Automatic Extensometer

AE900

Long travel, semi-automatic gauge length extensometers

Compatible with

Tinius Olsen ST and SL series of materials testing systems

- + High measurement resolution of up to 1 µm across the entire measuring range
- + Very low clamping force, enabling reliable testing of delicate specimens such as films, foils and rubber
- + Long travel up to 900 mm, ideal for high elongation materials
- + Motor driven automatic clamping and unclamping of measuring arms
- + Precise gauge length definition under computer control
- + Durable round knife edges, usable over their entire circumference by simple rotation
- + Upward or downward measuring direction selectable
- + Quick change measuring heads via screw and insert system

Semi-Automatic Extensometer Series

Application : The AE900 is specifically engineered for materials that undergo significant elongation during testing, including:

+ Plastics and elastomers
+ Rubber compounds
+ Thin films and foils
+ Wires and highly stretchable specimens

It is an ideal extensometer for cost effective plastics testing systems where long travel and reliable strain measurement are required.

Operation Overview:

+ Initial setup (performed once before testing):
    + Manual positioning of the measuring arms relative to the specimen center
    + Manual setting of the initial gauge length
+ During testing:
    + Automatic, motor driven clamping and unclamping
    + Automatic movement of the measuring arms to the predefined position and gauge length

As long as the gauge length and position remain unchanged, no further manual intervention is required. The AE900 supports gauge lengths from 10 mm and measures strain accurately up to specimen rupture.

TO order numbers

AE-004-0000	AEE 900 Semi Automatic Extensometer with TTL Signal
99-1010095	AEE Rotating/Swivel Bracket - S/T/L & ST Twin Column
99-1009243	AE/AEX Spacer/Riser for Swivel Bracket - S/T/L & ST Twin Column

Standard specimen dimensions

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

Device options

+ Bending test measuring arm
  + Arm lengths: 400mm or 490mm
  + Manual operation
+ Tube inner diameter measurement
  + Inner diameter range: Ø 100 – 1,000mm
  + Arm length: 600mm
+ Ring stiffness measurement according to DIN EN ISO 9969:
  + Diameter range: Ø 50 – 900 mm
  + Arm lengths: 228mm

Specifications

Accuracy class (EN ISO 9513)	2 up to 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. 0.01N
Clamping force	1.5N
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