

PRESS INFORMATION

High-precision machine tools: configuring temperature-controlled linear guides online Quick and easy roller rail system with optional temperature control function from Bosch Rexroth

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Quick and easy roller rail system with optional temperature control function from Bosch Rexroth

- 24/7 digital selection, configuration and ordering worldwide
- Maximum precision thanks to integrated cooling lines in the profiled rail systems
- More stable processes and shorter cycle times in the same installation space



New in the online configurator for guide rails from Bosch Rexroth: roller rail systems with patented TCRS temperature control option for high-precision machine tools. (Image source: Bosch Rexroth AG)

Modern linear motion technology contributes to the competitiveness of machine tool construction. With the patented temperature control option for guide rails, Bosch Rexroth offers an integrated approach, with which high-precision machining can be carried out even more precisely, more reliably, and more efficiently without the need for additional installation space. The unique solution on the market, which is also suitable for retrofits and modular machine concepts, is now available in the Rexroth online configurator for guide rails.

The patented Thermo Compensating Rail System (TCRS) from Bosch Rexroth offers machine tool manufacturers and their service teams an economical temperature control function for new and existing machines. The TCRS variant's integrated cooling channels enable the thermal properties of the linear guide and drive components involved in the process to be improved cost-effectively in the same installation space, for instance in high-speed and precision milling.

Bosch Rexroth's patented temperature control option can stabilize machining processes and increase precision by up to 75 percent. In addition, it can also avoid rejects, save on materials, and shorten cycle times. Manufacturers can also offer optional performance and retrofit packages with TCRS to increase the efficiency of their machine series.

Digital engineering in the online configurator

The cost-effective temperature control option can be selected quickly and easily in the online guide rail configurator. Each of the four sizes from 35 to 65 is available in two formats with and

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without groove. Optional deflection pockets allow the cooling lines to be angled 180° inside the rail. After configuration, the CAD data and technical documentation can be downloaded free of charge and the profiled rail can be ordered directly from the Rexroth online shop.

The TCRS option in the online configurator is initially shown for roller rail systems and the option for ball rail systems is coming soon. The runner blocks are the same for rails with and without TCRS and can also be configured online.

Integrated measuring system for the highest requirements

Bosch Rexroth also supplies the TCRS rails with the IMS Integrated Measuring System on request. This allows the three functions of guiding, measuring and temperature control to be combined in a space-saving and retrofittable solution. Machine tools can thus achieve maximum precision with minimal structural design and operating costs.

Basic Information Bosch Rexroth

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.

Basic Information Bosch

The Bosch Group is a leading global supplier of technology and services. It employs roughly 417,900 associates worldwide (as of December 31, 2024). According to preliminary figures, the company generated sales of 90.5 billion euros in 2024. Its operations are divided into four business sectors: Mobility, Industrial Technology, Consumer Goods, and Energy and Building Technology. With its business activities, the company aims to use technology to help shape universal trends such as automation, electrification, digitalization, connectivity, and an orientation to sustainability. In this context, Bosch's broad diversification across regions and industries strengthens its innovativeness and robustness. Bosch uses its proven expertise in sensor technology, software, and services to offer customers cross-domain solutions from a single source. It also applies its expertise in connectivity and artificial intelligence in order to develop and manufacture user-friendly, sustainable products. With technology that is "Invented for life," Bosch wants to help improve quality of life and conserve natural resources. The Bosch Group comprises Robert Bosch GmbH and its roughly 470 subsidiary and regional companies in over 60 countries. Including sales and service partners, Bosch's global manufacturing, engineering, and sales network covers nearly every country in the world. Bosch's innovative strength is key to the company's further development. At 136 locations across the globe, Bosch employs some 86,900 associates in research and development, of which nearly 48,000 are software engineers.

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