

S0125/SM - Automated system for direct shear test. SOILMATIC

Proetisa's automated direct shear apparatus is a universal shear system capable of performing the consolidation, drained and undrained direct shear or residual shear stages in a completely automated way.

The system consists of a PC controlled desktop unit with PID control to accurately apply vertical and horizontal loads to the soil sample to be tested.

The standard system is delivered together with 5 kN force transducers for horizontal loads and 5 kN force transducers for vertical loads. Both can be easily replaced by another one with more or less capacity, as needed.



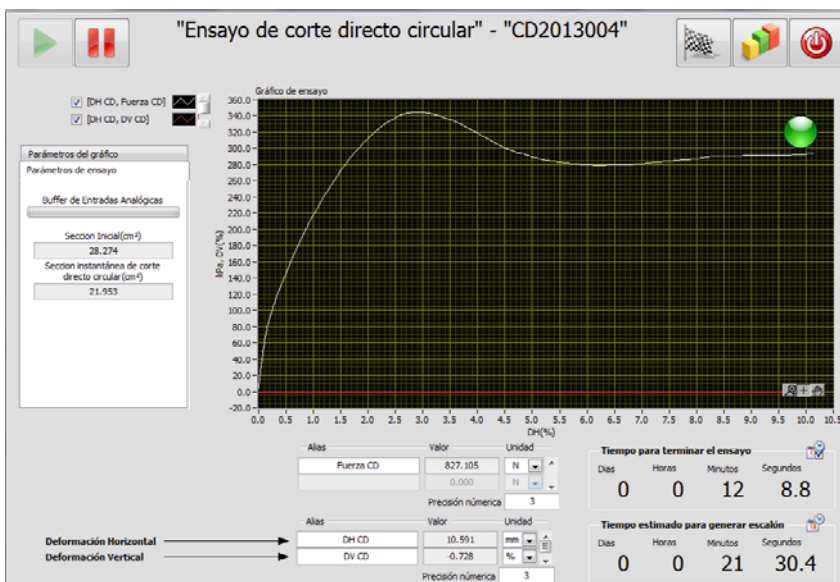
This system can perform the consolidation stage defining as many load increments as desired and in a completely automated way. If desired, you will be able to calculate the appropriate shear velocity for the material to be tested using the consolidation curve.

The system displays real time graphs with force, horizontal and vertical strain values, as well as applied load.

Set point de velocidad HV (mm/min)	0.000000
Set point de distancia recorrida HV (mm)	0.000

Salidas Analógicas		Contadores de Salida	
Nombre del canal	VELO_P		
Alias del motor	P TRX		
Velocidad del motor(mm/min)	0,000000		
Distancia relativa a recorrer(mm)	0,000000		
		<input type="button" value="GO"/>	

Automated or manual operation of all options. Consolidation, Drained or Undrained Direct Shear tests.



* Different capacities are available to meet the needs of our customers, models 2, 5 and 10 kN.

* Totally automated for data acquisition thanks to EDS software.

* Test are automatically carried out from beginning to end.

* Post-analysis EDS Software generates high quality real time charts and graphs that can be exported even during the test, if desired.

If the option "events" is activated, additional readings of force and deformation will be recorded.

Features and advantages

It is possible to choose between several load capacity ranges from 1kN to 20kN. The system is delivered together with the requested force transducers.

Automated or manual operation of all options. Consolidation, Drained or Undrained Direct Shear tests.

EDS Software displays real time graphs with test data and stores them for later processing and analysis, both graphic and numeric.

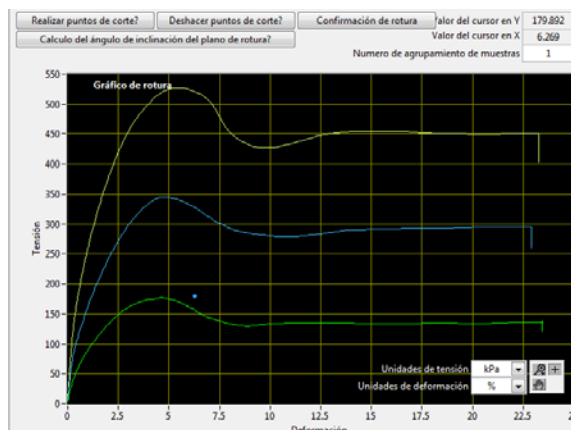
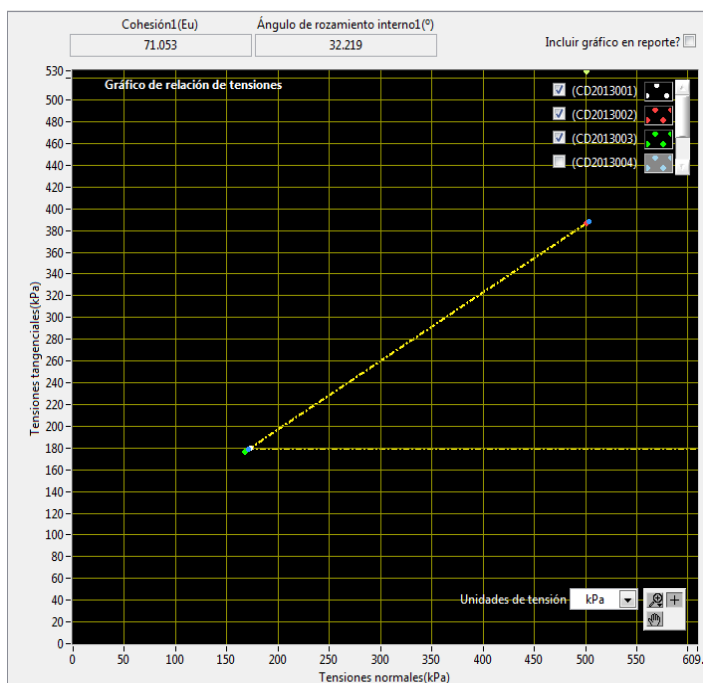
EDS Software makes possible to calculate the appropriate shear velocity for the material to be tested after the consolidation stage is completed.

Remote access to control the system wherever you are.

Stored graphs and data can be exported to Excel for later processing.

Word format report creation

Selectable velocity from 0.000005 to 9.8 mm/min. Speed ranges can be increased or decreased.



Graphic - Tension vs deformation

Vertical Tension vs Horizontal Tension

STANDARD TEST METHOD

UNE 103401, ASTM D 6528, ASTM D3080/T236, ASTM D2435/T216

TECHNICAL FEATURES

CAPACITY: The standard system is delivered together with a 5kN. Transducer. This can be replaced by a lower or higher capacity one up to 20kN

VERTICAL MOTOR: Motor with PID controlled vertical load

HORIZONTAL MOTOR: Motor with PID controlled horizontal load

VELOCITY RANGE: 0.000005 a 9,8 mm/min

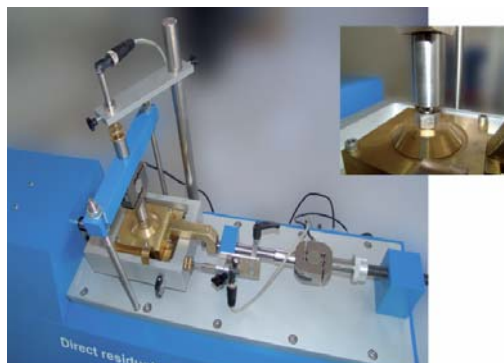
HORIZONTAL STROKE: 0 - 25 mm

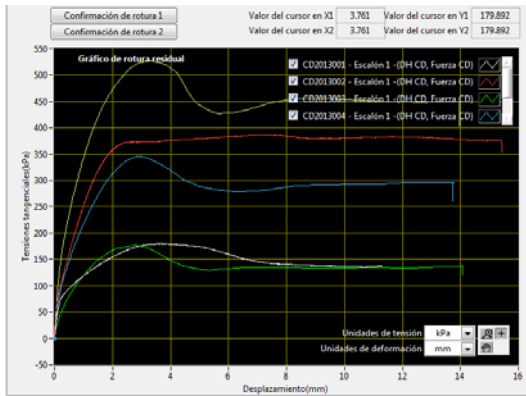
VERTICAL STROKE: 20 mm

POWER SUPPLY: 110/220 V, 50/60 Hz, One phase

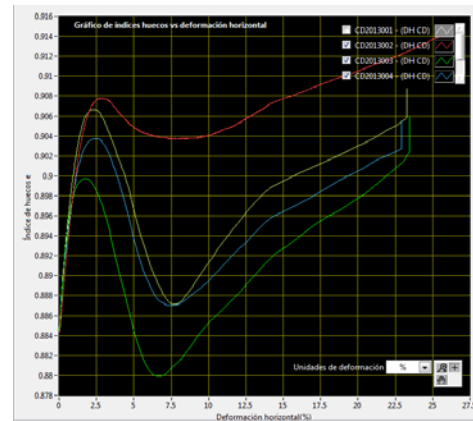
DIMENSIONS: 1000 x 450 x 800 mm

WEIGHT: 120 kg

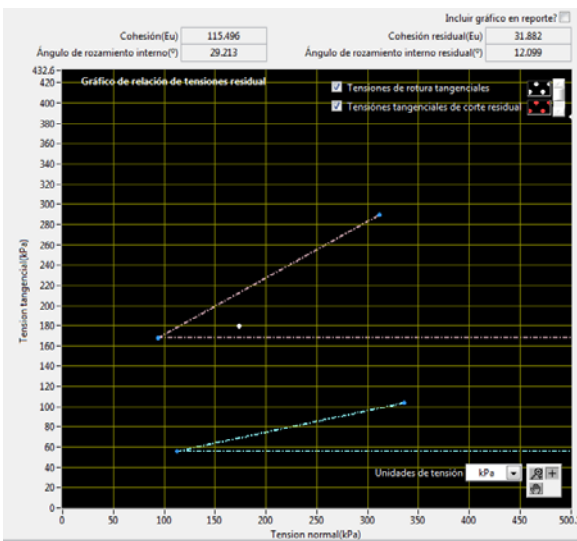




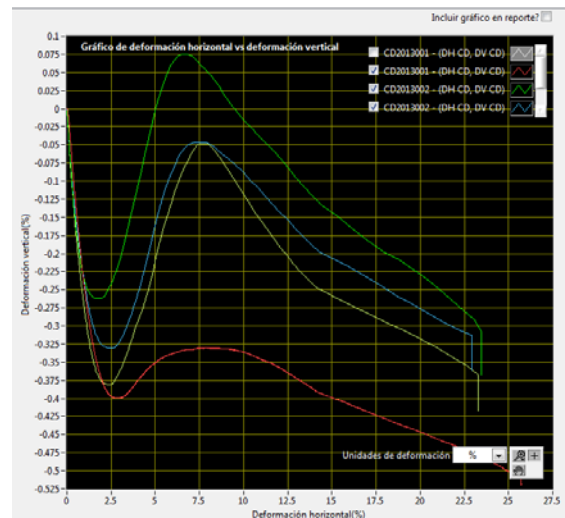
Graphic - Tension vs deformation (residual)



Graphic - Index "e" vs deformation



Vertical tension vs horizontal tension



Vertical def. vs horizontal def.

EDS software allows you to:

- View test performance on the PC screen in real time.
- Analyze test results with post analysis software.
- Directly print reports with Word o export them to Microsoft Excel
- Software A.I. allows you to pause and resume a test or to easily carry on with it after a power cut.
- The system displays total test duration and remaining time to completion.
- If desired, the system will automatically finish tests.

With a single PC, you will be able to control as many Shear Test Systems as you wish. Software will control all the devices connected to the PC in an independent, automatic and simultaneous way.

MODELS:

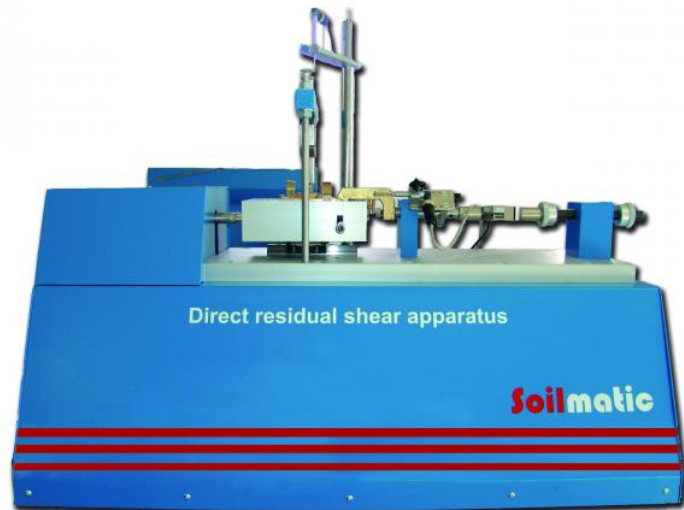
S0125/SM/2	Automated system for direct shear test 2 kN
S0125/SM/5	Automated system for direct shear test 5 kN
S0125/SM/10	Automated system for direct shear test 10 kN

S0125/SM/VC - Automated system for direct shear test. SOILMATIC VC

Horizontal shearing can be applied at a specified rate of deformation or at a specified rate of horizontal force change.

Proetisa's automated direct shear apparatus is a universal shear system capable of performing the consolidation, drained and undrained direct shear or residual shear stages in a completely automated way.

Constant volume condition during the shear



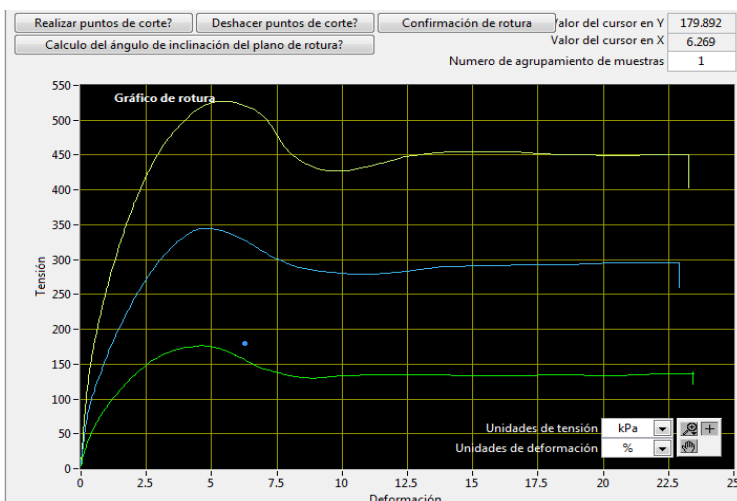
The Automated system for direct shear test is a universal shear system capable of performing the consolidation and shear phases of a direct simple shear test under full automatic control.

The direct simple shear device is a way to measure undrained shear strength of soils that reflects the average shear strength mobilized in the field during failure of embankments on soft soil foundations and deep excavations in clay. The test generates a fairly homogeneous state of shear stress throughout the specimen, which provides initial stress condition, stress path, and deformation configuration that models numerous field loading conditions more closely than any other test systems such as triaxial.

The system consists of a computer-controlled unit that utilizes motors to apply the vertical and horizontal loads to the soil specimen.

The system is capable of running a consolidation phase automatically.

Horizontal shearing can be applied at a specified rate of deformation or at a specified rate of horizontal force change. The constant volume condition during the shear is maintained through a closed loop computer control with the vertical displacement sensor as the feedback. The system is capable of displaying the current status of a test and graphically portraying the progress of the test in real time. The system includes the capability for the operator to alter the test process and conditions at any stage of the test.



STANDARD TEST METHOD

ASTM D 6528 and ASTM D2435/T216

Models

- Soilmatic 2.5 - 2,5 kN
- Soilmatic 5 - 5 kN
- Soilmatic 10 - 10 kN

Features and advantages

It is possible to choose between several load capacity ranges from 1kN to 20kN. The system is delivered together with the requested force transducers.

Automated or manual operation of all options. Consolidation, Drained or Undrained Direct Shear tests.

EDS Software displays real time graphs with test data and stores them for later processing and analysis, both graphic and numeric.

EDS Software makes possible to calculate the appropriate shear velocity for the material to be tested after the consolidation stage is completed.

Remote access to control the system wherever you are.

Stored graphs and data can be exported to Excel for later processing.

Word format report creation

Selectable velocity from 0.000005 to 9.8 mm/min. Speed ranges can be increased or decreased.

Horizontal shearing can be applied at a specified rate of deformation

Horizontal shearing can be applied at a specified rate of horizontal force .

Constant volume condition during the shear

TECHNICAL FEATURES

CAPACITY: The standard system is delivered together with a 5kN. Transducer. This can be replaced by a lower or higher capacity one up to 20kN

VERTICAL MOTOR: Motor with PID controlled vertical load

HORIZONTAL MOTOR: Motor with PID controlled horizontal load

VELOCITY RANGE: 0.000005 a 9,8 mm/min

HORIZONTAL STROKE: 0 - 25 mm

VERTICAL STROKE: 20 mm

POWER SUPPLY: 110/220 V, 50/60 Hz, One phase

DIMENSIONS: 1000 x 450 x 800 mm

WEIGHT: 120 kg

MODELS:

S0125/SM/VC/2	Automated system for direct shear test 2,5 kN
S0125/SM/VC/5	Automated system for direct shear test 5 kN
S0125/SM/VC/10	Automated system for direct shear test 10 kN