LORDERAN

TECHNICAL DATASHEET
DS-N-35X-100X-EN · REV. B · NOV 2026

LABORATORY AUTOCLAVE

Zero-Emission **Laboratory Autoclave**

A programme for every load — **solid, liquid, agar melt-and-hold** and custom — with exhaust steam condensed inside, so **nothing is vented** into the lab.

MODELS 35L 50L 75L 100L



106–134 °C STERILIZING RANGE	**4** PROGRAMME MODES	**0** STEAM VENTED TO THE LAB	**1–999 min** STERILIZATION TIMER
≤ 0.5 °C HEAT AVERAGE	**0–240 min** DRYING TIMER	**45–60 °C** KEEP-WARM HOLD	**35–100 L** FOUR SIZES

01 Melt and hold agar
Mode M3 melts at 60–100 °C, then holds at 45–60 °C.

02 Zero steam emission
Exhaust condenses in the built-in bottle.

03 Ready for validation
Printer and 3Q-compatible calibration ports.

APPLICATIONS
Culture media · Agar plates · Glassware · Validated labs

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

One autoclave, four programmes

A laboratory autoclave with a programme for every load: solid, liquid, agar melting and a custom mode. The controller handles exhaust speed, timing and holding temperature, so you pick the mode and press start.

Exhaust steam and air are **condensed in a built-in bottle**, so nothing is vented into the lab during air removal or depressurization. Drying, keep-warm, a built-in printer and calibration ports come as standard. Load in the evening, find sterile media and molten agar ready in the morning.

HOW IT WORKS

01 M1 Solid
Metal instruments, glassware and unwrapped tools.

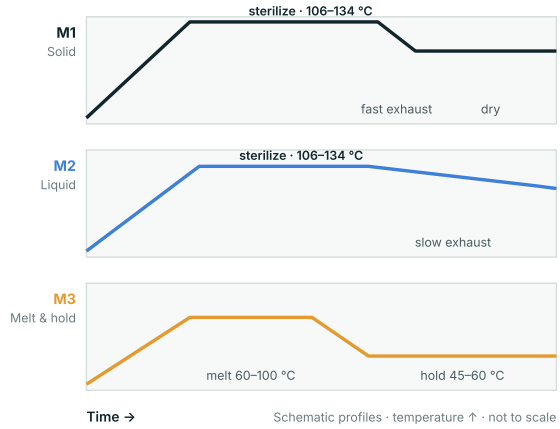
02 M2 Liquid
Culture media and solutions, with slower exhaust to prevent boil-over.

03 M3 Melt and hold
Melt agar at 60–100 °C, then hold it at 45–60 °C so it stays liquid.

04 Custom
Set your own temperature, time and pressure.

05 Condense
Exhausted steam and air condense back into water inside the unit.

Programmes. How the solid, liquid and melt-and-hold modes differ: fast or slow exhaust, then drying or a warm hold.



STERILIZE
106–134 °C
resolution 0.1 °C

MAX WORKING
0.24 MPa
design 0.3 MPa

MELT / HOLD
60–100 / 45–60 °C
agar programme

EXHAUST
0–9 pulses
interval 0–250 s

STERILIZING VALUE

$$F_0 = \Sigma\, 10^{(T - 121.1)/z} \cdot \Delta t$$

With z = 10 °C, one minute at 121.1 °C counts as F0 = 1 min; one minute at 134 °C counts as about 19.5 min. Reference relation for saturated steam.

Remove the air
Trapped air lowers the temperature at the load. Steam has to reach every surface.

Load loosely
Leave space between items and do not overfill baskets, so steam can circulate.

Slow exhaust for liquids
Release pressure slowly for media and solutions to prevent boil-over.

FEATURES

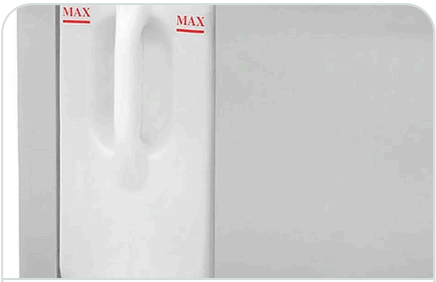
Made for unattended, mess-free work



Stainless steel chamber



Stainless basket



Built-in condensate bottle

01 Clean lab air

- **Zero steam emission** during air removal and depressurization
- **Built-in condensate bottle**
- Automatic internal exhaust; manual drainage

02 Programmes

- Solid, liquid, **melt-and-hold** and custom
- **Keep warm 45–60 °C** after sterilization
- Standard **drying** 0–240 min
- Multi-stage exhaust: interval, time and pulses

03 Records & validation

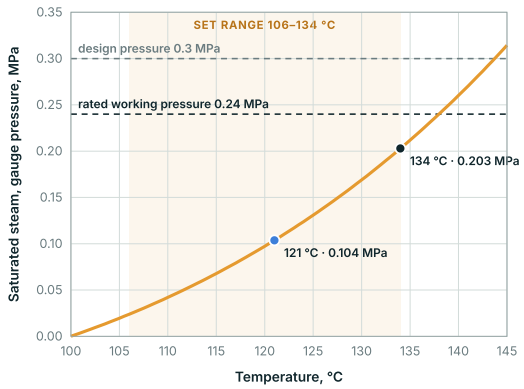
- **Built-in printer** records every cycle
- Temperature and pressure **calibration ports**
- Compatible with 3Q IQ/OQ/PQ adapters

04 Safety

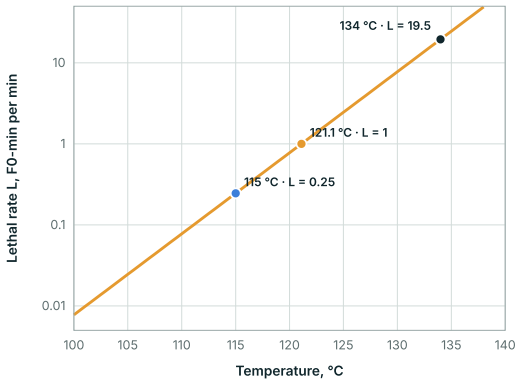
- **Safety interlock** with memory storage
- Downward internal steam circulation
- Working pressure 33 psi (0.23 MPa)

THE PHYSICS OF STEAM STERILIZATION

Pressure follows temperature. Saturated steam has one pressure for each temperature, so the gauge confirms the chamber is really at the set point.



Hotter kills faster. Each 10 °C rise multiplies the lethal rate tenfold, which is why 134 °C cycles are much shorter than 121 °C.



Calculated reference curves (IAPWS-IF97; z = 10 °C). Not product test data.

TECHNICAL SPECIFICATIONS

Technical specifications

Parameter	35L	50L	75L	100L
MODEL				
SKU	N-35X	N-50X	N-75X	N-100X
PERFORMANCE				
Working pressure	33psi (0.23mpa)			
Max temperature	134°C			
Temp. setting range	106~134°C (222.8~273°F)			
Heat average	≤0.5°C			
Sterilization timer range	1~999mins			
Drying timer range	0~240mins			
CHAMBER AND LOADING				
Inner chamber capacity	φ300x450mm	φ350x515mm	φ400x585mm	φ450x615mm
Baskets quantity	1*(φ275x395mm)	2*(φ325x235)	2*(φ375x265)	2*(φ425x275)
OPERATION				
Exhaust method	Automatic internal exhaust			
Drainage	Manual drainage			
ELECTRICAL				
Power	2.5kw, 12amps(220V), 21amps (120V)	3kw, 13.6amps(220V), 25amps (120V)	4.5kw, 20.5amps(220V), 37.5amps (120V)	4.5kw, 20.5amps(220V), 37.5amps (120V)
DIMENSIONS AND WEIGHT				
Overall dimensions	430×610×1030mm	500×675×1100mm	540×716×1165mm	575×748×1255
G.W / N.W	90/74kg	125/97kg	145/114kg	161/129kg

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

AT A GLANCE

MODEL	SKU	Chamber	Baskets	Overall size	Gross / net
35L	N-35X	φ300x450mm	1*(φ275x395mm)	430×610×1030mm	90/74kg
50L	N-50X	φ350x515mm	2*(φ325x235)	500×675×1100mm	125/97kg
75L	N-75X	φ400x585mm	2*(φ375x265)	540×716×1165mm	145/114kg
100L	N-100X	φ450x615mm	2*(φ425x275)	575×748×1255	161/129kg

THE LORDERAN AUTOCLAVE RANGE · THIS MODEL HIGHLIGHTED

Model	Capacity	Air removal / exhaust	Highlights
Horizontal steam sterilizer	150–400 L	Gravity displacement via the drain	Drying 0–999 min, door interlock
Vertical autoclave with drying	35–100 L	Automatic internal exhaust to built-in tank	Drying 0–240 min, self-inflating seal
Autoclave with condensate bottle	**35–100 L**	**Automatic internal exhaust, condensate bottle**	**Solid, liquid, agar and custom modes; printer**
Food autoclave	100 and 150 L	Automatic exhaust with counter-pressure air	Air compressor standard, 0–200 kPa
Vertical autoclave, bolt lid	35–150 L	Automatic exhaust	Traditional bolt-structure lid

CONTROLLER SETTINGS · ALL 15 PARAMETERS

Parameter	Setting	Parameter	Setting
Sterilize temperature	106–134 °C	Holding time	1–999 min
Sterilize time	1–999 min	Drying time	0–240 min
Temperature resolution	0.1 °C	Exhaust interval	0–250 s
Melting temperature	60–100 °C	Exhaust time	0–60 s
Holding temperature	45–60 °C	Exhaust times	0–9
Temperature fluctuation	≤ 0.5 °C	Displace temperature	100–110 °C
Melting time	1–999 min	Design pressure	0.3 MPa
		Max working pressure	0.24 MPa

APPLICATIONS & SERVICE

Where it works, and what comes with it

Culture media
Mode M2 exhausts slowly to prevent boil-over.

Agar
Melt, then hold liquid until you pour.

Glassware & tools
Mode M1 for instruments and unwrapped items.

Validated labs
Printed records and calibration ports.

INSTALLATION

Supply
110 V or 220 V; choose the supply that matches your lab.

Drainage
Manual drainage of the condensate.

Space
From 430 × 610 × 1030 mm (35 L) to 575 × 748 × 1255 mm (100 L).

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.

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Laboratory and environmental test equipment