LORDERAN

TECHNICAL DATASHEET
DS-100F-150F-EN · REV. B · NOV 2026

COUNTER-PRESSURE FOOD AUTOCLAVE

Counter-Pressure **Food Autoclave**

Compressed air keeps the pressure outside each pack **at or above** the pressure inside, so pouches, cans and jars do not burst or deform.

MODELS 100L 150L





115–134 °C
STERILIZING RANGE

0–200 kPa
PRESSURE SETTING

60 dB
AIR COMPRESSOR

1–999 min
STERILIZATION TIMER

≤ 0.5 °C
HEAT AVERAGE

0.23 MPa
WORKING PRESSURE

≥ 0.3 MPa
WATER & AIR SUPPLY

100 · 150 L
TWO SIZES

01 **Packs stay intact**
Counter-pressure in heating and cooling.

02 **Compressor included**
Standard air compressor, about 60 dB.

03 **Lab to small batch**
From product development to short runs.

APPLICATIONS
Canned foods · Bottled drinks · Retort pouches · Sauces & jams

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.

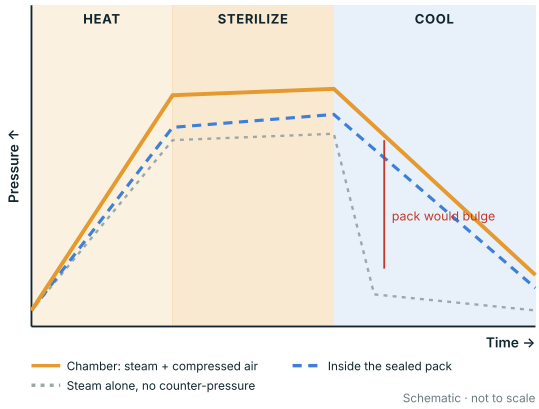
PRODUCT OVERVIEW

Counter-pressure: why your packs stay intact

A counter-pressure food autoclave for retort pouches, cans, jars, trays and bottles. At high temperature the air and water inside a sealed pack expand; without matching pressure outside, the pack can burst or deform.

Filtered compressed air enters with the steam and keeps the chamber pressure **equal to, or slightly above**, the pressure inside each container in both phases of the cycle. When heating ends, water spray and jacket air cooling begin while compressed air keeps the chamber pressure up.

Counter-pressure. Compressed air keeps the chamber at or above the pressure inside each sealed pack, also while it cools.



Schematic · not to scale

HOW IT WORKS

01 Load
Pouches, cans, jars, trays or bottles in two baskets.

02 Heat with counter-pressure
Steam heats to 115–134 °C while compressed air is added.

03 Sterilize
Hold for 1–999 minutes at the set temperature.

04 Cool under pressure
Water spray and jacket air cooling; chamber pressure held up.

05 Release
Automatic exhaust once the packs have cooled.

PRESSURE SETTING
0–200 kPa
counter-pressure

SET POINT
115–134 °C
heat average ≤ 0.5 °C

UTILITIES
≥ 0.3 MPa
water and compressed air

COMPRESSOR
60 dB
standard

WHY PACKS NEED SUPPORT

$$\Delta p = p_{inside} - p_{chamber} \leq 0$$

Air and water vapour in the headspace raise the internal pressure as the pack heats. Keeping Δp at or below zero prevents seams from opening and lids from bulging.

Leave headspace consistent
Similar fill and headspace give similar internal pressure across the load.

Space the packs
Do not stack pouches tightly; heat must reach the slowest point of every pack.

Cool under pressure
Most damage happens in cooling, when the chamber pressure would otherwise fall first.

FEATURES

Built for packaged food



Clamped pressure lid



For canned and jarred foods

01 Counter-pressure

- Filtered **compressed air** enters with the steam
- Pressure setting **0–200 kPa**
- Standard **air compressor**, 60 dB
- Held up through cooling

02 Process

- Sterilizing range **115–134 °C**
- Heat average **≤ 0.5 °C**
- Sterilization timer 1–999 min
- Automatic exhaust; manual drainage

03 Utilities

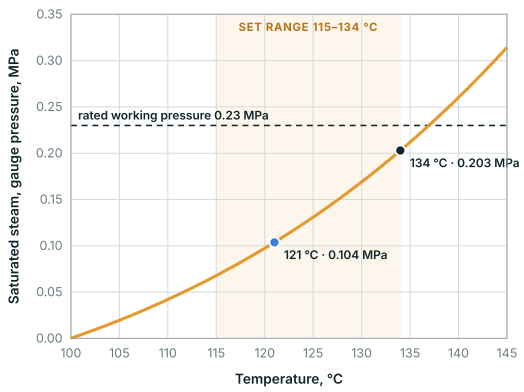
- Water source **≥ 0.3 MPa**
- Compressed air **≥ 0.3 MPa**
- 220 V single phase: 20 A (100 L), 30 A (150 L)
- Removable **NEMA 10-50P** plug

04 Packs

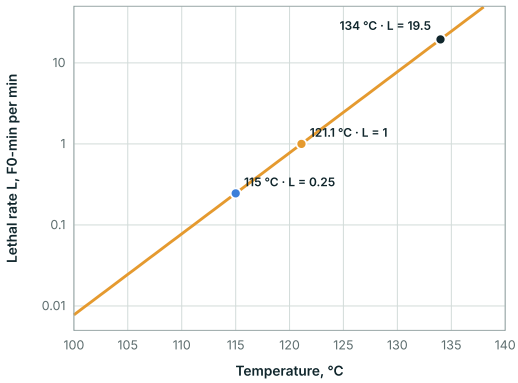
- Retort pouches and trays
- Cans and jars
- Bottled and cartoned drinks
- Semi-solid foods

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	100L	150L
MODEL		
SKU	100F	150F
PERFORMANCE		
Working pressure	33psi (0.23mpa)	
Max temperature	134°C	
Temp. setting range	115~134°C (238~273°F)	
Heat average	≤0.5°C	
Sterilization timer range	1~999mins	
Pressure setting range	0~200kPa	
COUNTER-PRESSURE SUPPLY		
Water source pressure	≥0.3MPa	
Compressed air pressure	≥0.3MPa	
Air compressor	Standard	
Air compressor noise level	60dB	
CHAMBER AND LOADING		
Inner chamber capacity	φ450x620mm	φ500x747mm
Baskets quantity	2*(φ425x275mm)	2*(φ475x365mm)
OPERATION		
Exhaust method	Automatic exhaust	
Drainage	Manual drainage	
ELECTRICAL		
Power	4.5kw, single phase, 220V, 20amps	6.5kw, single phase, 220V, 30amps
Plug type	Three-pronged, NEMA 10-50P (Removable)	
DIMENSIONS AND WEIGHT		
Overall dimensions	650×617×1173mm	716×649×1293mm
G.W / N.W	105/80kg	122/92kg

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

AT A GLANCE

MODEL
100L

SKU
100F

Chamber
φ450x620mm

Baskets
2*(φ425x275mm)

Power
4.5kw, single phase, 220V, 20amps

Overall size
650×617×1173mm

Gross / net
105/80kg

MODEL
150L

SKU
150F

Chamber
φ500x747mm

Baskets
2*(φ475x365mm)

Power
6.5kw, single phase, 220V, 30amps

Overall size
716×649×1293mm

Gross / net
122/92kg

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

Canned foods
Meats, fish, vegetables, soups and similar products.

Bottled & cartoned drinks
Juices, tea, sports drinks, water, coffee and dairy.

Flexible pouches
Ready meals, sauces, convenience foods and pet food.

Semi-solid foods
Sauces, jams, ketchup and high-viscosity supplements.

INSTALLATION

Supply
220 V single phase; 20 A (100 L) or 30 A (150 L).

Utilities
Water source and compressed air, each ≥ 0.3 MPa.

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

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