

# Press Release

## Bosch Rexroth's CytroBox – The efficient, intelligent, compact and quiet industrial hydraulic solution

New hydraulic power unit for the medium performance range.

- ▶ Up to 30 kW for efficient production
- ▶ Compact control cabinet format
- ▶ Energy savings up to 80 percent
- ▶ Condition monitoring and data analysis



With Bosch Rexroth's CytroBox, the future of Industrial Hydraulics has begun.

**Connecting machines and facilities with IT systems opens up enormous potential for more economical and intuitive processes. This is exactly where Bosch Rexroth's new CytroBox hydraulic power unit comes in. With its intelligent, energy-efficient modular design, CytroBox provides a new solution for the medium performance range up to 30 kW. With its integrated IoT technologies, CytroBox is paving the way for consistently implementing Industry 4.0 concepts.**

CytroBox is a hydraulic power unit for applications in the medium performance range up to 30 kW. The current consumption is parametrized and optimized with regard to the existing electrical cabinet. Pre-set controllers in variable-speed pump drives adjust energy requirements on an individual basis.

The speed is switched off during no load in order to save energy and is controlled under full load in a closed loop to the exact pressure command value with a highly dynamic response. This saves up to 60 percent of energy compared to conventional power units. The high efficiency of the manifold

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block, which is manufactured using the 3D sand core printing method, also contributes to overall efficient operation. Made via additive manufacturing, the manifold block is up to 40 percent more compact and boasts improved flow channels. This improves oil flow, reduces pressure losses and minimizes the areas where leaks could occur because fewer plug screws are required. The hydraulic power unit is also equipped with an active dewatering unit to protect against external contamination.

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## **Cleverly connected to condition monitoring**

Equipped with a sensor package and open interfaces, CytroBox is ready for use in connected environments. Integrated and wired sensors provide information regarding the current filter, oil or drive condition. The collected data is then processed by the drive controller. With the help of Open Core Interface, data can be further processed and integrated into modern machine concepts.

CytroBox also offers a connectivity option for operators. This makes it easy to realize the potential of IoT technologies as a pay-per-use service easily and without risk. All information regarding CytroBox – from the component and operating status or forthcoming maintenance work to predictive maintenance analyses is available via Rexroth's Online Diagnostics Network (ODiN). As a result, the information is always close to hand.

## **Full performance with the smallest footprint**

Flexibility and space-saving designs are important criteria when selecting components. The CytroBox combines a small footprint with a compact design. This also includes a tank with optimized de-gassing and flow. Thanks to a CFD simulation, the oil volume is reduced by 75 percent – going from 600 liters to a mere 150. The use of synchronous technology also saves space. The high-performance, water-cooled synchronous motors are up to 80 percent smaller than comparable asynchronous ones. All functions are brought together in a compact control cabinet. As a result, CytroBox can easily be integrated into existing production lines in a flexible, space-saving manner.

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## Lower noise emissions for improved worker comfort

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Airborne sound is completely absorbed by the compact arrangement of components in one unitary housing and built-in sound insulating mats. This design ensures no sound leaks out. In order to reduce noise emissions stemming from structure-borne noise, the motor pump group is rigidly affixed to a polymer-concrete foundation. The damping bearings that would typically transmit the noise to the tank are completely eliminated. Even at a full load, CytroBox's noise emission is less than 75 dB (A). Comparable power units have an average noise level of 85 dB (A). This reduces the need for additional noise reduction measures, lowers costs and makes the work experience more pleasant, even when in direct proximity to the hydraulic power unit.

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For more information on CytroBox, visit [www.boschrexroth.com/cytro](http://www.boschrexroth.com/cytro)

### **About 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 drives and controls, 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 30,500 associates generated sales revenue of approximately 5.5 billion euros (\$6.2 billion) in 2017.*

*To learn more, please visit [www.boschrexroth-us.com](http://www.boschrexroth-us.com)*

### **About Bosch**

*Having established a regional presence in 1906 in North America, the Bosch Group employs nearly 34,500 associates in more than 100 locations, as of December 31, 2017. In 2017 Bosch generated consolidated sales of \$13.7 billion in the U.S., Canada and Mexico. For more information, visit [twitter.com/boschusa](https://twitter.com/boschusa), [twitter.com/boschmexico](https://twitter.com/boschmexico) and [www.bosch.ca](http://www.bosch.ca).*

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*The Bosch Group is a leading global supplier of technology and services. It employs roughly 402,000 associates worldwide (as of December 31, 2017). The company generated sales of 78.1 billion euros (\$88.2 billion) in 2017. Its operations are divided into four business sectors: Mobility Solutions, Industrial Technology, Consumer Goods, and Energy and Building Technology. As a leading IoT company, Bosch offers innovative solutions for smart homes, smart cities, connected mobility, and connected manufacturing. 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 deliver innovations for a connected life. 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. At 125 locations across the globe, Bosch employs some 64,500 associates in research and development.*

*Additional information is available online at [www.bosch.com](http://www.bosch.com), [www.iot.bosch.com](http://www.iot.bosch.com), [www.bosch-press.com](http://www.bosch-press.com), [www.twitter.com/BoschPresse](https://twitter.com/BoschPresse).*

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