



DRIVE SYSTEMS

FOR THE FOOD INDUSTRY



A6029





NORD products are specifically tailored to meet your food production system needs. NORD product applications include:

- **PUMPING**
- **MIXING AND AGITATING**
- **AIR-CONDITIONING AND VENTILATING**
- **MOVING AND POSITIONING**
- **DOSING, FILLING, AND PACKAGING**
- **CONVEYING AND STORING**

Our staff has been developing, manufacturing, and distributing drive technology since 1965. We specialize in the integration of mechanical drive components and power electronics into compact, specifically tailored units, such as gearmotors with integrated, on-board frequency inverters.

Our product range includes moisture-proof gearmotors that are oil-tight, hygienic, and non-contaminating, which makes them safe for food production operations. These gearmotors are impervious to water and food industry cleaning agents.

Typical NORD motors use an IP55 motor enclosure, which can accommodate a wide ambient temperature range, and exposure to harsh environments. NORD has readily available options, including special paints, increased corrosion protection, IP66 motor and brake enclosures, stainless steel shafting, special lubricants, and Viton® shaft seals to meet any hygiene standards.

Because each NORD product is customized specifically to your application we provide you with the best solution for your machine's drive requirements using NORD-developed

options designed to solve the most difficult applications.

MIXING AND AGITATING

NORD drives designed for mixers and agitators are rugged. The drives use heavy-duty bearings supported in NORD's one-piece UNICASE™ housing to handle the substantial shaft loads typical of mixing viscous liquid media, pastes, creams, suspensions, and powders. Although tank load torques can be high, especially during the initial start-up period, NORD drives provide very smooth shaft rotation and extremely gentle processing of whatever medium is being mixed.

NORD's engineers have designed and developed special gear geometry resulting in efficient gear units that give consistent, efficient mixing for the media at all speeds. NORD drives designed for low speed food processing systems deliver thorough mixing of the material with relatively small motors.

Efficient NORD drives are available for processes requiring extremely high speeds, such as driving ball mills in agitating machines for chocolate production.

RELIABLE & EFFICIENT DRIVING FOR THE FOOD INDUSTRY

AIR CONDITIONING AND VENTILATION

Food processing requires effective air conditioning and ventilation to maintain the proper operating environment in the processing plant. With steadily rising energy costs, the efficiency of environment management equipment becomes increasingly important. NORD supplies energy-efficient motors with low power requirements that meet EPACT and NRCan standards and the European eff1 directive.

Coupling high efficiency NORD motors with high-efficiency NORD speed reducers using synthetic lubricants reduces friction losses and increases maintenance intervals, which reduces energy and operating costs.

DOSING AND FILLING

NORD servo technology provides maximum efficiency and precision for modern, high-performance, automated dosing and filling systems.

Using servo technology provided by a NORD controller, motor, and speed reducer, maximizes the system cycle rate by improving system dynamic responses, eliminates extra components, and increases process quality and efficiency.

Intelligent NORD servo drives include PLC functions, provide real-time processing, and motor control. Because they can store up to 700 lines of code, these servo drives are capable of replacing the host machine control system in less complex applications.

NORD inverter/controllers are pre-programmed according to user needs with process-related functions that the user enables through simple inputs. A NORD controlled system can combine a filling station with a weight-feed function so that the material flow of the filling station is related to weight measurements from an external weighing station. Readily available servo functions also include material feeding, charging/filling, packaging, and labeling.

CONVEYING AND STORING

In the food processing industries, typical conveying systems bridge long distances. The modular plant and machinery layout needed to bridge this distance requires a distributed drive control system. The compact and efficient NORDAC, trio assembly, consisting of a motor, a speed reducer, and a motor-mounted SK 300E frequency inverter, is the most convenient and economical way to provide a distributed control system.

Each NORDAC trio is pre-assembled at the NORD factory and comes with an integrated line filter, which significantly reduces process design time, installation time, and the need for additional hard wiring. The SK 300E inverter unit plugs directly onto the terminal box of the NORD motor. Because of integrated construction, shielding the motor cables is not required, and current EMC standards are easily met.

Enclosed in an IP 66 (NEMA 4 & 12) protected housing, the frequency inverter operates reliably over the temperature range of -10°C to +50°C (approximately 14°F to 125°F). Standard inverter equipment includes complete motor thermal protection.

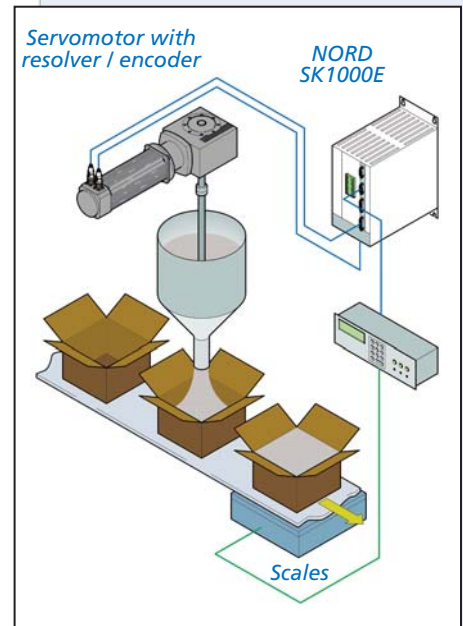
With an integrated braking chopper plus a control circuit for an electromagnetic brake, the trio handles sensitive hoisting control functions extremely well. Because the NORDAC trio allows a starting torque of up to 400 percent, and has a typical five-second overload capacity of 200 percent, the device is not easily tripped. The SK 300E is resistant to conditions such as line voltage fluctuations and quick temperature changes. Its operating efficiency of over 97 percent is standard.

The SK 300E is easy to operate. Its programming is stored in the NORD motor's "electronic name plate". If another inverter replaces the original inverter, the new inverter reads the parameter settings from the motor memory and instantly programs the new inverter. The users can add an optional modular I/O or bus interface if required.

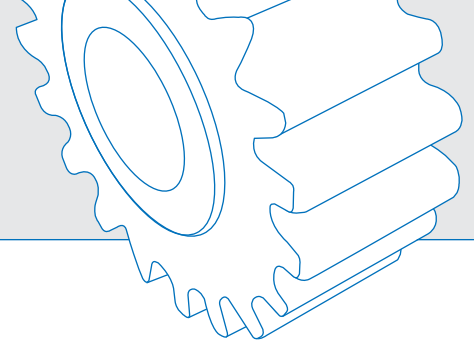
NORD Drive Systems provides responsive production solutions for the food industry, furnishing customized components such as:

- speed reducers
- motors
- inverters / controllers

The technical sophistication of our mechanical and electronic components has earned NORD a leading position in the drive systems industry, as one of the top three manufacturers in the world.



Product Overview



UNICASE™ SPEED REDUCERS



HELICAL IN-LINE

- Foot or Flange Mount
- Torque up to 205,000 lb-in
- Gear ratios – 1.82:1 to over 300,000:1



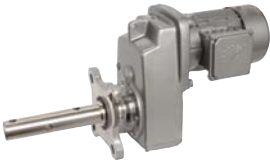
NORDBLOC®.1 HELICAL IN-LINE

- Foot or Flange Mount
- Torque up to 26,550 lb-in
- Gear ratios – 1.88:1 to over 370:1



PARALLEL HELICAL CLINCHER™

- Shaft, Flange or Foot Mount
- Torque up to 797,000 lb-in
- Gear ratios – 4.26:1 to over 300,000:1



SCP SCREW CONVEYOR PACKAGE

- Shaft, or Flange Mount
- Torque up to 53,100 lb-in
- Gear ratios – 4.32:1 to over 1500:1



RIGHT ANGLE HELICAL-BEVEL 2-STAGE

- Foot, Flange or Shaft Mount
- Torque up to 5,840 lb-in
- Gear ratios – 4.1:1 to 72:1



RIGHT ANGLE HELICAL-BEVEL

- Foot, Flange or Shaft Mount
- Torque up to 283,000 lb-in
- Gear ratios – 8.04:1 to over 300,000:1



RIGHT ANGLE HELICAL-WORM

- Foot, Flange or Shaft Mount
- Torque up to 27,585 lb-in
- Gear ratios – 4.40:1 to over 300,000:1

HIGH PERFORMANCE MOTORS & BRAKEMOTORS



INVERTER/VECTOR DUTY

- Standard or Energy Efficient
- Integral, NEMA or Metric IEC
- 1/6 to 250 hp

UNICASE™ SPEED REDUCERS



MINICASE™ RIGHT ANGLE WORM

- Foot, Flange or Shaft Mount
- Torque up to 3,540 lb-in
- Gear ratios – 5:1 to 500:1



FLEXBLOC™ WORM

- Modular bolt-on options
- Torque up to 4,683 lb-in
- Gear ratios – 5:1 to 3,000:1



MAXXDRIVE™ LARGE INDUSTRIAL GEAR UNITS PARALLEL HELICAL

- Modular bolt-on options
- Torque up to 2,027,000 lb-in
- Gear ratios – 5:1 to 1,600:1



MAXXDRIVE™ LARGE INDUSTRIAL GEAR UNITS HELICAL-BEVEL

- Modular bolt-on options
- Torque up to 2,027,000 lb-in
- Gear ratios – 5:1 to 1,600:1

NORDAC AC VECTOR DRIVES



SK200E FAMILY

- Decentralized, high performance
- 380-480V, 3-phase to 10 hp
- 200-240V, 3-phase to 5 hp
- 200-240V, 1-phase to 1.5 hp
- 100-120V, 1-phase to 1 hp



SK500E FAMILY

- Compact, high performance
- 380-480V, 3-phase, to 50hp
- 200-240V, 3-phase, to 15hp
- 200-240V, 1-phase, to 3hp
- 110-120V, 1-phase, to 1.5hp



SK700E FAMILY

- Flexible high performance
- 380-460V, 3-phase, to 200hp



DRIVESYSTEMS

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