HFe 3

Test Elastomer Mounts from 50 to 3,000 Hz

The HFe 3 electrodynamic test rig is tailormade to characterize the dynamic stiffness of elastomer mounts from 50 up to 3,000 Hz.

HFe 3's rigid design ensures resonance-free operation in an unsurpassed frequency range.

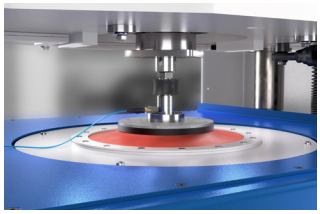
It combines robust m+p measurement hardware and user-friendly m+p VibControl software to provide test professionals with a fast and efficient testing experience.

Benefit from HFe 3's versatility. The analysis of natural frequencies of vibration dampers is possible with the shaker standalone bundle, saving you a separate shaker and measurement system.

The integrated pneumatic air filter and condensation water separator minimize maintenance by ensuring sufficient air quality.

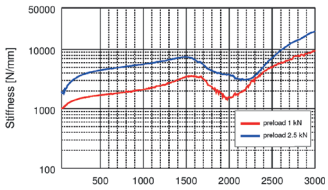
HFe 3 is engineered and designed by experts in vibration and manufactured in Germany using best-in-class components made in Germany and Switzerland.

Turnkey Solution Offering High Flexibility



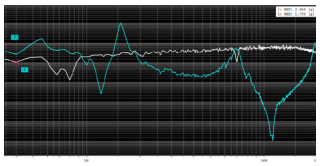
The modular design offers different force sensors enabling optimal results for small specimens or larger bushings, which can be changed in a blink. For high reliability and ease of use, the static compression preload can be automatically adjusted up to 8 kN using the built-in industry grade automation PLC platform.

Versatile Vibration Control System 2-in-1



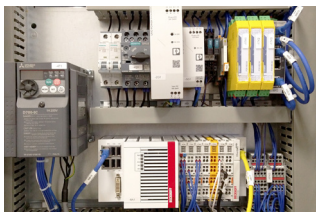
In addition to basic fast random tests and widely used swept sine tests, the flexible m+p VibControl vibration control system offers stepped sine and road load for more advanced testing. The test rig's electrodynamic shaker system can also be used for regular vibration tests without changeover.

Trustworthy, Traceable Results with Easy Reporting



All metadata for specimen and test definition are stored along with the measurement results in a single file. Exchanging data for review is easy in m+p VibControl native file formats. Export tools help to create customizable branded reports quickly and efficiently to provide demanded results in shortest time.

State of the Art – Upgrade your Existing Solution



Rely on m+p international's know-how as experts in vibration - we continuously improve and enhance our solutions. The modular design allows retrofitting and keeps your test rig up to date for future requirements. Profit from regular software enhancements and feature updates as well as latest force sensor advancements or even an upgrade of the entire PLC.

Global Service Support

A network of service experts and partners provide fast remote and on-site support. Our comprehensive service offers sparepart kits, maintenance contracts and calibration services, allowing you to achieve regulatory compliance, high performance, and maximum uptime throughout the life cycle of your equipment.

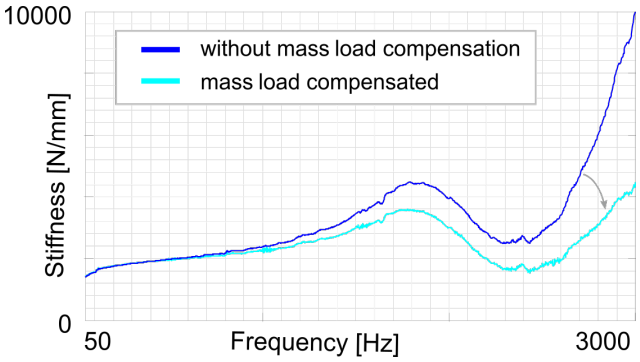
Main Components of the Test Rig

- Electrodynamic shaker introducing a dynamic excitation
- Seismic mass introducing a static preload to the test specimen
- Traverse supporting and moving the seismic mass
- Rigid frame holding shaker, seismic mass and traverse
- Power amplifier and a blower for shaker operation
- Control cabinet containing all electronics for test rig operation

Key Specifications

Frequency range:	50 to 3,000 Hz
Results:	dynamic stiffness with mass load compensation, loss factor, phase
Test area (shaker to force sensor):	600 x 600 x 600 mm³
Excitation types:	sine swept, random and more available
Shaker:	90 g max acceleration, 8 kN dynamic force
Test specimen stiffness:	250 N/mm to 50 kN/mm
Static preload:	up to 8 kN (compressive load on specimen only)
Machine weight:	approx. 3,500 kg
Maximum machine envelope:	1250 x 950 x 2650 (w x d x h) mm³ (traverse upmost position)

Test Concept



The test specimen is mounted between an electrodynamic shaker and a seismic mass. The seismic mass can be lowered to apply a static preload of up to 8,000 N. When running a predefined test, m+p VibControl continuously optimizes and controls the acceleration of the shaker, inducing dynamic loading on the elastomer within the frequency range from 50 Hz to 3,000 Hz. By measuring the input acceleration at the shaker and the resulting output dynamic reaction force on the seismic mass, the dynamic transfer stiffness of the test specimen is calculated. Accelerometers are used to compensate the mass load effect resulting from the specimen's fixture weight. As the mass load effect occurs increasingly at higher frequencies, this ensures correct results in the entire frequency range.

m+p international

ISO 9001 CERTIFIED

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