

PRESS INFORMATION

Primary-controlled press drive: Simply more efficient

Manuela Kessler | 25.10.2022 | Lohr am Main / Germany | PI 060/22

New servo-hydraulic pump unit simplifies hydraulic construction and increases energy efficiency



The new servo-hydraulic pump unit (SHP, left) from Bosch Rexroth has a compact design and reduces the engineering work required by being mounted directly on manifolds (SHM, right). (Image source: Bosch Rexroth AG)

With the SHP4V primary-controlled press drive from Bosch Rexroth, machine manufacturers can simplify their hydraulic constructions significantly and speed up commissioning. The servo-hydraulic pump units which can be mounted on the manifold significantly improve energy efficiency and reduce noise emissions.

The SHP4V servo-hydraulic pump unit combines MS2N synchronous servo motors with A4 axial piston pumps. The actuator movement can be achieved via speed or pump adjustment. When it is used as a primary-controlled press drive, users use the speed to position the actuator and the pump adjustment to limit the power. As a result, they achieve lower speeds during partial load operation and make full use of the electrical drive system capacity.

The compact drive unit produces only the hydraulic energy that is actually needed for the process and supports four quadrant operation. When the pressure is reduced, the motor switches to generator mode and recovers braking energy.

At the same time, the SHP4V simplifies the hydraulic construction: Engineers no longer require the proportional valves needed for classic concepts. In addition, the pump unit can be mounted on the manifold itself. This significantly reduces the assembly and commissioning work as well as the piping required. Direct mounting also reduces air, structure and liquid-borne noise. Compared to concepts where the pump drive and manifold are connected by pipes, noise emissions are on average 5 dB(A) lower.

Engineers can achieve this functionality flexibly in the software. They can even replicate customer and application-specific movement processes with standardized hardware.

As a fully connective module, the drive unit supports futuristic condition monitoring and predictive analytics concepts designed to ensure maximum availability. The synchronous servo motor functions as a sensor, recording operating data and allowing conclusions to be drawn regarding possible wear. Additional sensors collect other operating data. As a result, the

PRESS INFORMATION

necessary maintenance work can be planned in advance and carried out during production breaks. End users thus increase their flexibility and productivity.

Bosch Rexroth at EuroBLECH Hall 11, Stand D08

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 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 some 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.

Press Contact

Please get in touch with our Press Contact



Manuela Kessler

Spokesperson
technology topics
+49 9352 184145

Manuela.Kessler@boschrexroth.de