

In Motion

Latest product technologies focus on reducing costs and improving performance

Matthew Jaster, Senior Editor

The following special product news section examines the latest products and technologies in motion control. For additional information, be sure to check out motion control articles in the PTE Library at www.powertransmission.com/subjects/motion%20control/.

Single Phase Power Solutions

OFFERS 100HP SINGLE-PHASE ELECTRIC MOTOR

Single Phase Power Solutions introduces a 100hp single-phase electric motor. The Belle Single-Phase Motor uses Written-Pole technology to deliver a 100hp single-phase motor that is compatible with readily-available single-phase utility services. The utility-friendly starting and operating characteristics provided through the use of Written-Pole technology minimize voltage sags and flicker on long single-phase distribution lines. Ideal for industrial applications in areas where three-phase power is not readily available or cost-effective, this revolutionary technology eliminates the need for phase converters or complex variable frequency drive installations.



Featuring a totally-enclosed fan-cooled design in a cast iron frame, this proven design is suitable for indoor or outdoor installation in some of the most demanding environments and applications. Rated as a 100hp, 460 v, 1,800 rpm electric motor, this innovative design delivers 95.5% efficiency at rated load with a near-unity power factor. The NEMA 449T frame motor weighs about 2,700 pounds and draws just 170 amps at full load.

The motor windings are fabricated using high-grade copper and Class H insulation materials similar to those used in premium three-phase electric motors. The revolutionary design eliminates brushes, slip-rings and internal rotary

switches, ensuring superior performance and reliability under harsh conditions.

Available in ratings from 30–100 hp, Belle Motors are ideal for many industrial, agricultural, mining, municipal, and oil& gas applications such as pumps, compressors, injection wells, as well as blowers, fans, dryers, water & wastewater processing and more.

For more information:

Single Phase Power Solutions
Phone: (877) 430-5634
www.sppowersolutions.com

Thomson Industries

INTRODUCE BALL SCREWS FOR MAXIMUM LOAD CAPACITY

Thomson Industries, Inc. has introduced a ball screw with more than twice the load capacity of a standard ball screw. The redesigned ball screws handle more than double the load capacity or provide 10 times the service life compared to standard ball screws at equivalent performance points – along with Thomson's characteristic German-engineered precision, high reliability and exemplary stiffness. High-load ball screws are ideal for demanding motion control applications such as injection molding, pressing and large fabrication equipment.

“By increasing ball size and optimizing ball track design, we now offer a ball screw that handles more than twice the capacity of a comparable standard ball screw. And because roller screws have a nut that is close to 50% larger at 150% the price of a comparable high-load ball screw, motion control system



designers now have an attractive opportunity to reduce costs while improving performance,” said Thomson Product Line Specialist EMEA & Asia for Screws, Markus Brändle.

Thomson high-load ball screws minimize replacement and maintenance costs significantly for the application. This provides an ideal opportunity to replace roller screws or hydraulic systems in applications with axes that require accurate and safe movement of heavy loads, long and reliable life, and minimum maintenance. These applications include large fabrication equipment, injection molding, metal fabrication machines, metal pressing/forming applications and a wide variety of other demanding applications.

Thomson high-load ball screws are available with up to 15 m screw lengths and with single or double nuts. They come in standard sizes up to 160 mm in diameter with up to 1,440 kN of dynamic load capacity. Preloading options are available upon request, and Thomson will customize the ball screw to meet customer-specific applications. They provide smooth, quiet motion at higher speeds over a longer life. Lead accuracy is up to 12 µm/300 mm.

For more information:

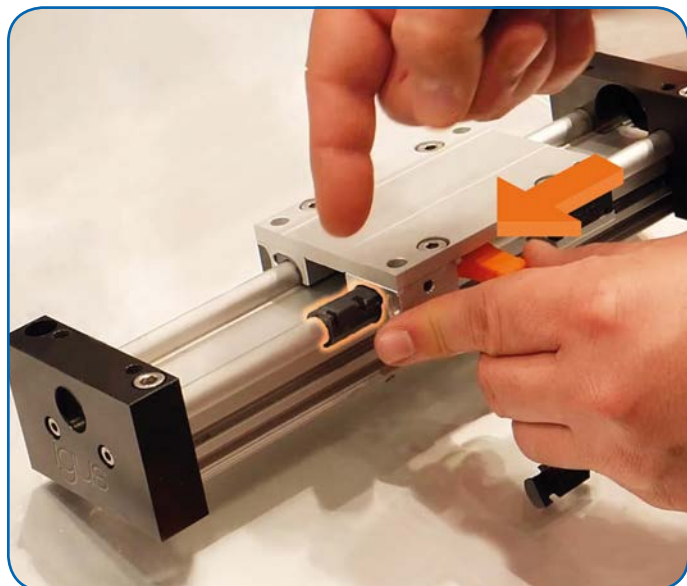
Thomson Industries
Phone: (540) 633-3549
www.thomsonlinear.com

Igus

DEVELOPS EXCHANGE BEARING FOR LINEAR GUIDES

Igus has developed an exchange bearing for its drylin W linear guides that allows for swift replacement in high-frequency applications.

To execute the exchange, users simply unlock the bearing, push out the old liner and replace it. The exchange bearing saves time and cost, and is available in sizes 16 and 20 for linear guides on the drylin W series, besides the standard installation size 10.



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NEED A QUIETER BELT?

The lubrication-free, corrosion-resistant liners are made of high-performance polymers for silent and precise sliding of linear guides. Igus, the Germany-based manufacturer of motion plastics, runs its North American operations out of Providence, R.I.

Swift and easy replacement

In extreme circumstances, abrasive sand or glass dust can cause wear of the liners on the linear guide rail. Linear guides and axes are also used in round-the-clock operation in automation equipment.

To replace liners previously, the entire linear carriage needed to be slid off the rail. Especially for linear axes or multi-axis linear robots with belt drives, this could only be done through costly disassembly and recommissioning.

The new exchange bearing, made with Igus' iglide J200 material, enables easy replacement directly on the linear rail in a few simple steps. The bearing reduces downtime, saves set-up costs and ensures 24/7 operation.

A practical, free tool enables safe installation of the liners in very little time. The new bearing is available for installation sizes 16 and 20, in addition to installation size 10, to enable even more users to take advantage of the new practical and efficient bearing. Linear robots, linear axes and drylin W linear guides can thus be easily retrofitted.

A few simple steps

Replacing the bearing is simple: First, users loosen the side cover of the linear housing with a screwdriver. With the free tool supplied, which the users can also 3D print, the liner can now be slid out of the housing and directly removed from the rail. The new lining made of the wear-resistant and abrasion-resistant high-performance plastic iglide J200 is then clipped onto the rail and inserted into the carriage with the mounting tool.

Users then put the side cover back on the linear housing and the bearing change is finished in no time. With this simple step, the rail is not damaged and the bearing housing can be reused without disassembly of belts or lead screws.

A pin located in the middle of the side cover secures the liner in the linear housing. Alternatively, replacement can also be executed with a screwdriver. On the new liner and in the carriage, igus has provided special recesses for this purpose.

The drylin W exchange bearing including mounting tool can be ordered online along with a practical retrofit kit with replacement liners, lid and mounting tool.

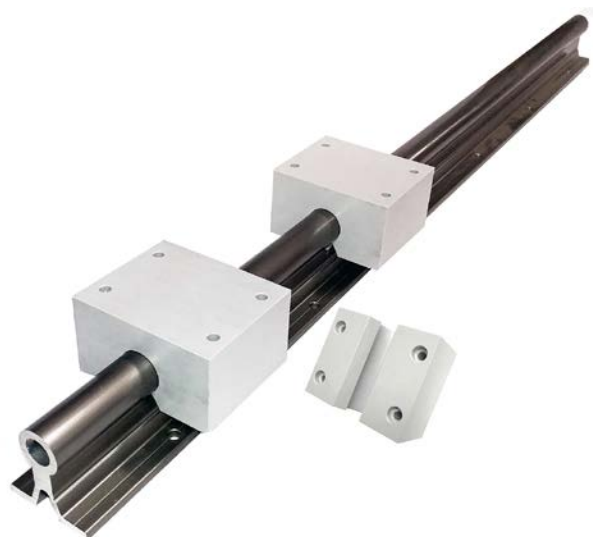
For more information:

Igus Inc.
Phone: (800) 521-2747
www.igus.com

LM76

LINEAR BEARING/PILLOW BLOCKS CAN BE USED IN RADIOACTIVE ENVIRONMENTS

LM76 now offers one piece ETX Linear Bearing/Pillow Blocks that will not degrade in a radioactive environment. Machined from a solid block of self-lubricating ETX, linear bearing-blocks have high strength, excellent wear resistance, low coefficient of friction, and excellent dimensional stability at higher temperatures. As there is no other materials such as PTFE seals or lubricants these bearing-blocks are maintenance free. Custom designed for use in a nuclear power plant these linear bearing/pillow blocks travel on ceramic coated shafting (also supplied by LM76) completely submerged in radioactive water. Designed with a slight interference fit between bearing ID and shaft, contaminants are scraped from the shaft's surface. The low frictional characteristics of ETX have little impact on drive force. They are now available in inch and metric sizes.



ETX bearing-blocks are also FDA/USDA/3-A Dairy compliant and are also ideal for: Pharmaceutical, medical, food, and dairy processing applications.

EXT features a high continuous service temperatures up to 210°F (100°C) and offers good chemical and abrasion resistance, low moisture absorption, and resistance to staining. These ETX linear bearing-blocks with the slight interference fit keeps the bearing free from debris and bacterial contamination, are not affected by biological fluids, mild acids, can be washed down with cleaning agents, and steam cleaned.

Don't need solid EXT bearing-blocks consider the FDA/USDA/3-A Dairy compliant electroless nickel coated or stainless steel pillow blocks with PTFE linear bearings and Snap-in EXT Scraper Seals which are available for closed linear bearings, and closed pillow and flange blocks.

For more information:

LM76
Phone: (413) 525-4166
www.lm76.com

Applied Motion Products

EXHIBITS SERVO MOTORS, SERVO DRIVES AND STEPPER DRIVES AT AUTOMATE 2019

Applied Motion Products will demonstrate a selection of new integrated motors and drives for both servo and stepper motors in Booth #8147 at the Automate Show to be held at McCormick Place, Chicago, Illinois, April 8–11, 2019

Products on display will include the following:

MDX Integrated Servo Motors that combine high torque density, low inertia servo motors with on-board drives and controllers to create all-in-one integrated motor solutions that save on space, wiring, and cost over conventional servo systems with separate motor and drive components.

StepSERVO Integrated Motors that provide cost-effective and high-torque motion control for high throughput applications such as packaging and labeling, automated test and measurement, and automated assembly.

STF Stepper Drives that support a range of industrial Ethernet and Fieldbus network protocols including EtherCAT, EtherNet/IP, CANopen, Modbus, Ethernet and RS-485, as well as a proprietary Serial Command Language (SCL) for efficient network communications over Ethernet (UDP or TCP) and RS-485. Using STF Stepper Drives, system designers and machine builders have the

flexibility to control step motors using the network protocol of their choice.

SV200 Digital Servo Drives that operate on 24, 48 or higher DC supply voltages for space-constrained and multi-axis motion control applications.

For more information:

Applied Motion Products
Phone: (831) 763-5933
www.appliedmotion.com

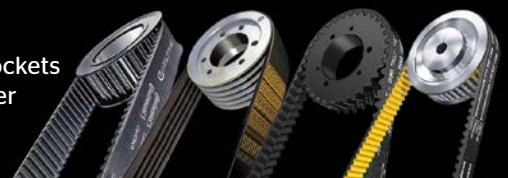


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Intellidrives

INTRODUCES WATER-TIGHT AND DUST-PROOF ROTARY SERVO TABLES

Direct drive rotary servo tables feature IP rated ingress protection. IP rating assures against ingress of water and external particles. IP65 rating assures against ingress of dust and small water jets. IP66 rating assures, in addition to IP65, against ingress of powerful water jets. IP67 rating assures, in addition to IP66, against water penetration under heavy water jets and when partially submerged.

Direct Drive rotary tables provide superior angular positioning and are designed to eliminate backlash, friction and wear problems associated with worm, gear and belt drives. Low maintenance and high throughput characteristics of the DDR stages yields the lowest total cost of ownership. These

rotary tables utilize direct drive three phase brushless motor technology. There are no brushes to replace and no gear trains or belts to maintain.

Accurate Positioning performance is assured with precision Absolute encoder that provides arc-sec positioning resolution. The motor and rotary encoders are directly coupled to eliminate coupling backlash. Absolute encoder

keeps track of its position at all times, and provides it as soon as power is applied. This feature is particularly useful in applications where the equipment has power turned off between uses. No need to move to home sensor or index pulse to establish a reference position.

For more information:

Intellidrives, Inc.
Phone: (215) 728-6804
www.intellidrives.com



DieQua

PROMOTES LATEST TECHNOLOGIES AT ATX WEST

The 2019 ATX-West exposition featured more than 2,000 cutting-edge manufacturers that attracted over 20,000 attendees looking for the latest in motion control, robotics, inspection, and automation control solutions. Over the course of the three days, the following products were present at the DieQua booth: Precision servo worm gearheads, rotary flange servo gearheads, zero backlash cycloidal reducers, hypoid servo reducers, low backlash spiral bevel gearboxes and screw jack actuators. This year, the additional piece to DieQua's booth was the Tri-Bot. This robot contained three Sesame Motors that were used for each arm of the machine. This machine was able to move ping pong balls in a pattern. **PTE**



For more information:

DieQua Corporation
Phone: (630) 980-1133
www.diequa.com

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