

# MOHR™ MDT-2 Series

## Computerized Agricultural Penetrometer and Texture Analyzer

Sophisticated materials testing in a rugged portable package

### Key Features

- Constant rate, Creep, and Crispness testing
- Eliminates operator and transcription errors
- Tension and compression modes
- 5 mg ( $1 \times 10^{-5}$  lb.) force sensitivity (24-bit ADC)
- $\pm 30$  kg ( $\pm 65$  lb.) standard load cell range
- 0.001 mm ( $1 \times 10^{-5}$  in.) distance precision
- Precision external scale / automated calibrator
- 2+ GB storage, enough for thousands of tests
- USB host/client, 10/100 Ethernet
- Lightweight with bright color touchscreen

**MOHR MDT-2 Series** instruments are the industry's most capable portable agricultural firmness testers, featuring unmatched precision, unique texture analysis capabilities, intuitive data visualization tools, and rugged portability.

### Optimized for Fruit and Vegetable Testing

Specialized probes and test routines for:

- Apples
- Pears
- Grapes
- Cherries
- Kiwi
- Tomatoes
- Potatoes
- Watermelon
- Many more

### Unique, Meaningful Test Data

- Repeatable, accurate results every time
- Complete fruit maturity data:
  - **Constant rate** penetrometer testing
  - **Internal and external** fruit pressure
  - **Crispness** textural characteristics
  - **Creep** viscoelastic properties
  - **Quality Factor (QF)**: Variety-specific statistical measure helps guide picking, packing, and retail handling decisions
- Real-time graphics and **instant statistics** as you test

### Major Cost and Efficiency Savings

- Save 50% or more of the time you spend testing and managing data
- Fast testing – 25+ tests/minute
- Automated reports with network integration
- Barcode scanning
- Automatic diameter and weight measurements
- Store titrable acidity, soluble solids, color data



MDT-2 Penetrometer and Texture Analyzer



Standard external precision scale



Variety of interchangeable probe types

**MOHR™**

Test and Measurement Solutions for Industry™

SALES CONTACT: sales@mohr.com ph: +1 (888) 852-0408 fx: +1 (888) 278-8037

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# Specifications

## Force System Characteristics

Standard internal and external load cells:

Type: Stainless-steel S-beam with overstress guards

Range:  $\pm 30$  kg ( $\pm 65$  lbs.)

Sensitivity: 5 mg ( $1 \times 10^{-5}$  lbs.) at default gain settings

Instrumentation amplifiers (internal, external channels):

Type: Differential input, zero drift, programmable gain

Default gain: 176x

Analog-to-digital conversion (internal, external channels):

Sample resolution: 24 bits

Sample rate: up to 14 kHz

## Distance System Characteristics

Type: Brushless DC servo with optical quadrature feedback

Range: 7.3 cm (2.9 in.)

Precision: 0.001 mm

Sampling resolution: 32 bits

Velocity: 0 -  $\sim 100$  mm/s

Velocity resolution: 32 bits

Acceleration resolution: 32 bits

## Test Capabilities

Multi-region testing

Thousands of samples per test

Simple and/or complex test parameters:

Constant velocity

Creep: Deformation under constant force

Crispness: Time-dependent fracture characteristics

## Software Features

Real-time graphical display

User-configurable fruit types

Powerful easy-to-use relational database

Instant comparative statistics

## Data Storage

2+ GB flash memory, thousands of tests

USB thumbdrive ready

Remote data storage over Ethernet

## Connectivity

4x USB host for keyboard, barcode, and/or external instrumentation USB client and 10/100/1000 Mb Ethernet for PC connection

Remote testing with real-time data using Winapples™ software

## Display

Color LED-BL 14.5 cm (5.7 in.) VGA TFT-LCD, > 600 cd/m<sup>2</sup>

## Power System

AC Power: 110/220 VAC ( $\pm 10\%$ ), 50/60 Hz 1-phase, using AC adapter

Battery Power: Internal NiMH DC battery

Battery Life: >1000 tests (typical use)

Battery Charging: <1 h low-battery, <4 h fully-discharged

## Environmental and Mechanical

Operating / Non-Operating Temp.: +0°C to +50°C / -20°C to +60°C

Dimensions: 42.0(H) x 17.8(W) x 20.3(L) cm (16.5 x 7.0 x 8.0 in.)

Weight:  $\sim 4.5$  kg (10 lbs.)



## Regulatory

Complies with all applicable EU directives, as specified by the Declaration of Conformity supplied with the instrument.

## Ordering Information

### General Options

MDT-2 Base Unit

### Standard Accessories

Test probe

Winapples™ software

Calibration kit

Quick-load Teflon® base

Precision external scale

AC power adapter and cable

USB and Ethernet cables

Operator's manual

12-month limited warranty

### Optional Accessories

#### USB Add-Ons

Flexible Waterproof Keyboard MDT2-AC-KBD

Barcode Reader Kit MDT2-AC-BCD

#### Test Probes

Probe 4 mm MDT2-AC-P4M

Probe 8 mm MDT2-AC-P8M

Probe 11 mm MDT2-AC-P11M

Probe Cherry MDT2-AC-PCH

Probe Compress MDT2-AC-PCM

Probe Rheology MDT2-AC-PRH

This product or use of this product covered by U.S. Patent #6643599; other patents pending.

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