

Lander K/MT 100

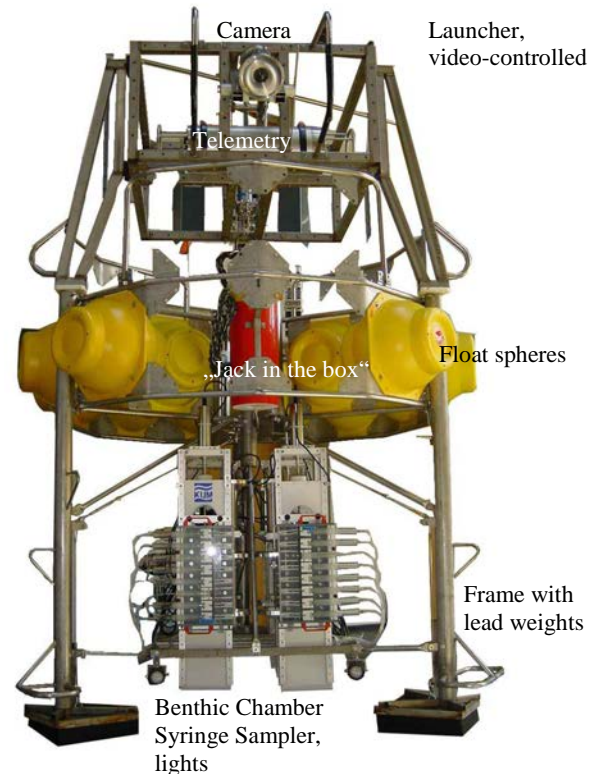
The instrument carrier „Lander“ is used for carrying one or more scientific instruments for water sampling and seafloor research.

The basic frame consists of an open tripod frame with weights, float units and different devices (radio beacon, strobe lights) to aid locations.

It is made from stainless steel, GRP or titanium for long-term investigations and weight reduction (titanium is by 44% lighter than steel).

Particularly in deep-sea research Landers are perceived as an important means of obtaining data.

You can descend them up to a depth of 6000m and attach a variety of instruments, e.g. benthic chamber, sediment trap, syringe sampler, camera and others....



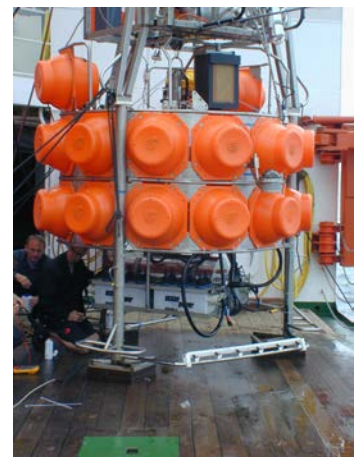
We design and manufacture instrument carriers according to our customers` special requirements.

Many times already marine scientists from e.g. GEOMAR Helmholtz-Zentrum für Ozeanforschung Kiel have successfully deployed our Landers.

Benthic Lander
Dr. Olaf Pfannkuche,
GEOMAR



Gasquant-Lander
Prof. Dr. Jens Greinert,
GEOMAR



Operation: Irish See 2000; Ship FS Poseidon
Project: BIGSET – Investigation of biological and chemical processes in the sediment

Operation: Pacific 2002; Ship FS Sonne SO 165
Project: Lotus / Omega / Otega
Investigation of methane gas bubbles over cold vents to measure their quantity in proportion to time.



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Technical Data

Basic equipment:	Open frame with three legs and weights, instrument carrier and Float units
Option:	Flash, radio beacon, flag to aid location Marine research instruments: Benthic Chamber, Syringe Sampler, Video camera and others
Buoyancy:	1. Glass spheres with protection shells (max. 21 x 17" spheres) 2. Syntactic foam
Size:	Height: 2500mm, Diameter: 2200mm
Weight / Frame:	Steel: 160kg, Titanium: 110kg
Weight (Frame, floatation) without anchor weights:	Steel: 595kg, Titanium: 545kg
Payload (marine instruments):	Steel frame: max. 210kg Titanium frame: max. 260kg
Operation depth:	Max. 6000m



Exact positioning on the seafloor is carried out by the video-controlled Launcher

Deployment

The Lander is ballasted to be negatively buoyant and descends to the sea floor at a speed of 0,5 – 1,0m/s where it lands softly. Here it is left autonomously for the whole research period. After that the steel weights are dropped through time release or an acoustic signal. The Lander ascends to the water surface, now positively buoyant, where it is recovered from the research vessel.