

Baldor

INTRODUCES EXL BEARINGS,
EXPANDS DC MOTOR LINE

Baldor Electric Company introduces the new Dodge Type EXL tapered roller bearing that provides both misalignment and expansion capability, while maintaining industry standard Type E mounting dimensions. This new design incorporates a cartridge-style inner unit into a split ductile iron housing.

The split-housing design allows the inner unit to swivel freely in the housing, allowing up to ± 4 degrees of static misalignment. Standard Type E products offer virtually no misalignment and are not available in an expansion design. Mounting dimensions are equivalent to any standard Dodge or competitor's Type E dimensioned product. The totally sealed inner unit incorporates the Dodge XTS triple-lip seal for increased protection in harsh environments. The housing is made from ductile iron for added strength versus cast iron products.

The Type EXL utilizes the new Dodge tapered roller bearings manufactured in Marion, North Carolina. The new bearing design offers a 13 to 14 percent increase in load ratings over the previous tapered bearing design. The new design is available in both two- and four-bolt pillow blocks and utilizes the same inner unit for both expansion and non-expansion housings. Bore sizes range from $1\frac{3}{16}$ to 5 inches. The Dodge Type EXL will increase reliability and decrease downtime by offering better sealing, misalignment capability and load ratings versus the competition.

Additionally, Baldor now offers customers the widest variety of permanent magnet and wound field industrial DC motors in the world. Both IEC and NEMA frame motors are avail-

able from stock from $\frac{1}{50}$ to 500 hp, and Baldor meets specific application needs with custom-designed motors up to 3,000 hp. While other manufacturers have left the DC motor market, ABB and Baldor continue to invest in DC product development and U.S. manufacturing. A complete offering of Baldor round body DC motors has the same shaft height and mounting dimensions as competitors' motors, making the Baldor product an easy drop-in replacement. Baldor also offers a full range of laminated frame DC motors, including explosion proof designs. ABB's DMI DC motor is the most power dense DC motor design in the global market. This laminated frame IEC product has ratings up to 1,400 kW, and with its smaller footprint can be used in a variety of applications where space is an issue.

For more information:

Baldor (A member of the ABB Group)
5711 R.S. Boreham, Jr. St.
Fort Smith, AR 72901
Phone: (479) 646-4711
www.baldor.com



Nord Gear Motors

POWER AGGREGATES
PRODUCTION UNIT

The IECS Company, specializing in the manufacture, assembly, and maintenance of quarry and sand pits equipment, has chosen Nord gear motors to power the new aggregates production unit of the Pradier Group. The French Group Pradier produces 400,000 tons of concrete blocks and interjoists per year, which are intended for building material suppliers. Pradier Carrières, founded in 2010, has thus opened its first operating site in 2011 in Mondragon in the south of France. The quarry consists of a deposit of about 375 acres and 20 million tons of ore, with a mining permit for 450,000 tons per year over 30 years. 350,000 tons are then transported by road and 100,000 tons by river. The processing plant is located near the deposit (1 km by conveyor) and has a production capacity of 400 tons per hour.

The IECS Company completed the whole installation, which provides ore

crushing, screening, and conveying of aggregates to their shipping points. "We buy Nord Drivesystems helical bevel gear motors regularly," says Cachot, IECS manager. In total, there are 37 Nord Drivesystems helical bevel gear motors, SK9042.1 & SK9072.1 models powered by IEC B5/IE2 motors used in the Pradier site. "We have a very good relationship with Nord. It is a human-sized company, they are very reactive. When we commissioned the facility, the motor model had to be changed for two units which ratings were not high enough. We called Nord and 36 hours later it was changed. The Nord sales manager is always available to help on the project, he reacts very quickly. The company stands out by its very high reactivity. A new emergency assembly and shipping service is offered to all customers since the spring of 2011. Whether it's a motor or a gear motor, with or without variable frequency drive, painted or not, the company undertakes, provided the components are available, to assemble and ship on the same day anywhere in France, and this for all orders placed

before 4:30 pm. To achieve this fast response time, the processes, inventory levels and logistics were thoroughly reviewed in 2011. The same service has been set up for spare parts."

Energy consumption was obviously an important aspect of the facility. Again, Nord stood out by offering IE2 motors. To comply with new and more demanding standards, in terms of energy efficiency, Nord has made many improvements to its IE2 motors. For example, superior materials are used in the stator, the quality of the plates is better, more copper was used and the windings have been optimized. These efficient motors are naturally beneficial to users. In addition to better performance, the motors run cooler and have a longer operating life. These improvements also result in greater power reserve, which opens up new possibilities in terms of drive systems design.

For more information:

Nord Gear Corp.
300 E. Forsyth Hall Dr
Charlotte NC 28273
Phone: 1-888-314-6673
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Sakor

OFFERS TURN-KEY DYNAMOMETER TEST CELLS

Sakor Technologies, Inc. provides complete turn-key test cells for engine, powertrain and component testing. At the heart of each test cell design is the DynoLAB PT data acquisition and control system, which seamlessly integrates external devices, including dynamometers, throttle actuators, spark & fuel controllers, combustion analysis systems, emission analyzers, and other smart I/O devices, into a single, coherent test system.

Based on individual customer requirements, Sakor engineers select each of these components, as well as all sensors, actuators, and any necessary cell mechanics including cooling systems, fuel conditioning systems, couplings, drive-shafts, guards, bed plates, dynamometer bases and docking carts, to build the ideal test cell equipment for each customer's specific needs. Sakor also offers complete cell upgrade services.

The DynoLAB PT system is specifically designed to work with all types of dynamometers. Sakor can provide its customers with any type they desire; however, for maximum performance, the Accudyne line of AC motoring dynamometers is recommended. Accudyne dyna-

mometers offer full 4-quadrant operation with seamless transition between loading and motoring modes. The combination of a DynoLAB PT with an Accudyne dynamometer is perfect for performing road-load simulation as well as race track simulation, transmission testing, and other applications that require both driving and loading.

Whether dealing with performance evaluation, drivetrain and component durability testing, in-use simulation, quality control, catalyst performance and aging studies, or other dynamometer based testing, Sakor Technologies designs and builds quality and affordable dynamometer test cell systems tailored to each customer's specific needs.

For more information:

Sakor Technologies, Inc.
2855 W. Jolly Road
Okemos, MI 48864
Phone: (517) 332-7256
www.sakor.com

R+W

OFFERS EKZ INTERMEDIATE SPACERS

Servomax elastomer couplings from R+W feature a specially calibrated polyurethane insert, which is preloaded between precision machined driving jaws. In addition to their high torque density, low cost and quick availability, they are used for vibration damping, shock absorption and compensation for some small amounts of shaft misalignment. Occasionally, machine layouts and mounting arrangements simply



do not allow for installers to achieve the alignment specifications of the standard series. This can cause stress to be transferred across the coupling and insert and onto adjacent shaft bearings, leading to premature wear. For these situations R+W is now offering the EKZ intermediate spacers, for use in high misalignment applications. Since parallel-shaft misalignment is compensated for by an angular flex across each insert, the tolerance is actually increased by far more than double with the EKZ spacer, in some cases allowing for 4-5x more offset than with single insert designs. Even larger amounts of misalignment can be compensated for with a special convex tooth insert, which allows for additional rolling action as the coupling jaw pivots over the insert rather than causing it to flex. The standard EKZ product line ships from stock and is available in nine sizes, with torque ratings from 0.5 up to 2,150 N-m. They can fit any style of R+W Servomax elastomer jaw coupling of the corresponding size.

For more information:

R+W America
1120 Tower Lane
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Pittman Motors

OFFERS MICROMOTORS FOR MEDICAL DEVICES

Pittman Motors, a division of Ametek/Precision Motion Control, offers high-performance slotless brushless DC motors for medical applications, such as high-speed surgical tools, dental tools, medical instruments and other small medical devices. As the medical industry trends away from pneumatic devices and moves toward DC motor platforms, motor design and manufac-

turing requires a new level of technology to meet demanding medical applications.

In addition to their small size, Pittman high-performance slotless brushless motor designs offer many benefits that are well suited for medical applications. These miniature motors are capable of very high speeds, produce little or no EMI emission (electromagnetic interference), provide long life, and have low audible noise. In addi-



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tion, the slotless design eliminates magnetic cogging. In Pittman slotless brushless motors, the stator teeth are completely eliminated by forming and encapsulating the entire stator winding along the inside surface of the back iron. The result is zero detent torque, low inductance and fast response rates.

Pittman's smallest high-performance motor is 0.375" (9.53 mm) with a maximum speed of up to 70,000 rpm and a torque rating of up to 0.3 oz-in (0.002 N-m). Overall length is 2.00" (50.8 mm). The motor has a two pole permanent magnet rotor, a three phase stator and sensorless commutation. Larger diameters in the high-performance line include 0.5" (12.7 mm), 0.8" (20 mm), and 1.1" (28 mm). Maximum speeds are available up to 60,000 rpm and torque ratings from 0.9 oz-in (0.006 N-m) to 14.9 oz-in (0.105 N-m). Each diameter has 2 available stack lengths. The motors are constructed using four pole rotors, three phase stators, and integral hall sensor feedback spaced for 120 electrical degrees.

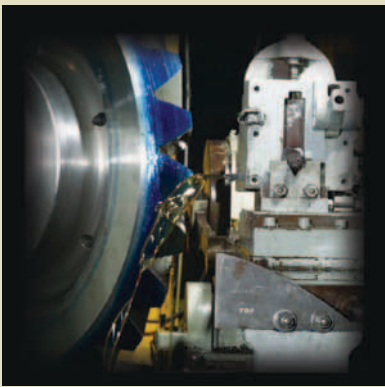
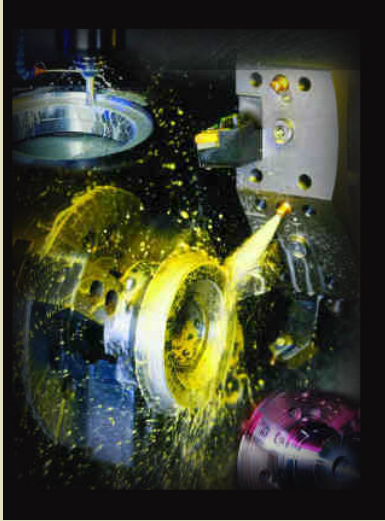
Standard features for the high-performance DC motor offering include shielded ball bearings, stainless steel construction and high-energy neodymium rotor magnets. Permanent magnet rotors are balanced for smooth and quiet operation at high speeds. Autoclavable versions are available in all motor sizes.

For more information:

Pittman Motors
A Division of Ametek/Precision Motion Control
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www.pittman-motors.com

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Stafford

OFFERS ADJUSTABLE MOUNTING
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A line of adjustable mounting shaft collars that can be customized for securing sprockets, pulleys, lever arms and other drive components is available from Stafford Manufacturing Corp. of Wilmington, Massachusetts. Stafford Accu-Mount Collars provide a square and rigid method for mounting components such as sprockets, gears, pulleys and lever arms to a shaft and are adjustable for easy repositioning. Featuring one solid square and flat side along with a centering hub and second side that securely clamps to a shaft, these



mounting collars come standard with four mounting holes.

Available in steel, stainless steel, and aluminum, Stafford Accu-Mount Collars are offered in 11 sizes from 1/2" to 2" I.D. and can be customized with different mounting hole patterns or special configurations to precisely match user requirements. These split collars have a smooth bore to protect expensive shafts and can be supplied with or without a keyway. Stafford Accu-Mount Collars are priced from \$35.00 (list), depending upon size. Price quotations are available upon request. Stafford Manufacturing is ISO 9001:2008 Certified.

For more information:

Stafford Manufacturing Corp.
256 Andover Street
Wilmington, MA 01887
Phone: (800) 695-5551
www.staffordmfg.com

Ogura

RELEASES THIN PROFILE MICRO
CLUTCH

The new MIC-T series clutches from Ogura offer customers significant size, weight and cost savings over the previous series of MIC clutches. In some cases, depending upon volume, cost can be half of previous versions, allowing significant savings for customers producing consumer and business printers and copy machines. The new clutches are available with either a customer specified gear or a dog hub output, which allows customers to purchase one clutch and then incorporate a number of different gears for their different needs. The clutches have achieved the cost and weight reduction by changing basic clutch construction utilizing an all plastic and powder metal design. Clutches are supplied with lead wire and terminal. Ogura has been producing clutches and brakes since 1938 and they have developed over 5,000 different models of clutches and brakes. Although Ogura primarily produces electromagnetic clutches and brakes, they also produce magnet

particle, mechanical, pneumatic, hydraulic and a variety of specialty products. Ogura is the world's largest manufacturer of electromagnetic clutches and brakes. Current manufacturing capacity is over 30 million units per year. To provide localized support, we



have fourteen manufacturing plants spread throughout the world in Asia, The Americas and Europe. All manufacturing facilities are ISO recognized and conform to the ISO 9001:2008, ISO 14001 and ISO/TS 16949.

For more information:

Ogura Industrial Clutch
P.O. Box 5790
Somerset, NJ 08875
Phone: (732) 271-7371
www.ogura-clutch.com

Altra

FEATURES PRODUCT LINES AT TURBOMACHINERY
SYMPOSIUM

Altra Industrial Motion brands Ameridrives Couplings, TB Wood's and Bibby Turboflex, displayed their latest product lines in booth 1221 at this year's Turbomachinery Symposium in Houston, Texas. Visitors learned about Altra's broad range of products that can be applied to improve efficiency, productivity and safety in all types of turbomachinery applications including gas and steam turbines, compressors, pumps, generators, motors, fans and blowers. Featured products included Ameriflex high-performance diaphragm couplings designed for high-torque densities and large misalignments and Ameridisc high-performance, dependable, low-maintenance couplings. Bibby Turboflex disc couplings, designed to meet the ever-increasing demands of today's high-speed turbomachinery, were



also on display. Other exhibited solutions included Torsiflex-i disc couplings which are specifically designed for process pump applications and maintenance-free Dura-Flex and Sure-Flex elastomeric couplings.

In addition, Altra Industrial Motion brands Wichita Clutch and Twiflex Ltd. will be exhibiting their state-of-the-art braking technologies at this year's International Tidal Energy Summit in London (November 28-29). Twiflex Ltd. will be featuring their line of spring-applied and direct-acting, pneumatic or hydraulic, caliper disc brakes which provide routine dynamic stopping, holding or emergency stopping functions. Models may be customized with a variety of features and finishes suitable for tidal turbine drive applications and packaged with discs and controls where required. Wichita Clutch will showcase their 'Wet' plate brakes which generate torque through shearing of the oil layer, with negligible lining wear, and are therefore ideal for the low maintenance requirements of sub-sea installations. Similar 'dry' units are also available, including water-cooled versions for high-energy stop applications. For the tidal energy industry, together these brands provide a single source for engineered solutions with a proven track record in supplying compact, robust, reliable, and low-maintenance products. With several brake packages installed in pre-commercial tidal turbine demonstrators including the EMEC test facility, leading Altra brands Twiflex Ltd. and Wichita Clutch, are well positioned to meet the power transmission challenges of the growing tidal turbine industry. Visitors will also be able to learn about other Altra products utilized on tidal turbines including shaft couplings and shaft locking devices, brake discs and hubs, torque limiting clutches and hydraulic power units.

For more information:

Altra Industrial Motion
300 Granite Street, Suite 201
Braintree, MA 02184
Phone: (814) 480-5000
www.altracouplings.com

SKF

RELEASES CONCENTRA ROLLER BEARINGS

New SKF ConCentra SYAF roller bearing units introduce ready-to-mount and highly reliable solutions for conveyors exposed to harsh operating conditions. An innovative and unique concentric mounting system properly and securely grips the circumference of a rotating shaft to virtually eliminate potential fretting corrosion, minimize risks of imbalance-initiated vibration, and promote optimized function and trouble-free performance, contributing to longer service life. They ideally suit operations ranging from mines, quarries, and cement plants to power plants and steel mills, among others.

These "shaft ready" one-piece assembled units integrate pre-lubricated SKF Explorer spherical roller bearings offering high load-carrying capacity, long life, and high-quality performance. A robust seal and flinger create a double-barrier to protect against ingress of contaminants, enhance grease retention, and minimize maintenance. A rugged




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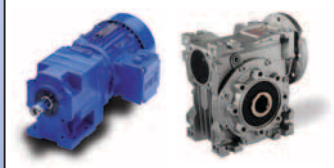


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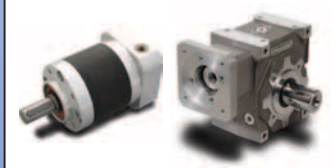


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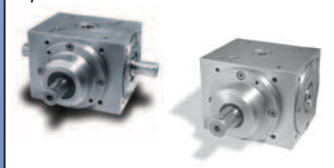
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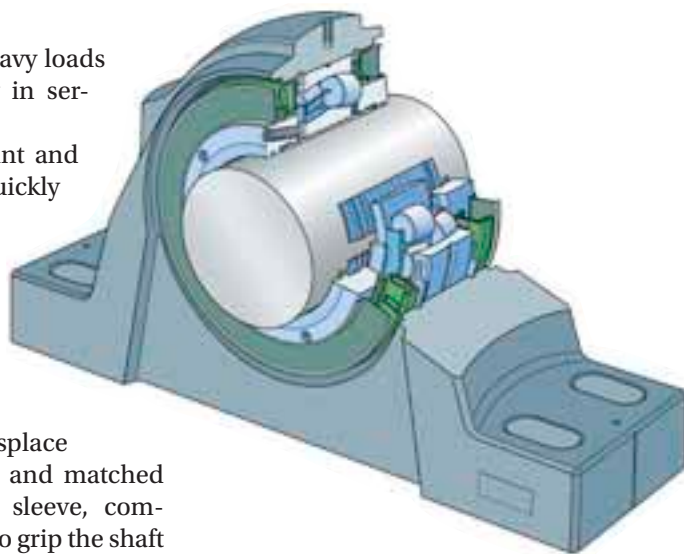
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housing easily accepts heavy loads and reinforces durability in service.

The bearing units mount and dismount to the shaft quickly from the same side using only a torque wrench reducing axial space requirements. Once the bearing unit is correctly positioned on the shaft, angled set screws are tightened to axially displace the precision-engineered and matched stepped inner ring and sleeve, compressing the inner sleeve to grip the shaft evenly around the entire shaft circumference for a true concentric, tight fit. Up to 1.5 degrees of shaft misalignment can be accommodated without diminishing seal effectiveness. Shaft diameters range from 3⁷/₁₆ in. to 4¹⁵/₁₆ in. and the units can accept commercial grade or re-usable shafting without necessitating specially machined and costly ground or polished shafts. Housings are interchangeable



to industry bolt-pattern standards. Custom products can be developed.

For more information:

SKF USA, Inc.
890 Forty Foot Road
Lansdale, PA 19446
Phone: (267) 436-6000
www.skfusa.com

Romax Technology

LAUNCHES GEARBOX AND DRIVELINE DESIGN SOFTWARE PACKAGE

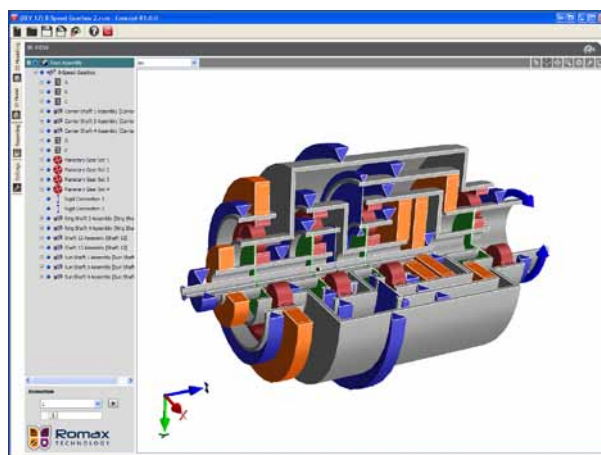
Romax Technology, a gearbox, bearing and driveline engineering specialist, has launched a new design software package that will increase speed, quality, creativity and innovation when designing gearboxes and drivelines. Called *Concept*, the new product delivers on the Romax vision of streamlining the end-to-end planning to manufacture process with open, easy to use software solutions. It has been developed in close collaboration with engineers in the largest ground vehicle, wind energy and industrial equipment companies around the globe.

The result is a highly intuitive drag and drop design environment enabling rapid creation of concept models. It provides semi-automated sizing, definition and rating of gears, shafts and bearings, with advanced 3-D visualization capability allowing evaluation and manipula-

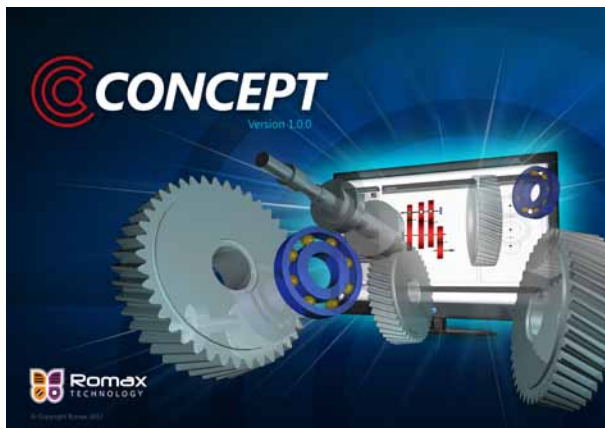
tion of key parameters. As a result it promotes creativity as new design ideas can be evaluated rapidly.

Concept also utilizes Romax's analytical capabilities to enable initial NVH assessments, as well as preliminary mechanical design assessments of alternative concepts.

It is applicable for any gear, shaft and bearing system application, from power tools to mining equipment and from complex automotive planetary auto-



RomaxDesigner and *RomaxWIND* have evolved into a comprehensive whole-system simulation and analysis platform (courtesy of Romax).



The Romax simulation and analysis software includes simulation design, gear optimization, system optimization, gearbox concept design, durability analysis, NVH analysis and tolerance and manufacturing variability assessment (courtesy of Romax).

matic transmissions to the largest wind turbine gearboxes. The new software not only enables creativity, effectiveness and efficiency, it also promotes a seamless workflow either as a stand-alone solution or used in conjunction with other CAD packages.

Its innovative easy-to-learn interface allows new users to become productive extremely quickly, which means graduate designers through to experienced gearbox and driveline design teams can use it. Romax Technology Product Manager, Dr. Jamie Pears, who is heading up the product launch, believes concept design is one of the most important aspects of the gearbox and driveline product development process.

"Early decisions can be crucial in shaping product performance, robustness and durability, as well as minimizing manufacturing and operating costs," he said. "However, this stage of development can be expensive and time consuming too, meaning that many engineered products fail to reach their full potential. This next generation design package, which incorporates many of our advanced analytical algorithms, helps users to pull forward new concepts into robust and highly optimized designs capable of subsequent detailed development. It not only saves development time and cost but also improves the quality and robustness of the finished product."

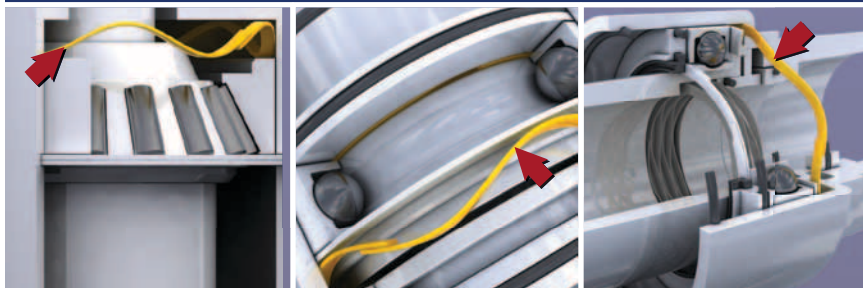
Also supporting Romax's vision of streamlining end-to-end, planning-to-manufacture process is significant new capability in the company's flagship

products for detailed design and analysis - *RomaxDesigner* and *RomaxWIND*. This enhanced capability for improved manufacturability of end-product includes a comprehensive suite of tools that enables the gear manufacturing process to be considered as part of the gear design and analysis activities. Romax an-

nounced *Concept* in October and will be shipping the software in December.

For more information:

Romax Technology
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Nottingham Science & Technology Park
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Amacoil/Uhing

ANNOUNCE FLANGE DETECTION SYSTEM

Amacoil/Uhing has announced that their FA Flange Detection System has been reengineered for simpler operation and now utilizes laser sensor technology for expanded functionality. The new FA-II system is PLC-controlled and requires none of the tedious adjustments associated with the previous version. Additionally, whereas the original system worked only on spools having straight flanges, the new FA-II may be used with spools having either straight or tapered flanges. The FA-II system saves time by eliminating the need for an operator to adjust the reversal stops on the Uhing traverse. During spool changeovers, it is often the case that a new spool is not placed on the mandrel in the exact same position as the spool being replaced. Normally this means that a worker must readjust the end stops on the traverse to make sure the traverse reverses at the correct points. The FA-II eliminates this step saving time and enabling operators to manage more winding stations which helps boost production. Furthermore, winding accuracy is improved because

the laser sensor is a more accurate means of locating the spool flange edge than the human eye.

In its original version, the FA featured a two-pronged fork-shaped fixture mounted on the Uhing traverse. A steady beam of light between the prongs formed a light curtain which, when interrupted by the flange edge, triggered pneumatically controlled reversal of the traverse. Instead of a light beam, the FA-II system employs a laser sensor mounted to the traverse. The sensor continually references the distance from the spool core up to the highest point that wire or other material will be spooled. When the sensor detects the spool flange, the reading is not within the acceptable variance and a signal is sent to a pneumatic cylinder which reverses the traverse.

This arrangement also enables FA-II use with both straight and tapered flanges thereby expanding the system's



application. Because the distance from the sensor to the sloping surface of the tapered flange is less than the master reference point, reversal is not trig-

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gered until the spool flange edge is detected.

To optimize the effectiveness of the FA-II Flange Detection System it is necessary that spool flanges are not bent or damaged. The laser sensor should be protected from particulate contaminants (dust, metal particles, wood chips, etc.). The FA-II system accommodates materials with round cross-sections and a diameter of 0.1 to 2.0 mm (.004 - .079 in.). Spool flange diameter may be up to 220 mm (8-43/64 in.) maximum. The system will handle spools with tapered flanges having an angle of up to 40 degrees. Operating temperature range is -10 to 40 degrees C (14 - 104 degrees F). Maximum operating air pressure is 6 bar (87 psi).

For more information:

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Cimcool Fluid Technology has announced the release of a new lubricant technology for machining and grinding of hard metals. These new Cimtech synthetic fluids feature synergistic lubricant blends that provide huge increases in productivity without the use of chlorine or other high levels of extreme pressure additives. Cimcool delivers significant cost reductions from the higher production rates these fluids can provide. More production and lower cost per part coupled with environmentally responsible fluids gives significant advantages to customers concerned with being competitive. With unique hybrid blends, including patented Milacron lubricants, only Cimcool can provide customers with these innovative fluids. Customers with heavy duty performance requirements looking to eliminate chlorine from their operations now have op-



tions never before available. "We have developed something that is completely new and unique to the industry," said Tina Hunter, automotive product manager. "These fluids work best when really pushed to the limit. The tougher

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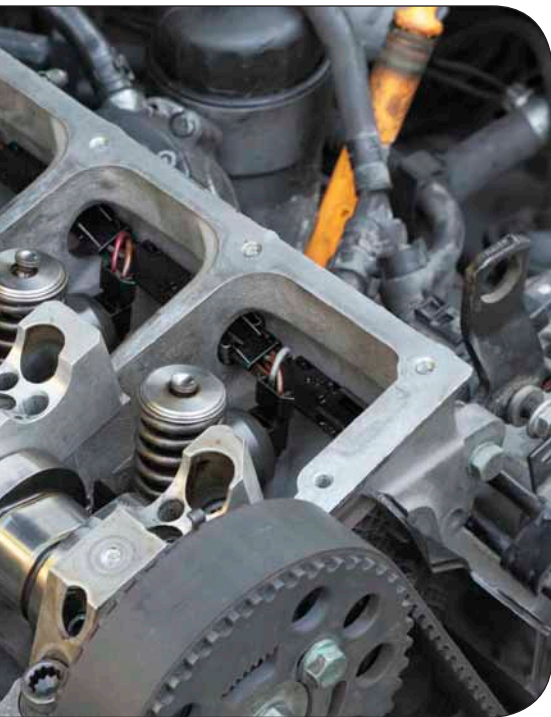
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the operation, the better results we see. The performance of these fluids is significantly better. They have outperformed some popular heavy duty, sulfo-chlorinated oils by up to 300%. This is a huge jump in technology." Products include Cimtech 627 (a synthetic fluid used in heavy duty machining and grinding), Cimtech 609-E, (a water-based fluid used for hard metal valve grinding), Cimtech 610, (a unique Milacron Synthetic Lubricant blend for titanium and other hard metals), and Cimtech 612NF (a water-based synthetic for machining high-silicon aluminum alloys).

For more information:

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