Floor Standing Electromechanical Testing Machines

LFM Series 150 to 400 kN

The LFM Series of Electromechanical Universal Test Systems are reliable high-performance Materials Testing Machines suitable for a wide range of demanding applications from quality control to research and product development.
These floor-standing, state-of-the-art testing systems using the latest technology, as all of our testing machines, providing uncompromising quality and therefore representing a range of accurate and reliable testing machines.
Typical application for this medium load, rigid 4-column systems, include testing of metals & alloys, fasteners, composite materials, forgings, joints, geotextiles and others.

The LFM Test Systems are well suited for digital closed-loop testing in force, stress, displacement, strain and any other control modes including calculated, virtual channels.
Compatible with a wide range of grips & fixtures, extensometers and other accessories these testing machines perform tensile, compression, flex/bend, shear, peel and other mechanical tests at ambient and non-ambient temperatures.

Key Features

- Rigid machine frame with high stiffness providing superior axial and lateral stiffness and guarantees robust, durable and long-term operation
- Single test area with ergonomic working height
- Two precise, backlash-free ball screw assembly provides high load capacity, high positioning accuracy and repeatability
- Controlled by a brush-less high responsive, maintenance-free AC servomotor to drive the mobile traverse (crosshead) providing faster starts and stops, best control, and highest accuracy at a extremely low noise level
- Additional two (2) guiding columns for increased lateral stiffness
- Spindles (ball-screws) with flange double-nut, sealed and greased for long maintenance intervals
- Spindle, flange double-nut and ball-screw shaft grinded pairwise for reduced pitch error
- On-point, in-service lublication
- Spindle and column protection (are length over full travel long are protected by oil- and moisture-resistant), sealed bellows made from polyester fabric, coated with polyurethane inside and out side
- Precision strain gauge load cell mounted on (moveable) crosshead optionally available Alignment Fixture mounted between crosshead and load cell with related alignment verification equipment
- Digital movable crosshead encoder for high resolution, high accurate crosshead measurement and closed loop control
- Adjustable end-stops in both (UP/DOWN) directions for the optimal protection of operator, test sample and machine
- End-stops for maximum travel protection
- Electrical cabinet with complete power supply and control module, relays etc. mounted on rear side of machine's base
- Durable structured coating (or paint)
- Use of high quality components and assemblies of reputable companies
- Bolts for machine lifting
- Adjustable feet for levelling the testing machine
- The machine is free-standing on shock absorbers, requiring no special foundations

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Reliable & Durable

w+b LFM Series combines proven load-frame design available in numerous high-stiffness configurations using high quality components and assemblies coupled with a generous dimensioning.

Accurate

The LFM Series Universal Testing Machines are equipped with Bending Ring Force Transducers providing exceptional measurement accuracy combined with ultra-hight-speed synchronized data acquisition. All transducer feature Transducer Electronic Data Sheets for automatic detection of connected transducers.

Latest Drive Technology

These test systems provide ultra-high-resolution and high-speed digital controls with latest brush-less high responsive, maintenance-free AC servomotor providing fast starts and stops, best control and highest accuracy at extremely low noise level.

Versatile

The LFM series can be configured with a variety of grips & fixtures, extensometers, environmental simulation accessories and other components to meet the exacting test needs from quality control to research and development.

Operator Safey

Our LFM series of test systems fully comply with the safety requirements of the EC Machinery Directive and are supplied with the related EC Declaration.

Specimen & System Safety

Specimen Protect function prevents your specimen from being damaged during setup and gripping.
The LFM Test Systems are protected against overload and provide the ability to set limits for load, crosshead travel, strain or any other connected transducer preventing damage to your system, load cell and grip or fixtures. Mechanical end-stops and adjustable travel limits stop the crosshead at set points.

Ergonomically Designed

These test systems are designed with operator's convenience and health in mind. The lower grip is on convenient height makes specimen loading easy and convenient.

Modular & Flexible

The modular design enables us to adapt these tests systems to virtually any of your requirements.

Common customizations include:

- Other test speeds
- Extended vertical or horizontal test spaces
- Multifunctional T-slot base platen to clamp grips or fixtures, components or finished goods
- Additional second working space
- Extending to fully automatic robotic system
- And others

Additional Test Areas for Electromechanical Testing Machines

Testing machines that provide more than one test area generates great flexibility and help to increase the productivity.

With long history we are produce testing machines with more than one test space.
Available are dual test space machines with one test area that located above the other, side test-area(s) solutions and machines with multiple test areas which are centrally located.

Key Advantages of Additional Test Areas

- Increase our productivity as reconfiguration time is minimized or eliminated
- Extends your application range across the spectrum
- An additional test area will reduce the need of changing of heavy grips & fixtures reducing your setup time and makes operation safer and easier.
- Your test accuracy and flexibility will increase as you can individually select for each test area the suitable load cell capacity, suitable clamps and accessories for suitable for your different materials or environmental conditions.
- Using the optimal force transducer capacity assures you have the highest possible output signal from your transducer.
- Maintaining the set alignment minimizing the bending strains that can invalidate your test results.
- Reduce the space required in your laboratory compared with two independent machines.
- Reduces your investment compared with two independent machines.
- Reduces your maintenance costs, calibration expenses and IT costs.

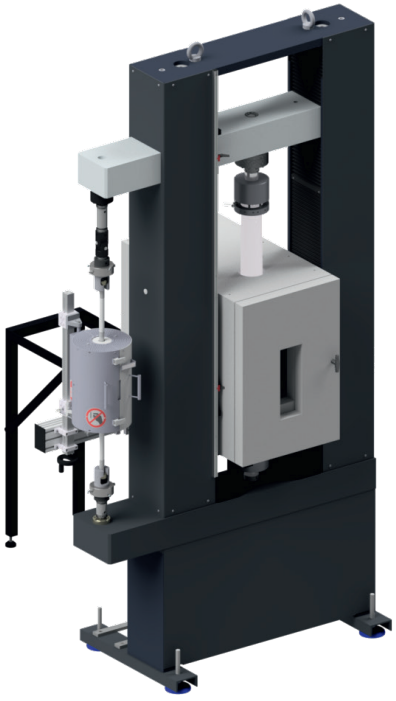
Solutions

- Side Test-Area Machines with two or three test-areas
- Dual Test-Space Machines with two inline test spaces
- Multi-Station Testing Machines with centrally fitted multi test areas

Dual Test Space

The dual test space machines offers two inline test spaces, one work zone on top and the other on bottom below the crosshead.

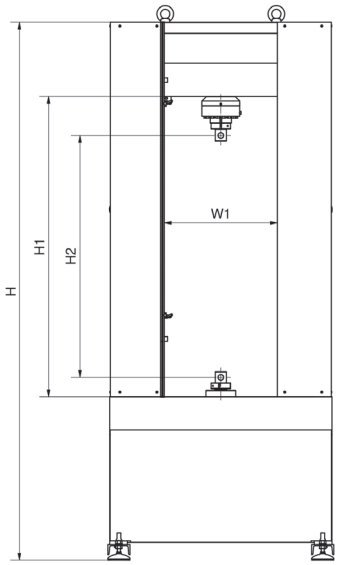
This design allows to individually define the force rating of the second test space up to machines
maximum capacity.
Each test space can be equipped with an individual load cell or one load cell fixed on movable
crosshead that can be used for both test spaces.

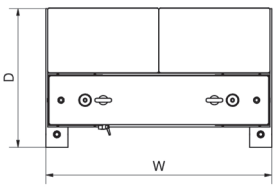


Extensometer supports for fully automatic units which allows to move the extensometer from one test area to the other(s) are available with manual or automatic movement.

Technical Data

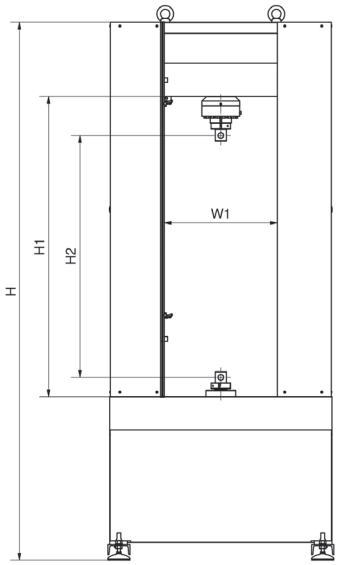
Model		LFM-150			
Model Number		LFM-150	LFM-150.E	LFM-150.01	LFM-150.01E
Force Range	kN	150			
Force Resolution	Bit	24			
Force Measurement Accuracy From to From to	ISO 7500-1 Grade 0.5 Grade 1	Grade 0.5 1/100 to 100% 1/200 to 1/100			
Frame Model Configured to	kN	200 150			
Frame Type		Floor-standing			
Backlash-Free Ball Screws	No.	2			
Test Speed Range	mm/min.	0.0005 to 500		0.0005 to 250	
Displacement Resolution	mm/min.	0.005			
Displacement Accuracy	ISO 9513	Grade 0.5			
Closed Loop Control Rate	Hz	14400			
Data Acquisition Rate	Hz	14400		8000	
Test Area Width W1	mm	610			
Test Area Height H1	mm	1676	2340	1676	2340
Distance between connecting details H2	mm	1400	2064	1400	2064
Frame Height H	mm	2872	3536	2872	3576
Frame Width W	mm	1220			
Frame Depth D	mm	750			
Frame Weight	Kg	1380	1590	1380	1590
Power Requirements		400 V, 50 Hz, 3 Phases, E, N		200-230 V AC	
Power Rating	kW	3		1.5	
Operating Temp.Range	°C	5°C to 40°C			
Humidity Range	%	20-92% Non-condensing			

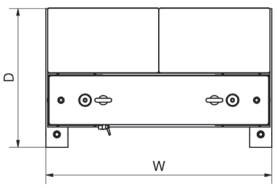




Technical Data

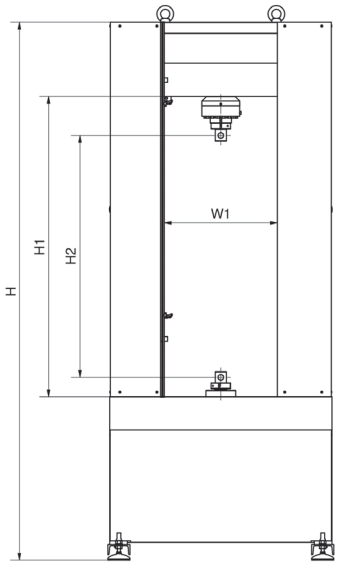
Model		LFM-200			
Model Number		LFM-200	LFM-200.E	LFM-200.01	LFM-200.01E
Force Range	kN	200			
Force Resolution	Bit	24			
Force Measurement Accuracy From to From to	ISO 7500-1 Grade 0.5 Grade 1	Grade 0.5 1/100 to 100% 1/200 to 1/100			
Frame Model	kN	200			
Frame Type		Floor-standing			
Backlash-Free Ball Screws	No.	2			
Test Speed Range	mm/min.	0.0005 to 500		0.0005 to 200	
Displacement Resolution	mm/min.	0.005			
Displacement Accuracy	ISO 9513	Grade 0.5			
Closed Loop Control Rate	Hz	14400			
Data Acquisition Rate	Hz	14400		8000	
Test Area Width W1	mm	610			
Test Area Height H1	mm	1676	2340	1676	2340
Distance between connecting details H2	mm	1400	2064	1400	2064
Frame Height H	mm	2872	3536	2872	3576
Frame Width W	mm	1220			
Frame Depth D	mm	750			
Frame Weight	Kg	1380	1590	1380	1590
Power Requirements		400 V, 50 Hz, 3 Phases, E, N		200-230 V AC	
Power Rating	kW	3.5		1.5	
Operating Temp.Range	°C	5°C to 40°C			
Humidity Range	%	20-92% Non-condensing			

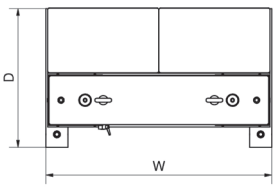




Technical Data

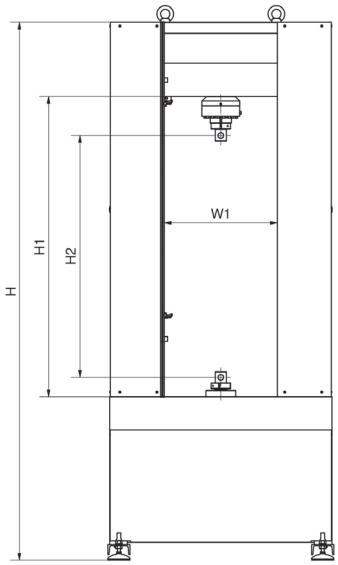
Model		LFM-250		LFM-300	
Model Number		LFM-250	LFM-250.E	LFM-300.01	LFM-300.01E
Force Range	kN	250		300	
Test Resolution	Bit	24			
Force Measurement Accuracy From to From to	ISO 7500-1 Grade 0.5 Grade 1	Grade 0.5 1/100 to 100% 1/200 to 1/100			
Frame Model Configured to	kN	300 250		300	
Frame Type		Floor-standing			
Backlash-Free Ball Screws	No.	2			
Test Speed Range	mm/min.	0.0005 to 500			
Displacement Resolution	mm/min.	0.005			
Displacement Accuracy	ISO 9513	Grade 0.5			
Closed Loop Control Rate	Hz	14400			
Data Acquisition Rate	Hz	14400			
Test Area Width W1	mm	610			
Test Area Height H1	mm	1625	2340	1625	2340
Distance between connecting details H2	mm	1305	2020	1305	2020
Frame Height H	mm	2910	3750	2910	3750
Frame Width W	mm	1220			
Frame Depth D	mm	750			
Frame Weight	Kg	1580	2118	1620	2240
Power Requirements		400 V, 50 Hz, 3 Phases, E, N			
Power Rating	kW	3.5		1.5	
Operating Temp.Range	°C	5°C to 40°C			
Humidity Range	%	20-92% Non-condensing			

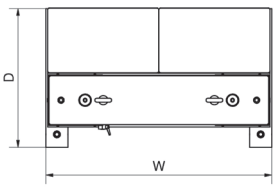




Technical Data

Model		LFM-400	LFM-400.E
Model Number		LFM-400	LFM-400.E
Force Range	kN	400	400
Force Resolution	Bit	24	
Force Measurement Accuracy From to From to	ISO 7500-1 Grade 0.5 Grade 1	Grade 0.5 1/100 to 100% 1/200 to 1/100	
Frame Model Configured to	kN	400	400
Frame Type		Floor-standing	
Backlash-Free Ball Screws	No.	2	
Test Speed Range	mm/min.	0.0005 to 500	
Displacement Resolution	mm/min.	0.005	
Displacement Accuracy	ISO 9513	Grade 0.5	
Closed Loop Control Rate	Hz	14400	
Data Acquisition Rate	Hz	14400	800
Test Area Width W1	mm	610	
Test Area Height H1	mm	1850	2340
Distance between connecting details H2	mm	1540	2030
Frame Height H	mm	3206	3696
Frame Width W	mm	1220	
Frame Depth D	mm	750	
Frame Weight	Kg	1740	1980
Power Requirements		400 V, 50 Hz, 3 Phases, E, N	
Power Rating	kW	6.5	
Operating Temp.Range	°C	5°C to 40°C	
Humidity Range	%	20-92% Non-condensing	





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