

Complete monitoring system for the automatic, continuous measurement of Total Organic Carbon (TOC) and in potable water and return condensate.

Analyzer TOC Evolution VUV

- Available configurations for specific measuring ranges:
 - Low-range** 0 to 2 ppm LOD: 0.01 ppm
 - Mid-range** 0 to 10 ppm LOD: 0.1 ppm
 - High-range** 0 to 100 ppm LOD: 0.5 ppm
- Complete system including measurement and control electronics, measuring unit, flow indicator, oxidation reactor and reagent dosing system.
- For the continuous online determination of TOC per ISO 8245 and NFEN 1484
- Robust, high quality analyzer cabinet painted stainless steel, 316.
- Analysis time 5 to 10 minutes, programmable interval
- Determination of chemical oxygen demand (COD) by correlation.
- Automatic, electrical zero measurement prior to each measurement cycle.
- Automatic cell cleaning.
- 2 analog and 4 digital outputs for alarms for process values and diagnostic alarms for each sample stream.



TOC Evolution VUV

Analyzer	TOC Evolution VUV (select range below)		SOL-59.110.000
Range Configuration	0-2 ppm	Limit of Detection (LOD): 0.01 ppm	SOL-97.022.010
Range Configuration	0-10 ppm	Limit of Detection (LOD): 0.1 ppm	SOL-97.022.020
Range Configuration	0-100 ppm	Limit of Detection (LOD): 0.5 ppm	SOL-97.022.030
Configuration	110 VAC		SOL-89.820.030
Configuration	RS485 Modbus/JBUS Output		SOL-81.420.010
Configuration	Ethernet Interface (TCP/IP) Mention at order: automatic or fixed IP-address		SOL-81.420.020
Configuration	Tangential filtration	Setup: single-channel Requirements: Air supply: 7 bar, clean and dry air Sample flow: 200-500l/h, 0.5 to 1 bar	SOL-82.830.020 Consult Sales
Configuration	Auto-calibration		SOL-83.520.010
Configuration	COD indication on display by correlation		Consult Sales
Configuration	2 nd -channel setup (similar range)		SOL-83.590.010
Option	1-Year Spare Part Package "Basis" (Analyzer + 1 st channel)		SOL-84.110.010
Option	1-Year Spare Part Package "Multi-Channel" (add once if multi-channel config. was selected)		SOL-84.110.020
Option	SS316L reagent shelf		SOL-89.610.010

TOC Measurement

UV/VUV + Persulfate advanced oxidation process; By purging the sample after adding acid, the IC is converted to CO2 and completely extracted from the sample. The sample is injected into the oxidation reactor. UV directly oxidizes the organic matter which turns into CO2. The CO2 produced is then detected by an NDIR detector (non-dispersive infra-red).

Reaction time 5-10 min.

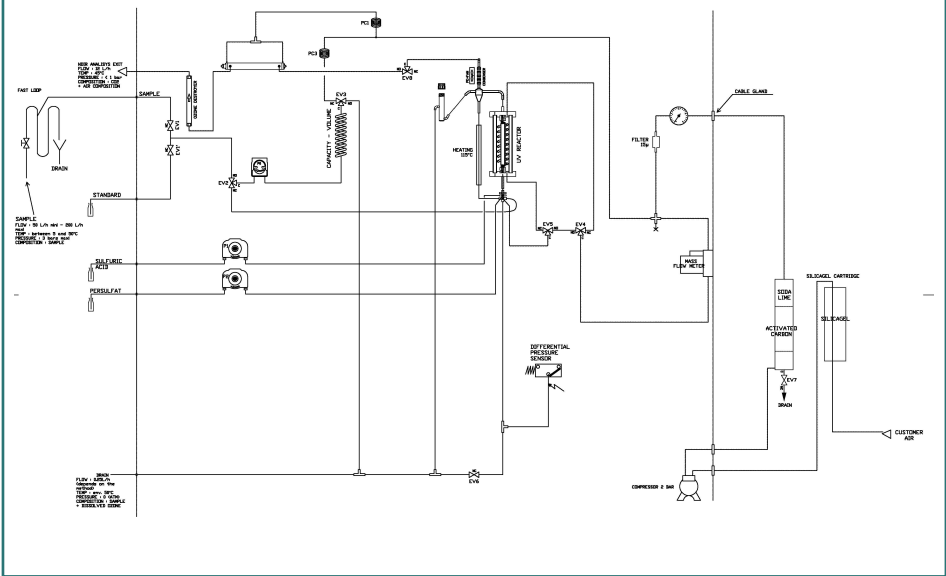
Sensors/Measurement Equipment
Oxidation reactor with VUV lamp
NDIR detector

Analyzer	Measuring range
Low-range configuration	0-2 ppm
Limit of Detection	0.01 ppm
Repeatability	± 2 % FS
Accuracy	± 3 % FS
Mid-range configuration	0-10 ppm
Limit of Detection	0.1 ppm
Repeatability	± 2 % FS
Accuracy	± 3 % FS
High-range configuration	0-100 ppm
Limit of Detection	0.5 ppm
Repeatability	± 2.5 % FS
Accuracy	± 3 % FS
Automatic baseline adjustment.	
Sample flow surveillance.	

Specifications and Functionality

Pump type	peristaltic
Pump quantity	2
Power supply	
Voltage:	110 (configuration) or 230 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: "Measure", "Diagnostic" and "Tools".	
User menus in English and French.	
Password protection and storage of data records. Storage and graphical display of measurement history.	

TOC Evolution VUV 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	

On request only:	
1 output "End of cycle indication" of the active sample stream for each channel. Replaces output "Threshold No. 2".	
On request only:	
1 output for maintenance/calibration indication. For auto-calibration [SOL-83.520.010] only. Replaces output "Threshold No. 2".	
Rated load:	1A / 24 V
Signal inputs (on request only)	
1 input for "Command of stopping at 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.	
Ethernet interface (TCP/IP) optional.	

Analyzer Data

Sample conditions (standard configuration)	
Flow rate:	min 40 l/h optimum 50 l/h
Temperature:	5 to 50 °C
Inlet pressureAbs. (25 °C):	0.1 up to 3.0 bar
Outlet pressure:	pressure-free
Particle size:	< 100 µm
Ambient Conditions	
Temperature:	5 to 40°C
Humidity	5 to 95% rel. (without condensation)
Sample connections	
Sample inlet:	1/4"BSP F
Sample inlet with tangential filtration	D 12 pipe
Sample outlet:	soft tubing D INT 9
Sample outlet (fast loop):	soft tubing D INT 18
Sample outlet waste:	soft tubing D INT 12
Sample outlet (Multi-channell)	soft tubing D INT 19
Wall cabinet	
Dimensions:	993 x 600 x 422 mm
Material:	Stainless Steel 316
Total weight:	80 kg
Protection degree:	IP 55
Reagent specifications	
Type	Code
Sodium Peroxodisulfate 250g/l	R0x208G250
Reagent Consumption:	
Low-Mid Range	1.5 l/month
High Range	3l/month
Sulfuric Acid 2N (H2SO4 2N)	R0x159
Reagent Consumption	1.5l/month