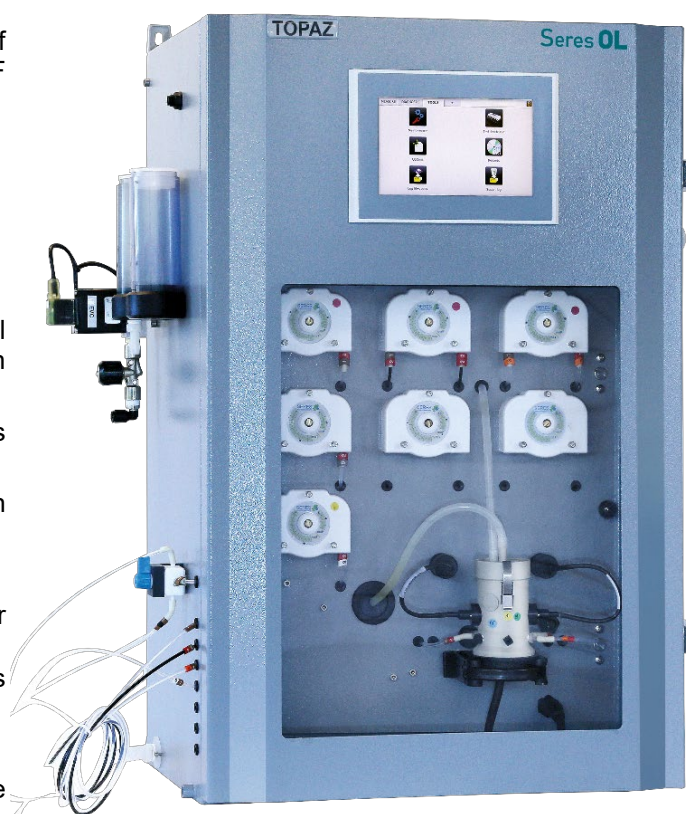


Complete monitoring system for the automatic, continuous measurement of total iron Fe in potable water, surface water, wastewater and effluents.

## Analyzer Topaz Total Iron

- For the continuous, colorimetric online determination of total iron per ISO 6332:1988, DIN 38406-E1-1 and NF T90 017.
- Available in separate measuring ranges:
 

<b>Topaz Total Iron LR:</b>	0 - 100 ppb	or
	0 - 1000 ppb	
<b>Topaz Total Iron HR:</b>	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.



Topaz Series Showcase

<b>Analyzer</b>	<b>Topaz Total Iron LR</b> (0 - 100 ppb or 0 - 1000 ppb)	<b>SOL-55.331.000</b>
<b>Analyzer</b>	<b>Topaz Total Iron HR</b> (0 - 2 ppm or 0 - 5 ppm)	<b>SOL-55.331.100</b>
Configuration	2-Channel Setup	SOL-83.590.020
Configuration	4-Channel Setup	SOL-83.590.040
Configuration	6-Channel Setup	SOL-83.590.060
Configuration	Ethernet Interface (TCP/IP)	SOL-81.410.020
Option	1-Year Spare Part Package "Basis" (Analyzer + 1 <sup>st</sup> channel)	SOL-84.110.080
Option	1-Year Spare Part Package "Multi-Channel" (add once if multi-channel config. was selected)	SOL-84.110.150
Option	Reagent shelf in SS316L	SOL-89.610.010

## Total 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 Total Iron LR** 0-100 or 0-1000 ppb  
Limit of Detection 8 ppb  
Repeatability  $< \pm 2\%$  FS or  $\pm 0.008$ ppm (whichever is greater)  
Precision  $< \pm 2\%$  FS or  $\pm 0.008$ ppm (whichever is greater)

**Topaz Total Iron HR** 0-2 or 0-5 ppm  
Limit of Detection 8 ppb  
Repeatability  $< \pm 2\%$  FS  
Precision  $< \pm 2\%$  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", touch-screen

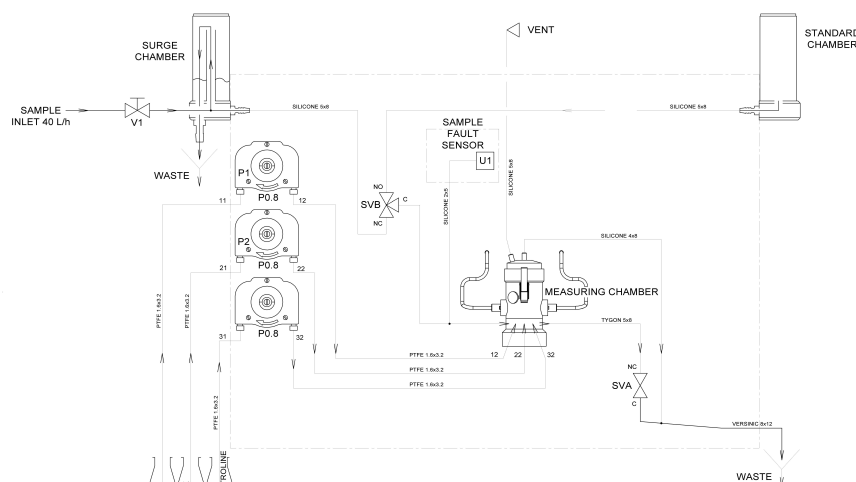
Display of process value, alarm status and time during operation.

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 Total 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<sub>Abs.</sub> (25 °C): 0.1 up to 2.0 bar  
Outlet pressure: pressure-free  
Particle size:  $< 20\ \mu\text{m}$

### 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

### 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 Total Iron LR

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

### Topaz Total Iron HR

Hydrochloric acid 2N	RXX150
Reagent Consumption	0.6l/month