GILSON COMPANY, INC.

OPERATING MANUAL

Marshall Stability Load Frame
MS-86, MS-86F & MS-87

INTRODUCTION

The 10,000lbf (44.5kN) capacity MS-86 and 20,000lbf (89kN) capacity MS-87 Marshall Stability Load Frames have a fixed 2in (50.8mm) per minute loading rate specified for Marshall testing. A 8in (203mm) diameter lower platen is included and the load frames have a vertical clearance of 19.5in (495mm) and horizontal clearance of 11.0in (279mm). Cross-head heights are quickly and accurately changed using the adjusting nuts. Cabinet construction is 14-gauge steel with a durable enamel finish. The 1.25in (32mm) diameter vertical threaded rods are plated for corrosion resistance. Malleable boots protect the precision loading screws from dust and dirt.

SPECIFICATIONS

- MS-86: 10,000lbf (44.5kN) capacity, (120V/60Hz)
- MS-86F: 10,000lbf (44.5kN) capacity, (230V/50–60Hz)
- MS-87: 20,000lbf (89kN) capacity, (230V/50–60Hz)
- Built for Marshall testing with fixed 2in (50.8mm) per minute loading rate
- Consistent loading rate maintained at ±1% by the 1hp AC motor and controller
- Easily changeable cross heads with adjusting nuts
- Flexible boots protect precision loading screws from debris

UNPACKING & SET UP

1. After inspecting your load frame for shipping damage, remove it from the pallet.
2. Set cross bar to appropriate height.
3. Install component set *(ordered separately)*
   3.1 Load Ring and Dial Indicator
   Or
   3.2 Digital readout box, load cell, LVDT.
   The MSA-860D Digital Component Set displays asphalt load and flow measurements, transfers ASC11 file-formatted data, and must be connected to a user supplied PC.

Load frame shown with MSA-860D, MS-26 and HMA-94

(Continued on back.)

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OPERATING INSTRUCTIONS

1. Please read and understand all safety and operating instructions for the Gilson MS-86 Marshall Load Frame before placing it into service.

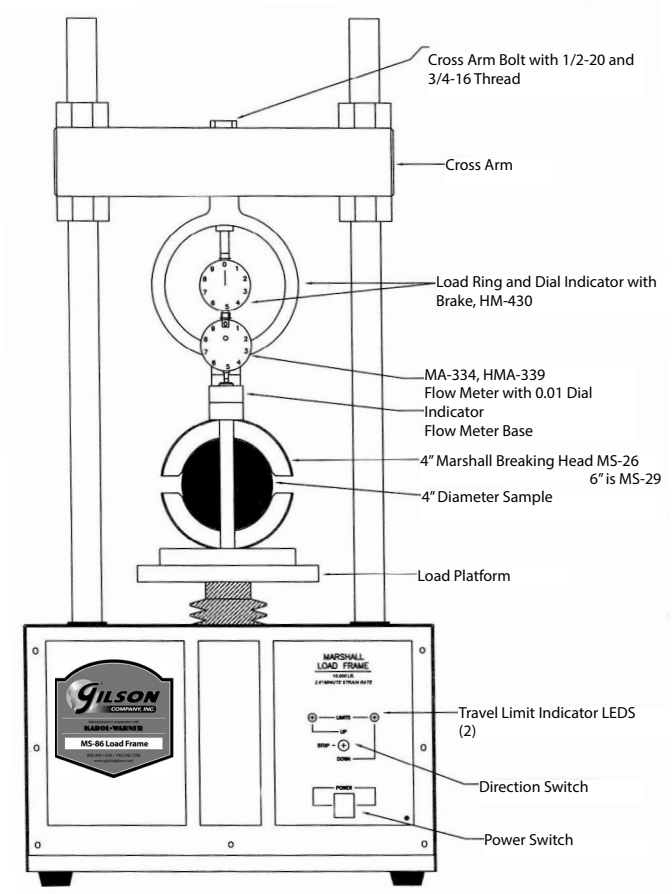
2. The controls are located on the front right side of the panel. The main power switch has an indicator light to show when power is on.

3. The three position toggle switch controls the platen direction of travel; up, off (in the center position), and down. The switch has a built-in hesitation to prevent damage to the motor when reversing direction.

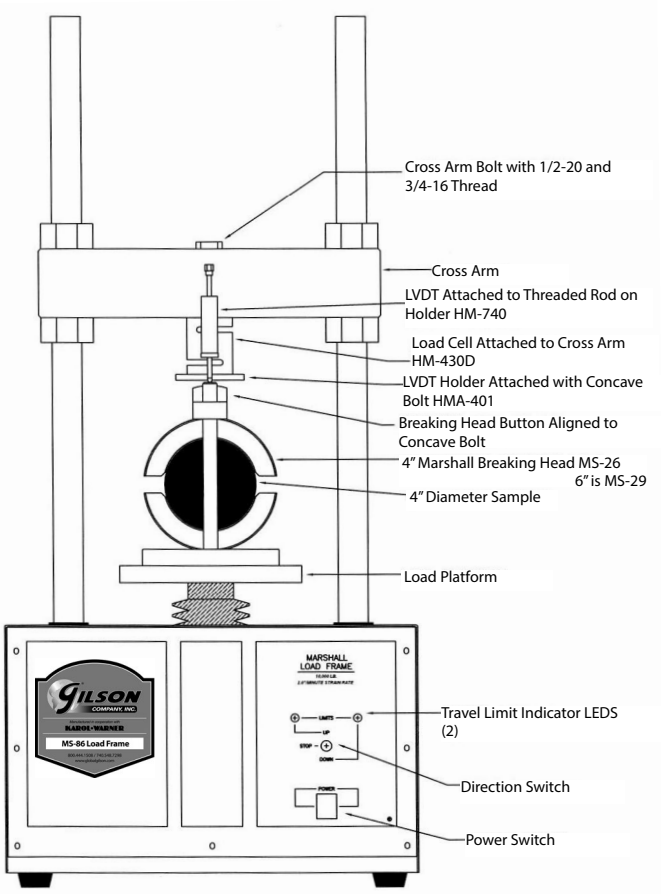
4. The red limit lights indicate the maximum travel limits of the platen. The platen can travel 3.0 inches (76.2 mm).

5. The machine does not stop automatically when the stability load is reached. You must use the toggle switch to stop the test.

6. Refer to the following specifications for full test procedures:
   - ASTM D5581 / D6927 Marshall Stability and Flow
   - ASTM D6931 Indirect Tensile (IDT) Strength
   - ASTM D4867 Effect of Moisture on Asphalt
   - AASHTO T 283 Resistance of Asphalt to Moisture-Induced Damage
   - AASHTO T 245 Resistance to Plastic Flow of Asphalt Mixtures



MS-86 Marshall Load Frame with Load Ring and Flow Meter



MS-86 Marshall Load Frame with Load Cell and LVDT