# Freezing and Thawing Chamber

LT-G0270 / LT-G0271 / LT-G0272 / LT-G0273 | PLC-controlled cycling

250–1000 litres • 12 programme steps • Up to 99 automatic cycles



## 250–1000 L

**FOUR CAPACITY OPTIONS**

## 12 steps

**TEMPERATURE AND HOLDING PROGRAMME**

EN 1338 • EN 1339 • EN 1340 • EN 1367-6 • EN 12371 • EN 13748-2 • CEN/TS 12390-9

# Photograph and Chamber Components

Control panel, specimen racks, door and lower ventilation section

The chamber exposes construction materials to programmed freeze-thaw cycles. The PLC allows temperature steps, holding times and cycle numbers to be set; the display supports temperature and cycle monitoring.

### CONTROL PANEL

Used for PLC programme settings and temperature monitoring. Define the test programme according to the method.

### SPECIMEN RACKS

Stainless steel racks support specimens. Match positioning to the method and allow space for air circulation.



### DOOR AND CHAMBER

The insulated body encloses the working volume. Check specimen and rack positioning before closing the door.

### VENTILATION

The lower ventilation section forms part of the operating arrangement. Keep air inlets and outlets clear during installation.



**Control panel and upper chamber detail**

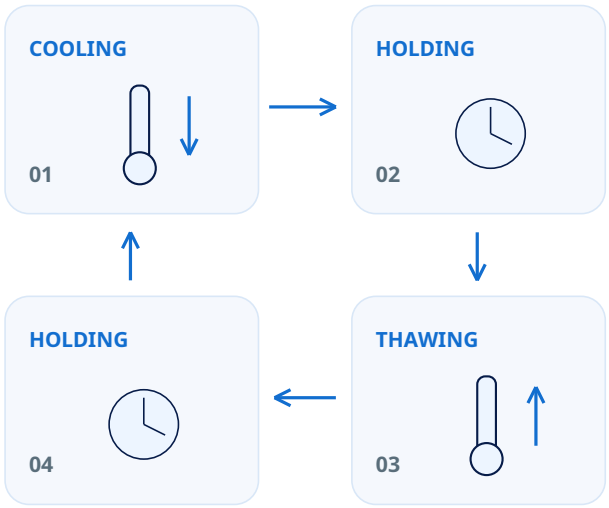


**Stainless steel interior and specimen rack detail**

# From Programme to Repeated Thermal Cycles

Select the method • Programme steps • Monitor cycles

**COOLING • HOLDING • THAWING • REPEAT**




**REPEAT THE PROGRAMMED CYCLE**

**PROGRAMME: TEMPERATURE + HOLDING + CYCLES**

**RESULT: RESISTANCE EVALUATION BY THE METHOD**

**OPERATING PRINCIPLE • REPRESENTATIVE STEPS • NOT A FIXED TEST PROFILE**

### Select Specimen and Method

Prepare specimens as prescribed. Match air, water or solution arrangements to the method and chamber configuration.

### Define the Cycle Programme

Enter temperatures and holding times. Match the programme of up to 12 steps and 99 cycles to the test requirements.

### Monitor and Evaluate

Monitor temperature, cycle count and alarms. Perform specimen checks and resistance evaluation according to the method.

The chamber controls specimen temperature conditions; resistance results come from specimen evaluation. At the specified stage, record mass loss, surface damage or other measurements required by the method together with the test details.

### Specimen Medium and Positioning

Match preparation, container or rack arrangement and temperature monitoring to the method. Air cycling and water applications may require different setups and programmes. Water applications depend on the suitable configuration.

EN 1367-6 evaluates aggregate freeze-thaw resistance in the presence of 1% NaCl solution. Do not define exposure solely by chamber air temperature; verify the specimen conditions required by the method.

### Monitoring and Test Records

Monitor temperature and cycle count on the display during operation. Sensor, heating, cooling and motor faults are reported on screen; an audible alarm informs the operator.

Record specimen identity, programme steps, holding times and cycle numbers. For concrete scaling evaluation under CEN/TS 12390-9, apply the relevant preparation, exposure and result calculation requirements.

LT-G0270 / LT-G0271 / LT-G0272 / LT-G0273

# Capacities and Technical Specifications

250, 500, 750 and 1000 litres • Model-specific power supply

| Model Code | Capacity | Power Supply |
|---|---|---|
| **LT-G0270** | 250 L | 220 V, 50–60 Hz, single phase |
| **LT-G0271** | 500 L | 220 V, 50–60 Hz, single phase |
| **LT-G0272** | 750 L | 380 V, 50–60 Hz, three phase |
| **LT-G0273** | 1000 L | 380 V, 50–60 Hz, three phase |

| Common Specification | Technical Information |
|---|---|
| **Moisture-Free Temperature Range** | -20 °C to +25 °C |
| **Controller** | Step-controlled PLC |
| **Programme Steps** | 12 temperature steps and 12 holding periods |
| **Cycle Programme** | Up to 99 cycles |
| **Monitoring** | Temperature and cycle count; fault messages |
| **Interior and Rack** | Stainless steel |
| **Exterior and Insulation** | Powder-coated steel; high-density polyurethane |
| **Alarm System** | On-screen fault messages and audible alarm |

## Match the Programme and Configuration to the Test

Verify model capacity, power supply and specimen medium. Match temperature, holding and cycle conditions to the selected method; retain the programme in the test record.

## From Specimen to Freeze-Thaw Evaluation

**01**
**Prepare**
Prepare specimens and medium as prescribed.

**02**
**Programme**
Enter temperature, holding and cycle settings.

**03**
**Monitor**
Monitor temperature, cycles and alarms.

**04**
**Evaluate**
Report specimen damage by the test method.

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