

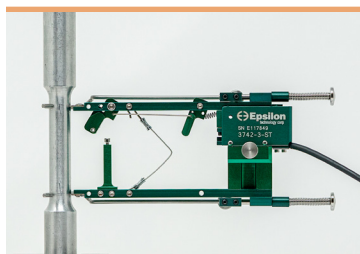


Clip-on extensometers featuring automatic gauge length setting

for fast, repeatable mounting to samples — no gauge pins required.

Switch gauge lengths in seconds using the new Quick-Swap gauge

length system. Built for productivity with high precision.



Model 3742 with 50 mm gauge length and
+25 mm / -5 mm measuring range

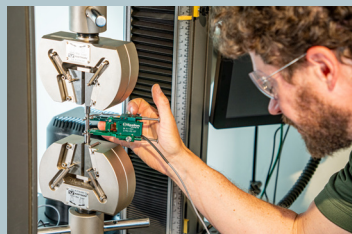
The Model 3742 clip-on extensometer is designed for fast mounting and high testing efficiency. It is ideal for laboratories that require frequent specimen and gauge length changes, reduced setup time, and consistent, repeatable strain measurements. The 3742 is applicable for testing a wide range of materials, including metals, plastics, composites, and ceramics, in both tension and compression.

This model sets the gauge length automatically as the extensometer is mounted on the specimen. Gauge length pins are not required. Gauge lengths can be changed in seconds, without tools, using the 3742's new Quick Swap gauge length system, and fine adjustments can be made to ensure that the gauge length remains within tolerance. Clamping force is easily adjusted without tools.

The Model 3742 includes Epsilon's quick attach kit as a standard feature, allowing the extensometer to be mounted quickly and easily.

Model 3742 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 solutions for signal conditioning and connection to data acquisition systems or other equipment.

For gauge lengths not listed in the Ordering Information table, see models 3442, 3542, 3542L, and Epsilon ONE®.



Mounting with 3742's automatic gauge
length mechanism



Model 3742 with 25 mm gauge length and
+25 mm / -5 mm measuring range



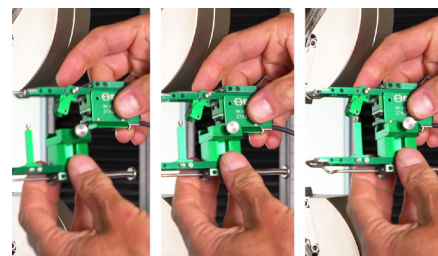
Model 3742 with 25 mm gauge length and +12.5
mm / -5 mm measuring range



See the Model 3742 extensometer videos



The gauge length is set automatically



Swap gauge lengths in seconds

Features

- Automatic gauge length – the gauge length is set automatically when the extensometer is mounted on the specimen, eliminating gauge pins and enabling faster testing.
- Change gauge lengths in seconds using the Quick-Swap gauge length system – no tools required.
- Gauge length fine-adjust feature makes adjustments quick and easy if an adjustment is required.
- Clamping force is easily adjusted without tools.
- May be left on through specimen failure in most applications.
- All models can measure in both tension and compression and can be used in closed-loop strain control and for cyclic testing.
- Standard quick attach kit allows fast mounting to specimens.
- Rugged, dual flexure design for strength and improved performance. Much stronger than single flexure designs, this also allows cyclic testing at higher frequencies.
- Includes mechanical overtravel stops in both directions.
- Hardened tool steel knife edges are easily replaced. A spare set of standard knife edges and a set of 3-point knife edges come with every model 3742.
- High and low temperature options for -270 °C to +200 °C (-454 °F to +400 °F).
- Compatible with nearly any test system – full bridge, 350 ohm strain gaged design.
- Includes the Epsilon Shunt Calibration System for on-site electrical calibration.
- Includes high quality foam lined case.
- Applicable for testing to:
 - ISO 6892-1, 527-2, 527-4, 527-5, 10113
 - ASTM E8, E9, D3039, D638, A370, D3552, E517, E646

SPECIFICATIONS

Specimen Sizes & Attachment: Quick Attach Kit wireforms are included for round samples 2-25 mm (0.08-1.0 inch) diameter and flats up to 12 mm thick by 31 mm wide (0.5 inch by 1.25 inch); wireforms are available for many other specimen sizes – contact Epsilon
Model 3442 is recommended for specimen diameters <2 mm

Accuracy: Meets ASTM E83 class B-1 accuracy requirements. A test certificate is included.

Linearity: ≤0.15% of full scale measuring range

Temperature Range: Standard (-ST) is -40 °C to +100 °C (-40 °F to 210 °F); see Ordering Information for additional ranges

Operating Force: Depends on model configuration; 10 to 100 grams typical

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

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

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

OPTIONS

Quick-Swap gauge lengths

Quick Attach Kit wire forms for larger specimens

Gauge length pin assembly with rubber band and spring attachments for non-ambient testing

Connectors to interface to nearly any brand of test equipment

Special strain gage coatings and stainless steel knife edges for biomedical testing

Specialty knife edges (see page 106)



EPSILON TECH-Innovative designs
and factory direct sales.

ORDERING INFORMATION

Model 3742 Available Versions: ANY number of gauge lengths may be ordered with one measuring range. The last digit of the Gauge Lengths' model numbers must match the Measuring System that they will be used with. The measuring range cannot exceed the gauge length. Contact Epsilon if you need gauge lengths with mixed (mm and inch) units. See models 3442, 3542, 3542L, and Epsilon ONE® for gauge lengths not listed below.

Order one Measuring Range system and one or more Gauge Length systems.

Measuring Range ²		Temperature Range	
METRIC		-LT	-270 °C to 100 °C (-454 °F to 210 °F)
-1	+10.0 mm/-5.0 mm	-ST	-40 °C to 100 °C (-40 °F to 210 °F)
-2	+12.5 mm/-5.0 mm	-HT1	-40 °C to 150 °C (-40 °F to 300 °F)
-3	+25.0 mm/-5.0 mm	-HT2	-40 °C to 200 °C (-40 °F to 400 °F)
-4	+50.0 mm/-5.0 mm	-LHT	-270 °C to 200 °C (-454 °F to 400 °F)
U.S.A.			
-1	+0.40"/-0.20"		
-2	+0.50"/-0.20"		
-3	+1.00"/-0.20"		
-4	+2.00"/-0.20"		

Model Numbers:

Measuring Range **3742-** ____ - ____

Gauge Length **3742GL-** ____ - ____

Gauge Length	
METRIC	
-025M	25.0 mm
-030M	30.0 mm
-035M	35.0 mm
-040M	40.0 mm
-045M	45.0 mm
-050M	50.0 mm
-055M	55.0 mm
-060M	60.0 mm
-065M	65.0 mm
-070M	70.0 mm
-075M	75.0 mm
-080M	80.0 mm
-100M	100.0 mm
U.S.A.	
-100T	1.000"
-140T	1.400"
-150T	1.500"
-200T	2.000"
-250T	2.500"
-300T	3.000"
-400T	4.000"

Example:

3742-3-ST

3742GL-025M-3

3742GL-050M-3

3742GL-080M-3

25, 50, and 80 mm gauge lengths, +25 mm / -5 mm measuring range, standard temperature range (-40 °C to 100 °C)

MODEL 3742 EXAMPLES

