

Automate your processes  
Automate your lab  
Innovate

with **EasyPREP**  
**TITREC**

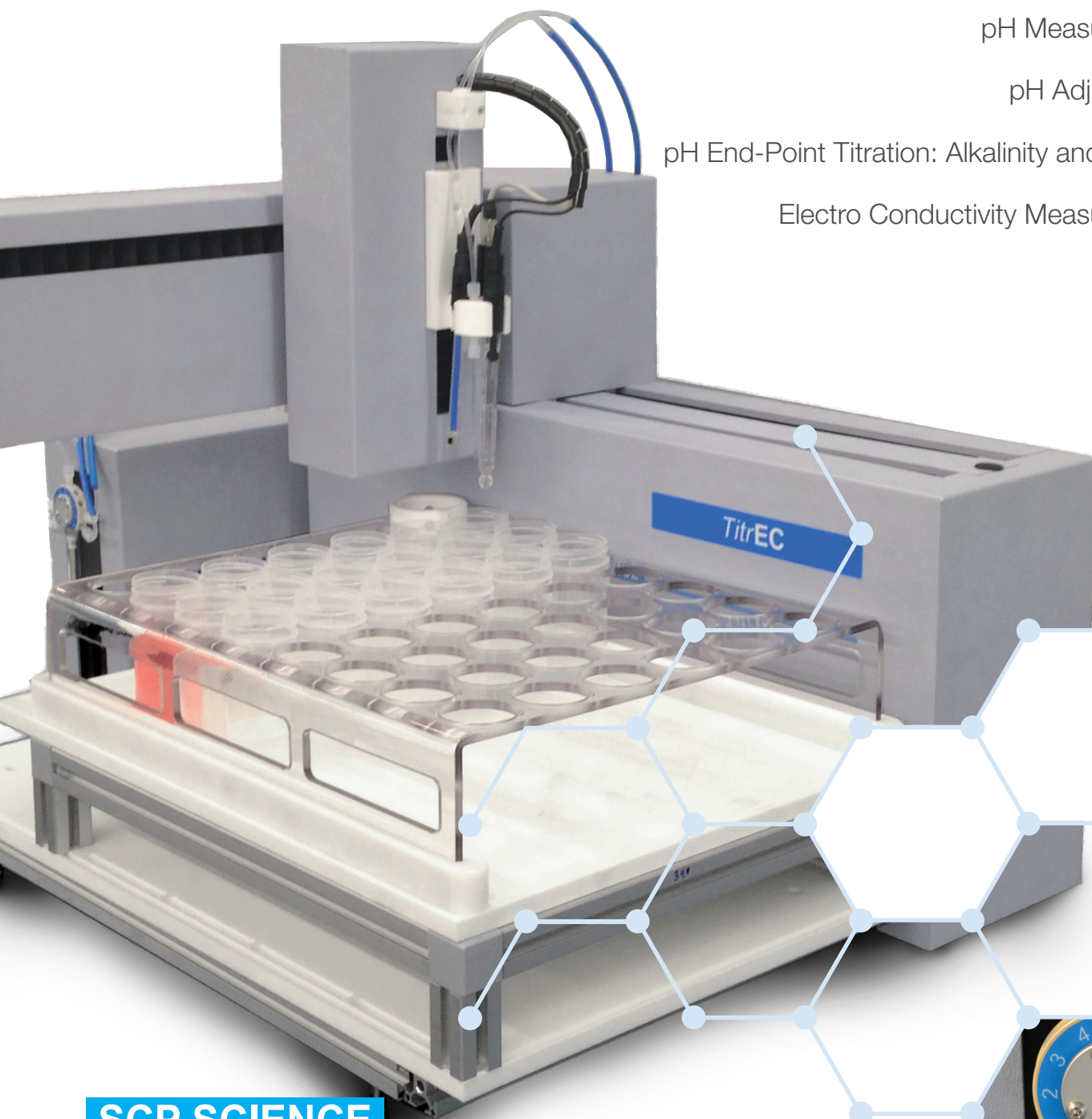
***Automated Electro Chemistry Analyzer***

pH Measurement

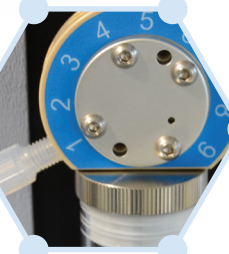
pH Adjustment

pH End-Point Titration: Alkalinity and Acidity

Electro Conductivity Measurement



**SCP SCIENCE**  
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# Overview

## DESIGNED FOR pH - CONDUCTIVITY - ALKALINITY MEASUREMENTS WITHIN THE SAME VESSEL

The **TitreC** 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.

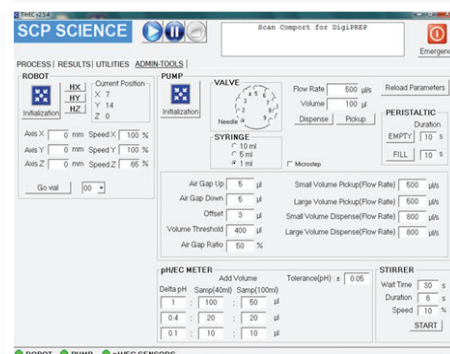
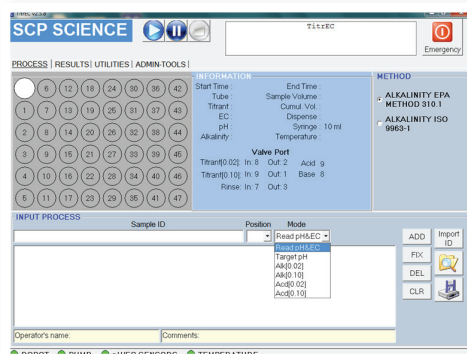
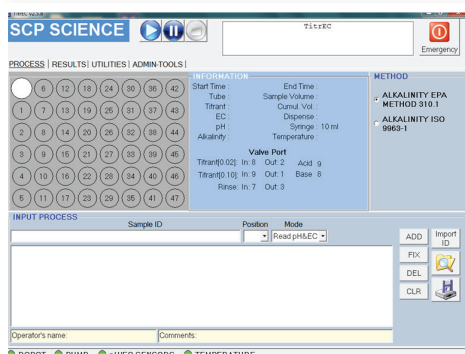
## TitreC IS DESIGNED FOR LABORATORY TESTING OF ENVIRONMENTAL SAMPLES

# Features

- **TitreC** features corrosion resistant components and is designed for long lasting laboratory operation:
  - Acid resistant housing and components
  - Acid and base dispensing using a chemical resistant ceramic switching valve in contact with reagents
  - Electronic cards with special coating to prevent corrosion
- 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

# Software Features

- Load pre-saved methods for fast set-up of routine operations
- Flexible method building
- Real-time visualization of run status
- Allows simultaneous multi-parameter analysis
  - pH, conductivity, alkalinity and acidity measurements on the same sample
  - pH adjustments as part of sample preparation steps
- Preconfigured and adjustable parameters for alkalinity analysis
  - Allows quick and easy setup according standard methods
  - US EPA 310.1
  - ISO 9963-1
- Intelligent titrant addition algorithm adjusts titrant volume based on sample response
- Dispense up to 2 titrants within a process
- Useful in alkalinity or acidity end point titration and pH adjustment applications
- Software-controlled pH equilibration time
- Measurements are taken once the electrode has stabilized
- Automatic temperature compensation for pH and conductivity measurements
- Temperature Compensation
  - Report conductivity and pH at 20°C, 25°C or other user-defined temperature
- Automatic rinsing of probes between each sample analysis
- Automatic real-time data export csv format
  - Allows to transfer data onto spreadsheets and LIMS
- Bar coding capability
- Load sample ID lists
- Software provides sample traceability



# 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 ml	Accuracy		Precision	
	± %	± µl <sup>a</sup>	± % <sup>b</sup>	± µl <sup>c</sup>
1	0.6	6.0	0.2	2.0
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

#### NOTES:

- 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.

## Specifications

### pH AND EC PROBE SPECIFICATIONS

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



## Performing ICP Analysis?

Benefit from the Sample Handler capabilities on your **TitreC** by adding the Sample Handler 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

# TitreC Ordering Information

## STEP 1 - ORDER INSTRUMENT

Description	Catalog #
<b>TitreC</b> (110V/230V), with software	010-410-001

## ITEMS INCLUDED IN THE BASIC CONFIGURATION

Description	Catalog #
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

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

## STEP 2 - SELECT DISPENSING PUMP

Description	Catalog #
*Syringe Pump, 1 ml, 5 ml, 10 ml, 25 ml	010-400-118
Syringe Pump, 50 ml	010-400-119
Syringe Pump for HF, 5 ml	010-400-109

\* Standard

## STEP 3 - SELECT CORRESPONDING DISPENSER

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

## ACCESSORIES

Description	Catalog #
Barcode reader, for rapid loading of sample identification	010-600-034
Sample Handler Accessory, for <b>TitreC</b> (see description page 3)	010-410-005
<b>AccuNORM</b> , 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 <b>TitreC</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	010-400-008

## TO LEARN MORE

Please contact one of our sales representatives at [sales@scpscience.com](mailto:sales@scpscience.com) or visit our website [www.scpscience.com](http://www.scpscience.com) or contact one of our regional offices below

## 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

## INSTRUMENT DIMENSIONS

Length	27.5"
Depth	24.25"
Height	24.25"

### CANADA / USA

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