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› ZMF-500N Force Gauge + Manual Test Stand User Manual

Mxmoonfree ZMF-500N

Mxmoonfree ZMF-500N Force Gauge + Manual Test Stand User Manual

Model: ZMF-500N

1. INTRODUCTION

This manual provides detailed instructions for the safe and effective use of your Mxmoonfree ZMF-500N Force Gauge and Manual Test Stand. This product is a bundle designed for precise compression and tension testing applications. Please read this manual thoroughly before operation and retain it for future reference.



Figure 1.1: Assembled ZMF-500N Force Gauge and Manual Test Stand.

This image shows the complete setup of the force gauge mounted on the manual test stand, ready for operation.

2. SAFETY INFORMATION

Always observe the following safety precautions to prevent injury or damage to the equipment:

- Ensure the test stand is placed on a stable, level surface before operation.
- Do not exceed the maximum load capacity of the force gauge (500N).
- Keep hands and loose clothing clear of moving parts, especially the hand wheel and test platform during operation.
- Handle the force gauge with care; it is a precision instrument.
- Disconnect the force gauge from the test stand when not in use or during maintenance.

3. PACKAGE CONTENTS

Upon opening the package, verify that all the following items are present:

- Mxmoonfree ZMF-500N Digital Force Gauge
- Mxmoonfree Manual Force Test Stand
- 2 Pcs Testing Clamps
- Various accessories for the force gauge (hooks, flat tips, conical tips, chisel tips, extension rod)
- Storage Case
- Calibration Certificate
- Digital Force Gauge Manual
- After-Sales Service Card

WITH STORAGE CASE

Come with a storage box, various accessories, and calibration certificate.



Figure 3.1: Storage Case and Included Accessories.

This image displays the protective storage case, the ZMF-500N force gauge, various testing tips, an extension rod, and

4. PRODUCT COMPONENTS

4.1. ZMF-500N Digital Force Gauge

The force gauge is a portable digital instrument used for measuring push and pull forces. It features an auto-backlit LCD display and auto power-off function.

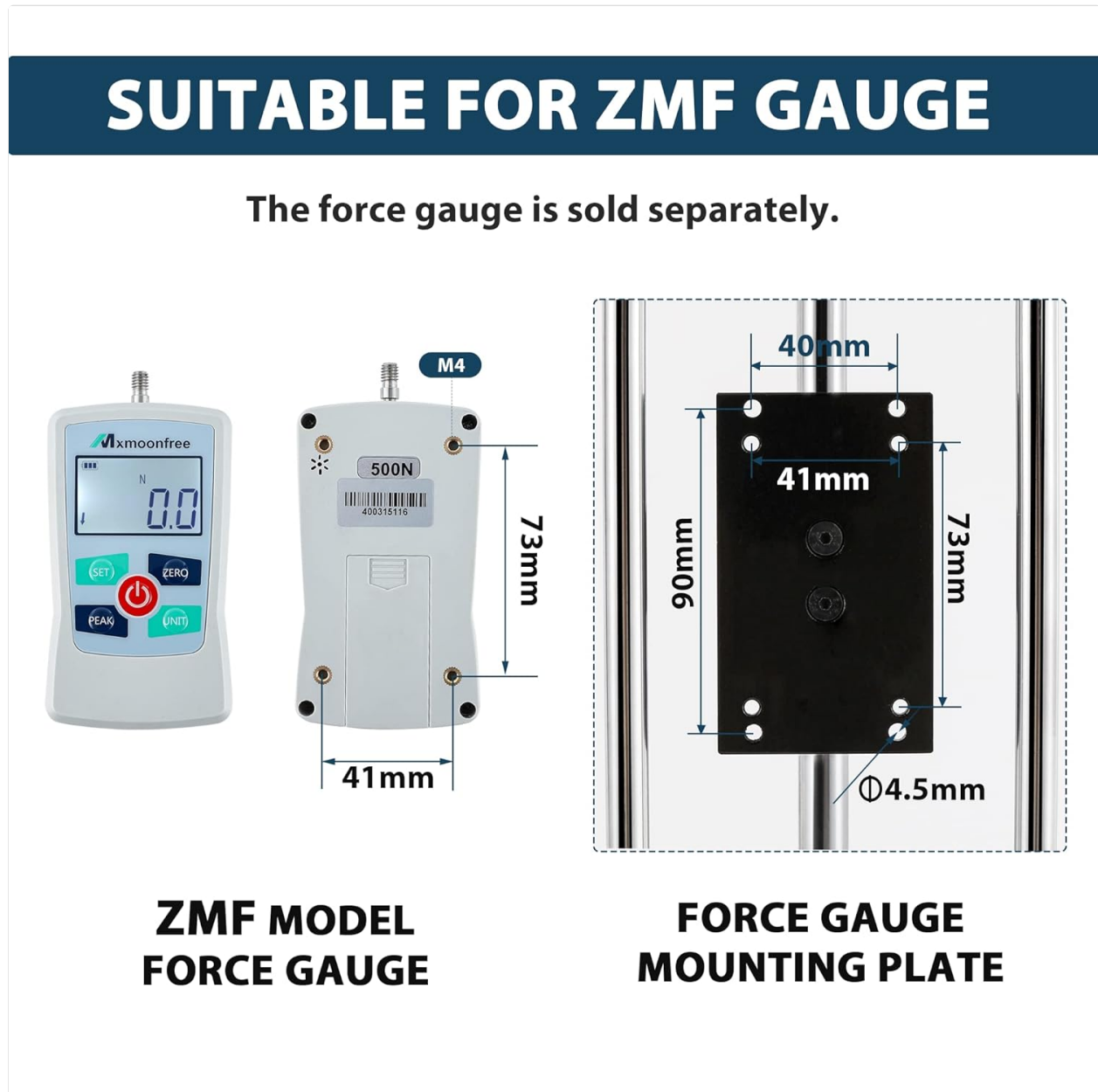


Figure 4.1: ZMF-500N Force Gauge and Mounting Plate.

This image illustrates the ZMF-500N force gauge with its front panel controls (SET, ZERO, PEAK, UNIT) and its corresponding mounting plate, showing key dimensions for attachment to the test stand.

4.2. Manual Test Stand

The manual test stand provides a stable platform for precise force measurements, operated by a hand wheel for controlled movement.

COME WITH 2 PCS CLAMP



Figure 4.2: Included Testing Clamps.

This image shows the two testing clamps provided with the test stand, along with their detailed dimensions, indicating their suitability for various sample sizes.

5. SETUP AND ASSEMBLY

Follow these steps to assemble your manual test stand and mount the force gauge:

1. Unpack all components from the packaging.
2. Assemble the main frame of the test stand by securing the vertical rods to the base plate.
3. Attach the hand wheel mechanism to the top of the test stand, ensuring it is securely fastened.
4. Mount the force gauge mounting plate onto the movable carriage of the test stand.
5. Carefully attach the ZMF-500N Force Gauge to the mounting plate using the provided screws. Ensure it is firmly secured to prevent movement during testing.
6. Attach the appropriate testing clamp or accessory to the force gauge depending on your testing requirements.



Figure 5.1: Easy Assembly Process.

This image visually guides the user through the assembly of the test stand, showing the stand before and after the force gauge is mounted, highlighting the simplicity of the setup for compression and tension testing.



Figure 5.2: Test Stand Components and Application Examples.

This image provides close-up views of the hand wheel and its adjustment, the vertical movement mechanism, and practical examples of how the test stand can be used for various force measurement applications.

6. OPERATING INSTRUCTIONS

6.1. Force Gauge Operation

- **Power On/Off:** Press the **POWER** button to turn the gauge on or off.
- **Zeroing:** Press the **ZERO** button to reset the reading to zero before starting a measurement.
- **Unit Selection:** Press the **UNIT** button to cycle through available units (N, LB, Kg, Oz).
- **Peak Hold:** Press the **PEAK** button to display the maximum force recorded during a test. Press again to exit peak hold mode.
- **Measurement:** Apply force to the sensor. The display will show the real-time force value.

6.2. Test Stand Operation

- Place the sample to be tested between the force gauge's testing tip/clamp and the test stand's base or lower clamp.

- Rotate the hand wheel clockwise or counter-clockwise to move the force gauge carriage up or down, applying controlled force to the sample.
- Observe the force reading on the ZMF-500N Force Gauge as force is applied.
- For compression tests, ensure the sample is stable and centered. For tension tests, ensure the sample is securely gripped by the clamps.

7. MAINTENANCE

- Keep the force gauge and test stand clean and free from dust and debris. Use a soft, dry cloth for cleaning.
- Avoid exposing the equipment to extreme temperatures, humidity, or corrosive environments.
- Store the force gauge in its protective case when not in use.
- Periodically check all screws and fasteners on the test stand to ensure they are tight.
- Do not attempt to disassemble or repair the force gauge or test stand yourself. Refer to qualified personnel for service.

8. TROUBLESHOOTING

- **No Display on Force Gauge:** Check battery levels. Replace batteries if necessary.
- **Inaccurate Readings:** Ensure the gauge is zeroed before each measurement. Check if the testing tip/clamp is properly attached. Avoid side loading.
- **Test Stand Movement Issues:** Check for any obstructions in the guide rails. Ensure the hand wheel mechanism is clean and free of debris.
- **Unstable Readings:** Ensure the test stand is on a stable surface. Secure the sample properly to prevent slippage.

9. SPECIFICATIONS

9.1. ZMF-500N Digital Force Gauge

- **Model:** ZMF-500N
- **Capacity:** 500N
- **Units:** N, LB, Kg, Oz
- **Dimensions (Gauge):** Approximately 73mm (H) x 41mm (W)

9.2. Manual Test Stand

- **Max Stroke:** 250mm (9.8 inches)
- **Overall Height:** Approximately 490mm (19.3 inches)
- **Base Dimensions:** Approximately 210mm (8.3 inches) x 140mm (5.5 inches)

EASY ASSEMBLY

for Compression and Tension Testing

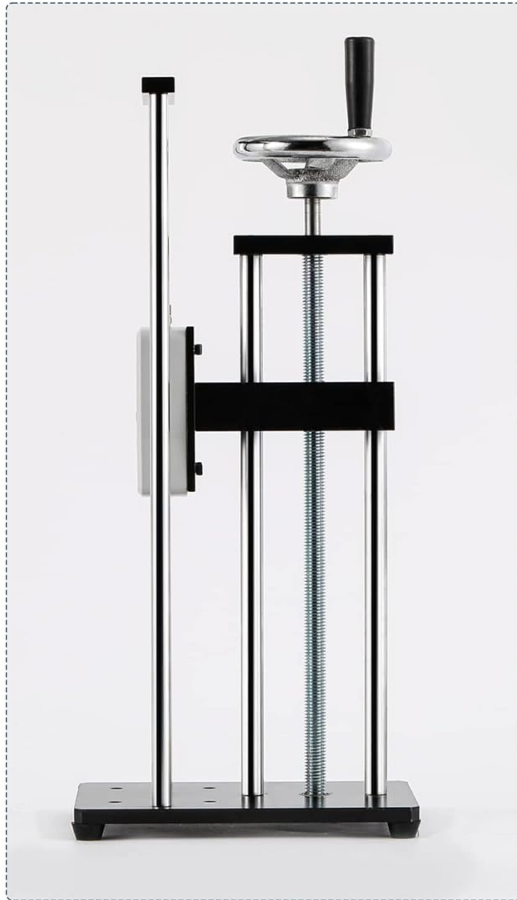


Figure 9.1: Manual Test Stand Dimensions.

This image provides a detailed view of the manual test stand, highlighting its maximum stroke of 250mm (9.8 inches) and overall dimensions, including height, width, and depth of the base.

10. WARRANTY AND SUPPORT

Mxmoonfree provides a **12-month warranty** for this product, along with **lifetime technical support**. For any inquiries, technical assistance, or warranty claims, please contact Mxmoonfree customer service through the official channels or refer to the After-Sales Service Card included in your package.

For more information, you may visit the [Mxmoonfree Store on Amazon](#).