

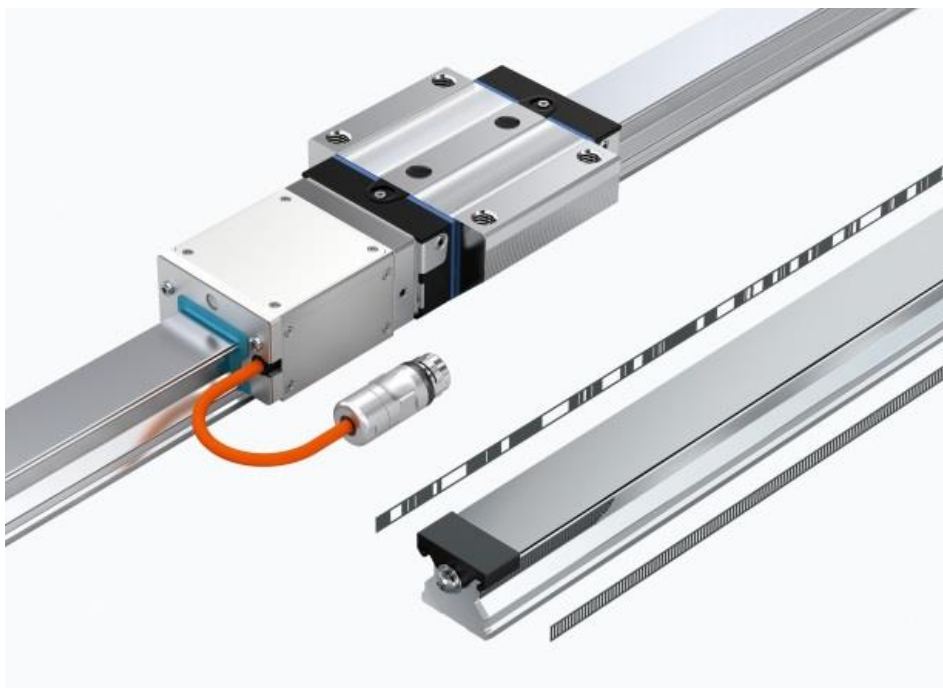
## Press Release

**rexroth**  
A Bosch Company

### Rexroth IMS-I and IMS-A Integrated Measuring Systems Set the Standard for Precision

IA16032B  
11/14/2016

For Immediate Use



Rexroth's Integrated Measuring System (IMS) seamlessly integrates into Rexroth's profiled rail systems, making it ideally suited for applications requiring highly dynamic and accurate absolute positioning in high rigidity mechanical systems.

**The IMS-I (incremental) and IMS-A (absolute) integrated measuring systems combine highly rigid Rexroth ball rail and roller rail systems with a non-contact length measuring system. Offering measurement accuracy comparable to that of high-precision glass scales, both systems offer simplified design with components completely integrated into the linear guide and no attachments required. Additionally, the IMS-A is best suited for application requiring highly dynamic and accurate absolute positioning in high rigidity mechanical systems.**

#### **IMS-I: Integrated and Precise**

Featuring a high-precision pitch etched into a steel strip, the IMS-I is designed with the scale integrated into the profiled rail and protected by a tightly welded stainless steel strip across the entire rail section length.

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## **IMS-A: A glass-accurate guide and measuring system in one**

The new IMS-A integrated measuring system blends accurate measurement with robust performance in machining, 3-D printing and medical manufacturing of tubing, surgical and dental tools, electronics and implants. It detects the absolute position of the axis to +/- 4 micrometers. What's more, the measuring system is immune to contamination, vibrations, shocks and magnetic interference, and needs no buffer batteries in the event of a power failure. Thanks to the complete integration of the sensor and evaluation electronics in the ball and roller runner blocks, design engineers can avoid external measurement and air purge systems.

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## **Always 'On' point**

Turning machines back on again following a power failure can result in a critical situation. That's because the controller in many applications needs to know the position of each axis immediately. Purely incremental measuring systems need to first complete a reference run for this, which extends the ramp-up time and, in a loaded state, can result in damage to the workpieces and tools. The new integrated IMS-A measuring system from Rexroth immediately recognizes the absolute position of the axis with a high degree of precision when the machine is switched on and reports them to the controller without carrying out a reference run. This also eliminates the need for buffer batteries that have to be replaced.

## **Inductive and wear free**

Thanks to the inductive measuring principle, the IMS-A operates without physical contact and is therefore a wear-free assembly. The measuring scale cannot be interfered with or destroyed by external magnetic fields. The IMS-A is not sensitive to vibrations up to 10 G and shocks up to 50 G. The sensors and evaluation electronics are located in the protective housing on the end face of the runner block. Even in working spaces with coolants, dust, shavings and other contaminants, the IMS-A does not require elaborate energy-eating, high-maintenance air purge systems. Even electrical and magnetic interference fields do not affect the measurement results.

## **Integrated Functions**

The functional integration of guiding and measuring in an assembly minimizes installation times. No adjustment of the measuring system is necessary. With the IMS-A, engineers can use several runner blocks on an up to 4,500 mm long profiled rail independently and without any accuracy limitations. All components are replaceable in the event of servicing, which reduces costs. The interchangeable construction offered by Rexroth ensures even less effort. All runner blocks of the same size fit onto the profiled rails of the respective size without any restrictions. The

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measuring system transmits the data via HIPERFACE© (\*) interfaces, as well as via SSI/1Vp-p to the intelligent drives or controller, DRIVE-CLIQ (\*\*) and FANUC interfaces are to follow.

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## **Prepared for Industry 4.0**

The integration of additional temperature and motion sensors makes this measuring system prepared for the future requirements of Industry 4.0. The additional sensors allow machine designers, for example, to read out the temperature and the actual dynamics. The sensor data also forms the basis for future approaches to predictive maintenance. The user can record and evaluate operating states online. If the accelerometers detect changes, such as increasing vibrations, then this is an indication of wear or other problems. Scheduled maintenance can then intervene before the machine needs to be shut down.

## **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, more than 32,300 associates generated sales revenue of roughly 6.2 billion euros (\$7.3 billion) in 2018.*

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 410,000 associates worldwide (as of December 31, 2018). According to preliminary figures, the company generated sales from operations of 77.9 billion euros (\$92 billion) in 2018. 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*

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*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 69,500 associates in research and development.*

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