The ESM300 is a highly configurable motorized test stand for tension and compression applications up to 300 lbF (1.5 kN). This tester introduces a unique concept in force testing: all major controller software features are optional and may be purchased at time of order or added by the user in the field at a later date. Such flexibility makes the ESM300 a highly versatile tester that can be as basic or advanced as required, from basic push/pull requirements to advanced sequences for demanding test procedures. When fully equipped, the stand has a class-leading speed range, programmable cycling sequences with dwell time at limits, auto-return, button control options, password protection, and more. An LCD with intuitive menu navigation and modular mechanical design round out the exciting features of this motorized test stand.

**Standard Features**

**Controller Features**
- LCD display with UP, DOWN, STOP, and emergency stop buttons and soft keys
- Selectable speed units of measurement (in/min & mm/min)
- Configurable password prevents unwanted changes to test parameters

**Test Frame Features**
- Integrated travel limit switches
- Removable fixture mounting plate with matrix of threaded holes
- Stepper motor-driven, produces 0% speed variation with increasing load
- Mounting holes for bench mounting
- Unique mechanical design significantly reduces column bending

**Optional Hardware Features**

- Digital travel display
  6” [150 mm] travel, 0.0005” [0.01 mm] resolution, SPC output for data collection.

- Set point cable
  Stops test stand travel or cycles between programmable high and low force set points. Compatible with Mark-10 force gauges with set point outputs only.

- Overload protection module
  Protects the force gauge against overloads, adjustable from 20 - 110% of gauge’s full capacity. Compatible with Mark-10 force gauges equipped with analog output.

- Column extensions
  Available in 6” (150 mm), 12” (300 mm), 24” (600 mm), and custom lengths
### Optional Controller Features

Any of the below option packages may be purchased at time of order or may be added in the field at a later date by entering an activation code.

- **Auto-return**
  The crosshead moves to a limit switch or force set point (requires a force gauge with set point outputs), stops, and reverses direction at full speed to the other limit switch or set point.

- **Cycling / Dwell Time**
  The crosshead to move up and down between limit switches or force set points (requires a force gauge with set point outputs). Configurable up to 99,999 cycles. Dwell time allows the operator to program the length of time, up to 9,999.9 seconds, in 0.1 second intervals, for which the crosshead pauses at limits.

- **Programmable Button Functions**
  Expands UP and DOWN button operation to three user-configurable modes:
  1. Maintained (standard): a short push produces continuous motion until STOP is pressed
  2. Momentary: crosshead moves only while the button is pressed
  3. Auto: short push produces maintained motion, while holding the button down will produce momentary motion

- **Independent Up and Down Speeds**
  Configurable speeds for up and down directions

- **Low Speed Extended Range**
  Extends the speed range to 0.02 - 13 in/min (0.5 - 330 mm/min)

- **High Speed Extended Range**
  Extends the speed range to 0.5 - 45 in/min (13 - 1100 mm/min)

- **Complete Speed Range**
  Extends the speed range to 0.02 - 45 in/min (0.5 - 1100 mm/min)

- **Complete Options Package**
  Includes all the above options

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**Specifications**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Load capacity</td>
<td></td>
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<tr>
<td>Up to 24 in/min (610 mm/min)</td>
<td>300 lbF [1.5 kN]</td>
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<tr>
<td>&gt; 24 in/min (&gt; 610 mm/min)</td>
<td>200 lbF [1 kN]</td>
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<tr>
<td>Standard speed range</td>
<td>0.5-13 in/min [13-330 mm/min]</td>
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<tr>
<td>Maximum travel</td>
<td>12.5 [317 mm]</td>
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<tr>
<td>Speed setting accuracy</td>
<td>±0.2%</td>
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<tr>
<td>Speed variation with load</td>
<td>±0% [Stepper motor driven]</td>
</tr>
<tr>
<td>Limit switch repeatability</td>
<td>0.001 in [0.03 mm]</td>
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<tr>
<td>Power</td>
<td>Universal input 80-240 VAC, 50/60 Hz</td>
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<tr>
<td>Weight (without options)</td>
<td>32 lbs [14.5 kg]</td>
</tr>
<tr>
<td>Included accessories:</td>
<td>Extension rod, small hook, medium hook, #10-32 coupler, compression plate, force gauge mounting hardware, tool kit</td>
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</tbody>
</table>

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**Ordering Information**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESM300</td>
<td>Motorized test stand, 110 V</td>
</tr>
<tr>
<td>ESM300E</td>
<td>Motorized test stand, 220 V</td>
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<tr>
<td>ESM300-001</td>
<td>Digital travel display, 6” x 0.0005 (150 mm x 0.01)</td>
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<tr>
<td>ESM300-002-1</td>
<td>Column extension, 6”</td>
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<tr>
<td>ESM300-002-2</td>
<td>Column extension, 12”</td>
</tr>
<tr>
<td>ESM300-002-3</td>
<td>Column extension, 24”</td>
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<tr>
<td>09-1090</td>
<td>Set point cable</td>
</tr>
<tr>
<td>11-1042</td>
<td>Overload protection module</td>
</tr>
</tbody>
</table>

**Controller Options**

- CF001 Auto return
- CF002 Cycling / dwell time
- CF003 Programmable button functions
- CF004 Independent up and down speeds
- CF005-1 Low speed range extension
- CF005-2 High speed range extension
- CF005-3 Complete speed range
- CF006 Complete options package (includes all above items)

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Digital controller contains a backlit LCD screen with menu choices for ease of setup and operation.