

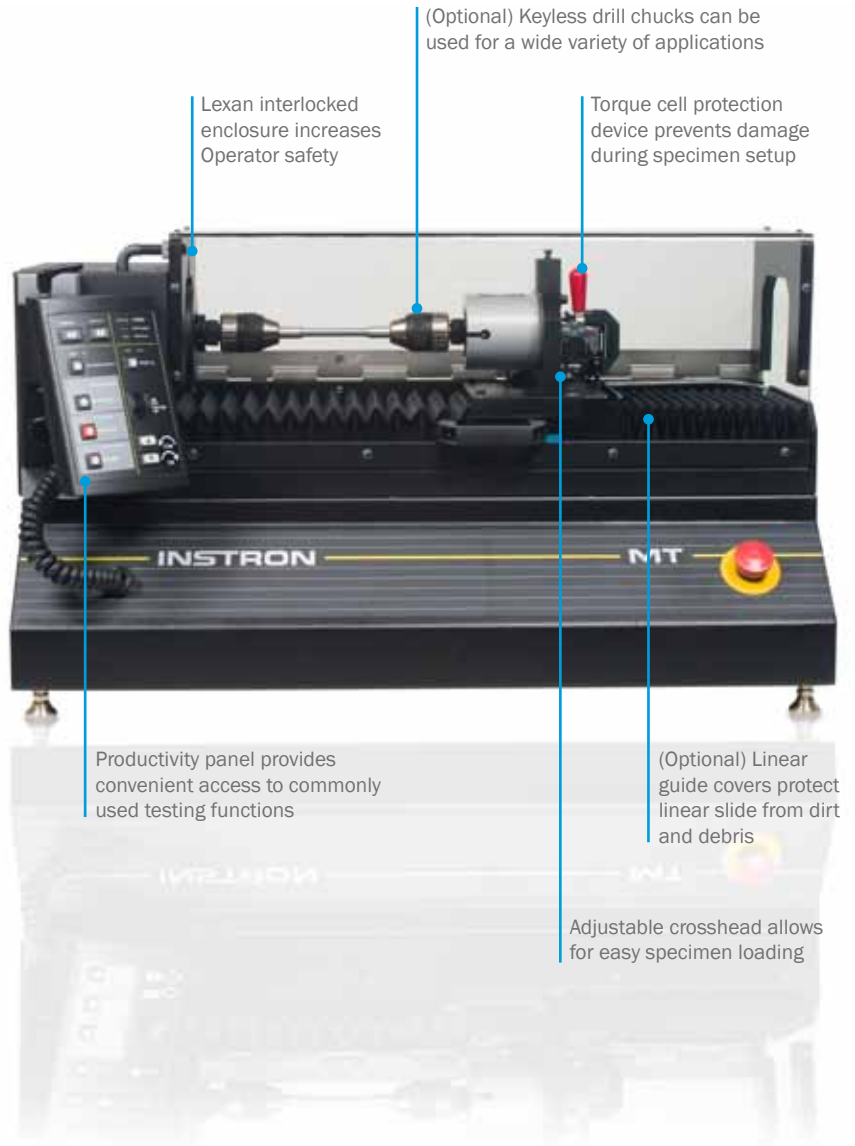
MT MicroTorsion Series | Low-Capacity Torsion Testing Systems

Features and Benefits

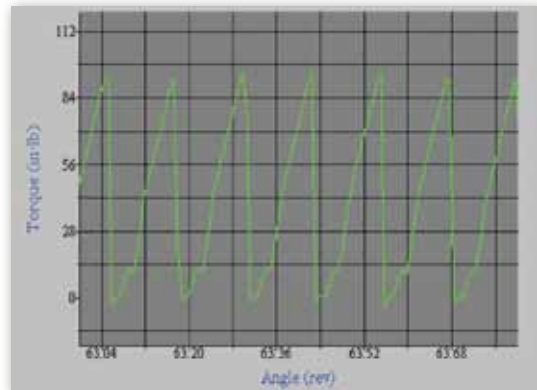
- Dual linear slide design offers high-torsional stiffness and low-axial friction
- Tabletop system requires minimal lab space
- Adjustable crosshead locking system allows crosshead to be free-floating or fixed
- Instron® digital control electronics provide fast response, as well as transducer automatic recognition and calibration
- Instron torque cell system provides superior accuracy and zeroing capability
- Comprehensive torsion testing software provides graphical data plots and performs a wide range of Calculations on Torque and Angle data
- User control panel allows for frame set up and test operation remote from the PC
- Torque cell protection device prevents damage to low capacity torque cells during test setup
- Test space enclosure provides a safer testing environment
- Low-capacity torque cells available down to 0.225 N-m (2 lbf-in)
- Optional preload assembly provides constant axial force in compression or tension

Application Range

- Biomedical
- Bone screws, syringes, needles, luer locks, fine wire, tools, insulin pens, and tubing
- Automotive/Aerospace
- Switches, torsion springs, wire, components, and fasteners



Application ranges



Plot of torque vs angle for a life cycle test

Specifications

		MT1	MT2
Torque Capacity	N-m lbf-in	22.5 200	225 2,000
Maximum Test Opening ¹	mm in	470 18.5	419 16.5
Rotational Clearance Radius (360°)	mm in	95 3.75	127 5
Maximum Test Speed	RPM	120	60
Maximum Rotations (CW or CCW)	rev	15,000	15,000
Rotation Resolution	arc-min	0.171	0.168
Maximum Frame Deflection	arc-min	1	1
Maximum Backlash ²	arc-min	6	10
Machine Footprint ³	mm in	820 × 597 × 624 32.25 × 23.5 × 24.563	1130 × 660 × 715 44.5 × 26 × 28.125
Machine Weight ⁴	kgs lbs	90 198	180 397
Controller Footprint	mm in	535 × 330 × 185 21 × 13 × 7.25	535 × 330 × 185 21 × 13 × 7.25
Power Required (for D1, other configurations available.)	Phase Hx VAC Amps	1 50/60 100-240 10	3 50/60 200-230 20
Available Torque Cells	N-m lbf-in	22.5, 2.25, and 0.225 200, 20, and 2	225, 22.5, 2.25, and 0.225 2,000, 200, 20, and 2
Axial Preload ⁵	N lbf	Up to 44.5 10	Up to 44.5 10
Standard Fixture Mounting Plate		M5 tapped bolt pattern on cell and motor end	M8 through-hole bolt pattern on cell and motor end
Grip Options		Keyless chuck Keyed chuck Collets Socket Drive	Keyless chuck Keyed chuck Collets Socket Drive
Frame Options		Added test length Chamber/Furnace Custom fixtures	Added test length Chamber/Furnace Custom fixtures

Notes:

1. Longer test beds are available. Use of optional linear guide covers reduces available test opening.
2. Contact Instron for lower backlash requirements.
3. Includes clearance above and behind the frame to open guard door and includes feet height of 32 mm (1.25 in). Does not include clearance to mount optional axial preload assembly (requires clearance of 230 mm (9 in) on each side of frame).
4. Does not include weight of any fixtures or optional accessories that can be mounted on the frame.
5. Weight supplied is 4.54 kgs (10 lbs). Actual tension or compression load on the specimen does not correspond to the weight used due to linear guide and pulley friction. Custom device available.

Standards

- ASTM A938, ASTM F543
- ISO 594, ISO 7864, ISO 7886-1, ISO 6475
- CE Compliant



Axial preload assembly used for compressive force



Common fixtures

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