

# NORD DRIVESYSTEMS

## DRIVE SOLUTIONS FOR SCREW CONVEYORS



Reliable under extrem conditions.  
NORD driven screw conveyors in the heat of Indonesia.



Grains / Bulk Material

Cement / Bulk Material

Lumber / Bulk Material

Minced Meat / Food & Beverage

Waste Water / Heavy Duty

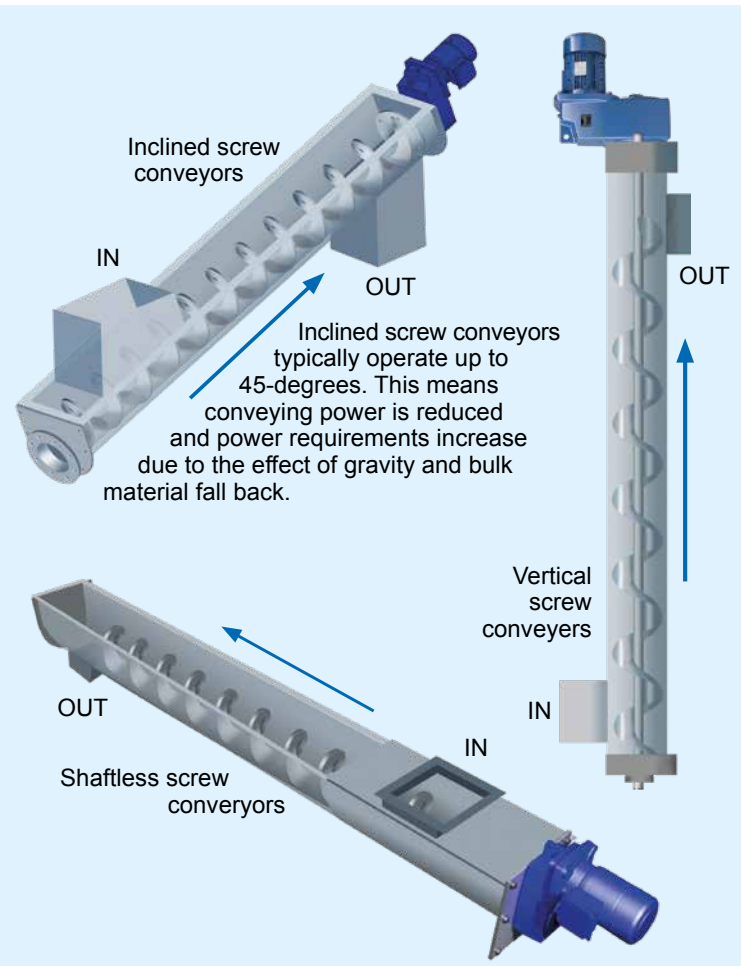
### COST EFFECTIVE AND RELIABLE

Screw conveyors are cost effective and reliable solutions for conveying and metering bulk materials even for high mass flow under extreme conditions.

The basic principle is to rotate a screw shaft fixed in between bearings through a U shaped or closed pipe to move bulk material in vertical, horizontal or inclined direction over a specific distance. The rotation can be realized by energy efficient direct mounted geared motor drives which have less friction losses compared to the traditional belt drive design.

The speed and ratio is constant and independent from external ambient conditions like e.g. wet atmosphere, however a speed control, save torque control and smooth start up and stop down of the motor can be realized by using NORD Drive Electronics.

During transport the material can also be exactly metered, mixed, dried from liquid, cooled down or heated up by special design of the screw conveyors.



# A NORD DRIVESYSTEMS CUSTOMIZED SOLUTIONS: SCREW CONVEYOR PACKAGE (SCP)



**Simplicity – NORD DRIVESYSTEMS eliminates the need for costly separate V-belt drives by providing efficient direct coupled motors.**

## Sealing options

- Viton lip seals
- Double shaft seal Quadrilip™
- Taconite Seal
- Labyrinth Seal
- Grease impregnated felt seal (SCP)
- Dual gap seals (excludes particles) (SCP)
- Material evacuation ports for gearbox protection (SCP)
- Shaft material ditch – recess for dirt control (SCP)

## Mounting

- Reduced bearing loads
- Solid or hollow shaft
- Direct coupled motor or IEC/NEMA cylinder
- Versatile flange – multiple bolt patterns
- 3-Hole tapered CEMA drive shafts (SCP) or customized shaft
  - Easy mounting
  - Easy removal

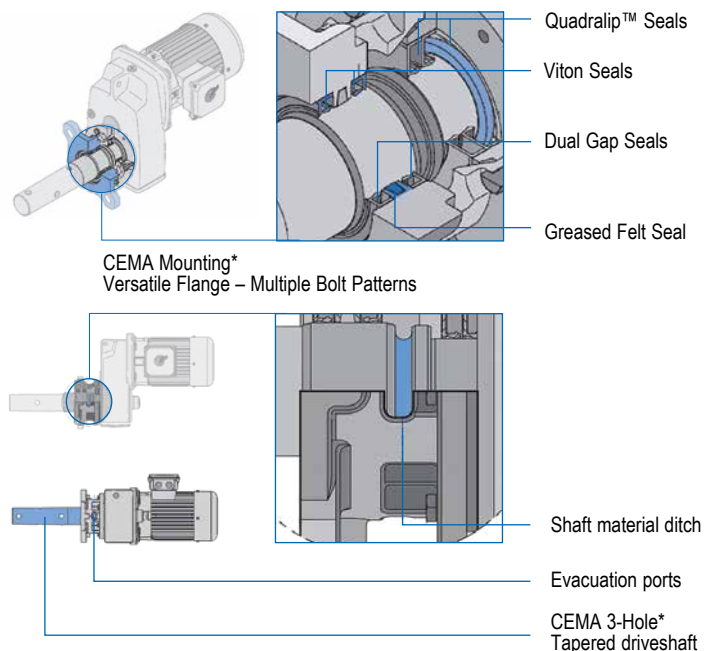
## Flange

- CEMA mounting (SCP) or B5, B14 flange
- High strength class coating
- Versatile flange – multiple bolt patterns

## Advantages

- Easy mounting / easy removal
- Reduced bearing loads
- Reduced downtimes
- Reduced maintenance costs
- High efficiency and compact design

## Features of the Screw conveyor Package (SCP)




\* Metric Dimensions on request  
CEMA=Conveyor Equipment Manufacturers Association






**MAXXDRIVE™ industrial gear units** (Catalogue G1050)



- ✓ All bearing points and sealing surfaces are machined in a single operation
- ✓ Foot mounted, flange mounted or hollow shaft mounted
- ✓ Long life, low maintenance
- ✓ Parallel axis and right-angled gear units
- ✓ UNICASE housing
- ✓ Helical and bevel gear units

Sizes	11
Power	2.2 – 4,000 kW
Torque	15 – 250 kNm
Ratio	5.54:1 – 30,000:1


**UNICASE bevel gear units** (Catalogue G1000)



- ✓ Foot mounted, flange mounted or hollow shaft mounted
- ✓ Hollow or solid shaft
- ✓ Long life, low maintenance
- ✓ UNICASE housing

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


**UNICASE parallel shaft gear units** (Catalogue G1000)



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


Power	0.12 – 200 kW
Torque	110 – 100,000 Nm
Ratio	4.03:1 – 6,616.79:1

**Motors**  
Standard motor with recommendable options such as:



IP66	Protection form water and dust ingress
RD / RDD	Rain Drip Canopy / Double Fan Drip Cover
PTC/KTY/PT100	Thermistors
IE2 Motors	For inverter driven motors
IE3 Motors	For direct online driven motors

**Hazardous area ATEX**



Dust explosion protected drive solution  
Gas explosion protected drive solution

# NORD DRIVESYSTEMS

## DRIVE SOLUTIONS FOR SCREW CONVEYORS



### Available Options and solutions:

- Direct mounting, elastic coupling or belt at input shaft to transfer torque
- Backstop to avoid return of material in case of power failure
- Special seals to protect the gear box e.g. in case difficult ambient conditions
- Hollow shaft, solid shaft depending on screw conveyor connection
- Fixing element for fixation of the hollow shaft
- Shrink disc for fixation of the hollow shaft
- Cover (IP66) to provide additional protection
- Screw conveyor package (SCP) for CEMA standard in North America
- Stainless steel shafts for corrosion protection
- NORD nsd tupH and food grade oil for food and beverage applications
- NORD ATEX for explosive atmospheres
- NORD soft starter for smooth start and stop and reverse operation
- NORD frequency Inverter for speed and torque control and process control

### Energy efficient

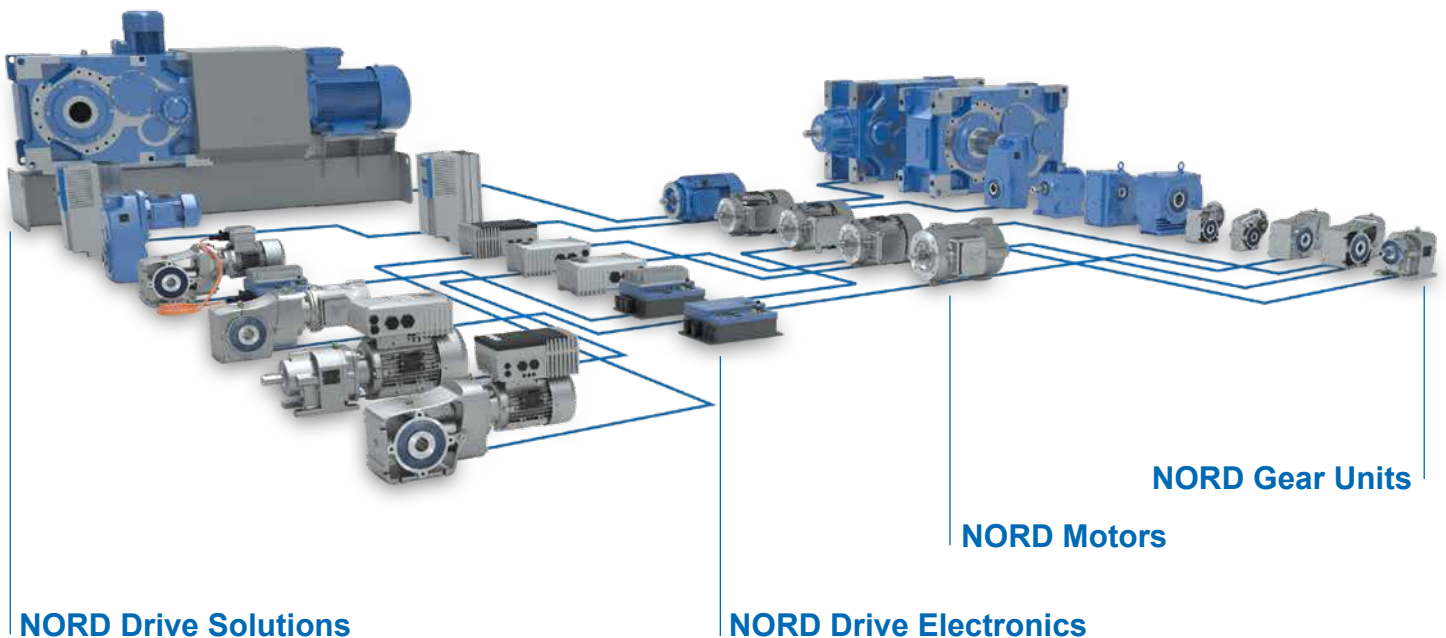
NORD drive solutions are environmentally friendly and help reduce operating costs and minimise CO<sub>2</sub> emissions.

- High efficiency helical and bevel gear units achieve optimum power transmission performance.
- NORD motors comply with international energy efficiency classes up to IE4.



- NORD frequency inverters have energy saving functions to effectively reduce energy consumption.

## COMPLETE DRIVESOLUTIONS FROM A SINGLE SOURCE



### NORD DRIVESYSTEMS Group

- Family business from Bargteheide near Hamburg with 3,600 employees
- Drive solutions for more than 100 branches of industry
- 7 production locations worldwide
- Present in 98 countries on 5 continents
- More information: [www.nord.com](http://www.nord.com)

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**Member of the NORD DRIVESYSTEMS Group**