

For transverse or diametral strain measurements at temperatures to 1000 °C (1832 °F). These extensometers may be used with furnaces having a side entry slot for an extensometer or with induction heating systems. They utilize a proprietary, rugged dual flexure design.



Model 3580 extensometer

This model is for diametral strain measurement with furnace and induction heating systems. Quartz rods and water-cooling allow the unit to be used for high temperature testing of metals, ceramics and composites.

With induction heating, this model often can be used without water-cooling.

When used in furnaces, the extensometer is often mounted directly to the furnace side cut-out. Optional load frame mounting brackets are available for supporting the extensometer in cases where furnace mounting is not possible. These optional mounts are used with induction heating or furnace systems.

The Model 3580 extensometers are strain gaged devices, making them compatible with any electronics designed for strain gaged transducers. Most often they are connected to a test machine controller. The signal conditioning electronics for the extensometer is typically included with the test machine controller or may often be added. In this case the extensometer is shipped with the proper connector and wiring to plug directly into the electronics. For systems lacking the required electronics, Epsilon can provide a variety of solutions, allowing the extensometer output to be connected to data acquisition boards, chart recorders or other equipment.

See the electronics section of this catalog for available signal conditioners and strain meters.



Model 3580 mounted to split furnace

Features

- **May be left on through specimen failure.**
- Full bridge, 350 ohm strain gaged design for compatibility with nearly any test system.
- All standard units have linearity readings of 0.15% or better.
- Suitable for measuring Poisson's ratio per ASTM E132 with most materials and specimens.
- Each unit comes with a spare set of quartz rods, universal water-cooled mounting bracket and a foam lined storage case.
- Rugged, dual flexure design for strength and improved performance. Much stronger than single flexure designs, this also allows cyclic testing at higher frequencies.
- Versions available for use in vacuum environments (consult factory).
- High purity alumina ceramic rods (1200 °C) or alpha grade silicon carbide rods (1600 °C) are available.

SPECIFICATIONS

Excitation: 5 to 10 VDC recommended, 12 VDC or VAC max.

Output: 2 to 4 mV/V nominal, depending on model

Linearity: ≤0.15% of full scale measuring range, depending on model

Temperature Range: Standard is -40 °C to +1000 °C (-40 °F to 1832 °F)

Cable: Integral, ultra-flexible cable, 2.5 m (8 ft) standard

Specimen Size: Works with sample diameters from 4.5 to 16 mm (0.18 to 0.63 inch)

Contact Force: Adjustable, 100 to 300 g typical

OPTIONS

Special rods are available for large specimens

Ceramic rods for testing to 1200 °C or 1600 °C

Model 2050 constant temperature water re-circulating bath

Connectors to interface to nearly any brand test equipment

Shunt calibration module (see page 120)



Model 2050 Constant Temperature Re-Circulation Bath

This bath provides the controlled temperature flow for water-cooled extensometers. Capable of cooling or heating the water, temperature is maintained within 0.1 °C. These units are ideal for obtaining the maximum stability of any water-cooled extensometer.



ORDERING INFORMATION

Model 3580 Available Versions: ANY combination of measuring range and temperature range listed below is available. Quartz rod lengths are made to fit furnaces as required. Please provide furnace and specimen dimensions at the time of order. Other configurations may be available with special order; please contact Epsilon to discuss your requirements.

Measuring Range	
U.S.A.	
-020T	±0.020"
-030T	±0.030"
-060T ¹	0.060"
-075T ^{1,2}	0.075"
-200T ^{1,2}	0.200"
METRIC	
-050M	±0.50 mm
-075M	±0.75 mm
-150M ¹	1.50 mm
-200M ^{1,2}	2.00 mm
-500M ^{1,2}	5.00 mm

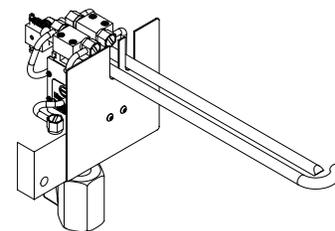
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¹ Total measuring range in either tension or compression. Specify direction of extensometer measuring range when ordering.

² Special order only.

Example: 3580-030T: ±0.030 inches measuring range, temperature range of -40 °F to 1832 °F

Visit our website at www.epsilontech.com
Contact us for your special testing requirements.



MODEL 3580 EXAMPLE