LORDERAN

TECHNICAL DATASHEET
DS-DL-5M-EN · REV. B · NOV 2026

LABORATORY CENTRIFUGE

Floor-Standing **Large-Capacity Laboratory Centrifuge**

Bulk separation for blood banks and process labs — up to **4 × 1000 ml**, refrigerated (DL-5M) or ambient (D5B).

MODELS DL-5M D5B




FRONT


LID OPEN

5000 rpm MAX SPEED	**4100** × g MAX RCF	**4 × 1000 ml** MAX CAPACITY	**−20…+40** °C TEMPERATURE RANGE
±1 °C TEMPERATURE ACCURACY	**±10** rpm SPEED ACCURACY	**7** ROTORS IN 3 TYPES	**1** year WARRANTY

01 **Up to 4 × 1000 ml**
Litres per run for blood, cells and suspensions.

02 **Refrigerated or ambient**
DL-5M cools −20 to +40 °C; D5B runs without a compressor.

03 **148 blood tubes per run**
4 × 37 × 5/7 ml adapters in the 750 ml buckets.

APPLICATIONS
Blood processing · Large-volume separation · Microplates · Cell culture

1 year warranty
Major defects: full refund or replacement.

Free DDP shipping
Duties paid, no surprise import charges.

30-day returns
Most new, unopened items.

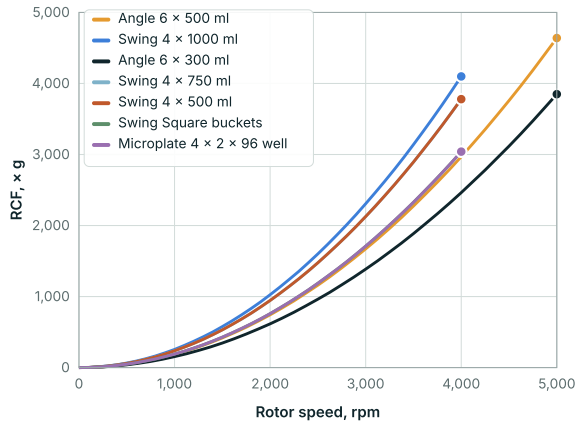
PRODUCT OVERVIEW

Litres per run, simply and safely

DL-5M and D5B are floor-standing, high-capacity centrifuges for blood banks and bulk processing. Swing rotors carry up to 4 × 1000 ml bottles or 148 blood collection tubes per run. DL-5M is refrigerated from −20 to +40 °C with CFC-free R404A; D5B is the ambient version for work that does not need cooling.

Protocols are written in × g because force, not speed, does the separating — and the same rpm gives more force in a larger rotor. Set **speed or force** directly, and a method moves between rotors and laboratories without conversion.

Speed vs. force. RCF rises with the square of speed. Each curve ends at that rotor's rated maximum.



HOW IT WORKS

01 Rotor recognition
Identifies the installed rotor automatically and prevents overspeed..

02 Cooling
Refrigerated model holds the set temperature; the ambient model runs without a compressor for simple, economical separation.

03 Drive control
9 up / 9 down: Acceleration and braking levels

04 Controller
Digital LCD.

05 Lid and protection
Electronic lid lock plus overspeed, over-temperature and imbalance detection, each with an automatic alarm.

MAX SPEED
5000 rpm
±10 rpm speed accuracy

MAX RCF
4100 × g
6 × 500 ml rotor, r ≈ 166 mm

TEMPERATURE
−20…+40 °C
±1 °C accuracy

NOISE
< 65 dB(A)
measured at the instrument

RELATIVE CENTRIFUGAL FORCE

$$RCF = 1.118 \times 10^{-6} \times r \times n^2$$

r = radius in mm · n = speed in rpm. Example: the 6 × 500 ml rotor at 5000 rpm, r ≈ 166 mm, gives **4640 × g**.

Write methods in × g
RCF = 1.118 × 10^{-6} × r × n^2. Quote force, and any rotor can reproduce the run.

Balance every load
Fill opposite positions with equal mass. Good balance protects the drive and the run.

Pre-cool for sensitive samples
Run the empty chamber and rotor down to temperature before loading heat-sensitive material.

FEATURES

Big capacity, simple to run



Control panel
Digital LCD



Chamber and rotor
Chamber -20 to +40 °C / —



Outer size

01 Operation & programs

- **Digital LCD** — Simple, clear operation
- **Essential controls** — Rotor, speed or × g, time, temperature
- **9 up / 9 down** — Acceleration and braking levels
- **Economical choice** — Big capacity, simple to run

02 Drive & refrigeration

- **AC variable-frequency motor** — High torque, electronic lid lock
- **R404A cooling** — CFC-free, on DL-5M
- **Silicone seal ring** — Meets GMP requirements

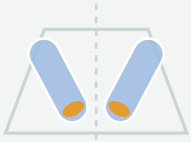
03 Safety

- Electronic lid lock plus overspeed, over-temperature and imbalance detection, each with an automatic alarm.
- **4 safety alarms** — Lock, overspeed, over-temperature, imbalance

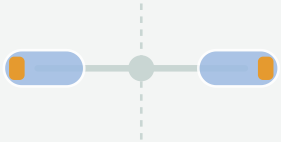
04 Rotors & capacity

- **7 rotors in 3 types** — angle, microplate, swing
- Max capacity **4 × 1000 ml**
- Highest force: **angle 6 × 500 ml**, 5000 rpm / 4640 × g
- Every bucket, holder and adapter listed in the rotor table

ROTOR TYPES



Angle rotor
Tubes sit at a fixed angle. The fastest option; the pellet forms on the tube wall.



Swing rotor
Buckets swing out level. A flat pellet at the bottom; best for blood, layers and large volumes.

Microplate rotor
Carries 96-well plates flat for plate washing and assay prep.

TECHNICAL SPECIFICATIONS

Technical specifications

Parameter	DL-5M	D5B
Cooling	Refrigerated	Ambient (no cooling)
Max speed	5000 rpm	
Max RCF	4100 × g	4640 × g
Max capacity	4 × 1000 ml	
Speed accuracy	±10 rpm	
Time setting	1 s – 99 h 59 min 59 s	
Temperature range	−20 to +40 °C	—
Temperature accuracy	±1 °C	—
Compressor	R404A refrigerant (CFC-free)	None
Display	Digital LCD	
Noise	< 65 dB(A)	
Power supply	AC 220 V, 50–60 Hz	
Power	2 kW	1.5 kW

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

ROTORS AND ACCESSORIES

7 rotors, every bucket and adapter

Type	Rotor	Max rpm	Max × g	r, mm*	Buckets, holders and adapters
SWING	**4 × 1000 ml**	4000	4100	229	1000 ml bucket · 1000 ml PE bottle
SWING	**4 × 750 ml**	4000	3780	211	750 ml bucket · 750 ml PE bottle · 4 × 21 × 1.5 ml · 4 × 24 × 5/7 ml blood collection tubes · 4 × 37 × 5/7 ml RIA tubes · 4 × 20 × 10 ml internal thread · 4 × 14 × 15 ml · 4 × 12 × 20 ml · 4 × 5 × 50 ml · 4 × 3 × 100 ml · 4 × 250 ml · 4 × 500 ml
SWING	**4 × 500 ml**	4000	3780	211	500 ml bucket · 500 ml PE bottle · 4 × 20 × 1.5 ml · 4 × 20 × 5/7 ml blood collection tubes · 4 × 15 × 10 ml internal thread · 4 × 8 × 15 ml · 4 × 9 × 20 ml · 4 × 4 × 50 ml · 4 × 2 × 100 ml · 4 × 250 ml
SWING	**Square buckets**	4000	3040	170	4 × 25 × 1.5 ml · 4 × 28 × 5 ml blood collection tubes · 4 × 20 × 10 ml internal thread · 4 × 10 × 15 ml · 4 × 4 × 50 ml · 4 × 250 ml
ANGLE	**6 × 500 ml**	5000	4640	166	Adapters 50, 100, 250 ml
ANGLE	**6 × 300 ml**	5000	3850	138	Adapters 50, 100 ml
MICROPLATE	**4 × 2 × 96 well**	4000	3040	170	

* Effective radius calculated from the rated values, r = RCF / (1.118 × 10^{-6} × n²). Reference figure for converting between rpm and × g; not measured rotor geometry.

AT A GLANCE

INSTRUMENT

DL-5M / D5B

Outer size, L × W × H

Net weight

Power
AC 220 V, 50–60 Hz · 2 kW

SHIPPING

Crate

Crate size, L × W × H

Delivery
Duty paid (DDP)

Ship date
Confirmed on order

PERFORMANCE

At full speed

Max speed / RCF
5000 rpm · 4100 × g

Max capacity
4 × 1000 ml

Temperature
−20 to +40 °C

THE LORDERAN CENTRIFUGE RANGE · THIS MODEL HIGHLIGHTED

Model	Format	Max rpm	Max × g	Max capacity	Cooling
DL-5M	**Floor**	**5000**	**4100**	**4 × 1000 ml**	**Refrigerated**
D5B	**Floor**	**5000**	**4640**	**4 × 1000 ml**	**Ambient**
DL-5B	Floor	5000	3780	4 × 750 ml	Refrigerated
D5M	Floor	5000	3780	4 × 750 ml	Ambient
TDL-5A	Bench	5000	4390	4 × 2 × 100 ml	Refrigerated
TDL-8A	Bench	8000	9100	4 × 500 ml	Refrigerated
L580R	Bench	5800	5060	4 × 750 ml	Refrigerated
TGL-21M	Bench	21,000	30,642	4 × 750 ml	Refrigerated
H2500R	Floor	25,000	64,983	4 × 1000 ml	Refrigerated
H2100R	Floor	21,000	50,400	6 × 500 ml	Refrigerated
GL-25M	Floor	25,000	64,983	4 × 1000 ml	Refrigerated
GL-21M	Floor	21,000	50,400	6 × 500 ml	Refrigerated
BH2500R	Floor	25,000	64,983	4 × 1000 ml	Refrigerated
BH2300R	Floor	23,000	60,900	4 × 1000 ml	Refrigerated
BH2200R	Floor	22,000	52,000	6 × 600 ml	Refrigerated
BH2100R	Floor	21,000	50,400	6 × 500 ml	Refrigerated

APPLICATIONS & SERVICE

Where it works, and what comes with it



Blood processing

Run up to 148 tubes of 5/7 ml at once with 4 × 37 adapters in the 750 ml buckets.



Large-volume separation

Bottles up to 1000 ml for bulk cell, sediment and suspension work.



Microplates

Microplate carriers spin 96-well plates flat for assay preparation.



Cell culture

Gentle pelleting of cells in 15 and 50 ml conical tubes with soft start and stop.

INSTALLATION

Floor or bench
Level, rigid surface rated for the kg instrument plus rotor and load.

Power
AC 220 V, 50–60 Hz; 2 kW.

Clearance
Keep the air vents free so the refrigeration can reject heat.

Footprint

WARRANTY & SERVICE

1 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-DL-5M-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