

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 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.



Seres OL Topaz Series Showcase

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)	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

01/2022 Subject to changes without notice



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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

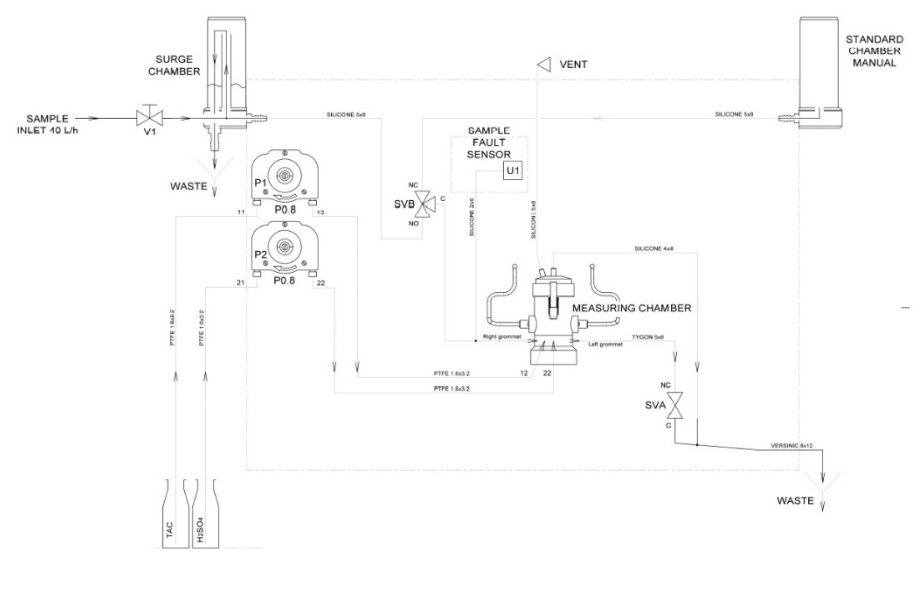
Repeatability < ± 5 % FS or ± 5ppm (whichever is greater)

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

Automatic baseline adjustment.

Sample flow surveillance.

Seres OL 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_{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.

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.)

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