

PROETI

SOILMATIC EDO

Advanced Automatic System for Soil Consolidation Testing

The SOILMATIC EDO is a high-performance automated system, engineered for contemporary laboratories requiring precision, efficiency, and full automation in soil consolidation testing. This advanced system eliminates manual intervention, ensuring highly accurate and controlled load application. Its electromechanical servo-actuation technology enhances load and displacement uniformity, guaranteeing reliable, repeatable, and consistent test results.



✓ **Fully Automated:**
Enhanced Precision, Reduced Testing Time

The system performs the entire test fully automatically, significantly reducing time while ensuring high precision and repeatability. It eliminates the need for manual intervention, delivering reliable and consistent results while minimizing human error.

✓ **Precision Assurance:**
Vertical Load Application in compliance with Standards

Guarantees the precise and uniform application of vertical load, ensuring that the load is applied strictly in a top-down direction, in full compliance with relevant standards, thereby ensuring the accuracy and reliability of the testing process.

✓ **Productivity and Flexibility:**
Compact and Modular Design

Provides a highly productive and flexible solution with a compact design that minimizes laboratory space usage. Additionally, its modular architecture allows for future expansion by connecting multiple units, further enhancing laboratory productivity.

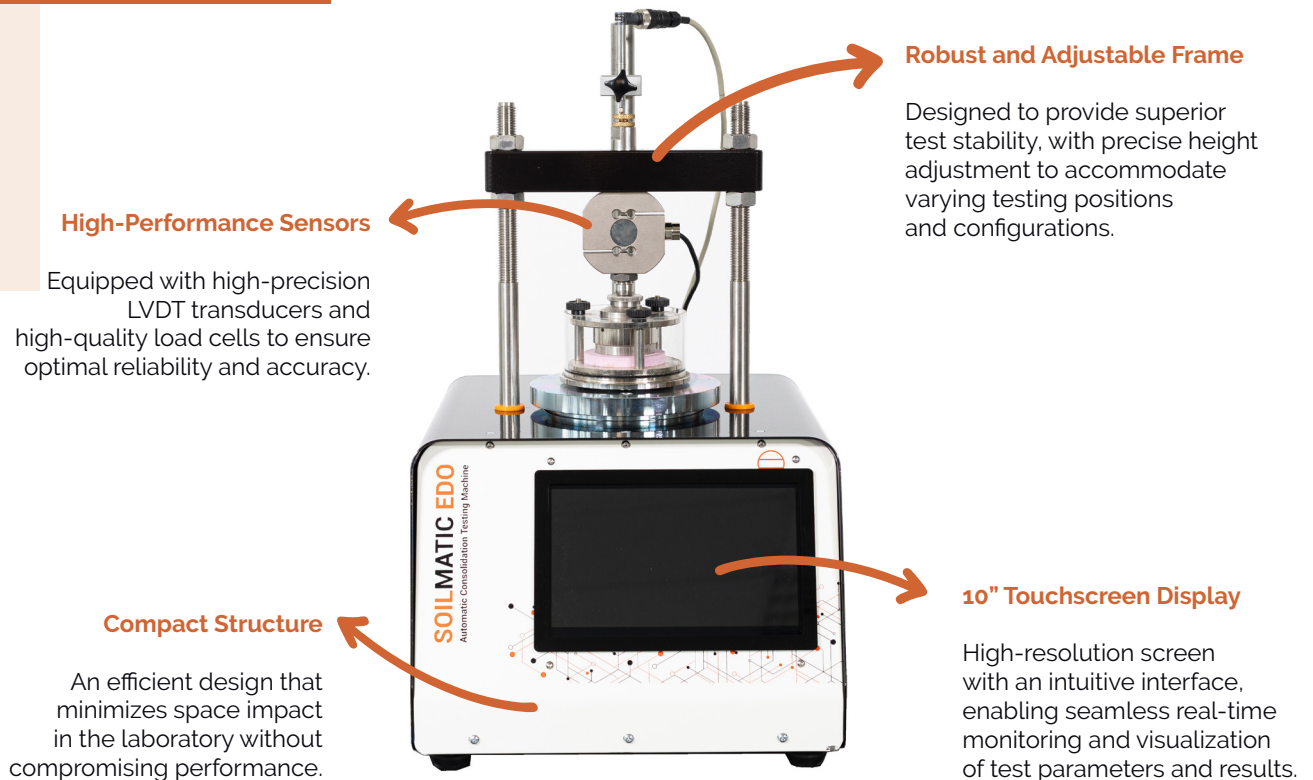
✓ **High Sustainability:**
Quiet Operation and Simplified Installation

Incorporating a state-of-the-art electromechanical system, it eliminates the need for dead weights and large air compressors, thereby substantially reducing acoustic emissions within the laboratory. This advanced technology minimizes maintenance requirements and offers straightforward installation, optimizing spatial efficiency.

✓ **Optimized for Research: Load Capacity up to 50 kN and Sample Diameter up to 200 mm**

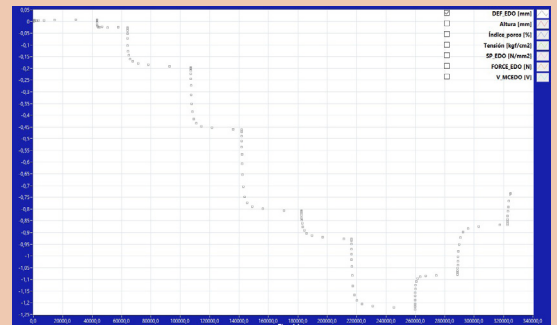
Supports loads up to 50 kN, facilitating tests on samples with diameters up to Ø200 mm, thereby enhancing sample representativeness. This configuration is ideal for research and development (R&D) laboratories and academic institutions that require high flexibility and precision in their testing procedures.

SUPERIOR QUALITY DESIGN: PRECISION ENGINEERING AND HIGH-QUALITY COMPONENTS



EDS 2.0 SOFTWARE

We present the latest version of Soilmatic software for soils: EDS 2.0. Developed by Proeti, EDS 2.0 represents the culmination of over 30 years of expertise in advanced material testing. This upgraded version refines the user interface, optimizes the configuration process, and introduces advanced features that enhance automation capabilities and enable in-depth data analysis



Enhanced and Intuitive Interface

The EDS 2.0 version features an optimized, user-centric interface with streamlined menus and advanced visual enhancements, enabling rapid and efficient test configuration and setup.

Data Storage and Analysis

All results are automatically recorded and stored. Additionally, graphs and data can be easily exported to Word or Excel files for further detailed analysis.

Real-Time Calculation

Test parameters, including the t_{100} value (primary consolidation), are automatically calculated in real time, enhancing the efficiency of data analysis and evaluation while ensuring accuracy and minimizing processing time.

Enhanced Automation

The system automates the progression of tests between load stages, optimizing productivity and reducing risk by eliminating the need for operator intervention.

Regulatory Compliance and Customization

Ensures compliance with the highest international standards. Additionally, EDS 2.0 allows users to customize tests and calculations according to specific requirements.

Centralized Management

The software supports the simultaneous control and monitoring of multiple units from a single PC, enhancing laboratory workflow efficiency and maximizing operational capacity.

ADVANCED GEOTECHNICAL TESTING VIA SOFTWARE AND AUTOMATION

The machine's integrated software facilitates the efficient and precise execution of a wide range of geotechnical tests. By automating the entire process, manual intervention is eliminated, optimizing testing time and reducing the potential for operator error. This integration of advanced technology and automation not only accelerates test workflows but also ensures high-accuracy results, enabling expedited and in-depth analysis of soil properties.

Incremental Load Test BS 1377:5 | ASTM D2435 | EN 17892:5

This test quantifies the compression behavior of soil under successive load increments, with the application of lateral confinement and axial drainage. It is a critical procedure for determining the soil's bearing capacity and consolidation coefficient. The test is fully automated through an advanced software platform, which enhances the precision of parameter calculation, such as the t_{100} value, and improves the overall test control and accuracy, exceeding the automation levels specified by the standards.

Collapse Test UNE 103-503 | ASTM D3877

This test is essential for evaluating the behavior of expansive soils under loading or saturation conditions, by measuring the potential for structural collapse. Through automation, the software continuously calculates and records volumetric variations, providing real-time data and improving both test precision and operational efficiency.

Swelling Pressure Test UNE 103-503 | ASTM D4546

This test evaluates the volumetric expansion of expansive soils, such as clays, when subjected to water saturation. The test measures the swelling pressure, which is the force required to prevent further volume increase. It is critical for assessing the potential impact of swelling on structures. The automation integrated into the process ensures that measurements are both precise and reproducible, providing critical data for designing foundations on expansive soils.

Free Swelling Test UNE 103-405 | ASTM D4546 | NF P94-090-1

In contrast to the swelling pressure test, which measures expansion under controlled pressure, the free swelling test assesses the soil's expansion response under vertical pressure alone. The EDS 2.0 software automates this procedure, offering precise control and real-time calculation of the soil's behavior, enabling a detailed understanding of expansive soil dynamics under in-situ conditions.

Unconfined Compression Test ASTM D2166

This test evaluates the unconfined compressive strength of a soil specimen, determining its ability to resist vertical loading without the application of lateral confinement. It is a fundamental test for determining the mechanical properties of soils, ensuring their suitability for supporting vertical loads in construction and foundation applications.

Lambe Test UNE-103600

This test establishes the relationship between soil density and moisture content to determine the optimum moisture content for compaction. It is an essential procedure in geotechnical engineering, ensuring that soils are adequately compacted to support structural loads, prevent excessive deformation, and maintain stability in foundational and pavement engineering.