

Solutions for Textile Industry

Textile



MARKETS &
APPLICATIONS







Textile



Preparation Process

Page 4 to 9



Spinning & Yarn Finishing

Page 10 to 17



Fabric production

Page 18 to 21

The widest range of solutions for Textile processing and machinery

Thanks to the extensive know-how and the long-term collaboration with key customers, Bonfiglioli engineering specialists work side by side with customers to develop tailored and forward-thinking integrated solutions for the textile industry, covering the entire motion drive train including the Industry 4.0 approach.

Our drive system portfolio has the suitable features to respond to the demanding environment typical of the textile sector, characterized by air polluted by fibers, high ambient temperatures and management of occasionally mains failures.

This, combined with a comprehensive range of Professional Services, enables us to respond to customers' requests with targeted solutions aimed at minimizing the Total Cost of Ownership of plants through dramatic reduction of maintenance efforts, energy consumption, and process downtimes.

Bonfiglioli also provides solutions for:



FOOD & BEVERAGE PROCESSING



LOGISTICS & INDUSTRIAL CRANES



PACKAGING PROCESSES



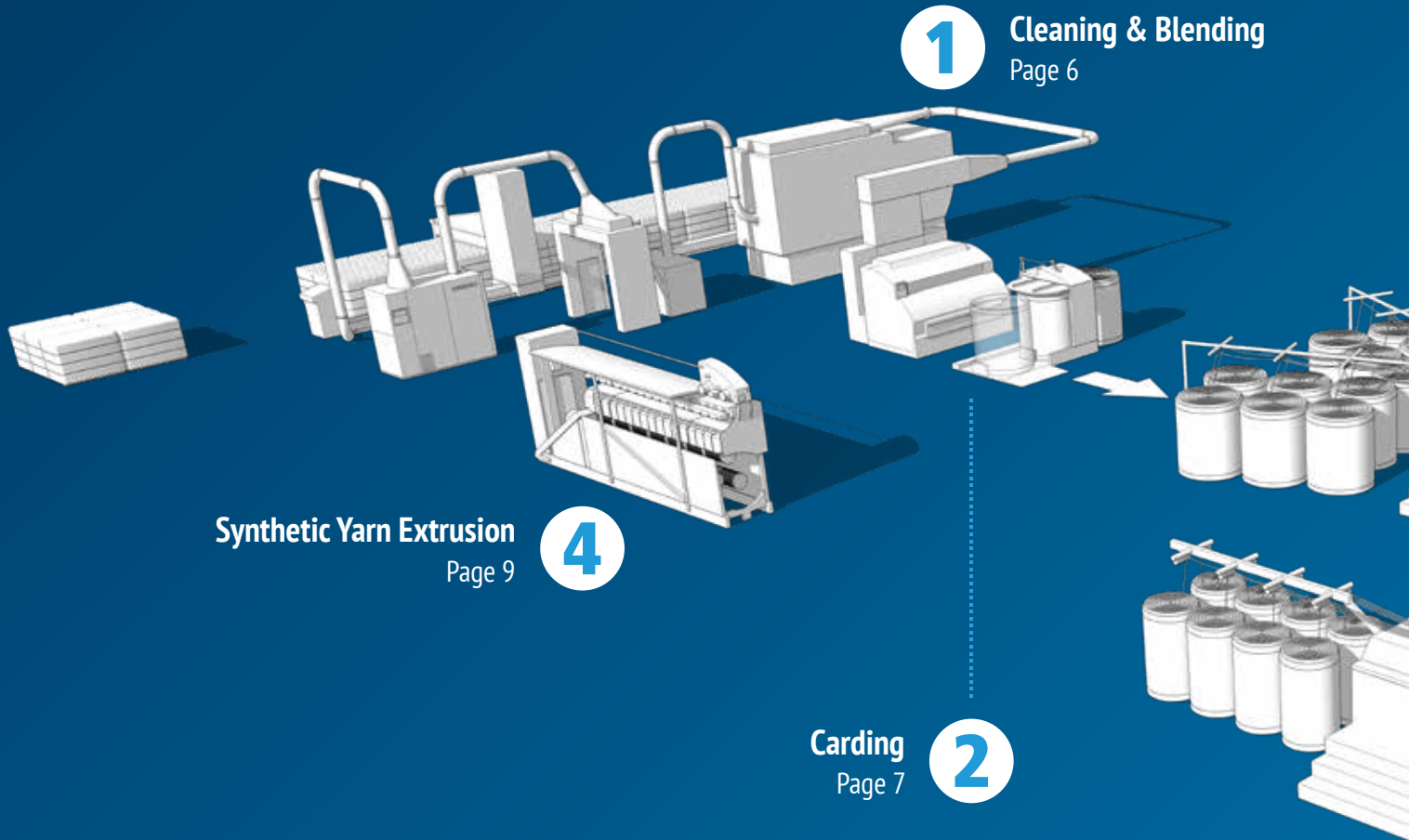
WAREHOUSE & MATERIAL HANDLING

www.bonfiglioli.com

Products for all types of textile applications:

- Bale opening
- Cleaning & Blending
- Carding
- Pre drawing
- Lapping
- Combing
- Synthetic Yarn extrusion
- Roving
- Ring spinning
- Air-jet spinning
- Rotor spinning
- Winding
- Doubling & Twisting
- Dyeing
- Direct warper/Beaming machine
- Weaving
- Warp knitting
- Cutting machine

Preparation Process



1

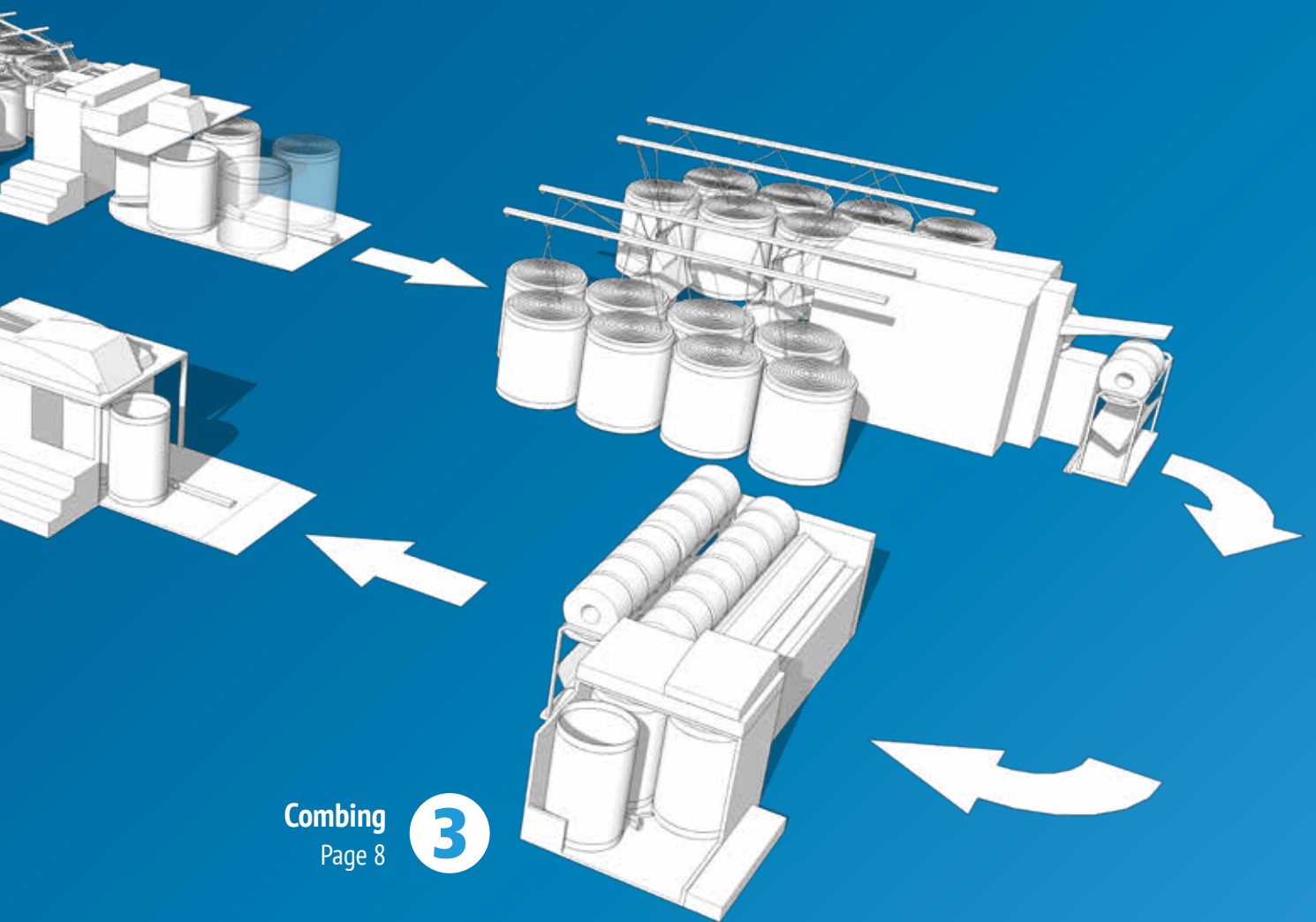
Cleaning & Blending
Page 6

4

Synthetic Yarn Extrusion
Page 9

2

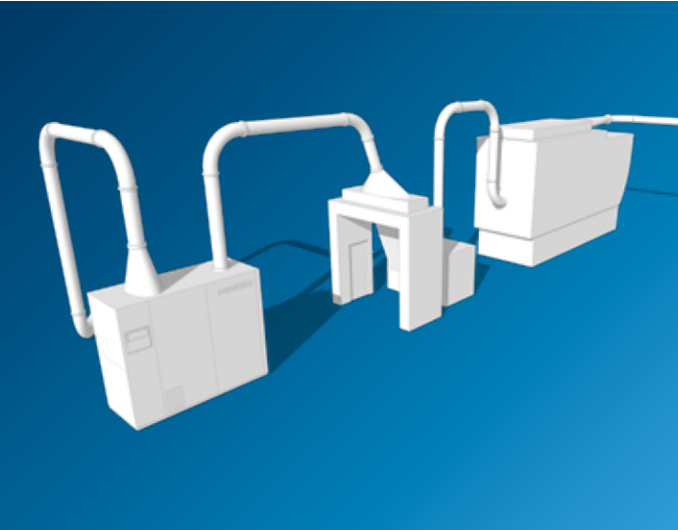
Carding
Page 7



Combing
Page 8

3

Preparation Process



Cleaning & Blending

1

Bonfiglioli product range presents the suitable features to operate in the harsh environment conditions, such as high dust and humidity, typical of the preparation phase. The offered motor and frequency inverter combinations ensure an optimized cleaning and blending process with an effective removal of impurities and dust while minimizing material waste and a homogeneous intermingling of fibers.

BSR Series Synchronous Reluctance Motors

Benefits

- Reduced total cost of ownership (TCO)
- Retrofit solution thanks to IEC design
- Reliability and robustness

Features

- High energy efficiency of the drive system class up to IES2
- Motor efficiency class up to IE4
- Eco-friendly
- Two packages available: High Efficiency and High Output
- Power range: 0.37 to 18.5 kW
- Low rotor inertia
- Low heat dissipation
- High speed range: 0 to 4500 rpm (max)
- High torque at zero speed
- High Output motors have a reduced frame up to two sizes if compared with IM
- Optimized compatibility with Active Cube 410 drive series
- Effective torque and speed control (also at low speed) without encoder



BX Series Asynchronous IE3 Motors

Benefits

- Reliability and robustness
- Different options like encoder and mechanical brake

Features

- IE3 Efficiency class
- Power range: 0.75 to 22 kW
- Nominal speed range: 0 to 1500 rpm as 4 pole motor



Active Cube and Agile Series Smart inverters

Benefits

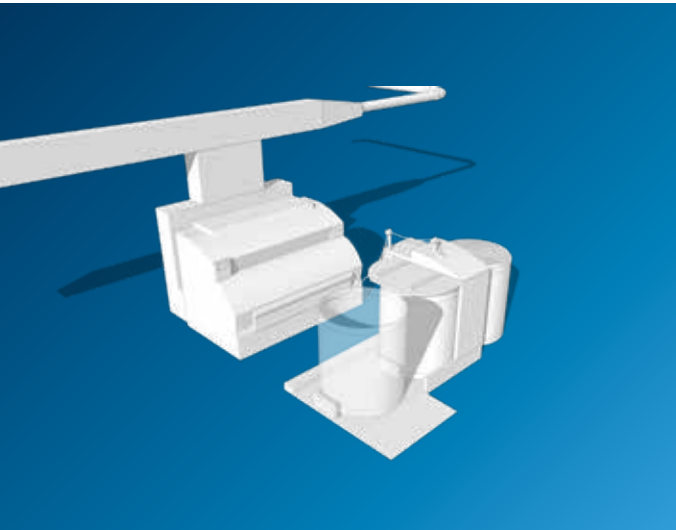
- Adaptability to the environment with Standard, Feedthrough or ColdPlate mounting
- Controlled process speed for the quality of the production material
- Enabling high efficiency for the inverter, motor and gearbox combination

Features

- Wide power range from 0.25 to 400 kW
- Coated PCBs (as standard or option)
- Closed loop or open loop control
- Adjustable torque limitation
- Optional Fieldbus connectivity

Optional Encoder evaluation in Active Cube Series





Carding

2

Bonfiglioli provides complete solutions for carding machines with features designed to respond to the demanding environmental conditions typical of the textile sector, such as humidity, dust, and dirt.

In particular, the Agile and Active Cube inverters are specifically designed to operate in harsh environments and ensure the necessary level of control for a highly effective constant speed carding process and controlled fiber transport, allowing for excellent use of raw materials and a consequent high sliver quality.

BSR Series Synchronous Reluctance Motors

Benefits

- Reduced total cost of ownership (TCO)
- Retrofit solution thanks to IEC design
- Reliability and robustness

Features

- High energy efficiency of the drive system class up to IES2
- Motor efficiency class up to IE4
- Eco-friendly
- Two packages available: High Efficiency and High Output
- Power range: 0.37 to 18.5 kW
- Low rotor inertia
- Low heat dissipation
- High speed range: 0 to 4500 rpm (max)
- High torque at zero speed
- High Output motors have a reduced frame up to two sizes if compared with IM
- Optimized compatibility with Active Cube 410 drive series
- Effective torque and speed control (also at low speed) without encoder



BX Series Asynchronous IE3 Motors

Benefits

- Reliability and robustness
- Different options like encoder and mechanical brake

Features

- IE3 Efficiency class
- Power range: 0.75 to 22 kW
- Nominal speed range: 0 to 1500 rpm as 4 pole motor



Active Cube and Agile Series Smart inverters

Benefits

- Adaptability to the environment with Standard, Feedthrough or ColdPlate mounting
- Controlled process speed for the quality of the production material
- Enabling high efficiency for the inverter, motor and gearbox combination

Features

- Wide power range from 0.25 to 400 kW
- Coated PCBs (as standard or option)
- Closed loop or open loop control
- Adjustable torque limitation
- Optional Fieldbus connectivity

Optional Encoder evaluation in Active Cube Series

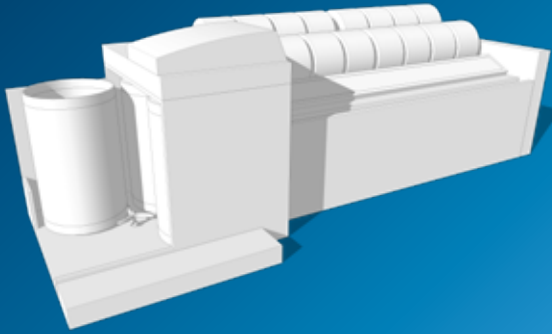


Preparation Process

Combing

3

The combing machine represents a crucial step in the process to obtain high quality yarns. Bonfiglioli offers high-performance IP65 asynchronous motors in combination with Active Cube or Agile frequency inverters, which ensure optimally coordinated combing movements for a smooth, controlled fiber treatment to achieve effective parallelization of fibers, straightening of curls, and removal of neps and residual impurities.



BSR Series Synchronous Reluctance Motors

Benefits

- Reduced total cost of ownership (TCO)
- Retrofit solution thanks to IEC design
- Reliability and robustness

Features

- High energy efficiency of the drive system class up to IES2
- Motor efficiency class up to IE4
- Eco-friendly
- Two packages available: High Efficiency and High Output
- Power range: 0.37 to 18.5 kW
- Low rotor inertia
- Low heat dissipation
- High speed range: 0 to 4500 rpm (max)
- High torque at zero speed
- High Output motors have a reduced frame up to two sizes if compared with IM
- Optimized compatibility with Active Cube 410 drive series
- Effective torque and speed control (also at low speed) without encoder



BX Series Asynchronous IE3 Motors

Benefits

- Reliability and robustness
- Different options like encoder and mechanical brake

Features

- IE3 Efficiency class
- Power range: 0.75 to 22 kW
- Nominal speed range: 0 to 1500 rpm as 4 pole motor



Active Cube and Agile Series Smart inverters

Benefits

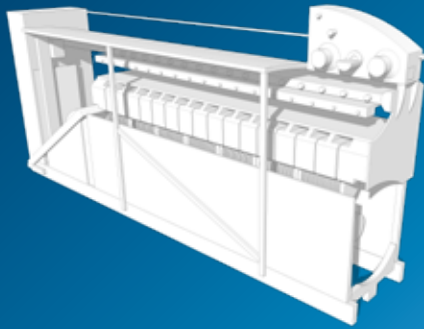
- Adaptability to the environment with Standard, Feedthrough or ColdPlate mounting
- Controlled process speed for the quality of the production material
- Enabling high efficiency for the inverter, motor and gearbox combination

Features

- Wide power range from 0.25 to 400 kW
- Coated PCBs (as standard or option)
- Closed loop or open loop control
- Adjustable torque limitation
- Optional Fieldbus connectivity

Optional Encoder evaluation in Active Cube Series





Synthetic Yarn Extrusion

4

The Bonfiglioli drive portfolio suitable for this application includes IP65 asynchronous motors, synchronous motors with high protection class IP65 and IP67, and synchronous reluctance motors up to IE4 Super Premium efficiency class for optimal performance and energy saving. The Active Cube and Agile inverter series have features such as high overload capability for starting, precise speed control, and robust strength that make them well suited for the demanding environment typical of the textile sector, which is characterized by humidity, dust, and dirt. Both of these series are designed for use in high temperature environments and equipped with dedicated cooling concepts and coated printed circuit boards.

A Series

Helical bevel gearbox with

BMD Series

Permanent magnet servo motor

Benefits

- High efficient solution
- Robust
- Compact
- Unique supplier for gearbox, motor and inverter

Features

- Motor efficiency up to IE4
- Sensorless control available
- Wide range of feedback devices
- Modular design
- Optimized servo package
- Parking brake
- UL certification
- Flying wheel



BSR Series

Synchronous Reluctance Motors

Benefits

- Reduced total cost of ownership (TCO)
- Retrofit solution thanks to IEC design
- Reliability and robustness

Features

- High energy efficiency of the drive system class up to IES2
- Motor efficiency class up to IE4
- Eco-friendly
- Two packages available: High Efficiency and High Output
- Power range: 0.37 to 18.5 kW
- Low rotor inertia
- Low heat dissipation
- High speed range: 0 to 4500 rpm (max)
- High torque at zero speed
- High Output motors have a reduced frame up to two sizes if compared with IM
- Optimized compatibility with Active Cube 410 drive series
- Effective torque and speed control (also at low speed) without encoder



Active Cube and Agile Series

Smart inverters

Benefits

- Adaptability to the environment with Standard, Feedthrough or ColdPlate mounting
- Controlled process with torque or speed control for the quality of the production material
- Reliable ramp up and ramp down process to ensure continuous material properties
- High efficiency as inverter, motor and gearbox combination

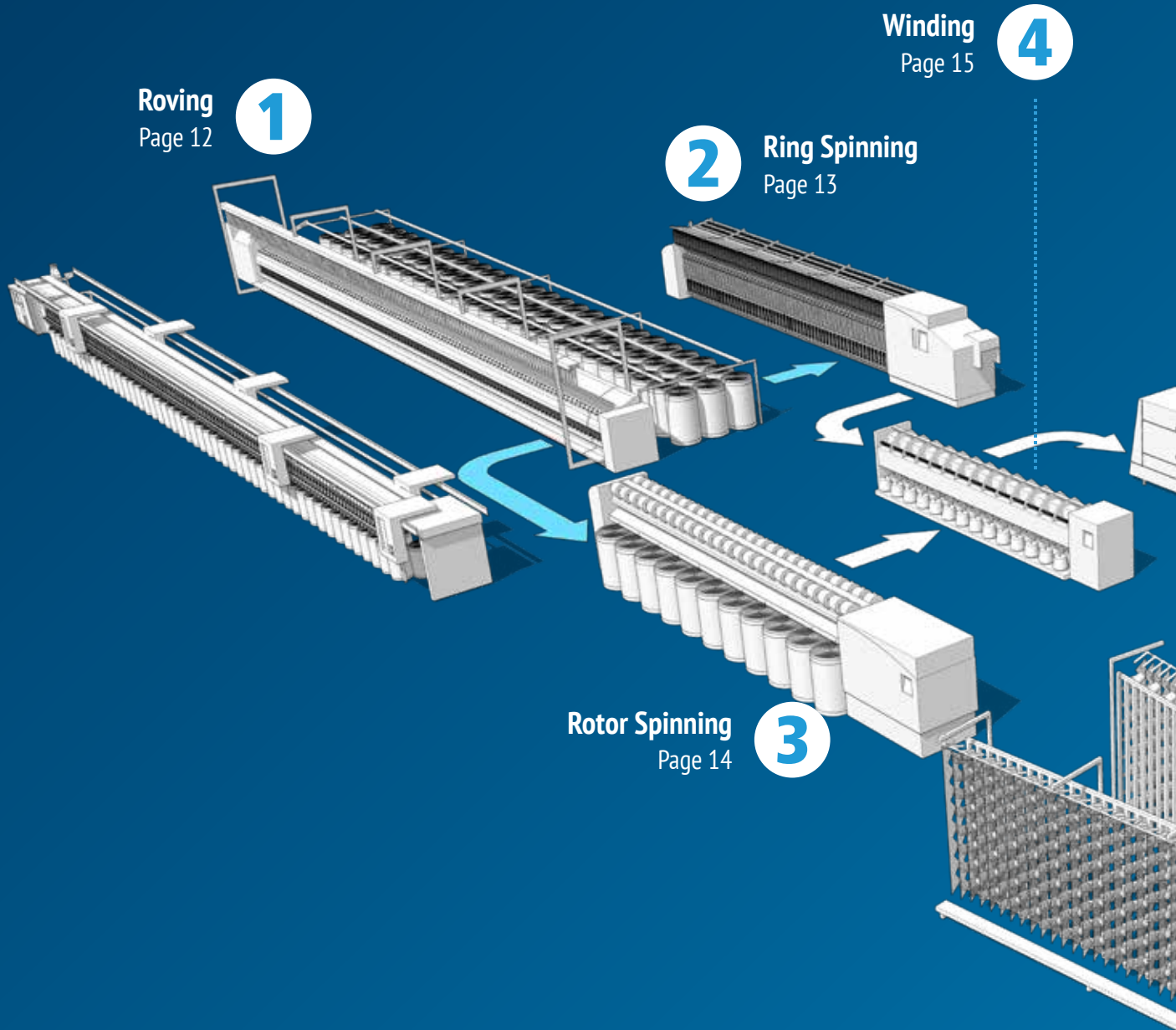
Features

- Wide power range from 0.25 to 400 kW
- DC link connection between frequency inverters
- Coated PCBs (as standard or option)
- Adjustable torque limitation
- Tension control with PI controller
- Fieldbus connectivity

Optional Encoder evaluation in Active Cube Series

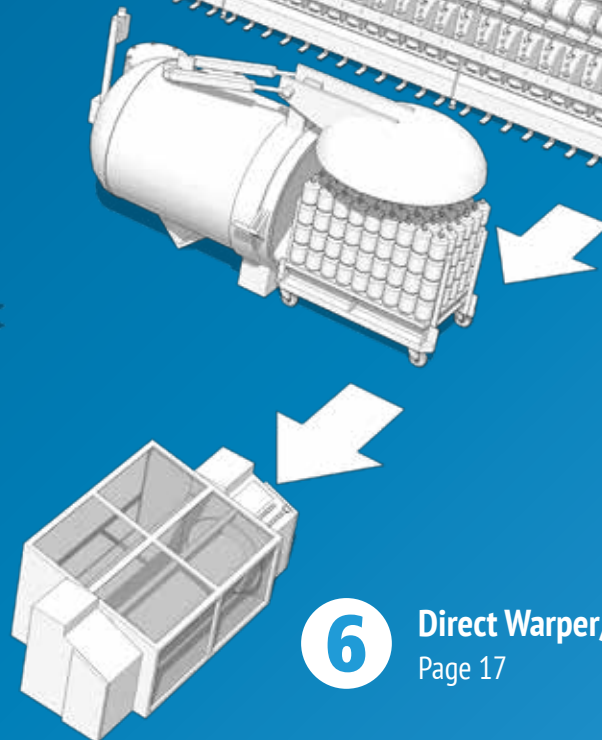


Spinning & Yarn Finishing



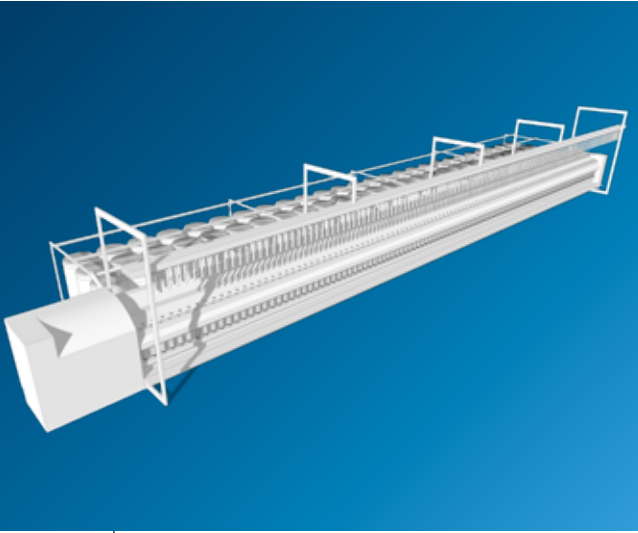


5 Doubling & Twisting
Page 16



6 Direct Warper/Beaming
Page 17

Spinning & Yarn Finishing



Roving

1

Our wide range of gearmotors offers numerous options for gear ratios and optimal usage of machine space. In addition, Bonfiglioli class IP65 asynchronous motors in combination with the Active Cube series provide the right solution to cope with the environmental conditions typical of textile processing such as humidity, dust, or dirt. These frequency inverters are designed for use in high temperature environments and equipped with dedicated cooling concepts and coated printed circuit boards. In addition, they include a specific function for power failure management to minimize the risk of yarn breakages in case of power failures.

F Series

Shaft mounted gearbox and geared motor

Benefits

- Easy installation
- Quiet operation
- High torque capabilities

Features

- Keyed hollow shaft with two bore options per size, or hollow shaft with shrink disc fitting (metric and imperial dims)
- Backstop device
- Surface protection class C3, C4 and C5 (according to standard UNI EN ISO 12944-2)
- High and premium efficiency motors (IE2, IE3)
- Protection rating up to IP56
- Thermal protection (bi-metallic, PTC or KTY)
- Anti-condensation heaters and tropicalized windings



BSR Series

Synchronous Reluctance Motors

Benefits

- Reduced total cost of ownership (TCO)
- Retrofit solution thanks to IEC design
- Reliability and robustness

Features

- High energy efficiency of the drive system class up to IES2
- Motor efficiency class up to IE4
- Eco-friendly
- Two packages available: High Efficiency and High Output
- Power range: 0.37 to 18.5 kW
- Low rotor inertia
- Low heat dissipation
- High speed range: 0 to 4500 rpm (max)
- High torque at zero speed
- High Output motors have a reduced frame up to two sizes if compared with IM
- Optimized compatibility with Active Cube 410 drive series
- Effective torque and speed control (also at low speed) without encoder



Active Cube Series

Premium inverter

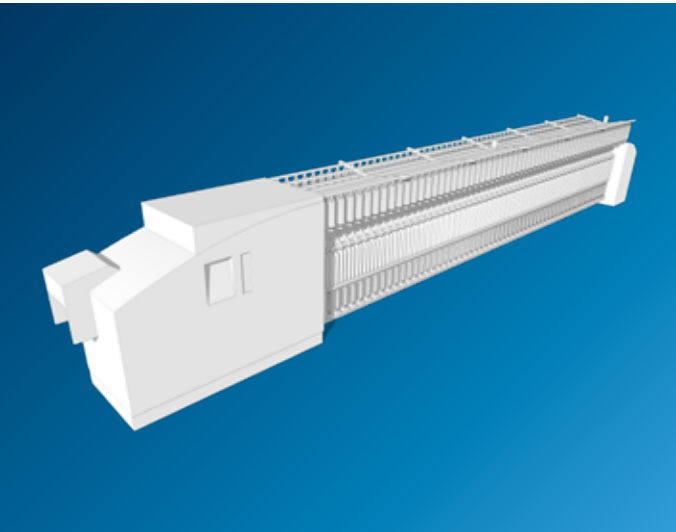
Benefits

- Modular inverter platform to adapt the inverter to the machine
- Reliable and precise Process control
- Smooth Start and Stop control
- Power failure management

Features

- Power range: 0.25 to 400 kW
- Torque control
- Option modules to include field bus communication and encoder evaluation
- Plug-in power terminals (up to 3kW)
- Plug-in and programmable control terminals
- DC link connection
- Integrated brake chopper
- Integrated VPLC
- Integrated safe torque off STO (SIL 3 / PL e) function
- Output frequency 0...599 Hz
- Diagnosis and setup via optional keypad or PC software
- Optional Encoder evaluation





Ring Spinning

2

Bonfiglioli offers several different drive concepts for ring spinning applications: IP65 asynchronous motors, IP65 and IP67 synchronous motors and synchronous reluctance motors up to IE4 Super Premium efficiency class for the optimum performance and power requirements of your machine. Our dedicated inverter series are designed for the demanding environment typical of the textile sector and equipped with dedicated cooling concepts and coated printed circuit boards. In addition, they include a power failure management to minimize the risk of yarn breakages in case of power failures.

A Series

Helical bevel gearbox with

BMD Series

Permanent magnet servo motor

Benefits

- High efficient solution
- Robust
- Compact
- Unique supplier for gearbox, motor and inverter

Features

- Wide range of feedback devices
- Sensorless control available
- Modular design
- Optimized servo package

C Series

Helical in-line gearbox and geared motor

Benefits

- Excellent torque density
- Ultra-compact design
- Very wide speed range

Features

- Extensive choice of bolt-on output flanges
- Special seals set for applications in harsh environments
- Surface protection class C3, C4 and C5 (according to standard UNI EN ISO 12944-2)
- High and premium efficiency motors (IE2, IE3)
- Motor shaft extension
- Tropicalized windings

Active Cube Series

Premium inverter

Benefits

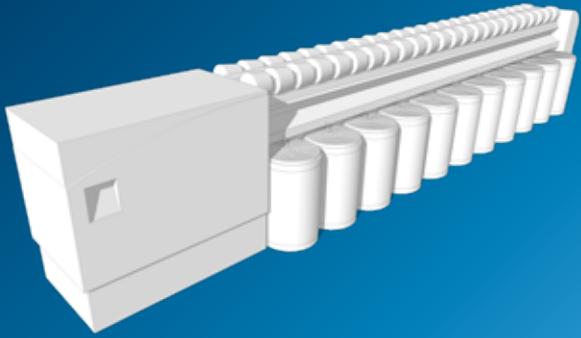
- Modular inverter platform to adapt the inverter to the machine
- Reliable and precise Process control
- Smooth Start and Stop control
- Power failure management

Features

- Power range: 0.25 to 400 kW
- Torque control
- Option modules to include field bus communication and encoder evaluation
- Plug-in power terminals (up to 3kW)
- Plug-in and programmable control terminals
- DC link connection
- Integrated brake chopper
- Integrated VPLC
- Integrated safe torque off STO (SIL 3 / PL e) function
- Output frequency 0...599 Hz
- Diagnosis and setup via optional keypad or PC software
- Optional Encoder evaluation



Spinning & Yarn Finishing



Rotor Spinning

3

The drive portfolio suitable for this application includes IP65 asynchronous motors, synchronous motors with high protection class IP65 and IP67, and synchronous reluctance motors up to IE4 Super Premium efficiency class for the optimum performance and power requirements of your machine. The dedicated frequency inverters are designed for use in high temperature environments and equipped with dedicated cooling concepts and coated printed circuit boards. Our experience with the piecing process when starting rotor spinning machines ensures reduction of standstill times and manual labor required for these machines during start up.

A Series

Helical bevel gearbox with

BMD Series

Permanent magnet servo motor

Benefits

- High efficient solution
- Robust
- Compact
- Unique supplier for gearbox, motor and inverter

Features

- Wide range of feedback devices
- Sensorless control available
- Modular design
- Optimized servo package

BSR Series

Synchronous Reluctance Motors

Benefits

- Reduced total cost of ownership (TCO)
- Retrofit solution thanks to IEC design
- Reliability and robustness

Features

- High energy efficiency of the drive system class up to IES2
- Motor efficiency class up to IE4
- Eco-friendly
- Two packages available: High Efficiency and High Output
- Power range: 0.37 to 18.5 kW
- Low rotor inertia
- Low heat dissipation
- High speed range: 0 to 4500 rpm (max)
- High torque at zero speed
- High Output motors have a reduced frame up to two sizes if compared with IM
- Optimized compatibility with Active Cube 410 drive series
- Effective torque and speed control (also at low speed) without encoder

Active Cube Series

Premium inverter

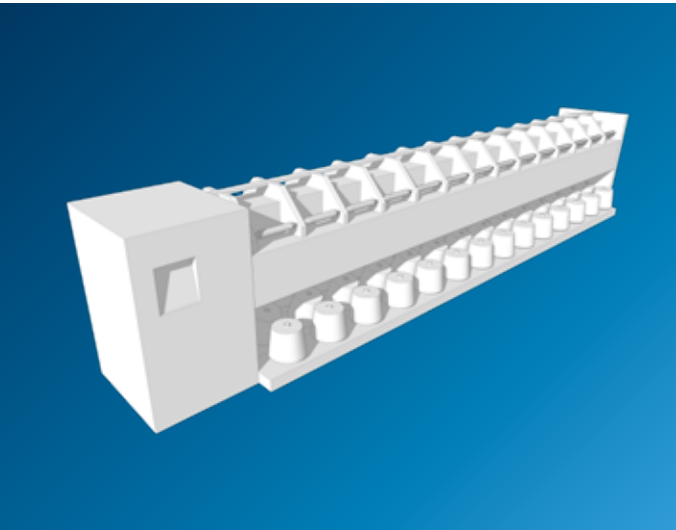
Benefits

- Modular inverter platform to adapt the inverter to the machine
- Reliable and precise Process control
- Smooth Start and Stop control
- Power failure management

Features

- Power range: 0.25 to 400 kW
- Torque control
- Option modules to include field bus communication and encoder evaluation
- Plug-in power terminals (up to 3kW)
- Plug-in and programmable control terminals
- DC link connection
- Integrated brake chopper
- Integrated VPLC
- Integrated safe torque off STO (SIL 3 / PL e) function
- Output frequency 0...599 Hz
- Diagnosis and setup via optional keypad or PC software
- Optional Encoder evaluation





Winding

4

Bonfiglioli offers IP 65 asynchronous motors and synchronous reluctance motors up to IE4 Super Premium efficiency class for optimal performance in energy saving, combined with the Active Cube and ANG inverter series with a robust design for the demanding environment typical of the textile sector, which is characterized by humidity, dust, and dirt. Both of these series are designed for use in high temperature environments and equipped with dedicated cooling concepts and coated printed circuit boards. In addition, they include a specific function for power failure management to minimize the risk of yarn breakages in case of power failures.

A Series Helical bevel gearbox with BSR Series Synchronous Reluctance Motors

Benefits

- Reduced total cost of ownership (TCO)
- Compactness
- Reliability and robustness
- Modular design
- Unique supplier for gearboxes, motors and inverters

Features

- High energy efficiency of the drive system class up to IES2
- Motor efficiency up to IE4
- Effective torque and speed control (also at low speed) without encoder
- Optimized characterization for the whole package



Active Cube Series Premium inverter

Benefits

- Modular inverter platform to adapt the inverter to the machine
- Reliable and precise Process control
- Smooth Start and Stop control
- Power failure management

Features

- Power range: 0.25 to 400 kW
- Torque control
- Option modules to include field bus communication and encoder evaluation
- Plug-in power terminals (up to 3kW)
- Plug-in and programmable control terminals
- DC link connection
- Integrated brake chopper
- Integrated VPLC
- Integrated safe torque off STO (SIL 3 / PL e) function
- Output frequency 0...599 Hz
- Diagnosis and setup via optional keypad or PC software
- Optional Encoder evaluation

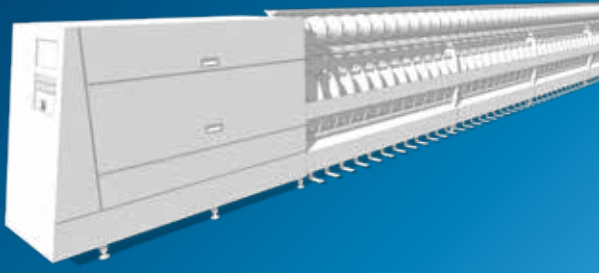


Spinning & Yarn Finishing

Doubling & Twisting

5

Bonfiglioli solutions for doubling and twisting applications perfectly match the results required of this production phase, such as an increase in the smoothness, evenness, uniformity and compactness of yarn, and better twist deposition. Bonfiglioli offers drive combinations including IP65 asynchronous motors and synchronous reluctance motors up to IE4 Super Premium efficiency class, controlled by dedicated inverters.



A Series

Helical bevel gearbox with

BMD Series

Permanent magnet servo motor

Benefits

- High efficient solution
- Robust
- Compact
- Unique supplier for gearbox, motor and inverter

Features

- Wide range of feedback devices
- Sensorless control available
- Modular design
- Optimized servo package



BSR Series

Synchronous Reluctance Motors

Benefits

- Reduced total cost of ownership (TCO)
- Retrofit solution thanks to IEC design
- Reliability and robustness

Features

- High energy efficiency of the drive system class up to IES2
- Motor efficiency class up to IE4
- Eco-friendly
- Two packages available: High Efficiency and High Output
- Power range: 0.37 to 18.5 kW
- Low rotor inertia
- Low heat dissipation
- High speed range: 0 to 4500 rpm (max)
- High torque at zero speed
- High Output motors have a reduced frame up to two sizes if compared with IM
- Optimized compatibility with Active Cube 410 drive series
- Effective torque and speed control (also at low speed) without encoder



Active Cube Series

Premium inverter

Benefits

- Modular inverter platform to adapt the inverter to the machine
- Reliable and precise Process control
- Smooth Start and Stop control
- Power failure management

Features

- Power range: 0.25 to 400 kW
- Torque control
- Option modules to include field bus communication and encoder evaluation
- Plug-in power terminals (up to 3kW)
- Plug-in and programmable control terminals
- DC link connection
- Integrated brake chopper
- Integrated VPLC
- Integrated safe torque off STO (SIL 3 / PL e) function
- Output frequency 0...599 Hz
- Diagnosis and setup via optional keypad or PC software
- Optional Encoder evaluation

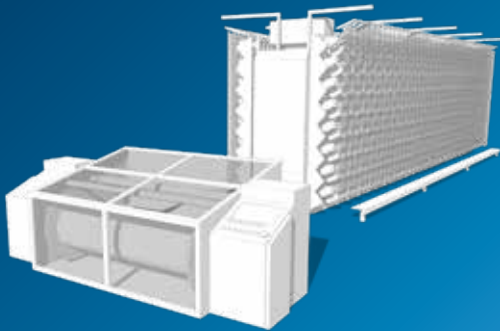




Direct Warper/Beaming

6

Bonfiglioli offers asynchronous motors with optional high protection class IP65, in combination with the Agile or Active Cube series for the direct warping phase, which offer the right features for effective operation in the most crucial aspects of this phase. Thanks to the excellent control performance of speed and torque, Bonfiglioli solutions ensure a uniform and constant yarn tension during the process, minimizing the rate of breakage and allowing the yarn to completely retain its elastic properties and strength. In addition, the advanced control technology enables fast and uniform spreading of the yarn throughout the whole width of the warping.



BSR Series Synchronous Reluctance Motors

Benefits

- Reduced total cost of ownership (TCO)
- Retrofit solution thanks to IEC design
- Reliability and robustness

Features

- High energy efficiency of the drive system class up to IES2
- Motor efficiency class up to IE4
- Eco-friendly
- Two packages available: High Efficiency and High Output
- Power range: 0.37 to 18.5 kW
- Low rotor inertia
- Low heat dissipation
- High speed range: 0 to 4500 rpm (max)
- High torque at zero speed
- High Output motors have a reduced frame up to two sizes if compared with IM
- Optimized compatibility with Active Cube 410 drive series
- Effective torque and speed control (also at low speed) without encoder

BX Series Asynchronous IE3 Motors

Benefits

- Reliability and robustness
- Different options like encoder and mechanical brake

Features

- IE3 Efficiency class
- Power range: 0.75 to 22 kW
- Nominal speed range: 0 to 1500 rpm as 4 pole motor

Active Cube and Agile Series Smart inverters

Benefits

- Adaptability to the environment with Standard, Feedthrough or ColdPlate mounting
- Controlled process speed for the quality of the production material
- Enabling high efficiency for the inverter, motor and gearbox combination

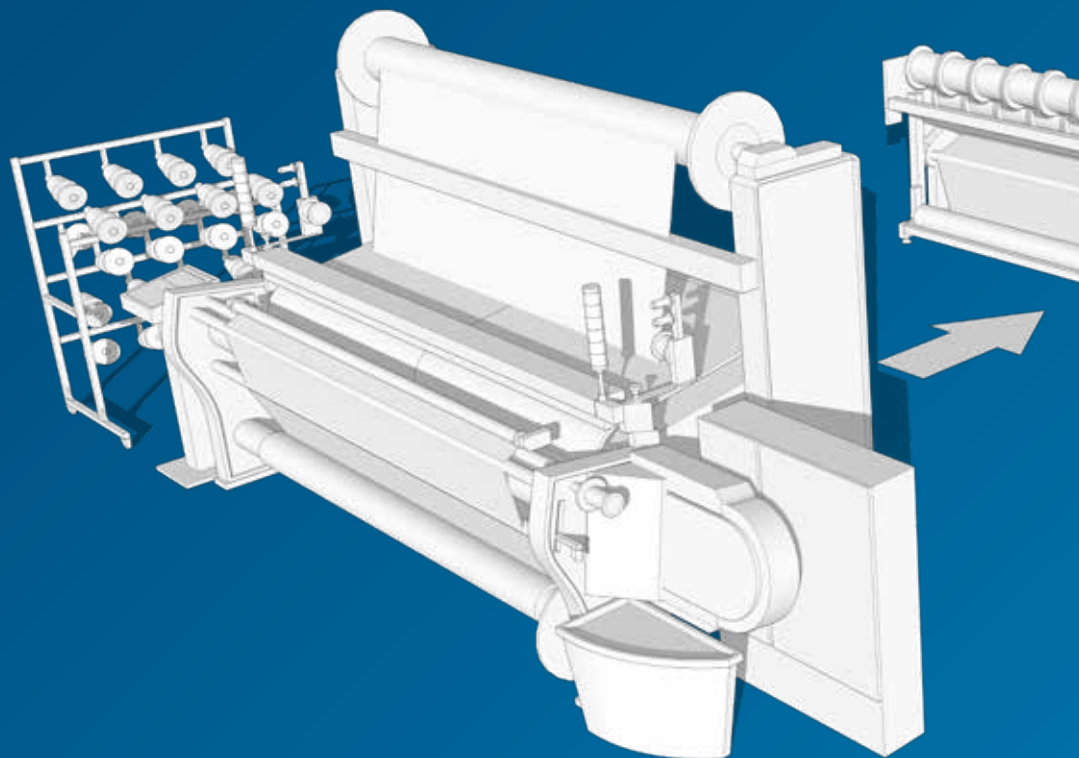
Features

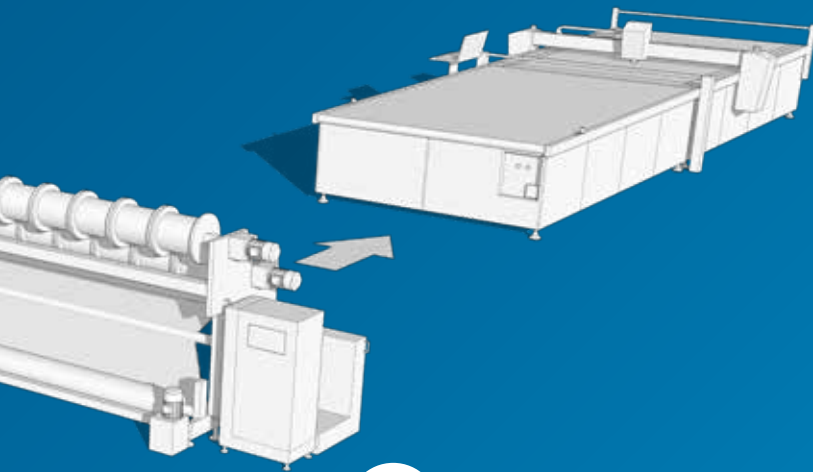
- Wide power range from 0.25 to 400 kW
- Coated PCBs (as standard or option)
- Closed loop or open loop control
- Adjustable torque limitation
- Optional Fieldbus connectivity

Optional Encoder evaluation in Active Cube Series



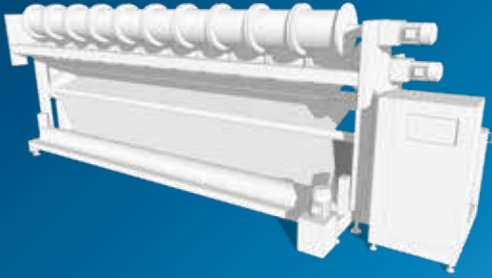
Fabric production





Warp Knitting
Page 20

Fabric production



Warp Knitting

1

Bonfiglioli offers different drive concepts for warp knitting machines: IP65 asynchronous motors, IP65 and IP67 synchronous motors and synchronous reluctance motors up to IE4 Super Premium efficiency class for the optimum performance and power requirements of your machine. Bonfiglioli inverter series offer excellent speed and position control for the main axis and beam axis. The dedicated design allows operation in the demanding environments typical of warp knitting machines. Both of these series are equipped with dedicated cooling concepts and coated printed circuit boards, which allow them to cope with high temperature environments.

A Series

Helical bevel gearbox with

BMD Series

Permanent magnet servo motor

Benefits

- High efficient solution
- Robust
- Compact
- Unique supplier for gearbox, motor and inverter

Features

- Wide range of feedback devices
- Sensorless control available
- Modular design
- Optimized servo package



BSR Series

Synchronous Reluctance Motors

Benefits

- Reduced total cost of ownership (TCO)
- Retrofit solution thanks to IEC design
- Reliability and robustness

Features

- High energy efficiency of the drive system class up to IES2
- Motor efficiency class up to IE4
- Eco-friendly
- Two packages available: High Efficiency and High Output
- Power range: 0.37 to 18.5 kW
- Low rotor inertia
- Low heat dissipation
- High speed range: 0 to 4500 rpm (max)
- High torque at zero speed
- High Output motors have a reduced frame up to two sizes if compared with IM
- Optimized compatibility with Active Cube 410 drive series
- Effective torque and speed control (also at low speed) without encoder



Active Cube and ANG Series

Premium inverter and Servo inverter

Benefits

- Adaptability to the environment with Standard, Feedthrough or ColdPlate mounting
- Controlled process speed for the quality of the production material
- Enabling high efficiency for the inverter, motor and gearbox combination

Features

- Wide power range from 0.25 to 400 kW
- Coated PCBs (as standard or option)
- Closed loop or open loop control
- Adjustable torque limitation
- Optional Fieldbus connectivity

Optional Encoder evaluation in Active Cube Series



Specific functions for the textile sector

Software engineering made easy

For different application purposes the Bonfiglioli frequency inverters offer fitting software functions:

- Speed Control and its extensions for machines with and without encoder feedback
 - Speed control
 - Torque control with jerkless switch over between speed control and torque control
 - Process control with a PI or PID controller
 - Winding control
 - Master/Slave operation via Systembus
 - Positioning control according to CiA 402 standard
- Signaling of abnormal behavior with warning and fault messages (via LED, digital outputs or Fieldbus)
- Machine depending setup of fault behavior and threshold levels for warnings and faults
- Error history and actual values history (average values & maximum values)

Connectivity: open standards

Fieldbus connectivity like CANopen, EtherCAT, PROFINET, VARAN, PROFIBUS links the frequency inverter to the preferred PLC system.

The Ethernet based systems EtherCAT & PROFINET allow also simultaneous access for the diagnosis (and also parameter setup) via VPlus on the PC.

Field bus
CANopen
Profibus DP V1
RS-232
RS-485 Modbus
DeviceNet
EtherCAT
Profinet
Ethernet IP
Modbus/TCP
VABus/TCP



Energy efficiency

For a responsible resource usage, energy efficiency is a major task today for every production machine to reduce the ecological impact and saving operation costs at the same time.

The following approaches help to increase the energy efficiency of the drives and therefore for the whole machine:

- Smart energy usage
- Converting energy with high efficiency
- Using kinetic energy during braking
- Reducing energy consumption through energy saving functions in the frequency inverter

The full Bonfiglioli axis (inverter + gearbox + motor) offers a complete package of highly dynamic drive systems for increasing production efficiency.

Traversing Function

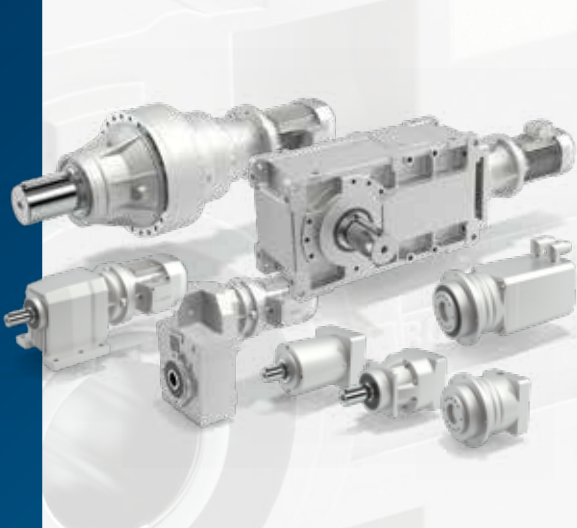
Traversing functions are important to ensure high material quality of the final product.

A typical setup involves a master/slave relation through a Systembus connection, where the traversing is adjusted automatically in both master and slave inverters to ensure the required yarn layout on the bobbin.

Harsh environments

- DC-Bus & Mains failure: we ensure that the machine can react with power failure regulation and additional mains failure shut down.
- Products for use in high temperature environments: thanks to the cold plate and the feedthrough solutions, the heat losses are outside the cabinet, allowing space savings. Device variants without fans and without electrolyte capacitors improve the longevity of the inverters and their robustness to work in harsh environments (high temperature).
- Alternative cooling concepts for frequency and servo inverter
- Availability of coated printed circuit boards

Complete solutions for Power Transmission & Automation



Gearboxes & Geared motors

- **Heavy duty parallel/right angle shaft geared motors**
HDP/HDO Series
Torque range: 13 to 7,100 Nm
Gear ratios: 7 to 10,000
- **Planetary geared motors** | 300 Series
Torque range: 1,250 to 1,287,000 Nm
Gear ratios: 3.4 to 5,234

- **Worm geared motors** | W/VF Series
Torque range: 13 to 7,100 Nm
Gear ratios: 7 to 10,000
- **Helical geared motors** | C Series
Torque range: 45 to 12,000 Nm
Gear ratios: 2.6 to 1,481
- **Bevel-helical geared motors** | A Series
Torque range: 100 to 14,000 Nm
Gear ratios: 5.4 to 1,715
- **Shaft-mounted geared motors** | F Series
Torque range: 140 to 14,000 Nm
Gear ratios: 6.4 to 2,099

- **Precision planetary servo geared motors**
TQ, TQK, TQF, TR, MP, LC, LCK, SL, KR Series
Torque range: up to 1,000 Nm
Gear ratios: up to 1,000
Backlash: lower than 2 and 17 arcmin

Motors

- **Asynchronous IEC Motor** | BN, BE, BX Series
Asynchronous Compact Motors | MN, ME, MX Series
A complete range of AC motors, meeting worldwide MEPS (e.g. IE3)
Power range: 0.06 to 355 kW
Poles: from 2 to 8 and multiple poles

IE3

- **Asynchronous motors** | BN, BE, BX, M, ME, MX Series
A complete range of AC motors, meeting worldwide MEPS (e.g. IE3)
Power range: 0.06 to 355 kW
Poles: from 2 to 8 and multiple poles

IE3

- **Synchronous motors** | BMD Series
Stall torque: 0.85 to 60 Nm
Rated speed: from 1,600 to 6,000 min⁻¹
Power supply: 230, 400 VAC

- **Synchronous reluctance motor** | BSR Series
Two different versions for different needs: High efficiency IE4 and high output
Power range: 0.37 to 18.5 kW

IE3

- **Synchronous motors** | BMD, BCR Series
Stall torque BMD: 0.85 to 60 Nm
Stall torque BCR: 0.2 to 115 Nm
Rated speed BMD: from 1,600 to 6,000 min⁻¹
Rated speed BCR: from 2,000 to 4,500 min⁻¹
Power supply: 230, 400 VAC
- **Synchronous motors with integrated drives** | iBMD Series
Stall Torque: 2.7 to 36 Nm
Rated speed: 3,000 min⁻¹
Power supply: 560 VDC



Inverters

- **Cabinet solution | Active Cube 8 IP 54**

Power range: 200 up to 1,200 kW
Voltage: 400 V, 525V, 690V

- **Premium inverter | Active Cube Series**

ACU210: 0,25 - 9,2 kW / 1- or 3-phase | **ACU410*:** 0,25 - 400 kW / 3-phase
ACU510*: 160 - 400 kW / 3-phase | **ACU610*:** 160 - 400 kW / 3-phase

- **Premium inverter | Active Cube Series**

ACU210: 0,25 - 9,2 kW / 1- or 3-phase | **ACU410*:** 0,25 - 400 kW / 3-phase
ACU510*: 160 - 400 kW / 3-phase | **ACU610*:** 160 - 400 kW / 3-phase

- **Smart inverter | Agile Series**

200V: 1-phase 0.12 up to 3 kW / 3-phase 0.25 up to 7.5 kW
400V: 0.25 up to 11 kW

- **Compact inverter | S2U Series**

S2U230S--(F) IP66: 0.2 - 2.2 kW / 1-phase

- **Servo inverter | ANG Series**

ANG210: 0.25 - 9.2 kW / 1- or 3-phase | **ANG410*:** 0.25 - 400 kW / 3-phase
ANG510*: 160 - 400 kW / 3-phase | **ANG610*:** 160 - 400 kW / 3-phase

- **Premium inverter | Active Cube Series**

ACU210: 0,25 - 9,2 kW / 1- or 3-phase | **ACU410*:** 0,25 - 400 kW / 3-phase
ACU510*: 160 - 400 kW / 3-phase | **ACU610*:** 160 - 400 kW / 3-phase

- **Smart inverter | Agile Series**

202V: 0.12 - 3 kW / 1-phase | 0.25 - 7.5 kW / 3-phase
402V: 0.25 - 11 kW / 3-phase

* up to 1200 kW with parallel connection



HMI

- **Human Machine Interfaces | BMI Series**

3 Display sizes 3.5", 7", 10.1"
 True flat front panel in IP65
 High resolution 480x272 up to 1,024x600 pixels

- **Human Machine Interfaces | BMI Series**

3 Display sizes 3.5", 7", 10.1"
 True flat front panel in IP65
 High resolution 480x272 up to 1,024x600 pixels

- **Human Machine Interfaces | BMI Series**

3 Display sizes 3.5", 7", 10.1"
 True flat front panel in IP65
 High resolution 480x272 up to 1,024x600 pixels

Research & Development



Bonfiglioli's global research and development create breakthrough solutions that integrate the most advanced mechanical, electrical and hydraulic technologies. They meet the most demanding application requirements and support our customers' growth.

More than 200 employees around the world are involved in the group's research and development.



DESIGN YOUR
SOLUTIONS



CO-
ENGINEERING

We support our customers' projects from beginning to end.

At Bonfiglioli, we believe that product development relies on passion, efficient processes, and the ability to understand our customers' needs accurately.

First, our team identify the customer's needs after in-depth analysis drawn from our specific application expertise.

Through dedicated calculation tools, we can simulate the transmission's capabilities and performance allowing reducing development time.

The alignment phase allows us then to adapt our proposal according to key factors of performance, installation and maintenance.



The test centers at Bonfiglioli

Bonfiglioli's test laboratories develop, certify and perform production follow-up for the solutions designed and manufactured in our plants across the world.

Our specialists are true partners to the R&D, technical and quality departments. They help validate each Bonfiglioli product from the smallest critical component to the overall solution.

The test centers regularly conduct additional tests to ensure gearbox durability and confirm the specifications declared during the official approval stage.



Quality, Health & Safety



Our team is wholly dedicated to continuous improvement in the quality, safety and environmental sphere, throughout the entire value chain, from the smallest supplier to the end client.

Bonfiglioli management systems are certified ISO 9001: 2015, ISO 14001: 2015 and OHSAS 18001: 2007, while our products are covered by 7 international certifications. Responsibility, excellence and continuous improvement are the basic elements that make us the favored partner of our clients and suppliers.



SYSTEM CERTIFICATION



PRODUCTS CERTIFICATION

Quality

Bonfiglioli is committed to achieving the highest ethical and quality standards. These standards are documented in the Bonfiglioli Quality Management System.

Our products are intended to generate value for our customers. We are committed to designing, manufacturing and supplying effective products and services that set a benchmark for quality in the industry.

Based on defined procedures and instructions, the Bonfiglioli Quality Management System has been established not only to ensure the ongoing quality of our products and processes, but also to guarantee continuous improvement.

Bonfiglioli has also implemented a Quality Policy which sets customer focus as a primary goal. The Quality Policy is used to set and deploy goals and objectives at every level of the organization. The fulfilment of these objectives is measured on a regular basis with appropriate performance indicators.



Health & Safety: Sustainability starts with safety

Prevention of accidents and incidents is a key element of our company's sustainable strategy and an integral part of each one of our business processes. The successful management of risks is essential for protecting our employees and assets and thereby contribute therefore strengthening.



Global Presence



Bonfiglioli is a market force with a presence spanning 22 countries on 5 continents. Our organization makes the most of geographic proximity to offer complete solutions combining efficiency and competence.



3700
EMPLOYEES



21
BRANCHES



14
PLANTS



550
DISTRIBUTORS



80
COUNTRIES

We Are a Global Company

Thanks to an international network of sales branches and closely interconnecting production plants, we can guarantee the same high standards of Bonfiglioli quality anywhere at any given time. Aware that our direct presence in local markets is the key to long-lasting success, our family includes 21 sales branches, 14 production plants and more than 500 distributors around the world.

Our organization is always close by, offering complete and efficient solutions and supporting our customers with dedicated services, such as co-engineering or after-sales assistance.



Bonfiglioli Worldwide Locations

Australia

Bonfiglioli Transmission (Aust.) Pty Ltd

2, Cox Place Glendenning NSW 2761
Locked Bag 1000 Plumpton NSW 2761
Tel. +61 2 8811 8000

Brazil

Bonfiglioli Redutores do Brasil Ltda

Travessa Cláudio Armando 171 - Bloco 3 - CEP 09861-730
Bairro Assunção - São Bernardo do Campo - São Paulo
Tel. +55 11 4344 2322

China

Bonfiglioli Drives (Shanghai) Co. Ltd.

#68, Hui-Lian Road, QingPu District,
201707 Shanghai
Tel. +86 21 6700 2000

France

Bonfiglioli Transmission s.a.

14 Rue Eugène Pottier
Zone Industrielle de Moimont II - 95670 Marly la Ville
Tel. +33 1 34474510

Germany

Bonfiglioli Deutschland GmbH

Sperberweg 12 - 41468 Neuss
Tel. +49 0 2131 2988 0

Bonfiglioli Vectron GmbH

Europark Fichtenhain B6 - 47807 Krefeld
Tel. +49 0 2151 8396 0

O&K Antriebstechnik GmbH

Ruhrallee 8-12 - 45525 Hattingen
Tel. +49 0 2324 2050 1

India

Bonfiglioli Transmission Pvt Ltd

Plot No. AC7-AC11, SIDCO Industrial Estate,
Thirumudivakkam - 600 044 Chennai
Tel. +91 44 2478 1035

Industrial

Survey No. 528, Porambakkam High Road,
Mannur Village, Sriperambudur Taluk - 602 105 Chennai
Tel. +91 44 6710 3800
Plot No. A-95, Phase IV, MIDC Chakan, Village Nighoje
Pune, Maharashtra - 410 501

Italy

Bonfiglioli Riduttori S.p.A.

Headquarters

Via Giovanni XXIII, 7/A - 40012 Lippo di Calderara di Reno
Tel. +39 051 647 3111

Mobile, Wind

Via Enrico Mattei, 12 Z.I. Villa Selva - 47100 Forlì
Tel. +39 0543 789111

Industrial

Via Bazzane, 33/A - 40012 Calderara di Reno
Tel. +39 051 6473111
Via Trinità, 1 - 41058 Vignola
Tel. +39 059 768511

Bonfiglioli Italia S.p.A

Via Sandro Pertini lotto 7b - 20080 Carpiano
Tel. +39 02 985081

Bonfiglioli Mechatronic Research S.p.A

Via F. Zeni 8 - 38068 Rovereto
Tel. +39 0464 443435/36

New Zealand

Bonfiglioli Transmission (Aust.) Pty Ltd

88 Hastie Avenue, Mangere Bridge, 2022 Auckland
PO Box 11795, Ellerslie
Tel. +64 09 634 6441

Singapore

Bonfiglioli South East Asia Pte Ltd

8 Boon Lay Way, #04-09,
8@ Tadehub 21, Singapore 609964
Tel. +65 6268 9869

Slovakia

Bonfiglioli Slovakia s.r.o.

Robotnícka 2129
Považská Bystrica, 01701 Slovakia
Tel. +421 42 430 75 64

South Africa

Bonfiglioli South Africa Pty Ltd

55 Galaxy Avenue, Linbro Business Park - Sandton
Tel. +27 11 608 2030

Spain

Tecnotrans Bonfiglioli s.a

Pol. Ind. Zona Franca, Sector C, Calle F, nº 6
08040 Barcelona
Tel. +34 93 447 84 00

Turkey

Bonfiglioli Turkey Jsc

Atatürk Organize Sanayi Bölgesi, 10007 Sk. No. 30
Atatürk Organize Sanayi Bölgesi, 35620 Çiğli - Izmir
Tel. +90 0 232 328 22 77

United Kingdom

Bonfiglioli UK Ltd.

1 Calver Quay, Winwick
Warrington - WA2 8UD
Tel. +44 1925 825667

USA

Bonfiglioli USA Inc.

3541 Hargrave Drive
Hebron, Kentucky 41048
Tel. +1 859 334 3333

Vietnam

Bonfiglioli Vietnam Ltd

Lot C-9D-CN My Phuoc Industrial Park 3
Ben Cat - Binh Duong Province
Tel. +84 650 3577411



We have a relentless commitment to excellence, innovation and sustainability. Our team creates, distributes and services world-class power transmission and drive solutions to keep the world in motion.

HEADQUARTERS

Bonfiglioli Riduttori S.p.A.
Via Giovanni XXIII, 7/A
40012 Lippo di Calderara di Reno
Bologna (Italy)
www.bonfiglioli.com

