

# Model 530 Chocolate Temper Meter



## 530 Chocolate Temper Meter



- Used by major confectioners throughout the world
- Ensures product quality
- Fast, accurate, repeatable
- Clean, no mess - disposable sample cups
- User-selectable and programmable functions
- Color graphic display provides operator prompts, test results, temper curves, and statistics
- Statistics - displays historical X-bar and sigma data and graphs CTU and slope values
- Includes all features of the Model 505A Automatic Temper Meter plus improvements and enhancements
- Internal printer provides temper curve graph



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The Model 530 incorporates features field-proven since 1981 in TRICOR'S award-winning, world-renowned temper meters. It offers advanced electronics, extended operating temperature and temperature measurement ranges, as well as user-selectable and programmable functions.

The 530 provides the most convenient and accurate method available for determining the temper of chocolate. Its use allows corrective action to be taken before temper becomes unacceptable and effects production yield.

The key to accurate temper measurement is stringent control of those conditions that affect the measurement. Control is exercised, in part, by precisely regulating the cooling temperature of the test sample, maintaining the depth and temperature of the temperature-sensing probe, and ensuring a constant sample size.

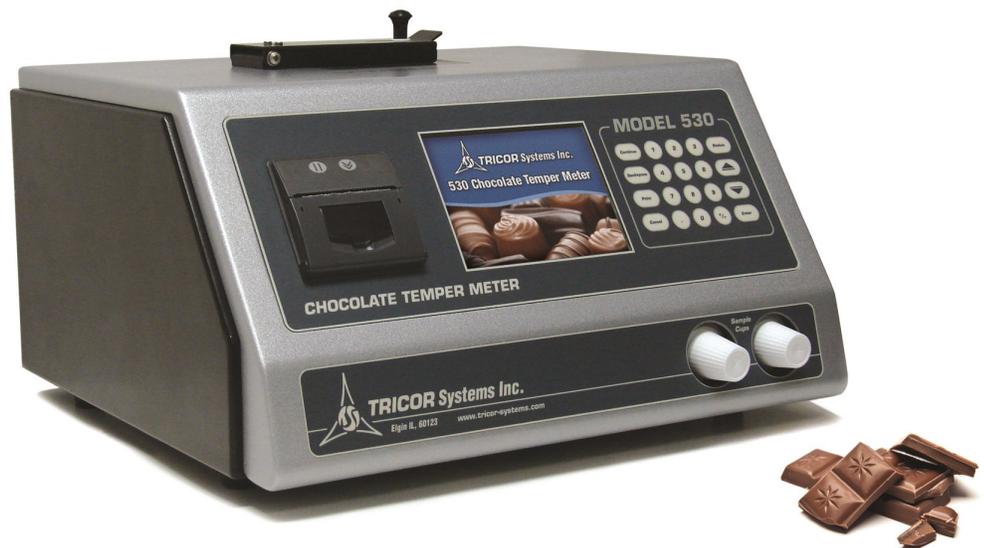
The 530 incorporates a precise closed-loop, temperature-controlled, solid-state thermoelectric cooling unit. Its closed-loop control circuitry regulates the cooling temperature with a stability of  $\pm 0.06^{\circ}\text{C}$  ( $\pm 0.1^{\circ}\text{F}$ ). TRICOR temper meters have used thermoelectric cooling units since 1981.

The temperature sensing probe is maintained at a fixed temperature prior to the test. This eliminates the possibility of any measurement errors due to variations in ambient temperature. Disposable sample cups, which ensure constant sample size and cleanliness, are stored in a dispenser in the front panel. The well that holds the chocolate sample for testing is conveniently located in the top of the 530.

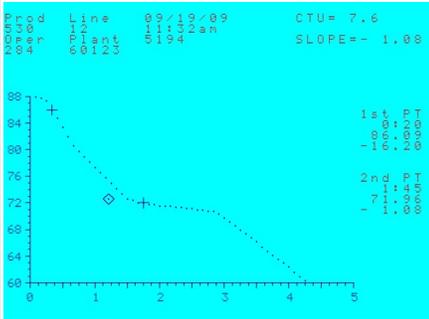
A color graphic display prompts the user for all necessary actions. The user enters a product ID number, fills the sample cup with chocolate, and inserts the cup into the well. Upon completion of the test, typically 5 minutes, the display provides the CTU (chocolate temper unit) and slope values, as well as the temper curve and statistical data.

Test data can also be printed in hardcopy form on the internal printer or sent to a peripheral computer database. The 530 internally stores test data for up to 165 five minute test runs.

The Model 530 Automatic Temper Meter ensures fast, accurate, and repeatable measurement of temper. It allows users to easily establish and maintain ideal temper for their chocolate formulations.



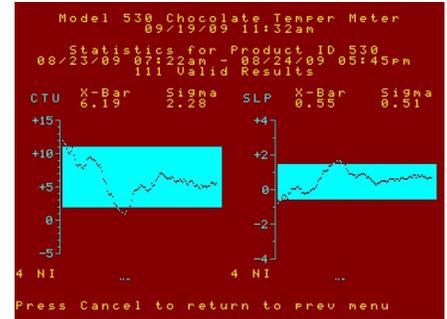
# Model 530 Chocolate Temper Meter



Temper



Color Display



Statistics

## Specifications and Features

### Dimensions

10.5H x 16.5W x 15D inches  
27H x 47W x 38D cm

### Weight

8.7 kg (19 lbs.)

### Power Requirements

1.7 A @ 115VAC (0.85A @ 230VAC)  
Universal AC Input Range 90 to 250VAC  
50-60 Hz

### Sample Test Time

3 to 10 minutes (programmable)

### Sample Volume

11.0 ml (0.38 oz.)

### Sample Stabilization Time

30 seconds

### Chocolate Temper Unit (CTU) Repeatability

±0.5 CTU

### Cooler Temperature Stability

±0.06°C (±0.1°F)

### Probe Heater Temperature Accuracy

±0.6°C (±1.0°F)

### Temperature Measurement Sensitivity

±0.003°C (±0.005°F)

### Temperature Measurement Range

-8° to 55°C (18° to 131°F)

### Temper Curve Temperature Scale

Y axis scale 14°C (28°F)

Y axis baseline user selectable from

14°C (56°F) to 32°C (92°F)

X axis 5 mins. or 10 mins. based on test run

### Ambient Operating Temperature Range

10° to 41°C (50°F to 105°F)

### Self-Test

Automatic self-test on power-up

### Color TFT LCD Display

16 user selectable colors

LED backlight

320W x 234H pixels

40 characters x 29 lines

### Operator Prompts

Display provides full step-by-step instructions

### RoHS Compliant

EU Directive 2002/95/EC and 2005/618/EC

### Test Results

Color display provides CTU, slope values, temper curves and statistics.

### Statistics

X-bar and sigma data calculated per Product ID for CTU and slope values. Graph shows CTU and slope results of the last 120 stored runs while all stored runs are included in calculations for the selected Product ID.

### Sample Cups

Self-stored, disposable plastic cups ensure constant sample size and cleanliness; built-in ejector allows easy removal of sample cup after test.

### ID Numbers

Test runs are identified by up to four different ID numbers, which can be individually enabled or disabled. ID's are: Product, Operator, Line, and Plant. Each ID can be up to 5 digits.

### Printer (Built-in)

Provides printouts of test results in long form or short form with or without graph.

### Short-Form Printout

Contains unit model and serial number, ID numbers, date, time, cooler temperature, time-temperature-slope of 1st and 2nd inflection points, and CTU value.

### Long-Form Printout

Same as for short form above plus temperature measurements at 5-sec intervals for entire test run.

### Graph Printout

The temper curve can be printed along with either form printout.

### Real-Time Clock

Provides date and time on display, printouts, and stored test runs.

### Memory Data Storage

Test data retained on power-down for up to 165 5 min. runs.

### Status Mode

Permits configuration programming, diagnostics, viewing stored runs and statistics.

### PC Configuration Setup

PC program to set up various 530 features.

## Options

### Programmable Cooler Temperature

Permits user to vary temperature, in effect varying the cooling rate, for experimenting with new formulations.

### Print-Plot

Allows plotting temper curves to a remote printer (supplied with option).

### Data Acquisition Package

TMDAS<sup>®</sup> (Temper Meter Data Acquisition Software) is a Windows<sup>™</sup>-based program that provides for data transfer from a single or multiple temper meters, disk storage, interrogation, and viewing of test data. Downloaded or previously saved TMDAS<sup>®</sup> data can be exported to Excel<sup>™</sup>, using the Excel Template File provided with TMDAS<sup>®</sup>.

Requires Windows<sup>™</sup> XP, Vista 7 or 10; 32 bit or 64 bit

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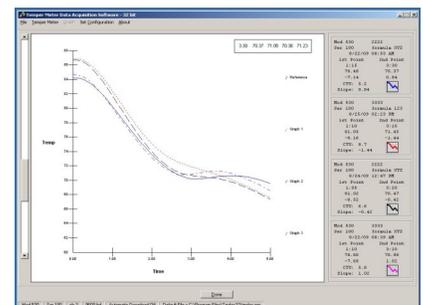
*****
MODEL 530   S/N 100
Version 1.13
02/05/10 02:52pm
Unit Test ID: 196
Product ID: 530
Operator ID: 123
COOLER = 48.04°F
COOLER CAL = 48.00°F
*****

FIRST POINT
0:20 86.09 -16.20

SECOND POINT
1:45 71.96 -1.08

CTU= 7.6 SLOPE=- 1.08
    
```

### Sample TMDAS Screen



Data subject to change

