

Electrical Conductivity Cone

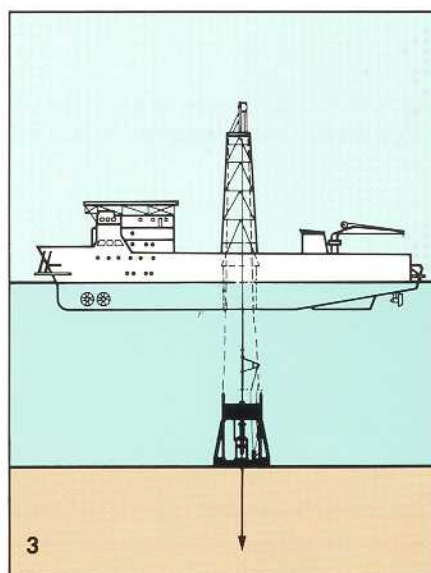
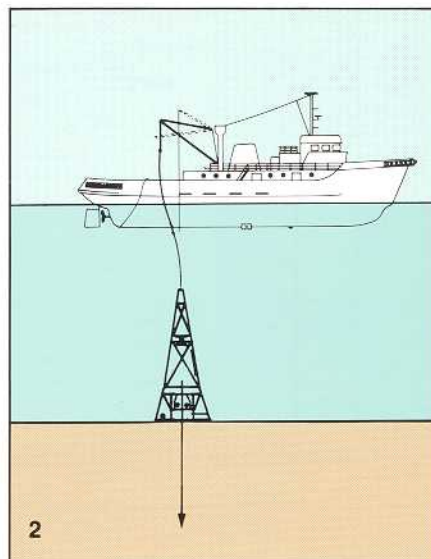
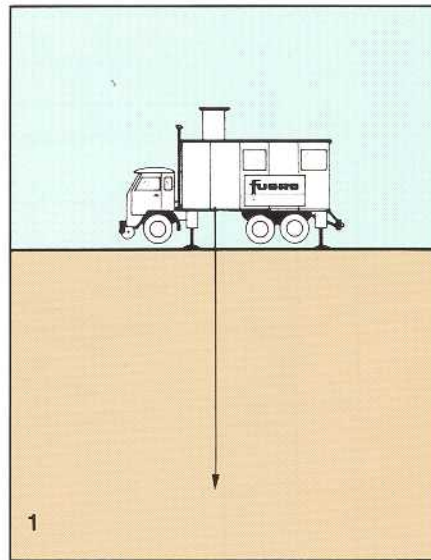


Fig. 1-On land
Fig. 2-Nearshore
Fig. 3-Offshore

Fugro has developed a cone penetrometer tip that can measure electrical conductivity as well as the standard measurements of cone tip resistance and sleeve friction.

The electrical conductivity of a soil depends on the soil type, porosity, water content and pore water composition. The combined measurements of cone tip resistance, sleeve friction, and friction ratio (the ratio of these two) and electrical conductivity, therefore provide a comprehensive picture of sub-surface soil conditions and pore water composition.

This particular type of Cone Penetrometer Test (CPT) has numerous applications, including:

PIPELINE INVESTIGATIONS

Where the electrical conductivity measurements provide data for corrosion potential determination, the cone tip resistance and sleeve friction provide information on soil type and layering, as well as shear strength or density, for use in calculations of soil-pipe interaction, bearing capacity, trenchability and scour potential.

ENVIRONMENTAL/POLLUTION INVESTIGATIONS

Where soil and ground water pollutants can be detected and their extent easily profiled. The distribution of fresh and salt ground water can also be established.

CONE SPECIFICATION

Cone base	: 1000 mm ²
Sleeve area	: 15000 mm ²
Electrical Conductivity	2 electrodes

Measuring ranges:

Cone resistance (q_c)	0 - 50 MPa
Sleeve friction (f_s)	0 - 0.5 MPa
Electrical Conductivity	: 0 - 1000 mS/m

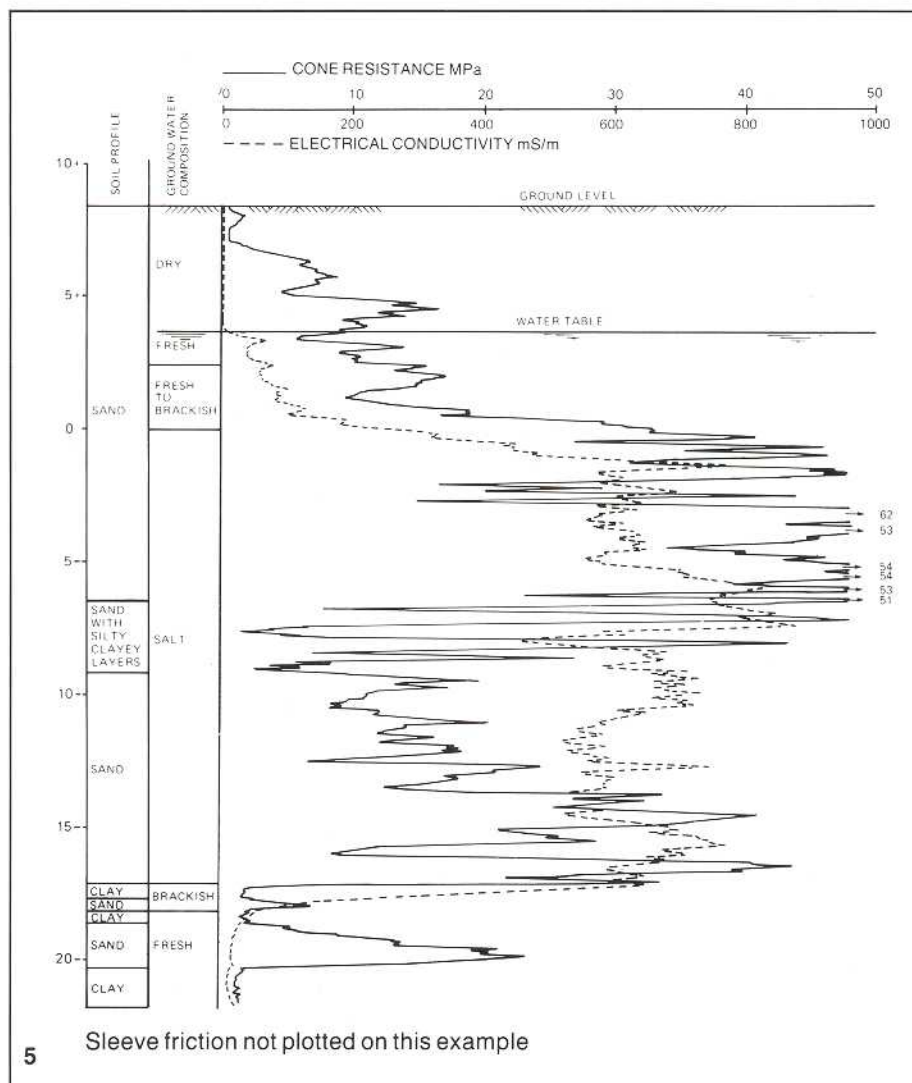
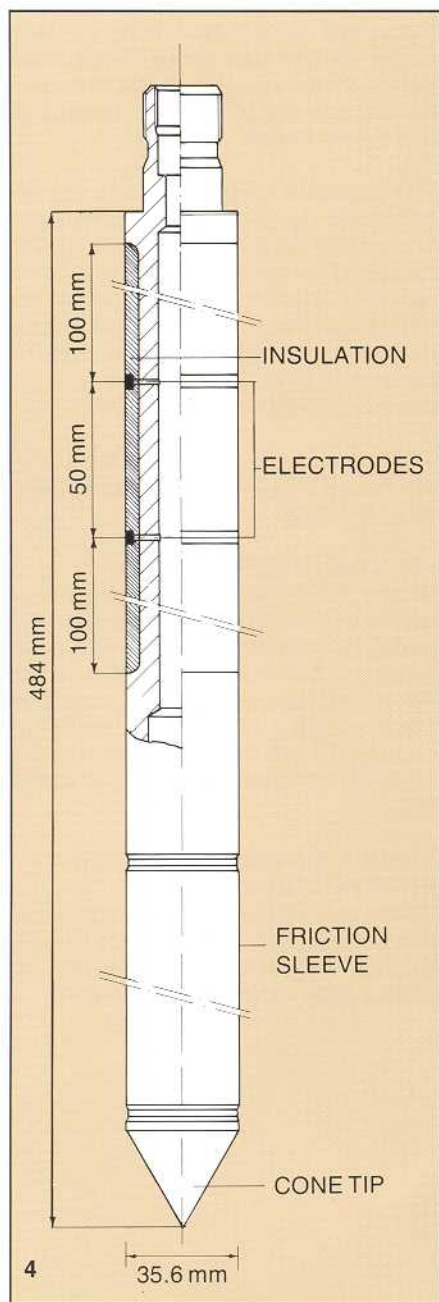


Fig. 4-Schematic drawing of electrical conductivity cone
 Fig. 5-Result cone penetration test with electrical conductivity in Dutch Dunes

The specification of the equipment in this data sheet may be subject to modifications without prior notice.

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