



Measuring and analysing seawater

With FiberLight[®] D₂ mobile measurements of water contents can be made with the greatest accuracy

Environmental monitoring ensures that dangerous chemicals in water are controlled and used in accordance with the legal safety regulations. Water analysis is also becoming increasingly important for marine research and the fishing industry. Particularly if the aim is to test the quality of seawater in the deep sea just above the ocean bed quickly and safely. Special lamps from Heraeus Noblelight enable water analysis directly on site.

Biochemical analyses at a depth of 1000 meters: The Monterey Bay Aquarium Research Institute (MBARI) in Monterey, California, uses FiberLight[®] D₂ in an instrument called ISUS analyzer. At a depth of almost 1000 meters, this remote-controlled device measures the nitrate, bromine and sulfur compound content at about one centimeter above the ocean bed, the so-called benthic boundary layer (BBL). This zone is of interest to marine biologists due to its influence on microorganisms and nutrients for fish. In this ocean border layer there is also a collection of anthropogenic, environmentally hazardous substances, such as pesticides and other organic compounds. The FiberLight[®] D₂ light source helps researchers to identify and accurately and precisely determine these substances with special spectroscopic methods for biogeochemical analyses.

Highly sensitive analyses with FiberLight[®] D₂: Many mobile spectrometers have small deuterium lamps (Heraeus FiberLight[®] D₂) with low power consumption and long working life as their light source. It is a very compact light source for UV light and the visible spectral region (from 200 to 1100 nanometers). The heart of a FiberLight[®] D₂ is an electrodeless deuterium lamp, which is stimulated by high frequency. The construction of this miniature lamp enables mobile UV spectroscopy with portable, battery-operated devices.



Features

- Compact light source for mobile spectroscopy
- Complete system consisting of lamp module (deuterium and tungsten lamp in a shine-through arrangement or a line source), shutters and an SMA fibre-optic connector
- Low power consumption
- Instant lamp ignition and instant stability
- Cyclic operation

Technical Data

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| ■ Spectral distribution | 200 – 1100 nm |
| ■ Power consumption | 6 Watt |
| ■ Dimensions (L x W x H) | 157 x 55 x 37 mm |
| ■ Optical fiber connector | SMA 905 |
| ■ Light output (radiant intensity) @240nm | ≥ 5 × 10 ⁻⁸ W/sr< |
| ■ Stability | ≤ 1 x 10 ⁻³⁰ AU |
| ■ Drift | ≤ 0,25%/h |
| ■ Life | ≥ 1000 h@240 nm (50% intensity loss) |

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