



Subsea Fluorometer for Polycyclic Aromatic Hydrocarbons

Fluorometric methods are widely used in environmental monitoring, analytical chemistry and limnological and oceanographic biology. Oil spills for example at petrol stations or after accidents lead to widespread contamination of soil, surface water and groundwater with BTXE and PAH. Online fluorometers allow continuous measurements and non-destructive sampling in combination with good specificity and low detection limits. In order to meet the above mentioned requirements, the HydroC™ / PAH is designed as compact and light underwater unit and capable to work on the water surface as well as down to 500 meter or deeper water depth.

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| Applications | In-situ measurement of dissolved humic acids, amino acids, BTXE and polycyclic aromatic hydrocarbons PAH motivated by: <ul style="list-style-type: none"> -supervision and online control of fresh water in waterworks and boreholes - monitoring of waste water in industrial and municipal sewage works - crude oil detection, leakage control at offshore oil pipelines with ROV - fuel detection in natural waters and sewage plants |
| Light source/ Detector | Optical Xenon flash lamp at 254 nm (interference filter)/ UV detector at 360 nm (interference filter) |
| Principle | An excitation light source generates short flashes. A small part of the emitted fluorescence light coming from the illuminated cone. A band pass filter reduced the spectral range of the fluorescent light according to the special demands of the monitoring task. The incident light is focused onto the silicon UV photodiode which is measured electronically and converted into a voltage signal. |
| Dimension/ Weight | 500m version (standard): 68 d x 280 mm/ 1.8 kg (1.0 kg in water) • Stainless steel 6000m version: 75 d x 320mm / 4.4 kg (2.7 kg in water) • Titanium |
| Operation depth | 500 and 6000 m version available |
| Temperature range | 0 .. +40 °C • Other ranges on request |
| Measuring range | 0..50 µg/L, 0..500 µg/L or 0..5000 µg/L (calibrated to Phenanthren solution) 0...500 µg/L is standard, other ranges must be selected with order. |
| Warm-up/ Resp. time | < 10s for switching off/on under water/ typ. 500 msec. |
| Resolution | 0.1 ppb |
| Connector | Connector SUBCONN® MCBH8MTI (8-pin male) |
| Power supply/ Cons. | 12 .. 26 VDC • 240 mA @12V • max. 3.0 W |
| Data Interface | RS-232C (default 9600BD) • analogue out 0-5V • 4..20 mA (to analogue Gnd) • Data format Binary |
| Antifouling | Innovative nano-coating on the optical lens prevents oil-films and fouling |
| Mounting | All directions, 10 cm free water in front of the optic required |
| Software | Windows® Software DETECT™ included (real time data visualization) • Adaption to user-software |
| Options | external Battery Pack (e.g. 36 Ah Alkaline) • ROV and AUV adaption packages • Profiling and mooring frames |

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