

Product Code

UTC-4231	2000 kN Automatic Compression Testing Machine EN, 220-240 V 50-60 Hz
UTC-6231	2000 kN Automatic Compression Testing Machine ASTM, 220-240 V 50-60 Hz
UTC-6231/110	2000 kN Automatic Compression Testing Machine ASTM, 110 V 60 Hz
UTC-4331	3000 kN Automatic Compression Testing Machine EN, 220-240 V 50-60 Hz
UTC-6331	3000 kN Automatic Compression Testing Machine ASTM, 220-240 V 50-60 Hz
UTC-6331/110	3000 kN Automatic Compression Testing Machine ASTM, 110 V 60 Hz
UTC-0210	High Precision Pressure Transducer and Electronic

Standards

EN 12390-3, 12390-4; BS 1881; ASTM C39



UTC - 4231

UTC - 4331

UTEST Automatic range of 2000 kN and 3000 kN capacity compression testing machines have been designed for reliable and consistent testing of a wide range of specimens. These compression testers are the results of continuous research to upgrade the testing machines with the latest technologies to conform to the latest standards EN 12390-3, 12390-4, BS 1881 and ASTM C39 in terms of its technical properties taking into account client requirements. These also meet the requirements of CE norms for the safety and health of the operator.

Tests can be performed by either on BC 100 Unit or on a computer with using free UTEST Software. The advantages of performing tests on computer with using UTEST Software, such as reporting, graphical output, etc., can be seen at pages 5 and 6.

The UTEST Automatic range of 2000 kN and 3000 kN capacity compression testing machines allow inexperienced operators to perform the test. Once the machine has been switched on and the specimen is positioned and centered by the help of centering apparatus, the only required operations are;

- Setting test parameters, including pace rate (only required when the specimen type is changed).
- Pressing the START button on the control unit
- The machine automatically starts the rapid approach, when the specimen touches the upper platen the rapid approach is ended and starts loading at the pace rate that selected by user and stops once the specimen fails.
- Automatically saves the test parameters and test results

Exceeding of the ASTM C-39 standard provisions (starts with the 10% of the machine capacity), the UTC-4231, UTC-4331, UTC-6231 and UTC-6331 are supplied in Class 1 starting from 50 kN. This exceptional performance enables the machines to be used for a considerable number of applications including:

- Early age compression strength tests
- Flexural tests by using proper accessories
- Mortar (Cement) compression tests by using proper accessories
- Core with low diameter compression tests

The compression machines consist of a heavy duty welded frame, automatic hydraulic power pack with data acquisition and control system BC 100.

UTC-4231 and UTC-4331 Testing Machine is supplied complete with;

- \varnothing 205x90 mm, \varnothing 205x50 mm and \varnothing 205x30 mm distance pieces
- UTC-4513 Upper Platen (with ball seating assembly) \varnothing 300 mm, Lower Platen \varnothing 300 mm.

UTC-4510, UTC-4511, UTC-4512 and UTC-4515 upper and lower platen sets can also be used with UTC-4231 and UTC-4331 testing machines.

UTC-6231 and UTC-6331 Compression Testing Machines are supplied complete with;

- \varnothing 165x90 mm, \varnothing 165x50 mm and 2 pcs. \varnothing 165x30 mm distance pieces
- UTC-4511 Upper Platen (with ball seating assembly) \varnothing 165 mm, Lower Platen \varnothing 165 mm.

UTC-4510, UTC-4512 and UTC-4515 upper and lower platen sets can also be used with UTC-6231 and UTC-6331 Compression Testing Machines.



UTC - 6231



UTC-4231 with UTC-4515 Platen Set

Safety Features

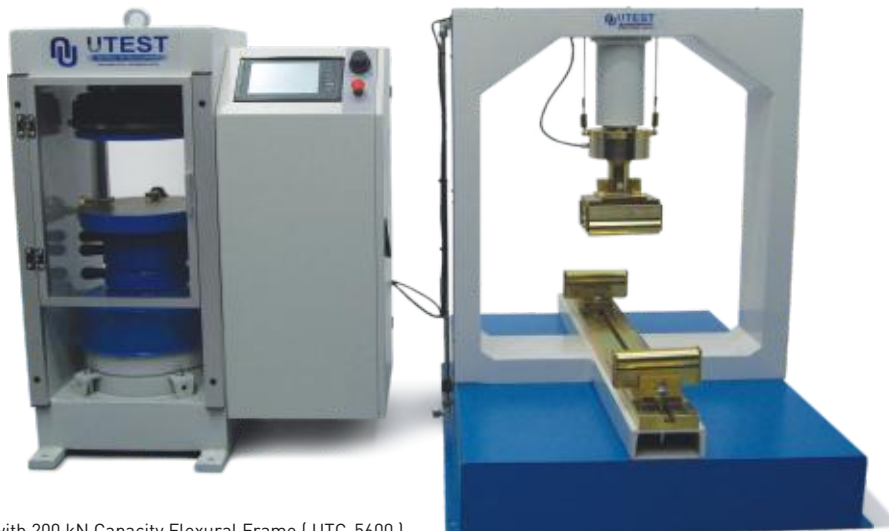
- Maximum pressure valves to avoid machine overloading
- Piston travel limit switch
- Emergency stop button
- Front and rear transparent durable plexiglas guards
- Software controlled maximum load value

Model	UTC-4231	UTC-4331	UTC-6231	UTC-6331
Capacity	2000 kN	3000 kN	2000 kN	3000 kN
Standard	EN	EN	ASTM	ASTM
The roughness value for texture of loading and auxiliary platens	≤ 3.2µm	≤ 3.2µm	≤ 3.2µm	≤ 3.2µm
Lower platens dimensions	Ø300 mm	Ø300 mm	Ø165 mm	Ø165 mm
Upper platens dimensions	Ø300 mm	Ø300 mm	Ø165 mm	Ø165 mm
Maximum vertical clearance between platens	340 mm	340 mm	370 mm	370 mm
Piston diameter	250 mm	300 mm	250 mm	300 mm
Maximum piston movement	50 mm	50 mm	50 mm	50 mm
Horizontal clearance	360 mm	425 mm	360 mm	425 mm
Power	750 W	750 W	750 W	750 W
Oil capacity	20 L	20 L	20 L	20 L
Maximum working pressure	410 Bar	410 Bar	410 Bar	410 Bar
Dimensions (w×l×h)	810x500x970 mm	875x540x1050 mm	810x500x970 mm	875x540x1050 mm
Weight	795 kg	1095 kg	775 kg	1075 kg

Maximum horizontal clearance for placing sample is limited with the border of the platens. Sample must be placed such that its ends will not overflow from the ends of platens and it must be centred perfectly.

The suitable vertical clearance for specimen can be adjusted with distance pieces (see next page).

110V, 50 Hz models are available upon request. The only difference is the input voltage.



UTC - 4231 with 200 kN Capacity Flexural Frame (UTC-5600)

Product Code

- UTC-4630 Distance Pieces, Ø 165x15 mm
- UTC-4631 Distance Pieces, Ø 165x30 mm
- UTC-4633 Distance Pieces, Ø 165x50 mm
- UTC-4634 Distance Pieces, Ø 165x90 mm
- UTC-4636 Distance Pieces, Ø 205x30 mm
- UTC-4638 Distance Pieces, Ø 205x50 mm
- UTC-4639 Distance Pieces, Ø 205x90 mm

Standards

EN 12390-3, 12390-4; BS 1881; ASTM C39

Distance pieces are used to reduce the amount of vertical clearance between the upper platen and the lower platen. 2000 kN , 3000 kN and 4000 kN machines are supplied with 205 mm dia. distance pieces and 600 kN and 1500 kN machines are supplied with 165 mm dia. distance pieces to lower the minimum distance between upper and lower platens down to required height.

Big size distance pieces are equipped with handles.



Loading Cylinder Assembly and Limit Switch



Distance Pieces

Distance Pieces

	Dimensions	Weight (approx.)
UTC-4630	165x165x15 mm	2,5 kg
UTC-4631	165x285x30 mm	5 kg
UTC-4633	165x285x50 mm	8 kg
UTC-4634	165x285x90 mm	14 kg
UTC-4636	205x290x30 mm	8 kg
UTC-4638	205x290x50 mm	13 kg
UTC-4639	205x290x90 mm	22 kg



Loading Cylinder Assembly

LOADING CYLINDER ASSEMBLY

All frames have a single acting up stroking ram. The diameter of the piston is designed to work with the load capacity.

The maximum ram movement is 50 mm. The pressure transducer is used for load measurements. There is a low friction coaxial PTFE seal between the cylinder and the piston fitted to the cylinder.

Product Code

UTC-4940 UTEST Software for Automatic Compression / Flexural Strength Testing Machine

Data Acquisition & Pc Software

The Automatic Compression Testing Machine can be controlled (Start, Stop commands) by a computer with the software (given free of charge by UTEST). This software provides data acquisition and management for compression, flexure and splitting tensile test throughout the test execution. The advanced functions for data base management provide 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.

Following tests can be done with the UTEST software.



Standard Code	Description
EN 12390-3	Compressive Strength of Concrete Cylinders or Cubes
EN 12390-5	Flexural Strength of Concrete Beams
EN 1340	Flexural Strength of Concrete Kerbs
EN 12390-6	Tensile Splitting Strength of Concrete Cylinders or Cubes
EN 1338	Tensile Splitting Strength of Concrete Paving Blocks
EN 772-1	Compressive Strength of Masonry Units (Clay, Concrete with Dense and light – weight, aggregates and Autoclaved aerated, Natural and Manufactured Stone, Calcium silicate)
EN 13748-1	Breaking Strength/Load of Terrazzo Tiles for Internal Use
EN 13748-2	Breaking Strength/Load of Terrazzo Tiles for External Use
EN 538 and EN 491	Flexural Strength of Clay or Concrete Roofing Tiles
EN 196-1	Compressive Strength of Hydraulic-Cement Mortars
EN 196-1	Flexural Strength of Hydraulic-Cement Mortars
EN 12504-1 and EN 12390-3	Compressive Strength of Cored Concrete Specimens

• **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 x 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**

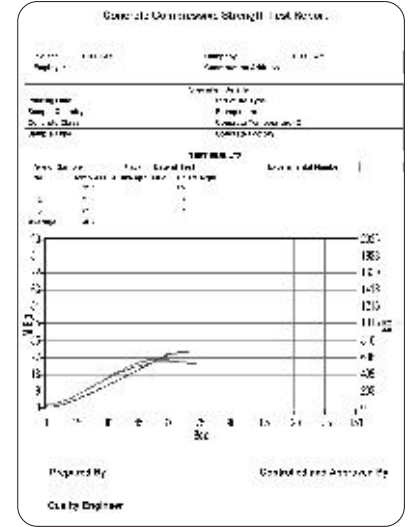
All test parameters supported by testing equipment can be changed remotely via software. All test parameters specified by user are downloaded to the device before initialing the test procedure. By this way predefined device parameters will not cause errors in test results.

- **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. Therefore, he/she will be able to monitor test results in his/her specific design.



UTC-5431 4000 kN Automatic Four Column Compression Testing Machine
(UTC-5740 4000 kN Capacity Four Column Frame and UTC-4840 Automatic Hydraulic Power Pack High Oil Capacity with Data Acquisition Control System BC 100 Unit)