

Lab Master® Indentation Tester



Measure impression depth with precision!

INTRODUCTION

The Lab Master® Indentation Tester provides precise measurement with $\pm 1.0 \mu\text{m}$ accuracy, $0.1 \mu\text{m}$ resolution, $0.2 \mu\text{m}$ repeatability of position and 0.01 Lbf resolution. The sample is automatically tested in a sequence of operations that measure impression depth using industry standards or user-selectable pre-load and full-load force and test duration.

APPLICATIONS

Vinyl, rubber, wood or composites

SPECIFICATIONS

- ASTM F 142 and 1066 • Federal Std. 501a, method 3211

Force

- Range & Resolution 250 Lbf \times 0.01 Lbf
- Measurement Accuracy $\pm 0.25 \text{ Lbf}$ or 0.5% of reading
- Control Accuracy $\pm 0.34 \text{ Lbf}$ steady state

Position

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

FEATURES

- Includes industry standard 0.25 inch dia. carbide ball probe. Other probes and fixtures optional.
- 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 49-93

The TMI Group of Companies



www.testingmachines.com

- Testing Machines Inc.** 2 Fleetwood Court, Ronkonkoma, NY 11779 USA
Tel: 800-678-3221 (USA) or (631) 439-5400, Fax: (631) 439-5420, e-mail: info@testingmachines.com
- Messmer Instruments Ltd.** Unit F1 Imperial Business Estate, West Mill, Gravesend, Kent DA11 0DL UK
Tel: +44 (0)1474 566488, Fax: +44 (0)1474 560310, e-mail: messmer@testingmachines.com
- Büchel BV** Fokkerstraat 24, 3905 KV Veenendaal, Netherlands
Tel: +31 (0)318 521500, Fax: +31 (0)318 540358, e-mail: buchel@testingmachines.com
- Adamel Lhomargy SAS** Z.A. de l'Habitat, Batiment 6, Route d'Ozoir, 77680, Roissy en Brie, France
Tel: +33 (0)1 64409210, Fax: +33 (0)1 64409211, e-mail: adamellhomargy@testingmachines.com
- TMI Canada** 6 Ronald Drive, Montreal West, Quebec H4X 1M8
Tel: (514) 489-8491, Fax (514) 489-6044, e-mail: canada@testingmachines.com

Lab Master® Indentation Tester

Specifications

| | | | |
|--|-----------------------------|------------------------------------|---|
| Force (tension and compression) | Maximum | ±113.4 kg | ±250 Lb |
| | Resolution | 4.5 g | 0.01 Lb |
| Accuracy | ±0.5% of reading, ±113 g | ±0.5% of reading, ±0.25 Lb | Exceeds the requirements of ISO 7500-1 Class 0.5 |
| Overload rating | 150% | 150% | Tension or compression |
| 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/60 mm (cum.) | ±0.000017 inches/2.4 inches (cum.) | |
| Speed | | | |
| Range | 0.01 to 13 mm/second | 0.01 to 0.5 inches /second | |
| Accuracy (steady state) | better than 0.05% | better than 0.05% | |
| Throat depth | | | |
| | 82mm | 3.3 inches | |
| Number of repeat cycles | as required | as required | |
| Data Acquisition rate | | | |
| | 2 kHz | 2 kHz | |
| Display | | | |
| TFT flat panel touch screen | 300 mm | 12 inch | |
| 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 | 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 |

The TMI Group of Companies



www.testingmachines.com

Testing Machines Inc. 2 Fleetwood Court, Ronkonkoma, NY 11779 USA
Tel: 800-678-3221 (USA) or (631) 439-5400, Fax: (631) 439-5420, e-mail: info@testingmachines.com

Messmer Instruments Ltd. Unit F1 Imperial Business Estate, West Mill, Gravesend, Kent DA11 0DL UK
Tel: +44 (0)1474 566488, Fax: +44 (0)1474 560310, e-mail: messmer@testingmachines.com

Büchel BV Fokkerstraat 24, 3905 KV Veenendaal, Netherlands
Tel: +31 (0)318 521500, Fax: +31 (0)318 540358, e-mail: buchel@testingmachines.com

Adamel Lhomargy SAS Z.A. de l'Habitat, Batiment 6, Route d'Ozoir, 77680, Roissy en Brie, France
Tel: +33 (0)1 64409210, Fax: +33 (0)1 64409211, e-mail: adamel@testingmachines.com

TMI Canada 6 Ronald Drive, Montreal West, Quebec H4X 1M8
Tel: (514) 489-8491, Fax (514) 489-6044, e-mail: canada@testingmachines.com