

Product Code

UTM-8010 Servo Controlled Wide Test Space Electromechanical Universal Test Machine, 50 kN, 220-240V, 50-60Hz, 1 ph.

Standards

EN 10545-4, 1015-12, 13748-1, 13748-2, 491, 538, 1170-4, 1170-5, 12372 12808-3, 13494,1542, 1346, 1348, 12004, 1607, 1015-11, EN ISO 15630-2, 6892-1 7500-1

UTM-8010, 50 kN capacity Servo Controlled Wide Test Space Electromechanical Universal Testing Machine is fully automatic and multi purpose versatile machine which satisfy the requirement of R&D laboratories, university laboratories, institute laboratories and quality control laboratories.

The Machine is equipped with a servo motor and BC 100 TFT Graphics DataAcquisition and Control Unit. Flexural , breaking, bending, tensile, compression strenght, tensile adhesion and tensile bond strength, CBR, Marshall, tensile and weld shear force tests can be perform under load or displacement control by using suitable accessories up to the machine capacity on wide rande of materials, such as ceramic and terrazo tiles, naturel stone, adhesives for tiles, grouts for tiles clay and concrete roofing tiles, glass-fibre reinforced precast concrete products, thermal insulating products, plastering mortars, products for the protection and repair of concrete structure, soil and bituminous mixtures and welded fabric steel for the reinforcement of concrete.

The Testing Machine consist of base containing the transmission components and holds two robust columns connected by upper cross head and digital graphics data acquisition and control system. The upper cross head can be adjusted to set the vertical test space for different tests.

User can adjust the vertical test space by also lower crosshead moved by an electromechanical system with a single re-circulating ball screw, powered by an servomotor. Advanced closed loop control system assures accurate load or displacement pace rate on sample.

The load is measured by a load cell that located on upper crosshead and displacement is measured by displacement transducer fitted to the lower crosshead. The operator will have large flexibility during the test with advanced microprocessor control and material testing software installed on PC.

Suitable accessories and different capacity loadcells should be ordered separately acc.to the test performed.



UTM-8010 supplied with 50 kN Capacity Load Cells



Data Acquisition & PC Software

Digital display graphics data acquisition and control system are designed to control the machine and process the data from displacement transducer and Load cell, installed on the frame. It has graphical TFT display of 800x480 pixel and show both load and displacement. The digital unit sends all these information to PC and accepts commands of Start, Stop, and Test Speed etc.

Manual zeroing of all engineering values exist prior to the beginning of test. Materials testing software is available for Utest UTM series universal testing systems. Test software provides fully customized parameter definition, automatic test control, data collection, results analysis and reporting. Advanced templates for testing to the standards a wide variety of materials and applications help ensure quick test execution. Various engineering calculations are performed automatically by the test software. Test results stored in computer for your future retrieve or re-analysis and reporting. Data Exchange between other Windows based applications such as Excel format.

Tests with UTM-8010

Electromechanical Universal Testing Machines are suitable for difference tests on various materials as;

- Modulus of rupture and Breaking strength test for ceramic tiles
- Flexural strength tests of terrazo tiles, naturel stone, clay and concrete roofing tiles
- Bending strength test of glass-fibre reinforced precast concrete products, tensile strength tests of thermal insulating products
- Compressive/ Flexure strength of rendering and plastering mortars, grouts for tiles
- Tensile bond/ adhesion tests of cementitious adhesives for tiles, injection products rendering and plastering mortars, products for the protection and repair of concrete by pull-off
- Uniaxial, triaxial and CBR tests of soil
- Marshall stability test and Indirect tensile test of bituminous mixtures

Frame Features

Max. Load	50 kN
Machine Class	Class 1 starting from 1% of the capacity
Max. Vertical Test Space (without accessories) (Lower crosshead at middle stroke.	Min. 200mm Max. 400 mm (without accessories)
Distance Between Columns	850 mm
Stroke	100 mm
Test Speed Range	0,001-50 mm/min.
Load Rate	0,001-2 kN/s (Depend on specimen stiffness)
Electrical Requirement	220-240V, 50-60Hz, 1 phase.
Overall Dimensions	900x970x1120 mm
Weight Approx.	310 kg

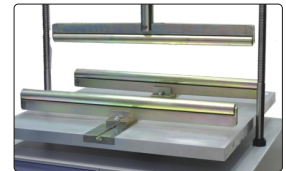


ELECTROMECHANICAL UNIVERSAL TEST MACHINE

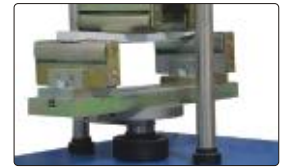
MATERIALS	TESTS / METHODS	STANDARDS	ACCESSORIES
Welded Fabric for Reinforcement of Concrete	Tensile and Weld Shear Force Tests	EN ISO 15630-2 EN ISO 6892-1	UTM-8060 Tensile Grip complete with grips for round specimens from 2 to 10 mm dia., and flats 0 to 8 mm thick., UTGM-0015 Load Cell 10 kN Capacity UTM-8055 Holder for Weld Shear Force Tests for welded wire
Ceramic Tiles, Clay Products	Flexure, Bending and Breaking Tests	EN 10545-4	UTM-8012 Flexural Testing Assembly, for UTM-8010 and UTM-8020. Consist of two upper rollers and two lower rollers 820 mm length and 20 mm dia.
Concrete and Natural Stone Products		EN 538	
		EN 13748-1 EN 13748-2 EN 491	UTC-5501 Flexural Testing Assembly for Concrete Beams
		EN 12372 EN 1339(*) EN 1341(*) EN 1343(*)	
EN 1170-4 EN 1170-5		UTM-8095 Flexure Apparatus for EN 1170	
Mortar For Masonry and Grouts for Tiles	Tensile Adhesion / Bond Strength	EN 196-1 ASTM C348 EN 12808-3 EN 1015-11	UTCM-0121/E Compression Jig Assembly EN, to test portions of 40x40x160 mm mortar prism. [*] UTCM-0121/A Compression Jig Assembly ASTM, to test 50 mm [2"] mortar cubes. [*] UTCM-0120/E Flexure Jig Assembly EN, to test 40x40x160 mm mortar prisms, distance between lower bearers is 100 mm UTCM-0120/A Flexure Jig Assembly ASTM, to test 40x40x160 mm mortar prisms, distance between lower bearers is 119 mm
Adhesives for Tiles, Mortar for Masonry and Products for The Protection and Repair Of Concrete Structures		EN 1346 EN 1348 EN 12004 EN 1015-12 EN 1542	UTM-8070 Pull-Headed Plate Set for EN 1348 and EN 12004 UTM-8080 Pull-Headed Plate Set for EN 1015-12 and EN 1542 UTM-8082 Frusto-Conical Shaped Rings. EN 1015-12, stainless steel, Ø50mm UTM-8064 Holders for Concrete Base Plate and Specimen EN 1348, 1015-12, 1542 (**)
			UTM-8074 Holders for Concrete Base Plate and Specimen EN 1348, 1015-12. (**)
			UTM-8084 Holders for Concrete Base Plate and Specimen EN 1542 (**)
		UTGM-0010 Load Cell 5 kN Capacity UTGM-0015 Load Cell 10 kN Capacity	



UTM-8060



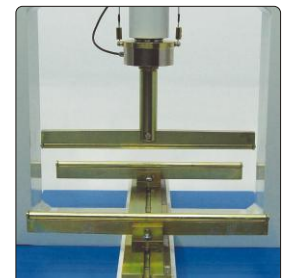
UTM-8012



UTC-5501



UTCM-0121/A



UTM-8070



UTM-8064



UTCM-0121/A



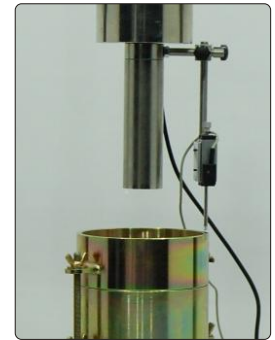
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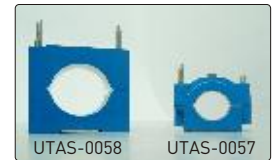
UTCM-0120/A/E

ELECTROMECHANICAL UNIVERSAL TEST MACHINE

MATERIALS	TESTS / METHODS	STANDARDS	ACCESSORIES
Thermal Insulating Products	Tensile Adhesion / Bond Strength	EN 13494 EN 1607	UTM-8121 Tensile-Headed Solid Plate Set, 50x50x5 mm
			UTM-8122 Tensile-Headed Solid Plate Set, 100x100x5 mm
			UTM-8123 Tensile-Headed Solid Plate Set, 150x150x5 mm
			UTM-8124 Tensile-Headed Solid Plate Set, 200x200x5 mm
			UTM-8125 Tensile-Headed Solid Plate Set, 300x300x5 mm
SOIL	CBR Under Displacement Control	EN 13286-47 ASTM D1883 AASHTO T193	UTM-0110 CBR Penetration piston, used to perform CBR tests.
	Quick Triaxial Tests	BS 1377-8 ASTM D2850 ASSHTO- T245	See the table bottom of the page
BITUMINOUS MIXTURES	Marshal Test Under Displacement Control	EN 12697-34 ASTM D1559	UTAS-0057 Breaking Head Stability Mould, cast iron, for 4" (101,6 mm) Marshall Samples UTAS-0058 Breaking Head Stability Mould, cast iron, for 6" (152,4 mm) Marshall Samples
	Indirect Tensile Splitting Tests	EN12697-23 AASHTO T283	UTAS-0063 Tensile Splitting Device for compacted Bituminous samples 100 mm (4") dia.



UTM-0110



UTAS-0058

UTAS-0057



UTAS-0063

(*) Up to the machine capacity

(**) Supplied complete with the connection apparatus fit with the ordered machine.

Typical configuration of system for different tests (UU-CU-CD)

Product Code	Description	UU	UU-CU-CD
UTM-0108	Multiplex Universal Electromechanic Test Machine*	1	1
UTGM-0010	Load Cell 5 kN	1	1
UTS-0400 UTS-0401	Triaxial Cell**	1	1
UTS-0405	Block with One Connection Line for Triaxial Test Cells	1	-
UTS-0406	Block with 3 Connection Lines for Triaxial Test Cells	-	1
UTGM-0110	Pressure Transducer	1	3
UTS-0408	Oil and Water Constant Pressure System	1	2
UTS-0415	Automatic Volume Change Unit	-	1
UTG-0320	Static Unilogger 4 Channels	-	1
UTS-0416	Software to Perform UU Triaxial Tests	1	1
UTS-0417	Software to Perform CU-CD Triaxial Tests	-	1
UTS-1330 and UTGP-1140	De-Airing Water Tank, 7 L. and Hose	1	1

* Supplied complete with UTGM-0025 50 kN Load Cell, UTGM-0062 25 mm Linear Potentiometric Transducer and UTC-4930 BC 100 Data Acquisition and Control Unit.

** Choose the suitable cell for the specimen size (UTS-0400: 38-50 mm dia. samples / UTS-0401: 70-100 mm dia. samples). For cell accessories, sample preparation accessories and Optional apparatus for de-airing water please see Triaxial Test Systems.