

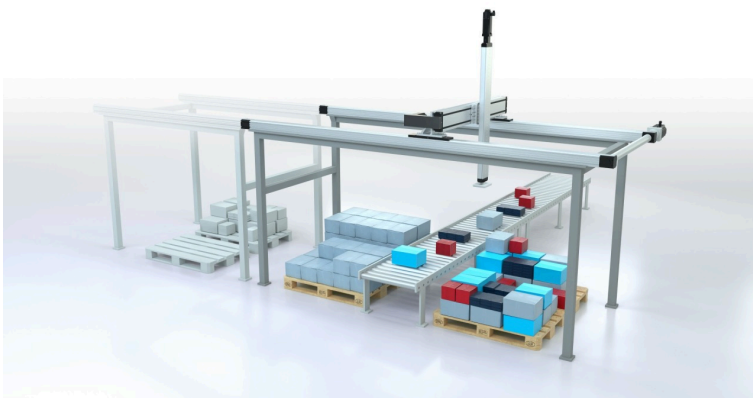
PRESS INFORMATION

Electromechanics: Great potential for automation

Manuela Kessler | 19.03.2024 | Lohr am Main / Germany | PI 008/24

Four innovative examples from intralogistics

- Intelligent solutions for mixed palletizing
- Linear systems for loading and unloading automated container warehouses
- Durable lifting systems for automated guided vehicles (AGVs)
- Electrification in automation – alternatives to pneumatics



Efficient automation in logistics: Multi-axis systems integrated into a solution for flexibly loading and unloading pallets. (Image source: Bosch Rexroth AG)

In hardly any other industry is the need for automation as great as in intralogistics. Automated container warehouses should be able to cope with the increasing throughput in online retail, autonomous transport systems should make the flow of goods more flexible, high-maintenance pneumatic systems should be replaced and efficient solutions for mixed palletizing should be implemented. Bosch Rexroth helps to overcome this and other challenges with a comprehensive linear motion technology portfolio made up of rapidly deployable components, modules and subsystems.

1. Cost-effective multi-axis solutions for mixed palletization

Rapid developments in the field of e-commerce require efficient solutions for the flow of goods and distribution. Mixed palletization offers great potential for automation and saving costs. In addition to articulated robots and cobots, Cartesian linear systems which offer major advantages in terms of installation space and handling weight are also suitable for this task. As the basis for mixed palletizing solutions, Bosch Rexroth offers a wide range of standardized linear modules and quickly deployable subsystems, the Smart Function Kits.

2. Linear motion systems for loading automated container warehouses

By constructing automated container warehouses, the industry is responding to the continuous increase in throughput and the shortage of personnel in the sector. Linear robots work around the clock in or on the new, highly automated systems. Cost-effective linear modules with belt drive and an automation package or multi-axis systems based on the Smart Function Kit Handling mechatronic modular system from Bosch Rexroth help to speed up the construction of dynamic pick-and-place systems. On request, the pre-assembled linear robots can be supplied with pre-installed operating software for fast, guided commissioning and visual process definition. With

PRESS INFORMATION

the sensor-based Smart Flex Effector compensation module, Bosch Rexroth ensures reliable gripping even with deviating container positions.

3. Durable electromechanics for automated guided vehicles

Autonomous mobile robots (AMRs) and automated guided vehicles (AGVs) are revolutionizing intralogistics by moving goods from A to B in an intelligent, reliable manner. Electromechanical cylinders such as the EMC and the heavy-duty EMC-HP range from Bosch Rexroth which only require lubrication as part of standard maintenance help to ensure the availability and controllability of the lifting systems. Automatic lateral fork adjustment to accommodate different types of pallets can be achieved economically with ball rail systems and screw drives from Bosch Rexroth.

4. Electrification with low-maintenance and sustainable linear motion technology

When it comes to transporting small masses, linear axes are often an economical, very energy-efficient alternative to pneumatic solutions. In addition to the electromechanical actuators from the EMC series, the SMS (Small Modules Screw driven) compact linear modules which are available from stock in five coordinated sizes from 30 to 120 mm are also suitable for this purpose. The compact linear modules with ball screw assembly achieve a repeatability of up to ± 0.005 mm for travel distances of up to 1,200 mm. Optional mounting kits for all popular servo motors save additional engineering time. Bosch Rexroth also offers automation packages for linear axes and actuators that allow users to order complete, ready-to-install subsystems for simple positioning and feeding tasks with just a few clicks.

In addition to these examples, Bosch Rexroth's comprehensive linear motion technology portfolio includes numerous tried and tested solutions for a wide variety of logistics applications. These range from the component level to ball transfer units for packing tables or rotary and linear guides for secondary axes. Manufacturers and users also benefit from comprehensive advice, engineering support, e-tools and worldwide service.

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 and Industrial Applications as well as Factory Automation. With its intelligent components, customized system solutions, engineering 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 32,000 associates generated sales revenue of around 7.0 billion euros in 2022.

Basic Information Bosch

The Bosch Group is a leading global supplier of technology and services. It employs roughly 428,000 associates worldwide (as of December 31, 2023). According to preliminary figures, the company generated sales of 91.6 billion euros in 2023. Its operations are divided into four business sectors: Mobility, 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

PRESS INFORMATION

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 470 subsidiary and regional companies in over 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 136 locations across the globe, Bosch employs some 90,000 associates in research and development, of which roughly 48,000 are software engineers.

Press Contact

Please get in touch with our Press Contact



Manuela Kessler

Spokesperson
technology topics
+49 9352 184145

Manuela.Kessler@boschrexroth.de