INDUSTRIAL AND SURFACE WATER MONITORING

AQUAGAS MONITORING SYSTEMS

TOC EVOLUTION Online TOC Analysers

Description

The TOC Evolution from SERES is designed for automatic and continuous monitoring of a **True Total Organic Carbon** in a wide range of applications including Environmental Monitoring and Industrial Process Control.

The TOC Evolution features an innovative, powerful and multifunctional UV oxidation reactor enabling accurate monitoring of **Volatile Organic Compounds** (VOC), **Non-Purgeable Organic Carbons** (NPOC) and **Total Inorganic Carbons** (TIC) in any type of water.

Applications

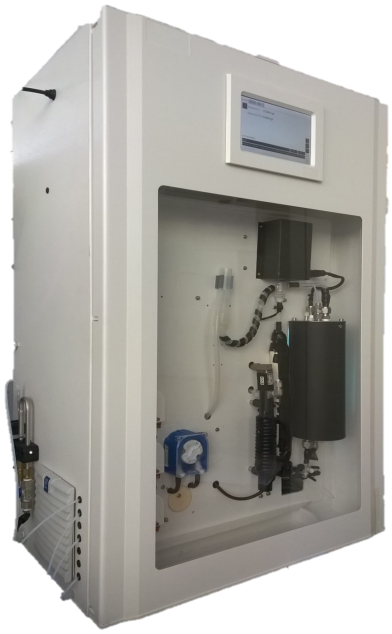
Control of industrial process: Water Treatment Plant (urban and industrial), effluents and influents continuous monitoring, compliance with environmental regulations and guidelines.

Drinking and Surface water: Alert stations and environmental monitoring.

Water treatment: Pure water production, demineralised water plant, condensate water, steam production, etc....

Oil & Gas: refineries, oil exploration.

True TOC analyser



SERES environnement

Key functions for enhanced monitoring

- EXCLUSIVE FEATURES
  - COMPACT ENCLOSURE EASY TO INSTALL, OPERATE AND MAINTAIN
  - LOW OPERATION COST
  - QUICK RESPONSE TIME AND HIGH ANALYTICAL PERFORMANCES
  - USER PROGRAMMABLE SAMPLING SEQUENCES
  - RELIABLE AND ACCURATE TOC MONITORING SOLUTIONS
- TRUE TOC MONITORING
  - Volatile Organic Compounds (VOC)
  - Non-Purgeable Organic Carbons (NPOC)
  - Total Inorganic Carbons (TIC)
- OPTIONS
  - Total Phosphorus (TP)
  - Total Nitrogen (TN) and/or Dissolved Organic Carbon (DOC)

Fully automated online analyser

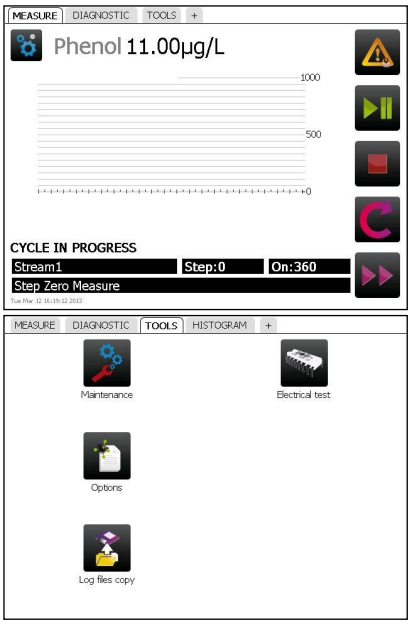
User interface smart & intuitive touchscreen interface allowing analyser controls and status reports.

Measurement - Reactor New **SERES patented high performance multifunctional reactor** providing powerful and efficient oxidation. Its stripping function enables ultra-fast and optimal transfer of CO2. **Enhanced NDIR detection** Integral optical system for accurate, continuous and online IR measurement.

JBus/ModBus module retrieval data / steering

Low Operating cost Minimum reagents' consumption

Multi-stream 1 to 6 channels multiplexer



Technical Specifications

CONSTRUCTION & ENVIRONMENT

Dimensions	Wall cabinet stainless steel: 900 x 600 x 300 mm (W x H x D) - ATEX version available.
Weight & Material	60 kg approx.
Environment & Protection	Installation in safe and sheltered area, away from corrosive atmosphere. IP55.
Ambient T°	5 to 40°C and less than 25°C for the reagents
Relative humidity	5 to 85% without condensation

ELECTRICAL UTILITIES

Power supply	110 - 240 VAC 50 / 60 Hz
Consumption	Typical 150 VA - Maximum 330 VA

ANALYSIS

Parameters	TOC (NPOC), optional VOC (for True TOC) and TIC
Range	From 0-10mg/l to 0-5g/l (user selectable)
Optional parameters	TN, TP and correlation of DCO.
Method	Oxidation UV reactor combined with NDIR
LOD	0.1<LOD<0.5mg/l
Precision	+/- 3%
Repeatability	+/- 3%
Cycle duration	Less than 6 min
Analysis interval	User programmable

CONNECTIVITY, ALARMS & COMMUNICATION

User interface	Colour LCD display, 5.7'', 160 x 230 mm, touch-screen
	Windows interface
Data storage	Data storage in analyser memory
and retrieval	Transfer via USB port
Input / Output & Communication	4 - 20 mA, dry contact - JBus/Modbus RS232/Profibus/Profibus Hart
	3 digital inputs
	On option : support converter RS485
Alarms	Thresholds per stream (HI-LO), sample & analyser failure
Remote control	JBus/ModBus protocol or dry contact: end of cycle stop,

SAMPLING

Preparation	Filtration if needed / Dilution, depending on application
Sample inlet	Flow : min 30 l/h - optimum 46 l/h (4 l/h with water saver)
	Pressure : 0.1 to 3 bar maximum
	Temperature : 5 to 45°C
Hydraulic	Sample : Inlet 1/4''BSP F / Outlet soft tubing D INT 9
connections	Waste : soft tubing D INT 12
Sample feed	Peristaltic Pump

OPERATION

Zero	Automatic at end of each measurement cycle - Built-in Zero Air filtration unit.
Calibration	6 monthly calibration required
Cleaning	Mechanical wiper on option, if needed

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PROCESS CONTROL

Manufacturing industries

Drinking water

ONLINE Water Quality Monitoring Solutions for up-stream and downstream purification processes.

Ensure the optimal quality all along the manufacturing and distribution network.

Process water

Integrated solutions for real -time water quality measure-ments suited to industrial processes.

ENVIRONMENT

Environmental protection and pollution control.

Surface water

REALTIME Monitoring stations or mobile laboratories, for the protection of surface water, spring water, rivers and groundwater.

Sea water

Prevention of sea water by hydrocarbon wastes: Oil tankers, Oil Rigs, Refinery wastes.

References

SERES Environnement (FRANCE) is one of the major actors in the field of online analysis dedicated to Water Quality Monitoring in the industry and the environment. Outstanding experience, attentiveness, innovative and effective solutions are the strengths of SERES while meeting everyday challenges with Environment Organizations, Water production & treatment, Oil & Gas, Petrochemical industry, Refineries, Power stations, Paper mills, Metal, food and other industries, Oil rigs, Tankers, Etc. …

Shell, TOTAL, SOLVAY, SANOFI, Coca-Cola, PETROBRAS, HYUNDAI, WÄRTSILÄ, LAFARGE, SAMSUNG, MITSUBISHI MOTORS, DAEWOO, CITROËN, bp, ALSTOM, Chevron

Environmental Compliance & Online Process Analysis

AQUAGAS MONITORING SYSTEMS

AquaGas Pty Ltd is supporting the global industrial community with high performance Environmental & Process Monitoring Systems (Continuous Emissions Monitoring Systems, Air Quality Monitoring Systems, Online process analysers, Water Quality Monitoring Systems) specifically designed and built to meet your application requirements.

With extensive expertise and diverse technical skills acquired around the globe, AquaGas Pty Ltd designs, installs, and supports innovative technical solutions, which respond to the requirements of environmental regulations in terms of pollution monitoring and environ-mental impact assessment. AquaGas Pty Ltd Systems and Services are available in Australia, New-Zealand and New Caledonia.

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VALIDATED OVER THE YEARS IN A LARGE FIELD OF APPLICATION

- Solvay
- Rhodia
- Ineos
- FPG Taïwan
- Ciba Geigy
- Sanofi
- Aventis
- PPG
- Arkema
- Asahi Glass
- De Nora
- Total
- Samsung
- Coca Cola
- Lafarge
- Mitsubishi
- Petro Bras
- Alstom...

AQUA GAS

APPLICATIONS

Drinking water

Quality control at all stages : treatment, storage, distribution

Surface water

Study and design of surface water monitoring stations

Waste water

Monitoring of industrial or urban waste water

Process water

Quality control of process water

Oil & Water

Oil in Water Detection & Water in Oil storage tanks

PARAMETERS

TOTAL CHLORINE
FREE CHLORINE
MORPHOLINE
PHOSPHATES
AMMONIA
HYDRAZINE
COLOUR
PHENOLS
SILICA...

HARDNESS
THT
TA
TAC ...

CHROMIUM VI
MANGANESE
ALUMINIUM
COPPER
NICKEL
IRON
LEAD
ZINC...

CHLORIDES
CYANIDES
FLUORIDES
SULFIDES
ARSENIC
SULFATES ...

CERTIFICATIONS

QUALITY MANAGEMENT SYSTEM
ISO 9001:2008 CERTIFIED

Ex ATEX

IMO INTERNATIONAL MARITIME ORGANIZATION

BUREAU VERITAS 1828
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