



Mechatronic & Motion Systems



**PRODUCT
RANGE**



The highest level of precision, efficiency and energy optimization.

With over 15 years of experience in creating dedicated motion control systems, Bonfiglioli has gained an enviable reputation in the world of industrial automation.

Bonfiglioli offers its customers the highest possible level of precision, efficiency and energy optimization for their machines.

Our solutions include low backlash planetary gearboxes, servomotors, open and closed loop inverters, servo inverters and regenerative inverters. A unique combination of mechatronic solutions plus a vast range of products for industry make Bonfiglioli a one-stop-shop for applications in many different sectors.

Our two centres of excellence, one in Italy and one in Germany, drive success in mechatronics by developing breakthrough innovations.

Bonfiglioli's team in Germany has the cutting-edge technical know-how and R&D capacity needed to produce advanced electronic components such as inverters and servo drives.

Our other centre in Rovereto, Italy, benefits from an exceptional pool of talent.

In conjunction with Bonfiglioli's top quality production facilities, this much admired R&D team creates sophisticated products like brushless motors and low backlash planetary gearboxes.

Bonfiglioli's mission is to improve the profitability of customers worldwide by acting as a risk-free partner. Our group's international capacity enables us to work alongside our customers as day-to-day partners, ensuring that their individual needs are satisfied and their full potential is realised.

Mechatronic Solutions for all Industrial Applications

Bonfiglioli is a leading drive and automation specialist in mechatronic applications. We are able to develop electronically orientated products as well as mechatronic and vertically integrated solutions. Utilizing its mechanical, electrical, electronic and applications competences, Bonfiglioli can assist you to design cost effective and energy efficient machines and installations, aligning their performance to precisely meet your needs.



**CO-ENGINEERING
DEVELOPMENT**



**PROJECT
COMMISSIONING**



**MAINTENANCE &
SERVICES**

A COMPLETE INTEGRATED SOLUTION

APPLICATION / ENGINEERING

Research & Development focusing on
Mechanical and Mechatronic
Customized solutions
Prototyping, testing and analysis

INSTALLATION / START-UP

On-site assistance
Start-up assistance
Commissioning

AFTER SALES

Maintenance
Pre- and post-sale customer service

OUR SERVICES

- **FREQUENCY INVERTERS**
- **ENERGY REGENERATIVE INVERTERS**
- **AC MOTORS**
- **PM SYNCHR. MOTORS**
- **PRECISION PLANETARY GEARBOXES**
- **INDUSTRIAL GEARBOXES**
- **SERVO INVERTERS**



INDUSTRY SECTOR EXPERTISE



MATERIALS
HANDLING



CRANES



FOOD,
BEVERAGE,
AND TOBACCO



MINING



PACKAGING



TEXTILES



RUBBER AND
PLASTICS







WOOD
PROCESSING




One-Stop Shop Mechatronic Partner for your entire facility



1 PICK & PLACE

	<p>BMI Bonfiglioli Machine Interface</p>	<ul style="list-style-type: none"> • Configurable applications • Ethernet & Can Open • IP65
	<p>AEC Regenerative Inverter</p>	<ul style="list-style-type: none"> • Regenerative solutions • Harmonic distortion <3 • Power factor ~0.9 • CANopen, Profibus
	<p>Active Cube Frequency Inverter BMD Permanent Magnet synchronous Motor TQ Precision Planetary Gearbox</p>	<ul style="list-style-type: none"> • EtherCAT • Linear interpolation • High dynamic • High precision
	<p>Agile Smart Sensorless Frequency Inverter BMD Permanent Magnet synchronous Motor A Helical Bevel Gearbox</p>	<ul style="list-style-type: none"> • Energy saving • Sensorless control for PM & Ind. motor • EtherCAT • High efficiency • Robust & reliable

2 CARTON PACKER

	<p>BMI Bonfiglioli Machine Interface</p>	<ul style="list-style-type: none"> • Configurable applications • Ethernet & Can Open
	<p>AEC Regenerative Inverter</p>	<ul style="list-style-type: none"> • Regenerative solutions • Harmonic distortion <3 • Power factor ~0.9 • CANopen, Profibus
	<p>Active Cube Frequency Inverter BMD Permanent Magnet synchronous Motor TQ Precision Planetary Gearbox</p>	<ul style="list-style-type: none"> • EtherCAT • Linear interpolation • High dynamic • High precision
	<p>S2U Plug & Play Frequency Inverter BX Asynchronous IE3 Motor A Helical Bevel Gearbox</p>	<ul style="list-style-type: none"> • Easy to use • Modbus • High efficiency • Robust & reliable solution



3 PALLETIZING

4 STORAGE



BMI
Bonfiglioli Machine Interface

- Configurable applications
- Ethernet & Can Open
- IP65



BMI
Bonfiglioli Machine Interface

- Configurable applications
- Ethernet & Can Open
- IP65



AEC
Regenerative Inverter

- Regenerative solutions
- Harmonic distortion <3
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- CANopen, Profibus



AEC
Regenerative Inverter

- Regenerative solutions
- Harmonic distortion <3
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Active Cube
Frequency Inverter
BMD
Permanent Magnet synchronous Motor
TQ
Precision Planetary Gearbox

- EtherCAT
- Linear interpolation
- High dynamic
- High precision



Active Cube
Frequency Inverter
BMD
Permanent Magnet synchronous Motor
A/F
Helical Bevel & Shaft Mounted Gearbox

- EtherCAT
- Linear interpolation
- High efficiency
- Robust & reliable solution

SERVO MOTION DRIVE



Active Next Generation

Designed for Motion Control

Power range

ANG 410: 0.25...400 kW
ANG 210: 0.25...9.2 kW

Overload Capacity

150% for 60 s; 200% for 1 s

Functionalities

Cubic Interpolation, Fast Control Loop,
Two Position Sensor Inputs

iBMD

Servomotors with integrated drive

Torque range

2.7 ... 36 Nm

DC Voltage

560 V

Absolute encoders

Single and Multi turn

Communication Interface

CANopen, EtherCAT

I/Os on Board configurable

ST-IEC61131 programming

STO function

CE declaration

Driver Codesys available

DC power supply

20 A, 40 A

FREQUENCY INVERTERS



Servo Drive

Active Cube

High Positioning & Speed Control

Power range

ACU 410: 0.25 ... 400 kW
(1200 kW in parallel connection)
ACU 210: 0.25 ... 9.2 kW

IP 54 available

Overload Capacity

150% for 60 s; 200% for 1 s

PLC functions

Premium Drive

Active

Powerful Drive

Power range

ACT 410: 0.55 ... 132 kW
ACT 210: 0.55 ... 9.2 kW

Overload Capacity

150% for 60 s; 200% for 1 s

Standard Drive

Agile

Smart sensorless drive

Power range

AGL 402: 0.25 ... 11 kW
AGL 202: 0.12 ... 3 kW / 0.25 ... 7.5 kW

Overload Capacity

150% for 60 s; 200% for 1 s

PLC functions, Standby mode, Energy saving function, Predictive maintenance

Compact Drive

S2U

Plug & Play frequency inverter

IP20

Power range

S2U 230: 0.2 ... 2.2 kW

Overload Capacity

150% for 60s

Switching Frequency

1-16 kHz

IP66

Power range

0.4 ... 18.5 kW

Overload Capacity

150% for 60 seconds

Switching Frequency

up to 16 kHz

Communication modules

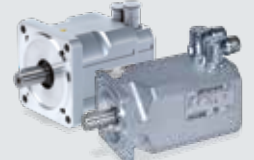
Modbus RTU on-board

Optional communication modules

PROFIBUS-DPV1, CANopen, RS232, RS485, DeviceNet, EtherCAT®, PROFINET, VABus/TCP*, Modbus TCP*, EtherNet I/P

(*) Optional 2 ports.

PM SYNCHR. MOTORS



BMD

Servomotors

Stall torque

0.85 ... 60 Nm

Rated speed

1600; 3000; 4500; 5500; 6000 min⁻¹

Power supply

230, 400 Vac

Low inertia motors

Inertia flywheel option

Main Options

Servoventilation for size BMD 145 & 170

BCR

Servomotors

Stall torque

0.2 ... 115 Nm (High instantaneous overload)

Rated speed

2000, 3000, 4500 min⁻¹

Power supply

230, 400 Vac

Low inertia motors

Inertia flywheel option

BSR

Synchronous Reluctance Motors

IE4 Efficiency and High power density package

Power range

0.37 ... 18.5 kW

Frame size

71 ... 132

Voltage

400 V

IP degree

55

MECHATRONIC SOLUTIONS



BMS

Precision Planetary Servo Gearmotor

Output torque

8...800 Nm

Rated Speed

3000; 4500; 6000 rpm

Backlash

less than 3 arcmin

Power supply

230; 400Vac

Flywheel option

Parking brake option

Different feedback device and sensorless version

Benefits

Compactness: gear motor length reduced up to 25%

Precision: 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

ENERGY REGENERATIVE POWER SUPPLY



AEC

Regenerative inverter

Power range

9.7 ... 509.4 kVA

Overload Capacity

150% for 1min

INDUSTRIAL GEARBOXES



A Helical-bevel gearmotors

Torque Range
100 ... 14000 Nm

Gear ratios
5.4 ... 1715

F Shaft mounted gearmotors

Torque Range
140 ... 14000 Nm

Gear ratios
6.4 ... 2099

C Helical gearmotors

Torque Range
45 ... 12000 Nm

Gear ratios
2.6 ... 1481

VF/W Universal worm-gearmotors

Torque Range
13 ... 7100 Nm

Gear ratios
7 ... 10000

VF-EP/W-EP Gearmotors for hostile environments

Torque Range
140 ... 14000 Nm

Gear ratios
6.4 ... 2099

AC MOTORS

IE1 IE2 IE3



BX/MX IE3 Efficiency AC motors

Power Range
5,5 ... 22 kW

BE/ME IE2 Efficiency AC motors

Power Range
0.75 ... 22 kW

BN/M IE1 Efficiency AC motors

Power Range
0,06 ... 30 kW

PRECISION PLANETARY GEARBOXES



TQ & TQK Precision planetary gearboxes

In-line & right angle

Nominal torque range
30...800 Nm

Acceleration Torque
45 ... 1200 Nm

Transmission ratio
3...100

Backlash TQ serie [arcmin]		
Type	1 stage	2 stages
Standard	4'	6'
Reduced	2'	4'

Backlash TQK serie [arcmin]		
Type	1 stage	2 stages
Standard	6'	8'
Reduced	5'	7'

MP Precision planetary gearboxes

In-line & right angle (input bevel stage "G" / output bevel stage "MB")

Nominal torque range
20...1000 Nm

Acceleration Torque
30 ... 1200 Nm

Transmission ratio
3...100

Backlash [arcmin]			
Type	1 stage	2 stages	3 stages
Standard	15'	15'	17'
Reduced	10'	10'	12'

LC / LC (P) & LCK / LCK (P) Precision planetary gearboxes

In-line & right angle

Nominal torque range
12...450 Nm

Acceleration Torque
20 ... 700 Nm

Transmission ratio
LC: 3...100
LCK: 6...100

Backlash LC [arcmin]		
Type	1 stage	2 stages
Standard	12'	15'
Reduced	6'	8'

Backlash LCK [arcmin]		
Type	1 stage	2 stages
Standard	6'	8'

TQF Precision planetary gearboxes

In-line

Nominal torque range
30...800 Nm

Acceleration Torque
45 ... 1200 Nm

Transmission ratio
4...100

Backlash [arcmin]		
Type	1 stage	2 stages
Standard	5'	7'
Reduced	3'	5'

TR Precision planetary gearboxes

In-line & right angle (input bevel stage "G" / output bevel stage "MB")

Nominal torque range
30...1000 Nm

Acceleration Torque
30 ... 1200 Nm

Transmission ratio
3...1000

Backlash [arcmin]			
Type	1 stage	2 stages	3 stages
Standard	5'	5'	7'
Reduced	3'	3'	5'

SL / SL (P) Precision planetary gearboxes

In-line

Nominal torque range
25...110 Nm

Acceleration Torque
35 ... 190 Nm

Transmission ratio
3...100

Backlash [arcmin]		
Type	1 stage	2 stages
Standard	12'	15'
Reduced	6'	8'

KR Precision right-angle gearboxes

Nominal torque range
3 ... 120 Nm

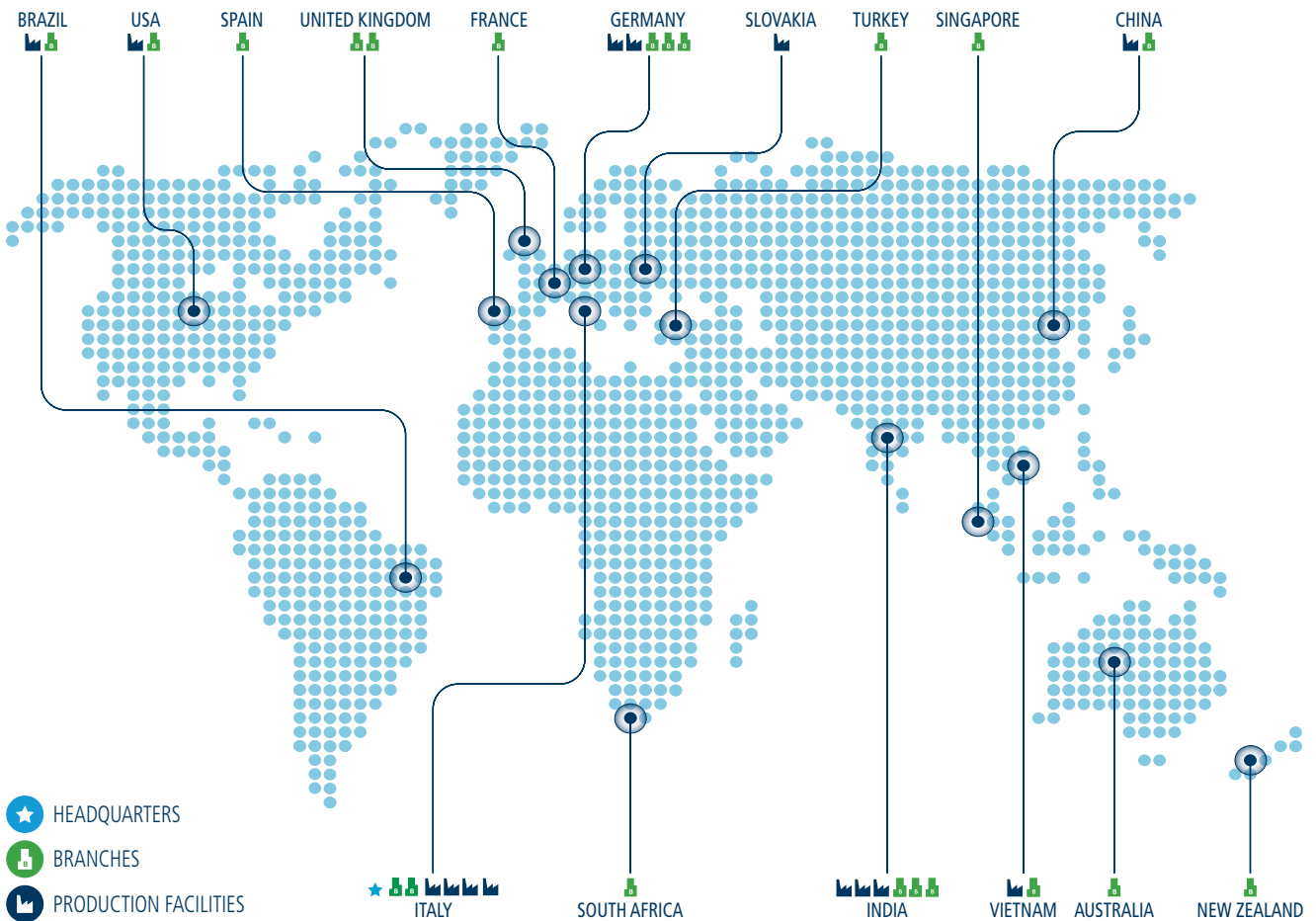
Acceleration torque
14 ... 170 Nm

Transmission ratios
 $i = 1, 2, 5$

Backlash [arcmin]
Standard: 8

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
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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.

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