

Liebherr Components

OFFERS DIVERSE PRODUCT PORTFOLIO AT BAUMA 2018

Liebherr Components is presenting a new line of slewing bearings at this year's Bauma. Particular focus lies thereby on maximum torque and ease of service.

Liebherr is further expanding its existing slewing bearing portfolio with new slewing drive units. The new product line includes worm gear drives, pinion drives and toothed belt drives.

Liebherr's worm gear drives are ultra-compact slewing drive units with high power density. This design is particularly suitable for the transmission of extremely high forces and torques in small spaces. These worm gear drives find use in steering gearboxes of crane and heavy-duty vehicle chassis, loading cranes or agricultural equipment. Liebherr continues to develop the product specifically for these applications with the goal of maximizing torque and minimizing maintenance costs.

Slewing drive units are driven by a hydraulic or electric motor. Worm gear drives combine slewing bearings with a drive worm. The worm gearing transmits the torque to the slewing bearing without clearance. Liebherr offers a running tread diameter of up to 725 millimeters. The slewing drive units are available with single-start or doublestart, double-bearing worms, which allow for self-locking of the drive depending on the efficiency. A brake option can be adapted for all other versions. Grease or oil can be used for lubrication.

The pinion drives are generally driven via a double supported pinion. This type of slewing drive unit is characterized by a fast rotation speed with low heat development. This design is a perfect combination of Liebherr's own slewing bearings and drives.



The toothed belt drive is ideal for high circumferential speeds, high efficiency and particularly quiet operation.

The use of special material allows the component to be used in the machine environment at very low temperatures.

This new Liebherr product line further expands the range of products offered by Liebherr Components. This is possible due to the vast experience in the production of components in the area of slewing bearings and drive technology. Liebherr's innovative team is constantly working to develop and produce slewing drive units in order to meet the needs of our customers with new products.



Liebherr is also optimizing its existing product portfolio of planetary gearboxes with the LPI gearbox generation. The new series includes seven basic gearboxes from LPI 600 to LPI 1200, covering a torque range from 20,000 Nm to 335,000 Nm. Large tailor-designed gearboxes with a dynamic torque of up to 2,300,000 Nm can also be produced.

The significantly reduced complexity and standardization of the components make the gearboxes easier to configure for any application. It is predestined for lifting applications, for example in rope winches, as well as for driving applications, for example as drives for chain and crawler vehicles.

Higher output torques with optimized weight and space LPI planetary gearboxes are designed for use in both stationary and mobile applications. They impress with their high power density and score points with their minimal weight and reduced installation space. The use of new manufacturing and material technologies has increased the permissible output torques by 20% compared to existing planetary gearboxes.

A wide range of configuration options ensures that the gearboxes are ideal for all common applications in which planetary gearboxes are used.

The planetary gearboxes of the new LPI series can be equipped with different brake sizes according to customer and application requirements. Depending on the intended use, various types, such as electromagnetic brakes or multi-disc brakes, can be used.

The interfaces to the engine are even designed to allow for the effortless assembly of any commercially available electric and hydraulic motor. This ensures the best possible gearbox/ motor drive combination.

Depending on the application, the gearbox seals are designed as radial shaft seals, V-rings, mechanical seals or labyrinth seals. In the area of oil control and ventilation, the customer can choose between a large number of oil measuring devices and expansion vessels.

For more information:

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www.liebherr.com/gearboxes



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Nord Gear

INTRODUCES MAXXDRIVE XT AND OTHER TECHNOLOGIES AT GEAPS EXPOSITION

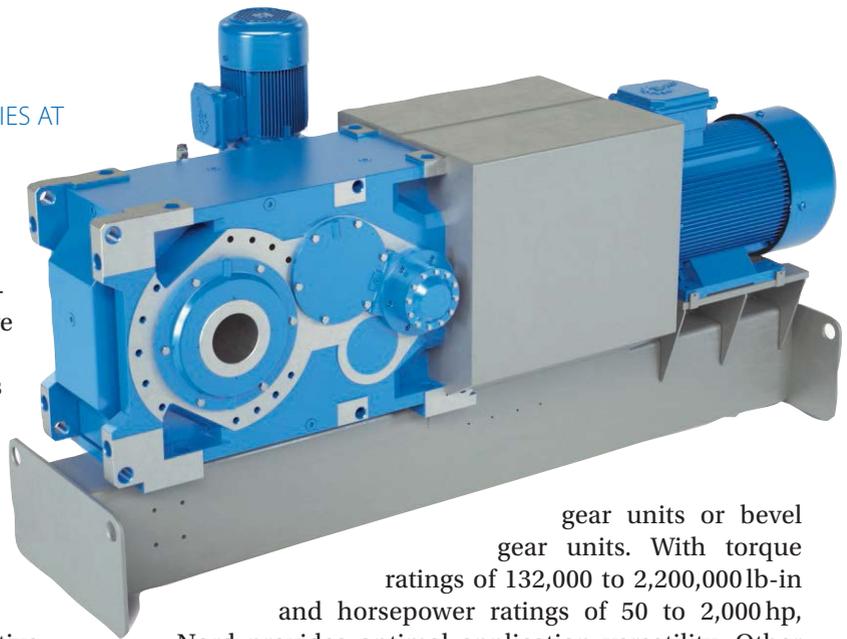
During the Grain Elevator and Processing Society (GEAPS) Exposition, March 9–12 at the Ernest N. Morial Convention Center in New Orleans, Nord Gear Corporation experts recently provided an exclusive look at new products, motors, conveyors and drive components for the grain industry.

Hani Almoghrabi, Nord's large industrial drives product manager, discussed the newly released MaxxDrive XT, which delivers a full package for bulk material handling. The optimized housing geometry allowing maximum thermal ratings among many other features and benefits were discussed by Almoghrabi during the show.

Additional product highlights included:

A Grain Endurance Package (GEP), a cost-effective bundle of product features designed specifically for grain processors. Included in the GEP is a Quadrilip sealing system, a keyless hollow shaft connection, safety cover, Donaldson T.R.A.P. breather, quick disconnects, and an oil sample port. Together the components assure long-lasting performance even in the harshest grain processing environments.

Nord's MaxxDrive series of industrial gear units, ideal for heavy duty applications, are available as parallel helical



gear units or bevel gear units. With torque ratings of 132,000 to 2,200,000 lb-in and horsepower ratings of 50 to 2,000 hp,

Nord provides optimal application versatility. Other benefits include a keyed and press-fit gear mounting system for maximum power transmission, leak-proof lubrication regardless of shaft orientation, a symmetrical housing design that provides for mirror image installations, various temperature management options, and a design that's been proven through extensive finite element analysis validation.

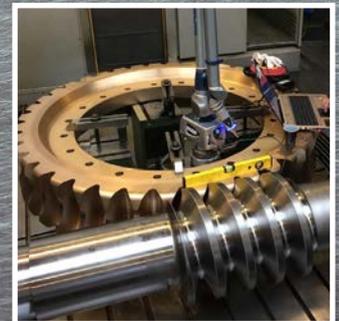
Nord's line of compact, helical bevel gear motors are available with cast iron or aluminum alloy Unicase housings, a

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wide range of flange offerings, up to 250 hp and 440,000 lb-in of torque. They're ideal for mixers, conveyor belts, mills, and other demanding applications where long service life and flexible mounting.

Nord's Screw Conveyor Package offers a compact design that simplifies installation and maintenance of any conveyor. Its Quadrilip sealing system boasts primary and secondary Viton seals, a dust lip around the output shaft, and a grease-packed felt seal for additional protection against contaminants. As with any Nord drive unit, a number of mounting orientations are available (six, in this case, as well as the option to tilt the unit at an angle), and its modular design provides tremendous flexibility in the field. This means fewer parts, greater efficiency, lower costs, and less hassle.

For more information:

Nord Gear Corporation
Phone: (888) 314-6673
www.nord.com

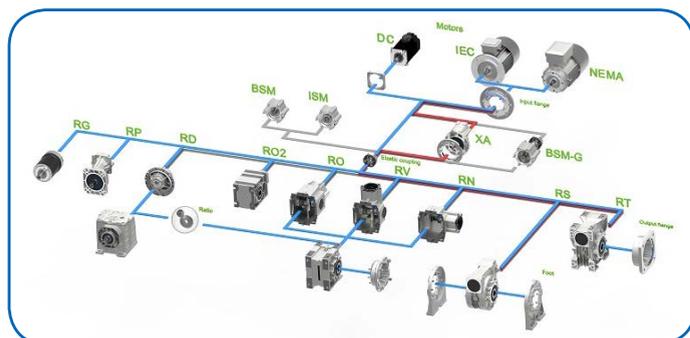
Varvel Group

FOCUSES ON HIGH MODULAR GEARBOXES

The need to keep customers in all parts of the world constantly supplied while minimizing stock in distributors' warehouses, and a range of gearboxes offering many thousands of possible configurations were the two elements that encouraged Varvel to develop the concept of modularity and design end products that could be configured in just a few simple steps using kits. Today, modular design is a key strength and has made Varvel a model for advanced Italian engineering.

Varvel is present in over 60 countries around the world. In 2000, the company decided to extend the concept of modularity already applied to its worm gearboxes to its entire product range. Varvel's parallel shaft and bevel-helical gearbox and gearmotor ranges were the result of this decision.

Today, Varvel's entire product range, which extends up to 3,400 Nm of transmissible output torque and 22 kW of installable power, is designed and made using modular kits to create thousands of different configurations. Every parallel shaft and bevel-helical gearbox is made up of an input kit (motor flange and coupling), an intermediate kit (gear pair) and an output kit (casing, output shaft and gear train) to which accessory kits (like torque arms, feet, flanges etc.) can be



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added. Within each size, kits can easily be selected to create different gearbox types (parallel shaft or bevel-helical), different reduction ratios and an impressive choice of outputs (shafts) and inputs (motor sizes).

The main beneficiaries of such high modularity is Varvel's distribution network of over 100 commercial partners around the world. Varvel's modular kits have led to a dramatic reduction in stock and lower costs for distributors and dealers while permitting an excellent level of service. This win-win solution has proved a tremendous advantage not just for Varvel but for all stakeholders.

Modularity has brought with it an economic and competitive advantage that is achieving excellent results even in the United States, where Varvel opened a subsidiary in 2017. The U.S. market has responded to the Varvel formula in an extremely positive manner and Varvel's high modularity is proving a distinctive feature with respect to the local competition.

With digital solutions becoming more important every day, Varvel has introduced *VARsize* to support its "mechanical modularity." *VARsize* software allows users to select exactly the right size for their needs and even provides 3D models instantly. All Varvel products can now be configured and assembled quickly and easily anywhere in the world.

Varvel's emphasis on modularity is not just a matter of strategic marketing but also a major enhancement for distributors and dealers, who can add value to their local services and play a far larger role without incurring excessive

costs. In business, everybody has to perform to the best of their ability in pursuit of a common objective. In this context, modularity represents a valid systemic model and a way to optimize the supply chain to the advantage of all concerned.

For more information:

Varvel Group
Phone: (770) 217-4567
www.varvel.com

Bonfiglioli

OFFERS SLEW DRIVE SOLUTIONS FOR AUSTRALIAN PORT FACILITY

With the increased trade with Asia and the growing Australian economy, port facilities have greatly expanded in recent years. Stacker reclaimers are playing a key role in this, allowing stacking, blending and reclaiming of bulk material. This typical application involves long work hours in harsh environments and extremely heavy handling, so the choice of a resistant, efficient drive solution is critical.

Thanks to its local Customer Application Engineering team, Bonfiglioli Australia has helped its customer develop a customized solution that can boost the machine, consume less energy and provide ultimate reliability.

The two slews use three Bonfiglioli 316 planetary bevel



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gearbox slew drives, with one spare always available to minimize downtime and production loss. Installed to power a stacker reclaimer for the stockpile area at a major Australian ship loading facility this solution delivers safety, durability and performance.

“Despite the engineering complexity and specifying nothing but top-quality parts from Australia and Italy, Bonfiglioli’s drives were still more cost-effective than the older drives they were replacing,” says Bonfiglioli Lead Project Engineer, Harry Singh.

The slew drives are vital to operational efficiency, and to ensure smooth operation at all times, Bonfiglioli’s slew drives offer double backup for enhanced safety.

“In addition to the usual torque limiter found on most drives, these custom-engineered slew drives have a secondary encoder on the bevel stage. This has sensors to measure the drive at slow speeds and send data to the PLC [programmable logic controller], which will stop the drive if any problems are detected,” says Singh.

To provide additional safety for hassle-free operation, these drives feature a secondary sensing device (proxy sensors) that can identify any marginal speed errors between the motor and gearbox shaft. The sensors and all component parts of the drive were sourced from globally proven and ISO-certified brands.

Thanks to its highly qualified local team and its global capacities, Bonfiglioli has supplied extremely customized slew drives to suit the customer’s unique application requirements.

“When designing these drives, our Customer Application engineers built upon a safe, durable, reliable base – the 316 slew drive – and added additional safety and efficiency features to suit the customer’s requirements,” says Bonfiglioli Australia Country Manager, Malcolm Lewis.

All Bonfiglioli slew drives are easy to install and have precise torque control to ensure smooth, accurate performance in a wide range of applications.

For more information:

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Mitsubishi Electric Automation

OFFERS HANDHELD MODELS FOR GOT2000 SERIES HMI

Making it easier than ever for machine operators and maintenance personnel to monitor and control machine components, Mitsubishi Electric Automation introduces handheld models for its GOT2000 Series, a human machine interface (HMI) that optimizes operator control and monitoring of device and line status. The GT25 Handy GOT, a portable interface offered in both 5.7-inch and 6.5-inch models, connects to industrial automation devices, including programmable logic controllers (PLC), variable frequency drives, servos and temperature controllers.

The handheld HMI displays information on a high resolution VGA touchscreen and allows operators to easily carry it with one hand. While its compact design allows operators to work wherever they can best observe physical machine changes, the GT25 Handy GOT provides powerful functionality.

“Freedom of movement allows users to take the HMI around the machine and make changes or monitor



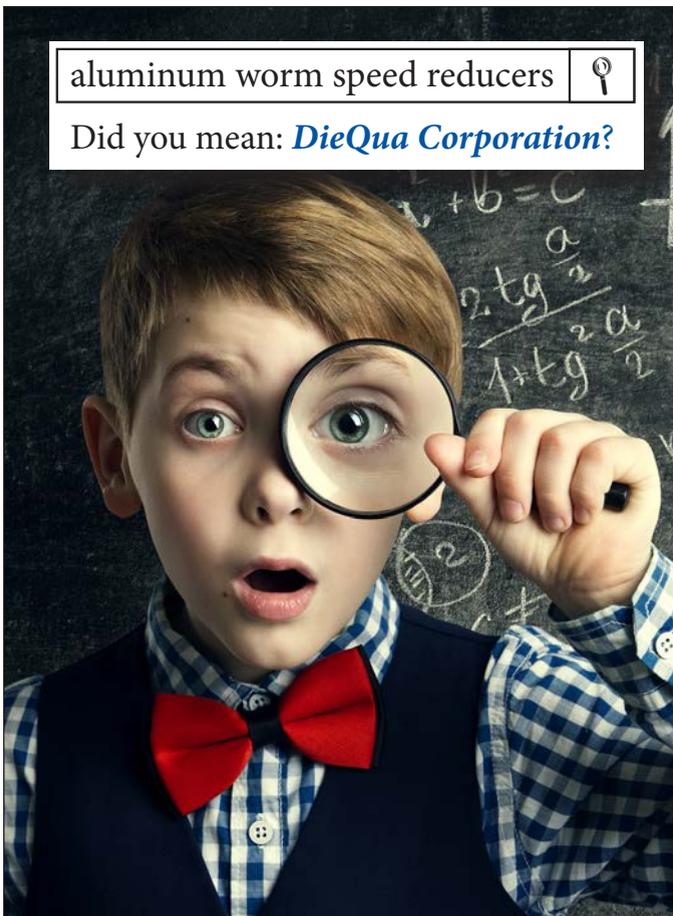
status from a convenient location, which is a huge benefit for maintenance personnel and machine operators in a variety of industries, especially automotive,” stated Lee Cheung, product marketing engineer, Mitsubishi Electric Automation, Inc. “The GT25 Handy GOT is an external connection interface, so it can be easily connected or removed as needed.”

The GT25 Handy GOT can be used in any application that involves local setup, operation, monitoring and maintenance of system components from a graphical interface in which mobility is required. It can also be used as a teach pendant for robots. Multiple safety and security measures, such as an emergency stop switch and an enable switch

keep the operator safe in case of emergency.

For more information:

Mitsubishi Electric Automation, Inc.
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INTRODUCES FLEXIBLE COUPLING EQUIPPED WITH VIBRATION DAMPING TECHNOLOGY

Stock Drive Products/Sterling Instrument (SDP/SI), a leader in providing mechanical based design, engineering, and precision manufacturing services for critical motion control and small power transmission applications has introduced several new series of high-gain couplings.

These Antivibration Flexible Couplings are designed for use with high gain servomotors. When a servomotor drives a mechanism, as in applications such as semiconductor manufacturing equipment, blood analyzers or high speed printers, a change in direction causes a phenomenon called hunting. Hunting is vibration in the system which reduces transit time making the equipment less efficient.

The Antivibration Flexible Coupling features a unique construction of vibration reducing rubber (FKM) molded with aluminum hubs. The resulting rubber lined finger-like structure allows for optimal torsional rigidity and damping. Three types are available in bore sizes 3 mm thru 16 mm, compact (S50GS2MA...), high-torque (S50GT2MA...), and long (S50GL2MA...). The sixty-one Antivibration Flexible Couplings are available as standard catalog items and can be easily purchased through the sales department or online at the SDP/SI E-Store. Detailed product specifications are available on the website.

SDP/SI offers a wide variety of mechanical component choices for the engineer, including a comprehensive selection of rigid and flexible couplings. Sr. Development Engineer, Mike Yandolino said, "The addition of this new precision flexible coupling line provides our customers with the very best solution for use in high speed and high precision servo systems."



Yandolino continued, "Providing position accuracy, vibration reduction, zero backlash, and quiet operation this coupling will become the preferred choice for many applications." The high torque capability of the coupling results in the ability to downsize the component used.

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