LORDERAN

TECHNICAL DATASHEET
DS-YD-1-EN · REV. B · NOV 2026

HARDNESS TESTER

Manual Tablet Hardness Tester

Load and press by hand; the tester measures continuously, then **displays and locks** the break force — **2 to 199.9 N**, ±0.5 %.

MODEL YD-1





TABLET TEST AREA

2–199.9 N HARDNESS RANGE	**0.1 N** RESOLUTION · 0.01 KG	**±0.5 %** ACCURACY, MAX. RANGE	**3–12 mm** TABLET DIAMETER
3–20 mm PROBE TRAVEL	**10 W** POWER	**280 × 180** FOOTPRINT, MM	**110 mm** HEIGHT

01 Result locked
Each break force is displayed and held.

02 Continuous testing
Tablet after tablet without resetting.

03 Compact
280 × 180 × 110 mm, 10 W.

APPLICATIONS
At the press · QC release · Formulation R&D · Teaching

Warranty
Major defects: full refund or replacement.

Free DDP shipping
Duties paid, no surprise import charges.

30-day returns
Most new, unopened items.

PRODUCT OVERVIEW

Measure the moment a tablet breaks

A manual tablet hardness tester for fast, dependable break-force checks. A jaw advances and squeezes the tablet **across its diameter**; force rises until the tablet fractures, and the tester captures the peak as the break force.

Load and press the tablet by hand; the tester measures continuously, then **displays and locks** the result. Range 2 to 199.9 N with 0.1 N resolution and ±0.5 % accuracy.

HOW IT WORKS

01 Place
Tablet of 3–12 mm diameter between the jaws.

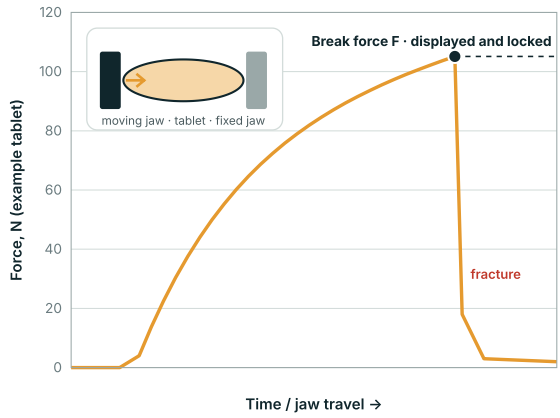
02 Press
Advance the jaw by hand; probe travel 3–20 mm.

03 Capture
Force rises to fracture; the peak is the break force.

04 Lock
The result is displayed and held.

05 Next
Continuous testing without resetting.

Break force. Force rises as the jaw closes until the tablet fractures; the peak is recorded. Illustrative curve.



RANGE
2–199.9 N
0.1 N resolution

ACCURACY
±0.5 %
of max. range

TABLETS
3–12 mm
diameter

POWER
10 W
220 / 110 V

TENSILE STRENGTH

$$\sigma = 2F / (\pi \cdot D \cdot t)$$

For flat-faced round tablets (USP <1217>): break force F, diameter D and thickness t. It lets you compare tablets of different size.

Same orientation
Place each tablet the same way across the jaws; scored tablets break differently.

Test enough units
Report the mean and range of several tablets, not a single value.

Clean the jaws
Fragments left on the jaws shift the next reading.

FEATURES

Built for everyday QC

01 Operation

- **Manual load and press**
- Simple, direct operation for quick checks at the press
- **Continuous testing** without resetting

02 Measurement

- Range **2–199.9 N**
- Resolution **0.1 N or 0.01 kg**
- Accuracy **±0.5 %** of max. range

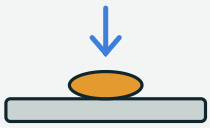
03 Tablets

- Diameter **3–12 mm**
- Probe travel 3–20 mm
- Result **displayed and locked**

04 Unit

- Auto-diagnose and alarm
- **10 W**, 280 × 180 × 110 mm
- 220 V / 50 Hz or 110 V / 60 Hz

TEST PROCEDURE



1 · Place
Tablet of 3–12 mm across the jaws.



2 · Press
Advance the jaw by hand.



3 · Read
Peak force displayed and locked.



4 · Record
Mean and range of the sample.

FROM BREAK FORCE TO TENSILE STRENGTH · USP <1217>

Break force F	Diameter D	Thickness t	Tensile strength σ
50 N	10.0 mm	4.0 mm	0.80 MPa
100 N	10.0 mm	4.0 mm	1.59 MPa
150 N	10.0 mm	4.0 mm	2.39 MPa

Calculated reference values for a flat-faced round tablet, σ = 2F / (π·D·t). Tensile strength compares tablets of different size.

TECHNICAL SPECIFICATIONS

Technical specifications

Parameter	YD-1
SPECIFICATIONS	
Model	YD-1
Hardness Range	2-199.9N
Resolution	0.1 N or 0.01 kg
Hardness Accuracy	±0.5% (Max. Range)
Probe Procession Range	3-20 mm
Diameter of tablet can be tested	3-12 mm
Power Supply	220V/ 50Hz, 110V/ 60Hz
Power	10W
Dimension	280×180×110 mm

Specifications from the LORDERAN product documentation. Subject to change without notice for product improvement.

AT A GLANCE

MODEL

YD-1

Hardness range
2–199.9 N

Resolution
0.1 N or 0.01 kg

Accuracy
±0.5 % (max. range)

Power
10 W

Dimension
280 × 180 × 110 mm

THE LORDERAN TABLET TESTING RANGE · THIS MODEL HIGHLIGHTED

Instrument	Models	Highlights
Dissolution, manual turn-over head	RC-1 · RC-3 · RC-6 · RC-8	1–8 vessels, ChP 2020 parameters stored
Dissolution, auto-lifting head	RC-6D · RC-8D · RC-8DS · RC-12D	Up to 12 vessels, self-inspection alarms
Dissolution, auto-lifting + turn-over	RC-3DT · RC-6DT · RC-8DT	3–8 vessels, lifts and turns over
Disintegration tester	BJ-1 · BJ-2 · BJ-3	6–18 tubes, independent stations
Friability tester	CS-4 · CS-2 · CS-3 · CS-1	1 or 2 drums; CS-1 20–90 rpm
Hardness tester, manual	**YD-1**	**2–199.9 N, ±0.5 %**
2-in-1 hardness + friability	PJ-2D	2–199.9 N, two drums
4-in-1 tablet tester	PJ-4D · PJ-6D	Hardness, friability, disintegration, dissolution

APPLICATIONS & SERVICE

Where it works, and what comes with it

At the press
Quick checks while setting compression force.

QC release
Mechanical integrity of each batch.

Formulation R&D
Compare compacts across formulations.

Teaching
Simple, direct demonstration of break force.

INSTALLATION

Supply
220 V / 50 Hz or 110 V / 60 Hz.

Bench
280 × 180 mm footprint, 110 mm high.

Upgrade path
YD-2 and YD-3 press automatically and measure diameter.

WARRANTY & SERVICE

Warranty
Major defects under warranty: full refund or replacement.

30-day returns
Return most new, unopened items within 30 days.

Free DDP shipping
Delivered duty paid, no surprise import charges.

Formal quotation
PDF quote on request, with a confirmed ship date.

Request a quotation

Send your application, model and quantity through www.lorderan.com and we will reply with a formal PDF quotation.

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Laboratory and environmental test equipment