

Handling module is a rival for Scara robots at half the price

FESTO HAS developed a compact motion control subsystem for machine-builders that provides programmable rotary and linear movements at a low cost. The EHMB module allows rotary and lifting movements to be controlled independently, for fast and accurate positioning in applications such as parts-handling. The device can perform similar loading and unloading movements to Scara robots, with a comparable performance, but at less than half the price.

The rotary axis is actuated electrically using either a stepper or servo motor, while the lifting axis can be driven either by electric or pneumatic cylinders. Users can tailor the price and performance of the module by choosing to use a motor and an electrical actuator for both axes, or by combining a motor with a pneumatic cylinder for lifting.

A typical low-cost configuration would pair a stepper-driven rotary axis with a pneumatic cylinder to provide simple, accurate linear movement between two positions. A more demanding application, needing freely programmable linear positioning, could use servomotors and controllers for both axes, with the linear axis being driven by an electric cylinder. This all-electric approach allows complex rotary and linear movements to be implemented, thus improving machine productivity under software control alone.

The EHMB modules are available in two sizes. The smaller version can accommodate payloads of up to 3kg, generate more than 3Nm of torque, and handle moments of inertia up to 30kg-cm². It is ideal for providing Z movements in portal and Cartesian parts-

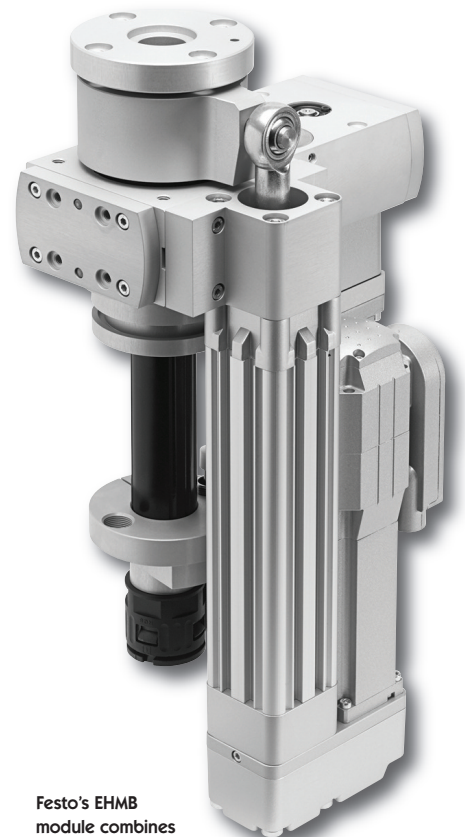
handling systems.

The larger model is more suitable for stationary uses – such as loading, unloading and stacking applications. It accepts payloads up to 5kg, can generate 8.8Nm of torque, and handles moments of inertia of up to 100 kg-cm².

Both versions offer a choice of 100mm or 200mm stroke lengths, and can generate up to 480N of lifting force. Depending on the choice of motors and cylinder, both modules can handle linear speeds up to 500mm/s with a repeatability of ± 0.1 mm, and rotational speeds up to 300 rpm with a repeatability of ± 0.05 degrees. For example, a 1kg load can be rotated through 180 degrees in 250ms.

The modules' hollow lifting shafts can be used to route compressed air tubes and electrical cables to a platen for attachments such as grippers. The linear axis can be mounted on any of the module's three sides. The rotating and lifting platen is the only part that extends beyond the module, and can be installed either way up.

www.festo.co.uk



Festo's EHMB module combines rotary and linear movements at a low cost

Integrated system will cut handling system costs by up to 80%

REXROTH HAS announced a modular engineering system for handling assemblies which, it claims, will slash the time and costs of assembling, configuring, and commissioning such equipment by up to 80%. The system, called EasyHandling, integrates drive and control technologies with linear systems, standardised mechanical and electrical interfaces, and commissioning "assistants" to simplify the automation process.

The system covers all levels of automation, from simple mechatronic actuators and intelligent axes, through to pre-configured systems, and supports efficient upscaling and downscaling. There are three variants – basic, comfort, and advanced.

The basic variant encompasses ready-to-install single- and multi-axis mechanical systems with motors and pneumatics. Pneumatic actuators such as grippers and rotary modules, as well as sensors, are also available. A software selection tool



speeds up configuration and planning.

The comfort variant adds preconfigured servodrives. Using new hardware that supports several Ethernet protocols, the drives can communicate with Rexroth's IndraDrive Cs controllers via Sercos III, Profinet IO, EtherNet/IP or EtherCat. They can also be equipped with Profibus or other interfaces.

The EasyHandling Commissioning Assistant is an engineering tool in which electrical and mechanical data are already defined for each axis. It recognises an IndraDyn motor's electronic nameplate and links the data to the mechanical

parameters of the linear module. Commissioning is reduced to specifying a few application-specific parameters, cutting the time required by up to 90%. A form-fit connection method is said to reduce the need to fabricate adapter components by up to 75%.

In the third "advanced" variant, scalable, pre-configured motion-logic controllers are integrated with the handling systems. The IEC 61131-3 and PLCopen-compliant controllers replace extensive programming with fast configuration using predefined functions. They provide co-ordinated point-to-point motions, smoothing and optimised handling paths for Cartesian systems. The drive controller software provides maintenance instructions based on axis-specific mechanical data. This can help to maintain lubrication intervals, for example, resulting in longer service lives and a reduced risk of mechanical failure.

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