

Long travel automatic gauge length extensometer

Compatible with

Tinius Olsen ST and
SL series of materials
testing systems



- + Accuracy class 0.5 (EN ISO 9513)
- + Resolution max. 0.01 μ m (1 Vpp) or 0.05 μ m (RS422/TTL)
- + Gauge length from 10 mm
- + Automatic movement to the position and initial gauge length
- + Automatic attachment to the specimen
- + Measuring travel 500mm minus gauge length
- + Operating range in upper and lower testing space possible

Automatic Extensometer Series

Application : The extensometer AEX500 is suitable for almost all samples of a gauge length (L_e) from 10 mm. Because of its rugged construction and high accuracy the AEX500 nearly meets all applications in measurement of linear strain (determination of the E-modulus up to sample fracture). It works without restrictions in both the upper as well as the lower test area.

Design and function : The AEX500 has a smooth running and nearly frictionless linear guidance of the measuring heads. Due to the non-contact incremental gauge the AEX meets all requirements of class 0.5 (EN ISO 9513) over the whole travel. The measuring heads may easily and quickly be removed from the device by unlocking two screws with pin guidance. As an option also version with measuring arms for a climatic chamber is available (up to 350 C).

TO order numbers

AE-006-0002

AEX 500 : Auto Extensometer, SRC ; 500 mm GL 10 mm Double output

Standard sample dimensions

Round samples	upto Ø 80mm / 3.15in
Square samples	upto 70 x 70mm / 2.76 x 2.76in
Rectangular samples	Width 360mm / 14.17in
	Thickness 50mm / 1.97in

Other dimensions are available on request

Device options

- + Measuring arms with tilting mechanism with tungsten carbide knife edge circular/straight
- + Adjustable clamping force 20... 100cN
- + Extended measuring arms +45mm or +90mm
- + Measuring head for climatic chamber -50° ... + 350°C / Arm length 400mm and 490mm
- + Measuring arm for bending tests / Arm length 400mm and 490mm

Specifications

Accuracy class EN ISO 9513	0.5
Indication error (rel.)*	0.5%
Indication error*	1.5µm
Error in gauge length (L_e)	± 0.5%
Gauge length (L_e)	10 to 500mm minus travel
Activating force	max. 10cN
Clamping force	50-100 cN
Operating temperature range	0-50°C
Weight	approx. 30kg

Measuring system (2 outputs)	Standard	Optional
Name	LIDA 48	LIDA 47
Interface (each output)	1 Vpp	RS422/TTL
Measurement principle	Optic-incremental	
Travel	500mm minus L_e and position	
Signal period	20µm	0.2µm
Resolution max.	0.01µm	0.05µm
Voltage supply	DC 5V ± 0.25V	
Current consumption	< 100mA	< 255mA (without load)
Integrated interpolation	-	100-fold
Sampling rate	-	25kHz
Edge distance	-	0.080µs
Movement speed	≤480m/min	≤30m/min
Input frequency of the subsequent electronics	-	8MHz
Edge separation of the subsequent electronics	-	≥0.05µs

* The larger of the values is admissible