

Universal Testing Machines

Suitable for multiple testing applications, universal testing machines are able to perform tensile and compressive testing. Accessories support other tests such as CBR and flexural tests in selected models.

All systems are automatic and supplied with suitable control systems and hydraulic or motor stages.

A system will typically include platens suitable for compressive testing of specimens appropriate to the maximum load of the machine and a set of jaws for holding tensile test samples.

Servo Hydraulic Universal Testing Machines

UTM-6000/UTM-7000

Computer controlled servo hydraulic universal testing machines are suitable to test various metallic and non-metallic materials and can carry out tension, compression, flexural and bending tests.



Features

- Closed Loop Servo controlled power packs
- Standard models offer dual test spaces for compression and tension testing.
- UTEST-S Series Universal Testing Machines are high capacity systems with a single test space, the jaws may be fitted with compression platens or bending apparatus as required.
- On all models a load cell is used for load measurement. Strain measurements are done by the electronic displacement transducers built in the machine.
- Displacement or strain measurement can also be via an external extensometer fitted to the specimen.
- Rigid 4 column construction
- Supports load or displacement control

Accessories

- Multifunction Remote Control
- Automatic Extensometer
- Flexural Assembly
- Compression Test Platens
- High Temperature Cabinet



Universal Testing Machines

Automatic Tension and Compression Machine

UTM-3000

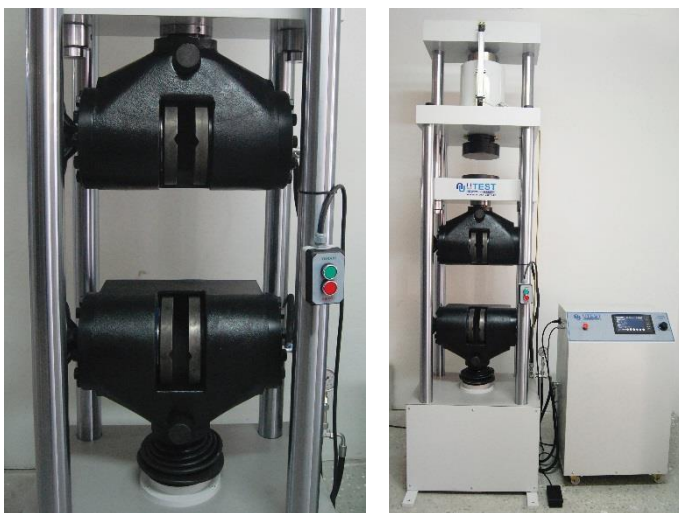
Designed for civil engineering labs with a focus on concrete and reinforcing steel testing, the Automatic Tension and compression machine marries UTest's BC100 automatic control system with a versatile welded steel frame



Hydraulic Universal Testing Machine

UTM-4000

The Hydraulic universal test machine is intended mainly for testing ferrous samples, it will also support compression testing up to the machines maximum load rating.



UTM-3000 Features

- Tensile test for rebar up to 22 mm, flat samples max 14 mm thick by 50 mm wide
- Compression testing of cylinders and cubes of up to 150mm dimensions
- Load measured by pressure transducer, strain by linear potentiometric displacement transducer
- Double acting piston with over travel protection
- Load rating between 1 kN/s to 20 kN/s
- BC100 controller can control a second test frame
- Dual test spaces for compression and tension testing

Technical Specifications

UTM-3000

Load capacity in tension	500 kN
Load capacity in compression	1000 kN
Max vertical clearance for compression testing	768 mm
Max distance between grips	268 mm
Distance between columns	305 mm
Max ram travel	100 mm
Digital Display resolution	0.01 kN-mm
Load measurement accuracy	± 1%
Strain measurement accuracy	0.01
Overall Dimensions	1660 x 800 x 500 mm
Weight	535 kg

UTM-4000 Features

- Tensile test for samples up to 40 mm flat and 8-32 mm round samples
- Load measured by load cell, strain by inbuilt displacement transducer or external extensometer

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Electromechanical Universal Test Machine

UTM-8050/UTM-8300

The electromechanical universal test machine is a highly versatile test machine, intended for lower strength compression and tension test applications.

The machine is supplied complete with high precision load cell. Gripping systems, platens, extensometers and other test accessories are not included and have to be ordered separately.

Electromechanical Machine Accessories

The Electromechanical Universal Test Machine supports a comprehensive array of testing accessories which support the following tests:

- Steel – Rounds and Flats
 - Tensile tests under load or displacement control
- Cement and Mortars
 - Compression tests under load control
 - Flexure tests under load control
 - Tensile adhesion strength (Adhesives for tiles, repair, rendering and plastering)
- Concrete
 - Flexure tests on concrete beams under load control
 - Flexure tests on concrete kerbs under load control
 - Splitting tests on concrete cylindrical and cubes specimens, and concrete paving blocks under load control
- Concrete, Natural Stone and Clay
 - Flexure tests on clay roofing tiles
 - Flexure tests on natural stone and kerbs
 - Flexure tests on concrete terrazzo tiles
 - Flexure tests on concrete paving flags
 - Flexure tests on slabs of natural stone for external paving
 - Flexure tests on glass fibre reinforced
- Cement (Precast concrete products)
 - Punching tests for clay blocks
- Soil
 - CBR under displacement control
 - Quick triaxial tests
- Bituminous Mixtures
 - Marshal test under displacement control
 - Indirect tensile splitting tests
 - Duriez tests under displacement control
- Insulation Materials
 - Tensile strength and tensile bond strength perpendicular to faces



Features

- System supports load or displacement control
- Wide range of accessories available for concrete, soil, asphalt, cement and wood testing
- Pressure measurement by load cell, displacement by encoder connected with motor
- Dual test spaces for compression and tension testing

Technical Specifications

Model	UTM-8050	UTM-8300
Max Load (kN)	50	300
Max vertical test space (mm)	650	850
Distance between columns (mm)	440	630
Crosshead travel (mm)	600	200
Test speed range (mm/min)	0-100	0-75
Load rate (kN/s)	0.001-15	0.001-20
Encoder resolution (mm)	0.001	0.001
Encoder accuracy	0.01	0.01
Weight (kg)	400	800

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Extensometer Options

Different types of extensometers with accuracy of up to $\pm 0.1\%$ of the indicated value are available depending on requirements. Extensometers separate to grips or platens can directly measure deformation of specimens.

All systems can directly interface with an external extensometer, some systems also support the use of video extensometers.



Software

Test software provides fully customized parameter definition, test method development tools, automatic test control, data collection, results analysis, and reporting.

Data collected may include client details, test type, specimen type and user info. The user can prepare his own report or export to Microsoft Excel. This flexible software solution supports multiple testing technologies and test types.

Advanced templates for testing to standards for tension testing, compression testing, flexure testing, and more across a wide variety of materials and applications help ensure quick and efficient test setup and execution. Up to 500 test methods can be managed at the same time.

Software Features

- Foreign language support and customizable user Interface
- Capability to save 24 test results of different specimens in one test record
- Graphical data on the screen is refreshed simultaneously during test procedure
- Able to save frequently used text snippets in memory and recall them when necessary
- User can access any data of previously completed tests for refresh and inclusion in new reports
- Able to edit test parameters of the testing equipment through Software

About PCTE

PCTE have over 30 years' experience in the measurement and testing of construction materials. PCTE can provide more than just the equipment, they can provide expert training. PCTE have a service centre in Sydney in which they can provide calibration, repairs and warranty repairs.

Other Equipment

PCTE supply three main ranges: NDT, Lab and Geotech Instrumentation.

NDT includes: Rebound Hammers, Covermeters, Ultrasonics, GPR, Corrosion Testing, Coating Testing and Foundation Testing

Lab includes equipment for: Concrete, Cement, Aggregate, Soil, Asphalt and Metal

Geotech Instrumentation includes: Strain Gauges, Piezometers, Inclometers, Extensometers, Tiltmeters, Load Cells and Dataloggers