



TORONTECH

HIGH STRENGTH BOLT TORSION TENSILE TESTING MACHINE TORONBTT™ -5000



High Strength Bolt Torsion Tensile Testing Machine ToronBTT™-5000 is designed to test the axial force and torque (or torque coefficient) of high-strength bolted joints (M12-M36) with large hexagon heads. It is primarily used for evaluating large high-strength bolted joints in wind energy equipment.

The machine features automatic loading via a cycloid reducer and an linear guide. It has a fully English interface and a computer-controlled system that automatically tightens, loosens, and resets high-strength bolts. The intelligent process prompts ensure smooth and efficient operation.

Once the axial force reaches the set standard, the system automatically records the test data. The computer calculates key metrics, including average axial force, average torque, average torque coefficient, standard deviation, and coefficient of variation. It also generates output torque coefficient, axial force curves, and torque curves. Additional features include parameter settings, calibration, data reporting, and query functions.

APPLICATIONS

- **Wind Energy Industry** - Evaluation of axial force, torque, and torque coefficient in large high-strength bolted joints, ensuring the reliability of bolted connections in wind turbine equipment.
- **Construction & Civil Engineering** - Testing of structural bolts used in bridges, high-rise buildings, and heavy infrastructure projects to guarantee compliance with international standards.
- **Automotive & Heavy Machinery** - Assessment of high-strength bolts in engines, chassis, and heavy equipment where precision and reliability of bolted joints are critical.
- **Railway & Aerospace Engineering** - Validation of fastener strength and stability in applications requiring superior torsional and tensile performance.
- **Quality Control & Certification** - Automatic data acquisition and analysis of axial force, torque, torque coefficient, and statistical metrics to ensure bolts meet EN 14399-2 standards.
- **Research & Development** - Advanced testing for new bolt designs, fastening methods, and performance optimization in engineering laboratories.

TECHNICAL SPECIFICATIONS

Force range	50-800kN
Force accuracy	1%
Torque range	50-5000Nm
Torque accuracy	1%
Bolt size	M12-M36 (include M12, M16, M20, M24, M30, M36)
Bolt clamp length	M12: 30-200mm M16: 40-250mm M20: 45-300mm M24: 50-500mm M30: 75-500mm M36: 90-500mm
Resolution	0.5%
Control mode	Computer
Display	Computer LCD display
Data processing	Special measurement and control system
Voltage	380V, 50Hz, 3 phase
Implementation of standards	EN 14399-2
Control software	Full English control software

Structural Composition

1. Cycloid reducer (with motor)

2. Sample place and tension device
3. Work Table
4. Rack
5. Electrical control systems

Main Configuration

1. Main unit 1 set
2. Axial force sensor 1 pc
3. Torque sensor 1 pc
4. Special control system 1 set
5. Lenovo computer 1 set
6. Printer 1 set
7. Bolts clamping device(include M12, M16, M20, M24, M30, M36) 1 set for each



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