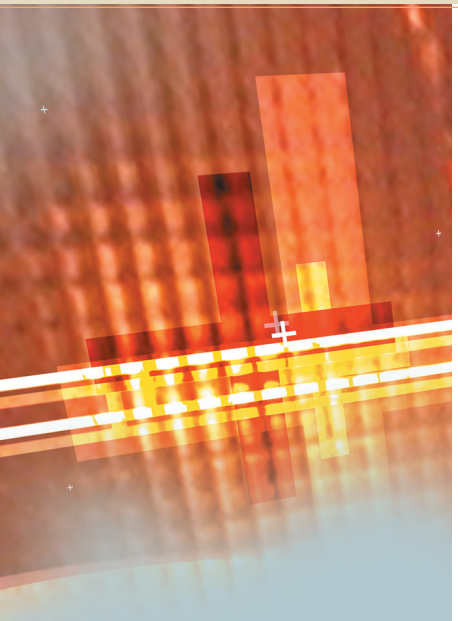
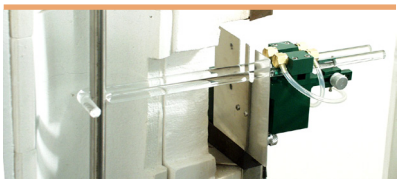


For transverse or diametral strain measurements at temperatures to 1000 °C (1832 °F). These extensometers may be used with furnaces having a side entry slot for an extensometer or with induction heating systems. They utilize a proprietary, rugged dual flexure design.



Model 3580 extensometer

This model is for diametral strain measurement with furnace and induction heating systems. Quartz rods and liquid 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 liquid 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.

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 with electronics for a strain channel, and Epsilon will equip the extensometer with a compatible connector wired to plug directly into the controller. For systems lacking the required electronics, Epsilon can provide a variety of signal conditioning solutions that enable connecting to data acquisition systems or other equipment.

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.
- High purity alumina ceramic rods (1200 °C) or alpha grade silicon carbide rods (1600 °C) are available.
- Versions available for use in vacuum environments (consult factory).
- Rugged, dual flexure design for strength and improved performance. Much stronger than single flexure designs, this also allows cyclic testing at higher frequencies.
- Includes the Epsilon Shunt Calibration System for on-site electrical calibration.
- Each unit comes with a spare set of quartz rods, universal liquid-cooled mounting bracket and a foam lined storage case.

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
Coolant Interface:	Two barbed hose fittings for 1/8" (3.2 mm) ID coolant hoses
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 EPS170 constant-temperature recirculating chiller - *see the Options tab on the web page for important details about liquid cooling requirements*
Connectors to interface to nearly any brand of test equipment

CE CERTIFIED

Model EPS170 Constant-Temperature Recirculating Chiller

This chiller provides a continuous flow of coolant at a constant temperature for liquid-cooled extensometers. Capable of cooling or heating the coolant, coolant temperature is maintained within 0.1 °C. These units are ideal for obtaining the maximum stability of liquid-cooled extensometers. See website for dimensions.

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	
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
U.S.A.	
-020T	±0.020"
-030T	±0.030"
-060T[1]	0.060"
-075T[1, 2]	0.075"
-200T[1, 2]	0.200"

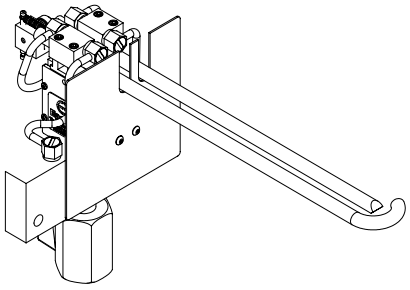
Model Number 3580- __ __ __ __

[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