

METAL WIRE TORSION TESTING MACHINE TORONWTT™ -3



Metal Wire Torsion Testing Machine ToronWTT™-3 is a digital metal wire torsion testing machine designed for precision and reliability. It is designed for metal wire torsion testing.

Built with a horizontal structure, it features a loading system, drive mechanism, force application, and tracking components. This machine is ideal for testing the torsional properties of steel, copper, aluminum, and alloy wires with diameters ranging from $\Phi 1$ to $\Phi 3$ mm.

It offers adjustable rotation speeds of 15, 20, 30, and 60 r/min. The system evaluates a wire's resistance to plastic deformation under one-way and two-way torsion while detecting surface and internal defects.

APPLICATIONS

- **Metallurgical Industry** - Evaluation of torsional strength, ductility, and deformation resistance of steel, copper, aluminum, and alloy wires for structural and manufacturing applications.
- **Quality Control & Inspection** - Detection of surface and internal defects in wires, ensuring compliance with industrial standards for material performance.
- **Cable & Electrical Industry** - Assessment of conductive wire durability, mechanical performance, and failure resistance in electrical and communication cables.
- **Research & Development** - Material characterization and testing in laboratories for new alloy development, performance studies, and structural analysis.
- **Automotive & Aerospace** - Verification of metal wire components used in safety systems, engine parts, and lightweight alloy structures requiring high torsional reliability.
- **Educational & Training Institutions** - Practical demonstrations and hands-on learning for students in materials science, mechanical engineering, and applied metallurgy.

FEATURES

1. **Main Unit Structure**

- 1. Designed with a horizontal framework to enhance rigidity and stability.
- 2. The core rod is crafted from high-quality alloy structural steel, featuring a smooth surface and high durability for extended service life.

2. **Drive System**

- 1. Powered by a motor drive, delivering high rotational torque.
- 2. Ensures even load distribution for smooth, impact-free operation.

3. **Transmission System**

- 1. Utilizes a precision reducer drive for consistent power transmission.
- 2. Provides high stability and accuracy for precise torsion testing.

TECHNICAL SPECIFICATIONS

Testing machine level	1
Torsion angle indication relative error	± 1 °
Maximum distance between the two chuck	500mm
Rotation speed	15, 20, 30, 60 RPM
Hardness of the jaws	HRC50 ~ 60
Test machine working noise	<70db
Wire diameter	Φ1-Φ3mm
Voltage	380V, 50Hz
Appearance size (length × width × height)	1490×410×1010 (mm)
Machine weight	450kg

Environment and working conditions	A) Temperature of 10 °C ~ 35 °C; B) Placed on a firm basis; C) In a vibration-free environment; D) Non-corrosive medium around;
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