



 **GEOTECHNICS**

PAGANI CPT RIG

www.geotechnics.co.nz

Overview:

With our new Pagani CPT machine (TG63-150), Geotechnics can now offer Piezocone Penetration Testing (CPTu) including various soil sampling methods in the North Island.

We have a mature management system and have been IANZ accredited since 1976 with CPT tests added in 2012.

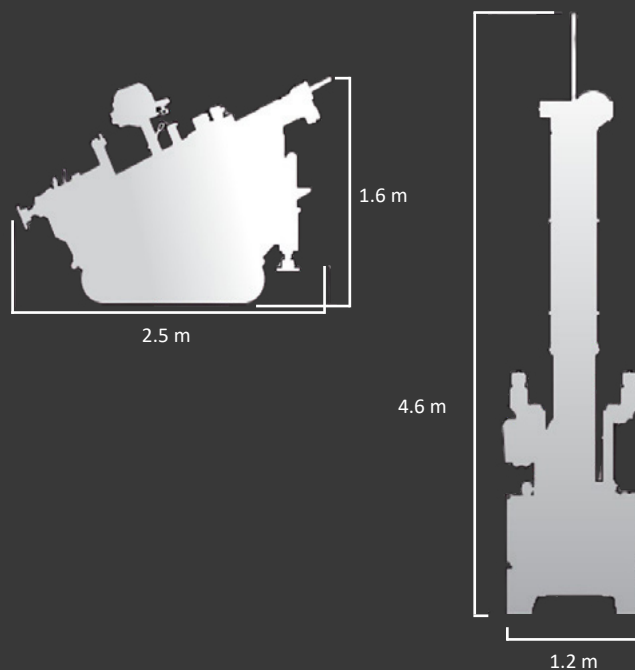
Pagani TG63-150:

- Compact Machine
- CPT maximum thrust capacity: 150 kN

Maximum test depth (dependent on soil types) up to:

- CPTs - 30 m
- DPSH - 20 m
- DS44 - 5 m (1 m dynamic samples retained in plastic liner)
- Shelby tube - 5 m (500 mm static sample retained in stainless steel push tube)

The CPT rig performs both static and dynamic penetrometer tests in a single compact machine. This dual functionality allows for comprehensive soil characterisation.



Static tests:

- Static tests are the continuous push method for CPTu testing and Shelby push tube sampling which use the Pagani's 150 kN hydraulic push force. Shelby tube samplers, are thin-walled tubes ideal for sampling high quality undisturbed soil samples for laboratory testing.
- Shelby push tube sample - sample tube 80 mm diameter, 500 mm length.
- Samples can either be sealed in plastic bags or have paraffin wax sealing at each end of the push tube for transport to the laboratory.

Dynamic tests:

- Dynamic tests are the direct percussion drive method for the DPSH test and DS44 samples which use a 63.5 kg hammer.
- DS44 sample - retained in 44 mm diameter plastic liner, 1 m length.
- Samples can be either sealed with end caps for transport, or safely opened by the cutting attachment, for logging onsite.

Key Capabilities:

- Mounted on hydraulic-powered rubber tracks, it can navigate challenging terrains, from wet-land areas to hard to access residential sites.
- The stabilisers and tilting mast ensure verticality is maintained on uneven ground.
- Can transverse up and down slopes up to 25 degrees and along slopes up to 10 degrees to access suitable testing locations.
- Independently powered hydraulic anchoring systems ensure an effective counter force and reduced setup time.

Supplementary features:

- Piezocones containing temperature sensors (up to 50°C).
- Dissipation testing.
- Secondary saturation to ensure high quality porewater pressure data.
- Additional Rotary Head for predrilling up to 3 metres.
- In appropriate soil conditions, we can install 32 mm standpipe piezometers.

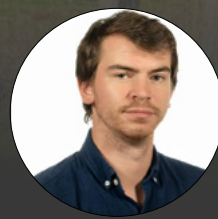
Technical Accreditation

We implement our IANZ accreditation status according to our scope of services where possible. We conduct our CPT testing according to the ISO 2012 standard (ISO 22476-1: 2012), with guidance from the CETANZ technical guideline (TG6 - Industry Best Practice Guideline for Performing Cone Penetrometer Testing (CPT) in New Zealand). Ensuring that the correct methodology is followed when preparing, conducting and reporting CPT results.

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