

Seascope developed a concept design for a seabed dredger excavator as a multipurpose bottom tracking vehicle with the main feature of deep-water dredging.



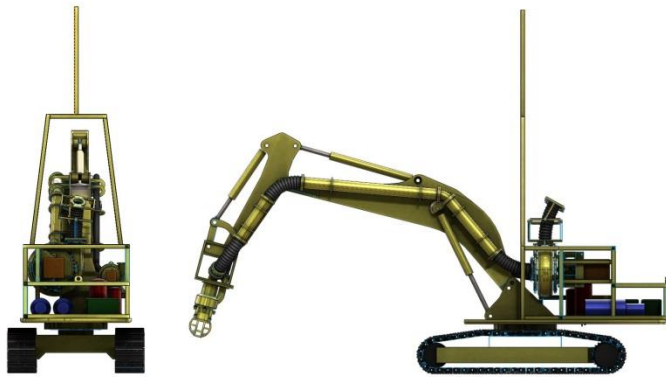
The SBDE, Seabed Dredger Excavator is based on a standard 28 tns. excavator. The excavator is completely modified for working underwater. The excavator is fitted with 2x electric-hydraulic power packs which have sufficient power supply for a 275 kw dredge pump ,130 kw jet pump and all standard excavator movements.

The SBDE is fitted with sensor for monitoring all movements and positions. These will be visualized in a 3D software. The position of the SBDE is based on a GPS RTK with the antenna on top of the crane just on top of the water level. The crane can operate up to water depth of 10 meter using the GPS antenna. The SBDE is standard pressure tight to 100 m. The SBDE is connected with a 400 m long umbilical cable to the control and transformer container.

The SBDE control & transformer container needs to be powered with 1000 kVA (400 VAC/60 Hz) generator.

The SBDE is connected to a 12" floating discharge hose. The umbilical cable also floats and can be retrieved with a special umbilical capstan.

The SBDE is fully remotely operated from the control container. The controls are based on 2 joystick for all movements and driving. Further controls will be through a GUI (graphical human interface) which touchscreens. All data and movements will be visual in the GUI. Also the SBDE will be fitted with 1x scanning sonar to visualize the seabed surrounding the SBDE and 2x profiling sonars for scanning the dredge parts real-time during dredging. The GUI, sonars and cameras will be all visible on a 54" video wall screen of 4K resolution.



Applications

- Deepwater dredging (max. 3000 meters);
- Debris removal;
- Drilling;
- Excavating;
- Video inspections;
- Diver assistance and observation;
- Hydraulic power platform for underwater tools;
- Salvage assistance;
- Archeology work;
- Environmental work;
- High pressure cleaning.

