

Factsheet

Technology Area Pneumatics

Bosch Rexroth. The Drive & Control Company

Bosch Rexroth is one of the leading specialists worldwide in drive and control technology. Under the brand name Rexroth, the company supplies tailored solutions for driving, controlling and moving. Bosch Rexroth is a partner for industrial applications and factory automation, mobile applications and using renewable energies. The Drive & Control Company is the supplier of choice to more than 500,000 customers for high quality electrical, hydraulic, mechatronic and pneumatic components and systems. In more than 80 countries Rexroth is a reliable partner for its customers, supporting their production of safe and efficient machines and thereby contributing to the economical use of natural resources.

Multi-disciplinary know-how is the basis for innovative solutions that are used as components or customized systems. Because Rexroth offers a complete range of drives and controls, advice to customers is free of technological bias, resulting in the most appropriate solution for the task at hand. Rexroth technologies are used in all branches of industry. As system-level partner, service provider and supplier, Rexroth has a fund of knowledge in more than 30 industrial sectors. Comprehensive service offerings fortify Rexroth's leading position worldwide as a partner for machine and system manufacturers.

In 2008, Bosch Rexroth achieved sales of around 5.9 billion Euro with 35,300 employees. The company was created in 2001 through the merger of Bosch Automationstechnik and Mannesmann Rexroth. The entrepreneurial tradition of both companies continues under one roof. In the case of the Rexroth family this extends back to 1795 and in the case of the Bosch family back to 1886.

1. Short Profile of the Technology Field Pneumatics

Pneumatics is a fast-moving technology, with both service and environmentally-friendly components and systems. The pneumatics technology field offers a comprehensive standard program of cylinders, valves and accessories for industry as well as customer-specific solutions and pneumatic applications. The product spectrum ranges from individual components through to complex pneumatic systems and installations. The integration of electronic functions offers a number of interesting perspectives here. In addition, this technology field incorporates pneumatic and electric drive components for marine technology as well as drive and conveyor chains.

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2. Products

Pneumatics

Piston rod cylinders, rodless cylinders, handling technology and vacuum components

Cylinder valve units, valve systems, valve support and modular valve systems, electrically operated valves, pneumatically operated valves

Mechanically and manually operated valves, flow control and other valves, E/P pressure control systems

Air conditioning systems, assembly material and accessories, control systems, ships' steering systems,

Drive and inverted tooth conveyor chains

3. Industries

Food and packaging industry, automotive industry, automation and small handling, printing and paper industry. Electronics manufacturing, wood processing industry, textile industry, automotive engineering, aluminium industry

4. Trends in Technology

The **decentralized intelligent system architecture** is resulting in an ever increasing integration of electronics, also in pneumatics. Rexroth offers complete modules, which communicate with the superordinate control device via commonly used bus systems. This means that linking across different technologies other than pneumatics is also possible.

The integration of electrical systems into pneumatic equipment opens up new possibilities for cost-effective automation. Rexroth offers electro-pneumatic pressure control valves, which make it possible to couple electronic intelligence and robust pneumatics tightly.

Miniaturization and **new combinations of materials** shape hardware development. Particularly its in-depth know-how in plastics allows Rexroth to achieve high integration densities. The focus is also on **simplified assembly** and commissioning. Components with the 'Easy-2-Combine'-property enable a direct combination of individual pneumatic components even to other technologies, without complicated and expensive connector kits. The system components represent the most commonly used applications in assembly technology, such as linear motion, rotational movements and gripping functions. In this way standardized interfaces mean lower assembly costs. Quick and uncomplicated technical service for all parts of the design are available through the many

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online-configuration tools like the FRL configurator or the Easy-2-Combine-Configurator.

A **fast and uncomplicated design service** is also offered by Easy-2-Combine Configurator, the **online configuration tool**. This tool enables single and multi-axis systems to be designed fast and efficiently, reducing engineering time and calculations to a minimum. With the Easy-2-Combine Configurator the basic parameters are entered for the specific application and the products that are best suited to the requirements will then be selected and displayed, together with the relevant accessories.

There is also range of different **software tools** available to the customer that play an important role. Various technical design programs can be mentioned here, in the form of circuit diagrams and software, as well as the option of incorporating CAD drawings directly into the design drawings.

For **Condition Monitoring** Rexroth offers tried and tested solutions in pneumatics. The **DDL Drive & Diagnostic Link** processes analog and digital signals and controls up to 24 modules over a distance of up to 30 meters. Interfaces to Profibus, Interbus S, DeviceNet and ControlNet include all the most commonly used protocols. This system supports the control of smaller and faster switching valves via fieldbus and offers possibilities for comprehensive diagnostics: from configuration analysis and control of the power supply right through to the localization of short circuits and diagnosis of errors in data transmission.

5. Production Sites



Hannover, Germany

- Electronic valves
- CTO valves
- Valve support systems
- Systems, customizing
- Control cabinets
- Marine electronics



Benshausen, Germany

- CTO cylinders

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Gronau, Germany

- Drive and inverted tooth conveyor chains



Stockholm, Sweden

- Guide cylinders (automation products)
- CTO cylinders,
- Inline valves (trucks)
- Systems, customizing



Eger, Hungary

- VDMA, Mini, Short stroke cylinders
- Single/Inline valves and components
- Marine Technology: Mechanical processing



Bonneville, France

- Single/Inline valves
- Systems
- Maintenance units



Lexington, USA

- CTO cylinders (ISO/VDMA)
- Cylinders (Rexmover, NFPA Taskmaster)
- Valves and valve systems
- Marine und energy products
- Systems, special products

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Jinqiao, China

- Cylinders (VDMA, Octagon, Autocoro)
- Invacare Valves
- Customer-specific products

6. Contact

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