LORDERAN

Stackable Incubated & Refrigerated Shaker 4 °C – 60 °C

Laboratory orbital shaker with ultra-low-noise single-axis drive.
Stack up to three units to triple your capacity in the same footprint.



4 – 60 °C	0 – 300 rpm	84 – 180 L	3 Tiers
TEMPERATURE RANGE	SPEED RANGE	CHAMBER CAPACITY	MAX STACKING

Models: 2012R · 2013R · 2019R · 2020R

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PRODUCT OVERVIEW

Uncompromised stability, whisper-quiet operation

The LORDERAN Stackable Incubated and Refrigerated Shaker is a high-performance, space-optimized platform for high-throughput life science research and bioprocess development. Units stack two to three high on the floor, delivering up to three times the capacity of a floor shaker in roughly the same footprint.

±0.1 °C
TEMPERATURE ACCURACY

±0.5 °C
UNIFORMITY AT 37 °C

±1 rpm
SPEED ACCURACY

Sleek, insulated, silent

- **Max 3-tier vertical stacking** without losing performance
- **Ergonomic access:** drop-down door and pull-out tray
- **Intuitive touch control:** 7-inch colour touchscreen, USB data export, optional micro-printer
- **Sanitary 304 stainless steel interior,** mirror finish with rounded corners

- **Precision single-axis drive:** balanced transmission with variable-frequency motor for very low noise and vibration
- **Soft-start acceleration** reduces splashing and protects delicate cells
- **Safety & recovery:** encrypted parameter locking, auto-restart after power outage, audio-visual alarms that cut power on over-temperature or motor overheating

Built for insulation and noise control

Powder-coated exterior and a dual-pane tempered glass viewport provide thermal insulation and noise reduction.

Choose your model

Model	Chamber capacity	Shaking mode	Shaking plate
2012R	180 L	Orbital	780 × 480 mm
2013R	165 L	Orbital & Reciprocating	480 × 440 mm
2019R	84 L	Orbital & Reciprocating	420 × 400 mm
2020R	122 L	Orbital & Reciprocating	542 × 445 mm

TECHNOLOGY

Refrigerated & heated, driven by a single axis

4 °C – 60 °C refrigerated & heated

- **Broad temperature range:** holds 4 °C to 60 °C with stability within ±0.1 °C
- **Low-temperature refrigeration:** CFC-free compressor supports protein expression, sample preservation and enzyme studies, reducing protein degradation
- **High-temperature incubation:** suited to thermophilic bacterial culture, nucleic acid hybridization and vector construction
- **3D air duct** keeps temperature even across the chamber, avoiding growth differences from local hot or cold spots



Single-axis drive

- **Brushless DC motors** and heavy-duty bearings reduce resonance and friction noise and keep motor heat out of the chamber
- **5-point dynamic balance:** central eccentric shaft with four perimeter supports stays smooth and quiet even with uneven loads
- **Wear-free, belt-free drive** lowers energy use, reduces drift and supports quiet long runs
- **Hermetically sealed drive housing** shields motors and electronics from humidity and biological contamination
- **Controllable servo motor:** high-torque, low-noise, forward and reverse rotation with precise speed control
- **Mobility & levelling:** heavy-duty castors and adjustable feet

Control & programming

- 7-inch colour touchscreen
- Timing: 0 – 999 h 59 min, or continuous
- Programming of repetition, steps and eight curve settings
- USB data export; optional micro-printer

Typical applications

High-throughput life science research · Bioprocess development · Recombinant protein expression · Sample preservation · Enzyme kinetics · Thermophilic bacterial culture · Nucleic acid hybridization · Vector construction

SPECIFICATIONS

Technical specifications

Parameter	2012R	2013R	2019R	2020R
MODEL				
SKU	2012R	2013R	2019R	2020R
Chamber capacity	**180 L**	**165 L**	**84 L**	**122 L**
Shaking mode	Orbital	Orbital & Reciprocating	Orbital & Reciprocating	Orbital & Reciprocating
SHAKING PERFORMANCE				
Speed range	0 – 300 rpm	0 – 300 rpm	0 – 300 rpm	0 – 300 rpm
Speed accuracy	±1 rpm	±1 rpm	±1 rpm	±1 rpm
Orbit / stroke	Dia. 25 mm	Dia. 25 mm	Dia. 25 mm	Dia. 25 mm
Timing range	0 – 999 h 59 min / continuous	0 – 999 h 59 min / continuous	0 – 999 h 59 min / continuous	0 – 999 h 59 min / continuous
Programming function	Repetition, steps and eight curve settings	Repetition, steps and eight curve settings	Repetition, steps and eight curve settings	Repetition, steps and eight curve settings
Size of shaking plate	**780 × 480 mm**	**480 × 440 mm**	**420 × 400 mm**	**542 × 445 mm**
TEMPERATURE PERFORMANCE				
Temperature range	4 °C – 60 °C (RT-18 °C, min 4 °C)	4 °C – 60 °C (RT-18 °C, min 4 °C)	4 °C – 60 °C (RT-18 °C, min 4 °C)	4 °C – 60 °C (RT-18 °C, min 4 °C)
Temperature accuracy	±0.1 °C (constant temperature)	±0.1 °C (constant temperature)	±0.1 °C (constant temperature)	±0.1 °C (constant temperature)
Temperature uniformity	±0.5 °C at 37 °C	±0.5 °C at 37 °C	±0.5 °C at 37 °C	±0.5 °C at 37 °C
DIMENSIONS & WEIGHT				
Inner size (W × D × H)	**850 × 560 × 395 mm**	**560 × 520 × 565 mm**	**495 × 455 × 370 mm**	**610 × 505 × 400 mm**
External size (W × D × H)	**1150 × 800 × 640 mm**	**650 × 845 × 810 mm**	**580 × 740 × 580 mm**	**910 × 740 × 640 mm**
Net weight	**320 kg**	**205 kg**	**150 kg**	**220 kg**

Dimensions are in millimetres. Shaking plate size refers to the platform inside the chamber.

SPECIFICATIONS

Power, current & physical data

Parameter	2012R	2013R	2019R	2020R
Max power	**1720 W**	**1530 W**	**1030 W**	**1530 W**
Rated current	**7.8 A (220 V)** **16 A (110 V)**	**7 A (220 V)** **14 A (110 V)**	**4.7 A (220 V)** **10 A (110 V)**	**7 A (220 V)** **14 A (110 V)**
Power supply	AC 220 V, 50/60 Hz; 110 V, 60 Hz	AC 220 V, 50/60 Hz; 110 V, 60 Hz (110 V external transformer)	AC 220 V, 50/60 Hz; 110 V, 60 Hz (110 V external transformer)	AC 220 V, 50/60 Hz; 110 V, 60 Hz

Please confirm the voltage configuration with LORDERAN when ordering. Models 2013R and 2019R require an external transformer for 110 V operation.

Model overview

2012R

180 L CHAMBER

Inner size	**850 × 560 × 395 mm**
External size	**1150 × 800 × 640 mm**
Net weight	**320 kg**
Max power	**1720 W**
Rated current	**7.8 A (220 V) / 16 A (110 V)**

2013R

165 L CHAMBER

Inner size	**560 × 520 × 565 mm**
External size	**650 × 845 × 810 mm**
Net weight	**205 kg**
Max power	**1530 W**
Rated current	**7 A (220 V) / 14 A (110 V)**

2019R

84 L CHAMBER

Inner size	**495 × 455 × 370 mm**
External size	**580 × 740 × 580 mm**
Net weight	**150 kg**
Max power	**1030 W**
Rated current	**4.7 A (220 V) / 10 A (110 V)**

2020R

122 L CHAMBER

Inner size	**610 × 505 × 400 mm**
External size	**910 × 740 × 640 mm**
Net weight	**220 kg**
Max power	**1530 W**
Rated current	**7 A (220 V) / 14 A (110 V)**

Request a quotation

Contact LORDERAN for pricing, configuration and shipping details.

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