IN LINE WITH THE FUTURE

EXCELLENT BULK SOLIDS TESTING TECHNOLOGY FOR RESEARCH AND PRODUCTION

Kraemer Elektronik

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Dear readers,

What makes a tablet testing system a truly excellent product?
Is it the quality? The lifetime? The professional advice? Or is it the impressive services?

It's all these factors together. And it's the 35+ years of experience in this industry that make our products so unique. You will find bulk solids testing technology from Kraemer Elektronik wherever maximum quality matters.

Kraemer Elektronik tablet testing systems in the research and production of ...

- pharmaceuticals
- food
- veterinary products
- oral hygiene products
- electrical engineering products
- washing and dishwashing products
- pellets
- industrial pressed products

We deliver tailor-made solutions, even for your specific applications. This catalog provides you with an overview of our equipment, services and accessories in the IPC.line, specially designed for industrial production, and the LAB.line, our new series for research and laboratory.

Why Kraemer Elektronik?

+ Because for us, quality always comes first.
+ Because we provide you just the right solution.
+ Because you benefit from more than 35 years of experience.
+ Because our support is there for you around the clock.
+ Because you willl always be one step ahead with us.

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Kraemer Elektronik

LAB.line

COMPACT, SPACE-SAVING TABLET TESTING UNITS
FOR USE IN THE LABORATORY

LABORATORY TESTING SYSTEMS

MEASURED VARIABLES

- HARDNESS
- LENGTH
- DIAMETER
- WIDTH
- THICKNESS
- WEIGHT

STANDARD UNIT

P-series

FDA 21 CFR 11 Compliance

Semi-automated testers

The versatile P-Series laboratory testers offer you the latest technology, a space-saving design, and maximum flexibility. Adapt the basic units (P3-P5) to your requirements at any time.

The P5 version tests all five measured variables automatically. The VibrALIGN and Roto system make it easy to position tablets precisely.

The intuitive touch display enables quick and easy operation. The measurements results are shown directly on the clearly arranged display, and can be printed out or exported as PDF reports.

The LAB.line design also offers many practical advantages: the generous radii, rounded corners and smooth surfaces allow easy and hygienic cleaning. The sturdy hood provides protection against environmental influences during measurements.

Now with intuitive all-in-one touch software

The database-driven all-in-one touch software requires no additional software solutions for most areas of application and ensures maximum convenience. Its range of functions can be expanded modularly - just as requirements demand. E.g. upgrade the software with the FDA-21-CFR-Part-11 module to comply with the FDA guidelines.

MEASURED VARIABLES

MODEL	HARDNESS	DIAMETER / LENGTH	WIDTH	THICKNESS	WEIGHT
P3	●	●	—	●	—
P3+	●	●	—	●	—
P4	●	●	—	●	●
P4+	●	●	—	●	●
P5	●	●	●	●	●

Device models P3+ and P4+ use the VibrALIGN system for optimal orientation during hardness measurements.

MODEL	W x D x H (mm)	Weight (kg)
P-SERIES	320 x 320 x 185	≈ 15 (depending on the model)

Tablet positioning that's one of a kind with the VibrALIGN and Roto systems

The P5-series sets new standards in the laboratory testing technology. The P5 version tests all five parameters automatically. The VibrALIGN and Roto systems make it easy to position tablets precisely.

VibrALIGN system

The tablets are precisely rotated 90° in the hardness station for width measurement with the integrated VibrALIGN system.

Roto system
(manual, adjustable grooved plate)

In the P4 model, the Roto system (manual, adjustable grooved plate) ensures easy tablet positioning. You can choose from three different settings: a flat, light or deep groove.

ADVANTAGES

+ Intuitive touchscreen operation
+ Modular expandable database-driven all-in-one touch software
+ Automatic positioning of specimens
+ Hardness measuring range up to 800 N (optional)
+ Clean design
+ Integrated 360° LED status display
+ Interfaces: USB and LAN

OPTIONS

- Load cells: 50 N, 500 N (standard), 1000 N
- Dynamic adjustment / calibration
- License: FDA 21 CFR Part 11 (including audit trail, batch report, user management, etc.)
- Licenses: TTS11 interface, user management, import and export (LIMS, CSV), IQ /OQ
- Extra software licenses on request
- VibrALIGN system
- Roto system (manual, adjustable grooved plate) for easy tablet positioning in the P3 and P4 models
- Cover frame without hood

The advantages of the P-series.
Precise, high quality and user-friendly.

The P-series always provides the best possible solution for your requirements.

Modular all-in-one touch software

+ Simple and self-explanatory touch screen user interface
+ No additional external software required for most applications
+ Optional licenses for FDA 21 CFR Part 11 compliance, user management, import/ export (LIMS, CSV) and more

Optional without cover

+ In the P series, the cover hood can be replaced very easily with an optionally available cover frame if required

Clean design

+ Always hygienic and clean
+ With its rounded corners and edges, the P-series is easy to clean

Integrated 360° LED status display

+ The clear LED display provides information on the unit's status at all times
+ The status of the device can be easily detected, even from a distance

STANDARD UNIT

H-series

Manual testers

FDA 21 CFR 11 Compliance

The manual lab testers of the H-series in the new LAB.line design combine state-of-the art technology with usability: round shapes, generous radii and smooth surfaces allow for easy and hygienic cleaning.

Operation of the embedded touch display is simple and intuitive: you can change a product or view informative test results with just a few clicks.

The H series consists of three unit variations with usually 500 N, alternatively 50 N or 1000 N. The H5 version offers to connect an external scale (Sartorius/Mettler). With the H5+ version, you can even perform high-precision measurements with the external thickness gauge module.

Now with intuitive all-in-one touch software

Thanks to the new all-in-one touch software, you no longer need additional software solutions for most areas of application. The functionality of the software can be extended modularly and adapted exactly to your needs. Compliance with the FDA 21 CFR Part 11 guidelines* has never been easier (*licensed).

MODEL	W x D x H (mm)	Weight (kg)
H-SERIES	268 x 230 x 102	≈ 7 (depending on the model)

Compact, user-friendly, powerful

MEASURED VARIABLES

- HARDNESS
- LENGTH
- DIAMETER
- WIDTH
- THICKNESS
- EXT. SCALE
- EXT. THICKNESS GAUGE

ADVANTAGES

+ Intuitive touchscreen operation
+ Modular expandable database-driven all-in-one software
+ Length measuring range up to 60 mm
+ Hardness measuring range up to 800 N (optional)
+ Clean design
+ Integrated LED status display
+ Interfaces: USB and LAN

OPTIONS

- Load cells: 50 N, 500 N (standard), 800 N
- Dynamic adjustment / calibration
- License: FDA 21 CFR Part 11 (including audit trail, batch report, user management)
- Licenses: TTS11 interface, user management, import and export (LIMS, CSV), IQ /OQ
- Extra software licenses on request
- Base with two larger collecting bins
- Port for ext. laboratory scale models

H-series measured variables

	MEASURED VARIABLES					
MODEL	HARDNESS	DIAMETER/ LENGTH	WIDTH	THICKNESS	WEIGHT (external scale)	THICKNESS (external)
H2	●	●	—	—	—	—
H3	●	●	●	—	—	—
H4	●	●	●	●	—	—
H5	●	●	●	●	●	—
H5+ *	●	●	●	●	●	●

* An external scale and an external thickness gauge can be connected to the H-series.
The results of the various measuring stations are output in an overall report.

The advantages of the H-series. Smart, intuitive and high quality.

Clean design

+ Always hygienic and clean
+ With its rounded corners and edges, the H-series is easy to clean

Modular all-in-one touch software

+ Simple and self-explanatory touchscreen user interface
+ For most applications, additional external software is no longer necessary

Measuring range up to 800 N as an option

+ Extend your hardness measuring range to 800 N
+ Ideal for chemical products such as catalysts, pellets and extrudates

H-series equipment details.
Compact, user-friendly, powerful.

Collecting bin for tested tablets

Basic H5 version with external scale

Exchangeable inlay for different tablet shapes

Large collecting bin is easy to install

Easy measurement of the five measured variables hardness, length/diameter, width, thickness and weight

As a manual single tablet testing system, the H5+ offers you all five important measured variables of tablet testing in one setup. The results of the different measuring stations are displayed in an overall report.

NEW

STANDARD UNIT

HC 7

Compact hardness tester with touch display

The new member of our Lab.line product family: the HC 7 hardness tester for manual use in the laboratory.

Equipped with a touch display and the new database-driven touch software, the HC 7 impresses with its exceptional user-friendliness. The new software can be operated intuitively and is equipped with all important functions for quick operation.

Start your quick, direct and product testing with just a few clicks directly via the touch display and set up to 50 products. Reports can be printed externally via USB or LAN interface. It is also possible to connect DYMO* and EPSON* roll printers (*special models only).

Measure up to 4 test classes with the HC7

Hardness and diameter/length are standard. If desired, you can upgrade the device with an external scale* and/or an integrated thickness gauge* (*license required). The software user interface dynamically adapts to the selected test classes.

Additional security is provided by the port settings, which can be configured individually for all interfaces.

MEASURED VARIABLES

- HARDNESS
- LENGTH
- DIAMETER
- THICKNESS
- EXT. SCALE

ADVANTAGES

+ Intuitive touchscreen operation
+ Quick and easy adjustment and calibration
+ Proven robust and durable industrial design
+ Space-saving and handy dimensions
+ PDF export
+ Support for roll printers (EPSON TM-U220B USB / DYMO Labelwriter 400)
+ Interfaces: USB and LAN

OPTIONS

- Load cells: 50 N or 500 N (standard)
- Integrated manual thickness gauge
- Software licences: TTS11 connectivity, IQ/OQ, multi-language
- Port for ext. laboratory scale models

MODEL	W x D x H (mm)	Weight (kg)
HC 7	228 x 193 x 125	≈ 6,5

MODEL	HARDNESS	DIAMETER / LENGTH	THICKNESS	WEIGHT (ext. scale)
	MEASURED VARIABLES			
HC 7	●	●	—	—
HC 7 with scale connection*	●	●	—	●
HC 7 with integrated thickness gauge*	●	●	●	—
HC 7 with scale connection and integrated thickness gauge*	●	●	●	●

*** Optional:**
Licence-bound extension for external scale attachment and/or integrated thickness gauge.
The results of the various test classes are output in a test protocol.

HC 7 hardness tester.
With integrated thickness gauge

Extend the functionality of the HC 7 basic unit with the integrated thickness gauge, which allows high-precision measurements.

HC 7 with additional accessories.
For measurements of up to 4 test classes

With integrated thickness gauge for manual measurements and with external laboratory scale (Sartorius / Mettler).

MEASURED VARIABLES

- HARDNESS
- LENGTH
- THICKNESS
- DIAMETER
- WEIGHT
- WIDTH (OPTIONAL)

ADVANTAGES

+ Intuitive touchscreen operation
+ Modularly expandable, database-driven All-in-one touch software
+ Automatic positioning of tablets
+ Measuring range (hardness) optional up to 800 N
+ Interfaces: USB and LAN
+ Solid construction
+ Universally applicable

OPTIONS

· Oblong Centering System (OZB)
· Load cells: 500 N (standard), 1000 N
· 12-station feeder
· 12-station collector
· License: FDA 21 CFR Part 11 (including audit trail, batch report, user management)
· Licenses: TTS11 interface, user management, import and export (LIMS, CSV), IQ /OQ
· Further software licenses on request

STANDARD UNIT

UTS 4.3

FDA 21 CFR 11 Compliance

LAB version

Automatic test system

The UTS 4.3 is a universal and fully automatic tablet testing system based on the long-proven UTS 4.1 - this was developed for industrial use and can be found in production worldwide. The UTS 4.3 as a laboratory version is now equipped with the database-driven, intuitive all-in-one touch software and no longer requires additional software solutions for most areas of application.

The functionality of the software can be extended modularly and individually adapted to your needs and requirements. FDA regulations can be fulfilled with the optional FDA-21-CFR-Part-11 module.

With UTS 4.3 – as with the proven UTS 4.1 in the IPC range – you can test round, oval, square and rectangular tablets as well as numerous special shapes. For difficult oblong tablets, the globally used Oblong Centering System (OZB) can also be integrated.

MODEL	W x D x H (mm)	Weight (kg)
UTS 4.3 BASIS LAB version	495 x 624 x 545	42
UTS 4.3 LAB version with feeder	495 x 803 x 676	50
UTS 4.3 LAB version with collector	518 x 772 x 605	56
UTS 4.3 LAB version with feeder and collector	518 x 935 x 734	64

UTS 4.3 as basic unit with transport device

TYPE OPTION

UTS 4.3

With feeder

TYPE OPTION

UTS 4.3

With collector

TYPE OPTION

UTS 4.3

With feeder and collector

STANDARD UNIT

CIW 7.2 / CIW 7.3

FDA 21 CFR 11 Compliance

LAB version

Automatic weighing system with feeder and collector

With the automatic weighing system CIW as lab version you weigh tablets, dragees, capsules and similar products. Based on the UTS tablet testing systems by Kraemer Elektronik, the standard unit offers a tablet separation system and a special transport star for precise positioning of the test specimen on the integrated scale.

The CIW 7.2 in the laboratory version is now equipped with the database-driven, intuitive all-in-one touch software and no longer requires additional software solutions for most areas of application.

The functionality of the software can be extended modularly– matching your needs and requirements.

Alternatively, you can expand the CIW 7.2 weighing system with a 12-station feeder and/or a 12-station collector to perform multiple defined tests (12-station feeder) in one measuring cycle. All cleaning-related parts can be easily and quickly disassembled without tools.

The CIW 7.3 model is nearly identical to the CIW 7.2, but additionally features a precise measuring device for thickness determination.

MEASURED VARIABLES

- WEIGHT
- THICKNESS

ADVANTAGES

+ Intuitive touchscreen operation
+ Modularly expandable, database-driven All-in-one touch software
+ Interfaces: USB and LAN
+ Solid construction
+ Universally applicable

OPTIONS

- 12-station feeder
- 12-station collector
- License: FDA 21 CFR Part 11 (including audit trail, batch report, user management)
- Licenses: TTS11 interface, user management, import and export (LIMS, CSV), IQ /OQ
- Further software licenses on request

CIW 7.2 as standard unit

MODEL	W x D x H (mm)	Weight (kg)
CIW 7.2 BASIS LAB version	477 x 478 x 464	30
CIW 7.2 LAB version with feeder	477 x 660 x 597	38
CIW 7.2 LAB version with collector	494 x 634 x 482	42
CIW 7.2 LAB version with feeder and collector	494 x 814 x 615	50

MEASURED VARIABLES

MODEL	WEIGHT	THICKNESS
CIW 7.2	●	—
CIW 7.3	●	●

The CIW 7.2 is available in various type options.

The following figures show the CIW 7.2 / 7.3 in the various feature options.

CIW 7.2 LAB version: Complete system with feeder and collector

CIW 7.2 with feeder only

CIW 7.2 with collector only

MEASURED VARIABLES

- HARDNESS
- LENGTH
- THICKNESS
- DIAMETER
- WEIGHT
- ACTIVE INGREDIENT CONTENT

ADVANTAGES

+ Intuitive touchscreen operation
+ Modular expandable database-driven All-in-one touch software
+ Reduced release times
+ Transferability of the application to other UTS NIR devices
+ Dust protected
+ Interfaces: USB and LAN

OPTIONS

- 24-station sample collector
- License: FDA 21 CFR Part 11 (including audit trail, batch report, user management)
- Licenses: TTS11 interface, user management, import and export (LIMS, CSV), IQ /OQ
- Further software licenses on request

STANDARD UNIT

UTS NIR

FDA 21 CFR 11 Compliance

IP54

LAB version

Automatic test system with active ingredient content measurement

The automatic tablet testing system UTS NIR LAB version combines the measurement of the physical parameters weight, thickness, diameter, length and hardness with near-infrared spectroscopy (FT-NIR analysis) to determine the active ingredient content of tablets. The UTS NIR LAB version is a fully automated testing unit that can be used in the laboratory.

The new database-driven intuitive all-in-one touch software makes additional software solutions unnecessary for most applications. The functionality of the software can be extended modularly to meet your needs for European & US Pharmacopoeia and 21-CFR Part 11 compliance.

With the NIRFlex N-500 transmission FT-NIR spectrometer from Büchi Labortechnik AG, created applications can also be safely transferred to multiple UTS-NIR devices without further adjustments.

The precise, patented two-jaw centering device positions the specimen with an accuracy of +/- 0.1 mm and thus guarantees very precise measurement results.

Thanks to its compact and space-saving design, the UTS NIR fits into any laboratory. Depending on your requirements, various sample collectors are available for further analyses in the laboratory. All cleaning-relevant parts can be easily and quickly disassembled without tools.

The UTS NIR system is available exclusively by Kraemer Elektronik GmbH.

MODEL	W x D x H (mm)	Weight (kg)
UTS NIR LAB version	750 x 590 x 615	≈ 107

Figure contains special equipment with circular collector

Robust measuring system

Reliable tablet handover

Precise tablet positioning (patented stamp)

Discharge of NIR specimens

NEW

STANDARD UNIT

LAB Scale

FDA 21 CFR 11 Compliance

Weighing system for minitabs and tablets at high throughput

Another new member of our Lab.line product family: the LAB Scale features high speed weighing of minitabs and all tablet shapes up to 25 mm. The compact system can accommodate a capacity of up to 3,000 tablets, depending on the tablet size. Equipped with touch display and the database-driven all-in-one touch software, the LAB Scale impresses with its special user-friendliness. The software is intuitive and equipped with all important functions for quick use.

In addition, the LAB Scale includes a divided waste container with software-configurable tablet ejection. Alternatively, tablet ejection into fixed containers using an optional waste tube is possible.

The Clean Design enables quick cleaning and maintenance of the system. This means that the LAB Scale can be used again in the laboratory or QA lab in no time at all.

MEASURED VARIABLES

WEIGHT

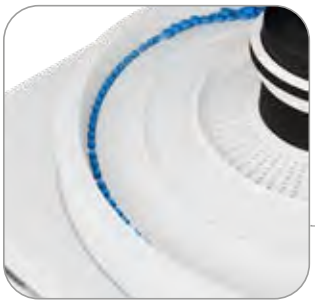
ADVANTAGES

+ High tablet throughput
+ Tablet sizes from 3 mm to 25 mm
+ Split waste bin and configurable tablet ejection
+ Intuitive touchscreen operation
+ Modular expandable, database-driven All-in-one touch software
+ Clean design
+ Interfaces: USB and LAN

OPTIONS

- Tablet ejection into solid containers
- License: FDA 21 CFR Part 11 (including audit trail, batch report, user management)
- - Licenses: User Management, Import and Export (LIMS, CSV), IQ /OQ
- Further software licenses on request

MODEL	W x D x H (mm)	Weight (kg)
LAB SCALE	320 x 320 x 470	26



Separating the minitabs in the LAB Scale

LAB Scale with funnel and sideways waste container

IPC.line

WEAR-RESISTANT, RELIABLE TESTING SYSTEMS
FOR IN-PROCESS CONTROL

INDUSTRIAL TESTING SYSTEMS

OPTIONS

MEASURED VARIABLES

- HARDNESS
- LENGTH
- THICKNESS
- DIAMETER
- WEIGHT
- WIDTH (OPTIONAL)

ADVANTAGES

+ Solid industrial design
+ Reliable results
+ Universal

OPTIONS

- TTS11 software, 21 CFR Part 11 compliant
- Oblong Centering System (OZB)
- 12, 24 or 48-station feeder
- Single air conveyor system
- Double air conveyor system
- 3-way sorting diverter
- 12, 24 or 48-station sample collector

STANDARD UNIT

UTS 4.1

IPC version

Automatic testing system

The UTS 4.1 is a universal and fully automated tablet testing system developed for use in industry. The UTS 4.1 is the proven model from a series of tablet testing systems tested over many years – developed in close collaboration with the pharmaceutical industry. The UTS 4.1 enables you to test round, oval, square and rectangular tablets, as well as numerous unusual shapes. For tricky oblong tablets, the tried and tested Oblong Centering System (OZB) can be incorporated.

Use the UTS 4.1 as a lab tester or online monitoring unit connected to a tablet press. Sampling can be initiated either in the production machine or via our TTS11 software.

MODEL	W x D x H (mm)	Weight (kg)
UTS 4.1 IPC version	450 x 630 x 540	40

UTS 4.1 tablet testing system, the number 1 among tablet testers (photo shows touch display, UTS 4.1 TD)

Optional Oblong Centering System (OZB)

Optional conveyor rollers, see page 37

BESTSELLER

UTS 4.1-12F

With 12-station feeder

UTS 4.1-12F tablet testing system with 12-station feeder (unit also available with touch display)

NEW MODEL

UTS 4.1-S20

Dust-proof version

Direct connection to any tablet press

The dust-proof version of the UTS 4.1-S20 with single tablet feeder guarantees safety at work

BESTSELLER

UTS 4.1 Touch display

With touchscreen operation

User-friendly, intuitive operation via touch display

CUSTOMIZED SOLUTIONS

UTS

If you wish, we can provide special solutions for your specific requirements. Here are a few examples:

UTS	
S7	With special feeder for tablets up to Ø 25 mm
S8	For tablets up to Ø 50 mm
S9	For mini-tablets
S16	With conveyor belt feeder and 5-way sorting diverter
S17	With 2-way sorting diverter
S10	Dust-proof version

MEASURED VARIABLES

- HARDNESS
- LENGTH
- THICKNESS
- DIAMETER
- WEIGHT
- ACTIVE INGREDIENT CONTENT

ADVANTAGES

+ Shorter release times
+ Programmable cycles during ongoing production
+ Qualitative and quantitative online analysis
+ For use in the lab and in production
+ Dust-proof

OPTIONS

- Windows software
- Single air conveyor system
- Double air conveyor system
- 24-station sample collector

STANDARD UNIT

UTS NIR

IP54

IPC version

Automatic testing system with active ingredient content measurement

The UTS NIR automatic tablet testing system combines the measurement of the physical parameters weight, thickness, diameter, length and hardness with near-infrared spectroscopy (FT-NIR analysis) to determine a tablet's active ingredient content.

The UTS NIR is therefore a fully automated online PAT tool, which can be used in production or as an offline tester in the laboratory.

In conjunction with a tablet press, the system allows you to monitor the production process continuously and transmit all test results directly to the tablet press. This way, you can take action straight away if there's a problem, keeping your production process safe.

In addition, the NIRFlex N-500 FT-NIR transmission spectrometer from Büchi Labortechnik AG enables applications to be reliably transferred from the lab tester to the UTS NIR.

The precise, patented two-jaw centering mechanism positions the test specimen with an accuracy of ± 0.1 mm, guaranteeing very precise measurement results that are standard in the laboratory sector.

Its compact, space-saving design and low height mean the UTS NIR fits under all tablet chutes from the most popular press manufacturers. Depending on customer requirements, various sample collectors are available, permitting further analyses in the laboratory.

Removal of all parts requiring cleaning is uncomplicated and very fast, with no need for tools.

The system conforms to the European and US Pharmacopoeia and is 21 CFR Part 11 compliant.

MODEL	W x D x H (mm)	Weight (kg)
UTS NIR IPC version	750 x 590 x 615	107

Photo includes
non-standard unit

Robust measuring system

Reliable tablet handover

Precise tablet positioning (patented stamp)

Discharge of NIR specimens

MEASURED VARIABLES

- HARDNESS
- LENGTH
- THICKNESS
- DIAMETER
- WEIGHT

ADVANTAGES

+ Option of stand-alone use in the lab
+ No tools required to remove parts for cleaning
+ The test area can be cleaned extremely easily and thoroughly
+ Integrated specimen orientation

OPTIONS

- TTS11 software, 21 CFR Part 11 compliant
- 12-station feeder with single tablet mode
- Single air conveyor system
- Double air conveyor system

STANDARD UNIT

UTS IP LR

IP54

Automatic testing systems with protection rating IP54

The UTS IP LR is designed to make sure the work/test area can be thoroughly cleaned. The unit is very maintenance-friendly, as all parts can be removed for cleaning with no need for tools.

In the feeder chute, the tablets are automatically de-dusted, separated and conveyed to the test area. Here, a rake system positions the tablets and transports them to the measuring stations. The positioning method upstream of the hardness tester enables almost any shape of tablet to be ideally positioned for diameter and hardness measurements. The tablet stop, pusher and transport segment can be ideally adapted for each product. During product changes, these parts can be replaced in just a few easy steps.

MODEL	W x D x H (mm)	Weight (kg)
UTS IP LR	442 x 615 x 490	40

CUSTOMIZED SOLUTION

UTS IP LR-S2	Version with 12-station feeder Version with cyclone for air transport connection and bypass for single tablets

Patented radial transport rake

STANDARD UNIT

UTS IP65

IP65

Automatic testing system with protection rating IP65

The UTS IP65 is designed for operation in insulators or washing bays. The UTS IP65 is largely identical to the UTS IP-LR, but the following features set it apart:

- External operation (display and control unit outside the insulator)
- Encapsulated weighing device
- Wash down option

MODEL	W x D x H (mm)	Weight (kg)
UTS IP65	470 x 400 x 450	40
CONTROL UNIT	350 x 185 x 135	2.5

MEASURED VARIABLES

- HARDNESS
- LENGTH
- THICKNESS
- DIAMETER
- WEIGHT

ADVANTAGES

+ No tools required to remove parts for cleaning
+ The test area can be cleaned extremely easily and thoroughly
+ Integrated specimen orientation

OPTIONS

- TTS11 software, 21 CFR Part 11 compliant
- Single air conveyor system
- Double air conveyor system

Version for insulator.
Connections via Triclamp DIN DN50

Patented, integrated distribution plate

MEASURED VARIABLES

- HARDNESS
- LENGTH
- THICKNESS
- DIAMETER
- WEIGHT

ADVANTAGES

+ Only testing system with integrated washer nozzles
+ WIP (Wash-In-Place) system
+ WOL (Wash-Off-Line) system
+ Integrated 360° LED status display
+ Hermetically sealed system, class OEB 5
+ No insulator required because the system is sealed

OPTIONS

- TTS11 software, 21 CFR Part 11 compliant
- Version for single tablet feed
- Cover with glove ports

STANDARD UNIT

UTS IP65i

OEB 5 | IP65

Automatic testing system – hermetically sealed & washable

The UTS IP65i system is an add-on to washable tablet presses for WIP or WOL applications, for the processing of medium and high-potency products.

As an add-on to the existing dust-proof, easy-clean UTS4.1-S20 / UTS IP LR testing systems, the UTS IP65i is the first fully washable, universal testing system, and is globally unique. The work/test area has protection rating IP65 and the cleaning process is fully controlled.

The integrated fail-safe system rules out possible operator errors even in the preparation phase and during the washing process, and ensures error-free routines. There are user-defined parameters for the washing programs, for setting the washing time per washing cycle, the number of washing cycles, and the duration of the individual washing phases.

The system can be used in the following ways:

- Online with control via tablet press
- Stand-alone with PC software
- Online with PC software

MODEL	W x D x H (mm)	Weight (kg)
UTS IP65i	621 x 623 x 687	80

Open construction for optimum washing results

Insulated work area

Compact, space-saving design

MEASURED VARIABLES

- WEIGHT
- THICKNESS

ADVANTAGES

+ Solid industrial design
+ Reliable, rapid weighing
+ For use both online and stand-alone in the lab

OPTIONS

- TTS11 software, 21 CFR Part 11 compliant
- 12-station feeder
- Single air conveyor system
- Double air conveyor system
- 3-way sorting diverter
- 12-station sample collector

STANDARD UNIT

CIW 6.2 / 6.3

Automatic weighing systems

With the automatic CIW weighing system, you can weigh tablets, dragées, capsules and similar products during or after the production process.

The standard unit is based on Kraemer's UTS tablet testing systems and features a tablet separating system and a special transport starwheel for precisely positioning the specimen on the integrated scale.

All parts requiring cleaning can be removed quickly and easily with no need for tools.

The CIW 6.3 model is largely identical to the CIW 6.2, except that it additionally features a precise measuring device for determining thickness.

- Lab tester with TTS11 software, 21 CFR Part 11 compliant.
- Online monitoring device connected to a tablet press. Sampling can be initiated either from the production machine or via our TTS11 software.

MODEL	W x D x H (mm)	Weight (kg)
CIW 6.2 / 6.3	440 x 490 x 470	30

Fast, precise weighing of specimens with the automatic CIW weighing system

STANDARD UNIT

CIW 6.4

Automatic weighing systems, specially designed for capsules

The CIW 6.4 automatic weighing system is a special version of the tried and tested CIW 6.2. In addition to the weight, the CIW 6.4 provides optimal and nearly powerless length measurements for capsules. The capsule will be positioned without any impact on the measuring of the capsule length.

MODEL	W x D xH (mm)	Weight (kg)
CIW 6.4	440 x 490 x 470	30

Close-up of length measurement

MEASURED VARIABLES

- WEIGHT
- LENGTH

ADVANTAGES

+ Solid industrial design
+ Reliable, rapid weighing
+ For use both online and stand-alone in the lab

OPTIONS

- TTS11 software, 21 CFR Part 11 compliant
- 12-station feeder
- Single air conveyor system
- Double air conveyor system
- 12-station sample collector

BESTSELLER

CIW 6.x-12FS

With 12-station feeder

Automatic testing of several products

BESTSELLER

CIW 6.x-S10

Dust-proof version

Dust-proof test chamber

CUSTOMIZED SOLUTIONS

CIW

If you wish, we can provide special solutions for your specific requirements. Here are a few examples:

S9	For mini-tablets only
S9-12F	For mini-tablets with 12-station feeder
S13	Direct feed
S14	3-way sorting diverter in chute
S15	5-way sorting diverter in chute
S16	With conveyor belt feeder

OPTION

Touch Display

User-friendly operation without PC

The touch display is an ideal extension to our proven tablet testing systems. The transition to this way of working is extremely easy, as the screen has the usual appearance. The intuitive navigation offers numerous benefits:

- Store products with nominal values, batches, tolerances, test categories and test parameters
- Choice of various languages
- Print out test results or archived printouts directly on a connected printer
- Save PDF reports directly on a USB storage device (USB stick)
- Create different calibration specifications with interval monitoring
- Print calibration and adjustment reports
- Change setup parameters easily and conveniently
- Track measured values in clearly organized live diagrams
- Read system messages in plain text

ADVANTAGES

+ Easy and convenient operation
+ Can be retrofitted to existing UTS 4.1 testers
+ Network printing function
+ Extensive product memory
+ Switch easily between languages
+ Clear function for changing the unit parameters
+ User guidance for adjustments / calibrations
+ Live diagrams during the tests
+ USB interfaces for updates and PDF reports
+ Product management for stand-alone-tests

MODEL	Screen
TOUCH DISPLAY	7-inch

Intuitive operation via touch display

MEASURED VARIABLES

WIDTH

CENTERING

ADVANTAGES

+ Reliable positioning
+ Width measurement

OPTIONS

· Customized centering jaws

OPTION

Oblong Centering Unit (OZB)

Centering and measuring unit for oblong tablets

The Oblong Centering Unit (OZB) is available as an optional module and can be retrofitted to all testing systems Version 4 and higher (UTS). The centering unit is installed above the hardness measuring station. Elongated products such as oblong tablets, for example, are precisely positioned and guided without contact during the hardness test. Customized centering jaws can be provided for unusually shaped tablets.

1. Centering function

Precise positioning and guidance provides you with maximum peace of mind during hardness measurements of oblong tablets. 'Multiple' centering is already integrated and just needs to be activated.

2. Width measurement

The jaws of the OZB unit enable automatic measurement of tablet width. In conjunction with the TTS11 software or touch display, width can be set as the fifth measured variable. Alternatively, the OZB can also be used in place of the thickness gage to measure tablet thickness. This special feature solves the problem of oblong tablets lying on their side because of the unfavorable height/side ratio.

MODEL	W x D xH (mm)
OZB	100 x 90 x 150

Centering and width measurement

Oblong Centering Unit (OZB)

Notes

Accessories

ACCESSORIES AND SOFTWARE SOLUTION FOR THE TABLET TESTING SYSTEMS LAB.line & IPC.line

ADVANTAGES

+ Time savings
+ Tested tablets are sorted before discharge
+ Available for almost all UTS and CIW units

OPTION

Feeder, sample collector & sorting diverter

Automated feeding and sorting of different batch samples

Feeder & sample collector

Do you have different products and not much time? Simply automate and accelerate the testing process. With the sample feeder, you can let the testers get on with the job without having to start each test cycle individually. Thanks to the additional sample collector, tablets that are not irreparably damaged can be kept for further testing. The sample feeder and collector are available in three sizes – with 12, 24 and 48 stations.

Sorting diverter

Instantly detect and separate good, poor or damaged tablets. With the 3- way sorting diverter, tablets are discharged separately straight after testing. This is extremely helpful, as specimens that are not irreparably damaged can be further analyzed in the laboratory.

Feeder for UTS and CIW 6.x units

Sorting diverter with the CIW 6.x as an example

Sample collector with transport device with the CIW 6.x as an example

OPTION

ATS air conveyor system

Fast tablet transport from the press to the testing system

In the ATS air conveyor system, tablets are sampled directly on the press and conveyed through a hose to the respective tester, even over large distances and to other rooms.

The tablet air conveyor system is designed to ensure that tablets are transported gently, with little vibration or friction. Tablets are conveyed by an air flow based on the Venturi principle, through a special transport hose to the collecting cyclone. Here, the tablets are gently slowed down and, as the air is switched off, fall into the tester separation process.

The air conveyor system consists of a conveying valve and collecting cyclone, connected by a hose (Range: 10 meters on the level, up to 5 meters with a height difference of 2 meters).

MODEL	W x D x H (mm)
ATS AIR CONVEYOR SYSTEM	140 x 240 x 170/230

ADVANTAGES

+ Time savings
+ Fast transport

OPTIONS

- Single air conveyor system for connection to single tablet presses
- Double air conveyor system for connection to double carousel tablet presses
- Dust extraction

Double air conveyor system ATS-2
connected to CIW 6.2-ATS1

Single air conveyor system ATS-1

ADVANTAGES

+ Can be retrofitted
+ For autonomous monitoring
+ Height adjustable

OPTION

Sampling diverter

For removing tablets from the press and feeding them to the testing system

Use the sampling diverter for autonomous production monitoring on older or not fully automated tablet presses. Tablet sampling is controlled by the TTS11 software and is not linked to the press. However, it is possible to send a stop signal to the press, or flag up tests that violate tolerances via a visual signal.

The sampling diverter is height adjustable and is installed in the outlet chute of the production machine

OPTION

Transportation equipment

For more mobility in production

Practical stainless steel transport units.

The testing systems are fixed in place and can therefore be transported with the greatest of ease. The weight of these solid, industrial constructions should not be underestimated. If the testing units are on casters, they no longer have to be lifted in order to be moved inside the press room or from one press room to another. The transportation equipment ensures greater occupational safety and speeds up processes at the workplace.

ADVANTAGES

+ Move testers quickly and effortlessly in the press room
+ User-friendly handling: no need to lift the equipment
+ Available for almost all UTS and CIW units

Transportation equipment for UTS 4.1

Transportation equipment for CIW 6.2

MEASURED VARIABLES

HARDNESS

ADVANTAGES

+ Comprehensive calibration
+ No calibration weights required

ACCESSORIES

Dynamic calibration

Dynamic adjustment and calibration

Each of our tablet testers includes the standard accessories for calibration with weights and gage blocks. The load cells in our testers have demonstrable, outstanding consistency and linearity.

Weights of up to 40 kg would have to be used to ensure comprehensive calibration. This would be impractical and risky. We recommend dynamic calibration for a comprehensive calibration process.

The 'Dynamic calibration package' comprises:

- A certified external load cell
- A software package for the testing unit and a display unit for dynamic calibration

During the dynamic calibration process, the hardness measuring station approaches the predefined number of measuring points dynamically. The software records the measurement results of the testing unit and compares them with the reference load cell. At the end, a calibration report can be printed out.

ACCESSORIES	W x D x H (mm)
DYNAMIC CALIBRATION PACKAGE	90 x 152 x 34

The load cell is placed in the breakage chamber of the tablet testing system to enable dynamic calibration

ACCESSORIES

Calibration case

Case with weights, gage blocks and tools

In this handy case you will find everything you need to calibrate your equipment. Current DKD (German Calibration Agency) certificates are also included.

- Calibration plate to ensure weights are deposited safely
- Weight 5 kg
- Weight 50 g
- Gage block 20 mm
- Gage block 10 mm
- Allen wrench 4
- Allen wrench 2.5

ACCESSORIES	W x D x H (mm)
CALIBRATION CASE	300 x 110 x 270

MEASURED VARIABLES

WEIGHT

ADVANTAGES

+ Complete set of accessories, compactly stored in one case
+ Space-saving and handy
+ DKD-Zertificate

OPTIONS

- Gage block 5 mm for standard OZB (Oblong Centering Unit)
- Gage block 3 mm for OZB with narrow jaws
- Weight 2 kg for 50 N load cell
- Weight 10 kg for 1000 N load cell (not included in case)

OPTIONAL

- Software also available as analysis software without device control functionality
- Controlled database read access via ODBC interface
- Connection to central data management and process control system, integrated transfer of master data, transmission of test parameters, etc.
- E-documents, test protocols and analysis data as PDF files, authorization via electronic signature

SOFTWARE

TTS11 software

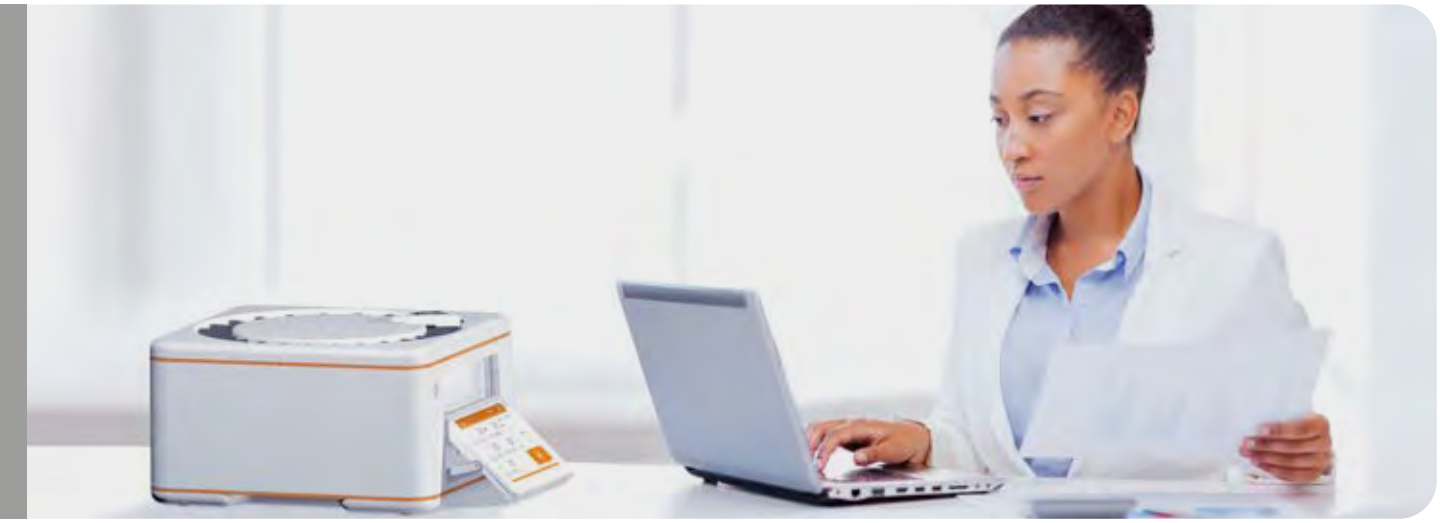
Software for tablet testing systems

The powerful TTS11 software is the ideal tool for continuous control and monitoring of your complete production processes.

The most important performance features at a glance:

- SQL database standard: frontbase (adaptation to other databases possible)
- FDA-21-CFR-Part-11 compliant
- Integrated audit trail, regulated access control and access management, documented change control
- Integrated adjustment, calibration and monitoring functions
- Archive manager for managing and outputting completed tests
- Network capability
- Performance of IPC and laboratory quality controls
- Automatic identification of the test machine by the software system
- Versatile evaluation manager for measurement results, products, batches, containers and individual tests
- Selection of evaluation parameters and variable limit values
- Batch management
- Test performance according to European/US pharmacopoeia as well as customer specifications
- Alarm function and administration for documentation of incidents during test execution
- Conversion functions for different measurement units
- Tolerance bands relative or absolute
- Dynamic calibration via external measuring device
- CSV export
- ODBC interface for reading out internal data
- Electronic signature with automatic PDF storage
- Product selection via barcode
- Automatic test execution of several defined tests (12-station feeder)

Monitor and control your units and production processes with our powerful TS11 software



RANGE OF SERVICES

System validation IQ / OQ

Are you prepared for TQM and audits?

- In many companies, equipment qualification as part of quality management or validation is an indispensable prerequisite for selecting suppliers
- Final test reports and adjustment and calibration reports are included with all testing units
- We are happy to provide you with IQ/OQ documentation to assist in your own in-house IQ/OQ processes

If you are planning to perform a PQ with our support, please do not hesitate to contact us.

IQ Installation Qualification

The Installation Qualification IQ is documented proof that testing units have been supplied and installed in conformity with the requirements in the design qualification and legal safety regulations. The Installation Qualification documentation consists of an IQ inspection plan and IQ report.

Scope of the Installation Qualification IQ:

- Inventory of delivered components and inspection to ensure conformity with the order form
- Inspection of manufacturer's documentation to ensure conformity (nameplate, delivery note)
- Inspection of assembly and correct installation based on system diagrams (if required)

OQ Operational Qualification

The Operational Qualification OQ is an inspection process that assesses the correct function of the testing unit. During the Operational Qualification OQ, all the points in the inspection plan are checked and documented in writing. Under certain circumstances, OQ inspections may be performed with customer products only (as is usually only the case with the Performance Qualification PQ).

Passing the Operational Qualification OQ is a precondition for the technical acceptance of a testing unit. The Operational Qualification can only be performed if the Installation Qualification IQ has been passed. The Operational Qualification documentation consists of an OQ inspection plan and OQ report.

The Operational Qualification OQ includes the identification and checking of the following alarm, control and switching functions, which have an influence on quality:

- Testing unit initialization
- Weight adjustment and calibration
- Thickness adjustment and calibration
- Hardness/fracture strength adjustment and calibration
- Diameter adjustment and calibration
- Length and width adjustment and calibration
- OZB adjustment and calibration
- Adjustment and calibration report
- Product setup
- Verification of test results
- Documented proof of operating personnel induction

kraemer ELEKTRONIK
Pharmaprüfsysteme

KRAEMER ELEKTRONIK

Innovative bulk solids testing technology · More than 35 years of experience in the industry

Kraemer Elektronik GmbH is a prestigious, owner-managed company that has been developing and producing high-quality testing systems for the pharmaceutical, chemical and food industry since 1985. Thanks to our motivation and wealth of ideas, our range of products and services for bulk solids testing technology is continually expanding.

Today, the Kraemer product portfolio ranges from manual testers to fully automated testing systems. In the LAB.line-series, you will find both tried-and-tested and state-of-the-art measurement and testing technology especially for the laboratory. The IPC.line-series stands for wear-resistant and reliable testing systems for in-process control. We established the product line "Traditional Line" to preserve our proven and tested systems. With this product line, we can continue to provide our customers with selected products with reduced validation features.

Due to our direct sales in Germany and our many years of partnership with OEM partners and national and international sales organizations, Kraemer tablet testing systems are in continuous use today in numerous industries and laboratories around the world.

IN LINE WITH THE FUTURE

You can find additional information on our products and services at:

www.kraemer-elektronik.com

kraemer ELEKTRONIK
Pharmaprüfsysteme

Kraemer Elektronik GmbH

Röntgenstraße 68 - 72
64291 Darmstadt
Germany

Phone +49 6151 · 6019-0
info@kraemer-elektronik.com

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dieneudenker.de