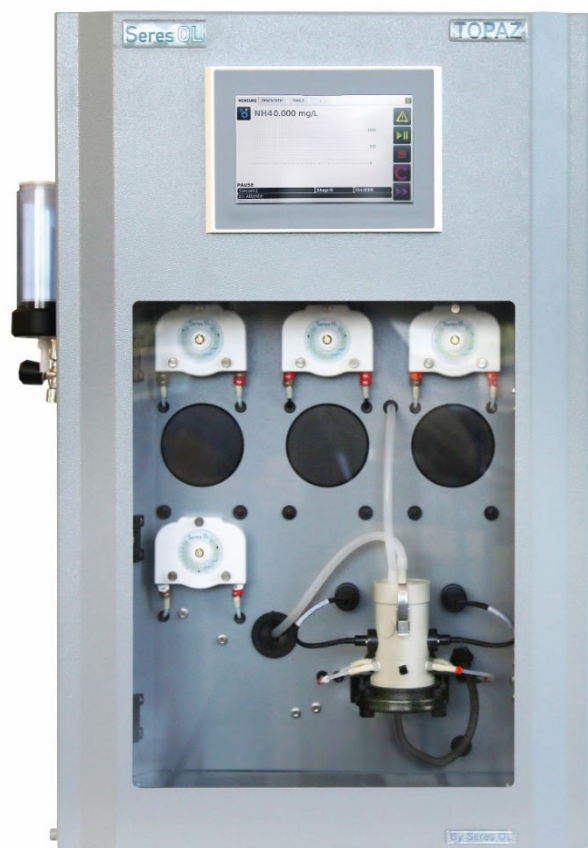


Complete monitoring system for the automatic, continuous measurement of ammonium NH₄⁺ in potable water, surface water, wastewater and effluents.

- For the continuous, colorimetric online determination of ammonium per EN-ISO 7150/1:1984, DIN 38406-E5-1 and T90-015.
- Available in separate measuring ranges:
 - Seres OL Topaz Ammonium LR:** 0 to 500 ppb
 - Seres OL Topaz Ammonium HR:** 0 to 2 ppm
 - Seres OL Topaz Ammonium HRx25:** 0 to 50 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.
- 4 easily accessible peristaltic pump modules (5 for HRx25) 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 Ammonium LR (0-500 ppb)	SOL-55.321.000	
Analyzer	Seres OL Topaz Ammonium HR (0-2 ppm)	SOL-55.321.100	
Configurations	Dilution (HRx25)	Range extension: 0-50 ppm for Topaz Ammonium HR)	SOL-82.350.010
	2-Channel Setup	(LR/HR only, similar range)	SOL-83.590.020
	4-Channel Setup	(LR/HR only, similar range)	SOL-83.590.040
	6-Channel Setup	(LR/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-84.110.050
	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



Ammonium Measurement

Indophenol method; colorimetric determination of ammonium ions after chemical reaction in an alkaline environment.

Reaction time LR/HR 15 min.
Reaction time HRx25 17 min.

Sensors/Measurement Equipment

Detection wavelength 660 nm
Temperature controlled measuring chamber

Analyzer Measuring range

Topaz Ammonium LR **0-500 ppb**
Limit of Detection 15 ppb
Repeatability 2% FS
Accuracy 3% FS

Topaz Ammonium HR **0-2 ppm**
Limit of Detection 0.1 ppm
Repeatability $\pm 2\%$ or ± 0.06 ppm (whichever is greater)
Accuracy $\pm 2\%$ or ± 0.06 ppm (whichever is greater)

Topaz Ammonium HRx25 **0-50 ppm**
Limit of Detection < 0.5 ppm
Repeatability < $\pm 3\%$ FS
Accuracy < $\pm 3\%$ FS

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

Specifications and Functionality

Pump type peristaltic
Pump quantity LR/HR 4
Pump quantity HRx25 5

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

Operation
Display: Color LCD, 7", touch-screen

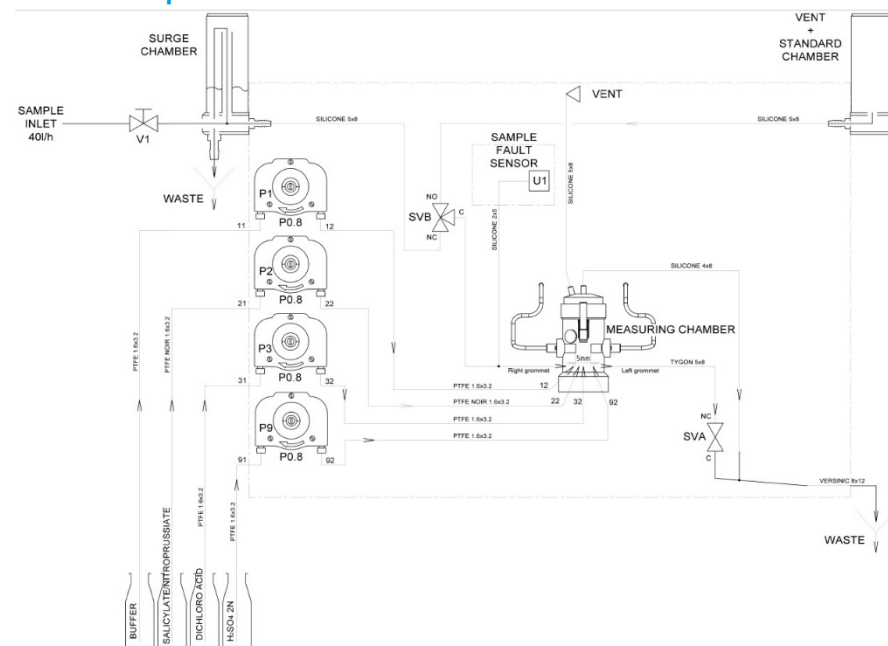
Display of process value, alarm status and time during operation.

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.

Seres OL Topaz Ammonium 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
Flow rate for sample dilution: min 30 l/h
opt. 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 Solution (pH12)	RXX113
Salicylate / Nitroprussiate	RXX115
Dichloroisocyanuric acid	RXX111
Sulfuric acid 2N	RXX159
Reagent Consumption	1.1 l/month
Deionized Water (Dilution – Ammonium HRx25)	
Consumption	max. 130 l/day

