Hardness tester – TH 2050S

24 Positions

Features:

- Advance Micro-controller based user-friendly state-of-the-art product design with alphanumeric splash waterproof polyester soft keys for keyboard. User interactive software in dialogue mode for ease of operation with protection against invalid entries.
- 24 Position Carousal for Automatic measurement of tablet parameters – Width, Thickness, Length/Diameter & Hardness. Fulfils the Pharmacopeial requirement of 20 tablet testing in single run.
- The built in Sweeping blades cleans the tablet path for removal of broken pieces, debris & dust.
- Non-Volatile memory storage of 99 methods with parameters with Alphanumeric entries of Sample Name and Identification Number for authentication.
- Automatic run can be performed continuously up to 1-99 tablets. RUN can be re-started on power failure or on System Reset with last run parameters.
- Linear Displacement 0.8mm/sec with fast advance and return movement of breaking arm saves runtime.
- Daily Auto Incremented Run Number and Factory entered CUSTOMER NAME with Instrument Serial Number on report system makes foolproof and GLP complaint.
- Two Tier – a] ADMIN, and b] USER password protection for method editing and Validation. 25 Users can be set with Name and password.
- Built-in Real Time Clock [RTC] for date and time display and on printout.
- Process Stage and Compression Press no. entry, NMT, NLT and Percentage Limit for detected values of Width, Thickness, Diameter/Length & Hardness with Star mark for out of limit values.
- Validation/Calibration protocol with verification for Hardness – 3 point Load Cell calibration with Standard weights, Width/Length/Diameter and 3 point Thickness Calibration with Standard thickness gauges.
- Quick RUN for Independent Width, Thickness, Diameter/Length, Hardness or All parameter measurement in sequence up to 25 sample tablets with GLP information.
- Error indication on display with Audible alarm helps user to trace the problem.
- Printer Compatibility for Deskjet, Inkjet & Dot-matrix printer.
- Ethernet Connectivity by RE01 Module and EDC80 Data capture Software (Optional).

Reports:

- Selectable Report Format, complying with GLP requirements:
  a) Report giving Run No., Set parameters and Actual parameters during the test process.
  b) Report of program parameters for 99 methods, with printout of empty program numbers.
  c) Validation report for Thickness, Width/Diameter/Length, Tablet Hardness.
- Reports can be obtained even after resetting / power off/ power failure conditions.

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Specifications:

- **Control:** Micro-controller based [Advanced version of microprocessor]
- **Keyboard:** Alphanumeric splash waterproof polyester soft keys.
- **Display:** 40 x 2 line back lighted liquid crystal display [LCD]
- **Sample carousal – 24 positions**
- **Test Parameter: No. of Tablets = 1 – 99.**

    1. Width – Manual Tablet orientation (for tablet length upto 25mm)
    - Measuring Sensor – Stepper controlled Load Touch sensed
    - Measuring Range – 0.1mm to 20.0mm.
    - Measuring Unit – mm or inch.
    - Measuring Accuracy – ± 0.06mm.

    2. Thickness :
    - Measuring Sensor – Linear Transducer
    - Measuring Range – 0.1mm to 18.0mm.
    - Measuring Unit – mm or inch.
    - Measuring Accuracy – ± 0.06mm.

    3. Diameter/Length:
    - Measuring Sensor – Stepper controlled Load Touch sensed
    - Measuring Range – 0.1mm to 32.0mm.
    - Measuring Unit – mm or inch.
    - Measuring Accuracy – ± 0.06mm.

    4. Hardness : Speed Control by Stepper motor
    Linear Displacement 0.8mm/sec with fast advance and return of breaking arm.
    - Measuring Sensor – Load Cell – Strain gauge
    - Measuring Range – 2N to 500 N. (600N – Optional)
    - Measuring Unit – N (Newton's) / Kp (Kilo Ponds) / Kgf Sc (Strong Cobb) / Pound.
    - Measuring Accuracy – ± 1N.

    5. Weight
    - Manual Entry by User (for reporting purpose)
    - Automatic Balance Interface – Sartorius / Mettler when Automatic Wt. Transfer option is selected.

- **Method Storage**: 99 programs with parameters.
- **Data Storage:** Available with Non-Volatile memory.
- **Report Format:**
    a) GLP & Pharmacopoeia compliant report with Statistics (Avg, Min, Max and RSD)
    b) Program parameter Report.
    c) Validation Reports
- **Output:**
    a) Centronics parallel port for Dot matrix / Desk jet Printer.
    b) RS232 C ports for –   i) Balance connectivity (Sartorius/Mettler)
                            ii) PC Connectivity for Data Download.
- **Instrument weight:** 22kgs.
- **Dimensions:** 410W x 280H x 460D mm.
- **Power:** 230Vac, ± 10%, 50 Hz, 65 Watts. / 110V(60Hz) option available.
- **Environmental Operating Conditions:**
    a) Operation: Indoor.
    b) Temperature: 15 to 35°C.
    c) Humidity: 5 to 90% non-condensing.

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