



# Bench-Top Universal Material Testing Machine



Eco Instrument

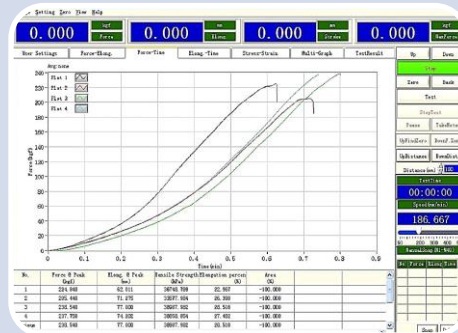
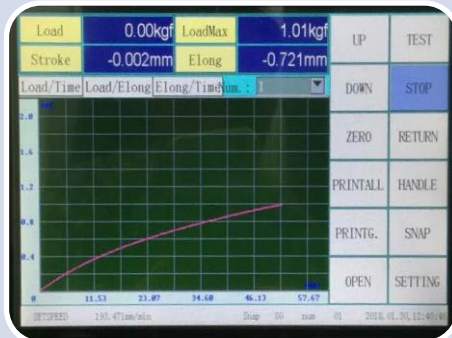
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## Brief Introduction

- EI-1007 series bench-top universal material testing machine is special designed for tensile, compression, tearing, peeling and other special load test for metal and non metal materials which is the load less than 1KN. This machine is user friendly, simple structure, convenience and high accuracy, equipped with servo drive control system, ball screw and reducer, high performance load-cell

## Features

- The surface of appearance using electrostatic spray, simple and generous, multi-functions and economy.
- Digital force displayed by LCD or TFT , discernible tension or pressure.
- Unit switch back: strength: kN / N / kgf / gf / t / lbf, Displacement: mm / cm / in
- LCD / TFT with backlight can be used in low-light environments
- Single measurement, it can record the max force of tension and compression in both directions, automatic or manual cleared to zero.
- The system would shut down if overload or over-trip
- Structure of single-column is ergonomic, sophisticated and durable



## A series Colour Touch Screen

- Real-time displayed
  - Force - Displacement
  - Force - Time
  - Displacement - Time
  - Stress - Strain curve
- Automatic calculation
  - Maximum force
  - Yield strength
  - Average value
  - Maximum deformation
  - Yield point
  - Elastic modulus and other parameters
- Data save up to 5 groups
- Build-in Mini Printer

## B series Computer Software

- Real-time Graph displayed
- Up to 7 interval setting, 30 manual sampling points and 60 automatic sampling points.
- Multiple statistical function
- Graph report comparison
- Up to 400 testing data
  - Max & min force, fracture force, peel strength, tensile strength, shear & tear strength, max. deformation, yield strength, elongation, elastic modulus, ring stiffness, non-proportional elongation, average force...
- Data save up unlimited

## Standard

- TAPPI T-494, TAPPI T829, ISO 1924, ISO12625-4, AS/NZ1301.448s, BS EN ISO1924-2, CPPA D34, DIN 53112, SCAN P38,
- ASTM D1683, ASTM D4964, ASTM D5733/5735, BS 3320
- (Breaking strength) ISO13934.1, ASTM D5035
- (Tear strength) ISO13937.2, ASTM D2261
- (Single Yarn Strength) ISO2062, ASTM D 2256
- (Seam Slippage) ISO13936.1/2, ASTM D434
- (Tensile) ASTM D828, D638, D882, ISO 1924, TAPPI T 494
- (Peel) ASTM D3330, D1876
- (Tear) ASTM D1938
- (Seal) ASTM F88
- (Bond) ASTM F904

## Capacity

- 5 ~ 100kgf / 50N ~ 1000N

## Typical Specimen

- Rubber, fiber, Adhesive film, Textile, Polymer materials, Wire & Cable, Paper, Plastic, Wood, PVC, spring, composite, colleges and universities research laboratories.

## Specification

Model	EI-1007A	EI-1007E
Max. Load Frame	100kg	
Capacity	5kgf ~ 100kgf / 50N ~1000N	
Accurate grade	Conforms to EN 10002-2 Grade 1, ISO 7500-1 Class 1 ASTM E4, JIS B7721 Class 1	
Load range	0.2% ~ 100%	
Measuring accuracy	±1%	
Load Resolution	1/500000	
Load Cell Channel	4	More
Effective tensile space (Max. Cross-head travel)	Standard 600 (950mm without fixtures)	
Range of testing speed	1 ~ 500mm/min	
Accuracy of displacement	Tolerance: ±0.5%	
Deformation of measured system	Min span :10mm, Max range of deformation 800mm Extended deformation span: 25mm, 50mm, 100mm, range of deformation 5mm, 10mm, 25mm	
Accuracy of deformation	Tolerance : ±0.5%	
Safety	Electronic-limit protection, Emergency stop button, over-current protection	
Platform moving device	Touch screen controller	Software & keypad control panel
Return home function	Auto & Manual	
Overload protection	Overload 10%, automatic protection	
Operating Environment	Temperature: 5 °C to 40 °C Humidity: 20% to 80%	
Dimension	550 x 450 x 1200mm	400 x 350 x 1000mm
Rate Voltage	220v, 50Hz	
Rate Power	120W	
Weight	Approx. 90kg	Approx. 75kg
<b>Standard Accessories</b>		
Load-Cell	CELTRON S-Type	
Driven	Panasonic servo drive + motor	
Speed Reducer	High grade Reducer	
Displayer	7" TFT color touch screen	17" LCD monitor
Computer	-	Branded Commercial Computer with Window 10
Printer	Build-in mini thermal printer 3 rolls of thermal roll paper	Branded Desktop Color inkjet 1 set of Black & Color cartridges

<b>Fixtures</b>	Common joint with lock-pin One set of Tensile grip & Compression platen
<b>Extensometer</b>	-
<b>Instruction</b>	Instruction Manual & Software on CD
<b>Tools</b>	Yes
<b>Optional</b>	
Pneumatic grip with control device ( For Rubber Specimen), 3-point bending fixture, Peeling grip (90 ° & 180 °),	
<b>Warranty</b>	12 months

S-Type Load-Cell



Servo drive + Motor



Reducer



Tensile Grips



Compression platens



Ball Screw



Branded commercial PC \* B series



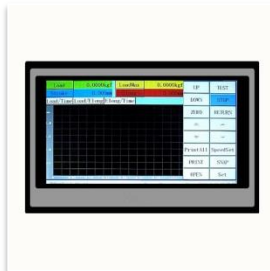
Build-in mini printer \* A series



Color inkjet printer \* B series



TFT color touch screen \* A series



Bending Fixtures \* Optional



90° Peel fixtures \* Optional



Wire rod fixtures \* Optional



Tear fixtures \* Optional



## Software Features - The software description about desktop computer type servo testing machine

- Function of standard modular: provide users with the necessary applications to the test, covering GB, ASTM, DIN, JIS, ISO, BS.... And other testing standard specification.
- Tested product information: provide users with the data to set about the products, one time to input and re-use permanently for improving the accuracy, the data can be corrected by the formula automatically.
- Dual-report editor: provide users with the reported format that users choose (testing program add EXCEL reported format, Extend the previous single pattern of statements)
- The data's unit of length and force can be exchanged, unit of force is T, Kg, N, kN, g, lb, unit of length is mm, cm, inch.
- Auto-optimization of graphic scale, display the best measurement of graphics. It can test the moving exchange in graphics; it has the load –displacement, load – time, displacement – time, stress – strain, load – 2 points extending maps and lots of graph compared.
- Test results can be output in EXCEL, WORD & PDF format.
- Testing result can be automatically preserved or manual preserved, after the test, it can automatically calculate the most strength, up and down yield strength, loop method, best method, non-proportional extended strength, tensile strength, compressive strength, tensile strength at any point, constant load extension, elastic modulus, rate of elongation, peel range of maximum force, minimum force, average force, total energy, bending modulus, x% load in break displacement, load x% in break displacement and so on. The test data can be stored in any disk.
- Software has a capability that can output the before data.

## Items can be tested in the Desktop computer type servo tensile testing machine - Common items: (display data and calculation)

- Tensile stress
- Tensile strength
- Rate of elongation at break
- Fixed stress
- Rate of stress at break
- Stress Strength
- Tear strength
- The value of force at any point
- Rate of elongation at any point
- Pull-out strength
- Force of adhesion and the peak of force





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