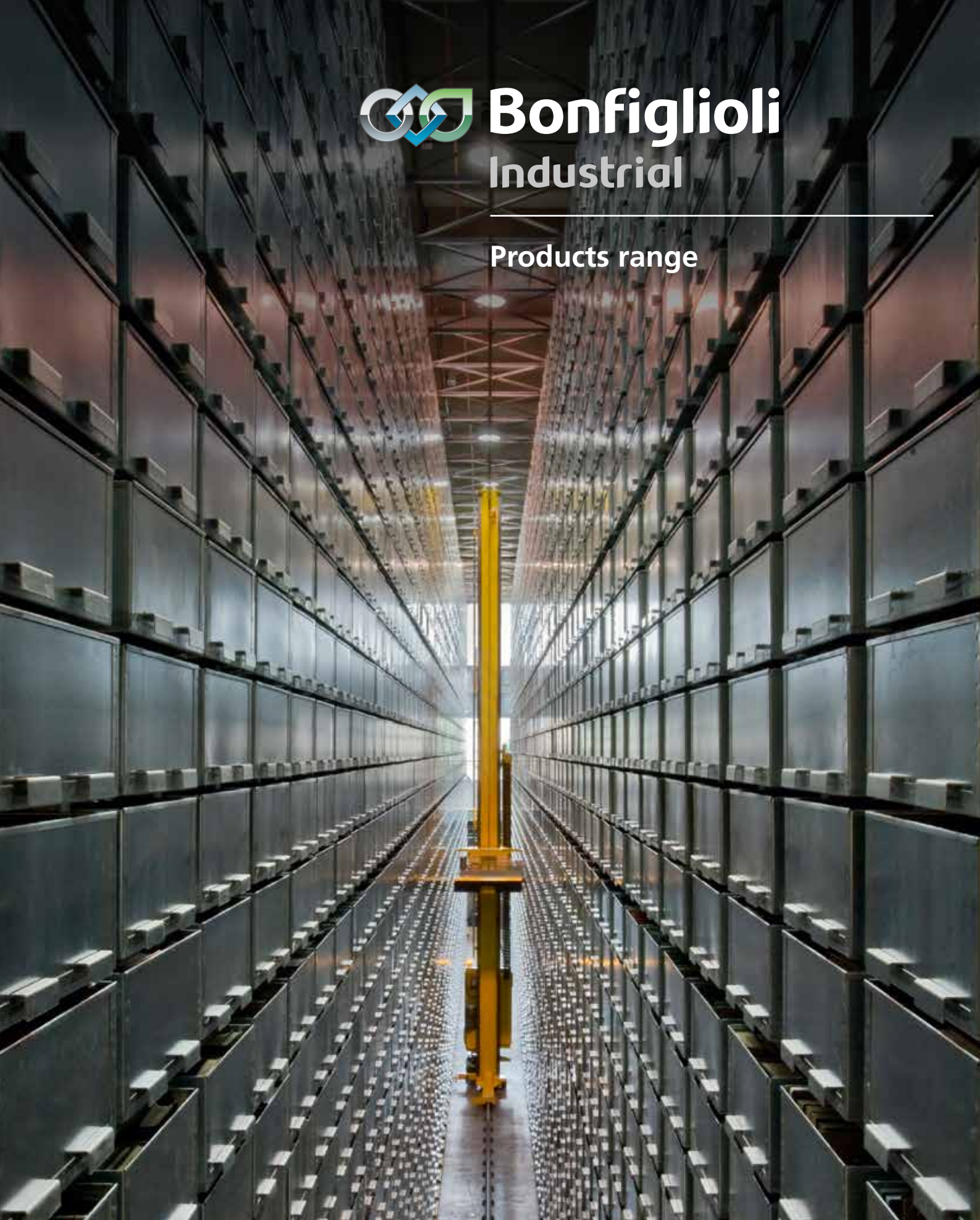




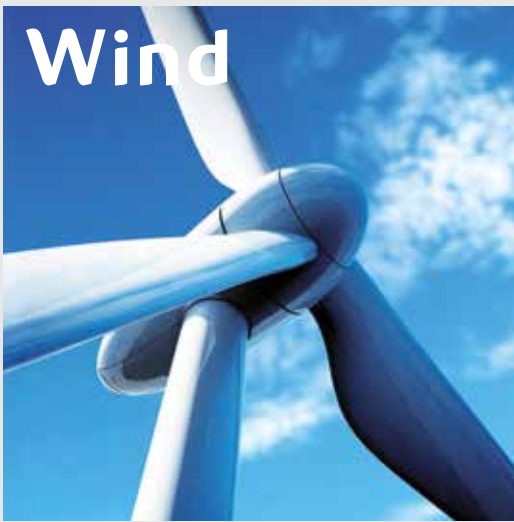
Bonfiglioli

Industrial

Products range

Bonfiglioli solutions

Wind



Industrial



Mobile



Photovoltaic



Innovative solutions for the industrial field

Bonfiglioli Riduttori today is one of the leading brands in the power transmission industry.

The company's success is the result of a business strategy that relies on three fundamental factors: know-how, innovation and quality.

The complete range of Bonfiglioli gearmotors offers excellent technical characteristics and guarantees the highest performance.

Substantial investment and technical expertise have enabled the company to achieve an annual production of 1.600.000 units using fully automated processes.

Certification of the company's Quality System by DNV and TÜV is proof of the high quality standards achieved.

Centres of excellence around the world allow the Bonfiglioli Group to guarantee the high levels of quality and efficiency needed to compete in industry today.

Optimised lean manufacturing principles, major investments in research and development to maintain a high level of innovation, a "local for local" service strategy, and a customer service network that is near to the customer and can rely on a large number of directly controlled subsidiaries and distributors all over the world, enable the Bonfiglioli group to be flexible and rapid and to stay in close touch with the changing needs of the markets it serves.

Bonfiglioli Vectron supplies products and services for completely integrated inverter solutions.

These solutions complement Bonfiglioli's power transmission and control offering to the industrial sector.



**Bonfiglioli
Industrial**



Specific solutions for power transmission and motion control

Product diversification, process automation, and quality have enabled Bonfiglioli to play a leading role in industry.

Bonfiglioli's policy focuses on integrated solutions, competence, innovative technology and careful production planning as key factors in guaranteeing customer satisfaction.

The Bonfiglioli product portfolio aims at meeting the toughest and most sophisticated requirements in industrial processes and automation solutions.



Bonfiglioli products

Product offer

Industrial market segment is covered through the following Product Lines:



HELICAL AND BEVEL HELICAL GEARMOTORS

- 8 A series
- 9 C series
- 10 S series
- 11 F series

WORM GEARMOTORS

- 12 VF and W series

PLANETARY GEAR UNITS

- 13 300 series

HELICAL AND BEVEL HELICAL GEARBOXES

- 14 HDP series
- 15 HDO series
- 16 TA series

BEVEL GEARS

- 17 RAN series

INDUSTRY-SPECIFIC SOLUTIONS

- 18 EP series
- 19 ATEX compliant gear units
- 20 3/H series
- 21 HDPE series

PRECISION PLANETARY GEARBOXES

- 22 LC series
- 23 LCK series
- 24 MP series
- 25 TR series
- 26 SL series
- 27 KR series
- 28 TQ series
- 29 TQK series

ELECTRIC MOTORS

- 30 BN/M series
- 31 BE/ME series
- 32 BX/MX series
- 33 BS series
- 34 BC series

SERVOMOTORS

- 35 BMD series
- 36 BTD series
- 37 BCR series

FREQUENCY INVERTER

- 38 AGILE series
- 39 ACTIVE series
- 40 ACTIVE CUBE series
- 41 ACTIVE CUBE series - Size 8
- 42 VCB series
- 43 S2U series

HUMAN MACHINE INTERFACES

- 44 BMI series

45 OUR QUALITIES

46 WORLDWIDE NETWORK

A series

Helical-bevel gearmotors

When efficiency and versatility meet each other.

The A series is the first product to prove equally good in regard to efficiency and versatility within a highly competitive context, both performance- and price-wise.



Torque range

100 ... 14000 Nm

Mechanical rating ($n_1 = 1400 \text{ min}^{-1}$)

0.22 ... 150 kW

Gear ratios

5.4 ... 1715

Output

Foot and shaft mount - two bore options per size
Keyless shrink disc fitting
Metric or Inch series solid output shaft
Taper bushings matching more shaft diameters
Splined hollow shaft to DIN 5480

Input

IEC and NEMA motor adaptors
Servomotor adapters
Metric or inch series solid input shaft

Main gear options

Backstop
Reinforced bearings for higher overhung load capacity
Reduced backlash
Taconite seals

Applicable AC motors

Integral motors and brake motors - M series / ME series
IEC-normalized motors and brake motors - BN series / BE series
Single and dual speed motors

Main brake features

DC and AC supply
Faster brake engage/disengage through electronically
Controlled AC/DC rectifier type SB, NBR, SBR (options)

Main motor options

Thermistors and thermostat sensors
Separate supply forced ventilation
Line driver and push-pull incremental encoder

Type	Torque [Nm]
A 05	100
A 10	150
A 20	250
A 30	410
A 35	600
A 41	850
A 50	1500
A 55	2000
A 60	2800
A 70	5000
A 80	8000
A 90	14000

C series

In-line helical gearmotors

When Customers benefit from the know-how developed over the years.

Top torque density, product variety, extremely wide speed choice, great compactness and price effectiveness make the C series the unparalleled line of helical gearmotors and speed reducers.



Type	Torque [Nm]
C 05	45
C 12	100
C 22	200
C 32	300
C 36	450
C 41	600
C 51	1000
C 61	1600
C 70	2300
C 80	4000
C 90	7200
C 100	12000

Torque range

45 ... 12000 Nm

Mechanical rating ($n_1 = 1400 \text{ min}^{-1}$)

0.08 ... 213 kW

Gear ratios

2.6 ... 1481

Output

Foot and flange mount
Metric or inch series solid output shaft

Input

IEC and NEMA motor adaptors Servomotor adaptors
Servomotor adaptors
Metric or inch series solid input shaft

Applicable AC motors

Integral motors and brake motors - M series / ME series
IEC-normalized motors and brake motors - BN series / BE series
Single and dual speed motors

Main brake features

DC and AC supply
Faster brake engage/disengage through electronically
Controlled AC/DC rectifier type SB, NBR, SBR (options)

Main motor options

Thermistors and thermostat sensors
Separate supply forced ventilation
Line driver and push-pull incremental encoder

S series

Single reduction helical gearmotors

Simplicity above all.

Simple and yet powerful is the S series, developed for the pump industry as well as the fan and blower application.

Foot and flange mounted, with shaft dimensions to the UNEL - MEC standard.



Torque range

21 ... 200 Nm

Mechanical rating ($n_1 = 1400 \text{ min}^{-1}$)

0.12 ... 11.6 kW

Gear ratios

1.4 ... 13.1

Output

Foot and flange mount

Input

IEC-normalized motor adaptors

Solid input shaft

Applicable AC motors

Integral motors and brake motors - M series / ME series

IEC-normalized motors and brake motors - BN series / BE series

Single and dual speed motors

Main brake features

DC and AC supply

Faster brake engage/disengage through electronically

Controlled AC/DC rectifier type SB, NBR, SBR (options)

Main motor options

Thermistors and thermostat sensors

Separate supply forced ventilation

Line driver and push-pull incremental encoder

Type	Torque [Nm]
S 10	21
S 20	37
S 30	70
S 40	125
S 50	200



F series

Shaft mounted gearmotors

Ruggedness and effectiveness to the state-of-the-art.

No better, easier and neater installation than with a shaft mounted unit of the F series. Lightweight and performing, an F unit is the dependable drive for all the material handling applications.

Type	Torque [Nm]
F 10	140
F 20	250
F 25	400
F 31	600
F 41	1100
F 51	1800
F 60	2900
F 70	5000
F 80	8000
F 90	14000

Torque range

140 ... 14000 Nm

Mechanical rating ($n_1 = 1400 \text{ min}^{-1}$)

0.17 ... 125 kW

Gear ratios

6.4 ... 2099

Output

Keyed hollow shaft - two bore options per size

Keyless shrink disc fitting

Plug-in solid output shaft as an option

Input

IEC-normalized motor adaptors

Servomotor adaptors

Solid input shaft

Applicable AC motors

Integral motors and brake motors - M series / ME series

IEC-normalized motors and brake motors - BN series / BE series

Single and dual speed motors

Main brake features

DC and AC supply

Faster brake engage/disengage through electronically

Controlled AC/DC rectifier type SB, NBR, SBR (options)

Main motor options

Thermistors and thermostat sensors

Separate supply forced ventilation

Line driver and push-pull incremental encoder

VF W series

Worm gearmotors

A smart design enhanced by latest materials technology and advanced manufacturing.

Wormgears of the VF and W series are milestones for the industry worldwide.

They succeeded in combining uncompromising quality with state-of-the-art technology and renowned price effectiveness.

Absolute flexibility is achieved by the wide choice of mounting options, shaft configurations and motor interfaces, all offered as standard. The helical-worm and the double-worm versions, with or without the torque limiter, also enhance a highly versatile drive system.



Torque range

13 ... 7100 Nm

Mechanical rating ($n_1 = 1400 \text{ min}^{-1}$)

0.04 ... 75 kW

Gear ratios

7 ... 10000

Output

Keyed hollow shaft

Plug-in solid output shaft

Torque limiter as an option

Input

IEC-normalized motor adaptors

Solid input shaft

Applicable AC motors

Integral motors and brake motors - M series / ME series

IEC-normalized motors and brake motors - BN series / BE series

Single and dual speed motors

Main brake features

DC and AC supply

Faster brake engage/disengage through electronically

Controlled AC/DC rectifier type SB, NBR, SBR (options)

Main motor options

Thermistors and thermostat sensors

Separate supply forced ventilation

Line driver and push-pull incremental encoder

Type	Torque [Nm]
VF 27	13
VF 30	24
VF 44	55
VF 49	88
W 63	190
W 75	320
W 86	440
W 110	830
VF 130	1500
VF 150	2000
VF 185	3600
VF 210	5000
VF 250	7100

300 series

Planetary gearmotors



A powerful solution to heavy duty drive needs.

Compact, and yet extremely powerful, are the units of the 300 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 the largely modular options of mounting, gear layout, output shafts and motor interfaces. All features are available for each of the 20 closely spaced frame sizes, spanning over the 1250 - 1286700 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.

Type	Torque [Nm]
300	1250
301	2460
303	2970
304	3960
305	5800
306	10840
307	15680
309	23240
310	34120
311	48330
313	57970
314	84000
315	105000
316	138820
317	208110
318	280580
319	476410
321	655740
323	890310
325	1286000

Torque range

1250 ... 1286000 Nm

Mechanical rating ($n_1 = 1500 \text{ min}^{-1}$)

up to 450 kW

Gear ratios

3.4 ... 5234

Gear unit versions

In line

Right angle (with Gleason bevel gear set)

Output

Foot and flange mounted

Output shaft: keyed solid, splined, splined hollow, hollow shaft with shrink disc

Input

IEC and NEMA motor adaptors

Solid input shaft with or without fan cooling - inch or metric dims.

Applicable AC motors

Integral motors and brake motors - M series / ME series

IEC-normalized motors and brake motors - BN series / BE series

Single and dual speed motors

Main brake features

DC and AC supply

Faster brake reaction through electronically controlled rectifier

Main motor options

Thermistors and thermostat sensors

Independent forced cooling

Line driver and push-pull incremental encoder

HDP series

Parallel shaft gear units

The new benchmark in the parallel shaft category.

High torque ratings, gear ratios in close progression, numerous mounting options, together with compact dimensions will facilitate the engineering of any application.

The housing, made from nodular cast iron ensures robustness even in the harshest environment. State of the art precision ground gears help to produce an extremely quiet and vibration-free product.



Torque range

5000 ... 210000 Nm

Gear ratios

7.1 ... 500

Mounting

Foot, flange, shaft mounting

Input

Solid shaft, motor adapter

Output

Solid (single and double extension), keyed hollow, shrink disc

Options

Fan cooling, cooling coil, heaters

Independent cooling systems

Backstop

Forced lubrication

Temperature and oil level sensors

Drywell

Taconite seals

Type	Torque [Nm]
HDP 60	5190
HDP 70	7080
HDP 80	12600
HDP 90	17900
HDP 100	28200
HDP 110	31700
HDP 120	41000
HDP 125	49000
HDP 130	69500
HDP 140	87000
HDP 150	117000
HDP 160	147000
HDP 170	190000
HDP 180	210000

HDO series

Bevel helical gear units

The heavy-duty product that matches performance and versatility with compactness.

The new bevel helical series from Bonfiglioli optimises superior performance with compact dimensions and flexibility. The many standard options that can be selected from the catalogue facilitate customization to meet specific application requirements.

The gear case is nodular cast iron to guarantee rigidity in all circumstances while the gears, using latest profile ground finishing techniques, ensure quiet and vibration-free operation even in the harshest conditions.



Type	Torque [Nm]
HDO 100	28200
HDO 110	31700
HDO 120	41000
HDO 125	49000
HDO 130	69500
HDO 140	87000
HDO 150	117000
HDO 160	147000
HDO 170	190000
HDO 180	210000

Torque range

28200 ... 210000 Nm

Gear ratios

5.6 ... 400

Mounting

Foot, flange, shaft mounting

Input

Solid shaft, lantern housing c/w flexible coupling double input shaft (pony drive)

Output

Solid (single and double extension), keyed hollow, shrink disc

Options

Fan cooling, cooling coil, heaters

Independent cooling systems

Backstop

Forced lubrication

Temperature and oil level sensors

Drywell

Taconite seals

TA series

Shaft mounted speed reducers

The sturdy and weather-resistant product for the material handling industry.

The TA series is long established, and well respected in industry, especially in quarry and mine applications where absolute reliability and low maintenance are key factors. Also appreciated is the backstop option that prevents backdriving on inclined conveyors or elevators.



Torque range ($n_1 = 900 \text{ min}^{-1}$)

150 ... 16000 Nm

Mechanical rating ($n_1 = 900 \text{ min}^{-1}$)

1.1 ... 156 kW

Gear ratios

5.0 ... 31.5

Output

Keyed hollow shaft

Up to three bore options per frame size

Gearcase

Sturdy cast iron housing suitable for outdoor installation

Backstop

Available on all frame sizes - externally accessible

Type	Torque [Nm]
TA 30	150
TA 35	400
TA 40	900
TA 45	1350
TA 50	2100
TA 60	3500
TA 70	4900
TA 80	6600
TA 100	10500
TA 125	16000

RAN series

Bevel gears



The handy drive when it comes to angled transmissions.

The units of the RAN series are designed to fit the purposes of transmissions laid out in right angle setting. Easy to fit and largely maintenance-free, RAN units offer multiple shaft arrangements and a choice of several exact gear ratios, beside the 1:1, that come in handy when designing synchronized drive systems. Also available in the version for screw jack duty.

Type	Torque [Nm]
RAN 1	1350
RAN 2	3000
RAN 2R	3000
RAN 8	3
RAN 15	8
RAN 18	15
RAN 20	28
RAN 24	80
RAN 25	39
RAN 28	150
RAN 38	300
RAN 48	600

Torque range

3 ... 3000 Nm

Mechanical rating ($n_1 = 1400 \text{ min}^{-1}$)

0.15 ... 91 kW

Gear ratios

1.0 ... 7.4

Shaft arrangement

Single and double shaft projection

Input

Solid input shaft

RAN 1 / RAN 2 / RAN 2R

Input

Solid - single and double projection
Output shaft
Keyed hollow

Gear ratios

$i = 3$

Rated thrust capacity

RAN 1 50000 N

RAN 2 80000 N

RAN 2R 150000 N

W VF_EP series

Gearmotors for hostile environments

When multi-purpose products become specific and meet industry requirements.

Wormgears and motors are also available in the enhanced protection "EP" configuration, featuring food grade specifications and extra corrosion protection, ensuring risk free operation in hygienic environments, and facilitate effective sanitising. In addition to food processing applications, the EP configuration will also suit the requirements of the chemical and pharmaceutical industry, as well as marine on-board and quayside installations.



Applications

Food processing, chemical and pharmaceutical industry
 Marine on-board and quayside installations
 Corrosive and/or highly hygienic environments

Availability on

Gears: VF 44, VF 49, W 63, W 75, W 86
 Motors: BN 63 ... BN 112 / M1SD ... M3LC

Standard features

Stainless steel hollow shaft
 Stainless steel mounting hardware and tag
 Oil seals loaded with stainless steel spring
 Sealed gearcase (unvented)
 Unused tapped holes closed with button plugs
 Four draining holes on motor DE and NDE shield
 Motor protection IP 56

Options

Epoxy primer+epoxy top coating FDA approved
 Washdown duty oil seals
 Food grade lubricant, class H1

Configurations

Foot, flange and shaft mount

Accessories

Plug-in solid output shaft from stainless steel
 Safety cover for the hollow output shaft
 Torque arm

Type	Torque [Nm]
VF_EP 27	13
VF_EP 30	24
VF_EP 44	55
VF_EP 49	88
W_EP 63	190
W_EP 75	320
W_EP 86	440
W_EP 110	830
VF_EP 130	1500
VF_EP 150	2000
VF_EP 185	3600
VF_EP 210	5000
VF_EP 250	7100

ATEX series

Gearboxes for explosive environments

Ideal for potentially explosive conditions.

ATEX-compliant gear units in categories 2G and 2D are available, according to the classification set forth by the European Directive 94/9/CE, applying to areas with presence of potentially explosive atmosphere.



Type	Torque [Nm]
C 12	100
C 22	200
C 32	300
C 36	450
C 41	600
C 51	1000
C 61	1600
A 10	150
A 20	250
A 30	410
A 35	600
A 41	850
A 50	1500
A 55	2000
A 60	2800
F 10	140
F 20	250
F 25	400
F 31	600
F 41	1100
F 51	1800
F 60	2900
VF 30	24
VF 44	55
VF 49	88
W 63	190
W 75	320
W 86	440
W 110	830
300	1250
301	2460
303	2970
304	3960
305	5800
306	10840
307	15680
309	23240
310	34120
311	48330
313	57970
314	84000
315	105000
316	138820
317	208110
318	280580
319	476410
321	655740
323	890310
325	1286000

Coaxials series C

Torque range: 100 ... 1600 Nm

Bevel helicals series A

Torque range: 150 ... 2800 Nm

Shaft mounts series F

Torque range: 140 ... 2900 Nm

Worm gears series VF and W

Torque range: 24 ... 830 Nm

Planetaries series 300

Torque range: 1250 ... 1286000 Nm

3/H series

Combined gearboxes

Performance and technology of the planetary gearboxes with the robustness and reliability of bevel helical gearboxes.

Bonfiglioli's 3/H gearboxes combine the high technology, performance and efficiency of planetary gearboxes with the robustness, quality and reliability of bevel helical gearboxes. These planetary/bevel helical combination gear boxes deliver the high transmissible torque of Bonfiglioli planetary 300 Series along with the excellent power transmission characteristics of bevel helical HDO Series and are ideal for applications that demand high power density along with medium-low output speeds.



Torque range

98000 ... 1200000 Nm

Gear ratios

1:100 ... 1:1000

Rated power

up to 980 kW

Reference torque

up to 1200 kNm

Output versions

Solid cylindrical shaft
 Solid shaft with keyway
 Solid shaft with supporting feet
 Solid shaft with keyway and supporting feet
 Hollow shaft with shrink disc
 Hhollow shaft with keyway

Input versions

Single sided cylindrical shaft
 Flange with motor coupling bell and intermediary elastic joint between the cylindrical shafts of the motor and gearbox.

Mounting position

Horizontal input shaft
 Vertical input shaft

Shaft arrangement

Depending on the needs of the application, 3/HDO combination gearboxes can be supplied with output shafts on the left or right side.

Options & Accessories

- Auxiliary thermal devices
- Forced lubrication
- Backstop device

Type	Torque [Nm]
3/HDO 15	98000
3/HDO 16	130000
3/HDO 17	175000
3/HDO 18	260000
3/HDO 19	440000
3/HDO 21	615000
3/HDO 23	830000
3/HDO 25	1200000



HDPE series

Extruder gearbox

The new benchmark in the parallel shaft category.

The HDPE Extruder gearbox series is the configuration specifically developed for single-screw extruder drive generated from the renowned heavy duty series HDP, with which it shares most of the component parts and gearing.

Mounted forward to the sturdy nodular cast iron case, and housed into a robust extruder support, HDPE units feature a heavy duty spherical roller thrust bearing of series 294...E, exclusively sourced from primary brands.

Type	Torque [Nm]
HDP 60	4650
HDP 70	6350
HDP 80	11500
HDP 90	16550
HDP 100	24000
HDP 110	28700
HDP 120	35300
HDP 130	59300
HDP 140	75000

Torque range

4650 ... 75000 Nm

Transmissible Torque

4650 M_{N2} 75000 Nm

Gear Ratios

7,1 i_N 125.0 with progression = 1,12

Mounting

Foot

Input

solid shaft, direct motor mounting, lantern housing with flexible coupling

Output shaft

Thrust bearing of various dimension and capacity and hollow shafts of various shapes and dimensions

Standard shaft is keyed hollow to UNI 6604

Mounting dimensions to customer specifications can be provided

Options

Cooling coil, autonomous cooling units, temperature and oil level sensors

LC series

Low backlash planetary gearboxes

LC planetary precision gearboxes represent a flexible solution, and economic alternative together with an optimal performance and reliability.

Improved performance as the key to downsizing.

Enhanced performance of our LC precision gearboxes ("P" option) may open up important downsizing options as an option in many applications where previously was impossible to ensure a higher transmissible output torque.

As an additional benefit downsizing lead to an improvement of energy efficiency by selecting a more compact gearbox with higher torque density and reducing significantly the accelerating mass.

Transmissible torque is now improved up to 40%!!!

Torque range

12 ... 450 Nm

Maximum acceleration torque

20 ... 700 Nm

Transmission ratios

3 ... 100

Output configuration

Flange mounting

Input configuration

Wide range of coupling configurations to suit most common servomotors

Maintenance

Lubricated for life

Product Line Up

High Torque Density Option "P" available to extend the product performance

Optimal Acceleration and Nominal Torques

Optimal Radial and Axial Load Capacities

Designed for Cyclic and Continuous Duty

Optimal Torsional Stiffness

Geometrical Backlash less than 6 arcmin

Universal design allow any Mounting Orientation



Type	Rated torque [Nm]
LC 050	12
LC 070	25
LC 070P	30
LC 090	43
LC 090P	65
LC 120	110
LC 120P	155
LC 155	300
LC 155P	450

Type	Acceleration torque [Nm]
LC 050	20
LC 070	35
LC 070P	55
LC 090	80
LC 090P	120
LC 120	190
LC 120P	300
LC 155	450
LC 155P	700

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



LCK series

Low backlash right-angle gearboxes

LCK replicate in the right angle layout excellent features already typical of the inline products LC series. Right angle layout is the solution to space problems often posed by increasingly compact machines. This serie represent a flexible solution, and economic alternative together with an optimal performance and reliability.

Enhanced performance of our LCK precision gearboxes ("P" option) may open up important downsizing options as an option in many applications where previously was impossible to ensure a higher transmissible output torque.

As an additional benefit downsizing to an improvement of energy efficiency by selecting a more compact gearbox with higher torque density and reducing significantly the accelerating mass.

Transmissible torque is now improved up to 40%!!!

Torque range

10 ... 450 Nm

Maximum acceleration torque

20 ... 700 Nm

Transmission ratios

6 ... 100

Output configuration

Flange mounting

Input configuration

Wide range of coupling configurations to suit most common servomotors

Maintenance

Lubricated for life

Product Line Up

High Torque Density Option "P" available to extend the product performance

Optimal Torque Density

Optimal Acceleration and Nominal Torques

Optimal Radial and Axial Load Capacities

Designed for Cyclic and Continuous Duty

Optimal Torsional Stiffness

Geometrical Backlash less than 6 arcmin

Universal design allow any Mounting Orientation

Type	Rated torque [Nm]
LCK 050	12
LCK 070	25
LCK 070P	30
LCK 090	43
LCK 090P	65
LCK 120	110
LCK 120P	155
LCK 155	300
LCK 155P	450

Type	Acceleration torque [Nm]
LCK 050	20
LCK 070	35
LCK 070P	55
LCK 090	80
LCK 090P	120
LCK 120	190
LCK 120P	300
LCK 155	450
LCK 155P	700

Backlash [arcmin]		
Type	2 stages	3 stages
Standard	6	8

MP series

Low backlash planetary gearboxes

MP planetary precision gearboxes are landmark for optimal performance, along with top reliability.

Available in different configuration (with input right angle; with output right angle; and hollow shaft, with solid input shaft), and servo-adapters to comply with most servomotors mechanical interface from the market.



Torque range

20 ... 1000 Nm

Maximum acceleration torque

30 ... 1200 Nm

Transmission ratios

3 ... 1000

Output configuration

Flange mounting

Input configuration

Wide range of coupling configurations to suit most common servomotors

Maintenance

Lubricated for life

Product Line Up

Higher Torque Density

Higher Acceleration and Nominal Torques

Higher Radial and Axial Load Capacities

Designed for Cyclic and Continuous Duty

Higher Torsional Stiffness

Geometrical Backlash less than 10 arcmin

Highest flexibility (low / reduced backlash; standard / reinforced bearings; different constructive version) to match with your specific requirement.

Type	Rated torque [Nm]
MP 053	20
MP 060	30
MP 080	70
MP 105	170
MP 130	450
MP 160	700
MP 190	1000

Type	Acceleration torque [Nm]
MP 053	30
MP 060	45
MP 080	100
MP 105	250
MP 130	700
MP 160	950
MP 190	1200

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



TR series

Low backlash planetary gearboxes

TR planetary precision gearboxes are landmark for extremely reduced backlash, optimal performance, silent operation and facilitated motor assembly along with top reliability. Available in different configuration (with input right angle; with output right angle and hollow shaft; with solid input shaft), and servo-adapters to comply with most servomotors mechanical interface from the market.

Type	Rated torque [Nm]
TR 053	20
TR 060	30
TR 080	70
TR 105	170
TR 130	450
TR 160	700
TR 190	1000

Type	Acceleration torque [Nm]
TR 053	30
TR 060	45
TR 080	100
TR 105	250
TR 130	700
TR 160	950
TR 190	1200

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

Torque range

20 ... 1000 Nm

Maximum acceleration torque

30 ... 1200 Nm

Transmission ratios

3 ... 1000

Output configuration

Flange mounting

Input configuration

Wide range of coupling configurations to suit most common servomotors

Maintenance

Lubricated for life

Product Line Up

Higher Torque Density
Higher Acceleration and Nominal Torques
Higher Radial and Axial Load Capacities
Designed for Cyclic and Continuous Duty
Higher Torsional Stiffness
Higher precision due to geometrical backlash less than 3 arcmin
Quiet running
Highest flexibility (low / reduced backlash; standard / reinforced bearings; different constructive version) to match with your specific requirement.

SL series

Low backlash planetary gearboxes for pulley drives

SL planetary precision gearbox knows no rivals in compactness, efficiency and optimization for timing belt pulley drive systems. This series is the ideal complement to conveyor belt servo-drives and all other applications needing to combine high precision with ultra-compact size.

Enhanced performance of our SL precision gearboxes ("P" option) may open up important downsizing options as an option in many applications where previously was impossible to ensure a higher transmissible output torque.

As an additional benefit downsizing lead to an improvement of energy efficiency by selecting a more compact gearbox with higher torque density and reducing significantly the accelerating mass.

Transmissible torque is now improved up to 40%!!!

Torque range

18 ... 155 Nm

Maximum acceleration torque

35 ... 300 Nm

Transmission ratios

3 ... 100

Output configuration

Flange mounting

Input configuration

Wide range of coupling configurations to suit most common servomotors

Maintenance

Lubricated for life

Product Line Up

High Torque Density Option "P" available to extend the product performance

Higher Acceleration and Nominal Torques

Higher Radial and Axial Load Capacities

Designed for Cyclic and Continuous Duty

Higher Torsional Stiffness

Geometrical Backlash less than 6 arcmin

Optionally available with a timing belt pulley.

Quiet running

Universal design allow any mounting orientation



Type	Rated torque [Nm]
SL 070	25
SL 070P	30
SL 090	43
SL 090P	65
SL 120	110
SL 120P	155

Type	Acceleration torque [Nm]
SL 070	35
SL 070P	55
SL 090	80
SL 090P	120
SL 120	190
SL 120P	300

Type	Backlash [arcmin]
Standard	12
Reduced	6



KR series

Low backlash right-angle gearboxes

Flexible, efficient economical solution to applications calling for space saving right angle drives with minimal backlash.
Available in different configurations with numerous input and output configuration.

Type	Rated torque [Nm]
KR 010	10
KR 020	24
KR 030	55
KR 040	120

Type	Acceleration torque [Nm]
KR 010	14
KR 020	35
KR 030	75
KR 040	170

Type	Backlash [arcmin]
Standard	8

Torque range

3 ... 120 Nm

Maximum acceleration torque

14 ... 170 Nm

Transmission ratios

1, 2, 5

Output configuration

Hollow shaft with keyway
Solid shaft, single or double sided
Hollow shaft with shrink disc
Mounting flange

Input configuration

Wide range of coupling configurations to suit most common servomotors

Maintenance

Lubricated for life

Product Line Up

Best combination of Dynamics, Compactness and Precision
Designed for Cyclic and Continuous Duty
Good Torsional Stiffness
Geometrical Backlash less than 8 arcmin

TQ series

Low backlash planetary gearboxes

TQ features a higher positioning. Whether torque, robustness, or precision - this attractive product range scores in every category.



Torque range

30 ... 800 Nm

Maximum acceleration torque

45 ... 1200 Nm

Transmission ratios

3 ... 100

Output configuration

Square flange mounting

Input configuration

Wide range of coupling configurations to suit most common servomotors

Maintenance

Lubricated for life

Product Line Up

Outstanding Torque Density
Outstanding Acceleration and Nominal Torques
Outstanding Radial and Axial Load Capacities
Designed for Cyclic and Continuous Duty
Markedly higher Torsional Stiffness
Extremely Geometrical Backlash less than 2 arcmin
Quiet running
Universal design allow any mounting orientation

Type	Rated torque [Nm]
TQ 060	30
TQ 070	70
TQ 090	200
TQ 130	400
TQ 160	800

Type	Acceleration torque [Nm]
TQ 060	45
TQ 070	100
TQ 090	300
TQ 130	600
TQ 160	1200

	Backlash [arcmin]
Standard	lower than 4 arcmin
Reduced	lower than 2 arcmin



TQK series

Low backlash right-angle gearboxes

TQK angular gearbox features a higher positioning like TQ inline serie.
This exceptional gearbox is the solution to space problems often posed by increasingly compact machines.
Whether torque, robustness, or precision - this attractive product range scores in every category.

Type	Rated torque [Nm]
TQK 060	30
TQK 070	70
TQK 090	200
TQK 130	400
TQK 160	800

Type	Acceleration torque [Nm]
TQK 060	45
TQK 070	100
TQK 090	300
TQK 130	600
TQK 160	1200

	Backlash [arcmin]
Standard	lower than 5 arcmin
Reduced	lower than 4 arcmin

Torque range

30 ... 800 Nm

Maximum acceleration torque

45 ... 1200 Nm

Transmission ratios

3 ... 100

Output configuration

Square flange mounting

Input configuration

Wide range of coupling configurations to suit most common servomotors

Options

Smooth, keyless output shaft

Maintenance

Lubricated for life

Product Line Up

Outstanding Torque Density
Outstanding Acceleration and Nominal Torques
Outstanding Radial and Axial Load Capacities
Designed for Cyclic and Continuous Duty
Markedly higher Torsional Stiffness
Extremely Geometrical Backlash less than 4 arcmin
Quiet running
Universal design allow any mounting orientation

BN/M 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 multispeed 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 ... 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)

Inverter duty

All frame sizes

Housing

Cast aluminium

Main brake features

DC and AC supply

Faster brake engage/disengage through electronically

Controlled AC/DC rectifier type NB, SB, NBR, SBR (options)

Main options

Thermistors and thermostat sensors

Separate supply forced ventilation

Line driver and push-pull incremental encoder

CSA and UL approved design

Type	kW rating
BN 56A	0.06
BN 56B	0.09
BN 63A	0.12
BN 63B	0.18
BN 63C	0.25
BN 71A	0.25
BN 71B	0.37
BN 71C	0.55
BN 80A	0.55
BN 80B	0.75
BN 80C	1.1
BN 90S	1.1
BN 90LA	1.5
BN 90LB	1.85
BN 100LA	2.2
BN 100LB	3
BN 112M	4
BN 132S	5.5
BN 132MA	7.5
BN 132MB	9.2
BN 160MR	11
BN 160M	15
BN 180M	18.5
BN 180L	22
BN 200L	30

BE/ME series

IE2 AC motors



IE2

Type	kW rating
BE 80B	0.75
BE 90S	1.1
BE 90LA	1.5
BE 100LA	2.2
BE 100LB	3
BE 112M	4
BE 132S	5.5
BE 132MA	7.5
BE 132MB	9.2
BE 160M	11
BE 160L	15
BE 180M	18.5
BE 180L	22

Class IE2 high efficiency AC motors.

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 version is 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.

kW rating (4 pole)

0.75 ... 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), 640/2009/EC
2006/95/EC (LVD) and 2004/108/EC (EMC)

Inverter duty

All frame sizes

Housing

Cast aluminium

Main brake features

DC and AC supply

Faster brake engage/disengage through electronically

Controlled AC/DC rectifier type NB, SB, NBR, SBR (options)

Main options

Thermistors and thermostat sensors

Separate supply forced ventilation

Line driver and push-pull incremental encoder

CSA and UL approved design

BX/MX series

New IE3 Motors

The release of the new BX/MX motors is a further expression of our sensitiveness to the environment preservation.

The BX/MX motors fulfil the requirements of IE3 efficiency class, according to the international standard IEC 60034-30.

The "X" of the new BX/MX motors stands for "excellence" in efficiency, being IE3 the top efficiency rating currently formalized by global standards.



Power Range (4 pole)

7.5 ... 22 kW

Frame Sizes

132MA ... 180L

Pole Numbers

4

Mounting Options

Foot IM B3

Flange IM B5 and IM B14

Operation

50 Hz

Compliance

IEC 60034-30:2008 (IE),

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

Inverter Duty

All frame sizes

Housing

Cast aluminium

Main Options

Thermistors and thermostat sensors

Separate supply forced ventilation

Line driver and push-pull incremental encoder

CSA and UL approved design

Type	kW rating
BX 132MA	7.5
BX 160MA	9.2
BX 160MB	11
BX 160L	15
BX 180M	18.5
BX 180L	22



BS series

Single-phase induction motors

A range of motors dedicated to domestic and light workshop duty.

Single-phase motors of the BS series are manufactured to the applicable IEC standards and are of the enclosed type, externally ventilated and with run capacitor permanently connected.

Motors are available in the B5 and B14 flange mountings, in the 4-pole execution.

For applications requiring high starting torque the version with both the run and starting capacitor can be specified.

Type	kW rating
BS 56A	0.06
BS 56B	0.09
BS 63A	0.12
BS 63B	0.18
BS 71A	0.25
BS 71B	0.37
BS 80A	0.55
BS 80B	0.75
BS 90S	1.1
BS 90L	1.5

kW ratings

0.06 ... 1.5 kW

Frame sizes

56A to 90L

Poles

4

Mounting

Flange mounting IM B5 and IM B14

Frequency

50 and 60 Hz

European norms

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

Housing

Cast Aluminium

Main options

Starting and run capacitors

Bimetal thermal protector

Balanced winding

BC series DC motors

A comprehensive range of permanent magnet DC motors.

The BC series of motors are the simple, proven and economical solution to the requirements of DC drives. The materials and the design concepts exploited allow the use of BC motors under the severest duty and with 4-quadrants thyristor converters. Motors can be operated in the -20 to $+40$ °C ambient temperature range and are IP54 protected and class F insulated.



Torque range

0.3 ... 4.5 Nm

Speed

1500, 2000, 3000 min⁻¹

Supply

12, 24, 36, 48, 65, 110, 180, Vdc

Configurations

IM B5 and IM B14 Flange Mount

Ventilation

BC110 ... BC140 non-ventilated
BC220 ... BC310 TEFC

Type	Torque [Nm]
BC 110	0.3
BC 120	0.8
BC 140	1.4
BC 220	0.9
BC 240	1.2
BC 270	2.2
BC 310	4.5



BMD series

Permanent Magnet AC servomotors

Bonfiglioli Permanent Magnet AC Synchronous motors series.

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.

Type	Torque [Nm]
BMD 65 0.85	0.85
BMD 65 1.7	1.7
BMD 65 2.2	2.2
BMD 82 3.2	3.2
BMD 82 4.4	4.4
BMD 102 7.2	7.2
BMD 102 9.6	9.6
BMD 118 10.2	10.2
BMD 118 14	14
BMD 145 16.8	16.8
BMD 145 22	22
BMD 170 34	34
BMD 170 45	45
BMD 160 L	125

Stall torque

0.85 ... 125 Nm

Rated speed

1600; 3000; 4500; 5500; 6000 min⁻¹

Power supply

230, 400 Vac

Conformity

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

Electromagnetical Holding Brake (Optional)

24 Vdc

Inertia

High acceleration capacity due to lower motor moment of inertia

Additional flywheel (optional)

Excellent behavior with superior load inertia due to the high intrinsic moment of inertia

Feedback

2-poles resolver with excitation frequency 8 KHz or 10 KHz

Absolute encoder EnDAT 2.1 (single turn / multiturn) encoder with sincos track

Absolute encoder Hiperface (single turn / multiturn) encoder with sincos track

Sensorless (no feed-back)

Degree of protection

IP65

IP67

Temperature sensor

PTC

KTY

Certification

CE, UL

BTD series

Compact AC brushless servomotors

A range of compact servomotors.

BTD Series servomotors are designed to provide effective solutions for applications demanding high efficiency, compact motors.

The extremely small size of these motors, achieved by the use of advanced materials and design technology, ensures exceptional dynamics and low temperature operation.

Equipped with IP65 push-pull connectors (IP67 connectors are optional), in conformity to EMC requirements, and a PTC temperature probe with reinforced insulation, these motors guarantee secure electrical connections under a huge variety of operating conditions.



Stall torque

0.26 ... 27 Nm

Rated speed

3000, 4500 min⁻¹

Power supply

230, 400 Vac

Inertia

High acceleration capacity due to lower motor moment of inertia

Conformity

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

Electromagnetical Holding Brake (Optional)

24 Vdc

Feedback

2-poles resolver with excitation frequency 5 KHz or 10 KHz

Absolute encoder EnDAT 2.1 (single turn / multiturn) encoder with sincos track

Absolute encoder Hiperface (single turn / multiturn) encoder with sincos track

Temperature sensor

PTC

Certification

CE, UL

Type	Torque [Nm]
BTD2 0026	0.26
BTD2 0053	0.53
BTD2 0074	0.74
BTD2 0095	0.95
BTD3 0095	0.95
BTD3 0190	1.9
BTD3 0325	3.25
BTD3 0420	4.2
BTD4 0410	4.1
BTD4 0630	6.3
BTD4 0860	8.6
BTD5 1160	11.6
BTD5 1490	14.9
BTD5 1870	18.7
BTD5 2730	27.3



BCR series

AC brushless servomotors

A range of high performance servomotors.

BCR Series servomotors are designed to satisfy the needs of continuous and transient high torque applications. Thanks to a wide torque range and above average instantaneous overload ratings, BCR servomotors are robust enough for even the most demanding drive applications. Equipped with IP65 push-pull connectors (IP67 connectors are optional), in conformity to EMC requirements, and with a PTC temperature probe with reinforced insulation, these motors guarantee a secure electrical connection under a huge variety of operating conditions.

Type	Torque [Nm]
BCR2 0020	0.2
BCR2 0040	0.4
BCR2 0060	0.6
BCR2 0080	0.8
BCR3 0065	0.65
BCR3 0130	1.3
BCR3 0250	2.5
BCR3 0300	3
BCR4 0100	1
BCR4 0260	2.6
BCR4 0530	5.3
BCR4 0750	7.5
BCR5 0660	6.6
BCR5 1050	10.5
BCR5 1350	13.5
BCR5 1700	17
BCR5 2200	22
BCR6 1350	13.5
BCR6 1900	19
BCR6 2200	22
BCR6 2900	29
BCR7 2700	27
BCR7 3200	32
BCR7 4000	40
BCR8 0400	40
BCR8 0680	68
BCR8 0930	93
BCR8 1150	115

Stall torque

0.2 ... 115 Nm
(High instantaneous overload)

Rated speed

2000, 3000, 4500 rpm

Power supply

230, 400 Vac

Inertia

High acceleration capacity due to lower motor moment of inertia

Conformity

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

Electromagnetical Holding Brake (Optional)

Optional 24 Vdc

Feedback

2-poles resolver with excitation frequency 5 KHz or 10 KHz
Absolute encoder EnDAT 2.1 (single turn / multiturn) encoder with sincos track
Absolute encoder Hiperface (single turn / multiturn) encoder with sincos track

Temperature sensor

PTC

Certification

CE, UL

Agile series Inverter

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 and MMC memory cards. Agile 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 320-530V / 50-60 Hz ($\pm 10\%$)

Power range (AGL202)

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

Motor compatibility

Two types of motor:

Asynchronous AC motors

Permanent magnet synchronous (brushless) motors

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

Degree of protection

IP20 (EN 60529)

Main hardware features

Power supply from common DC bus

Integrated braking module

Short circuit / ground fault protection

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: RS232, RS485, Systembus

Integrated Modbus

Optional expansion modules

Resource Pack memory card

Optional communication modules

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

PC software

VPlus suite

Main software features

Permanent motor tuning

Selective Multi-Motor Control (SMMC)

Energy saving function

Ready to use application masks

Integrated maintenance wizard

Alarm history

Motor and inverter state memory

Autodiagnosics

Integrated PLC function with graphic development environment

Integrated oscilloscope function

Customisable units of measurement

(*) Optional 2 ports.

Type	Power kW
AGL402-02	0.25
AGL402-03	0.37
AGL402-05	0.55
AGL402-07	0.75
AGL402-09	1.1
AGL402-11	1.5
AGL402-13	2.2
AGL402-15	3.0
AGL402-18	4.0
AGL402-19	5.5
AGL402-21	7.5
AGL402-22	9.2
AGL402-23	11

Type	Power kW (3ph)
AGL202-02	0.25
AGL202-03	0.37
AGL202-05	0.55
AGL202-07	0.75
AGL202-09	1.1
AGL202-11	1.5
AGL202-13	2.2
AGL202-15	3.0
AGL202-18	4.0
AGL202-19	5.5
AGL202-21	7.5

Type	Power kW (1ph)
AGL202-02	0.12
AGL202-03	0.18
AGL202-05	0.25
AGL202-07	0.37
AGL202-09	0.55
AGL202-11	0.75
AGL202-13	1.1
AGL202-15	1.5
AGL202-18	2.2
AGL202-19	3
AGL202-21	3



Active series

Solution Drive

Versatility, rating, performances.

A full series of flexible solution drives that are versatile and extremely easy to use, featuring control for high performance and unbeatable advantages in their scalability and compact size.

Type	Power kW
ACT401-05	0.55
ACT401-07	0.75
ACT401-09	1.1
ACT401-11	1.5
ACT401-12	1.85
ACT401-13	2.2
ACT401-15	3.0
ACT401-18	4.0
ACT401-19	5.5
ACT401-21	7.5
ACT401-22	9.2

ACT401-23	11
ACT401-25	15
ACT401-27	18.5
ACT401-29	22
ACT401-31	30
ACT401-33	37
ACT401-35	45
ACT401-37	55
ACT401-39	65
ACT401-43	75
ACT401-45	90
ACT401-47	110
ACT401-49	132

ACT201-05	0.55
ACT201-07	0.75
ACT201-09	1.1
ACT201-11	1.5
ACT201-13	2.2
ACT201-15	3.0
ACT201-18	4.0
ACT201-19	5.5
ACT201-21	7.5
ACT201-22	9.2

Power range (ACT401)

0.55 ... 132 kW / three-phase 360-480V / 50-60 Hz ($\pm 10\%$)

Power range (ACT201)

0.55 ... 9.2 kW / single or three-phase 200-240V / 50-60 Hz ($\pm 10\%$)

Type of control

Selectable Vector control function:
sensor-less control, sensor-less field oriented control, field oriented control with encoder

Overload capacity

150% for 60s / 200% for 1s

Switching frequency

2, 4, 8, 12, 16 kHz

Enclosure

IP20 (EN 60529)

EMC filter

Integrated up to 9.2 kW (EN 61800-3)

Main standard hardware features

Integrated dynamic braking module, DC link connection, Standard encoder interface, Motor temperature monitoring, Plug-in power terminals (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 or resolver input, repetition frequency output, System bus

Optional communication modules

RS232, RS485, PROFIBUS-DP, CANopen

Optional keypad

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

Optional PC software

VPlus for Windows operating system with set-up, terminal monitor, actual value window, scope function and teleservice

Main software features

Programmable reference value channel, Programmable start and stop characteristics, Motor potentiometer, Programmable S curve, 4 data sets, Auto start-up and commissioning, Auto reset after failure, Auto start after power failure, PI controller, Programmable logic and timer functions, Volume flow control, Bump-less torque / speed changeover, Master / Slave function with electronic gear, Enhanced positioning function, Mechanical brake control free of friction, Index and stability control, Intelligent current limits, Power failure regulation, Comprehensive monitoring and protection capabilities, High speed control, Function for lift, crane and winch applications, 3 different brake Management Functions.

Active Cube series

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 speed and positioning control architectures, all matched with Bonfiglioli servomotors.



Power range (ACU401)

0.25 ... 132 kW / three-phase 360 ... 480V / 50-60 Hz ($\pm 10\%$)

Power range (ACU201)

0.25 ... 9.2 kW / single or three-phase 200 ... 240V / 50-60 Hz ($\pm 10\%$)

Type of control

Selectable Vector control function: sensor-less control, sensor-less field oriented 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

Enclosure

IP20 (EN 60529)

EMC filter

Integrated up to 9.2 kW (EN 61800-3)

Main standard hardware features SIL2

Integrated safe torque off function, External 24Vdc supply for control board and electronics, Integrated dynamic braking module, DC link connection, Standard encoders interface, Resolver module for feedback acquisition from Bonfiglioli servomotors, Motor temperature monitoring, Plug-in power terminals (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 or resolver input and SinCos, HiPerface or EnDat 2.1 Encoder, repetition frequency output, System bus

Optional communication modules

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

Optional keypad

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

PC software VPlus

Vplus software provides a common programming and monitoring platform for all Bonfiglioli inverter drives. Easy programming interface with real time oscilloscope. A simple and guided procedure for set up with Bonfiglioli Motors. Logic functions programming. Teleservice.

Main software features

32 Programmable Motion blocks, 36 Homing functions according to CANopen DSP4.02, Unit converter, Jog function, Absolute and relative positioning modes, Touch probe, Teach-In functions, Rotary table control, Programmable reference value channel, Programmable start and stop characteristics, Motor potentiometer, Programmable S curve, 4 data sets, Auto start-up and commissioning, Auto reset after failure, Auto start after power failure, PI controller, Programmable logic and timer functions, Bump less torque / speed changeover, Master / Slave function with electronic gear, Index and stability control, Intelligent current limits, Power failure regulation, Comprehensive monitoring and protection capabilities, High speed control, Function for lift, crane and winch applications, 3 different brake Management Functions. Advanced application functions: advanced brake release control, spindle control up to 1000Hz, traverse function for winders, Volume flow control, load evaluation.

(*) Optional 2 ports.

Type	Power kW
ACU401-01	0.25
ACU401-03	0.37
ACU401-05	0.55
ACU401-07	0.75
ACU401-09	1.1
ACU401-11	1.5
ACU401-12	1.85
ACU401-13	2.2
ACU401-15	3.0
ACU401-18	4.0
ACU401-19	5.5
ACU401-21	7.5
ACU401-22	9.2
ACU401-23	11
ACU401-25	15
ACU401-27	18.5
ACU401-29	22
ACU401-31	30
ACU401-33	37
ACU401-35	45
ACU401-37	55
ACU401-39	65
ACU401-43	75
ACU401-45	90
ACU401-47	110
ACU401-49	132
ACU201-01	0.25
ACU201-03	0.37
ACU201-05	0.55
ACU201-07	0.75
ACU201-09	1.1
ACU201-11	1.5
ACU201-13	2.2
ACU201-15	3.0
ACU201-18	4.0
ACU201-19	5.5
ACU201-21	7.5
ACU201-22	9.2



Active Cube series - Size 8

Solution & Servo Drive

Energy efficient, versatile and compact.

A full series of solution & servo drives, compact and flexible, dedicated both to high demanding industrial automation systems and to motion control architectures, prepared to operate energy efficient synchronous and asynchronous motors with and without speed sensor.

Type	Power kW
ACU401-51	160
ACU401-53	200
ACU401-55	250
ACU401-57	315
ACU401-59	355
ACU401-61	400

Rated voltage: 400V

Type	Power kW
ACU601-51	160
ACU601-53	200
ACU601-55	250
ACU601-57	315
ACU601-59	355
ACU601-61	400

Rated voltage: 690V

Power range (ACU401)

160 ... 400 kW / three-phase 380 V (-15%) ... 480 V (+10%) / 50 - 60 Hz ($\pm 10\%$)

Power range (ACU601)

160 ... 400 kW / three-phase 500 ... 690 V ($\pm 10\%$) / 50 - 60 Hz ($\pm 10\%$)

Type of control

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

Overload capacity

150% for 1min

Shorter overload: 180% for 1sec all ratings

Switching frequency

2, 4, 8 kHz

Enclosure

IP20 (EN 60529)

EMC filter

External filter

Main standard hardware features SIL2

Integrated safe torque off function, External 24Vdc supply for control board and electronics, Integrated dynamic braking module, DC link connection, Standard encoders interface, Resolver module for feedback acquisition from Bonfiglioli servomotors, Motor temperature monitoring, Plug-in power terminals (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), 1 additional relays for external precharge, possibility for a 3-level-concept, possibility for a 12-pulse-rectifier-concept

Optional expansion modules

Expansion of analog, digital inputs and outputs, additional encoder or resolver input and sin/cos encoder, repetition frequency output, System bus

Optional communication modules

Profibus-DP, CANopen, RS232, RS485, DeviceNet, EtherCAT®, ProfiNet, Ethernet VA BUS TCP

Optional keypad

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

PC software VPlus

Vplus software provides a common programming and monitoring platform for all Bonfiglioli inverter drives. Easy programming interface with real time oscilloscope. A simple and guided procedure for set up with Bonfiglioli Motors. Logic functions programming. Teleservice.

Main software features

32 Programmable Motion blocks, 36 Homing functions according to CANopen DSP4.02, Unit converter, Jog function, Absolute and relative positioning modes, Touch probe, Teach-In functions, Rotary table control, Programmable reference value channel, Programmable start and stop characteristics, Motor potentiometer, Programmable S curve, 4 data sets, Auto start-up and commissioning, Auto reset after failure, Auto start after power failure, PI controller, Programmable logic and timer functions, Bump less torque / speed changeover, Master / Slave function with electronic gear, Index and stability control, Intelligent current limits, Power failure regulation, Comprehensive monitoring and protection capabilities, High speed control, Function for lift, crane and winch applications, 3 different brake Management Functions. Advanced application functions: advanced brake release control, spindle control up to 500Hz, traverse function for winders, Volume flow control, load evaluation.

VCB series

Inverter

Convenient in operation and flexible in application.

Reliable, highly compact and a robust choice for any application, this inverter with high-level functions soundly meets the requirements of a constantly evolving market.



Power range (VCB400)

132 ... 800 kW / three-phase 320-506V / 45-66 Hz

Type of control

Selectable Vector control function:
Sensor-less control, sensor-less field oriented control,
Field oriented control with encoder

Overload capacity

120% / 150% for 60s

Switching frequency

1 kHz up to 4 kHz

Enclosure

IP20 up to 355 kW (EN 60529) / IP54 on demand

Main standard hardware features

Three-phase 230 V and three-phase 500 V on demand
DC link connection, Plug-in and programmable control terminals
8 digital input, 3 analog input
2 digital output, 1 analog output
1 Relay output (changeover contact)

Optional expansion modules

Motor temperature monitoring, expansion of analog, digital inputs and outputs,
additional encoder or resolver input, repetition frequency output, Safety relay in
combination with expansion module

Optional communication modules

RS232, RS485, PROFIBUS-DP, CANopen, LON

Optional keypad

Removable keypad KP100

Optional PC software

VPlus for Windows operating system with set-up, terminal monitor,
actual value window, scope function and teleservice

Main software features

Programmable reference value channel, Programmable start and stop characteristics,
Motor potentiometer, Programmable S curve, 4 data sets, Auto start-up and
commissioning, Auto start after power failure, PI controller, Volume flow control, Bump-
less torque / speed changeover, Master / Slave function with electronic gear, Dynamic
braking and motor chopper, Mechanical brake control free of friction, Intelligent current
limits, Power failure regulation, Index and stability control, Comprehensive monitoring
and protection capabilities, Function for lift, crane and winch applications

Type	Power kW
VCB400-250	132
VCB400-300	160
VCB400-370	200
VCB400-460	250
VCB400-570	315
VCB400-610	355



S2U series

Variable Frequency Drive

The Ideal drive for your lean application projects.

Intuitive and simple, but powerful and effective.

S2U is the Bonfiglioli Vectron compact Inverter for efficient speed and torque control of electric motors, up to 2.2kW.

The simple installation and use, together with connectivity and outstanding range of functions, make it the perfect drive for the control of those applications where productivity and short time to market are critical.

Type	Power kW
S2U230S-02	0.20
S2U230S-03	0.40
S2U230S-07	0.75
S2U230S-11	1.5
S2U230S-13	2.2

Power range

0.20 ... 2.2 kW / single-phase 200-240V / 50-60 Hz (+10, -15%)

Type of control

V/F control with automatic torque compensation function

Overload capacity

150% for 60s

Switching frequency

1-16 kHz

Enclosure

IP20

EMC filter

Integrated Class C2 filter

Main standard hardware features

5 models in 2 frame sizes

2 Analog Input (0-10V and 0-20 or 4-20mA)

5 Digital Input (programmable multifunction)

1 Analog Output (programmable multifunction).

1 Relay output (programmable multifunction).

1 RJ45 terminal for communication with PC.

Keypad

Built-in standard keypad with potentiometer

Main functions

100% configuration compatibility with Bonfiglioli Synthesis series

Selectable auto re-start after power loss

2 acc/dec times - 4 S curves available

Overload detection

PID control

Torque boost

Stall prevention

Motor temperature protection

Heat sink overheat protection

Selectable stop method

JOG frequency

Alarm history

Short power loss override

Output Short-Circuit protection

DC injection braking.

Auto sequencer. 8 preset speeds and 8 preset times.

Momentary power loss start

Auto restart after fault. 10 attempts.

Direct start on Power up

Parameter access lock

BMI series

Human Machine Interfaces

Human Machine Interface solution suitable for any environment.

The new Bonfiglioli Human Machine Interface series offers high performance and quality at affordable price. In combination with PLC functionality integrated in Inverters of Agile and Active Cube Series Bonfiglioli offers a high performance and cost effective solution for many applications which can be controlled directly by drives functionality without need of PLC.



Key Features

- 3 Display sizes – 3.5", 7" and 10"
- Robust ABS plastic chassis
- True Flat front panel in IP65
- High resolution 480 x 272 up to 1024 x 600 Pixels
- 65.536 Colours
- Ethernet communication port as standard
- Optional Field bus communications for IT series

Applications

- Textile
- Cranes
- Wood
- Material Handling
- Packaging
- Paper
- Plastic
- Energy

Our qualities

Sharing the value of our work with you



The development of effective, tailored solutions for a wide range of applications is a fundamental aspect of our work.

We succeed in this because we co-operate closely with our customers, listen to their requests and work with them to improve our own performance.

Bonfiglioli is determined to deliver the best service possible – before, during and after the sale of any of our products – by applying all our know-how, experience, technology, and advanced communication tools. Bonfiglioli works to the strictest standards of quality and safety, as certified by seven different internationally recognised institutes.

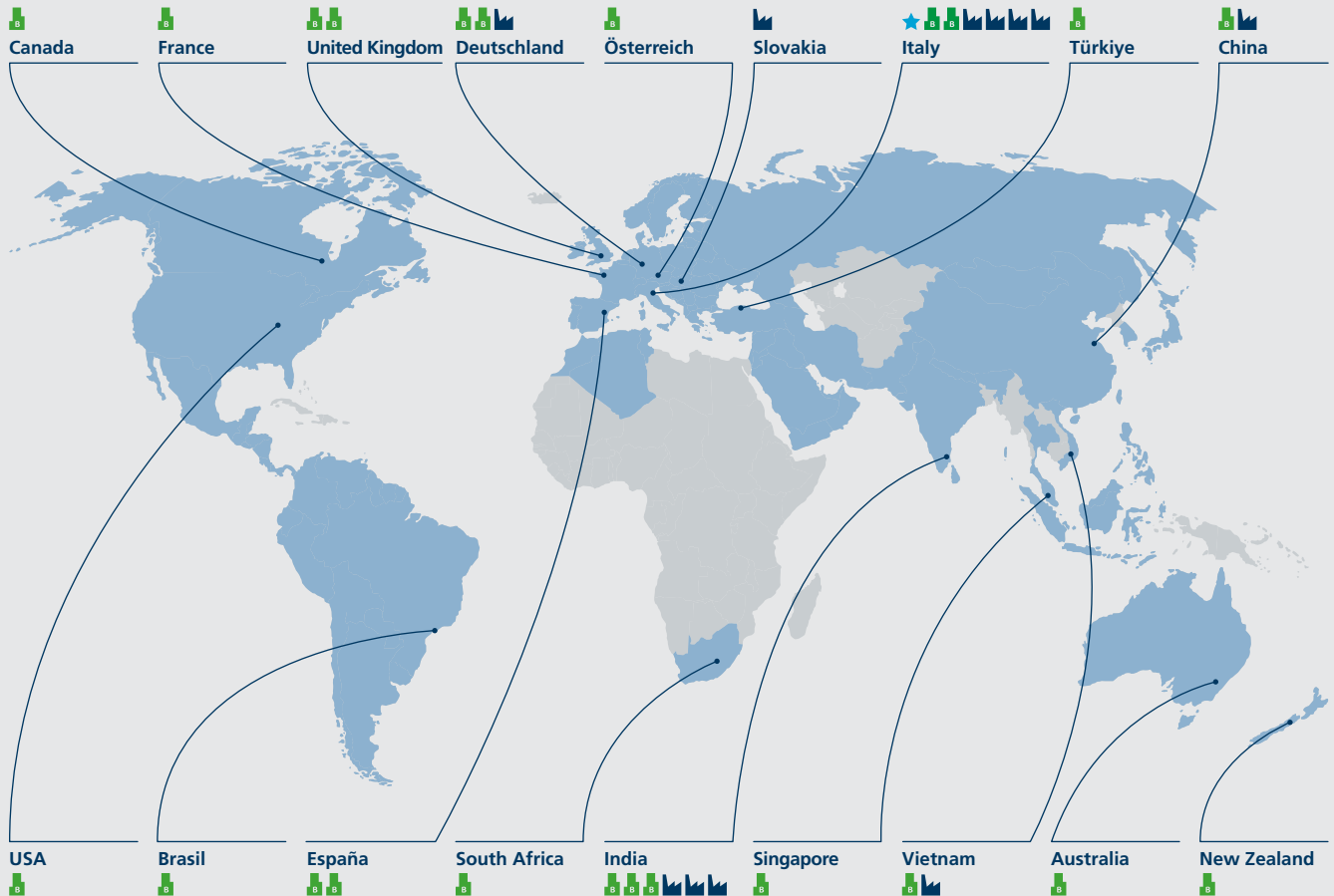
We believe in innovation, and back up this belief by dedicating 100 of our people and 5 activity centres to research and development, and by working hand in hand with some of the world's most prestigious universities.

Our work increasingly brings us into contact with other nations and cultures, for which we have the greatest respect and with whom we share a vision of sustainable development based on renewable energy.

This bond of commitment allows us to be an authoritative and reliable global partner for the present and the future.



Bonfiglioli Worldwide



Headquarters

ITALY • Lippo di Calderara, Bologna



Branches

AUSTRALIA • Sydney
AUSTRIA • Wiener Neustadt
BRAZIL • São Paulo
CANADA • Toronto
CHINA • Shanghai
FRANCE • Paris
GERMANY • Neuss
GERMANY • Krefeld
INDIA • Chennai
INDIA • Mannur
INDIA • Bangalore
ITALY • Milano
ITALY • Rovereto
NEW ZEALAND • Auckland
SOUTH AFRICA • Johannesburg
SINGAPORE • Singapore
SPAIN • Barcelona
SPAIN • Madrid
TURKEY • Izmir
UNITED KINGDOM • Redditch
UNITED KINGDOM • Warrington
USA • Cincinnati
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 production
GERMANY • Krefeld
 Inverter plant
SLOVAKIA • Považská Bystrica
 Large gearboxes manufacturing plant
INDIA • Chennai
 Planetary gearbox manufacturing and assembly plant
INDIA • Mannur
 Gearmotors manufacturing and assembly plant
INDIA • Bangalore
 Photovoltaic Inverter assembly
VIETNAM • Ho Chi Minh
 Electric motor plant
CHINA • Shanghai
 Photovoltaic Inverter assembly



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, Bielorrussia, 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
LATIN AMERICA • Argentine, Bolivia, Brasil, Chile, Colombia, Costa Rica, Ecuador, Guatemala, Honduras, Mexico, Peru, Uruguay, Venezuela
NORTH AMERICA • Canada, United States
OCEANIA • Australia, New Zealand

Bonfiglioli worldwide network

Bonfiglioli Australia

2, Cox Place Glendenning NSW 2761
Locked Bag 1000 Plumpton NSW 2761
Tel. (+ 61) 2 8811 8000 - Fax (+ 61) 2 9675 6605
www.bonfiglioli.com.au

Bonfiglioli Brasil

Travessa Cláudio Armando 171
Bloco 3 - CEP 09861-730 - Bairro Assunção
São Bernardo do Campo - São Paulo
Tel. (+55) 11 4344 2323 - Fax (+55) 11 4344 2322
www.bonfigliolidobrasil.com.br

Bonfiglioli Canada

2-7941 Jane Street - Concord, Ontario L4K 4L6
Tel. (+1) 905 7384466 - Fax (+1) 905 7389833
www.bonfigliolicanada.com

Bonfiglioli China

Bonfiglioli Drives (Shanghai) Co., Ltd.
#68, Hui-Lian Road, QingPu District,
Shanghai, China, 201707
Ph. (+86) 21 6700 2000 - Fax (+86) 21 6700 2100
www.bonfiglioli.cn

Bonfiglioli Deutschland

Industrial, Mobile, Wind
Sperberweg 12 - 41468 Neuss
Tel. +49 (0) 2131 2988 0 - Fax +49 (0) 2131 2988 100
www.bonfiglioli.de
Industrial, Photovoltaic
Europark Fichtenhain B6 - 47807 Krefeld
Tel. +49 (0) 2151 8396 0 - Fax +49 (0) 2151 8396 999
www.vectron.net

Bonfiglioli España

Industrial, Mobile, Wind
Tecnotrans Bonfiglioli S.A.
Pol. Ind. Zona Franca sector C, calle F, n°6
08040 Barcelona
Tel. (+34) 93 4478400 - Fax (+34) 93 3360402
www.tecnotrans.bonfiglioli.com
Photovoltaic
Bonfiglioli Renewable Power Conversion Spain, SL
Ribera del Loira, 46 - Edificio 2 - 28042 Madrid
Tel. (+34) 91 5030125 - Fax (+34) 91 5030099
www.tecnotrans.bonfiglioli.com

Bonfiglioli France

14 Rue Eugène Pottier
Zone Industrielle de Moimont II - 95670 Marly la Ville
Tel. (+33) 1 34474510 - Fax (+33) 1 34688800
www.bonfiglioli.fr

Bonfiglioli India

Industrial
Bonfiglioli Transmission PVT Ltd.
Survey No. 528, Perambakkam High Road
Mannur Village, Sriperambudur Taluk,
Chennai - 602105, Tamil Nadu
Tel. +91(0) 44 6710 3800 - Fax +91(0) 44 6710 3999
www.bonfiglioli.in

Mobile, Wind

Bonfiglioli Transmission PVT Ltd.
PLOT AC7-AC11 Sidco Industrial Estate
Thirumudivakkam - Chennai 600 044
Tel. +91(0) 44 24781035 - 24781036 - 24781037
Fax +91(0) 44 24780091 - 24781904
www.bonfiglioli.in

Photovoltaic

Bonfiglioli Renewable Power Conversion India (P) Ltd
No. 543, 14th Cross, 4th Phase,
Peenya Industrial Area, Bangalore - 560 058
Tel. +91 80 2836 1014/15 - Fax +91 80 2836 1016
www.bonfiglioli.in

Bonfiglioli Italia

Industrial, Photovoltaic
Via Sandro Pertini lotto 7b - 20080 Carpiano (Milano)
Tel. (+39) 02 985081 - Fax (+39) 02 985085817
www.bonfiglioli.it
Bonfiglioli Mechatronic Research
Via F. Zeni 8 - 38068 Rovereto (Trento)
Tel. (+39) 0464 443435/36 - Fax (+39) 0464 443439
www.bonfiglioli.it

Bonfiglioli New Zealand

88 Hastie Avenue, Mangere Bridge, Auckland
2022, New Zealand - PO Box 11795, Ellerslie
Tel. (+64) 09 634 6441 - Fax (+64) 09 634 6445
www.bonfiglioli.co.nz

Bonfiglioli Österreich

Molkereistr 4 - A-2700 Wiener Neustadt
Tel. (+43) 02622 22400 - Fax (+43) 02622 22386
www.bonfiglioli.at

Bonfiglioli South East Asia

24 Pioneer Crescent #02-08
West Park Bizcentral - Singapore, 628557
Tel. (+65) 6268 9869 - Fax. (+65) 6268 9179
www.bonfiglioli.com

Bonfiglioli South Africa

55 Galaxy Avenue,
Linbro Business Park - Sandton
Tel. (+27) 11 608 2030 OR - Fax (+27) 11 608 2631
www.bonfiglioli.co.za

Bonfiglioli Türkiye

Atatürk Organize Sanayi Bölgesi,
10044 Sk. No. 9, 35620 Çiğli - İzmir
Tel. +90 (0) 232 328 22 77 (pbx)
Fax +90 (0) 232 328 04 14
www.bonfiglioli.com.tr

Bonfiglioli United Kingdom

Industrial, Photovoltaic
Unit 7, Colemeadow Road
North Moons Moat - Redditch,
Worcestershire B98 9PB
Tel. (+44) 1527 65022 - Fax (+44) 1527 61995
www.bonfiglioli.co.uk
Mobile, Wind
3 - 7 Grosvenor Grange, Woolston
Warrington - Cheshire WA1 4SF
Tel. (+44) 1925 852667 - Fax (+44) 1925 852668
www.bonfiglioli.co.uk

Bonfiglioli USA

3541 Hargrave Drive Hebron, Kentucky 41048
Tel. (+1) 859 334 3333 - Fax (+1) 859 334 8888
www.bonfiglioliusa.com

Bonfiglioli Vietnam

Lot C-9D-CN My Phuoc Industrial Park 3
Ben Cat - Binh Duong Province
Tel. (+84) 650 3577411 - Fax (+84) 650 3577422
www.bonfiglioli.vn



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

HEADQUARTERS

Bonfiglioli Riduttori S.p.A.
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
www.bonfiglioli.com

BR_CAT_RAIND_STD_ENG_R01_0

