Automatic Extensometer

AE900

Long travel, semi-automatic gauge length extensometers

Compatible with

Tinius Olsen ST and SL series of materials testing systems

+ Very high resolution of up to 1 µm over the complete measuring range
+ Very low clamping forces even allow testing of foils and thin wires
+ The round knife edges can be utilized along their entire perimeter by rotating them
+ The gauge length position and value can be exactly set under computer control

Semi-Automatic Extensometer Series

Application : The AE900 extensometer is specifically designed for applications with highly lengthening materials such as plastics and rubber, incorporating long travel (up to 900 mm). The AE900 complements relatively low-cost instruments used for the testing of plastics.

Design and function : The AE900 will be operated at semi- and full automatic testing systems, particularly for applications, where the gauge length must not have to be changed very often. The AE900 works semi-automatic, the positioning of the measuring arms with respect to the middle of the sample as well as the setting of the initial gauge length has to be done manually (once before the test starts). Clamping and unclamping of the measuring arms respectively moving to the manually before adjusted position and gauge length will be done automatically (electrically motor-driven). As long as the Le-value and –position remain unchanged no manual operation is required. The AE900 is suitable for nearly all samples (from a gauge length of Le 10 mm) up to sample rupture. Measuring direction upwards or downwards is available. The measuring heads may be removed from the device easily and quickly by means of a screw/insert system. Measuring arms for climatic chamber (-50° to +350°C) as well as a measuring arm for bending tests are available as an option.

TO order numbers

AE-004-0000	AEE 900 Semi Automatic Extensometer with TTL Signal

Standard sample dimensions

Thickness	upto 30mm / 1.18in
Width	upto 100mm / 3.94in
Diameter	upto 40mm / 1.57in

Device options

+ **Measuring system ERO 1470**
  1µm resolution (fourfold counting)
+ **Measuring head for climatic chamber -50°C to 350°C**
  Arm length 400mm and 490mm
+ **Measuring arm for bending tests/Arm length 400mm and 490mm**
  The operating of the bending test measuring arm ensued manually
+ **Measurement of tube´s inner diameter**
  Ø 100...1000mm/Arm length 600mm
+ **Measurement of ring stiffness according to DIN EN ISO 9969**
  Ø 50...900mm/Arm length 228mm

Specifications

Accuracy class EN ISO 9513	2 upto 1mm stroke 1 from 1mm stroke 0.5 from 8mm stroke
Measurement principle	Opto-incremental
Measurement system (standard)	ERO 1480 (1 Vpp) per measuring head
Signal period	100µm
Resolution	≤ 1µm (depending on interpolation)
Measurement system (alternative)	ERO 1470 (TTL x 25) per measuring head
Signal period	4µm
Resolution	1µm (fourfold counting)
Travel	910mm minus L_0
Initial gauge lengths	10 to 100mm in steps of 5mm (longer gauge lengths on inquiry)
Activating force	Max. 10cN
Clamping force	150 cN
Indication error* up to 1mm stroke	6µm
Indication error (rel)* up to 1mm stroke	2%
Indication error* from 1mm stroke on	3µm
Indication error (rel)* from 1mm stroke on	1%
Weight	32kg

* The larger of the values is admissible