

UMO | DEVICE FOR THE DYNAMIC MEASUREMENT OF FORCE



CONSTRUCTION
Aluminum profiles



DRIVE
Stepper motor



CONTROL
Siemens PLC S7 / 1200



VISUALIZATION
SCADA system

WORK PRINCIPLES

By converting rotary into linear motion, device extends and squeezes spring and shows collected information about force $F(N)$ in specific points of every cycle during time $t(s)$ and spring stroke $S(mm)$.

REASONS FOR TESTING SPRINGS	TYPES OF TESTS
1. Checking the initial mechanical properties	Spring constant test
2. Reducing mechanical properties of dynamically forced springs during time	Material fatigue test

INDUSTRIAL AUTOMATION / CUSTOM MADE MACHINES

Enso

• +385 (43) 445 - 189

• ISO 9001

www.enso.hr • enso@enso.hr

UMO | DEVICE FOR THE DYNAMIC MEASUREMENT OF FORCE

SPRING CHARACTERISTIC TEST

Spring characteristic:

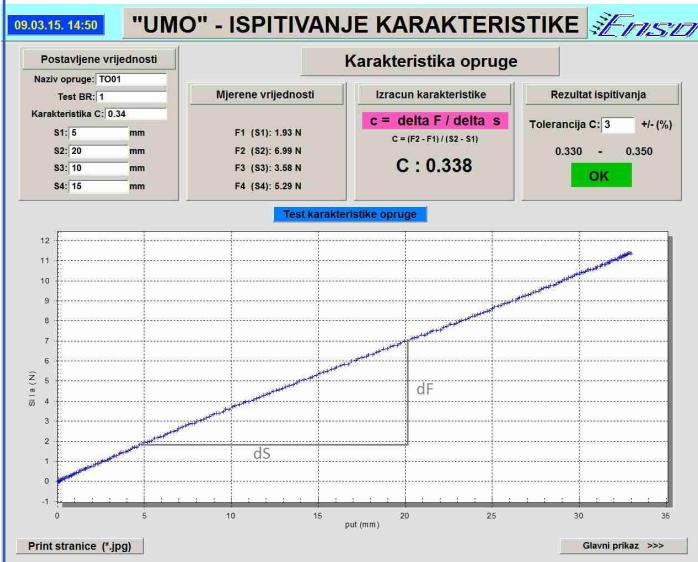
If the tensile, compression, flexion or torsional spring loaded with force F , force vertex makes path S , called stroke.

Dependence of the spring over the load is called **spring characteristic C**.

Working principle:

The application collects data about the amount of force $F(N)$ in particular points of the spring stroke S (mm).

Real and default constant are compared.



MATERIAL FATIGUE TEST

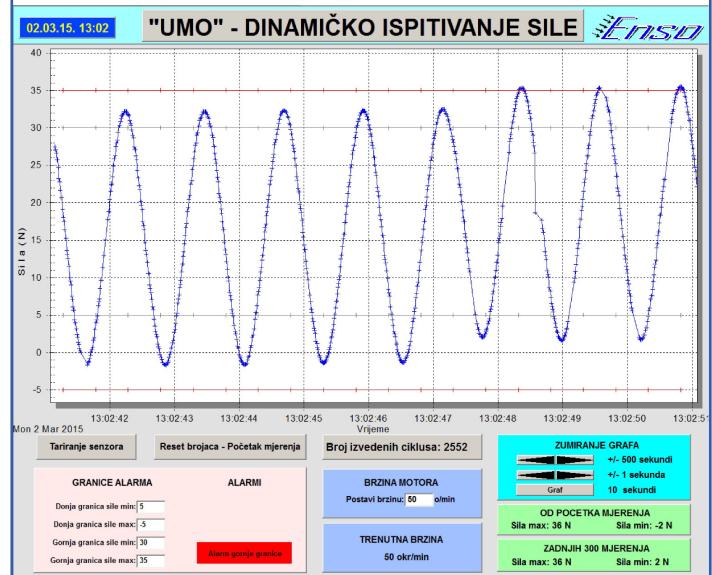
Material fatigue:

Material fatigue is gradual damage of material due to long-term periodic variable load (strain).

Working principle:

Force $F(N)$ sampling during the test cycle $t(s)$

It shows the impact of the material fatigue over time and breaking moment caused by dynamic stress.



INDUSTRIAL AUTOMATION / CUSTOM MADE MACHINES

Enso

+385 (43) 445 - 189

• ISO 9001

www.enso.hr • enso@enso.hr