

WE TEST YOU TRY

ABOUT US

INDUSTRY4.0

EASYDUR Italiana was established in **1985** by **Renato Affri** (current CEO of **EASYDUR SRL**), who began designing and manufacturing **spring control** solutions: Compression/traction, torsion, fatigue testing machines and image analysis systems.

In **1991** EASYDUR ITALIANA built the **the first camera gauge for 100% spring production control using a software based on Windows**.

We build compression/traction, torsion and fatigue testing machines and automatic 100% production control systems, using robots and the latest generation automation systems.

In 2015, EASYUR ITALIANA moved to Arcisate (VA), to a new production space of 2000 m2 and large offices of 600 m2.

In 2019, the company became EASYDUR S.R.L.

Thanks to multiple partnerships with local agents and dealers, we have established commercial relationships and provide after-sale services **all over the world**.

EASYDUR always follows with pride its tailor-made policy, consistently aiming at supplying equipment with the **highest technological content**.





PRODUCTION, SALE AND SUPPORT 100% MADE IN ITALY

Drehrichtung:

BOLGEL2 8

EASYDLA

APPLICATION FIELDS

SPRING TESTING SOLUTIONS

INDUSTRY4.0

Thanks to the relentless work carried out by the **EASYDUR R&D Department**, our equipment allows customers to work in full compliance with the **Industry 4.0** principles.

Thanks to our control software, EASYDUR machines can be interfaced with the **Management Systems** used by our customers, for maximum speed of operation and exponential reduction of the risk of operator errors.

Our operators can remotely connect directly to the IT systems of our customers all over the world, making our **after-sales support** service **immediate and efficient**. COMPRESSION TENSILE DYNAMIC STRESS TORSION DIMENSIONAL ANALYSIS PRODUCTION CONTROL

For this range of machines, our primary market is certainly that of **SPRING MANUFACTURERS**, a sector that the company has been serving for over 35 years. And over the years EASYDUR has also started to supply its solutions to spring users, gaining the privilege of transversally penetrating multiple sectors at international level:

AUTOMOTIVE, RAILWAY, AEROSPACE, DEFENCE, OIL&GAS, CONSTRUCTION, MEDICAL, HOUSEHOLD APPLIANCES, PRECISION INDUSTRY, WIRE AND ROPE MANUFACTURERS. AUTOMOTIVE

SPRING MAKERS

RAILWAY

TESTING EQUIPMENT

MEDICAL

MISCELLANEOUS

OIL AND GAS

DEFENCE

HOUSEHOLD APPLIANCES

RAILWAY

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COMPRESSION & TENSILE

OPPRESSION /

LOAD CAPACITY: from 10 N up to 2.000 KN



COMPRESSION & TENSILE TESTING INSTRUMENTS

We manufacture an extremely complete range of class 0.5 dynamometers.

Our machines can test, with the highest **precision and repeatability**, both **springs with very low loads** (NanoDyno Model with **1 N load cell**) and **large springs** (Ex. **Wire diameter 60**) that require very high forces (Aura Model, with a **load cell of up to 200 T**).

The main application is of course springs (compression and traction), but thanks to the **great versatility** of our solutions with fully programmable software, our machines are often used to control many types of elastic components.

EASYDUR dynamometers can be fitted with **3 permanent load cells** with forces that can be adjusted to customers' needs. We can build to drawing any **special accessories** to be applied to the machines and any hooks required for traction tests.

Thanks to our **EASYQS software**, based on Windows 10, we can very easily create recipes that allow the operator to obtain every value of interest of the spring: L0, Force to Position, Position to Force, Spring rate, Flexibility, Position to Block, Cyclic test, Mean, Sigma, Gaussian Curves CP, CPK.

A P P L I C A T I O N S

SPRING MAKERS MISCELLANEOUS AUTOMOTIVE MEDICAL WIRES PRODUCERS PRECISION INDUSTRY HOUSEHOLD APPLIANCES PEFENCE ROPES PRODUCERS

LATERAL FORCE & STIFFNESS

LOAD CAPACITY: from 5 N up to 600 KN

SPRING MAKERS

HOUSEHOLD APPLIANCES

KAIL WAY

AUTOMOTIVE



AEROSPACE

AUTOMOTIVE

HOUSEHOLD APPLIANCES

LATERAL FORCE (SIDE LOAD) & STIFFNESS TESTING INSTRUMENTS

In the field of axial force testing, the measure of the **coaxiality** of the applied load is very important, especially in **compression** and **traction** springs, or in case of elements which by their nature apply an approximately coaxial load, such as **suspention** springs, or **elical springs** in general.

To solve this issue, EASYDUR has created a **multi cells platform** capable of recognising how much pure axial force is applied and in which direction this force is actually dissipated, also including torque and **tilting moments**. From a technical point of view, 7 or more **load cells** are included, **independent of** each other, which thanks to appropriate mathematical formulas can build the Force Vector, including its application points.

As far as **lateral stiffness** in the **railway** sector, the primary and secondary suspensions of the bogies need to be tested in order to analyse both **axial** and **lateral stiffness**; for this purpose, EASYDUR relies on a special **motorized** multi-cell **platform**, which thanks to complex mathematical formulas programmed in the EASYQS software allows to analyse these Force components with great rapidity, precision, and repeatability.

Our **Dyno COSMOS** (up to 5 KN), **3MZ Side-Load** (up to 50 KN) and **Aura Chasse** (up to 600 KN) models are specifically designed to solve these problems, allowing our customers to **accurately** detect any possible **imperfections in the loaded springs**.

A P P L I C A T I O N S

AUTOMOTIVE

RAILWAY

TORSION & DYNAMIC

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TORQUE CAPACITY: from 100 N/mm up to 800.0<u>00 N/mm</u>

DYNAMIC STRESS TEST: from 10 N up to 600 KN

SPRING MAKERS

MISCELLANEOUS

MEDICAL

EASTON

EASYDLA



TORSION & DYNAMIC TESTING INSTRUMENTS

TORSION

Our numeric control Torquemeter can test every kind of Torsion spring, wire and screws belonging to class 0.5 (from 100 N/mm to 800,000 N/mm) with a minimum angular division of 0.1°. We manufacture bench-top machines or floor standing models.

The peculiarity of EASYDUR torquemeter is the possibility to mount a revolver turret equipped with 3 different torque cells always ready for use, with right and left forces that can be selected by the customer according to individual needs, even up to the breaking of the specimen.

Thanks to our EASYDUR spring tester software, based on Windows 10, we can very easily create recipes that allow the operator to obtain every value of interest of the spring: Free Angle, Angle at Force, Force at Angle, Spring Hysteresis, 3D Diagrams (Angle, time, torque), Mean, Sigma, Gaussian Curves CP, CPK.

DYNAMIC STRESS

EASYDUR fatigue testing machines are split into 4 technologies: the basic MECHANICAL solution with digitally controlled connecting rod and crank, an electromechanical direct drive solution, one with linear motor and a hydraulic solution for high load tests.

Our latest-generation EASYDYNAMICS software allows performing fatigue tests and actual dynamic tests, acquiring the values relating to the physical values of interest, choosing acquisition times and frequencies.

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WIRES PRODUCERS AEROSPACE PRECISION INDUSTRY AUTOMOTIVE HOUSEHOLD APPLIANCES **ROPES PRODUCERS**

DIMENSIONAL ANALYSIS



AEROSPACE

METAL PARTS

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DIMENSION ANALYSIS TESTING INSTRUMENTS

EASYDUR vision systems, are mainly split into 2 categories: 2D and 3D solutions.

To meet the need of image analysis of our customers, we make machines able to perform very fast and extremely precise geometric analyses of the spring; based on the size of the sample, we use telecentric lenses with cameras, which allow the completion of quality checks with millesimal resolutions.

Our 2D Multivision model can be supplied with vertical optic station, one vertical and one horizontal lens, allowing the analysis of the macro sample, or a more specific detail requiring a higher level of resolution, in less than 1 second.

The E1-E2 solution allows the customer to make a 3D analysis of the spring, measuring not only the Perpendicularity and Parallelism of the spring but also L0, External Diameter of all the coils, concentricity of conical and biconical springs, grinding angle of the first coil, graph of the distances between the coils, creating a 3D drawing of the spring, which can then be exported.

METAL PARTS

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AUTOMOTIVE

AUTOMOTIVE SPRING MAKERS SPRING MAKERS METAL PA

SPRING MAKERS

AEROSPACE

100% PRODUCTION CONTROL



100% PRODUCTION CONTROL TESTING EQUIPMENT

Also in the field of **Automation** the main characteristic that sets us apart is the extreme **customization** of the solution. Both the **mechanical** component and the **software** and **PLC** are **developed in-house** to provide the customer with the **best solution** in terms of **performance** and **precision**.

We build equipment that is also suitable for **testing large springs**. Our systems can be interfaced with furnaces, coiling machines, and spring-formers. We also supply all the equipment of our catalogue as **automatic versions**, with the possibility of **combining tests**.

EASYDUR systems are used to control the production of springs of any type and load.

It is possible to combine geometric image **analyses**, **pre-settings activities** and compression tests, separately or in one go.

It is also worth mentioning that **for over 20 years** we **have been** supplying **cameras** that can be installed on spring-formers and coiling machines for the control and correction of spring production. Our prerogative is to provide a real **4.0 system**.

A P P L I C A T I O N S

SPRING MAKERS

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