Solutions for Packaging

Packaging
The most reliable solutions for Packaging Processes

The diversity of packaging types and packaging machines makes performance requirements differ widely. From high overload specifications to parallel control of multiple motors, from high breakaway torque to continuous low speed functioning, and from synchronization to controlled braking, Bonfiglioli has created dedicated solutions to meet the requirements of all machines.

Reducing dimensions, increasing flexibility, resisting extreme load conditions and facilitating integration are the basic features that are offered by Bonfiglioli’s solutions.

Our solutions satisfy even the strictest performance specifications imposed by customers and guarantee the highest levels of efficiency and energy saving.

In terms of performance, Bonfiglioli guarantees high output, speed and efficiency from the production cycle.

Products for all types of packaging equipment:

- Cleaning, Sterilizing & Drying machines
- Flow Pack machines
- Filling, Dosing, Capping machines
- Labelling machines
- Carton Forming machines
- Carton Filling machines
- Carton Closing machines
- Palletizing machines
- Wrapping machines
- Handling systems
Liquid Filling Process

1 Cleaning, Sterilizing & Drying  
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Hygiene, product safety, space efficiency and reliability are key features in bottle washing machines. Bonfiglioli understands customers' needs well and has developed specific products with enhanced protection and features to meet specific environmental requirements. Our solutions meet these requirements outstandingly and supply machine manufacturers with an extremely broad, dedicated selection of gearmotors.

Cleaning, Sterilizing & Drying
Bottle Washer Machine

Benefits
• Cost effective
• Uncompromising quality
• EP version specially designed for food & beverage industries

Features
• High and premium efficiency motors (IE2, IE3)

VF Series
Universal Worm Gearmotors & Units

Benefits
• Compact
• Universal mounting
• Modular design

Features
• Keyed hollow shaft (metric and inch series)
• High and premium efficiency motors (IE2, IE3)
• Wide range of feedback devices (incremental and absolute encoders)

A Series
Helical Bevel Gearmotors & Units

Benefits
• Series optionally extendable for field bus communication
• Sensorless control of synchronous and asynchronous motors
• Modbus and Systembus onboard
• DC link connection
• Integrated brake chopper
• Power failure control
• Programmable PI Controller
• Integrated VPLC
• Master/slide function with electronic gear
• Integrated safe torque off STO (SIL 2 / PL d) function
• Energy Saving function
• Intelligent current limits
• Output frequency 0...599 Hz, higher frequencies on request
• Diagnosis and setup via integrated keypad and integrated Service interface for PC connection

Agile Series
Smart inverter

Benefits
• Low energy consumption

Features
• Series optionally extendable for field bus communication
• Sensorless control of synchronous and asynchronous motors
• Modbus and Systembus onboard
• DC link connection
• Integrated brake chopper
• Power failure control
• Programmable PI Controller
• Integrated VPLC
• Master/slide function with electronic gear
• Integrated safe torque off STO (SIL 2 / PL d) function
• Energy Saving function
• Intelligent current limits
• Output frequency 0...599 Hz, higher frequencies on request
• Diagnosis and setup via integrated keypad and integrated Service interface for PC connection
From bottle filling to labeling, the primary packaging phase poses a number of challenges, including speed, precision and synchronization. We can provide state-of-the-art integrated solutions that fit customers’ needs. Our low-backlash precision gearboxes, highly dynamic, high-efficiency servo motors and drives are an excellent combination for these applications.

**Primary packaging**

**Filling, dosing, capping & labeling machine**

Benefits
- Compact
- Universal mounting
- Modular design

Features
- Keyed hollow shaft (metric and inch series)
- High and premium efficiency motors (IE2, IE3)
- Wide range of feedback devices (incremental and absolute encoders)

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**A Series**

**Helical Bevel Gearmotors & Units**

**Benefits**
- Compact
- Universal mounting
- Modular design

**Features**
- Keyed hollow shaft (metric and inch series)
- High and premium efficiency motors (IE2, IE3)
- Wide range of feedback devices (incremental and absolute encoders)

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**TQ+iBMD**

**Servo gearmotor with Integrated Drive**

**Benefits**
- Decentralized solution
- High precision and dynamic
- Highly compact
- Integrated programmability (ST language)

**Features**
- Interpolated mode
- Positioning
- CAM profile
- Capture mode
- Codesys Driver
Secondary packaging

Carton forming machines, pick & place, carton closing machine

Secondary packaging involves machines that perform a variety of jobs, from building boxes, to placing products inside them, and finally closing them. Bonfiglioli knows the challenges of these applications and provides solutions to meet them all. From maximally space-saving precision gearboxes to inverters, our customers can rely on Bonfiglioli as full line supplier.
Tertiary packaging

Palletizing & wrapping machines

Tertiary packaging involves palletizing and wrapping machines that receive the filled boxes from the previous process and prepare them for final shipping. Bonfiglioli’s solutions for these applications meet the need for both high dynamics and precision. We provide solutions that ensure speed and precision when moving the finished product.

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**ANG Series**

**Helical Bevel Gearmotors & Units**

**Benefits**
- Compact
- Universal mounting
- Modular design

**Features**
- Keyed hollow shaft (metric and inch series)
- High and premium efficiency motors (IE2, IE3)
- Wide range of feedback devices (incremental and absolute encoders)

**A Series**

**Servo inverter**

**Benefits**
- Compact
- Universal mounting
- Modular design

**Features**
- Keyed hollow shaft (metric and inch series)
- High and premium efficiency motors (IE2, IE3)
- Wide range of feedback devices (incremental and absolute encoders)

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**BMS Series**

**Compact servo geared solution**

**Benefits**
- Compactness, gear motor length reduced up to 25%
- Combination of servo gearmotors with high precision planetary gearbox
- All in one product, easy to select and order

**Features**
- Compact design
- High precision and dynamics
- Matching between application demands and geared motor operating area that lead to a smaller servopackage
- High flexibility in the selection of options

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**C Series**

**Compact servo geared**

**Solution**

**Benefits**
- Compact
- Universal mounting
- Modular design

**Features**
- Keyed hollow shaft (metric and inch series)
- High and premium efficiency motors (IE2, IE3)
- Wide range of feedback devices (incremental and absolute encoders)

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Solid Packaging Process

Secondary Packaging
- Carton Forming Machine
- Carton Filling Machine (Pick & Place)
- Carton Closing Machine

Tertiary Packaging
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www.bonfiglioli.com
The Flow Pack (HFFS) process involves automatic machines working at a high rate of production. Compact, modular, dynamic, high-precision solutions allow us to supply drive and control systems for both Horizontal Fill Form Seal (HFFS) and Vertical Fill Form Seal (VFFS) machines that provide proper conveyor transfer of material to an unwinder for sealing with a single roll of film.

**Infeed Conveyor-Smart Belt:**
- **A Series**
  - Helical bevel gearbox with BMD Series
  - Permanent magnet servo motor

**Unwinder:**
- **A Series**
  - Helical Bevel Gearmotors & Units

**Rotary Sealing Knives:**
- **iBMD Series**
  - Servomotor with integrated drive

**Active Cube and/or Agile Series**
- Smart inverter

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**Benefits**
- Compact design
- Universal mounting
- Modular design

**Features**
- Keyed hollow shaft (metric and inch series)
- Super premium efficiency motors (IE4)
- Wide range of feedback devices
- Up to IP 67 insulation class

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**Benefits**
- Decentralized solution
- High precision and dynamic
- Highly compact

**Features**
- Interpolated mode
- Positioning
- CAM profile
- Capture mode

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**Benefits**
- Loading system
- Speed control or position mode with servomotor BMD
- Manual or fully automatic feeding
- "No production no bag" function

**Features**
- EtherCAT
- Linear interpolation
- High efficiency
- Robust and reliable solution
- Multi communication protocols
- Sensorless vector control
Smart conveyors are key elements that drive the packaging process from beginning to end. Our drives provide smooth, quiet operations and, thanks to our inverters, our solutions provide unsurpassed control of conveyor speed and motion.

### Handling

**Smart conveyors**

Benefits
- Smooth start
- Feed roll control
- Low energy consumption

Features
- Series optionally extendable for field bus communication
- Sensorless control of synchronous and asynchronous motors
- Modbus and Systembus onboard
- DC link connection
- Integrated brake chopper
- Power failure control
- Programmable PI Controller
- Integrated VPLC
- Master/Slave function with electronic gear
- Integrated safe torque off STO (SIL 2 / PL d) function
- Energy Saving function
- Intelligent current limits
- Output frequency 0...599 Hz, higher frequencies on request
- Diagnosis and setup via integrated keypad and integrated Service interface for PC connection

### A Series

**Helical bevel gearbox with BMD Series**

**Permanent magnet servo motor**

Benefits
- Highly dynamic
- Energy-saving solution
- Reduced installation space
- Reinforced bearings
- Wide range of accessories such as:
  - Torque arm
  - Fluoroelastomer oil seals
  - Taconite seals

Features
- Reduced backlash option RB
- IP 65 (standard) and up to IP 67 protection
- Wide output speed selection range

### F Series

**Helical Parallel-Shaft Gearmotors & Units**

Benefits
- Easy installation
- Low noise
- High torque capability

Features
- Keyed hollow shaft - two bore options per size, keyless shrink disc fitting (metric series)
- Insulation Class up to IP56
- Surface protection class C3, C4 and C5 (according to UNI EN ISO 12944-2 standard)
- High and premium efficiency motors (IE2, IE3)

### Agile Series

**Smart inverter**

Benefits
- Smooth start
- Feed roll control
- Low energy consumption

Features
- Series optionally extendable for field bus communication
- Sensorless control of synchronous and asynchronous motors
- Modbus and Systembus onboard
- DC link connection
- Integrated brake chopper
- Power failure control
- Programmable PI Controller
- Integrated VPLC
- Master/Slave function with electronic gear
- Integrated safe torque off STO (SIL 2 / PL d) function
- Energy Saving function
- Intelligent current limits
- Output frequency 0...599 Hz, higher frequencies on request
- Diagnosis and setup via integrated keypad and integrated Service interface for PC connection
Solid Packaging Process

Tertiary Packaging
Palletizing machines

Last but not least, the tertiary phase includes both palletizing and wrapping machines to prepare the product for shipment. We provide solutions that can handle high speeds and precise movement, while stabilizing and properly aligning the material.

F Series
Helical Parallel-Shaft Gearmotors & Units

Benefits
- Easy installation
- Low noise
- High torque capability

Features
- Keyed Hollow Shaft - Two Bore Options per Size, Keyless Shrink Disc Fitting (Metric series)
- Keyed Hollow Shaft (Inch series)
- Backstop device
- High and premium efficiency motors (IE2, IE3)

Active Cube Series
Premium inverter

Benefits
- Interpolated operating mode
- Smooth start
- Torque control

Features
- Series optionally extendable for 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
- Positioning function via field bus (Motion Control compatible to CiA DS402)
- Integrated VPLC
- Master/Slave function with electronic gear
- Power failure control
- Integrated safe torque off STO (SIL 3 / PL e) function
- Output frequency 0...599 Hz, higher frequencies on request
- Diagnosis and setup via optional keypad or PC software
Tertiary Packaging
Wrapping machines

Last but not least, the tertiary phase includes both palletizing and wrapping machines to prepare the product for shipment. We provide solutions that can handle high speeds and precise movement, while stabilizing and properly aligning the material.

C Series
In-line Gearmotors & Units

Benefits
- Top torque density
- Highly compact
- Wide speed choice

Features
- Wide choice of output bolt-on-flanges
- Surface protection class C3, C4 and C5 (according to UNI EN ISO 12944-2 standard)

Agile Series
Smart inverter

Benefits
- Smooth start
- Feed roll control
- Low energy consumption

Features
- Series optionally extendable for field bus communication
- Sensorless control of synchronous and asynchronous motors
- Modbus and Systembus onboard
- DC link connection
- Integrated brake chopper
- Power failure control
- Programmable PI Controller
- Integrated VPLC
- Master/slave function with electronic gear
- Integrated safe torque off STO (SIL 2 / PL d) function
- Energy Saving function
- Intelligent current limits
- Output frequency 0...599 Hz, higher frequencies on request
- Diagnosis and setup via integrated keypad and integrated Service interface for PC connection
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

**Motors**

- **Asynchronous IEC Motor**
  BN, BE, BX 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

- **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

- **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

- **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

- **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

- **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

- **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

**Note:** 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

**Note:** up to 1200 kW with parallel connection
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.

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 Plumpston 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, 207070 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 3447 4510

Germany
Bonfiglioli Deutschland GmbH
Sperberweg 12 - 41686 Neuss
Tel. +49 0 2131 2988 0

Bonfiglioli Vektron 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, Sripersambudur 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 Forli
Tel. +39 0543 789111

Industrial
Via Bazzane, 33/A - 40012 Calderara di Reno
Tel. +39 051 6473111

Via Trinità, 1 - 40058 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 - 38066 Rovereto
Tel. +39 0464 443435/36
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.