

# Series ES

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## TEST STANDS MODELS ES10 AND ES20

*Mark-10 Corporation has been an innovator in the Force and Torque measurement fields since 1979. We strive to achieve 100% customer satisfaction through excellence in product design, manufacturing and customer support. In addition to our standard line of products we can provide modifications and custom designs for OEM applications. Our engineering team is eager to satisfy any special requirements. Please contact us for further information or suggestions for improvement.*

## USER'S GUIDE



*We make a measurable difference in force measurement*

**Mark-10 Corporation**  
458 West John Street  
Hicksville, NY 11801 USA  
1.888.MARK.TEN  
Tel: 516.822.5300  
Fax: 516.822.5301  
Internet: [www.mark-10.com](http://www.mark-10.com)  
E-mail: [info@mark-10.com](mailto:info@mark-10.com)





## WARRANTY

Mark-10 Corporation expressly warrants to its buyer for one year from the date of delivery that the goods sold are free from defects in workmanship and materials. Mark-10 Corporation will, at its option, repair or replace or refund the purchase price of goods found to be defective. This remedy shall be the buyer's sole and exclusive remedy. Any modification, abuse, exposure to corrosive environment or use other than intended will void this warranty. This warranty is in lieu of all other warranties, including implied warranties of merchantability and fitness for an intended purpose. In no event shall Mark-10 Corporation be liable for any incidental and consequential damages in connection with goods sold or any part thereof.

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## UNPACKING AND SETTING UP

- Carefully unpack the stand and inspect for any damage. Inspect the contents to ensure that you have received a test stand complete with all accessories – see “List of included items” section.
- Install the loading lever into the hub on the ES10 stand or install the handwheel on the ES20 stand.
- Place the stand on a firm, flat and level working surface free from vibration to ensure accurate readings. If preferred, the test stand can be secured to a work bench with two screws or bolts through the two clearance holes in the base – see “Operation” section for further details.

## LIST OF INCLUDED ITEMS

Quantity	Item
1	Force measurement stand, ES10 or ES20
1	User's guide (this booklet)
4	Gauge mounting hardware (thumb screws)
1	Mounting hole drill template
Option	Dial indicator kit, ES001

## FORCE GAUGE OPTIONS

Capacities from 0.25 lbs (1 N) to 500 lbs (2500 N)

### Force gauges Series EG



- Reversible aluminum housing for hand-held use or stand mounting
- Three units of measurement: lb, kg, N
- Programmable initial status of units and mode of operation
- Automatic peak memory
- Push-button calibration
- Battery or AC operation with programmable automatic shutoff
- Permanent configuration memory
- Optional RS-232, Mitutoyo and analog

### Force gauges Series BG (in addition to EG Features)



- RS-232, Mitutoyo and analog outputs
- GCL – Gauge Control Language for full control of all functions
- Automatic timed output on RS-232
- Dual set points with outputs
- General purpose I/O for external device control
- Programmable analog and digital filters
- Averaging mode for obtaining average force readings over time

### Force gauges Series MG



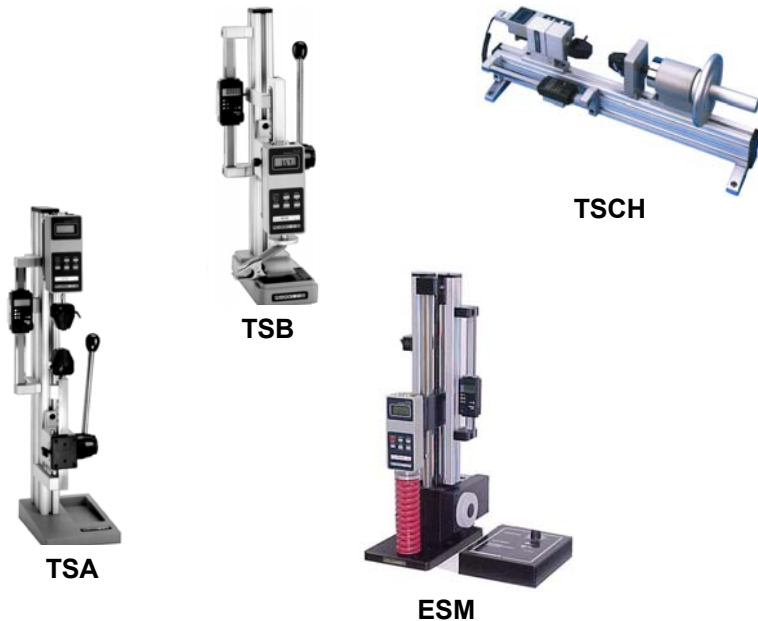
- Low cost and small size
- Aluminum housing is reversible for hand-held use or test stand mounting
- Peak memory for tensile and compressive loads
- Selectable units of measurement programmable auto shutoff
- Push-button calibration
- IPM - Intelligent Power Management system for reliable operation

## TRAVEL INDICATOR OPTION



The dial indicator kit, ES001, clamps onto the column of the stand. The dial can be repositioned along the length of the column. It allows for 1.0" travel and provides a resolution of 0.001".

## OTHER AVAILABLE TEST STANDS



## DESCRIPTION

Mark-10 force measurement stands are ruggedly built for many years of service in laboratory and industrial environments. The aluminum and stainless steel structure is lightweight and durable. The precision mechanisms of the Series ES assure smooth, precise motion. This line is specially designed to address the need for a low capacity, low cost applications.

The Series ES Stands are designed for testing up to 100 lbs (500 N). To maintain smooth mechanical functioning of the stands, avoid repetitive overloads and shock loads.



**SPECIFICATIONS**

	ES10	ES20
Load capacity	100 lbs (500 N)	100 lbs (500 N)
Maximum travel	9" (228.6 mm)	9" (228.6 mm)
Loading method	Rack & pinion	Hand wheel
Rate	1.05"/rev (26.67 mm)	0.06"/rev (1.52 mm)
Weight	10 lbs (4.5 kg)	10 lbs (4.5 kg)

**OPERATION**

The test stand can be mounted to a work bench using the clearance holes in the base – see drawing for hole location. The included mounting hole drill template can be used to locate holes in work area.

All Mark-10 force gauges can be mounted directly to the stand without adapters. Mount gauge using the gauge hardware provided.

The loading lever on the ES10 can be adjusted to allow for ease of operation. Reposition the lever using one of the three tapped holes located in the hub – see drawing.

If the optional dial Indicator kit, ES001, is purchased separately, it should be installed using the hardware provided.

