

FLAT JACKS

Description

The flat jacks are primarily used in diagnostics of buildings and walls to determine experimentally what the static conditions of the structures under investigation are. The single jack test methodology is based on the variation of the tensional state in a point on the structure in question as a result of a cutting plan run in the normal direction at the surface. The release of injuries causes a closure of the cut, which it detects through a high-precision measurement of convergence. A special flat jack is then placed inside the cut and gradually pressurized with a special hydraulic pump until you cancel the previously measured convergence. From this pressure, annulling the deformations caused by cutting, you can derive the test agents in tensions in the area through the use of correction factors that take into account the shape and size of the jack and the cutting surface. To determine the characteristics of deformability, two jacks should be employed parallel to each other and installed at about 50 cm apart. Then the material they are composed by undergoes a test of compressive strength.

The GESTECNO flat jacks are made with the sealed union of two special steel sheets, 0.8 mm thick in various shapes and sizes; moreover, they are individually tested for a 60 bar seal. The standard dimensions that can be supplied are: semi-oval 350x260x4, semi-circular 300x120x4 or 325x125x4, rectangular 400x200x4.

On request, it is possible to supply special versions with shape, dimensions and seal according to the Customer's specifications. They are supplied complete with certification on production batch issued by accredited universities.

Features

- Robust and reliable
- Available in various sizes
- Possibility of special executions on customer request
- Possibility of automatic monitoring



Applications

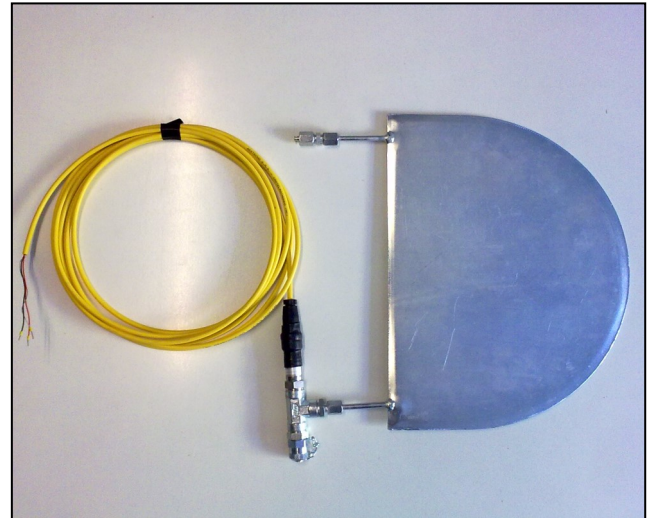
- Measurement of the stress state in situ by single jack test
- measurement of the deformability characteristics by double jack test
- Evaluation of the mechanical properties of concrete and rock masses
- Monitoring of variations in the stress state (for example in the coverings of existing tunnels)
- Restoration of monuments and historical buildings

Technical specifications

FLAT JACKS	
Material	steel sheet thickness 0.8 mm
Max working pressure	60 bar
External finish	painting
Standard dimension	semi-oval 350X260X4 semi-circular 350X175X4 semi-circular 325X120X4 rectangular 400X200X4

PRESSURE TRANSDUCER	
Type	piezoresistive
Material	stainless steel AISI 304
Output	4-20 mA
Range	1-2-5-10 bar (others on request)
Total accuracy	< 0,5% FS (others on request)
Operating temperature	-10...+60 °C

For the continuous survey of the tensions acting inside a masonry and for the control of any variations over time, special jacks are used, equipped with an electric transducer that transforms any variation of pressure acting on the lung in an electric signal variation with standard output 4 ÷ 20 mA. These jacks have the characteristic of being repressurizable by means of a special refill valve. The repressurization of the jack is necessary to restore its adherence with the walls of the masonry after having inserted it into the specially made cut and therefore to guarantee the normal operation of the instrument. The data reading of the electric pressure transducer can be done through the use of a portable control unit or through an automatic data acquisition system designed to carry out continuous monitoring.



Please specify

CODE	PRODUCT DESCRIPTION
MAP-260	Semi-oval flat jacks 350X260X4
MAP-120	Semi-circular flat jacks 300x120x4
MAP-125	Semi-circular flat jacks 325X125X4
MAP-180	Semi-circular flat jacks 350x180x4
MAP-200	Semi-rectangular flat jacks 400X200X4

For further information:

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