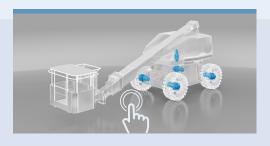




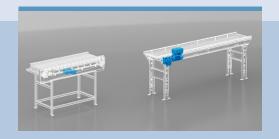
WAREHOUSE & MATERIAL HANDLING



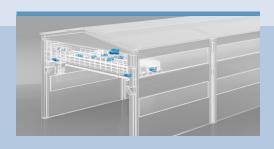
AIRPORT EQUIPMENT



ACCESS & AERIAL PLATFORMS



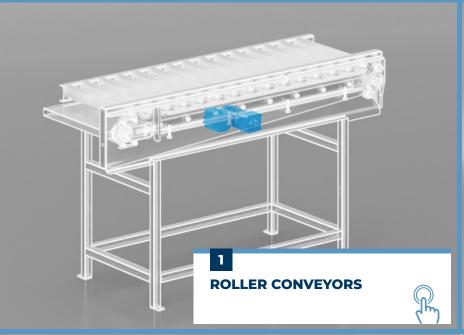
CONVEYING



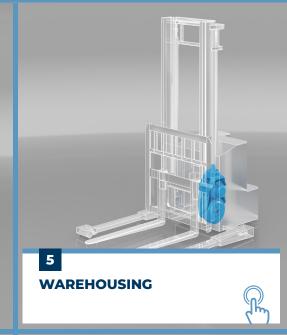
LOGISTIC & INDUSTRIAL CRANES

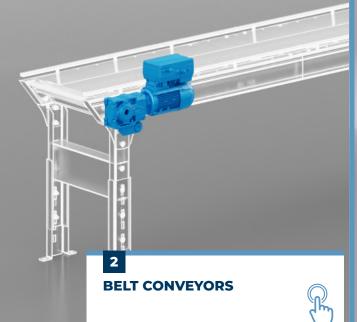


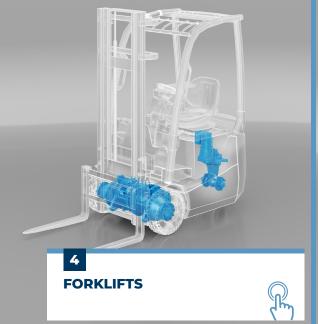


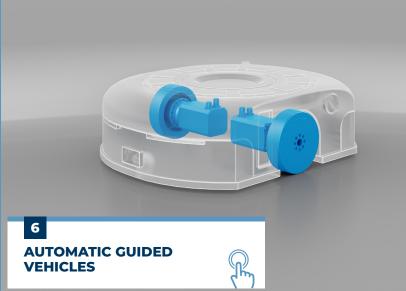












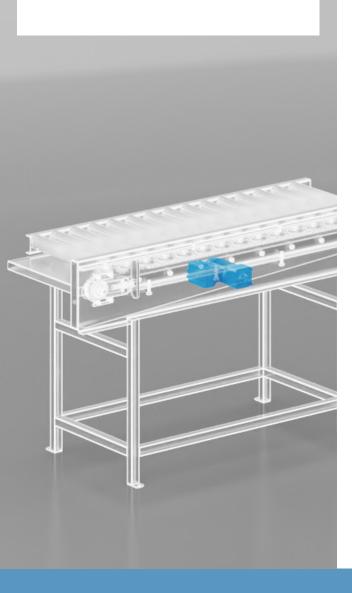








ROLLER CONVEYORS





EVOX Series

Helical In-Line Gearbox

- Torque density
- Compact design
- Wide choice of speeds
- Universal mounting position
- · Long-life lubricated



BSR Series

Synchronous Reluctance Motors

- Torque density
- · Compact design
- Wide choice of speeds
- · Universal mounting position



DGM Series

Decentralized Inverter

- Wide range of kW from 0.55 to 30kW
- Ethernet stack to manage with 1 product code: Profinet, Ethernet IP, Sercos3, Ethercat
- · Motor brake management

- Wide range of bolt-on output flanges
- Motor power from 0.37 to 11 kW
- · Reinforced bearings available as an option
- IE3/IE4 green solution
- · High torque level
- · Wide range of options and flanges
- IP65 Inverter
- Reduction of electrical wiring
- Management of asynchronous motor, reluctance synchronous

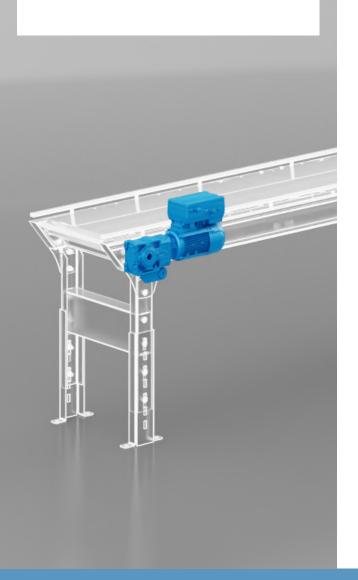






2

BELT CONVEYORS





A Series

Helical Bevel Gearmotors & Units

. ע

- Torque density
- · Compact design
- Wide choice of speeds



BSR Series

Synchronous Reluctance Motors

- Torque density
- · Compact design
- Wide choice of speeds
- · Universal mounting position



DGM Series

Decentralized Inverter

- Wide range of kW from 0.55 to 30kW
- Ethernet stack to manage with 1 product code: Profinet, Ethernet IP, Sercos3, Ethercat
- · Motor brake management

EATURES

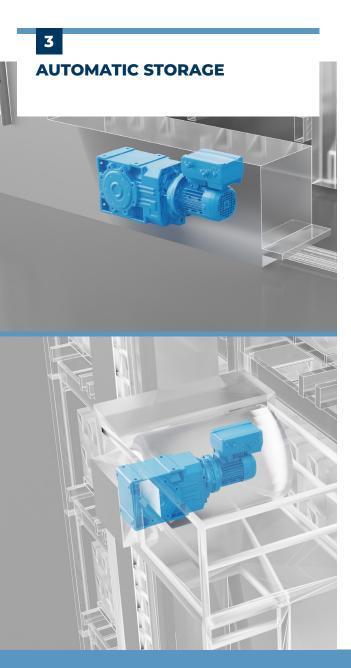
- Shaft mounting with hollow shaft and torque arm or shrink disk
- Horizontal or vertical mounting position
- Motor power from 0.37 to 11 kW
- Reinforced bearings available as an option
- $\boldsymbol{\cdot}$ Reduced backlash as an option

- IE3/IE4 green solution
- · High torque level
- · Wide range of options and flanges
- IP65 Inverter
- Reduction of electrical wiring
- Management of asynchronous motor, reluctance synchronous











A Series

Helical Bevel Gearmotors & Units

• Tor

- Torque density
- Compact design
- Wide choice of speeds

PATORE PA

- Shaft mounting with hollow shaft
- Horizontal or vertical mounting position
- Motor power from 0.25 to 3 kW



MXN Series

Asynchronous Motors

- Compact design
- · Wide choice of speeds
- Universal mounting position
- Feedback device (encoder) available as option
- IE3 solution
- · Wide range of options and flanges



DGM Series

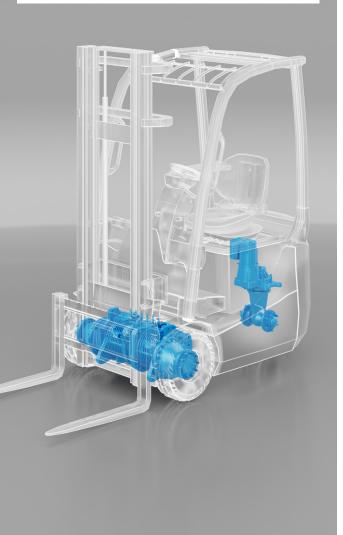
Decentralized Inverter

- Wide range of kW from 0.55 to 30kW
- Ethernet stack to manage with 1 product code: Profinet, Ethernet IP, Sercos3, Ethercat
- · Motor brake management
- IP65 Inverter
- Reduction of electrical wiring
- Management of asynchronous motor, reluctance synchronous



4

FORKLIFTS





600F Series

Traction Systems

BENEFITS

- Maximum efficiency
- Minimum noise

- Complete solution
- Fully tested





600W0C Series

Idle Steering System

- · 360° steering
- Complete solution
- Fully tested

• Dual stage gearbox

- $\cdot \ \mathsf{Optimized} \ \mathsf{gear} \ \mathsf{design}$
- Service brake
- Parking brake
- Integrated, customized mast support
- Integrated AC traction motor protection rating up to IP54
- Integrated, high accuracy, silicon-based temperature sensor
- Integrated, high resolution hall effect speed sensor
- · Hydraulic steering
- Electric steering for 601W0
- Optimized steering angle design

У.			
A		Axl	e torque (Nm)
	601 F	3,000	
7	602 F	5,500	
S	603 F	7,000	
Ĭ	605 F		18,000
Ī	610 F		50,000
1 1			

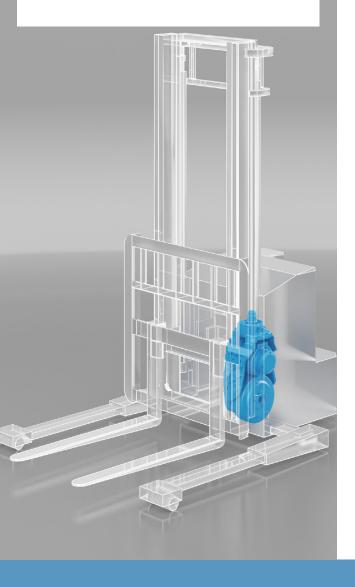
Lift capacity (kg)					
	2,000				
	3,5	500			
		5,000			
			9,000		
				16,000	

	Lift capacity (kg)				
601 W0C	2,000				
602 W0C	3,000				
603 W0C	3,500				





WAREHOUSING





EL Series

Steerable Drives

BENEFITS

- Maximum efficiency
- Minimum noise

- · Complete solution
- Fully tested

• Two-stage helical & bevel gearboxes · Manual steering and power steering

- versions
- · Optimized gear design for efficiency and noise
- · Integrated low-voltage electric motor
- Integrated parking brake
- Complete system with tires

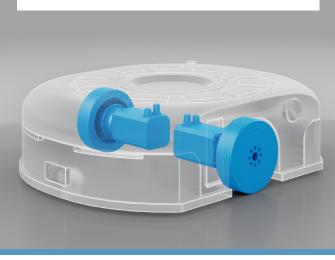
•					
4		Torq	ue (N	lm)	
	EL100	450			
J	EL09	500			
S	EL96	500			
Ĭ	EL10	90	00		
Ī	EL300		1,10	0	
U U	EL92			1,500)
Ë	EL93			1,500)
	EL94			1,500)
	EL14		1	,900	
	EL16				2,500

Max wheel load (kg)					
	1,	200			
	1,	200			
		1,500)		
		1,500)		
			2,200		
				3,0	000
				3,0	000
				3,0	000
			3,4	00	
				4	,000

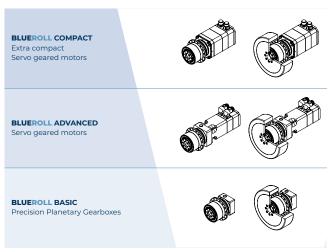




AUTOMATIC GUIDED VEHICLES



Customized levels of integration





BlueRoll Basic

TQW: the new Wheel-**Mounted Gearbox Series**

- Easy installation
- Heavy load capability
- Great reliability
- Minimized installation space



BlueRoll Advanced

Powerful and Compact Servo Gearmotors

- · High energy efficiency
- · Stiff and precise
- High torque capability
- High flexibility



BlueRoll Compact

Extra Compact Servo Gearmotors

- Simplified AGV design
- Suitable for long operation
- Top level configuration

- Three gearmotor sizes, rated for loads up to: 360kg, 720kg and 1020kg
- · Speed up to 2 m/s
- · New wheel-mounted precision planetary gearbox: TQW
- Permanent Magnet Synchronous Motors with premium efficiency
- Wide range of feedback systems, including safety encoders
- · Compact design, extensively customizable

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	TQW
	TQW
1	<u>`</u>
C	TQW
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7	
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Ш	

Į				
1		Tor	que (Nm)	
1	TQW 060	30		
Į	TQW 070		65	
}	TQW 090			155



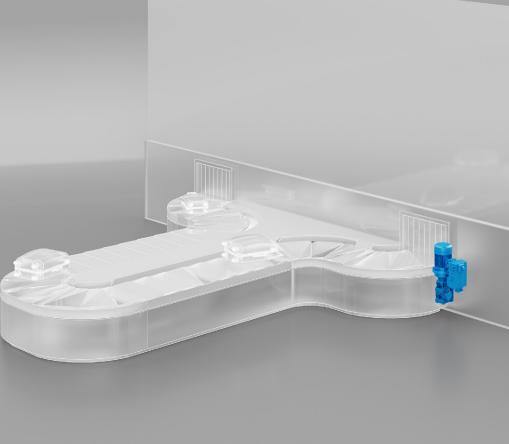
Every BlueRoll version is available both with and without the wheel.



TOW TRACTORS



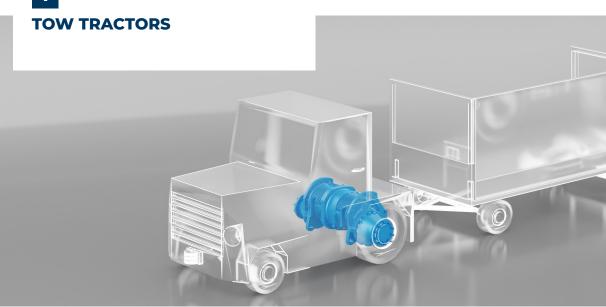
BAGGAGE CLAIM





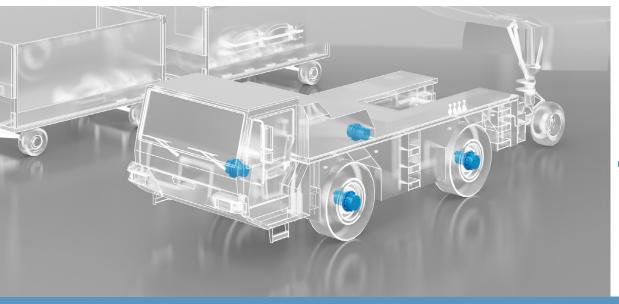












WHEEL DRIVES

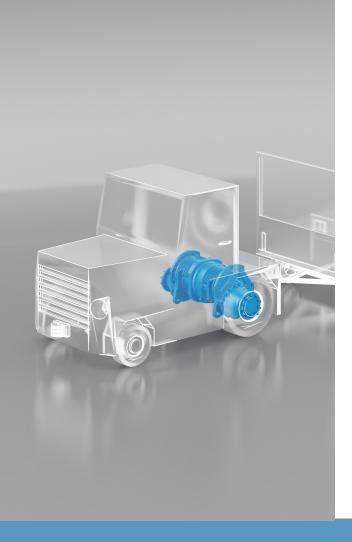






1

TOW TRACTORSTRACTION SYSTEMS





600F Series

TractionSystems

BENEFITS

- Maximum efficiency
- Minimum noise

- Complete solution
- Fully tested

Dual stage gearboxOptimized gear design

- Optimized gear desig
 Service brake
- . Del vice bi ake
- Parking brake
- Integrated, customized mast support
- Integrated AC traction motor protection rating up to IP54
- Integrated, high accuracy, silicon-based KTY temperature sensor
- Integrated, high resolution hall effect speed sensor

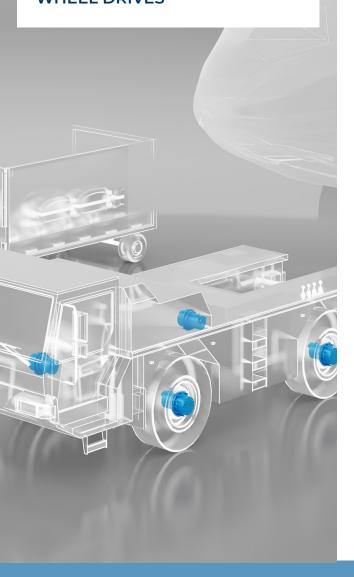
<				
4		Tord	ղue (Nm)	
۵	600 D	1,000		
J	601 F		3,000	
S	602 F		5,500	
Į	603 F			7,000
-				

Max draw bar pull force (kN)					
	5 8				
	9 14				
	15 18				
	20 30				











600W Series

Wheel Drives

Benefits for OEMs

- · Ability to downsize and downspeed combustion engines
- Easy installation: electric solution dimensions comparable to standard hydrostatics
- · Higher system reliability: fewer mechanical parts
- · Virtually maintenance-free electric motors
- From wheel bolt to electric wire with only one supplier

Benefits for end users

- Reduced fuel consumption
- Increased productivity
- · Better machine manoeuvrability
- The electric solution is cleaner: lower risk of oil spills

• Multi-stage planetary gearbox

- Rotating housing output
- · Validated in the field

- Permanent magnet motors
- Suitable for batteries 400 700Vdc
- · Liquid cooled
- · Aluminium or cast iron housing
- Protection rating >IP54

DATA		Torqu	e (Nm	1)
	605 WV	10,000		
၂	606 WV	17,00	00	
CAL	607 WV	22	2,000	
Ĭ	609 WV		30,0	000
CHN	610 WV		3	36,000
S	610 X			40,000
Ë	611 WV		45,0	00
	613 WV			60,000

	Rated power (kW)						
BTM 240-L1	20						
BTM 240-L2		35					
BTM 240-L3				65			
BTM 300-L1						100	
BTM 300-L2						1	50

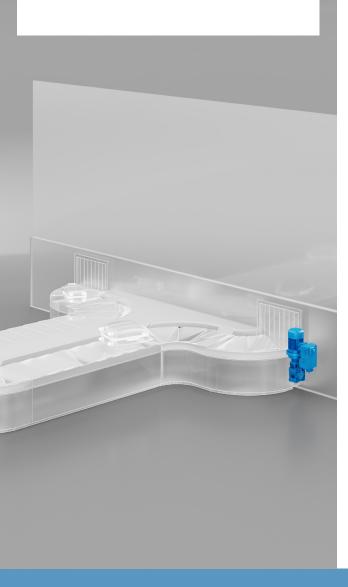






2

BAGGAGE CLAIM





A Series

Helical Bevel Gearmotors & Units

BENEFITS

- Torque density
- Compact design
- Wide choice of speeds



BSR Series

Synchronous Reluctance Motors

- Torque density
- Compact design
- Wide choice of speeds
- Universal mounting position



DGM Series

Decentralized Inverter

- Wide range of kW from 0.55 to 30kW
- Ethernet stack to manage with 1 product code: Profinet, Ethernet IP, Sercos3, Ethercat
- · Motor brake management

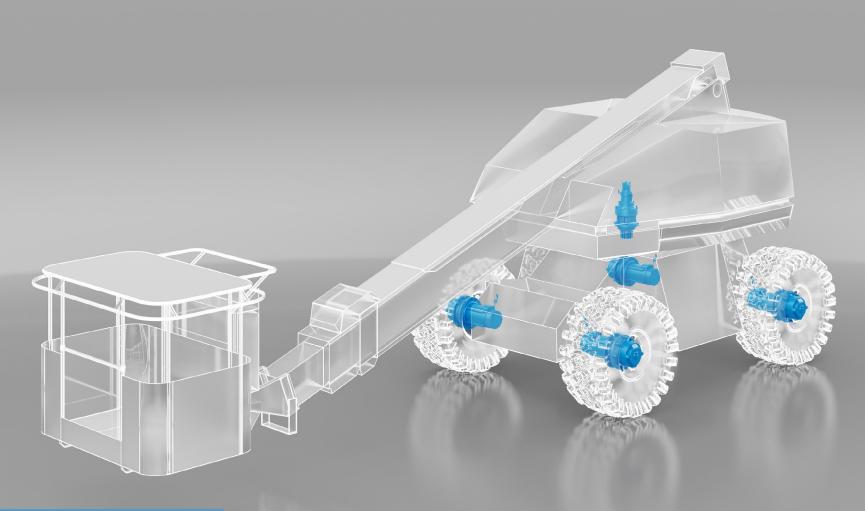
FEATURES

- Shaft mounting with hollow shaft and torque arm or shrink disk
- Horizontal or vertical mounting position
- Motor power from 0.37 to 11 kW
- Reinforced bearings available as an option
- · Reduced backlash as an option

- IE3/IE4 green solution
- · High torque level
- Wide range of options and flanges
- IP65 Inverter
- Reduction of electrical wiring
- Management of asynchronous motor, reluctance synchronous







ACCESS & AERIAL PLATFORMS

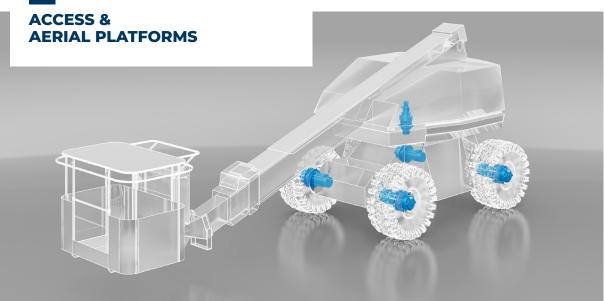


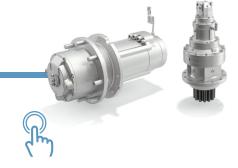




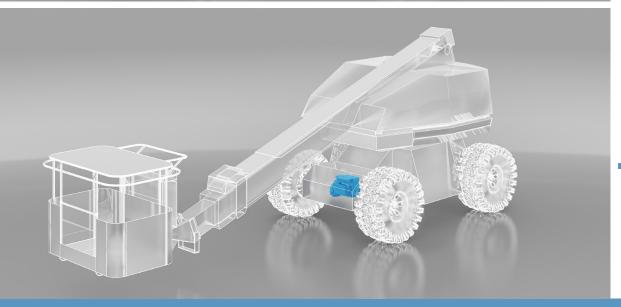












ELECTRIC DRIVE SYSTEM

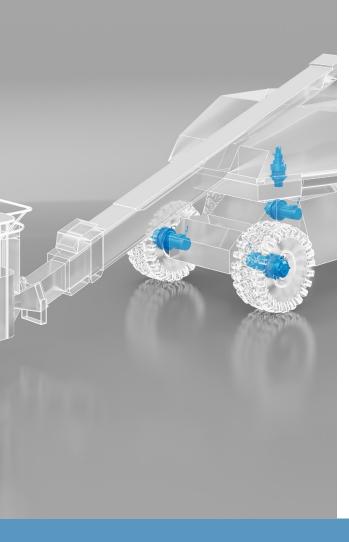






1

ACCESS &
AERIAL PLATFORMS
WHEEL & SLEW DRIVES





600WE Series

Wheel Drives

ר ב ב

- Compact dimensions
- Low noise
- High efficiency
- · Maintenance-free motors

EATURE

- Two- or three-stage planetary drive with reduction ratios of up to 1:145
- Optimized gear design for maximum efficiency and minimum noise
- · Integrated, low voltage, 3-phase induction motor
- · Integrated, high accuracy, temperature sensor
- · High resolution, hall-effect speed sensor
- Motor protection rating up to IP67



700T Series

Slew Drives

- Rugged construction
- Flange mounted
- High torque capacity
- Driven by hydraulic or electric motor
- Output shaft with pinion
- Compact design
- Wide range of pinions
- · Including brake, wet disc or electromagnetic

Torque (Nm)
500	
900	
3,000	
3,500	
4,500	
	7,000
	10,000
	900 3,000 3,500

	Torque (Nm)			
700 T F	1,200			
701 T F	2,400			
703 T F	3,500			
705 T F	6,500			





ACCESS & AERIAL PLATFORMS ELECTRIC DRIVE SYSTEM





E-AXLES Series

Electric Drive System

Compact

- · High power density & efficiency
- Modular
- Easy installation

- · Reduced time-to-market
- · Reduced EV knowledge and vehicle modifications
- ~80% less weight and volume compared to traditional internal combustion engines

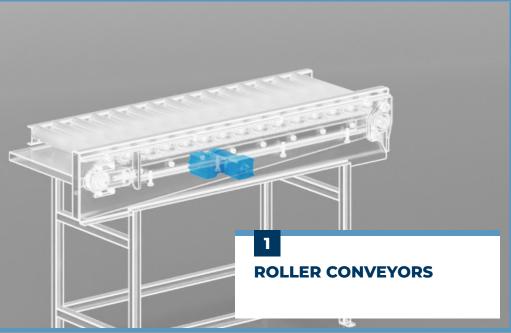
• E-AXLES series can be configured as: - TransAxle - with/without gearbox

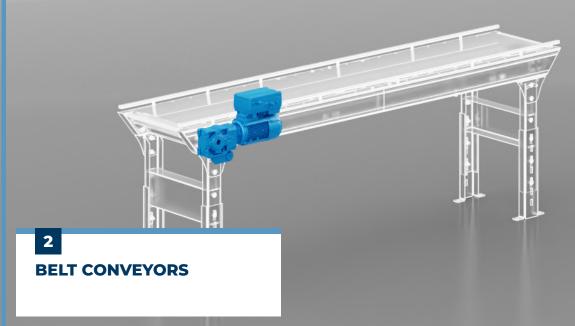
- CentrAxle with/without gearbox
- · Telematics control board available as system option
- System efficiency reaches 93%
- · Scalable power from 90kW to 120kW peak

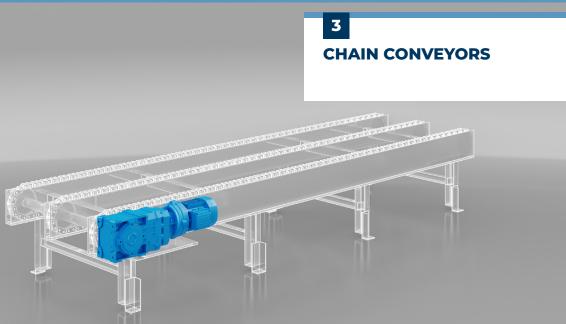
- Permanent magnet synchronous motor technology
- · Adaptable to various applications adding a powertrain control
- Available with inverter in Slave or Master configuration, with torque and speed control functions

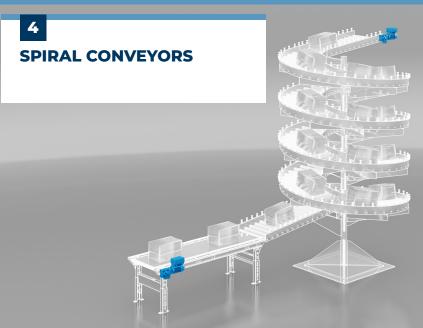
۹						
4		TransAxle & CentrAxle (with gearbox)		TransAxle & CentrAxle (without gearbox)		
۵			90kW	120kW	90kW	120kW
CAL	Torque range	(Nm)	728	728	260	260
Z	Speed transmission with gear ratio	i:	2.8	2.8	-	-
立	Motor max output speed	(rpm)	3,928	3,928	11,000	11,000











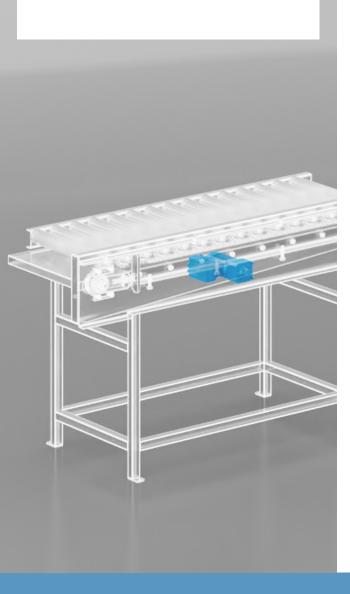








ROLLER CONVEYORS





EVOX Series

Helical In-Line Gearbox

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- Torque density
- Compact design
- Wide choice of speeds
- Universal mounting position
- · Long-life lubricated



BSR Series

Synchronous Reluctance Motors

- Torque density
- · Compact design
- Wide choice of speeds
- · Universal mounting position



DGM Series

Decentralized Inverter

- Wide range of kW from 0.55 to 30kW
- Ethernet stack to manage with 1 product code: Profinet, Ethernet IP, Sercos3, Ethercat
- · Motor brake management

• Wide range of bolt-on output flanges

- Motor power from 0.37 to 11 kW
- Reinforced bearings available as an option
- IE3/IE4 green solution
- · High torque level
- · Wide range of options and flanges
- IP65 Inverter
- Reduction of electrical wiring
- Management of asynchronous motor, reluctance synchronous

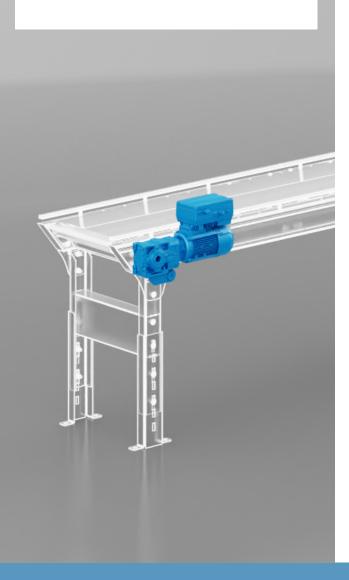






2

BELT CONVEYORS





A Series

Helical Bevel Gearmotors & Units

- Torque density
- Compact design
- Wide choice of speeds



BSR Series

Synchronous Reluctance Motors

- Torque density
- · Compact design
- Wide choice of speeds
- · Universal mounting position



DGM Series

Decentralized Inverter

- Wide range of kW from 0.55 to 30kW
- Ethernet stack to manage with 1 product code: Profinet, Ethernet IP, Sercos3, Ethercat
- · Motor brake management

EATURES

- Shaft mounting with hollow shaft and torque arm or shrink disk
- Horizontal or vertical mounting position
- Motor power from 0.37 to 11 kW
- Reinforced bearings available as an option
- Reduced backlash as an option

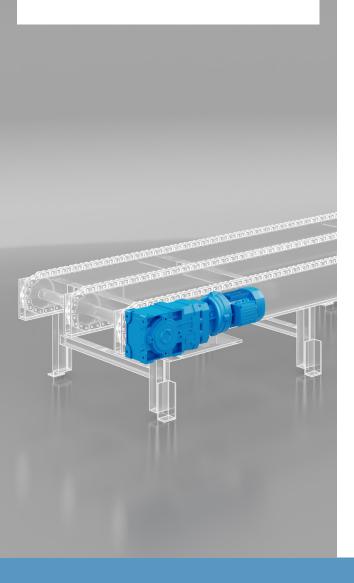
- IE3/IE4 green solution
- · High torque level
- · Wide range of options and flanges
- IP65 Inverter
- Reduction of electrical wiring
- Management of asynchronous motor, reluctance synchronous







CHAIN CONVEYORS





A Series

Helical In-Line Gearbox and Geared Motor

- Torque density
- Compact design
- Wide choice of speeds

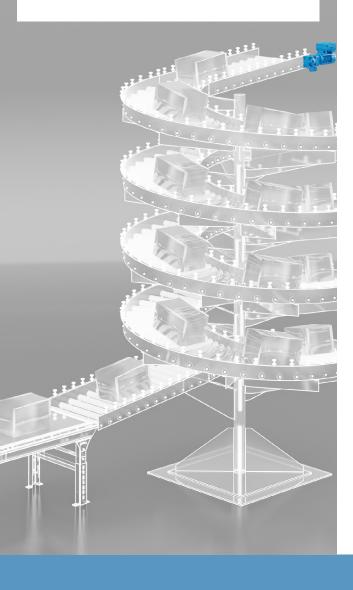
- Shaft mounting with hollow shaft and torque arm or shrink disk
- Horizontal or vertical mounting position
- Motor power from 0.37 to 11 kW
- · Reinforced bearings available as an option
- · Reduced backlash as an option





4

SPIRAL CONVEYORS





A Series

Helical Bevel Gearmotors & Units

- Torque density
- Compact design
- Wide choice of speeds

ShaftHorizo position

 $\boldsymbol{\cdot}$ Shaft mounting with hollow shaft

- Horizontal or vertical mounting position
- Motor power from 0.25 to 3 kW



MXN Series

Asynchronous Motors

- Compact design
- · Wide choice of speeds
- · Universal mounting position
- Feedback device (encoder) available as option
- IE3 solution
- · Wide range of options and flanges



DGM Series

Decentralized Inverter

- Wide range of kW from 0.55 to 30kW
- Ethernet stack to manage with 1 product code: Profinet, Ethernet IP, Sercos3, Ethercat
- · Motor brake management
- IP65 Inverter
- Reduction of electrical wiring
- Management of asynchronous motor, reluctance synchronous









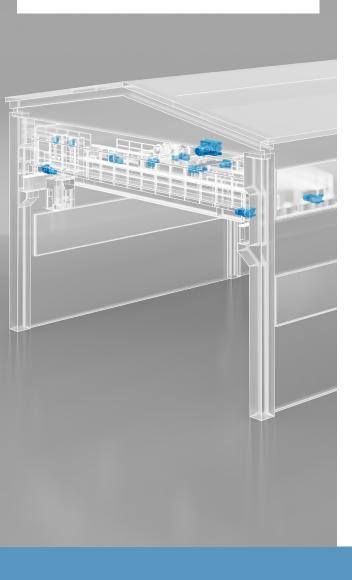
JIB CRANES





1

OVERHEAD CRANES





BX Series

Asynchronous IE3 Three Phase Motor

- Motor efficiency class up to IE3
- Reliable, balanced and robust
- Complete solution (gear unit + Motor)

BENEFITS

FEATURES

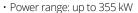
- Energy saving solution
- Compliant with the most of the efficiency standards



BX HD Series

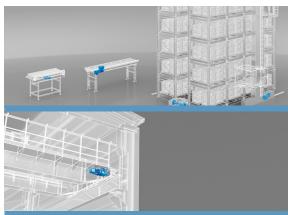
Asynchronous IE3 Three Phase motor

- Robustness
- · Long lifetime
- Wide power range
- Energy saving
- Compliant to all the MEPS
- Complete solution (gear unit + motor)
- Control flexibility
- Global motor that can be used in most of the markets



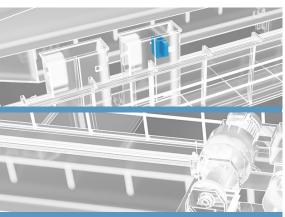
- Built in brakes available for all power/sizes
- Thermal protection: KTY, PTC, bimetal switches
- Forced ventilation
- Anti-condensate heaters
- Rotor balancing
- Second shaft extension
- Anti corrosive paintings up to C5M
- Tropicalization
- Degree of protection up to IP56

- Standard IP55 also for brakemotors
- Cast iron housing
- · Inverter duty ready
- · SPM measurement
- Certified motor (DOE, NRCan, CCC...)



MOTION CONTROL & HOIST DRIVE





CROSS TRAVEL DRIVE & LONG TRAVEL DRIVE











Active Cube & AEC Series

Premium Frequency Inverters and Regenerative Units

Drive control highly customizable

- Great operational safety
- Higher productivity
 Increased service life of the crane
 - Easy installation
 - · Lower total cost of ownership



HDP Series

Heavy Duty Geared Motor (Helical-Parallel)

- Robustness
- Reliability in harsh working conditions and wide range of temperature
- Space effective U-shape arrangement
- · High overhung load capacity
- Tailored service and warranty plans
- Pre-sales and product definition support according to the material handling and lifting standards

• Power Range: 0.37...1200 kW

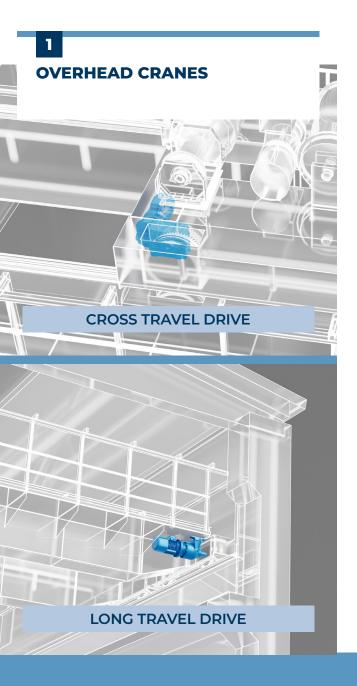
- · Open & closed loop field oriented control
- · Master/Slave control and communication protocols
- PLC with integrated functionalities
- Coated boards
- STO Functional Safety
- · Multi drive synchronisation and torque control
- · Advanced brake control
- Brake chopper
- DC link connection for energy sharing
- Energy recovery braking (recovered electricity can be sent back to the grid)
- Energy consumption optimization (AEC/B)
- Mains unit (AEC/S)

- Double input and output shaft
- · Wide range of ratios
- Transmissible torque up to 210.000 Nm
- IEC or NEMA motor flange
- · Safety solutions according to the customer requirements
- Wide range of motion control solutions
- · Availability of different grade of protection











F Series

Shaft Mounted Gearbox

High efficiency Reliability and robustness

Compactness

Low maintenance



300M Series

Planetary Geared Motor

- Robustness
- · Reliability in harsh working conditions & wide range of temperature
- High torque density
- Modularity
- · High overhung load capacity

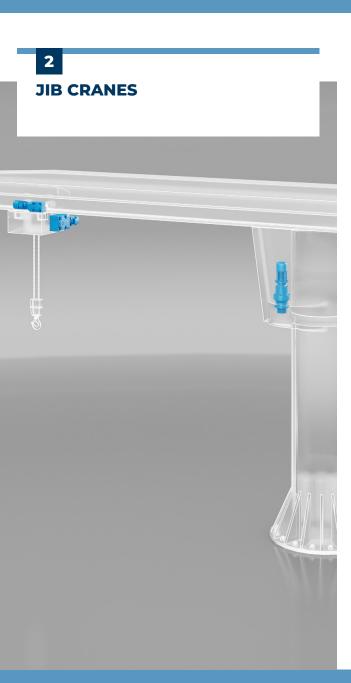
- Power range: up to 55 kW
- Shaft mounted solution with different output configurations
- Housing integrated torque arm design and antivibration kits
- Wide range of ratios
- Space-saving compact motor design
- Availability of different grade of protection
- Compact or IEC/NEMA flanged motor adaptors

- Widest range of ratios
- Easy to fit output pinion
- · IEC or NEMA motor flange
- Wide range of motion control solutions
- · Availability of different grades of protection











BX Series

Asynchronous IE3 Three Phase Motor

- Motor efficiency class up to IE3
- Reliable, balanced and robust

BENEFITS

FEATURES

- Complete solution (gear unit + Motor)
- Energy saving solution
- Compliant with the most of the efficiency standards



BX HD Series

Asynchronous IE3 Three Phase motor

- Robustness
- · Long lifetime
- Wide power range
- Energy saving
- Compliant to all the MEPS
- Complete solution (gear unit + motor)
- Control flexibility
- Global motor that can be used in most of the markets



- Built in brakes available for all power/sizes
- Thermal protection: KTY, PTC, bimetal switches
- Forced ventilation
- Anti-condensate heaters
- Rotor balancing
- Second shaft extension
- Anti corrosive paintings up to C5M
- Tropicalization
- Degree of protection up to IP56



- Cast iron housing
- · Inverter duty ready
- · SPM measurement
- Certified motor (DOE, NRCan, CCC...)



MOTION CONTROL





SLEWING DRIVE





TRAVEL DRIVE & HOIST DRIVE



JIB CRANES

LOGISTIC & INTRALOGISTIC







Active Cube & AEC Series

Premium Frequency Inverters and Regenerative Units

- Drive control highly customizable
- Great operational safety
- Higher productivity
 Increased service lif
 - Increased service life of the crane
 - Easy installation
 - Lower total cost of ownership



300M Series

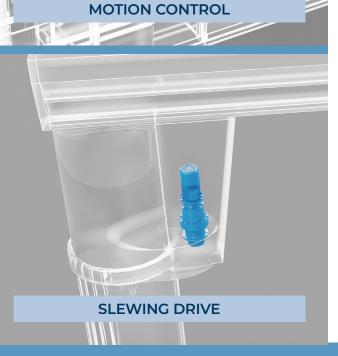
Planetary Geared Motor

- Robustness
- · Reliability in harsh working conditions and wide range of temperature
- High torque density
- Modularity
- High overhung load capacity

- Power Range: 0.37...1200 kW
- · Open & closed loop field oriented control
- · Master/Slave control and communication protocols
- PLC with integrated functionalities
- Coated boards
- STO Functional Safety
- · Multi drive synchronisation and torque control
- · Advanced brake control
- Brake chopper
- DC link connection for energy sharing
- · Energy recovery braking (recovered electricity can be sent back to the grid)
- Energy consumption optimization (AEC/B)
- Mains unit (AEC/S)



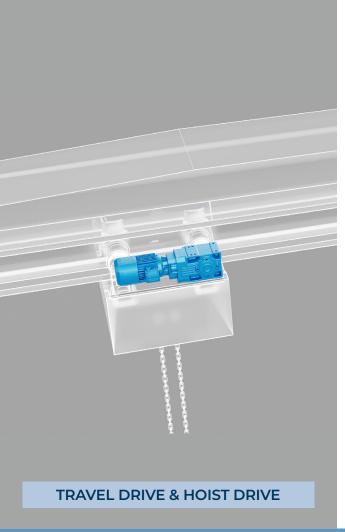
- · Easy to fit output pinion
- · IEC or NEMA motor flange
- · Wide range of motion control solutions
- · Availability of different grades of protection





2

JIB CRANES





A Series

Helical Bevel Geared Motor

FITS

- High efficiency
- · Reliability and robustness
- Compactness
- · Low maintenance
- Space effective & compactness with right angle arrangement

ATURES

- Power range: up to 55 kW
- Shaft mounted solution with different output configurations
- · Torque arm and anti-vibration kits
- Wide range of ratios
- Space-saving compact motor design
- Compact or IEC/NEMA Flanged motor adaptors
- · Availability of different grades of protection



BX Series

Asynchronous IE3 Three Phase Motor

- Motor efficiency class up to IE3
- Reliable, balanced and robust
- Complete solution (gear unit + Motor)
- Energy saving solution
- Compliant with the most of the efficiency standards



BX HD Series

Asynchronous IE3 Three Phase motor

- Robustness
- Long lifetime
- · Wide power range
- Energy saving
- Compliant to all the MEPS
- Complete solution (gear unit + motor)
- · Control flexibility
- Global motor that can be used in most of the markets
- Power range: up to 355 kW
- Built in brakes available for all power/sizes
- Thermal protection: KTY,
 PTC, bimetal switches
- Forced ventilation
- Anti-condensate heaters
- Rotor balancing
- · Second shaft extension
- Anti corrosive paintings up to C5M
- Tropicalization
- Degree of protection up to IP56

- Standard IP55 also for brakemotors
- Cast iron housing
- Inverter duty ready
- · SPM measurement
- Certified motor (DOE, NRCan, CCC...)