



German company expands product portfolio in the field of pulse testing technology

New global innovation: Maximator developed pulse testing technology up to 8,000 bar (116,000 psi)

Innovation from Thuringia: The MAXIMATOR GmbH from Nordhausen contributes significantly to the further development of internal combustion engines and the optimization of efficient test systems. In cooperation with MFPA Weimar and Siegert TFT GmbH, the company is currently developing an 8,000 bar pulse test stand for fatigue strength and material testing of injection components, which will ensure more energy-efficient processes in the future. With the continuous expansion of its product portfolio in the field of pulse testing technology, the global market leader in high-pressure technology also wants to meet its own high demands. The project was funded by the Free State of Thuringia, and the market launch is planned for the third quarter of this year.

"The injection pressures have continued to rise in recent years. Above all, this concerns diesel engines. As a result, the requirements for fatigue strength testing and material testing of injection components have also reached new dimensions. For this reason, we were immediately convinced that a pulse pressure test stand capable of applying a pressure of 8,000 bar saves resources and ensures customer requirements for the new engine technology." explains Markus Wedemeyer, head of Research & Development at MAXIMATOR. In order to make the "8,000 bar pulse pressure test stand" project a reality, the involved companies had to ensure the massive increase in pressure by developing new options, such as a process-reliable pressure measurement technology, a parts tracking system and an energy-efficient drive. The control periphery was also revised and the high-pressure components were designed and tested for 8,000 bar.

The core of the system is the highly dynamic pressure booster, which is based on the technology of a servo synchronous cylinder. As a result of the hydraulic pre-stressing - similar to a mechanical spring - a considerable energy saving is achieved, in total - 30 % could be detected within the project. By optimizing the operating resources, the hydraulic tank was reduced to 200 liters or 20 % total volume. In addition to the pressure increase to 8,000 bar, the optimized control peripherals and an energy-efficient drive contribute to sustainability. For the customer, a time and test cost saving can be derived from this.

Although the components are already standard for MAXIMATOR, the application in this particular case is new. This will continue to be the path that MAXIMATOR wants to take in this area.

"With the development of this high-pressure pulse test stand, we now enable our customers to produce energy-efficient combustion engines of the latest generation. We are also particularly proud that there will be no customer-specific limits." says Tobias Weckesser, Sales Manager for testing and production systems at Maximator GmbH.

About Maximator GmbH

Maximator GmbH is one of the leading suppliers of high-pressure and testing equipment, hydraulics and pneumatics. Employees develop, design, manufacture and sell international products that are used in industrial systems worldwide. The company manufactures, among other things, high-pressure impulse testing systems, burst pressure test stands, leakage test systems, autofrettage machines, systems for hydrogen refueling and hydrogen testing as well as high-pressure pumps, high-pressure gas booster, valves and fittings. The many years of experience, especially in the project business for testing and production plants, make Maximator a valuable partner for different industry branches e.g. automotive, general mechanical engineering, chemical and petrochemical as well as oil and gas industry.