

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

- 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.



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)	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-84.110.160
	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

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.

Manual/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:	max. 300 VA

Operation

Display:	Color LCD, 7", touchscreen
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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.

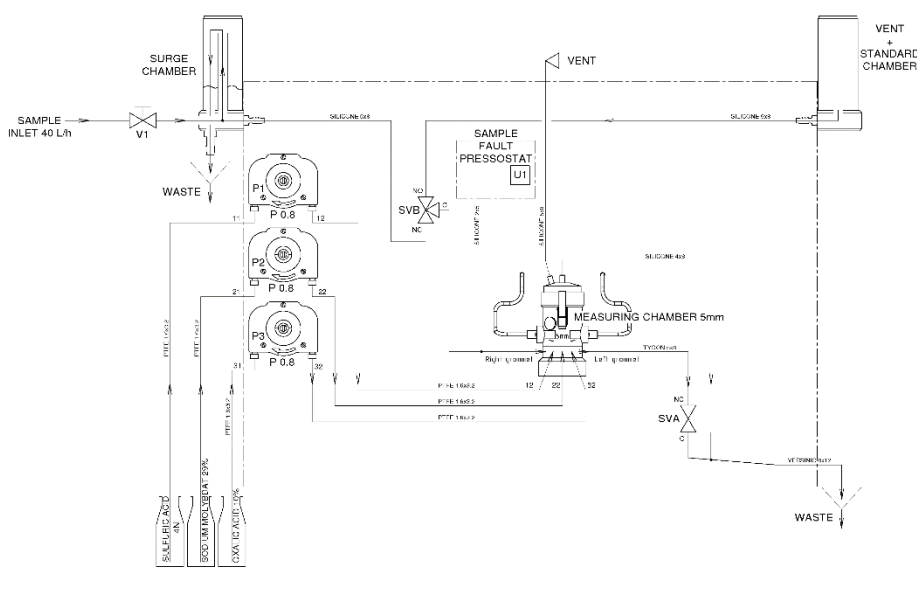
Storage and graphical display of measurement history.

Alarm Relays

1 summary alarm for "analyzer failure"

Maximum load: 1A / 24 V

Seres OL Topaz Silica HR Measurement Scheme



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.

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

*storage : dry, cool, well ventilated

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.
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 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 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

