

Seres OL Analyzer Topaz Total Alkalinity (@ pH 4.3)

Datasheet No. DenSOL58321000



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

- For the continuous, acid-base titration online determination of alkalinity.
- Available in several measuring ranges:
 - 5 - 50 ppm CaCO₃ or
 - 10 - 200 ppm CaCO₃ or
 - 10 - 500 ppm CaCO₃
- 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 6 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.



Analyzer	Seres OL Topaz Total Alkalinity (@pH 4.3) (select range from below)	SOL-58.321.000
Range Selections	5-50 ppm CaCO ₃	Specify in Order
	10-200 ppm CaCO ₃	Specify in Order
	10-500 ppm CaCO ₃	Specify in Order
Configurations	2-Channel Setup (similar range)	SOL-83.590.020
	4-Channel Setup (similar range)	SOL-83.590.040
	6-Channel Setup (similar range)	SOL-83.590.060
	Ethernet Interface (TCP/IP) Please, inform SERES about automatic or fixed IP-address (give address)	SOL-81.410.020
Options	1-Year Spare Part Package "Basis" (Analyzer + 1 st channel)	SOL-84.110.130
	1-Year Spare Part Package "Multi-Channel" (add once if multi-channel config. was selected)	SOL-84.110.150
	Reagent shelf in SS316L	SOL-89.610.010

07/2022 Subject to changes without notice



Alkalinity Measurement

Acid-base titration method:
The TA is titled (complete alkalimetric title (OH-, CO₃²⁻, HCO₃⁻)) 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 CaCO₃
LOD ≤10ppm

LOD **ou 10-200ppm CaCO₃**
≤10ppm

LOD **ou 5-50ppm CaCO₃**
≤5ppm

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

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

Automatic baseline adjustment.
Sample flow surveillance.

Specifications and Functionality

Pump type peristaltic
Pump quantity 2

Power supply

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

Operation

Display: Color LCD, 7", touchscreen

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

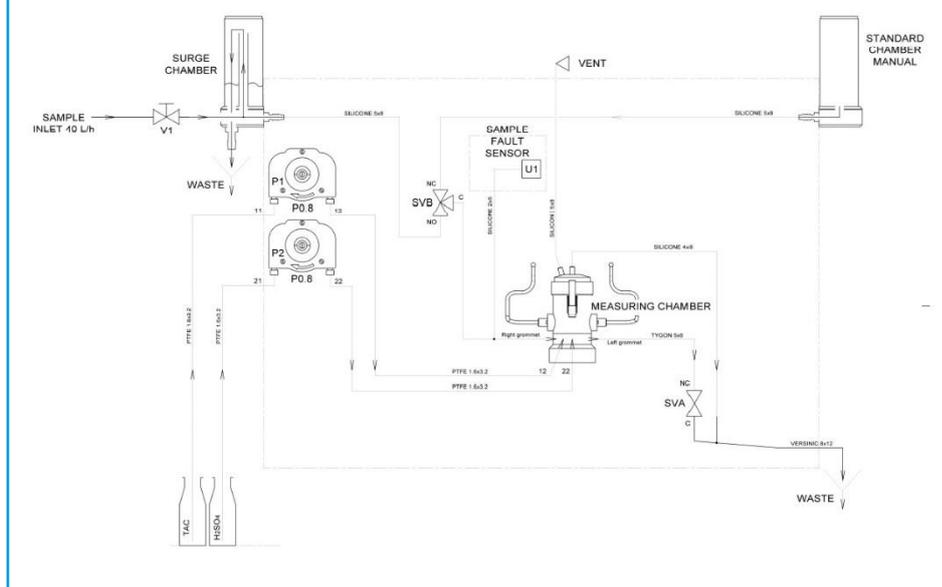
Smart and intuitive interface based on separate menu sections: "Measurement", "Diagnostic" and "Tools".

User menus in English and French.

Password protection and storage of data records.

Storage and graphical display of measurement history.

Seres OL Topaz Total Alkalinity Measurement Scheme



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 inputs

One input for "stop command end of cycle".

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_{Abs.} (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.

Installation in a closed, protected, tempered room is recommended

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.)

* storage : dry, cool, well ventilated

