LORDERAN

TECHNICAL DATASHEET
DS-CS-4-EN · REV. B · NOV 2026

FRIABILITY TESTER

Single Drum **Friability Tester**

A single-drum friability tester for uncoated tablets: **25 rpm**, a **156 mm** fall per turn and an automatic stop after **100 rotations**.

MODEL CS-4





CS-4



REAR VIEW

25 rpm ROTATION SPEED	**±1** rpm SPEED ACCURACY	**100** r ROTATIONS, ±1 R	**1** DRUMS
156 mm TABLET FALL	**Ø 286** mm DRUM DIAMETER	**39** mm DRUM DEPTH	**20** W POWER

01 **USP geometry**
Ø 286 mm drum, 39 mm deep.

02 **Auto-stop at 100**
Ready for weighing.

03 **20 W**
Compact, microcomputer controlled.

APPLICATIONS
Uncoated tablets · QC release · Compression set-up · R&D

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

Tumble, drop, weigh

Weigh the tablets, load them into the drum and start. A **curved baffle** running from the centre to the outer wall lifts the tablets and drops them **156 mm** on every turn, so each test applies the same mechanical stress.

After **100 rotations** the drum stops by itself, ready for weighing. Microcomputer controlled, with a clear acrylic drum and a compact 20 W footprint.

HOW IT WORKS

01 Dedust and weigh
Remove loose dust and record the starting weight W0.

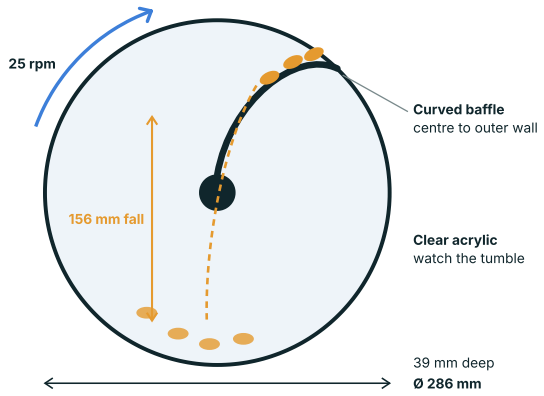
02 Load
Tablets into the clear acrylic drum.

03 Tumble
25 rpm, 100 r rotations; the baffle drops them 156 mm each turn.

04 Auto-stop
The drum stops at the set count.

05 Weigh again
Remove dust, record W1 and calculate the loss.

Drum. The curved baffle lifts the tablets and drops them on every turn.



SPEED
25 rpm
±1 rpm

ROTATIONS
100 r
±1 r

DRUM
Ø 286 × 39 mm
USP geometry

FALL
156 mm
per turn

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.

Dedust first
Remove loose dust before the first weighing and again after the run.

Weigh precisely
Use a balance reading to at least 1 mg; 1 % of 6.5 g is only 65 mg.

Watch for cracks
A cracked, cleaved or broken tablet fails the test, whatever the weight loss.

FEATURES

Simple, accurate friability testing

01 Control

- **Microprocessor** speed and revolution counting
- Preset or live values on screen
- Auto-test, diagnose and alarm

02 Drum

- **Clear acrylic**, easy to clean
- Ø 286 mm, 39 mm deep
- Curved baffle, **156 mm** fall

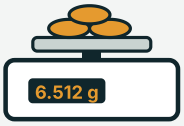
03 Run

- **25 rpm**, ±1 rpm
- **100 rotations**, ±1 r
- **Auto-stop** at the count

TEST PROCEDURE



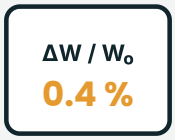
1 · Dedust
Remove loose dust from the sample.



2 · Weigh W0
Record the starting weight.



3 · Tumble
100 r rotations at 25 rpm; auto-stop.



4 · Dedust, weigh W1
Weight lost as % of W0.

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	CS-4
DRUM AND ROTATION	
Drum Number	1
Drum Radius	Dia 286mm
Drum Depth	39mm
Tablet Fall Height	156mm
Rotation Speed	25 rpm
Rotation Speed Accuracy	±1 rpm
Rotation Count	100 r
Rotation Count Accuracy	±1r
INSTRUMENT	
Power Supply	220V/ 50Hz, 110V/ 60Hz
Power	20W
Dimension	300×200×340 mm

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

AT A GLANCE

MODEL

CS-4

Drums
1

Speed
25 rpm

Rotations
100 r

Power
20 W

Dimension
300 × 200 × 340 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

Uncoated tablets
Resistance to chipping and abrasion in handling.

QC release
Batch checks with auto-stop counting.

Press set-up
Check compression force against friability.

R&D
Compare formulations under identical stress.

INSTALLATION

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

Bench
300 × 200 × 340 mm on the bench.

Balance
Analytical balance reading to at least 1 mg.

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

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www.lorderan.com

Laboratory and environmental test equipment