Product Information

Universal, servocontrolled, hydraulically operated, computerized testing machines to perform load, displacement or strain-controlled tests in in tension, compression, bending, and flexure with appropriate accessories, optional and/or customized on request. The machine is suitable for testing medium to high strength materials and large 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

The high-rigidity four-column frame and the high-stroke hydraulic actuator housed on the upper crossbeam, with double height configuration, give the structure maximum stability, hence, the best accuracy of results even at maximum load capacities. The double-acting actuator, driven by a servo-valve, ensures superior accuracy in the application of the test speed. The frame is equipped with a strain gauges load cell for direct force measurement; it is also fitted with a high-resolution digital encoder for measuring the stroke of the moving crosshead.
The hydraulically operated wedge jaws allow for the frontal insertion of test specimens; the specimen area ensures the most ergonomically correct accessibility for the operator, avoiding inconvenient and time-consuming contour work (excavations or ladders) for access to the test area.
The control of the jaws and the movement of the crossbeam are managed via a remote keypad.
The hydraulic unit is independent and can be freely positioned. The high-capacity tank is equipped with an air-oil cooler; an additional chiller is optionally available for heavy-duty use of the machine. The hydraulic unit is equipped with solenoid valves that allow fully automatic control of the machine.

Advanced System Control - 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 requirements related to the initiatives Industry 4.0.

Technical features

Models	UTM600H	UTM1000H	UTM2000H
Load capacity	600 kN	1000kN	2000kN
Accuracy	Class 1 (or better) from 1 % of full scale ISO-7500		
Moving speed	from 0.1 to 100 mm/min		
Stroke of the actuator	580 mm	650 mm	700 mm
Vertical test area space	780 mm	850 mm	820 mm
Test area width	480 mm	550mm	700 mm
Frame dimensions	850x850x3500 mm	1050x1050x3500 mm	1200x1200x4100 mm
Hydraulic pack dimensions	680 x 1100x 930 mm		
Weight of the frame	3000 kg	4500 kg	9500 kg
Weight of the Hydraulic pack	400 kg	400 kg	400 kg
Power supply	6 kW 400 VAC / 50 Hz / 3 phases (5 poles)		
ADC Converter	24 bit / 1 kHz		

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Serie UTM-H

Universal Testing Machines

Rev. 03-2023-EN

Models

M00600H01	Universal test machine Hydraulic, maximum load 600 kN
M01000H01	Universal test machine Hydraulic, maximum load 1000 kN
M02000H01	Universal test machine Hydraulic, maximum load 2000 kN

Main reference standards

ASTM A615	Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM A370	Standard Test Methods and Definitions for Mechanical Testing of Steel Product
ASTM E8	Standard Methods for Tension Testing of Metallic Materials
UNI EN ISO 6892	Metallic materials. Tensile testing at room and high temperature
UNI EN 15630	Steel for reinforced concrete and prestressed concrete
UNI EN 10080	Concrete reinforcing steel - Weldable reinforcing steel

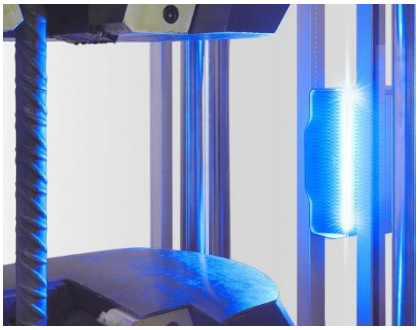
Optional accessories

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

Extensometer for strands

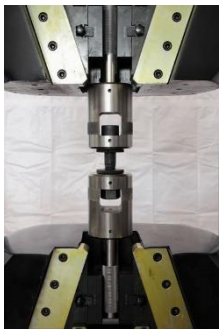
Stranded wires grips

Extensometer for rebars



Video Extensometer M5

Automatic Extensometer



Bolts and Tie Rods tension

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