

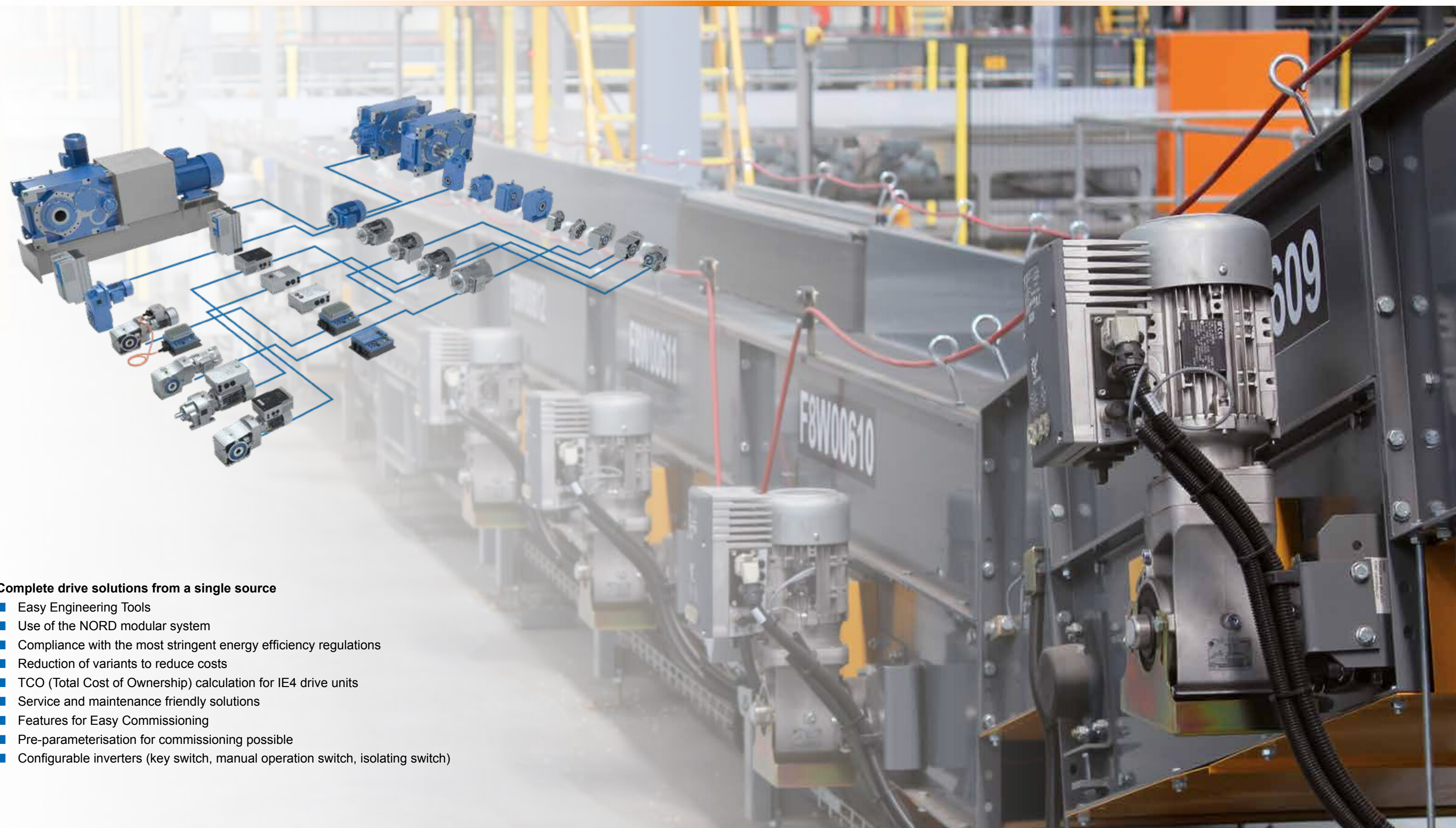
# NORD DRIVE SOLUTIONS FOR CONVEYOR BELT APPLICATIONS

Application	Applications	Description	The NORD solution	Gear unit	Braking resistor	Mech. holding brake	IE4 synchronous motors with inverters <b>IE4</b>	f [Hz]	Encoder	IE2, IE3 asynchronous motors with inverters <b>IE2</b> <b>IE3</b>		
							Classification of frequency inverters and motors			Inverter overload capacity	f [Hz]	
<p><b>Incline or decline conveyor belts</b></p>	<ul style="list-style-type: none"> <li>Parcel distribution centres</li> <li>Baggage handling</li> <li>Intralogistics</li> <li>Material handling</li> </ul>	<p>Incline or decline conveyor belts:</p> <ul style="list-style-type: none"> <li>Transporting general goods</li> <li>Moving the goods to different heights</li> <li>Continuous or intermittent transport</li> </ul>	<p><b>LogiDrive</b></p>	<ul style="list-style-type: none"> <li>Service factor (fb) &gt; 1.6</li> <li>Note the installation position – for incline or decline conveyor belts, tilted mounting positions are possible after technical clarification</li> <li>Hollow shaft &gt;                             <ul style="list-style-type: none"> <li>ø typically 25-30 mm (Post and Parcel)</li> <li>ø typically 30-40 mm (Airport)</li> </ul> </li> </ul>	<p>External brake resistor recommended</p>	<p>Recommended above 10° decline or incline, depending on load, ratio and conveyor belt construction – technical clarification necessary</p>	<p>Selected motor power to inverter power ratio 1:1 For highly dynamic operation, select the inverter 1-2 power sizes higher</p>	70 Hz (standard)	<p>Not necessary Exception: highly dynamic operation</p>	<p>Selected motor power to inverter power ratio 1:1 For highly dynamic operation, select the inverter 1-2 power sizes higher</p>		
<p><b>Horizontal conveyor belts</b></p>	<ul style="list-style-type: none"> <li>Parcel distribution centres</li> <li>Baggage handling</li> <li>Intralogistics</li> <li>Material handling</li> </ul>	<p>Horizontal conveyor belts:</p> <ul style="list-style-type: none"> <li>Horizontal transport of general goods</li> <li>Internal transport of goods between individual storage processes</li> <li>Usually fixed location</li> <li>Fields of use are for incoming goods, warehousing, order picking and goods dispatch as well as for various system functions such as buffering, storage and distribution of conveyed material to various lines and conveyors</li> <li>Continuous or intermittent transportation of product</li> </ul>		<ul style="list-style-type: none"> <li>Service factor (fb) &gt; 1.6</li> <li>Hollow shaft &gt;                             <ul style="list-style-type: none"> <li>ø typically 25-30 mm (Post and Parcel)</li> <li>ø typically 30-40 mm (Airport)</li> </ul> </li> </ul>	<p>Internal brake resistor</p>		<p>Selected motor power to inverter power ratio 1:1 For highly dynamic operation, select the inverter 1-2 power sizes higher</p>		<p>Not necessary Exception: highly dynamic operation</p>	<p>Selected motor power to inverter power ratio 1:1 For highly dynamic operation, select the inverter 1-2 power sizes higher</p>		
<p><b>Mergers and diverters</b></p>	<ul style="list-style-type: none"> <li>Parcel distribution centres</li> <li>Baggage handling</li> <li>Intralogistics</li> <li>Material handling</li> </ul>	<p>Mergers and diverters:</p> <ul style="list-style-type: none"> <li>Mergers guide several conveyor flows into an output line avoiding collisions</li> <li>Diverters precisely alter the direction of flow of the material or sort it in intermittent operation</li> <li>Cartons, containers, baggage or other individual goods are merged or diverted</li> <li>Used in sorting and distribution systems</li> <li>Highly dynamic applications with frequent start/stops</li> </ul>		<p>2-stage bevel gear NORDBLOC.1 with IE2, IE3 or IE4 motor, direct or wall mounted inverter (NORDAC FLEX) or wall mounted field distributor (NORDAC LINK)</p> <p><b>Energy efficient</b></p> <ul style="list-style-type: none"> <li>In compliance with the most stringent efficiency regulations</li> <li>Reduces operating costs (TCO)</li> <li>High efficiency, even in partial load and partial speeds</li> </ul> <p><b>Reduction of variants</b></p> <ul style="list-style-type: none"> <li>Significant reduction of spare part stocks for the project</li> <li>Large speed range through inverter technology</li> </ul>	<ul style="list-style-type: none"> <li>Service factor (fb) &gt; 2</li> <li>Hollow shaft &gt;                             <ul style="list-style-type: none"> <li>ø typically 25-30 mm (Post and Parcel)</li> <li>ø typically 30-35 mm (Airport)</li> </ul> </li> </ul>	<p>External brake resistor recommended</p>	<p>Not necessary in general for inverter operation, as the motor is brought to a standstill in a controlled manner by the inverter.</p>	<p>An inverter two power sizes higher must be selected</p>	<p>Always with incremental encoder</p>	<p>An inverter one power sizes higher must be selected</p>	<p>50 Hz (standard) or 87 Hz</p> <p>With 87 Hz the power increases by a factor of 1.73. A larger inverter must be selected accordingly</p>	
<p><b>Indexing conveyors</b></p>	<ul style="list-style-type: none"> <li>Parcel distribution centres</li> <li>Baggage handling</li> <li>Intralogistics</li> <li>Material handling</li> </ul>	<p>Indexing belts (also known as gappers or metering belts):</p> <ul style="list-style-type: none"> <li>Create defined gaps between packages which arrive with different spacings or close together</li> <li>Ensure stabilisation of package speed</li> <li>Flexible speed adjustment to change the throughput speed and gaps between items</li> <li>Highly dynamic applications with frequent start/stops</li> </ul>		<p><b>Easy to service and maintain</b></p> <ul style="list-style-type: none"> <li>Compact, space-saving design</li> <li>25% weight reduction due to aluminium housing</li> <li>Service friendly through plug-and-play technology</li> <li>Replacement of individual system components possible</li> </ul>	<ul style="list-style-type: none"> <li>Service factor (fb) &gt; 2</li> <li>Hollow shaft &gt;                             <ul style="list-style-type: none"> <li>ø typically 25-30 mm (Post and Parcel)</li> <li>ø typically 30-35 mm (Airport)</li> </ul> </li> </ul>	<p>External brake resistor recommended</p>		<p>An inverter two powers sizes higher must be selected</p>		<p>Always with incremental encoder</p>	<p>An inverter one power sizes higher must be selected</p>	
<p><b>Curves</b></p>	<ul style="list-style-type: none"> <li>Parcel distribution centres</li> <li>Baggage handling</li> <li>Intralogistics</li> <li>Material handling</li> </ul>	<p>Curves:</p> <ul style="list-style-type: none"> <li>Connection of sections which are at an angle to each other</li> <li>Continuous or intermittent transport</li> </ul>			<ul style="list-style-type: none"> <li>Service factor (fb) &gt; 1.6</li> <li>Hollow shaft &gt;                             <ul style="list-style-type: none"> <li>ø typically 25-30 mm (Post and Parcel)</li> <li>ø typically 30-40 mm (Airport)</li> </ul> </li> </ul>	<p>Internal brake resistor</p>		<p>Selected motor power to inverter power ratio 1:1, for dynamic operations, in general select the inverter 1-2 power sizes higher</p>		<p>Not necessary Exception: highly dynamic operation</p>	<p>Selected motor power to inverter power ratio in general 1:1, for dynamic operations, in general select the inverter 1-2 power sizes higher</p>	

### Frequency inverter NORDAC LINK

- Integrated PLC for drive-related functions
- Integrated positioning control "POSICON"
- Safe stop with "Safe Torque Off" (STO) and "Safe Stop 1" (SS1) as per EN 61800-5-2
- ASM and PMSM motor operation
- Protection class IP55/ IP66
- AS Interface
- All common bus systems are available
- Simple commissioning and installation
- All I/O, bus interface and power connections as plug-in for easy installation and maintenance
- Sensorless current vector control (ISD control)
- energy saving function
- Various options such as key switch/maintenance switch, push buttons, potentiometers

Sizes	2
Voltage	3~ 400 V
Power	0.75 - 7.5 kW



### Complete drive solutions from a single source

- Easy Engineering Tools
- Use of the NORD modular system
- Compliance with the most stringent energy efficiency regulations
- Reduction of variants to reduce costs
- TCO (Total Cost of Ownership) calculation for IE4 drive units
- Service and maintenance friendly solutions
- Features for Easy Commissioning
- Pre-parameterisation for commissioning possible
- Configurable inverters (key switch, manual operation switch, isolating switch)

AS0302 Part No. 604-6502 / 0518

Please contact your local NORD DRIVESYSTEMS representative: **Getriebebau NORD GmbH & Co. KG**  
Getriebebau-Nord-Straße 1 · 22941 Bargtheide · T +49 (0) 4532 / 289-0 · F +49 (0) 4532 / 289-2253  
info@nord.com · www.nord.com · Member of the NORD DRIVESYSTEMS Group

### 2-stage bevel gear unit NORDBLOC.1

- Bevel gear unit with ultimate efficiency
- Foot-, flange- or shaft mounted
- Hollow or solid shaft
- UNICASE housing
- 25% lighter aluminium housing

Sizes	6
Power	0.12 - 9.2 kW
Torque	50 - 660 Nm
Ratio	3.03:1 - 70:1

### Motors

- IE2
- IE3
- IE4
- IES2
- IE2/IE3 motors
- IE4 synchronous and asynchronous motors
- IES2 in combination with motor and motor control system in accordance with Ecodesign directive EN 50598
- Overload of up to 300% for short periods
- International energy efficiency standards
  - EU: IE1 – IE4 as per IEC 60034-30
  - US: Labelling according to EISA 2014
  - CA: CSA energy verified as per EER 2010
  - CN: CEL as per GB 18613
  - KR: KEL as per REELS 2010
  - BR: Alto Rendimento as per Decreto nº 4.508
  - AU: MEPS as per AS/NZS 1359.5

### Frequency inverter NORDAC FLEX

- Integrated PLC for drive-related functions
- Integrated positioning control "POSICON"
- Safe stop with "Safe Torque Off" (STO) and "Safe Stop 1" (SS1) as per EN 61800-5-2
- ASM and PMSM motor operation
- Protection class IP55/ IP66
- AS interface integrated in SK 22xE and SK 23xE
- All common bus systems are available
- Sensorless current vector control (ISD control)
- Energy-saving function
- Motor or wall-mounting
- Internal or external 24V supply

Sizes	4
Voltage	1~ 115 V 1~ 230 V 3~ 230 V 3~ 400 V
Power	0.25 - 22 kW



Intelligent drive solutions for decline, incline and horizontal conveyor belts, mergers and diverters, indexing conveyors and curves