

PRESS RELEASE

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Green hydraulics for climate protection

Real modernization projects prove that Sytronix variable-speed drives reduce energy consumption by up to 80 percent.



Energy on demand for climate protection: Sytronix variable-speed drives always run at the optimum operating point. If no power is required, they automatically switch to standby.

Climate protection initiatives or the EU's Green Deal are increasing the pressure on machine manufacturers to help their customers achieve their targets with energy-efficient hydraulic solutions. Compared to conventional technologies, the Sytronix variable-speed drives from Bosch Rexroth reduce energy consumption and electricity costs by up to 80 percent. The intelligent electrohydraulic systems indirectly reduce CO₂ emissions by the same amount. Bosch Rexroth obtained these figures during real modernization projects.

The great potential for savings results from the intelligent interaction of a frequency converter, an electric motor and a hydraulic constant or variable displacement pump. Thanks to load-dependent control, the loss-optimized electrohydraulic solution from Bosch Rexroth always runs at the optimum operating point. If no power is required, it automatically switches to standby.

Thanks to their high power density, the Sytronix variable-speed drives are suitable for modernizing a range of systems: from machine tools, wood and paper machines to metallurgical applications or pressing, die casting and injection molding machines.

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If conventional hydraulic drives are subsequently replaced by Sytronix drives and both scenarios are compared, energy consumption can be reduced by up to 80 percent depending on the application. The energy costs as well as the greenhouse gases produced during electricity production are also reduced by the same amount. This was found by evaluating real customer projects where a conventional drive was replaced by a corresponding Sytronix drive.

During a number of optimization projects, the hydraulic experts at Bosch Rexroth compared the energy consumption of the original set-up including cooling with the new Sytronix solution. For example, work to modernize a plastics press resulted in energy savings of 87,000 kWh (-78 %) per year. This means that annual operating costs are reduced by €15,390.

In the German electricity mix of 2018, 0.489 kg of various greenhouse gases were emitted per kilowatt hour generated. This figure can be expressed in standardized form in CO₂ equivalent [CO₂eq]. As a result of the subsequent Sytronix upgrade, the plastics press avoids 43.3 tons of CO₂ equivalent every year.

Even greater savings are possible with more complex systems, for example a walking beam furnace. Here, the variable-speed concept saves 421 tons of CO₂eq and reduces the operator's costs by €152,000, a saving of around 80 percent. The consumption figures for a casting machine were reduced by the same amount. Here, Bosch Rexroth enabled the operator to avoid 30 t CO₂eq of greenhouse gases per year and to reduce electricity costs by €11,000.

For further information visit: www.boschrexroth.com/sytronix

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, roughly 31,000 associates generated sales revenue of roughly

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6.2 billion euros in 2019.

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The Bosch Group is a leading global supplier of technology and services. It employs roughly 400,000 associates worldwide (as of December 31, 2019). The company generated sales of 77.7 billion euros in 2019. 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 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 60 countries. Including sales and service partners, Bosch's global manufacturing, engineering, and sales network covers nearly every country in the world. The basis for the company's future growth is its innovative strength. Bosch employs some 72,600 associates in research and development at 126 locations across the globe, as well as roughly 30,000 software engineers.

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