Advantage™ High Elongation Extensometer (AHX 800)

Reliable, accurate measurement for elastomers, plastics and films

- Accurately measure strain in specimens prone to large displacement: latex, silicone, rubber, film, other elastomers
- Travel range up to 800 mm (31.5 in.)
- Optical digital encoder eliminates noise, signal drift and output changes
- Innovative balanced design with optimized arm and head weights
- Swings away from test area when not in use
- Extends the utility of MTS Criterion™ Test Systems and other electromechanical load frames

Expanding the diverse family of MTS contacting extensometers, the AHX800 provides an affordable, reliable and accurate way to measure strain in materials that are prone to very large displacement in tension. These materials include latex, silicone, rubber, polyurethane, polycarbonate, films and other elastomers. To accommodate high-elongation specimens, the AHX800 incorporates an adjustable mechanical spring to measure strain over a larger range than is typical – up to 800 mm (31.5 in.).

The AHX800 design is based on decades of experience by MTS application engineers and continuous feedback from customers around the world. Its lightweight arms and optimized head weight ensure proper balance during testing and lower the risk of equipment damage at specimen failure.

The two leaf arms are designed to attach easily to specimens. During testing, a precision optical encoder (transducer) detects leaf arm movement to determine exact displacement. The encoder sends corresponding pulses to a circuit board where they are converted for use by the controller. This design enhances measurement accuracy by eliminating noise, signal drift and output changes.

The AHX800 extensometer is ideal for testing dog-bone elastomer specimens in accordance with ASTM D412 and ISO 37 specifications. It also meets or exceeds ASTM E83 Class B1 and ISO 9513 Class 0.5 calibration requirements.
Convenient, user-friendly design

The AHX800 is designed to enable simultaneous specimen loading and gripping force adjustment. When not in use, the extensometer can be rotated 40° away from the test area, conveniently allowing test professionals to arrange other setups without having to remove it from the test system.

Versatile operation

The AHX800 can interface with a wide variety of grips and fixtures to accommodate as many different materials and test protocols as possible. It features adjustable gage length and easily adjusts to different length specimens. The extensometer also supports metric and American Customary gage lengths.

Low-impact specimen contact

The AHX800 requires minimal static and dynamic activation forces. Additionally, it employs a set of four easy-to-change contact knives that are designed to reduce stress concentrations and prevent premature breakage of delicate specimens; knife profiles include flat, rubber, sharp and round faces, all packaged on a compact, rotatable square block. An adjustable gripping force prevents slippage during testing, further minimizing the impact of specimen contact and ensuring measurement integrity.

The lightweight AHX800 assembly includes: leaf arms; arm clamp force adjustment; four knife profiles (flat, round, rubber, sharp); and adjustable gage length stop.

The versatile AHX800 can interface with a wide variety of grips and fixtures: MTS Fundamental™ Pneumatic Bollard Grips (left); MTS Fundamental Pneumatic Vise Grips (right).
The AHX800 is compatible with all MTS Criterion™ Series 40 electromechanical load frames: tabletop Model 42 (left), floor-standing Model 44 (right).

Broad test system compatibility

Highly adaptable, the AHX800 extensometer is compatible with all MTS electromechanical frames, including the MTS Criterion™ Test Systems. This extensometer provides an especially easy and cost-effective way to extend the utility of Criterion load frames and add extensive elastomer testing capabilities to any lab. If required, adapter kits are available for integrating the extensometer with MTS servohydraulic load frames and load frames from other manufacturers.

Learn more today

Contact your MTS representative to learn how the Advantage High Elongation Extensometer can extend your ability to accurately measure elastomers, plastics and films.
### Specifications

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<tr>
<td><strong>Gage Lengths</strong></td>
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<tr>
<td>10 mm (0.4 in)</td>
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<tr>
<td>20 mm (0.8 in)</td>
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<tr>
<td>25 mm (1.0 in)</td>
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<tr>
<td>50 mm (2.0 in)</td>
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<tr>
<td>100 mm (3.9 in)</td>
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<tr>
<td><strong>Unit Weight</strong></td>
<td>10 Kg (22 lb)</td>
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<tr>
<td><strong>Minimum Gage Length</strong></td>
<td>10 mm (0.39 in)</td>
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<tr>
<td><strong>Travel</strong></td>
<td>800 mm (31.5 in)</td>
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<tr>
<td><strong>Gripping Force</strong></td>
<td>Spring adjustable</td>
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<tr>
<td><strong>Resolution</strong></td>
<td>0.004 mm</td>
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<tr>
<td><strong>Gripping Force</strong></td>
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<tr>
<td><strong>Arm Opening</strong></td>
<td>40 mm (1.5 in)</td>
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<tr>
<td><strong>Range</strong></td>
<td>5°C to 50°C</td>
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**Extensometer Dimensions**

- Depth: 307 mm (12.09 in)*
- Width: 118 mm (4.6 in)
- Height: 1087 mm (42.8 in)

*Includes 100 mm (3.9 in) extension of leaf arms

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