

# Serie UTM-E Universal Testing Machines

Rev. 03-2022-EN



## Product Information

Universal, servocontrolled, electro actuated, computerized testing machines to perform load, displacement or strain-controlled tests in tension, compression, bending, and flexure with appropriate accessories, optional and/or customized on request. The machine is suitable for testing medium and low strength specimens in various areas of use such as quality control in industry, certification of materials by Accredited Testing Laboratories, research and development of new technologies in Universities and Research Centers, education in Technical Institutes.



## Characteristics

Frame with 2 opposite columns, with double test space (tension and compression), movement driven by two high precision ball screws, with external covering made by aluminum profile sealed with extendable bellows to ensure cleanliness of the mechanical transmission components. The lower base accommodates the mechanical transmission system and the fast and silent brushless motor unit.

Manual, pneumatic, hydraulically operated or special jaws are available depending on the required configuration. Accessories for performing compression and flexural tests are, in addition, available.

**CERMAC s.r.l.**

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## Machine Control System – Testing XE

The Testing Computerized Control System consists of a state-of-the-art datalogger (user/machine interface) equipped with an electronic module with TCP/IP network interface, analog and digital inputs and outputs of IN and OUT signals, firmware and software.

All signals related to the physical quantities coming from the machine's electronic sensors (load cell and displacement transducer), as well as those of electronic strain gauges (optional) applied to the sample for direct measurements of material deformation, are captured in real time by means of an analog/digital converter with resolution up to 24bit and sampling rate up to 1 kHz.



The Software Testing, in particular, allows the introduction of the necessary test parameters, through input masks adaptable to the specific needs of the operator, then proceed to the execution and display in real time of each test parameter.

The results are automatically captured and stored in a database so as to ensure easy traceability for subsequent processing.

Thanks to the test modules fully customizable by the user, graphically accurate document and final printout are possible, which can be used both for certification and for any internal distribution.

The database can be shared over a network (intranet) and the software can be used simultaneously on different PCs allowing the visualization and processing of test data from different locations, with automatic and advanced functions of data loading and export of the results according to the requests related to the initiatives **Industry 4.0**.

## Main reference standards

<b>ASTM A615</b>	Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
<b>ASTM A370</b>	Standard Test Methods and Definitions for Mechanical Testing of Steel Product
<b>ASTM E4</b>	Standard Practices for Force Verification of Testing Machines
<b>ASTM E8</b>	Standard Methods for Tension Testing of Metallic Materials
<b>ASTM E9</b>	Standard Methods of Compression Testing of Metallic Materials at Room Temperature
<b>ASTM E2658</b>	Standard Practices for Verification of Speed for Material Testing Machines
<b>UNI EN ISO 6892</b>	Metallic materials. Tensile testing at room temperature
<b>UNI EN ISO 6892-2</b>	Metallic materials. Tensile testing at high temperature
<b>UNI EN ISO 7438</b>	Bend test
<b>UNI EN ISO 7500-1</b>	Calibration and verification of uniaxial static test machines
<b>UNI EN 15630</b>	Steel for reinforced concrete and prestressed concrete
<b>UNI EN 10080</b>	Concrete reinforcing steel - Weldable reinforcing steel



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### Technical features

Models	UTM 50E UTM100E	UTM200E	UTM300E
Load capacity	50 kN - 100 kN	200kN	300kN
Accuracy	Class 1 (or better) to 1 % of full scale ISO-7500		
Speed range	from 0.001 to 250 mm/min		
Maximum stroke	800 mm	800 mm	800 mm
Vertical test area space	550 mm	650 mm	650 mm
Test area width	420 mm	650mm	650 mm
Frame dimensions	1050 x 620 x 2050	1250 x 720 x 2300	1250 x 720 x 2300
Weight of the frame	650 kg	1650 kg	1850 kg
Power supply	2.5 kW 400 VAC / 50 Hz / 3 phases (5 poles)		
ADC Converter	24 bit / 1 kHz		

### Optional accessories

Accessories are available for many test requirements: clamps, compression plates, manual extensometer, Automatic extensometer, video extensometer.



Screwed specimens



Flat specimens



Manual or pneumatic  
jaws



High temperature  
tensile test

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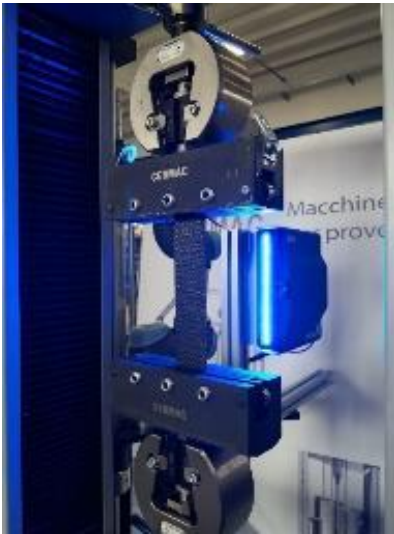
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**Video extensometer M5**



**Hydraulically operated  
horizontal gripping  
system**



**Specialized grips for geo-grids**

