

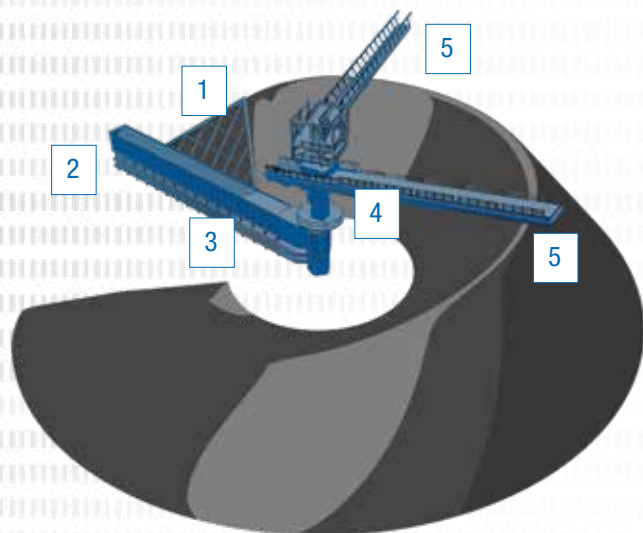
Drive solutions for circular blending beds



Robust and reliable drive solutions are required at all levels to intermediately store and/or homogenise bulk goods in circular blending beds.



Reliable under extreme conditions – NORD drive solutions for circular blending beds



A circular blending bed is a storage system for intermediate storage and/or homogenisation of bulk goods. A conveyor belt (5) feeds the bulk goods to the circular blending bed from where a second conveyor belt (5) piles the goods on a dump. A yaw drive (4) moves this conveyor around the centre of the rotary blending bed, allowing the bulk goods to be dumped orbitally.

A slope cleaner (1) removes the dumped material of all layers towards the floor evenly (homogenisation). A chain scraper (3) transports the material collected on the floor into the centre of the rotary blending bed. From here, it drops on another conveyor discharging the bulk goods. A travelling drive (2) moves the chain scraper around the centre of the rotary blending bed so that the material can be removed orbitally.

The entire drive system is designed on the basis of the quantity and properties of the material to be transported and the ambient and operating conditions. This ensures that the drive system is optimally matched to the application.

Complete drive solutions from a single source

1 Slope scraper drive

- ▶ Planetary or industrial gear unit
- ▶ Frequency inverter
- ▶ Elastic drive coupling

Advantages for our customers:

- ▶ Splined output shaft acc. to DIN 5480 for high switching frequency
- ▶ First stage gear unit possible



1

Slope scraper

2 Travelling drive

- ▶ Bevel gear unit with frequency inverter for fast motion operation
- ▶ Brake and coupling combination between fast and standard motion gear units
- ▶ Elastic drive couplings
- ▶ Running gear flange and running gear pinion
- ▶ Foundation frame



2

Travelling drive

3

Chain scraper

Advantages for our customers:

- ▶ Optimally matched drive components
- ▶ Customer-specific drive pinion and output flange
- ▶ Lowest output speeds with high gear ratios possible

3 Chain scraper drive

- ▶ Bevel gear or industrial gear unit
- ▶ Hydraulic coupling
- ▶ Motor
- ▶ Motor rocker / base frame / bracket
- ▶ Torque support

Advantages for our customers:

- ▶ Optimally matched drive components
- ▶ Safety by way of speed monitoring
- ▶ High availability due to modular concept
- ▶ Extensive scope of accessories available upon request



Drive solutions by NORD DRIVESYSTEMS are also suited for longitudinal blending beds.

5 Conveyor belt (infeeding)



4 Yaw drive

- ▶ Planetary gear unit
- ▶ Output pinion
- ▶ Safety coupling
- ▶ Brake
- ▶ Frequency inverter

Advantages for our customers:

- ▶ Optimally matched drive components
- ▶ First stage gear unit possible
- ▶ Drum, disc or motor brake
- ▶ Bracket mounting possible
- ▶ Customer-specific drive pinion
- ▶ Eccentric output flange ensuring a perfect wear pattern on drive pinion and gear ring

4 Yaw drive

5 Conveyor belt (dumping)



5 Conveyor belt drive

- ▶ Helical, bevel gear or industrial gear unit
- ▶ Elastic drive coupling
- ▶ Elastic output coupling
- ▶ Brake
- ▶ Soft starter

Advantages for our customers:

- ▶ Optimally matched drive components
- ▶ Drum, disc or motor brake
- ▶ Base frame mounting possible
- ▶ Alternative design with hydraulic coupling, hollow shaft, motor rocker and torque support possible



Explosion-protected NORD drive solutions

for explosion hazardous areas for zones 1, 2, 21 or 22; NORD DRIVESYSTEMS supplies customised explosion protected motors and geared motors. Systems based on top quality components are designed according to application in compliance with specific customer requests.

- ▶ Versions and equipment according to individual requirements
- ▶ Configuration processes validated according to ISO 9001
- ▶ Safe, SAP-supported modular system

Dust explosion protected motors

- ▶ According to category 2D or 3D
- ▶ For zone 21 or 22
- ▶ According to EN 60079-31
- ▶ Ignition protection Ex t (protection by housing)

Dust explosion protected gear units

- ▶ According to category 2D or 3D
- ▶ For zone 21 or 22
- ▶ According to EN 13463
- ▶ Ignition protection class c (design safety)

Drive solutions for circular blending beds

MAXXDRIVE® industrial gear units (Catalogue G1050)



- ✓ Universal gear units
- ✓ Helical gear units 2- and 3-stage
Helical bevel gear units 3- and 4-stage
- ✓ Multiple mounting and cooling options
- ✓ Modified bearing options for high radial and axial load capacity
- ✓ Compact design
- ✓ All installation positions

Sizes: 11
Power: 1.5 – 6,000 kW
Torque: 15,000 – 282,000 Nm
Speed ratio: 5.54 – 30,000:1

UNICASE parallel shaft gear units (Catalogue G1000)



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

Sizes: 15
Power: 0.12 – 200 kW
Torque: 110 – 100,000 Nm
Speed ratio: 4.03 – 15,685.03:1

UNICASE bevel gear units (Catalogue G1000)



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

Sizes: 11
Power: 0.12 – 200 kW
Torque: 180 – 50,000 Nm
Speed ratio: 8.04 – 13,432.68:1

NORDAC FLEX SK 200E frequency inverter (Catalogue E3000)



- ✓ Energy-saving function
- ✓ Integrated POSICON positioning control
- ✓ Integrated PLC

Voltage: 1~ 110 – 120 V, 1~ 200 – 240 V
3~ 200 – 240 V, 3~ 380 – 500 V
Power: 0.25 – 22 kW



NORDAC PRO SK 500E frequency inverter (Catalogue E3000)



- ✓ Stand-alone operation
- ✓ 4 parameter sets
- ✓ Sensorless current vector control (ISD control)
- ✓ Integrated PLC

Voltage: 1~ 110 – 120 V, 1~ 200 – 240 V
3~ 200 – 240 V, 3~ 380 – 480 V
Power: 0.25 – 160 kW

Motors (Catalogue M7000)

-  IE3 motors from 0.12 kW (Size 63)
-  IE4 synchronous and asynchronous motors



International efficiency standards

- ▶ EU: IE1 – IE4 acc. to IEC 60034-30
- ▶ US: ee labeling acc. to EISA 2014 (Dept. of Energy)
- ▶ CA: CSA energy verified acc. to EER 2010
- ▶ CN: CEL acc. to GB 18613
- ▶ KR: KEL acc. to REELS 2010
- ▶ BR: Alto Rendimento acc. to Decreto nº 4.508
- ▶ AU: MEPS acc. to AS/NZS 1359.5



In combination with motor and motor control system in accordance with Ecodesign directive EN 50598

NORD DRIVESYSTEMS Group

- ▶ Family business from Bargteheide near Hamburg with more than 4,100 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

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