SERES environnement

TOPAZ
Water Quality

ON LINE ANALYSIS

TOPAZ (CRISTAL Range) SERES environnement solution :

- **innovative concept and functionalities,**
- **designed to achieve the best quality / efficiency & cost / benefit ratios.**

TOPAZ, the obvious choice for automatic, on line monitoring of a large variety of chemical compounds in all types of water.

Benefits for the user :

- ✓ **Reduced running costs**
- ✓ **Strict surveillance of water quality**

TOPAZ key assets :

- ✓ **Accuracy**
- ✓ **Reliability**
- ✓ **Flexibility**

METHODS & PARAMETERS

Several measurement methods are available on 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, Ca Mg, NH4, etc...

OTHER PARAMETERS : PLEASE CONSULT

ADVANTAGES & APPLICATIONS

Automatic, on line measurement
1 to 6 streams of analysis
Intuitive & efficient user interface
Data storage & communication
Lower reagents' consumption
Routine maintenance made easy

Drinking & surface water : alert stations
Waste water : sewage works
Urban & industrial wastes
Boiler, cooling water
Process water & brines

www.seres-france.com
info@seres-france.com

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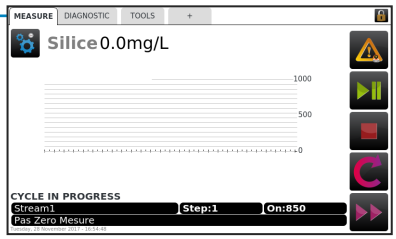
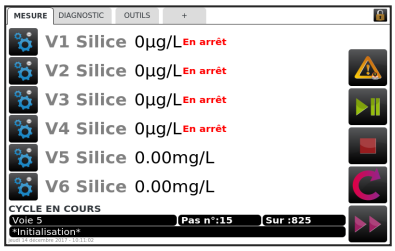
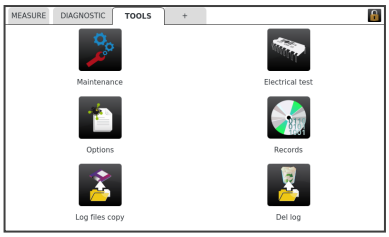
CONCEPTION & OPERATION OVERVIEW

The essential design requisites of TOPAZ were :

- ✓ automatic, on line analysis
- ✓ easily configurable, modular, intuitive & user friendly, multifunctional
- ✓ multi-stream (options)







Potentiometry

Colorimetry / Titrimetry

The various modules and their features :

- **User interface :** smart & intuitive interface enabling all the analyser controls and status reports
- **Measurement :** emission & reception directly on the PCB gathering all programs driving the whole measurement process whatever the parameter. Increased accuracy resulting from the association of the measuring and its fiber optics system
- **JBus/ModBus module :** retrieval data / steering
- **Supervision :** management of data and JBus/ModBus « slave » protocole, , execution of cycles & measurement PCB control, data storage

TECHNICAL SPECIFICATIONS

CONSTRUCTION & ENVIRONMENT

Dimensions Weight & Material	Wall cabinet stainless steel 316L: 755 x 570 x 370 mm mm (W x H x D) 35 kg approx
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 % (tropicalization on option at 95% on demand)

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 parameter analyser
Cycle time	5 to15 min on average upon method
Accuracy Repeatability	± 1 to 2% end of range (colo, titri)), ± 3 to 5% (pot.) ± 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 RS485 On option : support converter RS232
Alarms	Thresholds per stream (HI-LO), sample & analyser failure
Remote control	JBus/ModBus protocole or dry contact: end of cycle stop,

SAMPLING

Preparation	Filtration if needed / Dilution, depending on application
Sample inlet	Flow : min 30 l/h - optimum 40 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	Colorimetry: 8 to 10 ml Potentiometry: 25 ml

OPERATION

HART Option	On request
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 (sulfate and color)

SERES environnement
360 rue Louis de Broglie
La Duranne - BP 20087
13793 AIX EN PROVENCE Cedex 3 - France

Tel : +33 (0)4 4297 3737
Fax : +33 (0)4 4297 3030
Email : info@seres-france.com
Internet : www.seres-france.com