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POLLUTION MEASUREMENT

SOLUTIONS FOR CHEMICAL PROCESSES AND INDUTRIES

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POLLUTION MEASUREMENT

WATER QUALITY

TOPAZ SOLUTIONS FOR CHEMICAL PROCESSES AND INDUSTRIES

ONLINE ANALYSER TAILORED TO THE NEEDS OF CHLORINE PRODUCTION PLANTS

Description

The TOPAZ analyser is designed for automatic and continuous monitoring of chemical processes using **membranes, mercuric cells** and **diaphragm cells.** It allows reducing to its minimum the corrosion factor in the petrochemical industries and chlorine / soda production plants. Thanks to its concept using a combination of analytical methods (**Colorimetry**, **Titrimetry** and **Iodometry)** the TOPAZ is also widely used for the **treatment of liquid and gaseous effluents**.

Applications

Control of industrial process: Chlorine production, Soda production, Electro-chlorination

Control of chemical effluents: Residual concentration of active chlorine

Control of Tail-Gas exhaust Spray Towers: NaOH/Na_2CO_3 in a Sodium Hypochlorite / Soda solution

Oil & Gas: refineries, oil exploration

SERES environnement

From TRACES to HIGH CONCENTRATIONS

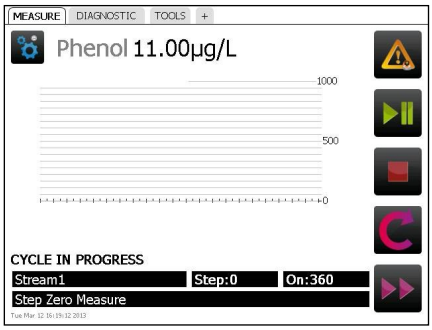
PARAMETERS

- **Ca + Mg** IN BRINE (0.1 TO 5 MG/L)
- **Ca + Mg** TRACES IN BRINE (5 TO 100 µG/L)
- **NaOH / Na_2CO_3** IN BRINE *
- **SO_4** IN BRINE *
- **ACTIVE CHLORINE** Cl_oCl^+ IN BRINE AND IN CHEMICAL EFFLUENTS*
- **CHLORIDES** TRACES IN A SODA SOLUTION, (5 TO 100 MG/L)
- **NH_4+** IN BRINE
- **NaOH / Na_2CO_3** IN A SODIUM HYPOCHLORITE / SODA MEDIUM : CONTROL OF THE RESIDUAL ALKALINITY ON A TAIL-GAS EXHAUST TREATMENT TOWER IN AN ELECTROCHLORINATION WORKSHOP (50 TO 250 G/L NA)
- **NCl_3** IN CHLORINE, IN ASSOCIATION WITH THE DETERMINATION OF **NH_4**, ITS PRECURSOR IN BRINE, ON DIAPHRAGM OR MEMBRANE PRODUCTION PROCESSES.

*(RANGE AND DETECTION LIMITS DEPENDING ON THE PROCESS)

Fully automated multi-parameter online analyser

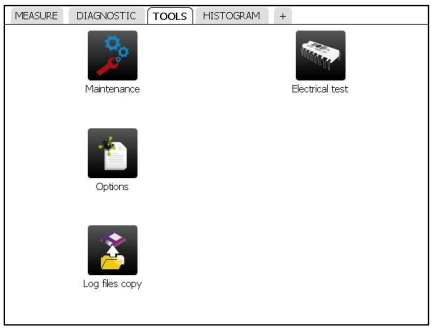
Modules & Features



User interface smart & intuitive interface enabling all the analyser controls and status reports via Touchscreen

Measurement emission & reception directly on the PCB gathering all programs driving the whole measurement process for each parameter. Increased accuracy and response time resulting from the association of the measuring and its fibre optics system

JBus/ModBus module retrieval data / steering



Supervision management of data and JBus/ModBus « slave » protocol, execution of cycles & measurement PCB control, data storage

Low Operating cost Minimum reagents' consumption

Multi-stream 1 to 6 channels multiplexer

System Specifications

CONSTRUCTION & ENVIRONMENT

Dimensions	Wall cabinet stainless steel 316L: 610 x 825 x 400 mm (W x H x D)
Weight & Material	20 kg approx. - Stainless steel 316L
Environment & Protection	Installation in safe and sheltered area, away from corrosive atmosphere. IP55.
Ambient T°	5 to 40°C (depend method)
Relative humidity	10 to 80%

ELECTRICAL UTILITIES

Power supply	110 - 240 VAC 50 / 60 Hz
Consumption	Typical 150 VA - Maximum 300 VA

ANALYSIS

Parameters	Refer to list on reverse page / Consult
Range	Depend on parameter / Consult
Method	Continuous, on line measurement Colorimetry, titrimetry, potentiometry or absorption Selection based on parameter and/or range
Reagents	Depend on parameter and method
Number of streams	1 to 6 on option (above, please consult)
Multi-parameter	Single or multi-parameter analyser (consult)
Cycle duration	15 min on average
Accuracy	± 1 to 2% end of range (colo, titri, pot.)
Repeatability	± 1 to 2% end of range (colo, titri), ± 3 to 5% (pot.)

CONNECTIVITY, ALARMS & COMMUNICATION

User interface	Colour LCD display, 5.7'', 160 x 230 mm, touch-screen Windows interface
Data storage and retrieval	Data storage in analyser memory Transfer via USB port
Input / Output & Communication	4 - 20 mA, dry contacts—JBus/Modbus RS232 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 connections	Sample : Inlet 1/4''BSP F / Outlet soft tubing D INT 9 Waste : soft tubing D INT 12
Volume of vessel	25 ml for potentiometry, otherwise 8 to 10 ml

OPERATION

Zero	Automatic at end of each measurement cycle
Semi-automatic calibration	Required upon renewal of reagents Otherwise : depends on method
Cleaning	Mechanical wiper on option, if needed

VALIDATED OVER THE YEARS IN CHLORINE PRODUCTION, CHEMICAL & PETROCHEMICAL INDUSTRIES

Solvay

Rhodia

Ineos

FPG Taïwan

Ciba Geigy

Sanofi

Aventis

PPG

Arkema

Asahi Glass

De Nora, ...

TÜVRheinland®

ATEX

QUALITY MANAGEMENT SYSTEM

ISO 9001:2008 CERTIFIED

WATER QUALITY

aquagas POLLUTION MEASUREMENT

Also available with the TOPAZ

COLORIMETRY

- Ammonium, Free and/or Total Chlorine, Hydrazine, Morpholine, Phenol, Sulphates
- Colour, Silica, Phosphates (Orthophosphates), Hardness
- Aluminium, Chromium VI, Copper, Iron, Nickel, Lead, Zinc

TITRIMETRY

- TH, Alkalinity

POTENTIOMETRY

- Ammonium, Chlorides, Cyanides, Fluorides, ...

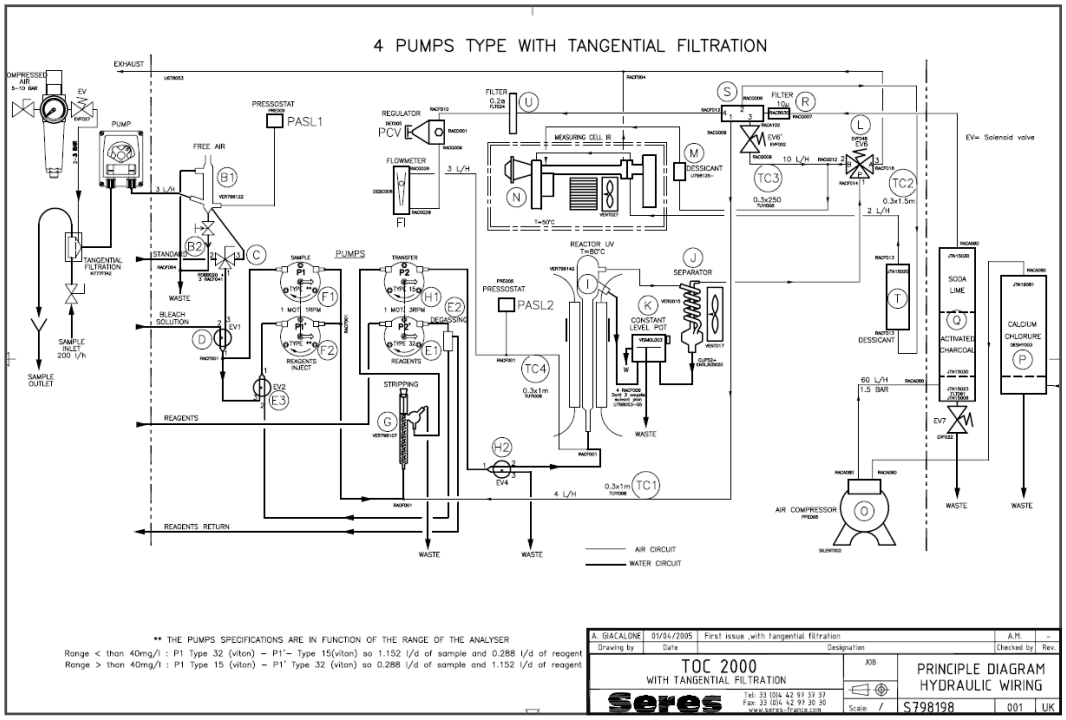
Specific, customized methods can be adapted on **TOPAZ** for the surveillance of process water & brines :

- Peracetic acid, VFA, Ca Mg, NH4, etc...

OTHER PARAMETERS : PLEASE CONSULT

Scope of supply

From a stand alone analyser to a complete monitoring station (stationary or mobile) , AquaGas supplies turnkey systems fully integrated meeting the Australian standards and matching the exact project requirements.



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POLLUTION MEASUREMENT

ONLINE WATER QUALITY ANALYSERS

PROCESS CONTROL

Manufacturing industries

Drinking water

ONLINE water quality monitoring solutions for upstream and downstream purification processes.

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

Process water

Integrated solutions for real-time water quality measurements 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.

WATER QUALITY

ONYX

Single parameter

The **ONYX** is a new generation of water monitor for the measurement of chemical parameters in **wide range of samples and applications**.

Online analyser by colorimetry, titrimetry or potentiometry for the automatic monitoring of water quality. Single parameter / single stream.

CRISTALLITE

Single Parameter

CRISTALLITE is an analyser for your basic measurements needs (single stream, single parameter) for **reduced capital costs & operating expenses**, for many parameters / pollutants in water.

Various chemical compounds monitored by colorimetry, titrimetry or potentiometry.

TURBILIGHT II

Turbidity

The **TURBILIGHT II** is the latest generation of **turbidity** meter dedicated to automatic, online measurement, of **low & medium loads** in water. Measurement method by Nephelometry using IR light source, pressurized vessel to prevent interference of occasional air

Ranges : 0-2 to 0-1000 NTU

TURBISONDE

Turbidity

The **TURBISONDE** is the solution for the continuous measurement of **strong turbidity** in water. Its outstanding performances are the result of the well known Nephelometry method combined with an **submersible probe** using a patented **ultrasonic cleaning system**. This means : no wearing part, no maintenance of the sensor.

OPAL

Hydrocarbons - Oils in water

OPAL is a new generation **detector** : on line, real time, infra-red back scattering measurement, reagent free, to monitor **suspended hydrocarbon in water**.

Wide range of fields

Onshore : refineries, oil drilling plants, energy, petrochemical and other industries

Offshore : oil platforms &ships

PAUTBAC II

Tank Dewatering

Ex

The **PAUTBAC II** is designed to automate the **drainage of water** accumulating in the lower part of **petroleum products storage tanks**. The main **advantages** of the **PAUTBAC II** in its various **applications** (slop stations, petroleum & petrochemical industries, tank farms, oil storage bases,...) are : increased safety, improvement of nominal tank capacity, decrease of the hydrocarbons loss, protection of petroleum products from water bacterial degradation.

MEASURED COMPOUNDS Aluminium, Ammonium, Total nitrogen, Total phosphorus, Bromine, Free Chlorine, Chlorides, Chromium, Colour, Copper, Cyanides, Iron, Fluoride, Manganese, Morpholine, Nickel, Nitrites, Phenols, Phosphates, Silica,, Sulphates, Sulphites, Total alkalinity, Total Hardness, TA / TAC, Zinc, Uranium ...

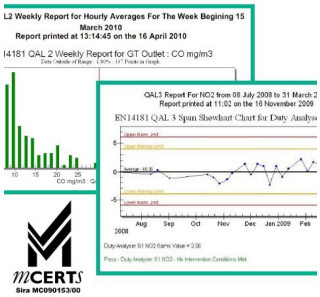
AquaGas Products and Services

CEMS

System INTEGRATION & Innovative SAMPLING solutions

STACK TESTING

Portable equipment for short term measurement



DATA ACQUISITION

States EPA approved Data Acquisition and Handling Software

ONSITE

Maintenance commissioning Training

AQUAGAS SYSTEM INTEGRATION

More than 14 years of experience in **environmental monitoring**, AquaGas commitment in implementing innovative, reliable and cost effective solutions is undeniable. Our main focus is to meet your application requirements in due time while maintaining high quality service and relationship.

We have the **skills, products and services** in house with a full dedication to your monitoring needs, so please contact us when it comes to **environmental monitoring and industrial analysis**.

SERES Environnement analysers

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.

The ideal partner for Australian water quality monitoring.

50 years of expertise in online monitoring

INTEGRATED SOLUTIONS TO MONITOR OUR ENVIRONMENT

Contact Us

Give us a call for more information about our services and products

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Visit us on the web at **www.aquagas.com.au**

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