

nanoFlu-Chl Probe

Fluorometer

Chlorophyll-a measurement



Applications

- Monitoring of bathing water: lakes, rivers and seas
- Continuous control of the resource before adduction
- Measurements and regulations in aquaculture and phycoculture
- Environmental monitoring instrument

Advantages

- In situ measurements, no sampling or reagent
- Direct measurements
- Optical window coated to minimize clogging
- Portable use possible
- Automatic compensation of LED power loss and temperature

Monitoring of algal development

This probe helps prevent bloom phenomena and the associated health risks in natural waters and bathing waters. Chlorophyll-a is also an important parameter in phycoculture.

The nanoFlu probe is a miniature submersible fluorimeter that continuously measures the concentration of chlorophyll-a in fresh and salt water. The measurement of this pigment present in algae and plant plankton is a reliable indicator to determine the growth of algae in water.

This probe operates without sampling and does not require any on-site calibration. The only maintenance operation is to re-calibrate the sensor every 2 years.

Measure directly in the resource

The sensor has many accessories to allow its integration into the process or the natural environment and follow the variations of water levels.



Measurement of the light emitted by fluorescence of chlorophyll-a:

A specific LED emits stimulating light at 470 nm, guided to form a light cone of about ten centimeters in front of the probe. The chlorophyll-a, contained in algae and plant plankton passing through this stimulating cone, fluoresces and reflects longer wavelength light at 685 nm.

This detection light, relating to the concentration of chlorophyll-a in the water, is then measured by a photodiode. An increase in the amount of chlorophyll-a is a relevant indicator of the growth of algae in the water.

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Technical specifications

Measuring technology	Light source	LED
	Detector	Photodiode + optical filter
Principle of measurement		Fluorescence
Parameters		Chlorophyll-a
Measurement ranges		0...200 µg/l chlorophyll-a
Measurement accuracy		± 5%
Auto control		Automatic compensation for variations in the intensity of the light source due to wear and temperature
Interference		Automatic ambient light suppression
T100 response time		6 s
Measurement interval		3 s
Materials		Stainless steel (1.4571 / 1.4404) or titanium (3.7035)
Dimensions (L x d)		171 mm x 36 mm
Weight		0.5 kg stainless steel - 0.4 kg titanium
Interface	Digital	Ethernet (TCP/IP) RS232 or RS485 (Modbus RTU)
	Power supply	12 ... 24 VDC (± 10%)
Consumption		<1 W - (<1.6 W with connection)
Maintenance		<0.5 h / month (standard use - optical window cleaning)
Calibration interval		24 months
Warranty		24 months in the European Union
Maximum pressure	SubConn connector	30 bar.
	Fixed cable	3 bar.
Protection type	FlowCell	1 bar. for 2 ... 4 L / min
		IP 68
Medium temperature / sample		+ 2 ... + 40 °C
Ambient temperature		+ 2 ... + 40 °C
Storage temperature		- 20 ... + 80 °C
Inflow velocity		0,1 ... 10 m/s

