

Achieve new levels of

Flexibility, Simplicity & Accuracy in Consolidation Testing

- ▶ Automatic – reduces testing time
- ▶ No compressor – stepper motor improves accuracy across entire 15 kN load range
- ▶ Variable speed to suit sample type
- ▶ Multi language
- ▶ 7" waterproof, color, graphical touchscreen
- ▶ Ability to include manual Consolidation Frames
- ▶ Change target loads during a test
- ▶ Flexible reports
- ▶ Save configurations for easy set-up of multiple cells and repeat tests
- ▶ Compatible with latest DS8 software



New

SoilTest PRO Range
AUTO Soils Consolidator (ASC)

Designed and engineered for geotechnical laboratories to deliver new levels of efficiency in testing procedures.

Consolidation testing

Compressible soils can be subject to long-term consolidation under the loads imposed by foundations and above ground structures. Settlement may occur even if the applied pressure is within the safe bearing capacity of the soil, so it is important to understand this key soil property, particularly if the settlement characteristics beneath an individual structure vary.

The one-dimensional consolidation test is the most common, and sometimes referred to as the oedometer or incremental loading oedometer test. Radially constrained samples are loaded in a sequence starting with a stress close to the over burden pressure of the sample. The loading is then doubled for each stage; typically 4 or 5 times, with a final unloading sequence.

The advantage of automatic over manual

Traditional consolidation frames load the specimen through a yoke assembly and one of three alternative beam ratios. Different loads are applied manually by adjusting weights, but this is a time-consuming activity and creates an opportunity for human error.

The AUTO Soils Consolidator will minimize staff involvement in test procedures while complying with the requirements of international standards, producing accurate, reliable, flexible reports.

The AUTO Soils Consolidator is fully automatic and runs a full consolidation test without user intervention, which saves valuable time. A built-in electronic stepper motor ensures precise control of loading over the entire 15 kN range.

This design improves the accuracy of loading and avoids the need for a compressor. Importantly, each AUTO Soils Consolidator can also be linked to two external manual consolidation frames, which is an advantage for laboratories wishing to upgrade their consolidation test capability, without making their manual frames redundant.

A large waterproof color touchscreen with high-definition display provides tabular displays of logs and calculations, as well as user-defined views. The display is available with four languages (English, Spanish, Portuguese and French), making it user-friendly and accessible to a wide audience.

AUTO Soils Consolidator customer benefits

- Fully automatic – reduces testing time
- Compact footprint – saves laboratory space
- Save configurations for easy set-up of multiple cells and repeat tests
- Control up to 16 AUTO Soils Consolidator machines from one PC – improves laboratory efficiency
- Ability to include manual consolidation frames – avoids redundancy
- Wide range of sample cells
- Complies to the following standards:
 - ISO 17892-5 (BS 1377-5)
 - ASTM D2435/ D2435M
 - ASTM D4546
 - AASHTO T216
 - Geospec 3

AUTO Soils Consolidator features

- Available in one universal model 90-240 V AC, 50-60 Hz, 1 ph
- 7" waterproof, color, graphical touchscreen
- Multi language
- No compressor – stepper motor improves accuracy across entire 15 kN load range
- Variable speed to suit sample type
- Can change target loads during a test
- Flexible reports
- Compatible with 15 kN S Type Load Cell, 15 mm Displacement Transducer and DS8.0 Consolidation software*

ISO 17892-5 (supersedes BS 1377-5)

Incremental loading oedometer test

ASTM D2435/D2435M

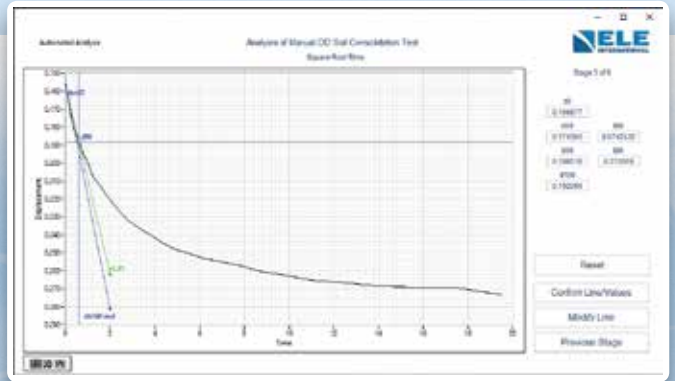
Standard test methods for one-dimensional consolidation properties of soils using incremental loading

ASTM D4546

Standard test methods for one-dimensional swell or collapse of cohesive soils

AASHTO T216

One-dimensional consolidation properties of soils



Automatic Test Management with the latest DS8 software

The AUTO Soils Consolidator has been launched alongside the latest version of ELE's DataSystem soil test management software which is loaded with the current ISO, BS, ASTM and AASHTO standards, and is compliant with Windows 10.

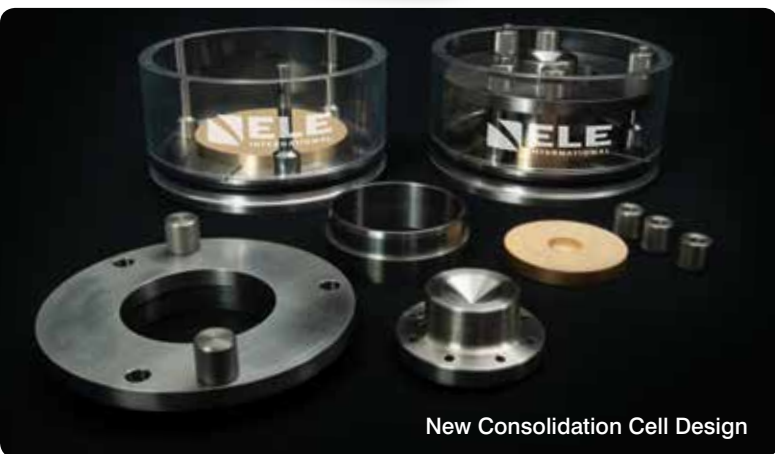
By automating the test procedure, DS8 lowers the cost of testing and frees staff time for other work. For example, manual systems rely on a user being available immediately when each step is completed, which causes inevitable delays. The AUTO Soils Consolidator also speeds up test times by simplifying the set-up procedure; intuitively guiding the operator through the procedure, ensuring that the correct standard is applied and that the set-up is appropriate for the sample and cell. Loading and unloading increments can be defined by users and configuration templates can be stored so that subsequent tests can be set up quickly and easily.

With Ethernet connectivity, DS8 is able to manage up to 16 machines simultaneously, so with a small footprint it is simple to set up and run a comprehensive geotechnical testing facility in a small laboratory. This connectivity also enables users to monitor tests remotely 24/7, and also provides an opportunity for remote service diagnostics.

Real-time graphical outputs are available in the DS8 software, and operators now have the ability to make changes to tests as they proceed; target loads for subsequent stages can now be changed after a test has started, without having to restart the test from the beginning.

The reporting capability of DS8 has been significantly expanded over previous versions. For example, users now have the ability to select consolidation plots to be included in the report, and templates can be slightly modified with results presented in a customizable pdf format.

*15 kN S Type Load Cell, 15 mm Displacement Transducer and DS8.0 Consolidation software are not included with the AUTO Soils Consolidator and need to be purchased separately.



New Consolidation Cell Design

AUTO Soils Consolidator Specifications

Frame capacity	15 kN	
Travel (mm / inches)	15 / 0.6	
Standards	BS 1377-5, superseded by ISO 17892-5 ASTM D2435/D2435M, AASHTO T216, ASTM D4546	
Available Cell sizes	mm	35 / 50 / 70 / 75 / 100 / 112.8
	inches	2 / 2.416 / 2.5 / 3 / 4
Maximum sample size (mm / inches)	≤ 112.8 / 4.4	
Maximum piston travel (mm / inches)	26 / 1	
Speed (mm / inches)	10 / 0.4 per minute	
Fast approach speed (mm / inches)	40 / 1.6 per minute	
Maximum number of units per PC	16	
Unit display	High resolution, 7" colour	
Dimensions (mm / inches)	290 x 360 / 11.4 x 14.2	
Weight (kg / lbs)	32 Kg / 70.5	
Clearance Vertical/Horizontal (mm / inches)	270 / 220	10.6 / 8.7
Power supply	90 - 240 V AC, 50-60 Hz, 1 ph	

Ordering Information For AUTO Soils Consolidator

Product Code	Product
25-0500/09	AUTO Soils Consolidator (ASC)
27-1565	15 kN S Type Load Cell (lead 0.7 m / 27.6 inches)
27-1650	15 mm Displacement Transducer (lead 0.7 m / 27.6 inches)
27-1873	DS8.0 One-Dimensional Consolidation Program

Consolidation Cell Range		Spares For Consolidation Cells			Standards	
Product Code	Cell Size	Cutting Ring	Lower Porous Disc	Upper Porous Disc		
25-0444	35 mm	25-0444/12	25-0444/11	25-0444/10	ISO 17892-5, BS 1377-5 ASTM D2435	
25-0446	50 mm	25-0446/12	25-0490/11	25-0455/10		
25-0466	70 mm	25-0466/12	25-0469/11	25-0466/10		
25-0467	75 mm	25-0467/12	25-0469/11	25-0503/10		
25-0510	100 mm	25-0510/12	25-0520/11	25-0510/10		
25-0520	112.8 mm	25-0520/12	25-0520/11	25-0520/10		
25-0499	2 inch	25-0499/12	25-0490/11	25-0499/10		
25-0489	2.416 inch	25-0489/12	25-0490/11	25-0489/10		
25-0490	2.5 inch	25-0490/12	25-0490/11	25-0479/10		
25-0469	3 inch	25-0469/12	25-0469/11	25-0469/10		
25-0459	4 inch	25-0459/12	25-0520/11	25-0459/10		
25-0449	70 x 19 mm	25-0449/12	25-0469/11	25-0466/10		Geospec 3

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