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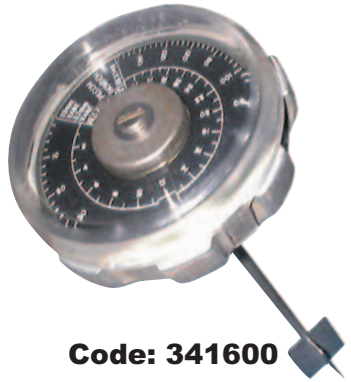
Hand Vane Soil Tester



Code: 341600

Operating Instructions

Ref:.. \operat98\instructions 19\341600.qxp 07-01-19

Hand Vane Soil Tester

Direct reading hand vane tester for quick and accurate determination of shear strength of cohesive soils.

The Hand Vane Tester is an accurate and portable instrument for the determination of in-situ shear strength of cohesive soils, either on site or on undisturbed samples in the laboratory.

The instrument comprises a torque head with a direct reading scale which is turned by hand. A non-return pointer indicates the reading.

Vanes either 19mm or 33mm diameter, with optional extension rods are screwed into the rear of the torque head and pushed at least 200mm into undisturbed clay. Extra 300mm or 1,000mm extension rods can be used for greater penetration and for gaining access to difficult or dangerous locations.

The unit has recently been adapted to show on the dial a conversion factor to B.S. 1377 Vane Test results.

Standard Supply
Transport case containing:
Vane Tester head complete with clip-on protective perspex cover.
19mm vane for 0-120kPa of shear strength
33mm vane for 0-28kPa of shear strength
Spanners and instructions
Optional Extras:
34165 - 300mm Extension Rod
34170 - 1,000mm Extension Rod

Shipping Specification:
Transport case size

Length:	330mm (13”)
Width:	260mm (10½”)
Height:	85mm (3½”)
Total Weight:	1.7kg (3¾lb) (without extension rods)
Rods:	300mm: 0.1kg
	1,000mm: 0.5kg

Operating Instruction
Remove plastic cover from instrument and screw in position the required vane spindle or, if taking tests at greater depths than 150mm, fit in the requisite number of extension rods.

The point is to be rotated clockwise until it comes to rest against the ‘dog plate’.

The instrument is then ready for use and should be forced into the clay with as little sideways movement as possible, to a depth of about 70-80cm.

Holding the instrument in one hand, revolve the head clockwise at a speed equivalent to a complete revolution in a minute. When the sample has sheared, the pointer will remain set and a reading of shear strength determined from the scale corresponding to the vane used.

The above procedure is then repeated for further testing.

The vanes and instrument after use should be wiped over with a damp cloth only to remove dust and mud. The head requires no attention as the bearings are of the oil retaining type.

Please state serial number of tester as shown on dial/DR/..... when ordering spare parts, etc.

NOTE: When coupling and uncoupling rods, always use both spanners to avoid straining the spring which could ruin the accuracy of this individually calibrated instrument.

To convert kPa to lbf.ft^2, multiply by 20.8854
To convert kPa to kgf/cm^2, multiply by 0.0102

kPa	kgf/cm^2	lbf/ft^2
1	0.01	20.89
2	0.02	41.77
3	0.03	62.66
4	0.04	83.54
5	0.05	104.4
6	0.06	125.3
7	0.07	146.2
8	0.08	167.1
9	0.09	188.0
10	0.10	208.9
12	0.12	250
14	0.14	292
16	0.16	334
18	0.18	376
20	0.20	418
22	0.22	459
24	0.24	501
26	0.27	543
28	0.29	585
30	0.31	627
32	0.33	668
34	0.35	710
36	0.37	752
38	0.39	794
40	0.41	835
45	0.46	940
50	0.51	1044
55	0.56	1149
60	0.61	1253
65	0.66	1358
70	0.71	1462
75	0.77	1566
80	0.82	1671
85	0.87	1775
90	0.92	1880
95	0.97	1984
100	1.02	2089
105	1.07	2193
110	1.12	2297
115	1.17	2404
120	1.22	2506
125	1.28	2616
130	1.33	2715
135	1.38	2820
140	1.43	2924
145	1.48	3028
150	1.53	3133