

Force Test Stands Series **ES**

MODELS ES10 & ES20

User's Guide



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Thanks!

Thank you for purchasing a Mark-10 Series ES Force Measurement Test Stand. We are confident that you will get many years of service from this product.

Series ES test stands can be used in any number of compression and tension testing applications. Both models ES10 and ES20 are designed for testing up to 100 lb (500 N). To maintain smooth mechanical functioning of your test stand, avoid repetitive overloads and shock loads.

We hope that this User's Guide will provide a comprehensive explanation of the test stands' operation and sufficient detail on their specifications. However, if you have any other questions or concerns our engineering and technical support teams will be eager to help you.

Thank you again for your purchase and happy testing!

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FORCE GAUGES BY MARK-10
Capacities from 0.12 lb (0.5 N) to 1,000 lb (5000 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 outputs



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

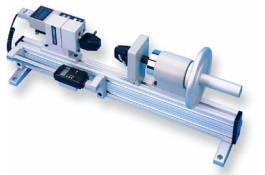
WARRANTY

Mark-10 Corporation expressly warrants to its buyer for three (3) years 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.

OTHER TEST STANDS BY MARK-10



TSAH



TSCH



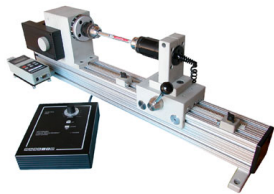
TSTM



TST



TSA



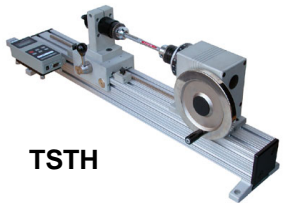
TSTMH



ESM



TSC



TSTH



TSF



ES30



TSB

UNPACKING AND SETTING UP

1. 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.
2. Install the loading lever into the hub on the ES10 stand or install the handwheel on the ES20 stand.
3. 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	Thumb screws for gauge mounting
1	Mounting hole drill template

Optional dial indicator kit ES001

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".

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 (except the Series CG) can be mounted directly to the stand without adapters. Mount the gauge using the thumb screws 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 – refer to the dimensional drawing on the next page.

If the optional dial Indicator kit (ES001) is purchased separately, it can be easily installed using the hardware provided.



ES10

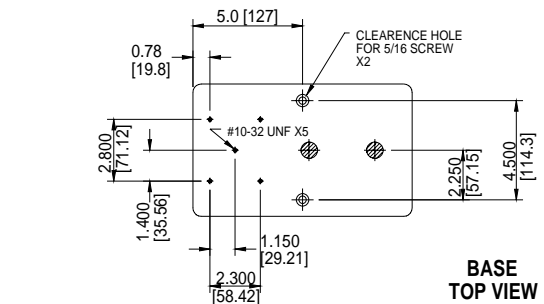
ES20

SPECIFICATIONS

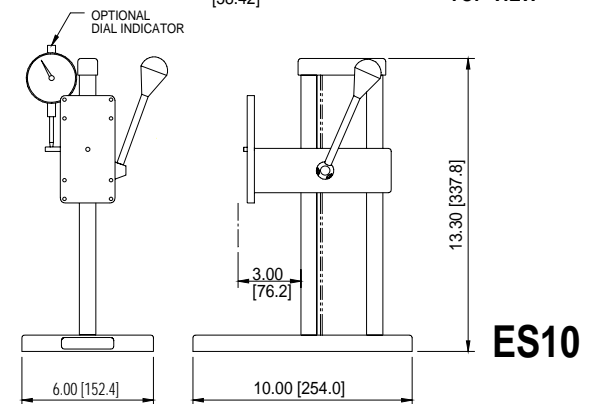
	ES10	ES20
Load capacity	100 lbs [500 N]	100 lbs [500 N]
Maximum travel	9" [228.6 mm]	9" [228.6 mm]
Loading method	Rack & pinion	Hand wheel
Rate	1.050"/rev [26.7 mm]	0.083"/rev [2.1 mm]
Weight	10 lbs [4.5 kg]	10 lbs [4.5 kg]

DIMENSIONS

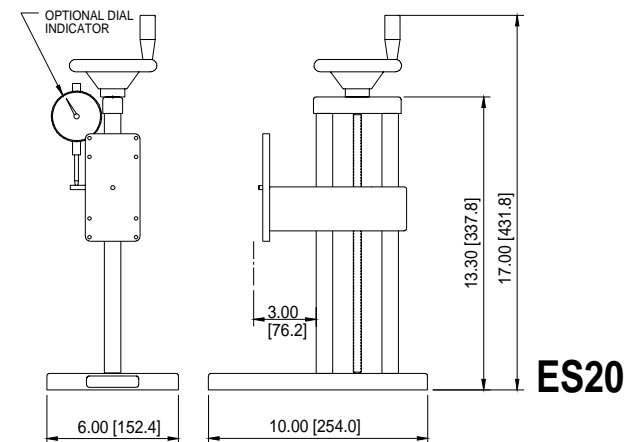
In [mm]



BASE
TOP VIEW



ES10



ES20