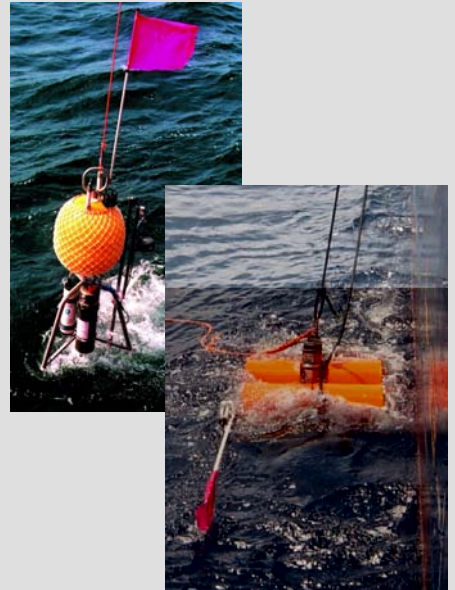


OBS Systems

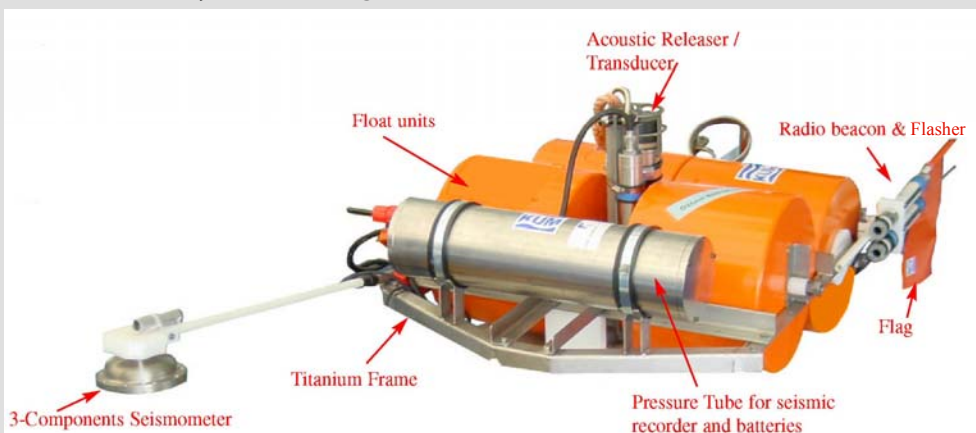
Description

OBS Systems provides components for seismic measurements at ultra deep seabed as well as complete Self-Landing and Ascending Ocean Bottom Seismic systems (SLA-OBS).

Currently, two SLA-OBS designs are available. The first, incorporating a tripod lander, is well proven in more than 2000 deployments within the last decade. The second offers an extreme flat design, which avoids seismic noise due to vibrations of the frame at the seafloor. Both have been designed for 4C seismic measurements in water-depths up to 6000m. They provide 30 days continuous recording at 2 ms sampling interval. For seismological application, the recording period can be extended to 15 months using additional battery packs and the long-term Seismocorder Geolon-MLS.



In essence, an SLA-OBS system is an autonomous marine seismic station consisting of a buoyancy unit, an anchor weight, a recording package with a highly accurate clock, a hydrophone, a sensor assembly containing a 3C geophone and a battery pack. The anchor, attached to the frame and kept in place by an acoustical release system can be made from iron or concrete. Two pressure cylinders carry the release system, the seismic recorder and the batteries. They can be opened quickly for a short turn-around time between recovery and redeployment. Once the instrument touches the sea floor, a crane arm system drops the 3C-seismometer in 1m distance from the OBS for decoupling of both systems. For recovery and positioning, a flag, a radio beacon, a flasher and the transducer of the release/pinger system are mounted on top of the OBS. Main parts of the SLA-OBS are made from titanium to withstand the highly corrosive marine environment and to provide a long service life.



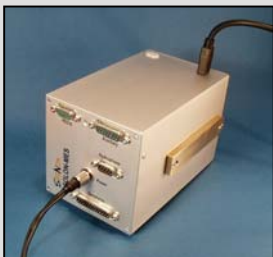
OBS Systems

Technical Data

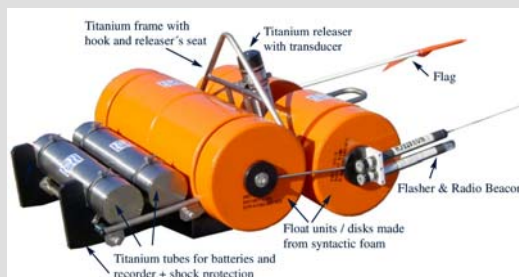
of standard version, custom modifications are available on request

Overall dimensions	Tripod frame: \varnothing 1,2 m (3,94 feet) height: 2 m (6,56 feet) Flat design: width 1,04m height 0,61m; length 1,2m	Data Recorder	4 channels, clock accuracy: $3\text{-}5 \times 10^{-8}$
Weights	Tripod OBS: 240 kg (529 lb) Flat design: 185 kg Anchor: 70 kg (154 lb)	Methusalem MBS:	Sampling rates: 16 – 0,1 ms Resolution: 20 bits at 2 ms, 16 bits at 0,1 ms Data storage: 4 Flashcards or microdrives(8 Gbyte)
Pressure case	titanium tube	Geolon MLS:	Sampling rates: 1000 – 5 ms Resolution: 21 bits at 200 ms 18 bits at 20 ms Data storage: 12 Flashcards or microdrives(24 GB)
Buoyant body	Floating unit of syntactic foam	Geolon MES:	low power consumption (250 mW) Sampling rates: 8 -0,5 ms Resolution: 24 bits Data storage: 30 Gbyte HDD or 8 Gbyte flashdisk
Max depth of deployment	6000 m (19.685 feet)	Hydrophone	Operating frequency: 1Hz - 20KHz or 2Hz - 30KHz
Recovery trigger	Acoustic release; time release	3 component Geophone	K.U.M./Carrack 3C: Recording bandwidth down to 14, or 4.5 Hz , opt. electronically gimballed
Recovery aids	Radio beacon, flash light, flag, GPS on request		
Power supply	up to 72 D-Cell Batteries or an accumulator pack in the pressure tube		

Seismic recorder
Geolon-MES



Alternative designs
available on request



3C geophone of
K.U.M./Carrack



Electronics of :



Signal Elektronik GmbH
Hamburg/Germany

**OBS -
Systems**

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Frame and housings
by:



**K.U.M. Umwelt- und
Meerestechnik Kiel GmbH**