



STECH ENGINEERS

Universal Testing Machine

Model: SE-005 | Capacity: 50 kN



Materials & Mechanical Testing Solutions

Universal Testing Machine

Model SE-005



Universal Testing Machine for tensile, compression, and material testing applications.

Capacity

50 kN (5000 kgf)

Machine Configuration

- Capacity: 50 kN (5000 kgf)
- Dual Column Floor Standing Universal Testing Machine
- Ball Screw Drive Mechanism for friction-free, low-noise operation
- Closed Loop Digital Servo Controlled System
- AC Servo Motor Drive
- Mechanical Over Travel Protection
- Power Requirement: 750 VA

Testing Applications

- Tensile Testing
- Compression Testing
- Flexural Testing
- Peel Testing
- Adhesion Testing
- Tear Testing
- Rubber Testing
- Plastics Testing
- Composite Materials
- Technical Textiles
- Wire & Yarn Testing

Conforms to Standards

- ASTM D412
- ASTM D695
- ASTM D790
- ASTM D648
- ISO Standards

Speed & Motion

- Speed Range: 0.001–500 mm/min
- Crosshead Resolution: 0.001 mm
- Speed Resolution: ± 0.001 mm/min
- Speed Accuracy: $\pm 0.05\%$
- Return Speed: 500 mm/min

Test Space

- Vertical Test Space: 1100–1700 mm

Load Cell

- 50 kN Load Cell
- 5 kN Load Cell
- 1 kN Load Cell
- Auto Load Cell Identification
- Digital Auto Calibration
- Load Resolution: 0.1 N
- Accuracy: $\pm 0.5\%$ down to 1/1000 of Load Cell Capacity
- Least Count: 0.001 kg

Control Modes

- Travel (mm/min)
- Load (N/min, kg/min)
- Strain (mm/mm/min)
- Stress (MPa/min)
- Travel Resolution: 0.001 mm/min

Standard Accessories & Grips

- Medium Duty Pneumatic Grips (02 Sets) — Pneumatically Operated, Maximum Opening: 6 mm, Standard Square Flat Metal Jaw Faces (Up to 25 mm), Optional Serrated & Corrugated Jaw Faces, Capacity up to 70 kg, Foot Pedal Operated, Constant Clamping Force, Prevents Sample Slippage, Prevents Buckling & Damage to Delicate Samples
- Heavy Duty Circular Wedge Grips (02 Sets) — Tensile Load Capacity: 50 kN, Specimen Width: 50 mm, Flat Sample Thickness: 15 mm, Vice Action Mechanism, Universal Joint for Sealant Samples
- Hydraulic Fabric Grips (01 Set) — Jaw Width: 100 mm, Jaw Length: 50 mm, Interchangeable Flat & Corrugated Jaw Faces, Hydraulic Power Pack, Electric Foot Switch Control
- Pneumatic Thread/Yarn Grips (01 Set) — Suitable for Yarn & Thread Tensile Testing
- Three Point Bending Fixture (01 Set) — Direct Compression Type, Maximum Sample Width: 60 mm, Variable Span: 25–300 mm, Support Diameter: 10 mm, Capacity: 50 kN
- Universal Parallel Wedge Grips (01 Set) — Self Tightening Design, Suitable for Heavy Loads, Flat Specimen Width up to 30 mm
- Compression Anvil (01 Set) — Flat Plate Compression Fixture, Anvil Diameter: 150 mm
- Clip-on Extensometer (01 Set) — Gauge Length: 50 mm, Travel: ± 25 mm ($\pm 50\%$ Strain), Span: ± 25 mm, Resolution: 0.0001 mm
- High Elongation Extensometer for Rubber (01 Set) — Gauge Length Adjustable: 15–50 mm, Travel Range: 800 mm, Resolution: 0.01 mm, Suitable for Elastomeric Materials

Environmental Chamber (Separate Section)

- Environmental Chamber for Universal Testing Machine
- Temperature Range: Ambient (RT) to $+400^{\circ}\text{C}$
- Internal Chamber Dimensions — Height: 530–560 mm, Width: 220–240 mm, Depth: 210–230 mm
- Heating/Cooling Time: Less than 30 minutes
- Recovery Time (Door Open): 4 minutes
- Temperature Stability: $\pm 2^{\circ}\text{C}$
- Temperature Gradient: $\pm 3^{\circ}\text{C}$
- Interior Finish: Brushed Stainless Steel
- Operating Atmosphere: Air
- Integrated with Universal Testing Machine
- Suitable for High Temperature Mechanical Testing
- Compressor Provided Wherever Required
- Compatible with Tensile, Compression & Flexural Testing

Environmental Test Chamber

Accessory for Universal Testing Machine



Optional environmental chamber for temperature-controlled testing, compatible with the SE-005 Universal Testing Machine for extended testing applications.