



The manual

TBH 325

Testing of up to four parameters with
integrated product memory



ERWEKA

part of **VERDER**
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Overview

The ERWEKA TBH 325, part of manual hardness and combination tester product range, features an integrated product memory for up to 50 products. The TBH 325 offers a robust design that can be used directly within the production environments and provides various documentation and evaluation possibilities. Via a numeric keypad with alphanumeric subfunction the nominal hardness values in combination with three individual tolerances can be entered for up to 50 products and afterwards recalled for testing. Depending on the device model, automatic measurement can be taken for tablet hardness and thickness (optional), diameter (for round tablets) or length (for oblongs) and weight*. Up to 150 tablets can be precisely tested in one run.

100%

100%
USP/EP/JP
compliant



Setting of test
speed (0.1 - 3.0
mm/sec.)



Adjustment of
force increase
(10 - 200 N/sec.)



Adjustable breaks
between the test runs



Collection
container for
broken samples



TBH 325 with Sartorius balance for weight measurement (option)*

*= Option

Password protection of specific menus

Some menus of the TBH 325, such as the administration, the calibration menu, the settings and the service menu, can be protected from unauthorized access via a password.



Test station

The TBH 325 measures the hardness of samples in a range of 3 – 500 Newton (optionally up to 1000 Newton) with two selectable measuring modes: „Constant Speed“ or „Constant Force“. The test results (including date/time) are printed in the following units: Newton (N), Kilopond (KP) or Strong Cobb (SC).

Storage for up to 50 products

The alphanumeric membrane keypad allows the comfortable data input and storage of up to 50 products. Individual evaluations can be created easily, due to the adaptation of the tolerance limits. In addition, you can choose between four different menu languages.

4 Parameters:



Thickness



Diameter /
Length



Hardness



Weight



Automatic calibration with AutoCal 2.0*

The calibration of the TBH 325 is completely menu-driven and may be carried out statically by weight stones or dynamically by the electronic ERWEKA AutoCal 2.0 System. In addition, the unit generates a calibration print-out outlining individual calibration data and further information (service date and time, serial number).



Versatile interface (USB, LAN and SD card)

Multiple Interfaces - Several Documentation Options

Via the different interfaces of the TBH 325 the entered data can be stored conveniently on a USB stick or a SD memory card. The acquired data can be documented and evaluated in a variety of ways. The USB printer interface can be connected to receive a hard-copy documentation with individual information on test run, results and statistics.

In addition, the Ethernet LAN interface allows connecting a computer with the optional ERWEKA MC.NET software. In combination with this option the TBH 325 series is 100 % 21 CFR 11 compliant and can be controlled via a PC.



With the optional MC.NET software the TBH 325 can be controlled via a PC*.

Technical Specifications

Measurement range

Hardness	3 - 500 N
Extended measuring range hardness*	3 - 1000 N (± 1 N)
Diameter/Length	2 - 28 mm (± 0.05 mm)
Extended measuring range diameter*	2 - 70 mm (± 0.05 mm)
Thickness*	0.10 - 12 mm (± 0.05 mm)
Weight*	20.0 mg - 64 g** (± 0.1 mg)

Measurement principles

Constant speed	0.1 - 3 mm/sec.
Constant force	10 - 200 N/sec.

Appliance details

Power	100 - 240 V / 50 - 60 Hz
Width/depth/height	350 mm / 375 mm / 310 mm
Weight	10 kg
Connectivity	SD card, Ethernet (LAN), RS 232 C*, 1x USB-A and 1x USB-B interface for printer / Autoal 2.0
Calibration	Weights (statistic calibration), Optional: AutoCal 2.0 (dynamic calibration)

Options

- + Diameter measurement (Length for oblongs) up to 28 mm, accuracy ± 0.05 mm
- + Thickness measurement up to 12 mm, accuracy ± 0.05 mm
- + Weight measurement, different Sartorius and Mettler balances available
- + Extended measuring range 3 - 1.000 N, accuracy ± 1 N
- + AutoCal 2.0 system - automated tool for calibrating the hardness test without weight
- + Test jaws for sugar coated tablets
- + Test jaws for oblong shaped tablets
- + MC.NET software to operate TBH 325 via PC
- + RS 232 interface for standard data export
- + Qualification documents IQ/OQ/PV
- + ERWEKA IQ/OQ/PV service on customer site
- + Maintenance service

*= Option

**= Depending on the balance type



Optional thickness testing*.

ERWEKA GmbH

Pittlerstr. 45
63225 Langen
Germany

E-Mail: sales@erweka.com
Phone: +49 6103 92426-200
Fax: +49 6103 92426-999

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