SHRI ENGINEERING

Electro Mechanical Universal Testing Machine

Model : UNITEK 9400

Microprocessor Based Panel

Facility for mounting different load cells & clamping devices

Best in Class Analysis Software

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Features :

- Precision AC servo motor & drive with ball lead screw gives an advanced drive system with 1 to 500 standard speed range.
- Provision for load cell interchangeability & thereby automatic selection of load full scale & Units (kN or N).
- Speed selection through data entry or variable speed through potentiometer.
- Facility for mounting different load cells & clamping devices to suit different tests & materials such as thin wires, metal sheets, fiber glass, leathers, springs, card boards etc.
- Built-in parallel interface to connect Dot matrix printer for data & curve print-out.
- Safety interlock for overload & limit switch sensing to ensure protection during test.
- Universal applications in R& D, Education, Quality control & Production for test like, Tensile, Compression, Bending etc.

Electronic Control Panel : (Series Universal 2001)

Microprocessor based panel incorporating state of art technology with following features -

- Front panel membrane type key board for machine with numeric keys for data entry.
- 7 segment display.
- Auto load cell identification.
- Data entry with numeric keyboard of test parameters including speeds, rupture % peak, pre load, modulus data,, test data & specimen data.
- 20 input data set storage, 50 result storage, maintains data & results during power off.
- Batch test facility for generating batch & statistics result using same data set.
- Optional remote to ease specimen loading/unloading.
- RS232C serial port. Optional windows based software available for -
- Online graph on PC. Data analysis, Statistics, Point tracing superimposing graphs to compare with standard, zooming graph etc.

Printer port for printer interface with -

- Graph & result print-out.
- Test Certificate print-out.
- Batch certificate print-out.
- Simple statistics print-out.

Technical Description :

'S E' Universal Testing Series Unitek-9400 are microprocessor based electro mechanical machines with servo drive designed for testing & studying mechanical behavior of various materials like metals, polymers etc. These machines offer good built-in features to offer excellent stand alone performance for standard tests and great flexibility for complex analysis. These machines confirm to IS standard.

Optional Accessories :

'S E' offers a wide range of optional accessories along with Unitek-9400 Machines to cover almost every material test requirement.

Load Cells :

'S E' offers Strain gauge type Universal load cells in different capacities in the following nominal ranges :

100N, 250 N, 500 N,1 kN,2.5 kN, 5 kN, 10 kN, 25 kN, 50 kN, 100 kN load cells to different capacity can be offered as per customers requirements.

Grip & Clamping Devices :

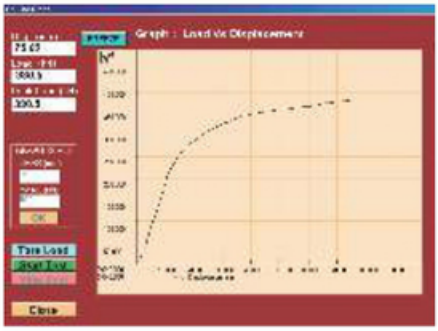
A wide range of grips are available from 'FIE' such as :

- Wedge type grips for flat & round specimens with different inserts.
- Vice type grips
- Single threaded grips.
- Compression plates.
- Bending fixtures.
- Shearing attachments.

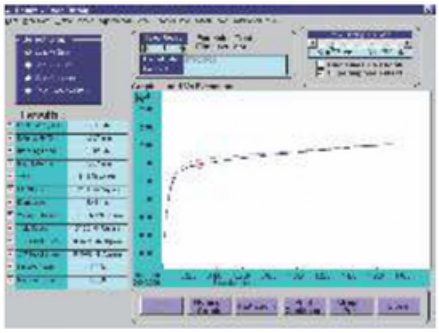
Extensometers :

Electronic exetensometers are offered with interface card on the control panel to measure extension.

Model : EE2-Strain Gauge (With 1 micron resolution).

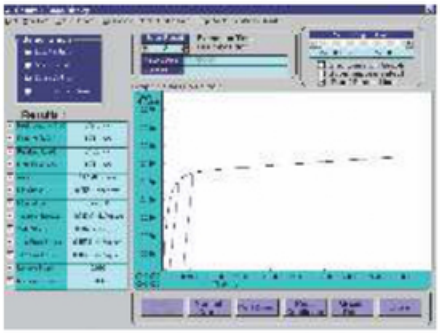


Real time Graph on PC



Graph compression & point tracing

Statistics



Graph with EE2 Extensometer

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Serial Communication & Software Package on PC :

the Universal 2001 series control panel can be hooked to any PC using RS-232 communication port. 'SE' offers different window based software packages with Real time graph on PC to enable the user to effectively evaluate different parameters.

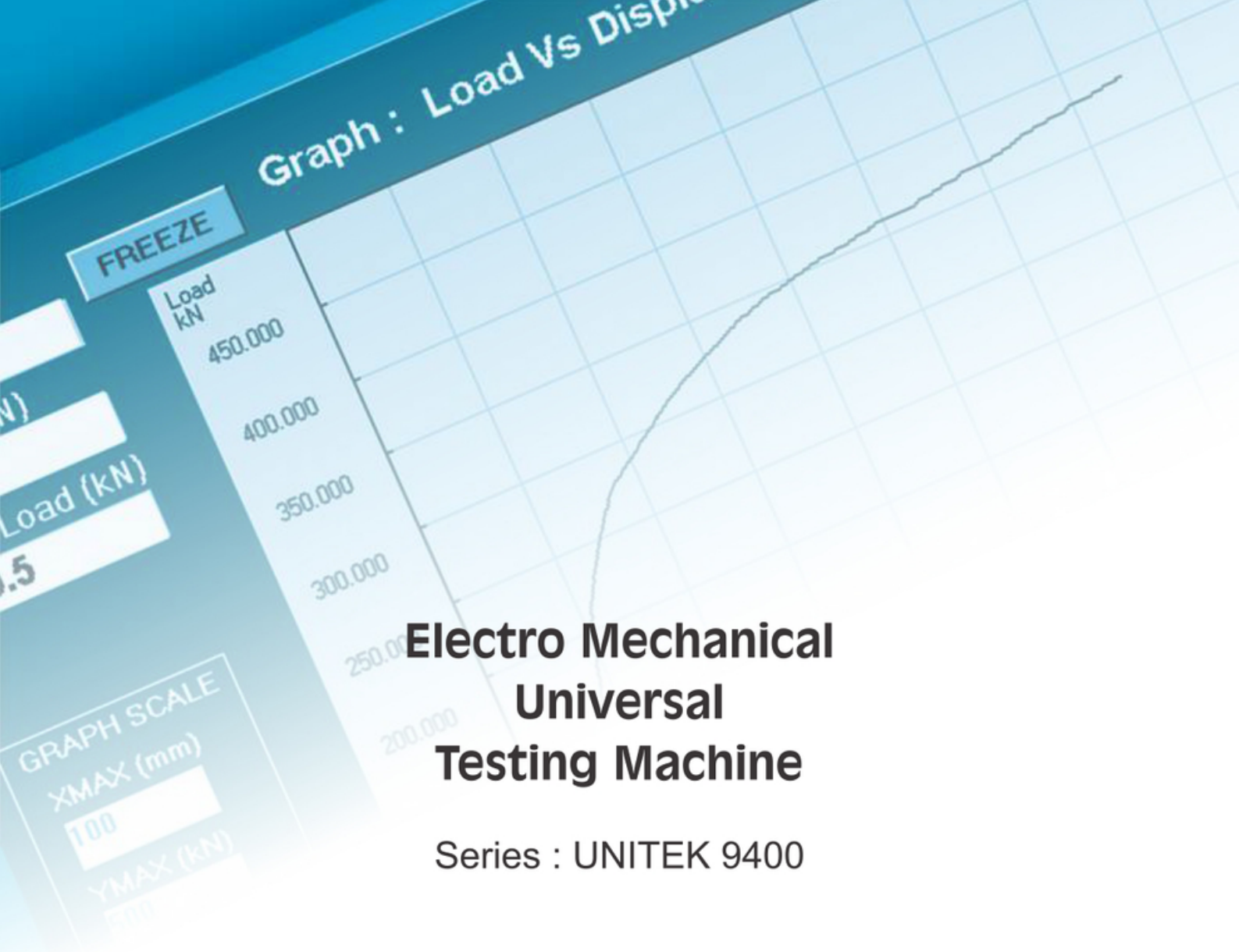
The features include :

- Real time graph, user friendly software.
- Extensive graphics on screen for curve plotting, magnification and zooming.
- Software features includes Graph comparison, Point tracing facility, Different units selection for load & displacement.
- Statistical evaluation with water fall diagram, mean deviation, frequency distribution, Screw dig. Histogram. Also calculates max. value, min. value, mean value, variance , standard deviation. (Other statistical parameters on request). Selectable batch & statistical print-outs.
- Evaluation of wide range of user selectable parameters such as % elongation, % reduction in area, young's modulus, yield stress, proof stress, etc.
- Software packages for Shear, Bend, Torsion, Rubber, Textile testing etc.
- Custom built application software to suit customer requirements.

Specifications :

MODEL		UNITEK 9401	UNITEK 9405	UNITEK 9410	UNITEK 9450	UNITEK 94100		UNITEK 11200	UNITS
						250	500		
Load Range		0-1	0-5	0-10	0-50	0-100		0-200	kN
Load Resolution	1st Range 0-20% of F.S.	1/20000 of F.S.	1/20000 of F.S.	1/20000 of F.S.	1/20000 of F.S.	1/20000 of F.S.		1/20000 of F.S.	—
	2 nd Range 20-40% of F.S.	1/10000 of F.S.	1/10000 of F.S.	1/10000 of F.S.	1/10000 of F.S.	1/10000 of F.S.		1/10000 of F.S.	—
	3 rd Range 40-100% of F.S.	1/4000 of F.S.	1/4000 of F.S.	1/4000 of F.S.	1/4000 of F.S.	1/4000 of F.S.		1/4000 of F.S.	—
Load Measuring Accuracy		±1% from 2% to 100% of load cell used.	±1% from 2% to 100% of load cell used.	±1% from 2% to 100% of load cell used.	±1% from 2% to 100% of load cell used.	±1% from 2% to 100% of load cell used.		±1% from 2% to 100% of load cell used.	—
Max. Crosshead Stroke		1000 (without grips & load cell)	1000 (without grips & load cell)	1000 (without grips & load cell)	1000 (without grips & load cell)	1000 (without grips & load cell)		800 (without grips & load cell)	mm
Clearance between columns		450	450	450	450	450		430	mm
Crosshead displacement Measurement		0.01	0.01	0.01	0.01	0.01		0.01	mm
Crosshead Speed Range		0.5-500	0.5-500	0.5-500	0.5-500	0.5-250 or 0.5-500		0.5-100	mm/min
Power Supply		230 VAC, 50 Hz Single Phase	230 VAC, 50 Hz Single Phase	230 VAC, 50 Hz Single Phase	230 VAC, 50 Hz Single Phase	440 VAC, 50 Hz Three Phase		440 VAC, 50 Hz Three Phase	—

- F. S. = Connected load cell full scale.
- Due to constant R& D specifications & features are subject to change without notice.
- Colour scheme subject to confirm at the time of order.



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