

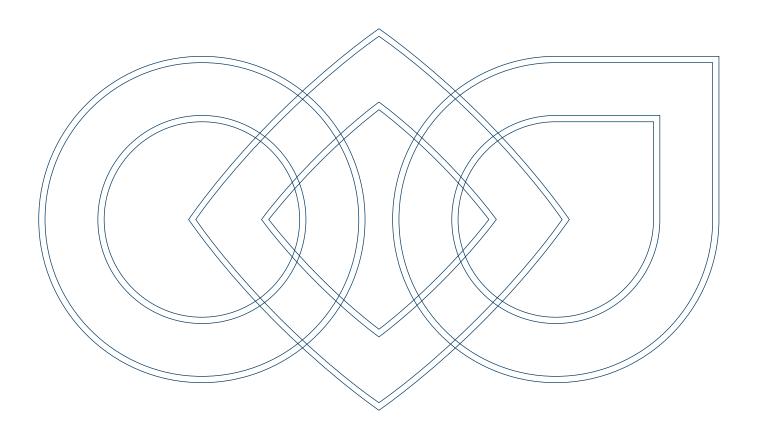
BMI series

Bonfiglioli Human Machine Interfaces for complete Machine Solutions









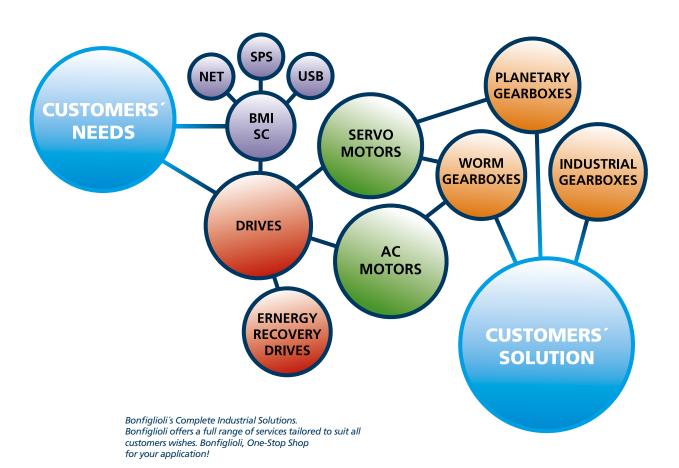
BMI series Bonfiglioli Human Machine Interfaces for complete Machine Solutions

Bonfiglioli - well known as specialist for motors, gears and drives follows the requirements of many machine builder requesting to buy consistent motor, drives and automation solutions out of one hand. Thanks to a thorough knowledge of all areas of industry, Bonfiglioli can offer customers the products they need to meet all possible requirements. Our group's range of gear motors, drives and planetary gearboxes is the widest on the market today. Our top quality, integrated products can be tailored to meet individual customer needs and to provide the perfect solution for even the most complex projects. This makes Bonfiglioli a perfect partner for all automation solutions for basic applications. The BMI is a cost efficient visualization and in combination with the control function of the inverter the BMI represents an effective automation solution. Bonfiglioli provides with the BMI a complete solution which includes the scalable drive technology, synchronous and asynchronous motors and a wide range of gear technology from simple helical gear motors to precise planetary drives.

Main features

- Cost effective Human Machine Interface solution
- 3 frame sizes of 3,5, 7 and 10 available
- BMI direct drive connection
- Ethernet RS232/485 communication port as standard
- IP66 Front plate





Complete Machine Solutions

Bonfiglioli is a global player in the field of industrial automation by providing customer with complete machine solutions rather than simply components. Complete machine solutions consisting of new BMI Human machine interface series in combination with the drive solution that fits to the application requirements serve a perfect

solution for customers where machine motion is the focus of the application. BMI is the simple and cost effective solution where the machine can be easily controlled by the integrated PLC functionalities in the Active Cube and AgilE drives and the complete visualization and operation is handled via the BMI.



The wide product range covers all gearbox technologies starting from cost effective worm and helical gearboxes is up to planetary gearboxes with highest efficiency and effectivity. For motors Bonfiglioli offers the right technologies, high dynamic & efficient Synchronous motors as well as energy efficient asynchronous motors for standard applications.

The possibilities of full customization of all products, application expertise in many many applications in combination with global services and support make Bonfiglioli your perfect partner for global machine solutions.

BM

The BMI SC series represent the new series of operator terminals by Bonfiglioli, able to offer high performance and maximum functions

Drives

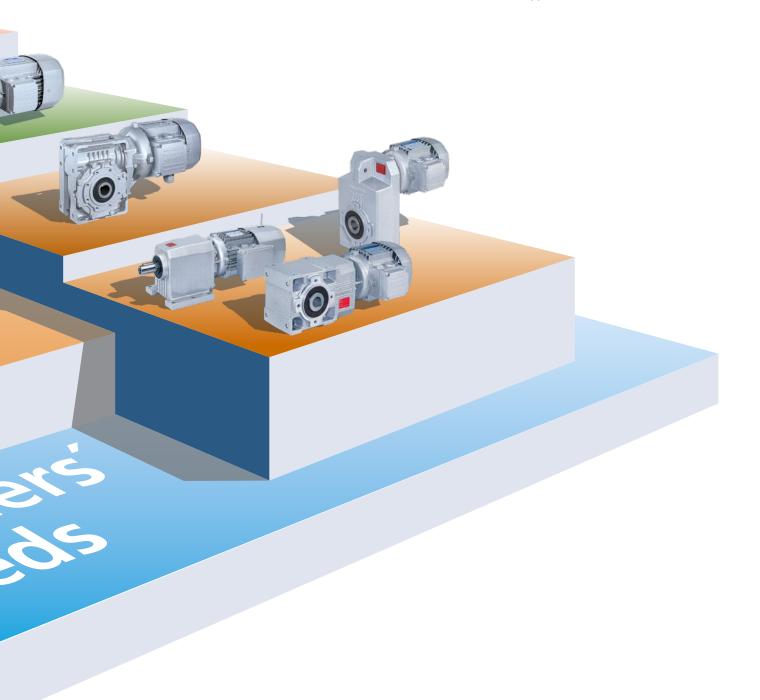
A complete range of drives for any industrial, automation, servo and energy recovery applications.

Motors

A comprehensive range of AC and DC motors for industrial and servo applications.

Gearboxes

A complete range of gearmotors, gearboxes and mechanical speed variators for light duty industrial automation applications.



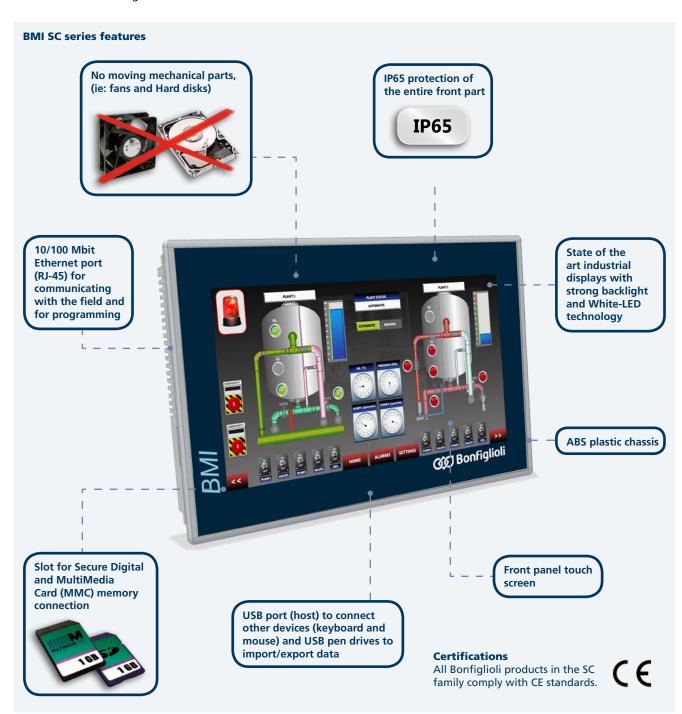
BMI SC - Simple Control

The BMI SC range (Simple Control) represents the new series of entry level operator terminals by Bonfiglioli, able to offer high performance and maximum functions at highly competitive prices. The SC product range is made entirely of a chassis in ABS plastic, a highly resistant material that gives the terminal extreme sturdiness, guarantee durability and high resistance to scratches and impacts.

The high resolution colour display is unique in cost / value parameters. RS 232/485 as well as Ethernet communication are integrated.

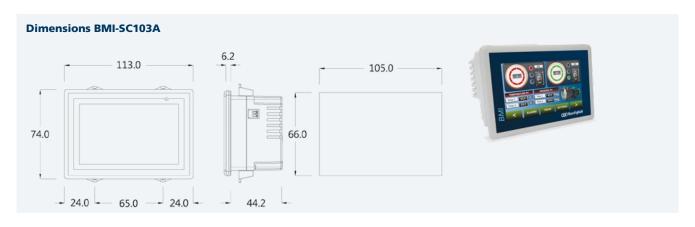
Key Features

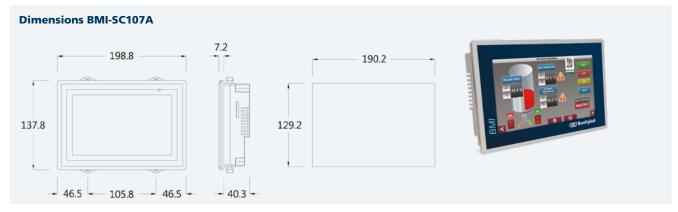
- 3 Display sizes 3.5", 7" and 10.1"
- Robust ABS plastic chassis
- Front panel in IP65
- High resolution 480 x 272 up to 1024 x 600 Pixels
- 65.536 Colours
- Ethernet RS232/485 communication port as standard
- CE certification

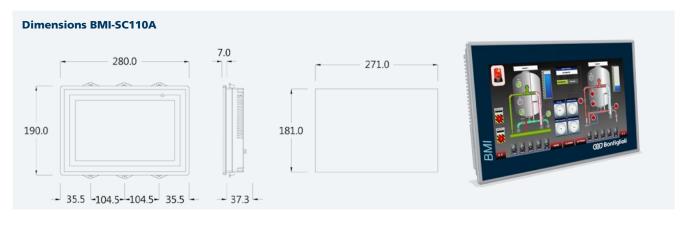








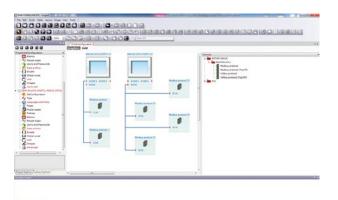






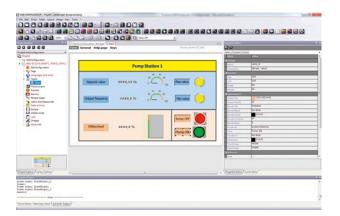
BMI SC series	BMI-SC103A	BMI-SC107A	BMI-SC110A
Display			
Size	3,5" Wide	7" Wide	10,1" Wide
Technology	Graphic LCD TFT 65.536 colours		
Touch screen	Analog		
Backlight	White LED		
Resolution	480 x 272 pixel	800 x 480 pixel	1024 x 600 pixel
Life (min a 25°C)	30.000 hours		
CPU and memory			
Processor	ARM		
RAM	64 MB		
Flash	64 MB		
Interfaces			
First port	Port 1 (RS232/RS485/COM0)	Port 1 (RS232/RS485/COM0)	Port 1 (RS232/RS485/COM0)
Second port	-	Port 2 (RS232/RS485/COM0)	Port 2 (RS232/RS485/COM0)
USB Host port	1 x v 1.1		
USB Device port	-	1 x v 1.1	1 x v 1.1
Card Bus slot	-	1 x Secure Digital/MMC	1 x Secure Digital/MMC
Network	1 x Ethernet 10/100 Mbit - Rj45		
Dimensions			
External (W/D/H)	113,0 x 74,0 x 50,4 (mm)	198,8 x 137,8 x 47,5 (mm)	280,0 x 190,0 x 40,3 (mm)
Cut-out (W/H)	105,0 x 66,0 (mm)	190,2 x 129,2 (mm)	271,0 x 181,0 (mm)
Technical specifications			
Chassis	ABS Plastic		
Power supply	2028 Vdc		
Power consumption	~ 3 W (24 Vdc) DC	~ 5 W (24 Vdc) DC	~ 8 W (24 Vdc) DC
Hardware Clock	Battery (minimum durability 5 years)		
Operating temperature	-10+50 °C		
Storage temperature	-20+60 °C		
Humidity	1090% (non condensing)		
Weight	~ 0,3 kg	~ 0,8 kg	~ 1,4 kg
Protection level	IP 65 frontal		
Certifications	CE		

BMI Configurator software



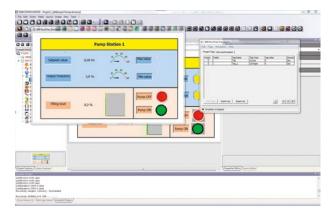
Hardware configuration

Creating a hardware configuration. The BMI's to be used are defined as well as the transmission protocol for the data transfer between BMI and inverters.



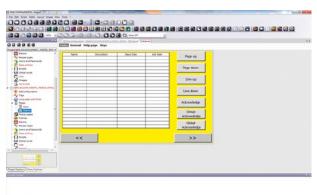
Wide range of tools

For creating of an application page a wide range of tools is available.



Test function

An integrated off-line test function provides a quick functionality check and visual impression of application pages.



Alert messages

For alerts own pages can be defined.

Bonfiglioli Drives Solutions

Active Cube

Solution & Servo Drive

Versatility, promptness, accuracy.

A full series of solution & servo drives, compact and flexible, dedicated both to high demanding industrial automation systems and to motion control architectures, in match with Bonfiglioli servomotors.

Power Range (ACU201)

0.25 - 9.2 kW / single or three-phase 200 V - 240 V / 50 Hz - 60 Hz (± 10%)

Power Range (ACU401)

0.25 - 400 kW */ three-phase 360 V - 480 V / 50 Hz -60 Hz (± 10%). *1200 kW in parallel connection

Power Range (ACU601)

160 - 400 kW */ three-phase 690 V / 50 Hz - 60 Hz (± 10%). *1200 kW in parallel connection

Type of Control

Selectable Vector control function: sensor-less control, sensor-less fieldoriented control, field oriented control with speed sensor, field oriented control of synchronous servomotors with speed/position sensor

Overload Capacity

200% for 1min (size 01 and 03) / 150% for 1min (other ratings), Shorter overload: 200% for 1sec all ratings

Switching Frequency

2, 4, 8, 12, 16 kHz

EMC Filter

Integrated up to 9.2 kW (EN 61800-3)

Main Standard Hardware features

Integrated safe torque off function, External 24Vdc supply for control boardand electronics, Integrated dynamic braking module. DC link connection Standard encoders interface. Resolver module for feedback acquisition from Bonfiglioli servomotors, Motor temp. monitoring, Plugin powerterminals (up to 3kW), Plug-in and programmable control terminals, 6 digital input, 1 multifunction input, 1 digital output, 1 multifunction Output, 1 relay output (changeover contact)

Optional Expansion Modules

Expansion of analog, digital inputs and outputs, additional encoder orresolver input, repetition frequency output, System bus

Optional Communication Modules

Profibus-DPV1, CANopen, RS232, RS485, DeviceNet, EtherCAT®, Profinet, VABus/TCP (*), Modbus TCP (*), EtherNet IP. (*) optional 2 ports



Optional Keypad

Removable keypad KP500 with copy function, Cabinet mounting kit and handheld for keypad

S₂U

Plug & Play frequency inverter

The Ideal drive for your lean application projects.

Intuitive and simple, but powerful and effective. S2U - Plug & Play frequency inverter is the Bonfiglioli Vectron compact Inverter for efficient speed and torque vector control of electric motors, up to 2.2kW. The simple installation and use, together with connectivity and outstanding range of functions, make it the the perfect drive for the control of those applications where productivity and short time to market are critical.

Power range (S2U 230)

0.25 - 3.0 kW 1-Phase 200 -240V / 50 - 60Hz (+10, -15%)

Type of control

V/F control with automatic torque compensation function

Overload capacity

150% for 60sn

Switching frequency

1-16 kHz

Enclosure

IP20



AEC

Active Regenerative Power Supply System.

The innovation that regenerates energy.

Decades of experience in electronic industrial drives and renewable energy have enabled Bonfiglioli Vectron to offer an effective solution for recovering braking energy.

This solution comes in the form of the new Active Regenerative System inverters (AEC). In a large number of electrically.

Power Range

9.7kVA to 173.2kVA, 3-phase 320V ... 440V 45Hz... 66Hz

Operating Mode

Control mode selection: Input and regenerative power with sinusoidal current Regenerative power with squarewave current

Enclosure

IP20 (EN 60529)

Main Hardware

DC link connection.

Adjustable input and regenerative power control. Short-circuit and earth-fault resistance, Configurable control terminals

Bus Communication

RS232, RS485, Profibus-DP, CANopen

Operating Panel

Removable KP500 keypad



Agile

Standarddrive

Innovative, eco-friendly, user-friendly.

Agile series provide in a sensorless vector inverter innovations able to boost plant efficiency through open loop vector control of brushless motors, MMC memory cards and web control. Agile smart sensorless frequency inverters are easy to install, program and quick to start-up without the needs of specialized resources.

Power range (AGL402)

0.25 - 11 kW / three-phase 320 V ... 530 V 50 - 60 Hz (± 10%)

Power range (AGL202)

0.12 - 3 kW / single-phase 200 V ... 240 V 50 - 60 Hz (± 10%) 0.25 - 7.5 kW / three-phase 200 V ... 240 V 50 - 60 Hz (± 10%)

Motor compatibility

Two types of motor: Asynchronous AC motors Permanent magnet synchronous (brushless) motors

Degree of protection

IP20 (EN 60529)

Type of control

Selectable control function:
V/f control for asynchronous motors
Sensor-less vector control for asynchronous motors
Sensor-less vector control for brushless motors

Main hardware features

Power supply from common DC bus, Integrated braking module, Short circuit / ground faultprotection, Integrated Safe Torque Off safety system, Plug-in and programmable control terminals, 6 digital inputs, 2 multifunctional A/D inputs, 1 multifunctional I/O, 1 digital output, 1 multifunctional A/D/pulse output, 1 relay output (alarm), available power outputs: +24 V DC, +10 V DC, optional separate 24 V DC electronic power supply, standard serial interfaces: RS-232, RS485, Systembus, Integrated Modbus

Optional expansion modules

Resource Pack memory card

Optional communication modules

Profibus-DPV1, CANopen, RS232, RS485, DeviceNet, EtherCAT®, ProfiNet, Ethernet VA BUS TCP (*), Modbus TCP (*), EtherNet IP. (*) optional 2 ports



BMD series

Permanent Magnet AC servomotors

Permanent magnet high performance servo motor

They are manufactured using the "salient pole" technology. The dimensions of the motor are drastically reduced, with considerable advantages in terms of torque density, overall dimensions and dynamic performance.

Thanks to the high quality and performance of the Neodymium iron boron rare-earth magnets maximize performance in terms of very high accelerations and withstand high overloads without risk of demagnetization of the magnets.

Stall torque

0.85 - 45 Nm

Rated speed

1600, 3000, 4500, 5500, 6000 rpm

Power supply

230, 400 Vac

Inertia

0.02 ... 4.47 (Kgm2 x 10-3)

Conformity

2006/95/EC (LVD) and 2004/108/EC (EMC)



BE series

High efficency IE2 AC motors

New range of high efficiency AC motors IE2 class

The IEC-normalized BE motors comply with IEC 60034- 30:2008 (efficiency classes) and all the applicable international standards, including the EMC and LV Directives.

They are available in the 0.75 - 22 kW range in the foot and the flange mounting version, the latter in both the IM B5 and the IM B14 configuration. Single pole version available with generally, two brake options offered, one DC and one AC supply, lending further flexibility to the system. Finally, all motors are inverter duty.

Power Range (4 pole)

0.75 kW ... 22 kW

Frame Sizes

80B ... 180L

Pole Numbers

2, 4, 6

Mounting Options

Foot IM B3, Flange IM B5 and IM B14

Operation

50 Hz and 60 Hz



Compliance

IEC 60034-30:2008 (IE), 2006/95/EC (LVD) and 2004/108/EC (EMC)

BN series

AC motors

A complete range of AC motors developed for gearmotor duty that will exceed expectations.

The IEC-normalized BN motors comply with all the applicable international standards, including the EMC and LV Directives. They are available in the 0.06 - 30 kW range in the foot and the flange mounting version, the latter in both the IM B5 and the IM B14 configuration. Single and dual pole versions available with generally, three brake options offered, one DC and two AC supply, lending further flexibility to the system. Finally, all motors are inverter duty.

kW rating (4 pole) 0.06 kW ... 30 kW

Frame Sizes

56A ... 200L

Pole Numbers

2, 4, 6, 8, 2/4, 2/6, 2/8, 2/12, 4/6, 4/8

Mounting Options

Foot IM B3, Flange IM B5 and IM B14

Operation

50 Hz and 60 Hz

Compliance

2006/95/EC (LVD) and 2004/108/EC (EMC)

Industrial gearboxes

A complete range of gearmotors, gearboxes and mechanical speed variators for light duty industrial automation applications.

Helical-bevel

gearmotors Torque Range 100 ... 14000 Nm Mechanical Rating (n1= 1400 min-1) 0.22 ... 150 kW Gear ratios

5.4 ... 1715

Shaft mounted

gearmotors Torque Range 140 ... 14000 Nm Mechanical Rating (n1= 1400 min-1) 0.17 ... 125 kW Gear ratios

6.4 ... 2099

C Helical gearmotors

2.6 ... 1481

Torque Range 45 ... 12000 Nm Mechanical Rating (n1= 1400 min-1) 0.08 ... 213 kW Gear ratios

VF/W

Universal worm-gearmotors

Torque Range Mechanical Rating (n1=1400 min-1)Gear ratios

13 ... 7100 Nm

0.04 ... 75 kW 7 ... 10000

Planetary gear motors

Compact, and yet extremely powerful, are the units of the 300 Planetary gear motor series. Their planetary drive train makes them the ideal choice for all the severe duty applications where shock loadings and impacts are more the rule than the exception. The product configuration is highly versatile, due to several options as far as the mounting, the gear layout, the output shaft and the motor interface. All the features are available for each of the 18 finely spaced frame sizes, spanning over the 1.000 - 1.400.000 Nm

torque range. Finding the perfect match to any drive problem is therefore more than a wish, it is something users can safely rely on - always.

300

1000 ... 1287000 Nm Torque Range Mechanical Rating

(n1 = 1500 min-1) up to 450 kW Gear ratios 3.4 ... 5234



Planetary precision gearboxes

A complete series of in-line and right angle, high precision, high dynamic, low backlash planetary precision gearboxes, including pulley models.

TQ Series

30 ... 800 Nm Nominal torque range 45 ... 1200 Nm Acceleration torque Transmission ratios 3 ... 100

TQK Series

Nominal torque range 30 ... 800 Nm Acceleration torque 45 ... 1200 Nm Transmission ratios 3 ... 100

LC Series

Nominal torque range 12 ... 300 Nm Acceleration torque 20 ... 450 Nm Transmission ratios 3 ... 100

LCK Series

Nominal torque range Acceleration torque Transmission ratios



12 ... 300 Nm 20 ... 450 Nm 6 ... 100



Bonfiglioli's machine solutions

Packaging

Bonfiglioli's wide product offering offers perfect solutions for packaging applications. Active Cube Solution drive in combination with high dynamic BMD Servomotors with high resolution feedback systems and precision gearboxes in in line or right angled versions give users the perfect solution whatever the application needs.

Cost effective BMI Human machine solution in combination with various communication options can be used to create stand alone machine solutions as well as highly integrated drives in automation environments.

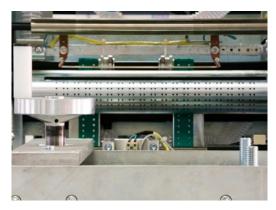
Crane

Crane applications require high resistant and relieable solutions for drives & motors. Also cost effectiveness is a key factor for crane applications.

AgilE inverters in combination with asynchronous motors and several gearbox options supplied by a regenerative power supply unit AEC offer cost effective and energy efficient solutions. BMI here is the way for a simple and cost effective visualization and control solution.













Bonfiglioli Worldwide





Headquarters

ITALY • Lippo di Calderara, Bologna



Branches

AUSTRALIA • Sydney

BRAZIL • São Paulo

CANADA • Toronto

CHINA • Shanghai

FRANCE • Paris

GERMANY • Neuss **GERMANY** • Krefeld

INDIA • Chennai, Tamil Nadu

INDIA • Mannur, Tamil Nadu

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ITALY • Rovereto

NEW ZEALAND • Auckland

SOUTH AFRICA • Johannesburg

SINGAPORE • Singapore

SPAIN • Barcelona

TURKEY • Izmir

UNITED KINGDOM • Redditch

UNITED KINGDOM • Warrington

USA • Hebron, Kentucky **VIETNAM •** Ho Chi Minh



Production facilities

ITALY • Calderara di Reno, Bologna Casting and gearcutting plant

Assembly HDP, HDO, 300 series

ITALY • Vignola, Modena Gearmotor assembly plant

Precision gearbox manufacturing and assembly plant

ITALY • Forlì

Planetary gearboxes manufacturing and assembly plant

ITALY • Rovereto, Trento

Brushless motor and precision gearboxes production

GERMANY • Krefeld

Inverter plant

GERMANY • Hattingen

Large planetary gearboxes manufacturing and assembly plant

SLOVAKIA • Považská Bystrica

Large gearboxes manufacturing plant

INDIA • Chennai, Tamil Nadu

Planetary gearbox manufacturing and assembly plant

INDIA • Mannur, Tamil Nadu

Gearmotors manufacturing and assembly plant

VIETNAM • Ho Chi Minh

Electric motor plant

CHINA • Shanghai

Planetary gearboxes manufacturing and assembly plant

BRAZIL • São Paulo

Planetary gearboxes manufacturing and assembly plant

USA • Hebron, Kentucky

Planetary gearboxes manufacturing and assembly plant



Resellers

AFRICA • Algeria, Egypt, Kenya, Morocco, South Africa, Tunisia

ASIA • Bahrain, China, Emirates, Japan, Jordan, Hong Kong, India, Indonesia, Iran, Israel, Kuwait, Malaysia, Oman, Pakistan, Philippine, Qatar, Saudi Arabia, Singapore, South Korea, Syria, Thailand, Taiwan, Vietnam

EUROPE ● Albania, Austria, Belgium, Bielorussia, Bulgaria, Cyprus, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Holland, Hungary, Germany, Great Britain, Greece, Ireland, Italy, Lettonia, Lituania, Luxemburg, Malta, Montenegro, Norway, Poland, Portugal, Romania, Russia, Slovakian Republic, Serbia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ucraina

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NORTH AMERICA • Canada, United States

OCEANIA • Australia, New Zealand



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Bonfiglioli has been designing and developing innovative and reliable power transmission and control solutions for industry, mobile machinery and renewable energy applications since 1956.









