



ACE – Automatic Computerized Oedometer

Standards: [BS 1377-5](#), [ASTM D2435](#), [ASTM D3877](#),
[ASTM D4546](#), [AASHTO T 216](#), [NF P94-090-1](#), [NF P94-091](#),
[UNE 103-405](#), [UNE 103-602](#)



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Description

Automatic Computerized Oedometer allows determines the rate and magnitude of consolidation of a soil specimen restrained laterally and subjected to a number of successive increments of vertical loads. In this automatic model, the incremental loading, in the load (stress) or swelling (strain) mode, is fully automatic for a practical and accurate test execution with more reliable test results. The [ACE](#) unit, the SHEARMATIC Automatic shear testing machine and AUTOTRIAX Automatic triaxial test systems, are the unique equipment for the complete automation of a CST (Consolidation, Shear, Triaxial) Soil Mechanics laboratory in the different configurations.

The ACE, Automatic Computerized oedometer, consists of a small and compact load frame housing two coaxial pneumatic cylinders: the smallest one for low loads and the other for higher loads, with automatic switch off from one to the other when needed. The load is controlled by a high precision pneumatic servo-valve. Two analogue channels: one for the displacement transducer and the other for the load cell with closed loop feedback control. The test end can be programmed on a time or on a step bases. The software can control from a single PC, up to 60 ACE units enabling the operator to choose from single to multiple control.



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Test parameters are previously specified by the operator and set in the ACE software. Test results are recorded and displayed in real time on the PC and calculation are performed automatically. The test data can be processed by one of the Geo-Analysis Templates conforming to the BS or ASTM Standards.

The frame can accept all standard consolidation cells: from 50.47 to 112.80 mm dia. Consolidation cells, Geo-Analysis templates and test software not included. See accessories. PC not included.

Main Features

- PC controlled fully automatic test execution
- Pneumatic system for incremental consolidation and one-dimensional swell tests
- Performance of 24 hours 7 days tests without interruption and greater through output of tests with a considerable cost decrease
- To avoid the negative environmental discrepancies as operator errors, non-calibration etc.
- 15 kN max. capacity, 10 mm travel displacement transducer
- Real time data and graph display
- Single ACE software controlling up to 60 units
- Test management software supplied including calibration menu
- High speed LAN network communication



Technical Specifications

NG-ACE	
Maximum Vertical Load	15 kN
Load Cell Cap	15 kN
Displacement Transducer	10 mm maximum travel
Maximum Air Pressure Supply	10 bar. If the air pressure line is not available in the laboratory, our Air compress model NG-D2015, 50L capacity may be used
Sample Dimensions	From 50.47 to 112.8 mm diameter using our consolidation cells. See accessories
Software	Can control up to 60 ACE units (not included, see accessories)
PC Connection	LAN Connection to PC
Test Data Accuracy	±1%
Overall Dimensions	11" x 11.8" x 23.6" / 28 x 30 x 60 cm
Approximate Weight	56lbs / 25 kg

Consolidation Cells

To perform either standard or permeability testing:

Model	Specimen Dia. x Height [mm]	Specimen Area [cm ²]	Cell Dimension Dia. x Height [mm]	Weight [kg]	Calibration Disk
NG-WF0320	50.47 x 20 mm	20 cm ²	139 x 74 mm	1.3 kg	NG-WF0320/9
NG-WF0321	63.50 x 20 mm	31.67 cm ²	139 x 74 mm	1.3 kg	NG-WF0321/9
NG-WF0325	71.40 x 20 mm	40 cm ²	139 x 74 mm	1.3 kg	NG-WF0325/9



Model	Specimen Dia. x Height [mm]	Specimen Area [cm ²]	Cell Dimension Dia. x Height [mm]	Weight [kg]	Calibration Disk
NG-WF0326	75 x 20 mm	44.16 cm ²	139 x 74 mm	1.3 kg	NG-WF0326/9
NG-WF0335	112.80 x 25 mm	100 cm ²	200 x 74 mm	3 kg	NG-WF0335/9

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