



Epsilon's very high resolution calibrator features 20 nanometers (0.8 micrometers) resolution and has 50 mm (2 inches) of measuring range.

The 3590VHR is provided with software to display the calibrator readings and optional netbook PC or digital display. The 3590VHR calibrator meets the accuracy and resolution requirements for ASTM E83 Class B-I for a 6 mm gauge length and greater extensometers and ISO 9513 Class 0,5 over the full measuring range of the calibrator.



Model 3590VHR calibrator with digital readout display option



Coarse and fine adjustment knobs for fast and accurate positioning



Model 3590VHR calibrator storage case

▶ See the Model 3590VHR extensometer videos

**Supplied with ISO 17025 accredited calibration**



Model 3590VHR calibrator with software (computer optional)

The 3590VHR uses a coarse adjustment screw for large displacements, coupled with a fine adjustment screw that allows fine adjustment to within approximately 0.025 microns (about 1 micro inch). When it comes time to calibrate your extensometers, these calibrators are easier to use and faster than any others on the market. They

have enough measuring range to calibrate nearly all extensometers, and enough resolution to calibrate units with low measuring ranges.

The software provided reads in both inches and millimeters. The autozero function is a great help in calibrating. Just activate it to start readings from zero. The digital display reduces operator error.

A wide range of adapters are available. The calibrator comes with smooth round adapters of 9.52 mm diameter (0.375 inches). For special adapters, contact Epsilon. For very long gauge length extensometers, an optional extension post is available. The calibrator is provided with a calibration traceable to NPL (UK standards organization).

**Model 3590 Adapters**

Enables use with a wide variety of extensometer models.



## Features

- Scale calibration traceable to NIST.
- System fully calibrated traceable to NPL (UK standards organization).
- Software for Windows based PC provided, a PC with a USB port is required.
- Readings taken on the PC with included software may be save to a data file.
- Uses the same adapters as the model 3590 and 3590HR calibrators.
- Provided with a foam lined case for storage.
- Optional Netbook PC or stand-alone digital readout display.

## SPECIFICATIONS

<i>Measuring Range:</i>	50 mm (2 in) Maximum displacement
<i>Maximum Range:</i>	125 mm (0-5 in) (Maximum gauge length + displacement)*
<i>Accuracy:</i>	±0.19 µm (±7.5 µin ) over any 0.12 mm (0.00475 inch) range Meets ASTM E83 Class B-1 for a 6 mm gauge length and greater extensometers and ISO 9513 Class 0,5 over the full measuring range of the calibrator
<i>Resolution:</i>	20 nm (0.8 µin)
<i>Temperature Range:</i>	18 °C to 28 °C (64 °F to 82 °F) operation**, -10 °C to 60 °C (14 °F to 140 °F) storage
<i>Relative Humidity:</i>	<90% (Non-condensing)
<i>Connectivity:</i>	USB 2.0 interface, self-powered
<i>Weight:</i>	3.6 kg (8 lbs) (standard configuration)
<i>Adapters:</i>	Ø9.52 mm (0.375 inch) adapter set included*
<i>EMC Compliance:</i>	BS EN 61326-1: 2006
<i>Environmental:</i>	EU Directive 2011/65/EU (RoHS)

\*Other options available upon request

\*\*Recommended range



## OPTIONS

### Digital readout display

### Optional extensometer adapter sets, extension posts, and horizontal configuration kit:

- 3590-01** Smooth, round 6.35 mm (0.25 inch) diameter adapters
  - 3590-02** Adapters for flat specimens
  - 3590-3549** Adapters for Model 3549
  - 3590-3648** Adapters for Model 3648
  - 3590-03** Adapters for clip-on fracture mechanics gages
  - 3590-04** Transverse extensometer adapters (Model 3560)
  - 3590-11** Transverse extensometer adapters (Models 3575AVG, 3575, 3475, 3580, 3565, 3911 and 3975)
  - 3590-11-KIT** Horizontal conversion kit for transverse extensometers – consists of legs for horizontal configuration, additional springs, and 3590-11 adapters; enables verification of transverse extensometers in the orientation that will be used for testing, as required by some calibration and verification standards
  - 3590-06** Adapters for large averaging extensometers (Models 3542RA and 3442RA1)
  - 3590-05** Circumferential adapters for Model 3544
  - 3590-4013** Shear adapters for Model 4013
  - 3590-3421** Shear adapters for Model 3421
  - 3590-07** 100 mm (4 inch) extension post for long gauge length extensometers
  - 3590-55-10** 250 mm (10 inch) extension post for long gauge length extensometers
  - 3590-55-24** 600 mm (24 inch) extension post for long gauge length extensometers
- Custom – contact Epsilon for adapters to fit Models 7650A, 7650, 7651, and 3567  
 Note: Model 3590VHR and 3590 calibrators include 9.52 mm (0.375 inch) diameter smooth round adapters

WITH EPSILON'S IN-HOUSE LASER INTERFEROMETER SYSTEM, THE FULL CALIBRATOR SYSTEM CAN BE CALIBRATED TRACEABLE TO NPL. NO LONGER DO CUSTOMERS HAVE TO RELY ON MICROMETER HEAD ONLY OR POTENTIALLY ERROR-PRONE GAUGE BLOCK CALIBRATIONS FOR FULL SYSTEM CALIBRATIONS.

*Epsilon is one of the only companies in the world with the capability to perform full system calibrations on high resolution extensometer calibrators.*

With Epsilon high resolution systems, you are assured compliance. When looking for a calibrator to meet ASTM and ISO specifications, the accuracy of the device is key for compliance, which is why full system calibration is essential to meet ISO 9513 and ASTM E83 requirements.

Standards Labs in most countries have signed a Mutual Recognition Arrangement CIPM MRA. This includes the NPL in the UK, NIST in the USA and many others. This makes them effectively traceable to each other. Services of the NPL are equivalent to those offered by NIST and are recognized by NIST through this agreement of reciprocity. [www.bipm.org/en/cipm-mra/](http://www.bipm.org/en/cipm-mra/)

See more about extensometer calibration at [www.epsilontech.com](http://www.epsilontech.com)  
 Contact us for your special testing requirements.