

Recoil System Test Rig

CAPABILITY SHEET - BUFFER + RECUPERATOR CHARACTERISATION - FORCE-STROKE AND FORCE-VELOCITY

THE SYSTEM

WHAT	High-energy hydraulic rigs that characterise recoil systems - the buffer that absorbs the stroke and the recuperator that returns the recoiling mass.
OUR ROLE	Neometrix engineers the bed and reaction structure, actuation and hydraulic power, fixtures, instrumentation, conditioning, software and records.
STATUS	Engineered to order; quoted against a recoil-system test-rig requirement. No delivered system is claimed.

THE MEASUREMENT

A CURVE, NOT A NUMBER	Force against stroke and force against velocity across the whole travel - resistance must rise, hold and taper in a controlled way.
BOTH HALVES	The buffer throttles through orifices of varying area; the recuperator is a gas spring returning the mass on run-out. Both are characterised.
COMPLIANCE IS ERROR	If the reaction structure deflects, the stroke measured is not the stroke delivered - stiffness is a measurement requirement first.

THE PROGRAMME

CONDITIONED	Across the service temperature range - fluid viscosity falls as it warms and gas charge pressure rises; ambient-only tests one point of an envelope.
ENDURANCE	Proof pressure, static and dynamic leak, seal performance and cycling at rate, with fluid temperature held so the run does not change the answer.
ACQUISITION	Displacement, velocity, force and pressures on one calibrated time base, fast enough to resolve a stroke lasting a fraction of a second.

DISTINCT & HONEST

OVERHAUL ACCEPTANCE	Curves retained per assembly, so a unit back from overhaul is compared with the envelope it left with rather than merely passing a band.
OUR FRANCHISE	Structure, hydraulics, fixtures, conditioning, software and records are ours; servo valves, actuators, load cells and acquisition are bought-in.
ENGAGEMENT	Send the energy, the stroke and the acceptance envelope to sales@neometrixgroup.com for a clause-by-clause compliance matrix in two days.

DEFENCE PROGRAMMES DESK

sales@neometrixgroup.com · +91 7777 876 876 · neometrixgroup.com
Neometrix Defence Limited · E-148, Sector 63, Noida, Uttar Pradesh, India