

PRESS INFORMATION

Variable-speed drive technology for saving energy

Manuela Kessler | 30.05.2022 | Lohr am Main / Germany | PI 024/22

Sytronix variable-speed pump drives from Bosch Rexroth meet the needs of the recycling industry

- Energy-efficient: needs-based power output
- Tailored: ready-to-install solution based on proven standard components
- Innovative concept: compact, powerful and quiet
- International: standardized solution, global service



The Sytronix variable-speed pump drives make recycling applications much quieter, more reliable and more energy-efficient. (Image source: Bosch Rexroth AG)

Sytronix variable-speed pump drives for recycling applications will significantly increase the energy efficiency of channel balers, scrap shears and scrap presses. With the modular, standardized Sytronix system, the electric drive system, the frequency converter and the constant or variable displacement pump are combined with other standard components to produce a high-performance unit with low overall costs. Thanks to a wide range of control outputs such as the motor speed and swivel angle, Sytronix achieves optimum efficiency for each cycle. The resulting energy savings reduce operating costs and CO2 emissions.

Unlike conventional hydraulic drive systems with a constant energy supply, Sytronix variable-speed drives work according to the “energy on demand” principle. The power consumption depends on the current power requirement in the cycle. As a result, energy can be saved, especially in pressure-holding mode. An optimized switching principle also helps to increase energy efficiency, especially in conjunction with flow-optimized manifolds from Bosch Rexroth. In these, pressure losses were minimized with the help of simulations and 3D sand core printing.

Adjustable axial piston pumps also help to reduce power consumption by controlling the flow via the swivel angle while the electric motor is running in the optimum speed range.

The Sytronix drives also allow downsizing to reduce costs. Thanks to their overload capacity, a smaller pump is usually able to cope with power peaks when the flow is suddenly raised by increasing the speed.

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The modular Sytronix approach opens up numerous new possibilities for machine manufacturers. International companies also benefit from Rexroth's global service and the opportunity to standardize their machines for various target markets. Sytronix drives can be used anywhere in the world regardless of the mains frequency.

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 Applications, Machinery Applications and Engineering, and Factory Automation. With its intelligent components, customized system solutions 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, more than 31,000 associates generated sales revenue of around 6.2 billion euros in 2021.

Basic Information Bosch

The Bosch Group is a leading global supplier of technology and services. It employs roughly 402,600 associates worldwide (as of December 31, 2021). The company generated sales of 78.7 billion euros in 2021. Its operations are divided into four business sectors: Mobility Solutions, Industrial Technology, Consumer Goods, and Energy and Building Technology. As a leading IoT provider, Bosch offers innovative solutions for smart homes, Industry 4.0, and connected mobility. Bosch is pursuing a vision of mobility that is sustainable, safe, and exciting. It uses its expertise in sensor technology, software, and services, as well as its own IoT cloud, to offer its customers connected, cross-domain solutions from a single source. The Bosch Group's strategic objective is to facilitate connected living with products and solutions that either contain artificial intelligence (AI) or have been developed or manufactured with its help. Bosch improves quality of life worldwide with products and services that are innovative and spark enthusiasm. In short, Bosch creates technology that is "Invented for life." The Bosch Group comprises Robert Bosch GmbH and its roughly 440 subsidiary and regional companies in some 60 countries. Including sales and service partners, Bosch's global manufacturing, engineering, and sales network covers nearly every country in the world. With its more than 400 locations worldwide, the Bosch Group has been carbon neutral since the first quarter of 2020. The basis for the company's future growth is its innovative strength. At 128 locations across the globe, Bosch employs some 76,100 associates in research and development, of which more than 38,000 are software engineers.

Press Contact

Please get in touch with our Press Contact



Manuela Kessler

Spokesperson

technology topics

+49 9352 184145

Manuela.Kessler@boschrexroth.de