

PRESS RELEASE

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Not shocking at all: Vibration isolation systems in simulated environments

There is an increasing demand of aerospace and automotive testing in simulated environments. Different vibration isolation systems and design techniques offer successful solutions to help engineers and their companies save time and money while being able to fully concentrate on their actual testing project.

Not many companies can claim that they have been successfully active in the market for over 100 years with their first products still being in demand. When it comes to providers of vibration isolation and shock control solutions, the air gets even thinner. Among others, Fabreeka has been a partner of the aerospace and automotive industries for more than a century now, and the high standards which the company has set for itself from the start with products such as the Fabreeka pad are connected with two strategic partnerships. Goodyear and the Massachusetts Institute of Technology (MIT) already had excellent reputations at the beginning of the 20th century. In light of the partnership with MIT, which continues to this day working with big names as well as with start-ups paved the way for becoming an innovative, well-proven supplier to the automotive industry. In doing so, the common goal is to continue to create new high-tech materials and solutions that the company develops in-house. In both shock control and vibration isolation, Fabreeka is active around the globe and has set up branches worldwide. Customers everywhere appreciate the approach of developing tailor-made solutions and offering expert consulting on location.

Good isolation, better test results

Fabreeka's solutions for automotive testing include the design of test equipment support foundations with special attention to reaction masses, including structural and dynamic analysis as well as acceptance testing. Applications range from engine test rigs, dynamometers and rolling roads to road simulators, multi-axis shaker tables and other test equipment. Since mechanical vibration and shock exist in all environments, the solutions for ideal isolation results often come from a combination of different vibration isolation and shock control systems. Therefore, engineers can choose from a wide spectrum of shock absorbing and vibration isolation products. For example, there are low frequency and ultra-low frequency pneumatic isolators reducing the vibration and shock transmitted to the environment when installed under road simulator test rigs that create high amplitude vibration and shock at low frequencies. While vibration isolation can be achieved at frequencies as low as 0.7 Hz when testing vehicles for squeak, rattle and roll or other conditions, Fabreeka also supplies products such as FAB-EPM. The natural frequency of this foundation isolation material ranges from 7 Hz to 20 Hz, depending on load and type of material. In the automotive industry it can be an ideal support foundation for engine and dynamometer testing.

Solving the problem of unwanted vibration and shock often requires more than offering the right products. Fabreeka's engineers add in-depth knowledge of the product, knowing exactly which aspects of vibration isolation are to be considered in each individual case. Dynamic analyses are important services in this respect. Performed on site, they serve to identify problems in advance to select the appropriate products or systems. Vibration analysis is based on existing measurement data, consisting of acceleration amplitude, speed and position changes to scrutinize possible problems. The analysis of the measurement data from the vibration measurements serves as the basis for a comparison with the company's database and its long experience. This way, Fabreeka combines modern development and manufacturing expertise with excellent consulting, not only in the automotive industry.



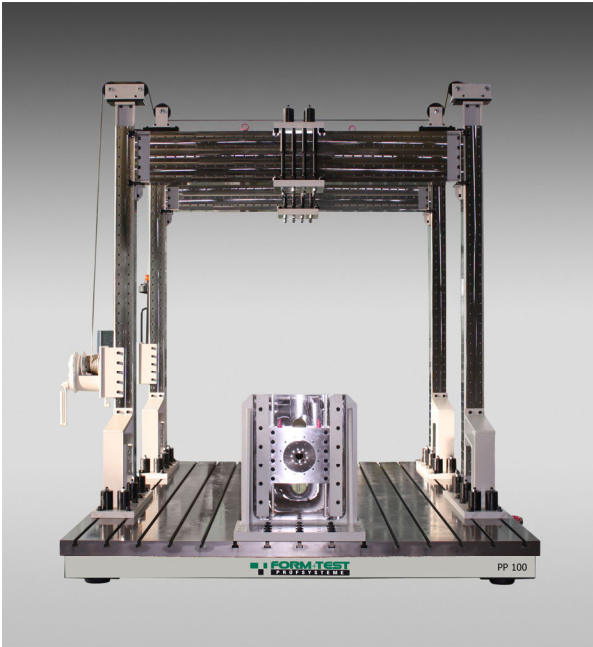
Achieving low frequency isolation with 10 RLA-type pneumatic isolators engineered by Fabreeka for a hydropuls test rig for German sports cars under a 7 by 5 m surface area with a concrete mass of 220 t.



Fabreeka's engineers accompany customers in all testing environments during every stage of the project, adding in-depth knowledge of both products and various applications from smallest test benches to large hydropuls test rigs for trucks and modern electric multiple railway units.



Pneumatic isolators provided by Fabreeka also support applications with large dynamic displacements and where lift height is required as in this hydropuls test rig for trucks.



When installed under test rigs that create high amplitude vibration and shock at low frequencies, Fabreeka's low frequency and ultra-low frequency pneumatic isolators effectively reduce vibration and shock transmitted to the environment.

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