

## Seabed CPT GMC201



### Introduction

Geoquip Marine have developed a 200kN cone penetration testing system (GMC201) capable of operating in water depths up to 800m (can be extended up to 2,000m) providing a push capacity of 200kN (20t), enabling the recovery of *in situ* soil data to a depth of 40m or more below the seabed depending on soil conditions.

This unit has two electrical motors which drive the chain system and the CPT cone into the soil.

### Mobilisation

The system is designed to enable the unit to be mobilised onto a vessel of opportunity or onto an existing Geoquip Marine vessel. This versatility enables the system to be deployed quickly and efficiently to the port of mobilisation.

### Operations

Once on location the CPT unit is lowered to the seabed and the test is commenced with the rod penetrating the soil at a rate of 2cm/s. Data is relayed to the operator on board in real time where it is then processed.

### Data Acquisition

The 200kN system provides a continuous profile of tip resistance, sleeve friction and pore water pressure, which can be used for the derivation of shear strength in cohesive soils and the relative density of non-cohesive soils. The system has the ability to operate a range of cone sizes and optionally seismic CPT cones, T-bar and ball PCPT equipment.

GMC201	
Type	200kN seabed PCPT
Operating conditions	20 - 800m water depth (can be extended up to 2,000m)
Available measurements	Tip resistance, sleeve friction, pore water pressure, cone inclination, rig inclination, altitude and total thrust
Cones	10cm <sup>2</sup> or 15cm <sup>2</sup>
Specifications	Penetration adjustable to soil conditions, tip resistance up to 200kN
Applications	Determination of engineering parameters including <i>in situ</i> relative density and shear strength for use in engineering analysis

