



Digital Micrometer

Model 49-85/86/87

The NEW model 49-86 series Digital Micrometers combines a precision digital linear encoder measuring system with an ultra-clear, easy-to-read digital display. The units have a measurement range of: 0-0.050in. (0-1.27mm) for very thin materials such as thin plastic films and paper.

The 49-87 unit has a measurement range of: 0-0.50in. (0-12.7mm) and is designed for thick materials such as corrugated, paper board, tissue paper, battery separators, and non-wovens. The motor-driven instrument utilizes the dead weight micrometer principle for accuracy and repeatability. Each unit is designed and manufactured for when the utmost precision is required.

The construction of the model 49-86 series consists of a heavy, solid frame which supports the unit and houses the reflective linear encoder and associated circuitry. A digital readout is provided to automatically display the specimen thickness. The lower anvil and movable pressure foot are made from lapped, stainless steel.

The unit has the capability of measuring and storing multiple readings, providing a cross machine profile. Up to 100 readings are stored and analyzed including high, low, average and standard deviation for each series of tests. Statistical data is not available on the 49-85 unit. Data can be permanently saved with optional GraphMaster PC-based software or printed.

Features

- Digital readout and superior mechanical design
- For use throughout the laboratory and production floor
- Utilizes dead weight micrometer principle
- Units conversion for microns, mils, inches and millimeters
- Auto Zero
- Saves up to 100 readings during a continuous measurement
- On-board statistics include high, low, average and standard deviation
- Serial output for simple data collection
- GraphMaster™ compatible
- User-configurable options: lowering speed, dwell time, time of day, zero threshold, live readings, starting units, LED pulse, set manager password
- Special anvil diameters and dead weight loads available

Applications

The model 49-86 is designed to measure the thickness or caliper of a variety of sheet-like materials. Almost any material including paper, natural or synthetic fabrics, leathers, metals, plastics and rubber can be measured with precision and ease.

The model 49-85 is designed to measure the thickness or caliper of paper sheets with precision and ease.

The model 49-87 can be configured to meet a variety international specifications for different types of materials including corrugated paper, paper board, plastic film, paper, tissue paper, nonwovens, textiles and other sheet like substrates.

Weights & Dimensions

Height	12in. (30.5cm)
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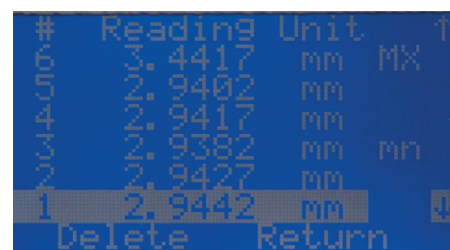
Width	7in. (15cm)
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Depth	9.5in. (24cm)
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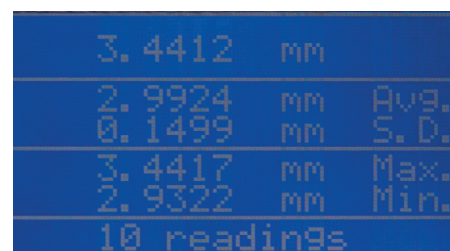
Weight (approx.)	22lb. (10kg)
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Disclaimer

The information contained in this document is liable to modification from time to time in the light of experience and our policy of continuous product development. Check the Industrial Physics website for the latest version.



Displays Up To 100 Readings



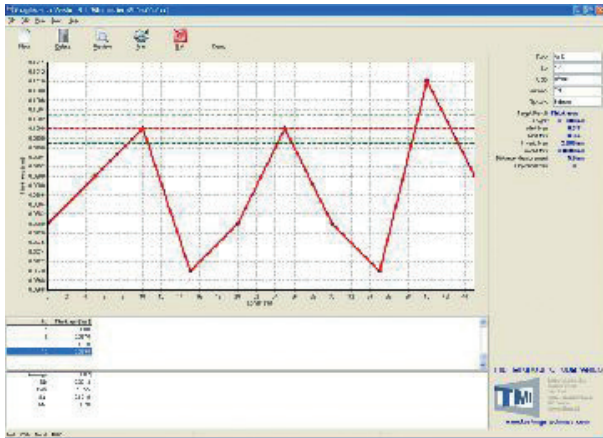
Displays Summary Statistics

Contact Details

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GraphMasterPro™ Option



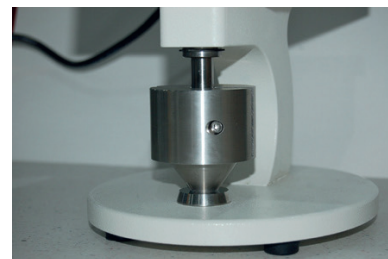
GraphMaster™ PC-based software enables data collection, real-time plotting, analysis, and export for our 49-85, 49-86, and 49-87 Digital Micrometers. It can generate live thickness profiles versus interval or distance for in-depth analysis.

Fully compatible with the 49-85, GraphMaster™ also supports automated programming cycles to maximize device performance. For expanded input options and advanced workflows, the 49-86 and 49-87 models offer enhanced capabilities.

The model 49-85 is designed specifically with the paper industry in mind, the model 49-85 is configured to meet the international specification and test standard for paper and board, TAPPI T 411.

Features

- Digital readout and superior mechanical design
- For use throughout the laboratory and production floor
- Utilizes dead weight micrometer principle
- Displays readings in microns, mils, millimeters or inches
- Zeroing on next dwell after Zero button press
- Serial output for simple data collection
- GraphMaster™ compatible
- User-configurable calibration menu (requires password)
- Special anvil diameters and dead weight loads available



Applications

The model 49-85 is designed to measure the thickness or caliper of paper sheets with precision and ease.

Technical Specification

Model 49-86

Range	0-0.050in. (0-1.27mm)	Lowering speed	1mm/sec, 2mm/sec, max. (~2.5mm/sec)
Resolution	0.5 micron (0.02mil)	Speed tolerance	+/-0.3 mm/sec
Accuracy	1.0 micron (0.039mil)	Power	90-250VAC, 50/60Hz
Units	Microns, mils, millimeters or inches		
Dwell time	100ms - 6 sec		

Part #	Foot Diameter	Foot Pressure	Standards	Industry
49-86-00-0001	16mm/0.63 inch	50kPa/7.3PSI	TAPPI T 411	Paper and Board
49-86-00-0002	6.35mm/0.25 inch	172kPa/25PSI	ASTM D374	Electrical Insulation
49-86-00-0003	50.8mm/2.0 inch	95g/sq.inch	Paper Tissue & Towel	Paper Tissue & Towel
49-86-00-0004	16mm/0.63 inch	100kPa/14.6PSI	ISO 534, ISO 3034, DIN 53105	Paper & Board
49-86-00-0005	35.7mm/1.41 inch	10kPa/1.45PSI	Special	Textiles
49-86-00-0006	6.35mm/0.25 inch	31.02kPa/4.5PSI	ASTM D6988, ISO 4593, ASTM F2251	Plastic Film
49-86-00-0007	12.7mm/0.50 inch	16.26kPa/2.36PSI	ASTM D6988, ASTM F2251	Plastic Film
49-86-00-0018	12.7mm/0.50 inch	50kPa/7.3PSI	ASTM D6988, ASTM F2251	Plastic Film

NOTE: Other sizes are available.

Model 49-85

Range	0-0.050in. (0-1.27mm)
Resolution	0.5 micron (0.02mil)
Accuracy	1.0 micron (0.039mil)
Units	Microns, mils, millimeters or inches
Dwell time	2.0 +/- 1.0sec
Lowering speed	1.0mm/sec
Speed tolerance	+/-0.3mm/sec
Power	90-250VAC, 50/60Hz

Standards

TAPPI T 411

Model 49-87

Range	0-0.50in. (0-12.7mm)
Resolution	0.5 micron (0.02mil)
Accuracy	5.0 micron (0.197mil)
Units	Microns, mils, millimeters or inches
Dwell time	100ms - 6sec
Lowering speed	1 mm/sec, 2 mm/sec, 5 mm/sec, 10 mm/sec, max. (~11 mm/sec)
Speed tolerance	+/- 1mm/sec
Power	90-250VAC, 50/60Hz

Standards

Paper & Board ISO 3034