Lasco Umformtechnik GmbH, Germany

Retrofitted for the Future

Using individually tailored automation packages, a renowned German press manufacturer makes older machines ready for the future – at a fraction of the cost of new investment.

The machine tool plant Lasco Umformtechnik GmbH in Coburg, Germany, modernizes the electrical, control, and drive technology of its own forming and other machines as well as machines of other manufacturers worldwide. The control, drive, and visualization systems from Lasco as a flexible and competent partner for the modernization of several mechanical punch presses. With the support of Siemens, an individually adapted concept was developed and implemented in a maximum of three weeks for each press.

Components matched to each other

A fail-safe SPS Simatic S7-300F performs both the safety-oriented and the standard control tasks. Compact drive technology from the Sinamics S120 modular family is used in conjunction with a 1PH7 asynchronous servomotor for the main press drive and a 1FT7 servomotor for the roller feed.

A Simatic Multi Panel MP277 and a Touch Panel TP177 are used for setting up, operating, and monitoring the press and straightening machine. All components are tailored to each other. Safety-relevant and standard communication between the controller, drives, and decentralized Simatic ET 200S periphery occur over the same Profibus lines and Profisafe profile.

With the newest control and drive technology, Lasco has made the punch presses at Martin more efficient and ready for the future.

Siemens are constants here – because the reliability and functionality are right, but also because the components are quickly available worldwide. Martin Metallverarbeitung GmbH, an automobile industry supplier in Ebersdorf, Germany, also counted on Siemens to develop and implement a control and drive system that allows the presses to be run in two operating modes. In addition to the roller feed, the new main drive for the stroke adjustment can also be moved precisely in positioning mode during setup, allowing the press ram to be more easily brought into any desired position. The newly added “safely reduced speed” safety function also takes effect. In speed-controlled automatic mode, the “safe stop” function provides for controlled switch-off. The main drive can also be operated with a variable speed profile so that the kinetic energy fed into the flywheel can be easily and efficiently increased via the speed. In this way, more energy can be introduced in the forming phase in a targeted manner, allowing larger parts to be manufactured. Conversely, it is possible to reduce the ram speed outside the forming phase in the profile, adjusting it to the cycle times of the transfer equipment in use. This allows the operator to get the most from the pressing process.

The retrofit makes setup, operation, and monitoring of the presses much easier. Supported by a graphical user interface developed by Lasco under Simatic WinCC flexible, new tools can now be easily set up and optimized, and the setting parameters can be saved and read back in at any time.

Using individually tailored automation packages, a renowned German press manufacturer makes older machines ready for the future – at a fraction of the cost of new investment.