LORDERAN

TECHNICAL DATASHEET
DS-GL-25M-EN · REV. B · NOV 2026

LABORATORY CENTRIFUGE

Floor-Standing **High-Speed Refrigerated Centrifuge**

The most economical way into high-speed work — up to **25,000 rpm**, **4 × 1000 ml** and a simple digital panel.

MODELS GL-25M GL-21M





FRONT



LID OPEN

25,000 rpm MAX SPEED	**64,983** × g MAX RCF	**4 × 1000 ml** MAX CAPACITY	**−20…+40** °C TEMPERATURE RANGE
±1 °C TEMPERATURE ACCURACY	**±10** rpm SPEED ACCURACY	**9** ROTORS IN 1 TYPE	**1** year WARRANTY

01 Essentials done well
Rotor, speed or × g, time and temperature on a clear digital panel.

02 Up to 64,983 × g
High-speed angle rotors from micro tubes to 500 ml.

03 CFC-free cooling
Tecumseh compressor with R404A, −20 to +40 °C.

APPLICATIONS
Protein purification · Nucleic acids · Subcellular fractionation · Cell harvest

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.

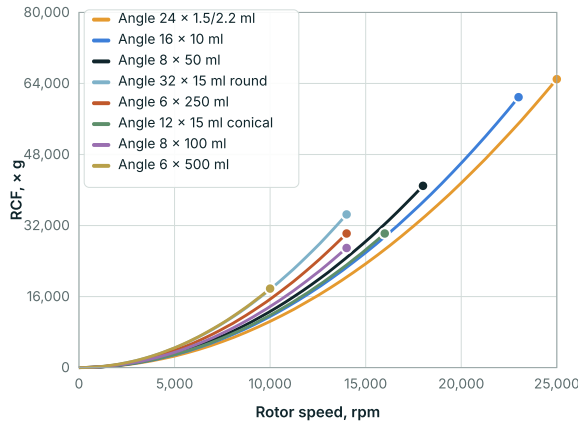
PRODUCT OVERVIEW

High speed without the extras you do not need

GL-25M and GL-21M are floor-standing high-speed refrigerated centrifuges built around the essentials: up to 25,000 rpm and 64,983 × g, swing capacity to 4 × 1000 ml, and a simple digital LCD for rotor, speed or force, time and temperature. A Tecumseh compressor with CFC-free R404A holds temperature at full speed.

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 Refrigeration
Tecumseh (France), R404A refrigerant (CFC-free); holds −20 to +40 °C through the run.

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, for safe running at high force.

MAX SPEED
25,000 rpm
±10 rpm speed accuracy

MAX RCF
64,983 × g
24 × 1.5/2.2 ml rotor, r ≈ 93 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 24 × 1.5/2.2 ml rotor at 25,000 / 21,000 rpm, r ≈ 93 mm, gives **64,983 / 50,400 × g**.

Write methods in × g
RCF = 1.118 × 10⁻⁶ × r × n². 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

High-speed essentials, done well



Control panel
Digital LCD



Chamber and rotor
Chamber -20 to +40 °C



Outer size
710 × 840 × 1200 mm (L × W × H), 290 kg without rotor net

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** — High speed without extras you do not need

02 Drive & refrigeration

- **AC variable-frequency motor** — High torque, electronic lid lock
- **Tecumseh R404A cooling** — CFC-free refrigeration
- **Silicone seal ring** — Meets GMP requirements

03 Safety

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

04 Rotors & capacity

- **9 rotors in 1 type** — angle
- Max capacity **4 × 1000 ml**
- Highest force: **angle 24 × 1.5/2.2 ml**, 25,000 / 21,000 rpm / 64,983 / 50,400 × 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.

TECHNICAL SPECIFICATIONS

Technical specifications

Parameter	GL-25M	GL-21M
Max speed	25,000 rpm	21,000 rpm
Max RCF	64,983 × g	50,400 × g
Max capacity	4 × 1000 ml	6 × 500 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	
Display	Digital LCD	
Compressor	Tecumseh (France), R404A refrigerant (CFC-free)	
Noise	< 65 dB(A)	
Power supply	AC 220 V, 50–60 Hz	
Power	5 kW	
SIZE AND WEIGHT		
Outer size	710 × 840 × 1200 mm (L × W × H)	
Crate size	889 × 960 × 1450 mm (L × W × H)	
Net weight	290 kg without rotor	

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

ROTORS AND ACCESSORIES

9 rotors, every bucket and adapter

Type	Rotor	Max rpm	Max × g	r, mm*	Buckets, holders and adapters
ANGLE	24 × 1.5/2.2 ml	25,000 / 21,000	64,983 / 50,400	—	Adapters 0.2, 0.5 ml
ANGLE	16 × 10 ml	23,000 / 21,000	60,900 / 50,400	—	Adapters 1.5, 5 ml
ANGLE	8 × 50 ml	18,000	40,930	113	Adapters 10, 20 ml
ANGLE	12 × 15 ml conical	16,000	30,194	105	
ANGLE	32 × 15 ml round	14,000	34,512	157	Adapters 5, 10 ml
ANGLE	8 × 100 ml	14,000	26,952	123	Adapters 10, 20 ml
ANGLE	6 × 250 ml	14,000 / 12,000	30,200 / 22,470	—	Adapters 50, 100 ml
ANGLE	6 × 500 ml	10,000 / 9000	17,800 / 14,400	—	Adapters 50, 100, 250 ml
ANGLE	4 × 1000 ml	8000	12,879	180	Adapters 250, 500 ml

* 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
GL-25M / GL-21M

Outer size, L × W × H
710 × 840 × 1200 mm

Net weight
290 kg without rotor

Power
AC 220 V, 50–60 Hz · 5 kW

SHIPPING
Crate

Crate size, L × W × H
889 × 960 × 1450 mm

Delivery
Duty paid (DDP)

Ship date
Confirmed on order

PERFORMANCE
At full speed

Max speed / RCF
25,000 rpm · 64,983 × 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

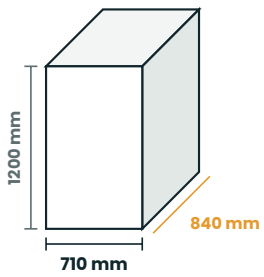
Protein purification
Clarify large lysate volumes at high force before chromatography.

Nucleic acids
Plasmid and genomic DNA preparation, from micro tubes to 500 ml bottles.

Subcellular fractionation
Differential centrifugation to separate nuclei, mitochondria and membranes under steady cooling.

Cell harvest
Collect cells or particles from litres of culture with high-capacity and continuous-flow rotors.

Footprint. Outer dimensions drawn from the specifications.



INSTALLATION

Floor or bench
Level, rigid surface rated for the 290 kg instrument plus rotor and load.

Power
AC 220 V, 50–60 Hz; 5 kW.

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

Footprint
710 × 840 × 1200 mm (L × W × H)

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-GL-25M-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