

Bega Special Tools

OFFERS MAINTENANCE OPTIONS FOR RAILWAY APPLICATIONS

At this year's Railway Interchange exhibition in Indianapolis, Bega Special Tools presented tools for easy and safe installation and removal of bearings and other transmission components in railway vehicles.

Rolling stock maintenance is an important part of the railway system. It is unthinkable what would happen if this was neglected: stalled trains would block rails and existing timetables would become a mess. This is why regular maintenance is necessary in order to maintain a reliable train park.

Engineers will recognize the risks they run into when confronted with stuck wheels or bearings. Cutting or grinding can be dangerous and can cause damage to shafts. Even the task of installing parts in a safe way can be a challenge. Having the right tools in a maintenance facility should be a priority to ensure reliability and personal safety.

Bega Special Tools is specialized in tools for removing and installing bearings and other transmission parts. A number of tools have been designed to remove and install railway bearing sets, gears, brake discs, labyrinth seals, bearing inner rings etc.

For removing and installing railway bearing sets and labyrinth rings, spe-



cial induction heaters can be used. Middle frequency induction heating technology is a safe and cost effective heating method that improves the quality of installation. Bega manufactures various models of the Betex MF Quick-Heater, which is also available in combination with fixed or flexible inductors.

The new generation Betex MF Quick-Heater 3.0 features smart electronics. With a compact design, it has a large touchscreen, a USB connection for software upgrading, and a log-in op-

tion for remote servicing. It heats according to a preset temperature/time curve and shows temperature development in chart form. There is an option of logging the heating cycle. Smart electronics ensure optimal operating frequency and advise the user on optimal heating, for example by suggesting more or fewer windings. The power control is adjustable, dual temperature sensing is available and there is an option to operate several heaters together.

For removing gears and train wheels, Bega supplies a unique series of self-centring hydraulic pullers, with capacities of 4 to 150 tons. These pullers are easy to use and require minimum setup time. Versions of dismantling wheels in combination with oil pressure are also available.

Exclusively designed for mounting and dismantling railway bearing sets, the Betex BPP/BPPS is a combined bearing puller and pusher.

All described tools and methods have one thing in common: they are designed to make the job easier, faster and above all safer. Flameless induction heating offers many advantages: safety, environmental friendliness, easy handling, no noise or pollution. Even reuse of parts is a real possibility.

For more information:

Bega Special Tools
Phone: (516) 737-8012
www.begaspecialtools.com





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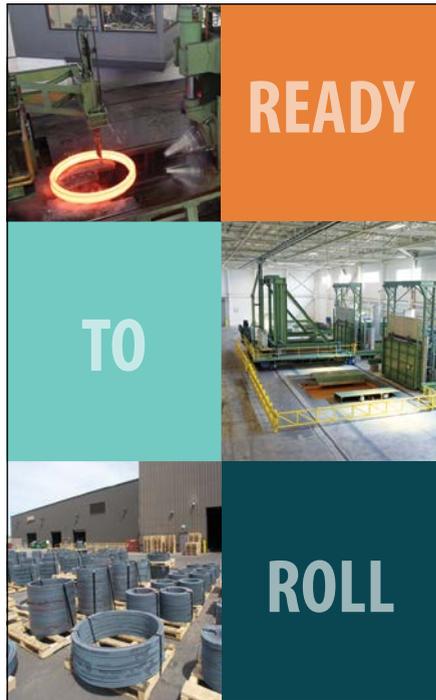
BRING YOUR ENGINEERING CHALLENGES to a sold-out exhibit hall filled with the latest technology to make your products more efficient and cost effective.

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SKF

MULTILOG IMX-8 SYSTEM INTRODUCES COMPACT AND COST-EFFECTIVE MONITORING

The new SKF Multilog IMx-8 online system introduces compact and cost-effective technology for monitoring the condition of industrial rotating machinery. This versatile device offers eight analog output channels with connectivity to mobile devices and laptops for easy configuration and monitoring. The system equips users with a 24/7 monitoring solution to detect machine faults early, integrate automatic recognition to correct existing or impending conditions and contribute to condition-based maintenance program objectives.

Individual warning and alarm levels controlled by machine speed or load can be set for each measurement point. Built-in auto-diagnosis can check all sensors, cabling, and electronics for any faults, signal interruption, shorts, or power failure and then automatically alert when problems are found.

The IMx-8 features enhanced internal memory (4 GB) to enable stand-alone monitoring and logging of large amounts of data, which can be easily accessed for analysis following a critical event.



The IMx-8 is the newest addition to SKF's versatile IMx systems portfolio. Unlike its 16 and 32 channel variants, the IMx-8 takes up little cabinet space and is ideally designed for installation into instrument cabinet enclosures. Suitably housed, the system also serves space-restricted applications where instruments may need to be located close to the monitored machinery. The app-based configuration interface is especially user-friendly, allowing for setup with little or no previous experience. The IMx-8 is DIN-rail mounted.

The system's eight analog signal outputs can be configured for a variety of sensors to ascertain acceleration, velocity and displacement, among other

All IMx systems can run on an existing LAN or WAN and network with computers, printers, and servers or over the internet. The timely and true simultaneous measurements of the various operating parameters can guide in improving machine reliability, availability, and performance.

For more information:

SKF USA Inc.
 Phone: (800) 440-4753
www.skfusa.com



R+W

DISC COUPLINGS OFFER INTEGRATED COOLANT TUBE

R+W has recently expanded its LP product line with a new disc pack coupling model. In addition to the wide range of standard designs, R+W can now supply a version with an integrated coolant tube. This offers many advantages to manufacturers of machine tools with long spindle drives.

This specially designed double disc spindle coupling can transport coolant directly to the cutting head over long distances using an integrated inner pipe, vertical support, and special adaptation interfaces on each end. Since these couplings are often used in highly dynamic and high speed applications, lightweight carbon fiber (CFRP) or aluminum spacer tubes are typically used. Symmetric conical clamping hubs along with fine balancing help guarantee smooth operation at high speeds. The torsionally rigid disc packs compensate for misalignment between the connected shafts.

This robust, high performance line of disc couplings provides users with a simplified spindle setup, reduced assembly times, faster operating speeds and longer tool life.

For more information:

R+W America
Phone: (630) 521-9911
www.rw-america.com



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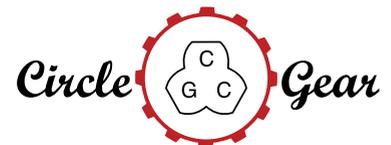
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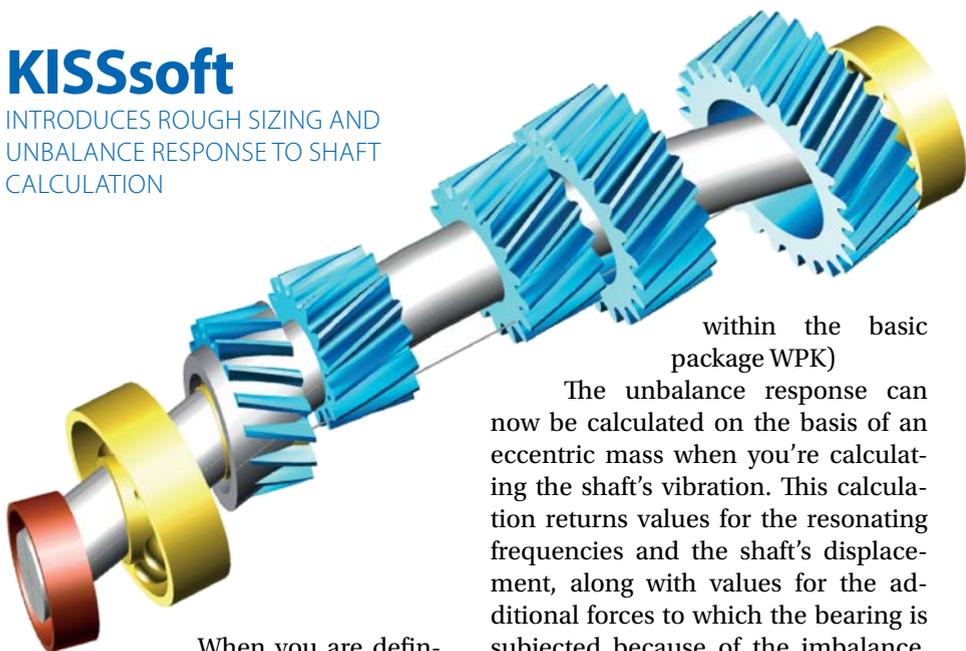
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KISSsoft

INTRODUCES ROUGH SIZING AND UNBALANCE RESPONSE TO SHAFT CALCULATION



within the basic package WPK)

The unbalance response can now be calculated on the basis of an eccentric mass when you're calculating the shaft's vibration. This calculation returns values for the resonating frequencies and the shaft's displacement, along with values for the additional forces to which the bearing is subjected because of the imbalance. To help perform a realistic calculation of vibration, you can now enter the damping values individually. (New module WA11)

For more information:

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

When you are defining dimensions for shafts, KISSsoft now provides options for sizing shaft dimensions with regard to strength, and for sizing the rolling bearings with regard to bearing service life. This really cuts down the time you need to design a gear unit. Here, you can specify which priorities are to apply during sizing. (New functionality

Allied Motion

HMP MOTORS OFFER COMPACT SIZES AND LOW PRODUCTION COSTS

Allied Motion Technologies introduces the HeiMotionPremium (HMP) brushless AC servo motor family. HeiMotion is available in five metric frame sizes with rated torque from 0.12 up to 14.4 Nm, and continuous shaft power from 50 W to 3.75 kW. It offers highly accurate torque ratings, energy efficiency and extraordinary durability (20,000+ hour life span). An innovative compressed winding technology allows for a compact size, as well as lower production costs compared to competitive motors. The series is highly configurable in thousands of combinations to fit virtually any application. It is engineered for use in the machine tools, autonomous vehicles, robots, medical di-

agnostic equipment and similar high performance applications.

Highlights include standard flange sizes, 40, 60, 80, 100 and 130 mm, top speed ranging from 2,000 up to 9,000 rpm, holding torque ranging from 0.18 up to 18.5 Nm, winding voltage choices ranging from 48 up to 560 V, optimized inertia and extremely low cogging torque. Optional features include: standard resolver or encoder (including single cable Hiperface - DSL interface), holding brake, and connector choices.

For more information:

Allied Motion
Phone: (716) 242-7535
www.alliedmotion.com



QuickSilver Controls

SERVOMOTOR FAMILY FEATURES
IMPROVED DRIVER DESIGN

QuickSilver Controls, Inc. announced the release of their High Power NEMA 34 Integrated Hybrid Servo Family.

The integrated servo includes both an internal and external clamp, a 20A RMS, 40A peak driver operating from 12 v through 72 v. The SilverMax X-series includes expanded command and register space as well as many new commands and modes of operation.

Improved driver design provides extremely smooth motions from over a wide speed range. The internal permanent magnet, high pole count servo motor provides high efficiency and full power over a wide range of speeds. Available torque up to 3200 in-oz/22.5 Nm for direct drive applications.

For more information:

Quicksilver Controls, Inc.
Phone: (888) 660-3801
www.quicksilvercontrols.com

Twin Spring Coupling

RELEASES DATA ON DRIVETRAIN
COUPLING TECHNOLOGY

Twin Spring Coupling—a New York startup—has released the data on their new drivetrain coupling technology's first commercial product the TSC8300.

The TSC8300 is warrantied to 300 ft. lbs. (407 Nm) of torque. It will allow customers with smaller torque requirements to also get increased torque flexibility in one product.

The patented technology will allow designers who use existing coupling technology like cardan, CV and universal joints to look at their designs differently.

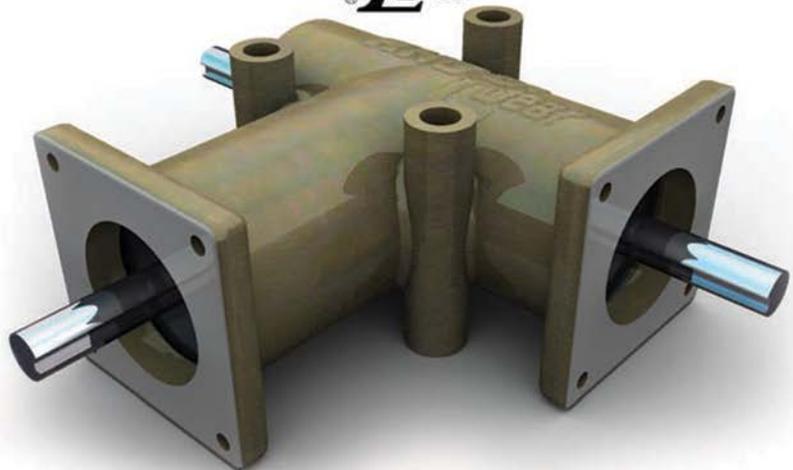
“Increased flexibility with the same torque curves allows the designer/engineer to achieve increased reliability with little to no modification,” says Darren Finch CEO of Twin Spring Coupling.

The constant maintenance of the internals of a universal joint isn't a



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factor with this coupling as there are no internal components—no needle bearings to maintain, no bearings to wear out.

Applications include axle, PTO, drive shaft, steering, conveyor belts, belts, pumps, etc.

The simple design allows the coupling to be scaled up or down to suit the application and torque requirements. The flexibility of the springs allows for more movement without damaging the drive shaft or components. At the same time, it is able to absorb shock and energy, making the coupling more efficient.

“We are working on larger versions to handle over 500 ft. lbs. (674 N.m) and 700 ft lbs (950 N.m) of torque, and will



continue to develop our product line, working with customer and supplier needs,” Finch added.

For more information:

Twin Spring Coupling
Phone: (718) 938-1950
www.twinspringcoupling.com

Celera Motion

INTRODUCES AGILITY SERIES SLOTLESS MOTORS

Ideally suited for scanning, pointing, measuring and cutting applications that require extremely smooth velocity control and highly accurate positioning, the Agility Series delivers best-in-class torque ripple and zero cogging.



Engineered with ZeroCog slotless motor technology from Applimotion, the effects of cogging torque, magnetic forces, flux harmonics and phase balance and alignment are minimized to counteract the causes of torque ripple. Agility magnetic designs and construction techniques can achieve less than 2 percent torque ripple.

The Agility Series is offered in a wide range of low-profile form factors with a large through hole for convenient

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routing of cables, optics, sensing technologies and other system elements. Models are available in diameters from 12 mm to 300 mm, and with peak torques up to 41 Nm.

Frameless direct drive kit construction, high torque density and low mass enables Agility to be tightly integrated into compact, lightweight precision assemblies.

All models are compatible with a wide range of controllers and drives. Windings and form factors can be customized to meet application requirements.

For more information:

Celera Motion
Phone: (781) 266-5200
www.celeramotion.com

IKO International

EXPANDS LINE OF DOUBLE HEX HOLE CAM FOLLOWERS

IKO International has expanded its line of CFKR series of Double Hex Hole Cam Followers. The outside diameter of the outer ring is now available in 22 and 26 mm, with current models as high as 90 mm.

These bearings are designed for outer ring rotation and have superior rotational performance with a small coefficient of friction and high load capacity. Consider the CFKR 90 V model, which features a dynamic load rating in excess of 67,000 N, compared to 40,500 N for similar cam followers on the market.



Because the structure of the CFKR series features hexagon holes on both stud ends, it can be tightened from the cam follower head or stud end. Variations are available for roller con-

struction (cage or full complement), shape of the outer ring outside the surface (crowned or cylindrical) and seal structure (shield or sealed type).

IKO's CFKR series meets the diverse needs of applications including transfer systems on machine equipment and production lines. Modifications can be made according to customer requirements.

For more information:

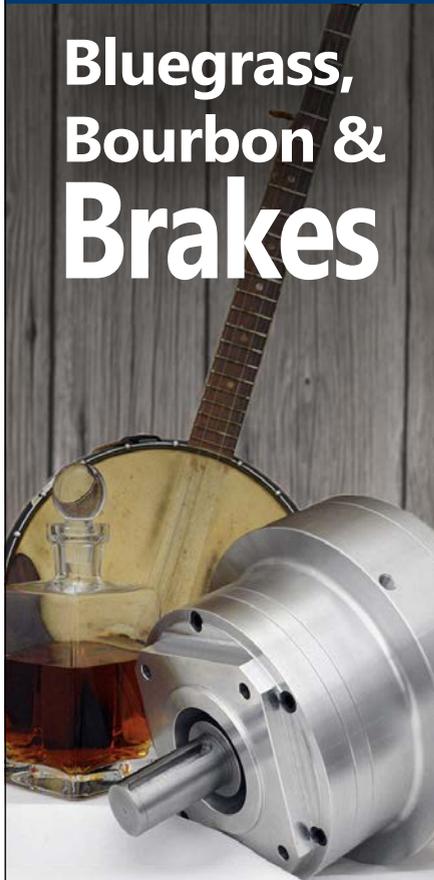
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Stafford Manufacturing

OFFERS SHAFT COLLARS, COUPLINGS AND MOUNTS FOR DRONES AND UAVS

A broad range of standard and custom shaft collars, couplings, clamps, and mounts for attaching cameras, sensors, and other devices to drones and UAVs are being introduced by Stafford Manufacturing Corp.

Stafford Parts for Drones can include shaft collars, couplings, and flange mounts for attaching and repositioning structural components, cameras, sensors, and other devices. Featuring O.D.s as small as 0.500" and bore sizes from 0.062", they can be manufactured to specification from various materials such as aluminum, stainless steel, titanium, brass, and plastics.

Enabling OEMs to match design requirements for weight, strength, corrosion-resistance, and other factors, Staf-

ford Parts are suitable for commercial and military applications. Offered in sizes up to 6.00" I.D., depending upon configuration, collars and clamps are available in one-, two-piece, and hinged styles. Couplings and mounts also provide many design options. Stafford Parts for Drones are priced according to type, material, size, and quantity. Price quotations are available upon request.

For more information:

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



Drive Lines

COMBINES BEARINGS AND PROFILES FOR LIFTING APPLICATIONS

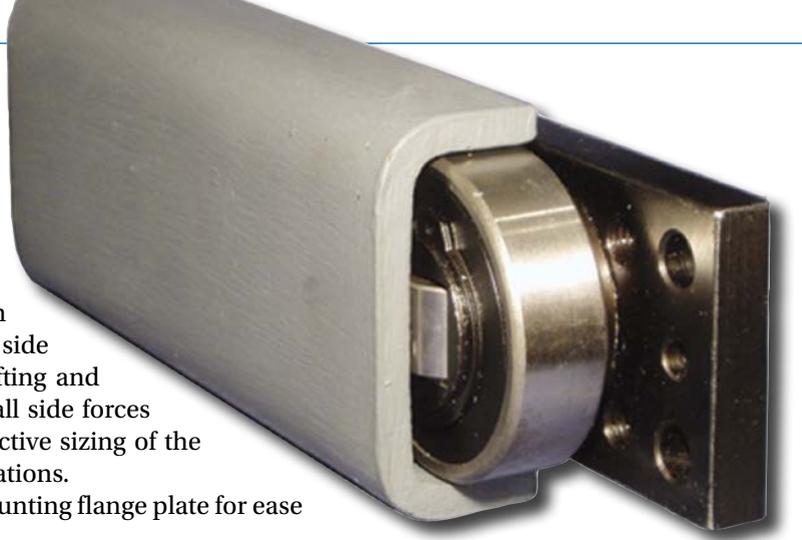
Combined bearings provide a cost-effective guide solution to lifting systems, platforms and cantilever loads. The system combines a radial bearing to take out high moment loads and a smaller axial roller to eliminate side movement. They are often used to guide screw jack lifting and sliding systems by isolating the screw jack drive from all side forces and moments, allowing for smaller and more cost-effective sizing of the screw jacks; especially under compressive buckling situations.

These combination bearings are often welded to a mounting flange plate for ease of fitment and replacement on the application. The flange plates offer a standard size with tapped and thru holes but square plates and special plates are available for ease of mounting. The flange plates are offered in standard rectangular sizes with tapped and thru holes but square plates and special plates are available for ease of mounting to customer fabrications.

The sealed and greased bearings offer robust guidance for fabrication mounting and with no external grease or oil required they are ideal for clean industrial environments. The bearings are designed to run in a hot rolled steel section in U and I configurations. These soft steel profiles are easy to machine, weld and integrate into fabrications and are sometimes used as structural members also due to the high rigidity of the sections.

For more precise applications or guidance, a complete precision rail and bearing combination is available. This is achieved by machining the inner radial bearing faces and back of the rail together with a larger diameter main radial bearing. The running tolerances are reduced which adds precision to the guidance. These sections are fine straightened and de-twisted before machining with counter bored, tapped, doweled or just clearance holes that can be precision machined along the rail lengths for mounting with fixings. Drive Lines has completed a number of high profile projects which utilized precision machine rails. These rails were machined to the clients drawing to provide a complete bespoke solution.

Drive Lines is also able to produce bespoke rail section extrusions and materials for special applications



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where a unique profile or a different material such as stainless steel is required. The company can also offer bespoke short run extrusions for minimum quantities, offering the exact rail you need to suit your application with steel traceability, ultrasonic testing and other requirements available on request.

In difficult or corrosive applications Drive Lines can provide Armoloy thin dense chromium (TDC) coating for the bearings external parts or a full set of outer and inner needle roller components. Customers can hot dip galvanize or paint the rails, creating cost effective corrosion resistance.

In summary, combined bearings are a very versatile linear guide system for heavy duty fabrications and automation projects where robust, high load and sometimes bespoke solutions are required.

For more information:

Drive Lines Technologies Ltd.
Phone: +44 (0) 1234 360689
www.drivelines.co.uk

Kübler

OPTICAL ENCODERS DELIVER ACCURACY AND RELIABILITY

Kübler's newest series of Sendix F58 encoders combines certified EtherNet/IP support with patented mechanical and electro-optic technologies that ensure accuracy and reliability. These new optical absolute single- and multi-turn EtherNet/IP encoders have a diameter of 58 mm.

The Sendix F58 encoders have a RPI time as low as 1 ms, which allows them to transmit position data about 5 times faster than many conventional encoders. This speed advantage makes the F58 encoders particularly well suited to packaging, textile and printing applications—or any other application with fast machines that could be even faster with a position sensing upgrade.

EtherNet/IP also makes the encoders easy to commission because they look start up instantly as soon as they receive power and look for

their IP address settings and configure them via software. Due to EtherNet/IP's Device Level Ring feature, the F58 encoders will not lose communication in the event of a single cable break or signal interruption.

All four models in the F58 Series use Kübler's Safety-Lock bearing design, a mechanical design feature that protects bearings from wear or damage due to shock, vibration or misalignment.

For more information:

Kübler Group
Phone: (704) 705-4710
www.kuebler.com/usa



NKE

ROLLING BEARINGS KEEP MOTORS AND GENERATORS RUNNING

Bearing manufacturer NKE Austria GmbH offers a wide range of rolling bearings for electrical machines. Particularly designed for motors and generators, the bearings are noted for their low running noise, efficient seals, high load ratings and long service life. NKE recently presented these bearings at the Electro-Mechanical Authority (EASA) Convention in Tampa, Florida, in June 2017.

Electric motors are the driving force behind most industries. In close cooperation with the customers, NKE develops bearing solutions for many types of electric machines, such as electric motors of various sizes and for various applications, e.g. vibrator motors, traction motors for rail vehicles as well as generators for hydro and wind turbines and UPS (uninterruptible power supply) systems.

The most commonly used bearing types in these applications are cylindrical roller bearings, deep groove ball bearings and angular contact ball bearings. Besides offering cost effectiveness, all bearings must operate with low noise, be durable enough to perform to the highest standards in long term operation and, for certain bearing types, have efficient seals.

Deep groove ball bearings are suitable for locating and non-locating bearing positions on small and medium-sized electric motors and generators, and for locating bearing positions on larger motors. They are ideal for high rotating speeds and moderate radial and axial loads. The bearings are quiet-running and economical. Besides the open configuration, they can also be supplied pre-lubricated with shields or seals.

For more information:

NKE Austria (Ritbearing)
Phone: (800) 431-1980
www.ritbearing.com



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