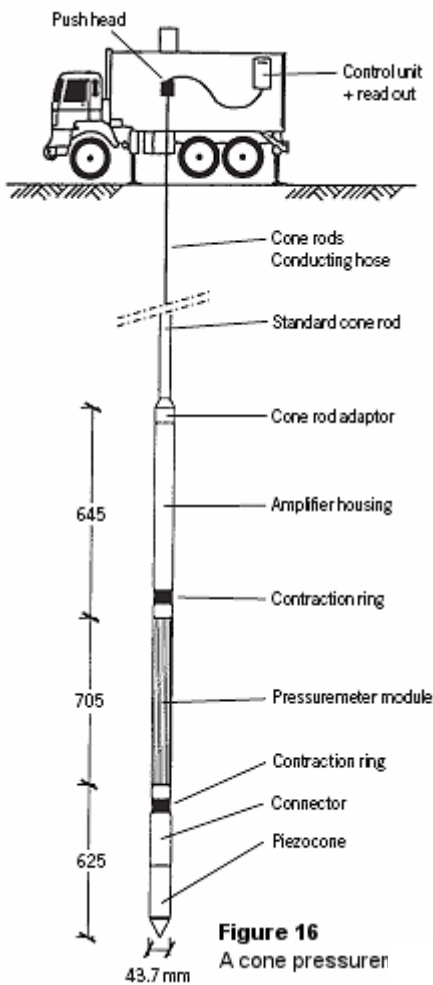


Full Displacement Pressuremeter/ Cone Pressuremeter

This new instrument was designed and developed by pressuremeter practitioners of many years experience, to offer a simple and robust instrument that enables a high quality; high production tests to be performed at an economic price. The instrument also overcomes many of the limitations of traditional pressuremeters and readily lends itself to deployment and installation from a CPT thrust machine. Installation and testing is possible in a wide range of material types from soft to stiff clays and loose to medium dense sands.



CPT sounding combined with pressuremeter test

The full displacement pressuremeter (also known as the pressuremeter cone) combines a conventional 60-degree cone penetration sounding with the pressure meter test. The pressuremeter is of the same diameter as a 15cm² cone (46mm) and is mounted on the penetrometer shaft, a short distance behind the cone. The expanding part of the pressuremeter module has a length to diameter ratio of 10 to ensure a predominantly radial expansion of the pressuremeter membrane during inflation.

FDP data has been compared to the more sophisticated self boring pressuremeter by BRE at their Cowden research site and demonstrates that the FDP is a viable and technical alternative pressuremeter testing method.

see next page

Lankelma Ltd makes no representation, express or implied, with regard to the accuracy of this information and cannot accept any legal responsibility or liability for any errors or omissions that may have been made.

Parameters

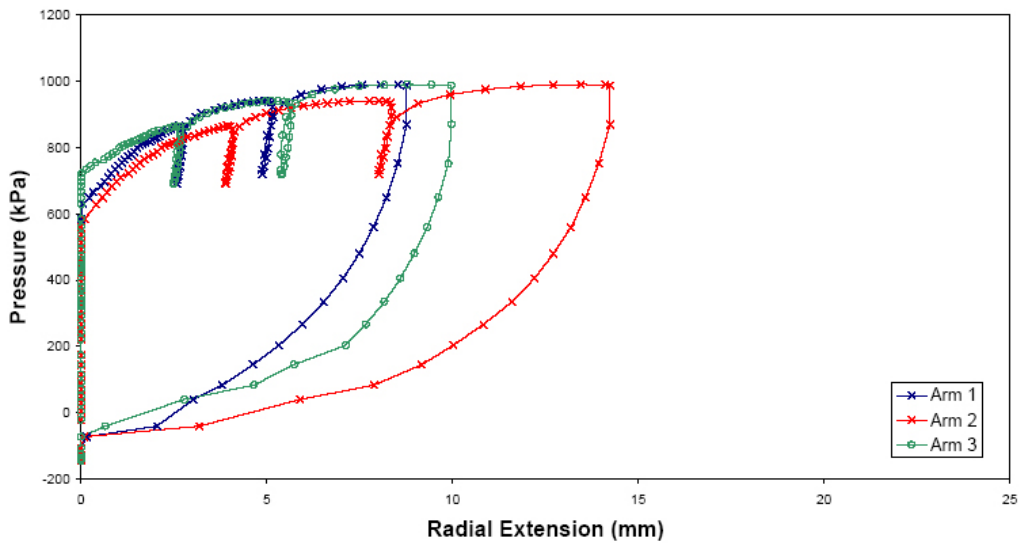
The cone pressuremeter is a device well suited to measuring both the soil and stiffness parameters. Typical test parameters obtained from the instrument include; undrained shear strength of clays and angle of internal friction for sands; and the soil stiffness, in terms of the shear modulus, G . The instrument is capable of determining G , at strain levels as low as 0.01%.

The test

A cone pressuremeter test is carried out by allowing a pause in the cone penetration test and inflating the instruments membrane with compressed gas using controlled stress and strain rates. During the test, unload-reload loops are performed to allow an assessment of the soil shear modulus to be determined.

On completion of a test the cone is advanced to the next test depth. In addition, the pressuremeter membrane can be inflated to a large radial strain, approximately 50 per cent, to ensure that the pressuremeter limit pressure is approached at full inflation.

The speed of cone penetration testing enables the cone pressuremeter to be an economical alternative to conventional self-boring and Menard type pressuremeter testing.



Lankelma Ltd makes no representation, express or implied, with regard to the accuracy of this information and cannot accept any legal responsibility or liability for any errors or omissions that may have been made.