COD, BOD, TSS, pH, Oil in Water, Ammonia On-line Water Quality Monitor

Application

. Surface water (rivers, lakes...)
. Industrial waste water
. Petrochemical

Benefits

High Selectivity
. Very low interference
. Low detection limit

High Reliability
. No moving parts
. High quality material
. No contact with detector

Simplicity
. Easy to use
. Short-time operation

Robustness
. Can be install outside in corrosive or explosive area
. No spare parts needed to be change

Features

Measurement
. High resolution and sensitivity optical sensor
. Powerful mathematical treatment FTLS

Sampling
. Multiplexing system in option
. Heated or cooling system in option

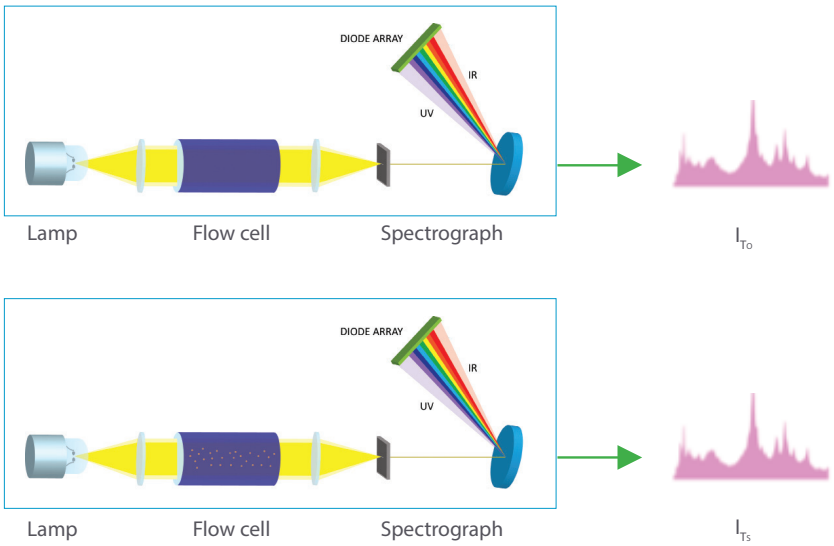
Communication and interface
. On board memory for storage data (16 GB)
. Intuitive friendly interface on TFT color touch screen (glass to glass)

Enclosure
. IP65 Stainless Steel enclosure
. ATEX in option

Maintenance
. 10 year lifetime UV lamp
. Once a year calibration

hemera
analyzers

Basic methods

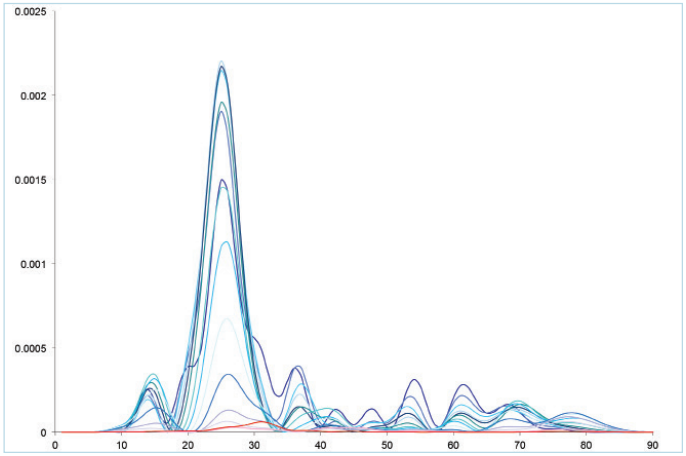


UV absorption

According to Beer-Lambert's law. Absorbance spectrum calculation is the difference between incident light (IT_0) on ZERO (or BLANK) and transmitted light (IT_S) on SAMPLE (or SPAN). Absorbance is defined as follows:

$$A = \log \frac{I_{T0}}{I_{TS}}$$

Sample absorption spectrum is treated using the Fourier Transform Least Square mathematical treatment (FTLS) in order to extract the spectrum corresponding to each element to be monitored.



COD/BOD

In environmental chemistry, the chemical oxygen demand (COD/BOD) test is commonly used to indirectly measure the amount of organic compounds in water

L800 is a dedicated on-line analyzer for determining true COD/BOD values in water matrices, in compliance with standard methods. L800 uses UV absorbance/fluorescence spectroscopy full spectram (180-720nm) technology, provides selective, accurate and real-time measurement of COD/BOD.

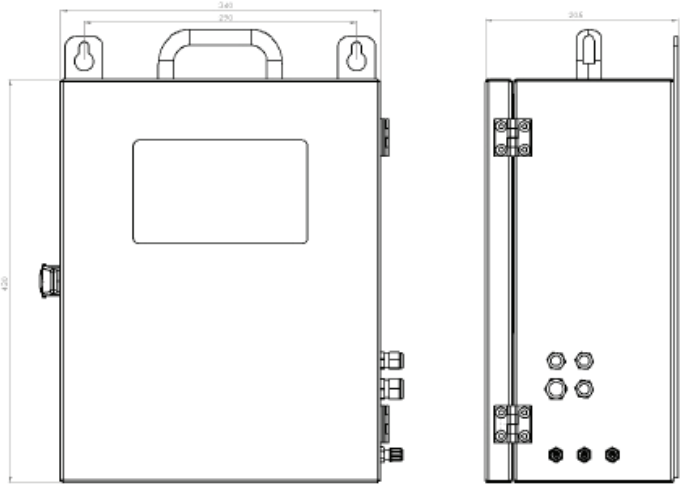
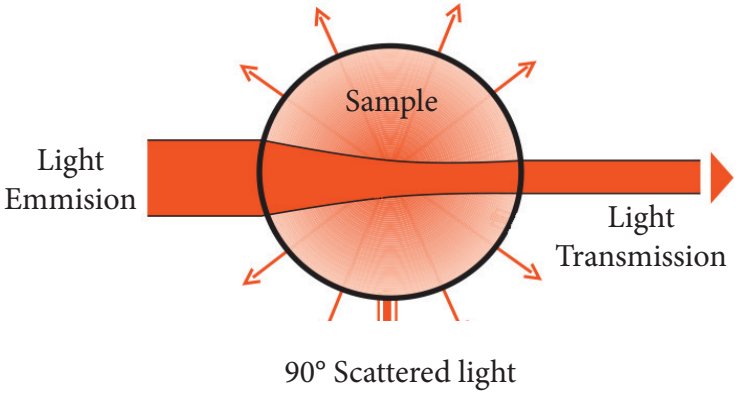


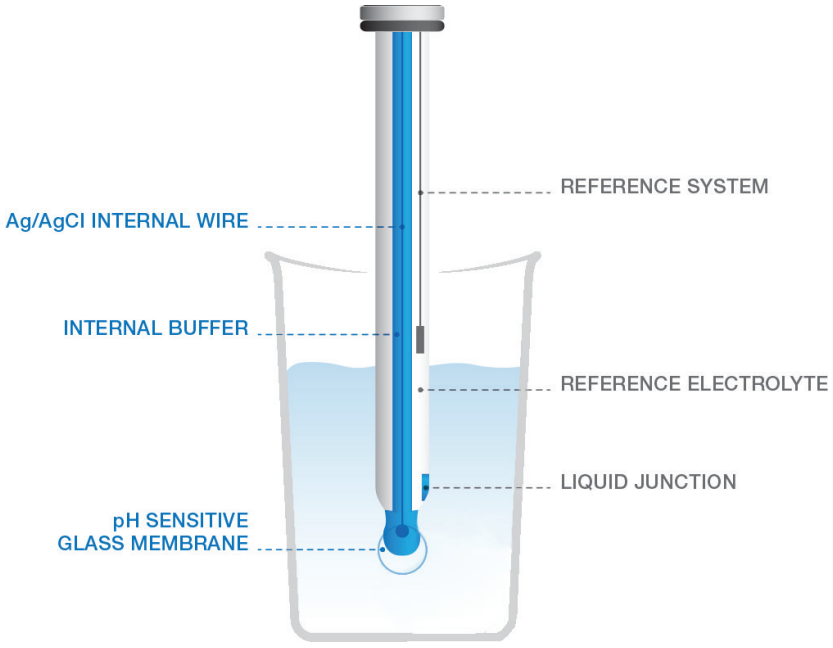
Fig 1. size of our analyzer



Nephelometer

Nephelometer can efficiently measure the concentration of turbidity.

A nephelometer is an instrument for measuring concentration of suspended particulates in a liquid or gas colloid. Nephelometers are calibrated to a know particulate and then use environmental factors to compensate lighter or darker colour dusts accordingly.

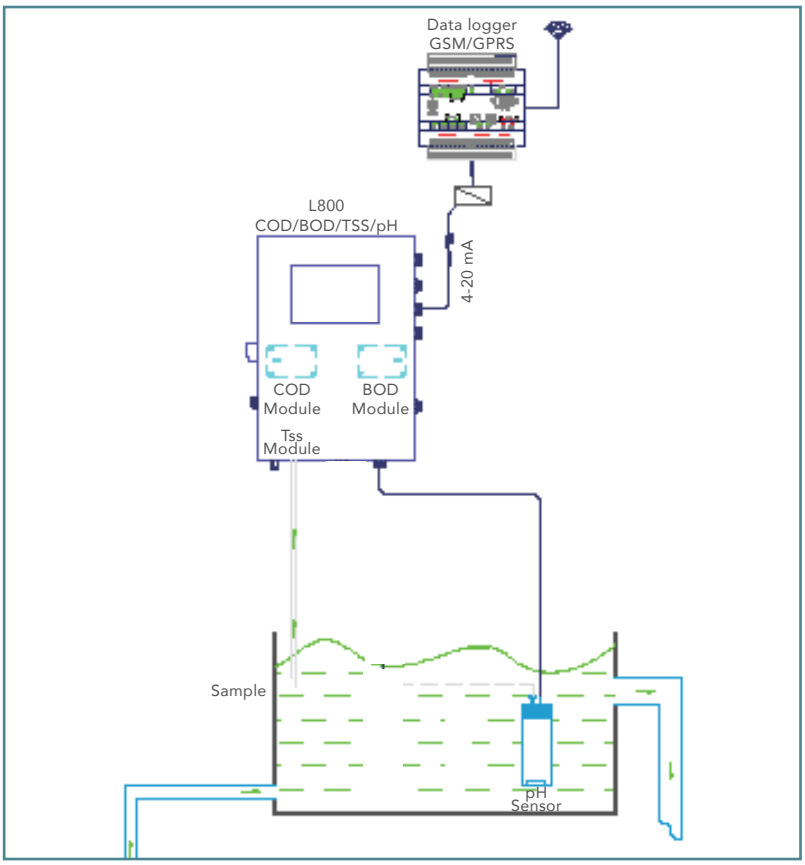


ISE

Ion-selective electrode (ISE) is a classical method to measure the pH in liquid. The difference from each analyzer is between sensors, if it's more sensitive, more stable.

An ion-selective electrode, also know as a specific ion electrode (SIE). It's a sensor that converts the activity of a specific ion dissolved in a solution into an electrical potential, which can be measured by pH meter.

Technical specification

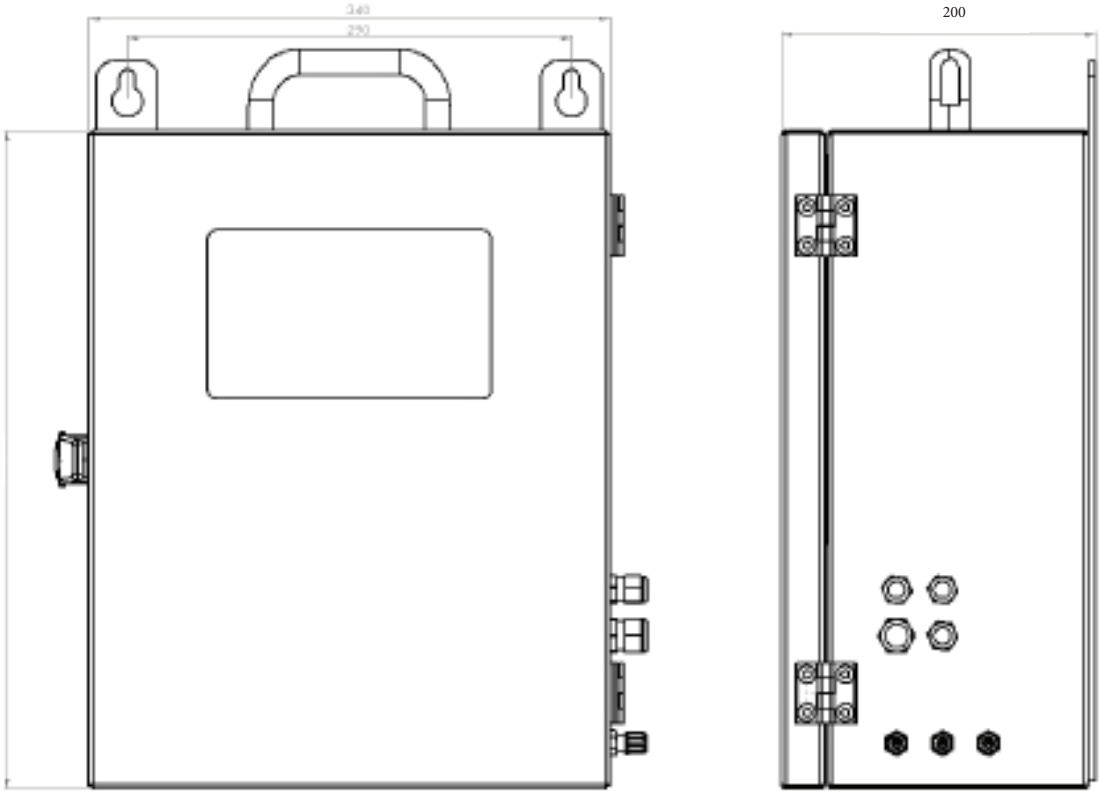


Schema

This schema shows us how to install our on-line analyzer on site.

Size

The images show the size of our analyzer



Technical Specification

Sensor						
Parameter	COD	BOD	TSS	pH	Oil in Water	Ammonia
Range	0 ... 1000 ppm	0 ... 1000 ppm	0 ... 1000 ppm	0 ... 14	0 – 100 mg/l	0 – 100 mg/l
Accuracy	< ±2 % FS	< ±2 % FS	< ±2 % F.S.	< ±2 % F.S.	< ±5 % F.S	< ±5 % F.S
Repeatability	± 0.1 ppm	± 0.1 ppm	± 1 ppm	± 0.1	± 0.1	± 0.1

Sample Condition	
Flow	0 ... 2 L/min
Pressure	< 2 bars
Temperature	0 to 50°C
Volume	< 100 ml
Wetted parts	Quartz or Sapphire / FPM / Stainless steel / PEEK

Controller	
Display	8.5" TFT colour screen 16/9 (LED backlight)
Resolution	800 x 480 pixels
Touch screen	Glass to glass
Memory	8 GB SD card
Data transfer	USB Type A
Operating temperature	5 ...50 °C
Operating humidity	< 90 % RH

Communication output	
Analog	4-20 mA isolated (Active or Passive) / 500 Ω max.
Relay	Programmable limit or fault alarms / 5A (NO) 3A (NC) @ 277 VAC
Digital	RS485 / Modbus (Slave or Master)

Power supply	
Voltage	100 ... 240 VAC (50 - 60 Hz) or 24 VDC
Consumption	< 20 W (60 W max.)

Enclosure	
Type	Wall mouted
Material	SS 316L
Dimensions	570 x 340 x 200 mm (H x W x D)
Weight	< 17 kg
Protection class	IP56
Area classification	Safe Area/ ATEX Zone 1 or 2 in option