

Servo-Hydraulic Fatigue & Structural Test System

CAPABILITY SHEET - DYNAMIC UTM - STATIC / FATIGUE / STRUCTURAL - ENGINEERED TO ORDER

THE MACHINE

WHAT	A servo-hydraulic fatigue & structural test system - a dynamic testing machine that applies controlled load to a specimen or structure, static or cyclic, to ~1000 kN.
OUR ROLE	Built around Neometrix's own servo-hydraulic actuator and power pack; the servo-valve, controller, load cell and extensometer are bought-in specialist instruments.
STATUS	Engineered to order; sized to the specimen, the loads and the test standard. No specific delivered machine is claimed on this sheet.

STATIC, FATIGUE & STRUCTURAL

FATIGUE	Fatigue, not overload, usually breaks structures - a crack grows under millions of loads below static strength. S-N, LCF/HCF and crack-growth (da/dN) find the life.
STATIC + STRUCTURAL	Static tension, compression and bend for strength, yield and modulus; structural proof and ultimate load tests, to ASTM E8/E466/E647 and ISO.
MULTI-ACTUATOR	Multi-actuator rigs load a whole component or airframe section with coordinated actuators to reproduce service loads - static and full-life fatigue certification.

CONTROL & ALIGNMENT

CONTROL	Closed-loop force/displacement/strain control: a servo-valve and controller hold the commanded waveform over millions of cycles, so the specimen sees the intended load.
STIFFNESS	A stiff, precisely aligned frame keeps the load purely axial - a compliant frame or misaligned grips inject bending and give a fatigue life that is wrong and scattered.
MEASURE	A load cell, an extensometer and strain instrumentation measure what the specimen actually sees; alignment is verified to standard with a strain-gauged specimen.

DISTINCTNESS & ENGAGEMENT

NOT AN ACTUATOR BENCH	Distinct from an actuator test bench (which tests the actuator) and a torsion machine (which twists one shaft) - here the actuator is the tool loading a specimen.
MADE IN-HOUSE	More is made in-house than most test systems: our own actuator, power pack, load frame, grips and controls, with a bought-in servo-valve, controller and transducers.
ENGAGEMENT	Send the specimen, the loads and the test standard to sales@neometrixgroup.com for a clause-by-clause compliance matrix in two working days.

PROJECTS DESK

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