

# Lab Master® Food Texture Analyzer



Sample fixtures  
for analyzing  
food texture



## INTRODUCTION

The Lab Master® Food Texture Analyzer provides precise, repeatable measurement of textural properties for a wide variety of foods and ingredients. The instrument includes texture measurement software, a flat panel touch-screen display, load cell and interchangeable probe mounting, all in a network-ready Windows PC. Thousands of data points per test generate force/distance curves that reveal food properties during tension and compression testing.

See expanded list of sensory properties on page 2.

## APPLICATIONS

Baked goods, Fruits, Vegetables, Dairy products, Pasta, Meat, Fish and other food items and ingredients.

## SPECIFICATIONS

Load range\*: 0 to ±5 lb (2.3 kg) or 0 to ±250 lb (113.4 kg)

Load resolution: 0.1 g (0.0002 lb.) or 4.5 g. (0.01 lb.)

Load accuracy: ±0.5% of reading

Position (displacement) resolution: 0.1 µm

Position accuracy: ±1.0 µm

1000 data points per second

\* other load cell ranges available

## FEATURES

- Complete package includes everything you need
- Display test results as numbers and curves
- TMI Test Method Wizard™ software simplifies creation of multiple step test methods and unique tests
- User-selectable contact pressure, position, rate of separation and duration of test
- Configure for R&D analysis or one-touch automated testing of multiple samples
- Accurate, repeatable results
- Export data to other programs for presentation or printing
- Innovative design (patent pending) maintains accuracy over changing loads and frequent use.

## CONNECTIONS

Electrical: Auto-ranging Power Supply

- 100-120 V nominal ±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](http://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](mailto: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](mailto: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](mailto: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](mailto: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](mailto:canada@testingmachines.com)

# Lab Master® Food Texture Analyzer

## TEST PROPERTIES

The Lab Master® Food Tester Analyzer can analyze food properties including:

Adhesiveness  
Bending  
Breaking Point  
Brittleness  
Burst  
Chewiness  
Cohesiveness  
Compressibility  
Consistency  
Creep  
Crispness  
Deformation  
Disintegration  
Elastic Modulus  
Extensibility  
Firmness  
Flexibility  
Fracturability  
Friction  
Gumminess  
Hardness  
Lumpiness  
Pliability  
Puncture Resistance  
Relaxation  
Resilience  
Rubberiness  
Seal Strength  
Shear Modulus  
Shear Strength  
Slipperiness  
Smoothness  
Springiness  
Stickiness  
Stiffness  
Stress-Relaxation  
Stringiness  
Tackiness  
Tear strength  
Tension

Toughness  
Viscoelasticity  
Young's Modulus

## FOODS

Baked goods  
    Biscuits  
    Bread  
    Cakes  
    Cookies  
  
Cereal  
  
Dairy products  
    Butter  
    Cheese  
    Ice Cream  
    Pudding  
    Yogurt  
  
Fish  
  
Fruits  
  
Meat  
  
Pasta  
  
Snack Foods  
    Crackers  
    Potato chips  
  
Vegetables

## TEST PROBES, FIXTURES AND JIGS

Anvil and platform  
    • Stainless Steel  
    • Dimensions of anvil and platform per test standard method and sample size  
  
Bending, Fracture support  
    • Stainless Steel  
    • Dimensions of anvil and platform per test standard method and sample size  
  
Cones  
    • Plastic  
    • Diameter and angle per test standard method  
  
Cutting Wire  
    • Stainless Steel or Plastic  
    • Diameter and length per test standard method  
  
Cylinders  
    • Stainless Steel or Plastic  
    • Diameter, length and radius per test standard method  
  
Knife, Kramer Shear Cell  
    • Stainless Steel or Plastic  
    • Length, width, taper, notches and number of blades per test standard method  
  
Needle, Probe  
    • Stainless Steel or Plastic  
    • Diameter, length and taper per test standard method  
  
Spherical  
    • Stainless Steel or Plastic  
    • Diameter per test standard method

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# Lab Master® Food Texture Analyzer

## 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
Overload rating	±0.5 g 150%	±0.5 g 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/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

1 kHz	1 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 90%	10% to 90%	Non-condensing

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