

INNOVATIVE TECHNOLOGIES

**Servo Hydraulic
Universal Testing Machine**
TT-MSH Series



TORONTECH

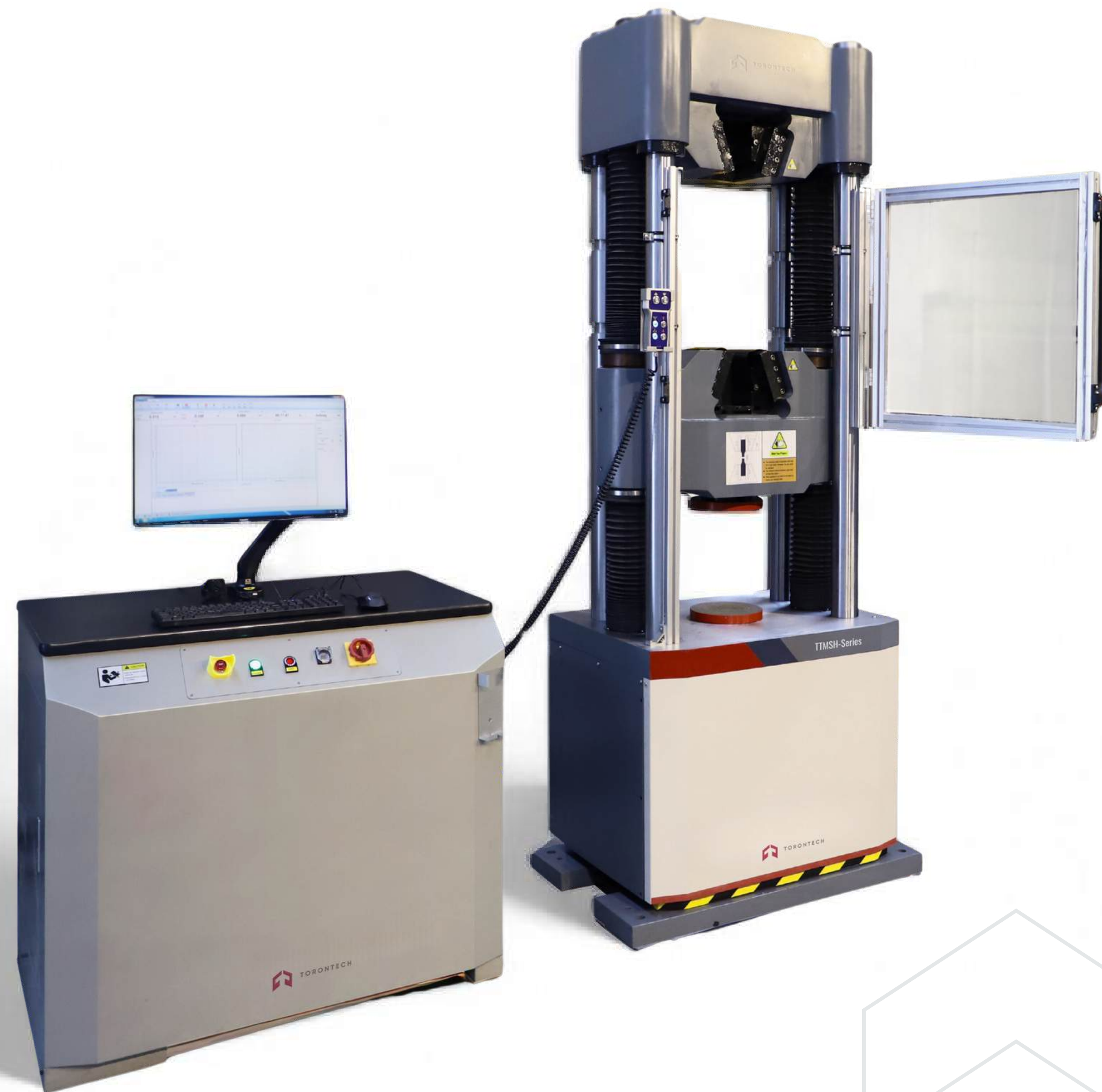


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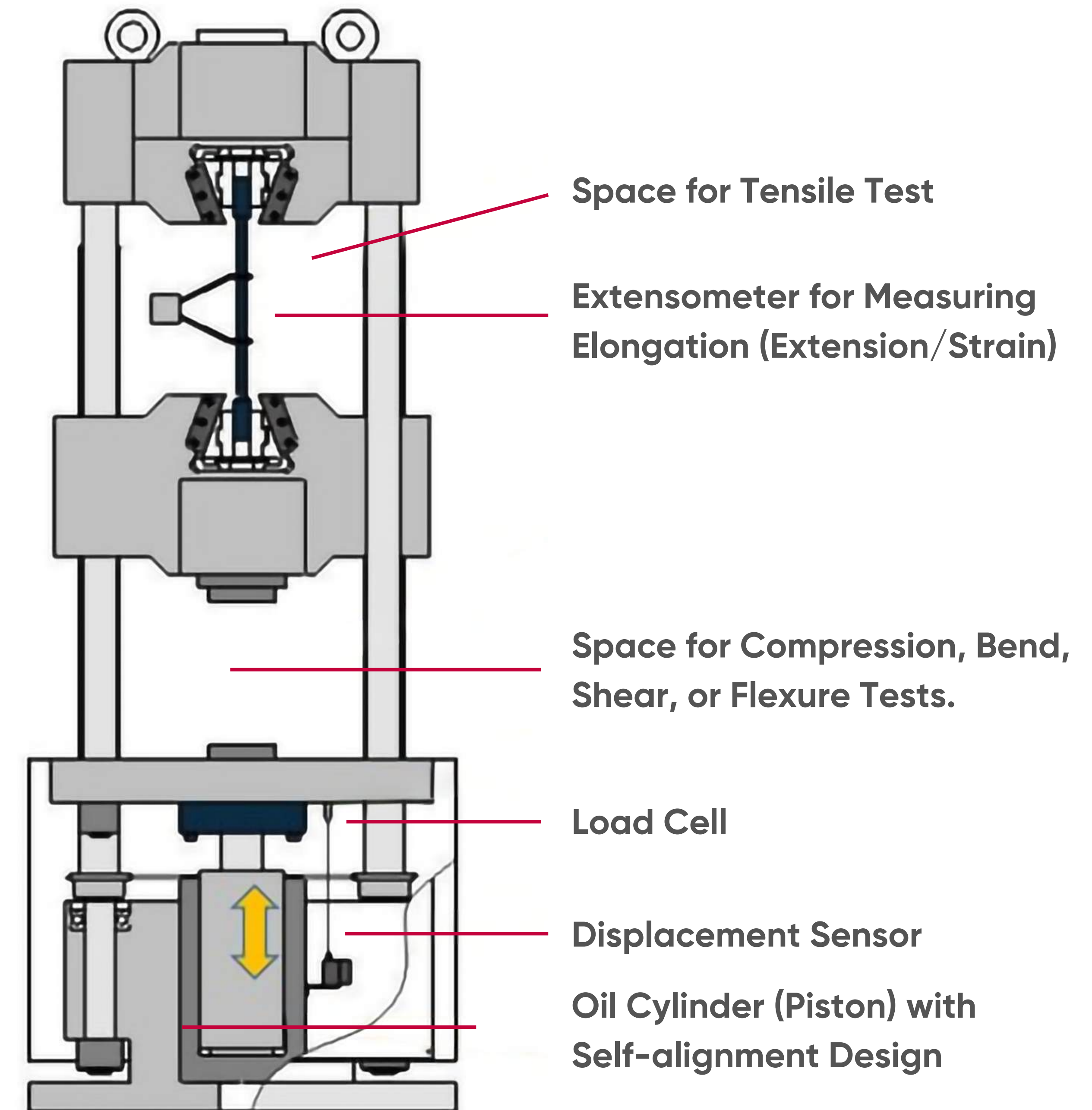
The Servo Hydraulic Universal Testing Machine TT-MSH Series is **designed for high-capacity tension, compression, bend/flex, and shear testing**. Available in four models—**600kN, 1000kN, 2000kN, and 3000kN**—this series offers versatile solutions for various testing needs.

Engineered to **conform to ASTM, ISO, and numerous other international testing standards**, these machines feature dual spaces, allowing for seamless switching between tension and compression testing without the need to remove heavy fixtures.



APPLICATIONS

- ▶ **Versatile Testing Capabilities:** The TT-MSH Series supports a wide range of applications with capacities from 600kN to 3000kN, ideal for testing various materials like metals, composites, rebar, and more.
- ▶ **Spacious and Adjustable Test Area:** Equipped with a double-acting crossbeam and adjustable column length, the machine accommodates specimens of different sizes, with optional extra-height load frames for
- ▶ **Solid and Durable Construction:** The four-column load frame, constructed from chrome-plated stainless steel components, provides exceptional rigidity, rustproof durability, and easy maintenance.
- ▶ **Advanced Grip and Clamping System:** The front-open wedge grips and semi-open hydraulic wedge clamps offer easy specimen insertion, removal, and enhanced grip stiffness, improving operator safety and efficiency.
- ▶ **High Precision Measurement:** Featuring a digital displacement transducer and extra-length screws with an adjustable crosshead, the TT-MSH Series ensures precise positioning, accurate measurement, and reliable test results.
- ▶ **Customizable and User-Friendly Interface:** The machine includes pre-built test methods, allows users to create custom methods and equations, and features a user-configurable flowchart process for clear visibility of test steps.



TECHNICAL SPECIFICATIONS

ITEM	600 kN / 135,000 lb.f	1000 kN / 225,000 lb.f	2000 kN / 450,000 lb.f	3000 kN / 675,000 lb.f
Structure	Upper for tensile, lower for compression			Upper for compression, lower for tensile
Grip Type	Front/Fully open	Fully open	Semi-Front open only	
Alignment	Self-alignment with spherical bearing			
Dimensions (W*D*H mm)	940*580*2320 940*580*2470	1030*640*2490 1030*640*2580 1030*640*2640	1290*900*2915 1290*900*3045 1290*900*3105	1380*990*4930
Weight (kg / lbs)	3320 kg / 7319 lbs 3400 kg / 7496 lbs	4120 kg / 9083 lbs 4240 kg / 9347 lbs 4380 kg / 9656 lbs	8020 kg / 17681 lbs 8170 kg / 18012 lbs 8820 kg / 19445 lbs	18000 kg / 39683 lbs
MACHINE SPECIFICATIONS				
Ram Stroke (mm)	250 (can be customized)			
Adjustable Crosshead Speed	350 mm/min	410 mm/min	330 mm/min	260 mm/min
Max. Distance Between Grips (mm)	750 (STD) 900 (XTRA)	810 (STD) 900 (XTRA) 1100 (PLUS)	760 (STD) 890 (XTRA) 950 (PLUS)	900 (STD)
Max. Distance Between Platens (mm)	750 (STD) 900 (XTRA)	810 (STD) 900 (XTRA) 1000 (PLUS)	760 (STD) 890 (XTRA) 950 (PLUS)	900 (STD)
Space Reduction (mm)	Space reduction 240	On every 240mm, maximally 480mm reduced		-
ACCESSORIES				
Jaw Inserts for Tension (Rounds mm)	Ø6~Ø16 Ø13~Ø27 Ø27~Ø40	Ø6~Ø20 Ø20~Ø40 Ø40~Ø60	Ø5~Ø16 Ø15~Ø45 Ø40~Ø70	Ø20~Ø50 Ø50~Ø80 Ø80~Ø110
Jaw Inserts for Tension (Flats mm)	0-30 (Width=<90)	0-40 30-60 (Width=<110)	0-40 30-70 (Width=<150)	0-50 50-100 (Width=<180)
Platen Dimensions (mm)	Ø178	Ø200	300x300	Ø280

GENERAL SPECIFICATIONS	DETAILS
Load Measurement Accuracy	±0.5% of the reading to 1/50 of the load weighing system capacity, meeting or exceeding the requirements of ISO 7500-1, EN 10002-2, ASTM E4, and JIS B7721.
Strain Measurement Accuracy	±0.5% of the reading to 1/50 of full scale with most ASTM E83 class B or ISO 9513 class 0.5 extensometers, meeting or exceeding ASTM E83, ISO 9513, and EN 10002-4 standards.
Speed Accuracy	Set speed < 10% Max. Speed: ±1% Set speed ≥ 10% Max. Speed: ±0.5%
Position Measurement Accuracy	±0.5% of the reading or 0.001 mm, whichever is greater.
Power Supply	Standard optional voltages of 400VAC, 50-60 Hz. The power supply must be free of spikes and surges exceeding 10% of the nominal voltage.
Operating Temperature	0 to +38°C (+32 to +100°F)
Humidity Range	10% to 90% non-condensing
Storage Temperature	-40 to +66°C (-40 to +150°F)


Note:

- Extra height frames are available.
- The power supply can be customized.
- Specifications are subject to change without notice.




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