

PAH probe

FLUOROMETER

• Polycyclic Aromatic Hydrocarbons



PAH probe enviroFlu

Either for control wastes or spot a pollution in natural environment, hydrocarbons monitoring in water became a public authorities' priority. Our energy consumption as well as the increase of industrial production build-up hydrocarbons pollutions in water. In front of these problem affecting health and environment, it is mandatory to strengthen detection in natural environment. The respect of the standards has as an objective to secure a good chemical condition of surface water.

The HAP probe is a fluorimeter that accurately and continuously measures the concentration of Polycyclic Aromatic Hydrocarbons in water. The UV fluorescence measurement principle used is much more sensitive than the conventional infrared scattering or absorption method. The sensor is able to detect any trace of PAHs in resource water or in cooling water condensates, for example.

This immersible probe operates without sampling and requires no on-site calibration. The only maintenance operation is to re-calibrate the probe every 2 years and to replace the excitation lamp after 4 years of use.

Hydrocarbon monitoring in water

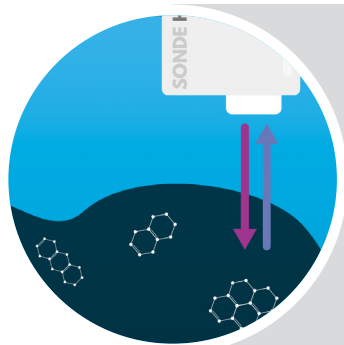
The sensor has many accessories to optimize its integration in processes, manholes or to monitor water level variations, automate cleaning and facilitate the exploitation of the data. Measurement campaigns and mobile applications are also possible with an optional battery operating system.

Applications

- Monitoring drinking water resources
- Biological wastewater treatment plants protection
- Control of industrial discharges
- PAH measurement in process water

Advantages

- In situ measurement, no sampling no reagents
- Direct analog output (4-20 mA) without external transmitter
- Optical window with coating to minimize clogging
- Real time measurement
- Automatic compensation of lamp power loss



A xenon lamp emits broad-spectrum light flashes through an optical filter (254nm). This wavelength is guided at the probe outlet to form a UV cone of about 10 centimeters in length in front of the probe.

This excitation light at 254 nm makes it possible to fluoresce the PAHs passing in front of the probe. The light emitted by this fluorescence, at 360 nm, is detected and measured by a photodiode and an optical filter even at low concentrations and in turbid waters. The PAH sensor measures with a reference photodiode the intensity of flashes emitted in order to automatically compensate for lamp power loss over time.

Technical specifications

Measurement technology	Light source	Xenon flash lamp + 254 nm filter
	Detector	Photodiode + 360-nm filter
Principle of measurement		Fluorescence
Parameters		Polycyclic Aromatic Hydrocarbons, oils
Measurement ranges	enviroFlu-HC 500	PAH : 0...50 ppb, 0...500 ppb (phenanthrene) (THC : 0...1,5 ppm, 0...15 ppm equivalent)
	enviroFlu-HC 5000	PAH : 0...500 ppb, 0...5000 ppb (phenanthrene) (THC : 0...15 ppm, 0...150 ppm equivalent)
Measurement accuracy		enviroFlu-HC 500 : 0,3 ppb PAH enviroFlu-HC 5000 : 0,5 ppb PAH
T100 response time		< 10 s
Measurement interval		< 5 s
Housing materials		Stainless steel (1.4571 / 1.4404) or titanium (3.7035)
Dimensions (L x d)		311 mm x 68 mm
Weight		2.7 kg stainless steel - 1.9 kg titanium
Interface	Digital	RS-232
	Analog	4-20 mA, 0...5 VCC
Power supply		12 ... 24 VCC (+/- 10%)
Maintenance		<0.25 h / month (standard use - cleaning of the optical window)
Calibration interval		24 months
warranty		24 months in the European Union (12 months others countries)
Pressure max.	SubConn connector	30 bar
	Fixed connector	3 bar
	FlowCell	1 bar, 2 ... 4 L / min
Protection		IP 68
Medium / sample temperature		+ 2 ... + 40 °C
Ambient temperature		- 5 ... + 55 °C
Storage temperature		- 20 ... + 80 °C
Inflow velocity		0,1 ... 10 m/s

