

## Floor Standing Electromechanical Testing Machines LFM-100 and 125 kN

This Series offers ultra-high flexibility and modularity making this model the perfect platform for a wide spectrum of users and applications ranging from demanding research projects to high-volume quality control. 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
- Two precise, backlash-free ball screw assembly provides high load capacity, high positioning accuracy and repeatability
- Two Extruded aluminium profiles with T-slots allow the easy mounting of any accessory
- 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
- AC servomotor provides continuous high test speed up to nominal force for continuously operation
- 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 lubrication
- 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
- 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
- Two Extruded aluminium profiles with T-slots allow the easy mounting of any accessories



## Reliable & Durable

w+b LFM-100 & 125 kN models combines proven load-frame design available in numerous high-stiffness configurations using high quality components and assemblies coupled with a generous dimensioning.

## Stiff & Precision Guided

These testing machines are well suited for materials including those with high rigidity. The frame design assures low frame deformation and good specimen alignment.

## Accurate

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

## Easy Mounting of Accessories

The two extruded aluminium profiles with T-slots allow the easy mounting of any accessories including mounting brackets for fully automatic extensometers, high temperature extensometer, non-contacting extensometer and other working tools.

## 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.

## Silent Drive System

The load frames are equipped with dual-timing belt drive system with powerful servo-gearbox providing low belt speed for silent and long-term operation. The servo-gearbox is lifetime lubricated for maintenance-free operation. For best specimen alignment the timing belts have the same length and have high mechanical efficiency compared with chain drives or V-belts.

## Latest Drive Technology

The LFM Series Test Systems are closed loop controlled through the latest high-resolution, high-speed digital control system PCS8000. The PCS8000 ultra-high-speed closed loop control and data acquisition rate on all channels combined with 24-bit high resolution transducer conditioning rate is achieved by a 64-bit processor running at 1 GHz.

## Fast Handling

Fast mounting of Grips & Fixtures or additional load Cells is provided via standardized Mounting-Stud with counter nut Providing easy, quick and accurate mounting of any accessories with mounting-stud with Pin. The supplied counter (lock) nut provides backlash-free accessories mounting. The mounting-stud is standardized and will fit to w+b accessories.

## Advanced Closed-Loop Control

As control channel available are any connected inputs as well as virtual (calculated) channels that might open many new opportunities to your application. The versatile concept of the PCS8000 is based on latest technology and supports applications with virtually no limits.

## Operator Safety

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.

## Machine Safety

Provides highest level of machine safety including overload protection of the frame, overload protection of the load cell, two-channel safety circuit according to the machinery directive.



## Configurable & Extendable

The modular design enables us to adapt these tests systems to virtually any of your requirements. Configure your test system to meet your unique needs of today and extend it in the future when your test needs would change.

## Everything from a Single Source

Thanks to our decades of experience in testing machine construction, maintenance and calibration, we can offer you an all-round service for your testing machines and systems. This minimizes failures and ensures compliance with standards. We offer preventive maintenance, on-site repairs, overhauls and repairs in our factory, machine relocations and recommissioning, spare parts, software updates & upgrades, training and modernizations.

## More than 45 Years Experience

Owing to over 45 years of experience in the production of electromechanical test systems our servohydraulic test systems includes a numerous of features and achievements guaranteeing operational efficiency, safety and reliable testing with minimum down-time.

## 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

