



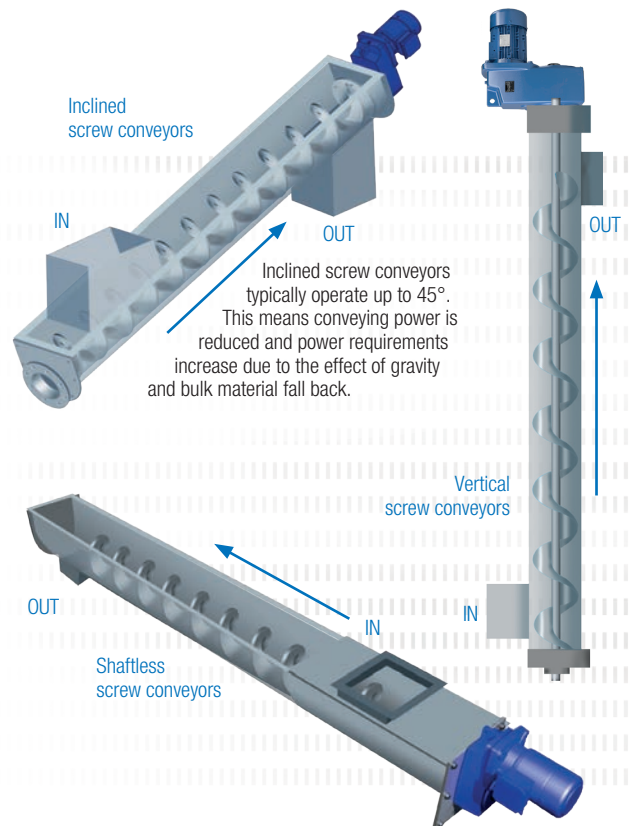
## Cost Effective and Reliable

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

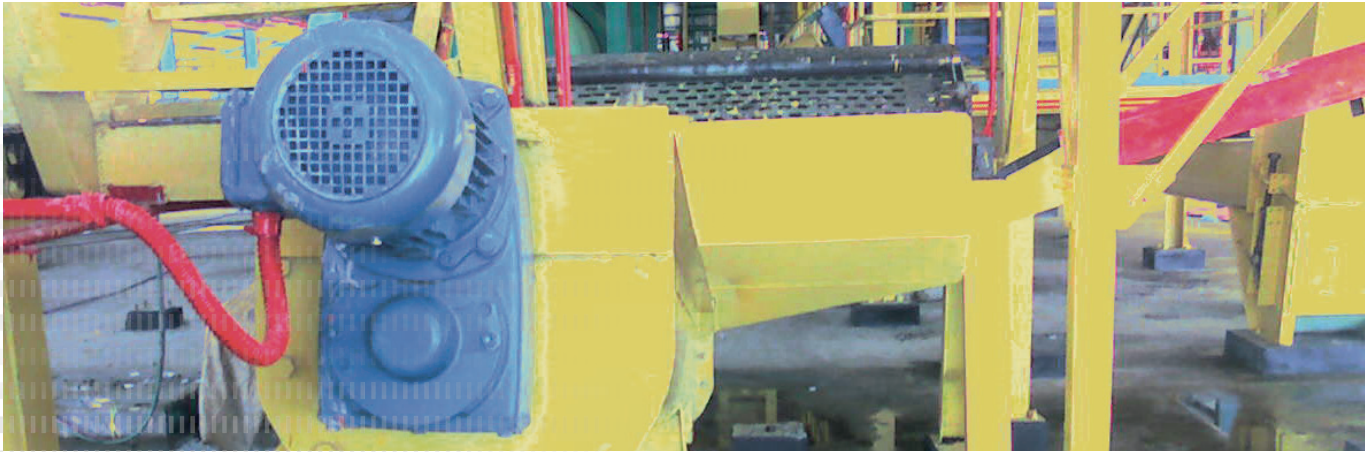
The basic principle involves a rotating screw shaft supported between bearings through a U channel or closed cylinder to move bulk material in vertical, horizontal, or inclined directions over a specific distance. The rotation is accomplished by energy efficient, direct-mounted geared motor drives which have less friction losses compared to the traditional belt drive design.

The speed and ratio is constant and independent from external ambient conditions such as wet atmospheres, etc. Speed control, safe torque control, and smooth start, stop, and reverse of the motor can be executed using NORD's drive electronics.

During transport, the material can also be precisely metered, mixed, dried from liquid, cooled down, or heated by the special screw conveyor design.



# Drive Solutions for Screw Conveyors



**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 seals
- ▶ Taconite seals
- ▶ Labyrinth seals
- ▶ Grease impregnated felt seals (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
- ▶ CEMA 3-hole\* tapered drive shafts (SCP) or customized shaft
  - ▶ Easy mounting
  - ▶ Easy removal

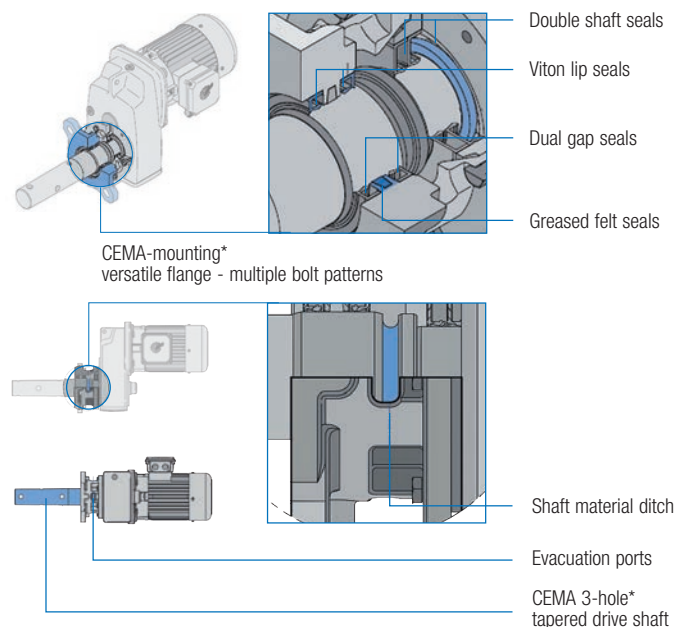
## Flange

- ▶ CEMA-mounting\* (SCP) or B5, B14 flange
- ▶ High strength class coating
- ▶ Versatile flange with multiple bolt patterns

## Advantages

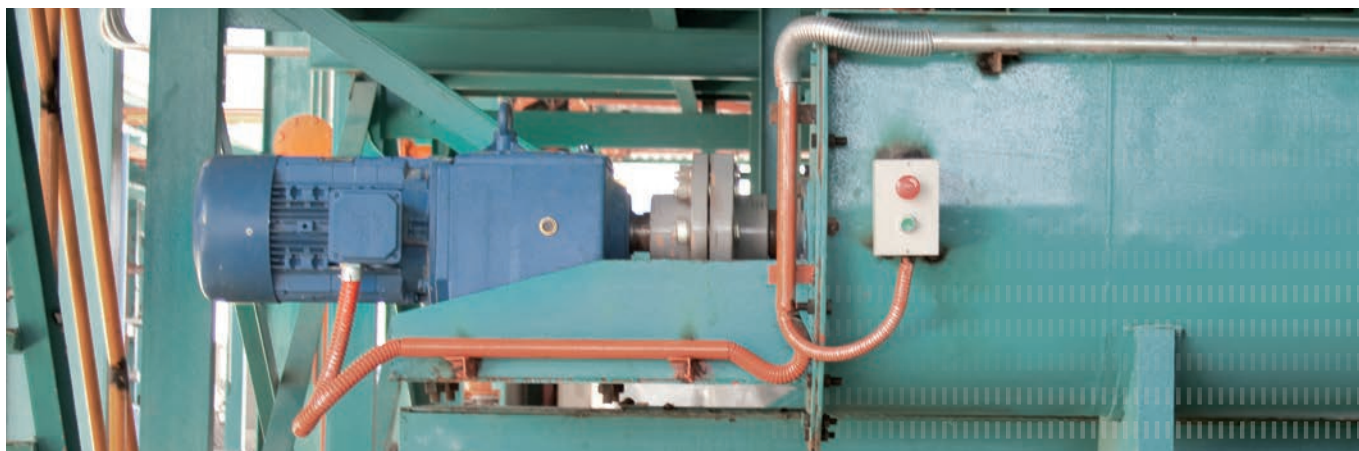
- ▶ Easy mounting / easy removal
- ▶ Reduced bearing loads
- ▶ Reduced downtimes
- ▶ Reduced maintenance cost
- ▶ High efficiency, compact design

## Features of the Screw Conveyor Package (SCP)

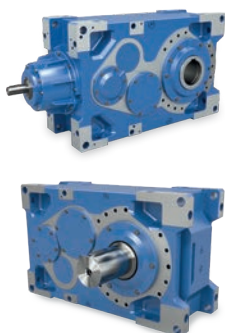


\* Metric dimensions on request  
CEMA = Conveyor Equipment Manufacturers Association





### MAXXDRIVE® Industrial Gear Units (Catalog G1050)



- ✓ Parallel axis and right-angled gear units
- ✓ High axial load capacity
- ✓ Long life, low-maintenance
- ✓ UNICASE housings
- ✓ Hollow or solid shaft
- ✓ Foot motor (IEC B3)
- ✓ Hydraulic clutch
- ✓ Back stop
- ✓ High Efficiency IE3 motor
- ✓ ATEX motors for applications in explosive environments

Size: 11  
 Power: 2.5 - 8,075 hp  
 Torque: 132,800 - 2,495,900 lb-in  
 Ratio: 5.54:1 – 30,000:1

### UNICASE™ Helical Bevel Gear Units (Catalog G1000)



- ✓ Foot, flange, or face mounted
- ✓ Hollow or solid shaft
- ✓ Long life, low maintenance
- ✓ Cast-iron UNICASE housings

Sizes: 11  
 Power: 0.16 - 200 hp  
 Torque: 1,593 - 442,537 lb-in  
 Speed ratio: 8.04:1 – 13,432.68:1

### UNICASE™ Parallel Shaft Gear Units (Catalog G1000)



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

Sizes: 15  
 Power: 0.16 - 200 hp  
 Torque: 974 - 680,200 lb-in  
 Speed ratio: 4.03:1 - 15,685.03:1

### Standard Motors with Recommended Options



IP66	Protects against water and dust
RD / RDD	Rain drip canopy / Double fan drip cover
PTC / KTY / PT100	Resistance thermomete
IE3-Motors	for direct online drive motors



#### Hazardous area ATEX

All gear units are also available as:  
 Dust explosion protected drive solution  
 Gas explosion protected drive solution

## 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 in case of harsh ambient conditions
- ▶ Hollow shaft or solid shaft – depending on screw conveyor connection
- ▶ Fixing element for hollow shaft mounting
- ▶ Shrink disc for hollow shaft mounting
- ▶ Cover (IP66) to provide additional protection
- ▶ Screw conveyor package (SCP) for CEMA standard in North America
- ▶ Stainless steel shafts for corrosion protection
- ▶ ATEX for explosive atmospheres
- ▶ NORD soft starter for smooth start, stop, and reverse operation
- ▶ NORD variable frequency drives for precise speed, torque, and process control

## Energy Efficient

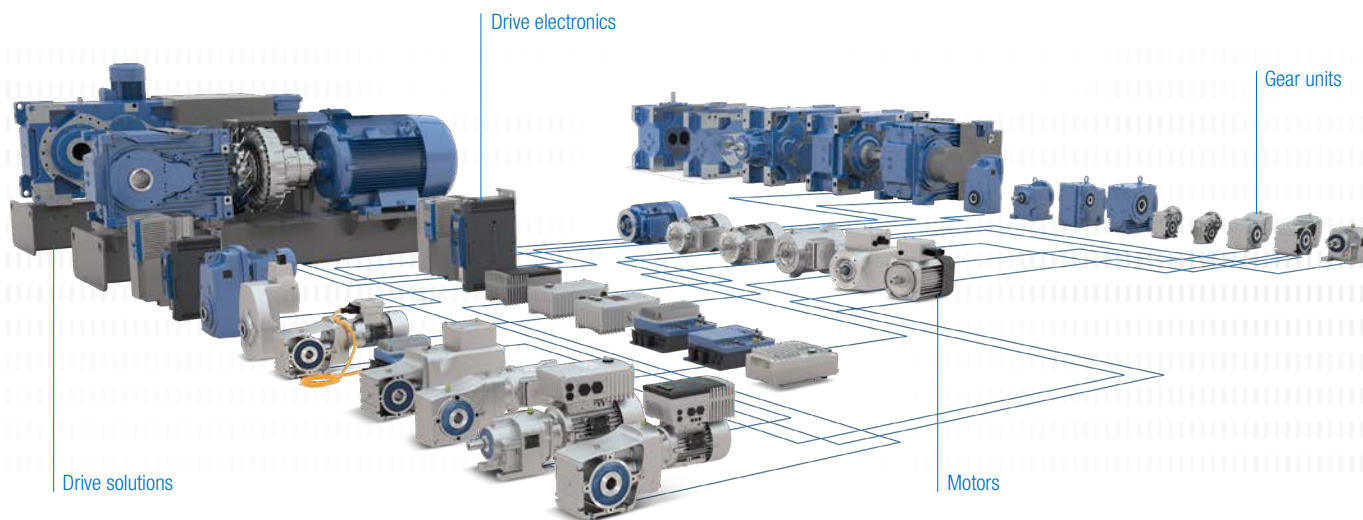
NORD drive solutions are environmentally friendly, reduce operating costs, and minimize the amount of CO<sub>2</sub> emissions.

- ▶ High efficiency helical and bevel gear units achieve optimum power transmission performance
- ▶ NORD motors comply with international energy efficiency classes up to IE5



- ▶ NORD variable frequency drives have energy saving functions to effectively reduce energy consumption

## Complete Drive Solutions From a Single Source



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