

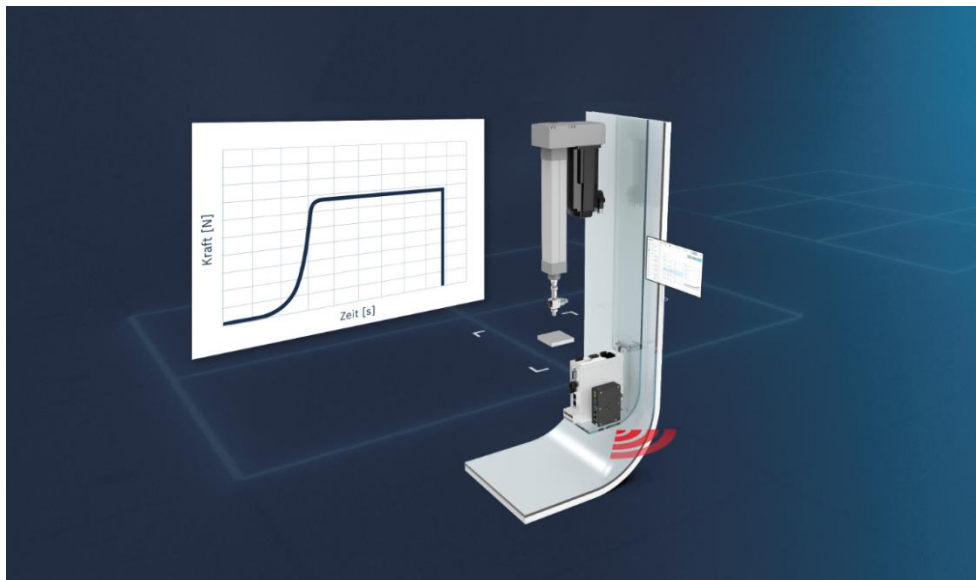
**PRESS RELEASE**

LT23011B  
11/03/2024

## Smart servo press with force control

**Bosch Rexroth adds force control software feature to mechatronic subsystems for pressing and joining applications**

- ▶ Adjust to target force and keep constant for a specified time
- ▶ Rapid commissioning, process definition and quality control
- ▶ Integrated safety technology: safe torque off and safe motion



Flexible servo press: Processes with force control can now be implemented quickly, easily and safely with the Smart Function Kit Pressing. (Image source: Bosch Rexroth AG)

The [Smart Function Kit Pressing](#), a complete mechatronic package from Bosch Rexroth for the quick realization of servo presses, is now available with force control. This means that it is now also possible to perform processes in which the target force must be kept constant over a defined period of time. Intelligent e-tools speed up the selection and configuration of the modular servo press. The pre-installed operating software facilitates quick and easy commissioning, process definition, and line integration.

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With the newly integrated force control software feature, the Smart Function Kit Pressing covers a total of three types of applications: joining to a defined position (position controlled), joining to a defined force (position controlled), and new: joining to a defined force with subsequent maintenance of the force (force controlled).

When joining with force control, the servo press maintains a constant defined target force for a predetermined duration, even if the position of the workpiece fluctuates or its size changes. This is the case, for example, if it expands or shrinks in the process, melts, or is ground off. Continuous monitoring of the maximum force and position values protects the system and tool from damage. You can switch the curve view from force/position to force/time for better process representation and analysis.

Force-controlled joining is required in many manufacturing and assembly processes, such as in powder pressing, laser welding, or grinding. Another field of application is material testing. In battery production, for example, pouch cells are tested for tightness with constant force while the material expands with the addition of heat. In fuel cell production, the Smart Function Kit compresses components made of different materials with a defined force over a period of several minutes while introducing heat.

### **Save time from engineering to monitoring**

The correct size of the Smart Function Kit can be determined very easily using the new "-Press in/force control" reference process in the LinSelect sizing tool. Integrated safety functions (safe torque off or safe motion) are also available as selectable options in the seamlessly connected online configurator. CAD data and technical documentation can then be downloaded free of charge and the servo press can be ordered directly from the Rexroth online shop with one material number.

The Smart Function Kit for pressing and joining applications consists of the standard components electromechanical cylinder with force sensor, servo motor, drive controller and industrial PC, and is supplied pre-assembled in one package. The pre-installed browser-based operating software shortens

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commissioning to a few minutes, programming is done graphically via sequence modules, whereby plausibility checks prevent the system limits from being exceeded.

The Smart Function Kit Pressing can easily be connected to a higher-level controller in the place of use by means of prepared function blocks. From there, commands can be given to the servo press, and results and process data can be transmitted to it.

*As one of the world's leading suppliers of drive and control technologies, Bosch Rexroth ensures efficient, powerful and safe movement in machines and systems of any size. The company bundles global application experience in the market segments of Mobile and Industrial Applications as well as Factory Automation. With its intelligent components, customized system solutions, engineering and services, Bosch Rexroth is creating the necessary environment for fully connected applications. Bosch Rexroth offers its customers hydraulics, electric drive and control technology, gear technology and linear motion and assembly technology, including software and interfaces to the Internet of Things. With locations in over 80 countries, around 33,800 associates generated sales revenue of 7.6 billion euros in 2023.*

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