

## Geotechnical Drilling Rig GMR600



### Introduction

The Geoquip Marine GMR600 is based on over 30 years' experience designing, building and operating heave compensated geotechnical drill rigs worldwide for Clients in the offshore renewable energy market and other specialist industries.

The design and automation of key operations ensures that the GMR600 can firstly, deliver safe and reliable data and secondly, deliver this data in a timely manner to the Client. Automation of tasks, thereby removing risks to personnel, include remote tool handling system.

Time efficiency when performing multiple boreholes, not only reduces overall contract durations, but also allows the exploitation of short weather windows for productive operations.

### Capabilities

The GMR600 is capable of operating in 600m (water depth plus borehole depth) using steel API drill pipe and recover high quality samples and record accurate *in situ* data in all soil types.

### Sampling and Downhole Testing

The GMR300 series is compatible for operations with a wide range of downhole tools including wireline sampling and wireline cone penetration testing (PCPT). Each of the downhole tools are fully interchangeable within the drill string set up and can therefore be alternated in turn to suit changing soil conditions / type. This gives Geoquip geotechnical engineers the increased flexibility to meet and exceed the requirements of a Client.

- Push / Piston sampler (1m length thin, medium and thick walled Shelby tubes)
- Triple tube lined coring system (80mm diameter core and maximum 2.8m length)
- Hammer sampler (2" and 3" diameter split spoon)
- PS wireline logging

### ‘Real-time’ data and Reporting

The technical capability of the GMR600 series drill rig in the field, is further enhanced through the provision of a dedicated soil and rock testing laboratory. This facility allows the ‘real-time’ classification and testing of high-quality samples and the QA / QC of recording *in situ* data.



Drilling Rig GMR600	
<b>Top Drive/Power Swivel</b>	Dando 1000 twin motor with dual speed setting for high torque/high rotation <ul style="list-style-type: none"> <li>• Max torque: 9600 Nm</li> <li>• Max speed: 280 RPM</li> <li>• Max dynamic load: 40t</li> </ul> Max static load: 50t
<b>Drill String</b>	5½” or 6¾” API drill string
<b>Seabed Frame</b>	12t, with hydraulic clamps and compensation up to 4.0m
<b>Heave Compensation</b>	Effective drill string compensation 0m to 4m. Seabed frame and seabed CPT unit heave compensation with an effective stroke from 0m to 4m
<b>Mud</b>	4,000l mix tank, 8,000l storage tank guar gum seawater miscible
<b>Downhole Sampling</b>	Wireline piston / push sampler, percussion / hammer sampler
<b>Downhole <i>in situ</i> Testing Tools</b>	WISON-APB PCPT cone penetration testing with pore water pressure and seismic velocity measurements PS wireline logging
<b>Downhole Coring</b>	Traditional and leading shoe core barrel
<b>Pipe Handling</b>	Range two drill pipe handling using a proprietary mechanical handling system utilising a pip handling crane and pipe grabber. Handles pipe with minimum manual intervention and hence improved safety
<b>Drill Control Cabin</b>	Control cabin for remote control via hydraulic / electric interface of all drilling and sampling operations. Allows driller, assistant driller and PCPT operator coordinated control of all drilling / sampling operations. Rig specific DMS recording
<b>Drill Rig Workshop</b>	ISO 20ft container sized fully equipped workshop, tools and equipment. 220v supply
<b>Equipment Winches</b>	Braden draw-works winch, seabed frame umbilical winch, 2 x piston sample winch (electro mechanical), 2 x headline tugger winch, tail line tugger winch.
<b>Seabed CPT Unit</b>	20t deep push seabed CPT system. Straight rod push thrust mechanism allows recording of <i>in situ</i> data to 40m below mudline, or greater, depending on soil conditions.