

MeBo – vessel needs

The MeBo is a portable robotic drill that is deployed on the sea floor and remotely controlled from the research vessel. It can be operated from mid-sized and larger vessels like the Irish research vessel **CELTIC Explorer** and the German research vessel **METEOR**.



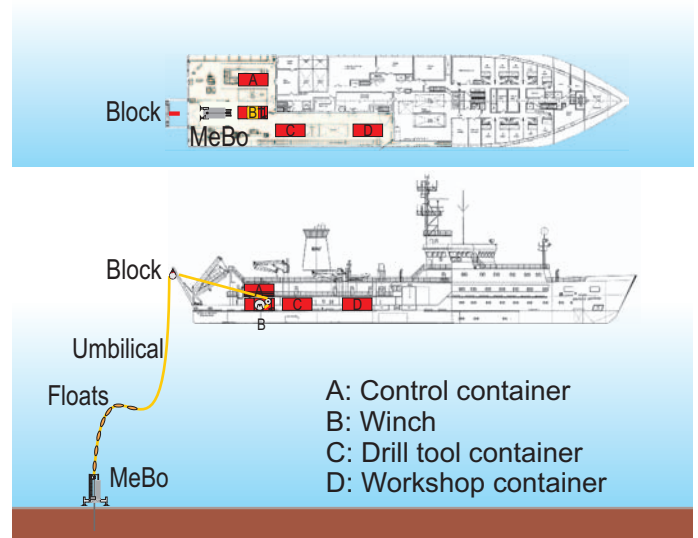
The MeBo-system is transported within six 20' transport containers. Next to the drill rig and the launch and recovery system - two open top containers are required for their transportation - the system consists on a winch and umbilical in a container frame (28 to), a control container, a workshop container, and a drill tool container. The overall system weight is about 75 to. (MeBo system arrangement right on RV **CELTIC EXPLORER** and below left on RV **METEOR**).



Maintenance and exchange of drill tools require horizontal storage of the MeBo on deck. The launch and recovery system is used for controlled transfer of the drill rig into vertical position at the aft of the vessel (top picture). An A-frame in combination with the winch/umbilical is required to take the load of the drill rig and lower it to the sea bed. Electric power for the winch, the launch and recovery system, and the drill rig and flush water for cooling of the umbilical have to be provided by the vessel.

MeBo – vessel needs

A schematic overview of a MeBo deployment is shown on the right. Floats are attached to the umbilical above MeBo in order to force the umbilical into an S-shaped catenary while MeBo sits on the sea floor. The required navigation capabilities of the vessel in order to control this catenary depend on the deployment depth.



Vessel specifications:

Deck space

- 1 x 20' control container
- 1 x 20' workshop container
- 1 x 20' drill tool container
- 1 x 20' MeBo winch container
- 1 x launch and recovery system (4.5 x 9.5m at least)

Launch equipment

A-frame or gantry to suit 16 t winch line load

Navigation

- (D)GPS
- USBL (2 mini transponders)
- Dynamic positioning preferred

Power

- MeBo Trafo1: 380-480 VAC, 3 phase, 150A, 50-60Hz;
- MeBo Trafo2: 380-480 VAC, 3 phase, 150A, 50-60Hz;
- MeBo Trafo3: 380-480 VAC, single phase, 63A, 50-60Hz;
- Winch: 380-440 VAC, 3 phase, 250A, 50-60Hz
- launch and recovery system: 1 x CEE 63A 6h 400V/50Hz;
- container: 380-480 VAC, 3 phase, 63A, 50-60Hz;

Accommodation

MeBo crew of 10 people

Visit us at:

www.rcom.marum.de

Contact:

Marum – Center for Marine Environmental Sciences
Dr. Christoph Waldmann, Leobener Straße, 28359 Bremen
Tel: int.+49 421 218-65606 E-Mail: waldmann@marum.de