LORDERAN

TECHNICAL DATASHEET
DS-211B-211C-EN · REV. B · NOV 2026

LABORATORY SHAKER

Floor-Standing **Incubator Shaker**

Around-the-clock culture at **4–60 °C** and **30–300 rpm** — a single-shaft balanced drive under an **890 × 480 mm** platform.

MODELS 211B 211C





211C

4–60 °C
TEMPERATURE RANGE

±0.1 °C
TEMPERATURE ACCURACY

±0.2 °C
UNIFORMITY

30–300 rpm
SPEED RANGE, ±1 RPM

Ø 25 mm
ORBIT

186 / 245 L
211B / 211C CHAMBER

890 × 480
SHAKING PLATE, MM

5000 ml
LARGEST FLASK, 211C

01 Built for 24/7
Settings stored; the run restarts itself when power returns.

02 Cold to warm
Heating 800 W and CFC-free 134A refrigeration under PID control.

03 Intelligent defrosting
Long, uninterrupted runs at low temperature.

APPLICATIONS
Microbial fermentation · Cell culture · Cold incubation · Seed-culture scale-up

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

Built to run around the clock

A floor-standing incubator shaker for continuous, around-the-clock culture work. The 211 series holds 186 L or 245 L anywhere from **4 °C to 60 °C** to ±0.1 °C, while a single-shaft balanced drive turns an 890 × 480 mm platform from 30 to 300 rpm.

Long fermentations and multi-day cultures need a shaker that never drifts and never stops by accident. The 211 stores speed and parameters, restarts after a power cut, and defrosts itself intelligently during long low-temperature runs.

HOW IT WORKS

01 Forced convection
Heated or cooled air moves through the whole chamber, so edge flasks see the same conditions as the centre.

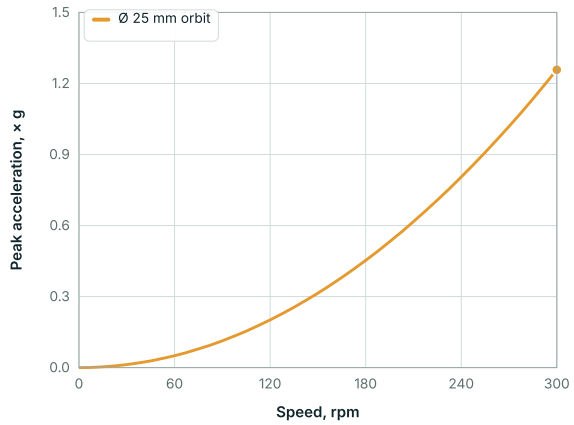
02 Refrigeration
800 W heater and 200 W cooler with CFC-free 134A coolant, under PID microcomputer control.

03 Single-shaft drive
Balanced drive with a 120 W maintenance-free brushless inverter motor and soft start.

04 Controller
Dual LCD with set and actual values; repetition, steps and eight curves; timer to 999 h 59 min.

05 Protection
Upper and lower limit alarms, independent over-temperature protector; shaking stops when the door opens.

Orbit and speed. Centripetal acceleration on the 25 mm orbit rises with the square of speed, to about 1.26 g at 300 rpm.



TEMPERATURE
4–60 °C
±0.1 °C · uniformity ±0.2 °C

SPEED
30–300 rpm
±1 rpm rotary accuracy

PLATFORM
890 × 480 mm
250 ml to 5000 ml flasks

CHAMBER
186 / 245 L
211B / 211C

MIXING INTENSITY

$$a / g = 1.118 \times 10^{-6} \times r \times n^2$$

r = orbit radius in mm (half the orbit diameter) · n = speed in rpm. The same relation as centrifugal force: a larger orbit mixes harder at the same speed.

Quote orbit and speed together
Mixing depends on both. A 50 mm orbit at 150 rpm is not the same as 25 mm at 150 rpm.

Keep fill volumes low
Oxygen transfer falls as fill rises. For aerobic cultures, fill flasks to 10–25 % of nominal volume.

Balance the platform
Spread flasks evenly over the plate. A balanced load runs quieter and protects the drive.

FEATURES

Even air, steady temperature, protection at every step



Lid open, shaking platform



Control panel

01 Control

- PID microcomputer scanning controller
- Large LCD shows preset and actual working parameters
- Programs with **repetition, steps and eight curves**
- Timer **0–999 h 59 min**, or continuous
- Temperature and speed calibration, clock and room temperature display

02 Temperature

- **4–60 °C**, accuracy **±0.1 °C**, uniformity **±0.2 °C**
- Forced convection over the whole plate
- 800 W heater · 200 W cooler · CFC-free **134A**
- Intelligent defrosting for long low-temperature runs

03 Protection

- Sound and light alarm at upper or lower temperature and speed limits
- Independent over-temperature protector
- Shaking stops automatically when the door opens
- Independent leakage and surge protection
- Run resumes when power is restored

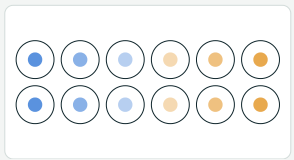
04 Everyday use

- Tempered glass window; illuminating or UV light inside
- Soft start prevents samples from splashing
- Maintenance-free brushless motor
- Watchdog timer and parameter encryption

PLAN YOUR PLATE · MAXIMUM LOAD FOR ONE FLASK SIZE



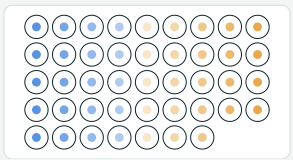
5000 ml × 6
211C only



2000 ml × 12
both models



500 ml × 28
standard configuration



250 ml × 43
both models

TECHNICAL SPECIFICATIONS

Technical specifications

Parameter	211B	211C
Volume	186L	245L
Chamber size	970×550×375 mm	970×550×485 mm
External size	1250×650×1060 mm	1250×740×1210 mm
Largest flask	2000 ml	5000 ml
Net weight	253kg	265kg
CONTROL AND DRIVE		
Control Mode	PID (Microcomputer scans the micro-processing chip)	
Display Mode	LCD (Double display of liquid crystal screen)	
Circulation Mode	Forced convection	
Shaking Mode	Orbital	
Drive Mode	Balancing device with single shaft	
Programming Function	Programming of repetition, steps and eight curves settings	
Timing Range	0 -999h59mins/continuous	
Motor	120W Inverter motor	
TEMPERATURE		
Temperature Range	4°C-60°C	
Accuracy of Temperature	±0.1°C	
Temperature Uniformity	±0.2°C	
Coolant	CFC-Free (134A)	
Cooler	200W	
Heater	800W	
SHAKING		
Speed Range	30~300rpm	
Rotary Accuracy	±1rpm	
Orbit	Dia. 25mm	
Size of Shaking Plate	890×480 mm	
Standard Configuration	500ml×28	
Maximum Capacity	2000ml×12 or 1000ml×18 or 500ml×28 or 250ml×43	5000ml×6 or 2000ml×12 or 1000ml×18 or 500ml×28 or 250ml×43
SAFETY		
Safety Function	Speed storage, automatic shutdown, temperature and speed correction, monitoring timer, clock display, call recovery, parameter memory, parameter encryption, one-key factory reset	
Additional Function	Watchdog timer, independent excess speed sound/light alarm, independent electric leakage, leakage/surge protection device	
DIMENSIONS, WEIGHT AND POWER		

Parameter	211B	211C
Power	1120W	
Power Supply	AC 220V±10%, 50/60 Hz; 110V±10%, 60Hz	

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

AT A GLANCE

MODEL
211B

Chamber
186 L · 970 × 550 × 375 mm

External size
1250 × 650 × 1060 mm

Largest flask
2000 ml

Net weight
253 kg

MODEL
211C

Chamber
245 L · 970 × 550 × 485 mm

External size
1250 × 740 × 1210 mm

Largest flask
5000 ml

Net weight
265 kg

APPLICATIONS & SERVICE

Where it works, and what comes with it

Microbial fermentation
Long, uninterrupted bacterial and yeast cultures at stable temperature.

Cell culture
Warm incubation with gentle, even orbital mixing.

Cold incubation
Refrigerated shaking down to 4 °C with defrost control.

Seed-culture scale-up
Flasks up to 5000 ml on the 211C.

INSTALLATION

Power
AC 220 V ±10 %, 50/60 Hz; 110 V ±10 %, 60 Hz on request — see specifications.

Environment
Level floor able to carry 265 kg plus load; leave space around vents.

Footprint
1250 mm wide; 650 or 740 mm deep.

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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LORDERAN
www.lorderan.com
Laboratory and environmental test equipment