

HyperPAC[®]

General presentation

Following the footsteps of Louis Menard, Apageo proposes exclusive device :

HyperPAC[®] the auto-controlled pressuremeter for high pressure tests, driven by GeoBOX[®].

HyperPAC[®] has been developed in order to conduct **very high pressure tests** in rocks and very hard formation. It is the first equipment **totally automatic and autonomous** on the market that manages all the different steps of the test, ordered by the operator.

HyperPac[®] makes the whole process **easier to conduct** for the operator, reinforces the reliability of the results, and **reduces the time** of preparation.

NEW Cyclic test with personal programming



HyperPAC[®] specifications

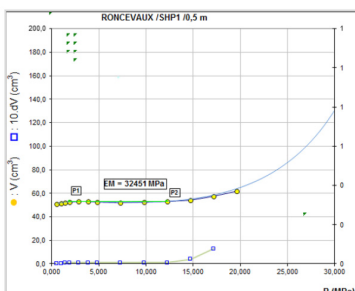
- Dimensions : 1170 * 380 * 340 mm
- Weight : 40kg empty
- Handle transport and wheels
- Max liquide pressure : 300 bar
- Power supply : 9 - 18VDC

➔ Option : HyperPac[®] is available in 250 or 300 bar version

Originality of the HyperPAC[®]

The ingenuity of the system lays on a unique water circuit, mechanically pressurized to conduct test with a perfect reproducibility. Specific probes and tubing have been developed to resist to very high pressure

The very high pressuremeter test



It is an in situ controlled loading test performed on the wall of a borehole in rocks or very hard formations, using a cylindrical probe that expands radially.

From the tests readings (volume variation based on controlled pressure), a stress-strain curve can be obtained for the rock or hard soil in the case of plane deformation..

Testing enables definition of three parameters : Ménard pressuremeter modulus E_m , creep pressure P_f and limit pressure P_L .

Implementation

1 Place the probe into the borehole.

The borehole is done by coring or rotary-percussive methods, with a diameter compatible to the probe size (46mm).

2 Enter the test parameters in **GeoBOX®** and order the execution.



In accordance to the principle of Menard pressuremeter, **HyperPAC®** executes pressures and volume loss processes, ordered by **GeoBOX®**. As soon as the probe is lowered into the borehole to the required test depth, the operator enters parameters of the test in **GeoBOX®** (pressure of 1st pressure stage depth etc...) and order the test execution by **WIFI** to test **HyperPAC®**. From now, **HyperPAC®** manages by its own the expansion and deflation of the probe. Pressure increments and pressure lag settings are also automated. During the entire process **GeoBOX®** offers a monitoring of the test on its screen (real time view of the results, progression, line graph etc...). At any time, the operator can decide to stop the test from **GeoBOX®**.

3 Follow the test in real time on **GeoBOX®**. Print or save data on a USB key. Transfer data to the office via 4G system (option).

When the test is over, data are saved on **GeoBOX®** (no time limit). Results can be printed directly on **GeoBOX®** printer (Premium version), saved on a USB key or sent to the office via optionnal 4G system.



Test treatment

Test can be transferred via a USB key or 4G system (option) into our geotechnical data processing software **GeoVISION®**.