

Poppe + Potthoff GmbH
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PRESS INFORMATION

High-precision pressure pulsation test system pressurizes hoses

Poppe + Potthoff simplifies the comprehensive test of medium transporting parts in accordance with the demanding standards of the German automotive industry.

Poppe + Potthoff Maschinenbau will present a new pressure pulsation test system at the [Automotive Testing Expo](#) (24-26 June 2014 in Stuttgart, Germany). Fluid conducting parts such as hoses for coolants and oils and extension hoses for motor vehicles can be tested in two different test chambers for load change simulation under different climatic conditions. The pressure pulsation of the test media which can also be temperature controlled, is servo-hydraulically and therefore very precisely monitored. Pressure pulsation tests can be conducted on the new system with sinus and trapezoid curves in different pressure ranges and with different media, as well as long-term pressure and burst pressure tests.

Hoses are the lifeline of the car. For example, they feed the coolant to the motor and make sure that when stepping on the pedal, the car brakes securely. They must withstand frequently changing pressure and endure high thermal, chemical and mechanical loads. The automobile industry therefore places high demands on the reliability of medium transporting components. These components are tested comprehensively with the new pressure pulsation test system from Poppe + Potthoff Maschinenbau.

For pressure pulsation, long-term pressure and burst pressure tests, the system offers two chambers, where up to ten test specimens respectively can be tested simultaneously at an ambient temperature of -40°C to +180°C or indoor climate. The medium – Glycol 100 % or different oils – is delivered via separate control circuits at a tempera-

ture of -40°C to $+160^{\circ}\text{C}$. This makes tests at very high temperature differences possible, which are quite rare in reality, even with hardness tests on the race track of the Nürburgring, in the Siberian Tundra or in the African deserts.

Servo-hydraulic pressure relieve valves, optimally designed for each test range, allow very precise control of the pressure. Pressure pulsation tests can be run with a frequency of 0-10 Hz (usual are 0.5-2.5 Hz) for the trapezoid curve with 4-25 bar and 0-160 bar, for the sinus curve with a frequency of 0-10 Hz, pressures of 0-6 bar are possible. The maximum burst pressure is 500 bar. Measurement data logging and visualisation are conducted with LabVIEW applications from National Instruments. All testing procedures and data are stored automatically on the system and can be exported into the network for evaluation.

2,622 characters (incl. blanks)



Fig. 1: With a new pressure pulsation test stand Poppe + Potthoff Maschinenbau GmbH enables comprehensive testing of medium transporting components according to all strict test standards of the German automobile industry.

Source: Poppe + Potthoff

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Poppe + Potthoff Maschinenbau GmbH develops and manufactures systems for the operation and fatigue strength testing of components in the automobile manufacture and ship building industry as well as further industries. The precise and powerful special machines from the specialist for high-pressure and test engineering are used in research, development and production. These include systems for burst pressure and leak tests, pressure pulsation test, autofrettage as well as automated testing. The company in Nordhausen (Germany) is a member of the Poppe + Potthoff Group.

Poppe + Potthoff stands for precision. The Group develops and produces customer-specific steel tubes, common rail subsystems, high-pressure lines, precision components, cardan shafts and clutches as well as special machines and test stands. With these products Poppe + Potthoff offers technically demanding solu-

tions in the automobile and commercial vehicle sector, the shipbuilding industry, in tool making and mechanical engineering as well as further industries. The family enterprise established in 1928 with headquarters and Technology Centre in Werther (Germany) employs more than 1,200 employees. With subsidiaries and long-term partners, Poppe + Potthoff works customer-oriented in more than 50 countries. www.poppe-potthoff.com

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