Inova Testing Systems

High Performance Damper Testing Systems
For measuring the properties and durability of vehicle dampers with testing speeds up to 8m/s

Applications
- Dynamic characterisation test of dampers
- Friction test
- Durability testing with synthetic or real road signals
- Multi Damper durability testing
- Side load application for friction and durability testing
- Evaluation of tolerance fields and curves
- Production line integrated testing of dampers
- Flow test benches for damper valve testing
- Mobile, truck integrated systems for set up testing beside the proving ground or the race track
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General

The demands of comfort and reliability for cars, trucks, motorbikes and trains will be higher and higher. One very important consideration for this is the vehicle suspension system. Apart from the external load, new active components are now present. To investigate all of these aspects, it is necessary to prepare for many different types of tests now and anticipate changes and variations in the future.

Inova has more than 30 years experience in the design and manufacture of ‘state of the art’ servo hydraulic Damper Test machines. This includes Mono Tube Dampers, Twin Tube Dampers, Cabin Suspension, Yaw Dampers, etc. Inova systems are also available to test Rotary Dampers and Air Sprung Damper elements.

To complete the picture, we are also able to adapt the CAN Bus application inside the testing system to simulate the electrical communications with the vehicle’s ECU’s and generate the messages for damper ECU from the test sequence.

Modular concept

Inova Damper testing machines are based on a modular concept of loading frames, seismic masses, actuators, hydraulic supply systems and a wide range of accessories and electronic options.

With our variable loading frame concept, we can offer solutions for any test on any damper system.

Railway Damper Testing

A railway vehicle bogie has many different dampers in various positions. It is often preferred to test the damper in its ‘real’ attitude. This specially designed frame allows the frame angle to be set accordingly.
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Accessories
Inova offers a wide range of accessories for damper testing.
- Seismic masses and vibration isolation
- Safety covers for user protection
- Hydraulic and manually operated damper fixtures
- Ball Joints for damper alignment
- Fixtures and tools for multi damper testing
- Temperature control and measurement; also cooling units
- Side load systems for single and multi damper testing
- Damper piston rod rotation devices
- Hydraulic power supply systems
- Automatic switch over module for low and high flow servo valves
- Active Damper control from the testing sequence
- Software for iterative command signal generation for service load simulation
- Fixtures for testing unsealed dampers

Special solutions
As well as our standard mainstream damper testing Inova offers special solutions
- Mobile “truck integrated” systems for testing near the race track or the proving ground.
- Flow benches for damper valve analysis
- Production line integrated systems
Software LabExpert-ProDamper

Le-ProDamper is the result of years of experience in the area of damper testing. The software is design-ned for R&D as well as end of line test. During design of the software we had three main targets:

- powerful test definition
- wide range of evaluation
- easy use of the system

LE-ProDamper takes care about control of the test, evaluation of results and test report.

Former tests or defined sequences can be easily loaded from a data base via keyboard or barcode scanner directly from specimen.