

Intelligent Drivesystems, Worldwide Services



® GB

**Drive solutions for
crane applications**

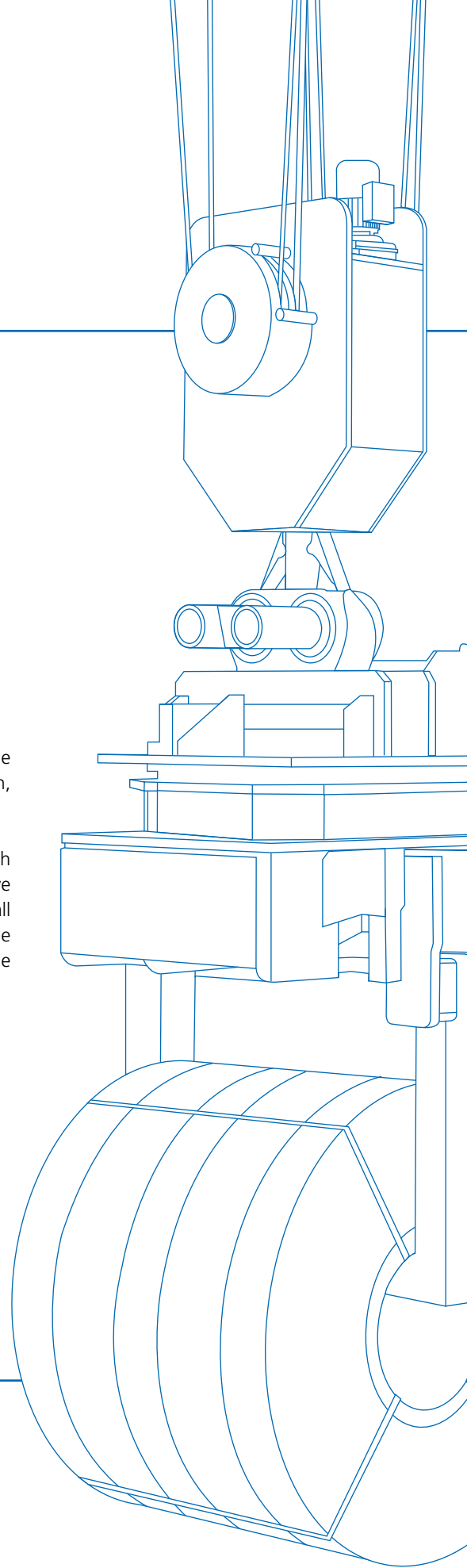
NORD
DRIVESYSTEMS

Partners in Motion

Efficient and safe

The efficient and safe automation of the internal material flows requires dependable partners in all relevant areas - from planning and configuration up to implementation, commissioning and long-term service and maintenance concepts.

For more than 45 years, NORD DRIVESYSTEMS has been at home in almost every branch of industry, where conveyor solutions are used for internal transport logistics. Our drive components and systems are essential wherever things need to be moved, because all movement needs a drive - as efficiently and safely as possible. Because of this, we provide the entire spectrum of mechanical, electrical and electronic drive technology from a single source, from motors and gear units to central and decentralised control technology.





NORD DRIVESYSTEMS:

- Highest standards of technology and quality
- Comprehensive advice on systems and products
- High availability and fast service throughout the world



Efficient intralogistics solutions

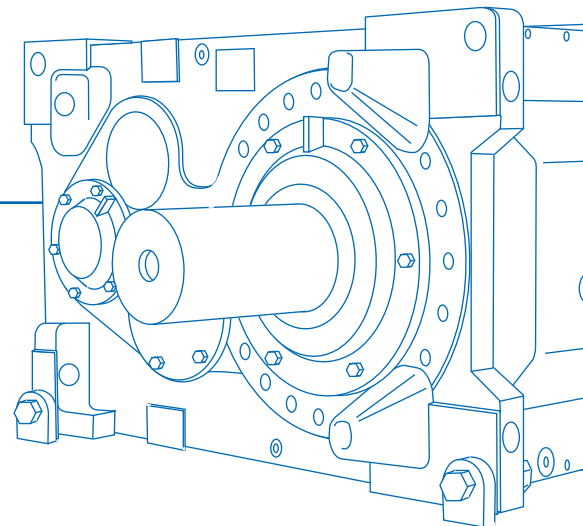
Safe and efficient drive technology for cranes

The tasks of cranes in picking up loads, and setting them down gently at a precise location requires special drives and integrated brakes as well as a frequency inverter technology, which ensures a soft start and generator braking via defined adjustable ramps. Smooth motion with high positioning accuracy is essential - and is often required with the simultaneous movement of the crane and the trolley as well as the control and synchronous operation for travelling drives. This places the very highest demands on the drive systems used.

Throughout the world, manufacturers of cranes and trolleys rely on parallel shaft geared motors from NORD with power ratings up to 200 kW and a wide range of gear ratios. Speeds are around 80 m/min for crane movement and 32 m/min for trolley movement, with accelerations of 0.2 m/sec. Two or three-stage basic types are available with hollow or solid shafts, in foot mounted, flange mounted or face mounted versions, each with the same housing. The unicas concept enables parallel shaft gear units with high output power and extremely compact gear unit dimensions. These in turn can be combined with many elements of the NORD modular system.

A further emphasis is on bevel gear units, usually with hollow shafts and torque arms. With this drive version, the large range of standard components also allows the gear unit to be precisely matched to the requirements of the application. In addition to the high efficiency of gear units with helical, parallel shaft, bevel and worm gears, there are further decisive benefits to operators: highest operational reliability, high output torques, high axial and radial load capacity, quiet running, high efficiency, reduced maintenance and longer operating life.

Additionally, products with protection classes IP55 and IP66 as well as rust and dust-protected versions with a special coating are used. Furthermore, gear units may also be filled with synthetic oil if the cranes are to be used at high temperatures, for example in foundries.



The selection of the right drive components for the optimisation of internal processes is decisive for the efficiency and safety of your conveyor systems. High productivity, innovative technology and the worldwide presence of NORD DRIVESYSTEMS guarantee a high level of customer satisfaction.



Crane travelling drives:

NORD bevel gear unit with hollow shafts and torque arm. Synchronous running is achieved with NORD SK 500E series frequency inverters.

Lifting drives:

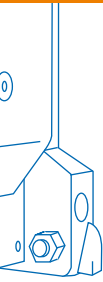
NORD foot-mounted parallel shaft gear motors with hollow shaft and shrink disc. The compact design of the gear unit allows the configuration of two cable drums in a very small space.

Travelling drive:

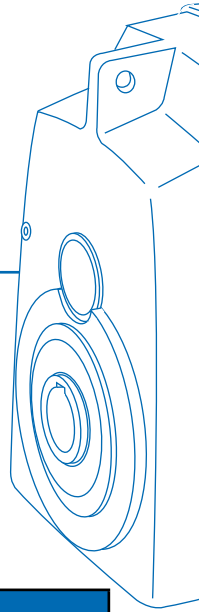
Parallel shaft gear unit with hollow shaft and fixing element



- Increased use of power in start-stop operation due to high overload capacity of the drive units.
- Several drive units can be centrally controlled with NORD drive electronics, e.g. in synchronised operation.
- Can be used even with long standstill times, e.g. in seasonal operation under very harsh conditions.
- High protection classes and special coatings.
- NORD specialists are always available for your special requirements.



Crane and trolley drive units



Parallel shaft gear units

<ul style="list-style-type: none"> • Face mounted, foot or flange mounted versions • Hollow or solid shaft • Short design • UNICASE 	Sizes	15
	kW	0,12 – 200
	Nm	65 – 90.000
	i	4,03 : 1 – 6.616,79 : 1



3-stage bevel gear drive units

<ul style="list-style-type: none"> • Up to 95 % efficiency • Face-mounted, foot or flange mounted versions • Hollow or solid shaft • UNICASE 	Sizes	11
	kW	0,12 – 200
	Nm	180 – 50.000
	i	8,04 : 1 – 13.432,68 : 1

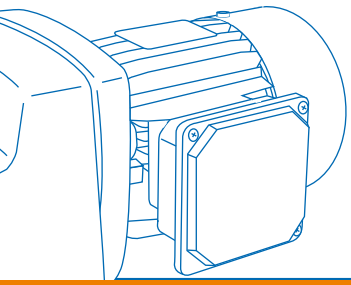


Industrial gear units

<ul style="list-style-type: none"> • Parallel shaft and bevel gear versions • UNICASE design • Temperature management • Various sensors • Various sealing systems 	Sizes	8
	kW	2,2 – 1.000
	kNm	25/30/40/50/74/101/141/242
	i	5,54 : 1 – 1.600,00 : 1



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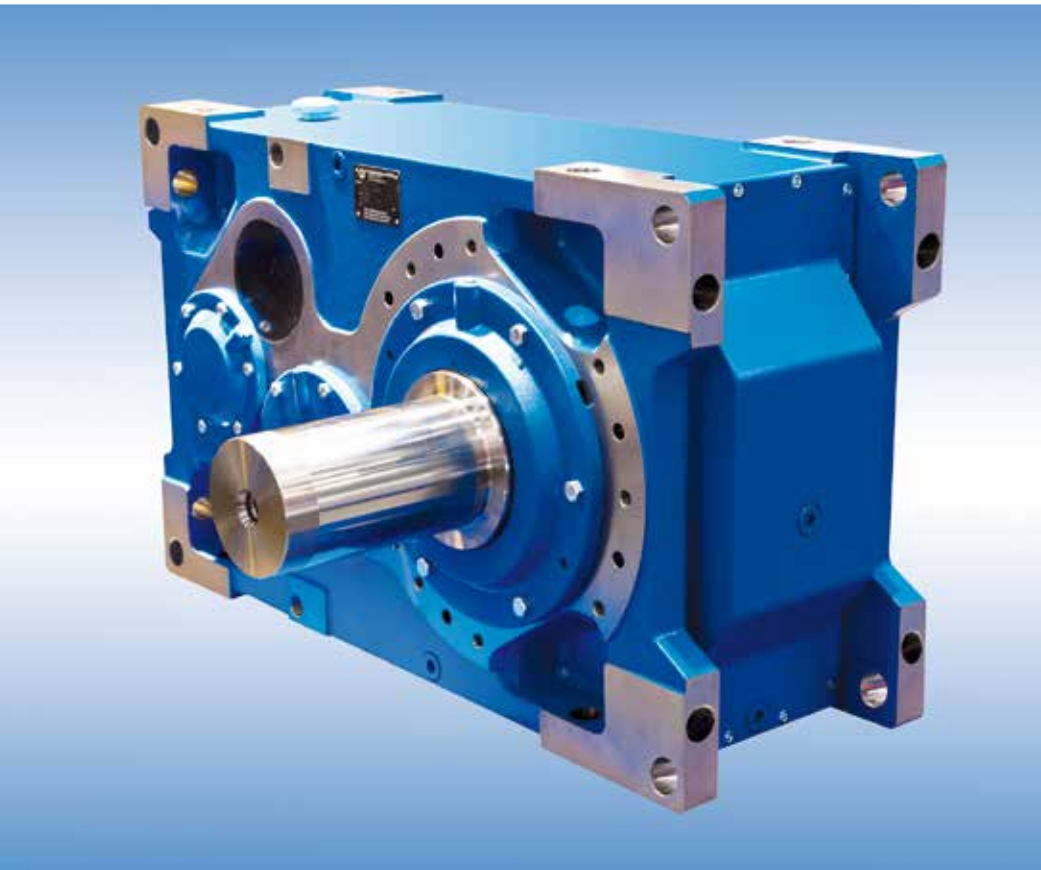


The UNICASE concept

A closed housing, which encloses all the elements of the gear unit, is milled from a solid block of steel or aluminium.

NORD is the only manufacturer which produces modular industrial gear units with an output torque of 242,000 Nm in a one-piece UNICASE housing.

- A single housing block in which all bearings are integrated
- Complete machining in one step
- High output torque capabilities
- High axial and radial loads
- Great reliability
- Long service life
- Quiet running

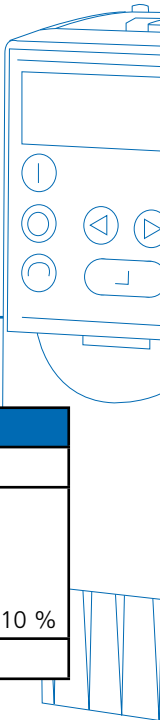


NORD UNICASE design since 1981

In the 1980s, NORD DRIVESYSTEMS engineers developed the most important innovation in gear unit construction: the UNICASE concept, which unites all gear elements in a single closed housing. The innovative concept soon became established on the market and is now standard.



Frequency inverters and accessories



SK 500E		
<ul style="list-style-type: none"> • Compact design • Energy-saving function • Performance tailored to the application (e. g. "Posicon" positioning control) • Push-on modules for control and communication (field bus) • Ethernet based BUS systems 	Sizes	10
	U(V)	1 - 110 ... 120 ±10 % 1/3 - 200 ... 240 ±10 % 3 - 200 ... 240 ±10 % 3 - 380 ... 480 -20 % / +10 %
	P(kW)	0,25 – 90

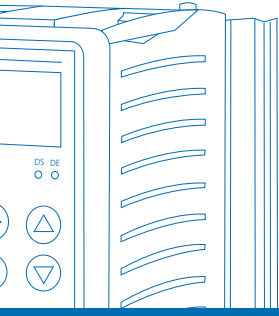


SK 200E		
<ul style="list-style-type: none"> • "Safe Stop" compliant with EN 954-1 • Commissioning via integrated DIP switches and potentiometer possible • Energy-saving function • Ethernet based BUS systems • Performance tailored to the application • Decentralised modules in system network • Integrated "Posicon" positioning control • On-board version of AS interface 	Sizes	4
	U(V)	1 - 100 ... 120 ±10 % 1 - 200 ... 240 ±10 % 3 - 200 ... 240 ±10 % 3 - 380 ... 500 -20 % / +10 %
	P(kW)	0,25 – 22

Braking technology	Encoder, feedback systems	Option: Double shaft sealing rings + sealing material
<ul style="list-style-type: none"> • Electro-magnetic spring-loaded brakes • Working or holding brake • Double brake • IP66 brake • Rust protection • Dust protection • MiK air gap/wear monitoring 	<ul style="list-style-type: none"> • Encoders <ul style="list-style-type: none"> - Incremental, TTL/HTL/sin-cos - Absolute, single or multi-turn • Sensor bearing • Inductive sensors 	<ul style="list-style-type: none"> • Optimum sealing • Long- life seals • Clean gearbox oil • Stainless shafts



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SK 500E

NORD DRIVESYSTEMS offers intelligent, cost effective drive solutions with the frequency inverters in the SK 500E product series and their saleable equipment options, all of which are fully compatible with regard to their performance range, supply voltage and sizes.



SK 200E

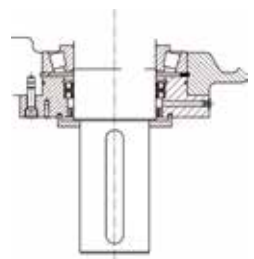
SK 200E inverters are available with almost the same range of functions as the SK 500E models. The spectrum of applications ranges from simple drive functions to complex positioning control.

Taconite sealing systems

- Can be re-lubricated
- Labyrinth seals
- For extreme ambient conditions

Positive and non-positive shaft connections

- Shrink discs
- Shaft with one or two parallel keys
- DIN 5480-compliant gear tolerances



Intelligent drive systems from a single source

NORD DRIVESYSTEMS drive solutions are based on the principle of the function pyramid: Motors, control units and gears are just as much components as our extensive range of system modules such as planning, project management, installation and service.

NORD DRIVESYSTEMS produces helical, parallel shaft, bevel gear and worm gear units and is the only manufacturer in the world which produces industrial gear units up to 242 kNm as UNICASE versions. The benefits for our customers include extreme reliability and sealing, safe handling of even the largest output torques, high axial and radial load bearing, quiet running and low maintenance and exceptionally long operating life. With its own gear and motor production facilities, NORD offers its customers complete, sophisticated system solutions with the very highest levels of economy and efficiency.





Left: NORD DRIVESYSTEMS headquarters in Bargteheide, from top: Production plant in Gadebusch, Glinde, Aurich (all in Germany) motor factory in San Giovanni, (Italy, production facility in Waunakee (USA), production in Suzhou (China)



Always near you throughout the world

For globalisation, we rely on local roots. We have set up a network of assembly factories and service facilities in 35 of the most important industrialised countries, so that local planning advice, high availability of the required drive technology and rapid local service make NORD DRIVESYSTEMS a flexible and dependable partner for drive systems throughout the world.

- Close to customers thanks to 35 subsidiaries and more than 30 agencies throughout the world
- High availability and rapid service thanks to local presence
- Certification: ISO 9001, UL, CSA, GHOST-R, CCC and ATEX
- Everything from one source, from planning to commissioning
- You can find further up-to-the-minute data and facts about NORD DRIVESYSTEMS under www.nord.com





www.nord.com/locator

Headquarters:

Getriebebau NORD GmbH & Co. KG

Rudolf-Diesel-Straße 1

22941 Bargteheide, Germany

Fon +49 (0) 4532 / 289-0

Fax +49 (0) 4532 / 289-2253

info@nord.com, www.nord.com

Member of the NORD DRIVESYSTEMS GROUP

