

# Universal Testing Machine

Model - UNITEK - 97050 a





### **Technical Description:**

"FIE' Universal Testing Series UNITEK-97000 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 so offer excellent stand alone performance for standard tests & great flexibility for complex analysis.

These machines confirm to IS, BS & ASTM standards.

#### Features:

- Precision AC servo motor & drive with ball lead screw gives an advanced drive system with 0.5 to 350 standard speed range.
- PLC & HMI based system to measure store load & displacement values.
- 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 various tests & materials like thin wires, metal sheets, fiber glass, leather, spring, card boards etc.
- Safety interlock for overload & limit switch sensing to ensure protection during test.
- Universal applications in R & D, Education, Quality control and Production for tests like Tensile, Compression, Bending etc.

#### **Touch Screen Control Panel:**

PLC based panel incorporating following features:

- Front panel 7" Touch Screen
- Data entry of test parameters (like speeds, rupture %, pre-load, test data & specimen data) with touch screen
- Data storage ranges as: at input, at output; during power off
- Optional remote to ease specimen loading/unloading
- RS 232, USB & Ethernet ports for communication.
- The data will be stored in JPG format & accessible for external system with USB drive storage.

# USB port for printer or USB drive interface for :

- · Graph & result print-out
- Test certificate print-out
- · Simple statistics print-out
- RS 232 interface for data transfer to desktop.
- Ethernet port for network printer access.
- · Facility to export X, Y points in .csv format.
- Facility to export batch results in .csv format.

### Optional Accessories :

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

## Load Cells:

'FIE' offers Strain gauge type Universal load cell indifferent capacities in the following nominal ranges :

100 N, 250 N, 1 kN, 2.5 kN, 5 kN load cell as per customers requirements.

## **Grip & Clamping Devices:**

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

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

#### Extensometers:

Electronic extensometers are offered with extension on the touch screen to measure with resolution of 1 micron.

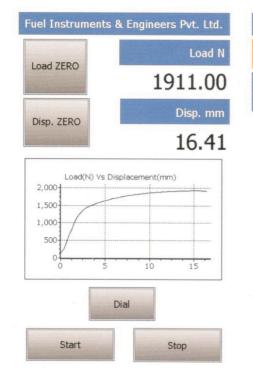
Model: EE2.

## Built - In Electronic Control Panel





## **Screen Display for Test**



Fuel Instruments & Engineers Pvt. Ltd. **Tensile Strength** 228.482 Mpa Ultimate Load: 1919.250 N Disp. @Fmax: 15.18mm Max Disp. : 18.95mm : 8.400001mm<sup>2</sup> Area Elongation : 12.50 % Red in Area : 100.00 % Newton Load Unit mm Disp Unit Save Exit

Fuel Instruments & Engineers Pvt. Ltd. Plot No. 68-89, Parvati Co-op Indl. Estate, Yadrav - Ichalkaranji Sample No. : Sample Id : Heat No. : Batch No none Sample Type : none Area (mm2): 8.40 G.L. (mm): 200.00 Ultimate Load : 1919.250 N Elongation :12.50 % Max Disp. Red In Area :100.00 % 18.95mm Disp. @ Fmax: 15.18mm UTS 228.482 Mpa Load(N) Vs Displacement(mm) 2,000 1.800 1,600 1,400 1,200 1,000 800 600 400 15

Real time Graph with load & displacement

Test Result Display

Test Report with Graph

MODEL	UNITEK-97050	UNITS
oad Range	0-5	kN
oad Resolution	1/20000 of Nominal Load Cell Connected	_
oad Measuring Accuracy	± 1% from 2% to 100% of Nominal load of load cell used	
Max Crosshead Stroke	900 (without grips & load cell)	mm
Crosshead displacement measurement	0.01	mm
crosshead speed range	0.5-350	mm/min
Power Supply	230 VAC, 50 Hz Single Phase	