

HORIZONTAL TENSILE TESTING MACHINE FOR OVERHEAD CONDUCTORS & CABLES - TT-HTTPM SERIES



Horizontal Tensile Testing Machine for Overhead Conductors is purpose-built for testing wire, rope, chain, shackles, and cables. These horizontal test frames are designed to accommodate long specimens and meet high elongation requirements.

The frames are driven by a servo motor, spindles, and a synchronous belt, ensuring variable high-strength testing. Customizable in length, the frames can be tailored to different application needs. Additionally, the grips can be adapted for various specimen shapes, with interchangeable options available to suit evolving test needs.

The PC-based control software included with the machine is equipped with advanced data acquisition and analysis features, providing comprehensive testing insights.

APPLICATIONS

Wire, Rope, Chain, Shackle, and Cable Testing: Designed specifically for testing wire, rope, chains, shackles, and cables, this series features a horizontal test opening that accommodates long specimens and meets high elongation demands. Powered by hydraulic systems for robust strength testing, the frames can be customized in length to suit various application needs, offering versatility for diverse testing requirements.

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FEATURES

- **Generous Bed Clearance:** The machine's large bed clearance enables testing for a broad range of specimen types, including full-length samples, sling constructions, and high-capacity specimens.
- **Adjustable Carriage:** Equipped with a freely moving, roller-supported carriage, it can be easily positioned to align with the required nominal test specimen length, depending on the design.
- **Versatile Design for Diverse Testing:** Frames, fixtures, and strain measurement devices can be designed and manufactured to accommodate various products needing tensile tests. Low-friction seals are fitted to the piston head and cylinder ends, enhancing performance.
- **Enhanced Safety Features:** The machine is fully enclosed with fixed plates at the bed's base and manually operated hinged guards at the top, ensuring comprehensive safety.
- **High Accuracy:** Achieves loading accuracy within $\pm 1\%$ for larger capacities and $\pm 0.5\%$ for smaller ones, ensuring precise test results.
- **Built-in Calibration:** Features a reverse loading structure that allows load cell calibration directly within the compressive space, eliminating the need for separate hydraulic presses. This design also improves measurement accuracy by calibrating the load cell on the machine itself.

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Software

Windows-Based Software Platform: This user-friendly software package operates on a Windows-based platform, providing an intuitive interface for seamless operation.

- **Multi-Measurement Units:** Display options for dimensions, load, and deformation in various units, adjustable based on user preference.
- **Customizable Test Methods:** Users can create and save optimized test methods tailored to different materials and dimensions, allowing operators to simply load the preset method and click "Start" for consistent repeat testing.

- **Configurable Reporting:** Generate custom Excel-based reports with a user-configurable template for flexible documentation.
- **Multi-Curve Diagrams:** Real-time graphical displays of:
 - Load/Elongation
 - Load/Displacement
 - Load/Time
- **Curve Comparison and Zooming:** Select and compare multiple curves, and zoom in on specific sections of the curves for detailed analysis.
- **Language Options:** Language packs are available upon request, enhancing accessibility for global users.

TECHNICAL SPECIFICATIONS

Models	TT-HTTM-100	TT-HTTM-300	TT-HTTM-500
Test Type	Creep Type	Tensile Type	
Test Stations	3	1	
Loading Stroke	1500 mm		
Distance between Fixtures	14m	10m	
Load Capacity	100kN	300kN	500kN
Accuracy Class (ISO 7500-1)	0.5	1	

Load Measuring Range	0.4% to 100% F.S	
Load Indication Accuracy	$\pm 0.5\%$	
Load Resolution	$\pm 500,000$ steps (no range switching)	
Extensometer Measuring Range	1 to 5 m	1 to 1.2m
Extensometer Accuracy	$\pm 0.5\%$	
Extensometer Resolution	0.0001mm	
Displacement Accuracy	$\pm 0.5\%$	
Displacement Resolution	0.000025mm	
Load Control Rate	0.05% to 10% F.S./s	
Load Control Accuracy	$\pm 0.5\%$	
Moving Speed Range	0.005 to 500mm/min	0.005 to 250mm/min
Internal Width	900mm	

Dimensions (L × W × H)	• 1680 × 120 × 70cm • 55.1 × 3.9 × 2.3 ft.	• 1400 × 150 × 70cm • 45.9 × 4.9 × 2.3 ft.	
Standard Configurations	• Main Unit • Main frame • Ball Screw Driving System • Guards • Foundation Blocks • Shock Resistance Pads × 20Pcs (Creep only) • Climate Chamber ×1 (Creep only) • Power-off Protection System ×1(Creep only)	• Control Unit • Servo System • Load Cell • Pulling Head • Computer • ToronSOFT • Laser Printer • Extensometer • Spares	
Power Supply	• Standard optional voltages 3Phase, 380V AC, 50-60 Hz. • Power must be free of spikes and surges exceeding 10% of the nominal voltage. • Power supply system is completely customizable		
Operating Temperature	-40 to +66°C (-40 to +150°F)		
Humidity Range	10% to 90% non-condensing		
Accessories for TT-HTTM-100 (Creep Type)			
Power-off Protection System			
UPS	25kW, Retain 10min after power-off		
Power Generating Set	Diesel Power Generating Set		
Climate Chambers			
Temperature Setting Range	10 to 35°C		
Temperature Fluctuation	≤ 2°C/h		



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

