TerraRoc

The TerraRoc S Geobor Wireline HPD System

Reduce manual handling and increase productivity.

Introducing the S Geobor Wireline HPD System, the ultimate tool for core drilling projects!

Our revolutionary Wireline HPD (High Pressure Dilatometer) System eliminates the need for drill rods when conducting HPD tests, thereby reducing manual handling and significantly increasing productivity.

The TerraRoc Wireline HPD System has been developed in partnership with SOCOTEC UK and HPD manufacturer Cambridge Insitu Ltd. The HPD provides accurate and high-resolution data on the deformation and stress of rock formations under loading. With its advanced probe technology, the HPD can measure the mechanical properties of rock formations with unparalleled precision.

Taking the tool out of the box

Down-hole Pressuremeter Testing

The HPD is an instrumented down-hole pressuremeter with a cylindrical, flexible membrane which expands when pressure is applied to the inside surface.

Displacement measurements are taken via strain gauged transducers, spaced evenly around the central axis of the expanding section and a further two pressure transducers are used to measure the internal pressure of the instrument. Data from all transducers is sent up to the surface and logged on a laptop in real time to produce a pressuremeter test curve.

The transducers provide incredibly precise and reliable data for pressure (stress) and displacement (strain) for the duration of a pressuremeter test, with typical transducer resolutions equal to 0.1kPa of pressure and less than a micron of displacement. The instrument is also rugged enough to withstand membrane bursts on site and is designed to be fully serviceable in the field.

The pressuremeter loading curve can be solved directly using mathematical expressions for the expansion of a cylindrical cavity. The solution conventionally is quoted in terms of strength and stiffness parameters for the material, typically shear modulus, shear strength or friction angle as appropriate, and the insitu lateral stress.

Cambridge Insitu Ltd

Easy to use

Simply lower the HPD into the borehole on the wireline and position the probe at the desired depth using the S Geobor drill string. Once in position, the probe expands using pneumatic pressure, allowing for real-time measurement of deformation and stress.

The HPD system is essential for geotechnical engineers and drilling professionals who need to accurately assess the mechanical properties of rock formations. With its ability to measure properties such as stiffness, strength and insitu stress, the HPD system provides vital information for designing safe and effective structures.

Connecting the drive rod to the drill string

Take your core drilling projects to the next level

- Reduce manual handling by removing the need for drill rods
- Increase productivity
- Real-time data transmission of the rock formation behavior under loading
- Precise positioning provides accurate measurements of deformation and stress
- High-resolution data is acquired using transducers inside the probe
- Comprehensive analysis of rock formation behavior under different loading conditions
- Improve decision making with more accurate data.

Building up the tool from the top

Connecting the tool to the HPD

Connecting the HPD in the tool

Umbilical connected and secured in the lifting sub eye

Include the S Geobor Wireline HPD System in your next project

TerraRoc is among the world's leading manufacturers of core drilling equipment and provides a comprehensive range of core drilling tools for reliable site investigations.

The S Geobor Wireline HPD System is a complementary addition to our Terracore drilling system, allowing for more efficient insitu data acquisition during site investigations.

Pushing the drill string into the test pocket

Tool retracted out of borehole

Adding the drive rod to the drill

INNOVATIVE TECHNOLOGY

The revolutionary HPD system brings unparalleled insights into the study of rock formations.

TerraRoc is a market leader in geotechnical drilling consumables operating in Europe, North America and Asia. The company specializes in casing advancement systems, down-the-hole hammers and core drilling.

Three manufacturing plants in Finland, Scotland and the United States, supported bya global supply chain, provide a range of products, services and customized solutions for engineers to overcome the most challenging rock formations faced in drilling and excavation works.

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Customized Geotechnical Solutions.

Full range of drilling tools and consumables for casing advancement systems, down-the-hole hammers and core drilling, all customized to your needs.

terrarocdrilling.com

TerraRoc

Finland
Pihtisulunkatu 1 A
33330 Tampere
Finland

UK
McCafferty Way
McCafferty Way Ind Est
Grangemouth FK3 8EG
United Kingdom

USA
7500C Shadwell Drive,
Roanoke VA 24019,
USA