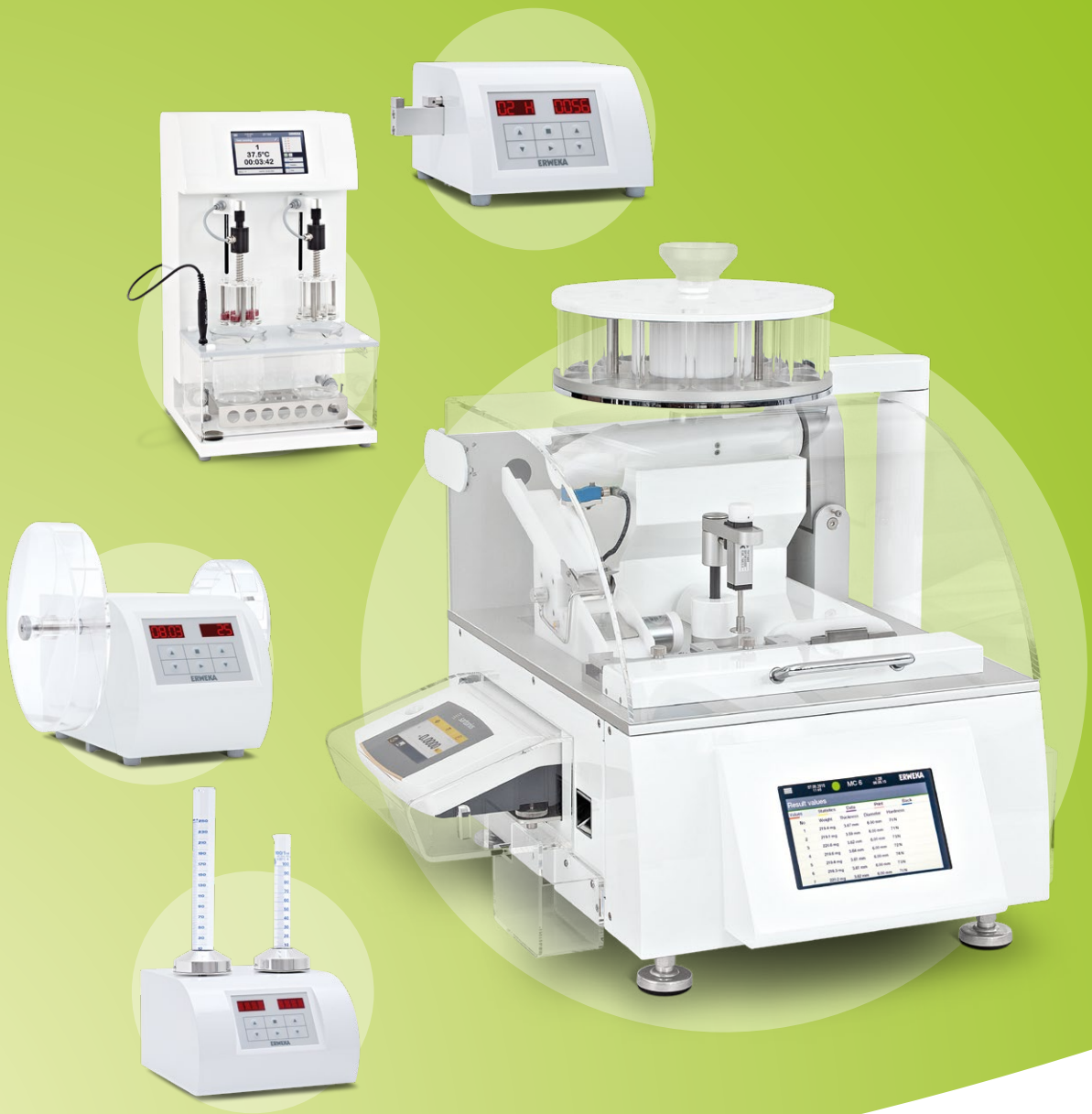
Physicals Guide

Our broad range of physical testers



ERWEKA

Our physical testers program

ERWEKA offers a broad range of physical testers.

Tablet hardness testers

We offer a wide range of tablet hardness testers - from the manual TBH 125 up to the fully automated testers EasyCheck and MultiCheck 6.

Disintegration testers

To analyse disintegration time, we offer manual and automated disintegration testers.

Tapped density testers

The SVM and its accompanying noisebox are the perfect solution for tapped density testing.

Friability/Abrasion testers

The TAR is our friability and abrasion tester.

Vacuum leak testers

The VDT/S is our vacuum leak tester.

Granulate flow testers

For testing of flow characteristics of granules and powders.

Suppository testers

We offer a variety of suppository testers for testing of suppository disintegration, hardness, melting point and penetration testing.

Contact

Do you have further questions? We are here to answer them for you.

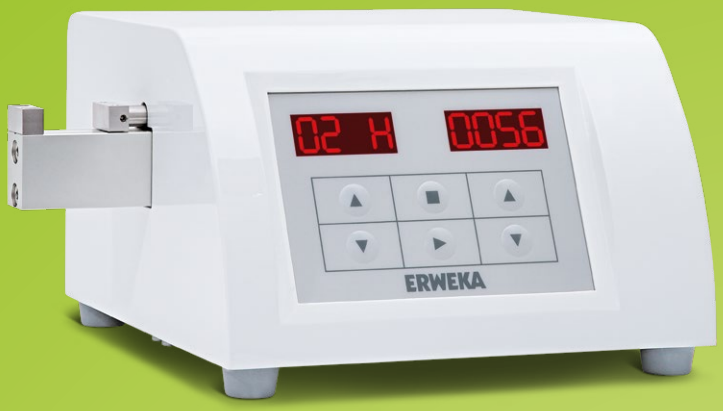
Manual tablet hardness testers

TBH 125

Dual-mode tester with robust design and basic functions

The ERWEKA TBH 125 tablet hardness tester is the ERWEKA entry-level tablet hardness and combination tester. The device is perfectly suited for quick and manual testing of up to 99 samples.

Depending on the device model, automatic measurement can be taken for tablet hardness and thickness (optional), diameter (for round tablets) or length (for oblongs). The integrated electronic measurement cell ensures highest accuracy for precise measurement results. Due to the USB printer interface the results can be printed directly.



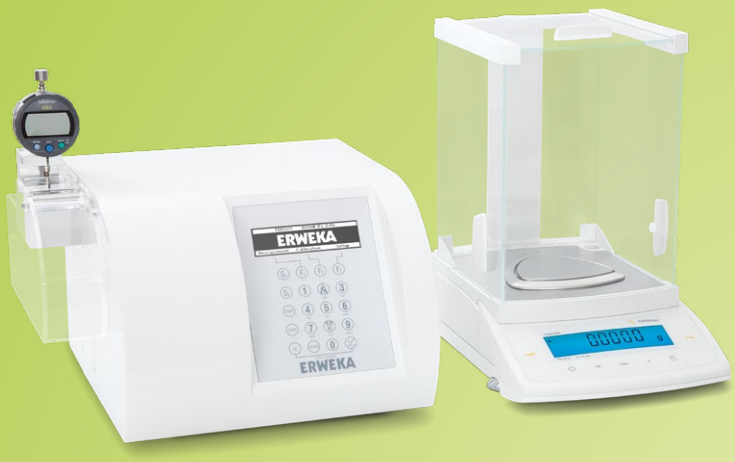
- 100% USP / EP / JP compliant
- Setting of test speed (0.5 - 3.00 mm/sec.)
- Adjustment of force increase (10 - 200 N/sec.)
- Collection container for broken samples

TBH 325

Manual tester with product memory

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 provides various documentation and evaluation possibilities. 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 (optional). Up to 100 tablets can be precisely tested in one run.



- 100% USP / EP / JP compliant
- Adjustable breaks between the test runs
- Adjustment of force increase (10 - 200 N/sec.)
- LAN / USB interface

Semi-automated tablet hardness tester

TBH 425

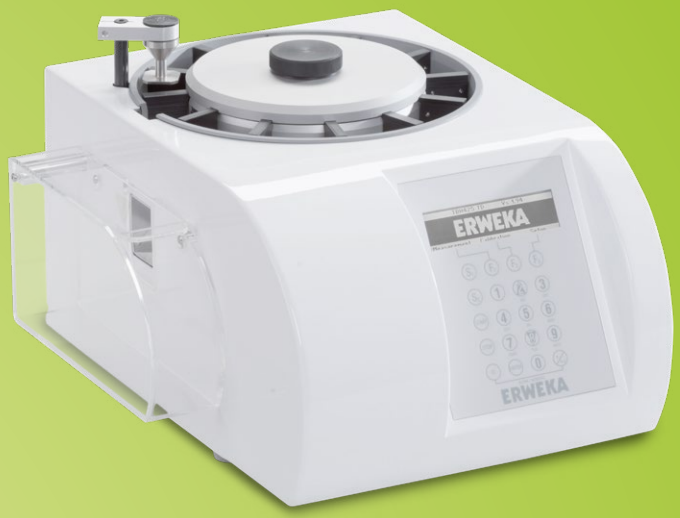
The ERWEKA TBH 425 is a semi-automatic tablet hardness and combination tester for measuring of up to ten samples. The samples are automatically transported to the test station by a star-shaped rotary magazine. Depending on the device model, automatic measurement can be taken for tablet hardness and thickness (optional), diameter (for round tablets) or length (for oblongs). In combination with the optional balance the weight can also be determined.

In addition, the rotary magazine enables full visual inspection of the test processes at all times. Up to 100 tablets can be precisely tested in one run and the acquired data can be documented and evaluated in a variety of ways. Therefore the TBH 425 can be connected to a printer via the USB printer interface or directly integrated into a computer network via the Ethernet LAN interface.

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.

In addition, the unit generates a calibration print-out outlining individual calibration data and further information (service date and time, serial number).

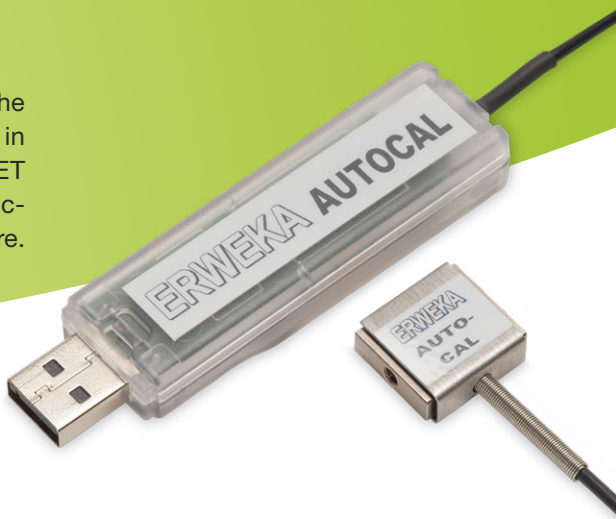
- 100% USP / EP / JP compliant
- Star feeder magazine
- Setting of test speed (0.5 - 3.00 mm/sec.)
- Adjustment of force increase (10 - 200 N/sec.)



Calibration instrument for hardness testers

AutoCal 2.0

The certified AutoCal 2.0 system is an electrical device for calibrating the integrated tablet hardness measuring system. Not requiring any measurement weights, AutoCal 2.0 is simply connected to the USB port and ensures the adjustment/calibration either in conjunction with the MC.NET software or the calibration function integrated into the firmware.



Fully automated tablet hardness tester

EasyCheck

Fully automatic hardness testing as easy as never before

EasyCheck is the new entry-level tablet combination tester that tests for up to 5 parameters. The compact system is 100 % compliant with all common pharmacopoeias, and excels, above all, through innovative design features and a clear focus on essentials: Its integrated load cell automatically weighs samples, the Oblong Slider automatically brings evenly shaped oblongs into perfect alignment and the intuitive touch display allows storage of up to 100 products/methods. EasyCheck offers a test memory for up to 1 million test results directly on the unit – enabling results from earlier tests to be re-called whenever required.

In addition, extensive integrated calibration functions and the Audit Trail Light feature (logging What, Who, When) ensures that you have access to precise test results and extensive documentation of all working steps - highest user convenience combined with powerful functionality. Optionally the Easy Check offers a data export function to CSV and XML format.

EasyCheck is your entry-level device for easy, fully automatic and highly precise testing for up to 5 parameters!

100% USP / EP / JP compliant

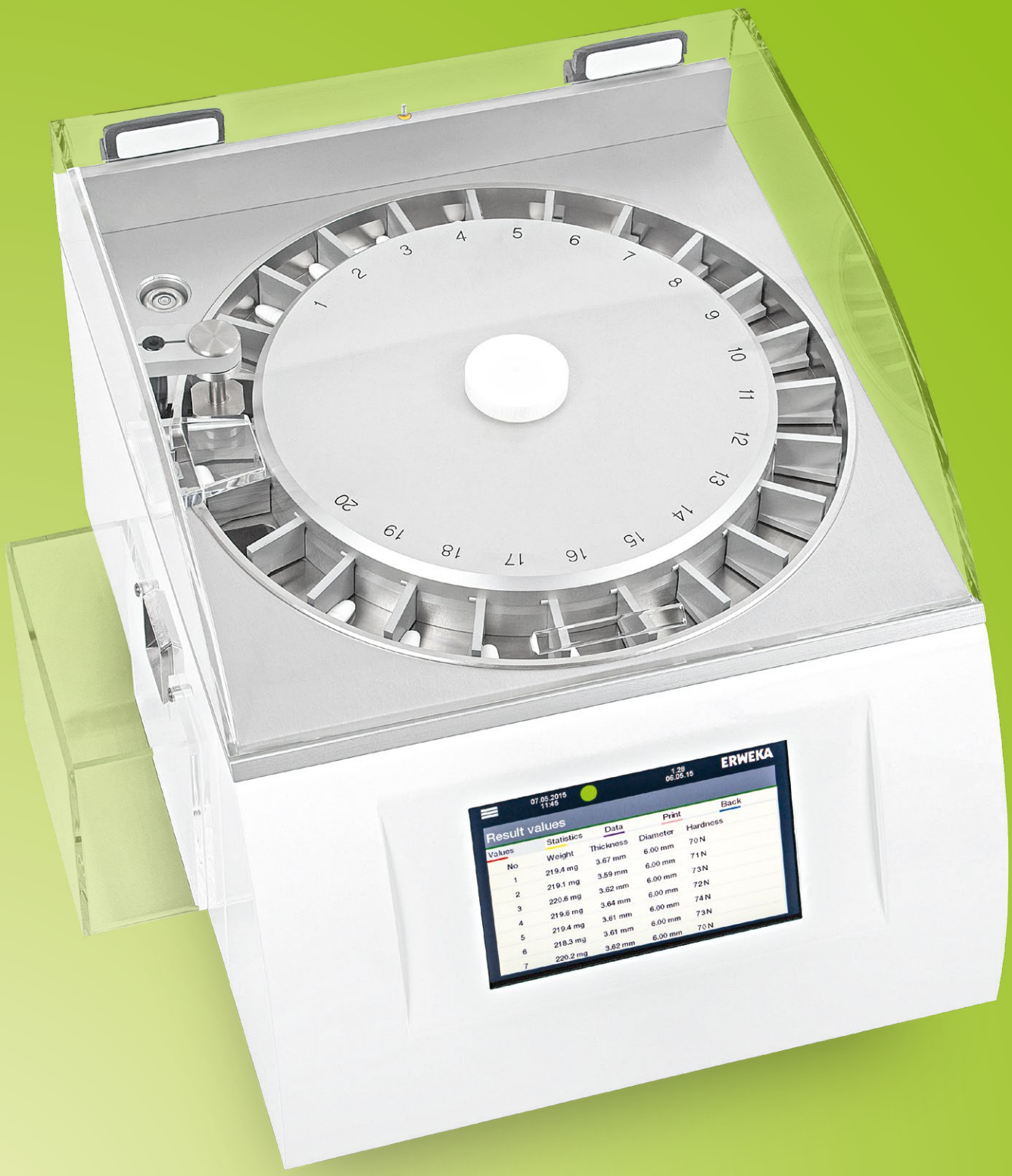
Oblong Slider

Integrated weight measurement

Test memory, Audit Trail Light & data export

Star feeder magazine

	EasyCheck Basic	EasyCheck Pro
Main application	Round tablets	Round tablets, evenly shaped oblongs
Measurement values	**4 parameters** Weight, thickness, diameter, hardness	**5 parameters** Weight, thickness, diameter/ length, width, hardness
Touch display	✓	✓
Oblong Slider®	–	✓
Memory for up to 1 million test results	optional	optional
Audit Trail Light (21 CFR Part 11 compliant)	optional	optional
Data export in CSV and XML format	optional	optional


ERWEKA
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Result values
Statistics
Data
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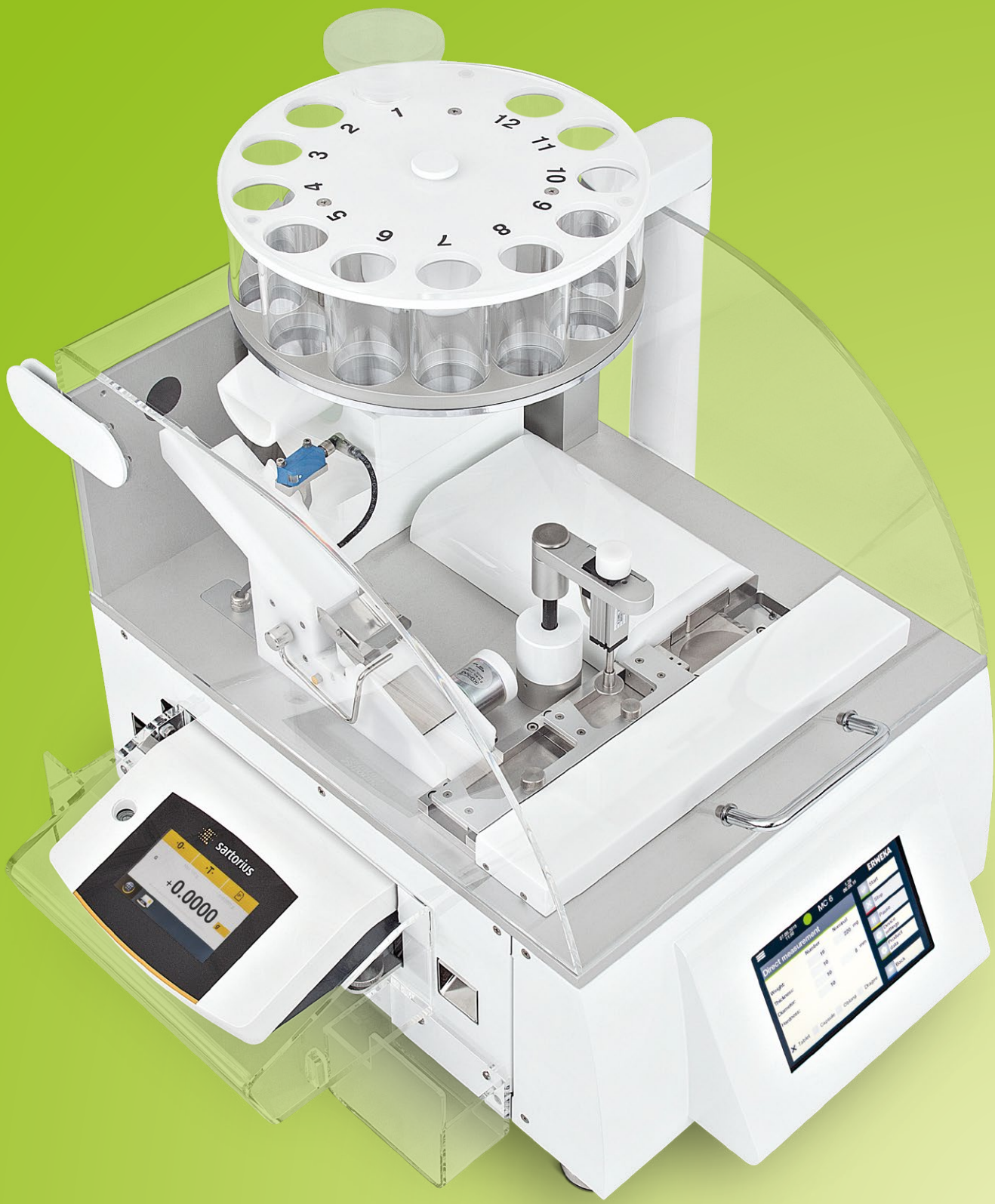
No
Weight
Thickness
Diameter
Hardness
1 219.4 mg 3.67 mm 6.00 mm 70 N
2 219.1 mg 3.59 mm 6.00 mm 71 N
3 220.6 mg 3.62 mm 6.00 mm 73 N
4 219.6 mg 3.64 mm 6.00 mm 72 N
5 219.4 mg 3.61 mm 6.00 mm 74 N
6 218.3 mg 3.61 mm 6.00 mm 73 N
7 220.2 mg 3.62 mm 6.00 mm 70 N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ERWEKA
MC 8
Direct measurement

Fully automated tablet hardness tester

MultiCheck 6

The MultiCheck 6 offers ease of operation, maximum efficiency and enhanced operator convenience. This fully automatic combination tester is packed with innovative technology: The intuitive touch display with integrated MC.NET software functionality, the capsule weight measurement system and the patented Oblong Navigator® are only some of the innovative new features. In addition, the new MultiCheck 6 provides an unsurpassed low noise level and cleanest operation in its class.

Extensive integrated calibration functions and the Audit Trail Light feature (logging What, Who, When) ensures access to precise test results and extensive documentation of all working steps – highest user convenience combined with powerful functionality. Proven features have been retained: MultiCheck 6 can be equipped with the 12 batch magazine and test up to five tablet parameters, fully automated and 100 % compliant with all pharmacopoeias around the world: A true all-rounder.

100%
USP / EP / JP compliant

Oblong Navigator®

integrated weight measurement

Touch display

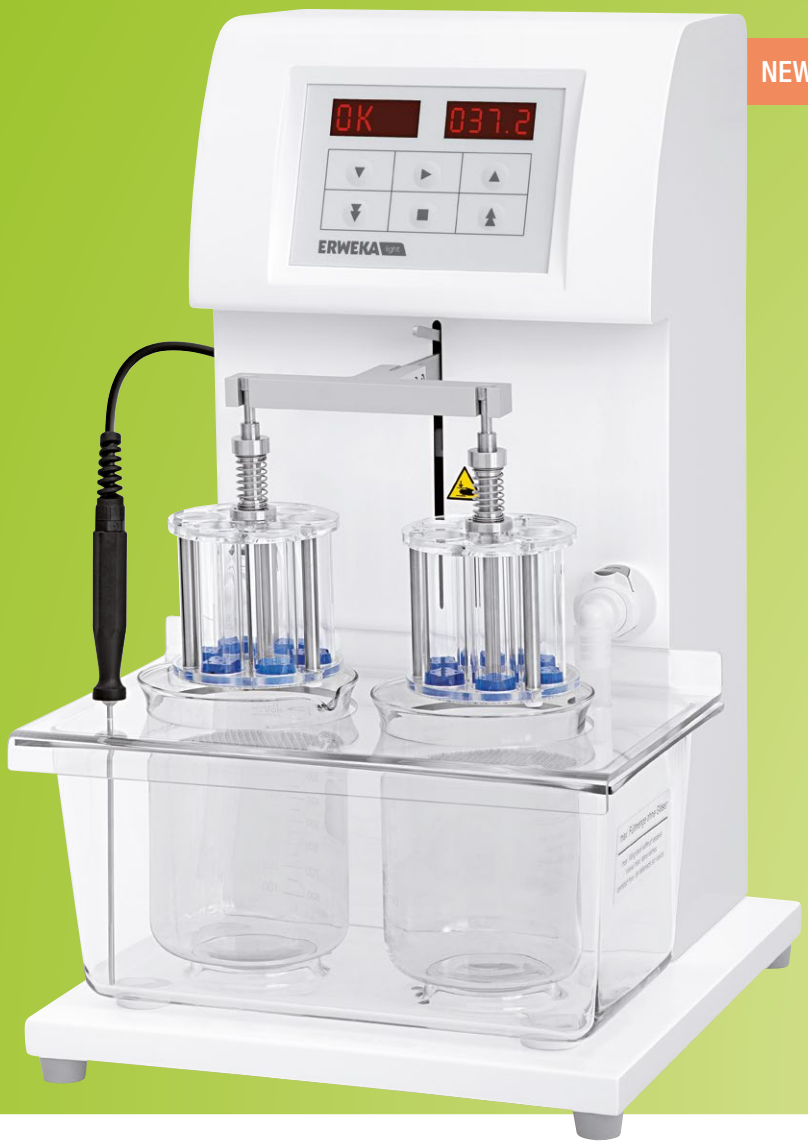
	MultiCheck 6 Standard	MultiCheck 6 Allrounder
Main application	Round tablets, dragées, evenly shaped oblongs	Round tablets, dragées, evenly shaped oblongs, odd-shaped oblongs
Measurement values	**4 parameters** Weight, thickness, diameter, hardness	**5 parameters** Weight, thickness, diameter, width, hardness
Touch display	✓	✓
Separation drum	✓	✓
Capsule measurement	✓	✓
Alignment threshold (fixed)	—	—
Alignment threshold (electronic, adjustable)	✓	✓
Slot for oblongs	✓	not required
Positioning arm for oblongs	✓	✓
Oblong Navigator®	—	✓

Compact disintegration testing – **ZT 120 light series**

The ERWEKA ZT 120 light series is the perfect entry-level disintegration tester with one or two single-motor driven USP/EP/JP compliant test station. The compact unit of our light series is equipped with an integrated flow-through heater and a moulded one-piece PET water bath (no leaking / breaking, easy to clean) with cover.

The ZT 120 light series can be easily operated via a membrane keypad. Defined test run parameters such as run time and water bath temperature are entered with symbol keys and the actual values are then shown on large and bright LED displays. The run-time counter automatically starts as soon as the basket rack assembly is lowered into the test media.

- 100 % USP / EP / JP compliant
- 1 or 2 test stations
- Easy control via a large LED display
- Compact entry-level device



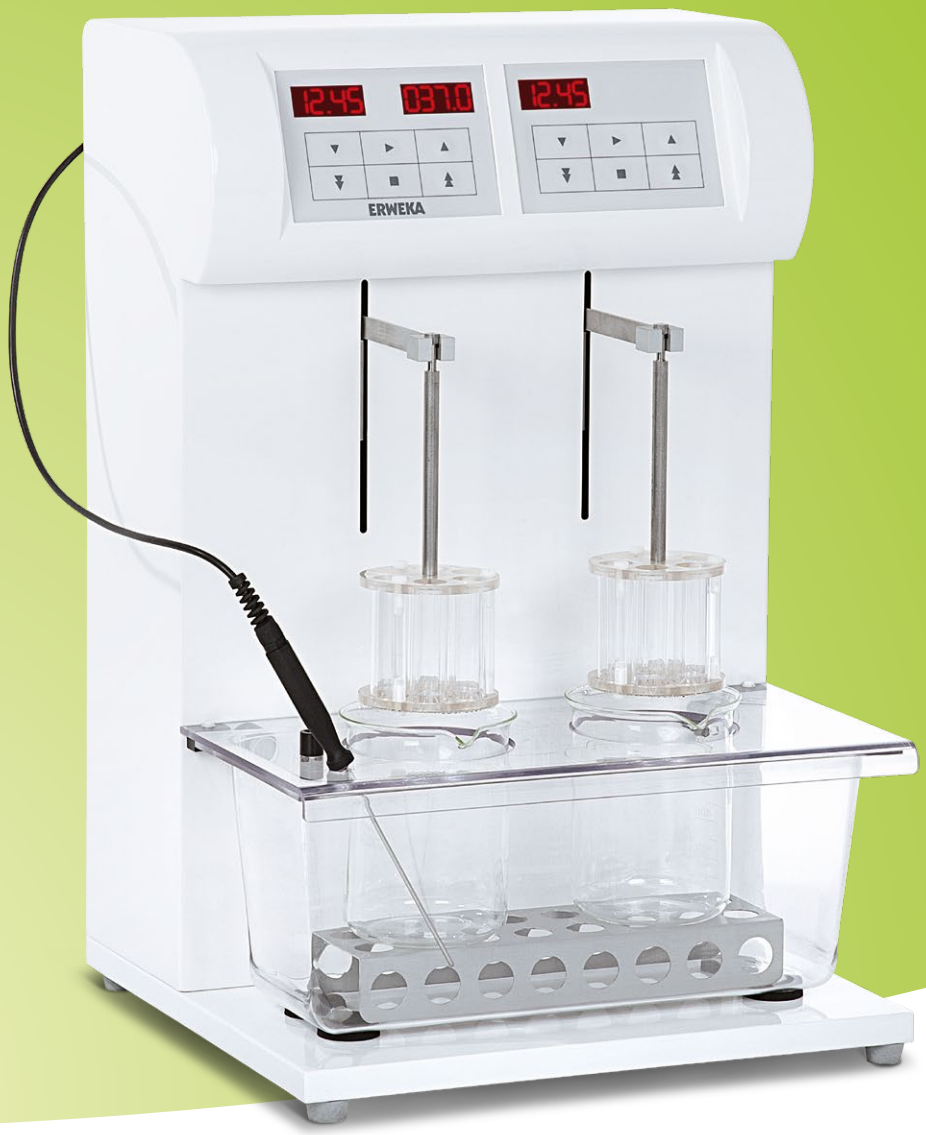
Asynchronous disintegration tester – **ZT 320 series**

The test stations of our ZT 320 series are driven individually. Each test station is controlled by its own keypad. After programming the required test run-time, the basket rack assembly with its loaded samples is automatically lowered into the media. On completion of the preset run-time or when the stop button is pressed, the basket rack is raised from the media to prevent further disintegration of the samples (optional).

100%
100% USP / EP / JP compliant

1 to 4 test stations

Individually driven basket racks



Automated disintegration tester with touch display

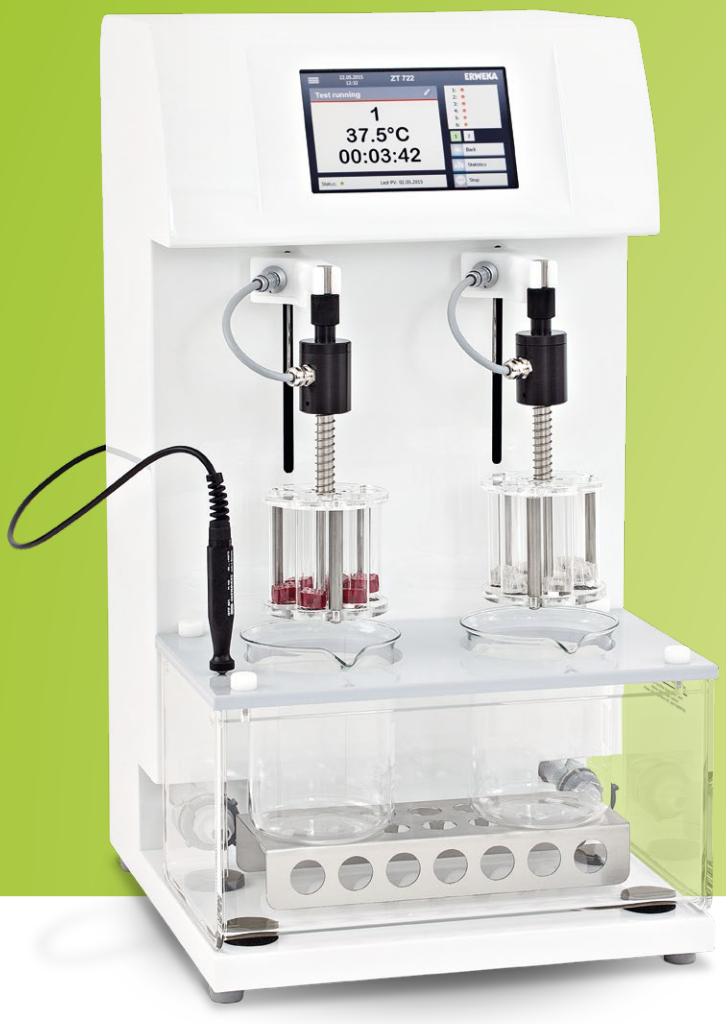
ZT 720 Series

The ERWEKA ZT 720 series automatically determines the disintegration time of samples by using a unique system of magnets and sensors. It also tests whether or not a sample completely disintegrates. The ZT 720 is available with one (ZT 721) or two (ZT 722) individually driven test stations and is equipped with an integrated flow-through heater. Its temperature sensor PT 100 allows constant control of the water bath temperature. The ZT 720 series is controlled through an innovative 7” touch screen and is capable of storing and retrieving up to 100 products/methods with results and parameters.

Select the basket type for your individual need: Basket type A comes with 6 test tubes for standard tablets, basket type B contains 3 test tubes for bigger tablets (according to USP/EP standards).

Effortless cleaning is easily possible due to the removable acrylic water bath, equipped with an outlet valve. The USB and LAN interfaces ensure simple and easy data export in XML and CSV format.

- 100% USP / EP / JP compliant
- Touch display
- Automated detection of disintegration
- Memory of 1 million test results and 100 products
- LAN/USB data export



Tapped density tester

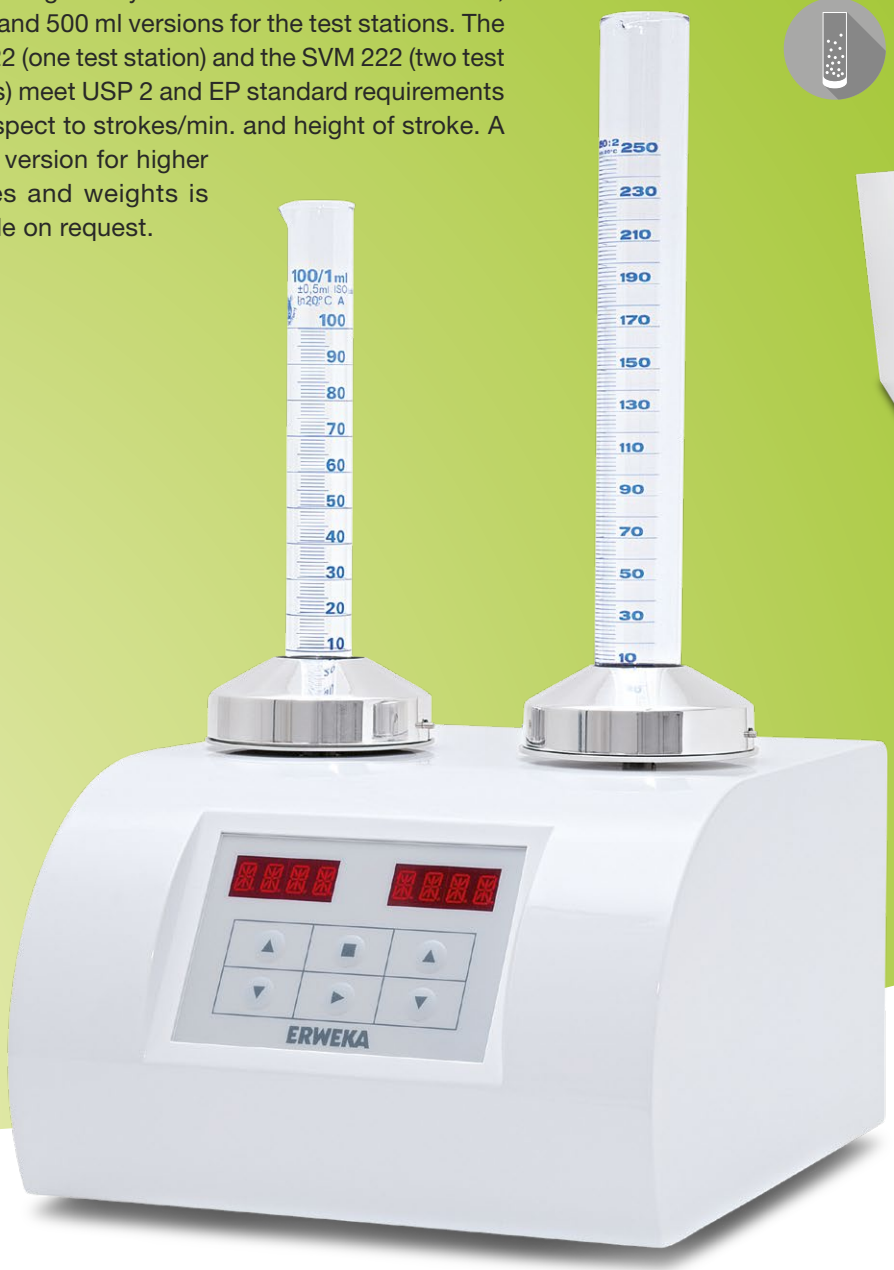
SVM

Tapped density testing according to USP methods 1 and 2

The ERWEKA SVM series has been designed to measure tapped volume and tapped density of powders, granules and similar products. It is available for holding one or two glass cylinders and works according USP method 1 (300 strokes/min; stroke height 14 mm) or USP method 2 (250 strokes/min; stroke height 3 mm), which is equal to Pharm.Eur. and DIN ISO EN 787/11 requirements.

As a special version, the SVM 223 offers two test methods simultaneously: one test station operates according to USP method 1 and the second test station according to USP method 2.

Compliant glass cylinders are available in 100 ml, 250 ml and 500 ml versions for the test stations. The SVM 122 (one test station) and the SVM 222 (two test stations) meet USP 2 and EP standard requirements with respect to strokes/min. and height of stroke. A special version for higher volumes and weights is available on request.

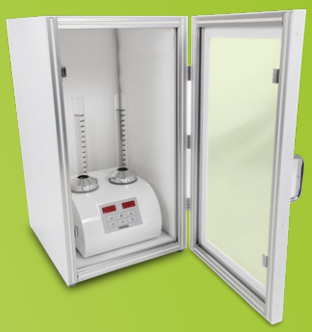


100% 100% USP compliant

Easy to use

LED display

Tapped density testing according to USP 1 or / and USP 2



SVM Noise box for 25 db(a) noise reduction available*

*measured from a standard distance of 0.65 m

Friability / Abrasion tester

TAR

Friability or abrasion drums selectable

Variable RPM

Built-in timer

USB interface

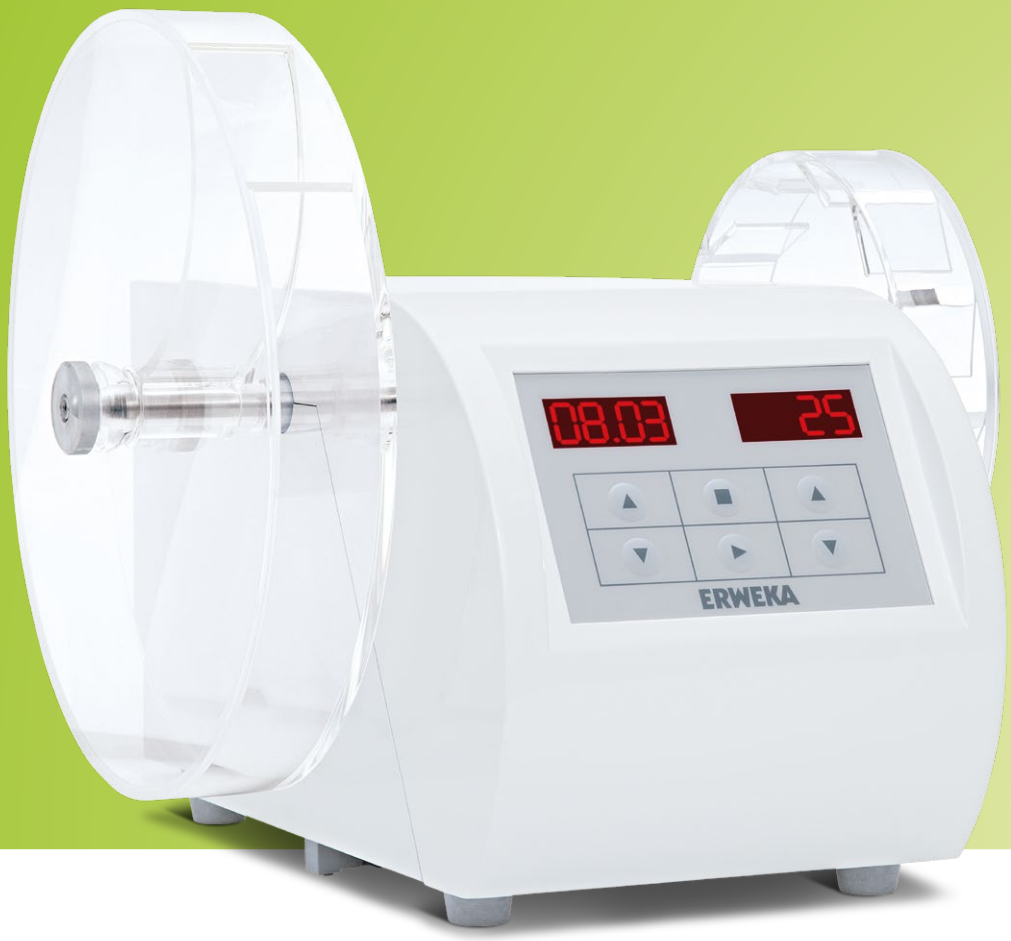
USP/EP/JP compliant friability/abrasion tester

The TAR series is a USP/EP/JP compliant ERWEKA unit for testing friability and/or abrasion of tablets. Programming is easily performed by the symbol style keypad. The rotation speed can be programmed between 20 and 100 rpm and test run duration can be set in either time or total number of revolutions.

During the test run, the actual rotation speed and the remaining test run time are shown at bright LED displays. For larger samples, the complete unit can be set to the USP/EP required 10° position by a standard switching leg.

To increase the ease of handling on the TAR series, the friability drums do not have to be removed and opened for loading and emptying. Instead they can be effortlessly filled and emptied through a special opening. On completion of a test run, the samples are automatically removed into a container located under the drums.

The USB interface allows you either to download the test parameters (time, actual/nominal speed) to a PC or receive a hardcopy print-out if a printer is connected.



Vacuum leak tester for blisters and other packaging forms

VDT/S

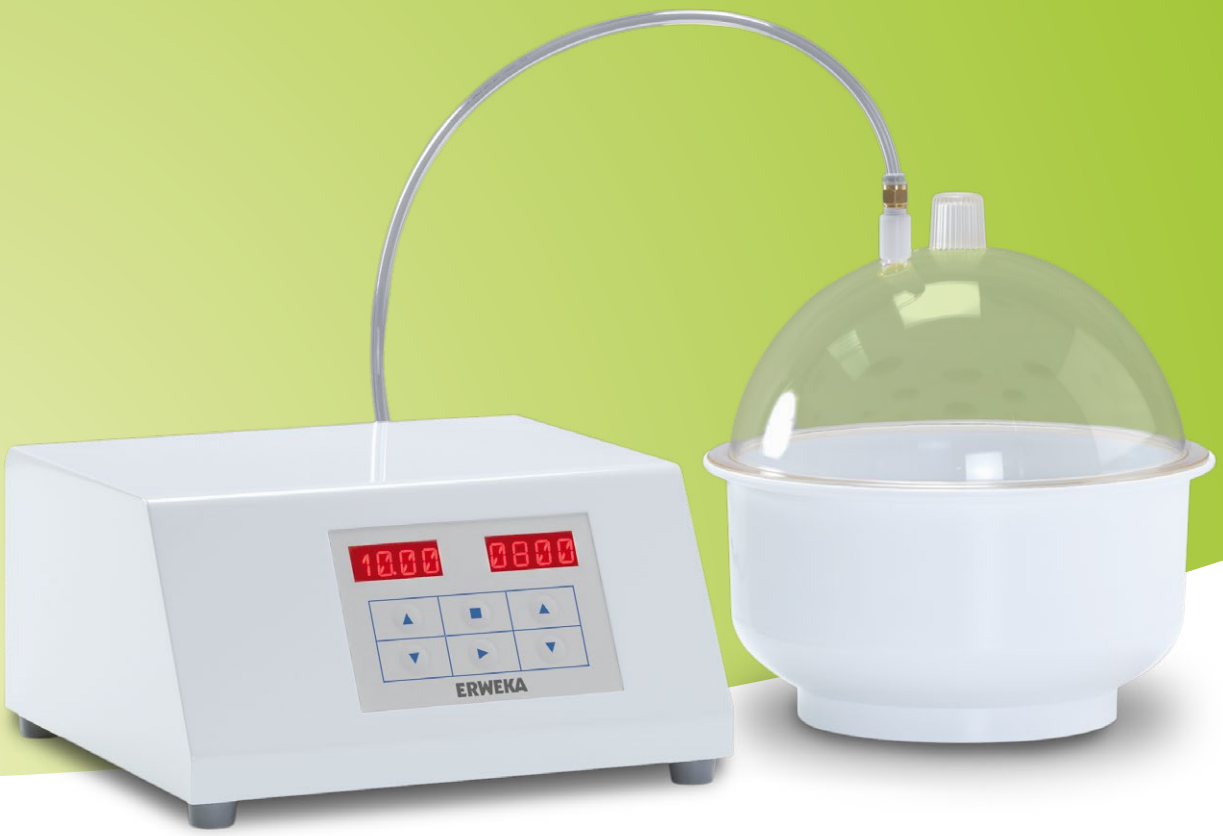
The VDT/S is a vacuum leak tester for blisters and other packaging forms. The maximum vacuum (absolute pressure range up to 100 mbar) and the vacuum hold time before release can be easily set via the symbol keypad. The actual vacuum is continuously displayed on the LED display. Test run parameters such as actual/set vacuum value and hold time can be simply documented via a USB interface or a connected printer.

Leak testing

For checking the density the ERWEKA VDT/S performs a methylene blue dye test, which is divided into several phases. During the pressure maintenance phase the blisters are exposed to a vacuum, which is generated in the vacuum container. Afterwards the container is ventilated. In the subsequent penetration process the blister is resting in the methylene blue solution, so that the solution can suck into any imperfectly sealed packaging.

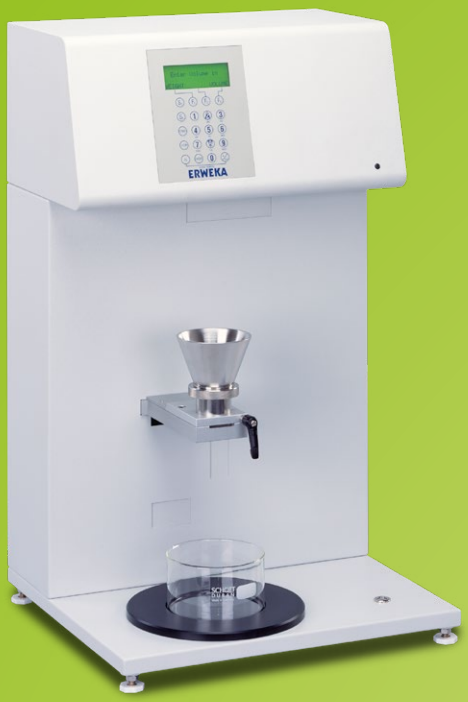
The integrated vacuum pump can be recalibrated using the optional validation kit which includes a vacuummeter, type DVR.

- 100% USP compliant
- Easy to use
- LED display
- USB interface



Granulate flow tester

GTL



The GTL is the basic ERWEKA unit for testing flow characteristics of powders and granulates, to ensure that accurate dosing is maintained.

It supports the determination of the flow time of a pre-weight sample (DAB 10) and the determination of the flow time of a pre-defined sample volume.

The GTL is handled by numeric membrane keys and the results are displayed by the illuminated LC display. As standard, the unit is delivered with a stainless steel hopper (200 ml) and three stainless steel outlet nozzles (10/15/25 mm) which can be exchanged by a quick coupling. Additional stainless steel hoppers (100/480 ml) and outlet nozzles (6/8/11.3 mm) are available as options.

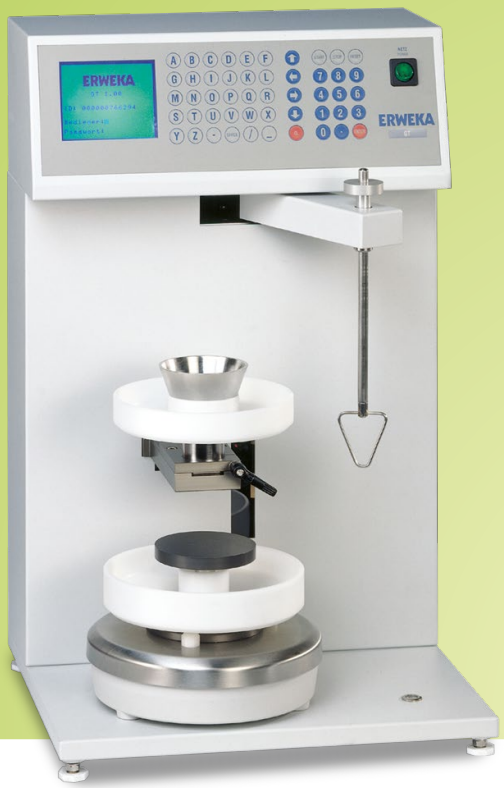
Granulate
flow testing

GT & GTB

On the GT a special balance is integrated into the unit to determine the flow time of a sample weight or pre-specified sample volume as well as the sample weight that falls within a specified flow time.

For easy comparison a graph according to List and Müller (mass/time) is calculated and displayed and/or printed.

Granulate
flow testing



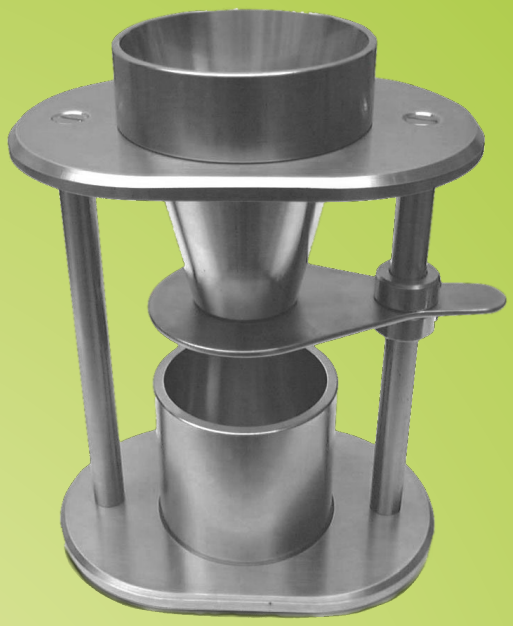
Manual powder and granulate density testing

SMG 53 466 & SMG 697

The manual ERWEKA SMG 697 and SMG 53466 are the units for the reproducible determination of apparent bulk density, which can be used with all free flowing powders or granulates. According to DIN ISO 697 and DIN 53 466, the apparent bulk density is determined by measuring the mass of powder in a receiver of known dimension after filling from a funnel of a specified shape under specified conditions.

Included in the delivery are the apparatus SMG 697 or SMG 53466, operating instructions and a calibration certificate.

Granulate flow testing

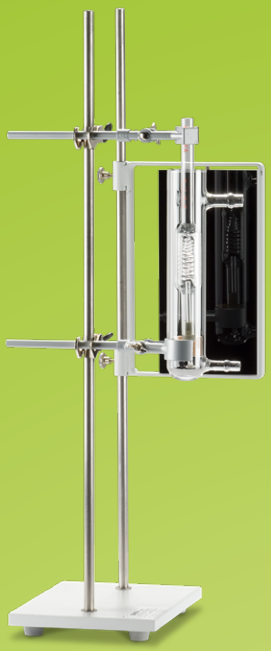


Suppository melting point tester

SSP

The ERWEKA SSP measures the melting point of suppository samples. It consists of a graduated tube with an integrated test chamber made of glass. The sample to be tested is placed in the spiral shaped glass test basket inside the test chamber, which is surrounded by a water jacket.

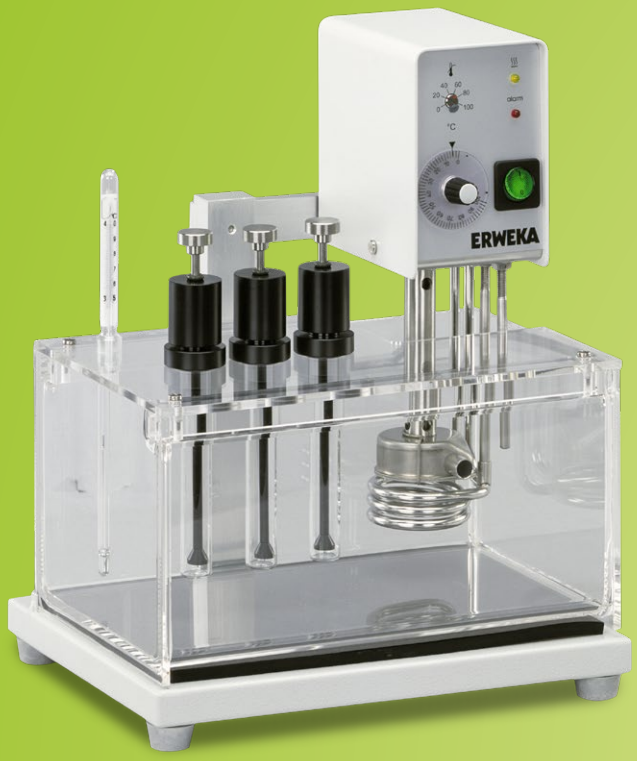
The water inside the jacket can be simply heated by the optional circulation heater EST 2 and the melting point is determined by a stop watch.



Suppository melting point testing

Suppository penetration tester

PM 30



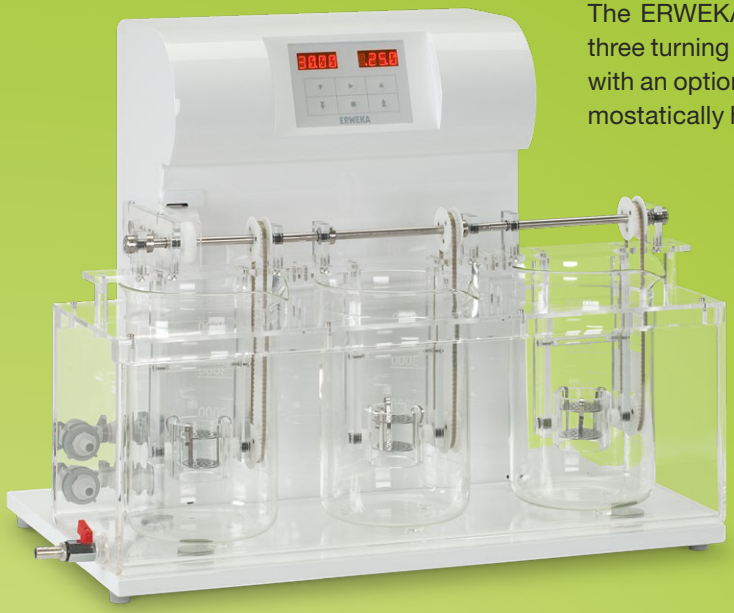
The ERWEKA PM 30 measures the softening time of suppositories. Suppositories must disintegrate, dissolve or melt at body temperature in order to release their active ingredients to the body. ERWEKA offers a version for USP method A and method B.

The PM 30 penetration tester (compliant to EP, Apparatus A) and the PM 3 (acc. to EP, App. B) have been designed to carry out reproducible measurements regarding the softening time of suppositories at predetermined temperatures. The construction of the tester makes visual observation of the melting characteristics extremely simple. In total, the unit comprises of three test stations.

Suppository penetration testing

Suppository disintegration tester

ST 35



The ERWEKA suppository disintegration tester ST 35 comes with three turning test stations, each located inside a four liter glass vessel with an optional magnetic stirrer. Additionally, the unit contains a thermostatically heated water bath, in which the test stations are placed.

The test stations are automatically turned 180° in adjustable intervals. The ST 35 features an integrated flow-through heating system (accuracy ± 0.2° C) and an internal temperature sensor for temperature display.

Test time and nominal bath temperature are easily entered via the membrane keys. Current test time as well as actual water temperature are shown on a LED display. On request, an alarm may be selected to sound upon completion of the preset test time. Due to the width of the ST 35, the test stations can be easily separated to facilitate the cleaning process.

Suppository disintegration testing

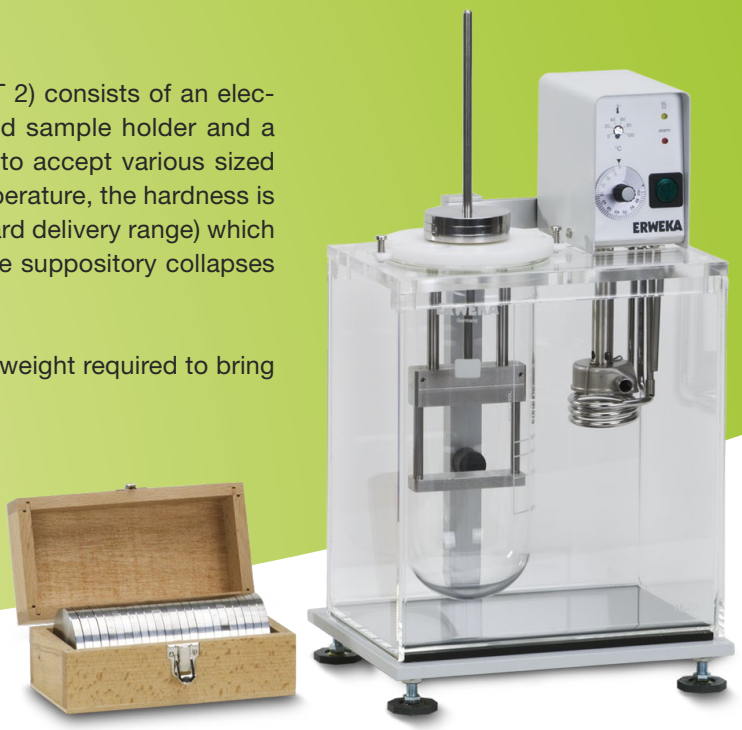
Suppository hardness tester

SBT 2

The suppository hardness tester (type SBT 2) consists of an electrically heated chamber with an integrated sample holder and a number of interchangeable plastic inserts to accept various sized suppositories. Once up to the desired temperature, the hardness is checked by weights (included in the standard delivery range) which are gradually placed on the device until the suppository collapses under the load of the added weights.

The results are expressed in terms of total weight required to bring about the collapse of the suppository.

Suppository hardness testing by weight



Contact

Are you curious and want to find out more?
Head over to our website and download our product brochures, watch videos of our equipment in action or find the ERWEKA dealer of your country.

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