

# Manta Heavy CPT System

With the Manta Cone Penetration Test (CTP) System, subsurface soil conditions can be determined rapidly and accurately. This variable-weight system can be used for shallow CPTs in its light (60kN) version and for heavier or deeper CPTs in a partially or fully (200kN) ballasted version, from smaller vessels with a suitable A-frame or crane (Manta-Light) or from larger vessels with a suitable A-Frame or a heavy crane and moonpool. The system allows penetration up to 20+ m of a 5cm<sup>2</sup> – 15cm<sup>2</sup> CPT cone into the seabed in water depths of up to 500 m. During the test penetration depth, tip resistance, sleeve friction and cone inclination are measured and displayed real-time. Porewater pressure measurement and optional other sensors are also available.

## Applications

The Manta CPT System is very useful in geological and geotechnical site characterization projects. Some potential application areas are:

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

## System advantages

Some advantages of the Manta CPT System over conventional systems are the following:

- Continuous pushing system with minimal operator involvement, allowing for rapid and accurate testing
- Real-time display of results
- Can be used for deeper foundation
- Full range of seabed frame- and cone sensors available

## Cones

5-15cm<sup>2</sup> subtraction, tip- and sleeve resistance. Additional sensors (inclination, porewater pressure, temperature) at request. Maximum tip resistance ca. 100 MPA. Maximum penetration 20+ m

## Specifications

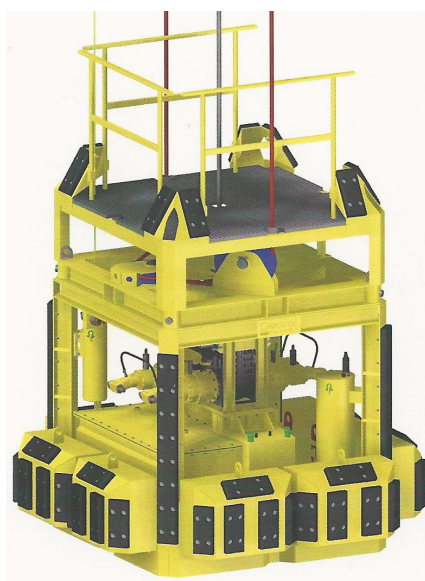
A typical equipment spread includes a base frame with pushing unit, an umbilical reel with cable and a portable computer. Some specifications of the system are given below.

Base frame (approximate dimensions):

Weight: 5500 kg – 20000 kg  
Length: 2.2 m – 3.0 m  
Width: 2.2 m – 3.0 m  
Height: 3.3 m



Manta-Light (5.5 ton version, no ballast)



Manta-Heavy (20 ton version)



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