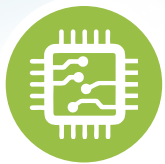




Over **60** years of  
consistent excellence

# Electro Mechanical Universal Testing Machine

Model : UNITEK 9700



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.
- Computerized microprocessor based instrumentation to measure display & store load & displacement value.
- Provision for load cell interchangeability & thereby automatic selection of load full scale.
- 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 :

'FIE' Universal Testing Series Unitek-9700 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 & great flexibility for complex analysis. These machines confirm to IS standard.

## Optional Accessories :

'FIE' offers a wide range of optional accessories along with Unitek-9700 Machines to cover almost every material test requirement.

## Load Cells :

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

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

## Grip & Clamping Devices :

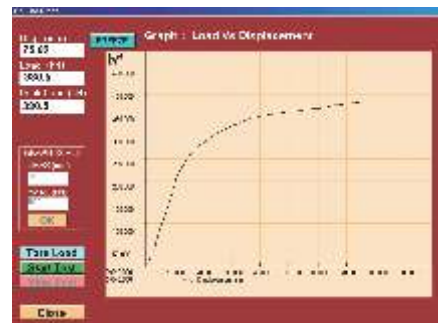
A wide range of grips are available from 'FIE' such as :

- Vice type grips
- Single threaded grips.
- Compression plates.
- Bending fixtures.
- Shearing attachments.

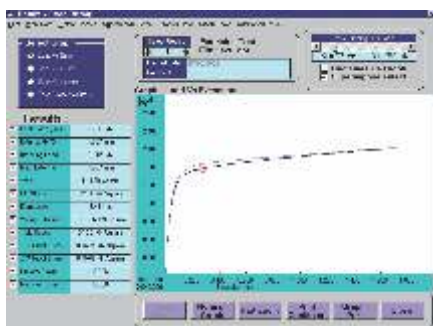
## Extensometers :

Electronic extensometers are offered with interface card on the control panel to measure with a resolution of 1 micron.

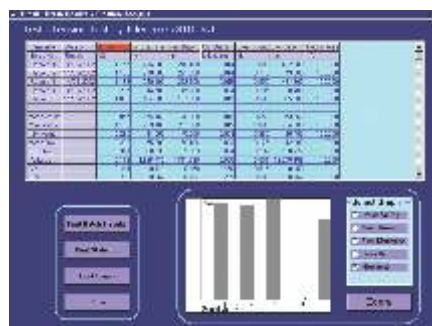
Model : EE2-Strain Gauge.



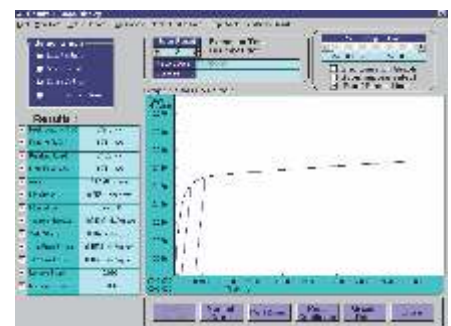
Real time Graph on PC



Graph compression & point tracing



Statistics



Graph with EE2 Extensometer

### Serial Communication & Software Package on PC :

the Universal 2001 series control panel can be hooked to any PC using RS-232 communication port. 'FIE' 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 9701	UNITEK 97025	UNITEK 97050	UNITS
Load Range		0-1	0-2.5	0-5	kN
Load Selection	1st Range 0-20% of F.S.	1/20000 of Nominal load cell connected.	1/20000 of Nominal load cell connected.	1/20000 of Nominal load cell connected.	—
	2nd Range 20-40% of F.S.	1/10000 of Nominal load cell connected.	1/10000 of Nominal load cell connected.	1/10000 of Nominal load cell connected.	—
	3rd Range 40-100% of F.S.	1/4000 of Nominal load cell connected.	1/4000 of Nominal load cell connected.	1/4000 of Nominal load cell connected.	—
Load Measuring Accuracy		±1% from 2% to 100% of Nominal load of load cell used.	±1% from 2% to 100% of Nominal load of load cell used.		—
Max. Crosshead Stroke		800 (without grips & load cell)	800 (without grips & load cell)	800 (without grips & load cell)	mm
Crosshead displacement Measurement		0.01	0.01	0.01	mm
Crosshead Speed Range		0.5-500	0.5-500	0.5-500	mm/min
Power Supply		230 VAC, 50 Hz Single Phase	230 VAC, 50 Hz Single Phase	230 VAC, 50 Hz Single Phase	—

### Optional :

Extensometer : Model-EE 2 , Software Packages.

- Due to constant R& D specifications & features are subject to change without notice.

Graph : Load Vs Displa

FREEZE

Load  
kN

450.000

400.000

350.000

300.000

250.000

200.000

Load (kN)

0.5

GRAPH SCALE  
XMAX (mm)

100

YMAX (kN)

500

# Electro Mechanical Universal Testing Machine

Series : UNITEK 9700



Over **60** years of  
consistent excellence

Manufactured By :

**Fuel Instruments & Engineers Pvt. Ltd.**

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