642.01 General-Purpose Bend Fixtures

MTS 642.01 Bend Fixtures are configured to meet a variety of testing requirements. They are well-suited for plastics tests (ASTM D-790 flex test) and composites tests (ASTM D-2344, short beam shear) as well as general-purpose tests of all materials. These units have a load capacity of 30 kN (6.6 kip) and can be used for testing over a wide range of temperatures. The fixtures have adjustable spans with easy-to-use, permanently attached scales (one side in English units the other in metric) for equal positioning of the rollers. The span can be set up in a four-point configuration, for a region of constant stress, or in a three-point configuration, to provide a line of maximum stress. Any of the roller sizes listed below may be specified.

**BENEFITS**

**Versatile**
- You can configure for either three or four-point tests.
- Adjustable to a variety of span widths.
- Both English and metric scales provided.

**Wide Temperature Range**
- From –130° to +150°C (–200° to +300°F).

**OPTIONS**

**Additional Rollers**
- Made from corrosion-resistant, hardened stainless steel and available in a variety of sizes (see table).

**Attachment Kits**
- For mounting on threads different from the 1/2-20 or M12 x 1.25 mounting bolts supplied.
- Displacement gage mount accommodates a 632.06 extensometer with ±4.0 mm (±0.16 in) travel, ±6.0 mm (±0.25 in) travel, and ±12.5 mm (±0.50 in) travel.

**Mounting Adapter**
- Design accommodates both an electromechanical and servo-hydraulic mounting. The electromechanical mounting requires a Type D (1-1/4 in) upper and lower pinned clevis. Servo-hydraulic mounting is accomplished using the 1/2-20 or M12x1.25 mounting bolts.

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Model</th>
<th>Force Cap. Static</th>
<th>Dynamic</th>
<th>Lower Assembly Span Weight</th>
<th>Upper Assembly Span Weight</th>
<th>Available Roller Diameters</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>642.01A-01</td>
<td>30 kN</td>
<td>10 kN</td>
<td>3 pt 24 to 152 mm 1.8 kg (4 lb)</td>
<td>N/A 1.1 kg (0.25 lb)</td>
<td>5, 10 mm 0.94 to 6 in</td>
<td>51427701</td>
</tr>
<tr>
<td>642.01A-02</td>
<td>30 kN</td>
<td>10 kN</td>
<td>3 &amp; 4 pt 24 to 152 mm 1.8 kg (4 lb)</td>
<td>24 to 76 mm 1.1 &amp; 1.13 kg (0.25 &amp; 2.5 lb)</td>
<td>5, 10 mm 0.94 to 6 in</td>
<td>51427801</td>
</tr>
</tbody>
</table>

*Cap screws (both 1/2"-20 and M12 x 1.25) are provided for mounting. Attachment kits (threaded inserts) for other mounting sizes are available.