TNE MACHINE

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Electro Mechanical Universal Testing Machine

Microprocessor Based Panel

PC Software

USB Connectivity

Features :

1.High-Precision Ball Screw Drive Ensures smooth, backlash-free motion with superior load accuracy and long-term reliability.

2.Advanced Software Control: User-friendly interface with real-time graphing, data storage, and ASTM/ISO compliant analysis tools.

3.Microcontroller-Based Electronic Design: Delivers fast, accurate signal processing with robust safety interlocks and intelligent test automation.

4.Rigid Frame Construction: Heavy-duty, vibration-free design guarantees consistent performance and extended machine life.

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Features

High-Precision AC Servo Motor with Ball Screw Drive – Provides a smooth, backlash-free motion and a wide speed range of 1 to 500 mm/min for versatile testing requirements.

Interchangeable Load Cell System – Automatic detection and selection of load range with direct readout in kN or N, ensuring flexibility and accuracy across various test capacities.

Flexible Speed Control – Speed selection through digital data entry or variable adjustment via potentiometer for precise control during testing.

Versatile Fixture & Load Cell Mounting – Compatible with multiple load cells and grips, suitable for testing thin wires, metal sheets, fibreglass, leather, springs, cardboard, and more.

Seamless Data Output – Built-in parallel interface allows direct connection to dot matrix printers for instant curve and data printouts.

Safety & Protection System – Equipped with overload protection and limit switch interlocks to safeguard both operator and machine.

Wide Testing Applications – Ideal for R&D, educational institutions, quality control, and production testing for tensile, compression, bending, and other mechanical properties.

Electronic Control Panel (Series Universal M-2301)

Direct Print Options – Supports printer connectivity for instant graph & result print-outs , batch certificates, test certificates, and simple statistics reports.

Advanced Microprocessor-Based Design – Incorporates cutting-edge electronics for high-speed, reliable, and intelligent test operations.

User-Friendly Membrane Keypad – Front panel with numeric keys for quick data entry and easy operation

Clear Digital Display – Bright 7-segment display ensures precise visibility of test parameters and results.

Auto Load Cell Recognition – Automatic detection and configuration of load cells, eliminating manual setup errors.

Comprehensive Data Entry – Input of test parameters including speed, rupture %, peak load, preload, modulus, specimen dimensions, and more

Batch Testing Facility – Enables multiple specimen testing with automated statistical analysis for batch reporting.

Operator Convenience – Optional remote handset simplifies specimen loading and unloading.

Flexible Connectivity – Standard RS232C port with optional Windows-based software for enhanced features:

Online graph plotting
Data analysis
statistics Point tracing
superimposed graph
detailed curve evaluation

Eklavya Universal Testing Series

Our Eklavya Universal Testing Machines are advanced microcontroller-based, servo-driven electromechanical systems designed to study and evaluate the mechanical behavior of diverse materials including metals, polymers, composites, and more.

Built with precision engineering and modern electronics, these machines deliver stand-alone performance for routine testing as well as flexibility for advanced material analysis.

All models are compliant with relevant ASTM, ISO & IS standards, ensuring global testing reliability.

Technical Description

The system is equipped with a high-precision ball screw drive, servo motor control, and advanced electronics, enabling accurate force measurement, precise crosshead positioning, and stable test operation.

Optional Accessories

To meet a wide range of test requirements, Eklavya offers an extensive set of accessories compatible with all Universal Testing Series machines:

Load Cells

High-accuracy strain gauge type load cells are available in various capacities:100 N, 250 N, 500 N, 1 kN, 2.5 kN, 5 kN, 10 kN, 25 kN, 50 kN, 100 kN.
Other capacities can be supplied on request to meet specific customer needs.

Grips & Clamping Devices

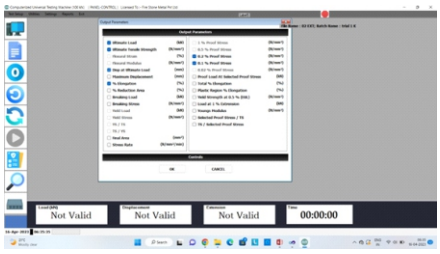
Multiple interchangeable grips and fixtures ensure suitability for a wide variety of materials and specimen types, including:

- Wedge-type grips for flat & round specimens with hardened inserts
- Vice-type grips for secure clamping
- Threaded grips for special applications
- Compression plates for compression testing
- Bending fixtures for flexural testing
- Shear attachments for shear testing

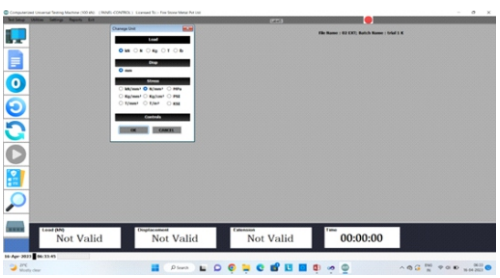
Extensometers

Electronic extensometers are available with a direct interface to the control panel for precise strain measurement.

Model EE2 – Strain Gauge Type with 1-micron resolution for high-accuracy elongation measurement.









Electro Mechanical Universal Testing Machine

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