



**INFLATED HYDRAULICALLY UP TO 20 000 KPA  
DIRECT READING OF DIAMETRIC CHANGES  
DISPLAYS DIAMETRICAL EXPANSION IN MM**

The TRI-MOD-S Rock Pressuremeter (flexible dilatometer) is a reliable and effective tool used to measure in-situ the strength and stress-strain properties of very stiff soil and rock.

### Description

The **TRI-MOD-S** Rock Pressuremeter (Flexible Dilatometer) is a reliable and effective tool used to measure in-situ the strength and stress-strain properties of very stiff soil and rock. It quickly and economically provides a large volume of data encompassing the variability of the geotechnical conditions on a site.

The **TRI-MOD-S** is comprised of the following components:

The probe: a single cylindrical cell hydraulically inflated with 6 strain gauges and cantilevered arms, and fitted with an inflatable metallic sheath

The hydraulic manual pump

The pneumatical cylinder for deflating the probe

The datalogger

The tubing and electrical cable

Two calibration tubes

### Key Features

- Inflated hydraulically up to 20 000 kPa
- Direct reading of diametric changes with six electrical strain followers
- Test in "N" size borehole (76 mm)
- Simple to operate
- Readout displays diametrical expansion in mm

### Applications

- Settlement estimation of all types of foundations
- Bearing capacity estimation of shallow or deep foundations
- Deformation estimation of laterally loaded piles or sheet piles

### Specifications

PROBE	
Diameter (min.) :	73 mm
Diameter (max.) :	76.2 mm at 20 000 kPa 82.0 mm at 10 000 kPa
Working pressure (max.) :	20 000 kPa (3000 psi)
Length of inflatable sheath :	490 mm
Typical sheath inertia :	600 kPa
HYDRAULIC PRESSURE GAUGE	
Range :	20 000 kPa
Accuracy :	1% F.S.
DIGITAL READOUT	
P-3 Vishay strain indicator with selector switch	
Resolution of diametrical change:	Better than 0.01 mm

### Description

The probe is placed at the test depth in a pre-cored borehole. Stress-control is used to run the test. Equal increments of pressure are applied to the probe and held constant for one minute. The diametric changes are logged 30 and 60 seconds after each pressure step is reached. Unload/reload cycles can be performed.

In situ stress-strain curves are obtained by plotting the changes in each of the 3 instrumented diameters or their average against pressure. The modulus of deformation E used to calculate settlement is given by:

$$E = (1 + n) (\Delta P / \Delta R) R$$

where: n = Poisson's ratio

$\Delta P$  = Corrected increase in pressure

$\Delta R / R$  = Relative change of radius

In softer materials, the limit pressure PL, which is the pressure corresponding to the doubling of the volume of the initial cavity, can be estimated.

### Ordering Information

The TRIMOD-S comes as a complete kit including, the probe, the hydraulic manual pump, the pneumatical cylinder for deflating the probe, the datalogger, the tubing and the electrical cable and two calibration tubes.