BSL Underwater Camera – Sediment Profile Imaging

General Specifications



- Sediment Profile Imaging
- Unique in-situ view of sediment captured
- MOD4 Camera system module
- Shallow to deep water
- Time-lapse configuration
- 2200 lumen LED and UV lighting
- Rated to 4000m water depth

Services

Benthic Solutions Limited has designed and developed a sediment profile imaging (SPI) camera attachment for the industry-leading multifunctional MOD4 camera system. The modular SPI unit acquires cross sectional images of the upper ~20cm of the seabed. On reaching the seafloor, the weighted unit penetrates into the soft seabed sediments, with a remote triggering system capturing an image when the unit reaches maximum penetration depth. The upside-down periscope design uses a mirrored surface to capture an image at 90 degrees to the orientation of the main camera unit giving a unique snapshot of the surface sediment layers along with in situ fauna.

The system can be 'jumped' along a transect capturing a sediment profile image each time it touches down on the seabed, to rapidly assess wide areas. If required, an additional camera unit can be fitted to capture a conventional seabed image in tandem with SPI. The unit has built-in high powered 2000 lumen LED lighting for even illumination of the seabed. UV lighting can be installed to detect the presence of hydrocarbons within the surface sediments, which fluoresce under UV light, with corresponding application to cuttings pile monitoring and pre-/post-decommissioning surveys.



As an adaptation to the multifunctional MOD4 camera system, the SPI unit is capable of capturing sediment profile images from shallow to deepwater environments, and in a time-lapse deployment mode. Time-lapse SPI is an innovative tool which allows short-term temporal changes (e.g. sediment deposition, gas escape, bioturbation and faunal activity) to be recorded, giving a unique insight into sediment dynamics.

Physical and biological parameters which can be measured from SPI images include but are not limited to:

- Particle size analysis using image analysis software
- Small-scale sediment surface features
- Depth of the Redox Potential Discontinuity (RPD) Layer
- Presence and identification of infauna
- Benthic Habitat Quality Index (BHQ)
- Organism-Sediment Index (OSI)

Specifics

Item	Value
Shipping weight (excluding camera)	110KG
Shipping dimensions (L,W,H)	1000 x 1000 x 750mm

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