

Consolidation

UMI - 111

Consolidation Apparatus

The standard outfit comprises of a fixed ring type of consolidometer cell for testing specimens of 60 mm dia x 20 mm thick, but the unit is so designed that specimens of varying sizes from 50 mm dia to 100 mm dia can also be tested. Besides, the same loading unit can be used with floating ring consolidometer cells, which can be supplied at extra cost.

The standard outfit is supplied with a set of weights to give a total pressure of 10 kg/cm² (besides a seating load of 0.05 kg/cm² on the specimen), but an additional set of weights are required to reach the full capacity of 20 kg/cm².

The necessary accessories to perform the permeability test of the 'Varying Head' type can also be provided at extra cost.

The outfit is also available as three-gang or six-gang in which three/six consolidometers are mounted on a single frame. The consolidation may be measured by the conventional dial gauges or using the transducers and electronic readout unit.

Electronic Measurement System

- Digital readout reduces the possibility of operator error.
- Direct reading in mm
- Plug-in transducer module system
- Facility for connecting readout unit to compatible logging or printing system
- Electronic sensing parts are easy to couple with existing UMI Models

Electronic measurement of the vertical consolidation of soil specimen, using displacement transducer connected to a precalibrated readout unit, offers a operator all the advantages of digital display without the errors which can occur when reading conventional dial gauges.

The basic equipment for monitoring a test comprises a readout unit and one transducer module for connection to one consolidation frame. Consolidation is measured by mounting the transducer in the same position as a conventional dial gauge. The movement of the transducer stem acts in exactly the same way as would the dial gauge spindle and is converted into an electrical signal. The signal is then displayed in true engineering units on the readout unit. For three gang unit or six gang unit, 3 or 6 transducer modules are used, but the readout unit is of three or six channel type. The constituents of various models are detailed in the table on the next page.





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	Single Cell	3-gang	Single Cell Electronic	Electronic System	3-gang Electronic	Electronic System
No. of Loading Units mounted on single frame	1	3	1	-	3	-
Consolidation Cell Assembly consists of the following :						
Fixed ring with Guide ring	1	3	1	-	3	-
Top Porous stone	1	3	1	-	3	-
Bottom Porous stone	1	3	1	-	3	-
Pressure Pad	1	3	1	-	3	-
Channelled base with water inlet	1	3	1	-	3	-
Gasket	1	3	1	-	3	-
Water Jacket	1	3	1	-	3	-
Set of weights : $7 \times 0.05 \text{ kg/cm}^2$ $5 \times 0.1 \text{ kg/cm}^2$, $6 \times 0.2 \text{ kg/cm}^2$ $6 \times 0.5 \text{ kg/cm}^2$, $5 \times 1.0 \text{ kg/cm}^2$	1	3	1	-	3	-
Water Reservoir with plastic tube, T - connection and a pinch cock	1	3	1	-	3	-
Dial Gauge, 12 mm travel, 0.002 mm least count	1	3	-	-	-	-
Electronic Instrumentation System						
Transducer Module complete with mounting bracket			1	1	3	3
Readout Unit, Single channel			1	1	-	-
Readout Unit, Three channel			-	-	1	1