LORDERAN

TECHNICAL DATASHEET
DS-ZD-C810-C820-EN · REV. B · NOV 2026

LABORATORY SHAKER

# Wrist-Action **Lab Shaker**

Wrist-like motion, precisely controlled — **0–600 rpm** at **±1 rpm**, servo drive, and **12 or 16** vessel positions.

MODELS ZD-C810 ZD-C820





ZD-C810

| | | | |
|---|---|---|---|
| **0–600** rpm<br>FREQUENCY RANGE | **±1** rpm<br>FREQUENCY ACCURACY | **12 / 16**<br>VESSEL POSITIONS | **6–15** °<br>TILT ANGLE SETTINGS |
| **13.3** cm<br>OSCILLATION RADIUS | **30 × 100**<br>STAGES × CYCLES | **5-inch**<br>COLOR TOUCH SCREEN | **3** years<br>WARRANTY |

**01 Servo-driven**
A servo motor regulates frequency to ±1 rpm.

**02 Programmed sequences**
Up to 30 stages, repeated up to 100 cycles.

**03 Stable core**
Single-cast ductile iron chassis, 304 stainless housing.

APPLICATIONS
Liquid–liquid extraction · Reagent mixing · Tube agitation · Method development

**3-year warranty**
Major defects: full refund or replacement.

**Free DDP shipping**
Duties paid, no surprise import charges.

**30-day returns**
Most new, unopened items.

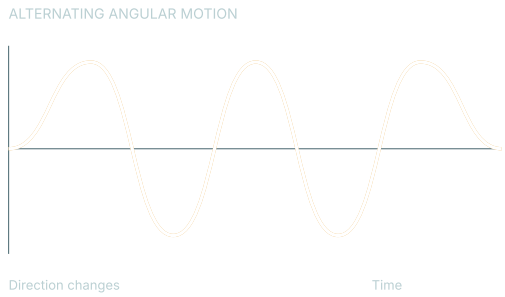
PRODUCT OVERVIEW

# Set the motion. Define the method.

The arms oscillate back and forth to reproduce a wrist-like shaking action — not a circular orbit. Select the frequency and arm angle to suit your vessels, fill volume and procedure.

Servo drive and PID microprocessor control give a specified frequency accuracy of **±1 rpm**. The 5-inch touch screen shows set and actual speed and time, status and alarm records.

**Wrist action.** Alternating arm motion; illustration, not measured performance data.




## HOW IT WORKS

**01 Frequency**
Set the oscillation frequency within 0–600 rpm.

**02 Angle**
10° nominal tilt, with 6°, 12° and 15° settings listed.

**03 Timing**
Set time in seconds; timing can start when the selected speed is reached.

**04 Servo drive**
Servo motor with PID microprocessor control; parameter memory and speed storage.

**05 Protection**
Independent audible and visual overspeed alarm; leakage-current and over-limit protection.

FREQUENCY
**0–600 rpm**
±1 rpm accuracy

RADIUS
**13.3 ±0.4 cm**
oscillation radius

POSITIONS
**12 / 16**
ZD-C810 / ZD-C820

TIMER
**0–9999 h**
second-level setting

**Not an orbital shaker**
Wrist action alternates; confirm the motion matches your method.

**Confirm clamps and load**
Usable capacity depends on vessel geometry, fill volume and clamp fit.

**Control the room**
No active heating or cooling; use a temperature-controlled room.

FEATURES

# Clear settings. Practical control.

## 01 Control

- **5-inch color touch screen** with set and actual values
- **30 stages**, repeated up to **100 cycles**
- Timer **0–9999 h**, second-level setting
- English interface, screen-lock key, clock display

## 02 Drive

- **Servo motor** regulates oscillation frequency
- PID microprocessor control, **±1 rpm**
- Parameter memory and speed storage

## 03 Construction

- Single-cast, precision-machined **ductile iron** chassis
- **304 stainless steel** housing, aluminium arms
- Imported double-row bearings

## 04 Protection

- Watchdog timer
- Independent audible and visual **overspeed alarm**
- Independent leakage-current and over-limit protection
- Power-restoration recovery listed for both models

TECHNICAL SPECIFICATIONS

# Technical specifications

| Parameter | ZD-C810 | ZD-C820 |
|---|---|---|
| **MODEL AND DIMENSIONS** | | |
| Maximum positions | 12 | 16 |
| Main unit dimensions | 272 × 452 × 300 mm | 272 × 452 × 320 mm |
| Arm length, each side | 348 mm | 468 mm |
| Net weight | 45 kg | 46.5 kg |
| **MOTION AND PERFORMANCE** | | |
| Shaking motion | Wrist action | |
| Reciprocating frequency | 0–600 rpm | |
| Frequency accuracy | ±1 rpm | |
| Tilt angle | 10° nominal; 6°, 12° and 15° settings listed | |
| Oscillation radius | 13.3 ±0.4 cm | |
| **CONTROL AND TIMING** | | |
| Control system | PID microprocessor control | |
| Drive | Servo motor | |
| Display | 5-inch color touch screen | |
| Programming | 30 stages; up to 100 cycles | |
| Timer setting | Second-level setting; timing can begin at the selected speed | |
| Maximum timer range | 0-9999h | |
| Interface languages | English | |
| Memory functions | Parameter memory and speed storage | |
| Operating functions | Automatic operation, automatic stop, timed operation, clock display and power-restoration recovery | |
| **CONSTRUCTION AND PROTECTION** | | |
| Mechanical chassis | Single-cast ductile iron, precision machined | |
| Housing / arms | 304 stainless steel / aluminum | |
| Bearings | Imported double-row bearings | |
| Monitoring | Watchdog timer; independent audible and visual overspeed alarm | |
| Electrical protection | Independent leakage-current and electrical over-limit protection | |
| **INSTALLATION AND CONFIGURATION** | | |
| Operating environment | User-specified temperature-controlled room or suitable ambient environment | |
| Circulation description | Natural convection | |
| Supply voltage | 110V/220V | |
| Vessel clamps / included items | 12/16 | |

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

AT A GLANCE

MODEL
**ZD-C810**

Positions
12

Main unit
272 × 452 × 300 mm

Arm length, each side
348 mm

Net weight
45 kg

MODEL
**ZD-C820**

Positions
16

Main unit
272 × 452 × 320 mm

Arm length, each side
468 mm

Net weight
46.5 kg

APPLICATIONS & SERVICE

# Where it works, and what comes with it

**Liquid–liquid extraction**
Separatory funnels shaken with a controlled wrist action.

**Reagent mixing**
Reagent bottles and Erlenmeyer flasks.

**Tube agitation**
Test tubes with the selected clamps.

**Method development**
Frequency, angle and timing set per procedure.

## INSTALLATION

**Power**
110 V or 220 V; confirm frequency, plug and rated power for your configuration.

**Environment**
User-specified temperature-controlled room or suitable ambient.

**Footprint**
Allow clearance for both arms at the chosen angle.

## WARRANTY & SERVICE

**3-year 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-ZD-C810-C820-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