Tooling Inspection and Analysis System

Automated and documented measurement for tablet press tooling

The Tooling Inspection and Analysis System (TIAS) replaces the time-consuming and expensive manual measuring process for new and in-use tablet compression tooling with accurate and repeatable automated measuring. The inspection results are recorded electronically to enable facile reporting and historical analysis for improved forecast of tooling usage and procurement. By easily identifying out-of-specification tooling, tablet press downtime can be reduced. The TIAS will enable you to better manage your complete tablet compression tooling inventory.

The modular system comes with a variety of options matching different requirements. In addition to the latest version of the TIAS software, different hardware components can be combined according to your individual needs. We offer you expert installation, startup, validation and training to ensure smooth operations.

Application
The TIAS is suitable for the most common tooling sizes, regardless of the tablet press model and manufacturer. Uncommon tooling sizes can be accommodated upon special request.

Your Benefits
- Reduced effort for tooling measurement
- Increased traceability throughout tooling lifecycle
- Accurate audit trail
- Paperless, user-friendly system
- Optimized tool selection, tooling sets and press setup
- Improved quality assurance

Punch Sizes     Die Sizes
Standard B-Type  BB-Type
Standard D-Type  B-Type
              D-Type
Sizes according to EU and US specifications
The user friendly TIAS software records and stores tooling measurements, sets inspection intervals and generates detailed inspection reports including historical measurements and statistical summaries. Critical measurements, e.g. tolerances, can be defined for each tooling specific to the tablet type to be produced. After measuring, variances from the specifications are displayed and an alarm occurs in out-of-tolerance events. To ensure access to the most up-to-date features, updates to the latest software version are available.

Test Form Documentation

TIAS software test forms include equipment and installation qualification test procedures. A hard copy and electronic copy will be provided.

Personal Computer

If required, the TIAS software can be pre-loaded, tested and shipped on a personal computer, which includes a monitor, serial port, two parallel ports for a printer and the automatic inspection fixture, as well as a mouse and keyboard.

Configuration (minimum)
- 8 GB RAM, Intel processor
- 120 GB solid state boot drive
- 500 GB hard drive
- Windows 7 Professional (or later version)
- DVD/CD-ROM

Components
- Interface box
- Cable
- Power supply

Interface to Measuring Devices

The interface box receives signals from the SPC compatible contact measurement devices. It converts the measuring information into an ASCII file and automatically sends the results to the PC. The included software directly links and stores the data to the database of the TIAS software.

Components
- Interface box
- Cable
- Power supply

Tablet Drawing Scanning and Image Storage

User friendly hardware and software for image scanning and storage enables even more precise documentation of the tooling specifications in the TIAS software by attaching image files – e.g. tablet drawings.
Measuring devices

Automatic Tablet Punch Measuring Fixture

Takes overall and working length, diameter of head and barrel as well as cup depth measurements in a single automated step for streamlined, more accurate and repeatable inspection of tablet tooling.

A punch tip camera allows for magnified viewing of the punch face and ensures accuracy during setup. Results are electronically transferred, displayed and recorded via the TIAS software.

Components
- PC interface board
- Aluminium base plate
- Pneumatic punch indexing
- Tool-less adjustment clamps
- Quick change mounting block for B and D size punches
- 4 digital indicators, cables and actuators
- Punch tip camera

Manual Punch Measurement Stand

Manual stand to measure overall and working length of upper and lower punches. The cup depth is automatically calculated through the TIAS software. The manual stand can be easily calibrated via gage blocks prior to inspection (gage blocks not included).

Components
- Granite stand with indicator mounting post
- Digital indicator
- Data cable from indicator to computer
- Indicator needle tip
- Indicator tip retractor
- Foot pedal switch for data transfer
- B and D size punch holders

Die Inspection Fixture

Quickly and easily measure height and outer diameter of dies. The die inspection fixture provides accurate and repeatable measurements and allows for quick changes between B, BB, and D size dies.

Components
- Stand
- 3 plates for B, BB, and D size dies
- 2 digital indicators

Micrometer and Assembly Stand

Hand held micrometer, stand and cable to measure punch tip diameters.

Components
- Micrometer
- Stand
- Cable
# Measuring devices

## Concentricity and Diameter Fixture

The fixture measures major and minor axis tip diameter and tip to barrel concentricity. The results are automatically sent to the TIAS software. The concentricity fixture can be used for round and capsule shaped tooling.

<table>
<thead>
<tr>
<th>Components</th>
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<tbody>
<tr>
<td>Stand</td>
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<tr>
<td>Digital indicator</td>
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</table>

## Manual Concentricity Fixture

The fixture supports manual measurement of the tip to barrel concentricity.

<table>
<thead>
<tr>
<th>Components</th>
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<tbody>
<tr>
<td>V-Block</td>
</tr>
<tr>
<td>Digital indicator</td>
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<tr>
<td>Granite stand</td>
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## Visual Microscope

Visual inspection system for precise tool alignment ensures a consistent and repeatable measurement location. For easy determination of punch defects and tool wear, the microscope allows magnification of up to 200x on tip diameters, engraving/embossing detail, land widths and punch face.

<table>
<thead>
<tr>
<th>Components</th>
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<tbody>
<tr>
<td>Video microscope</td>
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<tr>
<td>Zoom lens</td>
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<tr>
<td>Stand mounted to TIAS fixture</td>
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<tr>
<td>Video capture board</td>
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<tr>
<td>PC screen overlay software</td>
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You will find your local partner at: www.boschpackaging.com