

# Marshall Compression Machine





# Introduction

## Product Description

The Humboldt H-1339B Marshall Compression and Testing Machine has been designed specifically for testing the resistance to plastic flow of bituminous paving mixtures—the Marshall Test.

The H-1339B has a one-speed motor with reversing switch that produces a uniform vertical movement of 2" (51mm) per minute. Unit includes a H-4454.100 calibrated load ring and dial indicator for determining test load. Load capacity is 10,000 lbs. (45kN). Maximum piston travel is 3-1/2" (88mm). Overall dimensions are: 18" x 18" x 38-1/2"H (457 x 457 x 978mm).

Shipping wt. 185 lbs. (78.9 kg)

All Humboldt Marshall Testing equipment meets specifications for the following tests:

ASTM D1559 ASTM D6926 & 27

ASTM D5581 ASTM D4867

AASHTO T245 AASHTO T283

British Standard BS598: Part 107

In addition, these machines include an H-4454.100 calibrated load ring to determine test load. Load capacity is 10,000lbf (50kN).

Models covered in manual include:

**Marshall Compression Machine— H-1339B**

**Marshall Compression Machine, 220V 60Hz— H-1339B.2F**

**Marshall Compression Machine, 220V 50Hz— H-1339B.5F**

## **General Information**

### **Inspection**

Your Marshall equipment was thoroughly inspected before it was shipped and should be ready to operate as soon as you have completed the set-up procedure.

Notify Humboldt Mfg. Co. or your local agent and file a claim with any carriers involved if you find any damage to the machine. Unpack all of the equipment carefully to prevent loss of small items or manuals.

### **Physical Specification**

Shipping weight: 185 lbs. (78.9 kg)

Overall height: 39"

Base dimension: 16" x 18" x 10"

### **Power Supply**

110 VAC 60 Hz 1 phase (H-1339B), 375 watts

220 VAC 60 Hz 1 phase (H-1339B.2F), 375 watts

220 VAC 50 Hz 1 phase (H-1339B.5F), 375 watts

Check to make sure your machine has the correct voltage for your local supply.

### **Power Cord**

Your Marshall Test Machine is fitted with a molded vinyl-grounding plug.

The cord is made of three conductors:

#### **(American color-coding)**

Green Ground (Earth)

White Cold (Neutral)

Black Hot (Live)

#### **(International color coding)**

Green/Yellow Ground (Earth)

Blue Cold (Neutral)

Brown Hot (Live)

### **Fuses**

The Marshall Test Machine uses a slow-blow fuse that is fitted into the left side of the machine. The replacement part number is H-1339.13.

### **Initial Installation**

Remove the packing list and verify that all parts have been received. Normally you will receive one crate comprised of compression frame and a calibrated load ring (H-4454.100) 10,000lbf capacity.

Set the machine base up at the place it is to be used in the laboratory and then check that it is level by placing a spirit level on the platen. If it is not level, adjust the feet of the machine.

## Operation

### Control Panel

The control panel is situated on the front left hand side of the machine base.

### Preset Speed:

2.00 in/min. (50.80mm/min.)

### Direction of Travel

It is necessary to ensure that the direction of the platen (up or down) has been correctly selected. The platen travel direction switch has three positions: up, off, down. Before changing travel direction, you must first switch to the "off" position and pause for a second before changing travel direction.

### Maximum Travel Limits

The maximum up travel limit occurs when the loading screw extends beyond the reach of the drive gear and remains there – it is not indicated by a light. The down travel limit is indicated on the control panel with a red indicating light. The machine will stop operation in that direction when this light is illuminated. The maximum travel of the platen is 3.50" (88mm).

### **IMPORTANT**

**You must use the toggle switch to stop test.**

The machine does not stop automatically when the stability load is reached.

### Load Ring

When a load ring is used it can be attached directly to the cross-beam using the 3/4-16 x 3" long bolt.

### Maximum Load

The Marshall Compression and Testing Machine is rated at 10,000lbf (or 50kN).

### Flow Measurement

Requires a Marshall Test accessory, e.g., H-1344 Flow meter with dial gage, 1" travel, 0.001" divisions, or H-1344M with 25 mm travel and .25 mm divisions.

## **Load Ring Calibration**

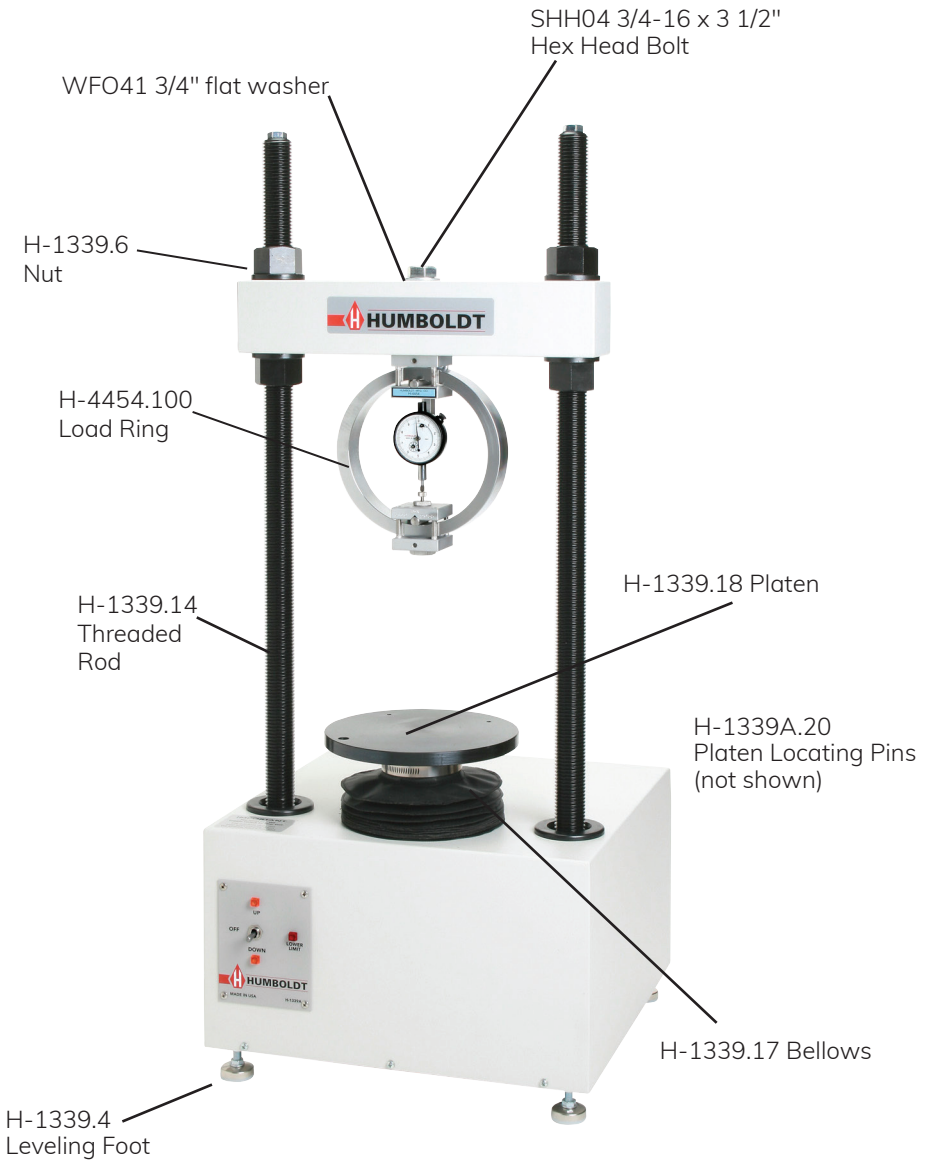
Your H-4454.100 was calibrated before leaving the factory. Periodically you should have it re-calibrated. Humboldt provides calibration services for these load rings, please contact us at: 1.800.544.7220, 1.708.456.6300, 1.708.456.0137 fax or [hmc@humboldtmg.com](mailto:hmc@humboldtmg.com).

## **Maintenance**

The machine and transducers should be kept clean and the machine should not be over lubricated. Light oiling with synthetic instrument oil at most is required on exposed spindles and threads; the jack and gear box are serviced with a premium wheel bearing grease such as Pennzoil 707L Lubriplate Grease applied thru the grease fitting no more than annually, or when an indication of power train friction appears.

## **Warning**

Use appropriate PPE while operating device. Keep body parts clear of moving surfaces when operating machine. Ensure all motion has stopped prior to adding or removing testing samples or support equipment.



## Warranty

Humboldt Mfg. Co. warrants its products to be free from defects in material or workmanship. The exclusive remedy for this warranty is Humboldt Mfg. Co., factory replacement of any part or parts of such product, for the warranty of this product please refer to Humboldt Mfg. Co. catalog on Terms and Conditions of Sale. The purchaser is responsible for the transportation charges. Humboldt Mfg. Co. shall not be responsible under this warranty if the goods have been improperly maintained, installed, operated or the goods have been altered or modified so as to adversely affect the operation, use performance or durability or so as to change their intended use. The Humboldt Mfg. Co. liability under the warranty contained in this clause is limited to the repair or replacement of defective goods and making good, defective workmanship.

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