MMD Series

Material Test Frames - Dual Column

The MMD Series are dual column, table-top testing systems operated using our L3 Material Test software. These systems are ideal for a variety of applications including plastics, composites, metals, rubber, automotive/aerospace components, medical devices, adhesives, foams, film and more. Perform tensile, compressive, cyclic, flexural, shear and other types of testing. Three model load capacities are available: 10kN, 30kN and 50kN. Testers feature a granite base with all-metal columns and pre-loaded ball screws for excellent extension control and precision measurements. Magnetic travel limits are adjustable to prevent over travel situations. Testers are inherently stiff and we include stiffness compensation correction to eliminate all errors due to mechanical deflection in the entire load string. Communications to the all-in-one touchscreen desktop computer is via USB. Frames feature digital and analog I/O and support for two extensometers. Data sampling is selectable between 1-2000Hz. MMD test frames may use ULC, MLC or FLC load cell sensors. Sensors are IEEE 1451.4 compliant. Frames may be fitted with optional splinter shield.

Features & Specifications

- Ideal for tension, compression, flexural, cyclic and shear testing applications
- Use with Starrett L3 Material Test software on our Windows®-based L3 Workstation
- Excellent load, strain, speed and position accuracies
- Superior frame stiffness and position control
- ULC, MLC or FLC load cell sensors are IEEE 1451.4 compliant
- Frames feature digital and analog I/O and support for two extensometers
- Data sampling from 1 to 2000 Hz
- USB Communications
- Wide selection of test fixtures and accessories

MMD-50K Test Frame
Shown with optional test fixture and load cell sensor

Starrett®

Specifications

MMD Series Material Test Frames				
Model Number		**MMD-10K**	**MMD-30K**	**MMD-50K**
Load Capacity	kN kgf lbf	10 1000 2250	30 3000 6750	50 5000 11,250
Minimum Speed	mm/min in/min	0.001 0.00004	0.001 0.00004	0.001 0.00004
Maximum Speed	mm/min in/min	1525 60	1525 60	752 30
Position Control Resolution	µm µin	0.05 1.9	0.025 0.9	0.025 0.9
Frame Axial Stiffness	kN/mm lb/in	72 412,844	150 855,513	161 918,367
Vertical Test Space[1]	mm in	1270 50	1245 49	1220 48
Column Space	mm in	424 16.7	424 16.7	424 16.7
Total Crosshead Travel	mm in	1162 45.75	1137 44.75	1111 43.75
Accuracy Load Measurement		Load Cell Sensor Dependent		
Accuracy Position Measurement		±0.0002 inch (±5 µm)		
Accuracy Strain Measurement		+/-0.5% of reading down to 1/50 of full scale with ASTM E83 class B or ISO 9513 class 0.5 extensometer		
Accuracy Crosshead Speed		+/-0.1% of set speed		
Data Sampling	Hz	1 to 2000		
Extensometer Connections		2 channels for 0-10V extensometers		
Digital I/O		12 total channels Channel 1 & 2 for Power (5-24V) Channels 3 thru 10 for either digital inputs or outputs Channels 11 & 12 for Ground		
Analog Inputs		1 channel @ +/- 10V		
Analog Outputs		2 channels @ 0-10V		
Electrical Phase		1	1	1
Power Requirements		100, 120, 220, 230, 240Vac 10%	Single Phase Voltage (Vac) ±10% 220-240V	Single Phase Voltage (Vac) ±10% 220-240V
Maximum Power (VA)	Watts	900	1250	1250
Frequency	Hz	50/60		
Operating Temperature	°C °F	+10° to +38°C +50° to 100°F		
Storage Temperature	°C °F	-40° to +66°C -40° to 150°F		
Humidity		+10% to +90%, non-condensing		
Total Height	mm in	1626 64	1626 64	1626 64
Total Width	mm in	787 31	787 31	787 31
Total Depth	mm in	736 29	736 29	736 29
Weight	kg lb	136 300	192 425	225 500

Notes:

Load Measurement Accuracy

+/-0.5% of reading down to 1/100 of load cell capacity. Meets or exceeds ASTM E4, ISO 7500/1 and EN 10002-2.

Strain Measurement Accuracy

±0.5% of reading down to 1/50 of full scale with most ASTM E83 class B or ISO 9513 class 0.5 extensometers. Meets or exceeds ASTM E83, ISO 9513, and EN 10002-4.

Operating Environment

Systems are intended for laboratory environments.

Compliance

Starrett test systems conform to all relevant European standards and carry the CE mark.

Specifications are subject to change without notice.

Notes

1 Total vertical space is the distance from the top surface of the base plate to the bottom surface of the crosshead, excluding load cell sensor, test fixtures, and clevis adapter.

2 Assumes Linear Error Correction and Deflection Compensation has been performed on test frame.