Established as an engineering company 21 years ago, Bahr Modultechnik in Luhden, Germany, has grown into a leading supplier of modular positioning systems. All systems can be driven with spindles, trapezoidal screws, and ball screws as well as belts, racks, and linear motors. A variety of guidance systems such as ball bearings, rollers, and prismatic guides are available.

The product portfolio ranges from simple feed axes to surface portals with rotating drive belts, which are used in a wide range of handling tasks. Such so-called roll pickers are suitable for highly dynamic processes and achieve a velocity of up to 7 m/s. If additional degrees of freedom are required, the system can be expanded with as many axes as necessary.

Typical areas of use for the portal systems are positioning and sorting of lighter components such as wafers, DVDs, or electrical components. With ATEX- and clean room-certified axes, Bahr Modultechnik also supplies applications for explosive environments and the food and medical industries.

**Control and drive ideally adapted**

A modular machine concept of this type requires a flexible drive and automation solution. With the SINAMICS drive family, scalable and modular converters that are ideal for use in handling tasks are available. Handling functionality with path interpolation and kinematic transformation are already integrated into the SIMOTION control family. An option to integrate customized kinematics via free transformation interfaces is also available. In addition to linear, circular, and polynomial interpolation, the control system also drives up/down synchronization with moving reference systems. As a result, pick-and-place functionality is easily programmable on moving belts (conveyor tracking) using the SIMOTION Handling Toolbox.
Efficient implementation of handling applications

The SIMOTION Handling Toolbox is a standardized software library for efficient implementation of handling applications that can be used on all SIMOTION platforms. Automatically calculated, optimized motion profiles allow each path to be run as quickly as possible without violating the dynamic thresholds of the system. In addition, the open-ended design of the path enables the dynamic behavior of the system to be influenced – for example, to reduce vibration or allow a higher velocity. Standardized and tested software libraries for simple and high-end handling considerably reduce engineering work and prevent programming errors. Particularly interesting: several kinematics can be implemented together with software modules of other machines on one control system. The SIMOTION Handling Toolbox is completed with 3-D visualization tools that support the user during commissioning.

Handling with SIMOTION – advantages at a glance:

• Common kinematics such as roll pickers integrated within the system
• Integration of customized kinematics
• Workspace monitoring with restricted, alarm, and product areas
• Synchronization of up to 10 conveyor belts

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