S D INSTRUMENTATION Ltd
SD Instrumentation Ltd. Registered in England No. 6174219

GOLF COURSE CLEGG IMPACT SOIL TESTER TYPE CIST/883 – Golf

Tool for Monitoring Golf Course Surface Hardness and Characteristics

Introduction: - The CIST/883 Golf Course Tester designed and manufactured by SD Instrumentation Ltd provides an easy and straightforward means for measuring the variations in strength on fairways and for helping determine the uniformity of an area. The equipment consists of a two 0.5 Kg hammer probes that operate independently within a vertical guide tube.

A golf ball size dome probe and a flat ended probe are provided with the system. The probe falls through the guide tube when released and strikes the surface under test, decelerating at a rate determined by the stiffness of the golf course surface within the region of impact.

The readout is clamped to the guide tube and the displayed reading is viewed from the top during use. Single button operation design provided for easy use.

Optional Data Logging Feature:- On board data logging and data storage with Bluetooth™ transfer are optionally supplied options for this instrument. When fitted users can download their test results from site to PC, wirelessly, using the PC software supplied.

Surface Testing:- The sports pitch or golf fairway hardness is easily measured and the results displayed and stored are useful predictors of ball bounce and roll during play. Variations in strength of the fairways may be due to construction processes such as compaction and stabilisation, environmental effects such as moisture content changes and also to compaction differences caused by a particular usage in a specific location. The Tester provides a quick and accurate method for monitoring variations in strength and for helping to determine the uniformity of an area. An example of its simplest application is to help determine soft spots or hard areas.

Operating Principle:- The Tester consists of a pair of 0.5 Kg sensor probes. The two probes are shown on the right. The top one is the domed probe whose diameter is the same as a golf ball. The lower probe has a flat face of diameter 50mm. Both probes are provided with the equipment allowing for different testing regimes. The chosen probe is placed in the guide tube and supported by the cable. When released it falls through the guide tube and strikes the surface under test, decelerating at a rate determined by the stiffness of the material within the region of impact. The readout registers the hardness values in units of Gravities (Gm). The Gm value is an indication of soil strength.

Tough Design:- The CIST/883 Clegg Impact Soil Tester is a very rugged design suitable for prolonged use in damp, dirty and harsh site environments. The CIST/883 readout unit is made from high strength alloy that has been proven to last for decades. The unit runs from 2 x AA batteries for typically 12 months operation. The CIST/883 Clegg Impact Soil Tester is a compact and reliable instrument. An aluminium Transit & Storage Case is included.

GOLF COURSE CLEGG IMPACT SOIL TESTER TYPE CIST/883 – Golf

How to Carry out a Test:- Carrying out a test is quick and straightforward. The guide tube is placed in position vertically on the surface to test. The digital readout is located on the guide tube during testing allowing easy use as there is no need to hold the readout in the hand. The probe is raised by its cable so that it reaches the top of the guide tube. The probe is then allowed to fall freely. The reading is recorded in the readout unit and displayed on the backlit display.

An example test of 107 Gm is shown being displayed by the readout in the picture below.

Results from Testing:- The stiffness - or 'hardness' of the surface as related to ball bounce and roll can be quickly established and it is easy to monitor stiffness changes due to moisture changes, grass growth and wear throughout playing seasons. Typically, readings less than **75** indicate a soft a surface and those around **100** indicate a well controlled surface for excellent ball striking and accurate play. The test data is recorded in the instrument and it is downloadable to a computer wirelessly by Bluetooth.

Specification and Ordering Code

CIST/883 Specification:-		**Order Code: CIST/883/Golf (no Bluetooth / data logging) or, Order Code: CIST/883/Golf/Stor/Blu (with optional Bluetooth / data logging)**
Model Number	:	CIST/883/Golf (no data logging) **or** CIST/883/Golf/Stor/Blu (with data logging).
Hammer Probes Provided	:	Golf:- 42.7mm diameter dome 0.5 Kg. Flat: 50mm diameter flat 0.5 Kg.
Optional Hammer Mass	:	Additional 0.5 Kg mass attachment allows 1 Kg tests to be completed.
Readout Display *(alphanumeric)*	:	Vertical display with readout clamped to Guide Tube – backlit, easy to view.
Readout Range	:	Up to 500 Gravities (Gm) in 1 Gm steps.
Power Source	:	Low power 3V: From two 'AA' batteries located in sealed compartment. 12 month typical battery life.
Battery Level	:	Displayed at switch-on.
Power 'On' & Controls	:	Single push button. Auto switch off after 5 minutes from last reading.
Data Storage in Readout (with optional Stor/Blu fitment)	:	Flash Memory for up to 10,000 test readings. Each field contains the drop Gm readings and time & date of each test.
Data Transfer Method (with optional Stor/Blu fitment)	:	Bluetooth™ Wireless data transfer. No cables & hence hassle free connection to Microsoft based PC or laptop.
Data Type when Transferred (with optional Stor/Blu fitment)	:	Comma Separated Variable (CSV) data for manipulation in third party packages such as Microsoft Excel™. 9,999 drop test storage & output.
System Software (with optional Stor/Blu fitment)	:	PC Software provided from SDi to facilitate data transfer, real time test view, time/date setting and configuration set-up. Very easy to use.
Transit & Storage Case	:	Type CIST/ATS/15. Aluminium case for added protection in transit.
Size & Weight (packed).	:	Approx: 83 x 31 x 29 cm. Weight in case approx 12 Kg.

Specifications subject to change without prior notice

SD INSTRUMENTATION (SDi)
Top Farm, Tellisford, Bath, BA2 7RL, ENGLAND
Tel : +44 (0)1373 830050
email: info@sdinst.com web:www.sdinst.com