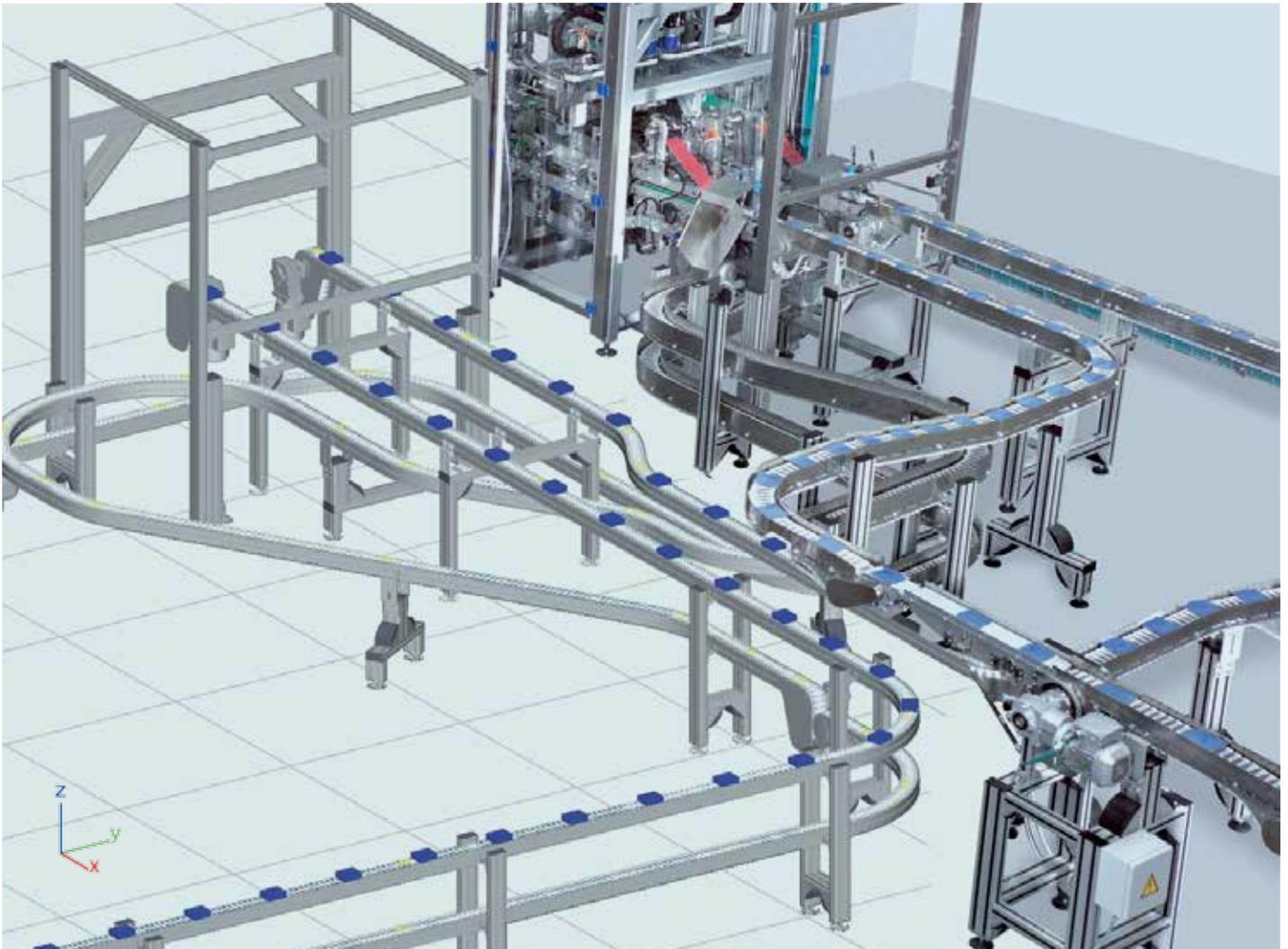


VarioFlow *plus* –
the innovative, easy-to-assemble,
low-noise chain conveyor system



VarioFlow *plus* – efficient, individual parts transport





Customer benefit

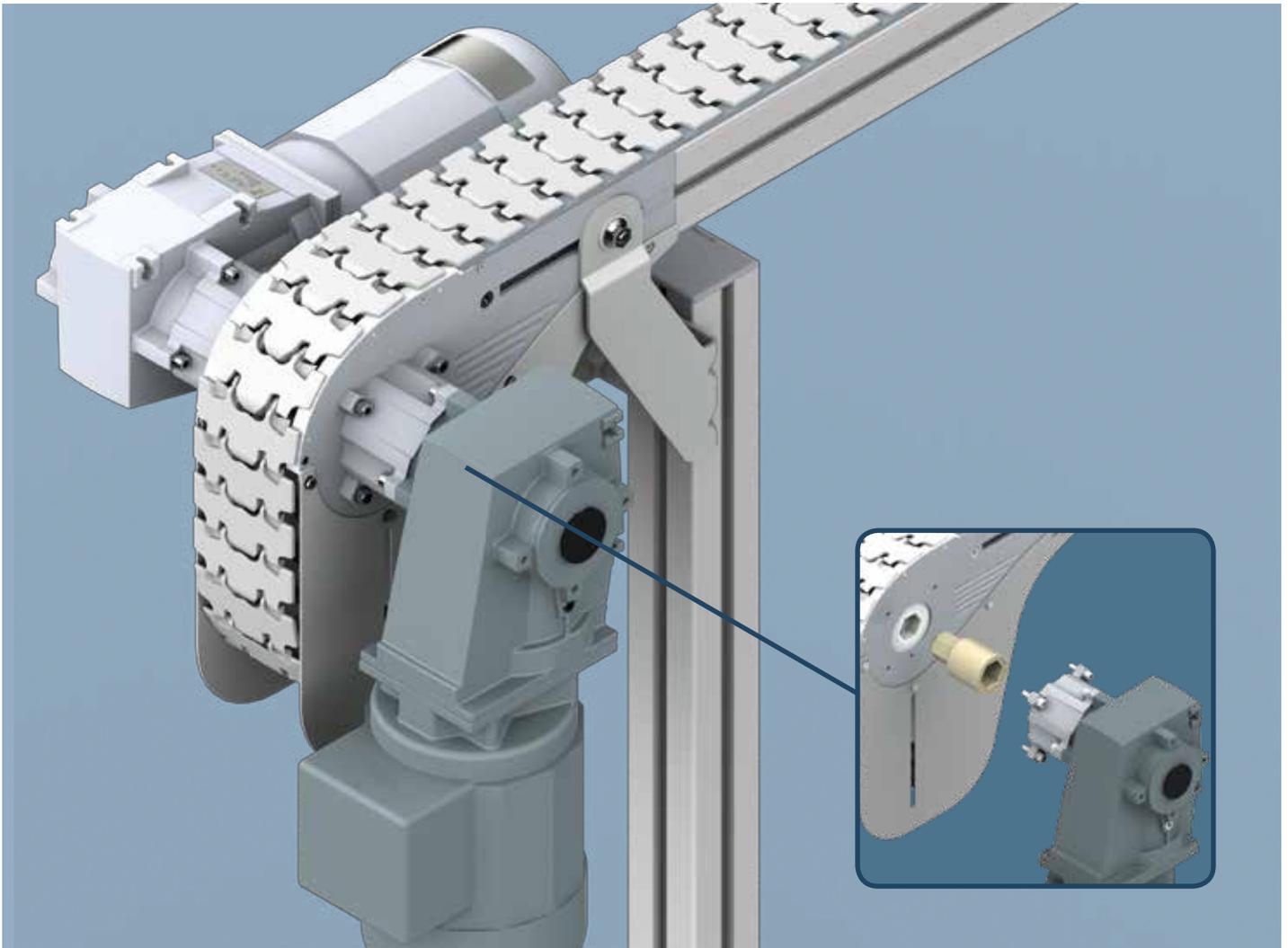
- 04 Your “plus”: planning freedom
 - 06 Your “plus”: reliability and easy maintenance
 - 08 Your “plus”: innovative solution
 - 10 Your “plus”: configuration
-

Rexroth solutions

- 12 Conveyor technology for production systems
 - 14 Primary packaging
 - 16 Secondary packaging
 - 18 Final packaging
 - 20 The solution for assembly lines
 - 22 Machine linking
 - 24 All about the chain conveyor system
-
- 26 Our service, a global partnership

Flexible planning and fast commissioning thanks to intelligent solutions

The clever drive solution enables a great degree of planning freedom: the motor mounting position can be selected on-site. Smart connection technology saves time during assembly and allows for easy conversions and system extensions.



Market requirement

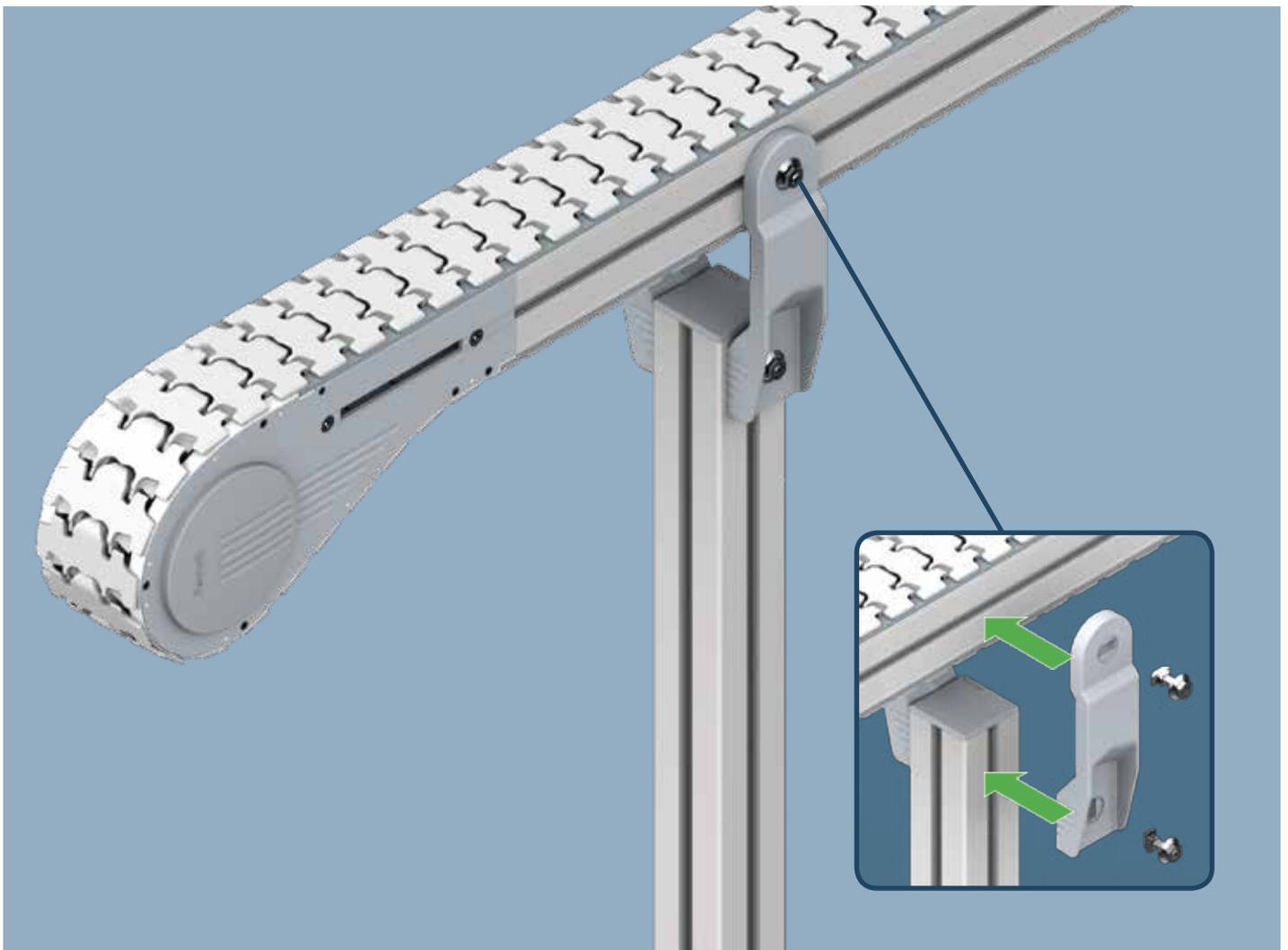
- ▶ High flexibility and planning freedom during configuration
- ▶ Easy assembly and commissioning

Our solution

- ▶ Universal basic units with separate drive kits
- ▶ Hollow shafts on both sides of the drive and return unit
- ▶ Lateral mounting of the slide rails
- ▶ Optimized connection technology

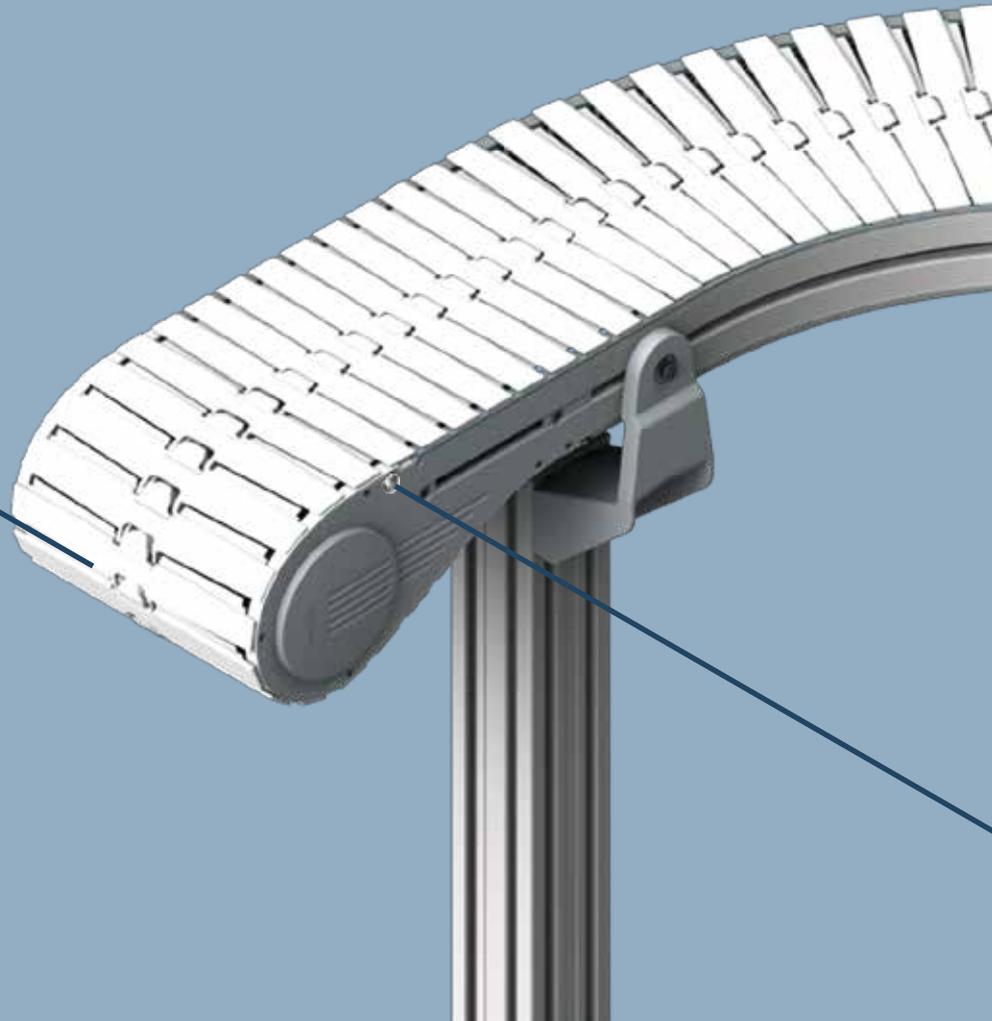
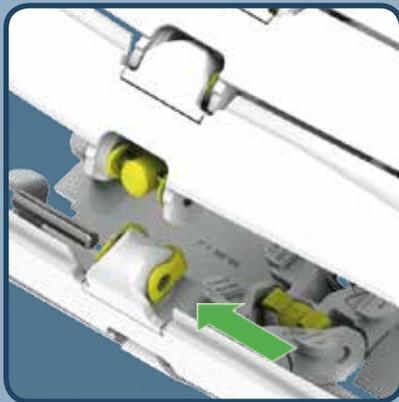
Your benefits

- ▶ Numerous combination options thanks to a modular system
- ▶ Free selection of the motor mounting position on-site
- ▶ Additional transmission interfaces (active bridge)
- ▶ Drive and curve wheels can be coupled
- ▶ No time-consuming machining of the gliding surfaces
- ▶ Minimization of noise and wear
- ▶ Time savings thanks to fewer fasteners



Optimal work conditions thanks to quiet operation and easy maintenance

The maintenance-friendly *VarioFlow plus* conveyor system creates optimal work conditions. Improved sliding characteristics and low-friction materials result in a quiet working atmosphere. Fewer joints and rolling friction in the horizontal curves ensure low wear and reduce downtimes.



Market requirement

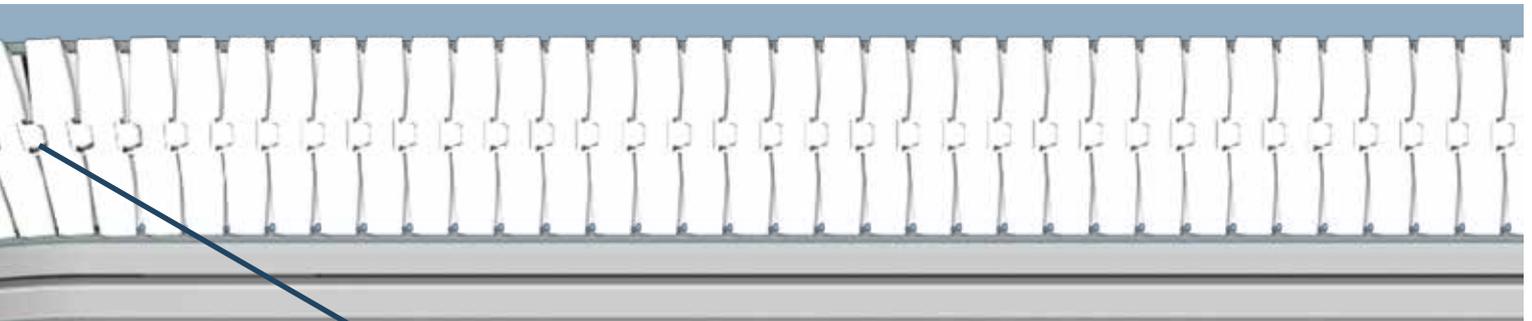
- ▶ Quiet operation
- ▶ Maintenance-friendly conveyor system

Our solution

- ▶ Optimized sliding characteristics for the chains and slide rail
- ▶ Gliding surface does not require any machining
- ▶ Fewer joints and low-friction materials
- ▶ Decoupling of chain links using various materials
- ▶ Rolling friction for all track widths in the horizontal curves

Your benefits

- ▶ Best-possible work conditions thanks to minimal operation noise
- ▶ Longer service life
- ▶ Reduced downtimes



Your “plus”: innovative solution



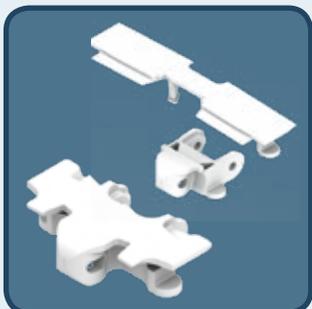
- ▶ **Easy-to-clean thanks to draining surfaces**



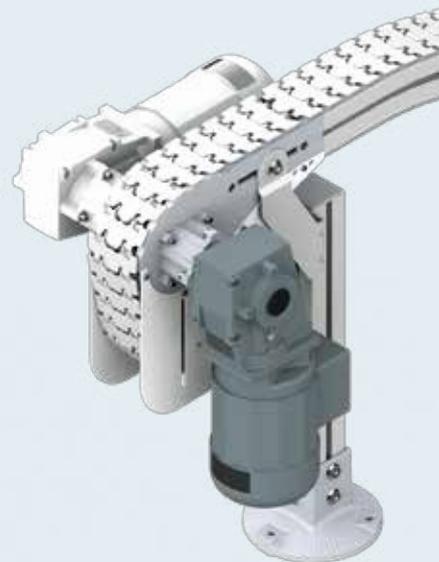
- ▶ **Comprehensive product range in aluminum and stainless steel in sizes 65, 90, 120, 160, 240, 320 mm**
- ▶ **Standardized components that can be used universally**



- ▶ **Components subject to constant friction feature FDA-compliant materials**
- ▶ **Stainless steel ball bearings sealed on both sides and with special FDA-compliant grease**



- ▶ **Wide variety of chain types suitable for different applications**
- ▶ **Low-vibration transport of small parts and accumulation operation possible thanks to covered chain links**
- ▶ **Easy-to-exchange chain plate from a size of 160 mm**



Many years of experience, robust products, and innovative technology are all characteristic of Rexroth's material flow systems. In-stock, standardized components help to achieve fast delivery times.

Modular elements that can be used universally offer a wide variety of solutions that are both individual and customizable. This high flexibility presents numerous combination options and minimizes the need for spare parts.



- ▶ **Smart design thanks to the use of a support profile from a size of 160 mm (instead of a center profile)**



- ▶ **Simple realization of ascending and inclined conveyor sections thanks to a holder with centering lugs that can be broken off**
- ▶ **Centering aid for additional holes to fasten drip trays, safety devices, etc.**



- ▶ **Configurable drive kit (with standard gear motor, or with customer-specific interface)**
- ▶ **Multi-track systems/alpine conveyors can be realized thanks to drives/curve wheels with standard components that can be coupled**
- ▶ **Reversible operation possible**



For quick adaptation to your application, a range of function units are available:

- ▶ **Automatically adjustable side guides**
- ▶ **Universal diverter**
- ▶ **Adjustment unit for wedge conveyors**
- ▶ **Active bridge**



Simple and quick planning with MTpro

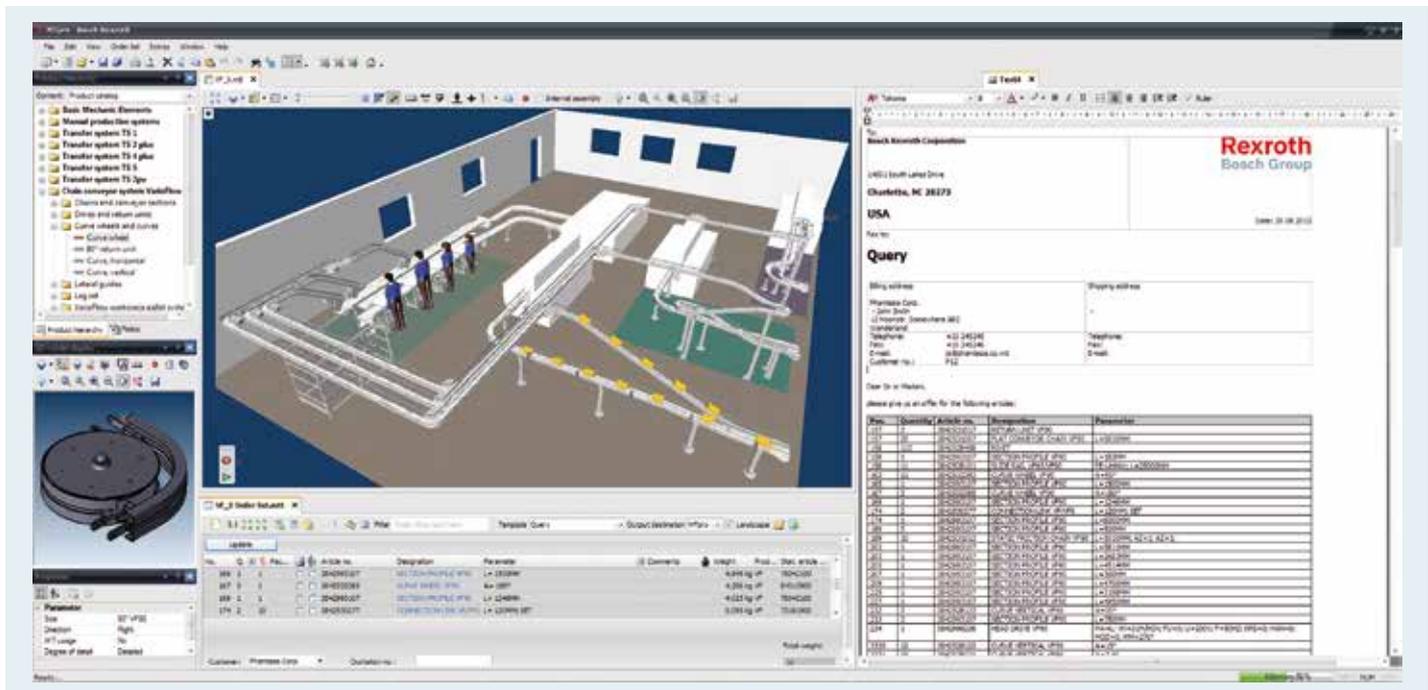
MTpro is an intuitive software program used for planning conveyor systems. It assists you from selection to configuration and ordering of the Rexroth products

Optimal layouts for conveyor systems

Components can be selected from the range via drag & drop and assembled quickly and easily using the snap function. Thanks to an automatic parts list calculation and an electronic link for ordering you can keep your costs under control and minimize the effort required for ordering. Numerous interfaces let you keep using the planning data for design, purchasing, and service.

Conveyor system planning made easy

With MTpro you can plan, calculate, and document your conveyor systems in just a few steps. The intuitive operating concept of the Layout Designer lets you create even complex constructions and system layouts in no time at all.



Advantages

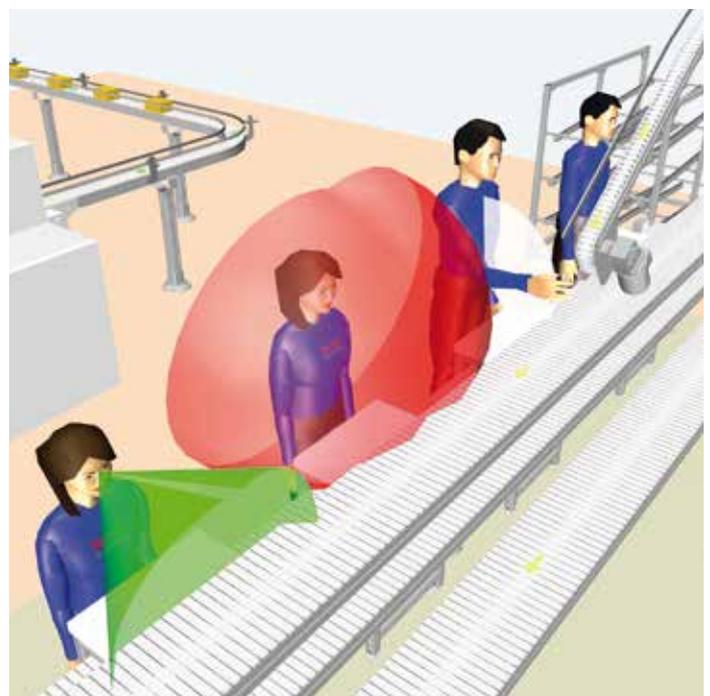
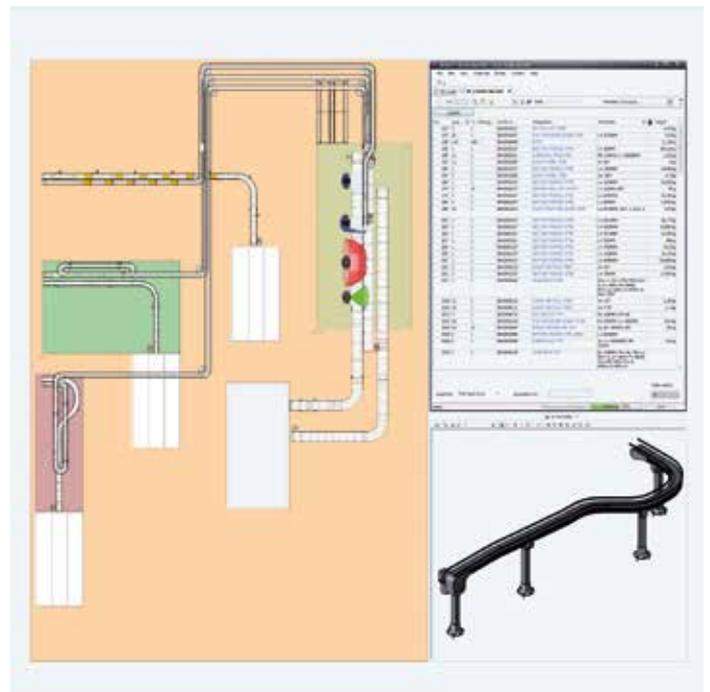
- ▶ Everything at a glance: technical data, order information, assembly instructions, CAD models, and spare parts illustrations
- ▶ Intuitive combinations of components to create systems using the drag & drop and snap functions – without the need for a CAD system
- ▶ Optimum solutions thanks to integrated planning and calculation aids such as the innovative ManModel function
- ▶ Complete parts lists, including small parts and accessories, at the press of a button and with an electronic link for ordering
- ▶ Easy further processing of the layout, CAD data, and order data

Key technical data

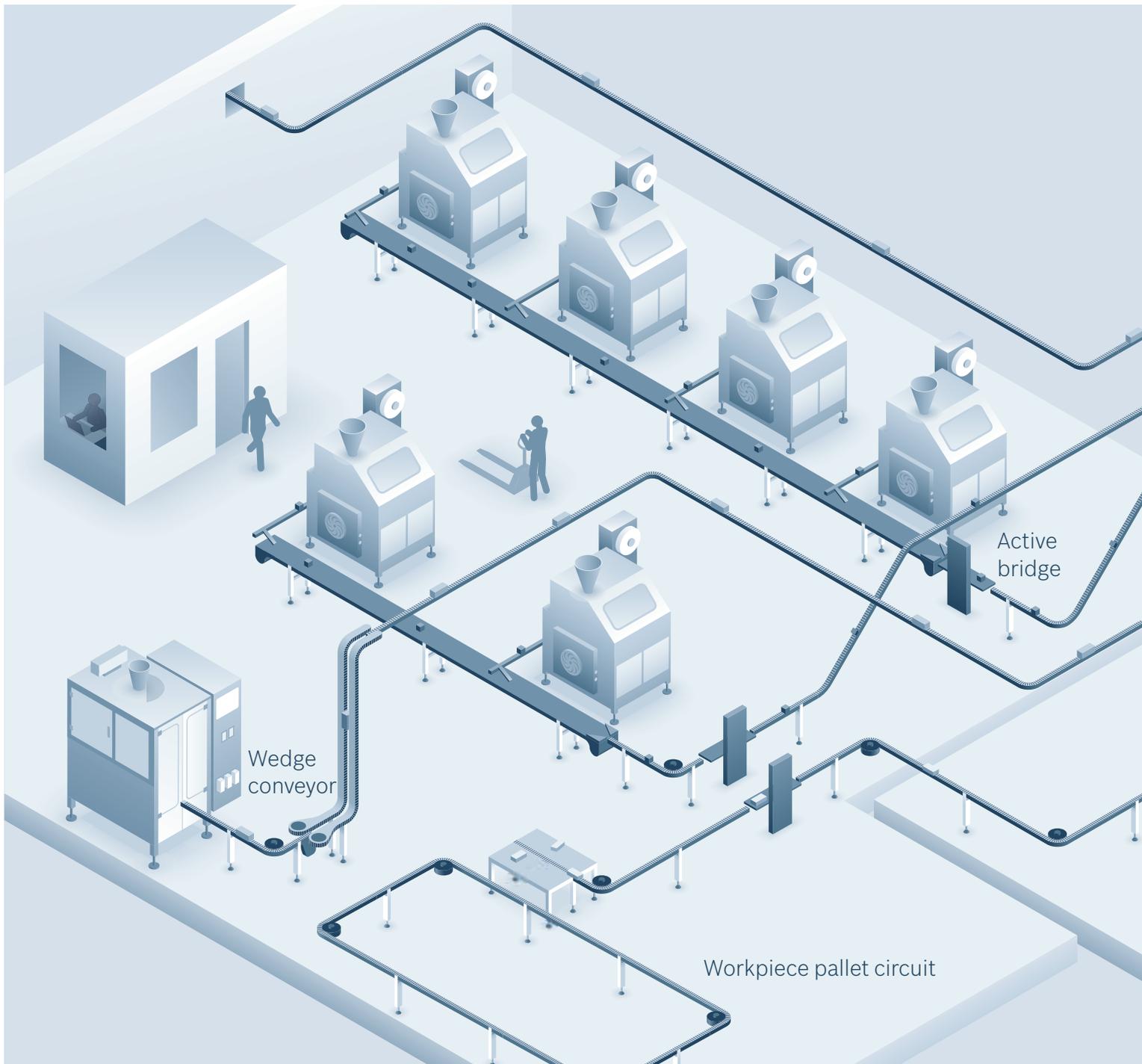
- ▶ Electronic catalog for assembly technology products and spare parts
- ▶ Product configuration and CAD library with direct interfaces with all common CAD programs
- ▶ Layout Designer to plan frames, work systems, and assembly systems with parts list calculation
- ▶ ManModel: model to simulate reach zones and visual fields for ergonomic workstation design

Customer applications

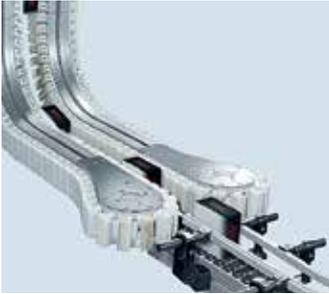
- ▶ Constructions of frames and enclosures from Basic Mechanic Elements
- ▶ Planning and ergonomic design of Manual Production Systems
- ▶ Layout planning for chain conveyors and transfer systems



Conveyor technology for highly productive, flexible production systems



Wedge conveyor



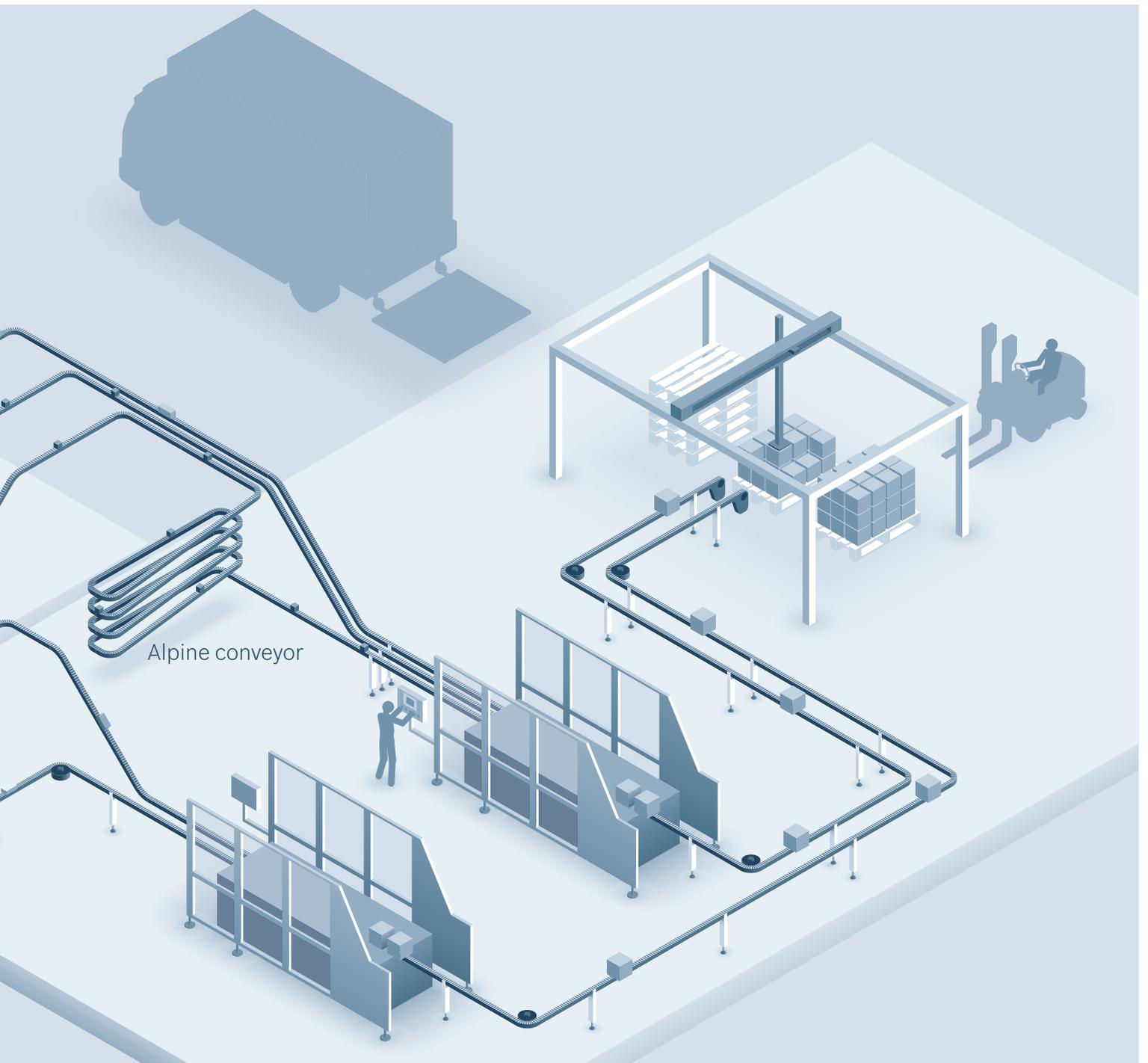
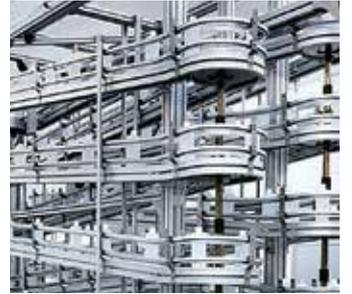
Workpiece pallet



Active bridge

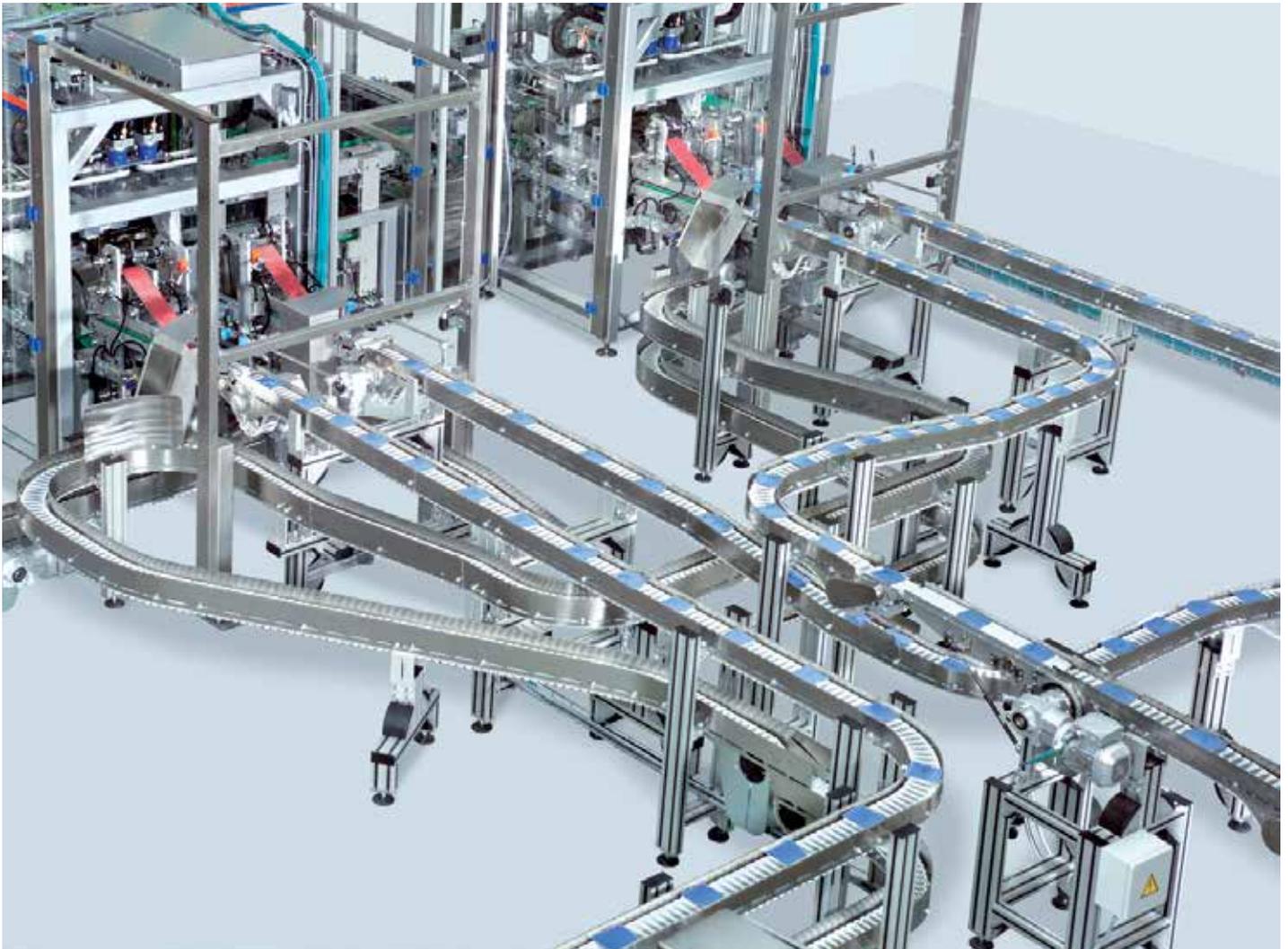


Alpine conveyor

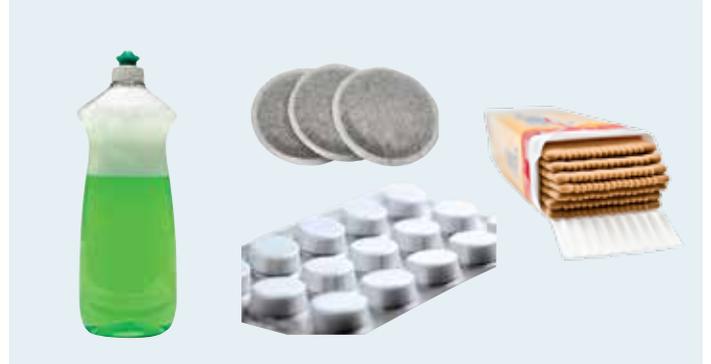


The conveyor solution for a wide variety of primary packaging designs

With the VarioFlow *plus* conveyor system, Rexroth provides a solution for a broad spectrum of primary packaging designs that is low-maintenance, reliable, flexible, and offers fast throughput times. Standard components permit adaptations to even the tightest of spaces. Technical challenges, such as safe transition points for extra small products, can be easily mastered with connecting assemblies.



The forms, dimensions, and geometries of primary packaging are a direct reflection of consumer behavior and preferences. Marketing picks up on these needs and translates them into a primary packaging design. From tall and pointy shampoo bottles to boxy vacuum-sealed coffee packages, VarioFlow *plus* can adapt to any requirement and make sure that products are safely transported, distributed, and collected.



- ▶ Intersections possible in extra-tight spaces
- ▶ Standard components from the product catalog
- ▶ Modified components for optimum layout solutions



- ▶ Secure bridging of conveyor gaps, including solutions for ultra-compact product dimensions
- ▶ Installation of powered transitions at drives or return units on the VarioFlow *plus* conveyor system

The conveyor solution for market-oriented secondary packaging

En route to and from packaging machines, it is important to ensure reliable, fast, and trouble-free transport of different sizes and types of secondary packaging. *VarioFlow plus* offers a variety of components for seamless and robust process chains. Transitions for the general flow of materials during production are created by ascending, wedge, or alpine conveyors.



On traditional systems, large or bulky products require curves with a large radius and high friction coefficient. Rexroth takes a different approach: curves with ball bearings generate rolling friction. This means less friction and wear, as well as lower energy requirements and higher loads.



- ▶ Suitable chains for damage-free product transport or accumulation
- ▶ Speeds of up to 60m/min without added lubricants
- ▶ Variable speed with on-board frequency converter and potentiometer



- ▶ Patented ball-bearing technology enables the transport and accumulation of large-volume products and heavy loads, even when using curves



The handling and conveying solution for customized final packaging

Rexroth provides smart answers to all pallet handling tasks. Cardboard packaging and trays are securely picked by multi-axis Rexroth gantry systems with servo drives, and accurately placed and stacked on a transport pallet according to the programmed position diagram.



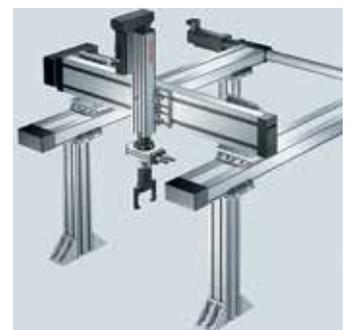
Final packaging comes in a wide range of variants and is based on individual consumer requirements. Both large and small households shop for handy packaging at high-end grocers, while wholesalers look for larger units in bulk quantities.



- ▶ Solutions for conveyor sections with complex product requirements, e.g. boxes with open tops and flaps
- ▶ Transport and accumulation on vertical and horizontal conveyor sections

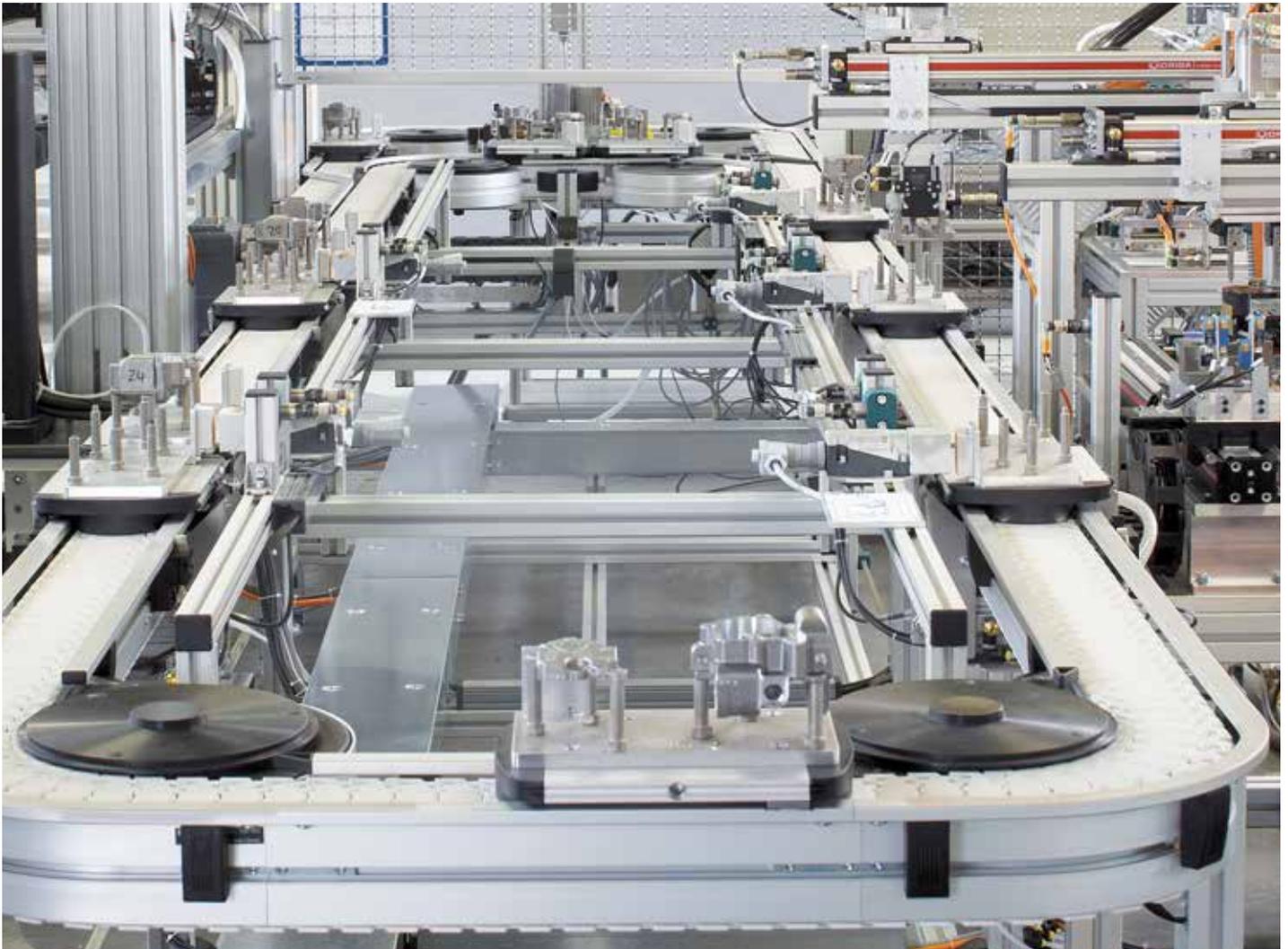


- ▶ Multi-axis modular systems for handling support dynamic movement and positioning accuracy with belts and shafts
- ▶ Beams up to 7 m with fixed ends
- ▶ Software-based configuration



The solution for assembly lines

VarioFlow *plus* ensures precise transport – directly on the chain or on a workpiece pallet. The workpiece pallet conveyor systems can be supplemented with the RFID system for identification, data storage, and material flow control.



For parts transport between manufacturing processes – no matter whether semi or fully automatic stations or linked manual workplaces – the workpiece pallet conveyor system is the most effective solution. And it doesn't matter if the modular workpiece pallet system is provided by the customer or by Rexroth.



- ▶ Expandable thanks to standardized modular units
- ▶ Maintenance-friendly thanks to easy wear part replacement
- ▶ Harmonized components, such as positioning units, diverters, stop gates, and guides
- ▶ Standardized workpiece pallet platform with widths of 135 mm and 160 mm and any length up to 500 mm
- ▶ Positioning accuracy ± 0.15 mm



VarioFlow *plus* in machine linking

The efficient solution for machine linking – adaptable, reliable, and easy to maintain.



Even in nearly chip-free and modern machine tool linking, VarioFlow *plus* convinces with its use of largely media-resistant components. Application in the lower load range is inexpensive and economic compared to previous, heavy systems.



- ▶ Low-noise conveyor system
- ▶ Reliable
- ▶ Expandable thanks to standardized modular units
- ▶ Easy to maintain and clean
- ▶ Harmonized components, such as positioning units, diverter gates, stop gates, and guides
- ▶ Can be supplemented with RFID system



Products and systems for the chain conveyor system

As the market leader for transfer systems, we also provide a variety of powerful components that guarantee a smooth material flow in the production process – in all industries. For these conveyor technology systems, Rexroth offers IndraLogic XLC, the new PLC, RFID systems for secure recording of the production process, as well as cost-effective, compact frequency converters that ensure energy-efficiency.

IndraLogic XLC PLC controller

The new IndraLogic XLC (eXtended Logic Control) PLC system implements the latest PLC technology to provide substantial advantages for automating production machines and systems.

Customer benefits:

- ▶ State-of-the-art controller hardware with numerous expansion options
- ▶ State-of-the-art IndraLogic 2G PLC core (based on CoDeSys V3)
- ▶ High-performance communication via real-time Ethernet sercos III for all peripherals
- ▶ Synchronized motion control function
- ▶ IndraWorks – one tool for all engineering tasks



EFC 3600 frequency converter

Rexroth's EFC 3600 frequency converter is the compact cost-effective, energy-efficient drive solution for the power range from 0.4 kW to 4 kW. Easy commissioning and installation permit a wide spectrum of applications.

Customer benefits:

- ▶ Compact and complete: space-saving side-by-side assembly, plug-in I/O terminals, with brake chopper and line filter – for easy installation and integration
- ▶ Simply practical: detachable operator panel with memory function, easy parameter entry, harmonized parameters across the entire series – to save time and improve quality during series commissioning
- ▶ Maximized energy efficiency and minimized motor noise thanks to continuously adjustable pulse frequency



RFID systems

Secure, reliable data documentation with ID 200, ID 40, and ID 15 identification systems. The mobile data tags are placed on the workpiece pallet of the chain conveyor system. They are assigned unique ID numbers and, optionally, object-related data. The read/write units communicate with the system controller via Ethernet or fieldbus systems.

Customer benefits:

- ▶ Simple installation thanks to precise-fitting assembly kits
- ▶ Compact design prevents additional interfering contours on the workpiece pallet
- ▶ Varied interfaces for flexible integration in the system controller



Rexroth Service – Your key to higher productivity

Maximum equipment availability and high efficiency throughout the entire lifecycle of your machines and plants: These are key factors that determine the productivity of your manufacturing processes. Rexroth offers a comprehensive range of services to help you achieve these targets. Both, globally and across all industry sectors and machines.



Our modular services reduce the complexity and costs associated with maintaining and repairing your production equipment. We guarantee quick access to qualified technicians who solve problems at the root, thanks to their comprehensive knowledge of all drive and control technologies. Besides we ensure expedited diagnosis and quick delivery of spare parts while minimizing costs by having specialist workshops close to you repair and overhaul worn components and modules. All carried out by uniformly high qualified personnel, covered by our network extended to more than 80 countries.

In addition, we keep your machines fit throughout their entire lifecycle and upgrade their efficiency to the latest state of the art. We analyze the benefits of retrofit measures, taking over the implementation in a practical manner – working together with you. Summarized, we combine higher productivity with better energy efficiency and defined safety standards – reducing your total cost of ownership significantly. Permanently boost your productivity with Rexroth as your service partner for all your machinery.



Spare parts



Repairs



Field service



Hotline



Retrofit and Modernization

Detailed information is available from
www.boschrexroth.com/service



Global partnership without borders

With a presence in over 80 countries, we are available wherever you may need us.

Rexroth bundles the resources of a global partner for you. You have access to our industry specialists in Europe, the Americas, and Asia, who are familiar with the special requirements of each region based on their own experiences. In addition, we provide you with the benefits of local added value thanks to an international production network.

And we remain at your side during commissioning. Our tight-knit service network always ensures short paths and fast responses. With innovative services, we help machine manufacturers and users to access the benefits of automation even more. Profit from a global partnership with Rexroth across the entire life cycle with perfect automation solutions.



Bosch Rexroth AG

Postfach 30 02 07
70442 Stuttgart, Germany
www.boschrexroth.com

You can find local contact information at:

www.boschrexroth.com/contact

The data specified above only serve to describe the product.
Due to continuous product advancements, no statements concerning a certain condition or suitability for a certain application can be derived from our information. The information given does not release the user from the obligation of own judgment and verification.
It must be remembered that our products are subject to a natural process of wear and aging.