HYPER-a

HYPER-SPECTRAL ABSORPTION INSTRUMENT

The Hyper-a is designed for precision absorption measurements of dissolved and suspended material in water (bulk properties). The instrument features an enclosed flowthrough integrating sphere attached to one end. Two quartz windows inside the sphere are used to emit light into the sphere and record the resulting spectrum. An external submersible pump is used to flow water through the integrating sphere. The Hyper-a uses a broadly emitting xenon arc lamp as a light source. A spectrometer viewing the interior of the integrating sphere measures the light level at sub-nanometer resolution. A second spectrometer views the light source internally, providing a reference. A removeable ND filter in the cavity wall can be used to track instrument drift.

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FEATURES

- High precision absorption measurements.
- High-performance depth and temperature sensors.
- Internal data storage.
- Powered from external battery pack (optional accessory), CTD, or up to 50m power/communication USB cable.
- Up to 3 spectral filters for correcting for phytoplankton and other fluorescence.
- Included SeaBird pump (SBE 5P)

SPECIFICATIONS subject to change without ntoice

General / Electrical

- Parameters measured/derived: Absorption Coefficient (1/m)
- Data interface: RS-232 serial, 19200 baud, 8 bits, no parity, 1 stop
- Sample rate: Sampling rate will vary with signal level
- Input voltage: 9 V to 30 V
- Current draw @12 V: Max 2.5 A
- Storage: Internal datalogger with 1 GB microSD memory

Mechanical / Environmental

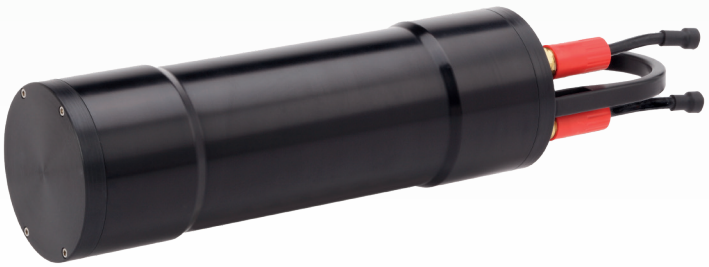
- Operational temperature range: -3 °C to 40 °C
- Storage temperature range: -20 °C to 60 °C
- Dimensions [Ø X L]: 11.3 cm × 57.6 cm (5.25” x 22.7”) including handle
- Weight [air / water]: 8.2kg / 2.9kg (18.1 lbs / 6.5 lbs)
- Depth rating: 600 meters

Optical

- Measurement wavelength range: 300-710 nm
- Spectral resolution: 300-350 nm @ 5 nm; 350-710 nm @ 2 nm

Hyper-a optics endcap showing ND filter (black) for calibration and plug (white) used during operation

Hyper-a optics endcap open showing integrating sphere interior and emit and receive windows



Optional External Battery

Sequoia Scientific, Inc.
2700 Richards Road, Suite 107, Bellevue, WA 98005 USA
Tel +1 (855) 753-3313
email info@SequoiaSci.com
www.SequoiaSci.com

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