



## ROCK PRESSUREMETER/DILATOMETER

Colog used the RocTest Probe X pressuremeter and tested NQ diameter boreholes to measure in situ rock deformability. A relatively large volume of rock was tested at each station, spread over an 18 inch section of the borehole. Changes in pressure and volume were both measured in situ and monitored in real time. Interpretation was based on Lamé's equations. Records were plotted to calculate the Elastic Modulus  $E$ , and the data was extrapolated to estimate the plastic response and approximate an Ultimate Pressure  $P_L$ . Raw data was then corrected based on daily calibrations in a thick cylinder with known properties.

The pressuremeter was calibrated, operated, and processed by Colog. Deployment requires a drill rig over the borehole.

### APPLICATIONS:

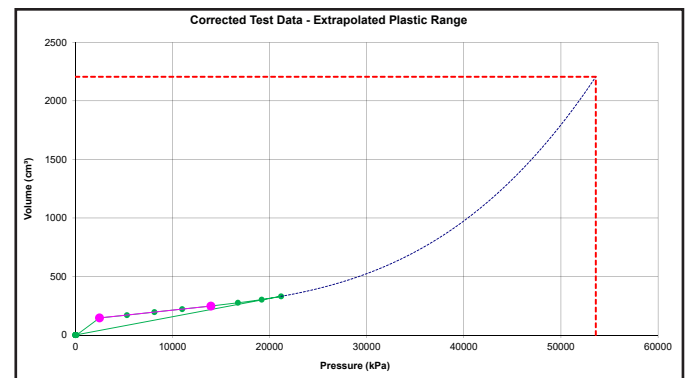
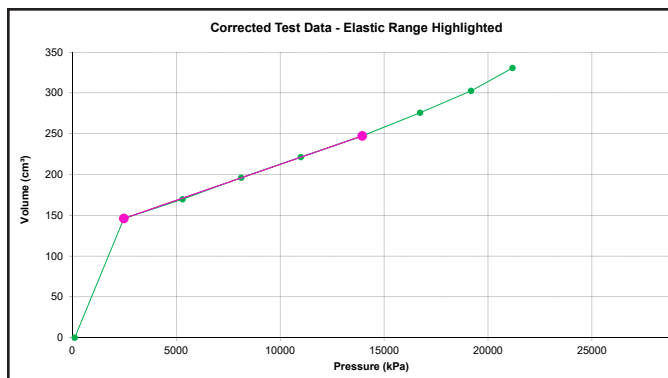
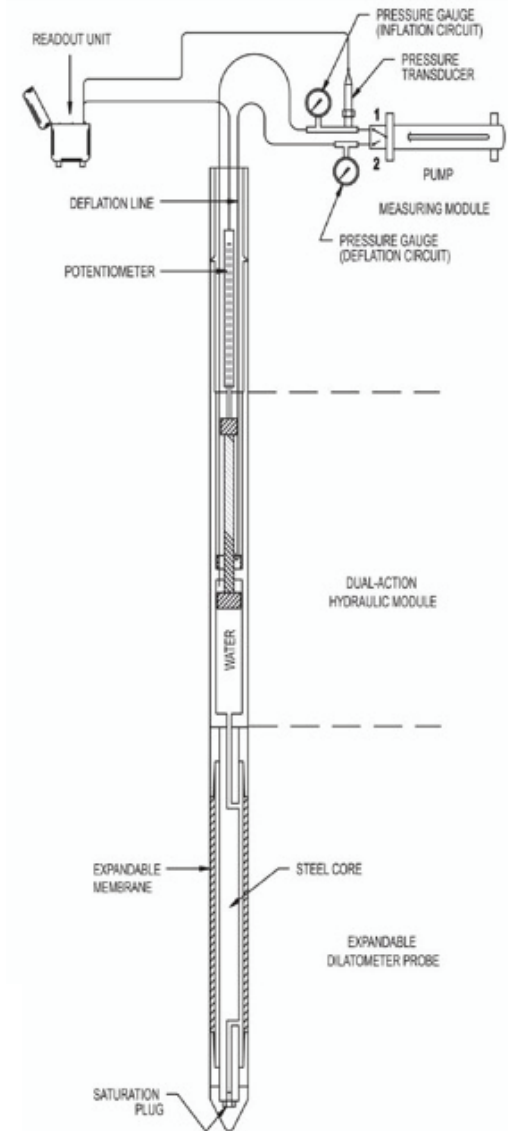
- + Deformation estimates of tunnel linings, concrete dam foundations and bridge supports
- + Settlement capacity of caissons
- + End Bearing capacity of deep foundations
- + P-Y curves for analysis of drilled shafts

### PROBE SPECIFICATIONS:

|                        |                           |
|------------------------|---------------------------|
| Upper Threads:         | BW Casing and NQ Rod      |
| Length:                | 2.6m (8.5 ft.)            |
| Weight:                | 42kg (92 lb.)             |
| Operating Temperature: | -5 to +60°C (23 to 140°F) |
| Depth Limit:           | 91m (300 ft.)             |

### SENSOR SPECIFICATIONS:

|                  |                       |
|------------------|-----------------------|
| Diameter:        |                       |
| Minimum Deflated | 73.7mm (2.9 in.)      |
| Maximum Inflated | 85.5mm (3.4 in.)      |
| Length:          | 460mm (18.1 in.)      |
| Max Pressure:    | 30,000 kPa (4350 psi) |



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