

# Drive Solutions for the Crane Industry

Complete drive solutions from a single source



**DRIVESYSTEMS**

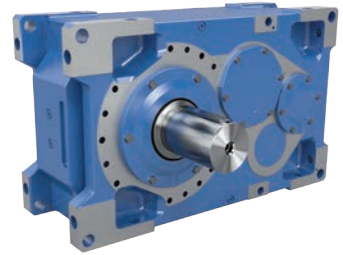
Our Solution. Your Success.

# Complete Drive Solutions from a Single Source



## NORD Delivers

NORD offers first-class customer service and support along with full-featured drive solutions that can tackle the toughest requirements. All components are carefully selected and precisely configured to meet your exact specifications. In the rare case that standard components won't meet your needs, our in-house engineering team will work with you to design custom components or a complete customized system.



## Reduce Lead Times and Decrease Inventory

- ▶ Fastest lead times in the industry with NO expedite fees
- ▶ Over 20,000,000 standard configurations to reduce or eliminate the need for custom components
- ▶ Modular drives, motors, and electronic controls minimize inventory of replacement units and parts



## Global Product Designs, Standards, and Support

- ▶ Innovative, industry-standard products to support a wide range of applications
- ▶ Global sales and support network
- ▶ Dedicated mechanical and electrical application engineers ready to assist you
- ▶ Online resources available to you any time
- ▶ 24/7/365 emergency breakdown service



## Increase Efficiency and Reduce Operation Costs

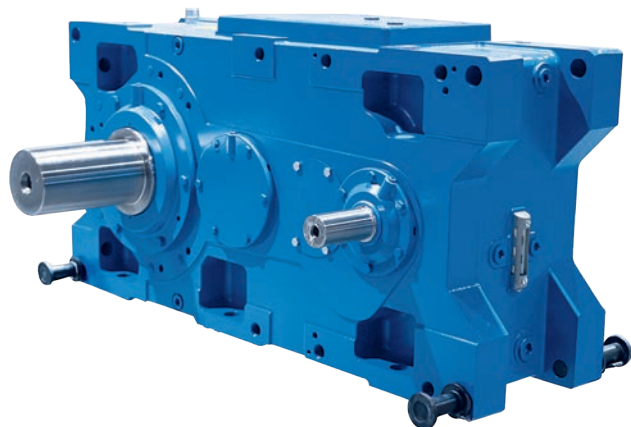
- ▶ myNORD online tools for fast selection, configuration, ordering, and tracking of your drive units
- ▶ Drive systems that are perfectly matched to your application for optimum performance and energy efficiency
- ▶ Program personalization, such as weekly shipment schedules and custom nameplates
- ▶ Partner with a company that is easy to do business with and wants to see you succeed!





### Advantages of NORD Solutions:

- ▶ Units specially designed for crane systems
- ▶ Reliable operation
- ▶ Easy maintenance
- ▶ Lower Total Cost of Ownership (TCO)
- ▶ Energy savings
- ▶ Project and product support
- ▶ Global NORD sales and support network



# Drive Solutions for the Crane Industry

## 1 Lifting Gear Drives

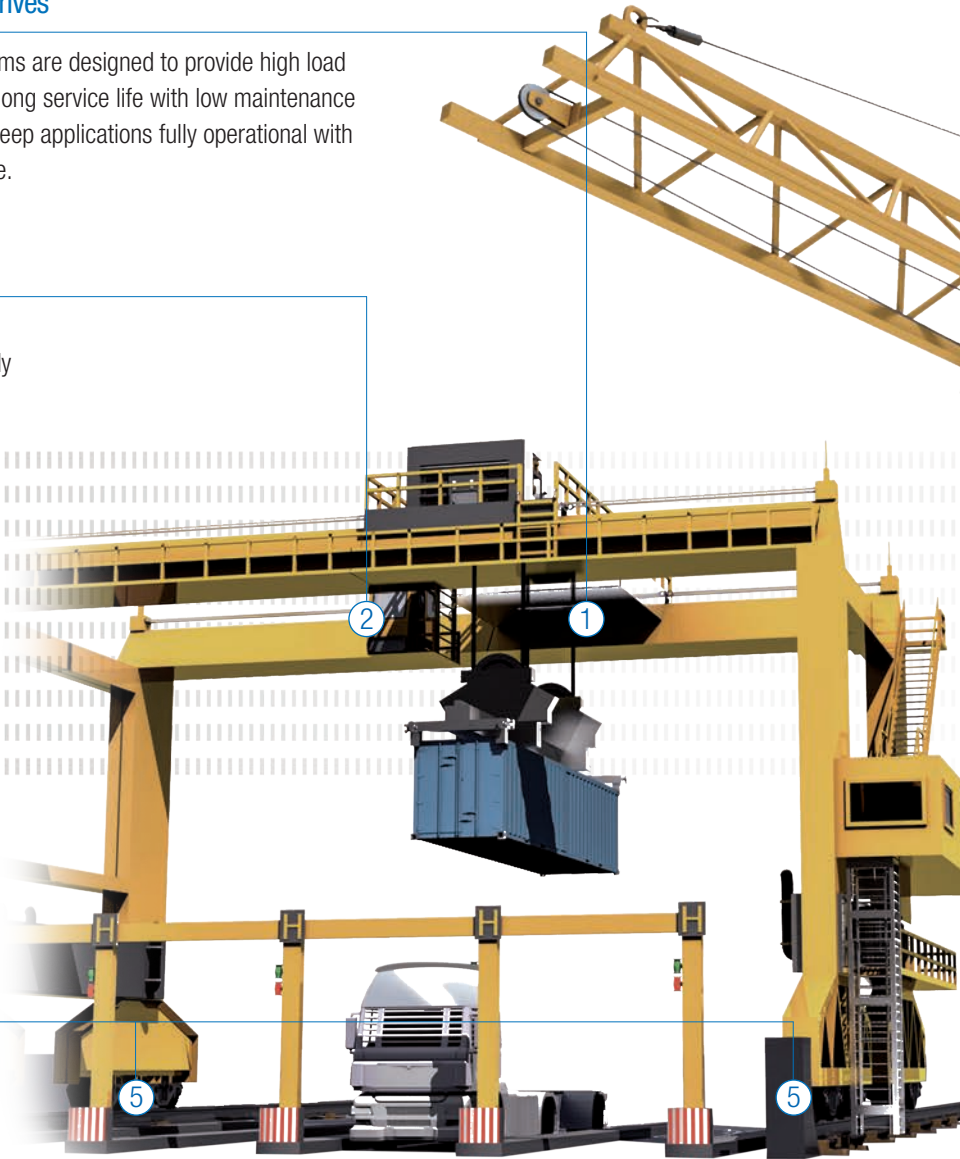
NORD drive systems are designed to provide high load tolerances and a long service life with low maintenance requirements to keep applications fully operational with minimal downtime.

## 2 Cross-Travel Drives

Cranes operate in at least two different directions to move loads. NORD geared motor drives ensure a steady operation of loading and unloading systems.

## 5 Travel Drives

NORD's modular drive system is flexible, versatile, and adaptable to fit specific application needs.



NORD DRIVESYSTEMS is one of the world's leading drive technology manufacturers. Our industry-specific, innovative drive solutions are used throughout the world for a wide variety of applications in the crane industry.

We know your business, precisely understand your requirements, and strive for long-term collaboration with our customers and partners. You can be confident that we will do everything that we can to reinforce the reputation of your brand.

### 3 Jib Crane Drives

Crane systems automated by NORD geared motor drives deliver increased reliability, safety, and efficiency. UNICASE housings without open gears, chains, or belts reduce maintenance and inspection time for longer service life.

### 4 Swivel Drives

Swivel drives require precise positioning and control to prevent hazards from suspended, swaying loads. NORD's intelligent drive systems are engineered for precision and reliability to protect both operators and materials.

### NORD DRIVESYSTEMS Provides:

- ▶ Extensive knowledge of applications and technical support
- ▶ Complete drive solutions from a single source
- ▶ Strong global presence and service
- ▶ Thousands of installed drives in crane systems
- ▶ Wide range of products with high quality standards
- ▶ Great reliability, economy, and service life
- ▶ Recognized product quality compliant with international standards

# Drive Solutions for the Crane Industry

Cranes must safely pick up loads and set them down gently at precise locations. This requires specialized drives, integrated brakes, and intelligent variable frequency drives to ensure soft starts and braking via defined adjustable ramps. Smooth motion with high positioning accuracy is essential for crane operation as these machines are often required to work with the simultaneous movements of trolleys and travelling drives.

## NORD Offers Drive Solutions for:

- ▶ Bridge cranes
- ▶ Wall-mounted cranes
- ▶ Portal cranes
- ▶ Traveling cranes
- ▶ Building cranes
- ▶ Jib cranes
- ▶ Floating cranes
- ▶ Container cranes
- ▶ Harbor cranes



### Cross-Travel Drives

NORD's robust drives are capable of moving large cross-travel systems along tracks and positioning them precisely.

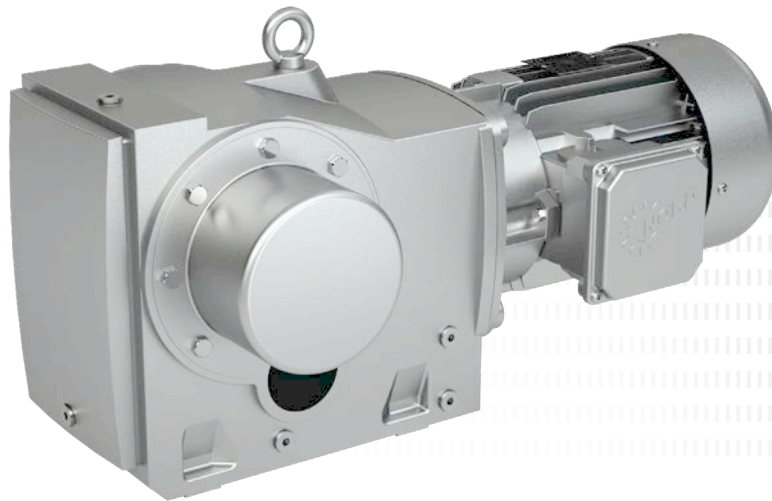
- ▶ Heavy-duty, UNICASE housing
- ▶ Corrosion resistant – suitable for outdoor use and severe weather
- ▶ High load capacity
- ▶ Optional dust and corrosion-protected brakes



### Lifting Gear Drives

In lifting gear drive applications such as industrial crane winches, NORD units provide reliability while lifting heavy loads efficiently and safely.

- ▶ High overload and torque capacity
- ▶ Safety stop functions
- ▶ Robust design for long life and easy maintenance



### Jib Crane Drives

NORD units provide high starting torques to effectively lift, hold, raise, stop, and lower crane loads. Integrated encoders further stabilize machines to improve safety and increase overall system productivity.

- ▶ Soft start, brake ramps, and STO functions
- ▶ Easy to service and maintain
- ▶ Integrated PLC functionality



### Travel Drives

Variable frequency drives can be synchronized for gear units to work in tandem to hoist and move loads for trolley or travel applications.

- ▶ Compact, energy efficient design
- ▶ Units can be proactively maintained to avoid breakdown
- ▶ Integrated PLC functionality
- ▶ Designed to perform in high humidity, high/low temperatures, dust, and other extreme environments



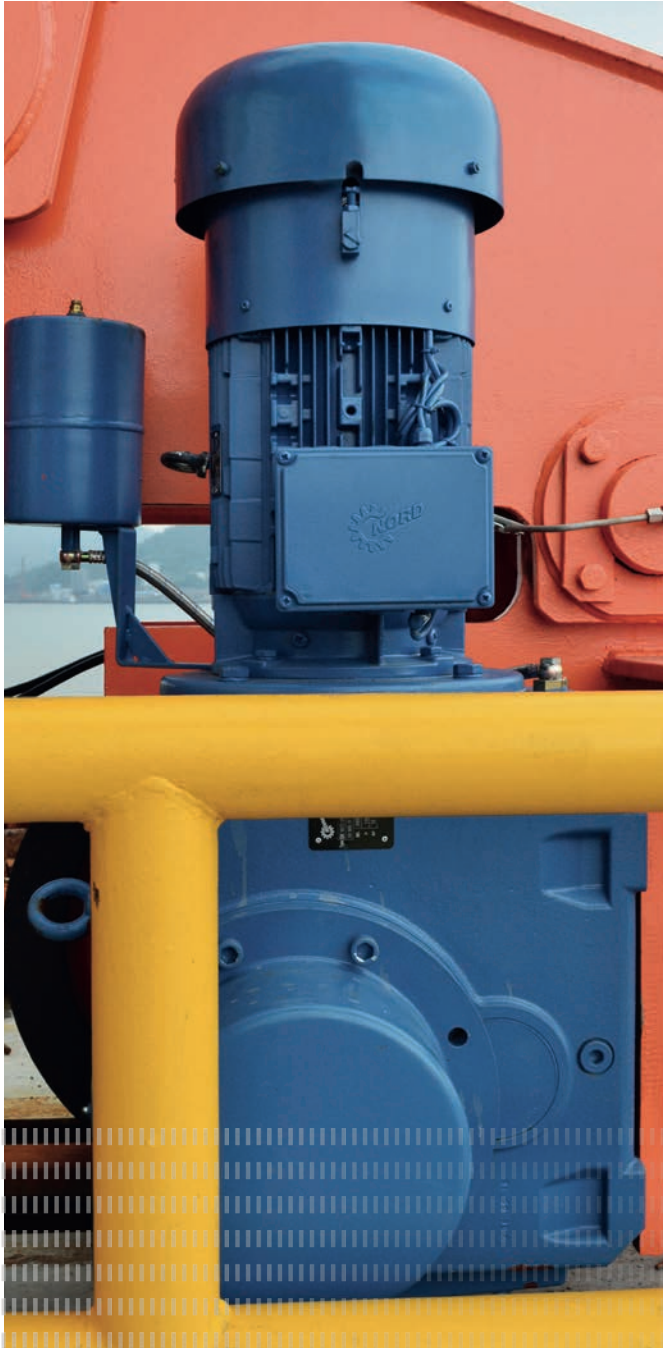
### Swivel Drives

NORD VFDs can be easily programmed to ensure steady operation and efficiency for swivel drive applications.

- ▶ Precise speed and positioning
- ▶ High overload and torque capacity
- ▶ Brakes designed for smooth stops
- ▶ Low maintenance

# Drive Solutions for the Crane Industry

Efficient, Reliable, and Proven Drive Solutions From a Single Source



## Efficient

NORD drive solutions are environmentally friendly, fulfill all current national and international energy saving standards, and help to minimize CO<sub>2</sub> emissions.

- ▶ NORD motors with low mass inertia are designed for VFD operation and comply with the latest international energy requirements.
- ▶ NORD motors for all requirements, including IE3, IE4, and IE5+
- ▶ Intelligent NORD variable frequency drives with energy saving flux reduction for optimal operation under partial load or low speeds.
- ▶ Easy to service and maintain, NORD drives reduce standstill times and thus contribute to an increased efficiency and availability of the entire system.

## Reliable

Reliability is our main focus when developing drive solutions for the crane industry as it is vital to avoid breakdowns. All of our system components are precisely matched to each other and ensure smooth operation.

- ▶ One-piece UNICASE™ housings ensure precise positioning of bearings and shafts
- ▶ AUTOVENT™ for a leak-free design
- ▶ Precisely machined gear wheels with minimum wear
- ▶ Extremely robust gear units deliver quiet operation and long service life.
- ▶ NORD VFDs electronically protect the drive system and can visualize the operating data.

## Tried and Tested

Demanding environments are common in the crane industry. These include extreme temperatures, dusty environments, and environments with high humidity. NORD specialized solutions for these environments have proven themselves throughout the world in over 100 industries.

- ▶ Explosion protected motors (ATEX, NEC) for Zone 1/21 and Zone 2/22 explosion hazard areas.
- ▶ Individual solutions customized to customer requirements so that functionality in all situations is ensured.
- ▶ NORD offers a variety of gearbox and motor protection options like condensation drain holes, space heaters, resin sealed terminal boxes, motor drip covers, and more.





# Drive Solutions for the Crane Industry

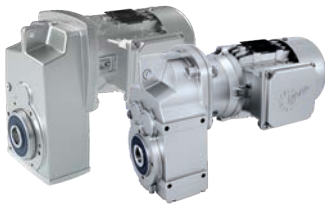
## UNICASE™ Helical Inline Gear Units (Catalog G1000)



- ✓ Foot or flange mounted
- ✓ Long life, low maintenance
- ✓ Closely stepped ratios
- ✓ Cast-iron UNICASE housing

Sizes: 11  
Power: 0.16 – 200 hp  
Torque: 89 – 230,119 lb-in  
Ratio: 2.76:1 – 14,340.31:1

## UNICASE™ Parallel Shaft Gear Units (Catalog G1000)



- ✓ Foot, flange, or shaft mounted
- ✓ Hollow or solid shaft
- ✓ Compact design
- ✓ Cast-iron or aluminum UNICASE housing

Sizes: 15  
Power: 0.16 – 200 hp  
Torque: 974 – 680,200 lb-in  
Ratio: 4.03:1 – 15,685.03:1

## UNICASE™ Helical Bevel Gear Units (Catalog G1000)



- ✓ Foot, flange, or shaft mounted
- ✓ Hollow or solid shaft
- ✓ Cast-iron UNICASE housing
- ✓ Closely-stepped ratios

Sizes: 11  
Power: 0.16 – 200 hp  
Torque: 1,593 – 442,537 lb-in  
Ratio: 8.04:1 – 13,432.68:1

## NORDAC® FLEX SK 200E Variable Frequency Drives (Catalog E3000)



- ✓ Energy saving function
- ✓ Integrated POSICON positioning control
- ✓ Integrated PLC

Sizes: 4  
Voltage: 1~ 110 – 120 V, 1~ 200 – 240 V, 3~ 200 – 240 V, 3~ 380 – 500 V  
Power: 0.33 – 30 hp

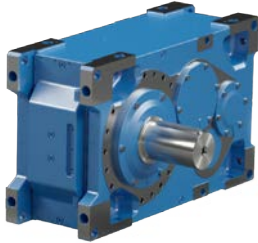
## NORDAC® PRO SK 500P Variable Frequency Drives (Catalog E3000)



- ✓ Precise current vector control with high overload reserves for operating asynchronous and synchronous motors
- ✓ Universal interface for real time Ethernet
- ✓ Integrated PLC for drive-related functions even in the basic device

Size: 5  
Voltage: 1~ 200 – 240 V, 3~ 380 – 480 V  
Power: 0.33 – 30 hp

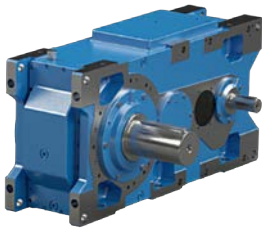
## MAXXDRIVE® Industrial Gear Units (Catalog G1050)



- ▶ Parallel and angled gear units
- ▶ High precision axis alignment
- ▶ Cast-iron UNICASE housing
- ▶ Long life, low maintenance

Size: 11  
 Power: 2.00 – 8,075 hp  
 Torque: 132,800 – 2,495,900 lb-in  
 Ratio: 5.54:1 – 30,000:1

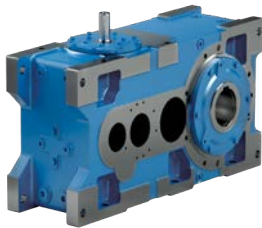
## MAXXDRIVE® XD Parallel Industrial Gear Units (Flyer S1056)



- ▶ 3- and 4-stage reductions feature same footprint dimensions
- ▶ Center distance increased by +35%
- ▶ Optimized housing for downward radial loads
- ▶ Ideal for lifting equipment

Size: 10  
 Power: 1.00 – 8,075 hp  
 Torque: 60,200 – 2,496,000 lb-in  
 Ratio: 5.6:1 – 400:1

## MAXXDRIVE® XJ Right-Angle Industrial Gear Units



- ▶ 3-stage
- ▶ New input shaft position “J-Mount”
- ▶ Horizontal and vertical installation positions
- ▶ Modular and flexible

Size: 5  
 Power: 7.50 – 1,710 hp  
 Torque: 132,761 – 947,030 lb-in  
 Ratio: 12.5:1 – 100:1

## Motors (Catalog M7000)



- ▶ IE3 motors from 0.16 – 75 hp (Sizes 63 – 250)
- ▶ IE4 synchronous and asynchronous motors from 1.50 – 7.50 hp (Sizes 80 – 100)
- ▶ IE5+ asynchronous motors (Sizes 71, 90)  
 Ventilated (TEFC): 0.50 – 5.00 hp  
 Non-ventilated (TENV): 0.50 – 3.00 hp

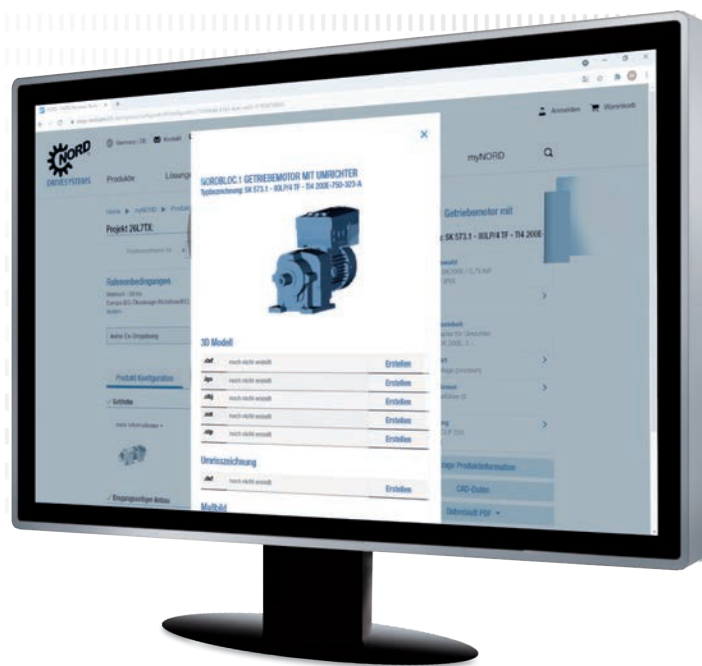
### Explosion Protected Drive Solutions

- ▶ Versions and equipment according to individual requirements
- ▶ Configuration processes validated according to ISO 9001
- ▶ Safe, SAP-supported modular system

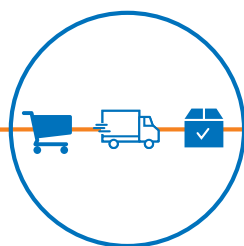
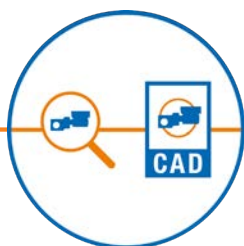
Dust explosion protected motors	Gas explosion protected gear units	Hazardous locations
▶ Category 2D or 3D, Zone 21 or 22	▶ Category 2D or 3D, Zone 21 or 22	▶ Class I, Division 2 Groups A, B, C, D
▶ According to EN 60079-31	▶ According to EN 13463	▶ Class II, Division 2 Groups F and G
▶ Ignition protection type Ex t (protected by housing)	▶ Ignition protection Type C (design safety)	Temp Code T3B

# Ordering is Easy With myNORD Online Tools!

- ▶ Obtain drawing files direct from quote configuration
- ▶ Effortlessly select & configure customized drive solutions
- ▶ Create quotes with account-specific net pricing
- ▶ Order-specific documentation
- ▶ 24/7/365 order tracking
- ▶ Select and order spare parts



Register now at [myNORD.com](http://myNORD.com)!



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