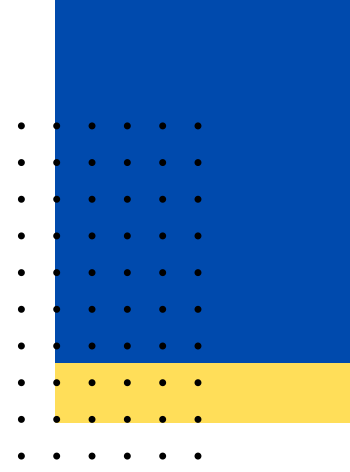


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UNIVERSAL SNUBBER TEST FACILITY

www.neometrixgroup.com

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COMPANY OVERVIEW

About Us

NEOMETRIX DEFENCE LIMITED is a defence engineering company working in high technology domain of Ground Testing Equipments, ground support equipments for defence aviation industry.

Founded in 2003 by IIT Kanpur mechanical engineering graduate, the company has been growing rapidly.

Company serves GLOBAL defence aviation industry with its machines in Hydraulics, Servo Hydraulics, Aviation Fuel Systems, High Pressure Gas Systems.

All these machines are built in fully computerized and state of the art facility.

INTRODUCTION

The Universal Snubber Test Facility is a cutting-edge testing solution engineered by Neometrix Defence Limited to ensure the performance and reliability of hydraulic and mechanical snubbers. These components play a critical role in safeguarding piping systems, nuclear power plants, and other sensitive infrastructure against seismic forces and dynamic loads.

This advanced facility is designed for in-service inspections (ISI) of snubbers, as mandated by ASME BPVC Section XI standards. It ensures that snubbers maintain their performance over their operational life, providing reliable support to systems with diameters ranging from 15 NB to 800 NB. Load capacities vary between 17.5 KN and 240 KN, and stroke lengths range from 140 mm to 245 mm, depending on application requirements.

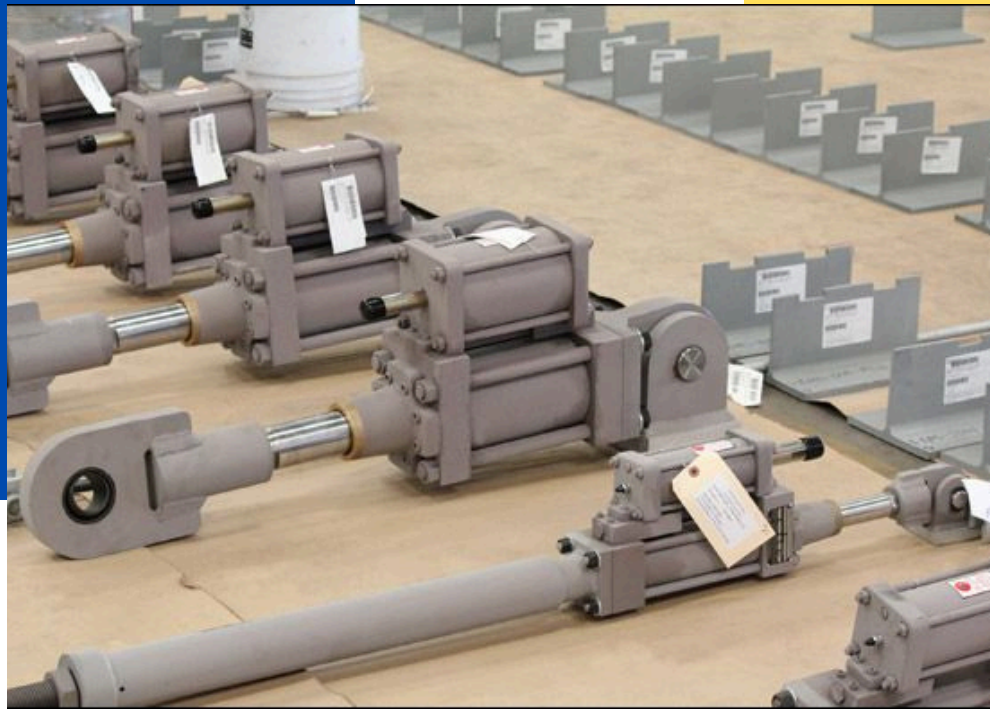


SPECIFICATIONS

The Universal Snubber Test Facility incorporates advanced engineering and high-precision technologies to deliver exceptional performance and versatility:

- Snubber Compatibility: Hydraulic and Mechanical snubbers.
- Load Frame Stiffness: 1500 MN/m for robust and reliable load testing.
- Test Load Capacity: Designed to handle up to 25 tons, accommodating a wide range of snubber sizes and types.
- Velocity Range: Adjustable from 0.1 mm/sec to 15 mm/sec, replicating operational dynamics with precision.
- Acceleration Capacity: Up to 250 mm/sec², enabling realistic simulation of rapid dynamic loads.
- Beam Length Adjustment: Up to 1200 mm, suitable for various snubber sizes.
- Hydraulic Beam Locking Mechanism: Positive hydraulic clamp, which remains securely locked even without hydraulic pressure.
- Stroke Length Range: Configurable between 50 mm and 300 mm to match different snubber designs.
- High-Precision Servo Actuator: Supports loads up to 50 tons, ensuring accurate and consistent force application.
- Hydraulic Power Pack Pressure: Capable of generating pressures up to 300 bar for efficient operation.
- Software and Control System: LabVIEW software paired with NI/PLC hardware for seamless operation and data acquisition.





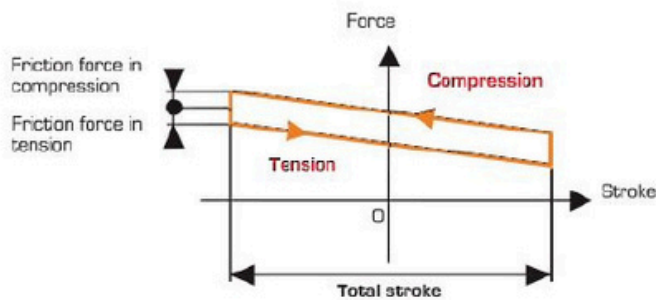
APPLICATIONS

- Nuclear Power Plants: Protecting reactors and piping systems from seismic forces and operational stresses.
- Sodium Piping Systems: Enhancing stability and reliability in dynamic environments.
- Critical Infrastructure: Providing robust support to power plants and other facilities during seismic events or under heavy operational loads.

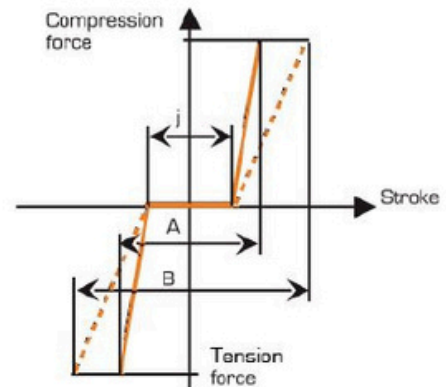
TYPES OF TEST PERFORMED

- Free working test and measurement of stroke.
- Measurement of drag and break away force.
- Measurement of blocking Speed and Activation level.
- Measurement of Drift Speed and Test load.
- Measurement of spring rate.
- Measurement of Lost Motion.

Free movement under the locking speed



Force after locking



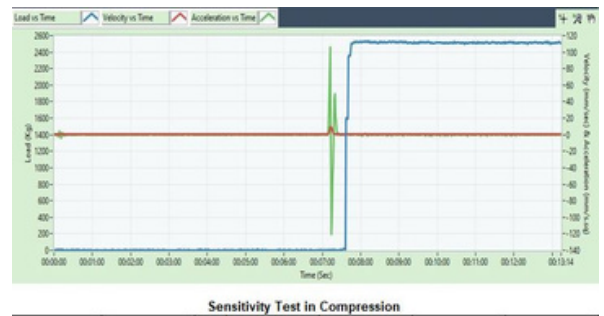
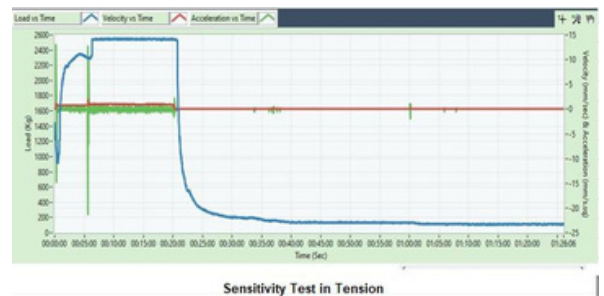
CONTROLS & SOFTWARE SCREEN

Controls :

Type – fully automatic Computer based.
Back-up power: for minimum 30 minutes shall be available.

Software – Dedicated software (Language: in English) for automatic execution of test programs (specified in cl 4.0), collecting of measured data, generating plots and automatic interpretation of results and test reports.

Testing interface is interactive/ user friendly and software ask for the type of snubber (mechanical/ hydraulic) to be tested. Accordingly, all specified tests, internal processing for input velocity/ acceleration, load-etc. shall be finalized by software. Later on it shall be indicated along with acceptance values for information. There shall be also provision to input acceptance parameters for different tests and same shall be indicated in report after test is completed.

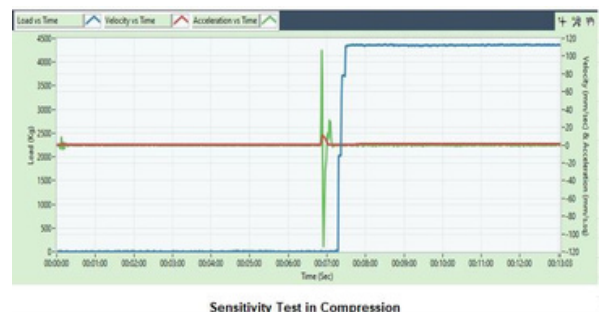


CONTROLS & SOFTWARE SCREEN

Further software is capable for performing necessary calculation of parameters (viz. displacement, velocity and acceleration), processing all relevant data and generate suitable report regarding functionality of snubber covering various snubber tests. Software shall be also capable of carrying out test facility calibration.

The graphs in the above 2 pages shows the following results graphs:

1. Sensitivity Test in Tension
2. Sensitivity Test in Compression
3. Free Oberability in Tension
4. Free Operability in Compression



**THANK
YOU**

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