

INNOVATIVE TECHNOLOGIES



TORONTECH



3000kN Hydraulic Universal Testing Machine

TTM-3000



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The 3000 kN Hydraulic Universal Testing Machine — TTM-3000 is a high capacity universal testing machine designed with a solid hydraulic unit at lower section.

It is primarily used for **precise tensile, compression, bending,** and **shear tests** on both metallic and non-metallic materials to conform international standards, including **ASTM E-8** and **ISO**, ensuring accurate and consistent results.

With its advanced control system and easy-to-use software, TTM-3000 is perfect for a range of industries, including metallurgy, construction, light industry, aviation, aerospace, education, and research.



APPLICATIONS

- ▶ **Solid Construction and Materials:** Made from cast steel materials with Cr40 components, which are quenched and tempered for added strength. The cylinder utilizes a special process and strong gap seals for a long service life.
- ▶ **Advanced Hydraulic System:** Equipped with a high-pressure hydraulic pump made in Europe, ensuring low noise and smooth operation. The hydraulic unit's steel plate forming with surface plastic spraying processing allows for clean and efficient workspace management.
- ▶ **Advanced Control System:** Integrates advanced digital electro-hydraulic servo closed-loop control and measurement technology, enabling constant velocity stress, strain, test force, displacement, and maintaining precise control.
- ▶ **Comprehensive Safety Features:** Includes multiple protection layers such as overload, overcurrent, overvoltage, undervoltage, overspeed, and limit protections to ensure safe operation.
- ▶ **Efficient Database Management:** Automatically saves all test data and curves, supports curve enlargement and comparison, and provides a robust foundation for laboratory networking, ensuring all data is easily accessible and organized.
- ▶ **User-Friendly Software and Data Management:** Equipped with dedicated monitoring and control software for statistical processing of test data, automatic detection of lower yield points, tensile strength, elastic modulus, elongation, and more. Features hierarchical user management, advanced multi-threading data processing, and powerful report editing capabilities with Word format support.

TECHNICAL SPECIFICATIONS


SPECIFICATION	VALUE
Maximum Test Force	3000kN / 675,000 lb.f
Test Force Measuring Range	60-3000kN (13,500 – 675,000 lb.f)
Accuracy Level	±1%
Piston Maximum Speed Range	50mm/min
Piston Stroke	250mm
Displacement Resolution	0.01mm
Displacement Measuring Accuracy	±1%
Maximum Tensile Test Space	950mm (37.5 inch)
Round Sample Clamping Diameter	φ25-φ100mm (1-4 inch)
Flat Specimen Clamping Thickness	10-90mm (0.4-3.5 inch)
Distance Between Columns	880mm (35 inch)
Mainframe Dimensions (L × W × H)	1573 × 1160 × 3850 mm (62 × 46 × 152 inch)
Voltage	380V, 50Hz

STANDARD CONFIGURATION		
Machine load frame 3000kN		
Electro-hydraulic servo source		
Electro-hydraulic servo valve (German VOITH)		
High pressure oil pump		
Load Cell 3,000 kN		
Manual control box		
High pressure oil pipe		
Extensometer (50mm Gauge Length and 10mm Deformation)		
Dedicated data acquisition card		
Special measurement and control software		
Computer		
Printer		
Test fixtures 6 sets:		
Round jaw	1 set	φ25-φ50mm
	1 set	φ50-φ80mm
	1 set	φ80-φ100mm
Flat jaw	1 set	10-45mm
	1 set	45-90mm
Compression fixture	1 set	φ280mm
Foundation bolt 4 pieces		




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