LORDERAN

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

VERTICAL STEAM AUTOCLAVE

Vertical **Autoclave with Drying**

Sterilize, exhaust and dry in **one press** — instruments and glassware come out ready to use, and exhaust steam stays **inside the unit**.

MODELS 35L 50L 75L 100L



116–134 °C STERILIZING RANGE	**0–240** min DRYING TIMER	**0** STEAM VENTED TO THE LAB	**0.23** MPa WORKING PRESSURE
≤ 0.5 °C HEAT AVERAGE	**4–999** min STERILIZATION TIMER	**NEMA 10-50P** REMOVABLE PLUG	**35–100** L FOUR SIZES

01 **Dry and ready**
Standard drying removes residual moisture.

02 **No steam in the lab**
Exhaust condenses in a built-in tank.

03 **Sealed every cycle**
Hand-wheel lid, self-inflating seal, electronic lock.

APPLICATIONS
Instruments · Glassware · Liquids · Benchside 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.

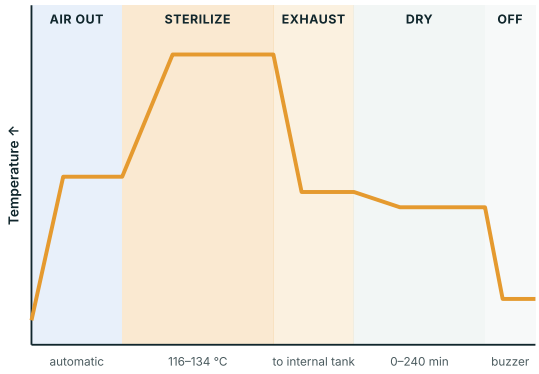
PRODUCT OVERVIEW

Sterilize, exhaust, dry: one press

A vertical steam autoclave that sterilizes and dries in one automatic cycle, so instruments and glassware come out ready to use. Four sizes from 35 to 100 L share the same controls, drying and safety.

Cold air is discharged automatically before the cycle. The load holds at your set temperature, steam is released into the **internal tank** where it condenses back into water, then the drying stage runs for up to 240 minutes. A buzzer sounds and the unit switches itself off.

Cycle. One press runs air removal, the sterilizing hold, exhaust into the internal tank and drying, then switches off.



Schematic · not to scale

HOW IT WORKS

01 Air removal
Cold air is discharged automatically before the cycle.

02 Sterilize
The load holds at the set temperature; timer 4–999 min.

03 Exhaust
Steam is released into the internal tank and condenses.

04 Dry
The drying stage runs for 0–240 minutes.

05 Finish
Buzzer, then automatic shut-off.

SET POINT
116–134 °C
heat average ≤ 0.5 °C

WORKING PRESSURE
0.23 MPa
33 psi

DRYING
0–240 min
standard

EXHAUST
internal
automatic or non-vent

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

Clean, dry and safe by design



Stainless steel chamber



Stainless basket



Hand-wheel lid

01 Clean lab air

- **No steam** vented during air removal or depressurization
- **Built-in steam tank** condenses exhaust
- Manual drainage

02 Cycle

- Standard **drying**, 0–240 min
- **One-button exhaust mode**: automatic or non-vent
- Sealed mode for liquids and slow-exhaust protocols
- Buzzer and auto shut-off

03 Lid & seal

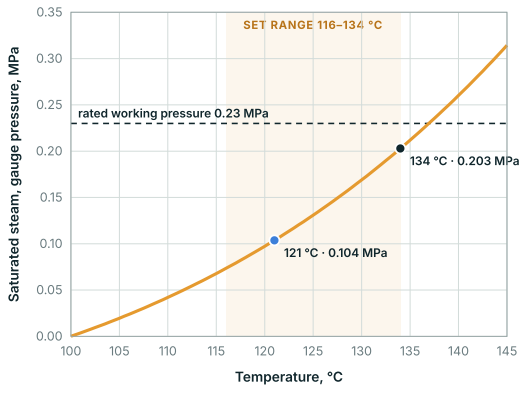
- Hand-wheel lid
- **Self-inflating seal** seals evenly every cycle
- **Lid safety interlock**: no opening under pressure

04 Protection

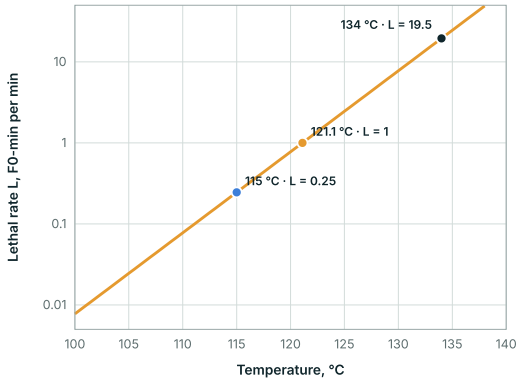
- Over-temperature
- Over-pressure
- Low water level
- Anti-dry heating

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	35X	50X	75X	100X
PERFORMANCE				
Working pressure	33psi (0.23mpa)			
Max temperature	134°C			
Temp. setting range	116~134°C (240.8~273°F)			
Heat average	≤0.5°C			
Sterilization timer range	4~999mins			
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	3kw, 13.6amps(220V), 25amps (120V)	3kw, 13.6amps(220V), 25amps (120V)	4.5kw, 20.5amps(220V), 37.5amps (120V)	4.5kw, 20.5amps(220V), 37.5amps (120V)
Plug type	Three-pronged, NEMA 10-50P (Removable)			
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 35L	MODEL 50L	MODEL 75L	MODEL 100L
SKU 35X	SKU 50X	SKU 75X	SKU 100X
Chamber φ300x450mm	Chamber φ350x515mm	Chamber φ400x585mm	Chamber φ450x615mm
Baskets 1*(φ275x395mm)	Baskets 2*(φ325x235)	Baskets 2*(φ375x265)	Baskets 2*(φ425x275)
Overall size 430×610×1030mm	Overall size 500×675×1100mm	Overall size 540×716×1165mm	Overall size 575×748×1255
Gross / net 90/74kg	Gross / net 125/97kg	Gross / net 145/114kg	Gross / net 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

SATURATED STEAM REFERENCE VALUES

Temperature	Gauge pressure	Lethal rate L (z = 10 °C)	Hold for F0 = 15 min
115 °C	0.068 MPa	0.25	61.1 min
121 °C	0.104 MPa	0.98	15.3 min
126 °C	0.138 MPa	3.09	4.9 min
134 °C	0.203 MPa	19.50	0.8 min

Calculated reference figures: IAPWS-IF97 saturation pressure at sea level and F0 lethality at constant load temperature. Heat-up, steam penetration and validated cycle times depend on the load and are set by the user.

APPLICATIONS & SERVICE

Where it works, and what comes with it

Instruments
Sterilized and dried, ready to use.

Glassware
Dry out of the chamber, no residual moisture.

Liquids
Sealed non-vent mode lets pressure fall slowly.

Benchside labs
No steam in the room, unit shuts itself off.

INSTALLATION

Supply
35 L and 50 L in 110 V or 220 V; 75 L and 100 L in 220 V.

Plug
Three-pronged NEMA 10-50P, removable.

Drainage
Manual drainage of the internal tank.

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