

# IN LINE WITH THE FUTURE

EXCELLENT BULK SOLIDS TESTING TECHNOLOGY FOR RESEARCH AND PRODUCTION

LAB.line



IPC.line



Accessories



# IN LINE WITH THE FUTURE

EXCELLENT BULK SOLIDS  
TESTING TECHNOLOGY  
FOR RESEARCH AND  
PRODUCTION



Dear readers,

What makes a tablet testing system a truly excellent product?

Is it the quality? The service life? The professional advice? Or is it the impressive services?

It's all these factors together. And it's the 30+ 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
- electrical engineering
- washing and dishwashing products
- pellets
- industrial pressed products

We deliver precisely the right solution, even for your specific requirements. 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 we provide you just the right solution.
- + Because you benefit from over 30 years of experience.
- + Because our support is there for you around the clock.
- + Because you will always be one step ahead with us.
- + Because for us, quality always comes first.

## LAB.line



Compact, space-saving tablet testing units for use in the laboratory

### LABORATORY TESTING SYSTEMS

|                        |    |
|------------------------|----|
| Semi-automated testers | 08 |
| <b>P-SERIES</b>        |    |
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| <b>H-SERIES</b>        |    |
| Manual testers         | 14 |
| <b>T-SERIES</b>        |    |
| Manual testers         | 15 |
| <b>HC 6.2 WIP</b>      |    |



Wear-resistant, reliable testing systems for in-process control

## INDUSTRIAL TESTING SYSTEMS

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Accessories and software for the entire product range - LAB.line & IPC.line

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## Kraemer Elektronik

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| Kraemer Elektronik - Innovative bulk solids testing technology · Over 30 years of experience in the industry | 44 |
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# LAB.line

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

## LABORATORY TESTING SYSTEMS

|                        |    |
|------------------------|----|
| Semi-automated testers | 08 |
| <b>P-SERIES</b>        |    |
| Manual testers         | 11 |
| <b>H-SERIES</b>        |    |
| Manual testers         | 14 |
| <b>T-SERIES</b>        |    |
| Manual testers         | 15 |
| <b>HC 6.2 WIP</b>      |    |



MEASUREMENT PARAMETERS



HARDNESS



LENGTH



DIAMETER



WIDTH



THICKNESS



WEIGHT

STANDARD UNIT

# P-series

## Semi-automated testers

These versatile laboratory testers from the P-series offer you the latest technology, a space-saving design and maximum flexibility. Adapt the basic units (P2-P5) to your requirements at any time.

The new LAB.line design also boasts numerous practical advantages. Thanks to the generous radii, rounded corners and smooth surface, cleaning is child's play.






The intuitive touch display enables fast, easy operation. The results are shown immediately on the clearly laid out display, and can be printed out or shown as a PDF report.







MEASUREMENT PARAMETERS

| MODEL |  WEIGHT |  THICKNESS |  DIAMETER/<br>LENGTH |  HARDNESS |  WIDTH |
|-------|--|---|---|--|--|
| P2    | ●  | ●   | —   | —  | —  |
| P3    | —  | ●   | ●   | ●  | —  |
| P4    | ●  | ●   | ●   | ●  | —  |
| P5    | ●  | ●   | ●   | ●  | ●  |

| MODEL   | W x D x H (mm)  | Weight (kg) |
|---------|-----------------|-------------|
| P2 - P5 | 320 x 320 x 185 | < 15        |

ADVANTAGES

- + Sensor-aided navigation
- + Integrated 360° LED status display
- + Automatic tablet positioning
- + Clean design

OPTIONS

- Load cells: 50 N, 500 N (standard), 1000 N
- Covered model with integrated breakage chamber
- Vibralign system
- Roto system (manual, adjustable grooved plate) for simple positioning of test specimens in the P3 and P4 models

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° and positioned for width measurement using the Vibralign system incorporated in the hardness station.



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.



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

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



**Intuitive navigation**

- + Insert tablets and start testing
- + The new touchscreen user interface of the P-series is simple and self-explanatory



**Integrated 360° LED status display**

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



**Automatic tablet positioning**

- + Length, width, hardness, ...
- + The P-series accurately places even oblong tablets in every test position



**Clean design**

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



STANDARD UNIT

# H-series

## Manual testers

The manual laboratory testers of the H-series in the new LAB.line design combine state-of-the-art technology with usability: rounded shapes, generous radii and smooth surfaces make cleaning child's play.

The 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.

As an option, you can extend the measuring range to 800 N, and test and analyze even harder tablets and other pressed products. The H4 version includes a thickness measuring station (Sartorius/Mettler). Connect an external scale to the H5 version and test all five parameters.

| MODEL           | W x D x H (mm)  | Weight (kg) |
|-----------------|-----------------|-------------|
| <b>H-SERIES</b> | 268 x 230 x 102 | 7           |



Compact, user-friendly, powerful

MEASUREMENT PARAMETERS

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

ADVANTAGES







- + Clean design
- + Integrated LED status lamp
- + Intuitive touchscreen operation
- + Measuring range (length) up to 60 mm
- + Measuring range (hardness) up to 800 N as an option

OPTIONS

- Load cells: 50 N, 500 N (standard), 800 N
- Base with two larger collecting bins



## H-series measurement parameters

| MEASUREMENT PARAMETERS |   |   |  |  |   |  |
|------------------------|---|---|--|--|---|--|
| MODEL                  |  <b>HARDNESS</b> |  <b>DIAMETER/<br/>LENGTH</b> |  <b>WIDTH</b> |  <b>THICKNESS</b> |  <b>WEIGHT</b><br>(external scale) |  <b>THICKNESS</b><br>(external) |
| H2                     | ●   | ●   | —  | —  | —   | —  |
| H3                     | ●   | ●   | ●  | —  | —   | —  |
| H4                     | ●   | ●   | ●  | ●  | —   | —  |
| H5                     | ●   | ●   | ●  | ●  | ●   | —  |
| H5+                    | ●   | ●   | ●  | ●  | ●   | ●  |

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



### Intuitive touchscreen operation

- + Insert tablet and start testing
- + The new touchscreen user interface of the H-series is simple and self-explanatory

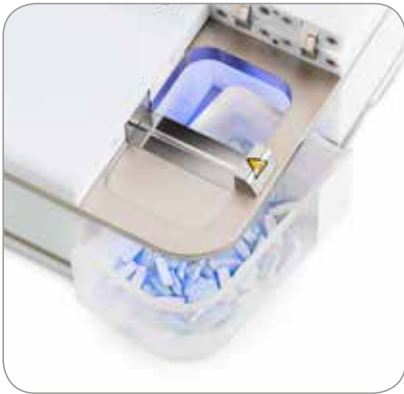


### Measuring range up to 800 N as an option

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



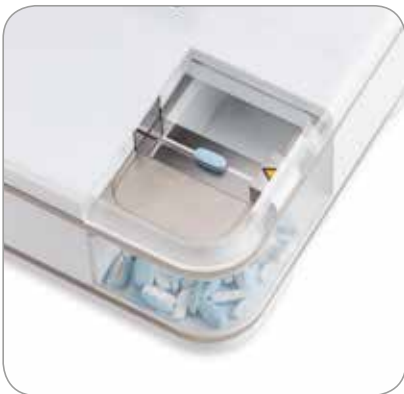
H-series equipment details.  
Compact, user-friendly, powerful.



Collecting bin for tested tablets



Basic H5 version with external scale



Exchangeable fixed jaw for different tablet shapes



Large collecting bin is easy to install

**Easy measurement of the five parameters hardness, length/diameter, width, thickness and weight**

The H5+ is a manual single tablet testing system that covers all five major tablet parameters in one unit. The results of the different measuring stations are displayed in an overall report.



**NEW**



MEASUREMENT PARAMETERS



ADVANTAGES

- + User-friendly 7-segment display with buttons
- + Fast, simple calibration
- + Small and robust

OPTIONS

- Load cells: 50 N, 500 N (standard)
- Manual thickness gage
- External scale

STANDARD UNIT

# T-series

## Simple manual tester HC 6.2

The T-series stands for traditional products, so you can continue to benefit from our units in their proven design and technology.

Simple operation via buttons and easily readable displays means you can handle the equipment safely even wearing gloves and protective clothing.

Measure hardness and length with the standard unit. Print out your test results directly on an external printer via a USB port. You can manage up to 99 products externally and import them using a USB stick. An integrated product memory is available as an option.

MEASUREMENT PARAMETERS

| MODEL       | HARDNESS | DIAMETER/LENGTH | THICKNESS | WEIGHT (external scale) |
|-------------|----------|-----------------|-----------|-------------------------|
| HC 6.2      | ●        | ●               | —         | —                       |
| HC 6.2 EXT  | ●        | ●               | ●         | —                       |
| HC 6.2 EXT+ | ●        | ●               | ●         | ●                       |

| MODEL                            | W x D x H (mm)  | Weight (kg) |
|----------------------------------|-----------------|-------------|
| HC 6.2 STANDARD VERSION          | 224 x 195 x 115 | 7.5         |
| HC 6.2 EXT (thickness gage only) | 252 x 195 x 205 | 10          |



HC 6.2 with external thickness gage and scale



**NEW**

STANDARD UNIT

# HC 6.2 WIP



## Manual tester for the use in an insulator

The HC 6.2 WIP is designed for the use in insulators or washing bays. Technically, it is based on the HC 6.2, but the following features set it apart:

- IP65 enclosure (fully encapsulated)
- External operation (no operating display on the unit)
- Wash down option

| MODEL                | W x D x H (mm)  | Weight (kg) |
|----------------------|-----------------|-------------|
| <b>HC 6.2 WIP</b>    | 190 x 310 x 141 | 7           |
| <b>CONTROL PANEL</b> | 250 x 240 x 50  | 2.5         |

Dimensions of closed system

MEASUREMENT PARAMETERS



HARDNESS



LENGTH



DIAMETER

ADVANTAGES

- + User-friendly 7-segment display with optimized buttons for operation in insulators wearing gloves
- + No discharge required for wet cleaning
- + Fast, simple calibration
- + Space-saving and robust

OPTIONS

- Load cells: 50 N, 500 N (standard)







# IPC.line

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



## INDUSTRIAL TESTING SYSTEMS

Automatic testing system  
**UTS 4.1** 18

Automatic testing system with active ingredient  
content measurement 20  
**UTS NIR**

Automatic testing systems with  
protection rating IP54/IP65 22  
**UTS IP LR / IP65**

Automatic testing system -  
hermetically sealed & washable 24  
**UTS IP65i**

Automatic weighing systems 26  
**CIW 6.2 / CIW 6.3 / CIW 6.4**

## OPTIONS

Touch display 29

Centering and measuring unit for oblong tablets  
Oblong Centering Unit (OZB) 30

MEASUREMENT PARAMETERS

-  **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

## 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) |
|----------------|-----------------|-------------|
| <b>UTS 4.1</b> | 450 x 630 x 540 | 40          |



Optional Oblong Centering System (OZB)



Optional conveyor rollers, see page 37

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

**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

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

MEASUREMENT PARAMETERS



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



## 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) |
|----------------|-----------------|-------------|
| <b>UTS NIR</b> | 750 x 590 x 615 | 107         |



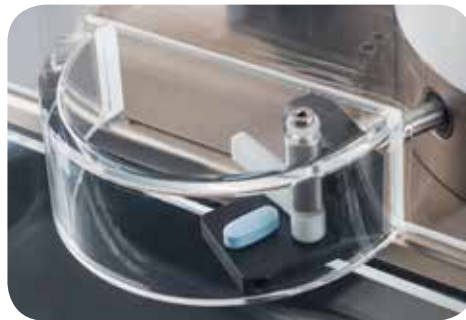
Robust measuring system



Reliable tablet handover



Precise tablet positioning (patented stamp)



Discharge of NIR specimens

Photo includes  
non-standard unit



**MEASUREMENT PARAMETERS**



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



## 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) |
|------------------|-----------------|-------------|
| <b>UTS IP LR</b> | 442 x 615 x 490 | 40          |

**CUSTOMIZED SOLUTION**

|                     |   |
|---------------------|---|
| <b>UTS IP LR-S2</b> | Version with 12-station feeder<br>Version with cyclone for air transport connection and bypass for single tablets |
|---------------------|---|



Patented radial transport rake



STANDARD UNIT

# UTS 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) |
|---------------------|-----------------|-------------|
| <b>UTS IP65</b>     | 470 x 400 x 450 | 40          |
| <b>CONTROL UNIT</b> | 350 x 185 x 135 | 2.5         |

MEASUREMENT PARAMETERS



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



Patented, integrated distribution plate

Version for insulator.  
Connections via Triclamp DIN DN50

MEASUREMENT PARAMETERS



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



## 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) |
|------------------|-----------------|-------------|
| <b>UTS IP65i</b> | 621 x 623 x 687 | 80          |



Open construction for optimum washing results





Insulated work area



Compact, space-saving design

MEASUREMENT PARAMETERS



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) |
|----------------------|-----------------|-------------|
| <b>CIW 6.2 / 6.3</b> | 440 x 490 x 470 | 30          |



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



**NEW**

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) |
|----------------|-----------------|-------------|
| <b>CIW 6.4</b> | 440 x 490 x 470 | 30          |

MEASUREMENT PARAMETERS



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



Close-up of length measurement

**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:

|                 |   |
|-----------------|---|
| <b>S9</b>       | For mini-tablets only                   |
| <b>S9 - 12F</b> | For mini-tablets with 12-station feeder |
| <b>S13</b>      | Direct feed                             |
| <b>S14</b>      | 3-way sorting diverter in chute         |
| <b>S15</b>      | 5-way sorting diverter in chute         |
| <b>S16</b>      | 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 |
| <b>TOUCH DISPLAY</b> | 7-inch |



Intuitive operation via touch display

MEASUREMENT PARAMETERS



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 measurement parameter. 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 x H (mm) |
|------------|----------------|
| <b>OZB</b> | 100 x 90 x 150 |



Centering and width measurement



Oblong Centering Unit (OZB)







# Accessories



ACCESSORIES AND SOFTWARE  
FOR THE ENTIRE PRODUCT RANGE - LAB.line & IPC.line

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## 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



Single air conveyor system ATS-1



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

## 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.

Min. 700 mm  
Max. 1100 mm



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



MEASUREMENT PARAMETERS



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 |

MEASUREMENT PARAMETERS



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

- Analysis version of the software is also available
- Controlled database read access via ODBC interface
- Connection to central data management system (e.g. plant control room), integrated transfer of master data, transfer of test parameters, etc.
- eDocuments, test reports and analyses as PDF files, authorization by electronic signature

## SOFTWARE

# TTS11 software

## Software for tablet testing systems

The powerful TTS11 software is the ideal tool for continually controlling and monitoring your production processes in their entirety.

### The most important performance features at a glance:

- For Windows and Linux platforms (cross-platforming is possible)
- SQL database standard: FrontBase (can also be adapted to other databases)
- 21 CFR Part 11 compliant
- Integrated audit trail, regulated access control and access management, documented change control
- Integrated adjustment and calibration function with monitoring
- Archive Manager for managing and displaying completed tests
- Network-compatible
- IPC quality control
- The software system automatically identifies the testing machine
- Analysis Manager with a large range of options for analyzing test results, products, batches, containers, and individual tests
- Selection of analysis parameters and variable limit values
- Batch management
- Tests conducted to DAB/USP or company's own specification
- Alarm feature and alarm management for documenting events during the test procedure
- Conversion functions for different units of measurement
- Relative or absolute tolerance ranges

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









### RANGE OF SERVICES

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## System validation IQ / OQ

Are you prepared for TQM and audits?

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- 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

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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

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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

**Innovative bulk solids testing technology · Over 30 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

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You can find additional information on our products and services at:  
[www.kraemer-elektronik.com](http://www.kraemer-elektronik.com)



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