WITH PC INTERFACE & REAL TIME GRAPH (Panel/PC Controlled)

Technical Description:
FIE 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 & great flexibility for complex analysis. These machines confirm to IS, BS & ASTM standards.

Main Features:
- Precision DC servo motor & drive with ball lead screw gives an advanced drive system with 1 to 1000 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, metalsheets, fiberglass, leathers, springs, cardboards 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 operation 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, preload, modulus data, test data & specimen data etc.
- 20 input data set storage, 50 results 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 ...
- On line graph on PC. Data analysis, statistics point tracing superimposing graphs to compare with standard, zooming graph etc.

Optional Accessories:
FIE offers a wide range of optional accessories along with Unitek 9400 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, 250N, 500N, 1kN, 2.5kN, 5kN, 10kN, 25kN, 50kN, 100kN.
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.
- Bending fixtures. Shearing attachments.

Extensometers:
Electronic analog extensometers are offered with interface card on the control panel to measure extension.
Model 1: EE2- STRAIN GAUGE, (with 1 micron resolution).
Model 2: LTE 800 - DIGITAL TYPE (with 10 micron resolution).

Printer port for printer interface with ...
- Graph & result printout.
- Test certificate printout.
ELECTRONIC UNIVERSAL TESTING MACHINES
Unitek 9400 Series

WITH PC INTERFACE & REAL TIME GRAPH (Panel/PC Controlled)

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 waterfall dig., Mean deviation, frequency distribution, Skew dig., Histogram. Also calculates max value, min. value, Mean Value, Variance, Standard Deviation. (Other statistical parameters on request). Selectable batch & statistical printouts.
- 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:

<table>
<thead>
<tr>
<th>MODEL NO.</th>
<th>UNITEK 9401</th>
<th>UNITEK 9405</th>
<th>UNITEK 9410</th>
<th>UNITEK 9450</th>
<th>UNITEK 94100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Load Range</td>
<td>0 - 1</td>
<td>0 - 5</td>
<td>0 - 10</td>
<td>0 - 50</td>
<td>0 - 100 kN</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Load Selection</th>
<th>1st Range</th>
<th>2nd Range</th>
<th>3rd Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 20% of F.S.</td>
<td>1/20000 of F.S.</td>
<td>1/10000 of F.S.</td>
<td>1/4000 of F.S.</td>
</tr>
<tr>
<td>20 - 40% of F.S.</td>
<td>1/20000 of F.S.</td>
<td>1/10000 of F.S.</td>
<td>1/4000 of F.S.</td>
</tr>
<tr>
<td>40 - 100% of F.S.</td>
<td>1/20000 of F.S.</td>
<td>1/10000 of F.S.</td>
<td>1/4000 of F.S.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Load measuring accuracy</th>
<th>±1% from 2% to 100% of load cell used.</th>
<th>±1% from 2% to 100% of load cell used.</th>
<th>±1% from 2% to 100% of load cell used.</th>
<th>±1% from 2% to 100% of load cell used.</th>
<th>±1% from 2% to 100% of load cell used.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Crosshead stroke :</td>
<td>1000 (without grips &amp; load cell)</td>
<td>1000 (without grips &amp; load cell)</td>
<td>1000 (without grips &amp; load cell)</td>
<td>1000 (without grips &amp; load cell)</td>
<td>1000 (without grips &amp; load cell)</td>
</tr>
<tr>
<td>Clearance between columns :</td>
<td>450 mm</td>
<td>450 mm</td>
<td>450 mm</td>
<td>450 mm</td>
<td>450 mm</td>
</tr>
<tr>
<td>Crosshead displacement measurement :</td>
<td>0.01 mm</td>
<td>0.01 mm</td>
<td>0.01 mm</td>
<td>0.01 mm</td>
<td>0.01 mm</td>
</tr>
<tr>
<td>Crosshead speed range :</td>
<td>0.5 - 500 mm/min</td>
<td>0.5 - 500 mm/min</td>
<td>0.5 - 500 mm/min</td>
<td>0.5 - 500 mm/min</td>
<td>0.5 - 500 mm/min</td>
</tr>
<tr>
<td>Power Supply :</td>
<td>230 VAC, 50 Hz Single Phase</td>
<td>230 VAC, 50 Hz Single Phase</td>
<td>230 VAC, 50 Hz Single Phase</td>
<td>230 VAC, 50 Hz Single Phase</td>
<td>—</td>
</tr>
</tbody>
</table>

- F. S. = Connected load cell full scale.
- Due to constant R & D specifications & features are subject to change without notice.

CANAN TESTING SERVICES
Accredited by NABL (Dept. of Science & Technology-Govt. of India)
11, 1st Floor, Convenient Shopping Centre, Pocket-F, G.T.B Enclave, Nand Nagari, Delhi - 110093
Tel : +91-11-22580160 | +91-11-22583460 | +91-11-2594094
E-mail : canan@canantesting.com | Web : www.canantesting.com
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, BS & ASTM standards.

Main Features:
- Precision DC Servo motor & drive with ball lead screw gives an advanced drive system with 1 to 1000 standard speed range.
- Computerised 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, metalsheets, fiberglass, leathers, springs, cardboards 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 operation 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, preload, modulus data, test data &specimen data etc.
- 20 input data set storage, 50 results 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.
- RS 232C serial port. Optional windows based software available for ...
- On line graph on PC. Data analysis, statistics, point tracing superimposing graphs to compare with standard, zooming graph etc.

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, 250N, 1kN, 2.5kN, Load cells of different capacity can be offered as per customers requirements

Grip & Clamping Devices:
A wide range of grips are available from FIE such as:
- Bending fixtures. Shearing attachments.

Extensometers:
Electronic analog extensometers are offered with interface card on the control panel to measure with a resolution of 1 micron.
Model: EE2- STRAIN GAUGE.
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 waterfall dig., Mean deviation, frequency distribution, Skew dig., Histogram. Also calculates max. value, min. value, Mean Value, Variance, Standard Deviation. (Other statistical parameters on request). Selectable batch & statistical printouts.
- 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:**

<table>
<thead>
<tr>
<th>MODEL NO.</th>
<th>UNITEK 9701</th>
<th>UNITEK 97025</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Load Range</td>
<td>0 - 1 1/20000 of nominal load cell connected.</td>
<td>0 - 2.5 1/20000 of nominal load cell connected.</td>
<td>kN</td>
</tr>
<tr>
<td>1st Range</td>
<td>0 - 20% of F.S.</td>
<td>1/10000 of nominal load cell connected.</td>
<td></td>
</tr>
<tr>
<td>2nd Range</td>
<td>20 - 40% of F.S.</td>
<td>1/10000 of nominal load cell connected.</td>
<td></td>
</tr>
<tr>
<td>3rd Range</td>
<td>40 - 100% of F.S.</td>
<td>1/4000 of nominal load cell connected.</td>
<td></td>
</tr>
<tr>
<td>Load measuring accuracy</td>
<td>± 1% from 2% to 100% of nominal load cell used.</td>
<td>± 1% from 2% to 100% of nominal load cell used.</td>
<td></td>
</tr>
<tr>
<td>Max. Crosshead stroke</td>
<td>800 (Without grips &amp; load cell)</td>
<td>800 (Without grips &amp; load cell)</td>
<td>mm</td>
</tr>
<tr>
<td>Crosshead displacement measurement</td>
<td>0.01</td>
<td>0.01</td>
<td>mm</td>
</tr>
<tr>
<td>Crosshead speed range</td>
<td>0.5 - 500</td>
<td>0.5 - 500</td>
<td>mm/min</td>
</tr>
<tr>
<td>Power Supply</td>
<td>230 VAC, 50Hz single phase</td>
<td>230 VAC, 50Hz single phase</td>
<td></td>
</tr>
</tbody>
</table>

- OPTIONAL: EE2 Extensometer, Software Packages.
- Due to constant R & D specifications & features are subject to change without notice.