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We engineer dreams



# Complete Solution Provider







WWW.BONFIGLIOLI.COM

## **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 all machine requirements.

Reducing dimensions, increasing flexibility, resisting extreme load conditions and facilitating integration are the basic features 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 savings.

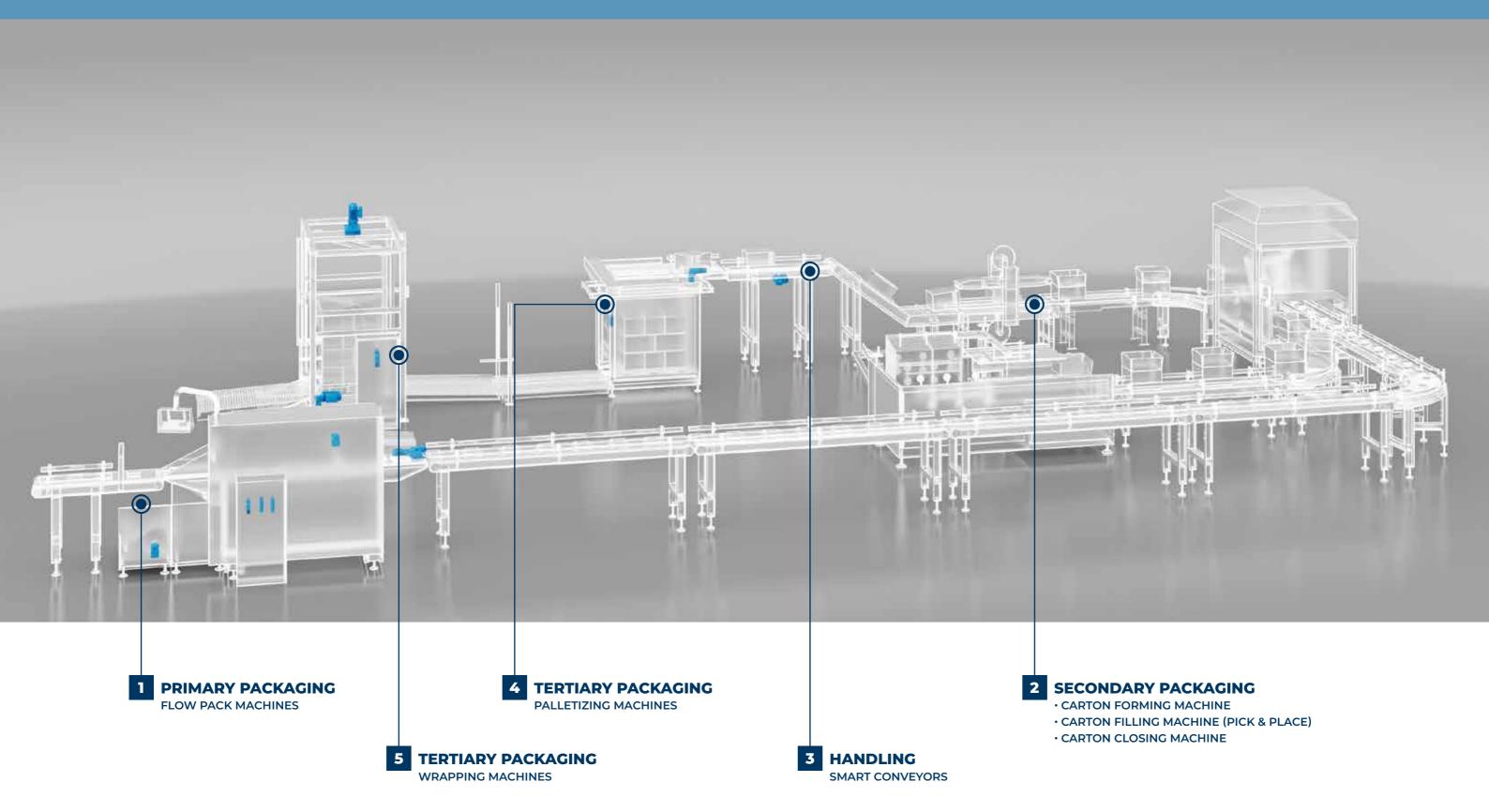
Bonfiglioli guarantees high dynamic performances, compactness, high output, speed and efficiency from the production cycle.

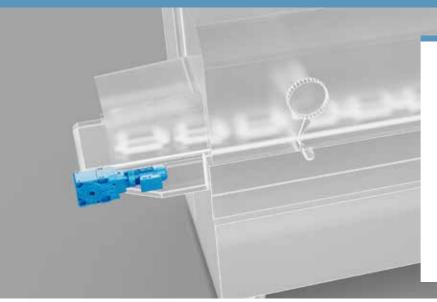






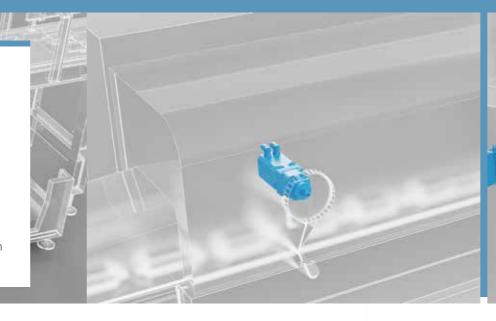
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## **PRIMARY PACKAGING** FLOW PACK MACHINES

The Flow Pack (HFFS) process involves automatic machines working at a high production rate. 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.







### **A+MXN Series**

Right angle Helical Bevel Gearmotor + **Asynchronous Motor** 

- Compact
- Universal mounting
- BENEI Modular design

### Keyed hollow shaft (metric and inch series)

- Premium efficiency motors IE3
- Reduced backlash

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### **Agile Series**

**Smart Inverter** 

- Low energy consumption
- Flexibility
- Preset values for Bonfiglioli motors to decrease commissioning times
- Very high power density
- Compactness
- Smart mounting to save space into the cabinet
- Series optionally extendable for field bus communication
- Sensorless synchronous and asynchronous motor control
- 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
- Smart current limits
- Output frequency 0...599 Hz, higher frequencies on request
- · Diagnosis and setup via integrated keypad and integrated service interface for PC connection



### **TQ+BMD Series**

**Precision Planetary** Gearbox + Permanent Magnet Servo Motor

### · High precision and dynamic · Highly compact

- High stiffness
- Designed for continuous and intermittent duty

- · Different feedback systems available
- Brake option
- Customized windings on request



### **BMD+MP Series**

Synchronous Servomotors + In-Line Precision Planetary Gearboxes.

- · Modularity due to multiple design configurations
- Different optimized lubrications
- High precision and dynamic
- Highly compact

Brake option

· Inertia flywheel

· Sensorless control available

• Different feedback systems available

COD

· Customized windings on request

### **AxiaVert Series High Performance Cabinet** Inverter

- Modular system
- Wide power range
- Versatile Communication
- High mounting flexibility
- Selectable Functional safety features (up to SIL 3 / PL e / CAT. 4)
- Wide range of Encoder supports for various systems
- Customizable logic functions with internal optional PLC (IEC61131)
- Integrated PID control system
- · Various Control modes incl. Position, Speed or Torque Control & CiA402compatible Motion Control
- Easy wiring with detachable signal and power terminals (up to 15 kW)

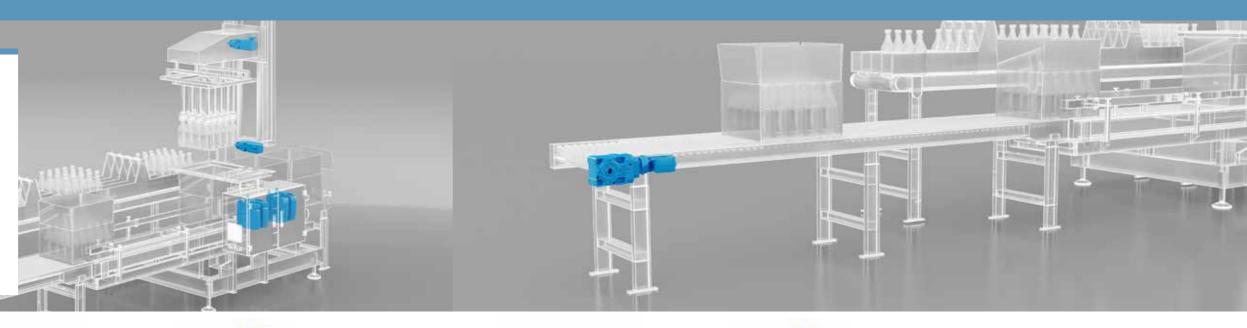






### **SECONDARY PACKAGING CARTON FORMING MACHINES, PICK &** PLACE, CARTON CLOSING MACHINE

Secondary packaging involves machines that perform a variety of jobs, from building boxes, to placing products inside them, and closing them. Bonfiglioli knows the challenges of these gluing and closing 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.



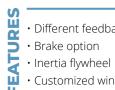


### **TQ+BMD Series**

**Precision Planetary** Gearbox + Permanent Magnet Servo Motor

**EFITS** 

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



- Different feedback systems available

- Customized windings on request
- · Windings, pinning and labeling on request



### **A+MXN Series**

Right angle Helical Bevel Gearbox + Asynchronous Motor

- Compact
- · Universal mounting
- Modular design
- Keyed hollow shaft (metric and inch series)
- Premium efficiency motors IE3
- Reduced backlash



### **AxiaVert Series**

**High Performance Cabinet** Inverter

Selectable Functional safety features

· Wide range of Encoder supports for

• Customizable logic functions with

internal optional PLC (IEC61131)

· Various Control modes incl. Position,

Speed or Torque Control & CiA402-

• Easy wiring with detachable signal and

• Integrated PID control system

compatible Motion Control

power terminals (up to 15 kW)

(up to SIL 3 / PL e / CAT. 4)

various systems

- Modular system
- · Wide power range
- Versatile Communication
- High mounting flexibility



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- Keyed hollow shaft (metric and inch EATU series)
- Premium efficiency motors IE3

**A+MXN Series** 

Motor

· Compact · Universal mounting

· Modular design

Right angle Helical Bevel

Gearbox + Asynchronous



### **AxiaVert Series**

**High Performance Cabinet** Inverter

- Modular system
- Wide power range
- Versatile Communication
- High mounting flexibility

- Reduced backlash

- Selectable Functional safety features (up to SIL 3 / PL e / CAT. 4)
- · Wide range of Encoder supports for various systems
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- · Various Control modes incl. Position, Speed or Torque Control & CiA402compatible Motion Control
- Easy wiring with detachable signal and power terminals (up to 15 kW)





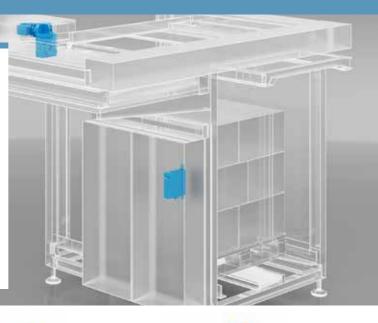
### 3 **HANDLING SMART CONVEYORS**

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.



### **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.





## **A Series**

Right angle Helical Bevel Gearmotor

# EFIT

- Torque density
- · Compact design
- Wide speed choice



### **MXN/BSR Series**

Asynchronous Motor / Reluctance motor



- · Compact design
- Wide speed choice
- Universal mounting position



### **DGM MPM 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's brake management



### **CP+MXN+DGM MPM**

In-Line Gearbox + Asynchronous Motor + **Decentralized Inverter** 

- Reliability and robustness
- · Reduced standard backlash
- Minimized mounting space
- IE3 motor efficiency
  - Torque density
  - · Wide speed choice



### **F+MXN Series**

Helical Parallel-Shaft Gearbox + Asynchronous Motor

- Easy installation
- Low noise
- · High torque capability



### **AxiaVert Series**

**High Performance Cabinet** Inverter

- Modular system
- · Wide power range
- Versatile Communication
- High mounting flexibility

### 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
- Reduced backlash as option

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

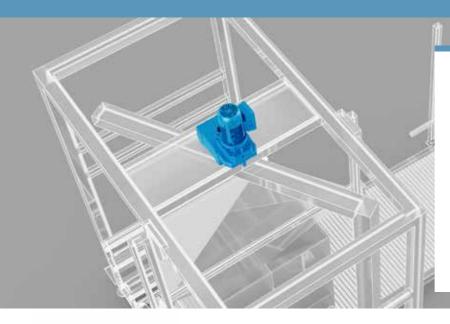
# IE3 green solution

- → High level of torque
- Wide range of options and flanges
- Wide range of field buses (Ethernet base or/and CANopen)
  - · STO operating safety option
- · 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)
- Selectable Functional safety features (up to SIL 3 / PL e / CAT. 4)
- · Wide range of Encoder supports for various systems
- Customizable logic functions with internal optional PLC (IEC61131)
- Integrated PID control system
- · Various Control modes incl. Position, Speed or Torque Control & CiA402compatible Motion Control
- Easy wiring with detachable signal and power terminals (up to 15 kW)





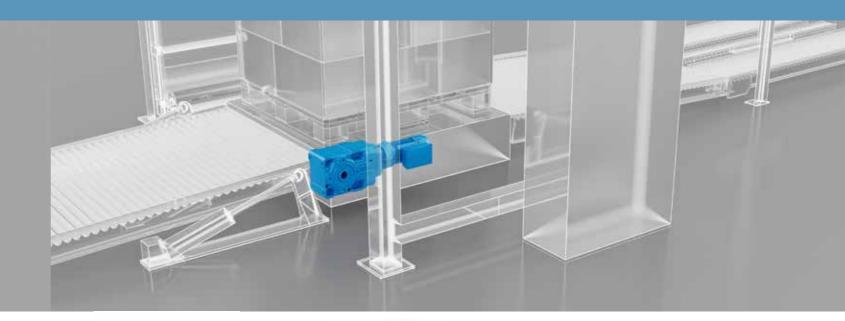
# **PACKAGING**





### **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.





### **F+MXN Series**

Helical Parallel-Shaft Gearmotors & Units + **Asynchronous Motor** 

# • Easy install • Low noise

- · Easy installation
- High torque capability
   Flexibility



### **Agile Series**

Smart inverter

- Smooth start
- Feed roll control
- Low energy consumption
- 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)
- Series optionally extendable for field bus communication
- Sensorless synchronous and asynchronous motor control
- 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
- Smart 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+MXN Series**

Right angle Helical Bevel Gearmotor + **Asynchronous Motor** 

- · Compact · Universal mounting
- Modular design



### **AxiaVert Series**

**High Performance Cabinet** Inverter

- Modular system
- Wide power range
- Versatile Communication
- High mounting flexibility

# • Keyed hollow shaft (metric and inch series) • Premium efficiency motors IE3 • Reduced backlash

- Selectable Functional safety features (up to SIL 3 / PL e / CAT. 4)
- Wide range of Encoder supports for various systems
- Customizable logic functions with internal optional PLC (IEC61131)
- Integrated PID control system
- · Various Control modes incl. Position, Speed or Torque Control & CiA402compatible Motion Control
- Easy wiring with detachable signal and power terminals (up to 15 kW)

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### **GEARBOXES & GEARED MOTORS**

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

• **Torque range:** 5,190 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 ... 2.916

### Worm geared motors | W/VF Series

Torque range: 13 to 7,100 Nm Gear ratios: 5.6 to 500

### Helical geared motors | C Series

• Torque range: 45 to 12,000 Nm

• **Gear ratios:** 5.6 to 500

### Bevel-helical geared motors | A Series

• **Torque range:** 100 to 14,000 Nm

• **Gear ratios:** 5.6 to 500

### Shaft-mounted geared motors | F Series

• **Torque range:** 140 to 14,000 Nm

• **Gear ratios:** 5.6 to 500

# 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

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· Backlash: lower than 2 and 17 arcmin

### **MOTORS**

### Asynchronous IEC motors | 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

### 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<sup>-1</sup>

• Power supply: 230, 400 VAC

### Synchronous reluctance motors | BSR Series

Two different versions for different needs: High

efficiency IE4 and high output

• **Power range:** 0.37 to 18.5 kW

### 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<sup>-1</sup>

• Rated speed BCR: from 2,000 to 4,500 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

### **CABINET INVERTERS**

### Cabinet solution | Active Cube 8 IP54

• **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\*: 0.25 - 400 kW / 3-phase

### High performance frequency inverter | AxiaVert Series

• **AXV20:** 0.25 - 9.2 kW / 3-phase

• **AXV40:** 0.25 - 15 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\*: 0.25 - 400 kW / 3-phase

### Smart inverter | Agile Series

• **AGL202:** 0.12 - 3 kW / 1-phase | 0.25 - 7.5 kW / 3-phase

· AGL402: 0.25 - 11 kW / 3-phase

### Compact inverter | S2U Series

· S2U230S--..(F) IP66: 0.25 - 400 kW / 3-phase

### Servo inverter | ANG Series

· ANG210: 0.25 - 9.2 kW / 1- or 3-phase

· ANG410\*: 0.25 - 400 kW / 3-phase

· ACU510\*: 160 - 400 kW / 3-phase

· ANG610\*: 0.25 - 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\*: 0.25 - 400 kW / 3-phase

### Smart inverter | Agile Series

• **AGL202:** 0.12 - 3 kW / 1-phase | 0.25 - 7.5 kW / 3-phase

· AGL402: 0.25 - 11 kW / 3-phase

### **DECENTRALIZED INVERTERS**

• Size A: 0.37 - 1.1 kW / 1-phase

· Voltage: 230 V

• Motor type: Asynchronous

• **Size A:** 0.55 - 1.5 kW / 3-phase

• **Size B:** 2.2 - 4 kW / 3-phase

• **Size C:** 5.5 - 7.5 Kw / 3-phase

• Size D: 11 - 22 kW / 3-phase

• **Voltage:** 3 x 200 Vac -10%... 480 Vac +10% 280 Vdc -10%... 680 Vdc +10%

• Motor type: Asynchronous

### **DGM MPM**

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• **Size A:** 0.55 - 1.5 kW / 3-phase

• **Size B:** 2.2 - 4 kW / 3-phase

• **Size C:** 5.5 - 7.5 Kw / 3-phase

• Size D: 11 - 30 kW / 3-phase

• **Voltage:** 3 x 200 Vac -10%... 480 Vac +10% 280 Vdc -10%... 680 Vdc +10%

• Motor type: Asynchronous & Synchronous





IE3

IE4

<sup>\*</sup> up to 1200 kW with parallel connection

## **OUR GLOBAL PRESENCE**

Thanks to an international network of closely interconnected commercial and production sites, we can guarantee the same high standards of Bonfiglioli quality anywhere at any given time. We know that our direct presence in local markets is the key to long-lasting success, so our family includes 18 production sites, 23 commercial sites and more than 550 distributors around the world.

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

**PRODUCTION SITES** 

**COMMERCIAL SITES** 



**DISTRIBUTORS** 

COD

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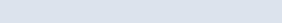




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We have a relentless commitment to excellence, innovation & sustainability. Our team creates, distributes and services world-class power transmission & drive solutions to keep the world in motion.

### **HEADQUARTERS**

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