

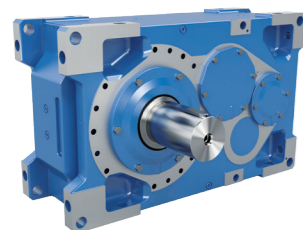
Drive solutions for the wastewater industry

Complete drive systems from a single source

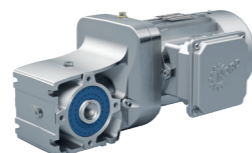


DRIVESYSTEMS

Our Solution. Your Success.



Industrial gear units



Geared motors



Frequency inverters and motor starters

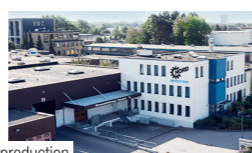
- ▶ Headquarters and technology centre in Bargteheide, near Hamburg
- ▶ Innovative drive solutions for more than 100 branches of industry
- ▶ 7 production locations with cutting-edge technology produce gear units, motors and drive electronics for complete drive systems from a single source
- ▶ NORD has 48 subsidiaries in 36 countries and further sales partners in more than 50 countries. They provide local stocks, assembly centres, technical support and customer service
- ▶ With more than 4,900 employees worldwide, we create customised solutions



Headquarters in Bargteheide



Gear unit production



Inverter production



Motor production



Production and assembly



Motor mounting

We support you with the following:

With its specialised know-how for drive solutions in the wastewater industry, NORD creates economical applications that meet all current and future requirements.

Design

- ▶ myNORD
- ▶ Variant reduction
- ▶ Project design/optimisation
- ▶ Drive design
- ▶ Application solutions
- ▶ Green solutions
- ▶ CAD drawings

Commissioning

- ▶ Plug-and-play
- ▶ Support
- ▶ Training
- ▶ Documentation
- ▶ Smart commissioning

Service

- ▶ Predictive maintenance (PLC function)
- ▶ Spare parts, express shipping
- ▶ Global presence
- ▶ 24/7 Support

Drive solutions for the wastewater industry

Pumps

NORD gear units optimise pump efficiency and prevent backups, keeping systems throughout the plant running smoothly and moving water from one process to the next.

Screens

Screening is the first step in wastewater processing and is crucial to plant performance. Mechanical cleaning screens automated by NORD geared motors produce lower labour costs and improve flow conditions and screening capture.

Filtration

Reliable gear units from NORD keep equipment running longer. These rugged units effectively power filtration systems that continuously target and remove solids from wastewater.



Ventilation

NORD drive systems keep brush aeration systems performing to effectively deliver oxygen into wastewater within municipal clarifier tanks.

Screw pumps

Powerful drive systems are needed to pump heavily contaminated liquids that often have solid particulate. NORD gear units provide all of the torque required with seals and surface protection options to ensure longevity.

Sludge thickening

Frequency inverter technology combined with geared motors on sludge thickening machines optimises the speed of the paddles in tanks, efficiently increasing the solid concentration and decreasing the free water.

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 wastewater treatment 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.

NORD DRIVESYSTEMS provides:

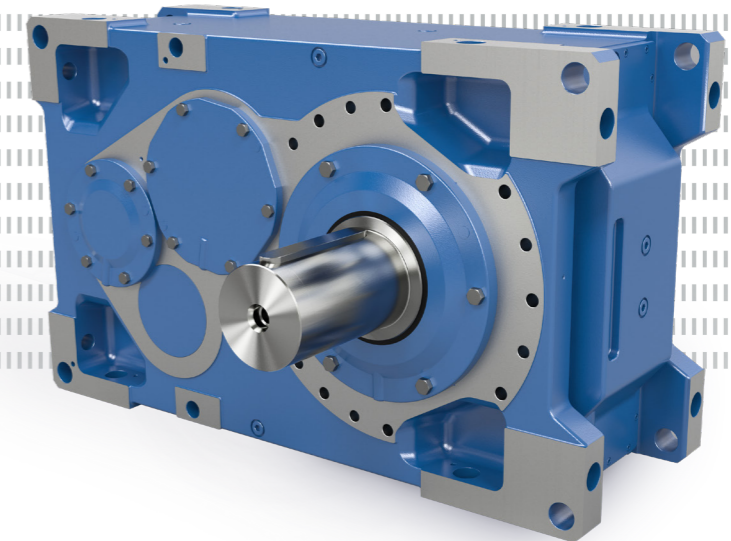
- ▶ Extensive knowledge of applications and technical support
- ▶ Complete drive solutions from a single source
- ▶ Strong global presence and service
- ▶ Thousands of installed drives in wastewater systems
- ▶ Wide range of products with high quality standards
- ▶ Great reliability, economy and service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

From start to finish

NORD DRIVESYSTEMS designs, engineers and manufactures scalable drive solutions for all segments of the wastewater treatment industry. Our drive solutions are efficient, reliable and highly-specialised for precise application needs.

Drive solutions for:

- ▶ Brush aerators
- ▶ Clarifier tanks
- ▶ Pumps
- ▶ Aerated grit chambers
- ▶ Membrane bioreactors
- ▶ Membrane filtration systems
- ▶ Air flotation systems
- ▶ Screw pumps



Screw pumps

NORD's robust gear units can handle the high flow rates and heavily contaminated liquids moved by screw pumps.

- ▶ Torque range up to 282,000 Nm
- ▶ Flexible mounting solutions
- ▶ High-performance sealing systems
- ▶ Variety of surface treatment options

Screens

NORD's robust gear units deliver cost effective, high efficiency performance to keep screening machines running effectively.

- ▶ IP66 protection
- ▶ One-piece UNICASE housing
- ▶ Long life, low maintenance
- ▶ Compact design

Ventilation

Aerator brush drive solutions from NORD require little to no preventative maintenance.

- ▶ Compact UNICASE housing
- ▶ Special output cover design to help protect oil seals
- ▶ High quality, low friction bearings for long operating life
- ▶ Dual output seals

Filtration

Filtration systems using NORD drive units operate more efficiently with less downtime, resulting in more clean, effluent water and overall better plant production.

- ▶ nsd tupH™ surface treatment for added wear resistance
- ▶ Corrosion resistant shaft material
- ▶ Energy-efficient drives to reduce costs

Sludge thickening

Equipping frequency inverters on sludge thickening tanks allows the speed of the vertical paddles to be controlled by the drive. The speed can be adjusted at any point to fit the application.

- ▶ Robust design for long life, low maintenance
- ▶ Integrated PLC function
- ▶ Reinforced output shaft extensions

Pumps

NORD's energy-efficient gear units, motors and frequency inverters ensure top reliability to keep energy costs low.

- ▶ IP66 brakes
- ▶ Corrosion resistant with high-quality surface protection options
- ▶ Advanced QUADRALIP™ sealing system to prevent leaks
- ▶ Dual shaft sealing rings

Drive solutions for the wastewater industry

Efficient, reliable and proven drive solutions from a single source



Efficient

NORD DRIVESYSTEMS drive solutions are environmentally friendly and help to minimise CO₂ emissions.

- ▶ NORD motors meet the latest international energy requirements.
- ▶ NORD frequency inverters ensure efficient operation, improved process control and optimised motor power.
- ▶ Easy to service and maintain, NORD drives reduce standstill times and thus contribute to an increased efficiency and availability of the entire system.

Reliable

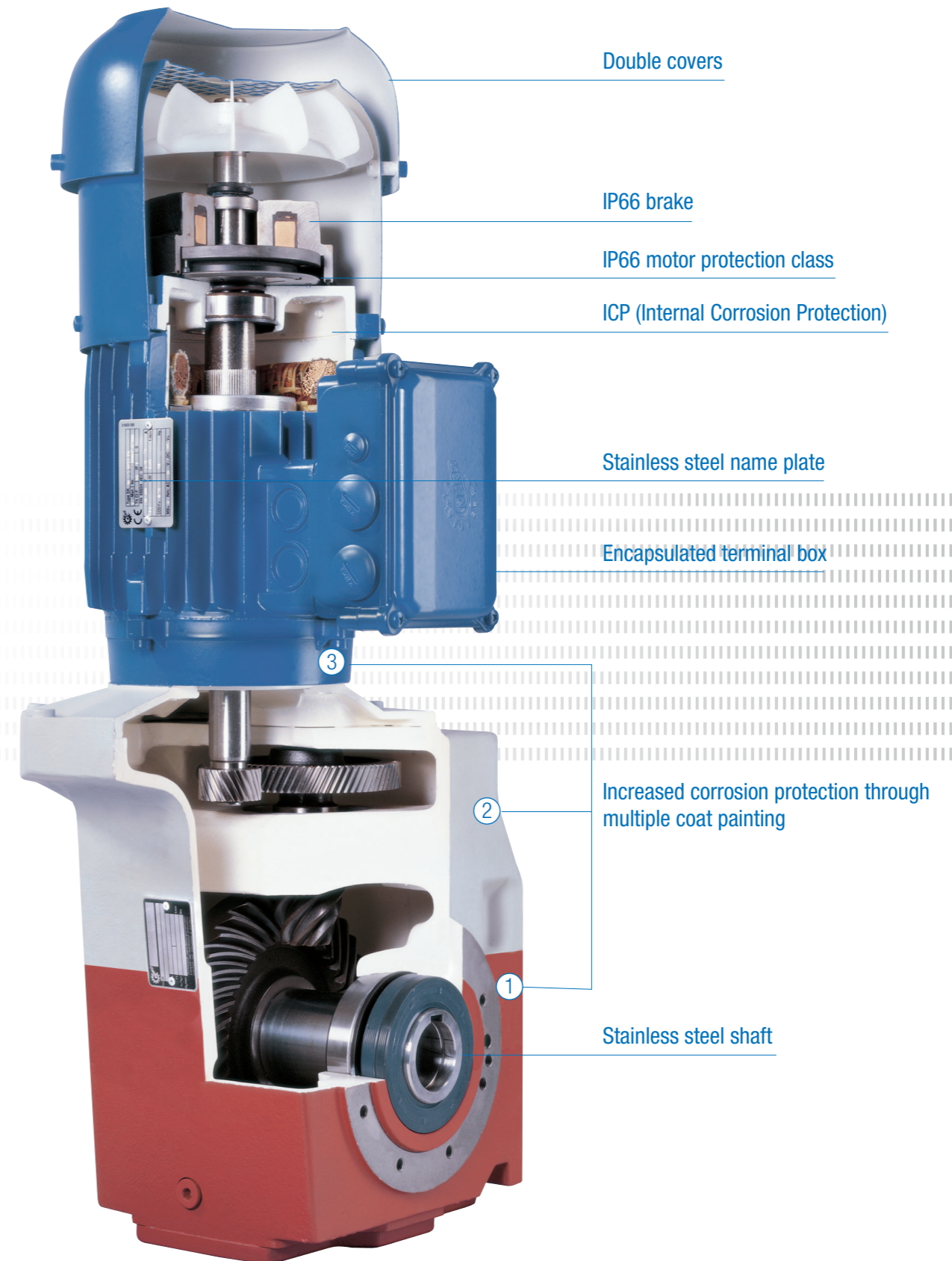
It is vital to prevent breakdowns in wastewater systems. For this reason, reliability is our main focus when developing drive solutions. All of our system components are precisely matched to each other and ensure smooth operation.

- ▶ AUTOVENT ensures leak free operation.
- ▶ Biodegradable oils are available.
- ▶ Precisely machined gear wheels are used.
- ▶ The gear units are extraordinarily robust, run very quietly and have a particularly long service life.
- ▶ NORD frequency inverters protect the drive system electronically and are able to visualise the operating data.

Proven

The reliability and cost-effectiveness of NORD drive solutions have proven themselves in the wastewater industry throughout the world.

- ▶ We offer you various possibilities for reinforcing the output shafts.
- ▶ Increased bearing spacing is available as an option to reduce loads on the bearing, so that service life is increased.
- ▶ Use of corrosion-resistant shaft material.



Double covers

IP66 brake

IP66 motor protection class

ICP (Internal Corrosion Protection)

Stainless steel name plate

Encapsulated terminal box

Increased corrosion protection through multiple coat painting

Stainless steel shaft



Surface and brush aerator applications

Configuration options:

- ▶ MAXXDRIE or parallel shaft gear unit
- ▶ High efficiency electric motor based on the latest international requirements
- ▶ NEMA/IEC adapter
- ▶ Options for vertical and horizontal orientation
- ▶ Advanced sealing system
- ▶ Modular flange and bearing solutions
- ▶ High radial and axial load capacity



Screw pump applications

Configuration options:

- ▶ Helical gear units
- ▶ High efficiency electric motor based on the latest international requirements
- ▶ NEMA/IEC adapter
- ▶ Advanced sealing system
- ▶ Numerous low ratios available



Agitating and mixing applications

Configuration options:

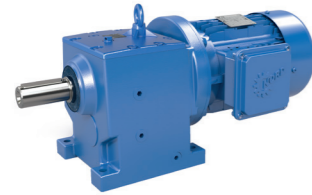
- ▶ MAXXDRIVE or parallel shaft gear unit
- ▶ High efficiency electric motor based on the latest international requirements
- ▶ NEMA/IEC adapter
- ▶ Options for vertical and horizontal orientation
- ▶ Advanced sealing system
- ▶ Modular flange and bearing solutions
- ▶ High radial and axial load capacity
- ▶ SAFOMI adapter

Skimmer applications

Configuration options:

- ▶ Helical bevel or parallel shaft gear unit
- ▶ High efficiency electric motor based on the latest international requirements
- ▶ NEMA/IEC adapter
- ▶ Advanced sealing system

UNICASE helical in-line gear unit (Catalogue G1000)



- ✓ Foot- or flange-mounted version
- ✓ Long life, low-maintenance
- ✓ Optimum sealing
- ✓ UNICASE housing

Sizes: 11
Power: 0.12–160 kW
Torque: 10–26,000 Nm
Ratio: 1.35–14,340.31:1

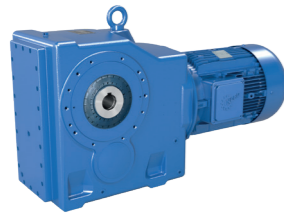
UNICASE parallel gear unit (Catalogue G1000)



- ✓ Foot mounted, flange mounted or face mounted
- ✓ Hollow or solid shaft
- ✓ Compact design
- ✓ UNICASE housing

Sizes: 15
Power: 0.12–200 kW
Torque: 110–100,000 Nm
Ratio: 4.03–15,685.03:1

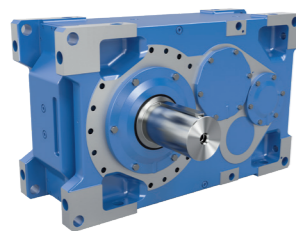
UNICASE bevel gear unit (Catalogue G1000)



- ✓ Foot mounted, flange mounted or face mounted
- ✓ Hollow or solid shaft
- ✓ UNICASE housing

Sizes: 11
Power: 0.12–200 kW
Torque: 180–50,000 Nm
Ratio: 8.04–13,432.68:1

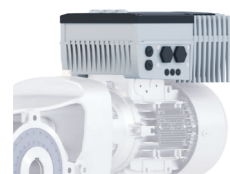
MAXXDRIVE® industrial gear unit (Catalogue G1050)



- ✓ Parallel axis and right-angled gear units
- ✓ High-precision axis alignment
- ✓ Long life, low-maintenance
- ✓ UNICASE housing

Sizes: 11
Power: 1.5–6,000 kW
Torque: 15,000–282,000 Nm
Ratio: 5.54–30,000:1

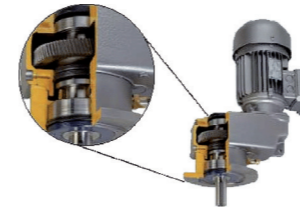
NORDAC FLEX SK 200E frequency inverter (Catalogue E3000)



- ✓ 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: 0.25–22 kW

VL bearing



VL II reinforced input shaft bearing

- ✓ Large bearing spacing + reinforced bearings = maximum radial and axial load capacity
- ✓ Longer service life

VL III DRYWELL

- ✓ Additional oil drip plate
- ✓ Oil leak detector or oil sensor

VL IV TRUE DRYWELL

Prevents the risk of leakage with downward-facing output shafts

- ✓ No rubbing seals below the oil level
- ✓ Available for bevel gear and parallel shaft gear units
- ✓ Hollow shaft version with shrink disc, optionally with push-in shaft

Overload protection



- ✓ Safety coupling installed between the motor and the gear unit, alternatively between two gear units
- ✓ IEC/NEMA connection dimensions
- ✓ Backlash-free torque transfer
- ✓ Simple torque setting
- ✓ Integrated sensor
- ✓ Protected in housing

Option: Various sealing systems and shaft materials



Double shaft sealing rings

- ✓ Optimum sealing
- ✓ Durable seals
- ✓ Clean gear oil

FKM material

- ✓ Resistant to chemicals
- ✓ High temperatures

Labyrinth seals

- ✓ Re-greaseable and low maintenance or non-re-greaseable labyrinth seals
- ✓ Protects against spray water and dirt

Mechanical seal

- ✓ For contact with aggressive and contaminated liquids
- ✓ For use with underwater drive units

Sealing system prevents leakage with downward-facing output shafts

- ✓ TRUE DRYWELL

Rust-proof shafts

Outdoor motor installation



IP55 protection class as standard

- ✓ IP55 motor with shaft sealing ring on the B side
- ✓ Electrolytically galvanised fan cover
- ✓ IP55 brake with stainless anchor disc and brake hub made from stainless material
- ✓ Special painting (optional)
- ✓ Stainless friction plates for brakes (optional)
- ✓ Stainless name plate (optional)
- ✓ Stainless fastening screws (optional)

IP66 option

- ✓ IP66 motor with shaft sealing ring on the B side
- ✓ Electrolytically galvanised fan cover
- ✓ Encapsulated terminal box
- ✓ Stainless name plate
- ✓ Ball bearing in 2 RS version with sealing discs
- ✓ IP66 brake

EN

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