



Reference Name: **Electronic Coil Testing Machine**
Supplier: ELVAC a.s.
Customer: KENDRION s.r.o.
Market segment: Automotive industry
Year of implementation: 2023

Opening text:

For the company KENDRION s.r.o. we produced a KYB assembly type machine – E.S. It is a workplace for **automated testing of coil assemblies**, which is part of the electromagnet used to control the characteristics of the suspension damper.

The device verifies the electrical functionality of the coils, visually inspects the contacts using a camera and marks the plastic parts of the coils with a laser.

Customer requirements:

The task was to create a single-purpose machine for testing new types of coils for shock absorbers.

Fulfilling the primary requirements meant ensuring the possibility of **performing multiple tests at the same time**, while **maintaining the specified time of one cycle**. Another necessary function of the machine is the **laser marking of the coils** due to the traceability of each piece, including the evaluation of the quality of the unique brand.

Implemented solution:

We used the following components in the manufacture of the machine:

- The machine itself is controlled by a PLC – Siemens Simatic S7-1515F-2PN.
- The Siemens TP1200 Comfort HMI panel is used to operate the machine.
- Simple movements and fixation of coils are realized using pneumatic cylinders.
- The movement of the coils to individual positions (setting, testing, camera control, laser marking) is provided by a carousel whose electric motor is controlled by a Siemens G120 CU240E-2 PN-F converter.
- SPS electronic HA 1800 B/M high-voltage tester is used to test electrical quantities.
- BURSTER Resistomat 2329 is used to measure coil resistance.
- The camera used to check the contact pins is KEYENCE IV2-G150MA.
- The laser for describing the coils is the KEYENCE MD-X2000A, which has an integrated DMC reader including evaluation logic.

Benefits for the customer:

The supplied machine performs fully automated testing and laser marking of each coil **without slowing down production**.

Unique marks allow traceability and tracing of each manufactured piece together with the detailed result of the performed test.



Photo:



