Universal Testing Machine

Model - UNIPRO
Electronic Control Panel
(Series UNIPRO-2017 C):
Microcontroller based panel incorporating state of art technology with following features -
- Segment LCD with bigger font.
- Front panel membrane type key board for machine operation and data entry.
- Data entry using key board of test parameters including rupture % peak, pre-load & specimen data etc.
- Calibration secured with password protection.
- Software calibration provision.

Features:
- Open type cross head
- Hydraulic wedge action grips
- Long test stroke and dual test space
- Loading accuracy as high as ± 1%
- Straining at variable speeds to suit a wide range of materials.
- Printer & PC graphs enable study the behavior of the material.
- Motor driven threaded columns for quick effortless adjustment of lower cross-head-to facilitate rapid fixing of test specimen.
- Simplicity in reading because of digital readouts.
- Wide range of standard and special accessories, including load stabilizer.
- Easy change from plain to threaded and screwed specimens.
- Large effective clearance between columns enables testing of standards specimens as well as structures.
- Simple controls for ease of operation.
- Robust straining frame of an extremely rigid construction.
- Safe operation ensured by means of safety devices.
- Fully enclosed and protected pressure transducer.
- RS 232 serial port to transfer data to computer for analysis/USB evaluation etc.
- Load Capacity: 100 kN, 200 kN, 400 kN, 600 kN, 1000 kN and 1200 kN.

Accuracy and Calibration:
FIE Electronic Universal testing machine is closely controlled for sensitivity, accuracy and calibration during every stage of manufacture.

Optional Control Panel
(Series UNIPRO-2017 E):
Microcontroller based panel incorporating state of art technology with following features -
- 7 segment based Universal Control Panel.
- Front panel membrane type key board for machine operation and data entry.
- Data entry using key board of test parameters including rupture % peak, pre-load & specimen data etc.
- Calibration secured with password protection.
- Software calibration provision.

Optional Control Panel
(Series UNIPRO-2017 TS):
- HMI based Universal control panel.
- Data entry using Touch Screen technology.
- UNIPRO-2017 TS provides facility to store data in SD card.
- Live graph viewed on HMI screen, hence no need of PC.
- Result page provides facility to view graph replay for data analysis.
- SD card data can be easily viewed on MS-Excel.
- User friendly software, easy to operate.
- Separate pages provision to view data, data with graph, result & calibration page.
## Universal Testing Machine

**Model: UNIPRO**

### Technical Specifications for - Universal Testing Machine

#### Series - UNIPRO

<table>
<thead>
<tr>
<th>MODEL</th>
<th>UNIT</th>
<th>UNIPRO 10</th>
<th>UNIPRO 20</th>
<th>UNIPRO 40</th>
<th>UNIPRO 60</th>
<th>UNIPRO 100</th>
<th>UNIPRO 120</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Capacity</td>
<td>kN</td>
<td>100</td>
<td>200</td>
<td>400</td>
<td>600</td>
<td>1000</td>
<td>1200</td>
</tr>
<tr>
<td>Measuring range</td>
<td>kN</td>
<td>0-100</td>
<td>0-200</td>
<td>0-400</td>
<td>0-600</td>
<td>0-1000</td>
<td>0-1200</td>
</tr>
<tr>
<td>Load resolution (20000 counts full scale)</td>
<td>N</td>
<td>5</td>
<td>10</td>
<td>20</td>
<td>30</td>
<td>50</td>
<td>60</td>
</tr>
<tr>
<td>Load range with accuracy of Measurement ±/1%</td>
<td>kN</td>
<td>2 to 100</td>
<td>4 to 200</td>
<td>8 to 400</td>
<td>12 to 600</td>
<td>20 to 1000</td>
<td>24-1200</td>
</tr>
<tr>
<td>Resolution of piston movement (Deplacement) for UTE</td>
<td>mm</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>Resolution of piston movement (Deplacement) for UTES, UTE-TS &amp; UTES-TS series</td>
<td>mm</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
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<tr>
<td>Clearance for tensile test (At fully descodced working piston)</td>
<td>mm</td>
<td>50-700</td>
<td>50-700</td>
<td>50-700</td>
<td>50-800</td>
<td>50-850</td>
<td>50-850</td>
</tr>
<tr>
<td>Clearance for compression test (At fully descodced working piston)</td>
<td>mm</td>
<td>0-700</td>
<td>0-700</td>
<td>0-700</td>
<td>0-800</td>
<td>0-850</td>
<td>0-850</td>
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<tr>
<td>Clearance between columns</td>
<td>mm</td>
<td>500</td>
<td>500</td>
<td>500</td>
<td>600</td>
<td>750</td>
<td>750</td>
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<tr>
<td>Ram Stroke</td>
<td>mm</td>
<td>150</td>
<td>200</td>
<td>200</td>
<td>250</td>
<td>250</td>
<td>250</td>
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<tr>
<td>Straining/ Piston Speed (at no load)</td>
<td>mm/min</td>
<td>0-300</td>
<td>0-150</td>
<td>0-150</td>
<td>0-100</td>
<td>0-50</td>
<td>0-65</td>
</tr>
</tbody>
</table>

#### CONNECTED LOAD

| Power                                      | HP   | 2.33      | 2.33      | 3.33      | 3.5       | 3.5        | 3.5        |
| V                                         |     | 400-440   | 400-440   | 400-440   | 400-440   | 400-440    | 400-440    |

#### STANDARD ACCESSORIES

FOR TENSION TEST

| Clamping jaws for round specimens of diameter | mm   | 10-20   | 10-20   | 10-20   | 10-20   | 10-20   | 10-20   |
| Clamping jaws for flat specimens of thickness | mm   | 20-30   | 20-30   | 20-30   | 20-30   | 20-30   | 20-30   |
| Width                                      | mm   | 50      | 50      | 65      | 70      | 70      | 70      |

FOR COMPRESSION TEST

| Par of Compression Plates of diameter. | mm   | 120     | 120     | 120     | 120     | 160     | 160     |

FOR TRANSVERSE TEST

| Table with adjustable rollers | width of rollers | mm     | 160    | 160    | 160    | 160    | 160    |
| Diamter of Rollers            | mm     | 30     | 30     | 30     | 50     | 50     | 50     |
| Maximum clearance between supports | mm   | 500    | 500    | 500    | 600    | 800    | 800    |
| Radius of punch tops          | mm     | 6,12   | 6,12   | 12,16  | 16,22  | 16,22  | 16,22  |