

Lab Master[®] Stress-Strain Tester



INTRODUCTION

The Lab Master[®] Stress-Strain Tester provides precise, repeatable measurement of resilient materials with 0.1 gram force resolution and 0.02% full-scale accuracy. Position is measured to 0.01 μm resolution and 0.02 μm repeatability. Thousands of data points per test are used to generate force/distance curves that reveal material behavior during test.

APPLICATIONS

Rubber, plastic

SPECIFICATIONS

Force *

- Range & Resolution 2270 gf \times 0.1 gf
- Measurement Accuracy \pm 0.5 gf or 0.5% of reading
- Control Accuracy \pm 0.68 gf steady state

Position

- Range & Resolution 160 mm \times 0.1 μm
- Measurement Accuracy \pm 1.0 μm , \pm 1.0 $\mu\text{m}/60\text{mm}$

* 0-113.4 kg and other force ranges available

FEATURES

- **User-selectable contact pressure, position, rate of separation and duration of test**
- **Display test results as numbers and curves**
- **Configure for R&D analysis or one-touch automated process control**
- **RS-232 output**
- **Includes Windows operating system and touch screen flat panel display in a compact, network ready unit**
- **Innovative design (patent pending) maintains accuracy over changing loads and frequent use.**

CONNECTIONS

- Electrical: Auto-ranging Power Supply
- 100-120 V nominal \pm 10%, 50/60 Hz
 - 220-240 V nominal -5% +10%, 50/60 Hz

ORDERING INFORMATION

Catalog number 49-90

The TMI Group of Companies



www.testingmachines.com

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Lab Master® Stress-Strain Tester

Specifications

Force (tension and compression)

Maximum	±2.3 kg or ±113.4 kg	±5.0 Lb or ±250 Lb	Other force ranges available
Resolution	0.1 g or 4.5 g	0.0002 Lb. or 0.01 Lb	
Accuracy	±0.5% of reading	±0.5% of reading	Exceeds the requirements of ISO 7500-1 Class 0.5
	±0.5 g	±0.5 g	Tension or compression
Overload rating	150%	150%	

Travel and Position

Travel (maximum)	160 mm	6.25 inches	Varies, depending on attachment
Position Resolution	0.1 µm	0.00004 inches	
Position Repeatability	0.2 µm	0.00008 inches	
Position Accuracy	±1.0 µm	±0.0004 inches	
Position Accuracy (cumulative)	±1.0 µm/60mm	±0.000017 inches/2.4 inches	

Speed

Range	0.01 to 13 mm/sec	0.01 to 0.5 inches/sec
Accuracy	better than 0.05% steady state	better than 0.05% steady state

Throat depth	82 mm	3.3 inches
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Number of repeat cycles	as required	as required
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Data Acquisition rate	2 kHz	2 kHz
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Display

TFT flat panel touch screen	300 mm	12 inch
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Physical Dimensions

Height	880 mm	34.75 inches
Width	490 mm	19.25 inches
Depth	535 mm	21.00 inches
Working surface height	290 mm	11.5 inches
Weight	50 kg	110 pounds

Electrical Characteristics

Supply voltage (universal)	100-240 VAC	100-240 VAC
Current (max.)	10 Amperes	10 Amperes
Frequency	50-60 Hz	50-60 Hz

Environmental Range

Temperature (operating)	5°C to 35°C	40°F to 95°F	
Temperature (storage)	-20°C to 55°C	-4°F to 130°F	
Humidity (operating and storage)	10% to 85%	10% to 85%	Non-condensing

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