Universal Testing Machine

Model - UNITEK 16100-STS
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Technical Description:
"FIE" Universal Testing Series UNITEK 1600-STS are PLC & HMI based electro-mechanical machines with servo / stepper 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 stepper motor & drive with ball lead screw gives an advanced drive system with 1.0 to 200 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.
- Facility for mounting different load cells and clamping devices to suit various tests & materials like thin wires, metal sheets, fiber glass, leather, spring, card boards etc.
- Built-in USB interface to connect USB printer for data & curve print-out.
- Safety interlock for overload, Safety doors & limit switch sensing to ensure protection during test.
- Universal applications in R&D, Education, Quality control & Production for tests like Tensile, Compression, Bending etc.

Optional Accessories:
"FIE" offers a wide range of optional accessories along with Unitek-1600 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:
- 10kN, 50kN, 100kN load cells as per customers requirements.

Grip & Clamping Devices:
A wide range of grips are available from "FIE" such as:
- Wedge type grips (Manual or Hydraulic)
- 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-Strain Gauge.
- Long travel extensometer, Model - LTE 800.

Touch Screen Control Panel:
PLC based panel incorporating following features:
- Front panel 7” touch screen display.
- Data entry of test parameters (like speeds, rupture %, pre-load, test data & specimen data) with touch screen.
- The data will be stored in JPG format and accessible for external system with USB drive storage.
- Optional remote to ease specimen loading/unloading.
- RS 232, USB & Ethernet ports for communication.

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.

Built – In Touch Screen Display

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Load kN
14.360

Disp. mm
3.09

Load ZERO
Disp. ZERO

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Load kN
14.920

Disp. mm
2.23

Graph
Load ZERO
Disp. ZERO
42
Start
Stop

Home Screen
Test Reading Screen
Universal Testing Machine
Model - UNITEK 16100-STS

Specifications:

<table>
<thead>
<tr>
<th>MODEL</th>
<th>UNITEK-16100-STS</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Load Range</td>
<td>0-100</td>
<td>kN</td>
</tr>
<tr>
<td>Load Resolution</td>
<td>1/20000 of Nominal Load Cell Connected</td>
<td>----</td>
</tr>
<tr>
<td>Load Measuring Accuracy</td>
<td>+ 1% from 2% to 100% of Nominal load of load cell used</td>
<td>----</td>
</tr>
<tr>
<td>Max Crosshead Stroke</td>
<td>1000 (without grips &amp; load cell)</td>
<td>mm</td>
</tr>
<tr>
<td>Crosshead displacement measurement</td>
<td>0.01</td>
<td>mm</td>
</tr>
<tr>
<td>Crosshead speed range</td>
<td>1.0-200</td>
<td>mm/min</td>
</tr>
<tr>
<td>Power Supply</td>
<td>440 VAC, 50 Hz Three Phase</td>
<td>----</td>
</tr>
</tbody>
</table>

Due to constant Research & Development, Specifications and Features are subject to change without notice.

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Real time Graph with load & displacement

Test Result Display

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Tensile Strength

644.379 Mpa

Ultimate Load : 129560.000 N
Max Disp. : 34.63mm
Disp. at Fmax : 22.41mm
Area : 201.061mm²
Elongation : 25.00 %
Red in Area : 38.96 %

Load kN

Disp. mm

125.080

15.64

Print

Test Report

Test Report Graph