

Force Test Stand Series **ES**

MODELS ES10 & ES20

User's Guide

Thank you...

Thank you for purchasing a Mark-10 Series 5 digital force gauge, designed for tension and compression testing applications from 0.12 lb to 1,000 lb (0.5 N to 5,000 N) full scale. The Series 5 is an essential component of a force testing system, typically also comprising a test stand, grips, and data collection software.

With proper usage, we are confident that you will get many years of great service with this product. Mark-10 force gauges are ruggedly built for many years of service in laboratory and industrial environments.

This User's Guide provides setup, safety, and operation instructions. Dimensions and specifications are also provided. For additional information or answers to your questions, please do not hesitate to contact us. Our technical support and engineering teams are eager to assist you.

Before use, each person who is to use the Series 5 force gauge should be fully trained in appropriate operation and safety procedures.

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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 hand wheel 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 |
| 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".



Optional digital indicator kit ES002

Displays up to 1" of displacement with resolution of 0.0005" and 0.01 mm. Includes zero button and in/mm selector button.



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) or digital indicator kit (ES002) is purchased separately, it can be easily installed using the hardware provided.

With respect to the loading shaft of the force gauge. When using a grip, ensure that it secures the sample in such a way that it is prevented from slipping out during a test, preventing a potential safety risk to the operator and others in the vicinity. If using a grip or fixture from a supplier other than Mark-10, ensure that it is constructed of suitably rugged materials and components.



ES20

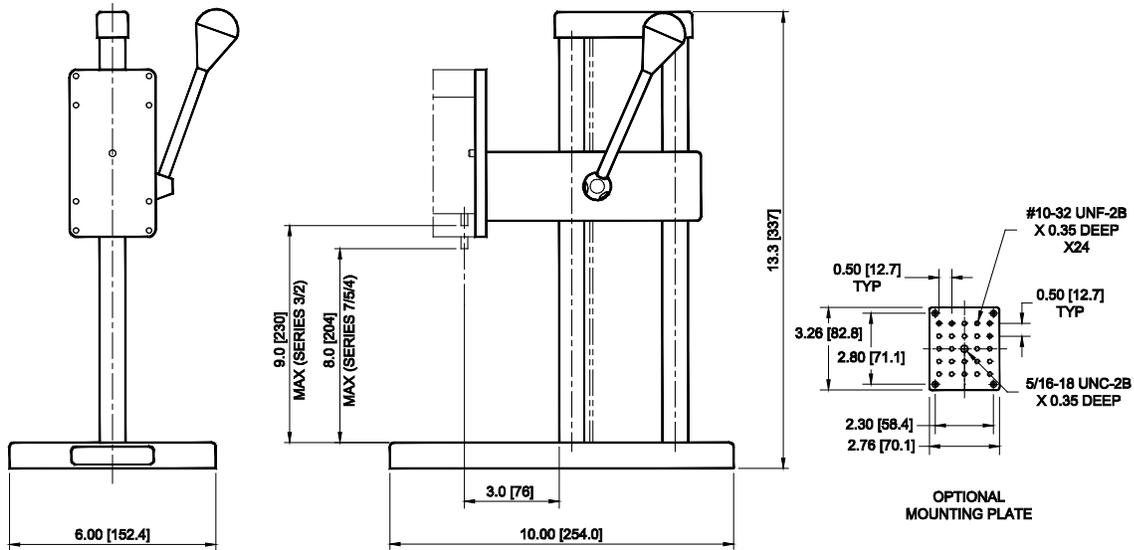
ES10

SPECIFICATIONS

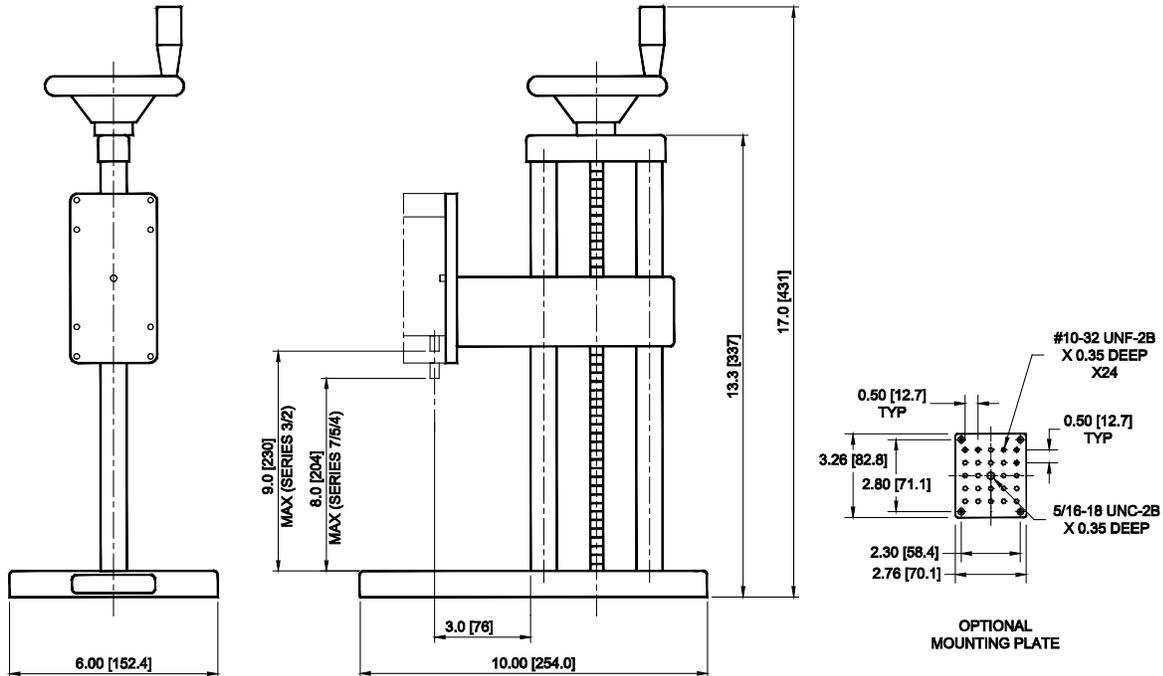
| | ES10 | ES20 |
|----------------|----------------------|---------------------|
| Load capacity | 100 lbs [500 N] | 100 lbs [500 N] |
| Maximum travel | 9" [228.6 mm] | 9" [228.6 mm] |
| Loading method | Rack & pinion | Hand wheel |
| Rate | 1.050"/rev [26.7 mm] | 0.083"/rev [2.1 mm] |
| Weight | 10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

DIMENSIONS

in [mm]



ES10



ES20

