



## Universal Testing Machine, automatic, 500 kN tension / 1000 kN compression

Code: 36-1415/01

Product Group: [Industrial Universal Testing Machines](#)

The Automatic Universal Testing Machine has been designed to meet the need for reliable and consistent tensile testing of steel rebars up to 22 mm diameter and compression testing of concrete cube samples up to 150 mm and cylinders up to 160x320 mm.

This lightweight low cost and highly accurate machine is suitable for on-site testing and educational purposes. It features the complete automatic test cycle with a closed loop digital readout. Once the specimen parameters have been introduced, it is sufficient to press the START button to complete the test.

The test machine consists of three main parts: Frame, power pack and data acquisition & control system. On the measuring system, a pressure transducer is used for load measurements and a Linear Potentiometric Displacement Transducer is used for strain measurements. Each part has been designed to manufacture machines with a high degree of mechanical stability that complies to BS 1610, ASTM C-39, E4 AASHTO T-22, NF P18-411, DIN 51220 (with suitable platen set) standards.

### FRAME:

The load frame is a welded steel fabrication carrying the ball-seated upper platen or the universal grip assembly. Positively located on the loading ram which is protected from debris by a cover, the lower platen is marked for the centering of cube and cylinder specimens. The dimensions of the frame allow the tension tests on steel rebar up to 22 mm dia., and flat specimens up to 15mm thick and 50mm wide, compression tests on concrete cylinders up to 320 mm long x 160 mm diameter and cubes up to 150 mm. The machine is supplied complete with 5 pcs. 90 mm x Ø165, 2 pcs. 50 mm x Ø165 and 2 pcs. 30 mm x Ø165 distance pieces. To test samples shorter than 150 mm extra distance pieces should be ordered. The frame has a double acting piston with over travel protection to stop the motor when the maximum platen or grip travel is reached.

### SOFTWARE:

The Automatic Compression and Tensile Testing machine can be controlled (Start, Stop commands) by a computer with the software. This software provides data acquisition and management for compression, tensile and splitting tensile test throughout the test execution. The advanced functions for data base

management provides an easy navigation of all saved data. The test results certificate includes all descriptive information. Therefore, test parameters can be set and details about the test carried out such as client details, test type, specimen type, user info and other information required can be entered and printed out as well as test report and graph.

Tests that can be done using the software:

- Compressive Strength of Concrete Cylinders or Cubes
- Tensile Splitting Strength of Concrete Cylinders or Cubes
- Tensile Splitting Strength of Concrete Paving Blocks
- Compressive Strength of Hydraulic-Cement Mortar
- Tensile Test of Reinforcing Ribbed Steel Bars

Foreign Language Support and Customizable User Interface All contents of experimental data and additional information can be organized by user. Software can be performed in different languages.

Capability to Save 24 test results of different specimens in one test folder Test results, graphics and properties of 24 different specimens can be saved in one folder. Old test folders can be reviewed and be edited easily. Advanced Graphic User Interface Software.

Graphical data on the screen is refreshed simultaneously during test procedure Load values can be monitored in high resolution graphics at every 100 milliseconds. User can highlight all 24 different specimen curves or preferred ones in different colors on the graphics. Zooming in-out and dragging can be done easily by mouse. Peak values of curves can be marked on the graphics and user can get load value of any point on the graph via high resolution.

Able to save frequently used texts in memory and recall them when necessary frequently used information like name and location of the laboratory, type and dimensions of mostly used specimens are held in memory and can be written automatically by right clicking on information boxes and selecting frequently used text in menu.

Capable to access and use previously done test data user can access any data of previously completed tests and use in his/ her new report since most of the tests have same structure and properties.

Able to edit test parameters of the testing equipment through software all test parameters supported by

testing equipment can be changed remotely via software. All test parameters specified by user are downloaded to the device before initialing the test procedure. By this way predefined device parameters will not cause errors in test results.

Graphical outputs and reports can be saved as a MS Excel worksheet Test result parameters and graphics are transferred to MS Excel worksheet properly to give user a chance to edit any data and graph easily.

Maximum Flexibility to edit report and graph templates user can design his/her custom report template and graphic scheme in MS Excel. In software part, user will define which data will be screened in which cell on the worksheet.

Standards: BS 1610, ASTM C-39, E4 AASHTO T-22, NF P18-411, DIN 51220 (with suitable platen set).

Following tests can be done with the software supplied; EN 12390-3, EN 12390-6, EN 1338, EN 196-1, EN 15630-1 and EN ISO 6892-1

CE Compliant. Grips and jaw faces for round & flat specimens, compression platens and distance pieces come with the machine. Comes with rebar grips up to 22 mm in diameter.

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## Specification

Load capacity in tension (kN)	500
Load capacity in compression (kN)	1000
Max.vertical clearance with compression test accessory (mm)	768
Max. distance between grips, excluding piston travel (mm)	268
Distance between columns (mm)	305
Max. ram travel (mm)	100
Resolution digital display (kN-mm)	0.01
Load measurement accuracy (starting from the first 10% of load range)	+/-1 %
Strain measurement accuracy (mm)	0.01
Overall dimensions approx. (mm)	1660 x 800 x 500
Weight (kg)	535
Power supply	220-240 V 50-60 Hz, 1 ph