LORDERAN

Constant Climate Chamber
–40 °C to 150 °C

Programmable temperature & humidity environmental test chamber with a water recirculation system — available from 100 L to 1000 L.



–40 to 150 °C	20 – 98 % RH	100 – 1000 L	3 Years
TEMPERATURE RANGE	HUMIDITY RANGE	FOUR CAPACITIES	WORLDWIDE WARRANTY

Models: JS4010 · JS4025 · JS4050 · JS4100

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PRODUCT OVERVIEW

Precise climate simulation for demanding reliability tests

The LORDERAN Constant Climate Chamber with Water Recirculation System is an environmental simulation chamber for electronics and component testing. It is used to check the heat resistance, cold resistance, drying resistance and wet resistance of products, and is suitable for electronics, appliances, communication equipment, instruments, vehicles, plastics, metals and food.

-40 ~ 150 °C	20 ~ 98 % RH	±0.5 °C
TEMPERATURE RANGE	HUMIDITY RANGE	TEMPERATURE FLUCTUATION

Key features

- **7.0-inch touchscreen controller** with time-segment and real-time programming
- **100 × 100 customizable programs** with multiple periodic cycles
- **Heating 2–3 °C/min**, cooling 0.7–1 °C/min
- **Air-cooled** compressor refrigeration
- **Visual and audible alarms**; USB data output and printing
- **PC remote control** over network cable

Water recirculation system

- Condensate **drips back by gravity into the built-in 20 L tank**
- Up to **7 days per refill** under normal conditions
- Optional **automatic top-up** from a purified-water supply, on request
- **Frost-free sealing** design
- Delayed circulation-fan stop on fault shutdown (0–50 min, default 5 min)

Construction

- Inner chamber: **SUS #304 stainless steel, 2 mm**, fully welded
- Outer shell: **SUS #304 stainless steel, 1.5 mm**
- Insulation: **polyurethane foam and high-temperature rock wool** — 150 mm left/right, 100 mm top/bottom
- Test hole: **100 mm** cable port with silicone plug, left side
- Window: **two-layer tempered glass** with built-in heating wire; double silicone rubber sealing strip

Core components

- Heating: low-watt-density **ceramic-core resistance heaters** in a plenum
- Compressors: **Tecumseh, Bitzer or GEA BOCK**
- Solenoid valves: **Danfoss and Saginomiya**
- Electrical: **Schneider, Carlo Gavazzi, Mitsubishi, Rainbow**
- Circuit diagrams supplied

Typical applications

Electronics · Appliances · Communication equipment · Instruments · Vehicles · Plastics · Metals · Food

OPERATING MODES & WORKING ZONE

Three modes, one controlled envelope

1 Single Temperature Mode

Holds one constant target temperature until the test is stopped.

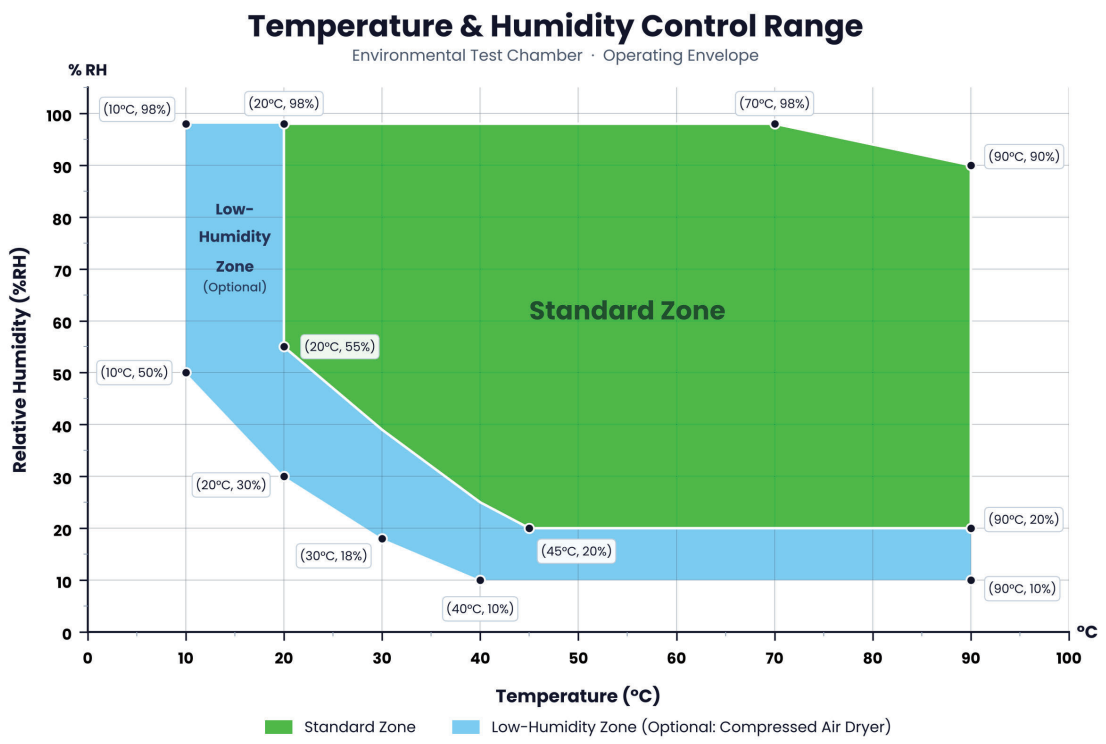
2 Fixed Value Mode

Holds a constant temperature and humidity pair (for example 85 °C / 85 % RH), mainly used for long-term stability tests.

3 Programmed / Cyclic Mode

Multi-step profiles, each with a defined temperature, humidity and hold time, including heating, cooling, humidifying and dehumidifying.

Humidity working zone



Working-zone notes

- Humidity is limited by dew point; **humidity control from 10 to 20 °C** needs the optional low-humidity function (compressed-air dryer).
- **98 % RH** from 20 to 70 °C, easing to **90 % RH at 90 °C**; no humidity limits are published above 90 °C.
- Standard lower limit **20 % RH from 45 to 90 °C**, rising toward 55 % RH at 20 °C. Down to **10 % RH from 40 °C** with the optional low-humidity function.
- For conditions outside the guaranteed range, contact technical support.

SPECIFICATIONS

Technical specifications

Parameter	100 L JS4010	250 L JS4025	500 L JS4050	1000 L JS4100
MODEL & SIZE				
SKU	JS4010	JS4025	JS4050	JS4100
Inner size (W × D × H)	**450 × 450 × 500 mm**	**600 × 600 × 700 mm**	**800 × 700 × 900 mm**	**1000 × 1000 × 1000 mm**
External size (W × D × H)	**780 × 1130 × 1580 mm**	**960 × 1500 × 1760 mm**	**1130 × 1550 × 1950 mm**	**1320 × 1890 × 2050 mm**
Weight	**250 kg**	**320 kg**	**500 kg**	**680 kg**
Shelves	2	2	3	3
PERFORMANCE				
Temperature range	-40 ~ 150 °C	-40 ~ 150 °C	-40 ~ 150 °C	-40 ~ 150 °C
Humidity range	20 ~ 98 % RH	20 ~ 98 % RH	20 ~ 98 % RH	20 ~ 98 % RH
Heating rate	2 ~ 3 °C/min	2 ~ 3 °C/min	2 ~ 3 °C/min	2 ~ 3 °C/min
Cooling rate	0.7 ~ 1 °C/min	0.7 ~ 1 °C/min	0.7 ~ 1 °C/min	0.7 ~ 1 °C/min
Heating-up time	20 °C to +150 °C ≤ 60 min	20 °C to +150 °C ≤ 60 min	20 °C to +150 °C ≤ 60 min	20 °C to +150 °C ≤ 60 min
Cooling-down time	+20 °C to -40 °C ≤ 70 min	+20 °C to -40 °C ≤ 70 min	+20 °C to -40 °C ≤ 70 min	+20 °C to -40 °C ≤ 70 min
Temperature fluctuation	±0.5 °C	±0.5 °C	±0.5 °C	±0.5 °C
Temperature deviation	≤ ±2 °C	≤ ±2 °C	≤ ±2 °C	≤ ±2 °C
Humidity fluctuation	±2 ~ 3 % RH	±2 ~ 3 % RH	±2 ~ 3 % RH	±2 ~ 3 % RH
Humidity deviation	±2.0 % RH (>75 %) ±3.0 % RH (≤75 %)	±2.0 % RH (>75 %) ±3.0 % RH (≤75 %)	±2.0 % RH (>75 %) ±3.0 % RH (≤75 %)	±2.0 % RH (>75 %) ±3.0 % RH (≤75 %)
SYSTEM				
Refrigeration method	Air cooled	Air cooled	Air cooled	Air cooled
Refrigerant	R449A	R449A	R449A	R449A
Display	7.0-inch touch screen	7.0-inch touch screen	7.0-inch touch screen	7.0-inch touch screen
Noise level	60 ~ 65 dB	60 ~ 65 dB	65 ~ 70 dB	65 ~ 70 dB

Dimensions are in millimetres. External height includes the casters.

SPECIFICATIONS

Power, current & physical data

Parameter	100 L JS4010	250 L JS4025	500 L JS4050	1000 L JS4100
Power supply	208–240 V, 1-phase or 3-phase*	208–240 V, 1-phase or 3-phase*	208–480 V, 3-phase*	208–480 V, 3-phase*
Power	**6 kW**	**7 kW**	**10 kW**	**13 kW**
Current	**27 A (220 V)**	**32 A (220 V)**	**27 A (220 V)** **12 A (480 V)**	**34 A (220 V)** **16 A (480 V)**

All supplies 50/60 Hz. *3-phase: 208, 220–240, 400, 415 or 480 V. Select your site voltage when ordering.

Dimensions & weight at a glance

Model	Inner size W × D × H	External size W × D × H	Weight
100 L · JS4010	450 × 450 × 500 mm	780 × 1130 × 1580 mm	**250 kg**
250 L · JS4025	600 × 600 × 700 mm	960 × 1500 × 1760 mm	**320 kg**
500 L · JS4050	800 × 700 × 900 mm	1130 × 1550 × 1950 mm	**500 kg**
1000 L · JS4100	1000 × 1000 × 1000 mm	1320 × 1890 × 2050 mm	**680 kg**

Safety protection

- Test-sample over-temperature protection
- Circulation-motor overload protection
- Compressor overload and overpressure protection
- Heater / humidifier dry-burn protection
- Water-shortage protection
- Phase-loss and phase-reversal protection
- Electrical leakage protection
- Independent switch for lamp / wire anti-condensation circuits
- Three-colour alarm light
- Fault shutdown with delayed fan stop
- Flame-retardant non-metallic materials

Standards referenced

- IEC 60068-2-1 (low temperature) and 60068-2-2 (high temperature)
- GB/T 2423 series (2.1, 2.2, 2.3, 2.4, 2.22), GB/T 10586-89
- GB/T 2423.1 and 2423.2; GB 10589-89, GB 10592-89, GB 11158
- GJB 150.3 (high temp.), 150.4 (low temp.), 150.9 (damp heat)

Warranty

Three years worldwide warranty.

Request a quotation

Contact LORDERAN for pricing, configuration and shipping details.

www.lorderan.com