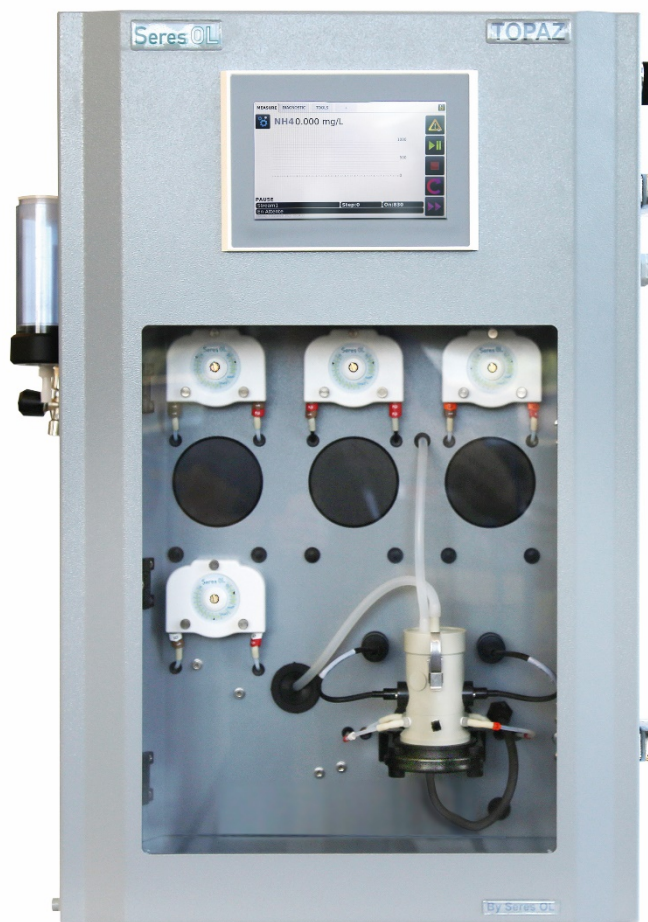


Complete monitoring system for the automatic, continuous measurement of silica in process water, surface water, wastewater and effluents.

Analyzer Topaz Silica

- For the continuous, colorimetric online determination of Silica.
- Available in separate measuring ranges:
 - Topaz Silica MR:** 0 to 20 ppm
 - Topaz Silica HR:** 0 to 50 ppm
 - 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.



Topaz Series Showcase

Analyzer	Topaz Silica MR	(0-20ppm)	SOL-55.311.000
Analyzer	Topaz Silica HR	(0-50 ppm)	SOL-55.311.100
Configuration	Dilution (HRx2)	(Range extension 0-100 ppm for Topaz Silica HR)	SOL-82.350.020
Configuration	2-Channel Setup	(MR/HR only, similar range)	SOL-83.590.020
Configuration	4-Channel Setup	(MR/HR only, similar range)	SOL-83.590.040
Configuration	6-Channel Setup	(MR/HR only, similar range)	SOL-83.590.060
Configuration	Ethernet Interface (TCP/IP)		SOL-81.410.020
Option	1-Year Spare Part Package "Basis" (Analyzer + 1 st channel)		SOL-84.110.160
Option	1-Year Spare Part Package "Multi-Channel" (add once if multi-channel configuration was selected)		SOL-84.110.150
Option	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

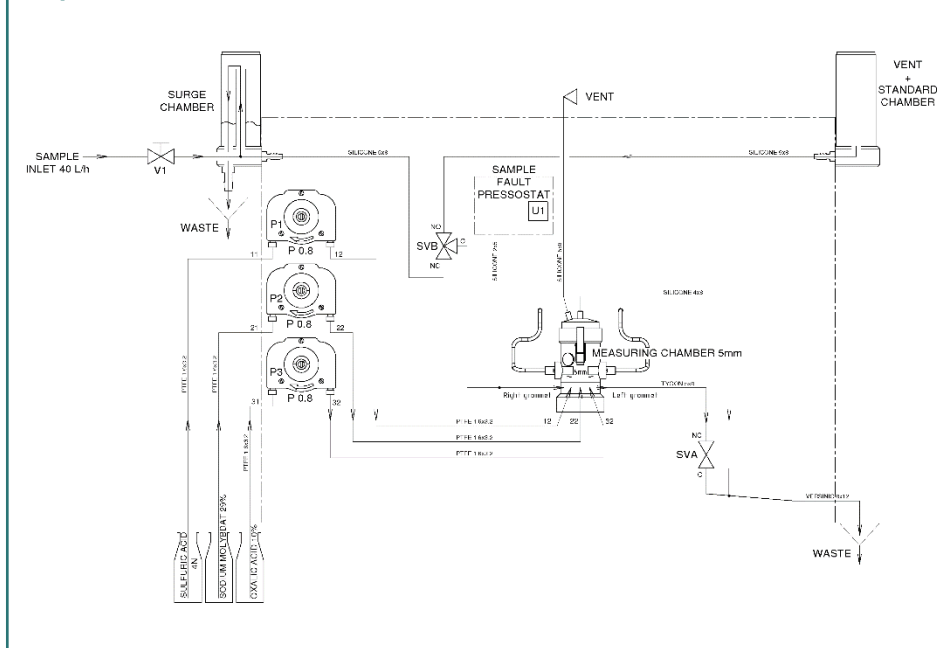
Display of process value, alarm status and time during operation.

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.

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