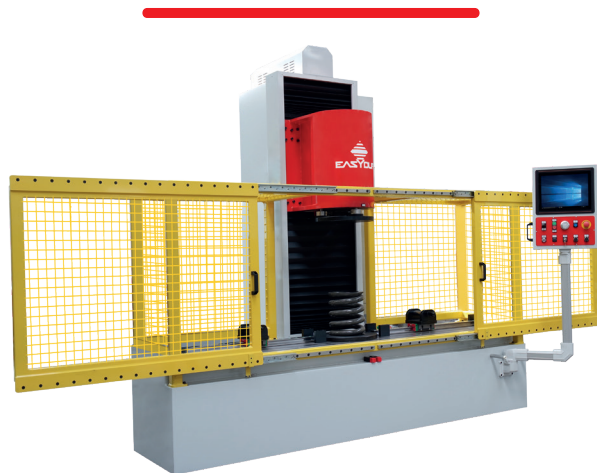




The **Arco model leaf spring testing machine** is the ideal solution for performing **compression** and **bending tests** on leaf springs mainly intended for railway and automotive applications.

Depending on the type of leaf spring suspension, and in particular depending on the compression forces involved, Easydur is able to design and build an **ergonomic solution to suit every application requirement**.



The load cell of the leaf spring testing machine is placed on the central plate moved along the vertical axis. Thanks to this design, it is possible to **test several products** such as leaf springs, coil springs and general spring components **using the same machine**.

The two ends of the mother leaf of the leaf spring are secured with special locking pins positioned on a **movable carriage**, to ensure stable locking and, with the addition of optional sensors, to measure the extension of the leaf spring as a result of the applied compression force.

ELECTRONICS AND CONTROL

Easydur offers a **servo-electric system**, totally abandoning hydraulic technology even for high loads. The leaf spring testing machine is in fact equipped with a **brushless motor**, a ball screw and an absolute encoder.

The special feature of the Easydur testing machine is a control system based on several proprietary cards (for axis control + cell readers) with CAN-bus connection, for displacements to position or force, with **1000 Hz feedback** speed. The reading of the loading cell therefore takes place 1000 times per seconds, with a **minimum resolution of 100,000 divisions** (which can be increased by slowing down cell reading).

Arco is a numerically controlled solution that can operate in fully automatic, semi-automatic or manual mode. Every single operation can be carried out quickly and intuitively, thanks to the large and sturdy industrial **touch screen display**, and then stored on the large **integrated hard disk**.

THE LEAF SPRINGS TEST IS FULLY CUSTOMISABLE

Thanks to the **EASYQS proprietary software**, developed entirely by the Easydur R&D team and **running on Windows 10 platform**, the operator will be able to create **fully customisable test recipes**, in line every possible technical requirement in terms of characterisation and spring testing (e.g. the test can be set up to meet the **UIC 821 : 2003 standard** - technical specification for the supply of parallel leaf springs for vehicles).

It is possible to:

- Go to one or more **positions** and read the corresponding forces,
- Go to one or more **forces** and read the corresponding positions,
- Perform **sinusoidal profile stress cycles**, entering the number of test cycles,
- Maintain a given **load** or **position** for a settable period of time,
- Read while passing through,
- Perform **real-time mathematical calculations**.

CHARACTERISTICS

- Absolute automatic reset
- Relative reset with respect to opening, e.g. of the free spring
- Creation and export of the test diagram
- ASCII archive easy to read and export
- Elasticity and rigidity diagrams
- Interface for the acquisition of external data from tools such as gauges, comparators, etc.
- Integrated network card, USB
- Electronic handwheel for manual movements with 0.003 mm precision
- Media, sigma, Gaussian curves, CP, CPK...

Easydur testing systems are fully compatible with **Industry 4.0** standards, with all the benefits this paradigm entails, as well as the possibility to create and export statistics and reports.