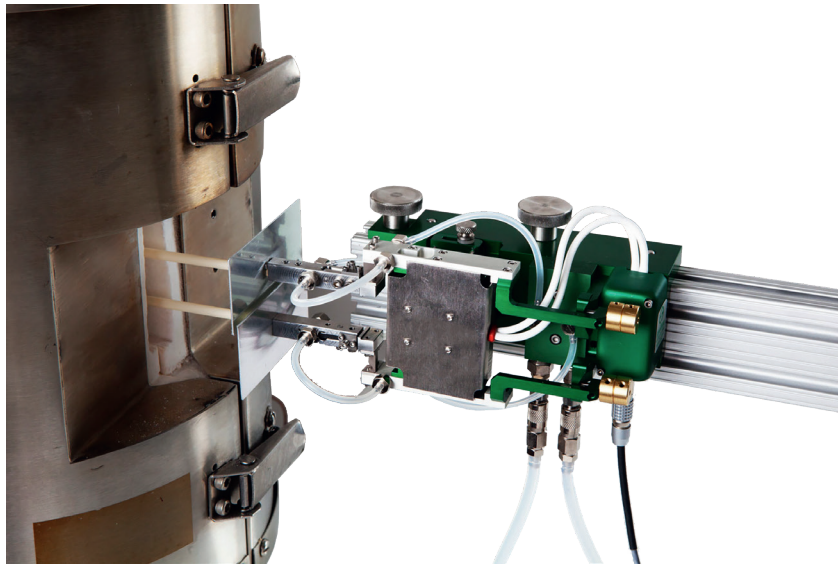


High Temperature, Hot Mountable furnace Extensometer Series 3549

The Model 3549 features a very low sensitivity to vibration and hence is suited for high temperature, strain controlled axial testing and other normal test methods. It is possible to connect this model to the test sample in a few seconds.

This latest extensometer is developed to satisfy the strict demands of strain controlled testing as mentioned in ISO 6892, while offering a number of new features that will enhance productivity with static testing applications such as compression and tension testing and long term testing like creep and low cycle fatigue.



The design is such that it is not affected by impact from external vibrations. The unit also includes a novel feature enabling the user to accurately fix the contact force against the test specimen. This enables a repeatable and even contact force restricting contact force-induced errors. This extensometer is mounted on a slide bracket which can attach to the load frame of the test system and optional load frame mounting brackets are offered.

The gauge length is set automatically before mounting on the test specimen enabling hot mounting after reaching a thermal equilibrium.

The Model 3549 standard temperature version is designed to be used in split type materials testing furnaces to 1200°C (2200°F) and is inclusive of water-cooled bracketry.

The extensometer finds applications in carousel systems for quick high temperature testing since the high temperature option enables temperatures up to 1600 °C (2900 °F).

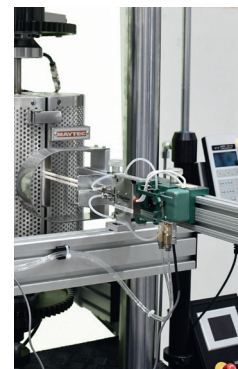
The standard temperature instrument (to 1200 °C) is equipped with high purity alumina rods. The high temperature instrument comprises alpha grade silicon carbide rods.

The rods are as per used furnace. It is possible to integrate mounting brackets with the furnace cut-out. Load frame mounting brackets are available to fit the our testing machines.

These extensometers are strain gaged devices and they show compatibility with any electronics developed for strain gaged transducers.

The application range includes:

- Tension • Compression • Low Cycle Fatigue • Thermo Mechanical Fatigue
- Through Zero Fatigue • Strain-controlled Testing



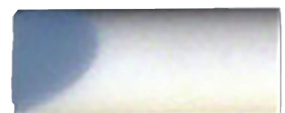
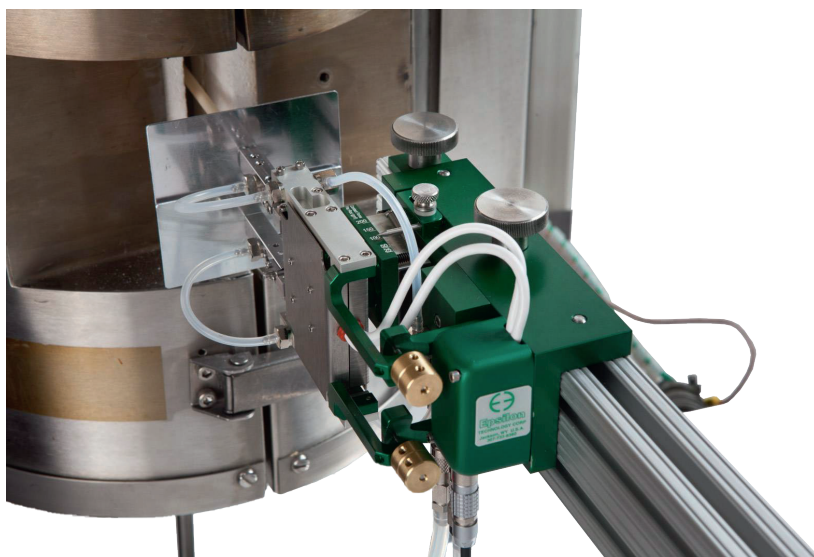
Features

- They are developed for those applications that need greater than ± 0.10 inches (± 2.5 mm) full scale measuring range.
- Can be left on through specimen failure
- The extensometer is developed such that it satisfies the demands of strain-controlled testing as is required by ISO 6892, and also more common testing. The model 3549 isolates strain sensing components from outside vibrations.
- Using innovative auto-setting mechanism, the gauge length is automatically set between each test and enables the device to be mounted to the sample in just a few seconds.
- The included contact force setting assembly enables convenient control of the low contact force.
- With the same amount of force, this enables easy repeatable placement of the extensometer on subsequent specimens.
- A novel slide mount enables the extensometer to engage the specimen after achieving the test temperature.
- All models can be used for cyclic testing and also measure in both tension and compression
- By using gauge length spacers, the gauge length of the 3549 can be easily adjusted to almost any gauge length
- Road length configurations may impact the final class rating and most standard units satisfy existing ISO 9513 class 0.5 and ASTM class B-1 requirements for accuracy
- Quick attach connectors are provided with the 3549 for the water cooling lines and the electrical connections, enabling easy installation of the extensometer body
- The model features dual, rugged flexure design for enhanced performance
- The 3549 can be used in carousel systems or with single furnaces
- Full bridge, 350 Ω strain gaged design for compatibility with almost any test system.
- In both directions, mechanical overtravel stops are possible
- All units are provided with either high purity alumina ceramic rods (1200°C) or alpha grade silicon carbide rods (1600°C)
- Includes high quality foam lined case and a spare set of ceramic rods

Supplied Parts

- One set of extension rods. Rod lengths are made to fit furnace
- Slide mounting (mounting arm) with friction lock-on linear slide for loading contact rods into testing position
- Includes high quality foam lined case
- **Constant temperature recirculating chiller, mounting bracket or column mounting bracket sold separately**

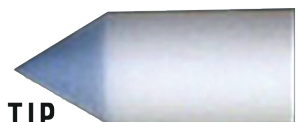
Available Rod Tip Styles



STRAIGHT CHISEL
Flat and round specimens



VEE CHISEL
Round specimens



CONICAL TIP
Flat specimens

Important Note

Liquid cooling is recommended for all elevated temperature tests to obtain the best measurement accuracy and retain the validity of a room temperature calibration when the specimen temperature is >540 °C (1000 °F). Cooling is necessary to prevent extensometer damage for testing in the range of ~ 800 -1600 °C (1500-2900 °F).

Straight Chisel: Most versatile, since they can be used with round for flat specimens
Vee chisel: For round specimens
Conical Chisel: For flat specimens

Specification:

Excitation:	5 to 10 VDC recommended, 12 VDC or VAC max.
Output:	1.5 to 2 mV/V, nominal, depending on model
Accuracy:	Standard configurations meet ASTM E83 class B-1 and ISO 9513 class 0,5 requirements for accuracy. A test certificate is included. Rod lengths >250 mm (10 ") can affect the final class rating.
Temperature Range:	Standard (-ST) is to 1200 °C (2200 °F), optional (-HT) 1600 °C (2900 °F)
Cable:	Integral, ultra-flexible cable, 2.5 m (8 ft) standard
Contact Force:	Adjustable up to 400 g
Operating Force:	<30 g typical

Technical Data

Model 3549 Available Versions: ANY combination of gauge length, measuring range and temperature range listed below is available, except as noted. *Other configurations may be available with special order; please contact us to discuss your requirements.*

Model Number 7650A	0125M	015	ST
Gage Length			
Travel			
Temperature Ranges			

Gage Length:	
-010M	10.0 mm
-0125M	12.5 mm
-020M	20.0 mm
-025M	25.0 mm
-030M	30.0 mm
-040M	40.0 mm
-050M	50.0 mm

Measuring Range (Travel)	
-010¹	±10%
-020	+20%/-10%
-050	+50%/-10%
-100²	+100%/-5%

Temperature Ranges:		
Standard	ST	Ambient to 1200 °C
High	HT	Ambient to 1600 °C

¹ Not available in 10 mm, 12.5 mm, or 0.5 inch gauge lengths.

² Not available in 50 mm or 2 inch gauge lengths.

Example: 3549-025M-050-HT: 25 mm gauge length, +50%/-10% measuring range, high temperature option (room temperature to 1600 °C)

Options:

- Constant-temperature recirculating chiller
- High temperature (-HT suffix) option for use up to 1600°C
- Load frame mounting brackets

