

Kyntronics

DELIVERS SMART ACTUATION WITH COMPACT, ENERGY-EFFICIENT SYSTEM

The actuation market is projected to grow from an estimated \$38 billion in 2017 to \$49 billion by 2022. Given this growth trajectory, the focus is moving away from traditional actuation options that have a myriad of cumbersome deficiencies to more streamlined innovative solutions that provide higher efficiency (lower costs), increased uptime, and integrated-simple connectivity.

The goal is to take advantage of enhanced technologies that can achieve higher efficiencies via factors such as less maintenance, advanced connectivity (field buses), lower weight, compact footprint, accuracy, and energy efficiency.

In response to the customer demand for these actuation efficiency goals, Kyntronics (Cleveland, Ohio), has developed its patent-pending SMART Hydraulic Actuator (SHA) –a development in ‘power-on-demand,’ servo-controlled, variable speed actuation. Made in the USA, this new actuation technology achieves the optimal technological compromise—combining the best advantages of hydraulics and electromechanical servo technology minus their disadvantages engineered in an all-in-one, scalable, modular assembly.

New to the OEM market, the Kyntronics’ SHA offers an all-in-one (variable-speed motor, drive, and cylinder) actuation system that precisely controls position, force, and speed in applications requiring from 500 lb. (2,225N) to over 100,000 lb. (445 kN) of force capacity. High force and quick cycle times in a compact package, the all-inclusive system produces strokes up to 120 in. (3,048 mm).

Traditional actuation systems over the past several decades focused on three primary types: electromechanical, hydraulic, and pneumatic. With the advent of Kyntronics SHA, SMART electro-hydraulic actuators now represent a fourth category that leads the growth trajectory of next-generation actuation. Whereas traditional actuation systems all have their distinct advantages, each have inherent core



disadvantages — examples include the reliability of electromechanical systems, inefficiency of hydraulic actuators, and the maintenance required with pneumatics.

Kyntronics SHA all-in-one system combines the key benefits of an electronic servo system with the power density of hydraulics. The flexible system can be oriented in any position and features a compact footprint—combining the power to weight ratio advantage of hydraulic technology with the versatility, ease of installation, and control of electric servo technology.

It is powered by a servo motor that drives a hydraulic pump which generates pressure to act on a cylinder to provide optimal mechanical actuation force. The configuration also features a servo drive controller, actuator, manifold, and built-in transducers—providing essential closed-loop precision force and position control. Fieldbus capabilities include Ethernet, CAN, & Serial.

A notable key benefit of the system is the way the differential volume is accounted for between a cylinder’s cap and rod ends. To compensate for this differential, the hydraulic cylinder includes an outer low-pressure cylinder with a second inner high-pressure

cylinder—creating a chamber between the two. Ultimately, the product delivers high force density in a small footprint with precision, while offering “power-on-demand’ energy efficiency—only running when needed.

“The key inspiration for our research and development on the SHA product came from vital input from our customers who wanted to embrace the global trends of increasing automation, higher precision requirements, lower costs, and more connectivity,” said Wayne Foley, president at Kyntronics.

“Electro-hydraulic technology has been driving actuation market growth, and we strive to provide our customers and channel partners with unique solutions like the SHA that are ahead of the curve. Our nimble, responsive team of in-house engineers thrive on ‘solving the unsolvable’ actuation application problem and are equipped to provide the best combination of mechanics, electronics, software, and support solutions in actuation today,” added Carl Richter, vice president and general manager.

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Dana

COLLABORATES WITH MECALAC ON E-DRIVETRAIN

Dana Incorporated has announced that the company has been collaborating with Mecalac to develop a customized e-Drivetrain system for the new Mecalac e12 electric compact wheeled excavator. This vehicle earned the Energy Transition Award earlier this year as part of the 2018 Intermat Innovation Awards.

With the proven Mecalac 12MTX as a base frame, this version is the world's first compact wheeled excavator powered entirely by electricity. Featuring Spicer 112 axles and a Spicer 367 shift-on-fly transmission, the Mecalac e12 wheeled excavator delivers the range, performance, and compact size required to support modern urban construction sites.

"As the European construction market embraces the trend toward zero-emission standards for small to mid-sized vehicles, our customers are demanding great strides in efficiency while also requiring reliable performance," said



Jean-Baptiste Rousseau, technologies manager at Mecalac. "Dana was able to adapt the 12MTX drivetrain to add electric drive capabilities within our existing vehicle architecture. With their

technical expertise and open collaboration, we developed an optimal solution and accelerated the delivery of this vehicle to market."

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the engine compartment in the Mecalac e12 houses LiFePO4 battery technology—lithium iron phosphate for service life that is three times longer than classic batteries. The batteries can be charged in approximately seven hours.

Dana has a long history of developing drivetrain systems for hybrid and electric vehicle architectures. The company also offers patented battery and electronic cooling technologies, along with fuel-cell technology. In addition, Dana engineers had extensive experience with this particular application because the diesel-powered version of this vehicle also features Spicer drivetrain components.

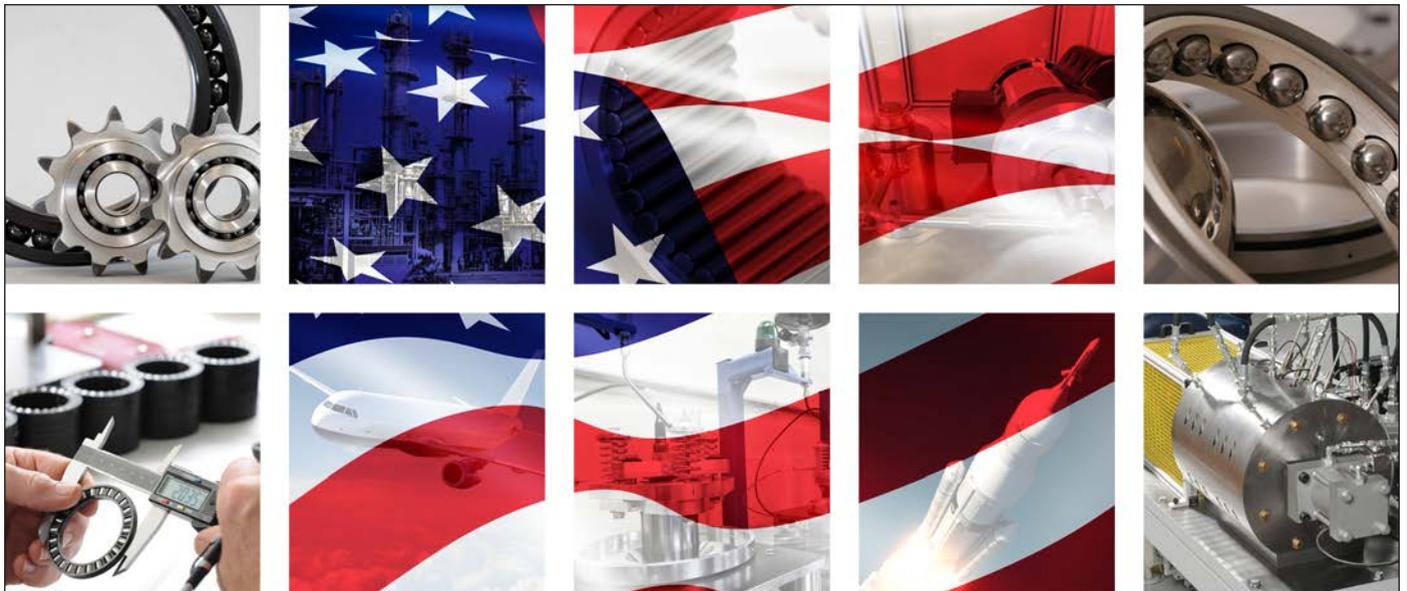
“As a Tier-One supplier, we understand that the success of electrification in the off-highway industry is driven by performance. These technologies must support a smooth transition to fully integrated electric-drive technologies optimized within a single package, providing both electrified and conventional powertrain

options,” said Aziz Aghili, president of Dana Off-Highway Drive and Motion Technologies. “Dana’s support for new energy vehicles has been considerable, and growing every year, as the importance of engineering for hybridization

and electrification is further elevated throughout the industry.”

For more information:

Dana Incorporated
www.dana.com/offhighway



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Klüber Lubrication

DESIGNS LUBRICATING GREASE FOR MODERN ELECTRIC BRAKE APPLICATIONS

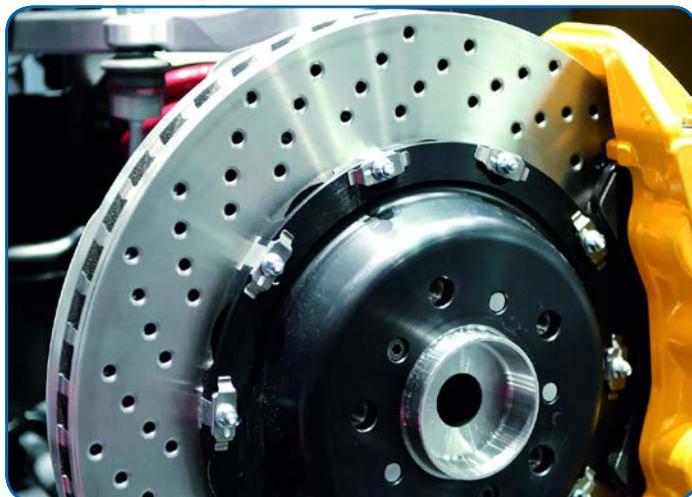
Klüber Lubrication, a worldwide manufacturer of specialty lubricants, has developed Klübersynth GR46-52F, a fully synthetic special lubricating grease for actuators in motor vehicles.

In today's vehicles, brake actuators, both for full service brakes and electric park brakes, have become popular as electric assistants, replacing the formerly used hydraulic circuit. EPDM materials continue to be used, which makes compatible lubricants a necessity.

In this context, Klübersynth GR46-52F has a specially tailored chemistry to promote compatibility with EPDM. At the same time, it helps save significant costs as an efficient alternative to the frequently used PFPE- or silicone-oil-based lubricants.

Klübersynth GR46-52F is a solid lubricant that ensures reliable separation of surfaces, enabling constant start up torques over a long lubricant life. The lubricant helps extend component life with a high proportion of sliding friction as well as with rolling motion. This in turn aids in making the driving experience even safer and more comfortable.

Klübersynth GR46-52F was specifically developed for electric brake actuators, mostly small actuators, in motor vehicles. The individual actuation method may consist of spur gears, worm gears, spindle mechanisms, and ball screws. The lubricant is ideal where compatibility with



EPDM and/or brake fluid is required in polymer/steel material combinations.

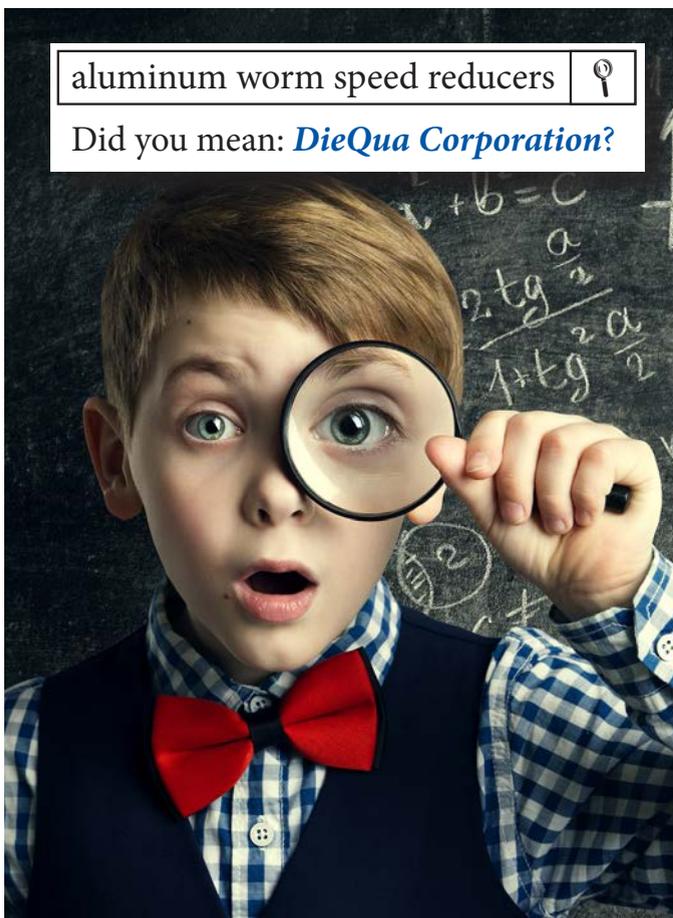
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Joral

OFFERS SENSOR FUSION INCLINOMETER FOR PITCH, YAW AND ROLL FEEDBACK

Joral LLC announces a G-force compensated inclinometer that provides feedback for pitch, yaw, and roll. The new technology utilizes sensor fusion, which is the combining of more than one complementary sensing method. The new Joral SGAM and DGAM incline sensors take input by a gyro-



scope, accelerometer, and magnetometer to provide a 3-axis output for X, Y, and Z as well as new feedback for pitch, yaw, and roll.

The GAM Series sensor provides steady feedback during motion, allowing users to eliminate complex sensor networks with a single G-force compensated inclinometer. Rather than depending on encoders, string pots, laser gates, and proximity sensors to monitor the position of a ladder, fork or platform, users can place one Joral GAM Series sensor on the application to get real-time feedback for absolute control.

Joral has designed the same level strength into the GAM series as other standard Joral products. Rated with a standard environmental protection of IP67, the GAM series sensors are 100% encapsulated. Designed to eliminate the drawback of accelerometer based incline sensors, the SGAM and DGAM inclinometers are J1939 capable, and available in a convenient form factor with common connection options.

For more information:

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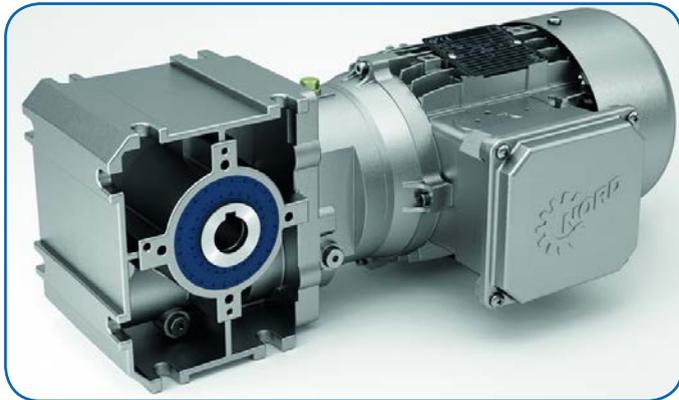
Nord Drivesystems

EXPANDS HELICAL WORM GEAR LINE

Manufacturers across a several industries will benefit from Nord Drivesystem's newest helical-worm gear unit. The re-designed two-stage SK 02040.1 is ideal for conveyors in food and beverage, bottling, manufacturing, warehousing and packaging applications.

The Nord SK 02040.1 gear unit is made from high-strength aluminium alloy. This one-piece die-cast aluminium Unicast housing provides maximum strength and rigidity with low weight. In addition, a new universal mounting design offers significant customer advantages.

Jim Alt, mechanical product manager at Nord, said the SK 02040.1 design is a money saver. He explained, "The Nord gear unit provides nearly 900 lb-in. of torque — which is ideal for countless conveyor and manufacturing applications. It can be quickly installed and offers a smart universal foot/flange housing, and accessories for foot, flange or torque arm mounting. Plus, the aluminium is more than 30 percent lighter than cast iron."



Alt added, "By using aluminium, the Nord SK 02040.1 helical worm gear unit is priced significantly below the product it's replacing — and we expect customers could see double-digit savings compared to competitive products." The gear unit can also be ordered with Nord's nsd tupH sealed surface conversion process, which provides comparable benefits of stainless steel at a 30–50 percent cost savings.

The new SK 02040.1 gear unit offers a wide power range from .16 to 1.5 hp (0.12 to 1.1 kW) and delivers output torque up to 885 lb-in (100 Nm). The wide range of speed ratios (5.3:1 to 330:1) enables optimum adaptation to the customer's requirements.

All Nord helical worm products are available with solid, keyed or keyless hollow bores. The SK 02040.1 geared unit also offers input options to a variety of motors, including direct mounting, NEMA and IEC. The new SK 02040.1 unit is a drop-in replacement to the previous SK 02040 cast iron product.

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Siemens

EXPANDS WIRELESS CAPABILITIES OF SINAMICS G120 DRIVE SERIES

Siemens has expanded its Sinamics G120 drive series to include an option for wireless commissioning and service. The new Sinamics G120 Smart Access module enables wireless connectivity of mobile devices such as tablets, smartphones and laptops over Wi-Fi to Sinamics G120 and Sinamics G120C drives. The module is setup in a few easy steps using a standard web browser and any standard operating system. Its built-in web server functionality eliminates the need to download additional software, and with its intuitive user interface and menu, the Smart Access module offers users outstanding convenience.

The Sinamics G120 Smart Access Module is available for G120 drives with CU230P-2 and CU240E-2 control units as well as Sinamics G120C drives. Users are free to choose any web browser and any smartphone, tablet or laptop for drive commissioning, parameterization and maintenance. Motors can even be tested in JOG mode. Warning signals and error messages are quickly detected over the wireless link, which can also be used to save or reset drive settings. The Sinamics G120 Smart Access module includes a function that enables the settings from one drive to be copied, sent to other mobile devices and used to commission additional drives.

“This provides an enormous time-savings when handling several drive units. It’s also possible to use the Sinamics G120



Smart Access module between different drives of the same series, allowing them to be commissioned using a single mobile device,” says Robert Soré, product manager, Sinamics general purpose drives. “In this case, the module acts as a portable storage device with web-based operator unit and wireless client link.”

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Kinitics Automation

INTRODUCES KPP05 PISTON PUMP

Kinitics Automation has announced the availability of the KPP05 Piston Pump, a shape memory alloy-based positive displacement pump that uses proprietary Bundled Wire technology to deliver a precision stroke. Driven by the company's KLA05 Linear Actuator, the product requires only AC or DC electrical power to operate, and allows for displacement or pressure control when additional sensors are used. This innovative fluid power product offers the functionality of a motor, pump, and proportional valve in a single compact unit.

The KPP05 Piston Pump may also be configured with alternate bore sizes when higher pressures or displacements are required. The product can also be equipped with a variety of accessories, including a range of mounting brackets and an adjustable home position switch. Potential applications for the Kinitics Automation KPP05 Piston Pump include acting as a master cylinder for brake and clutch control, a hydraulic pump for grippers and clamps, and as a precision metering pump.

Also introduced with the KPP05 Piston Pump is the Kinitics KCD125 Controller, which allows the actuator to be used in anything from the simplest to the most elaborate of control strategies. The Kinitics KCD125 Controller utilizes 6-24 VDC power and interfaces with standard control hardware using discrete I/O. A 4-20 mA input is provided for complex control using pressure and/or displacement feedback strategies. The KPP05 Piston Pump can also be used with the Kinitics Automation KCA020 Controller, which utilizes single-phase 120 VAC 60 Hz power.

Dean Pick, president, Kinitics Automation: "Originally developed as a clutch controller for automotive applications, the KPP05 Piston Pump has been engineered to be widely applicable to a range of industrial and commercial uses. Whether operating as a master cylinder or as a metering pump the KPP05 can provide end users with an all-in-one fluid power platform."

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