

# Force Testing Instrument

Universal Test Bench for Tension and Compression up to 2500 N

The motorized force test bench forms the basis for your universal force testing machine. Supplemented by a force transducer and the corresponding test software or the DFC force measuring device as control unit, they automatically perform tensile and compression tests. The operation is very simple, the application possibilities are manifold. The system is robust and reliable and is an ideal tool for quality assurance and production accompanying use.

## The Advantages in Detail:

- Travel 500 or 760 mm
- Maximum Force 500, 1500 or 2500 N
- Force Sensors from 10 to 2500 N
- Position accuracy 0.02 mm
- High precision
- Individually configurable
- Configured test sequences storable
- Fully automatic process
- Numerous clamping tools available
- Three different analysis programs: Basic program L1, scientific programme L2 and S1 especially for springs up to 180 mm in diameter



Model	FFM 110 / 110X	FFM 330 / 330X	FMM 550 / 550X
Load max.	550 N	1500 N	2500 N
Travel distance	500/760 mm	500/760 mm	500/760 mm
Speed min.	0,05 mm/min	0,05 mm/min	0,05 mm/min
Speed max.	1000 mm/min	1000 mm/min	1000 mm/min
Force and travel accuracy	< 0,1%	< 0,1%	< 0,1%
Vertical travel	Standard	Standard	Standard
Accuracy on positioning	< 0,02 mm	< 0,02 mm	< 0,02 mm
Working bas screwable	yes	yes	yes
Span width	100 mm	100 mm	100 mm

Scope of delivery: Testing Instrument, 1 force gauge, span adapter, PC optional

## The innovative concept of the L1, S1 and L2 software for force measurement:

Analysis program L1: The logical operation and the graphical user interface allow safe operation with little training effort. The measurement results are presented in a comprehensible way and can be easily printed and exported (e.g. for Excel®). Tests are stored as a test sequence and can be called up later to continue the tests or to view the results.



With the L2/S1 software, pre-configured tests are simply provided with the desired parameters or you can create your own test sequences with the configurator.

In the configurator, the individual steps are put together to form the sequence as required. In addition to tensile and compression operations, the machine can hold the force or the position and perform repetitions. Exactly as desired. The results are clearly presented and shown with prefilled limit values with tolerance evaluation. If desired, the report printout and/or data export can be triggered automatically after each run. Force - displacement and force - time diagrams can be superimposed in the L2 software for several runs. This results in a meaningful graphical comparison.

Software	L1	L2
Graphical display of the history	X	X
Limit value setting with good/bad display	X	X
Result table	X	X
Graphical comparison of test runs		X
Saving, editing and copying tests	X	X
Configuring test procedures		X
Configuring test loops		X
Export of results and raw data		X
Variable query		X

The choice of the clamping of the test object is decisive for the success of the force measurement. The fixtures are compatible with all force measuring devices and can be easily mounted or changed. Many different sizes and designs are available to suit the test procedure, test object and load range.

Clamping fixtures: pressure plates, pressure plungers, screw clamping heads, wedge clamping fixtures, bending fixtures, shear-off fixtures, rope clamping fixtures, belt clamping fixtures, haul-off fixtures and more...



Clamping Tools mm	Jaw Dimension	Opening Width	Force N	
U-Screw Jaw	10 x 25	0 - 8	100	
	10 x 25	0 - 45	100	
	30 x 30	0 - 10	2500	
	80 x 30	0 - 10	2500	
	30 x 30	0 - 20	2000	
	80 x 30	0 - 20	2000	
	30 x 30	0 - 50	1000	
	80 x 30	0 - 50	1000	
	with pyramid	10 x 25	0 - 8	100
		30 x 30	0 - 10	2500
50 x 30		0 - 10	2500	
80 x 30		0 - 10	2500	
30 x 30		0 - 20	2000	
50 x 30		0 - 20	2000	
80 x 30		0 - 20	2000	
30 x 30		0 - 50	1000	
50 x 30		0 - 50	1000	
80 x 30		0 - 50	1000	
V-Shape with chain	6 x 5		100	
Hook	D = 3- 8		350-2500	
Bending device			2500	
Peel test device			5000	
Pressure Plates	D = 56, 69, 116		2500	
	square 196 mm		5000	

