MTS Criterion® C45.126 Load Frame

1200 kN electromechanical test system for higher force applications

Benefits

- More precise control than a static-hydraulic system
- No hydraulic power or infrastructure required
- Uses less energy than a static-hydraulic test system
- Quieter and cleaner than a static-hydraulic system
- Compatible with MTS TestSuite™ software
- NTRL and CE certified

The MTS Criterion C45.126 test system provides higher-force testing capabilities in a quiet, energy-efficient solution. With twice the maximum force capacity of our next largest Criterion electromechanical test system, this frame offers greater testing capacity without the additional costs of a static-hydraulic test system. It also delivers precise displacement and strain control for more accurate material characterization.

This system is ideal for static testing of metals and composites in tensile, compression, flexure and shear applications.

Industry-leading Controls & Software

The **MTS ICE Controller** for Criterion Test Systems features a data acquisition rate of up to 5000 Hz, which allows for more precise measurement during a test and is especially valuable when testing brittle or composite materials. An update rate of 5000 Hz also provides better measurement control for stiff specimens.

MTS TestSuite TW Software enables the accurate and repeatable mechanical testing of materials, components and finished goods. It provides the versatility required to address unique and complex test requirements, along with the ease-of-operation required for efficient testing. With this software, test engineers have the utmost flexibility to create and run tests, analyze data and report results in a way that matches their specific testing needs.

High-quality Accessories

With a static force capacity of 1200 kN, the **MTS Model 647.100 Side-Loading Hydraulic Wedge Grips** are an ideal choice for the Criterion C45.126 load frame. Their superior alignment and constant, lateral gripping force minimize bending strains, vertical loading forces and slippage to provide reliable and repeatable results.

MTS Compression Platens employ precision-ground, hardened surfaces to enhance platen durability. Specimen centering grooves, anti-rotation features and integrated alignment pins help ensure test accuracy and repeatability.

C45.126 Specifications-Comparative	
Maximum Rated Force Capacity	1200 kN (269800 lbf)
Force Capacity Options	1000 kN or 1200 kN
Frame Type	Dual Column, Floor Standing
Test Zones	Single
Maximum Test Speed	254 mm/min (10 in/min)
Minimum Test Speed	0.005 mm/min (0.0002 in/min)
Position Resolution	0.000025 mm (0.00000098 in)
Power Requirements	380-415 V AC,or 440-480 VAC, 25 Amps, 50/60 Hz, 12kW, 3 phase
Space Between Columns	860 mm (33.86 in)
Vertical Test Space	1800 mm (70.87 in)
Crosshead Travel	1500 mm (59.55 in)
Frame Height	3408 mm (134.17 in)
Frame Width	1948 mm (76.69 in)
Frame Depth	1669 mm (65.69 in)
Weight	6000 kg (13200 lb)

C45.126 Specifications-Common		
Force Accuracy*	± 0.5% of applied force	± 1.0% of applied force
Force Range**	1 to 100% of rated force capacity	0.5 to 1% of rated force capacity
Rated Force Capacity at Max Test Speed	100%	
Maximum Test Speed at Rated Force Capacity	100%	
Speed Accuracy****	± 0.1% of set speed (≥0.01 mm/min) or ± 0.2% of set speed (<0.01 mm/min)	
Displacement Accuracy****	± 0.008 mm or ± 0.05% of set displacement (whichever is greater)	
Strain Accuracy***	± 0.5% of applied strain	
Security Protection	Over-force, travel limits, over-voltage and others	
Over-Force Protection	110%	
Data Acquisition Rate	Up to 5000 Hz	
Control Loop Rate	5000 Hz	
Environmental Requirements		
Operating Temperature	5 to 40°C (41 to 104°F)	
Operating Humidity	5 to 85% Non-condensing	
Storage Temperature	-18 to 49°C (0 to 120°F)	
Maximum Storage Humidity	90% Non-condensing	
Maximum Altitude	2000 Meters	
Motor & Drive System	AC Servo Motor	
Ballscrews	Pre-Loaded	
Position Measurement	Encoder	
User Digital Inputs/Outputs (DIO)	4 user Digital Inputs and 4 user Digital Outputs	
Encoder Capacity	4 Encoders	

** Applicable onsite calibration services are available to meet ISO 7500-1, ASTM E4.*

*** Range dependent upon controller settings and operating environment.*

**** Extensometer calibration services are available to meet ISO 9513, ASTM E83.*

***** This specification was derived from measurements using MTS specified methods under specified conditions and equipment. Subject to change without notice.*

MTS Systems Corporation
14000 Technology Drive
Eden Prairie, MN 55344-2290 USA
www.mts.com

Telephone: 1.952.937.4000
Toll Free: 1.800.328.2255
E-mail: info@mts.com
ISO 9001 Certified QMS

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