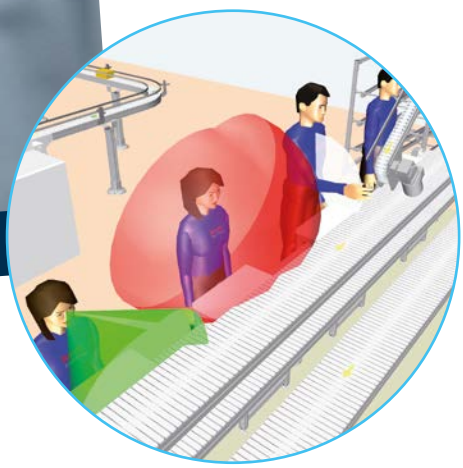
rexroth
A Bosch Company

▼ **A ManModel with visual and gripping fields allows the work-station ergonomics to be included in the planning phase**



Engineering made easy:

Plan and design assembly systems with ease

Integrated assembly systems are the key to economical and reliable manual workstations. However, their timely design and implementation requires rapid and error-free planning. These tools help prevent errors and increase efficiency.

Cost-effective integration of ergonomics and lean production into the production system demands careful and detailed planning of the required assembly systems. Supportive tools for the planning and design of the assembly system help prevent errors from the outset and save precious time and costs.

1. PLANNING AND DESIGN

Comprehensive planning software covers the entire process from basic to detailed planning, integrates product and spare parts catalogs, and enables a direct connection to the CAD system. Supported by a stored set of rules for design logic and product properties, CAD users with less experience are also able to create workstations, flow racks, and manual linking at the click of a mouse – either by assembling various design elements or through the guided selection and simple parametrization of configurable products.

Ergonomic configuration with ManModel

For intuitive operation, the individual components should be easy and precise to connect with the use of drag-and-drop and snap functions. Integrated calculation tools help with the technical layout. If the software also has a "ManModel," manual workstations and assembly lines can be visualized and adapted in terms of the gripping and viewing areas during the planning phase. This prevents layout errors and efficiency and load problems in the future operation. Automatically generated parts and order lists, price calculations, CAD data, and documentation ensure further time savings.

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MTPRO AND MTPRO ONLINE DESIGNER

The free-of-charge MTpro planning software from Bosch Rexroth digitally maps the entire planning process for manual production systems, enclosures, and frames made of profiles and for transfer systems: from selection to configuration to ordering of the components. The intuitive operating concept allows even the most complex designs and system layouts to be planned, calculated, and documented in just a few steps. The online version MTpro Online Designer, which is also free of charge, speeds up the exchange of initial layouts, keeps the CAD library up-to-date, and enables direct inquiries and orders from Bosch Rexroth and certified partners.

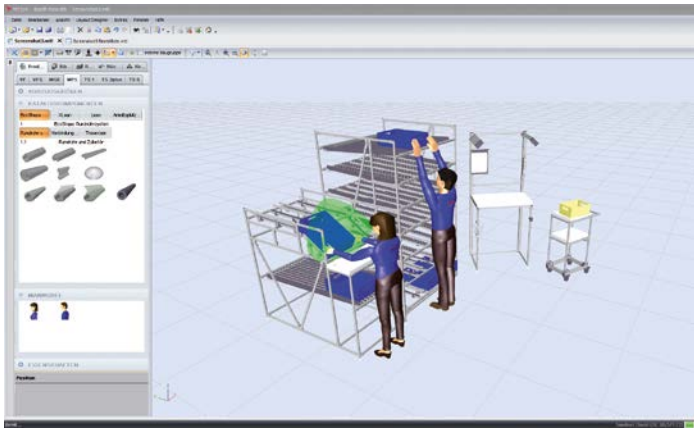
2. DESIGN WITH CAD PLUG-INS

The efficiency of the design process for machine frames and enclosures made of aluminum profiles depends on a seamless integration into the existing CAD environment. This can be achieved through a CAD plug-in that makes all components available and in which all the product knowledge is stored. Numerous automated features enable the designer to focus on the overall process without having to worry about details such as the position or size of drill holes.

Since no CAD data needs to be transferred from external sources, manual import work, error sources, and duplicate data inputs are eliminated. Doors and other assemblies can be inserted quickly and easily with the use of macros and finalized with the support of software.

FRAMEPRO CAD PLUG-IN

The free-of-charge FRAMEpro CAD plug-in brings the tried-and-tested basic mechanical elements from Bosch Rexroth directly into the Autodesk® Inventor and SOLIDWORKS CAD environments from Dassault. The design process is straightforward and intuitive: first, the preferred aluminum profile is selected from a continuously-refreshed library, before being centered or offset in a 3D line model and rotated as required. After that, accessories such as connectors, cover caps, feet, and wheels are placed on the profiles. Intelligent macros ensure precision connections and positioning. Finally, an order list including profile machining is created, which can be transferred directly into a request for a quotation or a purchase order.



▲ **Two work stations with a different ManModel**

Connection elements, length adjustments, threads and cover caps, or unconnected profiles are automatically checked and corrected on-screen.

THE BOTTOM LINE

Intuitive and high-performing planning software with a continuous digital process chain enables the optimum configuration of ergonomic workstations. A comprehensive set of rules prevents planning and design errors, while integrated features such as built-in product catalogs, direct CAD connection, and automated order list generation reduce the overall workload.

The design of manual assembly systems is even more rapid if all the components can be processed directly in the CAD environment and no specific product knowledge is necessary. This enables engineers and designers to concentrate on their core tasks and to benefit from a high degree of planning reliability.

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