

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	10	30	50
	kgf	1000	3000	5000
	lbf	2250	6750	11,250
Minimum Speed	mm/min	0.001	0.001	0.001
	in/min	0.00004	0.00004	0.00004
Maximum Speed	mm/min	1525	1525	752
	in/min	60	60	30
Position Control Resolution	µm	0.05	0.025	0.025
	µin	1.9	0.9	0.9
Frame Axial Stiffness	kN/mm	72	150	161
	lb/in	412,844	855,513	918,367
Vertical Test Space ¹	mm	1270	1245	1220
	in	50	49	48
Column Space	mm	424	424	424
	in	16.7	16.7	16.7
Total Crosshead Travel	mm	1162	1137	1111
	in	45.75	44.75	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	+10° to +38°C		
	°F	+50° to 100°F		
Storage Temperature	°C	-40° to +66°C		
	°F	-40° to 150°F		
Humidity		+10% to +90%, non-condensing		
Total Height	mm	1626	1626	1626
	in	64	64	64
Total Width	mm	787	787	787
	in	31	31	31
Total Depth	mm	736	736	736
	in	29	29	29
Weight	kg	136	192	225
	lb	300	425	500

Notes

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

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.

