

CHARPY IMPACT TEST SPECIMEN LOW TEMPERATURE CHAMBER - CHARPY- LTC60



Charpy Impact Test Specimen Low Temperature Chamber - CHARPY-LTC60 is a newly developed compressor refrigeration system designed to meet the requirements for low-temperature testing as outlined in ASTM E23-2018, ISO 148, European EN10045 standards.

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

The CHARPY-LTC60 is controlled by microcomputer technology, offering digital temperature display, automatic temperature regulation, timing, and alarm functions. It features fast cooling, a large chamber, and high temperature control accuracy, making it the ideal equipment for low-temperature impact testing, sample cooling, and heat preservation. Its versatility also allows it to be used for other low-temperature detection and testing applications. With easy operation and reliable performance, it fully meets the temperature control requirements of international standards.

Charpy Impact Test Specimen Low Temperature Chamber

APPLICATIONS

Applicable Standards

- **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 features a practical "L" shape, with a high section for control functions (temperature setting and operation) and a lower freezing tank that facilitates easy sample placement and clamping. The height is designed to align with the impact testing machine, enabling quick and precise sample positioning.
- **High-End Refrigeration Components:** The system is equipped with an fully enclosed compressor and premium core components, ensuring long-term stable operation and extended service life. Condensing fan operates quietly with a long lifespan, and the environmentally friendly refrigerant adds to the system's green credentials.
- **Precise Temperature Control:** The equipment uses a high-precision temperature control system with automatic PID adjustment, maintaining constant temperature. It features a platinum resistance sensor, a stainless steel probe for stable performance, and low-noise, long-life magnetic induction stirring motor. This motor operates efficiently in low-temperature, high-humidity environments, ensuring the tank's medium is effectively agitated with good fluidity, while the high-quality stainless steel heater minimizes temperature fluctuations and ensures uniformity.
- **High Sample Capacity:** The system comes with three sample baskets, capable of freezing 60 standard-sized samples (10 x 10 x 55 mm) at once. Smaller sample sizes, such as 7.5 x 10 x 55 mm, 5 x 10 x 55 mm, and 2.5 x 10 x 55 mm, can also be accommodated in greater numbers.
- **Ease of Use and Mobility:** Universal casters at the bottom of the equipment allow for easy movement. The sample basket design simplifies sample handling, while a liquid discharge port facilitates cooling medium recycling and cleaning. Additional features include temperature alarms and insulation timing, which help operators schedule tasks efficiently.
- **Comprehensive Protection:** The equipment includes overload protection, leakage protection, grounding protection, compressor overload protection, and medium over-temperature (anti-drying) protection, ensuring safe and reliable operation at all times.

Configuration

- **Compressor:** Fully enclosed compressors with original packaging and serial numbers — two sets
- **Condensing Device:** High-efficiency finned condenser, condensing fan with original packaging — two sets
- **Heat Exchanger:** Stainless steel plate-type heat exchanger — one piece
- **Heat Insulation:** Rigid polyurethane foam insulation for effective thermal retention
- **Shell:** Cold-rolled steel, folded, with an electrostatic spray coating for durability
- **Stirring Device:** One set for consistent medium circulation
- **Temperature Control Device:** One set for precise temperature regulation
- **Stainless Steel Sample Basket:** Three pieces for holding samples securely

TECHNICAL SPECIFICATIONS

Temperature control range	+30℃ -60℃
Temperature control accuracy	≤±0.5℃
Temperature uniformity	≤1℃
Cooling speed (when room temperature is 25℃)	Room temperature - 0℃: 1.8℃/min 0℃ - -20℃: 1.5℃/min -20℃ - -40℃: 1.3℃/min -40℃ - -60℃: 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	2.2kW
Operating environment temperature	5°C□ 30°C

Dimensions

Charpy Impact Test Specimen Low Temperature Chamber - CHARPY-LTC60



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

