Comprehensive punching technology expertise

Achieve cost-optimised process and complete solutions for individual punching applications with standardised components and modules from the TOX® PRESSOTECHNIK modular system

Technologies, components, assemblies, tools and complete solutions - with this universal range of products and services, the company TOX® PRESSOTECHNIK GmbH & Co. KG, D-88250 Weingarten is represented worldwide in the segment of industrial punching technology. Customers will be able to get everything from one competent partner, including requirement analysis, project planning, manufacturing, tool kit, installation, commissioning and service. Ready-to-install processing stations for self-integration or complete systems installed ready for operation are produced based on a modular system. The modular construction kit includes components and assemblies like drive cylinder, press frame, compensating slide, punching as well as forming tools and proven solutions for slug removal management, from which TOX® PRESSOTECHNIK will build a suitable punching system. Depending on the design of the processing stations, simple to complex punching processes (punching, notching, contour cutting/blanking) can thus be performed efficiently and accurately on sheet metal or plastic workpieces. The high mechanical accuracy as well as linearity of the drives thus ensure reproducible quality of the parts.

Drive solutions for punching and forming technology

The drive technology provides special solutions of the pneumohydraulic drive cylinders TOX®-Powerpackage for the punching procedure. The ZLB power bypass or the ZSD cutting impact damping as well as the adjustable ZED damping in particular are recommended. The patented power bypass prevents negative pressure in the oil system during punching or during high stroke speeds. The ZSD cutting impact damping ensures damped punching and closing operations in fast approach stroke or power stroke, which provides an operation which is gentle on machines and tools. The ZED damping represents the electrically adjustable solution for all damping tasks during punching/forming etc., and can be activated at any stroke position. Furthermore, adapted to the respective task, pneumatically or pneumohydraulically operated drive assemblies are being used. A distinction is made here between linear and swivel kinematics. Pneumatically operated drive assemblies with linear kinematics provide up to 0.7 tons punching force and are designed as units ready for installation. The pneumohydraulic drive units provide up to 200 tons punching force. The drive units TOX®-PowerKurver form the basic system of drive versions with swivel kinematics. These are designed for fast production cycles and allow – thanks to large opening angle adjustable between 30° and 90° – unhindered feeding or removal of components with robots and also by hand. The pneumatic version generates punching forces up to 5 tons, the pneumohydraulic version realises press forces up to max. 200 tons and is ideal for cutting processes. Both versions are characterised by compact dimensions and simple integration into subsystems or systems.
Expertise and know-how for punching/forming processes

The broad range of TOX® PRESSOTECHNIK components and detailed solutions for processing stations or complete machines for punching/forming also comprises C-frame presses. These are characterised by an optimised design with regard to construction and assembly, with a very sturdy, deformation-resistant design as well as highly accurate holding fixtures and guides of the tool system. Combined with equally accurately designed compensating slides for positioning the punch die on the component as well as for clean, non-contact inserting and removing of the components, this results in compact and easy-to-integrate system units. These in turn are individually or multiply used in punching/forming complete solutions. These can be for example punching systems including parts transfer or parts handling or also stand-alone punching machines. In order to design and determine the most suitable system for customers, naturally various specifications as regards the component, punching or punch pattern as well as the requirements of the punching system (stationary or mobile) are indispensable. The big and decisive advantage for customers is that based on the universal building block and modular system, TOX® PRESSOTECHNIK engineers are able to offer the respectively optimum problem solution which is not weighed down by compromises.

Captions:

Image 1 shows possible components of the TOX®-Punching Systems

Image 2 shows TOX®-Punching Tongs with C-frame

Image 3 shows a TOX®-PowerKurver with punching tool

Image 4 shows a punching machine with several punching tongs

Image 5 shows a punch press with pneumohydraulic drive TOX®-Powerpackage

September 2014
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