

Menard Pressuremeter Compact

Pressure-Volume Controller with tubing and a tri-cellular probe for performing pressuremeter tests.



BENEFITS

- + Design compliant with original Ménard procedures
- + Digital displays for improved readability and precise air/water pressure readings (accurate to one-tenth of a bar)
- + Graphic display simulating a pressure gauge needle, in line with Ménard's patented principles
- + Compact format
- + Simplified front panel / fewer valves
- + No need for additional pressure gauges

Specifications

- Dimensions: 56 x 43 x 26 cm (tripod height: 59)
- Weight: 22 kg (tripod: 3 kg)
- In an aluminum case with hinged protective lid
- Carrying handle

FIELD OF APPLICATION

• **In-situ static loading test of a soil using a radially expandable cylindrical probe inserted into a borehole.**

The Compact Pressuremeter offers the same features as the standard Menard Pressuremeter. It is the latest version of Apageo's manual Pressuremeter, combining cutting-edge technology and reliability.

The Ménard Pressuremeter (Pressure-Volume Controller) with its tubing and tri-cellular probe enables standard pressuremeter tests according to **NF EN ISO 22476-4** and **special procedures according to NF EN ISO 22476-5**. The test allows obtaining a volumetric variation curve of the soil as a function of the applied stress, and to define a stress-strain relationship of the in-situ soil under the assumption of plane strain. Three parameters are thus determined: the soil deformation modulus (Menard modulus EM), the creep pressure (Pf), and the limit pressure (Pl).

Implementation

The borehole is drilled so that its wall remains practically intact, its diameter is adapted to the probe size (63 or 76 mm), and the surrounding soil is disturbed as little as possible. The probe is positioned at the desired level, and loading steps are performed using the Pressuremeter.

In gravelly or stony soils where the borehole would cave in, the probe is placed inside a slotted, radially deformable casing, which is introduced into the ground by driving, vibro-driving, or simultaneous drilling.

Pressuremeter data acquisition system.

General presentation

GeoSPAD®2 enables the acquisition of pressuremeter data according to the NF EN ISO 22476-4 standard via the universal central unit GeoBOX® (a unit also compatible with other Apageo measuring devices). This equipment allows control of the pressuremeter test procedure and automatic recording of test conditions and values.

The **GeoSPAD®2** system is integrated into the Menard Pressuremeters (which keep their original specifications, including the ability to be used independently). It consists of a waterproof housing, two 0-100 bar pressure sensors, and a magnetostrictive volume measurement sensor equipped with a reinforced float.

Recording of cyclic tests
 It is a one-of-a-kind system, **fully integrated into the Menard Pressuremeter**, sending data directly to your GeoBOX®: reducing equipment bulk and setup time, ease of use, and full compatibility with Pressuremeters already equipped with sensors.



Implementation

- 1 Once the probe is positioned in the ground, start the pressuremeter test.
- 2 Follow the test in real time on GeoBOX®.



- 3 Print or copy the test data to a USB drive. Transmit the data to the office via the 4G option.



In accordance with Procedure B of the NF EN ISO 22476-4 standard, recordings are made automatically after 1, 15, 30, and 60 seconds, with high precision: 0.1 cm³ for volume and 15 kPa for pressures. During the test, GeoBOX® displays the raw curve plot, allowing instant visualization of the ongoing test. The central cell pressure and guard cell pressure, the actual and theoretical differential pressure, the volume, DeltaV60/30 and DeltaV60/60, the step number, and the time are also displayed throughout the test.

GV Test data processing

Transfer and processing of tests on GeoVISION® via USB drive or 4G system (optional).