

Miniature CPT-system

With the Mini Cone Penetration Test (CPT) System, subsurface soil conditions can be determined rapidly and accurately. This light-weight system is particularly useful for deployment from smaller vessels with a suitable A-frame or crane. The system allows a 10 m penetration of a 2 cm² CPT cone into the sea bed in water depths of up to 3,000 m. During the test, penetration depth, tip resistance and sleeve friction are being measured and displayed real-time.



Applications

The mini CPT system is very useful in geological- and geotechnical site characterisation projects. Some potential application areas are:

- Pre- and post dredging surveys.
- Cable- and pipeline route surveys.
- Shallow foundation surveys.

System advantages

Some advantages of the miniature CPT system over conventional systems are the following:

- Quick mobilisation and demobilization.
- Minimal deck space and hoisting capacity required, hence deployment from smaller vessels possible.
- Continuous pushing system with minimal operator involvement, allowing for rapid and accurate testing.
- Real-time display of results.

Specifications

A typical equipment spread includes a base frame with pushing unit, an umbilical reel with cable and a portable computer. Some specifications of the system are given below.

Base frame:

Weight: 1,500 kg (3,300 lbs)
Length: 1.45 m (48 in)
Width: 1.45 m (48 in)
Height: 1.95 m (64 in)

Power requirements

380 V - 50 Hz
32 A

Cones

2 cm² subtraction, tip- and sleeve resistance. Additional sensors (inclination, porewater pressure) at request. Maximum tip resistance ca. 40 MPa. Maximum penetration 10m.



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