

**PRESS RELEASE**

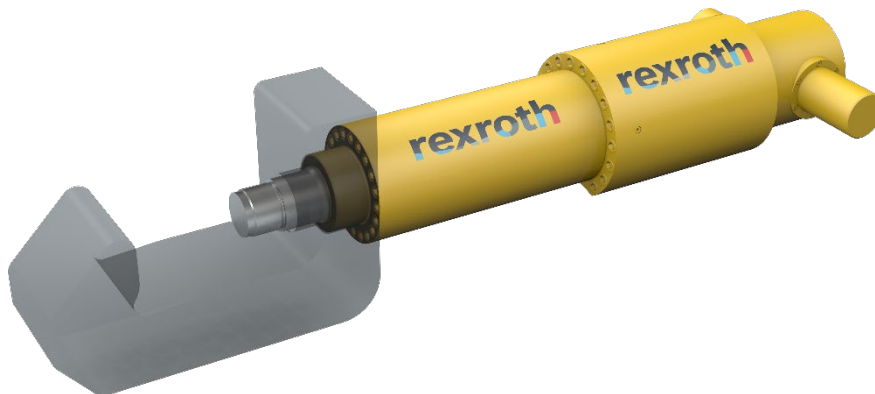
IH20001  
05/28/2020

For Immediate Use

## **Lifetime reliable clamping**

**Bosch Rexroth's new Subsea Clamping Cylinder protects valuable offshore systems against premature wear – with no diving work or power supply needed**

- ▶ High performance: defined clamping force in holding mode with no power supply
- ▶ Long lasting: designed for use for up to 25 years
- ▶ Innovative: automatic load distribution between a set of cylinders applied into a system
- ▶ Easy to use: straightforward actuation during commissioning, removal and reuse with no need for diving work



The new Subsea Clamping Cylinder from Rexroth takes into account the complete life cycle of riser systems: whether it be transport and storage on the seabed, commissioning and reliable use, or removal and reuse.

**With the innovative Subsea Clamping Cylinder for fully automatic Bend Stiffener Connectors (BSCs), Bosch Rexroth is setting new standards in term of safety, reliability and economy. The system is designed for use for up to 25 years and is impressive with its high clamping forces, powerless holding operation, and easy installation with no need for manual work by divers. The patented automation solution withstands forces of up to 120 tons per clamping cylinder. A proven cushioning mechanism absorbs vibrations and distributes the load across a number of cylinders within the system. This prevents material fatigue and premature wear with a predefined clamping force. The integrated clamping unit allows straightforward, reliable actuation during commissioning and removal – even after long periods of use.**

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Bend Stiffener Connectors (BSCs) protect riser systems against premature material fatigue coming from movements such as those caused by waves. This helps protect valuable investments and increase the availability and productivity of the offshore equipment. In a fully automatic BSC, a number of Rexroth clamping cylinders are used as a system.

The patented automation solution reliably protects riser systems against bending loads and allows a secure and economical holding operation. It is designed for use for up to 25 years and no manual diving work is necessary during installation and removal. Holding operation requires no power – a hydraulic supply is only required for the initial clamping and subsequent removal. Bosch Rexroth offers an optional integrated hydraulic power unit (HPU) with electrical control systems for this purpose.

While the rated force is being set hydraulically, a spring in the cylinder is tensioned and fixed using a safety lock unit. This allows the clamping force to be maintained over the entire operating time in a purely mechanical manner, with no need for a continuous hydraulic or electrical power supply.

Thanks to the innovative combination of flexible mechanical and hydraulic force components, the loads which act in all six degrees of freedom are automatically distributed to the Subsea Clamping Cylinders installed in the system. Each individual cylinder can withstand up to 120 tons. Compared to conventional solutions, this flexible load distribution allows a much longer operating life and higher system availability.

A further advantage: the robust design of the Subsea Clamping Cylinders takes into account the entire usage cycle. Until the system is installed, it can be stored under water at a depth of up to 3,000 meters for a period of two years. The clamping unit can be hydraulically released and controlled easily, safely and reliably for removal or for further use.

The Subsea Clamping Cylinders can be used in numerous different clamping applications – not just in a marine or offshore setting but on land too.

Bosch Rexroth offers online training for interested engineers and users. More information about this is available at: [subsea@boschrexroth.com](mailto:subsea@boschrexroth.com).

Further information is available at: [www.boschrexroth.com/subsea](http://www.boschrexroth.com/subsea)

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### **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 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 6.2 billion euros (\$7.3 billion) in 2019.*

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

### **About 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 (\$84 billion) 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 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 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.*

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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