PRESS INFORMATION

Greater cost-effectiveness and efficiency for industrial applications

Manuela Kessler | 31.03.2025 | Lohr am Main / Germany | PI 021/25

Bosch Rexroth presents future-proof hydraulics, open automation solutions and AI-based services at Hannover Messe

At Hannover Messe 2025, Bosch Rexroth presents future-proof hydraulics, open automation solutions and AI-based services in Hall 6, Stand D26. (Image source: Bosch Rexroth AG)

Increasing productivity while saving energy and resources - it can be achieved. At the Hannover Messe, Bosch Rexroth is presenting products, solutions and services that support users from a wide range of industries in achieving these goals. The CryoPump stations, for example, shorten the refueling of a truck with 100 kg of hydrogen to 10 minutes, while at the same time reducing operating costs by up to 70 percent. The Hydraulic Hub digital platform simplifies and accelerates industrial hydraulics service. And the scalable automation portfolio for the entire battery production value stream is the key to high dynamics and maximum throughput.

Hydraulic Hub online platform: greater efficiency in service and maintenance

With increasing digitalization and electrification, the demands on service employees are growing. With the Hydraulic Hub, Bosch Rexroth offers a digital platform with a wide range of digital services that simplify and accelerate the service and maintenance of hydraulic products. Service and maintenance teams can access the online platform around the clock, identify almost half a million Rexroth industrial hydraulic components and retrieve product-related service knowledge and processes. Using AI-based tools, for example, they receive answers to specific questions or customized solution proposals for quick troubleshooting.

CryoPump stations: economical solutions for an efficient hydrogen infrastructure

Green hydrogen plays an important role in achieving global climate targets. Experience from electromobility shows how important a nationwide refueling infrastructure is for the success of the new technology. CryoPump stations from Bosch Rexroth enable economical hydrogen refueling - with both liquid and gaseous hydrogen. With a footprint of less than 11 m^2 and a noise level of less than 65 dB(A), they are ideal for use in existing filling stations, even in residential areas, and can be integrated into standard filling station systems thanks to open interfaces. With their high efficiency and minimal boil-off losses, the stations reduce operating costs by up to 70 % and can therefore contribute to lower hydrogen prices for end customers in the long term.

Proportional valves: continuous digitalization

Bosch Rexroth is digitalizing its proportional control valves consistently with the OBED onboard electronics. It enables economical scaling of analog hydraulic components and valves with fieldbus/Ethernet interfaces via app. Pressure and path functions can thus be realized more flexibly, productively and economically. With the established Bluetooth and IO-Link technologies and the OBED's update capability, the valves are highly future-proof.

Special presentation “Fluid Power 4.0”

In the Fluid 4.0 research project, an industry consortium is driving forward the strengthening and further development of the administration shell as a digital twin in a cross-industry data space. The project is funded by the European Union and the Federal Ministry for Economic Affairs and Climate Action (BMWK). Building on the existing infrastructure, companies and institutions from industry and science are digitalizing practical use cases with Bosch Rexroth as coordinator. As part of the special presentation “Fluid Power 4.0” at the Hannover Messe, 16 partner companies, including Bosch Rexroth, and scientific institutions will provide insights into the digitalized and sustainable fluid technology of the future in hall 5, booth D44.

Hägglunds Thunder permanent magnet synchronous motor: Proven reliability and flexibility now also available electrically

Hägglunds gearless drive technology combines high torques with great reliability and flexibility. The Hägglunds Thunder now also offers these advantages as a fully electrical solution based on the permanent magnet synchronous motor technology. The Hägglunds Thunder series offers excellent direct drive solutions for up to 4300 kW of power, especially when the requirements for both torque and speed are high.

eLION electrification portfolio: Bosch Rexroth further expands its offering for off-highway machines

Electrification in the off-highway market is progressing across all machine sizes. With the aim of a cost-efficient entry, many manufacturers are starting the transformation with compact 96-volt machines. Bosch Rexroth is therefore expanding its eLION electrification range to include off-highway machines with 96-volt electrical systems. The corresponding portfolio of inverters and

motors, including the new EML1 series, is designed for the compact construction of powerful vehicles. In the high-voltage range, the newly developed EMP1 motors with up to 50 % higher power density save valuable installation space and enable productivity increases on construction sites and fields as well as in forestry, logistics and municipal applications.

Battery production: scalable solution portfolio for high dynamics and maximum throughput

With a combination of real exhibits and a virtual gigafactory, Bosch Rexroth is presenting selected process steps of high-performance battery production at the Hannover Messe. With the aim of maximizing throughput, the complex value streams can be experienced using the example of round cell module assembly: from the virtual warehouse, cell preparation, module and pack assembly to transport and end-of-line testing.

Operating system ctrlX OS: ready for the Cyber Resilience Act

The Cyber Resilience Act establishes mandatory cybersecurity requirements for both manufacturers and distributors across the entire product lifecycle - for any product connected to another device or network. Bosch Rexroth's operating system ctrlX OS is already prepared for the requirements of the CRA. ctrlX OS is designed “Secure by Design” and “Secure by Default” and certified according to IEC 62443-4-2 Security Level 2 by TÜV Rheinland. Data that is stored, transferred or otherwise processed is fully protected. It also provides the platform for fast, reliable distribution and application of security patches without affecting operations.

Linear Motion Technology Selector: find the right product quickly and easily

With the interactive Linear Motion Technology Selector, Bosch Rexroth simplifies and speeds up product selection. After just a few clicks and parameter entries, the browser-based tool presents plausible solution recommendations and displays sensible alternatives including limit values, price information and delivery times. The Linear Motion Technology Selector includes the complete portfolio of linear guideways, ball bushing guides and screw drives. Further product groups will follow successively.

Sales partner network: Expansion increases solution and service availability in factory automation and hydraulics

Bosch Rexroth is expanding its sales and service partner network to include the “Authorized Partner” category. Customers from the fields of factory automation, industrial hydraulics and mobile applications benefit from individual support for product, service and spare parts inquiries. With their extensive product and engineering know-how, the partner companies develop customized solutions based on Rexroth products.

Bosch Rexroth at the Hannover Messe 2025: hall 6, booth D26

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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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