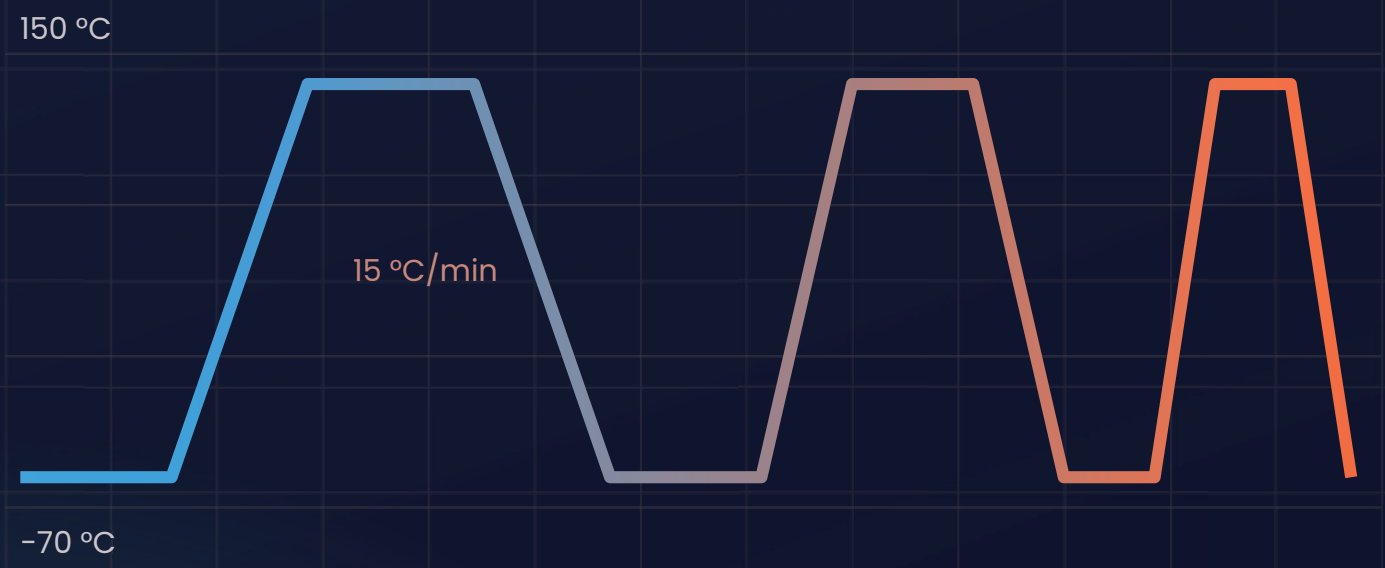
LORDERAN

ESS · HALT · HASS · BURN-IN

Rapid Temperature Change Test Chamber

5 / 10 / 15 °C per minute

-70 °C to 150 °C thermal cycling with water recirculation, built for semiconductor and automotive reliability testing.



-70 to 150 °C	20 – 98 % RH	100 – 1000 L	3 Years
TEMPERATURE RANGE	HUMIDITY RANGE	FOUR CAPACITIES	WARRANTY

Models: KB6010 · KB6025 · KB6050 · KB6100

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PRODUCT OVERVIEW

Beyond the limits of ordinary testing

The LORDERAN Rapid Temperature Change Test Chamber performs rapid temperature and humidity change testing — also known as Environmental Stress Screening (ESS), Accelerated Stress Testing (AST), HALT, HASS or burn-in. It subjects whole products, parts and materials to extreme temperature swings to expose weaknesses early, and accelerates product reliability.

Choose your ramp rate

5 °C/min
HEATING / COOLING RATE

10 °C/min
HEATING / COOLING RATE

15 °C/min
HEATING / COOLING RATE

Rates are non-linear averages measured with no load. Rate options are selected per stress-screening requirement.

Control & data

- **7.0-inch touchscreen** with time-segment and real-time programming
- **100 × 100 customizable programs**, multiple periodic cycles
- Visual and audible alarms
- **Remote control** by PC and phone; remote assistance
- Real-time test-curve analysis

Tests supported

- Fast temperature change (ESS)
- Condensation test
- High-temperature / humidity test
- Temperature-humidity cycling test
- Continuous testing for weeks on end

Typical applications

Electronic equipment stress screening · **Semiconductor testing** · **Automotive testing** · **Condensation tests** · **Temperature-humidity & cycling tests**

ENGINEERING

Crafted with meticulous attention to detail

Blazing-fast temperature cycling

Rapid, precise ramping with 5, 10 or 15 °C/min options. Compression cooling and an integrated chamber design support long-duration continuous testing.

Water recirculation system

Condensate and unevaporated water from the chamber floor and evaporator coil are collected and pumped back to the humidifier reservoir. Water utilisation efficiency is stated to rise by over 80 %, enabling weeks or months without manual refilling, lower DI / RO water consumption and no external drain hoses — ideal for unattended high-humidity tests such as 85 °C / 85 % RH.

Ceramic heating system

Ceramic heating elements with PID control give fast ramping, with temperature distributed uniformly by the airflow design.

Refrigeration system

High-efficiency compressor and refrigerant system with PID control, cooling at up to 15 °C/min. Mechanical binary refrigeration, air cooled or water cooled.

Electrical system

Neatly arranged cabinet with a US-standard circuit layout, full circuit diagrams and coded wiring. Schneider (France), Carlo Gavazzi (Switzerland), Mitsubishi (Japan) and Rainbow (Korea) components; Danfoss (Denmark) and Saginomiya (Japan) solenoid valves.

Humidity & airflow

Special stainless-steel humidifier with reliable, reproducible data and no condensation inside the chamber. SUS304 mirror stainless-steel interior; ultra-fine glass wool and polyurethane insulation; broadband forced air circulation, top outlet and bottom inlet.

Air-cooled vs water-cooled

System	Best suited to
AIR **Air-cooled**	Smaller units at 5 °C/min — simpler installation, no water supply required.
WATER **Water-cooled**	Higher ramp rates or larger volumes. Requires a cooling-water supply.

The exact cooling method for each model and rate is shown in the specification table.

SPECIFICATIONS

Technical specifications

Parameter	100 L KB6010	250 L KB6025	500 L KB6050	1000 L KB6100
MODEL & SIZE				
SKU	KB6010	KB6025	KB6050	KB6100
Interior size (W × D × H)	**450 × 450 × 500 mm**	**600 × 600 × 700 mm**	**800 × 700 × 900 mm**	**1000 × 1000 × 1000 mm**
Exterior size 5 °C/min water-cooled	**780 × 1300 × 1580 mm**	**960 × 1500 × 1760 mm**	**1130 × 1550 × 1950 mm**	**1320 × 1890 × 2050 mm**
Exterior size 5 °C/min air, 10/15 °C/min	**780 × 1600 × 1700 mm**	**960 × 2420 × 1760 mm**	**1130 × 2500 × 1980 mm**	**1320 × 2800 × 2080 mm**
Shelves	2	2	3	3
POWER BY RAMP RATE (KW)				
Power at 5 °C/min	AIR **8 kW**	AIR **10 kW**	AIR **13 kW**	WATER **28.5 kW**
Power at 10 °C/min	AIR **11 kW**	AIR **23 kW**	WATER **29 kW**	WATER **47 kW**
Power at 15 °C/min	AIR **13.5 kW**	WATER **25 kW**	WATER **44 kW**	WATER **65.5 kW**
Power supply	380 / 480 V, 50 / 60 Hz	380 / 480 V, 50 / 60 Hz	380 / 480 V, 50 / 60 Hz	380 / 480 V, 50 / 60 Hz
PERFORMANCE				
Temperature range	-70 ~ 150 °C	-70 ~ 150 °C	-70 ~ 150 °C	-70 ~ 150 °C
Humidity range	20 ~ 98 % RH	20 ~ 98 % RH	20 ~ 98 % RH	20 ~ 98 % RH
Temperature adjustment method	BTHC + PID intelligent adjustment	PID intelligent adjustment	PID intelligent adjustment	PID intelligent adjustment
Temperature fluctuation	±0.5 °C	±0.5 °C	±0.5 °C	±0.5 °C
Humidity fluctuation	±2 ~ 3 % RH	±2 ~ 3 % RH	±2 ~ 3 % RH	±2 ~ 3 % RH
Temperature deviation	±1.0 °C	±1.0 °C	±1.0 °C	±1.0 °C
Humidity deviation	±2.0 % RH (>75 % RH) ±3.0 % RH (≤75 % RH)	±2.0 % RH (>75 % RH) ±3.0 % RH (≤75 % RH)	±2.0 % RH (>75 % RH) ±3.0 % RH (≤75 % RH)	±2.0 % RH (>75 % RH) ±3.0 % RH (≤75 % RH)
Heating-up time	Non-linear average 5 / 10 / 15 °C/min, no load	Non-linear average 5 / 10 / 15 °C/min, no load	Non-linear average 5 / 10 / 15 °C/min, no load	Non-linear average 5 / 10 / 15 °C/min, no load
Cooling-down time	Non-linear average 5 / 10 / 15 °C/min, no load	Non-linear average 5 / 10 / 15 °C/min, no load	Non-linear average 5 / 10 / 15 °C/min, no load	Non-linear average 5 / 10 / 15 °C/min, no load

Dimensions are W × D × H in millimetres. Power is the rated power for each ramp-rate option; the cooling method for that option is marked AIR or WATER.

SPECIFICATIONS

Specifications (continued)

Parameter	100 L KB6010	250 L KB6025	500 L KB6050	1000 L KB6100
SYSTEM & MATERIALS				
Refrigeration method	Air cooled / Water cooled	Air cooled / Water cooled	Air cooled / Water cooled	Air cooled / Water cooled
Refrigeration principle	Mechanical binary refrigeration	Mechanical binary refrigeration	Mechanical binary refrigeration	Mechanical binary refrigeration
Display	7.0-inch touch screen	7.0-inch touch screen	7.0-inch touch screen	7.0-inch touch screen
Inner body material	SUS304 mirror stainless steel plate	SUS304 mirror stainless steel plate	SUS304 mirror stainless steel plate	SUS304 mirror stainless steel plate
Insulation material	Special ultra-fine glass wool + polyurethane foam	Special ultra-fine glass wool + polyurethane foam	Special ultra-fine glass wool + polyurethane foam	Special ultra-fine glass wool + polyurethane foam
Airflow mode	Broadband forced air circulation (top outlet, bottom inlet)	Broadband forced air circulation (top outlet, bottom inlet)	Broadband forced air circulation (top outlet, bottom inlet)	Broadband forced air circulation (top outlet, bottom inlet)
Humidifier device	Special stainless-steel humidifier	Special stainless-steel humidifier	Special stainless-steel humidifier	Special stainless-steel humidifier

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 reverse-phase protection
- Anti-condensation protection for lights and wiring; independent no-fuse breaker in the secondary circuit
- Electrical leakage protection
- Three-colour alarm light
- Test-sample terminal and equipment interlock control
- Fault shutdown with delayed fan stop (0–50 min, default 5 min)
- Flame-retardant non-metallic materials

Reference standards

- IEC 60068-2-1 (1990, 2007 / GB/T 2423.1-2008) — cold
- IEC 60068-2-2 (1974, 2007 / GB/T 2423.2-2008) — dry heat
- IEC 60068-2-14 (2009) — change of temperature
- GB/T 2423.22-2002 — temperature variation
- GB/T 2423.4-2008 — cyclic damp heat
- GB/T 2423.3-2006; GB/T 10586-89
- GB 10592-89, GB 10589-89, GB 11158
- GJB 150.3, 150.4, 150.9
- MIL-STD-2164, MIL-344A-4-16, MIL-2134A-19, NABMAT-9492, GJB-1032-90, GJB/Z34-5.1.6, IPC-9701

Warranty & service

- **Three-year** warranty
- Refund or replacement for major defects
- 30-day money-back guarantee
- Free shipping; DDP terms available

Request a quotation

Pricing, cooling option and shipping details.

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