

# ERWEKA

PRODUCT OVERVIEW

TABLET TESTING EQUIPMENT

OUR FULL PRODUCT RANGE IN DISSOLUTION,  
PHYSICALS AND R&D EQUIPMENT

part of **VERDER**

TECHNOLOGY LEADER  
FOR 70 YEARS!

# SETTING THE PACE FOR AN INDUSTRY

Values					Statistics		Data		Print	Back
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						

ERWEKA

# WE SET INNOVATION STANDARDS

## ERWEKA – MORE THAN 70 YEARS OF EXPERIENCE

ERWEKA is a leading international manufacturer of testing equipment for the pharmaceutical industry. We supply equipment for tablet development and quality control testing to major pharmaceutical and life science companies, development and contract laboratories, and universities around the world.

ERWEKA is the only company in the industry to offer the full range of solid dosage form testing equipment. We are the manufacturer with the most extensive product range and experience in the tablet testing equipment industry. Our benchmark is top quality. From development to design and manufacturing to service for our instruments, we are uncompromising in our commitment to premium standards. We stand for excellent product quality, appealing design and individual customer support. Our customers have been relying on us for over 70 years. With general-purpose equipment for pharmacists' needs, which we were the first company in the world to develop and produce in 1951, we laid the foundation for our broad product range. Today, we are the manufacturer with the most comprehensive automation offering for performing the most common testing procedures according to the harmonized pharmacopoeias.

ERWEKA customers around the world benefit from these decades of experience and the technologies we have developed.



ERWEKA GmbH in Langen, Germany

- |   |  |  |   |  |  |   |  |   |
|---|--|--|---|--|--|---|--|---|
| <p><b>  1951</b></p> <p>ERWEKA is founded by Erwin, Werner and Karl. The aim is to equip every pharmacy in Germany after the Second World War with a versatile device with which ointments, powders, tablets and much more can be produced on site.</p> | <p><b>  1968</b></p> <p>The first dissolution tester from ERWEKA is launched. The field is still young and ERWEKA helps with development and research in close cooperation with USP and FDA and a network of professors.</p> | <p><b>  1990</b></p> <p>In 1990 ERWEKA introduces the first fully automatic tablet hardness tester - the MultiCheck.</p> | <p><b>  2008</b></p> <p>The first fully automated dissolution system from ERWEKA is released following a development cooperation with Bayer Healthcare - the RoboDis I.</p> | <p><b>  2012</b></p> <p>The fully automatic, parallel-operating, completely software-controlled dissolution system RoboDis II is introduced.</p> | <p><b>  2015</b></p> <p>Introduction of the fully automatic tablet hardness tester MultiCheck 6 with patented Oblong Navigator™.</p> | <p><b>  2019</b></p> <p>Move into the new, state-of-the-art company building at Pittlerstraße 45 in Langen.</p> | <p><b>  2021</b></p> <p>ERWEKA launches the first fully digital dissolution tester DT 950 with TestAssist in February.</p> | <p><b>  2023</b></p> <p>The foundation for the next 70 years of ERWEKA is laid: ERWEKA becomes part of Verder Scientific.</p> |
|---|--|--|---|--|--|---|--|---|



# LEADING

## IN QUALITY AND TECHNOLOGY

We place the highest demands on the development and manufacturing of our products. For us, it goes without saying that all our test equipment meets the requirements of the globally harmonized pharmacopoeias USP, EP and JP. As early as the development stage, we are guided by three key questions: Does the new equipment meet all the customer's requirements, is it user-friendly, and does it fit smoothly into laboratory workflows?

We plan our product series for the long term and ensure that we offer mature and therefore fault-free products. In manufacturing, we use only high-quality materials that are durable and require little maintenance. Suppliers are selected according to the strictest guidelines and the delivered parts are checked again by us. Our instruments are therefore characterized by stable and robust mechanics. This promotes measurement accuracy and longevity. Before a product leaves our factory, it is subjected to extensive quality control.



## ALL-PURPOSE EQUIPMENT



## DISSOLUTION TESTER

## PHYSICAL TESTER



## SERVICE



# THE RIGHT DEVICE FOR EVERY APPLICATION

FROM MANUAL TO FULLY AUTOMATIC

Dissolution			USP Methods		1, 2, 5, 6		3, 7		4	
	<b>Manual</b>		DT light Series		DT 950, DT 9510					
	<b>Semi-automatic</b>		Dissolution Offline/Online/ On-Offline Systems		RRT 10		DFZ II			
	<b>Fully automatic</b>		RoboDis II+							
Hardness			Testparameter		Weight		Width		Diameter/Length	
									Thickness	
Physicals	<b>Manual</b>		TBH 325		TBH 125 TBH 325		TBH 125 TBH 325		TBH 125 TBH 325	
	<b>Semi-automatic</b>		TBH 425		TBH 425		TBH 425		TBH 425	
	<b>Fully automatic</b>		EasyCheck MultiCheck 6		EasyCheck MultiCheck 6		EasyCheck MultiCheck 6		EasyCheck MultiCheck 6	
Physicals	<b>Disintegration tester</b>		ZT 120 Light, ZT 320, 730				<b>Granulate flow tester</b>		GTL, GT & GTB	
	<b>Tapped density tester</b>		SVM II				<b>Vacuum leak tester</b>		VDT/S	
	<b>Friability &amp; abrasion tester</b>		TAR II				<b>Suppository tester</b>		SSP, PM 30, ST 35, SBT 2	

# AT A GLANCE

ERWEKA offers dissolution testers for every single harmonized USP/EP/JP method - starting with USP 1 up to USP 7, including our manual DT 126 / 128 Light instruments as well as the digital dissolution testers of the DT 950/9510 series.

ERWEKA's dissolution testers can be equipped with 6 or 8 (12 or 14) test stations depending on the product line.

-  USP methods 1, 2, 5 and 6
-  Intuitive touch interface
-  Upgradeability

# DISSOLUTION

## DISSOLUTION TESTER FOR USP 1 TO USP 7



### DT 950 Series

- | Digital Dissolution Tester
- | 6-8 test stations
- | 7" touchdisplay with modern user interface and TestAssist
- | 100% USP/EP/JP conform dissolution testing
- | User management, method memory & temperature measurement for each vessel, FTP data export (e.g. for LIMS), updateable via USB



### DT 9510 Series

- | Digital Dissolution Tester
- | 12-14 test stations
- | Innovative AirLift system
- | 7" touchdisplay with modern user interface and TestAssist
- | 100% USP/EP/JP conform dissolution testing
- | User management, method memory & temperature measurement for each vessel, FTP data export (e.g. for LIMS), updateable via USB

# MORE DISSOLUTION DEVICES

## PERFECT RESULTS FOR LABORATORIES



### DT 126 Light

- High-Head with 6 test stations
- Vessels + USP method 2 Paddle included
- USP method 1 optionally available



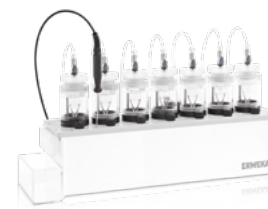
### DT 128 Light

- High-Head with 8 test stations
- Vessels + USP method 2 Paddle included
- USP method 1 optionally available



### MediPrep Series

- Media preparation with 8 or 16 liter tank
- Preparation in less than 25 minutes
- Up to 14l 1% SDS media with Mediprep 1622
- Up to 50 users with different access levels
- Touch screen control



### USP 4 DFZ II

- Flow-through cell dissolution systems
- Available as closed, open or stand-alone system
- Variety of different cells available
- Controlled by Disso.NET USP 4
- Optimized cell w. optional individual cell heating
- Easy cleaning and highly leak proof



### RRT 10 BioDis

- Different pH-values IV/VC dissolution testing according to USP 3 and USP 7
- Touch display control
- Several tools and accessories available



### Disso.NET Software

- Control all functions of each connected testing equipment
- Full Audit Trail according to 21 CFR Part 11
- User Management with Active Directory
- MS SQL database for data storage

## DT LIGHT SERIES

The ERWEKA DT light Series delivers the proven ERWEKA quality in a comprehensive package for a budget for simple dissolution testing with USP method 1, 5 and 6. The DTs are equipped with 6, 8 or 12 test stations and a fixed drive head (highhead), allowing easy access to each 1000 ml vessel.

## DISSO.NET SOFTWARE

The ERWEKA Disso.NET 4 is the perfect 21 CFR Part 11 compliant companion to all our Dissolution Systems, ranging from Dissolution Offline over Online to On-/Offline Systems up to the fully automated RoboDis II+ system. The software helps you with standard dissolution jobs, easily handles qualification tasks and provides control over each single function and connected devices (e.g. dissolution tester with UV-Vis spectrophotometer). After finishing those tests, Disso.NET creates extensive reports with corporate logos for PDF-file export or exports your results in XLS or XML.

# ROBODIS II+

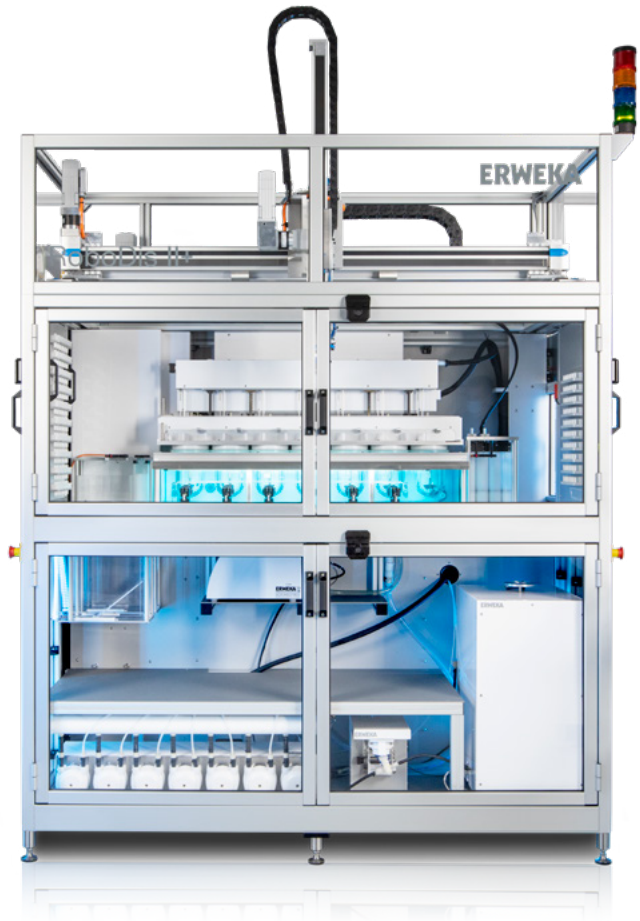
The RoboDis II+ is our fully automatic dissolution system. All steps of the dissolution process are computer-controlled and thus performed without user intervention. The heart of the fully automatic system is the Disso.NET software developed by ERWEKA. It controls all functions including the precise movement of the robot arm, the control of the analytical devices, the data processing as well as the complete documentation.

In the standard configuration, the RoboDis II+ tests up to 10 batches according to USP methods 1 (Basket) or 2 (Paddle). Thanks to parallel sampling, very short cycle times can be selected to capture detailed release profiles from customers. Integrated system suitability tests (SST) and video monitoring ensure high reliability. Like all ERWEKA products, the RoboDis II+ operates 100% USP/EP/JP compliant.

The RoboDis II+ is the productivity booster for R&D and quality assurance in the pharmaceutical industry.

# DISSOLUTION AUTOMATION

## OUR AUTOMATED SYSTEMS



- 100% USP/EP/JP conform
- USP Methods 1 and 2
- 10 or 40 batch configuration
- Online UV-Vis or direct injection into HPLC Analysis
- pH half change or full change
- Media preparation

**RoboDis II+**



# DISSOLUTION SYSTEMS

WITH DT 950 OR DT 9510



## Dissolution Offline System

- | USP methods 1, 2, 5 and 6
- | Full stand-alone control of connected hardware: IPC or PVP Pump and sample collector
- | User management, method memory & temperature measurement for each vessel, FTP data export (e.g. for LIMS), updateable via USB



## Dissolution On-/Offline System with UV-Vis

- | USP methods 1, 2, 5 and 6
- | Full control by Disso.NET software: Pump, sample collector and UV/Vis analytic
- | Extensive report functionalities
- | User management with Active Directory connection, method memory & temperature measurement for each vessel, FTP data export (e.g. for LIMS), updateable via USB



## Dissolution Online System

- | USP methods 1, 2, 5 and 6
- | Full control by Disso.NET software: Pump and UV/Vis analytic
- | Extensive report functionalities
- | User management with Active Directory connection, method memory & temperature measurement for each vessel, FTP data export (e.g. for LIMS), updateable via USB



## Dissolution On-/Offline System with HPLC

- | USP methods 1, 2, 5 and 6
- | Full control by Disso.NET software: Pump, AutoSampler and direct injection into HPLC analytica
- | Extensive report functionalities
- | User management with Active Directory connection, method memory & temperature measurement for each vessel, FTP data export (e.g. for LIMS), updateable via USB

## LEVELS OF AUTOMATION

ERWEKA offers several products for different types of automation levels. The semi-automated Dissolution Offline System for automation of three steps of the dissolution process or a semi-automated Dissolution Online System are perfect entry-level systems into the world of 100% USP/EP/JP, automated testing. Our Dissolution On-/Offline System with UV-Vis or HPLC analysis automates five steps of the dissolution process. In addition with a MediPrep the media preparation can also be automated.

# WHAT WE OFFER

ERWEKA offers a wide range of test equipment for the physical properties of tablets.

Our tablet hardness testers - from the manual TBH 125 to the fully automatic EasyCheck and MultiCheck 6 testers are industry proven and can be found all over the world.

- 100% 100% USP/EP/JP conform
- From manual to fully automatic
- Touch display
- AutoCal 2.0 electronic calibration available

# HARDNESS TESTING

## FROM MANUAL TO FULLY AUTOMATIC



### MultiCheck 6

- | Magazine with 12 sample chambers (100 samples each, up to 1200 tablets)
- | Fully automatic measurement of up to 5 Parameters: Weight, Thickness, Diameter/Length, Width, Hardness with Oblong Navigator®
- | 100 % USP conform
- | Intuitive Touch-Display



### EasyCheck

- | Magazine for 20 samples
- | Fully automatic measurement of up to 5 Parameters: Weight, Thickness, Diameter/Length, Width, Hardness with Oblong Slider®
- | 100 % USP conform
- | Intuitive Touch-Display



## HARDNESS TESTER SERIES

The versatile range of ERWEKA hardness testers comprises all types of test equipment, from manual and semi-automated up to our fully automatic devices EasyCheck and MultiCheck 6. Our compact entry-level device TBH 125 is ideally suited for testing of up to three parameters, whereas the manual TBH 325 and the semi-automated TBH 425 enable testing of up to four parameters. Besides, our fully automatic combination testers facilitate comfortable testing of up to five parameters! The hardness testers of the series TBH 325 and 425 feature an internal product memory for easy storage of up to 50 products. With the EasyCheck and the MultiCheck 6 up to 100 methods can be easily stored. For calibration all devices support the automatic AutoCal 2.0, devices from series TBH 325 can also be operated in combination with the MC.NET windows software (With audit trail and result memory). Smaller quantities can be automatically tested with the EasyCheck. The MultiCheck 6 with large magazine is especially suited for automated testing of up to 12 batches.



### TBH 425

- | Magazine for 10 samples
- | Automatic measurement of up to 4 parameters: Thickness, Diameter/Length and Hardness
- | Weight measurement via external balance



### TBH 325

- | Manual hardness tester
- | Memory for up to 50 products
- | Measurement of up to 4 parameters: Thickness, Diameter/Length, Hardness, Weight (external)



### TBH 125

- | Manual entry-level hardness tester
- | Quick testing of up to 99 samples in a row
- | Measurement of up to 3 parameters: Thickness, Diameter/Length, Hardness



## ZT 730 SERIES

The ERWEKA ZT 730 Series with cable-free AirBasket automatically determines the disintegration time of samples by using a unique system of magnets and sensors.

## ZT 320 SERIES

The user friendly ZT 320 series comes with one to four individually operated test stations, each connected to an individual keypad for easy setting of the required run time parameters as well as to start and stop the operation.

## ZT 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.

# PHYSICAL TESTER

## PHYSICAL TESTING RANGE FROM ERWEKA



### ZT 730

- | Fully automatic disintegration tester with cable-free AirBasket
- | Automatic disintegration detection
- | Typ A- and Typ B-Basket available
- | One (ZT 731) or two (ZT 732) test stations
- | Sealed electronics for easy dishwasher cleaning of the baskets
- | User management, method and product memory



### ZT 320

- | Manual disintegration tester with individually controllable test stations
- | Up to 4 test stations for Basket Type A and B with individual keypad per station



### ZT Light Series

- | Compact, manual entry-level disintegration tester
- | 1 or 2 test stations
- | Easy to control via LED-Display







### TAR II

- | Friability & abrasion tester with intuitive touch interface and intelligent TestAssist for automatic calculation
- | Optional intelligent balance connection with automatic data transfer
- | 100 % USP/EP/JP conform



### GTB II

- | Powder- and granulate flow measurement with 5 available measuring methods
- | Fully automatic laser detection of angle of repose



### SVM II

- | 5-in-1 tapped density tester
- | Intuitive touch interface with intelligent TestAssist for automatic calculation of Hausner-Factor and compressibility index
- | One or two test stations, upgradable due to innovative SwitchPlate system
- | Testing according to USP 1, 2 and 3



### ST 35

- | Suppository disintegration tester
- | 3 test stations
- | Magnetic stirrers available

## SVM II

The SVM II is our latest generation of tapped density tester. With unprecedented flexibility and intelligent features, it makes tapped density testing as easy and reliable as never before.

## TAR II

The TAR II is the next step in intelligent, upgradeable friability & abrasion testing according to USP/EP/JP. Its unprecedented flexibility and intelligent features such as TestAssist and direct balance data transfer make TAR II the most advanced friability tester on the market.

# AR 403

The ERWEKA AR all-purpose equipment is perfect for small-scale production in the pharmaceutical, chemical, cosmetic and food industries. It is also ideal for research and development of powders, tablets, ointments, creams and much more.

The modular design is compact, economical and offers a powerful drive motor with a wide range of easily interchangeable fixtures perfectly suited for R&D and small-scale production.



## R&D EQUIPMENT

### AR 403 - THE ERWEKA METHOD

Attachment	Type	Max. Volume	Max. Capacity	VT required	UG required	Liquids	Ointments & Creams	Powder	Granulates	Pellets	Tablets/Dragees
Conical Mill	CM		30 kg					■	■		
Ball Mill	KM 0	0,5 l	40 %					■	■		
Ball Mill	KM 5	5 l	40 %					■	■		
Ball Mill	KM 10	10 l	40 %					■	■		
Cube Mixer	KB 15	3,5 l	40 %		■			■	■		
Cube Mixer	KB 20	8 l	40 %		■			■	■		
Cube Mixer	KB 20 S	8 l	40 %		■			■	■		
Double Cone Mixer	DKM	11,9 l	50 %		■			■	■		
Drum Hoop Mixer	RM 5	5 l	40 %					■	■		
High Speed Mixer	SW 1/S	5 l	70 %					■	■		
V-Mixer	VB-3	3 l	2 l					■	■		
Planetary Stirrer	PRS	5 l	60 %			■	■	■			
Coating pan	DKE	9,5 l	30 %		■						■
Filling & Dosing	FDS II	19 l	1.000 /h			■	■				
Pelletizer	GTE	9,5 l			■					■	
Polishing drum	PT	2 l	40 %		■						■
Double Roll Crusher	TG 2000		20 kg/h						■	■	■
Wet granulator	FGS II		30 kg					■			

# DIFFERENT ATTACHMENTS

## PERFECT FOR R&D AND SMALL-SCALE PRODUCTION



### Cube Mixer KB

- | Tumbling motion to generate a homogeneous mixture within the shortest possible time
- | Attached via ERWEKA universal gear UG
- | Material: Acrylic glass / stainless steel
- | Three different versions available



### Ball Mill KM

- | Grinding of crystalline materials
- | Drum volume: 0.5, 5 & 10 l
- | Ball diameter: 30-50 mm (not available through ERWEKA)



### Pelletizer GTE

- | Device for the production of pellets
- | 400 mm diameter, 9.5 liters
- | Material: Stainless steel



### Wet granulator FGS II

- | Production of moist granules
- | Working capacity: Max. 30 kg/h
- | Different sieve mesh sizes available
- | Material: Stainless steel



### Coating pan DKE/DKS

- | Coating pan for coated tablets
- | Volume: 9.5 l
- | Max. Capacity: 30%
- | Outer diameter: 275 mm
- | Material: Stainless steel



### Tablet press EP-1

- | Tablet production up to 20 mm diameter
- | Press speed infinitely variable
- | Max. Throughput: 4000 tablets / hour
- | Max. Filling depth: 17 mm

## ALL-PURPOSE SYSTEM

The ERWEKA All-Purpose system is based on a powerful drive unit available in two versions. The various attachments can be easily and quickly connected by means of a coupling. The drive unit AR 403 is equipped with a three-phase AC motor. The sturdy ball bearing worm gear drive is completely maintenance free and provides an output torque of max 23 Nm. The unit features variable electronic speed control between 20 and 400 rpm. A digital dial regulates the speed. A special setup mode limits the rotations per minute to 20 rpm to ensure safe installation of the attachments. Through permanent nominal/actual adjustment the preselected speed is maintained, even under varying load.

# ERWEKA

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## VERDER

VERDER SCIENTIFIC

# ENABLING PROGRESS.

Under the roof of VERDER SCIENTIFIC we support thousands of customers worldwide in realizing the ambition we share.

As their technology partner behind the scenes, we deliver the solutions they need to make progress and to improve the everyday lives of countless people. Together, we make the world a healthier, safer and more sustainable place.

