

SEMI-AUTOMATIC CHARPY IMPACT TESTING

QE-CPI300

150 J / 300 J Pendulum Impact Tester

A robust dual-energy Charpy system for determining the absorbed impact energy of notched metallic specimens in production, research and quality-control laboratories.

150 / 300 J	5.2 m/s	150 deg	40 mm
Energy ranges	Impact velocity	Initial angle	Support span



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Efficient Charpy Testing for Metallic Materials

The QE-CPI300 uses interchangeable 150 J and 300 J pendulums to measure the energy absorbed by a notched metallic specimen during fracture. Electric pendulum raising, controlled release and automatic return to the ready position reduce manual handling between tests, while the mechanical dial provides direct energy indication.

Dual-Energy Testing

Select the 150 J or 300 J pendulum to match the expected absorbed energy and material toughness.

Semi-Automatic Operation

Motorized raising and controlled release improve workflow and support repetitive production testing.

Standard Charpy Geometry

A 40 mm support span, precision anvils and interchangeable strikers support recognized metallic impact methods.

Laboratory-Grade Construction

A heavy rigid frame, guarded swing area and stable base support safe, repeatable day-to-day operation.

Semi-Automatic Test Sequence

Stage	Operation
1. Configure	Install the required pendulum, striker and anvil geometry for the governing method.
2. Verify	Check zero, friction loss, dial position and machine condition before specimen testing.
3. Position	Center the conditioned notched specimen on the 40 mm supports with the notch correctly oriented.
4. Release	Use the remote control to release the pendulum from the 150 degree initial position.
5. Read	Record absorbed energy from the applicable dial range after the specimen fractures.
6. Reset	The powered lifting system returns the pendulum to the ready position for the next specimen.

Typical Materials and Uses

- ✓ Carbon and low-alloy steels
- ✓ Structural and pressure-vessel steels
- ✓ Forgings and cast metallic products
- ✓ Heat-treatment process validation
- ✓ Stainless and tool steels
- ✓ Pipeline materials
- ✓ Weld metal, HAZ and base metal
- ✓ Incoming and production quality control

Technical Specifications

Characteristic	QE-CPI300 Standard Configuration
Test method	Charpy pendulum impact test for metallic materials
Nominal energy ranges	150 J and 300 J
Dial scale division	1 J on 150 J scale; 2 J on 300 J scale
Impact velocity	5.2 m/s
Initial pendulum angle	150 degrees
Angle indication accuracy	+/-0.1 degree
Pendulum axis to impact point	750 mm
Specimen support span	40 mm
Support anvil radius	R1.0 to R1.5 mm
Standard striker radius	R2.0 to R2.5 mm
Optional ASTM striker radius	R8 mm
Striker included angle	30 degrees
Striker blade thickness	16 mm
Standard specimen	55 x 10 x 10 mm, notched
Supported sub-size thicknesses	7.5 mm and 5 mm with matching centering fixtures
Pendulum operation	Electric raising, controlled release and powered reset
Energy display	Mechanical dual-range pointer dial
Approximate dimensions	2,124 x 600 x 1,340 mm
Approximate net weight	550 kg
QMN electrical configuration	110 V, 60 Hz
Warranty	12 months

The striker, anvils, specimen geometry, conditioning temperature and machine verification must match the governing edition of the selected test standard. Electrical current and dedicated-circuit requirements are confirmed with the final configuration.

Operating and Safety Features

- ✓ Motorized pendulum raising
- ✓ Controlled electrical release
- ✓ Powered return for the next test
- ✓ Remote operating control
- ✓ Dual-range mechanical energy dial
- ✓ Pendulum safety locking provision
- ✓ Guarded pendulum swing area
- ✓ Rigid floor-mounted frame

Standards, Supply and Support

Applicable Standards

Standard	Application
ASTM E23-25	Notched-bar impact testing of metallic materials using the required Charpy configuration
ISO 148-1:2016	Charpy V-notch and U-notch pendulum impact test method for metallic materials
ISO 148-2	Verification of Charpy pendulum impact testing machines
BS EN ISO 148-1	European and UK adoption of the Charpy pendulum impact test method

What's Included

- ✓ QE-CPI300 main impact tester
- ✓ 300 J pendulum
- ✓ Motorized pendulum lifting system
- ✓ 40 mm specimen support assembly
- ✓ Standard R2 striker
- ✓ Maintenance tool kit
- ✓ Operating manual
- ✓ 12-month warranty
- ✓ 150 J pendulum
- ✓ Dual-range mechanical energy dial
- ✓ Remote operating control
- ✓ V-notch specimen centering fixture
- ✓ Safety guard assembly
- ✓ Anchor and levelling hardware
- ✓ QMN certificate of conformity

Optional Accessories and Services

- ✓ R8 striker for ASTM configurations
- ✓ Sub-size specimen centering fixtures
- ✓ Insulated specimen transfer tongs
- ✓ Verification reference specimens
- ✓ Full perimeter safety enclosure
- ✓ Installation and floor anchoring
- ✓ Additional striker and anvil sets
- ✓ Low-temperature conditioning bath
- ✓ Charpy notch broaching machine
- ✓ Digital data-acquisition upgrade
- ✓ Calibration and verification service
- ✓ On-site operator training

**NEED HELP SELECTING THE RIGHT
CHARPY CONFIGURATION?**

Phone: 647-948-7714
Fax: 647-948-6667
Email: info@qmnequipment.com

Configuration notice: confirm the applicable standard edition, striker radius, specimen size, expected absorbed-energy range, conditioning temperature, verification requirements and installation details before ordering.