

INTELLIGENT DRIVESYSTEMS, WORLDWIDE SERVICES



(EN)

**DRIVE SOLUTIONS
FOR THE FOOD AND
BEVERAGE INDUSTRY**

NORD
DRIVESYSTEMS

NORD DRIVE SOLUTIONS FOR THE FOOD AND BEVERAGE INDUSTRY



NORD DRIVESYSTEMS Group

Headquarters and Technology Center

→ close to Hamburg, Germany



Innovative drive solutions

→ for more than 100 industries

Mechanical Products

Gear units



Gear production

Electrical Products

Motors



Motor production

Electronic Products

Inverters and motor starters



Inverter production

7 state-of-the-art production plants

→ providing full-scale drive systems from a single source – geared motors, suitable electronics and software for required functionality



Subsidiaries in 36 countries on 5 continents

→ providing local stock, assembly, production, technical support and customer service



More than 3,100 employees around the world

→ providing application-specific solutions for our customers



www.nord.com/locator

NORD DRIVE SOLUTIONS FOR PROCESSING AND PACKAGING

NORD DRIVESYSTEMS is a global leader in drive solutions for food and beverage industry applications around the world.

- Comprehensive application knowledge and technical support
- Complete drive solutions from a single source
- Strong global presence and support
- Thousands of installed units in the food industry
- Extensive, versatile portfolio of premium quality products
- High reliability, efficiency and durability
- Recognised production quality according to global standards

NORD is a driving force in the production of:

- Fresh Foods
- Dried & Snack Foods
- Bakery Products
- Ready Meals
- Confectionary Products
- Beverages
- Liquid & Canned Foods



Seafood



Meat and Poultry



Bakery



Dairy Products



Confectionery



Vegetables



Non-Alcoholic Beverages



Alcoholic Beverages



FROM PROCESSING ...

where raw ingredients are transformed



... TO PACKAGING

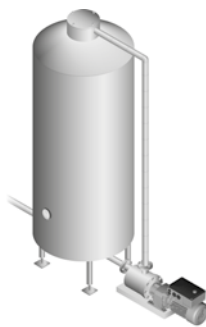
where products are enclosed and protected for distribution.

FLEXIBLE SOLUTIONS FOR THE FOOD AND BEVERAGE INDUSTRY



PROCESSING

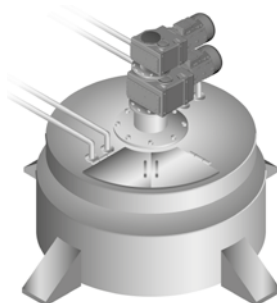
PUMPING



NORD provides dedicated pump drives with special functions.

- High starting torques / soft starts as required
- Wall- or motor-mounted inverters
- H1 food-grade oil for gear lubrication
- Safe terminal or plug connections

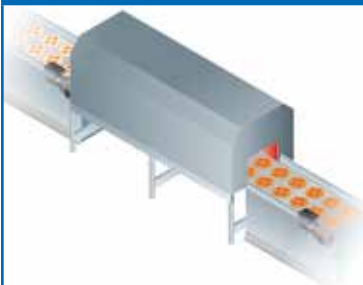
MIXING, AGITATING, KNEADING



NORD provides heavy-duty geared motors for agitators of any scale.

- Extra-strong output shaft bearings for heavy loads
- Temperature sensors for overheating protection
- Programmable inverters for STO and reverse operation
- Twin gearbox agitators with shafts turning in opposing directions

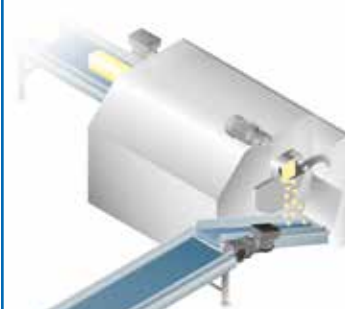
HEATING, COOLING, FREEZING



NORD provides drive solutions adapted to extreme temperatures.

- Various fan/fan-less configurations
- H1 low-/high-temperature food-grade oils, hydrophobic bearing lubricants
- Condensation drains
- Stainless steel fittings

CUTTING, SLICING, DOSING



NORD provides systems for CIP area installation and machine integration.

- Smooth washdown surfaces on all drive components
- FDA-compliant sealed aluminium surface tolerating pH 2-12
- Stainless steel fittings
- IP66 or optional IP69K ingress protection

PACKAGING

BOTTLING



NORD provides drives tailored to filling and conveying systems.

- Absolute and incremental encoders
- Plug-and-play connections
- Smooth surfaces
- High-quality paints or sealed surfaces for easy cleaning

CONVEYING



NORD provides versatile solutions for horizontal, vertical and inclined conveyors.

- Encoders for precise positioning
- Energy-saving inverters for cabinet, wall or motor mounting
- High-quality paints or sealed surfaces for easy cleaning
- Soft start, deceleration ramp and STO functions

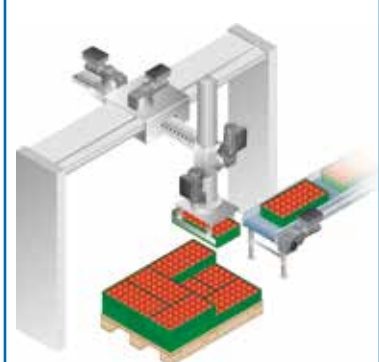
SECONDARY PACKAGING



NORD provides highly efficient systems for intermittent and continuous operation.

- Compact overall size, plug-and-play connections
- Inverters for motor mounting or wall mounting
- Encoders for precise positioning
- High-quality paints or sealed surfaces for easy cleaning

PALLETIZING



NORD provides precise positioning and dynamic motion solutions.

- Compact, lightweight aluminium drive units
- Cabinet-installed and motor-mounted inverters for positioning with encoder feedback
- High-quality paints or sealed surfaces for easy cleaning
- Soft start, deceleration ramp, brake and STO functions



EFFICIENT, RELIABLE & PROVEN IN DEMANDING CONDITIONS



Efficient

NORD drive solutions feature eco-friendly designs and fulfil the global and regional efficiency standards stipulated by the world's leading and rising economies.

- Lightweight aluminium constructions
- NORD motors for all requirements including IE3 and IE4 designs; NORD helical and helical-bevel gears achieving 95-97% premium efficiency
- Smart NORD inverters featuring energy-saving magnetic flux reduction in the motor during partial-load operation

Reliable

From pinions to PCBs, all components for NORD's mechatronic units are manufactured in the company's own facilities, which ensures superior resilience, high uptime, a long service life and low total cost of ownership. Numerous options address all food and beverage industry requirements.

- Special lubricants for low and high temperatures and hot washdown
- Temperature sensors for overheating protection
- IP66 or IP69K ingress protection
- Stainless steel shafts and accessories; metal fans; fanless designs
- Moisture proofing; anti-rust protection (dust and rust); multi-layer paints

Proven

Challenging environmental conditions are common in food and beverage production. Beyond extreme temperatures or high-pressure cleaning jets, these include concerns as varied as hazardous areas where ground ingredients are handled or aggressive atmospheres where fresh seafood is processed. NORD's dedicated solutions for these issues have been tried and tested around the world.

- Explosion-protected motors (ATEX, NEC) for Zone 1/21 and Zone 2/22 hazardous areas
- Sealed surface conversion system nsd tupH for resistance against corrosion, chemicals, high pressure and hot cleaning
- Dairy versions; condensation drains; anti-condensation heaters

DER **ANTRIEB**

■ Reliable ■ Versatile ■ Global



The **Gear Unit**

- Strong bearings
- High power density
- High corrosion protection

The **Motor**

- High efficiencies
- Global standards
- All operating conditions

The **Drive Electronics**

- Compact design
- Easy commissioning
- Protection class up to IP69K

NORD DRIVE SOLUTIONS FOR THE FOOD AND BEVERAGE INDUSTRY

Decentralised Inverters

- No need for shielded power cable
- Faster commissioning
- Ready-to-use motor-inverter unit
- Reduction in design time
- No special cable routing
- No integration into cabinet necessary
- Local machine control



Transportable wine pump with frequency inverter SK 200E.

Motor Starter SK 135E (Catalogue F3015)



- ✓ Integrated electronic brake rectifier
- ✓ Consistent parameter structure
- ✓ Reversing starter with soft start function

U[V]	3~200 ... 500
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P[kW]	0.25 – 7.5
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Frequency Inverter SK 180E (Catalogue F3020)



- ✓ Stand-alone operation
- ✓ 4 parameter sets (switchover online)
- ✓ Sensorless current vector control (ISD control)

U[V]	1~110 ... 120 ± 10%
	1~200 ... 240 ± 10%
	3~200 ... 240 ± 10%
	3~380 ... 480 -20% / +10 %

P[kW]	0.25 – 2.2
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Frequency Inverter SK 500E (Catalogue F3050)



- ✓ Energy-saving function
- ✓ "Posicon" positioning control
- ✓ Plug-in modules for communication (field bus)

U[V]	1~110 ... 120 ± 10%
	1~200 ... 240 ± 10%
	3~200 ... 240 ± 10%
	3~380 ... 480 -20% / +10 %

P[kW]	0.25 – 160
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Industrial gear units (Catalogue G1050)



- ✓ Foot, flange or shaft mounting
- ✓ Long life, low maintenance
- ✓ Parallel axis and right-angled gear units

Sizes	8
kW	2.2 – 1,000
Nm	25,000 – 242,000
i	5.54: 1 – 1,600.00: 1

Helical Gear Unit (Catalogue G1000 & G1012)



- ✓ Foot or flange mounted
- ✓ Long life, low maintenance
- ✓ High quality sealing
- ✓ UNICASE housing

kW	0.12 – 160
Nm	23 – 23,160
i	1.24:1 – 14,340.31:1

Parallel Shaft Gear Unit (Catalogue G1000)



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

kW	0.12 – 200
Nm	65 – 90,000
i	4.03:1 – 6,616.79:1

Bevel Gear Units (Catalogue G1000 & G1014)



- ✓ Up to 97 % efficiency
- ✓ Foot, flange or shaft mounted
- ✓ Hollow or solid shaft
- ✓ UNICASE housing

kW	0.12 – 200
Nm	90 – 50,000
i	3.58:1 – 13,432.68:1

SI Worm Gear Units (Catalogue G1035)



- ✓ Modular
- ✓ Universal mounting
- ✓ Lifetime lubrication
- ✓ IEC versions

kW	0.12 – 4.0
Nm	21 – 427
i	5.00:1 – 3,000.00:1



Sealed Surface Conversion System

- Easy-to-clean surfaces
- Resistant to acids and alkalis (wide pH range)
- Cannot flake
- Corrosion-proof – no contact corrosion and no infiltration of corrosion even if surface is damaged
- Conforms to FDA Title 21 CFR 175.300
- Free from chromates



NORDBLOC.1 helical bevel gear unit SK 93.1 with HMT motor and SK 180E in nsd tupH.

Mixers or filling systems, conveyors, freezers, conche machines – NORD DRIVESYSTEMS provides drive solutions optimized for these and all other food and beverage industry applications.



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Member of the NORD DRIVESYSTEMS Group

