

Impulse Test System

for coolant hoses, oil cooler hoses and flexible hoses

Poppe + Potthoff Maschinenbau GmbH

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Part of the Poppe + Potthoff Group

Poppe + Potthoff Maschinenbau GmbH develops and manufactures systems for operational and fatigue testing of components in the automotive industry and shipbuilding and in many other industries. The precision, high-performance special machines from the specialists for high-pressure and testing technology are employed in research, development and production. They include systems for burst pressure and leak testing, impulse testing, autofrettage and automated testing. The company located in Nordhausen (Germany) is part of the Poppe + Potthoff Group.



As system developers, our focus is on the customer's demands. Our main activities are concentrated on technologically complex systems for testing and high-pressure technology. As system developers we plan, design and produce systems for:

Autofrettage up to 16,000 bar, impulse testing up to 6,000 bar, function testing with 10 l/min. up to 3,800 bar, tests under climatic conditions (-40°C to +180°C), burst tests up to 15,000 bar with 100,000 measured values per second, vacuum tests down to 0.7 mbar, fully automated testing and measuring systems with 100% part testing in 3 seconds. Leak tests with precision control methods and further services as well as high-pressure units and booster stations round out our portfolio. Maintenance and service of your systems is a question of honour for us. Test us.

Our product units



Autofrettage systems



Burst pressure test stands



Impulse test bench



Testing and measuring systems



Leak test stands



Function and injector test stands



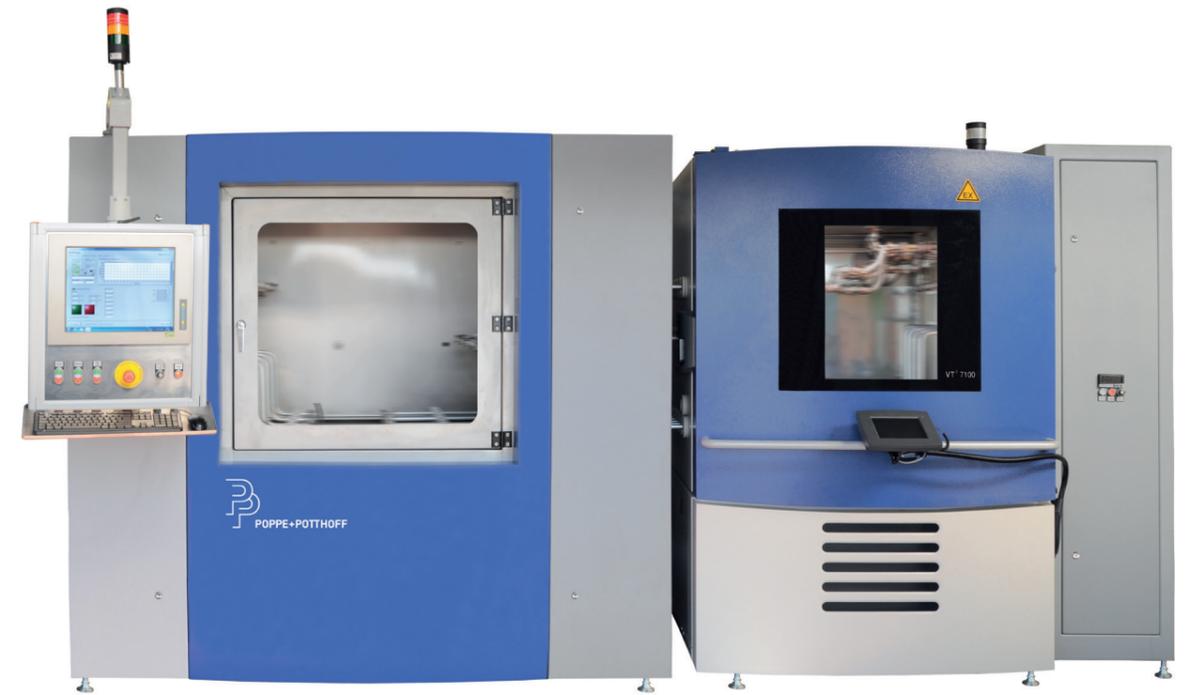
Hose test stands



Module test stands

Impulse Test System

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For impulse testing with subsequent endurance pressure and burst testing, the system has two chambers in each of which up to ten test specimens can be tested simultaneously at ambient temperatures from -60°C to +180°C or at room temperature. The medium - 100% glycol or various oils - is supplied via separate control loops at a temperature from room temperature to +160°C. This enables tests to be carried out with very large temperature differences that are seldom encountered in reality even in the tough tests on the Nürburgring race track, in the Siberian tundra or in the deserts of Africa.

Various servo-hydraulic pressure intensifiers designed optimally for each test pressure range allow very precise control of the test pressure. Pulse tests can thereby performed with a frequency of 0-10 Hz (the normal range is 0.5-2.5 Hz) for the trapezoidal curve with 4-25 bar and 0-160 bar; for the sinusoidal curve with a frequency of 0-10 Hz, pressures of 0-6 bar are possible. The maximum burst pressure is 500 bar. The measured data recording and visualisation uses LabVIEW applications from National Instruments. All test routines and data are automatically stored on the system and can be exported to the network for evaluation.

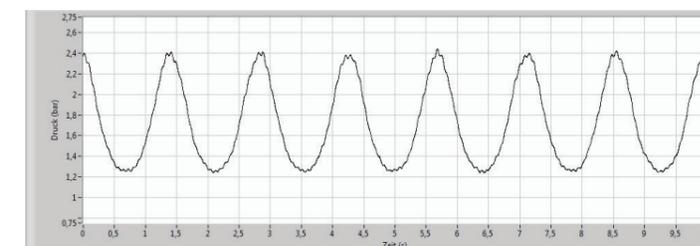


Figure 1: Sinusoidal test curve

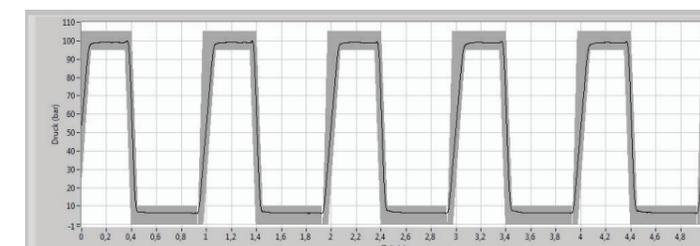


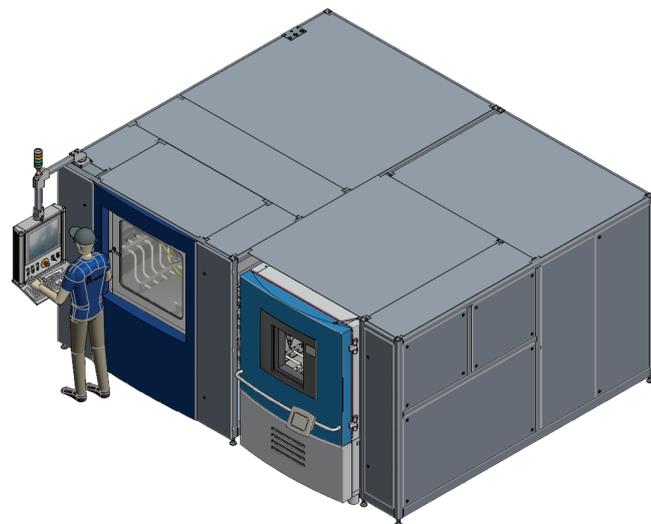
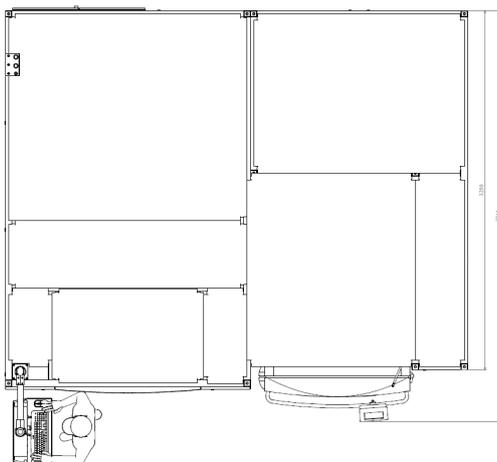
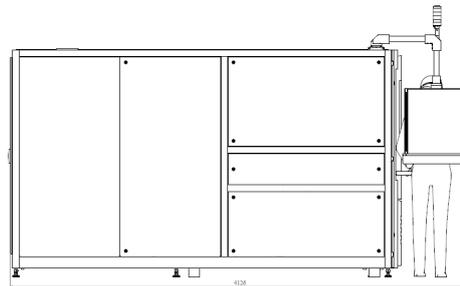
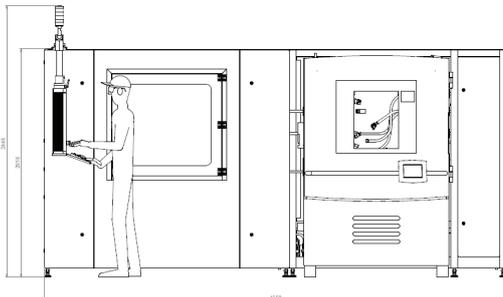
Figure 2: Trapezoidal test curve

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Technical data



3 different load cycle tests (each with separate pressure intensifier with servo control)	Part test sinusoidal with 2.4 bar Part test trapezoidal with 4-25 bar Part test trapezoidal up to 160 bar
3 different media (each with double tank system)	Glysantin (Coolant hose) 5W-40 (Oil cooler hose) ATF oil (Flexible hose)
Additional burst pressure test	up to 500 bar
Additional leak test	up to 100 bar (endurance test)
Frequency	0.5 to 2.5 Hz (max. 10 Hz)
Medium temperature control	RT to +160°C
Ambient temperature control	-60°C to +180°C
Ex-proof design	Climate chamber
Dimensions (W x D x H in mm)	4150 x 3450 x 2450
Total weight	approx. 5.5 t
Connected load	64 kW



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