Seres OL Analyzer Topaz Manganese Mn (II)

Datasheet No. DenSOL55331x00

Complete monitoring system for the automatic, continuous measurement of Manganese Mn (II) in potable water, surface water, wastewater and effluents.

- For the continuous, colorimetric online determination of Manganese Mn (II).
- Available in separate measuring range configurations:

  Topaz Manganese Mn (II) LR:
  0-100 ppb or 0-200 ppb

  Topaz Manganese Mn (II) HR:
  0-1 ppm or 0-2 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.
- 6 easily accessible peristaltic pump modules 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 Manganese LR**	(0-100 ppb or 0-200 ppb)	**SOL–55.331.400**
Analyzer	**Seres OL Topaz Manganese HR**	(0-1 ppm or 0-2 ppm)	**SOL–55.331.500**
Range Selection	0-100 ppb or 0-200 ppb	(requires Seres OL Topaz Manganese LR)	Consult Sales
	0-1 ppm or 0-2 ppm	(requires Seres OL Topaz Manganese HR)	Consult Sales
Configurations	2-Channel Setup	(similar range)	SOL-83.590.020
	4-Channel Setup	(similar range)	SOL-83.590.040
	6-Channel Setup	(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-84.110.140
	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

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Manganese Measurement

Colorimetric method;
Formation of a PAN-Manganese complex and dissolution of this complex with the Triton solution.
Reaction time 8-10 min.

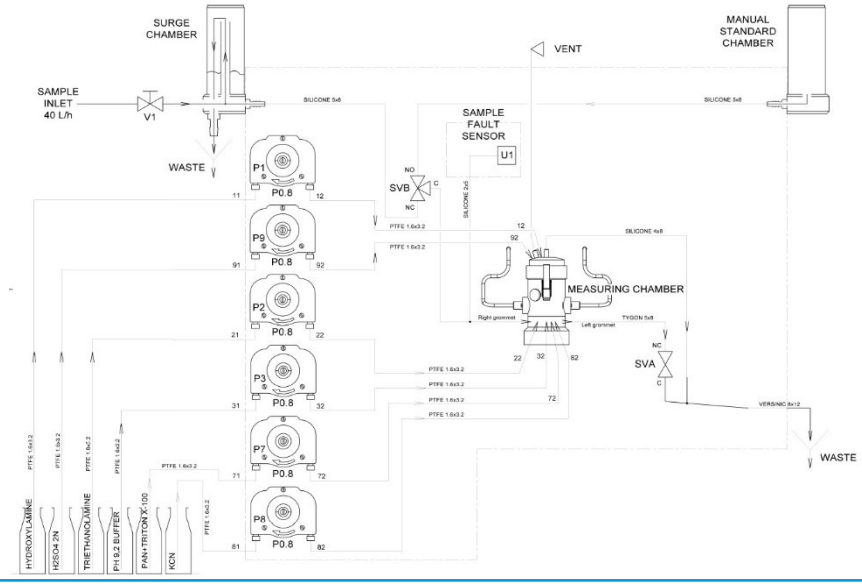
Sensors/Measurement Equipment
Detection wavelength 565 nm
Temperature controlled measuring chamber

Analyzer	Measuring range
Topaz Manganese LR	**0-100 or 0-200 ppb**
Limit of Detection	11 ppb
Repeatability	< ± 2 % FS
Precision	< ± 3 % FS
Topaz Manganese HR	**0-1 or 0-2 ppm**
Repeatability	< ± 2 % FS
Precision	< ± 3 % FS

Automatic baseline adjustment.

Sample flow surveillance.

Seres OL Topaz Manganese Measurement Scheme



Specifications and Functionality

Pump type peristaltic
Pump quantity 6

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.

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.

Reagent specifications* Analyzer Manganese LR

Type	Code
Hydroxylamine Chlorhydrate 100g/L + 1.0mg/l Mn	RXX221MN
Reagent Consumption	2.6 l/month
Triethanolamine 20%	RXX222
Buffer Ammonicacal pH 9.2	RXX223
H_2SO_4 2N	RXX159
Potassium cyanide	RXX224
Reagent Consumption (each)	2.6 l/month
Pan + Triton X-100	RXX265
Reagent Consumption LR	1l/month

** storage : dry, cool, well ventilated*

Analyzer Data

Sample conditions
Flow rate: 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.
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-channel: 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 Manganese HR

Type	Code
Hydroxylamine Chlorhydrate 100g/L	RXX221
Reagent Consumption	2.6 l/month
Triethanolamine 20%	RXX222
Buffer Ammonicacal pH 9.2	RXX223
H_2SO_4 2N	RXX159
Potassium cyanide	RXX224
Reagent Consumption (each)	2.6 l/month
Pan + Triton X-100	RXX265
Reagent Consumption HR	2.6 l/month