

LOOK TO KEY INTERNATIONAL FOR: rotary tablet presses • granulators • high shear mixers • homogenizers • suppository systems • inspection equipment • filling & capping machines • thermoforming / form-fill-seal systems • blister packagers • container lifter-positioners • ultra sanitary butterfly valves • tablet hardness testers • electronic checkweighers • capsule polishers • tablet dedusters • single dose preformed plastic cavities • accessory products



# HARDNESS TESTERS MODEL HT300/HT500

**A "worldclass" combination of design, performance, ease of use and setup**

The HT300 or HT500 is recommended for in-line production and quality control to measure the comprehensive strength of tablets and to ensure that hardness falls within specifications. In after production, either unit is also ideal for quality assurance checks.

The principle of strain gauge linear force is used to ascertain degree of hardness. Both round and irregular shaped tablets can be accommodated. These hardness testers are also simple to calibrate in-house, with validation -- and the operator can tell when the unit is not set up to operate correctly. Readout is in any one of the three standard units of measurement (Kp, Sc, N) commonly used by the pharmaceutical industry.

## SIMPLE CALIBRATION TO NIST/AUTOMATIC VALIDATION

An important feature of any hardness tester is the procedure required for calibration and validation — and how often to calibrate to ensure accurate results. The HT300/HT500 can be calibrated wherever it is being used to NIST (National Institute Standards and Testing) Specifications, rather than having to be returned to the factory. The procedure can be done in minutes and a skilled technician is not required. A printout is automatically supplied as validation, and the printout tape can become part of the permanent record.



## LED DISPLAY

The LED readout displays each hardness test result in large, easy to read numerals. There is also a test to validate light segment function. The LED display is "on" whenever the unit is testing, whereas the printer can be turned off during operation. In addition, because the control panel and LED display are a flat surface, there are no corners or crevices to trap product dust or debris, as is the case with buttons or switches. This for excellent GMP design.

## INTEGRATED PRINTER

The automatic printer represents a simple way of producing a permanent test printout, which can be attached to each batch record. The printer supplies the following: a reading for every tablet tested; total number of tablets tested; high, low and average force values; standard deviation and standard relative deviation (SREL). Additionally, any test which has been conducted without a tablet is automatically indicated as such and not included in the total. The printout tape will show "no sample". Also, any individual test can be omitted from the printout summary (due to faulty product, tablet being out of position, etc.) with a "touch" on the control panel.



**Kp N  
Sc**

**PRINTOUT  
TAPE  
INCLUDES  
ALL DATA  
AUTOMATICALLY**

|                                |           |                      |
|--------------------------------|-----------|----------------------|
| Total number of tablets tested | NR        | 5                    |
| Average value                  | XM        | 8.7 KP               |
| Relative standard deviation    | SREL      | 16.6 %               |
| Standard deviation             | SD        | 1.4 KP               |
| Low value                      | XMIN      | 7.4 KP               |
| High value                     | XMAX      | 10.8 KP              |
| Omit                           | 5         | 7.4 KP               |
| Separate test results          | 5 =       | 1.2 KP=              |
| Incorrect operation            | 5         | 1.2 KP               |
| No tablet tested               | 4         | 7.5 KP               |
| Version identification         | 3         | 10.8 KP              |
|                                | 2         | 8.4 KP               |
|                                | 1         | 9.6 KP               |
|                                |           | 00000000000000000000 |
|                                | STOP      | 234 D                |
|                                | NO SAMPLE | 00000000000000000000 |
|                                |           | PTB 301 92.12/6      |



# HARDNESS TESTERS MODEL HT300/HT500

**Offers more data, higher accuracy,  
easier operation and no downtime for  
standard procedures!**

## PERFORMANCE FEATURES

- Strain gauge to measure linear force (versus counterbalancing or pneumatic hand type tester)
- Accuracy of  $\pm 1\%$  over entire readout measuring range
- Prints out in Strong Cobb (SC), Kilopond (KP) or Newton (N) units
- Changeover from one unit of measurement to another by keypad
- Touch activated control panel
- Automatic "test" circuit to verify accuracy
- Printout tape shows when unit is not set up to operate correctly
- Full adjustable jaw travel
- Automatic cycling and adjustable time lapse between cycles to match operator speed
- Very fast measurement speed



## DESIGN FEATURES

- Incorporates RS232 interface output for computer hookup with 25 pin connector
- Leveling not required
- "On the spot" calibration in minutes -- no skilled technician required
- Immediate printout validation
- LED display has diode validation
- Test range covers the complete tablet spectrum
- Totally self contained incorporating printer and computer interface
- Sealed for internal integrity
- Lightweight, portable, easy to relocate and store
- Repositioning does not affect calibration, accuracy or setup
- Tests irregular shaped tablets on major or minor axis
- On or off printer operation

## SPECIFICATIONS:

| PERFORMANCE     |                                                               | PHYSICAL           |                                         |
|-----------------|---------------------------------------------------------------|--------------------|-----------------------------------------|
| Tablet Diameter | 4-40mm                                                        | Width              | 19.8"                                   |
| Printer Speed   | 48 lpm                                                        | Depth              | 9.75"                                   |
| Force Increase  | 2Kp/sec                                                       | Height             | 7.8"                                    |
| Measuring Range | HT300: 0.5-30Kp<br>HT500: 0.8-50Kp<br>(or equivalent Sc or N) | Weight             | 37lbs.                                  |
| Resolution      | 0.1Kp                                                         | <b>ELECTRICAL</b>  |                                         |
| Accuracy        | $\pm 1\%$ FS                                                  |                    |                                         |
|                 |                                                               | Power Requirements | 110-220V/<br>single phase<br>/ 60 cycle |

## OPTIONS

- Calibration kit includes weights to calibrate and validate the operation



- "Break" point fixture for testing glass ampules
- "Variflex" jaws for irregular shaped tablets (insures proper test position)

## TECHNICAL SERVICE

A Key International technical engineering staff is available for on-site servicing when required. Unit can also be returned to Englishtown, New Jersey factory for prompt service.

## ONE YEAR WARRANTY

The HT300/HT500 are guaranteed against defects in workmanship and materials for one year from date of shipment. Reference complete warranty in instruction manual.

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