

Complete monitoring system for the automatic, continuous measurement of dissolved iron Fe (II+III) in potable water, surface water, wastewater and effluents.

- For the continuous, colorimetric online determination of dissolved iron Fe (II+III) per ISO 6332:1988, DIN 38406-E1-1 and NF T90 017.

- Available in separate measuring ranges:

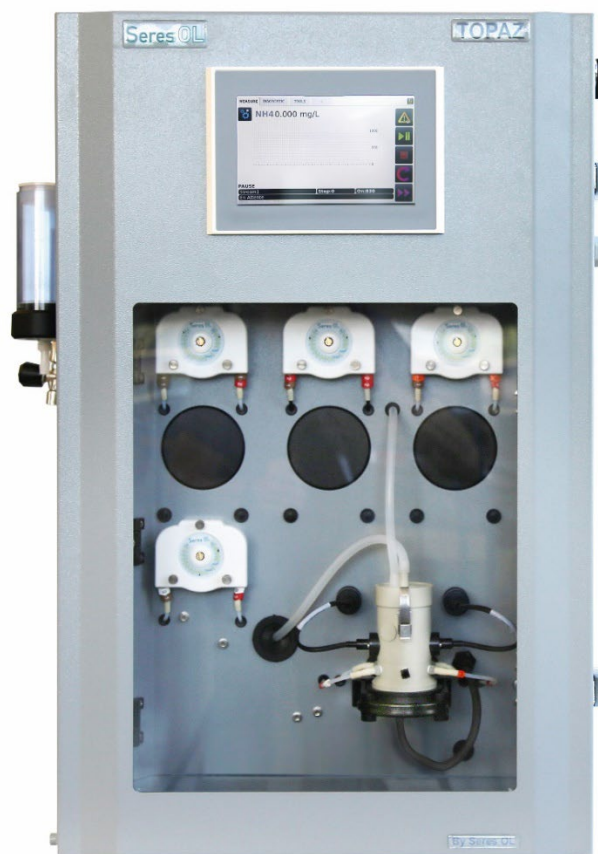
Seres OL Topaz Iron LR:

- 0 - 100 ppb or
- 0 - 1000 ppb

Seres OL Topaz Iron HR:

- 0 - 2 ppm or
- 0 - 5 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 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 Iron LR (0 - 100 ppb or 0 - 1000 ppb)	SOL-55.331.000
Analyzer	Seres OL Topaz Iron HR (0 - 2 ppm or 0 - 5 ppm)	SOL-55.331.100
Configurations	2-Channel Setup	SOL-83.590.020
	4-Channel Setup	SOL-83.590.040
	6-Channel Setup	SOL-83.590.060
	Ethernet Interface (TCP/IP)	SOL-81.410.020
Options	1-Year Spare Part Package "Basis" (Analyzer + 1 st channel)	SOL-84.110.080
	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



Iron Measurement

Colorimetric method; in a medium buffered to pH 4.6, iron III is reduced to iron II. Phenanthroline then forms a complex with iron II of red color which is detected by the analyzer.
 Reaction time 15-18 min.

Sensors/Measurement Equipment

Detection wavelength 470 nm
 Temperature controlled measuring chamber

Analyzer Measuring range

Topaz Iron LR	0-100 or 0-1000 ppb
Limit of Detection	8 ppb
Repeatability	< ± 2 % FS or ± 0.008ppm (whichever is greater)
Precision	< ± 2 % FS or ± 0.008ppm (whichever is greater)

Topaz Iron HR

0-2 or 0-5 ppm	
Limit of Detection	8 ppb
Repeatability	< ± 2 % FS
Precision	< ± 2 % FS

Automatic baseline adjustment.
 Sample flow surveillance.

Specifications and Functionality

Pump type peristaltic
 Pump quantity 3

Power supply

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

Operation

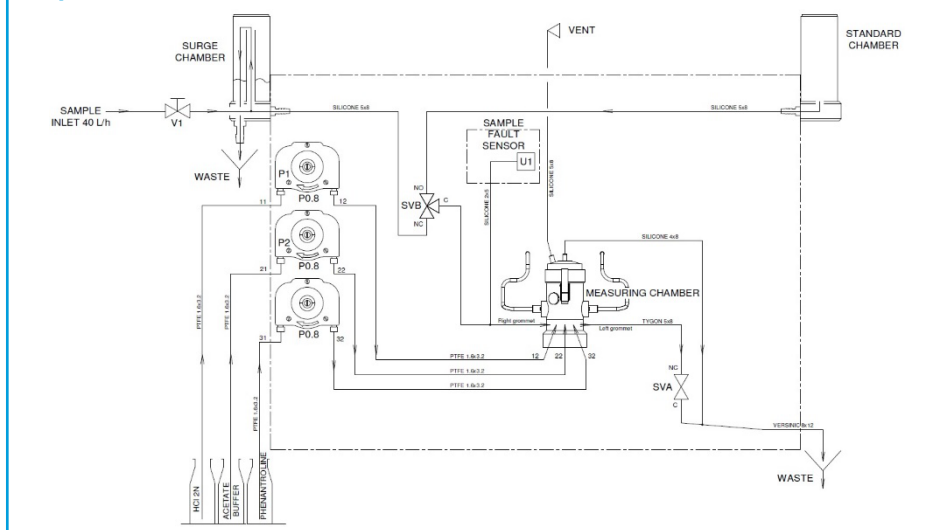
Display: Color LCD display, 7", touchscreen
 Display of process value, alarm status and time during operation.

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 Iron 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: 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 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

Type	Code
pH buffer acetate pH 4.5	RXX237
Reagent Consumption LR/HR	0.6l/month

Phenanthroline 1.10	RXX151
Reagent Consumption LR	1.6 l/month
Reagent Consumption HR	2.4 l/month

Topaz Iron LR

Hydrochloric acid 2N + 0.4mg/l iron	RXX153MI400
Reagent Consumption	0.6l/month

Topaz Iron HR

Hydrochloric acid 2N	RXX150
Reagent Consumption	0.6l/month

