



**Drive solutions for
corrugated board floor conveyors**
Customised and flexible decentralised NORD drive solutions



NORD DRIVESYSTEMS Group



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, providing local stocks, assembly centres, technical support and customer service.
- ▶ More than 4,100 employees throughout the world create customised solutions.



Headquarters in Bargteheide



Gear unit production



Inverter production



Motor production



Production and assembly



Motor assembly

Drive solutions for corrugated board floor conveyors

Corrugated floor conveyor

In corrugated board factories floor conveyors ensure the fast and gentle transport of corrugated board stacks. The smooth and safe transport can be achieved by using frequency-controlled gear motors. These drives help to prevent undesired "sheet walk effects" and the displacing of goods.

At all stages of the process – from the discharge of stack to the transport to processing machines and the handling of finished goods – the safety of the operating personnel must be guaranteed. Integrated Drive Safety Functions such as STO support to meet these requirements.

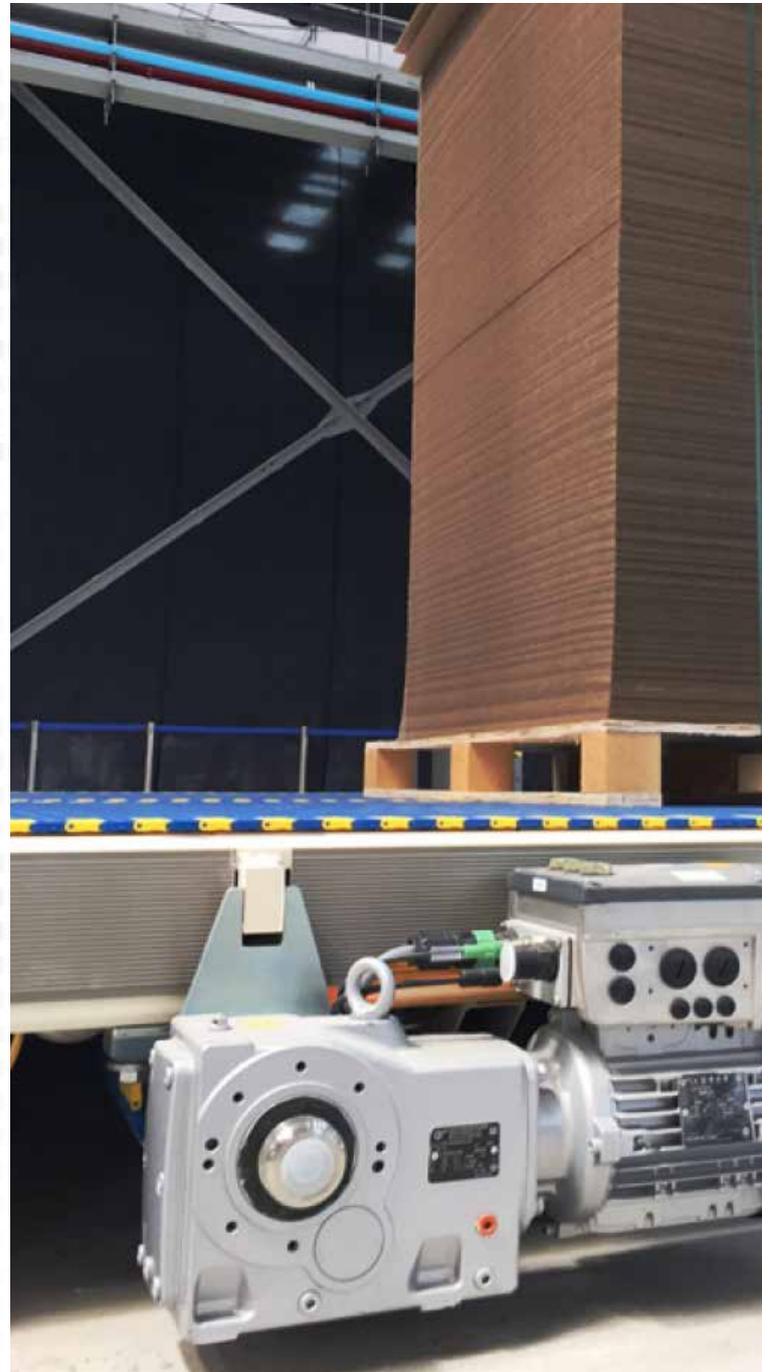
For a compact conveyor design 90-degree gear units are the first choice when it comes to the selection of drive units. Suitable decentralised frequency inverter complete the concept.

NORD drives are well approved in the corrugated board industries globally.

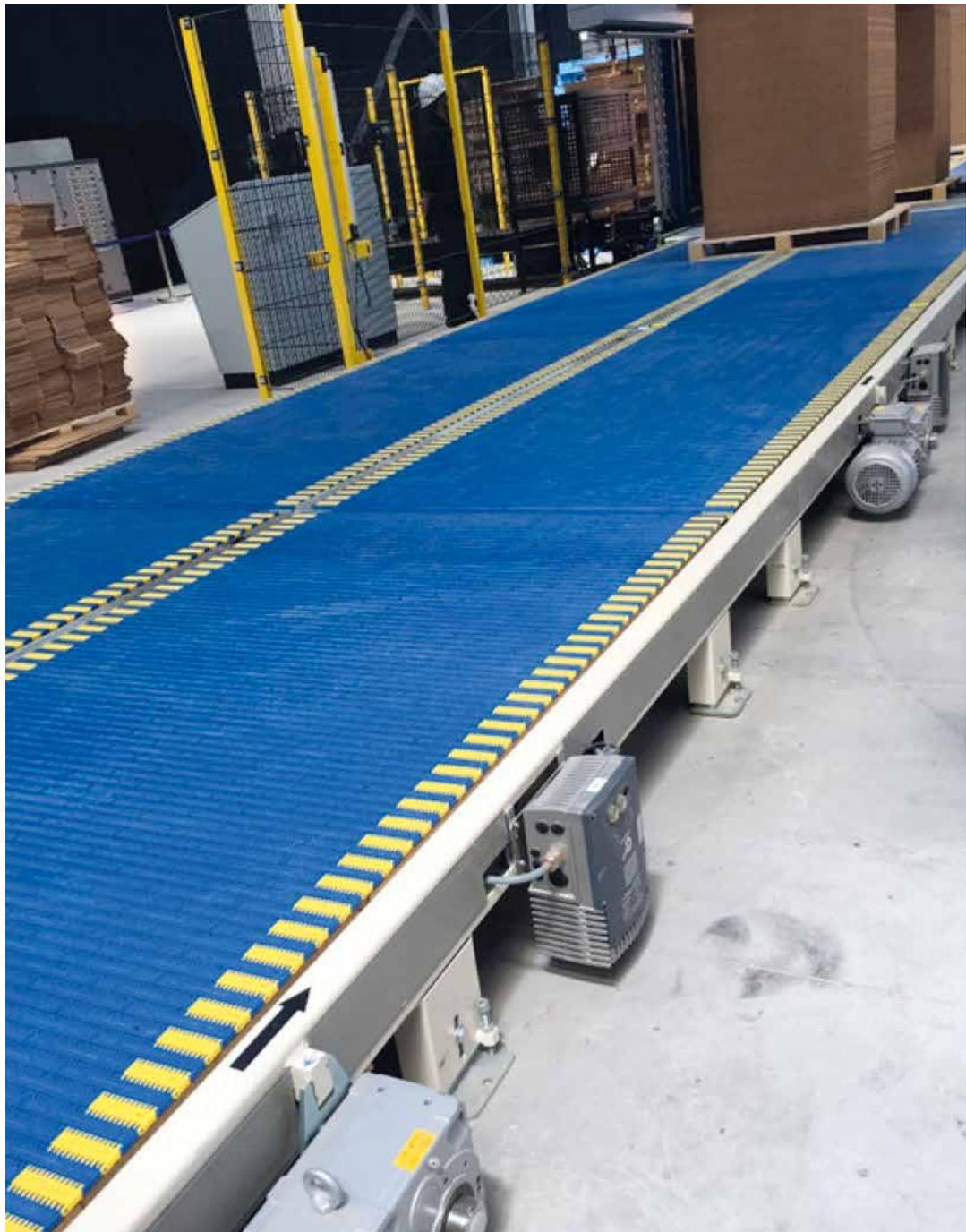
Market demands:

Corrugated plastic floor conveyor drives

- ▶ Standardisation / less variants
 - ▶ Reduce of spare part inventory
 - ▶ Simplify administration and engineering processes (e.g. by simple selection of drive)
- ▶ Easy installation (Plug-and-Play)
- ▶ Easy maintenance and visualisation
- ▶ Energy savings
- ▶ Safety functions
- ▶ Compatibility to common field networks
- ▶ Global service support and network
- ▶ Reducing Total Cost of Ownership (TCO)



NORD supplies perfectly aligned drive systems for floor conveyors.



Images © Dücker Group GmbH

Drive solutions for corrugated board floor conveyors

NORDAC FLEX

The flexible decentralised NORD drive solution in the corrugated board industry

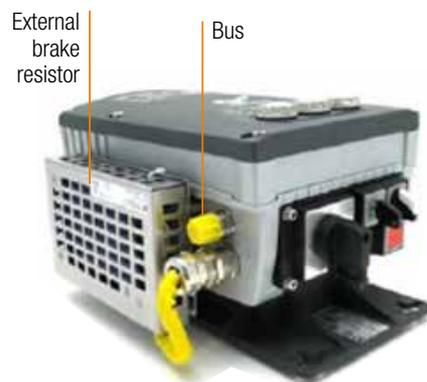
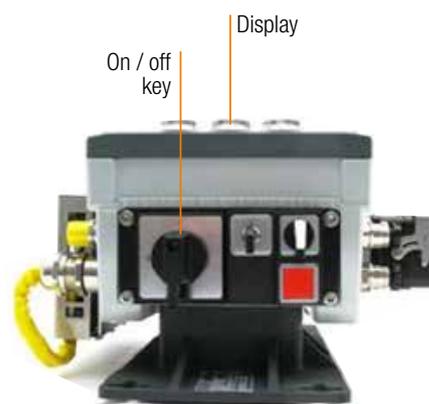
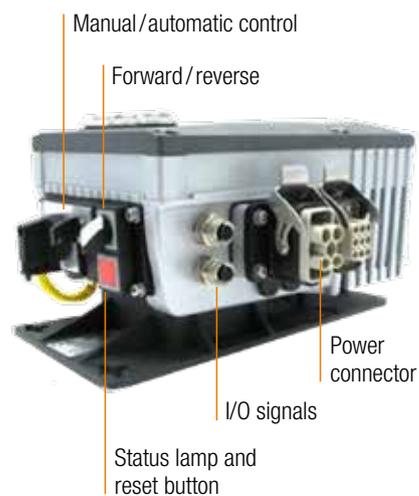
- ▶ Global certification
- ▶ Reduction of variants within a modular system
 - ▶ Up to 22 kW in 4 sizes
 - ▶ Adjustable slip compensation for synchronised load transfer
- ▶ High efficiency
 - ▶ 2- or 3-stage bevel gear
 - ▶ IE3 (ASM), IE4 or IE5+ (PMSM) motor
- ▶ Plug-and-Play installation
- ▶ Ethernet, ASI and other common bus systems
- ▶ External 24V, STO onboard
- ▶ Several digital inputs for sensors (less wiring)
- ▶ Daisy chain with standard plugs
- ▶ IoT interface – for predictive maintenance
- ▶ Decentral – wall or motor mounted
- ▶ All plugs are easy to connect and disconnect
- ▶ High flexibility regarding the configuration (for e.g. reset switch, potentiometer, auto/local mode, CCW/CW switch, service lamp, ...)
- ▶ Analog and digital input
- ▶ Output interfaces for sensors and actors
- ▶ Internal or external brake resistor
- ▶ Portable EEPROM for service, bluetooth stick and maintenance operations
- ▶ Easy to replace
- ▶ STO or PROFIsafe

Various options available: e.g. key switch, potentiometer and manual/automatic control





NORDAC FLEX Optional extension



Exemplary illustration of available options.
Combinations have to be checked individually.

Drive solutions for corrugated board floor conveyors



NORDAC LINK

The customised, decentralised NORD drive solution for the corrugated board industry

- ▶ Global certification
- ▶ Reduction of variants within a modular system
 - ▶ Up to 7,5 KW in 3 sizes
- ▶ High efficiency
 - ▶ 2- or 3-stage bevel gear
 - ▶ IE3 (ASM), IE4 or IE5+ (PMSM) motor
- ▶ Plug-and-Play installation
- ▶ Internal or external brake resistor
- ▶ Adjustable slip compensation for synchronised load transfer
- ▶ Ethernet, ASI and other common bus systems
- ▶ External 24V
- ▶ PROFIsafe or STO onboard
- ▶ Key switch, potentiometer and main switch option
- ▶ Daisy chain with standard plugs
- ▶ Various I/O interfaces, STO, PROFIsafe, HTL encoder
- ▶ Standard plugs for daisy chaining
- ▶ Integrated relays for the usage of two motors
- ▶ Bluetooth stick or EEPROM for commissioning and service work

The **NORDAC LINK** is a decentralised VFD designed to be offered in a customised configuration and to be produced in series according to your selection.



Drive solutions for corrugated board floor conveyors

Options for customised and flexible decentralised NORD drive solutions



Bluetooth stick NORDAC ACCESS BT

Technical

- ▶ Up-/Download of parameters (one set)
- ▶ RJ12 and USB

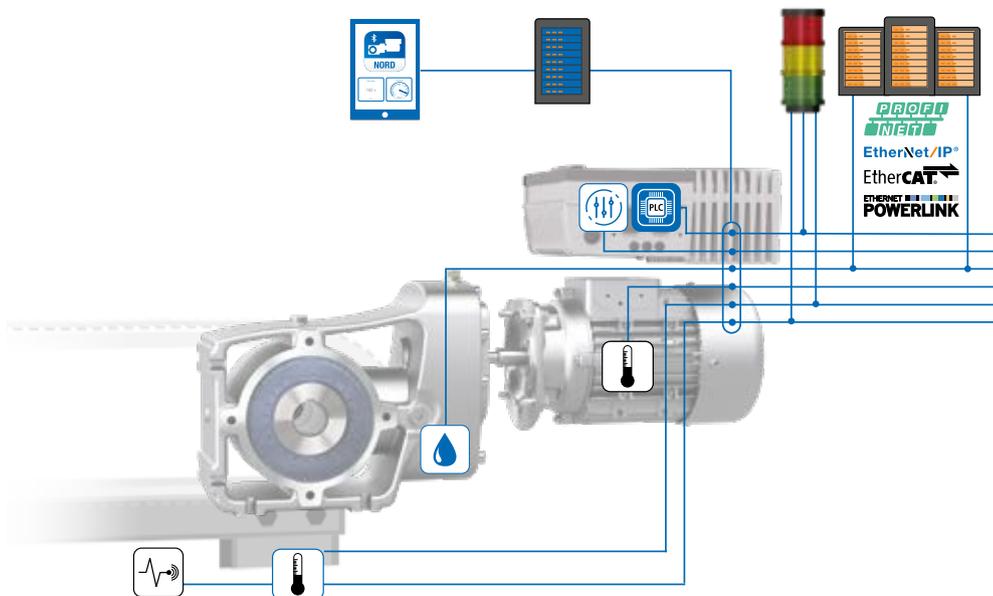
Options

- ▶ Parameterisation of all NORD Inverters/Starters
- ▶ Drive-Monitoring and failure analysis
- ▶ Individual dash-board-configuration
- ▶ Oscilloscope function

Benefits

- ▶ Easy configuration via smartphone or tablet
- ▶ Optimisation of geared motor
- ▶ Easy backup and recovery of parameter
- ▶ Support request via NORDCON APP

Ready for condition monitoring



PROFsafe / STO



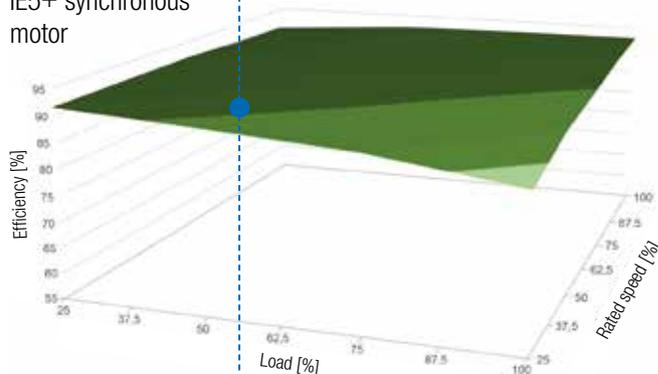
- ▶ Via Wire
 - ▶ STO and SS1
- ▶ Via Ethernet
 - ▶ STO, SS1, SLS, SSP, SDI, SOS and SSM

IE5+ upgrades: Corrugated plastic floor conveyor drives

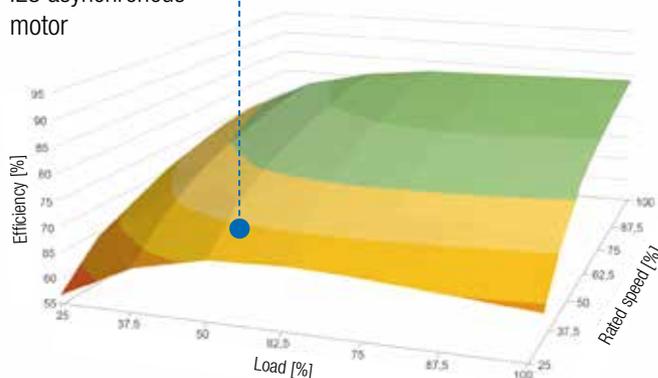
As corrugated floor conveyors motors often operate in partial load and speed mode ranges, PMSM ensure the highest total efficiency for all working points.



IE5+ synchronous motor



IE3 asynchronous motor



Why to choose NORD?

- ▶ Standardisation and reduction of variants
- ▶ **Excellent service concept:**
All connections are pluggable
 - ▶ In case of service components can be replaced quickly even by non-electronically trained personnel
 - ▶ Global service network, 48 subsidiaries in 36 countries and further sales partners in more than 50 countries, global NORD production
- ▶ **Simple adjustment of parametrisation:**
Power can be easily adjusted by exchanging the geared motor and the FI parameter set and simple settings can be done with the bluetooth stick
- ▶ **Future already built-in:**
Operating and status data of the drive can be evaluated by the internal PLC of the VFD (Predictive maintenance)
- ▶ **Very good type of control:**
e.g. smooth and consistent Interface start/stop behaviour
- ▶ High overload capability
- ▶ High quality of encoder control without speed feedback in different load ranges of the motor
- ▶ Highest Level of individualisation
- ▶ Well known references, worldwide delivered by NORD
- ▶ Well approved on several global installations

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