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“Tracking down errors with compressed air” – Leak test benches for the automotive industry

Faithful to the slogan “We get to grips with your problem”, P+K Maschinen- und Anlagenbau designs and builds specialist machines and equipment for use in industrial applications. One of the company’s key competences is leak testing, a field in which it can boast more than 20 years of experience. P+K’s most recent project involved the development of a leak test bench for an automotive supplier, using item’s new X series from the MB Building Kit System.

P+K’s customer manufactures welded and bent components for the field of motor technology, where safety is a priority. Accordingly, pipes and tubing must be absolutely leak-proof. The new test bench enables pipes in a whole variety of shapes to be tested individually for leaks. A combination of removable base plates, quick-release fasteners on valve and measuring line hoses as well as freely selectable testing and sequence control programs provides the customer with a high level of flexibility.



Fig. 1: Leak test bench for safety-related welded and bent components.

Testing begins once the workpiece has been inserted into the testing device by hand. After the pressure differential has been determined, leak testing runs automatically: the workpiece is clamped, sealed and measured. If the measurement passes muster, the test specimen is punched, while a failed test results in a red mark. The machine operator can ascertain the progress of the test at any given time simply by looking at the touch screen, via which a variety of program settings can also be made. Red, yellow and green lights are also used to provide a visual indication of test progress. As an additional safety feature which helps to prevent industrial accidents from occurring, a light curtain has been fitted on the side on which the workpieces are inserted. Should anyone reach

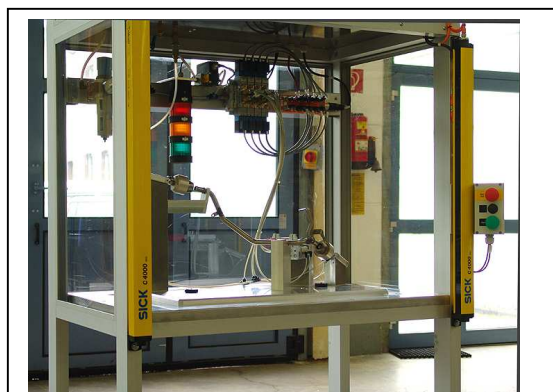


Fig. 2: Close-up of overpressure testing

been fitted on the side on which the workpieces are inserted. Should anyone reach

into the machine whilst testing is underway, the process will be stopped immediately.

The new X series developed by item Industrietechnik GmbH for its MB Building Kit System and described by managing director Peter Kronenberg as, “enabling us to meet the customer’s need for design and simple form” was used in the construction of the test bench. He continues, “The streamlined nature of item’s new profiles enables all of the components to be connected smoothly and seamlessly through the smallest possible edge radii. The enclosed grooves also met the brief in terms of the need to prevent testing machines from becoming soiled. As the concealed notches can be opened as required, we were able to mount test elements, display units and even other profiles at any time without jeopardising the overall enclosed appearance of the system.”

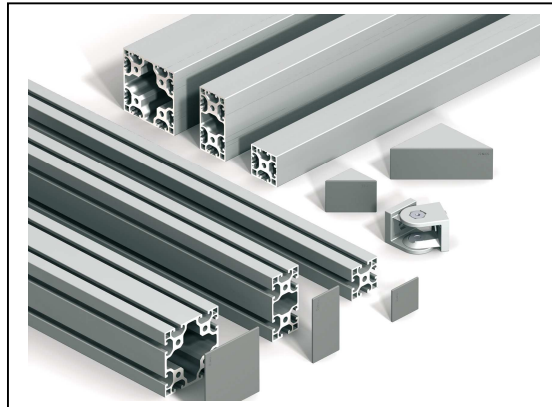


Fig. 3: The building blocks of the test bench design: Series X and Series 8 from item's MB Building Kit System

Solingen-based item Industrietechnik GmbH develops and supplies the MB Building Kit System, which enables individual solutions to be created for all sectors of industrial equipment construction. The Building Kit System is based on aluminium profiles, a perfectly matched connection method and versatile functional components.