TOX[®]-Monitoring – more than just process monitoring

With the hardware components TOX[®]-Process Monitoring and the TOX[®]softWare HMI, all processes for clinching, riveting, machining and press-in/assembly operations are evaluated and documented via force/displacement monitoring.

The technology company TOX[®] PRESSOTECHNIK GmbH & Co. KG, D-88250 Weingarten, realized early on that mechanical engineering components only turn into a system if process monitoring is also considered. Press force drive technology, clinching technology or process-specific tools, control technology, force/displacement process monitoring – the customerspecific solution is created from this product and construction portfolio, which is adapted to the respective process chains. This self-contained program impresses the manufacturers and suppliers of series and large series products not least because the in-house manufacturing technology is complemented by internally developed monitoring, thus guaranteeing seamless monitoring and documentation of all process steps or processes and data in one mold. Today's product range TOX[®]-Controls and TOX[®]-Monitoring comprises, in addition to the machine controls, the components for sensor technology, TOX[®]-Process Monitoring/TOX[®]-Pressing Monitoring and TOX[®]softWare.

Based on the concept of monitoring in all process phases, the aspects of process requirements (sheet thickness, elements to be inserted), process sequence (window, envelope), end values (with end window) and documentation by means of end value tables (data archive, quality data interface) are considered for the applied force/displacement monitoring. The hardware includes the EPW 400 and EPW 500FP pressing monitors and the clinching monitor CEP 400T, which are characterized by different performance features.

EPW 400 and CEP 400T provide a 1-channel force/displacement monitoring or a 12-channel force monitoring. Data acquisition is performed with 16 Bit@2kHz, and the archive can store up to 100 curves and 1000 end values. A 5.7" touchscreen monitor is available for operation/programming, and communication occurs via all known fieldbus systems. EPW 400 and CEP 400T work with up to 64 measurement programs, whereby one envelope and 10 windows can be used per program. The IO output occurs via switch outputs and fieldbus, data storage via USB and Ethernet.

The pressing monitor EPW 500 FB also provides 1-channel force/displacement monitoring. Data acquisition is identical. For operation/programming, a 7" touchscreen monitor is used here, and an IO control is installed. The EPW 500FP works with a maximum of 128 measurement programs, whereby an envelope and 10 real-time windows are

also available per program. The IO output occurs via switch outputs here and the data are stored via USB.

The TOX[®]softWare HMI is designed for 1-channel force/displacement monitoring and is based on a Windows-PC. This software works with the EPW 400 or also with the LF9400 motor controller (as real-time hardware). The communication supports all known fieldbus systems like PROFINET, EtherCAT, PROFIBUS, INTERBUS, DeviceNet, Ethernet IP, CanOpen. The TOX[®]softWare HMI processes and stores up to 130 measurement programs, with one envelope each and an application-specific number of real-time windows, whereby the end window is teachable. The IO output occurs via fieldbus, the data are stored via USB and Ethernet. Furthermore, customer-specific quality data interfaces are possible. The software includes the functions Manage Processes, Process Curve, Process Archive, End Value Table, System Counter, Fieldbus Visualization and External Data Connection.

With the TOX[®]-Process Monitoring as well as the TOX[®]softWare, users and plant constructors have standardized, Industry 4.0-capable equipment at their disposal.

Image descriptions:

Image 1 shows the clinching monitor CEP 400T

Image 2 shows the pressing monitor EPW 500FP

Image 1 shows the clinching monitor CEP 400T



Image 2 shows the pressing monitor EPW 500FP

