

The next generation of mechatronic solutions

Smart MechatroniX for the Factory of the Future



With the new Smart MechatroniX solution platform, we at Bosch Rexroth are following the market trends in factory automation and paving the way to the Factory of the Future. The Factory of the Future will be much more intelligent, flexible, connected and software-based than factories today. And it will also be more sustainable and future-proof. As one of the leading suppliers of linear motion technology and mechatronic systems, we are close to our markets and know the current and future customer requirements. Against this backdrop, we have now added sensors, electronics and software to our best-in-class linear motion technology components in order to offer completely new mechatronic solutions.

PLUG & PRODUCE, PERFORM, PROCEED...

...is the credo of Smart MechatroniX. The resulting cross-sector and cross-application benefits are as smart as the name itself: Simplicity and travel speed from development to the start of production, high performance during operation and sustainability thanks to permanent updatability and flexible use of components and modules. **“Plug & Produce”** sums up the advantages of the smart ready-to-use solution packages: easy and quick product selection, intuitive commissioning without any programming and quick adaptability for future requirements. What more could you ask for?

In terms of **“Perform,”** we score as a leading supplier and user not only with best-in-class linear motion technology components, but also with our expertise in factory automation and the IoT know-how of the Bosch Group. The results are intelligent mechatronic solutions that enable maximum process transparency as well as high productivity and efficiency during operation. And, because the subject of sustainability plays an increasingly important role today, future-oriented benefits are bundled under **“Proceed”**: modular and retrofittable systems which allow flexible use of the long-lasting components in a manner which conserves resources. These are manufactured in our own CO₂-neutral production facilities at various Rexroth locations.



Three smart solutions: The Smart Function Kit for pressing and joining applications, the Smart Function Kit for handling tasks, and the compensation module Smart Flex Effector.

THREE SMART MECHATRONIX SOLUTION PACKAGES AVAILABLE:

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The **Smart Function Kit for pressing and joining applications**, launched to the market in 2019, allows Plug & Produce and requires zero programming. It consists of an electro-mechanical cylinder, a force sensor, a motor, a servo drive a motion control as well as a software package that enables easy commissioning, operation and process analysis. Other advantages include easy product selection and dimensioning via LinSelect as well as quick online configuration and ordering.

The **Smart Function Kit for handling tasks**, launching Q2 2021, consists of smart single or multi-axis systems, innovative control technology and software for versatile applications where components or workpieces have to be moved precisely and reliably from A to B in a defined space. The associated software package once again allows for straightforward commissioning, operation and process analysis.

We are currently developing the **Smart Flex Effector**, a compensation module with an active measuring function to increase the precision, e.g. in handling robots, and to open up completely new areas of application for robots and Cartesian systems. The Smart Flex Effector can be used in a wide range of applications. For example, when it comes to joining small tolerances, quality documentation, Tool Center Point detection or compensation of position drifts in the x-, y- and z-direction. This means that there will be completely new possibilities here in the future.

COMPONENT MONITORING AS OUR NEXT GOAL

Other important topics for the Factory of the Future are ball screw assemblies and linear guides with intelligent sensors for condition monitoring or predictive maintenance. These smart solutions will further reduce machine downtime and maximize plant availability.

For more information on Smart MechatroniX, visit:

www.boschrexroth-us.com/smartmechatronix

Additional information and videos:

Smart MechatroniX – the new solution platform

Bosch Rexroth: Smart MechatroniX – Solution Platform for the Factory of the Future – <https://youtu.be/a3JJjeRDUpq>

Smart Function Kit for pressing and joining tasks

Bosch Rexroth: Smart Function Kit for Pressing – flexible, compact, future-oriented – <https://youtu.be/qI5pyvRWLsw>

Smart Function Kit for handling tasks

Bosch Rexroth: Smart Function Kit for Handling - fast, intuitive and smart – <https://youtu.be/DHmXYWcSSxU>

Smart Flex Effector

Bosch Rexroth: Smart Flex Effector – sensor-based compensation unit – <https://youtu.be/4y32oH6WpoE>

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