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Smart water solutions

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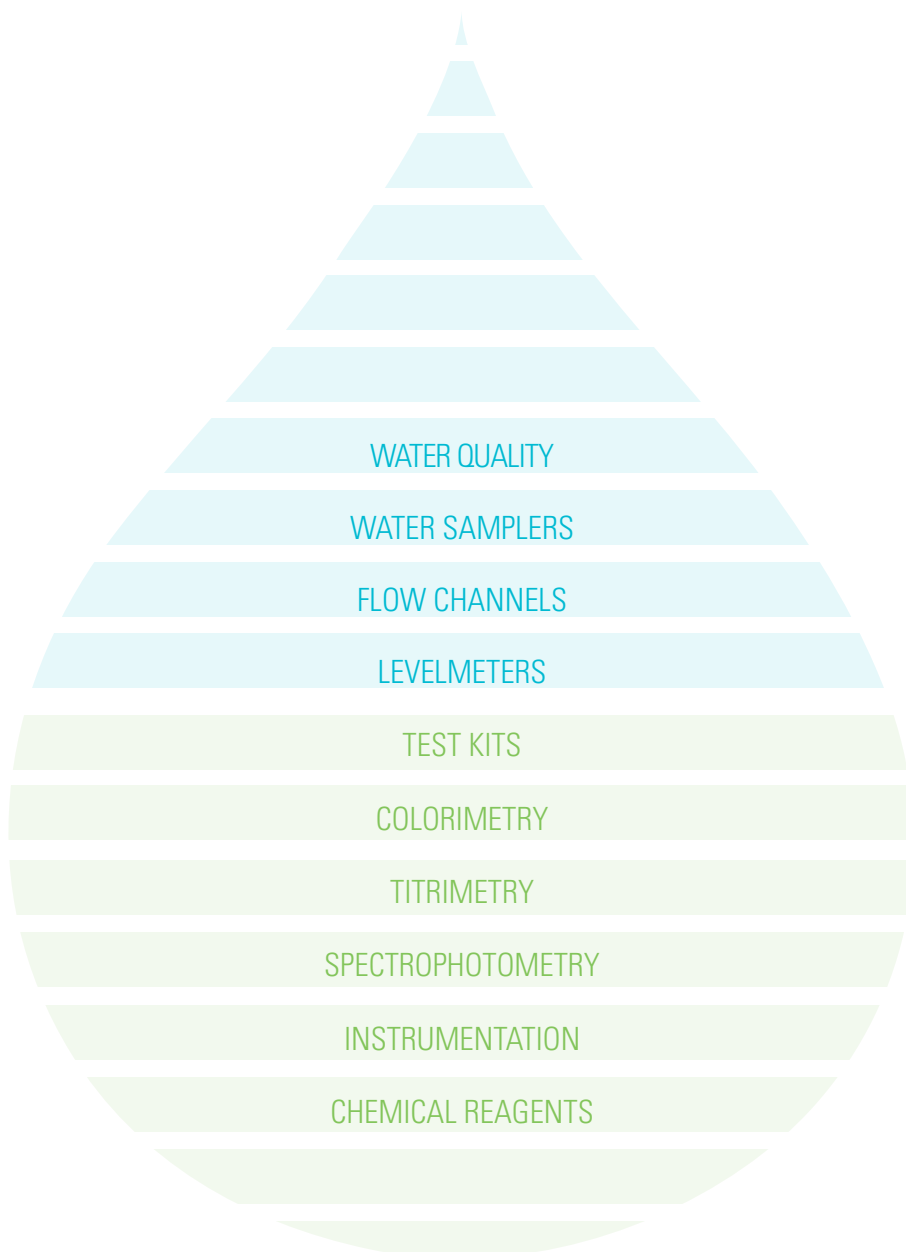
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CATALOG

AQUOLABO

Smart water solutions



2018 Edition. This edition supersedes all previous editions.
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“

Aqualabo, after 12 years of existence comes out its first unique catalog, dedicated to water quality controls, to better meet your needs for field equipment and laboratory.

*This is an opportunity for us to remind you of the philosophy of our offer. The “**smart water solution**” whose motivation is to bring high-tech solutions, economically sober.*

Our acquisition costs are competitive, our overall installation cost is the lowest, and most over our cost of use is unbeatable.

Aqualabo, a French manufacturer of instrumentation and chemical reagents, is the “Water Control” branch of the Supratec group, which develops the same philosophy in its “Water Treatment” branch.

The Aqualabo team

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DIGITAL SENSORS DIGISENS, Smart sensors for water control

ADVANTAGES



- Universal communication Modbus RS485 / SDI-12
- Compatible with all types of transmitters, recorders, remote control, controller equipped with a RS485 input or SDI-12 ...
- Integrated transmitter (recording of calibration data, history and measurement processing in the sensor)
- Ultra-low power technology

Digital communication

the DIGISENS sensors can connect to any type of recorder, transmitter or controller with a Modbus RS485 input, making data transfer more reliable.

More than 240 indexed sensors can be connected on the same RS485 input.

The digital signal processing combined with the pre-amplification of the measurement allow high reliability.

Integrated transmitter

All calibration data for (offset, slope), history, users and measures be processed directly in the sensor and transmitted via Modbus RS-485.

Mechanical

Digital sensors are compact, rugged and light. They are made of stainless steel or PVC materials for portable or stationary use in the most fouling environments.

Application areas

Wastewater, Industrial effluent, Monitoring of surface water, Fish farming, Drinking water



DIGITAL OUTPUT SENSOR

**DIGITAL
COMMUNICATION
MODBUS RS485
SDI12**

DIGITAL INPUT SYSTEM





Technical specifications					
	Parameter	Dimensions	Range	Accuracy	Sensor
PH/ORP/T°C	Temperature	Diameter : 27 mm	0,00 to + 50,00 °C	± 0,5°C	NTC
	pH	Length without cable : 207 mm	0,00 to 14,00 pH	± 0,1	Combined electrode (pH/reference) : special glass Reference Ag/AgCl. Electrolyte plastogel (KCl)
	ORP	Weight : 350 g (sensor + cable)	- 1000,0 to + 1000,0 mV	± 2 mV	Combined electrode (Redox/reference) : Platinum electrode, Reference Ag/AgCl. Electrolyte plastogel (KCl)
OPTOD	Dissolved Oxygen/T°C	Diameter : 25 mm Length without cable : 146 mm Weight : 450 g (sensor + cable)	0,00 to 20,00 mg/L 0,0 to 200,0 % SAT	± 0,1 mg/L ± 1 %	PONSEL OPTOD® optical luminescence technology ASTM D888 – 05 Compliance ISO 17289
C4E	Conductivity	Diameter : 27 mm Length without cable : 157 mm	0,0 to 200,0 µS/cm 0 to 2 000 µS/cm 0,00 to 20,00 mS/cm 0,0 to 200,0 mS/cm AUTOMATIC RANGE	± 1 % of the full scale	C4E Technology 4 electrodes (2 platinum and 2 graphite)
	Salinity	Weight : 350 g (sensor + cable)	5-60g /kg	± 0,5 % of the full scale	C4E Technology 4 electrodes (2 platinum and 2 graphite)
CTZN	Conductivity	Diameter: 39.80 mm Length without cable : 196 mm	0,0 -100,0 ms/cm	< 5%	Inductive conductivity sensor compensated in temperature
	Salinity	Weight : 700 g (sensor + cable)	5-60g /kg		
NTU	Turbidity	Diameter : 27 mm Length without cable : 147 mm Weight : 300 g (sensor + cable)	5 to 50 NTU 5 to 200 NTU 5 to 1000 NTU 5 to 4000 NTU AUTOMATIC RANGE	± 1 % of the full scale	IR 90° technology ISO 7027 compliance
EHAN	ORP & T°	Diameter: 27 mm Length: 262 mm Weight: 350 g (Sensor + cable 3 m)	-1000,0 to + 1000,0 mV	± 10mV	Combination Electrode (ORP/reference) platinum ring, Reference Ag/AgCl. Gelled electrolyte (KCl)
MES5 / VB5	MES5: suspended solids VB5: sludge blanket	Diameter: 63 mm Length: 212 mm Weight: 750 g	TSS: 0-50g/l Turbidity: 0-4000FAU Sludge blanket: 0-100%	TSS: 0-1 SS < 10 % Turbidity: ±5% (range 200 -4000 FAU) Sludge blanket: ±2%	Optical IR (870 nm) based on IR absorption

Interface Signal: RS485 Modbus or SDI-12, Sensor power supply: to 5-12 volts, Max. 5 bars, Cable 9 armoured connectors, polyurethane sheath, bare wire, Protection: IP 68

Accessories

CALSENS Software :

CALSENS software is designed for the optimization and exploiting the data of the PONSEL DIGISENS range (digital sensors). Simple, friendly and intuitive this is a support to configure the sensors, the calibration menu, to follow in real time the measurement of the selected parameters and to record the measured parameters.

Box of communication and power supply mono and multichannel Modbus :

Destined to the permanent instrument installations and supplementing the offer of digital sensors PONSEL, the junction boxes mono and multichannel PONSEL are easy to install. The module 4001 allows the connection of digital sensors PONSEL with all types of dataloggers, transmitter and remote systems or automates with an input Modbus RS485.



References

Module 4001 - 5 SENSORS BARE WIRE CABLE/1 CONNECTOR FOR ODEON CABLE

PF-ACC-C-00255

CABLE MODULE 4001 - ODEON

PF-ACC-C-00284

MODULE 4200 RS485/USB CONVERTOR FOR ONE SENSOR

NC-FIX-C-00020

MODULE 4200 RS485/USB CONVERTOR FOR TWO SENSORS

NC-FIX-C-00021

CALSENS SOFTWARE

LO-EMB-C-00031

CABLE TO CONNECT A BARE WIRE SENSOR TO ODEON

PF-ACC-C-00082



PHEHT: PH, ORP & TEMPERATURE, DIGITAL technology for optimized measures

The PHEHT sensor has been designed to perform under hard conditions from pure mountains water with conductivity as low as 20 $\mu\text{S/cm}$, lakes and rivers (100 – 2000 $\mu\text{S/cm}$), seawater with conductivities of 50 mS/cm and to wastewater with conductivity higher than 200 mS/cm.

This sensor features a "long life" reference. The Plastogel® PONSEL technology increase the lifetime of the probe the need to refill. This sensor has been designed also for handheld and in situ applications which have been the most difficult situations for a pH/ORP sensor in term of sensor resistance, quick time response, minimal flow dependence and low power consumption.

Digital Technology

The "smart" pH/ORP/Temp sensor stores calibration and history data within the sensor. This allows you a "plug and play" system without re-calibration. Thanks to the Universal Modbus RS485 protocol, the PONSEL pH/ORP/T sensor can be connected to all devices commonly used (Datalogger, Controller, Automat, Remote System...).

Range : • pH : 0 to 14 units • ORP : - 1000 to + 1000 mV • T°C : 0°C to +50°C

Applications

Urban wastewater treatment (inlet/ outlet controls), Sanitation network, Industrial effluent treatment, Surface water monitoring, Fish farming, Drinking water



Technical specifications Measures pH	
Measure principle	Combined electrode (pH/ref) : special glass, Ag/AgCl ref. Gelled electrolyte (KCl)
Range	0 – 14 pH
Resolution	0,01 pH
Accuracy	± 0,1 pH
Technical specifications Measures ORP	
Measure principle	Combined electrode (ORP/reference) : Platinum tip, Ag/AgCl AgAgCl. Gelled reference (KCl)
Range	- 1000 to + 1000 mV
Resolution	0,1 mV
Accuracy	± 2 mV
Technical specifications Measures Temperature	
Technology	NTC
Range	0,00 °C to + 50,00°C
Resolution	0,01 °C
Accuracy	± 0,5 °C
Response time	< 5 s
Storage temperature	0°C to + 60°C
Protection	IP 68
Interface	Modbus RS-485 / SDI-12
Power supply	5 to 12 volts
Power consumption	Standby : 25 μ A Average RS485 (1 measure/second) : 3,9 mA Average SDI12 (1 measure/second) : 6,8 mA Current pulse : 500 mA
Technical specifications Sensor	
Dimensions	Diameter : 27 / 21 mm ; Length : 207 mm
Weight	350 g (sensor + 3 m cable)
Material	PVC, DELRIN, special pH glass, platinum, polyamide
Pressure	5 bars
Cable	Coaxial armoured, Polyurethane, bare wire or Fisher connector
Protection	IP68

ADVANTAGES



- Combination pH/ORP/Temp sensor
- Digital Sensor : Modbus RS 485 / SDI-12
- Calibration data inside
- pH/ORP Cartridge

References

pH/ORP/T Digital Adapter - 3 m cable without pH/ORP sensor	PF-CAP-C-00143
pH/ORP/T Digital Adapter - 7 m cable without pH/ORP sensor	PF-CAP-C-00144
pH/ORP/T Digital Adapter - 15 m cable without pH/ORP sensor	PF-CAP-C-00161
pH/ORP/T Sensor (Cartridge)	PF-CAP-C-00155
pH-ORP sensor, 3 meters cable, bare wire	PF-CAP-C-00171
pH-ORP sensor, 7 meters cable, bare wire	PF-CAP-C-00172
pH-ORP sensor, 15 meters cable, bare wire	PF-CAP-C-00162



EHAN: ANNULAR ORP SENSOR, ORP potential and temperature

- **Combination sensor:** ORP & Temperature
- **Measuring ranges:** ORP: - 1000 to + 1000 mV ; T ° C: 0.00 to + 50.00 ° C
- **Interchangeable Cartridge with "PLASTOGEL®"**
- **Digital communication RS-485 Modbus / SDI-12**

Digital Technology

The electrolyte "PLASTOGEL®" of DIGISENS Ponsel sensor communicates directly with the external environment without interposition of capillary or porous. There is therefore no risk of clogging or reference defusing. Temperature: Measures via NTC.

Applications

Treatment of urban waste water (entrance, aeration tank, exit), industrial sewage treatment (optimization process of nitrifying / denitrifying), deodorization channels.



Technical specifications	
Measures ORP	
Measuring principle ORP	combination electrode (ORP / reference): Platinum Ring Reference Ag / AgCl. gelled electrolyte (KCl)
Measurement range	-1000.0 to + 1000.0 mV
Resolution	± 0.1 mV
Accuracy	± 10mV
Response time	90 s
Temperature Measurement	
Measuring principle T°C	NTC
Operating Temperature	0.00 ° C to 50.00 ° C
Resolution	0,01 °C
Storage temperature	0°C to + 60°C
Protection	IP 68
Interface signal	RS-485 Modbus / SDI-12
Refresh rate measurement	Maximum <1 second
Sensor supply	5-12 volts
Consumption	Standby : 25µA, RS485 Average (1 measure / second) : 20 mA, Pulse current : 500 mA, Meating : 100 mS
Sensor	
Dimension of equipped sensor	Upper part: 27 mm diameter; Length 103 mm Cartridge Length: 173 mm; Equipped sensor Length: 262 mm without gland
Weight	350 g (cable + sensor)
Materials in contact with the environment	PVC, POM-C, platinum, Polyurethane
Maximum pressure	5 bars
Cable / connector	9 armored connectors, polyurethane sheath, bare wires or sealed metal Fischer connector

References

EHAN sensor Fisher connector 3m cable without cartridge PF-CAP-C-00268
 EHAN sensor Fisher connector 7m cable without cartridge PF-CAP-C-00269
 EHAN sensor Fisher connector 15m cable without cartridge PF-CAP-C-00270
 EHAN sensor bare wires 3m cable without cartridge PF-CAP-C-00271

EHAN sensor bare wires 7m cable without cartridge PF-CAP-C-00272
 EHAN sensor bare wires 15m cable without cartridge PF-CAP-C-00273
 Annular digital sensor cartridge ORP PF-CAP-C-00263





C4E: CONDUCTIVITY/SALINITY, Digital technology for optimized measures

- **Mounting at 4 electrodes:** The electrode works with a technology in 4 electrodes: an alternating current of constant-voltage is established between a primary's pair of electrodes in graphite. The secondary's electrodes in platinum allow of regulate the voltage imposed to primary's electrodes to reflect of the fouling. The voltage measured between the primary's electrodes is in function of the resistance of place and so, of the conductivity.
- **Digital Technology:** The "smart" Digital C4E sensor stores calibration and history data within the sensor. This allows you a "plug and play" system without re-calibration.

Thanks to the Universal Modbus RS485 protocol, the PONSEL Digital C4E can be connected to all devices commonly used (Datalogger, Controller, Automat, Remote System...).

Applications

- Urban wastewater treatment
- Industrial effluent treatment
- Surface water monitoring
- Sea water
- Drinking water



Technical specifications measures	
Measure principle	Conductivity sensor with 4 electrodes (2 graphic, 2 platinum)
Measure ranges conductivity	• 0-200,0 $\mu\text{S/cm}$ • 0 -2000 $\mu\text{S/cm}$ • 0,00 -20,00 mS/cm • 0,0 -200,0 mS/cm • AUTOMATIC RANGE
Resolution	0,01 to 1 according the range
Accuracy	$\pm 1\%$ of the full range
Measure range salinity	5-60 g/Kg
Measure range TDS -KCl	0-133 000 ppm
Response time	< 5 s
Working temperature	0°C to + 50°C
Temperature compensation	NTC
Stocking temperature	-10°C to + 60°C
Signal interface	Modbus RS-485 and SDI-12
Maximum refreshing time	Max < 1 s
Sensor power-supply	5 to 12 volts
Electric consumption	Standby : 25 μA Average RS485 (1 measure/second) : 6,3 mA Average SDI12 (1 measure/second) : 9,2 mA Current pulse : 500 mA
Technical specifications sensor	
Dimensions	Diameter : 27 mm ; Length : 177 mm
Weight	300 g (sensor + cable 3 meters)
Material	PVC, DELRIN, stainless steel
Maximum pressure	5 bars
Connection	9 armoured connectors, polyurethane jacket, bare-wires or waterproof Fisher connector
Degree of protection	IP68

ADVANTAGES



- 4 electrodes (2 graphic, 2 platinum)
- Range 0 to 200 mS/cm and automatic range
- Digital sensor Modbus RS-485 / SDI-12
- Robust and Watertight

References

C4E SENSOR WITH FISCHER CONNECTOR Conductivity/TPF-CAP-C-00149	
Digital Probe - 3 m cable	
C4E SENSOR WITH FISCHER CONNECTOR Conductivity/TPF-CAP-C-00150	
Digital Probe - 7 m cable	
C4E SENSOR WITH FISCHER CONNECTOR Conductivity/TPF-CAP-C-00167	
Digital Probe - 15 m cable	
C4E SENSOR, 3 meters cable, bare wire	PF-CAP-C-00169
C4E SENSOR, 7 meters cable, bare wire	PF-CAP-C-00170
C4E SENSOR, 15 meters cable, bare wire	PF-CAP-C-00156





CTZN : INDUCTIVE CONDUCTIVITY, Inductive conductivity no sensitive to the fouling

- **Measured parameters:** Conductivity compensated in temperature (mS/cm), Conductivity non-compensated in temperature (mS/cm), Salinity (g/Kg), Temperature (°C)
- **Inductive method:** A ring-type coil is excited at fixed intervals and the response is retrieved on a second coil, which is linked to the excited coil. The connectivity between the coils (determined by the degree of conductivity) takes place via the conducting solution. Economic and successful technology that requiring not enough maintenance and not consumable.
- **Digital Technology:** The "smart" Digital CTZN sensor stores calibration and history data within the sensor. This allows you a "plug and play" system without re-calibration. Thanks to the Universal Modbus RS485 protocol, the PONSEL Digital CTZN

Applications

Urban wastewater treatment, Industrial effluent treatment, Surface water monitoring, Sea water, Fish farming

ADVANTAGES



- Sensor regulated in temperature
- Ranges 0 to 100 mS/cm
- Numerical communication Modbus RS-485 and SDI12
- Compact, robust and watertight



Technical specifications measures

Measure principle	Inductive conductivity sensor regulated in temperature		
Measure ranges conductivity	0,0 –100,0 mS/cm		
Resolution	0,1		
Measure ranges salinity	5-60 g/Kg		
Working temperature	0 to 50 °C		
Temperature compensation	With NTC		
Accuracy T°C	± 0.5 °C		
Response time	90% of the value in less than 30 seconds		
Stocking temperature	-10°C to + 60°C		
Signal interface	Modbus RS-485 and SDI-12		
Sensor power-supply	5 to 28 volts, max 30 V		
Electric consumption	Automatic Standby < 50 µA , Heating time 100 mS		
	Average Modbus RS485		
	1 measure/s :	Vin 5V	Vin 12 V
	1 measure/s	31 mA	15,5 mA
Max current pulse 700 mA during 2 mS, 350 mA during 150 mS			

Technical specifications sensor

Dimensions	Diameter max. 62,4 mm, Length : 196 mm
Weight	700 g
Material	EPDM, PVC, Stainless steel
Maximum pressure	5 bars
Connection	9 armoured connectors, polyurethane jacket, bare-wires or waterproof Fisher connector
Degree of protection	IP68

References

CTZN SENSOR, 3 METERS CABLE, BARE WIRE - STAINLESS STEEL IN PIPE INSTALLATION	PF-CAP-C-00265
CTZN SENSOR, 3 METERS CABLE, BARE WIRE - VERSION IMMERSION/PVC IN PIPE INSTALLATION	PF-CAP-C-00259
CTZN SENSOR, 7 METERS CABLE, BARE WIRE - STAINLESS STEEL IN PIPE INSTALLATION	PF-CAP-C-00266
CTZN SENSOR, 7 METERS CABLE, BARE WIRE - VERSION IMMERSION/PVC IN PIPE INSTALLATION	PF-CAP-C-00261
CTZN SENSOR, 15 METERS CABLE, BARE WIRE - STAINLESS STEEL IN PIPE INSTALLATION	PF-CAP-C-00256
CTZN SENSOR, 15 METERS CABLE, BARE WIRE - VERSION IMMERSION/PVC IN PIPE INSTALLATION	PF-CAP-C-00253



OPTOD: OPTICAL DISSOLVED OXYGEN,

Optical technology for optimized measurements

Applications

- Urban wastewater treatment
- Industrial effluent treatment
- Surface water monitoring
- Drinking water

Optical technology

The OPTOD (Optical Dissolved Oxygen technology) is based on luminescent optical technology. The OPTOD sensor is approved by the ASTM International Method D888-05 and Norm ISO 17289.

Without calibration requirements and thanks to an ultra low power technology, the OPTOD sensor meets the demands of field works and short or long term campaigns.

Without oxygen consumption, this technology allows you an accurate measure in all situation and especially in very low oxygen concentrations

ADVANTAGES



- Optical Technology without calibration
- Digital Technology (Modbus RS-485 / SDI-12)
- No drift, Reduced maintenance
- Body in Stainless steel (316 L) or Titanium

Mecanic

Compact, strong and light, the sensor allows a portable or in fixed/ permanent use.

Body in Stainless steel 316 L (passivation treatment) or in Titanium for applications in corrosive environment.



Technical specifications measures	
Measure principle	Optical measure by luminescence
Measure ranges	0,00 to 20,00 mg/L • 0,00 to 20,00 ppm • 0-200%
Resolution	0,01
Accuracy	+/- 0,1mg/L • +/- 0,1 ppm • +/- 1 %
Response time	90% of the value in less than 60 seconds
Frequency of recommended measure	>5 s
Water move	No necessary move
Temperature compensation	Via NTC
Stocking temperature	-10°C to + 60°C
Signal interface	Modbus RS-485 and SDI-12
Sensor power-supply	5 to 12 volts
Consumption	Standby 25 µA Average RS485 (1 measure/ second) : 4,4 mA Average SDI12 (1 measure/ second) : 7,3 mA Current pulse : 100 mA
Technical specifications sensor	
Dimensions	Diameter : 25 mm ; length : 146 mm
Weight	Stainless steel version 450g (sensor + cable 3 m) Titanium version 300 g (sensor + cable 3 m)
Material	Stainless steel 316L, New : body in Titanium
Maximum pressure	5 bars
Connection	9 armoured connectors, polyurethane jacket, bare wires or waterproof Fisher connector
Protection	IP68

Accessory

Hydroclean : Anti-fouling system for numerical sensor Optod



References

Optod digital sensor Odeon Fisher plug 3m	PF-CAP-C-00140
Optod digital sensor Odeon Fisher plug 7m	PF-CAP-C-00141
Optod digital sensor Odeon Fisher plug 15m	PF-CAP-C-00163
Optod digital sensor 3m bare wires	PF-CAP-C-00160
Optod digital sensor 7m bare wires	PF-CAP-C-00168
Optod digital sensor 15m bare wires	PF-CAP-C-00164

Optod digital sensor Odeon titanium Fisher plug 3m	PF-CAP-C-00240
Optod digital sensor Odeon titanium Fisher plug 7m	PF-CAP-C-00241
Optod digital sensor Odeon titanium Fisher plug 15m	PF-CAP-C-00242
Optod titanium digital sensor 3m bare wires	PF-CAP-C-00243
Optod titanium digital sensor 7m bare wires	PF-CAP-C-00244
Optod titanium digital sensor 15m bare wires	PF-CAP-C-00245



NTU: NEPHELOMETRIC TURBIDITY,

Optical technology for optimized measures

Optical technology: The measure principle is based on IR nephelometry ISO 7027 / 850 nm. The sensor can be calibrated with a formazine standard solution. The NTU sensor integrates a low-cost optical technology, with a very few maintenance and no consumables.

Applications

- Urban wastewater treatment (inlet/ outlet controls)
- Sanitation network
- Industrial effluent treatment
- Surface water monitoring
- Drinking water



Accessory

Hydroclean : Anti-fouling system for numerical sensor NTU

Technical specifications measures	
Measure principle	Diffusion IR at 90°
Measure ranges	5 - 50 NTU ; 5 - 200 NTU ; 5 - 1000 NTU ; 5 - 4000 NTU ; AUTOMATIC RANGE 0 to 4500 mg/L Calibration: Range 0-500 mg/L according to NF EN 872 Range >500 mg/L according to NF T 90 105 2
Resolution	0,01 to 1 NTU - mg/L
Accuracy	< 5% of the reading
Working temperature	0°C to + 50°C
Measure of temperature	Via NTC
Stocking temperature	-10°C to + 60°C
Signal interface	Modbus RS-485 and SDI-12
Maximum refreshing time	< 1 second
Sensor power-supply	5 to 12 volts
Electric consumption	Standby: 40 µA / Average RS485 (1 measure/second): 820 µA / Average SDI12 (1 measure/second): 4,2 mA / Current pulse: 500 mA
Consumption	• Standby : 40 µA • RS485 average (1 measure / sec) : 820 µA • SDI12 average (1 measure / sec) : 4,2 mA • Heating time : 100 mS • Current pulse : 500 mA
Technical specifications sensor	
Dimensions	Diameter : 27 mm; length : 170 mm
Weight	300 g (sensor + cable 3 meters)
Material	PVC, DELRIN, Quartz, PMMA, Polyamide
Maximum pressure	5 bars
Connection	9 armoured connectors, polyurethane jacket, bare-wires or waterproof Fisher connector
Degree of protection	IP68

ADVANTAGES



- IR optical sensor with optical fibre
- Range : 0 to 4000 NTU or 0-4500 mg/L
- Rugged and waterproof (IP68)
- Ultra low-power consumption
- Digital output Modbus RS-485 / SDI-12
- Nephelometry measurement

References

NTU sensor, 3 meters cable, bare wire	PF-CAP-C-00173
NTU sensor, 7 meters cable, bare wire	PF-CAP-C-00174
NTU sensor, 15 meters cable, bare wire	PF-CAP-C-00166
Turbidity/T Digital Probe Fischer Connector - 3 m cable	PF-CAP-C-00146
Turbidity/T Digital Probe Fischer Connector - 7 m cable	PF-CAP-C-00147
Turbidity/T Digital Probe Fischer Connector - 15 m cable	PF-CAP-C-00165

HYDROCLEAN BRUSH CLEANING SYSTEM

HYDROCLEAN : Mechanical wiper for Ponsel Turbidity sensor (Maximum depth 30 M)	PF-ACC-C-00353
HYDROCLEAN : Mechanical wiper for Ponsel Turbidity sensor (Maximum depth 100 M)	PF-ACC-C-00354
Mechanical wiper for Ponsel Turbidity sensor to integrate (Maximum depth 30 M)	PF-ACC-C-00355
Supplement of cable for hydroclean system (price for 1 meter)	PF-ACC-C-00356



MES 5 / VB5, Measurement of SS, turbidity and sludge blanket

Applications

- Treatment of urban waste water (Input / Network (SS, Turbidity) Aeration Tank (MES), Clarifier (Sludge Blanket), Outlet (Turbidity)).
- Industrial effluent treatment (Aeration Tank (SS), Decanter (Sludge Blanket), output (Turbidity))
- Sludge treatment channels.
- Monitoring of dredging sites ...



Optical Technology

The measuring principle is based on the attenuation of the IR signal through an optical slot. The sensor delivers measurement in Sludge concentration (g / l), Turbidity (FAU) and Sludge blanket in % of IR transmission. For a best accuracy, the optical measurements are temperature controlled. For a measure of Suspended Solids, the sensor is calibrated directly on the material to be measured (sludge sample). In Turbidity mode, the sensor provides measurements over a range of 0-4000 FAU (Formazin Attenuation Unit) and it is calibrated with Formazin solutions. Temperature: optical measurement and control via CTN.

ADVANTAGES

- Optical sensor based on IR absorptiometry
- Measuring ranges: SS: 0-50 g / L, Sludge Blanket 0-100% Turbidity 0-4000 FAU
- Digital communication RS-485 Modbus / SDI-12
- Robust sensor



Accessory Odeon



Technical specifications

Measures Sludge concentration, Turbidity, Sludge blanket detection	
SS Measuring principle	Optical IR (870 nm) based on absorptiometry
Measuring range	SS: 0-50 g / L Turbidity: 0-4000 FAU, Sludge blanket: 0-100% MES
Resolution	SS : 0.01 g / L Turbidity: 0.01 to 1 FAU, sludge blanket: 0.01 to 0.1% sludge blanket
Accuracy	SS : <10%; Turbidity: ± 5% (range 200-4000 FAU); Sludge blanket: ± 2%
Response time	< 35 seconds
Temperature Measurement	
Measuring principle T°C	NTC
Operating temperature	-5.00 °C to + 60,00°C
Resolution	0,01 °C
Accuracy	± 0.5 °C
Storage temperature	-10°C to + 60°C
Protection	IP 68
Interface signal	RS-485 Modbus or SDI-12
Refresh speed measurement	Maximum < 1 second
Sensor supply	5-28 volts
Consumption	Standby: 25 µA (5V), RS485 Average (1 measure / second): 4.5 mA (power supply 5V), SDI-12 Average (1 measure / second): 4.5 mA (power supply 5V) Pulse current 100 mA during 30 mS, Warm up time: 100 mS
Sensor	
Weight	750 g (sensor)
Materials in contact with the environment	DELFIN
Maximum pressure	5 bars
Cable / connector	9 armored connectors, polyurethane sheath, bare wires or sealed metal Fischer connector

References

Digital sensor MES5 Odeon Fisher plug 3m	PF-CAP-C-00276
Digital sensor MES5 Odeon Fisher plug 7m	PF-CAP-C-00277
Digital sensor MES5 Odeon Fisher plug 15m	PF-CAP-C-00278
Digital sensor VB5 Odeon Fisher plug 3m	PF-CAP-C-00283
Digital sensor VB5 Odeon Fisher plug 7m	PF-CAP-C-00284
Digital sensor VB5 Odeon Fisher plug 15m	PF-CAP-C-00285

Digital sensor MES5 bare wires 3m	PF-CAP-C-00279
Digital sensor MES5 bare wires 7m	PF-CAP-C-00280
Digital sensor MES5 bare wires 15m	PF-CAP-C-00281
Digital sensor VB5 bare wires 3m	PF-CAP-C-00286
Digital sensor VB5 bare wires 7m	PF-CAP-C-00287
Digital sensor VB5 bare wires 15m	PF-CAP-C-00288



SKIDSENS, Unique Solution for Continuous Fouling Monitoring in your Cooling Systems

Aqualabo provides an innovative solution control in-line continuously fouling phenomenon (biofilm, scale ...).

ADVANTAGES



The Skidsens probe monitors deposits in real-time in order:

- to ensure water treatment efficiency,
- to trigger alerts in case of biofilm and/or scales abnormal increase,
- to optimize & reduce chemical discharges,
- to mitigate legionella risk.



The sensor continuously monitors the fouling trend within the water process enabling the optimization of treatments and confirmation of treatments effectiveness.

The Skidsens probe can be mounted onto a by-pass monitoring system and/or controller system.

Technical specifications

Probe dimensions	D28mm x 190 mm
Connection	3/4" slip T
Certificates	CE
Materials	PVC, stainless steel 316L
Output	1 analogical output 4...20mA (max. 250Ω) for fouling potential
Power supply	24Vdc / 50mA

Measurement Units and Running Conditions

Fouling potential	0...1 u.a.
Process conditions	• Fluid temperature: 0...60°C max / 32...140°F max / Max. temp. slope 10°C/min 50°F/min • Pressure: 5 bars max. / 72.52 psi max.

Outside running conditions

Exterior temperature	5-50°C (41...122°F)
Relative humidity	0 to 90%

Reference

Sensor of detection of fouling

SKIDSENS-W



ODEON, The polyvalent handheld device

ODEON is the range of handheld numerical devices dedicated to water quality control on the field or in the laboratory.

Real combination of ruggedness and digital intelligence, ODEON offers reliability and flexibility never reached before.

With digital sensors DIGISENS, it can measure up to 7 physicochemical parameters.

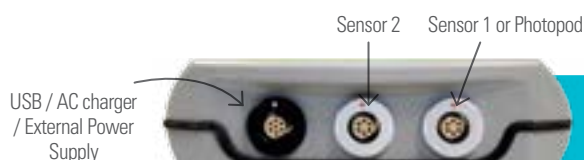
With PHOTOPOD, it becomes a photometer able to analyze more than 40 additional parameters.

ODEON is available in version OPEN ONE with 1 sensor input or version OPEN X with 2 sensor inputs.

Getting immediate, intuitive use

- Large graphical display 4" backlit
- Exceptional Memory Capacity: 8 MB, up to 100,000 measurement records
- Ergonomic device, shock resistant and waterproof: IP67
- Automatic recognition and self-diagnostic probes «Plug and Play»
- Optical Sensors (Oxygen, Turbidity) and electrochemical (pH, ORP, temperature, conductivity)
- Over 40 parameters with photometry using the Photopod

Technical specifications	
Memory	8 MB (up to more than 100,000 records)
Power supply	4 x 1.5V AA • Options: • Rechargeable Battery • Power. External 12 V
Battery life	145-190 hours depending on the configuration
Communication	USB
Housing	PC / ABS
Weight	400 g
Dimensions	196.5 x 121 x 46 mm
Protection	IP 67
Operating temperature, humidity	- 25 to + 50 ° C, 0-70%
Storage temperature, humidity	- 25 to + 65 ° C, 0-80%
Display	LCD 4 «240 x 320 pixel display with adjustable backlighting
Connectors	• 1 connector: ODEON OPEN ONE • 2 connectors: ODEON OPEN X



**Universal water-proof connectors
Clic-Loc™ Plug**

References

Odeon Open One
Odeon Open X

NC-POR-C-00103
NC-POR-C-00093





Accessories and options

- Transfer and data analysis software
- Rechargeable Version with charger 220 V
- External Power Cable 12V
- Y cable for 2 digital sensors on one input
- Sensor coupling Accessories
- Reels up to 20m and 100 m
- Enhanced suitcase equipped with a 12V battery
- Cable length 1 m / 3 m / 7 m / 15 m (other lengths available on request)
- 125 mL Standardized calibration solutions



Photometer PHOTOPOD

- Ultra compact and very lightweight
- 5 wavelengths with automatic selection
- Over 40 parameters available
- Fast and easy methods

Reference : Page 58



References

Accessories

KIT Rechargeable Battery ODEON: Cable Charger, 4 Batteries NiMH rechargeables	NC-ACC-C-00001
Blue carrying case ODEON (small version)	PF-ACC-C-00190
Black carrying case ODEON (big version)	PF-ACC-C-00201
Reinforced briefcase for Odeon including: 1 reinforced briefcase, 1 battery 12V/17A, 1 cable, 2 connections for Digital sensor	PF-ACC-C-00038
USB/PC Cable	PF-ACC-C-00186
Power Supply Cable External 12V	PF-ACC-C-00195
Y Cable for 2 SENSORS	PF-ACC-C-00200
PVC STRAINER (Stainless steel weight) DIGITAL SENSOR	PF-ACC-C-00357
ACCESSORY COUPLING 2 SENSORS	PF-ACC-C-00197
DIGITAL SENSOR until 20 m HAND CRANK CABLE REEL	PF-ACC-C-00198
DIGITAL SENSOR until 100 m HAND CRANK CABLE REEL	PF-ACC-C-00199
ODEON upgrade to Open Technology (For Classic Line)	PF-ACC-C-00191
Strainer with DODISK for OPTOD sensor	PF-CSO-C-00041
Titanium strainer with exchange dodisk for OPTOD sensor	PF-CSO-C-00045

Consumables

4 NiMH refillable batteries	PF-CSO-C-00032
125ml bottle of pH 4 buffer solution	1TP016

125ml bottle of pH 7 buffer solution	1TP060
125 ml bottle of pH 9 buffer solution	1TP012
125ml bottle of pepsin cleaning solution for EH and pH sensors	1SN004
Buffer solution for Redox meters : 240mV to 20°C, 125ml bottle	1SR001
Buffer solution for Redox meters : 470mV to 20°C, 125ml bottle	1SR004
20g bottle of sodium sulphite	1SS012
125 ml bottle of formazine, 4 000 NTU stock solution	1SF009
Conductimeter adjustment solution : KCl 122880 µS to 25°C, 125ml bottle	1SC013
Conductimeter adjustment solution : KCl 1 413µS to 25°C, 125ml bottle	174SCS19
Cables	
Cable for 1 digital sensor bare wire / Odeon (adaptation for Odeon)	PF-ACC-C-00082
Cable for 1 digital sensor bare wire / Fischer connector	PF-ACC-C-00260

AQUA CONNECT'

Autonomous wireless real-time communication solution for Digisens Ponsel digital sensors



Application areas

- Aquaculture
- Sewage treatment plant (follow-up purification performances, input, rejects ...)
- Self-monitoring
- Natural waters
- Drinking water (pumping station, tank management ...)
- Waste water (lift station, sanitation network ...)

Aqua Connect' Solution

Our solution Aqua Connect' allows to follow in real time, measurements made by Digisens numeric sensors of the brand Ponsel.

Each sensor is connected to a «AquaMod» wireless autonomous module, which is itself connected to an «AquaGat» Gateway, which sends the data to our cloud server.

All the programming, calibration, alert / threshold settings ... Simply programming with your smartphone, tablet or PC. The application is free to download on your Android or iOS device.

Monitoring your sensors has never been easier.

ADVANTAGES



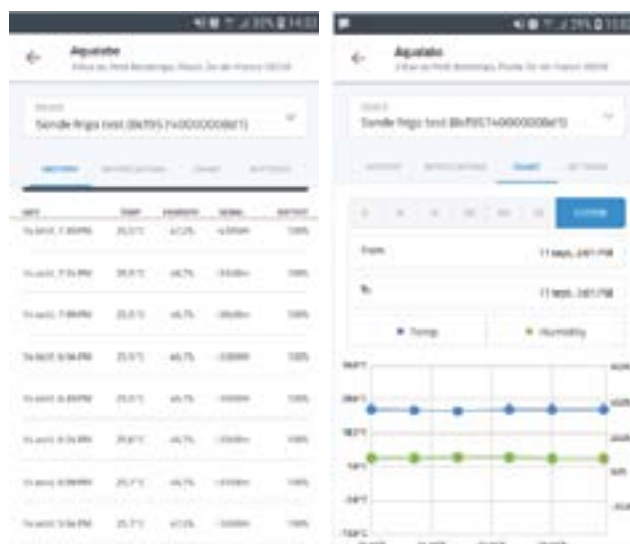
- Transfer and hosting of secure data
- No IT management, only Internet browser for operation
- Real time visualization
- Management via Smartphone (Android and iOS) and PC, intuitive application
- 2 years autonomy minimum
- SMS and email alerts, geolocation of sensors

LoRa® Technology

Our AquaMod' modules communicate via the LoRaWan network, a radio communication protocol that allows the exchange of data. The AquaMod' send the data on the AquaGat', which can accommodate up to 100 modules (100 sensors, 1 sensor per module). The AquaGat' is to connect to your Internet network.

Data analysis

Datas is stored on our Cloud, and available on the IoT in a Box application. ▶





In the example, data is saved here every 15 minutes (editable by the user)

It is possible to see the measurements in the form of tables, or graph (time scale modifiable by the user, day, week, month ...)

Daily, weekly, monthly reports can be customized by the user

An Excel export of data is available on the Cloud (.xls)

AquaMod' module specifications	
Autonomous	2 years minimum, to more than 5 years according to application
Dimensions	145 x 145 x 185 mm
Weight	650 g
Connectique	IP68
Input numeric Digisens sensors	Available parameters : pH, Redox, MES, Sludge blanket de boue, Turbidity, Temperature, Conductivity, Salinity, Dissolved oxygen
Battery	Pack Lithium 3,6V 26 Ah
Security	Customizable SMS and email alerts (AquaMod' battery, AquaGat' power supply, high / low sensor value, sensor fault ...)
Mecanical	User replaceable battery without tools
Environment temperature	-10°C à +50°C
Sealing	By hand tightening, IP68 certified 1 month 1 m water. No tools needed
Norm	Conform to CE marking
LoRaWan range	3 km in urban areas. 15 km in rural areas
Data acquisition	From 10 seconds

- Real-time monitoring and data transmission of your numeric sensors (alarms when the threshold is exceeded, battery low, sensor fault ...)
- Geolocation of your sensors
- PC user interface, smartphone, tablet ...
- Customization by the user (display of curves, transfer of data in Excel, creation of «Dashboard» dashboards)
- Security and confidentiality (hosting on the Aqualabo Cloud, 24/7 monitoring, secure access via username and password ...)



S200, Multiparameter transmitter instrument

Intelligent transmitter for intelligent sensors : Dissolved Oxygen / Turbidity / TSS / Sludge Blanket / pH / ORP / Conductivity / Salinity / T°C



ADVANTAGES



- Large illuminated display
- Cursor-controlled operation with just 5 keys
- Menu navigation in plain text
- Easy integration into the process measurement and control equipment via existing ModBus RTU
- 3 relay outputs
- 1 or 2 digital inputs, switch input or frequency input
- 2 0/4 - 20mA outputs, electrically isolated
- Real time clock, battery backed

Main application areas

Chemical and process technology / Water treatment / Waste water treatment

Technical specifications S200

Software and features	
1 digital RS-485 input	Digital interface for 1 or 2 digital sensors
2 Digital input	Controller stop by external contact, Pulse input of measuring water turbine (flow measurement)
2 Analog outputs	0/4-20 mA electrically isolated, freely configurable Load max. 500 Ω, resolution < 0.01 mA
3 Relay outputs	2 digital output, freely assignable to control outputs - 1 as permanent alarm relay - 1 potential-free NO contact Max. 250 V, 6A, 1000 VA
Controller	On/Off control (with hysteresis), P or PI control
Control behavior	On-Off controller with adjustable hysteresis, Pulse – pause controller, Pulse frequency controller, Continuous controller (analog output)
Limit value	Minimum and maximum limit value per controller Adjustable time delay (09999 s)
Digital interface 1	Modbus RTU Slave
Mains power	230 V/AC, +/- 10 % (50/60 Hz), 110V/ AC, +/- 10% (50/ 60 Hz) Consumption 16 VA
Display	LCD display, 4x20 characters, alphanumeric, backlight Easy operation by means of 5 keys
Technical specifications	
Dimensions (WxHxD)	160 x 165 x 85 mm
Weight	1,1 Kg
Protection class	IP 65
Operating temperature	-20 to + 55 °C Max 90 % relative humidity at 40 °C non-condensing
Storage temperature	-20 to +65 °C

References

DIGITAL PHYSICO CHEMICAL TRANSMITTER S200, 230 V
 DIGITAL PHYSICO CHEMICAL TRANSMITTER S200, 110 V

120000SU
 120001SU



S200 DESINFECTION,

Water control system for Free Chlorine, Chlorine Dioxide, Ozone and pH measurement

Complete set of measure et control

ADVANTAGES



- Principle of measure based on a potentiostatic sensor
- No electrolyte or consumable
- Automatic cleaning system
- Complete system plug and play
- Access to the menus of programming secured via password (3 user's levels).
- Controller possessing numerous possibilities of piloting
- Temperature compensation manually or by using a Pt100 or Pt1000
- Calibration of the pH with automatic detection of the value of the buffer solution
- Single-point calibration (DPD method)

Main application areas

Chemical and process technology / Water and Waste water treatment / Cooling water treatment / Drinking water and beverage



Free chlorine /
Active chlorine
display

One single
gold ring





Technical specifications Sensor	
Measured parameters	
Measuring principle Free Chlorine, Chlorine Dioxide, Ozone, Measuring principle pH	Potentiostatic with one gold ring, Reference used on the pH probe combined electrode reference / measure
Measuring range	• Free Chlorine : 0.00 to 5.00 mg/L, Active Chlorine : 0.00 to 5.00 mg/L • Chlorine dioxide : 0.00 to 5.00 mg/L, • Ozone : 0-1.000 mg/L or 0-5.00 mg/L • pH : -2.00 to +16.00 • Temperature : -30.00 to +140.00 °C
Resolution	• Chlorine : 0.01 mg/L • Chlorine Dioxide : 0.01 mg/L • Ozone : 0.001 mg/L or 0.01 mg/L • pH : 0.01 mV Resistor > 5x10¹¹ Ω, Temperature : 0.1 °C/Pt100/ Pt1000
Accuracy	+/- 2 % Full Scale
Response time	30 s
Free Chlorine, Chlorine Dioxide, Ozone sensors	
Material in contact with the middle	Glass/gold
Water temperature max.	70 °C
Pressure max	8 bars at 20 °C
Flow	Between 40 and 120 l/h, Fluctuations Compensated and checked
Temperature	Pt1000
pH sensor	
Water temperature max.	70 °C
Pressure max	8 bars at 20 °C
Flow	Between 40 and 120 l/h, Fluctuations Compensated and checked

All components required for measurements are mounted on a plastic plate, dimensions 495 x 580 x 80 mm.

References

MULTIPARAMETERS CONTROLLER: S200 CHLORINE DIOXYDE / PH 230 V	600000SU
MULTIPARAMETERS CONTROLLER: S200 CHLORINE DIOXYDE / PH 110 V	600001SU
MULTIPARAMETERS CONTROLLER: S200 DISSOLVED OZONE / PH 230 V	700000SU
MULTIPARAMETERS CONTROLLER: S200 DISSOLVED OZONE / PH 110 V	700001SU
MULTIPARAMETER CONTROLLER: S200 FREE CHLORINE / PH 230 V	800000SU
MULTIPARAMETER CONTROLLER: S200 FREE CHLORINE / PH 110 V	800001SU

S200 TUR,

Measurement of Turbidity

Complete set of measure et control

ADVANTAGES



- Accurate measurement of low concentration of Turbidity
- Range: 0-10 to 0-100 NTU
- In compliance with ISO 7027-IR Nephelometric method
- Self-cleaning of the system by US Method

Main application areas

Cooling water treatment / Drinking water and beverage

Features

- **Fast and Easy Calibration:** Verification in seconds while a complete primary calibration can be completed in less than 5 minutes.
- **Low Volume Sample Chamber:** Low volume sample chamber (30 ml) reduces calibration costs and provides quick response times.
- **Low Maintenance Fail Safe Design:** Simple Modular Design. Easy to Use and Service
- **Bubble Rejection System:** Eliminates bubbles without delaying the response time.
- **Affordable:** Modular microprocessor based technology ensures high quality at the industry's lowest price.
- **AutoClean:** Ultrasonic cleaning allows for the first EPA Accepted Automatic Cleaning OnLine Turbidimeter



Technical characteristics for the measure

Measured parameter	
Measuring principle Turbidity	IR Nephelometry method - ISO 7027
Measuring range	0-10 to 0-100 NTU
Resolution	Between 0-10 NTU : 0.0001 NTU, Between 10 and 100 NTU : selectable
Accuracy	Between 0-40 NTU : 2 % of reading or +/- 0.02 (whichever is greater), 5 % of reading above 40 NTU
Response time	Adjustable (5 to 500 seconds)
Sample Temperature Range	1-50 °C

Technical characteristics S200 TUR

Software and functionality	
1 Analog output	4-20 mA electrically isolated, Load max. 600Ω
2 Relay outputs	Selectable high/Low alarms (NO/NC/C), 120-240 VAC, 2 A
1 Digital interface	RS485 Modbus bidirectionnal
Constructional design wall-mounted casing S200 TUR	
Mains power	100-240 VAC, 47-63 Hz, 80 VA
Display	LCD display, 4x20 characters, alphanumeric, backlight Easy operation by means of 4 keys
Weight	2.5 Kg
Protection class	IP 66 / NEMA 4X
Input Pressure	1-200 psi (built regulator set at 15 psi)
Flow Rate	100 ml/min to 1 L/min
Operating temperature	1 to + 50 °C
Environmental conditions	Not recommended for outdoor use, Altitude up to 2000 meters, Up to 95 % RH (non-condensing)
Regulatory Compliance And Certifications	IR Nephelometric method - ISO 7027, CE approved, ETL listed to UL 61010B-1 & ETL Certified to CSA 22.2 No. 1010-1-92

References

S200 CONTROLLER TURBIDITY DRINKING WATER / RANGE 0-100 NTU ISO 7027
 S200 CONTROLLER TURBIDITY DRINKING WATER / RANGE 0-10 NTU ISO 7027

900000SU
 900002SU

STAC, Compact Alarm System



The overall context

The protection of water resource is a National & European priority for the coming years.

If the permanent pollution of surface water tends to lower down following the progress of waste water treatment, accidental pollution and bio-terrorism become a more and more present threat.

Protecting sampling points, setting up restricted areas and surveying the quality of water dedicated for human use remains today as a priority.

Detector

- UV diode array spectrophotometer (204- 323 nm) without any moving parts
- Pulsed deuterium source for a far UV high energy

Sampling

- Automatic and sequential sampling circuit rinsing and cuvette cleaning
- Programmable automatic sampling from 2 to 30 minutes
- Pinching valves Ø 8 mm for TSS reading without filtration

Date transfer

- Current loops: : 4-20mA
- RS 232
- UV-Pro software for data storage and UV spectrum management

Casing

- 1- Control box: 300 x 300 x 170 mm, Weight: 3 Kg, Protection IP 65
- 2- Fluidic box: 300 x 300 x 170 mm, Weight: 3 Kg, Protection IP 65
- 3- Polychromator box: 280 x 190 x 180 mm, Weight: 3 Kg, Protection IP 66/65

Measuring range

- COD: 2 mg/L to 8750 mg/L
- BOD: 0,5 mg/L to 8750 mg/L
- TOC: 1 mg/L to 7500 mg/L
- TSS: 5 mg/L to 2500 mg/L
- NO₃: 1 mg/L to 1000 mg/L

ADVANTAGES



- Physical method with almost no consumable
- Very fast reading (< 5 minutes)
- Easy and low maintenance
- Both quantitative and qualitative reading
- Build in separates enclosures with aqueous sample isolated from electronics
- Fitting with most of tele-transmittable systems
- Fully automatic

References

STAC Analyzer	70MP0454
2mm optical pathlength flowcell	70MP0539
5mm optical pathlength flowcell	70MP0538



PASTEL UV

Portable UV reagentless analyzer,

Pastel UV is a reagent free tester for water quality control and effluents with measurements of COD, BOD, TSS, TOC, NO₃,... in urban effluents, natural bodies of water, water treatment plant output.

ADVANTAGES



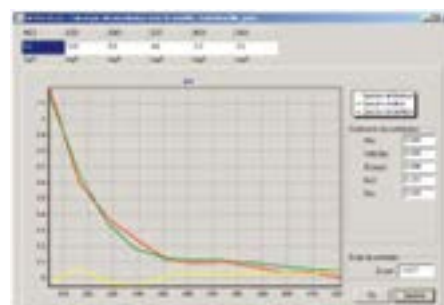
- Multi-parametric measurements: COD, BOD, TOC, TSS, NO₃
- All types of water (raw, treated, natural, and processed water)
- Fast, reading in less than a minute
- Reagent free



The PASTEL UV is able to measure 5 parameters simultaneously and thus permits rapid characterization of the effluent. Once the sample is taken with a micropipette and the quartz tank filled, the analysis and the results take less than a minute. This speed makes it possible to carry out a large number of measurements and to react in real time in cases of accidental pollution or of a process incident. The sample undergoes no pre-treatment; if it is too concentrated, the device calculates automatically the dilution factor to be applied. As PASTEL UV works without reagents or other additives, the cost of operating remains unchanged, no matter how many analyses are made. The set of data can be stored with a sample number, a code for the user, the location and the time of analysis. In addition to quantitative data the UV technology compares the profile of the sample with the type of selected water. This is used to validate the quantitative data and / or to detect the presence of accidental pollution.

Pro UV software

- UV spectrum operating software
- It can be used either to drive a laboratory device or to continuously collect data on-line from an analyzer.
- Setting up or / and calibration of the Advanced Spectral Deconvolution
- Driving of all SECOMAM UV detectors
- Data archiving
- Maintenance support tools
- Operation on the spectra (derivatives, smoothing, shift...)



Technical specifications	
Spectral range	200 to 350 nm
Measuring cuvette	2 optical paths: 5 and 10 mm
Weight	9 kg
Dimensions	40 x 40 x 40 cm
Output	Display screen (64 x 128 pixels) RS232C bidirectional
Power supply	Internal Battery 100 readings External 110/240V / 50/60 Hz
Power	35 W

Delivered with a carrying case, a micropipette, a transformer 110-240V / 50-60Hz.

References

PASTEL UV (UV Pro software in option)	70MP0316
UV-Pro Software	70MP0405
Kyoline printer	0M8303
1 cell 5x10 mm, standard quartz cell	0GQ203Z0
RS232C cable	0X5764D

BACTcontrol,

Online monitor of total and specific bacteria activity (E.coli and coliform) in water

The BACTcontrol is an "early warning system", complementing the officially accepted methods for the detection of microbiological activity. The measurements are realized in a short period of time, 1-2 hours, depending on the sampling volume and cleaning procedures. This is in contrast to classical microbiological methods, which are labor-intensive and in which cultivation of the organisms is required, taking several days before obtaining reliable results (24-48 hours).

The BACTcontrol is an online automated instrument for the detection of microbiological activity in water. It measures the specific enzymatic activities of β -galactosidase (coliforms), β -glucuronidase (E.coli) and alkaline phosphatase (total activity, biomass), as an indicator of the presence of bacterial contamination. The enzyme activity is detected by adding reagents (consumables) which contain a fluorescent indicator. The reagents are substrate-specific for the enzyme to be detected, meaning that there is an increase in fluorescence when the enzyme is present in the sample.

Instrument Specifications

Based on fluorescent measurement of specific enzymatic activity:

- β -Glucuronidase-> indicates E.coli activity
- β -Galactosidase-> indicates Coliform activity
- Alkaline Phosphatase -> Total Activity

Communication Specifications

- Integrated PC with Windows
- Graphical user interface with touchscreen
- Full network capability via direct LAN
- 2 x USB 2.0 type A
- 2 x LAN 10/100/1000MB/s; RJ-45
- 2x digital input
- 2x relays output
- Protocols: Modbus TCP and Modbus serial, others on request
- 1 x 4 - 20mA outputs
- English operating system: German, French and Spanish, and others on request



Specifications Options

- Modem slot for UMTS, ISDN or analog (modem optional)
- Second sample inlet / extra rinsing
- Air-conditioning unit (if higher than 30°C / 86°F)

Automatic cleaning

- User selectable cleaning cycles
- Cleaning solution (sodium hypochlorite solution < 0,05% active) prevents fouling and enables unattended deployment for several weeks.

Technical specifications	
Protection classification	IP 54
Weight	25 KG (excluding airco)
Dimensions (h x b x d)	460 x 450 x 321 mm
Cabinet material	St. Steel
Sample pressure	max 0.05 bar
Sample connection	4 mm ID
Sample temp.	10 - 35°C / 50F 95F
Sample flow rate	3 l/h
Ambient temperature	15 - 30°C / 59F • 86F, > optional air-co necessary
Power consumption (average)	<100W
Power	220V - 50 Hz or 110V - 60Hz
1 pump	programmable (sample)



iTOXcontrol, Integrated On-line Toxicity Monitoring System

The iTOXcontrol is the most versatile screening and Early Warning System in the world with unique options:

- Integrated and automated cultivation of the bacteria inside of the instrument.
- Information can be sent to an internet database to support decision making for alarm monitoring and modeling.
- Integration of different optional sensors like a UV-VIS sensor or Algae sensor (for Chlorophyll-a and blue-green algae) which creates a combined system for Early Warning and Water Quality Monitoring (ask for more specifications and details).

Extended maintenance cycle

By integrating the cultivation of the bacteria into the iTOXcontrol, it is possible to extend the maintenance cycle to 1h every 2 weeks. This also decreases the usage of bacteria to 50%.

The new design of the bacteria (40 ml) module allows better mixing results.

Hardware

The iTOXcontrol is placed in a ventilated cabinet:

- Size: 50 x 50 x 110 cm (DxWxH), with trolley an extra 73 cm.
- Weight: + 90 kg (+ 20 kg with optional air-conditioning)
- Housing with glass front door, can be locked for protection.
- Build-in PC with keyboard and touchpad, DVD reader/writer.
- 17 inch TFT screen, Ethernet Controller, COM port and USB connectors
- Power: 220V - 50 Hz or 110V - 60Hz.



Software

The TOXcontrol Engine software runs under Windows 7 and controls all the settings of the instrument. The TOXview data collection software is used for or calculations, settings and the use of alarm levels. The status of the instrument is displayed at the Status page of the software. The iTOXcontrol instrument is performing the instructions given by the TOXcontrol Engine. The different settings for the instrument as the readings for calculations using variable data given by the user, are loaded when the program is started. The required data for evaluation purposes or for obtaining a history file, will be saved during a run in the TOXview database. Graphic charts are developed or changed using TOXview, which can be selected in the Graph page.

Technical specifications	
Dimensions	50x50x 183 cm (L x l x H).
Communication	Standard: TCP/IP, Analog output: 4 – 20 mA / Optional: external USB modem 56k, External COM port for MODBUS data communication.
Optional	Modem for telephone connection or additional RS232 connection
Maintenance	Very reliable, low running & maintenance cost
TOXview Software	For data acquisition & evaluation
Sample temperature	15 - 30 degrees C.
Working conditions (room temperature)	Standard: 15 - 30 degrees C / Optional: 30 – 40 degrees. C. with additional cooling unit.
Cabinet	Protection class IP 31
Sample water	+ 10 ml/h (4,5 ml per measurement, 2 per hour)
Reference water	+ 100 ml/h per measurement, not chlorinated, optional dosage with a magnetic valve
Connections	Drain : waste and positive control: 20 mm (external) Feed : sample and reference: 4 mm (external, for silicone tubing)

In-line, automatic dechlorination is possible.

TOXmini,

Simple measurements of biological and chemical luminescence reactions

The TOXmini is a portable and easy to use system for toxicity measurements in a wide variety of samples and applications. It automatically measures the luminescent effect of the *Vibrio fischeri* and will give an indication when the tested sample is toxic.

It can be used in the laboratory (also in combination with the optional cooling block) and as a field system running on the reloading internal batteries. It is also an ideal solution to be used on conjunction with the TOXcontrol because it uses the same reagents (freeze dried bacteria, blank solution and positive control).

Modern and flexible

- Battery and mains operable
- High-resolution graphic display
- User language German or English
- Serial 9 PIN RS 232 interface for selective data transfer to a standard PC
- Variable measurement times in order to obtain optimum results even in case of weak luminescence.

User-friendly

- Data memory for up to 2000 test results
- Selective data administration (calling/deleting) by means of the location identification digit, sample number, date, time parameters
- 6 individual program places for user-defined measuring programs
- Classification of test results by means of previously defined thresholds

Variable test methods

- <BioTox-S>: Implementation of luminous bacteria toxicity tests only with the analysis of the final light intensity of the tests
- <BioTox-B>: Implementation of luminous bacteria toxicity tests with the analysis of initial and final light intensity
- <RLU>: Evaluation of luminescence tests (e.g. ATP tests, Reporter gene assays) with respect to relative light units (RLU)

Applications

- Intake protection for drinkingwater companies
- Waste water checking: Influent and effluent measurements
- Process water security control for food applications for HACCP applications
- Off line control, validation and verification of the results of the TOXcontrol
- Testing the sensitivity of the luminescent bacteria (*Vibrio fischeri*)
- Off-line comparison with the on-line TOXcontrol
- QA/QC applications of bacteria and reagents
- Other toxicity applications



Technical specifications	
Detector	Ultra Fast Single Photon Counter
Spectral wave range	380 - 630 nm
Software	Microprocessor software, 6 users specific measurement protocols can be stored
Data storage	Max. 2000 measurements
User languages	Optionally German or English
Display	Illuminated graphic display (128 x 64 dots)
Interface	RS 232 interface for data transfer to the PC or printer
Operating mode	Batterie or mains operable
Batteries (rechargeable batteries)	3 rechargeable batteries: NiCd R14/C/Baby/UM2 batteries; 2500 mAh
Mains power supply	230 V / 50 Hz, 115 V / 60 Hz
Dimensions (H / W / D)	170 x 150 x 280 mm
Weight	2 kg (incl. batteries)
Humidity	10 % to 90 % (no condensation)
Temperature Range	+15 °C to +30 °C
Warranty	1 year

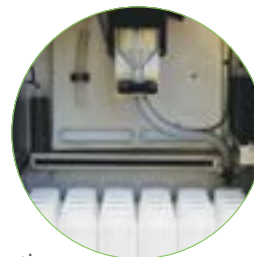


BABYNOX ECO,

Managing your samples made easy

The stationary BABYNOX Eco sampler is a compact device that operates in even the harshest conditions, and manufactured in line with Aqualyse quality standards

- Made entirely from stainless steel 304 (316Ti in option)
- Delivered with workshop-pre-programmed "Plug & Play"
- Vacuum pump sampling system for more accurate sampling. Peristaltic pump available on request
- No recalibration required after cleaning
- Software with remote controlled program
- 9 customizable programs that can be activated simultaneously
- Cold and hot air conditioned / ventilated, precision probe temperature control, automatic defrosting
- Easy access to key components for ease of maintenance
- Many options available



XY distribution system

- Direct discharge
- No cross-contamination
- No fouling or plugging, no dispenser plate to clean
- Upkeep time saving
- Quality of samples

ADVANTAGES



- Simple and sturdy
- Ergonomics
- Accuracy and reliability
- Easy cleaning
- Operates under very difficult climatic and temperature conditions
- Many operating combinations
- Quiet and accurate vacuum pump system

Technical specifications

Dimensions	1020 x 590 x 590 mm
Weight	between 70 and 80 kg depending on the version
Power supply	230 V AC - 50 Hz
Main fuse	16 A
Output	750 VA max. including a high performance refrigeration system and heating unit
Operating temperature	- 25°C to + 42°C
Inputs	Flow rate: 0 / 4 -20 mA / Dry contact • Event: Dry contact
Outputs (4 in total)	Operating message • Default message • 2 free outputs

BABYNOX Eco meets the standards: CE - ISO 5667



Available versions

• Packaging:

• Single containers:

- 10,4 L / 26 L PE • 2 x 10,4 L PE
- 4 x 6,4 L / 12 x 2,9 L PE or 12 x 2 L glass • 16 x 2 L PE
- 24 x 1 L PE or 24 x 1 L glass

• Combined containers:

- 12 x 1 L + 1 x 10,4 L PE • 12 x 2L + 1 x 6,4 L PE • 7 x 2 L + 14 x 1 L PE

• Communication:

The BABYNOX Eco can, as an option, house a modem for remote operating control, sending default messages via SMS, as well as remote start-up using a cell phone.

References

BABYNOX ECO refrigerated sampler 316Ti 1 bottle 26,4 l.	AQXF110126E
BABYNOX ECO refrigerated sampler 316Ti 4x12L PE	AQXF110412E
BABYNOX ECO refrigerated sampler 12 bottles 2,9 l.	AQXF111203E
BABYNOX ECO sampler refrigerated 24 bottles 1 l.	AQXF112401E

Options

Internal light with door contractor	LUMIEAXF
Key lock	BARILAXF
Mounting on wheels	ROULEAXF11
Raised base 300mm	REHAUAXF
316 Ti Stainless Steel	INOX316TIAXF

SCAF,

Flats and Aggregates Characterization System

ADVANTAGES



- IR optical sensor based on absorptiometry
- Measuring evolution of sedimentation over time
- Unique system associated with ISCO 3700 sampler
- Robust set all in one
- Compatible with used PC in laboratory

Application areas

Monitoring of sediments, harmful algae • Dam hunt • Rivers, mountains, lakes ...

- Extreme situations (floods) • Laboratory

Optical technology

SCAF allows an analysis of the evolution of turbidity (optical method) along a sedimentation column, and over time. Equipped with a pair of 16 LEDs + IR detectors, the SCAF makes it possible to measure the evolution of decantation to one measurement per second.

SCAF can be used directly with a PC for laboratory use.

The SCAF can also be associated with the ISCO 3700 sampler. SCAF (up to 24 in the same sampler) will allow you to characterize in the field, the evolution of the sedimentation. All programming is done through its intuitive software. This software is specially adapted for hydro sedimentary research. **The software allows you to:**

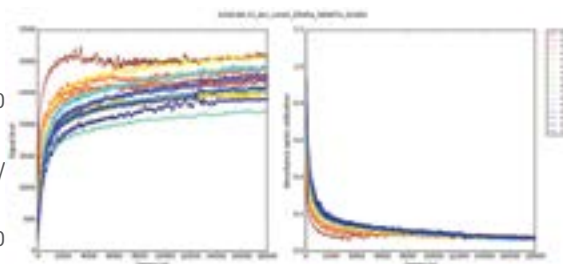
- Configure the measurement time step (no different time depending on the sedimentation, according to sedimentary dynamics, behavior of cohesive and non-cohesive sediments)
- Recover recorded data
- Graphical exploitation

Mechanical

The SCAF system is directly integrated into the cans of your 3700, no maintenance / calibration to be expected.

The sampling receptacle is made of glass, this glass tube can be easily extracted from the can for its easy cleaning with clear water

The cabinet of your ISCO 3700 will have to be pierced beforehand to be able to let the connexion cable between ISCO 3700 sampler and the SCAF, which will be in the cabinet of the ISCO 3700 in the place of a bottle.



Technical specifications

Measuring principle MES	Emission LED between 800 and 900 nm with peak emission at 850nm. Equipped with 16 phototransistors
Sampling volume	190 mL
Dimensions	Height : 255 mm / Length : 125 mm / Width : 45 mm
Operation Temperature	2°C – 45°C
Storage Temperature	-10°C – 45°C
Supply	12V (with supplied cable)
Weight	650 g
Materials in contact with sample	Glass can
Material	ABS base
Cable / connectors	Waterproof connectors. Supplied with following cable : SCAF to PC cable / SCAF to ISCO 3700 cable (optional) / SCAF to SCAF cable (optional)
IP	IP54 (if glass tube in place and connection screwed)

References

SCAF system sedimentation measuring	SCAF
SCAF connexion cable - ISCO 3700 sampler	X0075A
SCAF - SCAF connexion cable	X0076A



AQUA-UV, 316L stainless steel measuring channel for circular pipe laying

The Venturi that slides into the tightest spots.

Fully 316L stainless steel, Aqua-UV® Aqualyse U-shaped is actually a measurer Canal «U» easily fitting into pipes in all diameters for a very economical and quick installation.

The Aqua-UV has been specially designed to answer to the problematic installation in small dimensions and insertion in cylindrical pipe layings. A simple existing room or the end of a pipe is sufficient for the installation.

Upstream slope up to 1% is acceptable. Stainless steel improves the fluidity and reduces the deposits on walls. The transport of sediment is optimum and the development of minimum algae. The rigidity of this material makes it easier to install than a polyester channel by reducing the installation costs.

The Aqua-UV is ideally suited for installation in standard vents.

Applications

- Sanitation systems
- Stormwater systems
- Industrial or collective discharges

	Ø 200	Ø 250	Ø 300	Ø 400	Ø 500	Ø 600
Recommended minimum flow (m³/h)	3	3	4	4	5	6
Recommended maximum flow (m³/h)	67	119	180	383	649	1185
Overall length (excluding bracket)	300	300	360	480	600	720
Overall height (excluding bracket)	240	300	360	480	600	720
Minimum approach length REQUIRED	2000	2500	3000	4000	5000	6000

Material: stainless steel 316L. Other models : contact us. All dimensions in mm.

ADVANTAGES



- Reduced of Civil Engineering
- Excellent accuracy
- Very Reduced size



References

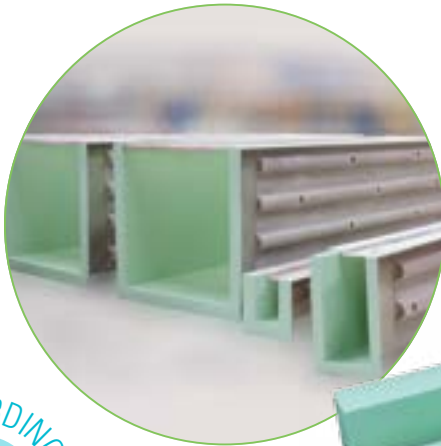
U Threshold triangular section aqua uv 67 m³/h	UV0200
U Threshold triangular section aqua uv 119 m³/h	UV0250
U Threshold triangular section aqua uv 180 m³/h	UV0300
U Threshold triangular section aqua uv 383 m³/h	UV0400
U Threshold triangular section aqua uv 649 m³/h	UV0500
U Threshold triangular section aqua uv 1185 m³/h	UV0600

AQUA VENTURI,

A rugged and economic venturi flume

The integrated approach flume simplifies installation and minimizes positioning errors.

AQUA VENTURI is a standardized prefabricated flume ISO 4359. Available in 8 models from 7 to 2500 m³ / h, it adapts to all situations and water content.



ADVANTAGES



- Reinforced polyester fiberglass resin
- Self-cleaning bottom
- Integrated approach channel (up to 100 m³ / h)
- Simple installation limits the risk of error
- Optimized for intermediate flow rates

ACCORDING TO
ISO
4359

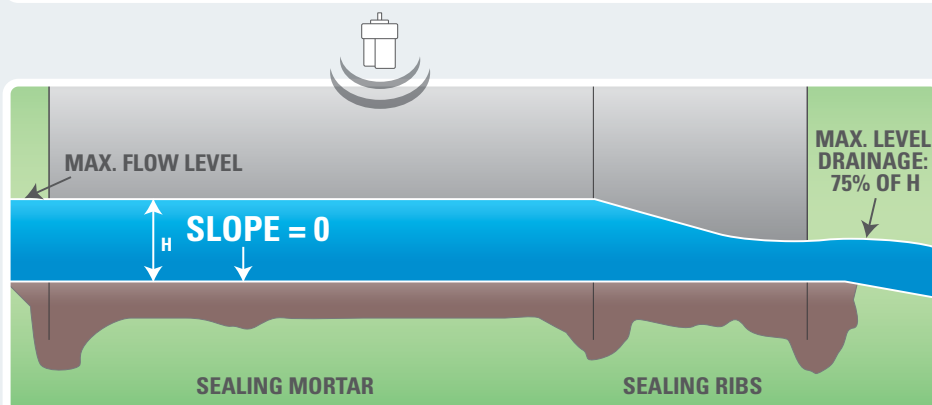
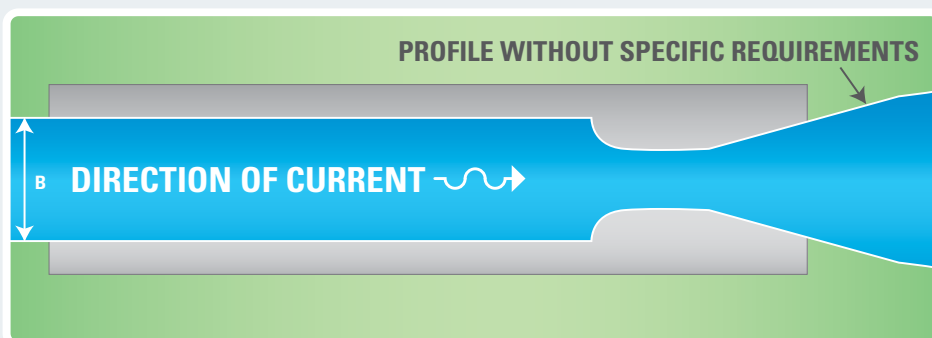


Technical specifications

Material

Reinforced polyester fiberglass

Installation requirements





Aqua Venturi Product line

	AV 7 ¹ AV 7S ^{1,2}	AV 25 ¹ AV 25S ^{1,2}	AV 100	AV 250	AV 500	AV 1000	AV 1500	AV 2500
Nominal Flow (m³/h)	7,6 7	25 19	100	250	500	1000	1500	2500
Overflow Rate (m³/h)	12 9,3	28,5 22,4	111	271	548	1070	1621	2679
Recommended Minimum Flow³ (m³/h)	2,6	5	7	14,3	21,5	30	44	73
Interior Width B	100	100	150	300	450	550	650	1100
Overall Width	200	200	250	400	550	650	750	1200
Overall Height	185	205	356	395	470	620	705	700
Length of Aqua-Venturi	Venturi - Integrated Approach			1143	1495	1919	2161	2805
Approach Length	Venturi - Integrated Approach			2440 ⁴	3394 ⁴	4334 ⁵	5068 ⁵	7312 ⁵
Overall Length Approach + Aqua-Venturi	1260	1350	2414	3583	4889	6253	7229	10117

Material: Reinforced polyester fiberglass.

1) The width of the neck (<100 mm) does not comply with ISO standards.

2) With raised bottom and air bubbling measurement hole.

3) As defined in ISO standards.

4) Delivered in one piece.

5) Comes in 2 parts.

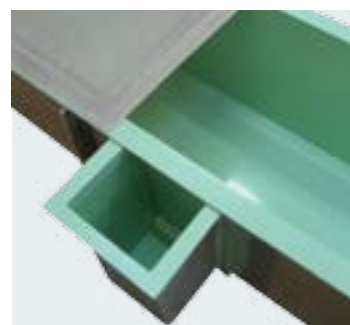
All dimensions in mm.

References

Venturi flume 7m³/h including approach length	AVCA0007S2 AVCA0007
Venturi flume 25 m³/h including approach length	AVCA0025S2 AVCA0025
Venturi flume 100 m³/h including approach length	AVCA0100
Venturi flume 250 m³/h	
Venturi flume 250 m³/h	AV0250
Approach channel 250 m³/h	CA0250
Venturi flume + 1 approach channel 250 m³/h	Package
Venturi flume 500 m³/h	
Venturi flume 500m³/h	AV0500
Approach channel 500m³/h	CA0500
Venturi flume + 1 approach channel 500m³/h	Package
Venturi flume 1000 m³/h	
Venturi flume 1000 m³/h	AV1000
Approach channel (foresee 2 channels) 1000 m³/h	CA1000
Venturi flume + 2 approach channels 1000 m³/h	Package
Venturi flume 1500 m³/h	
Venturi flume 1500 m³/h	AV1500
Approach channel (foresee 2 channels) 1500 m³/h	CA1500
Venturi flume + 2 approach channels 1500 m³/h	Package
Venturi flume 2500 m³/h	
Venturi flume 2500 m³/h	AV2500
Approach channel (foresee 2 channels) 2500 m³/h	CA2500
Venturi flume + 2 approach channels 2500 m³/h	Package
Aluminium Limnimetric Scale with flow-rate for Aquaventuri (precise type of venturi)	REGLIMALUAV...
Sticking Limnimetric Scale with flow-rate for Aquaventuri (precise type of venturi)	REGLIMAV...

Options

Monitoring well option for bubble flowmeter	PUITSAB
Monitoring well optiof for ultrasonic sensor on Aqua Venturi	PUITSABUS



CORAL PROBES, Water level measuring probes

The AQUALYSE “CORAL Probes” ensure a sonorous and luminous detection of the groundwater level.

The AQUALYSE “CORAL probes” have been developed for punctual measures on groundwater level needs (well, drilling, piezometer...). A luminous and sonorous signal indicate the water surface (surface bottom as an option) has been reached. Reading the depth on the ribbon is simple and unmistakably. The detection is ensured by a stainless steel probe whose sensitivity is adjustable on the reel. A white polyethylene and strengthened ribbon is UV, saltwater and crushing resistant. A bicolour and high sensibility (m, dm, cm) metering facilitates the level determination. The reel is equipped with a stainless steel hook and with a ribbon's guide.

Application

- Drilling level measuring, wells and ground water

Technical specifications	
Versions	30 m, 50 m, 100 m and 150 m
Probes	• Materials: stainless steel 316 • Dimensions: diameter: 15 mm, length: 195 mm • Protection: IP68 • Storage temperature: +0°C / +30°C
Ribbon	• Type: white polyethylen double wire • Ultraviolet, saltwater and contaminated water resistant • Metering: m (red), dm and cm (black)
Reel/controller	• Length: 30, 50, 100 and 150m • Hooks for fixing • Stainless ribbon guide integrated • Probe holder integrated • Battery: 2 buttons battery/autonomy: 15 000 detections or 10 years • Signal: Sonorous (buzzer) and luminous (LED) • Detection's sensibility: adjustable by potentiometer • Test: TEST A: battery / TEST B: probe + ribbon • IP55 protection
Dimensions and weight	Dimensions : • 30 m and 50 m versions: 210 x 300 x 205 mm (LxHxD) • 100 m and 150 m versions: 262 x 360 x 230 mm (LxHxD) Weight: • 30 m and 50 m versions: < 2,3 kg • 100 m and 150 m versions: > 4.8 kg
Option	• Bottom detection probe



References

Coral Probe 30m	CORAIL30
Coral Probe 50m	CORAIL50
Coral Probe 100m	CORAIL100
Coral Probe 150m	CORAIL150
	OPTFDELTA D



OVERFLOW, Overflow detectors

The overflow detector sensor detects the presence of water and delivers information in the form of non-polarized dry contact.

The overflow detector PONSEL has 2 waterproof and rugged enclosures: sensor and cylindrical control unit. Sensor is in PVC material and contains two electrodes in stainless steel and can easily be installed in horizontal or lateral position with its two anchoring points (M5x40 screws).

The 9 meters cable is connected to the control unit.

The cylindrical control unit is powered by an internal lithium battery and has a grip ring to facilitate the installation. The 1 meter cable(s) can be connected to the following materials:

- Automatic sampler,
- Recorder,
- Remote Management System.

The information gathered by the Ponsel overflow sensor may be referred to a supervisory or smartphone via the datalogger Smartlog.

Applications

- Qualitative monitoring of storm overflows, by the presence of water detection.
- Qualitative monitoring of sanitation networks.

ADVANTAGES



- Rugged, waterproof, easy to install
- Connecting to recorders, remote management, sampler
- Distribution signal as a dry contact

Technical specifications sensor	
Detection Limit	Under 0,5 mm of water
Measurement	Getting in contact with two electrodes
Materials	PVC, stainless steel
Protection	IP68
Operating temperature	0-50°C
Dimensions (H x W x D)	20 x 80 x 60.5
Power supply	Via the electronic control unit, external power version
Cable	Shielded Multiple wires, polyurethane sheath. 9 meters connected to the electronic box (length can not be changed)

Technical specifications electronic box	
Materials	PVC
Protection	IP68
Dimensions (H x diameter)	120 x 40
Power supply	• Internal Lithium Battery, Battery Life: 3 years • External power Version +3.6 V $\pm$ 5% (consumption < 200 μ A)
Cables	1 or 2 cables of 1 meter (polyurethane wrapped) • Bare wires

References

Overflow detector, version 2 cables bare wires PF-CAP-M-00013

Overflow detector, version 1 cable bare wires PF-CAP-M-00023

Overflow detector, external power supply PF-CAP-M-00031



Solutions FOR WASTE WATER TREATMENT PLANTS

Whether in construction, operation or maintenance, **the Aqualabo range** covers all your needs for control and monitoring waste water plants.

For the control of:

- Activated sludge
- Constructed wetlands
- Biological disks
- Phyto-epuration
- SBR / Etc.

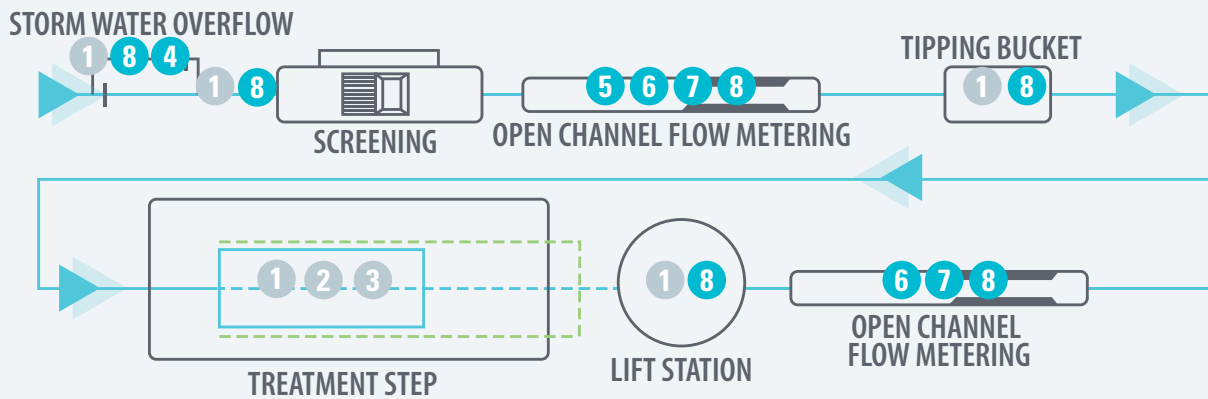
One contact: simplicity and security

- Physico-chemical measurement
- Control and monitoring





EXAMPLE*



* The above scheme is only for example.

PHYSICO-CHEMICAL

1 Measurement of dissolved oxygen, TSS, turbidity...



2 Analysis cases and kits



3 Sludge blanket control



4 Aqua Connect'



CONTROL AND MONITORING

5 Automatical sampler



6 COD, BOD, TOC, TSS measurement



7 Venturi flumes



MASTERING REMOTE MANAGEMENT

8 Data remote and data logging



FISH FARMING, Create an ideal environment for your pisces

Instrumentation is a key factor in the field of Aquaculture, **since it acts directly on the health and longevity of fish.**

Perfect management of the dissolved oxygen level in the pool water is essential, but the monitoring of pH, temperature, conductivity, for example, are also very important.

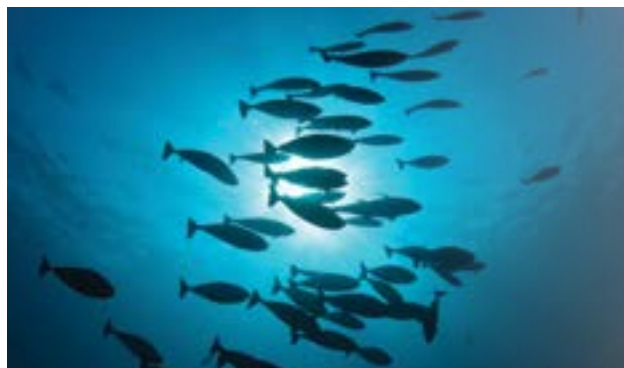
Finally, the monitoring of ammonia (that gives an indication of organic decompositions volumes present in the water) and of nitrates and nitrites is an essential step of fish farming.

Aqualabo offers a comprehensive range of simple equipment, reliable and accurate, dedicated to Fish farming activity , but can also support complete systems of measurement, analysis and all sizes of installations of control, ranging from a few to several dozen ponds, passing sea fish farm.

ADVANTAGES



- Real-time tracking
- Environmental supervision
- Remote control of equipment

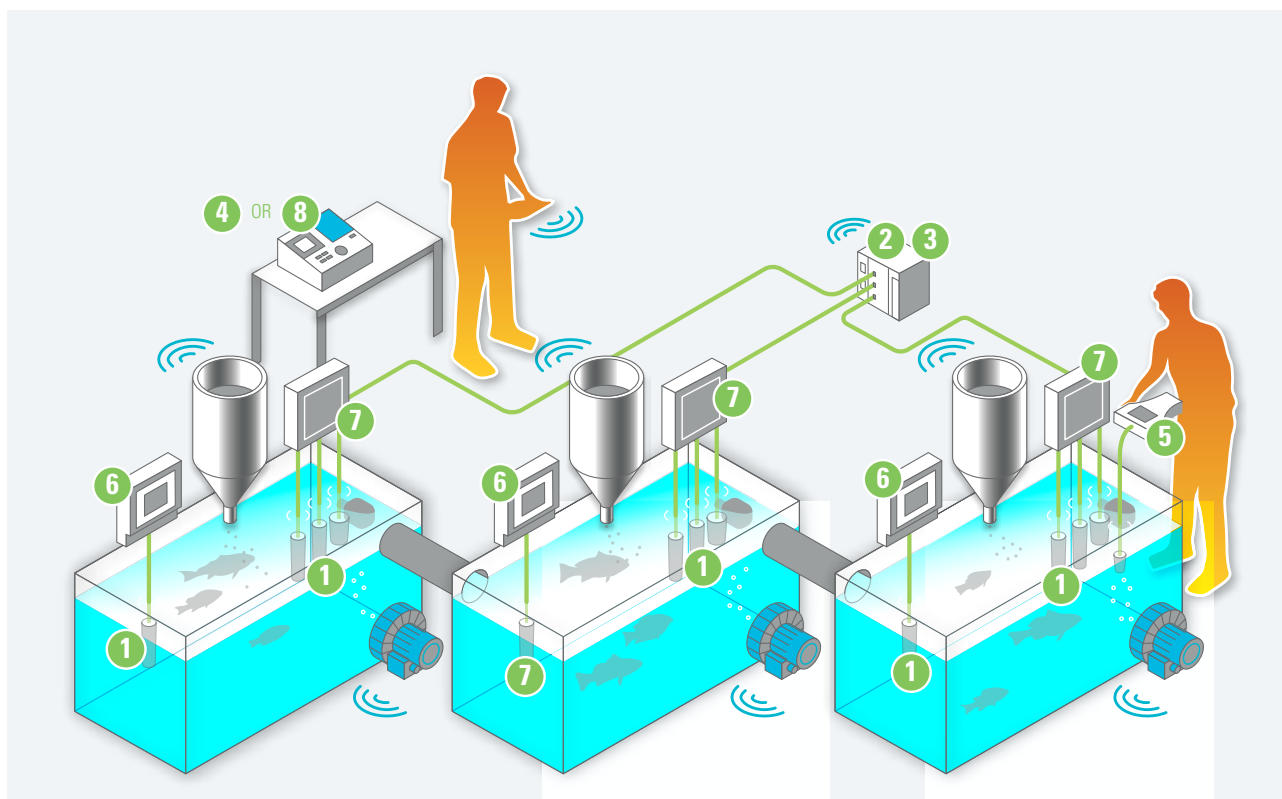


Accurate and quality measures: Security

Aqualabo instruments for Fish farming range from measuring water quality (PH , dissolved oxygen , temperature, redox , conductivity, turbidity ...) in stationary or mobile station , the various control levels and pool volumes. **Remote management**

Aqualabo equipment to control the entire plant from a supervisory position, but also to control the renewal of the water, air compressors, feeders, fans etc ..

For offshore installations, Aqualabo instrumented buoys allow remote monitoring of water quality, and are therefore an important source of savings and safety facilities



1 Digisens • Digital probes



2 P400X1 • Data remote



3 Aqua Connect'



4 Fish farming analysis case



5 Odeon + Photopod
• Handheld transmitter +
Photometer



6 S200 • Stationary transmitter



7 Module 4001
• Communication box



8 Uviline Connect
• Spectrophotometer

Control and monitoring for INDUSTRIAL WASTE WATER DISCHARGE

The discharge of industrial waste water in the field or to a municipal treatment plant, after its treatment, is subject to strict regulations. **An adapted instrumentation is one the main tools to insure its perfect control.**

Besides the quality measurement (PH , turbidity, dissolved oxygen etc ...), physical control (flow-rates, volumes, levels, etc ...) and automatic sampling, **Aqualabo ensures, thanks to its long time expertise in communications equipment, the full implementation of reliable and accurate monitoring systems** (monitoring data, forwarding alarms etc ...) for industrial facilities.

Control of waste water: Environmental protection

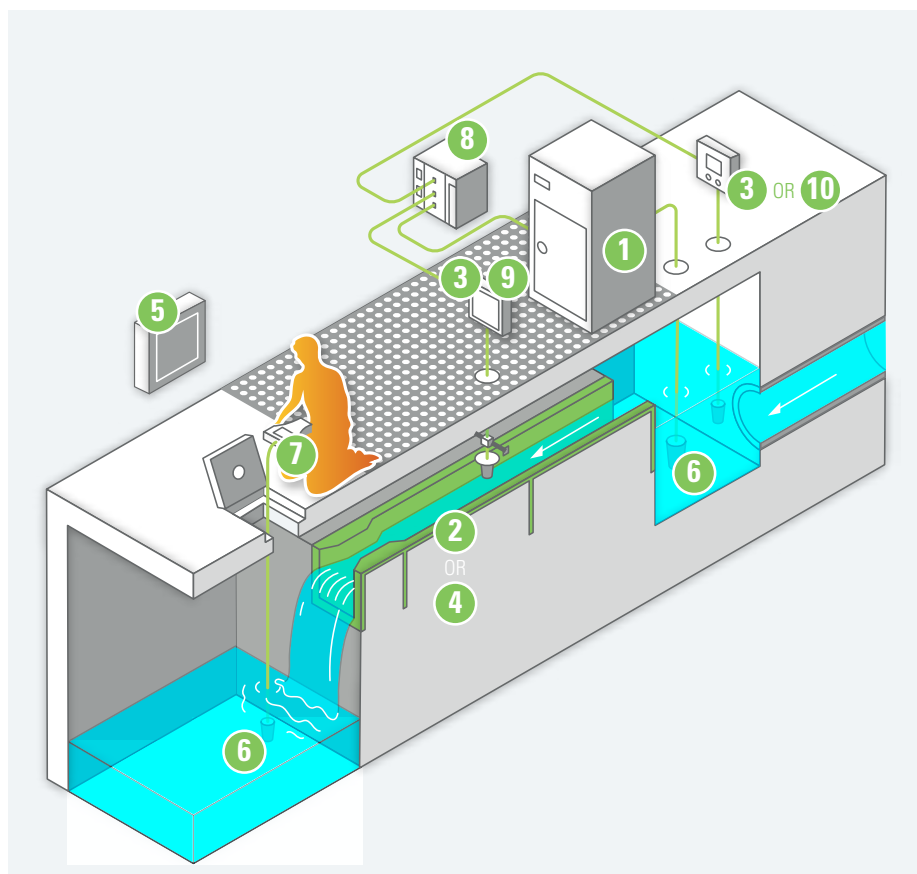
- Sampling and monitoring
- Water quality analysis
- Measurement of physical values



A full range of interconnected equipment

Aqualabo range covers all industrial needs for complete and real-time monitoring of their waste water discharge.

Stationary or handheld transmitters, digital sensors , venturi flumes, ultrasonic flow meters, automatic samplers , level sensors, communication systems, **Aqualabo facilities are part of a global solution and are the insurance of a smooth and reliable installation**, adapted to the industrial issues.



1 Babynox • Automatic sampler



2 Aquaaventuri • Venturi flume



3 S200 • Stationary transmitter



4 Aqua-UV • Venturi flume



5 STAC • Online analyser



6 Digisens • Digital probes



7 Odeon + Photopod
• Handheld transmitter
+ Photometer



8 P400X1 • Data remote



9 Aqua Connect' •



10 Module 4001 •
Communication box

Measure and quality monitoring of wines IN WINEMAKING PROCESS

Optimize quality, ensure regularity, produce wines in style and predefined characteristics include rigorous quality control and a mastery of the different stages of development.

Aqualabo offers instruments, including quality sensors, real tool for decision-making and steering, constituting one of the solutions to achieve these objectives.

ADVANTAGES



- Specific measurements
- Easy-to-use and field-adapted devices
- Quality instruments made in France
- On site or workshop services



REAL-TIME MONITORING
AND CONTROL



PHYSICO-CHEMICAL
MEASUREMENTS



QUALITY MONITORING

A full range of interconnected equipment

Aqualabo range covers all needs for complete and real time monitoring of winemaking process.

PHYSICO-CHEMICAL MEASUREMENTS

- **Dissolved oxygen measurement** : real strategic tool for decision-making for the implementation of processes of supply of oxygen or technical itineraries validations (filtration, transfers...). The monitoring of the oxygen concentration is carried out at each stage of your production, maturation, preparation and packaging.
- **Turbidity measurement** : Measured throughout the process, it allows to ensure the final quality of the wine. Qualitative control of the juices from the extraction which for white and rosé wines must not exceed 200 NTU.
- **Conductivity measurement** : Necessary during juice extraction phases (pressing) : Tracer of the qualitative evolution of the juices and allows to select the type of wine desired. The monitoring of conductivity allows to establish the level of treatment necessary to obtain the stability of the juice.
- **PH measurement** : Essential tool on the technical steps of acidification or deacidification of wine in order to target the optimal

pH of the final wine.

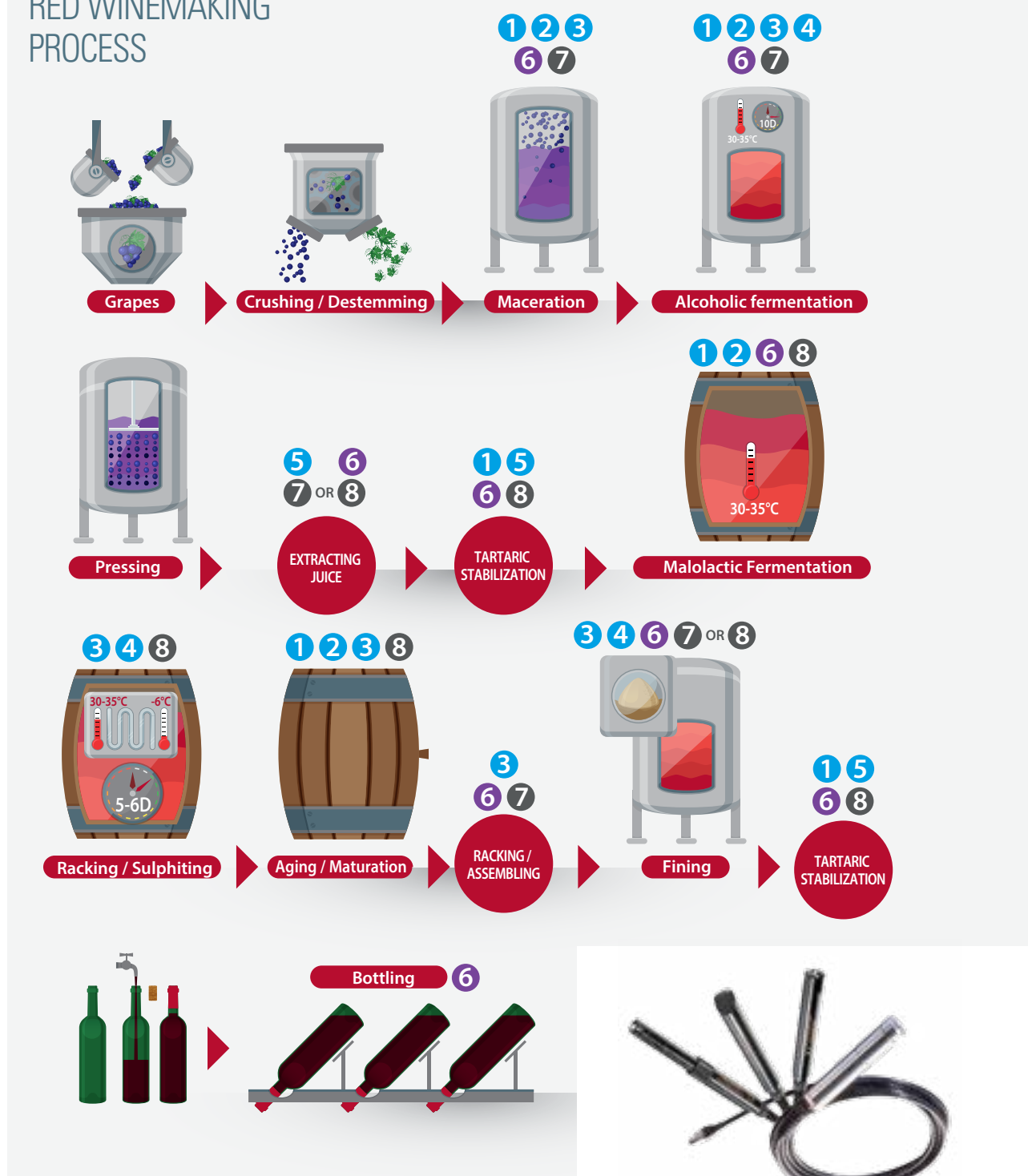
- **Temperature measurement** : Carried out at different stages of vinification and constitutes a guarantee of quality for wines. According to the type of wine desired, the winemaker cools or heats the musts.

LEVEL MEASUREMENT

- **A level measurement** is necessary in the maceration tanks and alcoholic fermentation in red winemaking process and at the level of settling/fining and racking in white wine process.

MONITORING AND CONTROL

- **The remote management** allows to automate, monitor and manage your facilities locally or remotely. It ensures continuity and quality of process, a help to curative and preventive maintenance.
- **The Supervision** associated with the remote controller allows to visualize and to remotely control the assembly of your facilities, manage and archive all collected data. Equipped with most modern means of communication you can dispose of all your information locally or nomadically.

RED WINEMAKING
PROCESS**Digisens • Digital sensors**

- 1 pH, 2 Temperature, 3 Oxygen,
4 Turbidity, 5 Conductivity



6 P400XI • Date remote - Monitoring



7 S200 • Stationary transmitter



8 Odeon • Handheld device

AQUALABO

SERVICES

WORKSHOP SERVICES



Hotline

The AQUALABO technicians are available to help you to solve all your adjusting problems or phone-based troubleshooting



Spare parts

AQUALABO has a large stock of spare parts to allow you to repair your equipment yourself



Workshop Troubleshooting

Your measurement equipment can be serviced by our team of technicians in our workshops



Provision

One of your equipment is being repaired, we offer the provision of an equivalent device, allowing you to not interrupt your measurements



Calibration

We perform the calibration of your measuring equipment in our workshops



Training

AQUALABO regularly organizes group training on its premises on different measurement methods

SITE SERVICES



Maintenance contracts

With AQUALABO maintenance contracts, you deal only your profession, your measuring equipment is no longer a concern.



Material rehabilitation

Rather than hire a new replacement which can be expensive, AQUALABO can restore some of your older devices and give them a new youth



Rental equipment

AQUALABO provides an important stock of physical chemistry materials available to the rental



Training

Need additional training on one of your devices? Our technicians will come to you to achieve it

The "Aqualabo Pack Services" of Aqualabo

... Is a set of workshop services, either in phone support, practical training on a set of equipment, or repairs and checks on the test bench.





QUICK AND SIMPLE SOLUTIONS FOR WATER QUALITY MONITORING

For punctual or long-term measurement campaigns, or test equipment,
trust in Aqualabo for your rental projects.

PHYSICAL CHEMISTRY

Local or Communicating version



Portable device ODEON



Recorder - GSM transmitter



COD, BOD, COT, NO₃ Analyzer (without reagents)

PHEHT / EHAN
pH / ORP /
Temperature

NTU Turbidity
nephelometry

C4E Conductivity /
Salinity

OPTOD
Stainless steel or
Titanium
Optical Oxygen

MES5/VB5
Suspended solid
/ Sludge blanket



Digital sensors



Buoys (Up to 4 digital sensors)



Quick delivery



Quality

We ensure a continuous and rigorous control under ISO 9001 certification. After each use, the material is cleaned, disinfected and checked on test benches before restocking.
Certificates of control and conformity issued upon request.



Technical Support

Our team of experts is at your disposal to advise you and answer all your questions : problem on a current rental, a doubt about the operation of a product or software ...

Tel +33 (0)5 62 75 95 70 • E-mail sav@aqualabo.fr



A standard exchange under 24H or 48H in case of failure

One single adress for Return Devices

Rental Department
115 rue Michel Marion
56850 CAUDAN - FRANCE
Tel +33 (0)2 97 89 00 40
location@aqualabo.fr

Find our rental solutions at :
www.aqualabo-services.com



		Colorimetry / drop count titrimetry	Burette Titrimetry	Photometry Spectrophotometry
		See page 50	See page 55	See page 57
		mg/l		mg/l
Acidity	-	-	0 - 30°F	-
Alkalinity	p- and m-0 - 60°F	-	0 - 30°F	2 - 50 °F
	5 - 240°F	-	-	-
Aluminium	Al ³⁺	0 - 0,5	-	0,20 - 3,00
	-	-	-	0,05 - 1,00
	-	-	-	0,02 - 0,30
Ammonium	NH ⁴⁺	0,1 - 1	-	0,02 - 5
	-	0,05 - 0,5	-	0,5 - 50
	-	0 - 50	-	0,80 - 24,0
	-	-	-	0,20 - 4,80
	-	-	-	0,08 - 1,60
Benzotriazole	-	-	-	1,0 - 16,0
Bleach	-	100 - 1000	-	-
	-	30 - 150	-	-
	-	47 - 50°	-	-
Boron	B ³⁺	-	-	0,50 - 10,0
Bromine	Br ₂	0,045 - 0,79	-	1,00 - 13,5
	-	-	-	0,10 - 2,25
Calcium	Ca ²⁺	2 - 60°F	0 - 30°F	20 - 200
	-	-	-	2,0 - 20,0
Free Chlorine	Cl ₂	0,02 - 0,35	-	0,50 - 6,00
	-	0,1 - 2	-	0,05 - 1,00
	-	10 - 100	-	-
	-	100 - 250	-	-
Total Chlorine	Cl ₂	0,02 - 0,35	-	0,50 - 6,00
	-	0,1 - 2	-	0,05 - 1,00
	-	2 - 6	-	-
	-	0,1 - 12	-	-
Chlorides	Cl ⁻	2 - 250	0 - 30°F	10 - 500



Colorimetry / drop count titrimetry	Burette Titrimetry	Photometry Spectrophotometry
See page 50	See page 55	See page 57
mg/l		mg/l

		10 - 400	-	1,0 - 50,0
		200 - 1000	-	5 - 200
		-	-	0,50 - 20,0
Chromate	CrO ₄	0,03 - 1,0	-	0,10 - 4,00
		-	-	0,05 - 4,00
COD		-	-	5 - 150
		-	-	50 - 1500
		-	-	500 - 15000
Color of water		15 - 200	-	-
Copper	Cu ²⁺	0,5 - 5,0	-	0,05 - 5,00
		0,1 - 1,0	-	0,20 - 5,00
Cyanides	CN ⁻	0 - 0,5	-	0,02 - 0,50
Cyanuric Acid		0 - 200	-	10 - 200
DEHA		0,05 - 1	-	0,02 - 1,00
		-	-	0,02 - 2,00
Carbon Dioxide	CO ₂	-	0 - 30°F	-
Chlorine Dioxide	ClO ₂	0,19 - 3,8	-	2,4 - 28,5
		-	-	0,20 - 4,75
Iron	Fe ^{2+/3+}	presence/absence	-	0,05 - 5,00
		0,06 - 1	-	0,20 - 20,0
		0,3 - 5	-	-
Fluorides	F ⁻	-	-	0,10 - 2,00
		-	-	0,20 - 2,00
hardness	TH	0 - 2°F	0 - 30°F	5,0 - 50,0 °F
		1 - 60°F	-	2,0 - 20,0 °F
Hydrazine	N ₂ H ₄	0 - 1	-	0,10 - 2,00
		0 - 0,15	-	0,02 - 1,00



		Colorimetry / drop count titrimetry	Burette Titrimetry	Photometry Spectrophotometry
		See page 50	See page 55	See page 57
		mg/l		mg/l
Magnesium	Mg²⁺	2 - 60 °F	0 - 30°F	5,0 - 50,0
		-	-	0,50 - 5,00
Manganese	Mn²⁺	0,05 - 2	-	0,20 - 5,00
		-	-	0,10 - 8,00
Nitrogen	N	-	-	0,3 - 20
		-	-	20 - 200
Molybdate	Mo⁶⁺	2 - 300	-	20 - 200
		-	-	3,0 - 60,0
		-	-	0,5 - 20,0
Nickel	Ni²⁺	-	-	0,10 - 5,00
		-	-	0,50 - 10,0
Nitrates	NO³⁻	0 - 200	-	0,6 - 23,0
		0 - 50	-	0,06 - 2,30
		-	-	1,0 - 22,5
		-	-	0,10 - 1,00
Nitrites	NO²⁻	0,018 - 0,36	-	0,01 - 1
		0,1 - 2	-	0,1 - 5
		-	-	0,4 - 41,0
		-	-	4 - 410
Organic Matter		-	0 - 30°F	-
Oxygene	O₂	0,3 - 6	-	-
		0,02 - 0,34	-	-
		0,02 - 6,0	-	-
Ozone	O₃	0,07 - 1,4	-	0,30 - 4,00
		0,014 - 0,24	-	0,03 - 0,65
Peroxyde	H₂O₂	-	-	2 - 200
		-	-	0,05 - 2,00
		-	-	-
pH		3,7 - 11,8	-	6,8 - 8,6
		(details p13 - 14)	-	-



		Colorimetry / drop count titrimetry	Burette Titrimetry	Photometry Spectrophotometry
		See page 50	See page 55	See page 57
		mg/l		mg/l
Phenol		-	-	0,05 - 10,0
Phosphates	PO_4^{3-}	0,7 - 13,4	-	1,0 - 40,0
		6 - 80	-	0,50 - 13,0
		0 - 10 P2O5	-	0,06 - 1,60
		-	-	0,6 - 32,6
		-	-	0,06 - 1,30
Phosphorus	P	-	-	0,05 - 3
Polyacrylates		18 - 100 NTU	-	-
Potassium	K^+	-	-	2,0 - 15,0
Strong Acid Salt		-	0 - 30°F	-
Silica	SiO_2	0,2 - 2,0	-	10 - 300
		3 - 50	-	5 - 150
		20 - 200	-	0,2 - 10,0
		-	-	0,05 - 10,0
Sodium Hydroxide		-	0 - 30°F	-
Starch		presence/absence	-	-
Sulfates	SO_4^{2-}	40 - 160	-	10 - 400
		-	-	10 - 200
		-	-	5 - 300
Sulfites	SO_3^{2-}	5 - 250	0 - 30°F	-
		0 - 50	-	-
Sulfides	S^{2-}	-	-	0,05 - 0,60
Turbidity		-	-	10 - 4000 NTU
		-	-	10 - 100 NTU
Zinc	Zn^{2+}	0 - 2,0	-	0,05 - 5,00
		-	-	0,10 - 4,00
		-	-	10 - 100 NTU
Zinc	Zn^{2+}	0 - 2,0	-	0,05 - 5,00
		-	-	0,10 - 4,00



The rapid test kits measure many parameters using simple methods at a low cost. Each kit comes in a box containing the accessories and ready-to-use reagents. Three methods are used: drop count titration, colorimetry, turbidimetry.

DROP COUNT TITRATION

- 1- One (or several) reagent(s) added to the sample
- 2- The titrant added drop by drop until the color changes
- 3- The number of drops added determines the result



COLORIMETRY

- 1- One (or several) reagent(s) added to the sample
 - 2- A color appears
 - 3- The result can be obtained by comparing this color to the scale on a colored plate.
- The Orchidis comparator can be used to facilitate the reading of the result.



TURBIDIMETRY

- 1- One (or several) reagent(s) added to the sample
- 2- Some turbidity appears
- 3- The results is obtained using a measuring tube.



Titrimetry kit



Colorimetry small case



Colorimetry kit



Turbidimetry kit



Kits and small cases

Each colorimetric analysis is available in kits or small cases. The comparator comes with the small cases not with kits. The small case may contain a larger amount of reagent to perform more tests.



COLORIMETRY AND TITRIMETRY METHODS - TEST KITS



More than 140 kits to analyze more than 40 parameters are available. Each colorimetric test is available as a kit or a small case. The Orchidis comparator is provided with small cases but not with kits. Number of test is given for information purposes only. With titrimetric test, it depends on the concentration of water to analyze. For refills, check the reagent list at the end of the catalogue or contact us.

Parameter		Range	Method	Accuracy	Kit	Nbr test	Small case	Nbr test
Alcalinity	p-alka-li-nity	0-60°F	Titri.	1 drop = 1°F	1KT007	100		
Alcalinity	p-alka-li-nity	5-240°F	Titri.	1 drop = 5°F	1KT006	100		
Alcalinity	m-alka-li-nity	2-60 °F	Titri.	1 drop = 1°F	1KT100	15		
Alcalinity	m-alka-li-nity	2-60 °F	Titri.	1 drop = 1°F	1KT000	30		
Alcalinity	m-alka-li-nity	5-240°F	Titri.	1 drop = 5°F	1KT008	30		
Alcalinity	p- + m-alkalinity	2-60°F	Titri.	1 drop = 1°F	1KT009	100		
Alcalinity	p- + m-alkalinity	5-240°F	Titri.	1 drop = 5°F	1KT098	100		
Aluminium	Al ³⁺	0-0,5 mg/l	Color.	0,05-0,1-0,15-0,20-0,25-0,30-0,40-0,50	1KA009	100	1TC003	100
Ammonia	NH ₄ ⁺	0,1-1 mg/l	Color.	0,1-0,2-0,3-0,4-0,5-0,6-0,7-0,8-1	1KA005	150	1TC004	300
Ammonia	NH ₄ ⁺	0,05-0,5 and 0,1-1 mg/l	Color.	0,05-0,1-0,15-0,2-0,25-0,3-0,35-0,4-0,5 and 0,1-0,2-0,3-0,4-0,5-0,6-0,7-0,8-1	1KA019	150	1TC068	300
Ammonia	NH ₄ ⁺	0-50 mg/l	Color.	0-0,5-1-2-5-10-20-30-50	1KA018	150	1TC065	300
Bleach	Cl ₂ actif	100-1000 mg/l	Titri.	5 mg/l	1CC004	50		
Bleach	Cl ₂ actif	30-150 mg/l	Titri.	0,5 mg/l	1CC015	50		
Bleach	Cl ₂ actif	47-50° chloro-métric	Titri.	1°	1CC016	50		
Bromine (for swimming pool)	Br ₂	0,045-0,79	Color.	0,045-0,09-0,11-0,15-0,22-0,15-0,34-0,56-0,79			1TC005	120
Calcium	Ca ²⁺	2-60°F	Titri.	1 drop = 2°F	1KC009	40		
Chlorine	Cl ₂		Titri.	Presence / Absence	1KC015	100		
Free Chlorine (DPD)	Cl ₂	0,02-0,35 mg/l	Color.	0,02-0,04-0,07-0,1-0,15-0,2-0,25-0,35	1KC008	100	1TC023	100
Free Chlorine (DPD)	Cl ₂	0,1-2 mg/l	Color.	0,1-0,2-0,4-0,6-0,8-1-1,3-1,6-2,0	1KC001	100	1TC006	100
Free Chlorine (ortho)	Cl ₂	0,1-2 mg/l	Color.	0,1-0,2-0,3-0,4-0,6-0,8-1-1,4-2,0	1KC012	250	1TC008	350

Color. : Comparison on a color scale

Titri. : Drop count titration

Turbi. : Turbidity measurement



Parameter		Range	Method	Accuracy	Kit	Nbr test	Small case	Nbr test
Free Chlorine	Cl ₂	10-100 mg/l	Titri.	1 drop = 5 mg/l	1KC007	50		
Free Chlorine	Cl ₂	100-250 mg/l	Titri.	1 drop = 10 mg/l	1KC031	50		
Total Chlorine (DPD)	Cl ₂	0,02-0,35 mg/l	Color.	0,02-0,04-0,07-0,1-0,15-0,2-0,25-0,35	1KC021	100	1TC069	100
Total Chlorine (DPD)	Cl ₂	2-6 mg/l	Color.	2-2,5-3-4-5-6	1KC010	100	1TC070	100
Free and Total Chlorine (DPD)	Cl ₂	0,02-0,35 mg/l	Color.	0,02-0,04-0,07-0,1-0,15-0,2-0,25-0,35	1KC030	50	1TC071	100
Free and Total Chlorine (DPD)	Cl ₂	0,1-2 mg/l	Color.	0,1-0,2-0,4-0,6-0,8-1-1,3-1,6-2,0	1KC033	50	1TC072	100
Free and Total Chlorine (DPD)	Cl ₂	0,1-6 mg/l	Color.	0,1-0,2-0,4-0,6-0,8-1-1,3-1,6-2,0 and 2-2,5-3-4-5-6			1TC007	100
Free and Total Chlorine (DPD)	Cl ₂	0,1-12 mg/l	Color.	2-2,5-3-4-5-6 and 4-5-6-8-10-12			14KC99	100
Chlorides	Cl ⁻		Titri.	Presence / Absence	1KZ001	150		
Chlorides	Cl ⁻	2-250 mg/l	Titri.	1 drop = 4 mg/l	1KC020	20		
Chlorides	Cl ⁻	10-400 mg/l	Titri.	1 drop = 10 mg/l	1KC005	30		
Chlorides	Cl ⁻	200-1000 mg/l	Titri.	1 drop = 20 mg/l	1KC006	30		
Chlorides (CMR free)	Cl ⁻	2-250 mg/l	Titri.	1 drop = 4 mg/l	1KC120	20		
Chlorides (CMR free)	Cl ⁻	10-400 mg/l	Titri.	1 drop = 10 mg/l	1KC105	30		
Chlorides (CMR free)	Cl ⁻	200-1000 mg/l	Titri.	1 drop = 20 mg/l	1KC106	30		
Chromium VI	Cr ⁶⁺	0,03-1,0 mg/l	Color.	0,03-0,06-0,1-0,2-0,3-0,5-0,75-1,0	1KC026C	180	1TC011	180
Cyanides	CN ⁻	0-0,5 mg/l	Color.	0-0,03-0,06-0,1-0,15-0,2-0,3-0,4-0,5			1TC013	150
Cyanuric Acid	Ac. Cya.	0-200 mg/l	Turbi.	20-30-40-50-60-80-100-200	1KS006	50		
Agressive CO2	CO ₂		Titri.		1KC011	100		
Copper	Cu ²⁺	0,5-5,0 mg/l	Color.	0,5-1,0-2,0-2,5-3,0-3,5-4,0-5,0	1KC027	100	1TC073	100
copper	Cu ²⁺	0,1-1,0 mg/l	Color.	0,1-0,2-0,25-0,35-0,45-0,55-0,65-0,7-1,0	1KC038	100	1TC046	100
Water color	Pt/Co	15-200 mg/l	Color.	15-30-60-100-150-200			1CC012	pas de réactifs
DEHA	DEHA	0,05-1 mg/l	Color.	0,05-0,1-0,2-0,5-1,0	1KV004	250	1TC074	250
Chlorine dioxide	ClO ₂	0,19-3,8 mg/l	Color.	0,19-0,38-0,76-1,14-1,52-1,9-2,47-3,04-3,8	1KC039	50	1TC067	100
Hardness	TH		Titri.	Presence / Absence	1KD004	80		

Color. : Comparison on a color scale
 Titri. : Drop count titration
 Turbi. : Turbidity measurement



COLORIMETRY AND TITRIMETRY METHODS - TEST KITS

Parameter		Range	Method	Accuracy	Kit	Nbr test	Small case	Nbr test
Hardness (3 bottles)	TH	1-60°F	Titri.	1 drop = 2°F	1KT001	40		
Hardness (3 bottles)	TH	1-60°F	Titri.	1 drop = 1°F	1KT011	20		
Hardness (2 bottles)	TH	1-60°F	Titri.	1 drop = 2°F	1KT004	40		
Hardness (1 bottle)	TH	1-60°F	Titri.	1 drop = 1°F	ORM-CD1003	20		
Hardness (soap test)	TH	1-60°F	Titri.	1 drop = 1°F	14KT00	40		
Hardness (High sensitivity)	TH	0-2°F	Titri.	1 drop = 0,05°F	1KT005	20		
Hydrazine	N ₂ H ₄	0-1 mg/l	Color.	0-0,05-0,1-0,2-0,3-0,4-0,6-0,8-1,0	1KH000	20	1TC020	30
Hydrazine	N ₂ H ₄	0-0,15 mg/l	Color.	0-0,01-0,02-0,03-0,05-0,07-0,9-0,12-0,15	1KH001	150	1TC019	150
Hydrazine	N ₂ H ₄	0-1 mg/l and 1-0,15 mg/l	Color.	0-0,01-0,02-0,03-0,05-0,07-0,9-0,12-0,15 and 0-0,05-0,1-0,2-0,3-0,4-0,6-0,8-1,0			1TC018	150 / 20
Iron	Fe ^{2+/3+}		Titri.	Presence / Absence	1KF001	23,53		
Iron	Fe ^{2+/3+}	0,06-1 mg/l	Color.	0,06-0,10-0,2-0,3-0,4-0,5-0,6-0,8-1,0	1KF005	75	1TC017	150
Iron	Fe ^{2+/3+}	0,3-5 mg/l	Color.	0,3-0,6-1-1,5-2-2,5-3-4-5	1KF006	75	1TC016	150
Iron	Fe ^{2+/3+}	0,06-1 mg/l and 0,3-5 mg/l	Color.	0,06-0,10-0,2-0,3-0,4-0,5-0,6-0,8-1,0 and 0,3-0,6-1-1,5-2-2,5-3-4-5	1KF008	75	1TC015	225
Magnesium	Mg ²⁺	2-60 °F	Titri.	1 drop = 2°F	1KM004	40		
Manganese	Mg ²⁺	0,05-2 mg/l	Color.	0-0,05-0,15-0,3-0,7-0,9-1,2-1,5-2,0	1KM003	100	1TC021	300
Molybdates	MoO ₄	2-300 mg/l	Color.	2-3,5-5,5-7,3-11-14,5-18,2-22-30 10-20-40-60-80-100-120-150 and 20-40-80-120-160-200-240-300	1KM002	50	1TC077	100
Nitrates	NO ₃ ⁻	0-200 mg/l	Color.	0-15-30-50-75-100-125-160-200	1KN006	50	1TC062	50
Nitrates	NO ₃ ⁻	0-50 mg/l	Color.	0-2-5-10-15-20-30-40-50	1KN018	100	1TC088	100
Nitrites	NO ₂ ⁻	0,018-0,36 mg/l	Color.	0,02-0,04-0,05-0,07-0,11-0,15-0,18-0,27-0,36	1KN007	150	1TC078	150
Nitrites	NO ₂ ⁻	0,1-2 mg/l	Color.	0,1-0,2-0,3-0,4-0,6-0,8-1,0-1,5-2,0	1KN028	150	1TC024	150
Oxygen	O ₂	0,3-6 mg/l	Color.	0,3-0,6-1-1,5-2-3-4-5-6			1TC027	120
Oxygen	O ₂	0,02-0,34 mg/l	Color.	0,02-0,05-0,07-0,09-0,14-0,18-0,22-0,27-0,34			1TC025	50
Oxygen	O ₂	0,02-6,0 mg/l	Color.	0,02-0,05-0,07-0,09-0,14-0,18-0,22-0,27-0,34 and 0,3-0,6-1-1,5-2-3-4-5-6			1TC026	120 / 50

Color. : Comparison on a color scale
Titri. : Drop count titration
Turbi. : Turbidity measurement



Parameter		Range	Method	Accuracy	Kit	Nbr test	Small case	Nbr test
Ozone	O ₃	0,07-1,4 mg/l	Color.	0,07-0,14-0,27-0,41-0,54-0,7-0,88-1,1-1,4			1TC029	100
Ozone	O ₃	0,014-0,24 mg/l	Color.	0,014-0,027-0,048-0,068-0,1-0,14-0,17-0,2-0,24			1TC030	100
pH	pH	3,7-5,3	Color.	3,7-3,9-4,1-4,3-4,5-4,7-4,9-5,1-5,3	1KP005	60	1TC032	180
pH	pH	5,2-6,8	Color.	5,2-5,4-5,8-6,0-6,2-6,4-6,6-6,8	1KP006	180	1TC033	360
pH	pH	6-7,6	Color.	6,0-6,2-6,4-6,6-6,8-7,0-7,2-7,4-7,6	1KP007	120	1TC034	240
pH	pH	7-8,6	Color.	7,0-7,2-7,4-7,6-7,8-8,0-8,2-8,4-8,6	1KP008	60	1TC035	180
pH	pH	8,6-10,2	Color.	8,6-8,8-9,0-9,2-9,4-9,6-9,8-10-10,2	1KP009	40	1TC036	120
pH	pH	10,2-11,8	Color.	10,2-10,4-10,6-10,8-11-11,2-11,4-11,6-11,8	1KP010	90	1TC037	280
Phosphates	P ₂ O ₅	0,5-10 mg/IP2O5	Color.	0,5-1,0-1,5-2-3-4-5-7-10	1KP003	80	1TC038	120
Phosphates	PO ₄ ³⁻	0,7-13,4 and 6-80 mg/l	Color.	0,7-1,35-2-2,70-4-5,4-6,7-9,4-13,4 and 6-10-14-20-26-34-40-60-80	1KP004	80	1TC082	120
Phosphates	P ₂ O ₅ (or P)	0 - 10 mg/l P2O5 (ou 0,23 - 4,4 mg/l P)	Color.	0,5 - 1,0 - 1,5 - 2 - 3 - 4 - 5 - 7 - 10 (0,23 - 0,44 - 0,66 - 0,89 - 1,32 - 1,78 - 2,2 - 3,1 - 4,4)	1KP018	80	1TC079	120
Polyacrylates		18-100 NTU	Turbi.	18-20-22,5-25-27,5-30-35-40-45-60-70-80-100	1TP004	30		
Silica	SiO ₂	0,2-2,0 mg/l	Color.	0,2-0,3-0,4-0,5-0,7-0,9-1,2-1,5-2,0	1KS008	80	1KS008	120
Silica	SiO ₂	3-50 mg/l	Color.	3-6-10-15-20-25-30-40-50	1KS010	100	1TC044	150
Silica	SiO ₂	0,2-2,0 mg/l and 3-50 mg/l	Color.	0,2-0,3-0,4-0,5-0,7-0,9-1,2-1,5-2,0 and 3-6-10-15-20-25-30-40-50			1TC043	150
Silica	SiO ₂	0,2-2,0 mg/l	Color.	0,2-0,3-0,4-0,5-0,7-0,9-1,2-1,5-2,0	1KS011	150		
Starch	Starch		Titri.	Detection of the presence of starch	1KA010	150		
Sulphates	SO ₄ ²⁻	40-160 mg/l	Turbi.	40-60-80-100-120-160-200	1KS000	50		
Sulphites	SO ₃ ²⁻	5-250 mg/l	Titri.	1 drop = 5 mg/l	1KS003	25		
Sulphites	SO ₃ ²⁻	0-50mg/l	Titri.	1 drop = 1 mg/l	1KS009	30		
Tannates			Color.	excess / lack	1KT010	no reagent	1TC063	no reagent
Zinc	Zn ²⁺	0-2,0 mg/l	Color.	0-0,2-0,4-0,6-0,8-1,0-1,3-1,6-2,0	1KZ006	100	1TC045	100

Color. : Comparison on a color scale
 Titri. : Drop count titration
 Turbi. : Turbidity measurement



Different titration systems are available for the analyses carried out by direct titration.

There are four burette models corresponding to different needs and constraints. Burettes are graduated in ml or French degree °F according to the analyses.

Each analysis is provided with the necessary equipment, reagents and related methods.

See analyses list on page 56. Contact us for a quote.

TITRATOR BURETTE

This burette can be adapted to a macro pipette and is filled by suction. It fits easily in a small case.

TITRATOR BURETTE IN °F	1BS025
TITRATOR BURETTE IN ML	1BG014
MACROPIPET	1T0007



MOHR'S BURETTE

This burette can be mounted on a stand and is filled directly from the top. The stand and burette can be disassembled and stored easily in a small case.

MOHR'S BURETTE IN °F	14BD05
MOHR'S BURETTE IN ML	1BD001
FIELD STAND	1SC004
LABORATORY STAND	1SC003

AUTOMATIC ZERO BURETTE

This burette is mounted on a 1000 ml reagent bottle and is filled by pressing the bottle. Zero is adjusted automatically. The set can be stored in a portable lab case.

AUTOMATIC ZERO BURETTE IN °F	1BZ001
AUTOMATIC ZERO BURETTE IN ML	1BZ000



DIGITAL BURETTE

This burette can be fitted on a bottle and gives fast, reliable and highly accurate analyses. Mounted on a 250 ml bottle, it can be integrated into a portable lab case.

DIGITAL BURETTE UN ML (25 ML)	1BD016
DIGITAL BURETTE UN ML (50 ML)	1BD050
GLASS BOTTLE 2500 ML	1FV005
GLASS BOTTLE 1000 ML	1FV004
GLASS BOTTLE 250 ML	1FV003

Accessories

GRADUATED BOTTLE 125 ML	1FG000
ERLENMEYER FLASK 250 ML	1FE004
GRADUATED PLASTIC TUBE 20 ML	14TP00
GRADUATED PIPET 5 ML	1PG002
GRADUATED PIPET 10 ML	1PG003

SYRINGE 20 ML FOR FILTRATION	OR956195
FILTER HOLDER 25 MM	14PF09
FILTER PAPER 25 MM (X100)	14PF05
MAGNETIC STIRRER	1AM014
MAGNETIC BAR 20 X 6 MM	1BM003



The ranges indicated below are given for concentrations of titrants noted in the table. The ranges can be easily adapted to individual needs by changing the volume of the sample and the concentration of the titrant. Reagents are available in many sizes from 60 ml to 1000 ml and titrants are available in different concentrations.

Contact us for a quote.



Parameter		Range in °F	Range mg/l	Reagents	
Chlorides	Cl ⁻	0-30	0-210	Silver Nitrate N/25 Potassium Chromate	Oxalic Acid 10% Phenolphthalein TA
Chlorides	Cl ⁻	0-30	0-210	Mercuric Nitrate N/25 Mixt Indicator for Chlorides	Nitric Acid N/5 Hydrogen Peroxyde
Chlorides (CMR / Toxic free)	Cl ⁻	0-30	0-210	Chloride Titration Liquor	Chloride Indicator
Aggressive CO₂	CO ₂	0-30	0-130	Liqueur Alca N/25 Marbre	Helianthine
Free CO₂	CO ₂	0-30	0-130	Alca Liquor N/25 Phenolphthalein TA	Acid Liquor Seignette
Organic Matter			0-15	Sulfuric Acid 1/2 Mohr's Salt 5g/l	Potassium Permanganate N/80
Organic Matter			0-30	Acide Sulfurique 1/2 Mohr's Salt 25g/l	Potassium Permanganate N/80
Strong Acid Salt	SAF	0-30		Acid liquor N/25 Cationic Resin	Helianthine
Sulfites	SO ₃ ²⁻		0-15	Sulfite Reagent 1	Sulfite Reagent 2
p Alkalinity	TA	0-30		Alca Liquor N/25	Phenolphthalein TA
p Alkalinity	TA	0-30		Alca Liquor N/25	TA Indicator (CMR free)
m Alkalinity	TAC	0-30		Alca Liquor N/25	Helianthin
m Alkalinity	TAC	0-30		Alca Liquor N/25	TAC reagent Virage Franc
Strong Acid Tittle	TAF	0-30		Acid Liquor N/25	Helianthin
Calcium Hardness	Ca ²⁺	0-30		Complexo Liquor N/25 A/G Reagent	ECAL Indicator
Magnesium Hardness	Mg ²⁺	0-30		Complexo Liquor N/25 Buffer K10	NET Indicator Ammonium Oxalate solution
Total Hardness	Mg ²⁺ /Ca ²⁺	0-30		Complexo Liquor N/25 Buffer K10	NET Indicator
Total Hardness	Mg ²⁺ /Ca ²⁺	0-30		Hydro Special Liquor Phenolphthalein TA	Neutraliser
Total Hardness	Mg ²⁺ /Ca ²⁺	0-30		Hydro Special Liquor TA Indicator (CMR free)	Neutraliser
Sodium Hydroxyde	OH ⁻	0-240		Alca Liquor N/25 Phenolphthalein TA	Baryum Chloride Solution



Photometry / spectrophotometry allows to analyze by generating color with reagents and measuring the intensity of staining with a device. The many ORCHIDIS methods allow to analyze more than 40 parameters. They are achievable with PHOTOPOD, UVILINE or any programmable spectrophotometer.

PHOTOMETRY

Photopod

This photometer is a concentrate of technology that works by connecting it to the ODEON multiparameter or directly to a computer. Lightweight, compact and robust, it is designed for field use.

PHOTOPOD is available in 2 versions.

Photopod SP uses only tablet reagents and test tubes for COD, total nitrogen and total phosphorus.

Photopod LS uses liquid reagents and test tubes for COD, total nitrogen and total phosphorus.

See details page 58

Odeon

This multiparameter device is the only one able to perform photometry analyzes using the PHOTOPOD, and physico chemical measurements using probes (pH, ORP, conductivity, turbidity, oxygen...).

See details page 6



SPECTROPHOTOMETRY

Spectrophotometer

For even more accurate results, ORCHIDIS methods can be used with all SECOMAM's UVILINE spectrophotometers (except 8100).

They can also be used with any other type of spectrophotometer.

Contact us for more information.

SECOMAM
BY AQUALABO



You already have a spectrophotometer?

You can also use ORCHIDIS methods and reagents for all your spectrophotometric analyses. Contact us for more information.

PHOTOPOD,

Compact photometer for field and laboratory

Concentrate of technology designed for the field work. It is light, compact, and robust.

PHOTOPOD can be used by connecting to ODEON multiparameter, or by connecting directly to a computer. "Plug and Play", it is automatically recognized and powered by the multiparameter CALYPSO. It has 5 LEDs with built-in digital filters. The wavelength is selected automatically.

ADVANTAGES



- 5 LED with integrated numerical filters
- Automatic selection of wavelength
- Compact and robust
- 2 versions available : LS or SP
- Use with ODEON or PC computer

Tube for analysis

Shockproof

Waterproof connectivity



Technical specifications

Device	LED photometer for water analysis
Wavelength	639 nm, 591 nm, 518 nm, 468 nm, 400 nm
Detector	Silicon photo-diode
Cuvette	16 mm diameter round glass cuvette
More than 40 parameters	Cl ₂ , CN ⁻ , DCO, Fe, NH ⁴⁺ , NO ²⁻ , NO ³⁻ , PO ₄ ³⁻ , SiO ₂ ... See list p61
Wavelength adjustment	Automatic
Zero setting	Electronic storage
Measure	Absorbance or concentration
Signal	RS-485
Dimensions	62 x 96 x 58 mm
Material	ABS



LS and SP versions

- Photopod SP uses tablet reagents and pre-dosed test tubes
 - Photopod LS uses liquid reagents and pre-dosed test tubes
- See Parameter list page 61

New

Thanks to the SPECTRALAB software, the PHOTOPOD can be controlled directly from a PC. Registration, printing, data transfer ... everything is even easier by working directly on computer thanks to an intuitive interface.



References

Photopod version full SP (tablet reagents)	NA-ORC-C-00239
Photopod version full LS (liquid and tablet reagents)	NA-ORC-C-00240
Photopod version full SP + ODEON	NC-POR-C-00264
Photopod version full LS + ODEON	NC-POR-C-00263
Photopod version full SP + PC connexion box	NA-PPC-C-00001
Photopod version full LS + PC connexion box	NA-PPC-C-00002



PHOTOPOD ACCESSORIES

Photopod Accessory Kit:

- Plastic funnel 40mm H65mm (1EP021),
- 2 glass tubes diameter 16mm (1CR099)
- Tube holder plexi 2xd16 (1PT006)
- Plastic crushing rod (1AP018)
- Syringe 10 ml (1SU013)
- Graduated plastic tube 30 ml (14TP00)
- Demineralised water 125 ml (1ED010)

NA-
ACC-C-00016

Graduated plastic tube 30 ml (14TP00)	14TP00
Plastic funnel 40mm H65mm	1EP021
2 glass tubes diameter 16mm	1CR099
Plastic crushing rod	1AP018
24 tubes tube holder diameter 16mm	1ST006
12 tubes tube holder diameter 16mm	1ST007
2 tubes holder diameter 16mm	1PT006

Accessories for cod, total nitrogen and total phosphorus tests

25 tubes Heating Reactor	1RD010
Wooden clamp	1PT007

Accessories for benzotriazole test

UV Lamp	14LU01
UV protection glasses	1LP010
Indicator paper pH 0 à 14 - 100 units	1PI030

Accessories for liquid handling

Syringe 1 ml	1SU010
Syringe 2 ml	1SU011
Syringe 5 ml	1SU012
Syringe 10 ml	1SU013
Syringe 20 ml	1SU014
Automatic Pipette 0,1 à 1,0 ml	1PA022
Automatic Pipette 1 à 5 ml	1PA023
Tips 0,1 - 1,0 ml x 100 units	1EU002
Tips 1 - 5 ml x 100 units	1EU003
Macropipette	1T0007
Graduated pipette 1/10 1ml	1PG000
Graduated pipette 1/10 2ml	1PG001
Graduated pipette 1/5 5ml	1PG002
Graduated pipette 1/10 10ml	1PG003

Demineralised water

Demineralised water - 125 ml	1ED010
Demineralised water - 250 ml	1ED008
Demineralised water - 500 ml	1ED016
Demineralised water - 1000 ml	1ED014
Demineralised water - 5000 ml	1ED000



RD010, Heating reactor

**For the sample preparations of analyzes:
Total nitrogen, COT, COD, Total phosphate**

Analyzes of COD, TOC, total phosphate and total nitrogen require chemical mineralization (or digestion) with heating. The RD010 heating reactor offers programs at several temperatures (100/120/150° C) and reaction times (30, 60 and 120 minutes) as well as continuous operation. It has 24 stations for 16 mm diameter tubes. It operates on 220 V and 110 V (voltage switch on the back of the device)

Since safety is highly important, the heating reactor has a protective cover and is equipped with precise temperature control and overheating protection. An alarm sounds when the digestion is complete and the reactor switches off automatically.

For the correct handling of the tubes after heating, it is recommended to use a clamp adapted to catch them and to deposit them in a stand for cooling.



ADVANTAGES



- Optimum heat transfer between heating block and tubes
- Programmable temperature and heating time
- Perfectly secure
- 24 stations for 16 mm diameter tubes

Technical specifications	
Power connection	230 V / 50-60 Hz or 115 V / 50-60 Hz
Power	550 W
Dimensions	248 x 219 x 171 mm
Weight	3,9 kg
Material	ABS
Innerhousing	PBT
Protective grid	PPS
Lid	PC
Heating block	Aluminum
Number of locations	24
Temperature selection	100 / 120 / 150 °C
Temperature control	Pt100 class A
Stability of the temperature	± 1 °C at Pt100
Timer	30 / 60 / 120 / min. and unlimited (∞)
Heating speed	from 20°C to 150°C in 12 min.
Overheating protection	190°C at thermoblock
Pilotage	microprocessor
Beeper	max. 88 dB
Ambient conditions	10 – 40 °C max. 85 % relative humidity
Compliance	CE

References

Heating Reactor	1RD010
Wooden clamp	1PT007
Stand for 24 tubes	1ST006
Stand for 12 tubes	1ST007



Reagents for photometry and spectrophotometry come from fifty years of experience of ORCHIDIS. They are available as starting kits for PHOTOPOD, and reagents refills for PHOTOPOD and spectrophotometers. Starting kits contain reagents, equipment and instructions. Refills contains only reagents. All methods are achievable by anyone, experienced or not.

New

Simplicity, practicality, efficiency are included with new ORCHIDIS tube analysis methods. And the treatment of used tubes is offered! *

Parameter		Range (mg/L)	Reagents	Time (mn)	Photopod LS	Photopod SP	Uviline	Starting kit for Photopod	Nbr test	Reagents refill for Photopod	Nbr test	Reagents for Uviline	Nbr test
Alkalinity	TA	2,0 - 50,0 °F	tablet	5	●	●	●	1MT134	100	1MT045	250	1MS045	250
Alkalinity	TAC	2,0 - 50,0 °F	tablet	4	●	●	●	1MT135	100	1MT046	250	1MS046	250
Aluminium	Al ³⁺	0,05 - 1,00	liquid	5			●	-	-	-	-	1MS303	300
Aluminium	Al ³⁺	0,05 - 3,00 mg/L	liquid	5	●			1MT136	150	1MT303	300	-	-
Aluminium	Al ³⁺	0,02 - 0,30 mg/L	tablet	8		●	●	1MT001	100	1MT304	250	1MS304	250
Aluminium	Al ³⁺	0,20 - 3,00 mg/L	tablet	9		●	●	1MT001	100	1MT304	250	1MS304	250
Ammonium	NH ₄ ⁺ -N	0,02 - 5 mg/l	tube	6	●	●	●	12AM00	50	-	-	12AM00	50
Ammonium	NH ₄ ⁺ -N	0,5 - 50 mg/l	tube	6	●	●	●	12AM01	50	-	-	12AM01	50
Ammonium	NH ₄ ⁺ -N	0,80 - 24,0 mg/L	liquid	6	●		●	1MT002	150	1MT305	300	1MS305	300
Ammonium	NH ₄ ⁺ -N	0,20 - 4,80 mg/L	liquid	6	●		●	1MT002	125	1MT305	250	1MS305	250
Ammonium	NH ₄ ⁺ -N	0,08 - 1,60 mg/L	tablet	11	●	●	●	1MT193	100	1MT306	250	1MS306	250
Ammonium#	NH ₄ ⁺ -N	0,08 - 1,60 mg/L	tablet	11	●	●	●	1MT003	100	1MT306	250	1MS358	200
Boron	B ⁻	0,50 - 10,00	tablet	11			●	-	-	-	-	1MS308	250
Benzotriazole	BZT	1,00 - 16,0 mg/L	liquid	5,5	●			1MT078	100	1MT307	200	-	-
Bromine	Br ₂	0,10 - 2,25 mg/L	tablet	4	●	●	●	1MT138	100	1MT004	250	1MS004	250
Bromine	Br ₂	1,00 - 13,5 mg/L	tablet	7	●	●	●	1MT138	100	1MT004	250	1MS004	250
Calcium	Ca ²⁺	2,0 - 20,0 mg/L	tablet	3		●	●	1MT139	100	1MT309	250	1MS309	250
Calcium	Ca ²⁺	20 - 200 mg/L	tablet	4		●	●	1MT139	100	1MT309	250	1MS309	250
Chromium 6	Cr ⁶⁺	0,05 - 4,00	liquid	1,5			●	-	-	-	-	1MS009	200
Chromium 6	Cr ⁶⁺	0,10 - 4,00 mg/L	liquid	1,5	●			1MT180	200	1MT009	200	-	-
Chromium 6	Cr ⁶⁺	0,05 - 2,00 mg/L	tablet	6		●	●	1MT142	100	1MT312	250	1MS312	250
Chlorides	Cl ⁻	1,0 - 50,0 mg/L	liquid	4	●		●	1MT044	125	1MT310	250	1MS310	250
Chlorides	Cl ⁻	10 - 500 mg/L	liquid	5	●		●	1MT044	125	1MT310	250	1MS310	250
Chlorides	Cl ⁻	0,50 - 20,0 mg/L	tablet	4		●	●	1MT141	100	1MT311	250	1MS311	250
Chlorides	Cl ⁻	5 - 200 mg/L	tablet	5		●	●	1MT141	100	1MT311	250	1MS311	250
Chlorine Dioxide	ClO ₂	0,20 - 4,75 mg/L	tablet	4	●	●	●	1MT177	100	1MT069	250	1MS069	250
Chlorine Dioxide	ClO ₂	2,4 - 28,5 mg/L	tablet	7	●	●	●	1MT177	100	1MT069	250	1MS069	250
COD	DCO	5 - 150 mg/l	tube	150	●	●	●	12DC00	25	-	-	12DC00	25
COD	DCO	50 - 1500 mg/l	tube	150	●	●	●	12DC01	25	-	-	12DC01	25
COD	DCO	500 - 15000 mg/l	tube	150	●	●	●	12DC02	25	-	-	12DC02	25
Copper	Cu ²⁺	0,20 - 5,00 mg/L	tablet	6		●	●	1MT011	100	1MT314	250	1MS314	250
Copper	Cu ²⁺	0,05 - 5,00 mg/L	liquid	3,5	●		●	1MT181	200	1MT313	200	1MS313	200
Cyanides	CN ⁻	0,02 - 0,50 mg/L	liquid	11	●		●	1MT012	150	1MT315	300	1MS315	300
Cyanuric Acid	Cyan.Ac.	10 - 200 mg/L	tablet	5		●	●	1MT048	100	1MT302	250	1MS302	250
Cyanuric Acid	Cyan.Ac.	10 - 200 mg/l	liquid	5	●		●	1MT130	100	1MT301	200	1MS301	200
DEHA	DEHA	0,05 - 1,00	liquid	11,5			●	-	-	-	-	1MS112	200
DEHA	DEHA	0,02 - 1,00 mg/L	liquid	11,5	●			1MT182	200	1MT112	200	-	-
DEHA	DEHA	0,02 - 2,00 mg/L	tablet	6		●	●	1MT189	250	1MT316	250	1MS316	250

* Metropolitan France only
sea water compatible



NEW

sea water compatible

Parameter		Range (mg/L)	Reagents	Time (mn)	Photopod LS	Photopod SP	Uviline	Starting kit for Photopod	Nbr test	Reagents refill for Photopod	Nbr test	Reagents for UViline	Nbr test
Fluorides	F ⁻	0,20 - 2,00 mg/L	tablet	7		●	●	1MT147	100	1MT320	200	1MS320	200
Fluorides	F ⁻	0,10 - 2,00 mg/L	tube	5,5	●	●	●	1MT110	20	-	-	1MS110	20
Free Chlorine	Cl ₂	0,05 - 1,00 mg/L	tablet	4	●	●	●	1MT140	100	1MT116	250	1MS116	250
Free Chlorine	Cl ₂	0,50 - 6,00 mg/L	tablet	7	●	●	●	1MT140	100	1MT116	250	1MS116	250
H2O2	H ₂ O ₂	0,05 - 5,00	tablet	1,5			●	-	-	-	-	1MS322	250
H2O2	H ₂ O ₂	2 - 200 mg/L	tablet	1,5	●	●	●	1MT148	100	1MT321	250	1MS321	250
H2O2	H ₂ O ₂	0,05 - 2,00 mg/L	tablet	2,5	●	●		1MT149	100	1MT322	250	-	-
Hardness	TH	2,0 - 20,0 °F	tablet	4	●	●	●	1MT143	100	1MT047	250	1MS047	250
Hardness	TH	5,0 - 50,0 °F	tablet	5	●	●	●	1MT143	100	1MT047	250	1MS047	250
Hydrazin	N ₂ H ₄	0,10 - 2,00	liquid	3			●	-	-	-	-	1MS323	100
Hydrazin	N ₂ H ₄	0,10 - 1,00 mg/L	liquid	3	●			1MT019	25	1MT323	100	-	-
Hydrazin	N ₂ H ₄	0,02 - 1,00 mg/L	tablet	3,5		●	●	1MT160	150	1MT324	300	1MS324	300
Iron	Fe	0,05 - 5,00 mg/L	liquid	3	●		●	1MT144	150	1MT317	300	1MS317	300
Iron	Fe	1,0 - 10,10 mg/L	liquid	12	●			1MT194	100	1MT359	200	-	-
Iron	Fe	0,2 - 20,0 mg/L	tablet	4		●	●	1MT145	100	1MT318	250	1MS318	250
Iron	Fe	0,05 - 5,00 mg/L	tablet	7		●	●	1MT146	100	1MT319	250	1MS319	250
Magnesium	Mg ²⁺	0,50 - 5,00 mg/L	tablet	4	●	●	●	1MT161	100	1MT325	250	1MS325	250
Magnesium	Mg ²⁺	5,0 - 50,0 mg/L	tablet	5	●	●	●	1MT161	100	1MT325	250	1MS325	250
Manganese	Mn ²⁺	0,10 - 8,00 mg/L	tablet	6		●	●	1MT162	100	1MT327	250	1MS327	250
Manganese	Mn ²⁺	0,20 - 5,00 mg/L	liquid	6	●		●	1MT050	125	1MT326	250	1MS326	250
Molybdate	MoO ₄ -Mo	3,0 - 60,0 mg/L	tablet	2		●	●	1MT024	100	1MT330	250	1MS330	250
Molybdate	MoO ₄ -Mo	0,5 - 100,0	liquid	1,5			●	-	-	-	-	1MS329	200
Molybdate	MoO ₄ -Mo	0,5 - 20,0 mg/L	liquid	1,5	●			1MT183	200	1MT329	200	-	-
Molybdate	MoO ₄ -Mo	20 - 200 mg/L	liquid	1,5	●		●	1MT183	200	1MT329	200	1MS329	200
Nickel	Ni ²⁺	0,50 - 10,0 mg/L	tablet	3		●	●	1MT079	100	1MT332	200	1MS332	200
Nickel	Ni ²⁺	0,10 - 5,00 mg/L	liquid	4	●		●	1MT164	100	1MT331	200	1MS331	200
Nitrates#	NO ₃ -N	0,06 - 2,30 mg/L	liquid	10	●	●	●	1MT184	25	1MT350	50	1MS350	50
Nitrates#	NO ₃ -N	0,6 - 23,0 mg/L	liquid	10	●	●	●	1MT184	25	1MT350	50	1MS350	50
Nitrates	NO ₃ -N	0,1 - 20 mg/l	tube	5	●	●	●	12NI00	24	-	-	12NI00	24
Nitrates	NO ₃ -N	0,10 - 1,00 mg/L	tablet	17		●	●	1MT101	100	1MT333	200	1MS333	200
Nitrates	NO ₃ -N	1,0 - 22,5 mg/L	tablet	17		●		1MT101	100	1MT333	200	-	-
Nitrates	NO ₃ -N	0,6 - 45	tablet				●	-	-	-	-	1MS333	200
Nitrates	NO ₃ -N	4,5 - 45,0 mg/L	tablet	17		●		1MT101	100	1MT333	200	-	-
Nitrites	NO ₂ -N	0,01 - 1 mg/l	tube	12	●	●	●	12NI01	24	-	-	12NI01	24
Nitrites	NO ₂ -N	0,1 - 5 mg/l	tube	12	●	●	●	12NI01	24	-	-	12NI01	24
Nitrites#	NO ₂ -N	0,01 - 0,60 mg/L	liquid	6	●	●	●	1MT027	150	1MT334	300	1MS334	300
Nitrites	NO ₂ -N	0,01 - 0,60 mg/L	tablet	11		●	●	1MT165	100	1MT335	250	1MS335	250

**NEW**

sea water compatible

Parameter		Range (mg/L)	Reagents	Time (mn)	Photopod LS	Photopod SP	Uviline	Starting kit for Photopod	Nbr test	Reagents refill for Photopod	Nbr test	Reagents for UViline	Nbr test
Nitrites	NO ₂ ⁻ -N	0,4 - 41,0 mg/L	tablet	3		●		1MT166	100	1MT336	250	-	-
Nitrites	NO ₂ ⁻ -N	4 - 410 mg/L	tablet	3		●		1MT166	100	1MT336	250	-	-
Nitrites	NO ₂ ⁻ -N	0,2 - 10,0	tablet				●	-	-	-	-	1MS336	250
Nitrites	NO ₂ ⁻ -N	2 - 100	tablet				●	-	-	-	-	1MS336	250
Nitrogen	Ntotal	0,3 - 20 mg/l	tube	80	●	●	●	12NT00	22	-	-	12NT00	22
Nitrogen	Ntotal	3 - 200 mg/l	tube	80	●	●	●	12NT00	22	-	-	12NT00	22
Ozone	O ₃	0,30 - 4,00 mg/L	tablet	7	●	●	●	1MT029	100	1MT337	250	1MS337	250
Ozone	O ₃	0,03 - 0,65 mg/L	tablet	4	●	●	●	1MT029	100	1MT337	250	1MS337	250
pH	pH	6,8 - 8,6	liquid	0,5	●			1MT036	125	1MT338	250	-	-
Phenol	Phenol	0,05 - 10,0 mg/L	tablet	6,5	●	●	●	1MT167	100	1MT339	200	1MS339	200
Phosphates	P205	1,0 - 36,0 mg/L	liquid	11	●		●	1MT030	125	1MT352	250	1MS352	250
Phosphates	O ₃	0,06 - 2,00	liquid				●	-	-	-	-	1MS352	250
Phosphates	PO ₄ ³⁻ -P	0,06 - 1,60 mg/L	liquid	11	●			1MT030	125	1MT352	250	-	-
Phosphates	PO ₄ ³⁻ -P	0,50 - 13,0 mg/L	liquid	11	●		●	1MT030	125	1MT352	250	1MS352	250
Phosphates	PO ₄ ³⁻ -P	1,0 - 20,0	liquid				●	-	-	-	-	1MS351	250
Phosphates	PO ₄ ³⁻ -P	1,0 - 40,0 mg/L	liquid	6	●			1MT031	125	1MT351	250	-	-
Phosphates	PO ₄ ³⁻ -P	0,6 - 32,6 mg/L	tablet	2,5		●	●	1MT185	100	1MT353	250	1MS353	250
Phosphates	PO ₄ ³⁻ -P	0,06 - 1,30 mg/L	tablet	5		●	●	1MT186	100	1MT354	200	1MS354	200
Potassium	K ⁺	2,00 - 15,0 mg/L	tablet	4	●	●	●	1MT168	100	1MT340	250	1MS340	250
Silica	SiO ₂	10 - 300 mg/l	liquid	8	●		●	1MT040	150	1MT341	300	1MS341	300
Silica	SiO ₂	0,20 - 10,0 mg/L	liquid	8	●		●	1MT040	150	1MT341	300	1MS341	300
Silica	SiO ₂	0,05 - 10,0 mg/L	tablet	12	●	●	●	1MT170	100	1MT343	200	1MS343	200
Silica	SiO ₂	5 - 150 mg/L	tablet	12		●	●	1MT173	100	1MT342	200	1MS342	200
Sulfates	SO ₄ ²⁻	5 - 300	liquid	11			●	-	-	-	-	1MS344	200
Sulfates	SO ₄ ²⁻	10 - 400 mg/L	liquid	11	●			1MT080	100	1MT344	200	-	-
Sulfates	SO ₄ ²⁻	10 - 200 mg/L	tablet	6		●	●	1MT171	100	1MT041	200	1MS041	250
Sulfure	S ²⁻	0,05 - 0,60 mg/L	tablet	6	●	●	●	1MT172	100	1MT345	-	1MS345	200
Total Chlorine	Cl ₂	0,05 - 1,00 mg/L	tablet	4	●	●	●	1MT192	100	1MT007	250	1MS007	250
Total Chlorine	Cl ₂	0,50 - 6,00 mg/L	tablet	7	●	●	●	1MT192	100	1MT007	250	1MS007	250
Total Phosphorus	Ptotal	0,05 - 3 mg/l	tube	40	●	●	●	12PT00	24	-	-	12PT00	24
Turbidity	Turbi	10,0 - 100 NTU	-	0	●	●		-	-	-	-	-	-
Turbidity	Turbi	10 - 4000 NTU	-	0	●	●		1MT076	50	-	250	-	-
Zinc	Zn ²⁺	0,05 - 5,00	liquid				●	-	-	-	-	1MS356	200
Zinc	Zn ²⁺	0,05 - 4,00 mg/L	liquid	2	●			1MT190	200	1MT356	200	-	-
Zinc	Zn ²⁺	0,10 - 4,00 mg/L	tablet	6		●	●	1MT043	100	1MT346	200	1MS346	250

STANDARD OR CUSTOMIZED CASES



Many standard kits and small cases are available for different applications:

boiler, waste waters, swimming pools...

Each case contains all the equipment, reagents and instructions to perform the analyses thus constituting a true portable laboratory.

If one of the standard cases does not meet all your needs, customized cases are available.

The portable cases are robust and perfectly adapted to field work. Several models are available.

From colorimetric methods to indicator paper or comparator, titrimetric methods to the drop or the burette, we can include all types of analysis in our cases.

We also equip the cases with different pocket testers, pH, conductivity, TDS, T ° ...

Consult us for a quote.





WATER TREATMENT

Demonstration cases

To highlight the problem of hard water, and demonstrate the effectiveness of water softening using a mini water softener.



Classical model case

Mini water softener for demonstration
Foam test
Precipitation test
Hardness test



Luxurious model case

Mini water softener for demonstration
Foam test
Precipitation test
Hardness test
Nitrates test
Chlorine test
pH test



Multiparameter kit "test your water"

Hardness test
Nitrates test
Chlorine test
pH test



Monoparameter test kits

Hardness 3 reagents	1 - 60°F	1KT001
Hardness 2 reagents	1 - 60°F	1KT004
Hardness 1 reagent	1 - 60°F	ORMCD1003
Nitrates	0 - 50 mg/l	1KN018
Chlorine/pH		1KS004

References

Classical model case	1MD015
Luxurious model ABS case	1MD002
Luxurious model Aluminium case	1MD014
Multiparameter kit "test your water"	1TT013



LAUNDRIES - CATERING

Kits and multiparameter models

Laundry kit

Hardness test
Detergent test



Laundry case

Hardness test
Detergent test
m alkalinity test
Bleach test
Residual chlorine test
Detergent concentration
Iron test
pH test



Catering kit

Hardness test
Detergent test
Starch test
Temperature °C



Multi test kit for laundry/catering

Hardness test
Detergent test
m alkalinity test
Residual chlorine test
Iron test
pH test



Dish washing control kit

Detergent test
Residual alkalinity test
Protein test
Starch test
Scale deposit test
Test identification dépôt calcaire



Monoparameter kits

	Range	Reference
Starch	presence/absence	1KA010
p alkalinity	0 - 60°F	1KT007
p alkalinity	5 - 240°F	1KT006
m alkalinity	5 - 240°F	1KT008
m alkalinity	2 - 60 °F	1KT000
Chlorine	presence/absence	1KC015
Chlorine	10 - 100 mg/l	1KC007
Hardness 3 reagents	1 - 60°F	1KT001
Hardness 2 reagents	1 - 60°F	1KT004
Hardness 1 reagent	1 - 60°F	ORMCD1003
Iron	presence/absence	1KF001
Iron	0,06 - 1 mg/l	1KF005
Bleach	47 - 50°	1CC016
Detergent		1KT003
pH	0 - 14	1PI030
Digital Thermometer		1TE001

References

LAUNDRY KIT	1KD002
LAUNDRY CASE	1MB007
CATERING KIT	14KH00
MULTI TEST KIT FOR LAUNDRY/CATERING	1TB011
DISH WASHING CONTROL KIT	14KC05



BOILER ROOM

CONTROL OF RD25 COMPLEX AND MOLYBDATES	1TC052
CONTROL OF POLYACRYLATES BASED PRODUCTS	1TP004

Legionella risk control case

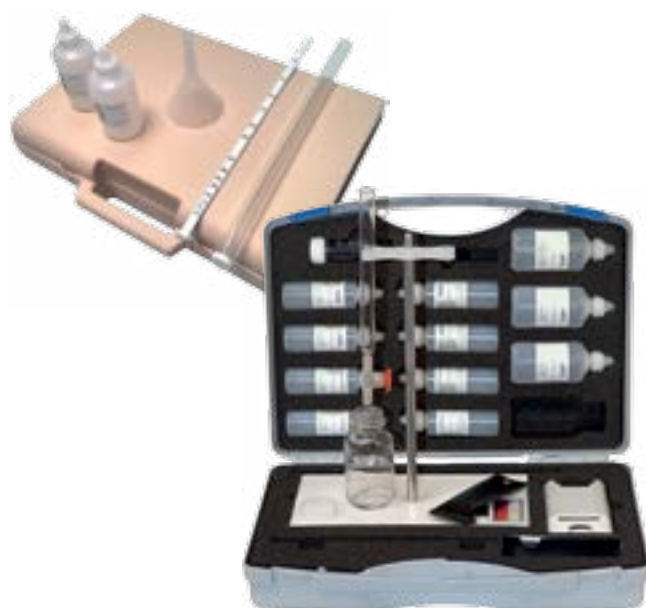
Case for the control of the parameters related to the risk of Legionella, Hardness, p- and m-alkalinity, chlorides, iron, pH, conductivity, temperature

LEGIONELA RISK CONTROL CASE	1ML010
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Boiler room case

Case for the important parameters to check in boiler room
Hardness, p- and m-alkalinity, chlorides, sulfites.

WITH DROP COUNT METHODS	1MD003HC
WITH BURETTE METHODS	1MD005HC
WITH DIGITAL TITRATOR METHODS	14ML06



WASTE WATER

Waste water treatment plant case

Decantation test
Control of limpidity
Recirculation test
Ammonia test
Nitrates test
Permanganate oxydability test
Sludge blanket detection
Phosphates test (optional)

WASTE WATER TREATMENT PLANT CASE	14ML01
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MONOPARAMETER KITS

NITRATES	0 - 50 mg/l	1KN018
NITRATES	0 - 200 mg/l	1KN006
AMMONIA	0 - 50 mg/l	1KA018
PHOSPHATES	0 - 80 mg/l	1KP004



STANDARD SOLUTIONS FOR ORP CONDUCTIVITY, TURBIDITY AND PH

Orchidis standard solutions and pH buffer solutions are prepared and controlled by our laboratory. The values given correspond to 25°C. For NIST certified solutions (or other certification), please contact us.



pH Buffer Solutions

	60 ml	125 ml	250 ml	500 ml	1000 ml
Buffer solution pH 10	1TP000	1TP001	1TP056	1TP002	1TP003
Buffer solution pH 9	1TP011	1TP012	1TP070	1TP013	1TP014
Buffer solution pH 7	1TP006	1TP005	1TP055	1TP007	1TP008
Buffer solution pH 4	1TP015	1TP016	1TP054	1TP017	1TP018
Buffer solution pH 7,01	-	1TP060	-	-	-
Buffer solution pH 4,01	-	1TP061	-	-	-

For other values of pH buffer or other volumes, please contact us

Conductivity Standard Solutions

	125 ml	500 ml	1000 ml
Conductivity Standard Solution 12880 $\mu\text{S/cm}$	1SC013	1SC045	1SC033
Conductivity Standard Solution 1413 $\mu\text{S/cm}$	14SCS19	1SC027	1SC011
Conductivity Standard Solution 111800 $\mu\text{S/cm}$	11SC035	1SC046	1SC034
Conductivity Standard Solution 84 $\mu\text{S/cm}$	1SE044	1SE024	1SC020

For other values of conductivity or other volumes, please contact us

ORP Standard Solutions

	125 ml	500 ml	1000 ml
ORP Standard Solutions 240 mV	1SR001	1SE028	1SE048
ORP Standard Solutions 470 mV	1SR004	1SR005	1SR006

For other ORP values or other volumes, please contact us

Turbidity Standard Solutions

	125 ml	500 ml	1000 ml
Formazine Solution 4000 NTU	1SF009	1SF007	1SF008

For other values of turbidity or other volumes, please contact us

Storage and cleaning solutions for electrodes

	125 ml
Storage solution for electrode pH & EH	1SC009
Cleaning solution for electrode	1SN004



FLOCULATOR FLOTTATEST

The flocculators are used to conduct jar tests.

The flottatest is intended for flotation tests.

Orchidis flocculators and flottatests feature an LCD display and a digital control for adjusting the speed and the timer. Quick and simple programming allows tasks to be reproduced perfectly.

The diffused light of the LED provides better visibility without dazzling.

The height-adjustable and lockable blades and stirring rods are made of 316L stainless steel to ensure chemical, physical and corrosive resistance.



Flottatest

Flottatest

Pressurized water is stored in a cylinder pressurized by a compressor (optional). The water is injected through magnet valves at the base of the vessels containing the samples. Water releases micro-air bubbles in order to study the flotation of particles in the sample.

Floculator
4 placesFloculator
6 places

Field Floculator 4 places

laboratory Floculator 6 places

Flottatest

	Field Floculator 4 places	laboratory Floculator 6 places	Flottatest
	FIS0100	14FJ01	1FF003
Number of places	4	6	3
Capacity	For flocculation jar 1L		For flotation jar 1,3L
Shafts and paddles	Adjustable in height and equipped with a self-locking device, Stainless steel 316L, resistant to chemical and physical attacks		
Display	Digital LCD display		
Speed	From 10 to 400 rpm, with 1 rpm step. Programming with numerical command.		
Timer	From 10 to 3600 sec, with 1 sec step. Programming with numerical command.		
Light	LED light, not blinding		
Power supply	12V with AC adaptor		
Dimensions WHD	325 x 440 x 325 mm	900 x 405 x 230 mm	710 x 580 x 210 mm
Weight	11,3 kg	17,5 kg	35 kg

Supplied Accessory for Floculator

AC Adaptor

Optional Accessory for Floculator

Plastic flocculation jar	1BP010
Glass flocculation jar	1VF001
Cigar lighter adaptor	1VF002

Supplied Accessories for Flottatest

AC Adaptor

3 glass flotation jar

Connection Tube

Optional Accessories for Flottatest

Compressor for Flottatest	1CF000
Glass flotation jar	1VF000

PRIM SPECTROPHOTOMETERS

PRIM LIGHT and PRIM ADVANCED visible spectrophotometers combine excellent photometric quality with simple and intuitive handling.

Compact and lightweight, these spectrophotometers are ideal for standard applications in education or in laboratory.

- **PRIM Light:** simple internal software which includes basic measurements in spectrophotometry, absorbance, transmittance and single standard concentration.
- **PRIM Advanced:** Advanced applications in absorbance, transmittance, multi-standard concentrations, kinetics, multi-wavelengths and spectrum scanning.

New

Monitor your PRIM, print and save directly with a computer using SPECTRALAB software.

See pages 72-73



Technical specifications

Spectral range	330-900 nm
Bandwidth	10 nm
Accuracy	± 1.5 %
Repeatability	± 1 nm
Photometric range	-0.3 Abs ; 0 -200 %T
Accuracy	± 2 %
Drift	< 0.03 A/h @ 500 nm
Stray light	0.5 %T @ 340 & 400 nm
Display	Alphanumeric LCD back-lit 2 lines height 8 mm 16 characters
Zero	Automatic
Light sources	Halogen
Detector	Silicon diode
Interface	Serial RS232C
Cell holder	1 cuvette 10 mmv
Power	115/230V - 50/60Hz
H x w x d	180 x 280 x 220 mm
Weight	2.5 kg

Software equipment

PRIM	Light	Advanced
Absorbance	YES	YES
% Transmission	YES	YES
Concentration With factor	YES	YES
Concentration With 1 standard	YES	YES
Concentration With 1 to 8 standards	NO	YES
Kinetics	NO	YES
Multi-wavelengths	NO	YES
Spectrum scanning	NO	YES
Peaks and valleys detection	NO	YES
Multi-language	YES	YES
Automatic stand-by	YES	YES

References

PRIM Light	70CI0377
PRIM Advanced	70CI0381
10mm cell holder (delivered with metal cell support réf 404917) Prim L&A	70CI0388
Box 7 flaws (visible) for spectrophotometers control	0G6349
Thermal printer KYOLINE black & white 40 column	0J6620
Set of 10 printer thermal paper rolls KYOLINE	0I6621
Kyoline Jyospeed printer for PRIM	X0072A
PC connexion cables for PRIM	70ST0561
SPECTRALAB software	85LOG0001

Standard delivery

PRIM spectrophotometer, Box of 100 plastic cuvettes, a 115/230V -50/60Hz transformer, user manual and performance certificate.



UVILINE 8100C, 9100C AND 9400C SPECTROPHOTOMETERS

UviLine UV-visible spectrophotometers combine the best innovations available today in analytical instruments: easy to use, accurate and powerful are the UviLine key words.

- UviLine spectrophotometers are the market's easiest to use spectrophotometers thanks to its powerful software, GLP compliance and fully accessible cuvette compartment.

- Time saving and best value for money are significant criteria for customers and UviLine spectrophotometers match these 2 points thanks to their software easy to learn and to use, fast reading process, and long life span lamps (xenon for the 9400C model)

Applications: Reference laboratories, Life Sciences, Education, Food industries, Chemical and petrochemical industries.



ADVANTAGES



Perfect optical design

- 1200 L/mm holographic grating for very low Stray Light
- Large Wavelength range:
- 190 to 1100 nm for 9400C
- 320 to 1100 nm for 8100C and 9100C
- High optical resolution : 6nm for 8100C and 4nm for 9100C and 9400C
- Ambient light automatic compensation
- Fast scanning capability
- High light purity allowing a large reading range : + 3,300 Abs
- Automatic wavelength calibration

Powerful Software

The UviLine software brings you many exclusive features:

- Large selection of calculation methods: direct reading of the absorbance, multi-focus concentration, multi-wavelength, spectral scanning, kinetics.
- Detailed quality management: user administration, data management, replica of readings.
- Extended Storage capacity (internal + USB flash drives): method, data, graphics.
- Input-output ports with USB & RS 232 technology. USB drives, mouse, alphanumeric keypad, PC...



UVILINE 9100C and 9400C are compatible with ORCHIDIS methods
Accessories Kit for ORCHIDIS methods
Ref : 1KA050
Parameters and reagents kits
See page 76

Accessories page 74 and technical specifications and references page 75

UVILINE 9300 AND 9600 SPECTROPHOTOMETERS

Secomam engineers have developed new spectrophotometric technologies to get faster and more accurate results. All these technologies have been included in the new spectrophotometer Uviline 9300 (visible) and Uviline 9600 (UV visible) in order to give the best spectrophotometric experience.

New reference beam

More accurate, less drift, and no need to make a blank measurement everytime you make an analysis

- New acquisition system : 2 times faster than previous technologies
- New large color screen : better ergonomy
- New special mode : Calculation according fully customizable mathematical formulation and integration of additional variables and measurement conditions
- Lamps lifetime improved : up to 4 years on Uviline 9300 and no lamp to change on Uviline 9600
- Guaranteed straylight < 1%



Perfect optical design

- Guaranteed Stray Light <1%
- Large Wavelength range: • 190 to 1100 nm (Uviline 9600) • 320 to 1100 nm (Uviline 9300)
- Bandwidth: 4nm
- Ambient light automatic compensation
- Fast scanning capability
- High light purity allowing a large reading range: + 3,500 Abs
- Automatic wavelength calibration

Remote control

Thanks to SPECTRALAB software, spectrophotometers can be controlled remotely on PC. Recording, printing, data transfer ... everything is even more simple by working directly on computer through an intuitive interface.

Alone or driven by SPECTRALAB, UVILINE offers 5 measurement modes :

- Absorbance/Transmittance
- Concentration
- Multi wavelength
- Spectrum Scanning
- Kinetic





UVILINE CONNECT 810,910 ET 940

Uviline Connect spectrophotometers have one particularity, they have no screen and no keyboard.

Because sometimes user prefer to use a computer to control their device, SECOMAM now propose entirely remote control spectrophotometers. Thanks to the software Spectralab, they can be easily controlled by a computer, but also by a tablet using Bluetooth® technology. Uviline Connect 810, 910 and 940 have respectively the same technical specifications as Uviline 8100C, 9100C and 9400C, so they benefit from the same perfect optical design.

ADVANTAGES



Perfect optical design

- 1200 L/mm holographic grating for very low Stray Light
- Large Wavelength range: 320 to 1100 nm for 810 and 910
- High optical resolution : 6nm for 810 and 4nm for 910 and 940
- Ambient light automatic compensation
- Fast scanning capability
- High light purity allowing a large reading range : + 3,300 Abs
- Automatic wavelength calibration



Accessories page 74 and technical specifications and references page 75

SPECTRALAB SOFTWARE

Spectralab Software have been specially designed for the use with Uviline Connect, so you can control absolutely everything on your spectrophotometer and its accessories. This powerful software is available for all Uviline devices and is compatible with all computers and tablets using Windows OS.

The connection to the spectrophotometer is made through USB wire or via Bluetooth wireless connexion.

With Spectralab, it's no longer necessary to transfer your data from your device to a PC for use. Back up directly to your computer or mass storage media locally or on a networked server. And for print, it is possible to use any printer connected in network.

It is also possible to enjoy all the benefits of SPECTRALAB with PRIM and PHOTOPD devices.



Reference

SpectraLab Software

85LOG0001

ACCESSORIES FOR UVILINE SPECTROPHOTOMETERS

The cell compartment of UviLine can receive a wide range of accessories. Easy to access, they expand the applications of spectrophotometers and improve their automation.

These accessories are easily installed thanks to the locking system "Quick-Lock" and ensure very fast and optimum positioning in instrument cell compartment.

Automatic accessories (multicell, Sipper, thermostatically controlled cell holder ...) are entirely controlled by the software.



1. SECOMAM cells

- The SECOMAM cells are a guarantee of quality and optical purity. More than 500 models of optical glass or quartz cells are proposed in our dedicated catalog.



2. Single cell holder up to 10 mm optical path

- It can receive 10 mm cells and, associated to the right diaphragm, it allows the use of microcells up to 50 µl.
- Thermostatable version in option.



3. 16 mm tube holder

- For 16 mm round tubes used for some micromethods.



4. Universal Cell Holder 5-100 mm & 16 mm tube

- Suitable for cells 5/10/20/50/100 mm and 16 mm tubes, rigorously covers all uses of UviLine.



5. Automatic multi-cell turret 5 + 1

- It manages 5 samples and 1 blank.
- The turret is easily removable and re-insertable for easy change of the cells.
- Positioning is extremely accurate even for small volume cells.



6. Sipper

Compact, it is equipped with a peristaltic pump integrated to the cell holder:

- Programmable suction 500 µl to 2000 µl
- Can be used with cells from 30 µl to 450 µl
- It secures the handling and increases productivity



7. Peltier

The Peltier temperature control system is compact, fast and accurate.

- Programming of the T° : from 10°C to 60°C with 1°C steps
- Accuracy: 0.5 °C



8. Sipper with Peltier

It combines a suction system by peristaltic pump integrated in the cell holder and a Peltier temperature control system

- Programmable suction 500 µl to 2000 µl
- Programming of the T° : from 10°C to 60°C with 1°C steps
- Ultra compact, fast and completely driven by the device



Technical specifications					
Model Uviline	8100C & Connect 810 (Visible)	9100C & Connect 910 (Visible)	9400C & Connect 940 (UV-Visible)	9300 (Visible)	9600 (UV-Visible)
Wavelength range	320-1100 nm	320-1100 nm	190-1100 nm	320-1100 nm	190-1100 nm
Light Source	Halogen	Halogen	Xenon	Halogen	Xenon
Bandpass	6 nm	4 nm		4 nm	
Incremental WL step	Reading: 0.1 nm Setting: 1 nm	Reading: 0.1 nm Setting: 1 nm		Reading: 0.1 nm Setting: 1 nm	
Wavelength accuracy	± 2 nm	± 1 nm		± 1 nm	
Wavelength repeatability	± 0,5 nm	± 0,5 nm		± 0,5 nm	
Absorbance range	± 3,300	± 3,300		± 3.500 Abs	
Absorbance resolution	0,001	0,001		0,001	
Photometric accuracy	0.005 Abs < 1 Abs	0.003 Abs < 0.600 Abs		± 0.003 Abs (0.5 Abs) ± 0.005 Abs (1.0 Abs) ± 0.010 Abs (2.0 Abs)	
Stray light	<0.1%T at 340 nm	0.1 %T at 340 nm 0.1 %T at 400 nm		< 0.1 %T at 340 nm < 0.1 %T at 408 nm	< 1 %T at 198nm < 0.1 %T at 220nm < 0.05 %T at 340 nm < 0.05 %T at 408 nm
Flatness baseline	± 0,010 Abs	± 0,010 Abs		± 0.002 Abs	
Scanning speed	Low-Medium-Fast	Low-Medium-Fast		> 600 nm/min	> 800 nm/min
Update	Via USB Stick (8100) Via USB port (810)	Via USB Stick (9100 & 9400) Via USB port (910 & 940)		Via USB Stick	
Interface	1 USB-A, 1 USB-B, 1 RS 232C (8100) 1 USB-B, Bluetooth (810)	1 USB-A, 1 USB-B, 1 RS 232C (9100 & 9400) 1 USB-B, Bluetooth (910 & 940)		1 USB-A, 1 USB-B, Ethernet RJ45	
Weight (net)	4,7 kg	4 kg		4 kg	
Dimensions (L x W x H)	404 x 314 x 197 mm	404 x197 x 314 mm		404 x197 x 314 mm	
IP standard	IP 30 with drain in the cell compartment	IP 30 with drain in the cell compartment		IP 30 with drain in the cell compartment	
Power supply	110-220 V 50/60 Hz - specific country cable	110-220 V 50/60 Hz - specific country cable		110-220 V 50/60 Hz - specific country cable	
Température (°C) / Humidity Use	+10°C to +35°C ; storage: -25°C to +65°C / Average p.a.: <75%, 30 days/year: 95%; rest: 85%	+10°C to +35°C ; storage: -25°C to +65°C / Average p.a.: <75%, 30 days/year: 95%; rest: 85%		+10°C to +35°C ; storage: -25°C to +65°C / Average p.a.: <75%, 30 days/year: 95%; rest: 85%	
Warranty	3 years	3 years		3 years	

Preprogrammed methods

All Uviline spectrophotometers (except 8100C/810) are provided with more than 100 preprogrammed methods to measure more than 40 parameters (see list and reagents kit page 61). A kit with all necessary accessories to prepare your samples is available (1KA050).

References

Spectrophotometers

UVILINE 8100C - Visible 6 nm Spectrophotometer	70VI0482
UVILINE Connect 810 - Visible 6 nm Spectrophotometer	75UCT0480A
UVILINE 9100C - Visible 4 nm Spectrophotometer	70VI0502
UVILINE Connect 910 - Visible 4 nm Spectrophotometer	75UCT0500A
UVILINE 9400C - UV-Visible 4 nm Spectrophotometer	70VI0512
UVILINE Connect 940 - UV-Visible 4 nm Spectrophotometer	75UCT0510A
UVILINE 9300 - Spectrophotometer Visible Reference Beam 4 nm	70VI0501A
UVILINE 9600 - Spectrophotometer Visible Reference Beam 4 nm	70VI0511A

Light source

Pre-aligned lamp for UVILINE 8100C and Connect 810	80ZZ0036
Pre-aligned lamp for UVILINE 9100C and Connect 910	80ZZ0037
Lamp for UVILINE 9400C, 9600 and Connect 940	Contact us

Accessories

16 mm tube holder	70VI0607
Standard 10 mm cell holder (included with all UVILINE)	70VI0604
5 - 100 mm universal cell holder for UVILINE	70VI0609
Automated 5+1 cell changer for UVILINE	70VI0600

Peltier thermostated 10 mm cell holder for UVILINE	70VI0603
Sipper + Peltier thermostated 10 mm cell holder for UVILINE	70VI0610
Sipper for UVILINE	70VI0601
Accessories kit for orchids methods on uviline	1KA050

Software

SPECTRALAB software	85LOG0001
UVILINE PC connexion cable	X0009A

Cells

Box of 100 square plastic cells 10 mm 3,5 ml	0G6317
Standard 10mm glass cell with 3.5ml cap	0GG420
Standard 10 mm quartz cell with 3.5ml cap	0GQ420
Other cells models	Contact us

Calibration set

Calibration standards set for spectrophotometers	0G6349
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Service

Maintenance contract, certification, training	Contact us
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ORCHIDIS manufactures all reagents and solutions listed below. For other packages or concentrations, please contact us. We are also at your disposal for the production of customized reagents made according to specific needs and we also distribute many brands of chemicals (PANREAC, MERCK, VWR, SIGMA...).

	Unit.	Ref.		Unit.	Ref.		Unit.	Ref.
A/G reagent	60 ml	1RA011	Chloride indicator (without CMR)	125 ml	11C012	DPD liquid n°1	1000 ml	14DL01
A/G reagent	500 ml	1RA001	Chloride indicator (without CMR)	250 ml	11C013	DPD liquid n°2	1000 ml	14DL02
A/G reagent	1000 ml	1RA002	Chloride indicator (without CMR)	500 ml	11C014	DPD reagent n°1	60 ml	1RD015
A/G reagent (glass bottle)	125 ml	1RA000	Chloride indicator (without CMR)	1000 ml	11C015	DPD reagent n°3	60 ml	1RD016
A/G reagent (plastic bottle)	125 ml	1RA008	Chloride reagent n°1	125 ml	1RC030	ECAL indicator	15 g	11E003
Acetic acid 1/2	60 ml	1AA001	Chloride reagent n°2	125 ml	1RC031	ECAL indicator	20 g	11E002
Acetic acid 1/2	125 ml	1AA002	Chloride titration solution	1000 ml	11C020	ECAL indicator	150 g	11E000
Acetic acid 1/2	500 ml	1AA003	Chloride titration solution n°1	125 ml	11C021	ECAL indicator	70 g	11E001
Acetic acid 1/2	1000 ml	1AA004	Chloride titration solution n°2	125 ml	11C022	EDTA 0,2 n	1000 ml	1AE015
Acid molybdate for stannous chloride	60 ml	1MA007	Chloride titration solution n°3	125 ml	11C023	EDTA solution n	1000 ml	11C018
Acid molybdate for stannous chloride	1000 ml	1MA008	Chlorine reagent A	20 g	1RC023	EDTA solution n/10	60 ml	11C000
Ammonium chloride	60 ml	1AC037	Chlorine reagent B	60 ml	1RC024	EDTA solution n/10	500 ml	11C002
Ammonium chloride	125 ml	1AC038	Chlorophenol red	500 ml	1CR006	EDTA solution n/10	5 l	11C004
Ammonium chloride	500 ml	1AC039	Chlorophenol red	1000 ml	1CR007	EDTA solution n/10	125 ml	11C001
Ammonium chloride	1000 ml	1AC040	Chlorophenol red	125 ml	1CR005	EDTA solution n/10	1000 ml	11C003
Ammonium molybdate	170 g	1AM011	Chlorophenol red	60 ml	1CR004	EDTA solution n/25	60 ml	11C005
Ammonium molybdate	80 g	1AM010	Chrome-metre reagent n°1	500 ml	14CR00	EDTA solution n/25	125 ml	11C007
Ammonium molybdate 10%	500 ml	14MA03	Chrome-metre reagent n°2	1000 ml	14CR01	EDTA solution n/25	250 ml	11C014
Ammonium molybdate 1% (without dropper)	60 ml	1AM018	Chromium reagent n°1	60 ml	1RC032	EDTA solution n/25	500 ml	11C008
Ammonium oxalate powder	125 g	1AO008	Chromium reagent n°2	60 ml	1RC033	EDTA solution n/25	1000 ml	11C009
Ammonium oxalate solution	60 ml	1AO007	Concentrated ammonia	60 ml	1AC030	EDTA solution n/25	5 l	11C010
Ammonium oxalate solution	125 ml	1AO010	Concentrated ammonia	125 ml	1AC031	EDTA solution n/50	125 ml	11C015
Ammonium oxalate solution	500 ml	1AO011	Concentrated ammonia	500 ml	1AC032	EDTA solution n/50	1000 ml	11C012
Ammonium oxalate solution	1000 ml	1AO012	Concentrated ammonia	1000 ml	1AC033	EDTA solution n/50	5 l	11C013
Ammonium persulfate	50 g	1AP019	Concentrated ammonia	5 l	1AC055	Fluorescein	100 g	1FP018
Aqueous solution of methyl red at 0.02%	125 ml	1MR001	Concentrated ammonia	250 ml	1AC036	Fluorescein	1000 g	1FP006
Ascorbic acid	150 g	1AA006	Copper reagent n°1	60 ml	1RC036	Fluorescein	250 g	1FP019
Ascorbic acid	70 g	1AA005	Copper reagent n°2	60 ml	1RC037	Fluorescein	500 g	1FP005
B/G reagent	500 ml	1RB001	Cyanide reagent buffer PE	60 ml	1RC018	Fluorescein	5000 g	1FP007
B/G reagent	1000 ml	1RB002	Cyanide reagent buffer PE	125 ml	1RC016	Fluoresceine solution	125 ml	1FS000
B/G reagent (glass bottle)	125 ml	1RB000	Cyanide reagent n°1	500 ml	1RC017	Fluoresceine solution	500 ml	1FS001
B/G reagent (plastic bottle)	125 ml	1RB005	Cyanide reagent n°1	125 ml	1RC006	Fluoresceine solution	1000 ml	1FS002
Barium chloride solution	500 ml	1BC009	Cyanide reagent n°2	500 ml	1RC007	Glacial acetic acid	1000 ml	1AA010
Barium chloride solution	5 l	1BC023	Cyanide reagent n°1	60 ml	1RC005	Helianthine (methylorange)	60 ml	1H0000
Barium chloride solution	60 ml	1BC017	Cyanide reagent n°2	150 g	1RC009	Helianthine (methylorange)	125 ml	1H0001
Barium chloride solution	125 ml	1BC008	Cyanide reagent n°2	485 g	1RC010	Helianthine (methylorange)	250 ml	1H0002
Barium chloride solution	1000 ml	1BC010	Cyanide reagent n°2	70 g	1RC008	Helianthine (methylorange)	500 ml	1H0003
Barium chloride solution 20%	250 ml	1BC012	Cyanide reagent n°3	60 ml	1RC011	Helianthine (methylorange)	1000 ml	1H0004
Bromocresol green	125 ml	1BV010	Cyanide reagent n°3	125 ml	1RC012	Helianthine (methylorange)	5 l	1H0005
Bromocresol green	500 ml	1BV011	Cyanide reagent n°3	500 ml	1RC013	High range silica reagent	60 ml	1RS011
Bromocresol green	1000 ml	1BV012	DAB indicator	125 ml	11D001	High range silica reagent	125 ml	1RS010
Bromocresol green	60 ml	1BV009	DAB indicator	250 ml	11D002	Hydrochloric acid 1n	125 ml	1AC015
Bromophenol blue 0,5%	60 ml	1BB017	DAB indicator	5 l	11D005	Hydrochloric acid 1n	500 ml	1AC016
Bromophenol blue 0,5%	125 ml	1BB002	DAB indicator	60 ml	11D006	Hydrochloric acid 1n	1000 ml	1AC017
Bromothymol blue	60 ml	1BB003	DAB indicator	500 ml	11D003	Hydrochloric acid 1/2	60 ml	1AC000
Bromothymol blue	125 ml	1BB004	DAB indicator	1000 ml	11D004	Hydrochloric acid 1/2	500 ml	1AC001
Bromothymol blue	500 ml	1BB005	DEHA reagent n°1	100 g	1RD012	Hydrochloric acid 1/2	1000 ml	1AC002
Bromothymol blue	1000 ml	1BB006	DEHA reagent n°2	100 ml	1RD013	Hydrochloric acid 1/3	500 ml	1AC003
Buffer solution K 10	60 ml	1TK000	Deionised water	125 ml	1ED010	Hydrochloric acid 1/3	1000 ml	1AC004
Buffer solution K 10	125 ml	1TK002	Deionised water	250 ml	1ED008	Hydrochloric acid 1/3	60 ml	1AC006
Buffer solution K 10	250 ml	1TK003	Deionised water	500 ml	1ED016	Hydrochloric acid 1/3	125 ml	1AC005
Buffer solution K 10	500 ml	1TK004	Deionised water	1000 ml	1ED014	Hydrochloric acid n/10	1000 ml	1AC021
Buffer solution K 10	1000 ml	1TK005	Deionised water	5 l	1ED000	Hydrochloric acid n/10	60 ml	1AC018
Buffer solution K 10	5 l	1TK006	Dimethylglyoxime	60 ml	1D6001	Hydrochloric acid n/10	125 ml	1AC019
Cation exchange resin	1 l	12RC01	Dimethylglyoxime	125 ml	1D1010	Hydrochloric acid n/10	500 ml	1AC020
Cation exchange resin	40 g	1RC015	Dimethylglyoxime	500 ml	1D5000	Hydrogen peroxide	250 ml	1HP000
CBP indicator	180 g	11C001	Dimethylglyoxime	250 ml	1D2000	Hydrogen peroxide	60 ml	1HP001
CBP indicator	20 g	11C002	Dimethylglyoxime	1000 ml	1D1011	Hydrogen peroxide reagent n°1	60 ml	1RH001
CBP indicator	85 g	11C000	Diphenylcarbazide reagent for chromium analysis	130 g	1D1012	Hydrogen peroxide reagent n°2	60 ml	1RH002
Chloride indicator (without CMR)	60 ml	11C011	Diphenylcarbazide reagent for chromium analysis	60 g	1D6002	Hydrogen peroxide reagent n°3	60 ml	1RH003
			Diphenylcarbazone	125 ml	1D1019			
			DPD glycine reagent	60 ml	1RD017			



	Unit.	Ref.		Unit.	Ref.		Unit.	Ref.
Hydroplus solution	60 ml	1LH019	Mohr's salt 25 g/l	60 ml	1SD002	Phosphate reagent 1	125 ml	1RP025
Hydroplus solution	500 ml	1LH022	Mohr's salt 25 g/l	1000 ml	1SD005	Phosphate reagent 1	500 ml	1RP022.
Hydroplus solution	1000 ml	1LH023	Mohr's salt 25 g/l	125 ml	1SD003	Phosphate reagent 1	60 ml	1RP018
Hydroplus solution (glass bottle)	125 ml	1LH020	Mohr's salt 25 g/l	500 ml	1SD004	Phosphate reagent 2	60 ml	1RP019
Hydroplus solution (plastic bottle)	125 ml	1LH021	Mohr's salt 5 g/l	1000 ml	1SD001	Phosphate reagent 2	125 ml	1RP026
Hydrotimetric concentrated solution	500 ml	1LH009	Mohr's salt 5 g/l	125 ml	1SD000	Phosphate reagent 2	500 ml	1RP023.
Hydrotimetric concentrated solution	60 ml	1LH006	Molybdate equalizing reagent	60 ml	1RM010	Polyacrylate reagent A	60 ml	1RP000
Hydrotimetric concentrated solution (glass bottle)	125 ml	1LH007	Monosodic carbonate	60 ml	1CM001	Polyacrylate reagent A	125 ml	1RP001
Hydrotimetric concentrated solution (plastic bottle)	125 ml	1LH008	Monosodic carbonate	125 ml	1CM002	Polyacrylate reagent A	1000 ml	1RP005
Hydrotimetric solution BB	5 l	1LH004	Monosodic carbonate	500 ml	1CM003	Polyacrylate reagent B	60 ml	1RP002
Hydrotimetric solution BB	500 ml	1LH002	Monosodic carbonate	1000 ml	1CM004	Polyacrylate reagent B	125 ml	1RP003
Hydrotimetric solution BB	125 ml	1LH001	Naphtol alpha (to analyze the presence of sugar)	60 ml	1NA000	Polyacrylate reagent B	1000 ml	1RP006
Hydrotimetric solution BB	1000 ml	1LH003	Nessler reagent	60 ml	1RD002	Potassium chromate 10% CMR	60 ml	1PC004
Hydrotimetric solution BB	60 ml	1LH000	Nessler reagent	1000 ml	1RD005	Potassium chromate 10% CMR	125 ml	1PC005
Hydrotimetric special solution	60 ml	1LH012	Nessler reagent	500 ml	1RD004	Potassium chromate 10% CMR	250 ml	1PC006
Hydrotimetric special solution	125 ml	1LH013	Nessler reagent	125 ml	1RD003	Potassium chromate 10% CMR	500 ml	1PC007
Hydrotimetric special solution	250 ml	1LH014	Net indicator	60 ml	1IN005	Potassium chromate 10% CMR	1000 ml	1PC008
Hydrotimetric special solution	500 ml	1LH015	Net indicator	125 ml	1IN000	Potassium hydroxide 8n	60 ml	1PH006
Hydrotimetric special solution	1000 ml	1LH016	Net indicator	250 ml	1IN001	Potassium hydroxide 8n	250 ml	1PH005
Hydrotimetric special solution	5 l	1LH017	Net indicator	500 ml	1IN002	Potassium hydroxide 8n	1000 ml	1PH04
Iodine solution	125 ml	14SI02	Net indicator	1000 ml	1IN003	Potassium hydroxide ethanolic solution 0.1Mol/l	1 l	1PH007
Iodine solution	5000 ml	1SI002	Net indicator	5 l	1IN008	Potassium hydroxide ethanolic solution 0.5Mol/l	1 l	1PH008
Iodine solution 13 g/l	1000 ml	1SI003	Neutralising solution	60 ml	1N6000	Potassium iodate	60 ml	1PI000
Iodure iodate	500 ml	1IT029	Neutralising solution	125 ml	1N1000	Potassium iodate	125 ml	1PI001
Iron reagent 1	60 ml	1RF005	Neutralising solution	250 ml	1N5000	Potassium iodate	500 ml	1PI002
Iron reagent 2	20 g	1RF006	Neutralising solution	500 ml	1N1001	Potassium iodate	1000 ml	1PI003
Iron reagent 2	50 g	1RF009	Nickel reagent 1	60 g	1RN011	Potassium iodide	60 ml	1PI004
Iron reagent 3	60 ml	1RF007	Nickel reagent 2	60 ml	1RN012	Potassium iodide	125 ml	1PI005
Iron reagent a	60 ml	1RF003	Nitrate equalizing reagent	60 ml	1RN005	Potassium iodide	500 ml	1PI006
Iron reagent b	60 ml	1RF004	Nitrate equalizing reagent	125 ml	1RN004	Potassium iodide	1000 ml	1PI007
Low range silica reagent	60 ml	1RS013	Nitric acid n/10	1000 ml	1AN039	Potassium iodide	185 g	1PI016
Low range silica reagent	125 ml	1RS014	Nitric acid n/5	60 ml	1AN001	Potassium iodide	250 g	1PI082
Manganese reagent n°1	60 ml	1RM007	Nitric acid n/5	250 ml	1AN003	Potassium iodide	50 g	14PI27
Manganese reagent n°2	60 ml	1RM008	Nitric acid n/5	500 ml	1AN004	Potassium iodide	80 g	1PI015
Manganese reagent n°3	60 ml	1RM009	Nitric acid n/5	1000 ml	1AN005	Potassium permanganate 0,82n	60 ml	1PP002
Marble powder	150 g	1MP001	Nitric acid n/5	125 ml	1AN002	Potassium permanganate 0,82n	125 ml	1PP003
Marble powder	650 g	1MP002	Nitrite reagent n°1	60 ml	1RN013	Potassium permanganate 0,82n	500 ml	1PP004
Marble powder	70 g	1MP000	Nitrite reagent n°2	60 ml	1RN014	Potassium permanganate n/10	60 ml	1PP005
Marble solution	1000 ml	14SM08	Orthotolidine	500 ml	1O5000	Potassium permanganate n/10	125 ml	1PP006
Mercuric nitrate n/10	1000 ml	1MN005	Orthotolidine	5 l	1O5001	Potassium permanganate n/10	500 ml	1PP007
Mercuric nitrate n/10	125 ml	1MN006	Orthotolidine	60 ml	1O6000	Potassium permanganate n/10	1000 ml	1PP008
Mercuric nitrate n/10	500 ml	1MN011	Orthotolidine	125 ml	1O1000	Potassium permanganate n/80	60 ml	1PP009
Mercuric nitrate n/100	500 ml	1MN007	Orthotolidine	250 ml	1O2000	Potassium permanganate n/80	125 ml	1PP010
Mercuric nitrate n/100	1000 ml	1MN016	Orthotolidine	500 ml	1O1001	Potassium permanganate n/80	500 ml	1PP011
Mercuric nitrate n/25	60 ml	1MN008	Oxalic acid	35 g	1A0005	Potassium permanganate n/80	1000 ml	1PP012
Mercuric nitrate n/25	500 ml	1MN002	Oxalic acid	80 g	1A0014	Purple naphtol	60 ml	1NV001
Mercuric nitrate n/25	1000 ml	1MN003	Oxalic acid 10 %	60 ml	1A0000	Purple naphtol	125 ml	1NV002
Mercuric nitrate n/25	5 l	1MN004	Oxalic acid 10 %	1000 ml	1A0004	Purple naphtol RD11	250 ml	1NV003
Mercuric nitrate n/25	125 ml	1MN001	Oxalic acid 10 %	125 ml	1A0001	Resin cleaning solution	1000 g	14RC12
Mercuric nitrate n/25	250 ml	1MN009	Oxalic acid 10 %	250 ml	1A0002	Rhodol 1%	5 l	14DR06.
Mercuric nitrate n/50	1000 ml	1MN010	Oxalic acid 10 %	500 ml	1A0003	Rhodol 1%	1000 ml	1R1004
Mercuric nitrate n/50	5 l	1MN013	Oxidizing solution	5 l	14S000	Rhodol 1%	60 ml	1R1000
Mercuric nitrate n/50	500 ml	1MN012	Permanganate capsules - 4u	-	1GP001.	Rhodol 1%	125 ml	1R1001
Methyl red 0,1 %	60 ml	1MR000	Phenol red	60 ml	1PR008	Rhodol 1%	250 ml	1R1002
Methylene blue	500 ml	1MB002	Phenol red	1000 ml	1PR012	Rhodol 1%	500 ml	1R1003
Methylene blue	1000 ml	1MB003	Phenol red	125 ml	1PR009	Saturated potassium chloride sol.	125 ml	1PC001
Methylene blue	5 l	1MB008	Phenol red	250 ml	1PR011	Saturated potassium chloride sol.	500 ml	1PC002
Methylene blue	60 ml	1MB000	Phenol red	500 ml	1PR010	Saturated potassium chloride sol.	1000 ml	1PC003
Methylene blue	125 ml	1MB001	Phenolphthaleine pH	1000 ml	1PP019			
Mixed indicator for chloride	60 ml	1IM004	Phenolphthaleine pH	60 ml	1PP015			
Mixed indicator for chloride	1000 ml	1IM005	Phenolphthaleine pH	250 ml	1PP017			
Mixed indicator tac	5 l	1IM008	Phenolphthaleine pH	125 ml	1PP016			
Mixed indicator tac	60 ml	1IM000	Phenolphthaleine pH	500 ml	1PP018			
Mixed indicator TAC	500 ml	1IM002	Phenolphthaleine TA	60 ml	1PT000			
Mixed indicator TAC	1000 ml	1IM003	Phenolphthaleine TA	125 ml	1PT001			
Mixed indicator TAC	125 ml	1IM001	Phenolphthaleine TA	250 ml	1PT003			
			Phenolphthaleine TA	5 l	1PT015			
			Phenolphthaleine TA	250 ml	1PT002			
			Phenolphthaleine TA	1000 ml	1PT004			



Unit.	Ref.	Unit.	Ref.	Unit.	Ref.
Saturated potassium chloride solution /soil conservation	60 ml 1PC031	Sodium hydroxide seignette salt	500 ml 1LA043	Sulphuric acid n/50	60 ml 1LA020
Seignette's salt	60 ml 1SD010	Sodium hydroxide seignette salt	1000 ml 1LA005	Sulphuric acid tact	1000 ml 1LA026
Seignette's salt	250 ml 1SD012	Sodium periodate	20 g 1SP004	TA indicator	60 ml 1LA027
Seignette's salt	1000 ml 1SD014	Sodium periodate	70 g 1SP005	TA indicator	125 ml 1LA038.
Seignette's salt	125 ml 1SD011	Sodium thiosulfate 0,1 n	1000 ml 1ST012	TA indicator	250 ml 1LA037.
Seignette's salt	500 ml 1SD013	Sodium thiosulfate n/10	60 ml 1SH024	TA indicator	500 ml 1LA029
Silica gel	500 g 1GD005	Sodium thiosulfate n/10	125 ml 1SH025	TA indicator	5 l 1LA039
Silver nitrate n°1	125 ml 1IT030	Sodium thiosulfate n/10	250 ml 1SH026	TA indicator	1000 ml 1LA030
Silver nitrate n°2	125 ml 1IT031	Sodium thiosulfate n/10	1000 ml 1SH027	TAC pool reagent	10ml 1RT024
Silver nitrate n°3	125 ml 1IT001	Sodium thiosulfate n/2,8	125 ml 1SH022	TAC reagent direct turn	60 ml 1RT003
Silver nitrate 0,01 n	1000 ml 1IT000	Sodium thiosulfate n/2,8	250 ml 1SH045	TAC reagent direct turn	125 ml 1RT004
Silver nitrate 0,05 n	1000 ml 1IT002	Soluble starch	60 ml 1AS025	TAC reagent direct turn	500 ml 1RT005
Silver nitrate 1n	250 ml 1IZ000	Soluble starch	125 ml 1AS026	TAC reagent single flask	125 ml 1RT023
Silver nitrate 1n	500 ml 1IZ001	Soluble starch	500 ml 1AS027	TAC reagent single flask	500 ml 1RT022
Silver nitrate 1n	1000 ml 1IZ002	Soluble starch	1000 ml 1AS028	TAC reagent single flask	125 ml 14RT08
Silver nitrate n/10	5 l 1AN056	Soluble starch powder	100 g 14AS41	TAC reagent single flask	500 ml 14RT09
Silver nitrate n/10	125 ml 14I00	Stannous chloride	1000 ml 1CS014	TAC reagent single flask	1000 ml 14RT10
Silver nitrate n/10	500 ml 1AN054	Sulfate reagent 1	60 ml 1RS015	Tartaric acid	100 g 14AS43
Silver nitrate n/10	1000 ml 1AN055	Sulfate reagent 2	60 ml 1RS016	TDD indicator	60 ml 1LA031
Silver nitrate n/25	250 ml 1AN057	Sulfite reagent 0 - 50 mg/l	60 ml 1RS020	TDD indicator	500 ml 1LA035
Silver nitrate n/25	1000 ml 1AN041	Sulfite reagent 1	50 g 1RS006	TDD indicator	125 ml 1LA041
Silver nitrate n/25	5 l 1AN025	Sulfite reagent 2	500 ml 1RS007	TH K reagent	60 ml 1RT013
Silver nitrate n/25	60 ml 1AN048	Sulfite reagent 2	1000 ml 1RS012	TH K reagent	500 ml 1RT002
Silver nitrate n/25	125 ml 1AN071	Sulfite reagent a	20 g 1RS001.	TH reagent n°1	60 ml 1RT010
Silver nitrate n/25	500 ml 1AN042	Sulfite reagent a	250 g 1RS008	TH reagent n°1	500 ml 1RT000
Silver nitrate n/50	125 ml 1AN026	Sulfite reagent a	50 g 1RS004.	TH reagent n°2	500 ml 1RT001
Silver nitrate n/50	500 ml 1AN027	Sulfite reagent b	60 ml 1RS003.	TH reagent n°2	60 ml 1RT007
Silver nitrate n/50	1000 ml 1AN060	Sulfite reagent b	250 ml 1RS005	TH reagent n°2	125 ml 1RT012
Silver nitrate n/50	5 l 1AN028	Sulfite reagent b	500 ml 1RS009	TH test reagent K	125 ml 1RT021
Sodium acid sulfate	60 g 1SS006	Sulfuric acid 0,1 n	1000 ml 1AS030	TH test reagent n°1	125 ml 1RT020
Sodium acid sulfaters	130 g 1SS007	Sulfuric acid 1/2	250 ml 1AS039	TH test reagent n°1 red	60 ml 1RT011
Sodium fluoride	60 ml 1SF000	Sulfuric acid 1/2	500 ml 1AS012	TH test reagent n°2	60 ml 1RT014
Sodium fluoride	125 ml 1SF001	Sulfuric acid 1/2	125 ml 1AS000	high sensitivity	500 ml 1RT015
Sodium fluoride	500 ml 1SF002	Sulfuric acid 1/2	60 ml 1AS011	Thiodene	250 g 1T0003
Sodium hydrosulfite	1000 g 1SH004	Sulfuric acid 1/2	1000 ml 1AS001	Thiodene	30 g 1T0001
Sodium hydrosulfite	70 g 1SH005	Sulfuric acid 1/3	60 ml 1AS042	Thiodene	80 g 1T0002
Sodium hydrosulfite	150 g 1SH006	Sulfuric acid 1/3	1000 ml 1AS041	Total chlorine reagent	185 g 1RC004
Sodium hydroxide 0,1 n	1000 ml 1SH050	Sulfuric acid 1/4	60 ml 1AS013	Total chlorine reagent	20 g 1RC002
Sodium hydroxide 1 n	1000 ml 1SH053	Sulfuric acid 1/4	125 ml 1AS014	Total chlorine reagent	80 g 1RC003
Sodium hydroxide 2 mol/l	1000 ml 1SH010	Sulfuric acid 1/4	500 ml 1AS015	Triazole reagent	125 ml 1RT018
Sodium hydroxide 400 g/l	125 ml 1SH017	Sulfuric acid 1/4	1000 ml 1AS016	Vanadomolybdic reagent	60 ml 1RV000
Sodium hydroxide 400 g/l	250 ml 1SH018	Sulfuric acid 1n	1000 ml 1AS043	Vanadomolybdic reagent	125 ml 1RV001
Sodium hydroxide 400 g/l	1000 ml 1SH020	Sulfuric acid 1n - bulb	amp. 1AS031	Vanadomolybdic reagent	5 l 1RV005
Sodium hydroxide 400 g/l	500 ml 1SH019	Sulfuric acid 2 mol/l (4n)	1000 ml 1AS007.	Vanadomolybdic reagent	250 ml 1RV002
Sodium hydroxide 400 g/l	5 l 1SH048	Sulfuric acid 2n	1000 ml 14AS39	Vanadomolybdic reagent	1000 ml 1RV004
Sodium hydroxide 400 g/l	60 ml 1SH016	Sulfuric acid 50%	1000 ml 1AS040	Vanadomolybdic reagent	500 ml 1RV003
Sodium hydroxide 5 n	125 ml 1SH054	Sulfuric acid 5n	1000 ml 1AS004	Z indicator	125 ml 1IT027
Sodium hydroxide 5 n	1000 ml 1SH007	Sulphuric acid 5n	125 ml 1LA006	Z indicator	500 ml 1IT028
Sodium hydroxide 5n	60 ml 14SH26	Sulphuric acid n	125 ml 1LA007	Z indicator	60 ml 1IT026
Sodium hydroxide n	500 ml 1AN043	Sulphuric acid n	500 ml 1LA008	Zinc chloride 71 %	1000 ml 14ZC03
Sodium hydroxide n	1000 ml 1AN030	Sulphuric acid n	1000 ml 1LA009	aqueous solution	60 ml 1RZ000
Sodium hydroxide n	125 ml 1AN029	Sulphuric acid n/10	125 ml 1LA014	Zinc plus reagent	125 ml 1RZ001
Sodium hydroxide n/10	60 ml 1AN031	Sulphuric acid n/10	5 l 1LA017	Sodium hydroxyde 0,1N	1000 ml 1SH050
Sodium hydroxide n/10	125 ml 1AN047	Sulphuric acid n/10	60 ml 1LA010	Sodium hydroxyde 1 N	1000 ml 1SH053
Sodium hydroxide n/10	500 ml 1AN032	Sulphuric acid n/10	60 ml 1LA015	Sodium hydroxyde 2 mol/l	1000 ml 1SH010
Sodium hydroxide n/10	1000 ml 1AN033	Sulphuric acid n/10	1000 ml 1LA016	Sodium hydroxyde 400 g/l	60 ml 1SH016
Sodium hydroxide n/10	5 l 1AN034	Sulphuric acid n/25	60 ml 1LA042	Sodium hydroxyde 400 g/l	125 ml 1SH017
Sodium hydroxide n/25	60 ml 1AN051	Sulphuric acid n/25	125 ml 1LA032	Sodium hydroxyde 400 g/l	250 ml 1SH018
Sodium hydroxide n/25	125 ml 1LA011	Sulphuric acid n/25	250 ml 1LA033	Sodium hydroxyde 400 g/l	500 ml 1SH019
Sodium hydroxide n/25	500 ml 1LA012	Sulphuric acid n/25	500 ml 1LA034	Sodium hydroxyde 400 g/l	1000 ml 1SH020
Sodium hydroxide n/25	1000 ml 1LA013	Sulphuric acid n/25	1000 ml 1LA046	Sodium hydroxyde 400 g/l	5 l 1SH048
Sodium hydroxide n/25	5 l 1LA001	Sulphuric acid n/25	5 l 1LA019	Sodium hydroxyde 5N	60 ml 14SH26
Sodium hydroxide n/50	5 l 1LA002	Sulphuric acid n/5	1000 ml 1LA021	Sodium hydroxyde 5 N	125 ml 1SH054
Sodium hydroxide seignette salt	60 ml 1LA003	Sulphuric acid n/5	125 ml 1LA018	Sodium hydroxyde 5 N	1000 ml 1SH007
Sodium hydroxide seignette salt	125 ml 1LA004	Sulphuric acid n/50	125 ml 1LA023	Sodium periodate	20 g 1SP004
		Sulphuric acid n/50	500 ml 1LA024		
		Sulphuric acid n/50	1000 ml 1LA040		
		Sulphuric acid n/50	5 l 1LA025		



	Unit.	Ref.		Unit.	Ref.		Unit.	Ref.
Sodium periodate	70 g	1SP005	Sodium thiosulfate N/10	1000 ml	1SH027	Oxidizing solution	5 l	14SO00
Sodium acid sulfate	60 g	1SS006	Sodium thiosulfate N/2,8	125 ml	1SH022	Zinc chloride 71% aqueous solution	1000 ml	14ZC03
Sodium acid sulfate	130 g	1SS007	Sodium thiosulfate N/2,8	250 ml	1SH045	Thiodene	30 g	1T0001
Sodium thiosulfate 0,1N	1000 ml	1ST012	Iodine solution 13 g/l	1000 ml	1SI003	Thiodene	80 g	1T0002
Sodium thiosulfate N/10	60 ml	1SH024	Iodine solution	125 ml	14SI02	Thiodene	250 g	1T0003
Sodium thiosulfate N/10	125 ml	1SH025	Iodine solution	5000 ml	1SI002			
Sodium thiosulfate N/10	250 ml	1SH026	Marble solution	1000 ml	14SM08			

Ph buffer solutions

Buffer solution pH 2	1000 ml	1TP040
Buffer solution pH 2,2	1000 ml	1TP062
Buffer solution pH 4	60 ml	1TP015
Buffer solution pH 4	125 ml	1TP016
Buffer solution pH 4	250 ml	1TP054
Buffer solution pH 4	500 ml	1TP017
Buffer solution pH 4	1000 ml	1TP018
Buffer solution 4,01	125 ml	1TP061
Buffer solution pH 4,01	5 l	1TP059
Buffer solution pH 5	500 ml	1TP057

Buffer solution pH 6	125 ml	1TP064
Buffer solution pH 7	60 ml	1TP006
Buffer solution pH 7	125 ml	1TP005
Buffer solution pH 7	250 ml	1TP055
Buffer solution pH 7	500 ml	1TP007
Buffer solution pH 7	1000 ml	1TP008
Buffer solution pH 7,01	125 ml	1TP060
Buffer solution pH 7,01	5 l	1TP058
Buffer solution pH 9	60 ml	1TP011
Buffer solution pH 9	125 ml	1TP012
Buffer solution pH 9	500 ml	1TP013

Buffer solution pH 9	1000 ml	1TP014
Buffer solution pH 9	5 l	1TP063
Buffer solution pH 10	60 ml	1TP000
Buffer solution pH 10	125 ml	1TP001
Buffer solution pH 10	250 ml	1TP056
Buffer solution pH 10	500 ml	1TP002
Buffer solution pH 10	1000 ml	1TP003
Buffer solution pH 11	1 l	1TP052
Buffer solution pH 12	125 ml	1TP048

Conductivity standard solutions

10 µs/cm	125 ml	1SE025
100 µs/cm	125 ml	1SC019
1000 µs/cm	125 ml	1SE032
1000 µs/cm	500 ml	1SE013
111800 µs/cm	125 ml	11SC035
111800 µs/cm	1000 ml	1SC034
111800 µs/cm	5 l	1SC022
12880 µs/cm	60 ml	1SC012
12880 µs/cm	125 ml	1SE023
12880 µs/cm	125 ml	1SC013
12880 µs/cm	1000 ml	1SC033
12880 µs/cm	5 l	1SC023
1413 µs/cm	60 ml	1SC007

1413 µs/cm	125 ml	14SCS19
1413 µs/cm	500 ml	1SC027
1413 µs/cm	1000 ml	1SC032
1413 µs/cm	1000 ml	1SC011
1413 µs/cm	5 l	1SC028
15 µs/cm	500 ml	1SC008
1800 µs/cm	500 ml	1SE027
2 ms/cm	5 l	1SC024
20 ms/cm	5 l	1SC031
200 µs/cm	500 ml	1SC026
200 ms/cm	5 l	1SC025
2000 µs/cm	125 ml	1SE009
2000 µs/cm	500 ml	1SE004
2000 µs/cm	60 ml	1SE016

2770 µs/cm	5 l	1SC030
30 µs/cm	125 ml	1SE008
30 µs/cm	500 ml	1SE003
3000 µs/cm	125 ml	1SE026
3000 µs/cm	1000 ml	1SE057
40 µs/cm	1000 ml	1SE058
5 µs/cm at 25°C	500 ml	1SE047
58640 µs/cm	5 l	1SC029
84 µs/cm at 25°C	125 ml	1SE044
84 µs/cm	500 ml	1SE024
84 µs/cm	1000 ml	1SC020
84 µs/cm at 25°C	1000 ml	1SE042

ORP standard solutions

Redox std solution 240 mv	125 ml	1SR001
Redox std solution 240 mv	250 ml	1SE031
Redox std solution 240 mv	500 ml	1SE028

Redox std solution 240 mv	1000 ml	1SE048
Redox std solution 240 mv	5 l	1SE053
Redox std solution 470 mv	125 ml	1SR004
Redox std solution 470 mv	500 ml	1SR005

Redox standard solution 200 275 mv	500 ml	1SE029
Silica std solution 50 µg/l SiO ₂	1000 ml	14SE63
Silica std solution 200 µg/l SiO ₂	1000 ml	14SE49

Turbidity standard solutions

Formazine solution 4000 ntu brown flask	125 ml	1SF009
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Formazine solution 4000 ntu brown flask	500 ml	1SF007
Formazine solution 4000 ntu brown flask	1000 ml	1SF008

Solution formazine	1000 ml	1SF008
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Standard solutions

Aluminium std sol. 5 mg/l	125 ml	14SE41
Carbon std sol. SIRAC	500 ml	14SE59
Chloride std sol. 1000 mg/l Cl ⁻	125 ml	1SE035
Iron std sol. 1000 mg/l	500 ml	1SE034
Silica std sol. 20 mg/l	1000 ml	14SE68

KCl std sol. 0,126 mol/l	125 ml	1SE054
Manganese std sol. 1000 ppm	1000 ml	1SE055
Multi elements standard solution "N-NO ₃ /N-NH ₄ /P-PO ₄ " 500 mg/l - 250ml	250 ml	1SE056
Nitrate standard solution 50 mg/l	1000 ml	14SE12.

Phosphate standard solution 1 mg/l po4	500 ml	1SE019
Phosphate standard solution 200 mg/l po4	125 ml	1SE033

Storage and cleaning solutions for electrodes

Conservation sol. pH & EH	125 ml	1SC009
Conservation sol. pH & EH	1000 ml	1SC035

Electrode cleaning sol. pH & EH	125 ml	1SN004
Electrode cleaning sol. pH & EH	250 ml	1SN007

Electrode cleaning sol. pH & EH	500 ml	1SN005
Electrode cleaning sol. pH & EH	1000 ml	1SN006

**A**

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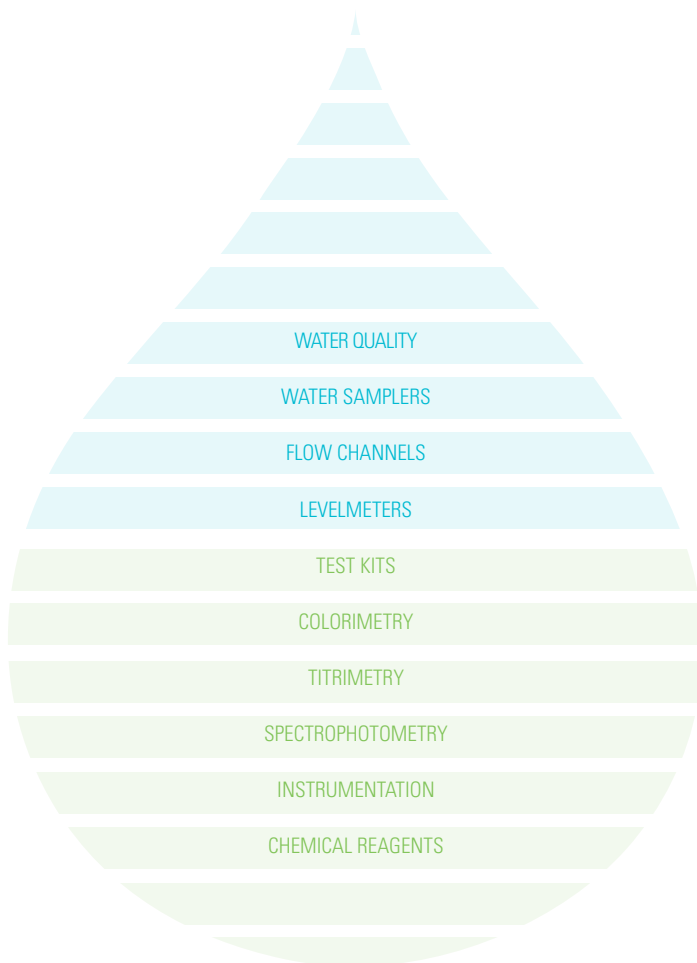
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