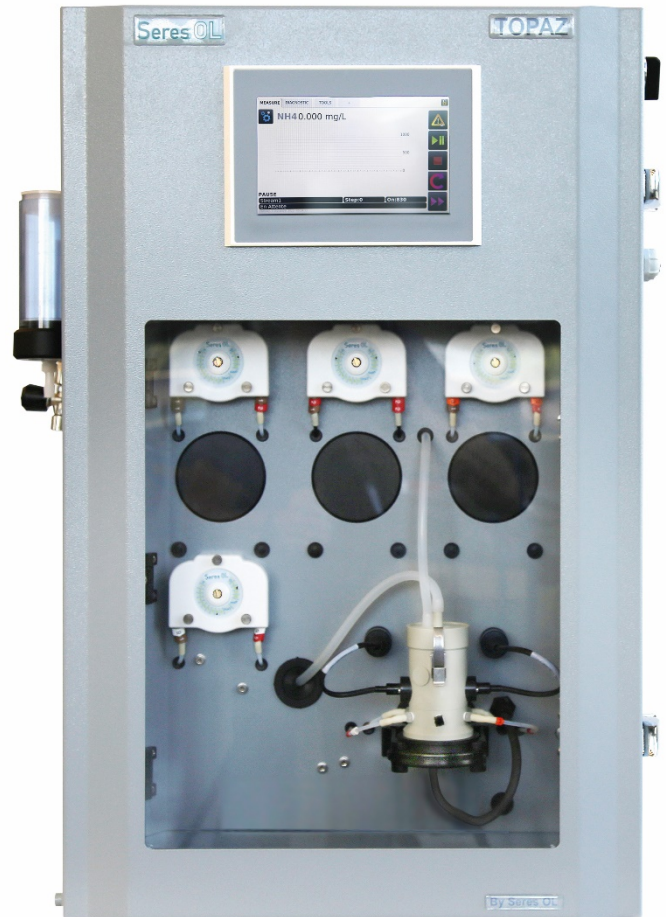


Complete monitoring system for the automatic, continuous measurement of total alkalinity TA in potable water, demin water production and process water.

## Analyzer Topaz Total Alkalinity (@ pH 4.3)

- For the continuous, acid-base titration online determination of alkalinity.
- Available in several measuring ranges:
  - 5 - 50 ppm CaCO<sub>3</sub> or
  - 10 - 200 ppm CaCO<sub>3</sub> or
  - 10 - 500 ppm CaCO<sub>3</sub>
- Complete system including measurement and control electronics, measuring unit, flow indicator, reaction chamber and reagent dosing system.
- Robust, high quality analyzer cabinet painted stainless steel, 316L.
- Automatic, electrical zero measurement prior to each measurement cycle.
- Automatic cell cleaning.
- 2 easily accessible peristaltic pump modules for accurate, automatic dosing of chemical reagents.
- 2 analog and 7 digital outputs for alarms for process values and diagnostic alarms for each sample stream.
- RS485 Modbus/JBUS RTU interface.
- Large back-lit touchscreen color LCD display for the reading of all measured values and status information simultaneously.
- Easy menu-guided operation in English or French.



Topaz Series Showcase

Analyzer	Topaz Total Alkalinity (@pH 4.3) (select range from below)	SOL-58.321.000
Range Selection	5-50 ppm CaCO <sub>3</sub>	Specify in Order
Range Selection	10-200 ppm CaCO <sub>3</sub>	Specify in Order
Range Selection	10-500 ppm CaCO <sub>3</sub>	Specify in Order
Configuration	2-Channel Setup (similar range)	SOL-83.590.020
Configuration	4-Channel Setup (similar range)	SOL-83.590.040
Configuration	6-Channel Setup (similar range)	SOL-83.590.060
Configuration	Ethernet Interface (TCP/IP)	SOL-81.410.020
Option	1-Year Spare Part Package "Basis" (Analyzer + 1 <sup>st</sup> channel)	SOL-84.110.130
Option	1-Year Spare Part Package "Multi-Channel" (add once if multi-channel config. was selected)	SOL-84.110.150
Option	Reagent shelf in SS316L	SOL-89.610.010

## Alkalinity Measurement

Acid-base titration method:

The TA is titled (complete alkalimetric title (OH<sup>-</sup>, CO<sub>3</sub><sup>2-</sup>, HCO<sub>3</sub><sup>-</sup>)) using sulfuric acid (concentration varies depending on the range) and a colored indicator, TAC indicator (pH turn 3.1-4.6).  
 Reaction time 6-10 min.

### Sensors/Measurement Equipment

Detection wavelength 583 nm  
 Temperature controlled measuring chamber

### Analyzer Measuring range

**Topaz Total Alkalinity** 10-500ppm CaCO<sub>3</sub>  
 LOD ≤10ppm

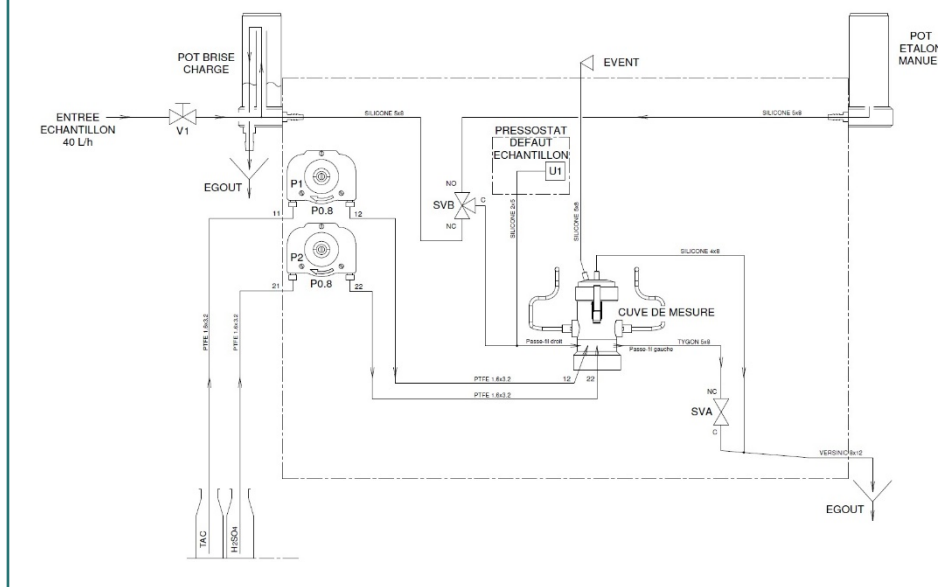
Repeatability < ± 5 % FS or ± 5ppm (whichever is greater)

Accuracy < ± 5 % FS or ± 5ppm (whichever is greater)

Automatic baseline adjustment.

Sample flow surveillance.

## Topaz Total Alkalinity Measurement Scheme



## Specifications and Functionality

Pump type peristaltic  
 Pump quantity 2

### Power supply

Voltage: 110 - 240 VAC  
 Frequency: 50 /60 Hz  
 Power consumption: Typical 150 VA, 300 max.

### Operation

Display: Color LCD, 7", touchscreen

Display of process value, alarm status and time during operation.

Smart and intuitive interface based on separate menu sections: "Measurement", "Diagnostic" and "Tools".

User menus in English and French.

Password protection and storage of data records. Storage and graphical display of measurement history.

### Alarm Relays

1 summary alarm for "analyzer failure"

Maximum load: 1A / 24 V

### Relay Outputs

2 potential-free contacts for each channel programmable as limit switches for measuring values (high/low thresholds)

1 sample flow alarm for each channel

1 output for indication of the active sample stream for each channel.

1 output for maintenance indication.

Rated load: 1A / 24 V

### Signal outputs

2 programmable signal outputs for measured values (freely scalable, linear).

Current loop: 4 - 20 mA

### Communication interface

RS485 interface (galvanically separated) with Modbus/JBUS RTU protocol included in standard.

Ethernet interface (TCP/IP) optional.

## Analyzer Data

### Sample conditions

Flow rate: min 30 l/h  
 optimum 40 l/h

Temperature: 5 to 40 °C

Inlet pressure<sub>Abs.</sub> (25 °C): 0.1 up to 2.0 bar

Outlet pressure: pressure-free

Particle size: < 20 µm

### Ambient Conditions

Temperature: 5 to 40 °C

Humidity: 10 to 80% rel.

### Sample connections

Sample inlet: 1/4" BSP F

Sample outlet: soft tubing D INT 9

Sample outlet waste: soft tubing D INT 12

Sample outlet (Multi-ch.) soft tubing D INT19

### Wall cabinet

Dimensions: 780 x 570 x 370 mm

Material: Stainless Steel 316L

Total weight: 35 kg

Protection degree: IP 55

## Reagent specifications

Type	Code
TAC Indicator	RXX175
Reagent Consumption	0.6l/month

Sulfuric Acid N/200 (50ppm) RXX174N\_005

Sulfuric Acid N/50 (200ppm) RXX174N\_02

Sulfuric Acid N/20 (500ppm) RXX174N\_05

Reagent Consumption (middle range)  
 10l/month (20l/month max.)