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Bosch Rexroth's ctrlX DRIVE cabinet-free shows: the future of servo drive technology is cabinet-free

Manuela Kessler | 27.02.2025 | Lohr am Main | PI 011/25

- ctrIX DRIVE cabinet-free reduces space and cabling by up to 90 percent
- Modular, flexible, and energy-efficient IP65 system
- Bosch Rexroth is a pioneer in cabinet-free drive technology



Modular, flexible and energy-efficient system: the new ctrIX DRIVE cabinet-free. (Image source: Bosch Rexroth AG)

Modularity, simple installation, and drastically reduced space requirements as well as minimum cabling – these are the key benefits of cabinet-free drive technology. Based on 20 years of development experience in this field, Bosch Rexroth now also offers a cabinetfree solution in protection class IP65 with the ctrIX DRIVE cabinet-free. Bosch Rexroth sees these solutions as the future of servo drive technology, as they ideally meet the increasing requirements for efficiency and adaptability in modern production environments.

"Today, more than ever, mechanical engineering is about saving space, reducing costs, and enabling rapid adaptation to new challenges," says Steffen Winkler, Senior Vice President Sales Business Unit Automation & Electrification Solutions at Bosch Rexroth.

Bosch Rexroth is a pioneer in cabinet-free drive technology. The company presented its first solutions some 20 years ago and has been implementing numerous projects worldwide ever since. With the new ctrlX DRIVE cabinet-free, Bosch Rexroth presents the next stage of development for this technology, which meets the requirements of modern machine designs. **The servo drive of the future is flexible and saves space and energy**

Control cabinets take up space and are expensive to install and service. The ctrlX DRIVE cabinetfree IP65 system almost completely eliminates the control cabinet and reduces the space and cabling requirements by up to 90 percent. This not only saves time and costs, but also makes assembly, project planning, and operation easier.

Furthermore, the cabinet-free solution enables energy savings of up to 70 percent. The decentralized design eliminates energy consumption for control cabinet air-conditioning, which lowers operating costs. In addition, the ctrIX DRIVE cabinet-free uses silicon carbide semiconductors (SiC technology), which significantly reduce energy losses and thus increase overall energy efficiency.

ctrlX DRIVE cabinet-free offers maximum flexibility in application. Mechanical engineers can choose from an extensive product portfolio that includes single and dual-axis inverters with

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currents from 6 to 54 A. The drives are freely scalable – up to 100 drives can be operated in a line with a total length of up to 200 m. With multi-Ethernet interfaces, freely selectable motors, and modular expansion options, the system offers solutions for a wide range of industries and applications.

The machine can be adapted and expanded easily thanks to the system's modular design. As a result, machines can be flexibly configured to meet new requirements without having to completely change existing structures.

"Cabinet-free drive technology already pays off during the machine development process. It speeds up time-to-market and project realization. And in practical applications, users benefit from greater flexibility and potential savings, for example in terms of energy. With ctrIX DRIVE cabinet-free, we are driving forward the development of innovative, future-oriented machines," says Winkler.

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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