Instron 8803 versatile servohydraulic material testing system

Features:

Force capacity:	500 kN
Maximum displacement:	100 mm
Work area:	1900x780 mm
Position of the actuator:	lower base
Other features:	amplitude control, adaptive control, security test

Specifications:

Versatile servohydraulic fatigue testing system, which performs static and dynamic tests on materials and its components. Its console software provides full system control from PC. The actuator is at lower table base. The equipment can measure the following quantities: force, displacement, axial and transversal strain deformation.

The available temperature depends on the temperature tolerance of the clamp and the extensometer, that is used in the test. In our climate chamber and high temperature furnace we can carry out tests between -150 and +1400 °C temperature.

In case of fatigue tests, the available maximum frequency is approximately 20 Hz. The actual maximum of the frequency depends on the amount of displacements.

The equipment can use three load cells with different measuring ranges. It can measure between a very low load (from some Newton) to high loads (up to 300kN) as well, ensuring the maximum accuracy available.

These cells are the following:

- 500 kN cell
- 25 kN cell
- 5 kN cell
- All the tests can be controlled and evaluated by the software. The measured values (time, force, displacement, strain) can be stored, so they can be used for further evaluations.

Options for tests:

Static tests:

- Tensile tests
- Compression tests
- Shear tests
- Tests under load

Fatigue tests:

- Large cycle fatigue tests (HCF) for pull/press
- Low cycle fatigue tests (LCF)
- Random fatigue
- Determination of fatigue limit for pull/press

Fracture mechanics tests:

- Determination of fracture toughness (KIC)
- Determination of J-integral (JIC)
- Determination of R-curve
- Determination of crack growth rate (dadN)
- Determination of the critical voltage intensity factors (DKth)

Technological tests:

- Bending tests
- Upsetting tests
- Tests of welded joints
- Fracture tests