



Smart MechatroniX for the Factory of the Future

Plug & Produce in sensor production

It is the heart of the new, flexible multi-product line for small batch sizes: Bosch Rexroth's Smart Function Kit for pressing and joining applications. At the sensor manufacturer Sensata, the mechatronic solution with intuitive software is reducing the engineering, commissioning and process configuration effort to a minimum. The Smart Function Kit also allows the automatic documentation of process data for quality purposes.

Various types of rotary encoders are manufactured on the new assembly line. With the help of the Smart Function Kit, the sensor lid is pressed onto the housing with the highest precision. The mechatronic subsystem is supplied as a pre-configured complete package. Thanks to futuristic features such as plug & produce and zero programming, Sensata was able to set up the line in a very short time before starting operation. The complete package was designed in advance and then ordered online. Bosch Rexroth also supplied the modular TS 2plus transfer system and the shared XM21 control system.

ZERO PROGRAMMING

The Smart Function Kit is suitable for forces from 2 to 30 kN and combines proven standard components such as an EMC electromechanical cylinder, a force sensor, a servo motor, a drive controller and an industrial PC. The intuitive, browser-based HMI software can also be operated via tablet. Instead of laboriously writing code for the pressing processes, programming now takes place visually: you simply select software blocks via drag and drop, combine them, enter the parameters and the workflow is complete! The drive controller parametrizes itself automatically and a wizard guides you intuitively through the commissioning process. Process data can be shown live and are taken into account along with the force displacement curve in the IT system for quality assurance management and analysis purposes. This leads to the highest transparency during production!

Challenge

Manufacturing products of different types in small batches economically. Exact pressing and joining processes with automatic quality assurance.

Solution

Complete mechatronic package from a single source with pre-installed software and pre-configured standard components.

Result

"The Smart Function Kit is a sustainable solution for the Factory of the Future. The system could be set up and commissioned quickly and easily with no programming knowledge."
Jean-Marc Hubsch, Sensata



Solved with

- ▶ Smart Function Kit for pressing and joining applications
- ▶ Complete mechatronic package
- ▶ Pre-installed intuitive software for commissioning, programming, operation, and analysis