-130-551	
COD Control Solution	1000 ppm 0 <sub>2</sub>	125 ml	250-130-602	
COD Control Solution	1000 ppm 0 <sub>2</sub>	500 ml	250-130-600	
COD Control Solution	1000 ppm 0 <sub>2</sub>	1L	250-130-601	
COD Control Solution	10,000 ppm 0 <sub>2</sub>	125 ml	250-130-652	
COD Control Solution	10,000 ppm 0 <sub>2</sub>	500 ml	250-130-650	
COD Control Solution	10,000 ppm 0 <sub>2</sub>	1L	250-130-651	



# Automated Chemistry Analysis *Auto*CHEM



All-in-one COD and Phosphate unattended sample preparation and analysis with capping and uncapping capability.

Automate sample pipetting, mixing, heating, cooling and analysis of COD and Phosphate samples. Applicable to a variety of other preprogrammed chemistries.

System calibration of dispensing accuracy according to ISO 8655-5 and compliant with ISO 17025.

# AutoCHEM is designed to run the following testing methods:

- COD Potassium Dichromate Method
- Total Phosphate Method
- Possibility to analyze other chemistries

#### **Features**

Sample capacity of 67 tubes

Fully automated system from sample pick up to output of results

Complies with ISO 15705 and EPA 410.4 for COD analysis

Nephelometric turbidity measurements according to EN ISO 7027

Load and track individual samples identified through barcoding

LIMS compatible output file. Sample ID's are saved for a full traceability

#### **Features**

Measurement without cuvette slot cover. The advanced optical design is insensitive to external light

Documentation of results according to GLP

Digestion block with a heating temperature range from ambient to 180 C.

User friendly software with graphical display of the samples being processed



## **SPECIFICATIONS**

Spectrophotometer Technical Data				
Wavelength range	340-1100 nm	Photometric accuracy:	0.005 E at 0.0 - 0.5 E; 1% at 0.5 - 2.0 E	
Wavelength accuracy	± 1 nm	Photometric linearity:	< 0.5% at 2 E; = 1% at > 2 E	
Wavelength resolution:	0.3 nm	Stray light:	< 0.5%	
Photometric range:	± 3.0 E in wavelength range 400-900 nm	E - Illuminance (Watts of illumination/m2)		

# Automated Chemistry Analysis AutoCHEM



#### AutoCHEM II WITH EXPANDED SAMPLE CAPACITY AND ADDITIONAL CHEMISTRIES.

Contact our sales department for more information sales@scpscience.com

# **ORDERING INFORMATION**



STEP 1 - ORDER INSTRUMENT	
Description	Catalog No.
AutoCHEM (110V/230V), with Software	010-450-001

ITEMS INCLUDED IN THE BASIC CONFIGURATION				
Description	Catalog No.			
Spectrophotometer for AutoCHEM	010-450-005			
Digestion system, 67 positions for 12 ml	010-450-007			
Rack, 67 tubes	010-450-007			
Syringe,5 ml	010-400-104			
Syringe Pump, 5 ml	010-400-018			
Air assisted gripper, (compressor not included)	010-450-013			

ACCESSORIES	
Description	Catalog No.
Air Compressor, 50 I/min - 1.77 CFM & 8 bar - 116 psi	010-400-060
Barcode reader, for rapid loading of sample identification	010-600-034
PC with Windows OS (Computer System Requirements can be found on page 63)	010-400-008

ISO 17025	Request Instrument Certification
and ISO 8655-5 COMPLIANT	SPECIAL CERTIFICATION SYSTEM CALIBRATION OF DISPENSING ACCURACY Catalog No. 010-400-050

STANDARDS & REAGENTS				
Description	Concentration	Qty	Catalog No.	
COD Tubes	0-150 ppm	Box/25	250-130-006	
COD Tubes	0-1500 ppm	Box/25	250-130-016	
COD Tubes	0-15,000 ppm	Box/25	250-130-026	
COD Tubes	0-150 ppm	CS/200	250-130-007	
COD Tubes	0-1500 ppm	CS/200	250-130-017	
COD Tubes	0-15,000 ppm	CS/200	250-130-027	
COD CRM	low level	5 ml	140-715-101	
COD CRM	high level	20 ml	140-715-102	
OOD ONW	Tilgit level	20 1111	140 7 10 102	
COD Control Solution	100 ppm 0 <sub>2</sub>	125 ml	250-130-512	
tCOD Control Solution	100 ppm 0 <sub>2</sub>	500 ml	250-130-550	
COD Control Solution	100 ppm 0 <sub>2</sub>	1L	250-130-551	
COD Control Solution	1000 ppm 0 <sub>2</sub>	125 ml	250-130-602	
COD Control Solution	1000 ppm 0 <sub>2</sub>	500 ml	250-130-600	
COD Contr ol Solution	1000 ppm 0 <sub>2</sub>	1L	250-130-601	
COD Control Solution	10,000 ppm 0 <sub>2</sub>	125 ml	250-130-652	
COD Control Solution	10,000 ppm 0 <sub>2</sub>	500 ml	250-130-650	
COD Control Solution	10,000 ppm 0 <sub>2</sub>	1L	250-130-651	
Total Phosphorus Reagent Tubes	0.04 – 1.5 mg/L P as PO <sub>4</sub> 3-	Box/25	250-190-500	
Total Phosphorus Reagent Tubes, barcoded	0.04 – 1.5 mg/L P as PO <sub>4</sub> <sup>3-</sup>	CS/200	250-190-501	
Phosphorus Standard (polyphosphate)	1 ppm	125 ml	250-190-530	

#### **SUPPLIES FOR SKALAR SAN SYSTEMS**

**SCP SCIENCE** manufactures supplies for segmented flow chemistry analyzers. Glass coils are made in our glass shop. *Exact*FLOW tubing is flared at both ends to simplify the insertion into other connecting components. Don't need the flares? Simply cut back the flare a few millimeters to the desired internal diameter. *ExactFLOW* tubing is a 3 stop design which can be used two times prior to replacing.



<b>TUBING</b>							
	Color Code		Description	Flowrate (ml/min)	ID (mm)	Skalar No.	Catalog No.
ORANGE	RED	ORANGE	Tubing, Calibration Pump (pk/12)	0.03		SA-3021	080-070-630
ORANGE	BLUE	ORANGE	Tubing, Calibration Pump (pk/12)	0.05		SA-3022	080-070-631
ORANGE	GREEN	ORANGE	Tubing, Calibration Pump (pk/12)	0.10		SA-3024	080-070-632
ORANGE	YELLOW	ORANGE	Tubing, Calibration Pump (pk/12)	0.16		SA-3025	080-070-633
ORANGE	WHITE	ORANGE	Tubing, Calibration Pump (pk/12)	0.23		SA-3026	080-070-634
BLACK	BLACK	BLACK	Tubing, Calibration Pump (pk/12)	0.32		SA-3027	080-070-635
ORANGE	ORANGE	ORANGE	Tubing, Calibration Pump (pk/12)	0.42		SA-3028	080-070-636
WHITE	WHITE	WHITE	Tubing, Calibration Pump (pk/12)	0.60		SA-3029	080-070-637
RED	RED	RED	Tubing, Calibration Pump (pk/12)	0.80		SA-3030	080-070-638
GRAY	GRAY	GRAY	Tubing, Calibration Pump (pk/12)	1.00		SA-3031	080-070-639
YELLOW	YELLOW	YELLOW	Tubing, Calibration Pump (pk/12)	1.20		SA-3032	080-070-640
YELLOW	BLUE	YELLOW	Tubing, Calibration Pump (pk/12)	1.40		SA-3033	080-070-641
BLUE	BLUE	BLUE	Tubing, Calibration Pump (pk/12)	1.60		SA-3034	080-070-642
GREEN	GREEN	GREEN	Tubing, Calibration Pump (pk/12)	2.00		SA-3035	080-070-643
PURPLE	PURPLE	PURPLE	Tubing, Calibration Pump (pk/12)	2.50		SA-3036	080-070-644
PURPLE	BLACK	PURPLE	Tubing, Calibration Pump (pk/12)	2.90		SA-3037	080-070-645
PURPLE	ORANGE	PURPLE	Tubing, Calibration Pump (pk/12)	3.40		SA-3038	080-070-646
PURPLE	WHITE	PURPLE	Tubing, Calibration Pump (pk/12)	3.90		SA-3039	080-070-647
ORANGE	BLACK		Tubing, Pump, Sample Rinse (pk/8)			SA-1060	080-070-601
			Tubing, Polyethylene (15 meters)		0.7	SA-5140	080-070-651
			Tubing, Polyethylene (15 meters)		1.0	SA-5141	080-070-652
			Tubing, Polyethylene (15 meters)		1.5	SA-5142	080-070-653
			Tubing, Silicon (3 meters)		0.5	SA-3150	080-070-770
			Tubing, Silicon (15 meters)		1.0	SA-5150	080-070-771





## **DIALYZER MEMBRANES**

Description	Skalar No.	Catalog No.
Pre-mounted membranes, small (pk/12)	SA-5282	080-070-919
Pre-mounted membranes, large (pk/12)	SA-5283	080-070-530

### **SUPPLIES FOR SKALAR SAN SYSTEMS**

		SAMPLE CUPS
Description	Skalar No.	Catalog No.
Sample Cup, 1.5 ml, Conical Bottom (pk/1000)	SA-1021	080-070-102
Sample Cup, 3.5 ml, Conical Bottom (pk/1000)	SA-1022	080-070-103

	REACTION COILS		
Description	Skalar No.	Catalog No.	
Coil, 50 turns	SA-5320	080-070-890	
Coil, 40 turns	SA-5321	080-070-891	
Coil, 30 turns	SA-5322	080-070-892	
Coil, 20 turns	SA-5323	080-070-893	
Coil, 10 turns	SA-5324	080-070-894	
Coil, 5 turns	SA-5325	080-070-895	
Coil, Quartz Glass, for UV Digestion	SA-5365	080-070-896	

# **CHEMICALS AND REAGENTS**

Description	Skalar No.	Catalog No.
Brij 35, %30 Solution (250 ml)	SC-13900	080-070-931
Detergent, Triton X-100, 10% Solution (500 ml)	SC-13907	250-150-750
Activated Cadmium (10 g)	SC-13913	080-070-941

## **SLEEVES AND CONNECTION SUPPLIES**

Description	ID (mm)	Skalar No.	Catalog No.
Sleeve, PVC (pk/50)	3.2	SA-5400	080-070-910
Sleeve, PVC (pk/50)	2.4	SA-5401	080-070-911
Sleeve, PVC (pk/50)	1.6	SA-5402	080-070-912
Sleeve, Silicon, for 5421 (pk/50)	2.4	SA-5406	080-070-913