

3MZ SERIES

COMPRESSION AND TRACTION TESTS 1 kN - 50 kN full scale

Automatic Dynamometer
for the following tests:

- ✓ *Compression*
- ✓ *Traction*
- ✓ *Flexion*
- ✓ *Peeling*

This latest generation dynamometer is a solution specifically designed for:

- ✓ *SPRING*
manufacturers and users.
- ✓ *WIRE*
manufacturers and users.



- ✓ **Force range:**
10 kN to 50 kN.

EASYDUR SRL

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TESTING EQUIPMENT

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TECHNICAL TABLE

3MZ UNIVERSAL	1 kN - 50 kN
Force kN	up to 50
Number of guide columns	4
Number of ball screws	2
Height (mm)	2000
Width (mm)	1500
Depth (mm)	650
Weight (kg)	500
Useful test height (without accessories) (mm)	900
Useful test width (mm)	450
Min / Max test speed range (mm/min)	0,005 – 484
Position control resolution	±1µm
Axial rigidity of the instrument (kn/mm)	150
Force measurement precision	Class 0.5 from 1% of the load cell capacity / Class 1 from 0,2% of the load cell capacity
Precision class	EN ISO 7500-1
Precision of movement	±5µm
Test speed accuracy	(+/-) 0,1%
Calculation resolution (e.g. in compression / traction)	24 bits
Data acquisition speed - internal	10 kHz
Data acquisition speed - PC	1 kHz
Controller / Cycle time	1 kHz
Power supply	Single-phase voltage: 230 VAC +/- 10%; 50 – 60 Hz
Operating temperature	(+10 to + 38 °C)
Storage temperature	(+ 5 to + 55 °C)
Humidity range	(+10 + 90 %)
PC interface	Ethernet
Drive system	AC Brushless servomotor
Noise level at maximum test speed (dBA)	<75

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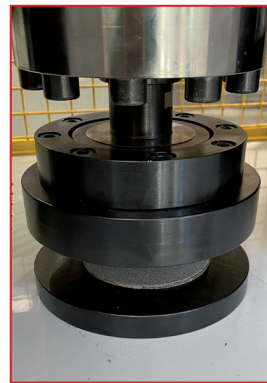
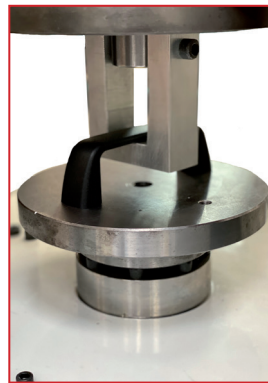
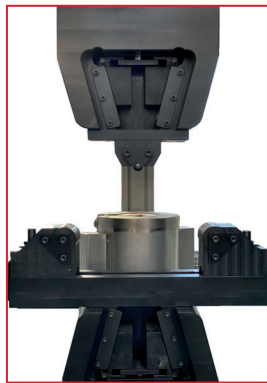
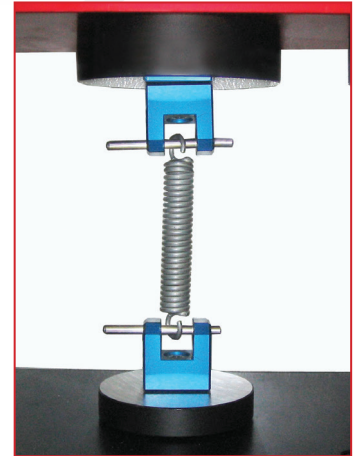
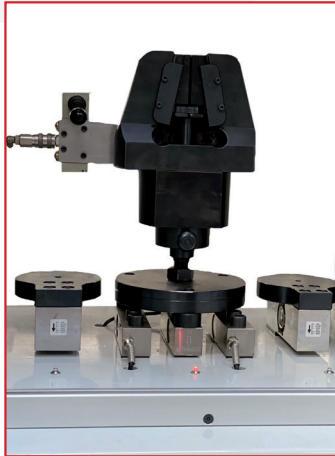
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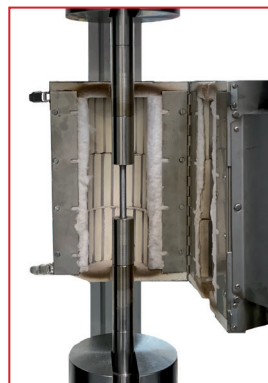
Our customers have the option of fitting 3MZ with *one, two or three load cells* (always installed).

This makes it possible to extend the range of samples to be tested, (*depending on the forces required*), always operating with maximum accuracy and repeatability of results.

The cells are protected against overload and have automatic axle release in the event of out-of-scale or unexpected impact, as well as integrated failure compensation.



Depending on the type of test to be performed, the instrument can be equipped with different *accessories*: plates, spring traction hooks, wire pulling pliers and *special equipment* in line with the various technical specifications required by the international testing standards.



The instrument may be interfaced with a range of external hardware:

- ✓ Contact and no-contact strain gauges for traction and breaking load tests.
- ✓ Digital callipers and micrometers for special compression tests.
- ✓ QR & BAR Code Reader.
- ✓ External analogue channels.

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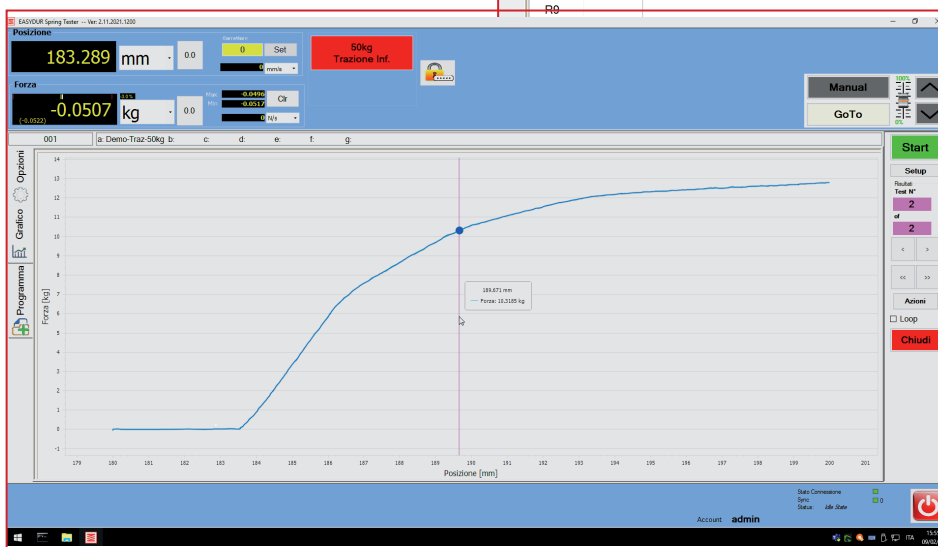
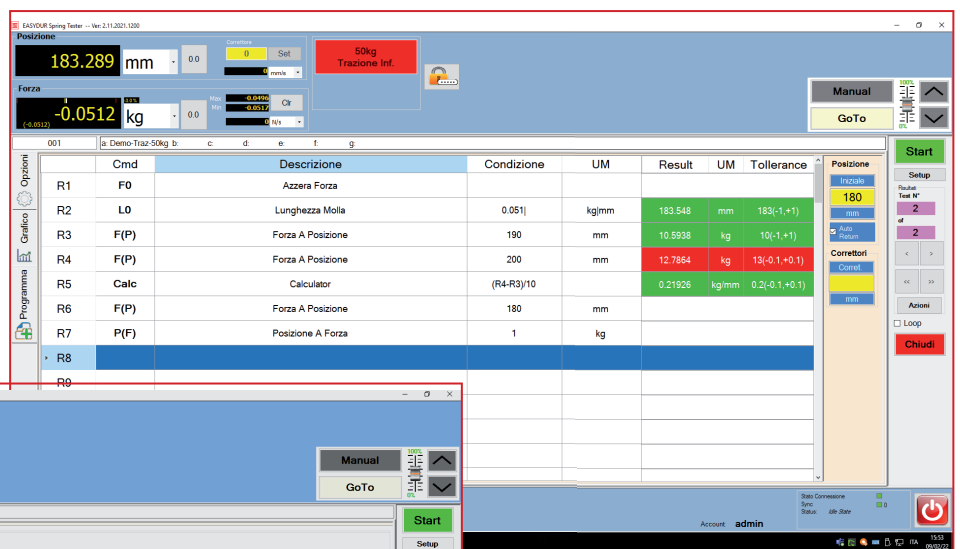

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The 3MZ series comes with the EASY-QS Universal Test Software, which enables all types of static and quasi-static (low-frequency cyclic) testing on compression and extension springs..

- ✓ Go to a position and read the corresponding **force**.
- ✓ Go to a **load** and obtain the corresponding position.
- ✓ Stress cycles at low frequencies.
- ✓ Settlement.
- ✓ Holding of a position or load for the required time frame (**Long-term creep**).
- ✓ Pre-load for the detachment of the first loop of traction springs (**FIP**).
- ✓ Calculation of the **rigidity** of the **spring** - Calculation of the **flexibility** of the spring.
- ✓ Open calculation system, with the possibility of performing dynamic automatic calculations (during the test).
- ✓ **Pre-filled wizards** according to the most important ASTM - ISO standards for tensile breaking load tests.
- ✓ **Data export** via OPC-UA module.
- ✓ Reports in Excel.
- ✓ CP-CPK / PP-PPK calculation / XR programme.
- ✓ **Two-way interchange** with the most important business management software (SAP - QDASS - PANTERA etc.).



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