

CHARPY IMPACT TEST SPECIMEN LOW TEMPERATURE CHAMBER - CHARPY- LTC40



Charpy Impact Test Specimen Low Temperature Chamber - The CHARPY-LTC40 is a state-of-the-art compressor refrigeration system developed to meet low-temperature testing requirements in line with ASTM E23-2018, ISO 148, and European EN10045 standards for the Charpy pendulum impact test of metallic materials.

This equipment incorporates compressor refrigeration technology, heat balance principles, and a circulating stirring method to ensure uniform, automatic cooling and consistent temperature control for test specimens.

Equipped with microcomputer technology, the CHARPY-LTC40 provides precise control with digital temperature display, automatic temperature regulation, timing, and alarm functions. With rapid cooling, a large chamber, and high temperature accuracy, it is an ideal solution for low-temperature impact testing, sample cooling, and preservation. Its versatility extends to other low-temperature testing and detection applications, offering reliable, safe, and easy-to-use performance across various testing needs.

Charpy Impact Test Specimen Low Temperature Chamber

APPLICATIONS

- **ASTM E23-2018:** Metallic materials — Notched specimens impact test method
- **ISO 148-1:2016:** Metallic materials — Charpy pendulum impact test — Part 1: Test method
- **DIN EN 10045-1:1991:** Charpy impact test on metallic materials; Part 1 — Test method
- **JB 5376-1991:** Technical requirements for low temperature constant temperature tank

FEATURES

Performance Characters

- **Ergonomic Structure Design:** The machine is designed with an "L" shape, featuring high and low sections for functionality. The elevated section houses the control panel, enabling easy observation, temperature setting, and operation, while the lower section contains the freezing tank, facilitating convenient sample placement and clamping. The height aligns with the impact testing machine, allowing for quick, precise positioning of samples.
- **Premium Refrigeration Components:** Equipped with an fully enclosed compressor and high-quality core components, this system ensures stable, long-term operation. The Condensing fan operates with low noise and extended life, while the refrigerant is environmentally friendly.
- **Accurate Temperature Control:** A high-precision temperature control instrument with automatic PID adjustment maintains constant temperature. The High-performance platinum resistance sensor and stainless steel probe ensure precision. The machine also features a fully enclosed, low-noise, long-life magnetic stirring motor, designed to operate in low-temperature and high-humidity environments. Forced agitation in the tank and a high-quality stainless steel heater provide stable, uniform temperature distribution.
- **High Sample Capacity:** Three sample baskets allow freezing of up to 60 standard-sized samples (10 x 10 x 55 mm) at once, with capacity for more smaller samples, including 7.5 x 10 x 55 mm, 5 x 10 x 55 mm, and 2.5 x 10 x 55 mm dimensions.
- **Easy Operation and Mobility:** Universal casters make it easy to move the unit, and the sample baskets simplify sample handling. A liquid discharge port allows efficient recycling of the cooling medium and cleaning. Additional features include temperature alarms and insulation timing, enabling operators to schedule tasks effectively.
- **Comprehensive Protection Features:** The system includes overload, leakage, and grounding protections, along with compressor overload and medium over-temperature (anti-drying) safeguards, ensuring safe and reliable operation.

Configuration

- **Compressor:** Fully enclosed compressor with original packaging and serial number — one unit
- **Condensing Device:** High-efficiency finned condenser paired with an condensing fan — one unit
- **Dry Filter:** One piece for effective moisture control

- **Heat Insulation:** Rigid polyurethane foam insulation for optimal thermal retention
- **Shell:** Made from cold-rolled steel with an electrostatic spray finish for durability
- **Stirring Device:** One set to ensure consistent medium circulation
- **Temperature Control Device:** One set for precise temperature management
- **Stainless Steel Sample Basket:** Three pieces, providing durability and ample capacity for samples

TECHNICAL SPECIFICATIONS

Temperature control range	+30℃ -40℃
Temperature control accuracy	≤±0.5℃
Temperature uniformity	≤1℃
Cooling speed (when room temperature is 25℃)	Room temperature℃ 0℃: 1.5℃/min 0℃℃ -20℃: 1.2℃/min -20℃℃ -40℃: 1.0℃/min
Heating speed	3℃/min
Size of cooling tank	275×160×120mm (Length x Width x Height), 5L
Effective size of cooling tank	150×140×110mm (Length x Width x Height)
Specimen capacity	60 pieces (impact specimen size:10×10×55mm)
Digital timer	1minute ~ 9999 minutes, resolution: 1minute
Cooling medium	Absolute ethyl alcohol
Dimensions	905×505×920mm (Length x Width x Height)
Voltage	AC220V℃ 50HZ (110V is also available)

Power	1.9kW
Operating environment temperature	5°C□ 30°C

Dimensions

Charpy Impact Test Specimen Low Temperature Chamber - CHARPY-LTC40



Torontech Inc.

251 Consumers Road, Suite 1200
Toronto, Ontario, M2J 4R3, Canada 

Phone: +1 416 368 2721 | Fax: +1 416 981 7652
Email: info@torontech.com

Torontech, LLC

601 Brickell Key Drive, Suite 700
Miami, FL 33131, USA 

Toll-Free: 1-866-383-7919
Email: sales@torontech.com

Torontech ME FZE

Meydan Grandstand, 6th Floor,
Meydan Road, Nad Al Sheba,
Dubai-261440, UAE 

Phone: +971 488 19252
Email: me@torontech.com

