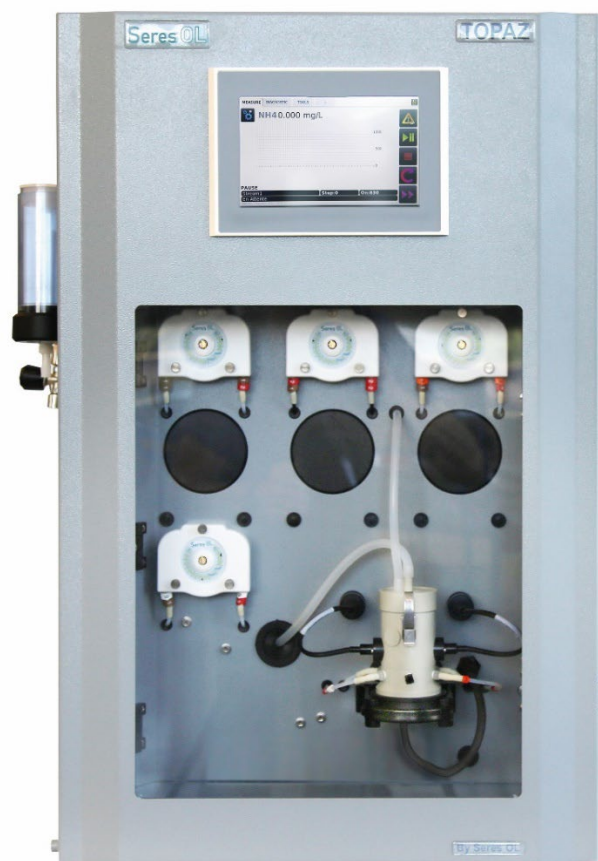


Complete monitoring system for the automatic, continuous measurement of silica in process water, surface water, wastewater and effluents.

- For the continuous, colorimetric online determination of Silica.
- Available in separate measuring ranges:
 - Seres OL Topaz Silica MR:** 0 to 20 ppm
 - Seres OL Topaz Silica HR:** 0 to 50 ppm
 - Seres OL Topaz Silica HRx2:** 0 to 100 ppm
- 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.
- 3 easily accessible peristaltic pump modules (4 for HRx2) 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.



Seres OL Topaz Series Showcase

Analyzer	Seres OL Topaz Silica MR (0-20ppm)	SOL-55.311.000
Analyzer	Seres OL Topaz Silica HR (0-50 ppm)	SOL-55.311.100
Configurations	Dilution (HRx2) (Range extension 0-100 ppm for Topaz Silica HR)	SOL-82.350.020
	2-Channel Setup (MR/HR only, similar range)	SOL-83.590.020
	4-Channel Setup (MR/HR only, similar range)	SOL-83.590.040
	6-Channel Setup (MR/HR only, 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-84.110.160
	1-Year Spare Part Package "Multi-Channel" (add once if multi-channel configuration was selected)	SOL-84.110.150
	Reagent shelf inf SS316L	SOL-89.610.010



Silica Measurement

Molybdate method; colorimetric determination of silica ions.

Reaction time 15 min.
Reaction time (HRx2) 17 min.

Sensors/Measurement Equipment

Detection wavelength (MR) 427 nm
Detection wavelength (HR/HRx2) 410 nm
Temperature controlled measuring chamber

Analyzer Measuring range

Analyzer	Measuring range
Topaz Silica MR	0-20 ppm
Limit of Detection	< 0.1 ppm
Repeatability	± 2 % FS
Accuracy	± 2 % FS
Topaz Silica HR	0-50 ppm
Limit of Detection	0.5 ppm
Repeatability	± 2 % FS
Accuracy	± 2 % FS
Topaz Silica HRx2	0-100 ppm
Limit of Detection	1 ppm
Repeatability	± 3 % FS
Accuracy	± 2 % FS

- Automatic baseline adjustment.
- Semi-automatic calibration function.
- Sample flow surveillance.

Specifications and Functionality

Pump type	peristaltic
Pump quantity (MR/HR)	3
Pump quantity (HRx2)	4

Power supply

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

Operation

Display: Color LCD, 7", touchscreen

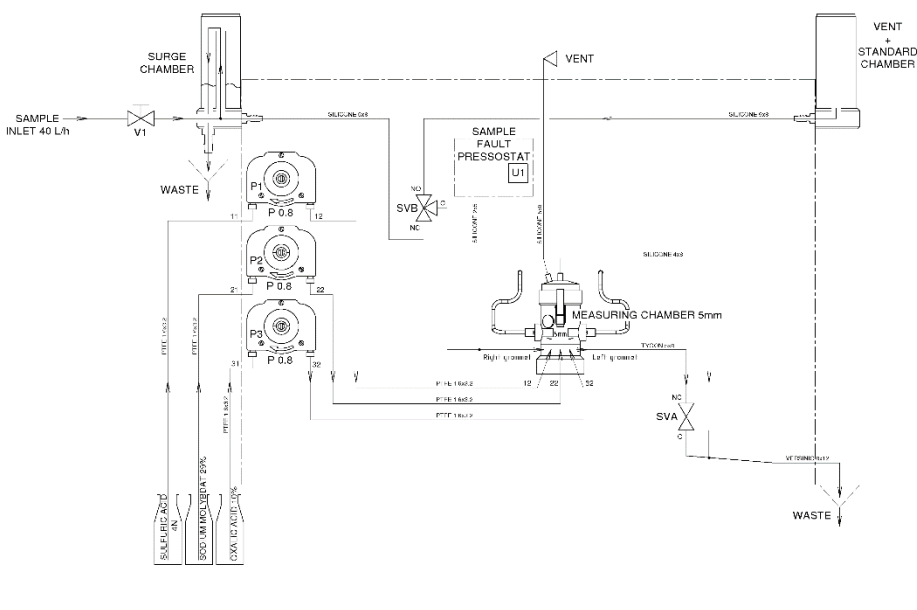
Display of process value, alarm status and time during operation.

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.

Seres OL Topaz Silica HR 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 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 for sample:	min 30 l/h opt. 40 l/h 5 to 40 °C
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.
Storage of reagents:	Store between 10 - 30°C

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 INT 19

Wall cabinet

Dimensions:	780 x 570 x 370 mm
Material:	Stainless Steel 316L
Total weight:	35 kg
Protection degree:	IP 55

Reagent specifications Analyzer Silica MR

Type	Code
Sulfuric acid 2N	RXX159
Oxalic Acid 10%	RXX165
Reagent Consumption	0.6l/month
Sodium Molybdate 12%	RXX170
Reagent Consumption	1.2l/month

Reagent specifications Analyzer Silica HR/HRx2

Type	Code
Sulfuric acid 4N	RXX158
Sodium Molybdate 29%	RXX116G290
Oxalic Acid 10%	RXX165
Reagent Consumption	1.1l/month

Deionized Water (Dilution - Silica HRx2)
Consumption max 30l/month

