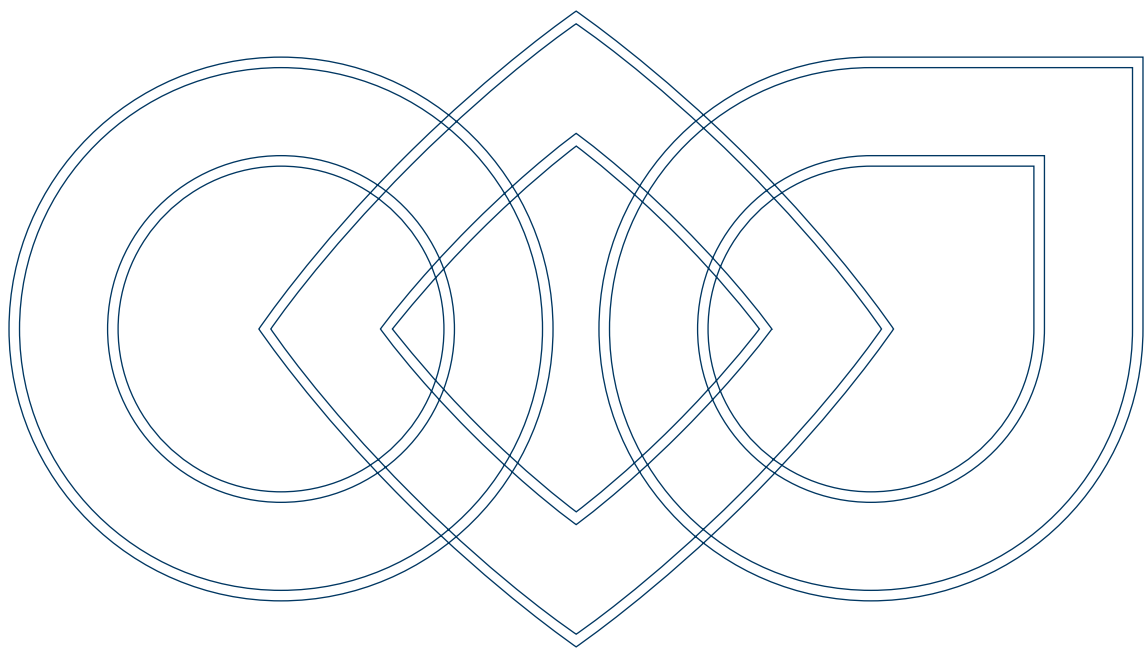


## Solutions for Packaging



SECTOR



# 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.

## BONFIGLIOLI HAS COMPREHENSIVE EXPERIENCE TO SUPPORT MACHINERY DESIGN IN THE:



### Liquid filling process

Page 4 to 7



### Solid packaging process

Page 8 to 11



## THESE ARE ALL THE POSSIBLE TYPES OF PACKAGING EQUIPMENT

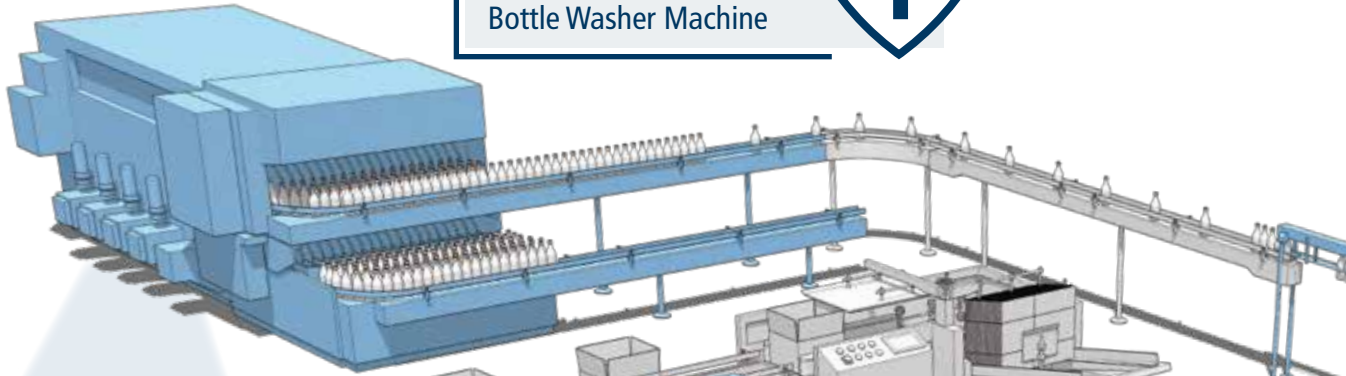
- Cleaning, Sterilizing & Drying machines
- Flow Pack machines
- Filling, Dosing, Capping machines
- Labelling machines
- Carton Forming machines
- Carton Filling machines
- Carton Closing machines
- Palletizing machines
- Wrapping machines
- Handling systems

# LIQUID FILLING PROCESS

## Cleaning, Sterilizing & Drying

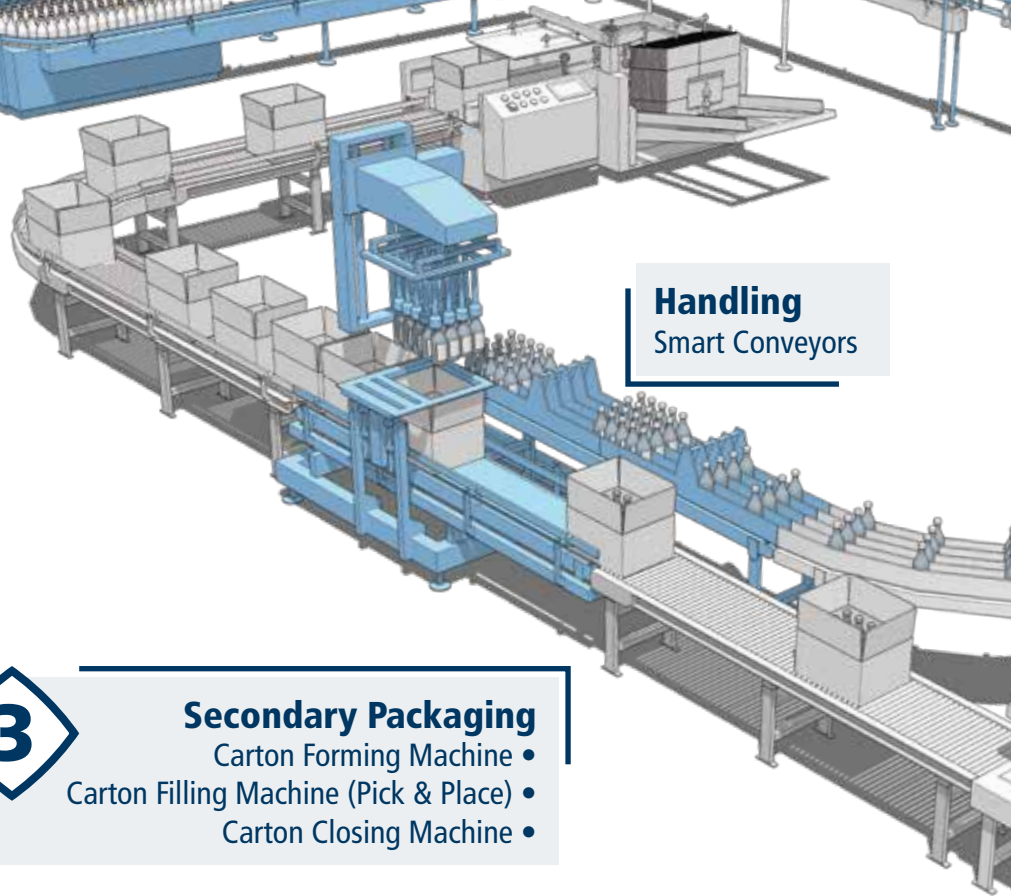
Bottle Washer Machine

1



## Handling

Smart Conveyors



VF - Worm gearmotor

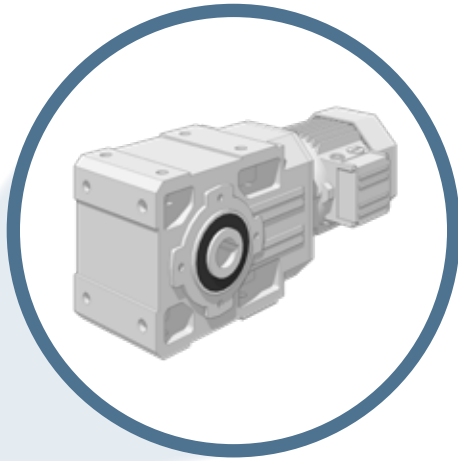
3

## Secondary Packaging

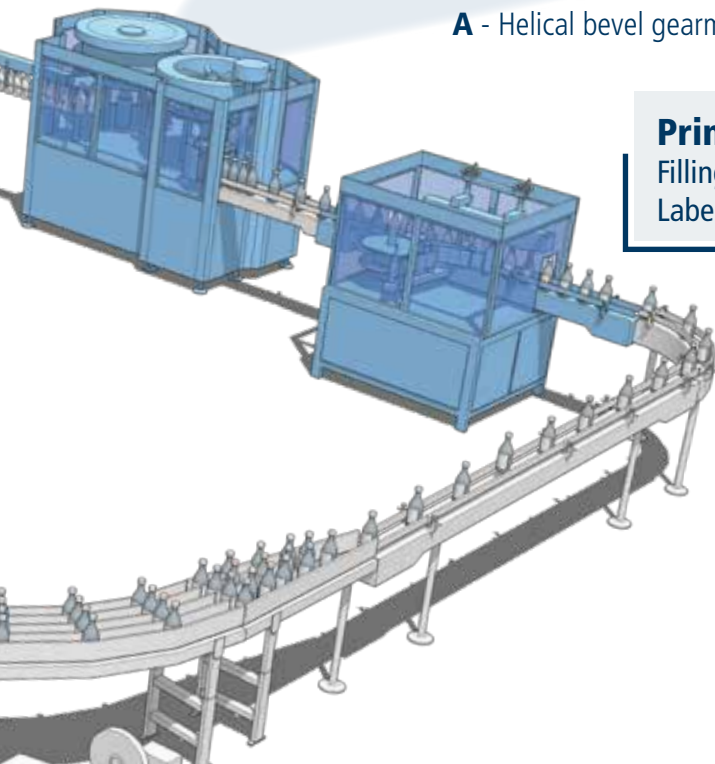
- Carton Forming Machine
- Carton Filling Machine (Pick & Place)
- Carton Closing Machine



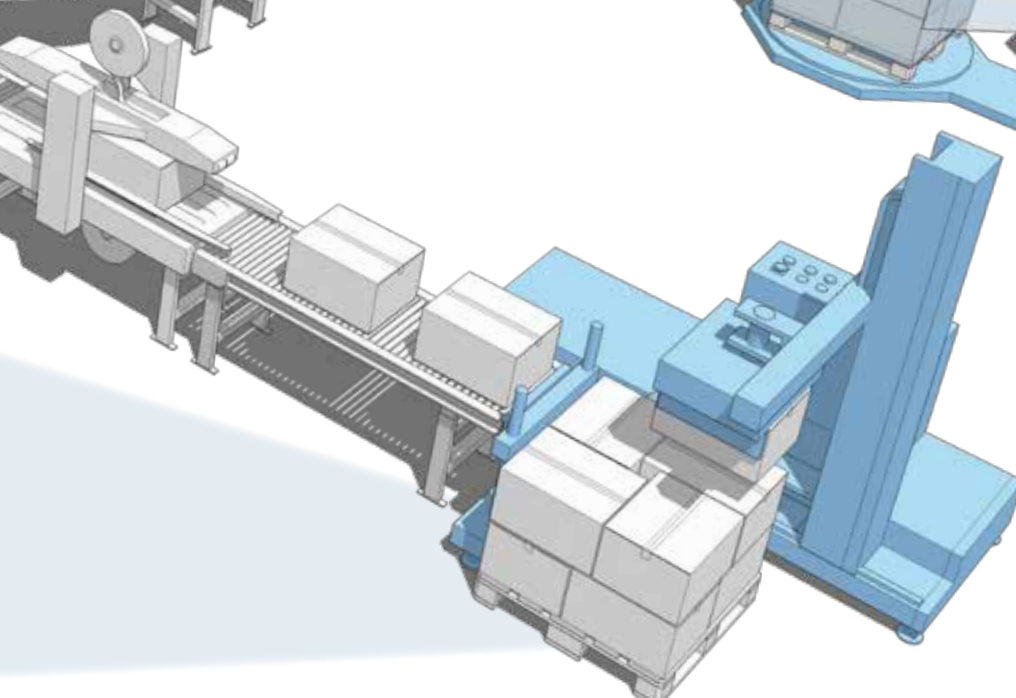
ANG - Servo Inverter



A - Helical bevel gearmotor



**Primary Packaging**  
Filling, Dosing, Capping &  
Labelling Machines



**Tertiary Packaging**  
Palletizing (Pick &  
Place) & Wrapping  
Machines



# LIQUID FILLING PROCESS

## 1

### Cleaning, Sterilizing & Drying

Solutions for Bottle Washer Machine

#### VF - Worm gearmotor

**BENEFITS**

- Cost effective
- Uncompromising quality
- Specially designed for food & beverage industries

**FEATURES**

- High and premium efficiency motors (IE2, IE3)



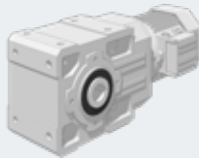
#### A - Helical bevel gearmotor

**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)



#### Agile - Smart sensorless frequency inverter

**BENEFITS**

- Low energy consumption

**FEATURES**

- Sensor-less vector control for asynchronous and synchronous motors
- Integrated torque off safety function
- Integrated Modbus
- Optional communication card (Profibus, CanOpen.....)
- Tropicalization option
- Main software features:
  - Integrated PLC function with graphic development environment
  - Torque limitation



## 2

### Primary Packaging

Solutions for Filling, Dosing, Capping & Labelling Machines

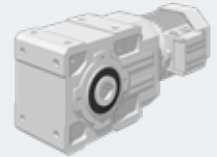
#### A - Helical bevel gearmotor

**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)



#### TQ+IBMD - Servo gearmotor with Integrated Drive

**BENEFITS**

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

**FEATURES**

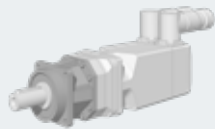
- Interpolated mode
- Positioning
- CAM profile
- Capture mode
- Codesys Driver



## 3 Secondary Packaging

Solutions for Carton Filling Machine (Pick & Place)

**TQ** - Precision planetary gearbox with **BMD** - Permanent magnet servo motor



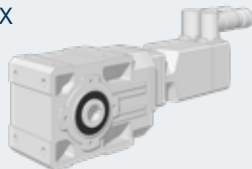
**BENEFITS**

- High precision and dynamic
- Highly compact
- High stiffness
- Designed for continuous and intermittent duty

**FEATURES**

- Different feedback systems available
- Brake option
- Inertia flywheel
- Customized windings on request

**A** - Helical bevel gearbox with **BMD** - Permanent magnet servo motor



**BENEFITS**

- Compact
- Universal mounting
- Modular design

**FEATURES**

- Keyed hollow shaft (metric and inch series)
- Super premium efficiency motors (IE4)
- Wide range of feedback devices
- Brake option
- Inertia flywheel
- Customized windings on request

**Active Cube** - Premium Inverter



**BENEFITS**

- Interpolated operating mode
- Smooth start
- Torque control

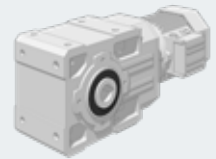
**FEATURES**

- Ethernet based drive
- Wide power range and parallel connection option to reach up to 1200 kW
- Integrated torque off safety function, external 24 Vdc control power supply
- Tropicalization option
- Integrated PLC function with graphic development environment

## 4 Tertiary Packaging

Solutions for Palletizing (Pick & Place) & Wrapping Machines

**A** - Helical bevel gearmotor



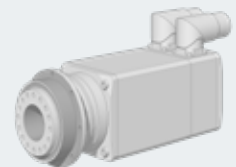
**BENEFITS**

- 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)

**BMS** - 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**

- Three dynamics: possible to choose between three different overspeed in acceleration

**ANG** - Servo Inverter



**BENEFITS**

- Interpolated mode
- Fast loops control
- 2 encoder inputs

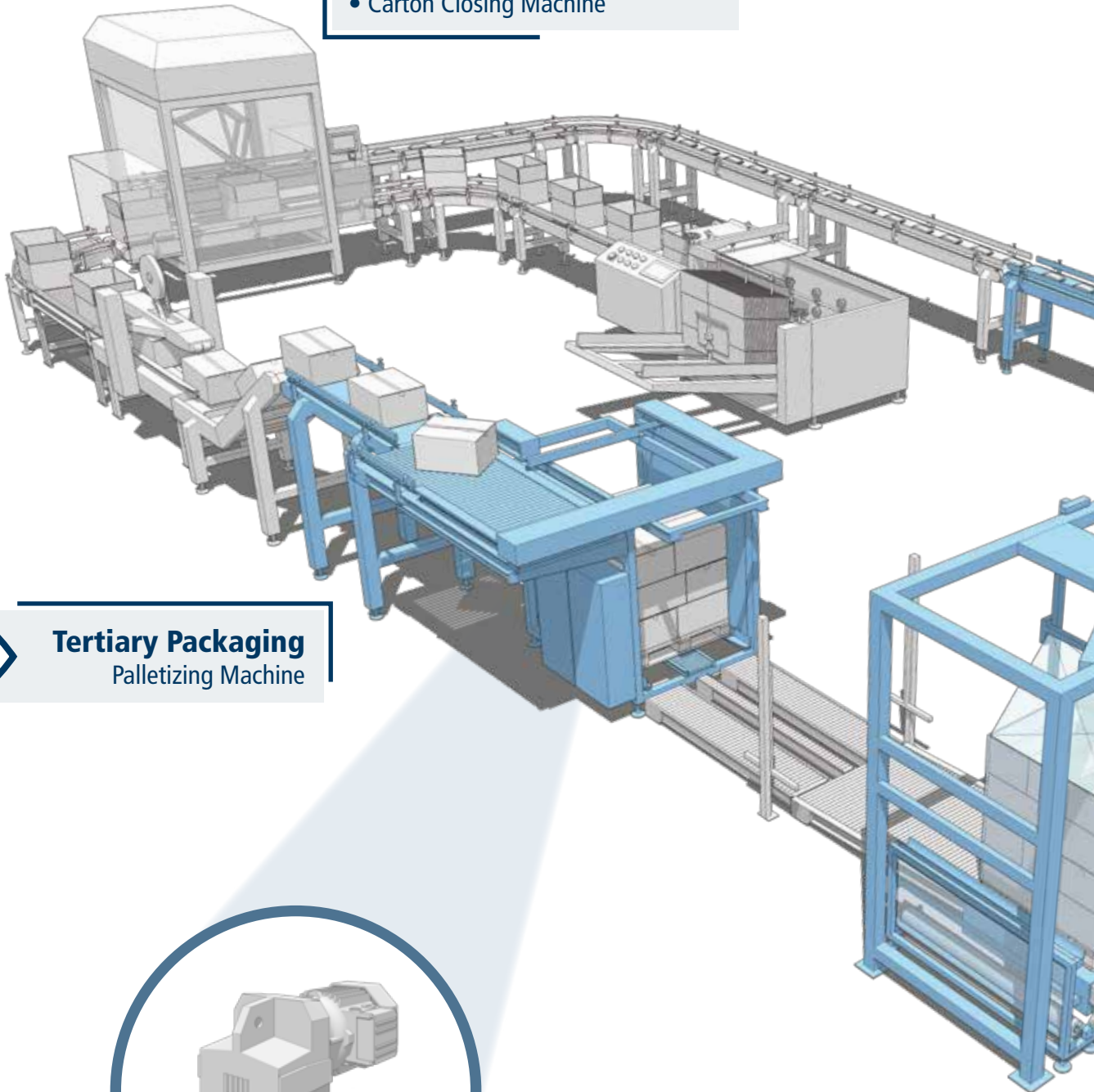
**FEATURES**

- EtherCAT, CAN open integrated
- Absolute encoders
- Resolver
- PCB coated

# SOLID PACKAGING PROCESS

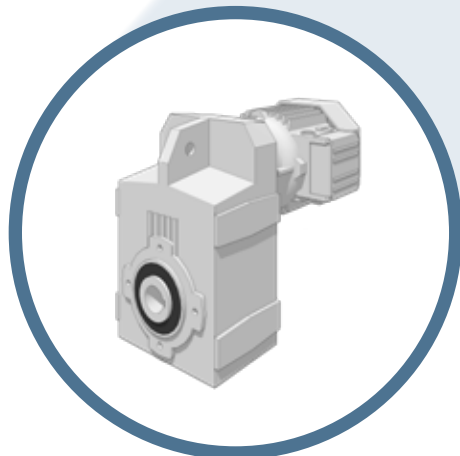
## Secondary Packaging

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



**2**

**Tertiary Packaging**  
Palletizing Machine



F - Shaft mounted gearmotor

**3**

**Tertiary Packaging**  
Wrapping Machine



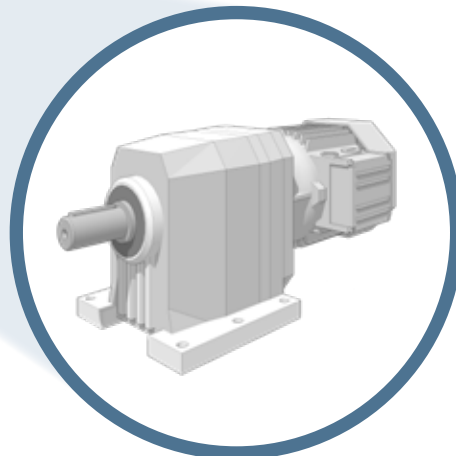
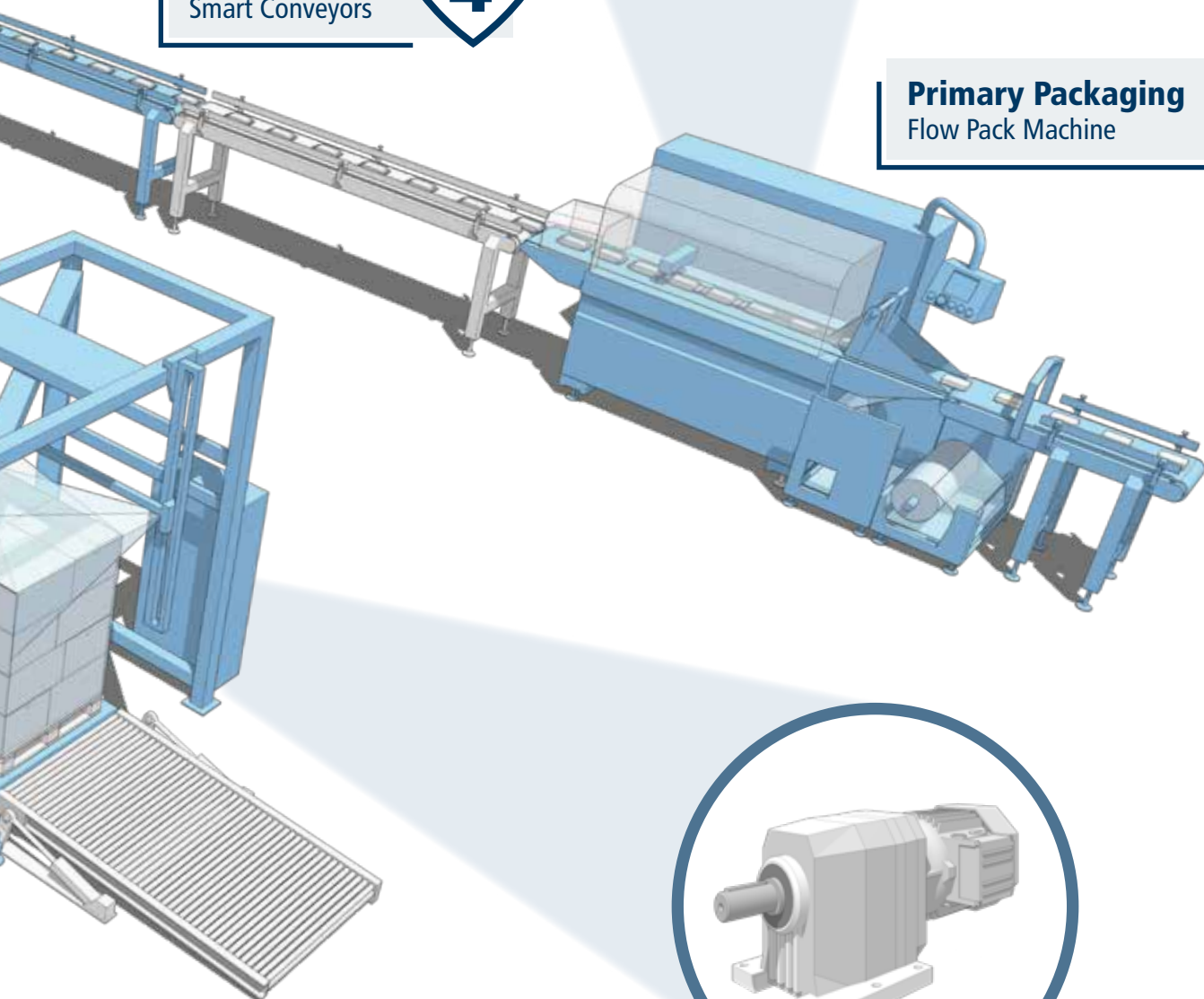
**BMS** - Compact Servo Geared Solution



**Handling**  
Smart Conveyors



**Primary Packaging**  
Flow Pack Machine



**C** - Coaxial gearmotor

# SOLID PACKAGING PROCESS

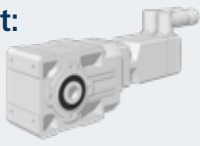
1

## Primary Packaging

Solutions for Flow Pack Machine

---

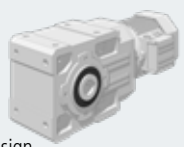
- Infeed Conveyor-Smart Belt:**  
**A** - Helical bevel gearbox with **BMD** - Permanent magnet servo motor



**BENEFITS**  
Compact design, Universal mounting, Modular design

**FEATURES**

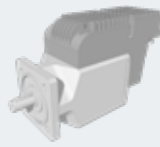
  - Keyed hollow shaft (metric and inch series)
  - Super premium efficiency motors (IE4)
  - Wide range of feedback devices
- Unwinder:**  
**A** - Helical bevel gearmotor



**BENEFITS**  
Compact design, 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)
- Rotary Sealing Knives:**  
**iBMD** - Servomotor with integrated drive



**BENEFITS**  
Decentralized solution, High precision and dynamic, Highly compact

**FEATURES**

  - Interpolated mode
  - Positioning
  - CAM profile
  - Capture mode
- Active Cube and/or Agile** - Smart Inverter



**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

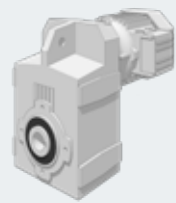
2

## Tertiary Packaging

Solutions for Palletizing Machine

---

**F** - Shaft mounted gearmotor




**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)
- Back stops device
- High and premium efficiency motors (IE2, IE3)

**Active Cube** - Premium Inverter



**BENEFITS**

- Interpolated operating mode
- Smooth start
- Torque control

**FEATURES**

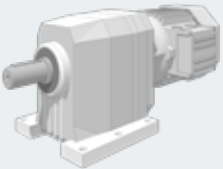
- Ethernet based drive
- Wide power range and parallel connection option to reach up to 1200 kW
- Integrated torque off safety function, external 24 Vdc control power supply
- Tropicalization option
- Integrated PLC function with graphic development environment

## 3 Tertiary Packaging

### Solutions for Wrapping Machine

---

**C - Coaxial gearmotor**




**BENEFITS**

- Top torque density
- Highly compact
- Wide speed choice

**FEATURES**

- Wide choice of output bolt-on-flanges
- Special seals set for severe environment applications
- Surface protection class C3, C4 and C5 (according to UNI EN ISO 12944-2 standard)

**Agile - Smart sensorless frequency inverter**



**BENEFITS**

- Smooth start
- Feed roll control
- Low energy consumption

**FEATURES**

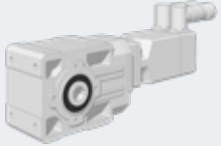
- Sensor-less vector control for asynchronous and synchronous motors
- Integrated torque off safety function
- Integrated Modbus
- Optional communication card (Profibus, CanOpen.....)

## 4 Handling

### Solutions for Smart Conveyors

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**A - Helical bevel gearbox with BMD - Permanent magnet servo motor**



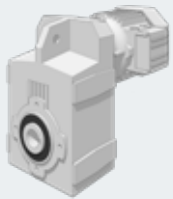
**BENEFITS**

- Compact
- Universal mounting
- Modular design

**FEATURES**

- Sensorless control
- Protection rating up to IP65 (motor), IP56 (gearbox)
- Surface protection class C3, C4 and C5 (according to UNI EN ISO 12944-2 standard)
- Super premium efficiency motors (IE4)
- Wide range of feedback devices (absolute encoders)

**F - Shaft mounted gearmotor**




**BENEFITS**

- Easy installation
- Low noise
- High torque capability

**FEATURES**

- Keyed hollow shaft - two bore options per size, keyless shrink disc fitting (metric series)
- Protection rating 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 - Smart sensorless frequency inverter**



**BENEFITS**

- Smooth start
- Feed roll control
- Low energy consumption

**FEATURES**

- Sensor-less vector control for asynchronous and synchronous motors
- Integrated torque off safety function
- Integrated Modbus
- Optional communication card (Profibus, CanOpen.....)

# COMPLETE SOLUTIONS FOR POWER TRANSMISSION AND AUTOMATION



HEAVY DUTY

## Gearboxes and Geared motors

### Heavy duty parallel/right angle shaft geared motors - HDP/HDO Series

Torque range: 5 000 to 210 000 Nm  
Gear ratios: 5.6 to 500

### Planetary geared motors - 300 Series

Torque range: 1 250 to 1 287 000 Nm  
Gear ratios: 3.4 to 5 234

## Motors

### Asynchronous IEC Motor - BN, BE, BX Asynchronous Compact Motors - MN, ME, MX

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

LIGHT DUTY

### 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

### 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: 0.2 to 115 Nm  
Rated speed: from 1 600 to 6 000 min<sup>-1</sup>  
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

IE4

SERVO

### 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 15 arcmin

### Synchronous motors - BMD, BCR Series

Stall Torque: 0.2 to 115 Nm  
Rated speed: from 1 600 to 6 000 min<sup>-1</sup>  
Power supply: 230, 400 VAC

### Synchronous motors with integrated drives - iBMD Series

Stall Torque: 2.7 to 36 Nm  
Rated speed: 3 000 min<sup>-1</sup>  
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

**200V:** 0.25 up to 9.2 kW

**400V:** 0.25 up to 400 kW

### Premium inverter - Active Cube Series

**200V:** 0.25 up to 9.2 kW

**400V:** 0.25 up to 400 kW

### 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

**200V:** 0.2 – 2.2 kW

### Servo inverter - ANG Series

**200V:** 1 or 3 phase 0.25 up to 9.2 kW

**400V:** 0.25 up to 400 kW

### Premium inverter - Active Cube Series

**200V:** 0.25 up to 9.2 kW

**400V:** 0.25 up to 400 kW

### 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

## HMI

### Human Machine Interfaces - BMI Series

2 Display sizes – 7" and 10" True flat front panel in IP65

High resolution 480x272 up to 1024x600 pixels

### Human Machine Interfaces - BMI Series

2 Display sizes – 7" and 10" True flat front panel in IP65

High resolution 480x272 up to 1024x600 pixels

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2 Display sizes – 7" and 10" True flat front panel in IP65

High resolution 480x272 up to 1024x600 pixels

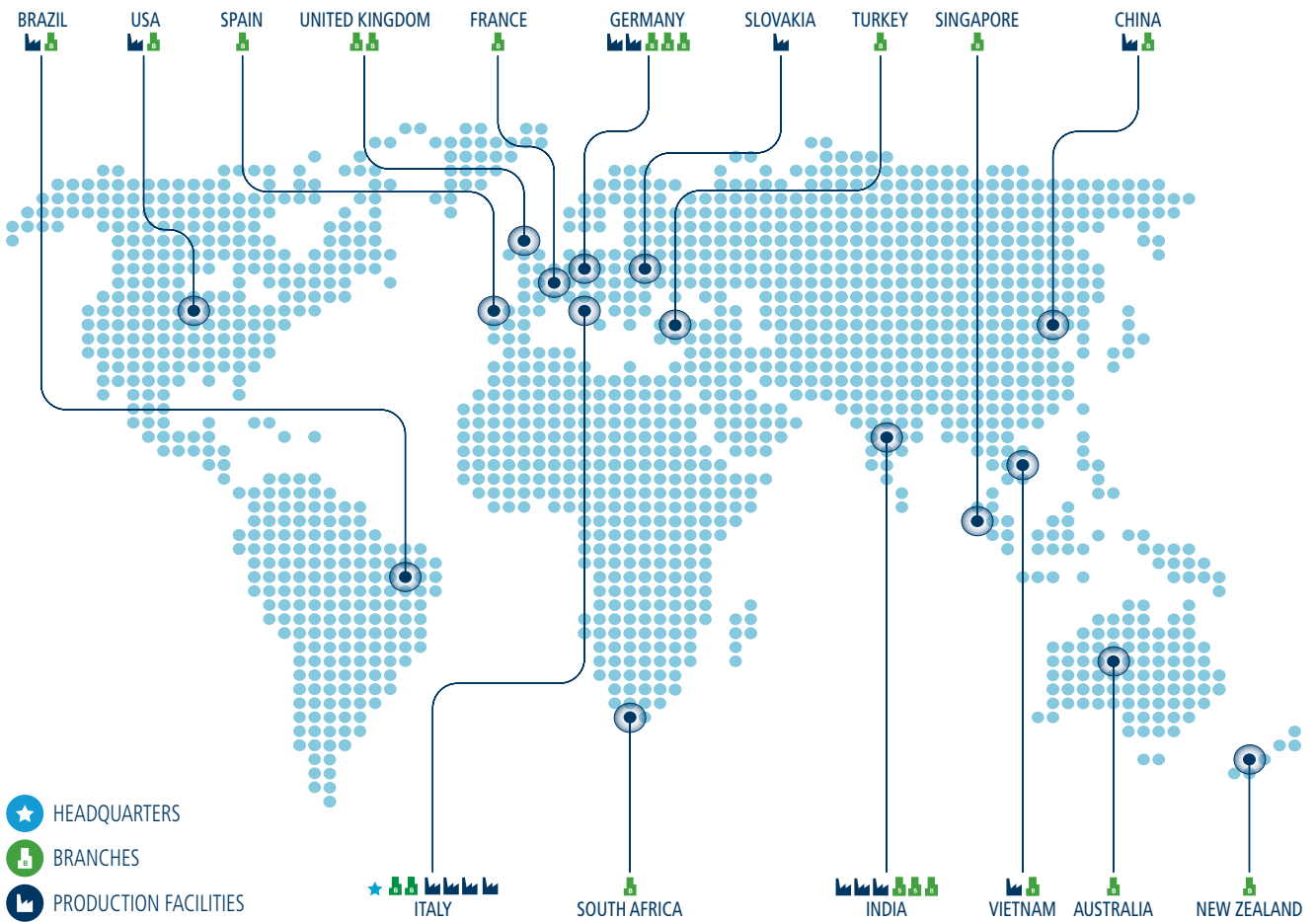
HEAVY DUTY

LIGHT DUTY

SERVO

# Bonfiglioli worldwide presence

Bonfiglioli is located in regions and countries around the world that enable us to provide faster sales and service to customers.  
**We are around the world, and around the corner.**



**LOCAL SUPPORT**  
 Sales, Customer Service,  
 Warranty, Tech support,  
 Spare parts



**21 BRANCH OFFICES  
 IN 15 COUNTRIES**



**WORLDWIDE  
 DISTRIBUTION  
 NETWORK**

# Bonfiglioli worldwide locations

## Australia

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

## Brazil

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

## China

www.bonfiglioli.cn  
Bonfiglioli Drives (Shanghai) Co., Ltd.  
#68, Hui-Lian Road, QingPu District,  
201707 Shanghai  
Tel. +86 21 6700 2000

## France

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

## Germany

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

### Industrial

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

### O&K Antriebstechnik

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

## India

www.bonfiglioli.in  
**Mobile, Wind**  
Bonfiglioli Transmissions 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  
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Pune, Maharashtra - 410 501

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### Industrial

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Via Trinità, 1 - 41058 Vignola  
Tel. +39 059 768511  
Via Sandro Pertini lotto 7b - 20080 Carpiano  
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### Bonfiglioli Mechatronic Research

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Tel. +39 0464 443435/36

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Tel. +65 6268 9869

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

## South Africa

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

## Spain

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Tecnotrans Bonfiglioli S.A.  
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08040 Barcelona  
Tel. +34 93 447 84 00

## Turkey

www.bonfiglioli.com.tr  
Atatürk Organize Sanayi Bölgesi, 10007 Sk. No. 30  
Atatürk Organize Sanayi Bölgesi, 35620 Çiğli - İzmir  
Tel. +90 0 232 328 22 77

## United Kingdom

www.bonfiglioli.co.uk

### Industrial

Unit 7, Colemeadow Road  
North Moons Moat - Redditch, Worcestershire B98 9PB  
Tel. +44 1527 65022

### Mobile, Wind

3 - 7 Grosvenor Grange, Woolston  
Warrington - Cheshire WA1 4SF  
Tel. +44 1925 852667

## USA

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

## Vietnam

www.bonfiglioli.vn  
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**

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Via Giovanni XXIII, 7/A  
40012 Lippo di Calderara di Reno  
Bologna (Italy)  
tel: +39 051 647 3111  
fax: +39 051 647 3126  
[bonfiglioli@bonfiglioli.com](mailto:bonfiglioli@bonfiglioli.com)  
[www.bonfiglioli.com](http://www.bonfiglioli.com)