Seres OL Analyzer Topaz Ammonium

Datasheet No. DenSOL55321x00

Complete monitoring system for the automatic, continuous measurement of ammonium NH_4+ in potable water, surface water, wastewater and effluents.

- For the continuous, colorimetric online determination of ammonium per **EN-ISO 7150/1**, **DIN 38406-E5-1** and **T90-015**.
- Available in separate measuring ranges:

Topaz Ammonium LR:	0 to	500	ppb
Topaz Ammonium HR:	0 to	2	ppm
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 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.

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)	Please, inform SERES about automatic or fixed IP-address (give address)	SOL-81.410.020
Options	1-Year Spare Part Package "Basis" (Analyzer + 1st 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

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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	± 2 % or ± 0.06 ppm (whichever is greater)
Accuracy	± 2 % or ± 0.06 ppm (whichever is greater)
Topaz Ammonium HRx25	**0-50 ppm**
Limit of Detection	< 0.5 ppm
Repeatability	< ± 3 % FS
Accuracy	< ± 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:	max. 300 VA

Operation

Display:	Color LCD, 7", touch-screen

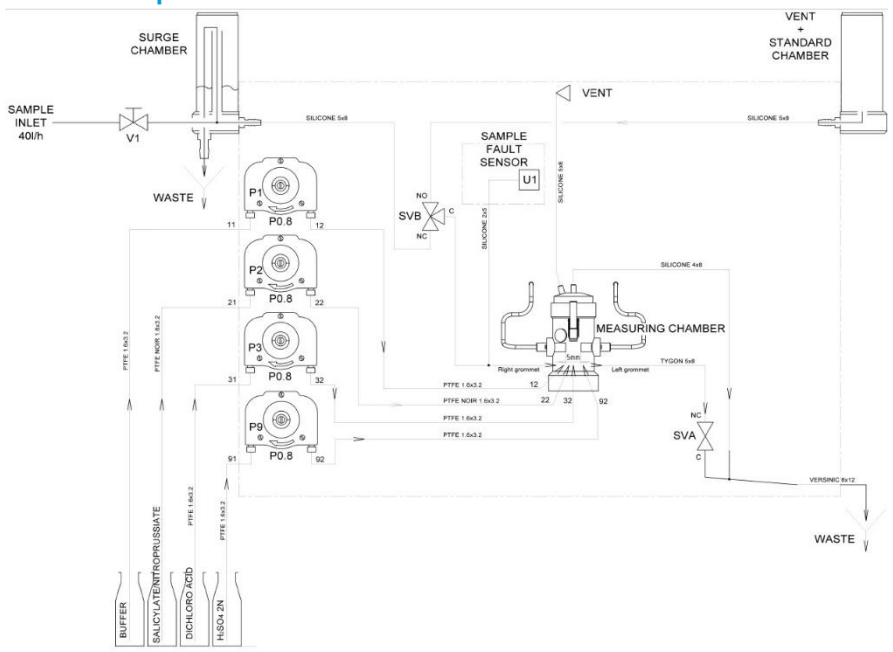
Display of process value, alarm status and time during operation.

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 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.

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. 40l/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.

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*

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

** storage : dry, cool, well ventilated*