

Heidenhain Renco Encoders

POSSESS MODULAR DESIGN WITHOUT AN INTEGRAL BEARING

Heidenhain's Renco brand of encoders is available for use within a variety of mobile robot applications. Specifically, the modular Remco R35i and RCML15 rotary encoders are designed for motion and speed feedback control in automated guided vehicle (AGV) projects used in distribution warehouses, manufacturing plants and medical facilities of note.

The Renco R35i rotary encoder is particularly noted for its modular design without an integral bearing. Its special properties are its compact design with a 35 mm outside diameter and only 14 mm height as well as its easy, self-centering mounting thanks to a patented slide lock. With its OPTO-ASIC technology, the Renco R35i offers improved functionality with the smallest possible dimensions.

The Renco RCML 15 rotary encoder offers similar reliability along with the OPTP-ASIC technology while having a height of only 8.9 mm, offering an alternative to the R35i with a low mounting profile.

AGVs are mobile wheel-based robots designed to carry a load through a facility without an onboard operator or driver. Due to new advancements of technologies used within the intelligent and flexible material handling field, many large warehouses and distribution centers have adapted to using AGVs. This switch has led to an increase in efficiency and a reduction in costs by automating some of the manufacturing facility or warehouse.

The Renco brand R35i and RCML15 rotary encoders currently provide motion and speed feedback in AGV motors which operate a multitude of the axes, with the most common axis being the motors used on the AGV drive wheels. When using the Renco brand encoders, an AGV system can accurately monitor and establish its speed with consistent repeatability. These aspects are crucial to the machines as they may need to interact directly with a person, and this level of quality is required in order to ensure the safety of the



people involved.

The Renco encoders' slim and lightweight design allows motor designers more flexibility, especially in these applications where space and weight is critical. The Renco encoders combine brushless motor commutation pulses and incremental position feedback, which reduces the cost while improving the performance and reliability of the brushless motor/encoder package.

Typical AGV applications include transportation of materials (raw, work-in-process, and finished goods), storage/retrieval in support of picking in warehousing and distribution applications, carrying medical supplies and equipment within hospitals, and material handling within clean rooms in the semiconductor industry.

For more information:

Phone: (847) 519-4218
www.heidenhain.us

KISSsysWeb

ALLOWS COMPANIES SIMPLE CALCULATION OF KISSYS MODELS

KISSsoft recently introduced the KISSsysWeb, a new product that allows companies to use the calculation of KISSsys models in an easy and simple way using the Internet. This application is designed for

sales people who want to quickly recalculate already existing gearboxes with different operating values.

The KISSsys models are selected from the tree structure and the corresponding loads are defined. Not only the speed and torque parameters, but also load spectra as well as radial and axial loads can be specified.

With a single click, the gearbox is

calculated and a report is created with service life, safeties, efficiency and other results. This report can then be further used in PDF format.

The models are located on the web server of the company's network and the application is password-protected so that all data is secure.

For more information:

Phone: +41 55 254 20 50
www.KISSsoft.AG



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Maxon EC-4pole 30 Brushless DC Motor

PROVIDES NOMINAL TORQUE OF 106 MNM

Maxon motor recently developed a brushless DC motor for hand-held surgical tools: the EC-4pole 30. Featuring two pole pairs, this DC motor provides a nominal torque of 106 mNm and an output of 150 W. It has a hermetically sealed rotor, meaning that it can withstand over 1,000 autoclave cycles.

The EC-4pole 30 is equipped with ironless Maxon winding, which makes it more efficient. Another feature is that the torque and current behave linearly and the drive can be overloaded. It is available with an optional Hall sensor, as well as with a hollow shaft with a diameter of up to 4.1 mm.

For more information:

Phone: (508) 677-0520
www.maxonmotorusa.com



Miki Pulley BXR-LE Brakes

SPECIFICALLY DESIGNED FOR USE ON ROBOTIC ARMS

The recently introduced Miki Pulley BXR-LE brakes were specifically designed for use on robotic arms to reduce the cantilevered load. With accompanying voltage controller,



power consumption is stepped down to 7VDC after a split second of 24VDC for brake actuation. When compared to the other BX brakes in the Miki lineup, this BXR-LE design provides just one-third power consumption and heat generation in one-half the overall size thickness. Specifications are: maximum RPM of 6,000; static friction torque range of 0.32 Nm - 1.32 Nm (0.236 ft-lbs - 0.973 ft-lbs); and ambient operating temperature of -20°C - -60°C (-4°F - -140°F).

Applications for the BXR-LE brakes include: robotic arm joints to stop movement during a catastrophic power failure; Z-axis ball screw brake on CNC machine centers; mounting on a servo motor face, the slim brake profile saves space.

For more information:

Phone: (800) 533-1731
www.mikipulley-us.com

Exsys

TO PRESENT GEARBOX LINE AT CMTS 2015

Alongside their collection of lathe tools, Exsys Canada will be presenting the line of gearboxes they offer from Eppinger at CMTS 2015 at booth 2022.

Suited for a range of applications, including machinery, automation and robotics, Eppinger's compact, high-transmission gearboxes are designed to meet demands for stiffness, efficiency and performance. These precision gearboxes come in a variety of types, including bevel, hypoid, planetary and cycloidal designs, to bring smooth, reliable operation to a variety of industry segments.

For more information:

Phone: (905) 792-8001
www.exsys-tool.com





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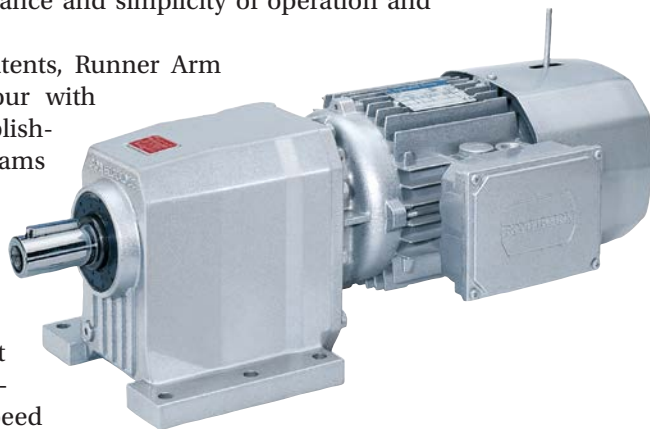
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Bonfiglioli Motor

HELPS TECHNOWRAPP CREATE NEW ARM PALLET WRAPPER

Through their close collaboration with Bonfiglioli, Technowrapp recently created Runner Arm, an arm pallet wrapper meant to combine high performance and simplicity of operation and maintenance.

Due to two specific patents, Runner Arm can wrap 136 pallets/hour with 10 turns per pallet, establishing a pallet with just 76 grams of stretch wrap film (value achieved with 15 µm film). The rotary arm with centripetal contrast ring contains and guides the arm as it moves and makes it possible to reach a rotation speed of 45 RPM, combining this with low structural stress. The cutting and welding pliers operate on the moving load, contributing to the increase in speed and efficiency of the work cycle.



For more information:

Phone: (859) 334-3333
www.bonfiglioliusa.com/en-us

Stafford Stainless Steel Shaft Collars and Mounting Devices

INCLUDE 18-8 OR 316 SST FASTENER FOR USE IN HARSH APPLICATIONS

Stafford Manufacturing Corp. recently introduced a full line of stainless steel shaft collars, couplings, and flange mounts designed for environments exposed to harsh chemicals and corrosives.

Stafford's stainless steel shaft collars and mounting devices are manufactured from 303 or 316 SST and in-

clude 18-8 or 316 SST fasteners for use in harsh environments where there is frequent exposure to chemicals and corrosives. Designed for building and maintaining equipment used in cleanrooms and laboratories, the collection includes shaft collars for use as stops, spacers, and mounting devices, flange mounts, and shaft couplings for drive systems.

Available in a wide range of sizes from one-quarter inch I.D. up, Stafford stainless steel shaft collars are available in one- and two-piece and hinged clamp styles with smooth bores. A Grip & Go handle can convert a standard shaft collar into an adjustable locating device. Accu-Flange collars are offered for component mounting, and rigid couplings come in one-, two- and three-piece styles with straight- or stepped bores.



For more information:

Phone: (800) 695-5551
www.staffordmfg.com



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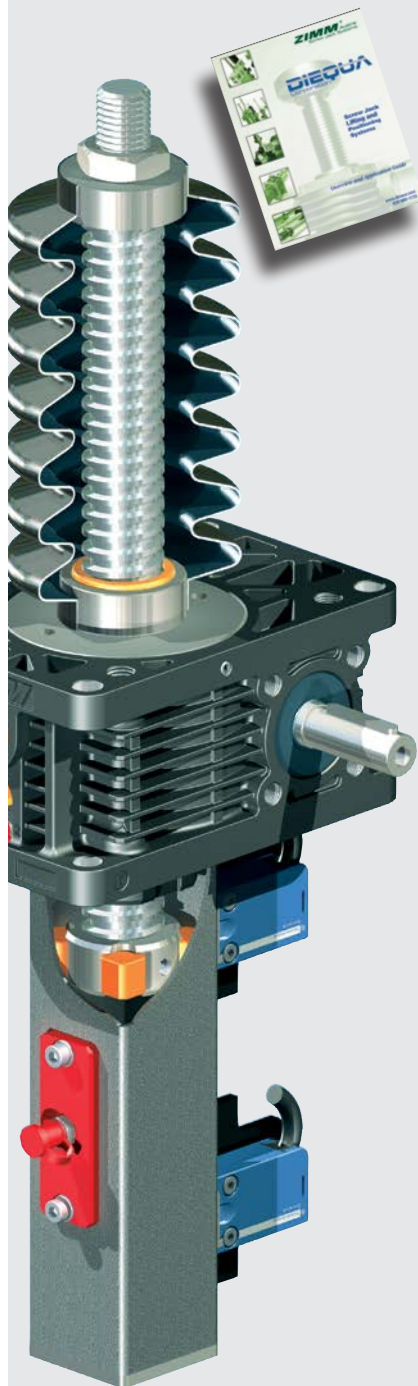
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Keyence Robot

INSTALLED ON FRESENIUS MEDICAL CARE'S DIALYSER PRODUCTION LINE

Fresenius Medical Care SMAD recently equipped its dialyser production line at its plant at L'Arbresle, France with a robot.

"In 2009, we decided to automate our dialyser handling unit, which is located between a conveyor system and a processing unit," said Mouloud Ifri of Fresenius Medical Care SMAD's manufacturing department. "Automating the unit was an obvious solution. The main challenge was that the dialysers are stacked unevenly and their positions vary along three dimensions. We had to find a system that could recognize their positions."

Fresenius automated its line for two reasons: it is installed in a controlled environment—problematic for human intervention—and it operated at high speed 24 hours a day, seven days a week.

The feed system consists of two conveyors, each with two rows of dialysers. The robot is equipped with a tool that allows it to pick up two dialysers per cycle. The tool is fitted with two Keyence LJ-G080 laser sensors, one per dialyser, so that the dialysers are correctly picked up one after the other.

The robot thus simultaneously removes dialysers from each stack on a conveyor. It takes dialysers from the two conveyors in turn. When a row (diagonal) is emptied, the conveyor moves forward until the stack reaches the unloading position.

The robot routinely 'scans' the theoretical positions depending on the type of product. It uses the Keyence sensors to detect products and correct its pick-up position accordingly. If no products are detected, the robot moves to a different stack. It also uses the sensors to correct its X- and Z-axes. To compensate for dispersion along the robot's Y-axis, the robot's tool is fitted with a

homing cylinder for each type of dialyser. The maximum height and slope of the stacks are always the same for the same type of product. However, these stacks may be uneven.

Ultimately, Fresenius Medical Care SMAD chose the LJ-G080 sensor by Keyence. Its user-friendly setting menu is meant to allow experienced and novice users to configure settings easily and quickly. The setting support software (LJ-H1W) supplied with the device is designed to make it easy to save and analyze data with a PC. Configuration is also made easy by several adjustment functions.

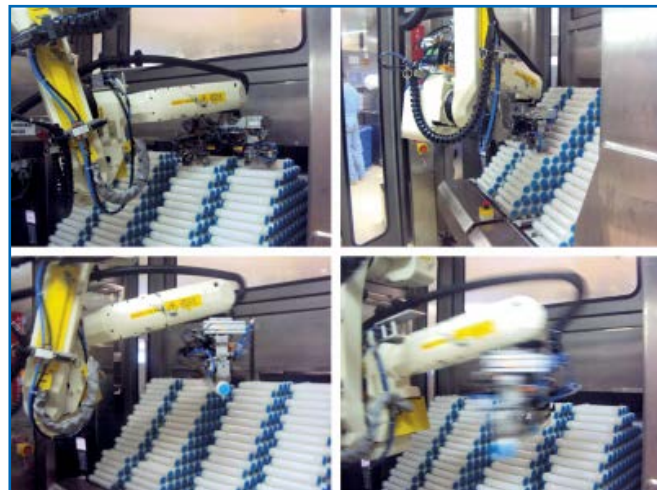
The position adjustment function is designed to provide stable measurements even when targets are not perfectly arranged or positioned. The tilt correction function simplifies installation of the sensor head and eliminates measurement errors. A number of functions make measurements to the surface properties of targets.

"We also place very high demands on the robustness and reliability of equipment," said Ifri.

The LJ-G sensor offers repeatability of 1 micron along the Z-axis and 10 microns along the X-axis. It is protected inside an IP67 housing and withstands vibrations (tested from 10 to 55 Hz, with an amplitude of 1.5 mm, for two hours along X, Y and Z). It weighs 350 g and has a detection range of 80 mm.

For more information:

Phone: (888) 539-3623
www.keyence.com



Haydon Kerk WGS Integrated Screw/Slide System

DESIGNED FOR STABILITY AND SPEED

Haydon Kerk Motion Solutions recently added the WGS (Wide Guide Screw) to its linear slide product line. Made from the same components used in the RGS Linear Rail Series, the WGS Linear Slide utilizes a screw-driven carriage designed to offer continuous linear speed while maintaining accurate positioning. The length and speed of the WGS are not limited by critical screw speed, allowing high RPM, linear speed and long stroke lengths.

The WGS slide has a compact profile meant to provide improved torsional stiffness and stability versus Haydon Kerk's existing RGS and RGW slide products. An integral mounting base can provide support over the entire length, which can extend up to 8 feet (2.4 meters). Longer lengths are available on a special order basis.

Standard leads include 0.100-in, 0.200-in, 0.500-in and 1.00-in (2.54, 5.08, 12.7 and 25.4 mm) travel per revolution. There are short leads for non-backdriving vertical applications as well as longer leads capable of speeds of more than 60 inches per second (1.5 meters per second).

The WGS utilizes sliding plane bearings on a low-profile aluminum guide rail that keeps the motion smooth throughout the travel distance. The lead-screw is precision made of high-quality stainless steel.

All moving surfaces include Kerkite high-performance polymers running on a Kerkote TFE coating. The slides come with wear-compensating, anti-backlash driven carriages. Additional driven or passive carriages can be added, along with application specific customization. Linear guides without the drive screw also are available.

For more information:

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