LORDERAN

TECHNICAL DATASHEET
DS-PJ-4D-6D-EN · REV. B · NOV 2026

TABLET TESTING

4-in-1 Tablet Tester

A complete tablet QC bench in one instrument: **hardness, friability, disintegration and dissolution**, one controller and one water bath.

MODELS PJ-4D PJ-6D





DISSOLUTION BATH

4 TESTS IN ONE	**3 · 6** DISSOLUTION STATIONS	**1 · 2** FRIABILITY DRUMS	**2–199.9** N HARDNESS RANGE
20–40 °C BATH, ±0.3 °C	**20–200** rpm SPEED, ±2 RPM	**55** mm BASKET STROKE	**580** mm WIDTH

01 One footprint
Replaces four instruments on the bench.

02 Shared bath
Dissolution and disintegration, 20–40 °C.

03 SUS316L
Imported stainless baskets and paddle rods.

APPLICATIONS
Small QC labs · Teaching labs · R&D · Contract testing

Warranty
Major defects: full refund or replacement.

Free DDP shipping
Duties paid, no surprise import charges.

30-day returns
Most new, unopened items.

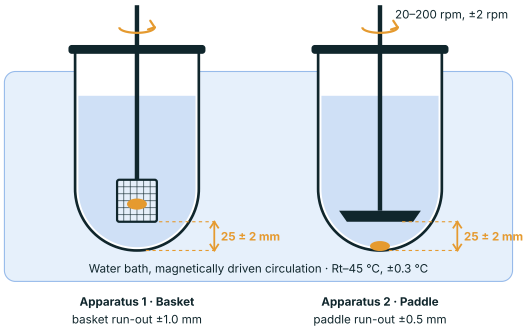
PRODUCT OVERVIEW

Four tests, one footprint

Everything a small QC lab or teaching lab needs for solid dosage forms, sharing **one controller** and **one water bath**. The PJ-4D runs three dissolution stations and one friability drum; the PJ-6D runs six stations and two drums.

An LCD shows preset and live values. Dissolution and disintegration share the temperature-controlled bath, held at 20–40 °C with ±0.3 °C, and baskets and paddle rods are imported **SUS316L**.

Dissolution. Basket and paddle in their vessels, in the shared bath, with the USP reference height.



HOW IT WORKS

01 Hardness
Automatic press with a high-precision pressure sensor, 2–199.9 N.

02 Friability
Ø 286 mm drum, 156 mm fall, 25 rpm, 100 rotations.

03 Disintegration
Two nacelles of six tubes, 55 mm stroke at 30–32 /min.

04 Dissolution
3 or 6 stations, 20–200 rpm, run-out ±0.5 / ±1.0 mm.

HARDNESS
2–199.9 N
499.9 N option

FRIABILITY
25 rpm
100 r, ±1 rpm

DISINTEGRATION
30–32 /min
55 mm stroke

DISSOLUTION
3 · 6
stations

FRIABILITY

$$F = (W_0 - W_1) / W_0 \times 100\ \%$$

W0: tablet weight before the test; W1: weight after the run, once loose dust has been removed.

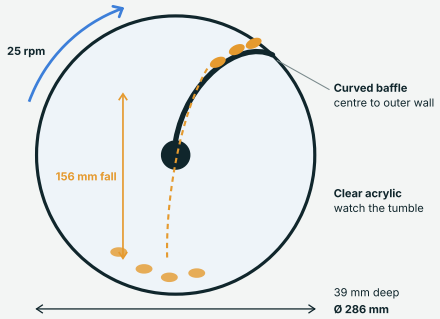
Plan the sequence
Run hardness and friability while the bath reaches temperature.

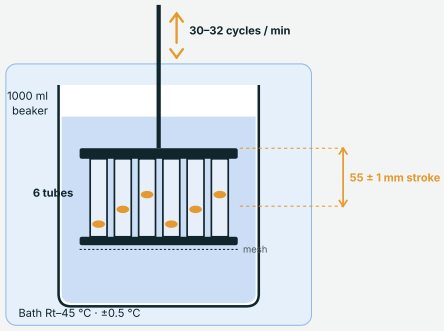
Deaerate media
Bubbles on baskets and tablets slow dissolution.

Weigh precisely
1 % friability of 6.5 g is only 65 mg.

FEATURES

Smart, automatic, space-saving





01 Control

- **LCD**, preset and live values alternate
- Automatic control, diagnosis and alarm
- Timed shutdown and cyclic testing

02 Bath

- Magnetic-drive water pump circulation
- **20–40 °C, ±0.3 °C**
- Shared by dissolution and disintegration

03 Hardness & friability

- **Automatic press**, high-precision pressure sensor
- Probe travel 3–40 mm
- Drum Ø 286 mm × 39 mm, **156 mm** fall

04 Build

- **SUS316L** baskets and paddle rods
- 580 mm wide
- 31 kg (PJ-4D) or 42 kg (PJ-6D)

FRIABILITY TEST REFERENCE · USP <1216>

Item	USP <1216>	LORDERAN drum
Drum internal diameter	283–291 mm	Ø 286 mm
Drum depth	36–40 mm	39 mm
Rotation	25 ± 1 rpm, 100 rotations	25 rpm ±1 rpm
Sample, unit ≤ 650 mg	Whole tablets close to 6.5 g	—
Sample, unit > 650 mg	10 whole tablets	—
Limit	Mean weight loss not more than 1.0 % for most products	—

Reference summary for planning; the current pharmacopoeia and the product monograph govern the test.

TECHNICAL SPECIFICATIONS

Technical specifications

Parameter	PJ-4D	PJ-6D
GENERAL		
Testing Parameter	Hardness, Friability, Disintegration, Dissolution	
Temperature Range	20~40 °C, ±0.3 °C	
Speed Range	20~200 rpm ±2 rpm	
Timing Range	1~900 min ±0.5 min	
DISSOLUTION		
Paddle Radial Run-Out	±0.5 mm	
Basket Radial Run-Out	±1.0 mm	
Centering	±2.0 mm	
Dissolution	3	6
DISINTEGRATION		
Nacelles	2	
Nacelle Glass Tubes	6	
Volume Of The Beaker	1000 ml	
Nacelle Up And Down Frequency	30~32/min	
Nacelle Up And Down Range	55±1 mm	55±2 mm
FRIABILITY		
Drum	1	2
Drum's Radius	Dia. 286 mm	
Drum's Depth	39 mm	
Tablet Falling Height	156 mm	
Rotation Count	100 r	
Rotation Speed	25 rpm	
Speed Regulator Accuracy	±1 rpm	
HARDNESS		
Hardness Range	2~199.9N (50Kg, 499.9N is optional)	
Probe Procession Range	3~40 mm	
INSTRUMENT		
Power Supply	220V/ 50Hz, 110V/ 60Hz	
Power	500W	600W
Dimension	580×380×470 mm	580×520×470 mm

Parameter	PJ-4D	PJ-6D
Weight	31 Kg	42 Kg

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

AT A GLANCE

MODEL

PJ-4D

Dissolution
3

Drums
1

Power
500W

Dimension
580×380×470 mm

Weight
31 Kg

MODEL

PJ-6D

Dissolution
6

Drums
2

Power
600W

Dimension
580×520×470 mm

Weight
42 Kg

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**

DISINTEGRATION TEST REFERENCE · USP <701>

Item	USP <701>	This tester
Stroke	53–57 mm	55 ± 1 mm
Frequency	29–32 cycles / min	30–32 / min
Immersion fluid	37 ± 2 °C	Rt–45 °C, ±0.5 °C
Tubes per basket rack	6	6 per station
Acceptance	6 of 6; if 1–2 fail, ≥ 16 of 18	Auto-stop at the timing point

Reference summary for planning; the current pharmacopoeia and the product monograph govern the test.

DISSOLUTION TEST REFERENCE · USP <711>

Item	Apparatus 1 · Basket	Apparatus 2 · Paddle
Medium temperature	37 ± 0.5 °C	37 ± 0.5 °C
Height above vessel bottom	25 ± 2 mm	25 ± 2 mm
Vessel	1 L nominal, hemispherical bottom	1 L nominal, hemispherical bottom
This tester	SUS316L basket, run-out ±1.0 mm	SUS316L paddle, run-out ±0.5 mm

Reference summary for planning; the current pharmacopoeia and the product monograph govern the test.

APPLICATIONS & SERVICE

Where it works, and what comes with it

Small QC labs
Four release tests without four instruments.

Teaching labs
The full set of tablet tests on one bench.

Formulation R&D
Mechanical and release checks side by side.

Contract testing
Flexible routine work in a small footprint.

INSTALLATION

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

Bench
580 × 380 mm (PJ-4D) or 580 × 520 mm (PJ-6D), 470 mm high.

Bath
Water for the shared bath; 1000 ml beakers for disintegration.

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.

DS-PJ-4D-6D-EN · Rev. B · Nov 2026 · Calculated values are reference figures. Specifications may change without notice for product improvement.

LORDERAN

www.lorderan.com

Laboratory and environmental test equipment