

# INDUSTRY & AUTOMATION

PRODUCT RANGE

*Solutions*

 **Bonfiglioli**





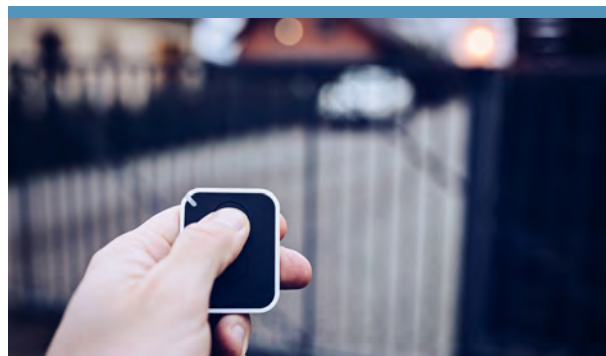
# INDUSTRY & CONTENTS AUTOMATION

<b>INDUSTRY &amp; AUTOMATION SOLUTIONS</b> .....	<b>5</b>
<b>BONFIGLIOLI PRODUCT RANGE</b> .....	<b>6</b>
<b>GEAR UNITS</b> .....	<b>8</b>
Industrial Gearboxes .....	8
Heavy Duty Industrial Gearboxes .....	16
Precision Planetary Gearboxes .....	24
<b>ELECTRIC MOTORS</b> .....	<b>38</b>
Solutions & Applications .....	38
General Purpose .....	42
<b>FREQUENCY INVERTERS</b> .....	<b>48</b>
Cabinet inverters .....	48
Decentralized inverters .....	56
<b>DIGITAL ENGINEERING TOOLS</b> .....	<b>60</b>
<b>SOFTWARE FOR ORDERING AND SELECTION</b> .....	<b>64</b>
<b>ALWAYS BY OUR CUSTOMER'S SIDE, ALL OVER THE WORLD</b> .....	<b>65</b>
<b>OUR GLOBAL PRESENCE</b> .....	<b>66</b>

*Solutions*



# Engineering Solutions





# INDUSTRY & AUTOMATION SOLUTIONS

The Industry & Automation Solutions business unit meets the evolving needs of industrial processes and automation. With a focus on innovation and sustainability, we operate advanced Industry 4.0 facilities to serve over 20 sectors. We serve material handling and logistics, food and beverage, metalworking, mining, recycling and sustainable energy technologies, with an international team that delivers a personalized and exceptional customer experience. Our commitment is to provide tailored solutions that address today's complex challenges while driving progress and creating enduring value for customers.



ONE-STOP SHOP  
AUTOMATION  
PARTNER



ENSURING HIGH  
DYNAMICS AND  
PRECISION



GLOBAL  
DISTRIBUTION  
NETWORK



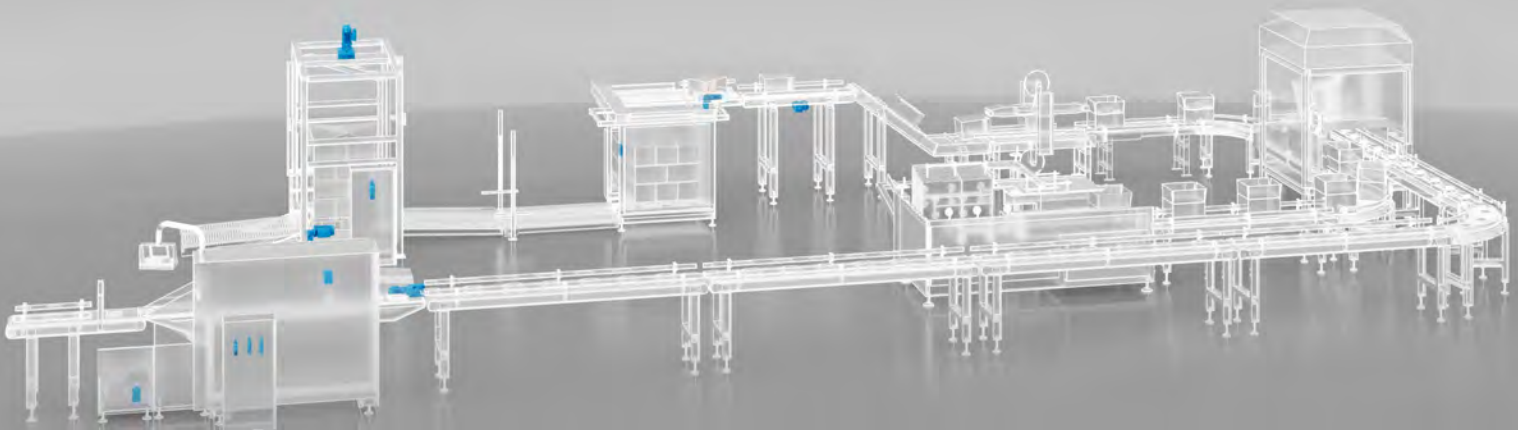
EXPERTISE FOR  
CUSTOMIZED  
SOLUTIONS



MEET OUR  
CUSTOMERS'  
NEEDS



IMPROVE  
APPLICATION  
PERFORMANCE



# BONFIGLIOLI PRODUCT RANGE

---

Bonfiglioli offers a wide range of products for industrial automation, including gearboxes, motors, inverters, sensors and digital tools. By combining these components, Bonfiglioli provides standard and customized systems and solutions to meet the specific needs of each customer.

Discover more about Bonfiglioli Portfolio!



## GEAR UNITS



## ELECTRIC MOTORS



## FREQUENCY INVERTERS

## DIGITAL ENGINEERING TOOLS



# GEAR UNITS

---

Bonfiglioli offers a wide range of gearboxes, from worm gearboxes to planetary gearboxes, to meet different torque and speed requirements.

## INDUSTRIAL GEARBOXES

We deliver robust and durable power transmission systems across a wide range of industries. Our gearboxes are engineered for extended service life and unwavering performance. Available in a comprehensive range of sizes, reduction ratios and mounting configurations, our products seamlessly integrate into your specific application.

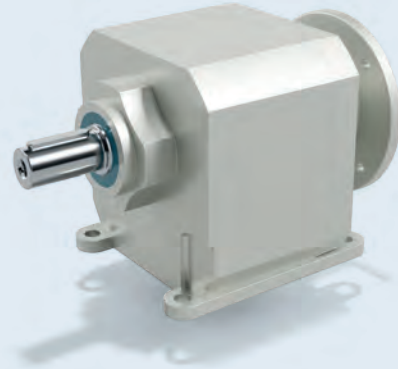


## PREMIUM HELICAL IN-LINE

eVOX

### EVOX CP Series

Bonfiglioli EVOX CP offers both easy machine integration, thanks to its standardized footprint, and high-performance, leveraging on high quality helical gear design. With its lifetime lubrication and a unique oil level for all mounting positions, CP guarantees minimal maintenance effort. In addition, the smooth surface design ease cleaning requirements. Available in feet and/or flange variants, the EVOX CP can be adopted in a wide range of application.



ATEX AVAILABLE

### MAIN BENEFITS

- Overall dimension in line with market standards
- Easy-Clean shape
- Compact design for high torque density and maximum power
- Low warehousing cost, thanks to the distinctive universal mounting
- Safe operation in potentially explosive atmospheres

### MAIN OPTIONS

Stages		Version			Adapter			
2 STAGES	3 STAGES	FEET AND FLANGE	FEET	FLANGE	IEC	COMPACT	NEMA	SOLID INPUT SHAFT
Oil seal (single/double)		Oil type			Environment			
NBR	FKM	SYNTHETIC	MINERAL	FOOD GRADE	STAINLESS STEEL SHAFT AND PLUG			
Surface protection		Backlash	Bearings	Solid shafts				
PAINTING CLASS UP TO C5		REDUCED BACKLASH	REINFORCED BEARINGS	METRIC IMPERIAL				

### TECHNICAL DATA

Sizes	Nominal torque <sup>(1)</sup>		Gear ratio range	Max. adapter size	
	[Nm]			IEC	NEMA
CP 07	55		2.8-81.2	56-71	56C
CP 17	100		2.4-85.9	63-80	56C-145TC
CP 37	200		2.3-133	63-90	56C-184TC
CP 47	335		2.4-172	63-112	56C-184TC
CP 57		500		Coming Soon	
CP 67		600		Coming Soon	

(1) The Nominal Torque is the torque rating representative of the size. The value can change with gear ratio.





## UNIVERSAL WORM

### VF/W Series

Bonfiglioli's world-renowned VF/W Series since 1956 delivers unwavering quality alongside cost effectiveness. Absolute flexibility comes as standard with a wide variety of mounting options, shaft configurations and motor interfaces.

Furthermore, with several patented manufacturing techniques, the Bonfiglioli VF/W Series stands out for its long operating lifetime and reliability.



ATEX AVAILABLE

### MAIN BENEFITS

- Minimized mounting space
- Designed for enduring performance
- Reduced downtime by effectively absorbing peak loads
- Low noise
- Safe operation in potentially explosive atmospheres

### MAIN OPTIONS

Stages			Version		Adapter			
1 STAGE	1 STAGE + PRESTAGE	COMBINED 2*(1 STAGE)	FEET	FLANGE	IEC	COMPACT	NEMA	SOLID INPUT SHAFT
Input shaft	Oil seal		Oil type		Valve	Cover		
EXTENDED SHAFT	NBR	FKM	SYNTHETIC	FOOD GRADE	BREATHER PLUG	SAFETY COVER		
Plug-In Output Shaft	Bearings	Surface protection	Torque limiter	Torque arm				
DOUBLE	IMPERIAL	REINFORCED BEARINGS	PAINTING CLASS UP TO C5	EMBEDDED TORQUE LIMITER TORQUE ARM				

### TECHNICAL DATA

Sizes	Nominal torque <sup>(1)</sup> [Nm]	Gear ratio range i	Max. adapter size		
			IEC B14	IEC B5	NEMA
VF 27	13	7-70		27	
VF 30	24	7-70	56-63	56-63	42C
VF 44	55	7-6000	56 <sup>(2)</sup> -71	63-71	42C <sup>(2)</sup> -56C
VF 49	88	7-6000	63-80	63-80	56C
W 63	190	7-7000	56 <sup>(2)</sup> -90	56 <sup>(2)</sup> -90	42C <sup>(2)</sup> -145C
W 75	320	7-10000	63 <sup>(2)</sup> -112	63 <sup>(2)</sup> -112	56C-184TC
W 86	440	7-10000	63 <sup>(2)</sup> -112	63 <sup>(2)</sup> -112	56C-184TC
W 110	830	7-10000	63 <sup>(2)</sup> -112	63 <sup>(2)</sup> -132	56C <sup>(2)</sup> -215TC
VF 130	1,500	7-10000	71 <sup>(2)</sup> -90 <sup>(2)</sup>	71 <sup>(2)</sup> -132	56C <sup>(2)</sup> -145TC <sup>(2)</sup>
VF 150	2,000	7-10000	80 <sup>(2)</sup> -112 <sup>(2)</sup>	71 <sup>(2)</sup> -160	56C <sup>(2)</sup> -184TC <sup>(2)</sup>
VF 185	3,600	7-10000	80 <sup>(2)</sup> -112 <sup>(2)</sup>	71 <sup>(2)</sup> -180	56C <sup>(2)</sup> -184TC <sup>(2)</sup>
VF 210	5,000	7-10000		90 <sup>(2)</sup> -225	
VF 250	7,100	7-10000		90 <sup>(2)</sup> -225	

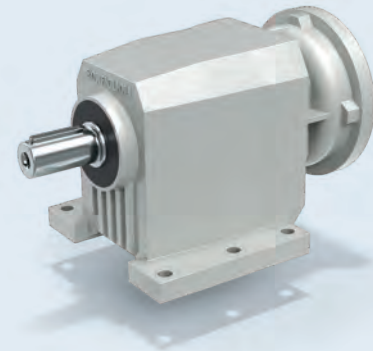
(1) The Nominal Torque is the torque rating representative of the size. For the VF-W series, it is calculated in single stage configuration at 500 rpm.

(2) Available only in combined version.

## HELICAL IN-LINE

### C Series

The C Series delivers unwavering reliability, efficiency and power. Its robust design and wide torque range handle demanding applications with ease. Find your perfect match: choose from 2, 3, or 4-stage gearboxes to achieve the precise speed and output you need. Whether for powering conveyor belts or packaging machines, the C Series adapts to your needs.



ATEX AVAILABLE

### MAIN BENEFITS

- Wide applicability thanks to the extreme range of ratios
- High stiffness for dynamic application
- Wide output speed range
- Safe operation in potentially explosive atmospheres

### MAIN OPTIONS

Stages			Version		Adapter				
2 STAGES	3 STAGES	4 STAGES	FEET	FLANGE	IEC	COMPACT	NEMA	SERVO	SOLID INPUT SHAFT
Oil seal (single/double)		Oil type			Valve	Backlash			
NBR	FKM	SYNTHETIC	MINERAL	FOOD GRADE	BREATHER PLUG	REDUCED BACKLASH			
Backstop	Solid shafts		Surface protection						
BACKSTOP	METRIC	IMPERIAL	PAINTING CLASS UP TO C5						

### TECHNICAL DATA

Sizes	Nominal torque <sup>(1)</sup>	Gear ratio range	Max. adapter size	
	[Nm]		i	IEC
C 05	45	5.5-44.7	- <sup>(2)</sup>	- <sup>(2)</sup>
C 12	100	2.8-66.2	63-112	56C-180TC
C 22	200	2.7-261.0	63-112	56C-180TC
C 32	300	2.9-274.7	63-132	56C-210TC
C 36	450	2.7-848.5	63-132	56C-210TC
C 41	600	2.7-855.5	63-132	56C-210TC
C 51	1,000	2.6-884.9	63-180	56C-280TC
C 61	1,600	2.8-796.1	63-180	56C-280TC
C 70	2,300	4.6-1476	63-200	56C-280TC
C 80	4,000	5.6-1481	63-225	56C-320TC
C 90	7,200	5.2-1240	63-250	56C-320TC
C 100	12,000	4.9-1081	63-280	56C-320TC

(1) The Nominal Torque is the torque rating representative of the size. The value can change with gear ratio.

(2) Only available as compact gearmotor

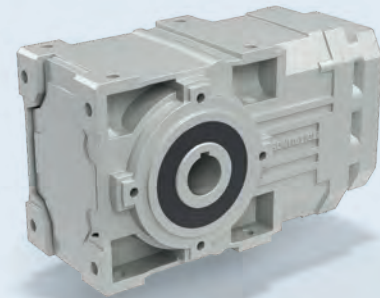


## HELICAL BEVEL

### A Series

The A series Combines high efficiency and reliability, low maintenance costs and a wide torque range.

The gear set combination makes this the most efficient and durable right-angle solution among the Industrial Gearboxes portfolio.



ATEX AVAILABLE

### MAIN BENEFITS

- Reduced installation space
- Wide output speed range
- High stiffness for dynamic application
- Safe operation in potentially explosive atmospheres

### MAIN OPTIONS

Stages			Version	Torque arm	Adapter				
2 STAGES	3 STAGES	4 STAGES	FLANGE	TORQUE ARM	IEC	COMPACT	NEMA	SERVO	SOLID INPUT SHAFT
Oil seal (single/double)			Oil type		Valve	Surface protection			
TACONITE	NBR	FKM	SYNTHETIC	FOOD GRADE	BREATHER PLUG	PAINTING CLASS UP TO C5			
Cover	Backlash	Backstop	Output Shaft (metric or imperial)			Bearings			
SAFETY COVER	REDUCED BACKLASH	BACKSTOP	HOLLOW SHAFT (keyed or with shrink disk or splined)	SOLID SINGLE	SOLID DOUBLE	REINFORCED BEARINGS			

### TECHNICAL DATA

Sizes	Nominal torque <sup>(1)</sup>	Gear ratio range	Max. adapter size	
	[Nm]		IEC	NEMA
A 05	100	5.5 - 91.6	63-80	56C-140TC
A 10	150	5.5 - 91.6	63-112	56C-180TC
A 20	250	5.4 - 380.9	63-112	56C-180TC
A 30	410	5.4 - 400.8	63-112	56C-180TC
A 35	600	5.4 - 393.2	63-132	56C-210TC
A 41	850	5.2 - 376.8	63-132	56C-210TC
A 50	1,500	7.7 - 778.2	63-180	56C-280TC
A 55	2,000	4.9 - 793.0	63-180	56C-280TC
A 60	2,800	7.9 - 755.4	63-180	56C-280TC
A 70	5,000	9.4 - 1715.0	63-200	56C-280TC
A 80	8,000	9.8 - 1558.0	63-225	56C-320TC
A 90	14,000	9.7 - 1632.0	63-250	56C-320TC

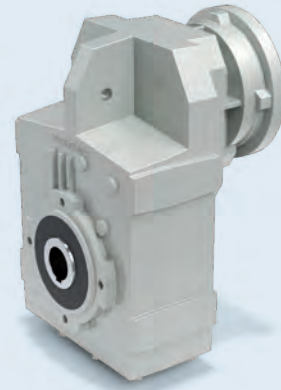
(1) The Nominal Torque is the torque rating representative of the size. The value can change with gear ratio.



## HELICAL PARALLEL

### F Series

The F series gearbox is a versatile and compact solution for demanding applications. Its layout, the lateral holes for side mounting and the embedded torque arm minimize the mounting space and simplify installation. Its forced gear-shaft mounting ensures high torsional rigidity and precise operation, even in dynamic applications. The F series also offers a wide ratio range, making it suitable for various needs.



### MAIN BENEFITS

- Reduced installation space
- Wide output speed range
- High stiffness for dynamic application
- Safe operation in potentially explosive atmospheres

### MAIN OPTIONS

Stages			Version	Adapter				
2 STAGES	3 STAGES	4 STAGES	FLANGE	IEC	COMPACT	NEMA	SERVO	SOLID INPUT SHAFT
Antivibration	Oil seal (single/double)		Oil type			Valve	Backlash	
BUSHING KIT FOR TOUQE ARM	NBR	FKM	SYNTHETIC	MINERAL	FOOD GRADE	BREATHER PLUG	REDUCED BACKLASH	
Backstop	Output Shaft (metric or imperial)		Bearings	Cover	Surface protection			
BACKSTOP	HOLLOW SHAFT (keyed or with shrink disk or splined)	PLUG-IN SOLID SINGLE	REINFORCED BEARINGS	SAFETY COVER	PAINTING CLASS UP TO C5			

### TECHNICAL DATA

Sizes	Nominal torque <sup>(1)</sup>	Gear ratio range	Max. adapter size	
	[Nm]		IEC	NEMA
F 10	140	7.4-127.1	63-112	56C-180TC
F 20	250	6.4-545.3	63-112	56C-180TC
F 25	400	6.9-1374	63-112	56C-180TC
F 31	600	6.9-1539	63-132	56C-210TC
F 41	1,100	6.7-1411	63-132	56C-210TC
F 51	1,800	7.2-1439	63-180	56C-280TC
F 60	2,900	9.0-1141	63-180	56C-280TC
F 70	5,000	10.0-2188	63-200	56C-280TC
F 80	8,000	10.3-1987	63-225	56C-320TC
F 90	14,000	10.3-2099	63-250	56C-320TC

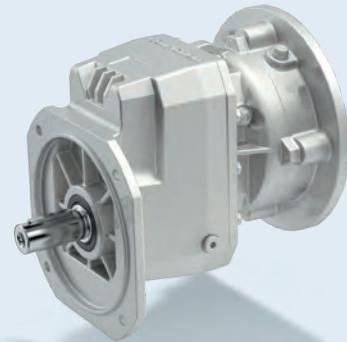
(1) The Nominal Torque is the torque rating representative of the size. The value can change with gear ratio.



## HELICAL SINGLE-STAGE

### S Series















The S Series is suitable for high-speed applications like pumps and fans. Its essential design keeps costs low, while the Unibox housing and forced gear-shaft mounting ensure robustness and precision. Low gear ratios ensure high output speeds, while its dynamic stiffness handles demanding tasks with ease. Choose S Series for power, efficiency and affordability in a compact package.



#### MAIN BENEFITS

- Specifically designed for long-term high output speed applications (pump, fan)
- Enables cost-effective, high-efficiency power transmission

#### MAIN OPTIONS

Version		Adapter			Oil type		
							
FEET	FLANGE	IEC	COMPACT	SOLID INPUT SHAFT	SYNTHETIC	MINERAL	UHI FOOD GRADE
Oil seal (single/double)		Valve	Surface protection				
							
NBR	FKM	BREATHER PLUG	PAINTING CLASS UP TO C5				
Solid Shafts		Backstop					
							
METRIC		BACKSTOP					

#### TECHNICAL DATA

Sizes	Nominal torque <sup>(1)</sup> [Nm]	Gear ratio range i	Max. adapter size IEC	Max Input Power [kW]
S 10	21	1.4-12.3	63-112	1.1
S 20	37	1.4-12.4	63-112	1.8
S 30	70	1.4-13.1	63-132	3.2
S 40	125	1.4-12.4	63-132	6.6
S 50	200	1.4-12.9	63-180	11.6

(1) The Nominal Torque is the torque rating representative of the size. The value can change with gear ratio.

# GEAR UNITS

---

Bonfiglioli offers a wide range of gearboxes, from worm gearboxes to planetary gearboxes, to meet different torque and speed requirements

## HEAVY DUTY INDUSTRIAL GEARBOXES

Go beyond the limitations of standard industrial gearboxes with our heavy-duty series.

These gearboxes represent the best in cutting-edge technology and superior materials, ensuring unparalleled performance and unwavering reliability.

Designed to deliver superior durability, increased mechanical torque range and top-tier performance under demanding environmental conditions, our heavy-duty gearboxes are the prime choice for rigorous industrial applications





## PLANETARY

### 300M Series

The 300M Series is an outstanding solution for all heavy-duty applications where compactness and flexibility are a must. Thanks to its modular design, the 300M series can be customized to match an extremely wide range of applications. This planetary gearbox achieves top-class flexibility thanks to the various available output and input configurations and the compatibility with both electric and hydraulic motors. Furthermore, it has a highly transmissible torque/weight ratio and operates without unwanted downtime even in harsh environment or in potentially explosive gas and dust atmospheres



ATEX AVAILABLE

### MAIN BENEFITS

- High torque density & peak load capacity
- Max flexibility & high performance to meet any reduction ratio
- Minimized mounting space and weight
- Low maintenance costs

### MAIN OPTIONS

Design	Stages	Input versions
IN-LINE RIGHT ANGLE	1 STAGE 2 STAGES 3 STAGES 4 STAGES	INPUT KEYED SHAFT IEC NEMA HYDRAULIC
Cooling	Oil seal (single/double)	Surface protection
INPUT FAN IEC/NEMA with integrated fan AIR/OIL COOLING UNIT	NBR FKM TACONITE	PAINTING CLASS UP TO C5
Torque arm	Output versions	Output fittings
TORQUE ARM	HOLLOW SHAFT SOLID SHAFT FLANGE FEET	FLANGE SHRINK DISK PINION

### TECHNICAL DATA

Sizes	Nominal torque <sup>(1)</sup>	Gear ratio range	Adapter size range	
	[Nm]		IEC	NEMA
300	1,250	3.48-2692	71-132	N56-N280
301	2,460	3.48-2692	71-132	N56-N280
303	2,970	3.60-2799	71-200	N56-N280
304	3,960	3.60-2453	71-200	N56-N280
305	5,800	3.60-2799	71-200	N56-N280
306	10,840	3.60-2916	71-250	N56-N360
307	15,680	3.43-2423	71-250	N56-N360
309	23,240	3.43-2423	71-250	N56-N360
310M	33,460	4.09-2523	71-250	N56-N360
311M	49,210	4.09-2096	71-250	N56-N360
313M	60,940	4.14-2187	71-250	N56-N360
314M	80,640	4.25-1796	132-250	N250-N360
315M	100,800	4.25-1805	132-250	N250-N360
316M	134,390	4.25-1553	132-250	N320-N360
317M	207,490	4.09-1893	132-250	N320-N360
318M	297,550	4.40-1059	180-250	N320-N360
319	471,190	4.08-1389	180-250	N320-N360
321	655,740	4.44-1122	180-250	N320-N360
323	890,310	4.60-1280	200-250	N400
325	1,286,000	4.60-1280	200-250	N400

(1) The Nominal Torque is the torque rating representative of the size. The value can change with gear ratio



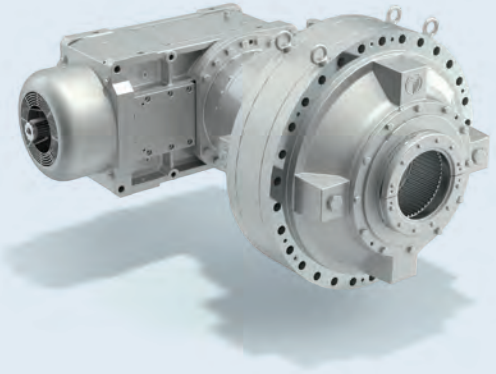
## COMBINED PLANETARY/HELICAL BEVEL HEAVY DUTY

### 3/H Series

The 3/H Series combines the high-torque density of planetary gear units with the robustness, optimized cooling efficiency and high-speed operation of the heavy-duty helical bevel products.

This configuration can provide great power transmission in a very compact space. It is designed to meet the needs of high power in a wide range of high output speeds, while complying with all thermal limits.

The 3/H series also comes with a set of features including cooling circuits, adapted to the customer's needs.

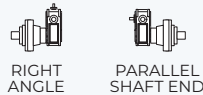


### MAIN BENEFITS

- High thermal rating
- Suitable for all heavy-duty applications
- High shock resistance
- Designed to handle the most demanding motor loads
- Wide range of options and equipment

### MAIN OPTIONS

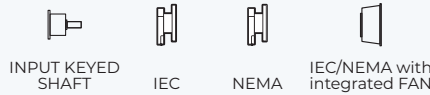
#### Design



#### Output versions



#### Input versions



#### Auxiliary thermal device



#### Forced lubrication



#### Backstop



#### Oil seal



#### Oil sensor



#### Torque arm



#### Surface protection



### TECHNICAL DATA

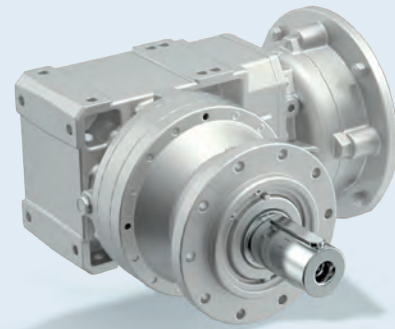
Sizes	Nominal torque <sup>(1)</sup>	Gear ratio range	Adapter size range	
	[Nm]		IEC	NEMA
3/HDO 15	100,800	95.6 - 951	112 - 315	N180 - N400
3/HDO 16	134,390	93.5 - 917	112 - 315	N180 - N400
3/HDO 17	207,490	102 - 943	132 - 315	N210 - N440
3/HDO 18	297,550	99 - 964	112 - 315	N180 - N440
3/HDO 19	471,190	89 - 1010	112 - 315	N180 - N440
3/HDO 21	655,740	120 - 960	132 - 315	N210 - N440
3/HDO 23	890,310	122 - 937	160 - 315	N250 - N440
3/HDO 25	1,286,000	139 - 107	160 - 315	N250 - N440

(1) The Nominal Torque is the torque rating representative of the size. The value can change with gear ratio.

## COMBINED PLANETARY/HELICAL BEVEL HEAVY DUTY

### 3/A Series

The Bonfiglioli 3/A Series combines the high torque density of planetary gear units with the robustness and high speed of helical bevel products. This configuration provides great power transmission in a very compact space, thanks also to its angular layout. The 3/A Series is available for the lower range of the 300M Series and represents a smart path to medium-duty power transmission for the industrial market. With its broad e-motor portfolio, Bonfiglioli can always provide customers an outstandingly balanced solution in terms of efficiency, dynamics and cost-effectiveness.



ATEX AVAILABLE

### MAIN BENEFITS

- High torque density & peak load capacity
- Modular and adaptable solution
- Low maintenance costs
- Minimized mounting space

### MAIN OPTIONS

#### Design



RIGHT ANGLE



SOLID SHAFT (splined, key)



FEET (splined, key)



HOLLOW SPLINED SHAFT



SHAFT MOUNTED

#### Output versions

#### Output fittings



FLANGED SHAFT



SHRINK DISK



INPUT KEYED SHAFT



IEC



NEMA



COMPACT

#### Input versions

#### Oil type



SYNTHETIC

#### Oil seal



NBR



FKM

#### Surface protection



PAINTING CLASS UP TO C5

#### Torque arm



TORQUE ARM

### TECHNICAL DATA

Sizes	Nominal torque <sup>(1)</sup>	Gear ratio range	Adapter size range	
	[Nm]		IEC	NEMA
3/A 00	1,250	19.1 - 660	63 - 112	N56 - N180
3/A 01	2,460	18.8 - 665	63 - 112	N56 - N180
3/A 03	2,970	19.0 - 731	63 - 112	N56 - N180
3/A 04	3,960	18.7 - 520	63 - 132	N56 - N210
3/A 05	5,800	18.7 - 594	63 - 132	N56 - N210
3/A 06	10,840	27.7 - 671	63 - 180	N56 - N280
3/A 07	15,680	27.1 - 439	63 - 180	N56 - N280

(1) The Nominal Torque is the torque rating representative of the size. The value can change with gear ratio

## COMBINED PLANETARY/WORM

### 3/V Series

The result of over six decades of mastery in worm and planetary gear drive technologies, this series embodies the convergence of unparalleled power and exceptional performance.

The 3/V Series is meticulously engineered for unwavering reliability. Its robust design thrives under relentless stress, including frequent start-stop cycles and harsh environments. This includes potentially explosive gas and dust atmospheres.

The 3/V Series boasts remarkable versatility thanks to its modular design. With a wide range of gear ratios, options and mounting configurations, it adapts to unique needs.



ATEX AVAILABLE

### MAIN BENEFITS

- Modular and adaptable solution
- Low maintenance costs
- Minimized mounting space

### MAIN OPTIONS

#### Design



RIGHT ANGLE



SOLID SHAFT  
(splined, key)



FEET  
(splined, key)



HOLLOW  
SPLINED SHAFT



SHAFT  
MOUNTED

#### Output versions

#### Output fittings



FLANGED  
SHAFT



SHRINK  
DISK



INPUT KEYED  
SHAFT



IEC



NEMA



COMPACT

#### Input versions

#### Oil type



SYNTHETIC

#### Oil seal (single/double)



NBR



FKM

#### Surface protection



PAINTING CLASS  
UP TO C5

#### Torque arm



TORQUE ARM

### TECHNICAL DATA

Sizes	Nominal torque <sup>(1)</sup>	Gear ratio range	Adapter size range	
	[Nm]		IEC	NEMA
3/V 00	1,250	415 - 2337	63 - 80	N56
3/V 01	2,460	430 - 2337	63 - 80	N56
3/V 03	2,970	395 - 2511	71 - 90	N56 - N140
3/V 04	3,960	384 - 2366	71 - 112	N56 - N180
3/V 05	5,800	396 - 2232	71 - 112	N56 - N180
3/V 06	10,840	395 - 2588	71 - 112	N56 - N180
3/V 07	15,680	386 - 2472	80 - 132	N140 - N210
3/V 09	23,240	370 - 2472	100 - 160	-
3/V 10M	33,640	436 - 4959	100 - 160	N56 - N180
3/V 11M	49,210	430 - 5326	80 - 180	N140 - N210
3/V 13M	60,940	370 - 5046	80 - 180	N140 - N210
3/V 14M	80,640	397 - 4959	100 - 180	-
3/V 15M	100,800	386 - 5234	100 - 225	-
3/V 16M	132,390	397 - 4950	100 - 225	-
3/V 17M	207,490	405 - 4970	100 - 225	-
3/V 18M	297,550	765 - 5099	132 - 225	-
3/V 19	471,190	2582 - 5164	132 - 225	-
3/V 21	655,740	1062 - 5040	132 - 225	-

(1) The Nominal Torque is the torque rating representative of the size. The value can change with gear ratio.

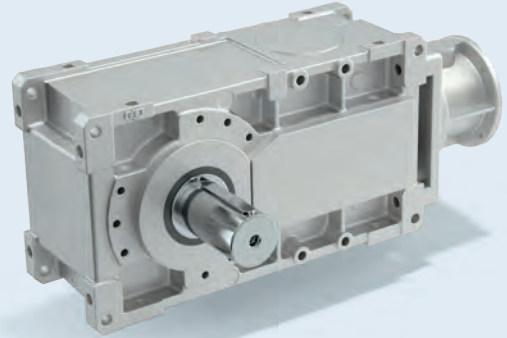


## HELICAL BEVEL HEAVY DUTY

### HDO Series

The HDO gearbox series is engineered to handle a wide range of heavy-duty applications. Built with top quality materials and cutting-edge technology, the HDO Series delivers exceptional torque, high reliability and a long life, even in harsh environments or in potentially explosive gas and dust atmospheres. Its high-quality construction ensures maximum torque output, minimizing maintenance and downtime.

With flexible right-angle shaft configurations and a wide range of options and accessories, the HDO Series can be customized to meet the unique requirements of your application.






























 | ATEX AVAILABLE

### MAIN BENEFITS

- Low maintenance costs
- Minimized mounting space
- Long term stock

### MAIN OPTIONS

Stages			Output shafts			Shaft arrangement	
 2 STAGES	 3 STAGES	 4 STAGES	 DOUBLE SHAFT	 SINGLE SHAFT (right or left)	 HOLLOW SHAFT (keyed or with shrink disk)	 DOUBLE INPUT SHAFT (lateral and/or upper)	
Input versions				Auxiliary thermal device			
 INPUT KEYED SHAFT	 IEC	 NEMA	 IEC/NEMA with integrated FAN	 INPUT FAN	 COOLING COIL	 AUTONOMOUS COOLING UNIT	 HEATERS
Forced lubrication		Drywell	Backstop	Bearings	Oil seal		
 MECHANICAL OR ELECTRIC PUMP		 DRYWELL	 BACKSTOP	 REINFORCED BEARINGS	 TACONITE	 NBR	 FKM
Filters		Oil sensor		Torque arm	Surface protection		
 DESICCANT BREATHER FILTER		 THERMOSTAT	 OIL LEVEL INDICATOR	 TORQUE ARM	 PAINTING CLASS UP TO C5		

### TECHNICAL DATA

Sizes	Nominal torque <sup>(1)</sup>	Gear ratio range	Adapter size range	
	[Nm]		i	IEC
HDO 71	8,990	5.6 - 500	132 - 225	N210 - N360
HDO 81	14,740	5.6 - 500	132 - 225	N210 - N360
HDO 91	21,610	7.1 - 500	160 - 280	N250 - N400
HDO 95	23,200	20.0 - 500	160 - 280	N250 - N400
HDO 100	28,210	5.6 - 355	112 - 315	N180 - N400
HDO 110	31,790	6.3 - 400	112 - 315	N180 - N400
HDO 120	41,250	6.3 - 400	132 - 315	N210 - N440
HDO 125	49,240	7.1 - 450	132 - 315	N210 - N440
HDO 130	69,570	5.6 - 355	160 - 315	N250 - N440
HDO 140	87,060	6.3 - 400	160 - 315	N250 - N440
HDO 150	117,200	5.6 - 250	160 - 315	-
HDO 160	147,070	7.1 - 280	160 - 315	-

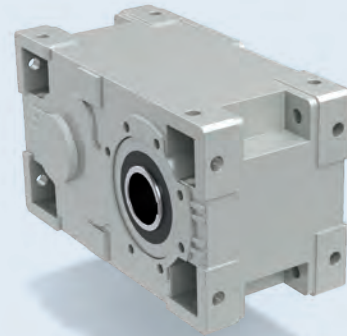
(1) The Nominal Torque is the torque rating representative of the size. The value can change with gear ratio



## HELICAL PARALLEL SHAFT HEAVY DUTY

### HDP Series

The HDP gearbox series is engineered to handle a wide range of heavy-duty applications. Built with top quality materials and cutting-edge technology, the HDP Series delivers exceptional torque, high reliability and a long life, even in harsh environments or in potentially explosive gas and dust atmospheres. Its high-quality construction ensures maximum torque output, minimizing maintenance and downtime. With flexible parallel shaft configurations and a wide range of options and accessories, the HDP Series can be customized to meet the unique requirements of your application.



ATEX AVAILABLE

### MAIN BENEFITS

- Low maintenance costs
- Minimized mounting space
- Long term stock

### MAIN OPTIONS

Stages			Output shafts			Shaft arrangement	
2 STAGES	3 STAGES	4 STAGES	DOUBLE SHAFT	SINGLE SHAFT (right or left)	HOLLOW SHAFT (keyed or with shrink disk)	DOUBLE INPUT SHAFT	
Input versions				Auxiliary thermal device			
INPUT KEYED SHAFT	IEC	NEMA	IEC/NEMA with integrated FAN	INPUT FAN	COOLING COIL	AUTONOMOUS COOLING UNIT	HEATERS
Forced lubrication		Drywell	Backstop	Bearings	Oil seal		
MECHANICAL OR ELECTRIC PUMP		DRYWELL	BACKSTOP	REINFORCED BEARINGS	TACONITE	NBR	FKM
Filters		Oil sensor		Torque arm	Surface protection		
DESICCANT BREATHER FILTER		THERMOSTAT		TORQUE ARM	PAINTING CLASS UP TO C5		

### TECHNICAL DATA

Sizes	Nominal torque <sup>(1)</sup>	Gear ratio range	Adapter size range	
	[Nm]		IEC	NEMA
HDP 60	5,190	7.1 - 100	132 - 225	N210 - N360
HDP 70	7,080	8.0 - 112	132 - 225	N210 - N360
HDP 80	12,600	8.0 - 112	160 - 280	N250 - N400
HDP 90	17,900	8.0 - 112	160 - 280	N250 - N400
HDP 100	28,210	7.1 - 500	112 - 315	N180 - N400
HDP 110	31,790	8.0 - 500	112 - 315	N180 - N400
HDP 120	41,250	8.0 - 500	132 - 315	N210 - N440
HDP 125	49,240	9.0 - 500	132 - 315	N210 - N440
HDP 130	69,570	7.1 - 500	160 - 315	N250 - N440
HDP 140	87,060	8.0 - 500	160 - 315	N250 - N440
HDP 150	117,200	8.0 - 315	160 - 315	-
HDP 160	147,070	9.0 - 355	160 - 315	-

(1) The Nominal Torque is the torque rating representative of the size. The value can change with gear ratio

# GEAR UNITS

---

Bonfiglioli offers a wide range of gearboxes, from worm gearboxes to planetary gearboxes, to meet different torque and speed requirements

## PRECISION PLANETARY GEARBOXES

Since decades, Bonfiglioli is a trusted partner for innovative, efficient and highly reliable precision planetary gearboxes (PPGs).

Engineered for excellence, our PPGs offer unmatched quality, extreme compactness and a wide variety of configurations, enabling long lasting operation in dynamic applications.

**(P)** PERFORMANCE LINE

**(E)** EFFECTIVE LINE

## PRECISION PLANETARY INLINE GEARBOXES

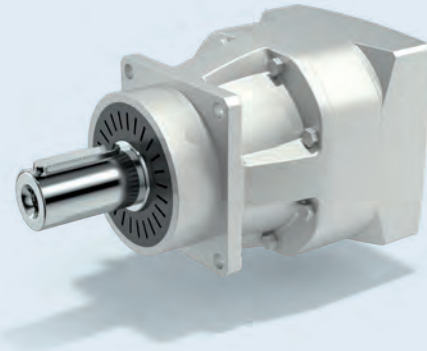
(P)

### TQ Series

The TQ series scores across all performance categories, offering high torque density, good overload capacity, high precision and extreme stiffness.

Specifically designed to meet the rigorous demands of servo systems, the TQ range is ideally suited for applications requiring rapid dynamics and precise positioning.

Its robust design ensures reliability and efficiency even in the most challenging operational conditions.



### MAIN BENEFITS

- Maximum power density across the Precision Gearbox range
- Ideal for applications with demanding load cycles with strong accuracy requirements and high dynamics
- The reinforced bearings option allows TQ to work in applications with challenging external loads
- Easy retrofit thanks to an output interface widely available in the market
- Suited to various environments thanks to its IP65 protection class

### MAIN OPTIONS

#### Input versions



#### Lubrication



#### Output shafts versions



#### Bearings versions



#### Service type



### TECHNICAL DATA

Sizes	Nominal torque <sup>(1)</sup> [Nm]	Gear ratio range i	Torsional Backlash <sup>(1)</sup>		Torsional Stiffness [Nm/arcmin]	Max Tilting Moment [Nm]
			Reduced	Standard		
060	30	3-100	2	4	4,8	129,5
070	70	3-100	2	4	11,3	343 <sup>(2)</sup>
090	200	3-100	2	3	28	772 <sup>(2)</sup>
130	400	3-100	2	3	59	1233
160	800	3-100	2	3	170	2331

1) Best available value for each size.

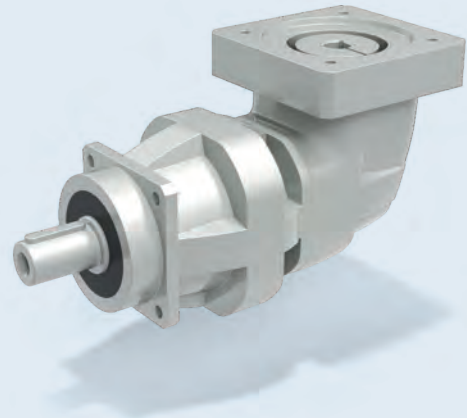
2) Valid for "Reinforced bearings" version.

## PRECISION PLANETARY RIGHT ANGLE GEARBOXES

(P)

### TQK Series











The TQK right-angle series presents an ideal solution for space-saving needs while maintaining the superior performance levels inherited from the TQ inline series. This series is particularly suited for the highly demanding requirements of servo systems, such as fast dynamic response, frequent reverse motion, precise position and high number of starts and stops.



### MAIN BENEFITS

- Maximum power density across the Precision Gearbox range
- Ideal for applications with demanding load cycles with strong accuracy requirements and high dynamics
- Reinforced bearings option allows TQ to work in applications with challenging external loads
- Easy retrofit thanks to an output interface widely available in the market
- Compact right-angle design for tight installation space
- Fits various environments thanks to its IP65 protection class

### MAIN OPTIONS

<b>Input versions</b>		<b>Lubrication</b>		<b>Output shafts versions</b>	
					
MOTOR ADAPTER	WITHOUT MOTOR ADAPTER	STANDARD	UHI FOOD GRADE	SMOOTH KEYLESS SHAFT	KEYED SHAFT
<b>Bearings versions</b>			<b>Service type</b>		
					
STANDARD	REINFORCED	S1	S5		

### TECHNICAL DATA

Sizes	Nominal torque <sup>(1)</sup> [Nm]	Gear ratio range i	Torsional Backlash <sup>(1)</sup>		Torsional Stiffness [Nm/arcmin]	Max Tilting Moment [Nm]
			Reduced	Standard		
060	30	6-200	5	6	4,8	129,5
070	70	6-200	5	6	11,3	343 <sup>(2)</sup>
090	200	6-200	4	5	28	772 <sup>(2)</sup>
130	400	6-200	4	5	59	1233
160	800	6-200	4	5	170	2331

1) Best available value for each size.

2) Valid for "Reinforced bearings" version.

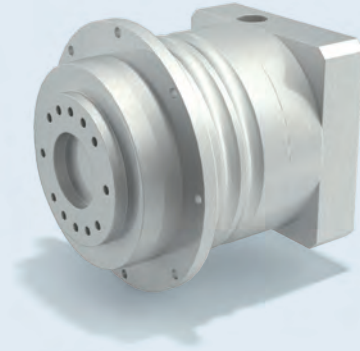


## PRECISION PLANETARY INLINE GEARBOXES

(P)

### TQF Series

The TQF series represent the best solution for precision applications requiring high overloads and direct mounting to rotating flange shaft. It features a standardized output interface and a very compact design on all of the 5 available sizes. High tilting moment, high stiffness and overload capacity characterize the design of TQF.



### MAIN BENEFITS

- TQF extreme torsional stiffness ensures ideal path accuracy even in case of frequent overloads
- Robust installation thanks to the standardized output flange interface
- Dedicated design for continuous (S1) or intermittent (S5) duty cycles
- Fits various environments thanks to its IP65 protection class

### MAIN OPTIONS

#### Input versions



#### Lubrication



#### Service type



### TECHNICAL DATA

Sizes	Nominal torque <sup>(1)</sup> [Nm]	Gear ratio range i	Torsional Backlash <sup>(1)</sup>		Torsional Stiffness [Nm/arcmin]	Max Tilting Moment [Nm]
			Reduced	Standard		
060	30	4-100	3	5	12	115
070	70	4-100	3	5	29	318
090	200	4-100	3	5	70	430
130	400	4-100	3	5	180	1200
160	800	4-100	3	5	500	3700

1) Best available value for each size.

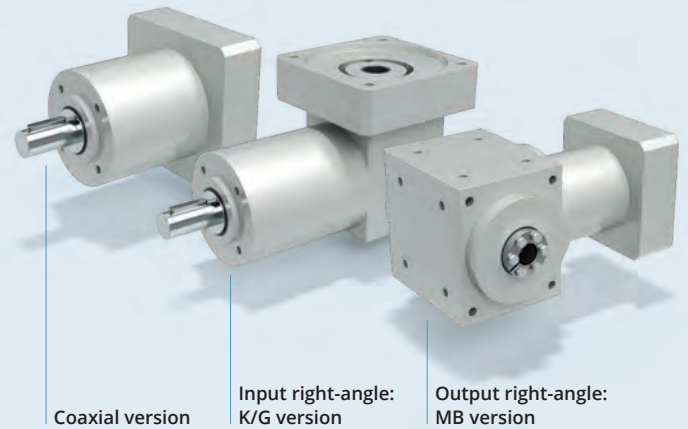
## PRECISION PLANETARY IN-LINE & RIGHT ANGLE GEARBOXES

(P)

### TR Series

In addition to optimal performance, very low backlash, high overload capacity and easy installation, the TR series is a well consolidated and reliable series, providing the best price-performance ratio in precision applications.

Featuring unparalleled modularity, the TR series offers multiple design configurations and a wide range of ratios.



Coaxial version

Input right-angle: K/G version

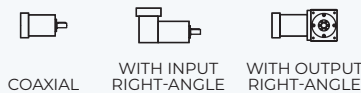
Output right-angle: MB version

### MAIN BENEFITS

- Affordable solution in applications requiring very low backlash and medium dynamics
- Maximum flexibility thanks to a wide range of gear ratios and multiple design configurations
- Great variety of input and output configurations
- Fits various environments thanks to its IP65 protection class

### MAIN OPTIONS

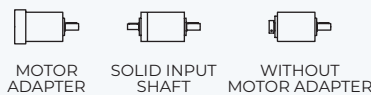
#### Design versions



#### Service type



#### Input versions



#### Lubrication



#### Output shafts versions



#### Bearings



### TECHNICAL DATA

Sizes	Nominal torque <sup>(1)</sup> [Nm]	Gear ratio range i	Torsional Backlash <sup>(1)</sup>		Torsional Stiffness [Nm/arcmin]	Max Tilting Moment [Nm]
			Reduced [arcmin]	Standard		
053	20	3-1000	-	5	1	16
060	30	3-1000	3	5	3	23
080	70	3-1000	3	5	8	155
105	170	3-1000	3	5	24	278
130	450	3-1000	3	5	45	515
160	700	3-1000	3	5	90	739
190	1000	3-1000	3	5	130	1683

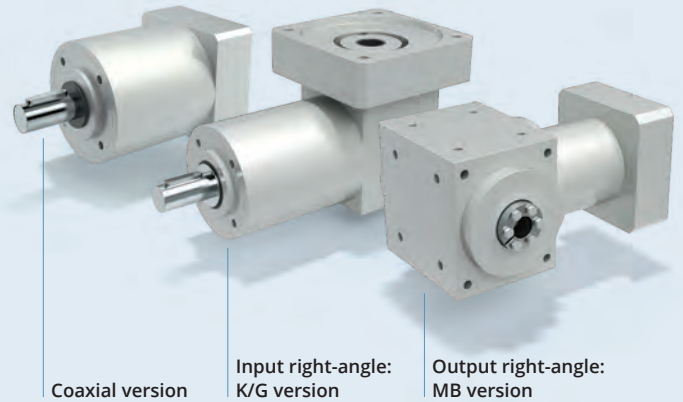
1) Best available value for each size.

## PRECISION PLANETARY IN-LINE & RIGHT ANGLE GEARBOXES



### MP Series

The MP series is distinguished by its extensive torque range across multiple sizes, exceptional modularity through numerous design configurations, a broad range of ratios, and an optimized lubrication system. This guarantees maximum reliability and provides the optimal solution for a broad range of precision applications.



### MAIN BENEFITS

- Affordable solution in applications requiring very low backlash and medium dynamics
- Maximum flexibility thanks to a wide range of gear ratios and multiple design configurations
- Great variety of input and output configurations
- Fits various environments thanks to its IP65 protection class

### MAIN OPTIONS

<b>Design versions</b>			<b>Service type</b>	
COAXIAL	WITH INPUT RIGHT-ANGLE	WITH OUTPUT RIGHT-ANGLE	S1	S5
<b>Input versions</b>			<b>Lubrication</b>	
MOTOR ADAPTER	SOLID INPUT SHAFT	WITHOUT MOTOR ADAPTER	STANDARD	FOOD GRADE
<b>Output shafts versions</b>		<b>Bearings versions</b>		
SMOOTH KEYLESS SHAFT	KEYED SHAFT	STANDARD	REINFORCED	

### TECHNICAL DATA

Sizes	Nominal torque <sup>(1)</sup> [Nm]	Gear ratio range i	Torsional Backlash <sup>(1)</sup>		Torsional Stiffness [Nm/arcmin]	Max Tilting Moment [Nm]
			Reduced [arcmin]	Standard		
053	20	3-1000	10	15	1	16
060	30	3-1000	10	15	3	23
080	70	3-1000	10	15	8	155 <sup>(2)</sup>
105	170	3-1000	10	15	24	278 <sup>(2)</sup>
130	450	3-1000	10	15	45	515
160	700	3-1000	10	15	90	739
190	1000	3-1000	10	15	130	1683

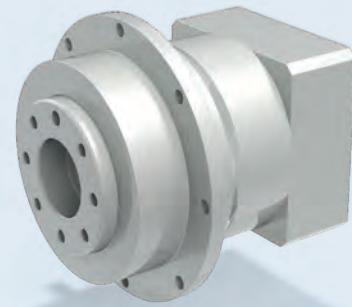
1) Best available value on 1 stage gearbox.  
2) Valid for "Reinforced bearings" version.

## PRECISION PLANETARY INLINE GEARBOXES



### TQFE Series

The TQFE series delivers a winning combination of high compactness and a standardized flange interface, thus simplifying the mounting process, making it suitable for a wide range of applications. Within our effective line the TQFE series truly shines in its ability to precisely follow the dynamic motion path through its high torsional stiffness. TQFE optimizes the balance between performance, precision, and cost, providing customers with exceptional value for their machines.

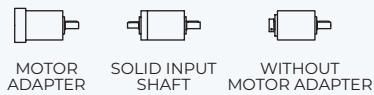


### MAIN BENEFITS

- High torsional stiffness ensures stable performance even for demanding load cycles
- High compactness
- Robust installation thanks to the standardized output flange interface, with high market compatibility

### MAIN OPTIONS

#### Input versions



#### Lubrication



### TECHNICAL DATA

Sizes	Nominal torque <sup>(1)</sup> [Nm]	Gear ratio range i	Torsional Backlash <sup>(1)</sup>		Torsional Stiffness [Nm/arcmin]	Max Tilting Moment [Nm]
			Reduced [arcmin]	Standard		
060	30	3-100	5	10	6,5	12
070	65	3-100	5	10	26	50
090	155	3-100	5	10	60	110

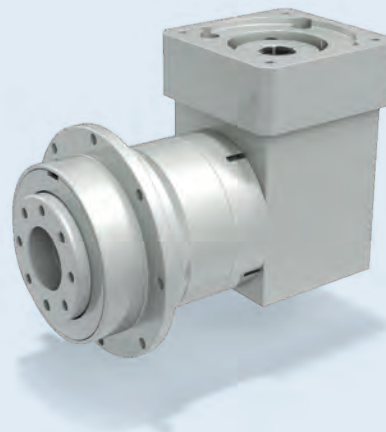
1) Best available value for each size.

## PRECISION PLANETARY RIGHT ANGLE GEARBOXES

(E)

### TQFEK Series

The TQFEK series offers optimized performance and features at an optimum value-price ratio. An exceptionally compact and standardized flange interface combined with optimal positioning accuracy make it suitable for a wide range of industrial applications. Its right-angle design allows more compactness for space-saving layouts.



### MAIN BENEFITS

- High torsional stiffness ensures stable performance even for demanding load cycles
- Robust installation thanks to the standardized output flange interface, with high market compatibility
- Compact design for space-saving layouts

### MAIN OPTIONS

#### Input versions



#### Lubrication



### TECHNICAL DATA

Sizes	Nominal torque <sup>(1)</sup> [Nm]	Gear ratio range i	Torsional Backlash <sup>(1)</sup>		Torsional Stiffness [Nm/arcmin]	Max Tilting Moment [Nm]
			Reduced [arcmin]	Standard		
060	30	3-100	7	12	6,5	12
070	65	3-100	7	12	26	50
090	155	3-100	7	12	60	110

1) Best available value for each size.

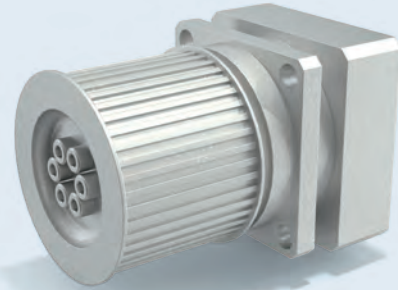


## PRECISION PLANETARY INLINE GEARBOXES

(E)

### SL Series

The SL series serves as the cornerstone for creating the most compact timing belt drive systems. This series represents the most suitable solution for belt servo-drives, precise conveyors and all other applications requiring accuracy, an ultra-compact design and high radial load capacity. Whenever radial load represents the first limitation in gearbox sizing, SL is the best option.



### MAIN BENEFITS

- Optimized for timing belt pulley drive systems thanks to the dedicated design and the integrate pulleys (option)
- Extreme compactness
- Great position accuracy

### MAIN OPTIONS

#### Input versions



#### Lubrication



#### Output shafts versions



#### High power version (P option)



### TECHNICAL DATA

Sizes	Nominal torque <sup>(1)</sup> [Nm]	Gear ratio range i	Torsional Backlash <sup>(1)</sup>		Torsional Stiffness [Nm/arcmin]	Max Tilting Moment [Nm]
			Reduced [arcmin]	Standard		
070	30	3-100	6	12	6,5	54
090	65	3-100	6	12	12	105
120	155	3-100	6	12	45	238

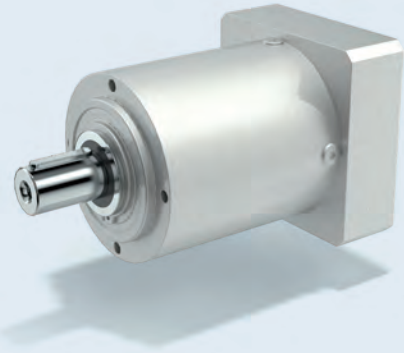
1) Best available value for each size.

## PRECISION PLANETARY INLINE GEARBOXES



### LC Series

LC precision planetary gearboxes represent a flexible solution and valuable alternative with optimal performance and reliability levels. The output design in line with market standards ensures great compatibility for easy retrofits and a high level of freedom in project development.



### MAIN BENEFITS

- Cost effective yet powerful
- Highly reliable
- High compatibility for easy retrofits

### MAIN OPTIONS

#### Input versions



#### Lubrication



#### Output shafts versions



#### High power version (P option)



HIGH POWER VERSION

### TECHNICAL DATA

Sizes	Nominal torque <sup>(1)</sup> [Nm]	Gear ratio range i	Torsional Backlash <sup>(1)</sup>		Torsional Stiffness [Nm/arcmin]	Max Tilting Moment [Nm]
			Reduced [arcmin]	Standard		
050	12	3-100	6	12	0,9	15
070	30	3-100	6	12	3	54
090	65	3-100	6	12	12	105
120	155	3-100	6	12	30	238
155	400	3-100	6	12	50	522

1) Best available value for each size.

## PRECISION PLANETARY RIGHT ANGLE GEARBOXES

(E)

### LCK Series

LCK precision planetary right-angle gearboxes represent a flexible, reliable and cost-effective solution for machines that require a very compact layout. The output design in line with market standards ensures great compatibility for easy retrofits and a high level of freedom in project development.



### MAIN BENEFITS

- Cost effective yet powerful
- High compatibility for easy retrofits
- Quiet running right-angle design, ideal for space saving machine layouts

### MAIN OPTIONS

#### Input versions



#### Lubrication



#### Output shafts versions



#### High power version (P option)



HIGH POWER VERSION

### TECHNICAL DATA

Sizes	Nominal torque <sup>(1)</sup>	Gear ratio range	Torsional Backlash <sup>(1)</sup>	Torsional Stiffness	Max Tilting Moment
	[Nm]		Standard		
		i	[arcmin]	[Nm/arcmin]	[Nm]
050	12	6-100	6	0,9	15
070	30	6-100	6	2,8	54
090	60	6-100	6	11	105
120	155	6-100	6	28,4	238
155	450	6-100	6	47,9	522

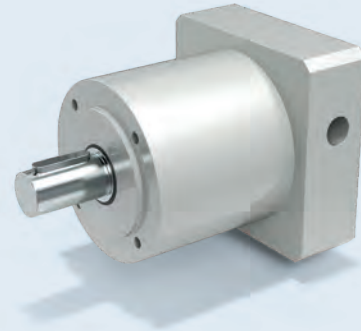
1) Best available value for each size.

## PRECISION PLANETARY INLINE GEARBOXES



### MPE Series

The MPE series offers a cost-effective solution for applications that require medium levels of positioning accuracy. It offers high flexibility in terms of sizes, ratios and mounting configurations for a variety of application requirements. The output design in line with market standards ensures great compatibility for easy retrofits and a high level of freedom in project development.

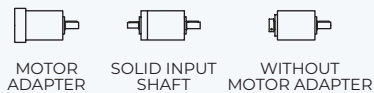


### MAIN BENEFITS

- Great price-performance ratio
- High compatibility for easy retrofits
- Suitable for a variety of applications thanks to great design flexibility

### MAIN OPTIONS

#### Input versions



#### Lubrication



#### Output shafts versions



### TECHNICAL DATA

Sizes	Nominal torque <sup>(1)</sup> [Nm]	Gear ratio range i	Torsional Backlash <sup>(1)</sup>		Torsional Stiffness [Nm/arcmin]	Max Tilting Moment [Nm]
			Reduced [arcmin]	Standard		
040	12	3-100	6	12	0,9	15
060	30	3-100	6	12	3	54
080	65	3-100	6	12	12	105
120	155	3-100	6	12	30	238

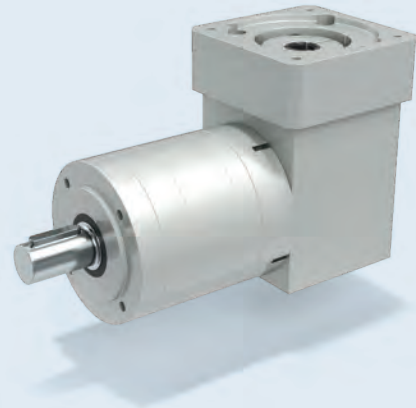
1) Best available value for each size.

## PRECISION PLANETARY RIGHT ANGLE GEARBOXES

(E)

### MPEK Series

The MPEK series offers medium levels of performance and position accuracy at a competitive value-price ratio. The output design in line with market standards ensures great compatibility for easy retrofits and a high level of freedom in project development. Its right angle-design allows more compactness for space-saving layouts.

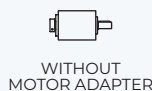


### MAIN BENEFITS

- Great price-performance ratio
- High compatibility for easy retrofits
- Suitable for a variety of applications thanks to great design flexibility
- Compact design for space-saving layouts

### MAIN OPTIONS

#### Input versions



#### Lubrication



#### Output shafts versions



### TECHNICAL DATA

Sizes	Nominal torque <sup>(1)</sup> [Nm]	Gear ratio range i	Torsional Backlash <sup>(1)</sup>		Torsional Stiffness [Nm/arcmin]	Max Tilting Moment [Nm]
			Reduced [arcmin]	Standard		
060	30	3-100	7	12	2.5	18
080	65	3-100	7	12	11	49
120	155	3-100	7	12	23.4	129

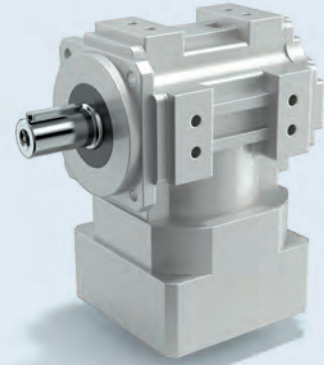
1) Best available value for each size.

## PRECISION PLANETARY RIGHT ANGLE GEARBOXES



### KR Series

The KR series provides maximum flexibility for applications requiring a right-angle solution, that fits in tight axial spaces, for medium precision motion. It is available in ratio 1:1, 1:2 and 1:5. The KR series can be adapted to any installation need by choosing among the various available options such as solid/hollow shaft, single/double shaft extension, shrink disk version and with or without output flange.



### MAIN BENEFITS

- Best solution for space saving machine layouts requiring low ratios and mid-high precision
- Adaptable to many installation needs, thanks to the wide variety of output configurations
- Dynamic applications can benefit from the reinforced bearings options and the dedicated design for continuous or intermittent duty
- Fits various environments thanks to its IP65 protection class

### MAIN OPTIONS

#### Input versions



MOTOR ADAPTER



WITHOUT MOTOR ADAPTER

#### Service type



S1



S5

#### Lubrication



STANDARD



UH1  
FOOD GRADE

#### Output shafts versions



SMOOTH KEYLESS SHAFT



HOLLOW SHAFT (keyed or with shrink disk or splined)

#### Bearings versions



STANDARD



REINFORCED

#### Output flange



WITHOUT FLANGE (threaded holes)



FLANGE (pass-through holes)

### TECHNICAL DATA

Sizes	Nominal torque <sup>(1)</sup>	Gear ratio range	Torsional Backlash <sup>(1)</sup>	Torsional Stiffness	Max Radial Load
	[Nm]		Standard		
		i	[arcmin]	[Nm/arcmin]	[N]
010	10	1-2-5	8	0,5	1000
020	24	1-2-5	8	1,4	3000 <sup>(2)</sup>
030	55	1-2-5	8	4	4000 <sup>(2)</sup>
040	120	1-2-5	8	11	5500 <sup>(2)</sup>

1) Best available value for each size

2) Valid for "Reinforced bearings" version



# ELECTRIC MOTORS

---

Bonfiglioli offers asynchronous and synchronous electric motors, in different sizes and powers, to suit any application.

## SOLUTIONS & APPLICATIONS

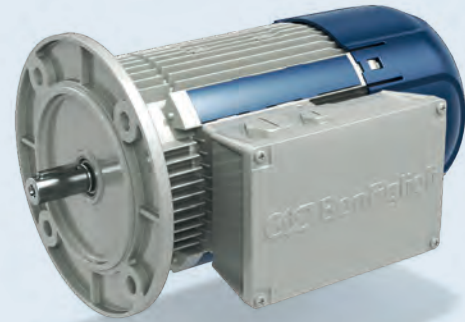
Revolutionize your industrial automation with our groundbreaking Solutions & Applications line of electric motors. These meticulously crafted motors transcend the limitations of traditional offerings, delivering unparalleled levels of customization, efficiency and performance. Unlock the true potential of your machinery and processes with motors designed to meet your exact requirements.

## IE3 EVOX



### BXN/MXN Series

Engineered for peak performance, the BXN/MXN three-phase induction motors deliver exceptional efficiency and reliability. With their modular design and customizable configurations, these motors are the ideal solution for the most demanding industrial application. With a 9-pin connection and global certifications, these motors simplify installation complexities and inventory management. Combined with Bonfiglioli frequency inverters, BXN/MXN motors deliver complete, energy-efficient solutions.



INDUCTION TECHNOLOGY

### MAIN BENEFITS

- One motor for different markets
- Easy and flexible installation
- Minimized mounting space
- Worldwide voltage coverage with the same efficiency level
- Excellent performance for heavy-duty starts and high loads

### TECHNICAL DATA

Sizes	Power [kW]
<b>4 poles</b>	
63MA	0.12
63MB	0.18
71MA	0.25
71MB	0.37
80MA	0.55
80MB	0.75
90S	1.1
90L	1.5
100LA	2.2
100LB	3
112M	4
132S	5.5
132M	7.5

### MAIN OPTIONS

<b>Design versions</b> 					<b>Global motor</b> 	<b>Insulation class</b> 	<b>IP protection</b> 
<b>Brake</b> 	<b>Anticorrosion</b> 	<b>Heaters</b> 	<b>Winding treatment</b> 	<b>Winding protection</b> 	<b>Shaft extension</b> 		
<b>Feedback</b> 	<b>Canopy</b> 						

\* Motors can also be supplied with surface protection class C5 according to UNI EN ISO 12944-2. Contact Bonfiglioli's technical service for further details.

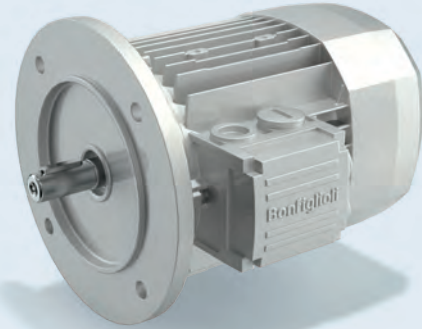
## IE3-IE4

### BSR Series

The Bonfiglioli BSR series are 3-phase synchronous reluctance motors suitable for a wide range of industrial applications.

This technology benefits from the proven reliability of an induction motor and the high efficiency and performance of a synchronous one.

For a complete solution, these motors must be operated with Bonfiglioli frequency inverters to achieve best in class sensorless speed or position control.



RELUCTANCE TECHNOLOGY

### MAIN BENEFITS

- Long life and resistance to harsh operating conditions
- No need for feedback device for positioning
- One or two sizes less compared to asynchronous motors
- Minimal maintenance required
- Sustainable solution
- Excellent performance and dynamics

### TECHNICAL DATA

Sizes		Power
High output 3000rpm	High efficiency 1500rpm	[kW]
	71B	0.37
	71C	0.55
	80B	0.75
	80C	1.1
71B	90S	1.5
71C	90L	2.2
80A	100LA	3
80B	100LB	4
80C	112M	5.5
90S	132S	7.5
90L	132MA	9.2
100LB	132MB	11
112M		15
132S		18.5
132MA		

### MAIN OPTIONS

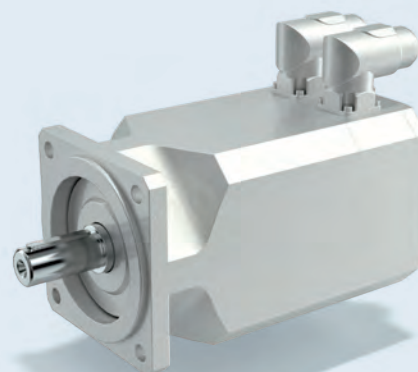
Design versions			Insulation class	IP protection	Shaft extension	Canopy	Cooling
B3	B14	B5	UP TO CL H	UP TO IP56	SECOND SHAFT	RAIN - TEXTILE CANOPY	FORCED VENTILATION
Heaters		Winding treatment	Anticorrosion	Winding protection			
ANTI CONDENSATION HEATERS	TROPICALIZATION	UP TO C5*	THERMAL PROTECTIVE DEVICES				

\* Motors can also be supplied with surface protection class C5 according to UNI EN ISO 12944-2. Contact Bonfiglioli's technical service for further details.

## SERVO

### BMD Series

The Bonfiglioli BMD series are 3-phase synchronous permanent magnet motors with compact dimensions and low/medium inertia suitable for high dynamic industrial applications and agv/amr vehicles. They meet the stringent demands for precision, dynamics and speed settings thanks to their high-quality neodymium iron boron rare-earth magnets and our excellent design. These motors are optimized for operation with frequency inverters and precision planetary gearboxes, offering an excellent synergy.



PERMANENT MAGNETS TECHNOLOGY

### MAIN BENEFITS

- Higher power and torque density compared to induction motors
- 14 feedback types, including safety encoders
- Different output interface per motor size and various connectors
- The basic product can operate sensorless with our drives
- Optimized efficiency and energy density leads to low cogging torque
- Modular structure for easy maintenance

### TECHNICAL DATA

Sizes	Rated Range [rpm]	Stall Torque [Nm]	
65	1600...6000	0.85	
65	1600...6000	1.7	
65	1600...6000	2.2	
82	1600...6000	3.2	
82	1600...6000	4.4	
102	1600...6000	4.0	
102	1600...6000	7.2	
102	1600...6000	9.6	
118	1600...6000	5.6	
118	1600...6000	10.2	
118	1600...6000	14	
145	1600...6000	16.8	21.5 <sup>(1)</sup>
145	1600...5500	22	27.5 <sup>(1)</sup>
170	1600...5500	34	44 <sup>(1)</sup>
170	1600...4500	45	60 <sup>(1)</sup>

(1) Motor with forced ventilation option

### MAIN OPTIONS

#### Design versions



UP TO 3 INTERFACE  
B5 PER SIZE

#### Supply



230V



400V

#### IP protection



UP TO IP67

#### Shafts versions



KEYLESS  
SHAFT



KEYED  
SHAFT

#### Cooling



FORCED  
VENTILATION

#### Flywheel



ADDITIONAL  
INERTIA

#### Brake



HOLDING  
BRAKE

#### Feedback



ENCODER



RESOLVER



SENSORLESS

#### Anticorrosion



UP TO C5\*

#### Winding protection



THERMAL PROTECTIVE  
DEVICES

#### Connector configuration



STRAIGHT



ROTABLE



FLYING  
LEADS

\* Motors can also be supplied with surface protection class C5 according to UNI EN ISO 12944-2. Contact Bonfiglioli's technical service for further details.

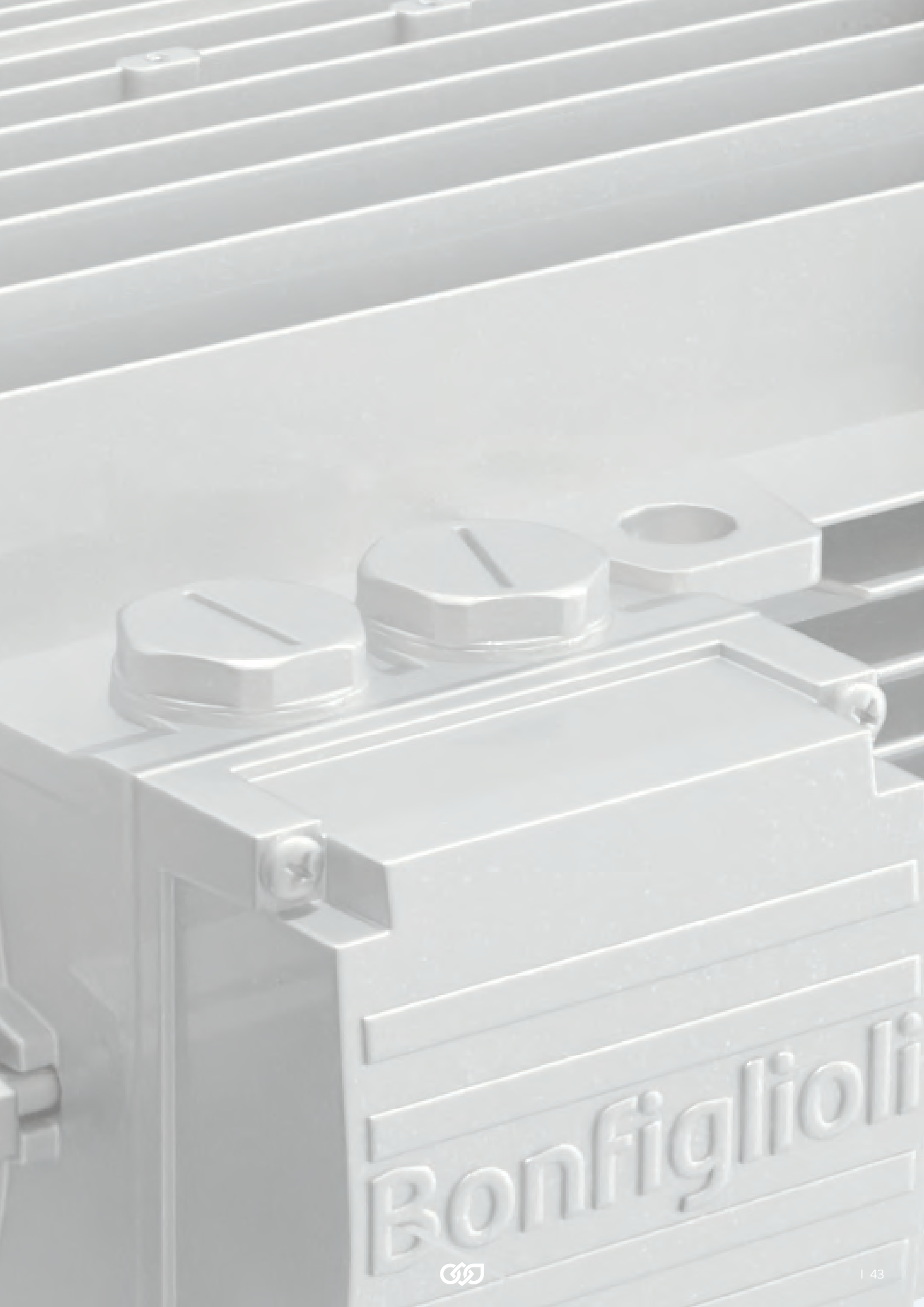
# ELECTRIC MOTORS

---

Bonfiglioli offers asynchronous and synchronous electric motors, in different sizes and powers, to suit any application.

## GENERAL PURPOSE

Our standard general-purpose motors deliver reliable performance across a wide spectrum of industrial applications. They are built with quality materials and rigorously tested to minimize downtime, ensuring your operations run smoothly and efficiently.



Bonfiglioli



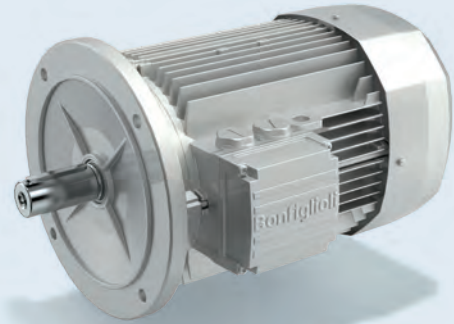


IE1

## BN/M Series <sup>(1)</sup>

The Bonfiglioli BN/M series of cost-effective 3-phase asynchronous induction motors are perfect for general purpose industrial applications.

These aluminum-framed motors offer: Availability in 2, 4, 6 poles configuration in both IEC and compact version.



INDUCTION TECHNOLOGY

### MAIN BENEFITS

- Minimized mounting space thanks to compact flanges
- Minimal maintenance required
- Easy and flexible installation
- Excellent performance for heavy-duty applications
- Many options available
- Several certifications available

### TECHNICAL DATA

Sizes			Power [kW]
2 poles	4 poles	6 poles	
	56A		0.06
	56B	63A	0.09
	63A	63B	0.12
63A	63B	71A	0.18
63B	63C	71B	0.25
	71A	71C	0.37
71A	71B	80A	0.55
71B	71C	80B	0.75
71C	80A	80C	1.1
80A	80B	90S	1.5
80B	80C	90L	1.85
90SA	90LA	100LA	2.2
90SB	90LB	100LB	3
90L	100LA	112M	4
100L	100LB	132S	5.5
112M	112M	132MA	7.5
132SA	132S	132MB	9.2
132SB	132MA	160M	11
132M	132MB	160L	15
160MR	160MR	180L	18.5
160M	160M	200LA	22
160MB	160L		30
160L	180M		
180M	180L		
200LA	200L		

### MAIN OPTIONS

Design versions				Poles	Insulation class	IP protection	Shaft extension	Cooling					
							2	4	6	UP TO CL H	UP TO IP56	SECOND SHAFT	FORCED VENTILATION
Heaters	Winding treatment	Corrosion protection	Winding protection	Brake			Feedback	Canopy	Service type				
ANTI CONDENSATION HEATERS	TROPICALIZATION	PAINTING CLASS UP TO C5 <sup>(2)</sup>	THERMAL PROTECTIVE DEVICES	DC BRAKE	RELEASE LEVER	MICRO SWITCH	ENCODER	RAIN - TEXTILE CANOPY	S2	S3			

(1) Starting July 1<sup>st</sup>, 2021, the Ecodesign Directive (EU) 2019/1781 introduces new binding energy efficiency requirements for induction motors. According to this regulation, BN/M motors are available for discontinuous duty only for powers equal and above 0.12kW.

(2) Motors can be supplied with surface protection class C5 according to UNI EN ISO 12944-2. Contact Bonfiglioli's technical service for further details.

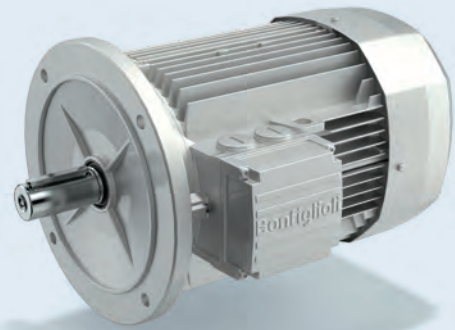


## IE2

### BE/ME Series <sup>(1)</sup>

The Bonfiglioli BE/ME series of cost-effective 3-phase asynchronous induction motors are perfect for general purpose industrial applications.

These aluminum-framed motors offer: Availability in 2, 4, 6 poles configuration in both IEC and compact version.



INDUCTION TECHNOLOGY

### MAIN BENEFITS

- Minimized mounting space thanks to compact flanges
- Minimal maintenance required
- Easy and flexible installation
- Excellent performance for heavy-duty applications
- Many options available
- Several certifications available

### TECHNICAL DATA

Sizes			Power
2 poles	4 poles	6 poles	[kW]
	63A		0.12
	63B		0.18
	71A		0.25
	71B		0.37
	80A		0.55
80A	80B	90S	0.75
80B	90S	100M	1.1
90SA	90LA	100LA	1.5
90L	100LA	112M	2.2
100L	100LB	132S	3
112M	112M	132MA	4
132SA	132S	160MA	5.5
132SB	132MA	160MB	7.5
132MB	132MB		9.2
160MA	160M		11
160MB	160L		15
160L	180M		18.5
	180L		22

### MAIN OPTIONS

<b>Design versions</b>  B3 B14 B5 B34 B35 BSR B14R				<b>Poles</b>  2 4 6			<b>Insulation class</b>  UP TO CL H	<b>IP protection</b>  UP TO IP56	<b>Shaft extension</b>  SECOND SHAFT	<b>Cooling</b>  FORCED VENTILATION
<b>Heaters</b>  ANTI CONDENSATION HEATERS	<b>Winding treatment</b>  TROPICALIZATION	<b>Corrosion protection</b>  PAINTING CLASS UP TO C5 <sup>(2)</sup>	<b>Winding protection</b>  THERMAL PROTECTIVE DEVICES	<b>Brake</b>  DC BRAKE RELEASE LEVER MICRO SWITCH			<b>Feedback</b>  ENCODER	<b>Canopy</b>  RAIN - TEXTILE CANOPY		

(1) Starting July 1<sup>st</sup>, 2021, the Ecodesign Directive (EU) 2019/1781 introduces new binding energy efficiency requirements for induction motors. According to this regulation, BE/ME motors are available for discontinuous duty only for powers equal and above 0.75kW.

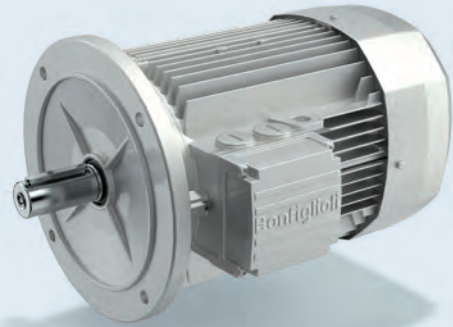
(2) Motors can be supplied with surface protection class C5 according to UNI EN ISO 12944-2. Contact Bonfiglioli's technical service for further details.

## IE3

### BX/MX Series <sup>(1)</sup>

The Bonfiglioli BX/MX series of cost-effective 3-phase asynchronous induction motors are perfect for general purpose industrial applications.

These aluminum-framed motors offer: Availability 4 poles configuration in both IEC and compact version.



INDUCTION TECHNOLOGY

### MAIN BENEFITS

- Minimized mounting space thanks to compact flanges
- Minimal maintenance required
- Easy and flexible installation
- Excellent performance for heavy-duty applications
- Many options available
- Several certifications available

### TECHNICAL DATA

Sizes	Power [kW]
4 poles	
80B	0.75
90S	1.1
90LA	1.5
100LA	2.2
100LB	3
112M	4
132S	5.5
132MA	7.5
132MB	9.2
160M	11
160L	15
180M	18.5
180L	22
200LAK	30
225SAK	37
225SBK	45
250MAK	55
280SAK	75
280BSK	90
315SAK	110
315SBK	132
315SCK	160
315MAK	200
355MAK	250
355MBK	315
355MCK	355

### MAIN OPTIONS

<b>Design versions</b>  B3 B14 B5 B34 B35 B5R B14R		<b>Insulation class</b>  UP TO CL H	<b>IP protection</b>  UP TO IP56	<b>Shaft extension</b>  SECOND SHAFT	<b>Cooling</b>  FORCED VENTILATION	<b>Heaters</b>  ANTI CONDENSATION HEATERS
<b>Winding treatment</b>  TROPICALIZATION	<b>Corrosion protection</b>  PAINTING CLASS UP TO C5 <sup>(2)</sup>	<b>Winding protection</b>  THERMAL PROTECTIVE DEVICES	<b>Brake</b>  DC BRAKE RELEASE LEVER MICRO SWITCH	<b>Feedback</b>  ENCODER	<b>Canopy</b>  RAIN - TEXTILE CANOPY	

(1) Starting July 1<sup>st</sup>, 2023, the Ecodesign Directive (EU) 2019/1781 introduces new binding energy efficiency requirements for induction motors. According to this regulation, BX heavy duty motors without brake are available for discontinuous duty only in the power range from 75 to 200kW.

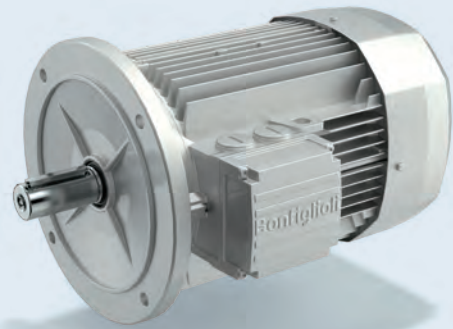
(2) Motors can be supplied with surface protection class C5 according to UNI EN ISO 12944-2. Contact Bonfiglioli's technical service for further details.



## IE4

### BY Series

The Bonfiglioli BY series from 75kW to 200kW are 3-phase asynchronous induction motors suitable for general purpose industrial applications. These cast iron-framed motors offer: Availability 4 poles configuration in IEC version.



INDUCTION TECHNOLOGY

### MAIN BENEFITS

- High torque at low speeds
- Minimal maintenance required
- Easy and flexible installation
- Excellent performance for heavy-duty applications
- Long life and resistance to harsh operating conditions

### TECHNICAL DATA

Sizes	Power [kW]
4 poles	
280SAK	75
280BSK	90
315SAK	110
315SBK	132
315SCK	160
315MAK	200

### MAIN OPTIONS

<b>Design versions</b>  B3    B5    B35			<b>Insulation class</b>  UP TO CL H		<b>IP protection</b>  UP TO IP56		<b>Shaft extension</b>  SECOND SHAFT		<b>Cooling</b>  FORCED VENTILATION	
<b>Heaters</b>  ANTI CONDENSATION HEATERS		<b>Winding treatment</b>  TROPICALIZATION		<b>Corrosion protection</b>  PAINTING CLASS UP TO C5 <sup>(1)</sup>		<b>Winding protection</b>  THERMAL PROTECTIVE DEVICES		<b>Feedback</b>  HEAVY DUTY ENCODER		<b>Canopy</b>  RAIN CANOPY

(1) Motors can be supplied with surface protection class C5 according to UNI EN ISO 12944-2. Contact Bonfiglioli's technical service for further details.

# FREQUENCY INVERTERS

---

Bonfiglioli offers frequency inverters for precise and reliable control of electric motors.

## CABINET INVERTERS

Elevate your industrial automation with Bonfiglioli's cabinet frequency inverters, where power, flexibility and intelligent control converge. Our comprehensive range of inverters seamlessly integrates with your machinery, providing you with the flexibility and performance you need to achieve peak efficiency and productivity.

## HIGH PERFORMANCE FREQUENCY INVERTER

### AxiaVert Series

Bonfiglioli AxiaVert (AXV) series is designed to allow great flexibility and top-level performance, making it suitable for a wide range of applications. Thanks to its modular system, the AxiaVert series offers integrated Functional Safety, optional encoder evaluation and open communication protocols complying with Industry 4.0 standards and an intuitive GUI for commissioning and monitoring. Whether in material working, logistics, automated storage, packaging or textiles, the frequency inverters of the AxiaVert series are optimized for numerous applications. The AxiaVert series offers integrated Functional Safety, organized into different variants, which can be selected to best suit the application's requirements, optimizing price and performance to match the machine functions.



### MAIN BENEFITS

- Selectable Functional safety features (up to SIL 3 / PL e / CAT. 4)
- Wide power range
- Versatile Communication
- High mounting flexibility
- Wide range of Encoder supports for various systems
- Customizable logic functions with internal optional PLC (IEC61131)
- Integrated PID control system
- Various Control modes incl. Position, Speed or Torque Control & CiA402-compatible Motion Control
- Easy wiring with detachable signal and power terminals (up to 15 kW)
- Macro for EPLAN<sup>(1)</sup>

### INCLUDED FIELDBUS



### CONTROLLED MOTOR TECHNOLOGY

(Sensorless or with feedback)

- Asynchronous induction
- Synchronous reluctance
- Synchronous permanent magnets

### MAIN VARIANTS

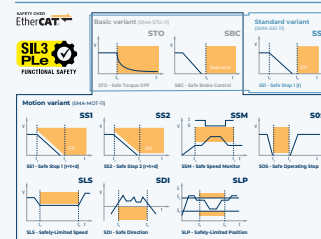
#### Mounting



#### Fieldbus



#### Functional Safety



UP TO SIL 3 / PL E / CAT. 4

#### Feedback evaluation (up to 2, e.g. for speed and position loop)

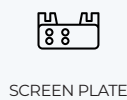


### MAIN OPTIONS

#### Detachable interfaces



#### Screen plate



#### Power accessories



### CERTIFICATIONS



### TECHNICAL DATA

Voltage		Power
[V]		[kW]
200-240 (1ph) <sup>(1)</sup>	0.25 - 3.0 in 3 frame sizes	
200-240 (3ph) <sup>(1)</sup>	0.25 - 9.2 in 4 frame sizes	
400/480 (3ph)		0.25 - 15 in 4 frame sizes

(1) coming soon





## FREQUENCY INVERTER

### ANG Series



Active Next Generation (ANG) is a motion control application inverter that can be used in servo applications and as a frequency inverter. The ANG Series offers a wide power range from 0.25 kW to 400 kW (with parallel connection of drives up to 1200 kW). It can control asynchronous and synchronous motors in open and closed loop operations. Field bus communication and encoder evaluation is always on board, making the Active Next Generation Series the perfect drive for motion control applications in closed loop control like packaging, textile machines, food & beverage, warehouse and material handling. For integration in functional safety environments, ANG offers STO functionality according to SIL 3 and PL e.



### MAIN BENEFITS

- Functional Safety through STO (Safe Torque Off: SIL3/PLe)
- Wide power range
- Versatile Communication
- High mounting flexibility
- Wide range of Encoder support for various systems
- Customizable logic functions with internal VPLC
- Integrated PID control system
- Different Control modes incl. Position, Speed or Torque Control & CiA402-compatible Motion Control
- Easy wiring with detachable signal and power terminals (up to 4 kW)
- Macro for EPLAN

### CONTROLLED MOTOR TECHNOLOGY (Sensorless or with feedback)

-  Asynchronous induction
-  Synchronous permanent magnets

### MAIN VARIANTS

#### Mounting



#### Fieldbus



#### Functional Safety



#### Feedback evaluation



### MAIN OPTIONS

#### Detachable interfaces



#### Screen plate



#### Power accessories



### CERTIFICATIONS



### TECHNICAL DATA

Voltage		Power
[V]		[kW]
200-240 (1ph)	0.25 - 3.0 in 3 frame sizes	
200-240 (3ph)	0.25 - 9.2 in 4 frame sizes	
400/480 (3ph)	0.25 - 400 (...1200 with parallel connection) in 8 frame sizes	
525 (3ph)		160 - 400 (...1200 with parallel connection)
690 (3ph)		160 - 400 (...1200 with parallel connection)

## HIGH PERFORMANCE FREQUENCY INVERTER

### Active Cube Series

Active Cube (ACU) is the high-performance frequency inverter with a wide power range from 0.25 kW to 400 kW (with parallel drive connection up to 1200 kW). It can control asynchronous, synchronous and synchronous reluctance motors in open-loop and closed-loop operations. Several optional communication and expansion modules for I/O control and encoder evaluation make the ACU series ideal for a wide range of high-performance applications, such as warehouse and material handling, automatic storage systems, textile machines, packaging, food & beverage, motion control and hoist and crane applications. STO functionality according to SIL 3 and PL e offers easy integration into functional safety environments.



### MAIN BENEFITS

- Functional Safety through STO (Safe Torque Off: SIL3/PLe)
- Wide power range
- Versatile Communication
- High mounting flexibility
- Wide range of Encoder support for various systems
- Possibility to customize logic with internal VPLC
- Integrated PID control system
- Different Control modes incl. Position, Speed or Torque Control & CiA402-compatible Motion Control
- Easy cable wiring with detachable signal and power terminals (up to 4 kW)
- Macro for EPLAN

### CONTROLLED MOTOR TECHNOLOGY

(Sensorless or with feedback)



Asynchronous induction



Synchronous reluctance



Synchronous permanent magnets

### MAIN VARIANTS

#### Mounting



#### Functional Safety



### MAIN OPTIONS

#### Fieldbus



#### Feedback evaluation & IOs



#### Detachable interfaces



#### Screen plate



#### Power accessories



### CERTIFICATIONS



### TECHNICAL DATA

Voltage		Power
[V]		[kW]
200-240 (1ph)	0.25 - 3.0 in 3 frame sizes	
200-240 (3ph)	0.25 - 9.2 in 4 frame sizes	
400/480 (3ph)	0.25 - 400 (...1200 with parallel connection) in 8 frame sizes	
525 (3ph)		160 - 400 (...1200 with parallel connection)
690 (3ph)		160 - 400 (...1200 with parallel connection)

## STANDARD FREQUENCY INVERTER

### Agile Series

The Agile (AGL) Series is a flexible compromise for standard applications, such as warehouse and material handling (for example: glass, wood, marble), textile machines, food & beverage, packaging, ceramic and hoists applications. The Agile Frequency Inverter Series has three mechanical sizes for power ranges between 0.12 and 11 kW, with open-loop control for asynchronous and synchronous motors. For integration into functional safety environments, AGL offers STO functionality according to SIL 2 and PL d.



### MAIN BENEFITS


- Enhanced safety through STO (Safe Torque Off: SIL2/PLd)
- Compact design for small spaces
- Versatile Communication
- Easy setup & diagnosis with integrated keypad
- High mounting flexibility
- Possibility to customize logic with internal VPLC
- Integrated PID control system
- Macro for EPLAN


### INCLUDED FIELDBUS



### CONTROLLED MOTOR TECHNOLOGY

(Sensorless)

 Asynchronous induction

 Synchronous permanent magnets

### MAIN VARIANTS

#### Mounting



#### Functional Safety



### MAIN OPTIONS

#### Fieldbus



#### Detachable interfaces



#### Screen plate



#### Power accessories



### CERTIFICATIONS



### TECHNICAL DATA

Voltage		Power
[V]		[kW]
200-240 (1ph)	0.12 - 3.0 in 2 frame sizes	
200-240 (3ph)	0.25 - 7.5 in 3 frame sizes	
400/480 (3ph)		0.25 - 11 in 3 frame sizes



## BASIC FREQUENCY INVERTER

### S2U Series

Our S2U frequency inverters are designed for simple handling applications and are quickly integrated into your machines. The S2U frequency inverter is available in two mechanical sizes ranging from 0.20 kW to 2.2 kW for 230 V single phase operations. S2U is already preset for corresponding open-loop controlled asynchronous motors. You can also adjust the basic behavior of the drive with a set of 30 parameters. S2U is our solution for compact and economic applications, such as pumps, fans and material handling including packaging and textile machines.



### MAIN BENEFITS

- Very compact design for small cabinets
- Easy speed adjustment through integrated potentiometer
- Improved robustness due to fanless design
- Integrated PID control system
- Simple installation with integrated keypad with focus on essential parameters
- Advanced installation with extendable parameter setup
- Macro for EPLAN

### INCLUDED FIELDBUS



### CONTROLLED MOTOR TECHNOLOGY

(Sensorless)



Asynchronous induction

### MAIN VARIANTS

#### Mounting



STANDARD WALL

### MAIN OPTIONS

#### DIN rail mounting



DIN RAIL

#### Detachable interfaces



PC-USB INTERFACE

### CERTIFICATIONS



### TECHNICAL DATA

Voltage	Power
[V]	[kW]
200-240 (1ph)	0.2 - 2.2 in 2 frame sizes

## BASIC FREQUENCY INVERTER

### S2U IP66 Series

The S2U IP66 frequency inverter series is available in three mechanical sizes, ranging from 0.40 kW to 18.5 kW. S2U is already preset for corresponding open-loop controlled asynchronous motors. S2U IP66 is our compact, robust and economic solution for applications operating in harsh environments, such as pumps, fans and conveyor belts. S2U IP66 frequency inverter, with a simple change of the advanced parameter settings, is also suitable for packaging, textiles, material processing, woodworking and food & beverage applications. The heat sink function is specifically designed for extreme environmental conditions such as dust, humidity and cleaning chemicals.



### MAIN BENEFITS

- Robust design for IP66 environments as nearby frequency inverter
- Integrated mains switch for easy installation and switch off
- Easy speed adjustment through the integrated potentiometer
- Improved robustness due to fanless design
- Integrated PID control system
- Advanced installation support with integrated keypad with extendable parameter setup
- Possibility to customize the logic with an internal ladder PLC

### INCLUDED FIELDBUS



### CONTROLLED MOTOR TECHNOLOGY (Sensorless)



Asynchronous induction

### MAIN VARIANTS

#### Mounting



STANDARD WALL

#### IP protection



UP TO IP66

### MAIN OPTIONS

#### Detachable interfaces



PC-USB INTERFACE

### CERTIFICATIONS



### TECHNICAL DATA

Voltage		Power
[V]		[kW]
200-240 (1ph)	0.2 - 2.2 in 2 frame sizes	
400/480 (3ph)		0.75 - 18.5 in 4 frame sizes



## ACTIVE REGENERATIVE SYSTEM

### AEC Series

Decades of experience in electronic industrial drives and renewable energy have enabled Bonfiglioli to offer an effective solution for recovering braking energy. This solution comes as the new Active Regenerative System inverters (AEC). In a large number of electrically controlled industrial applications, inertia in moving mechanisms can drive electric motors to act as brakes. They convert kinetic energy into electrical energy. In regenerative processes, this energy is returned to the grid.



### MAIN BENEFITS

- Energy saving to recover braking or kinetic energy (e.g. hoists)
- Less heat dissipation when feeding to the mains instead of into a brake resistor
- Stabilizes the grid quality through the mains front end feed-in architecture
- Compatibility with Bonfiglioli ACU & ANG drives
- Adjustable Power factor
- Adjustable DC link voltage

### FEED-IN CONTROLS



Block feed current control



Sinusoidal feed current control

### MAIN VARIANTS

#### Mounting



### MAIN OPTIONS

#### Fieldbus



#### IOs



#### Detachable interfaces



#### Screen plate



#### Power accessories



### CERTIFICATIONS



### TECHNICAL DATA

Voltage	Power
[V]	[kW]
320..440 (3ph)	9.7 - 173.2 kVA in frame sizes 3..7



# FREQUENCY INVERTERS

---

Bonfiglioli offers frequency inverters for precise and reliable control of electric motors.

## DECENTRALIZED INVERTERS

Embrace the future of industrial automation with Bonfiglioli decentralized inverters, where compact power, unparalleled flexibility and intelligent control converge. These innovative inverters mount directly onto your motors, providing a space-saving, cost-effective solution that allows you to achieve peak performance in even the most challenging environments.

**Bonfiglioli**



## ONBOARD FREQUENCY INVERTER

### DGM Series

Bonfiglioli DGM decentralized inverters are suitable for induction asynchronous motors. They have been designed exclusively for industrial or professional use and can be supplied as a complete solution or separately, for wall assembly.

Design and installation are faster compared to inverters installed in electrical cabinets since it is possible to avoid long cables, spend less time on electrical wiring activities and reduce the cabinet dimensions.

Thanks to its robust and vibration-resistant housing concept and various features and options, our high-level performance solution is perfect for pumps and ventilation.



### MAIN BENEFITS

- Reduced overall system complexity and wiring
- Enhanced safety through STO (SIL3/PLe)
- Versatile Communication thanks to various fieldbuses
- Possibility to customize the logic directly in the inverter's internal PLC
- Thermal protection included
- Integrated PID control system

### MAIN VARIANTS

#### Fieldbus



#### Frequency regulation



POTENTIOMETER

#### IP protection



UP TO IP65

#### Functional safety



STO

#### Mounting



ONBOARD



WALL

#### Digital and Analogue I/O



UP TO 4 DI + 2 DO + 2AI + 1AO

#### MMI



HANDHELD CONTROLLER

#### Brake rectifier



RECTIFIER

### INCLUDED FIELDBUS



### CERTIFICATIONS



### CONTROLLED MOTOR TECHNOLOGY



Asynchronous motors

### TECHNICAL DATA

Series	Sizes	Power [kW]
DGM1	A	0.37 - 1.1
	A	0.55 - 1.5
DGM3	B	2.2 - 4.0
	C	5.5 - 7.5
	D	11 - 22

## ONBOARD FREQUENCY INVERTER

### DGM Modular Series

Bonfiglioli DGM Modular decentralized inverters are suitable for both induction Asynchronous, Permanent magnet synchronous and reluctance synchronous motor control. They have been designed exclusively for industrial or professional use and can be supplied as a complete decentralized solution or separately, for wall assembly. Design and installation are faster compared to cabinet inverters since it is possible to avoid long cables, spend less time on electrical wiring activities and reduce the cabinet dimensions.

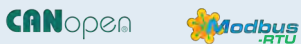
Thanks to its robust and vibration-resistant housing concept and various features and options, our high-level performance solution is perfect for Packaging, Logistics, Material handling, Food&Beverage, Material working, and Pumps sectors.



### MAIN BENEFITS

- Reduced overall system complexity and cabling
- Enhanced safety through STO (SIL2/PLd)
- Versatile Communication thanks to various fieldbuses
- Sensorless vector control with no need of feedback
- Possibility to customize the logic directly in the inverter's internal PLC
- Possibility to control different motor technologies
- Thermal protection

### INCLUDED FIELDBUS



### CONTROLLED MOTOR TECHNOLOGY

- Asynchronous motors
- Synchronous reluctance motors
- Permanent magnets motors

### MAIN VARIANTS

Fieldbus*				MMI	
ETHERCAT	PROFINET	SERCOS	ETHERNET/IP	HANDHELD CONTROLLER	INTEGRATED MMI
Power grid connectors	IP protection	Frequency regulation	Main switch		
HARTING	QUICKON	UP TO IP65	POTENTIOMETER		
Functional safety		Mounting	Digital I/O	Brake rectifier	
STO		ONBOARD	WALL	RECTIFIER	
UP TO 3 DI + 1 DO					

### CERTIFICATIONS



### TECHNICAL DATA

Sizes	Power			
	[kW]			
A	0.55 - 2.2			
B		2.2 - 5.5		
C			5.5 - 11	
D				11 - 30

\* Fieldbus all available as option on top of already included ones.

# DIGITAL ENGINEERING TOOLS

---

Thanks to a powerful set of software tools and online platforms, developed through partnerships with the main market leaders, Bonfiglioli enables its customers to engineer tailored applications in a smooth and productive way: the components' selection and sizing, as well as the design of the whole motion drive train, are made simpler and more reliable.

Always up-to-date technical data allows for accurate and optimized components' combinations, ensuring the best cost, performance and energy-efficiency trade-off in motion drive train design.

In addition, thanks to its in-depth knowledge on industrial solutions, Bonfiglioli engineering team is in any case available to assist customers in their own selection and design processes, providing high quality technical support for specific applications' developments.



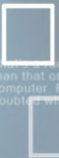


2535  
878

MODEL:428

GMB

7239  
572



The Artificial Intelligence...

The Artificial Intelligence...  
barriers manufacturers...

What's interesting...  
Cheap and...  
Room is an...  
which has...  
to announce...  
aware, less...  
us. As the...  
of the robot...  
never before...  
smartops...  
30 minutes...  
robots take...



The robotic...  
We're used...  
us - only a...  
baggage...  
Please review...  
out of that...  
different. T...  
will be the...



AI is being used today to enable collaborative robot...  
on predictive analytics, improving recruitment and...  
and optimizing equipment and plant effectiveness...  
potential use cases for AI in manufacturing...  
the most invested in by the global venture capita...  
that originate from AI, called cognitive technol...  
computer vision, natural language processing, se...  
optimization, cloud-based systems, and plant...  
machine learning refers to the ability of com...  
exposure to data, without the need to follow exp...

Much as the computing industry has moved from...  
to a PC to a mobile stage, with each stage marki...  
improvements in computing power while shrinki...  
could be headed for the same trajectory. What th...  
soon when each of us could have teams of perso...  
us around in our daily lives, doing everything fr...  
our tools to cleaning our arteries, and connecti...  
each other as part of swarm intelligence.





## EPLAN

### ENHANCE YOUR ELECTRICAL DESIGN

Intense competition is putting pressure on machine builders and system integrators to deliver machines with higher throughput and reduced operating cost in shorter timeframes, leading to a significant increase in the complexity of the machine design process.

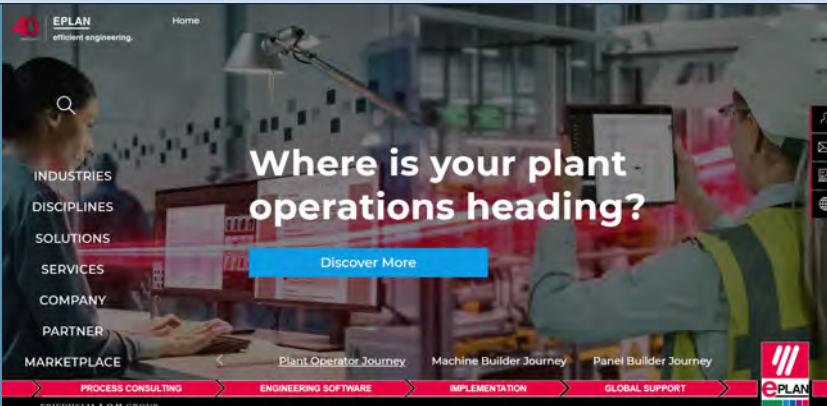
 <p>DOCUMENTS</p>	 <p>MULTILINGUAL SUPPORT</p>	 <p>COMMERCIAL DATA</p>	 <p>LOGIC DATA</p>	 <p>2D/3D DATA</p>	 <p>PRODUCTION DATA</p>
--	---	--	---	---	--

### SYSTEM DESIGN CHALLENGE

Bonfiglioli and EPLAN work together to provide efficient engineering solutions, aimed at reducing the gap between the initial concept and its development, programming and commissioning.

- **Better quality of documentation:** the EPLAN Data Portal provides users with up-to-date device data from numerous component manufacturers, saving time for manual data collection and minimizing the risks of faulty data.
- **Shorter system design times:** by including macro-information, function templates, production data and drawings, EPLAN allows users to drag and drop Bonfiglioli drawing templates into their own electrical drawings, reducing the time needed for cabinet planning.

## BONFIGLIOLI PRODUCTS AVAILABLE ON EPLAN DATA PORTAL



 <p>ACTIVE NEXT GENERATION SERIES</p>	 <p>ACTIVE CUBE SERIES</p>	 <p>AGILE SERIES</p>	 <p>AXIAVERT SERIES</p>
--	---	--	--





# SERVOsoft



## SIZE COMPLETE POWER TRANSMISSION AND DRIVE SOLUTIONS

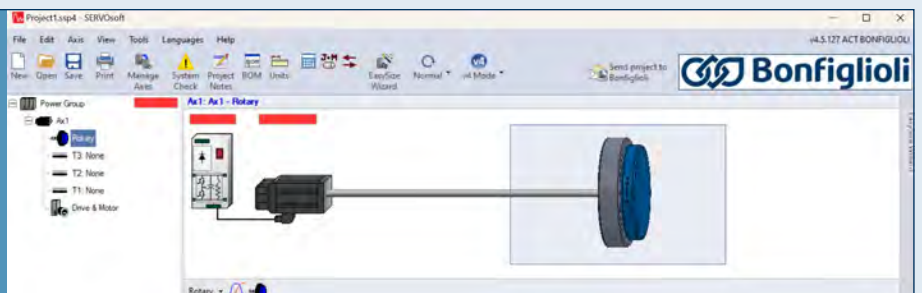
Bonfiglioli and SERVOsoft® work together to support customers in sizing complete **multi-axis servo systems**, including motors, gearboxes and servodrives with **15 mechanisms** and **up to 50 axes** in a shared bus or standalone configuration.



## EASY MECHATRONIC SIZING TOOL FOR CUSTOMER AND CAE

With Bonfiglioli offering available on SERVOsoft, customers are able to select, size and design their customized and high performance applications. In addition, Bonfiglioli engineering team - thanks to its in-depth knowledge of the products - uses the high level servosizing tool SERVOsoft® to provide a top level customer support service by developing **optimized, energy-efficient and tailored** engineering solutions to meet individual needs.

**BONFIGLIOLI PRODUCTS AVAILABLE ON SERVOsoft®**



**DRIVES SERIES**



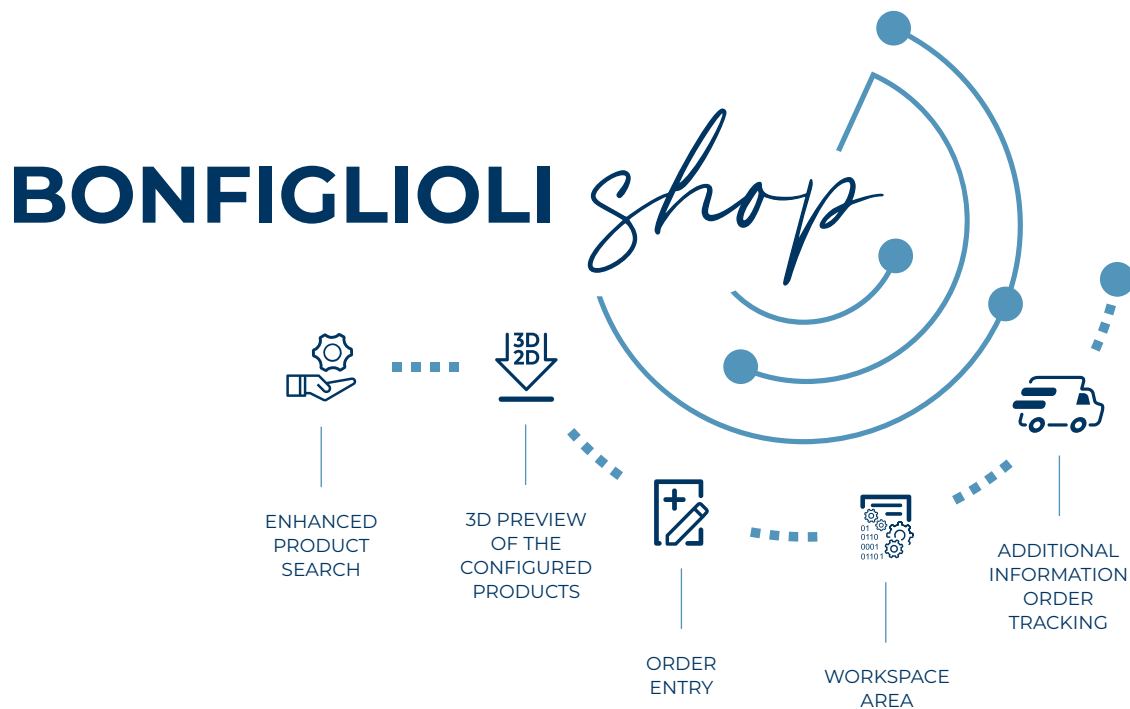
**E-MOTORS SERIES**



**PRECISION PLANETARY GEARBOXES SERIES**

# SOFTWARE FOR ORDERING AND SELECTION

Bonfiglioli shop is Bonfiglioli's e-business platform created to facilitate customers purchases and product configuration. Fully integrated with the Bonfiglioli product database, it offers more flexibility to configure a solution and track orders.



## A COMPLETE E-BUSINESS PLATFORM TO BE THE MASTER OF YOUR SOLUTIONS

Bonfiglioli shop guides customers, distributors and agents through the process of selecting the right product for their specific needs and also gives support for design activities and order management. The system greatly accelerates the product selection and ordering process and also guarantees improved security and accuracy.

Thanks to web-based technology, customers can stay connected with Bonfiglioli's technical service 24 hours a day, 365 days a year, from anywhere around the world. Registered customers have access to constantly updated technical specifications and drawings, specifically created for the exact product designation they need. This service provides users with on-line assistance to support them with:

- Configuring Bonfiglioli products
- Downloading technical datas/drawings in 3D and 2D
- Benefiting from Bonfiglioli's help during product selection



# ALWAYS BY OUR CUSTOMER'S SIDE, ALL OVER THE WORLD

Our worldwide reach always puts us where our customers need us. We believe that a deep understanding of application requirements — both technical and environmental — make the difference in providing the right products and services in a timely manner.

We provide assistance throughout the product life cycle, from selection to after-sales.



LEAN  
MANUFACTURING



INDUSTRY  
4.0



FAST DELIVERY  
TIMES



WORLDWIDE  
PRESENCE

Bonfiglioli has globalized production over the years. Today, we operate 14 manufacturing plants around the world to serve customers in local markets more effectively. Our plants in Italy, Germany, USA, Brazil, India, China, Vietnam and Slovakia form a truly efficient distribution network.

Excellence is our number one priority.

We use the latest technologies to optimize our daily production. Bonfiglioli is fully committed to a more sustainable workplace and supports various local initiatives.

All Bonfiglioli employees pay the utmost attention to even the smallest details, to ensure that our customers receive products and services with unrivalled quality.



# OUR GLOBAL PRESENCE

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

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



**18**

PRODUCTION SITES



**23**

COMMERCIAL SITES



**80**

COUNTRIES



**550**

DISTRIBUTORS



**~4,700**

PEOPLE

## AUSTRALIA

### Bonfiglioli Transmission (Aust.) Pty Ltd

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



## BRAZIL

### Bonfiglioli Redutores do Brasil Ltda

Av. Osvaldo Fregonezi, 171, cjs 31 e 44  
CEP 09851-015 - São Bernardo do Campo  
São Paulo  
Tel. +55 11 4344 2322



## CHINA

### Bonfiglioli Drives (Shanghai) Co. Ltd.

#68, Hui-Lian Road, QingPu District,  
201707 Shanghai  
Tel. +86 21 6700 2000



### Industry & Automation Solutions

#568, Longpan Road, Jiading District,  
201707 Shanghai



### Bonfiglioli Trading (Shanghai) Co. Ltd.

Room 423, 4<sup>th</sup> Floor, #38, Yinglun Road,  
China (Shanghai) Pilot Free Trade Zone,  
Shanghai



### Selcom Electronics (Shanghai) Co., Ltd

A7, No.5399, Waiqingsong Road, QingPu  
District,  
201707 Shanghai  
Tel. +86 21 6010 8100



A24, No.5399, Waiqingsong Road, QingPu  
District,  
201707 Shanghai  
Tel. +86 21 6010 8100

Tel. +86 21 6010 8100



## FRANCE

### Bonfiglioli Transmission S.A.S.

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



## GERMANY

### Bonfiglioli Deutschland GmbH

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



### Bonfiglioli Vectron GmbH

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



### O&K Antriebstechnik GmbH

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



## INDIA

### Bonfiglioli Transmission Pvt. Ltd.

#### Mobility & Wind Industries

AC 7 - 11, SIDCO Industrial Estate,  
Thirumudivakkam  
Kancheepuram - 600132 - Tamil Nadu  
Tel. +91 844 844 8649



#### Industry & Automation Solutions

Survey No. 528/1, Perambakkam High Road  
Mannur Village, Sriperumbudur Taluk  
Kancheepuram - 602 105 - Tamil Nadu  
Tel. +91 844 844 8649



#### Industry & Automation Solutions

Plot No E-5/2, Badhalwadi  
Talegaon MIDC Phase II,  
Pune - 410 507 - Maharashtra  
Tel. +91 844 844 8649



### Bonfiglioli Drive Systems Pvt. Ltd.

#### Industry & Automation Solutions

No 50, Pappambakkam Road,  
Mannur Village, Sriperumbudur Taluk,  
Kancheepuram - 602105 - Tamil Nadu  
Tel. +91 844 844 8649



## ITALY

### Bonfiglioli Riduttori S.p.A.

#### Industry & Automation Solutions

Via Cav. Clementino Bonfiglioli, 1  
40012 Calderara di Reno  
Tel. +39 051 6473111



#### Industry & Automation Solutions

Via Sandro Pertini, lotto 7b  
20080 Carpiano  
Tel. +39 02985081



#### Industry & Automation Solutions

Via Saliceto, 15 - 40010 Bentivoglio



#### Mobility & Wind Industries

Via Enrico Mattei, 12 Z.I. Villa Selva  
47122 Forlì  
Tel. +39 0543 789111



#### Industry & Automation Solutions

Via Unione, 49 - 38068 Rovereto  
Tel. +39 0464 443435/36



### Selcom Group S.p.A.

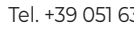
Via Achille Grandi, 5  
40013 Castel Maggiore (BO)  
Tel. +39 051 6387111



Via Marino Serenari, 18  
40013 Castel Maggiore (BO)  
Tel. +39 051 6387111



Via Cadriano, 19  
40057 Cadriano (BO)  
Tel. +39 051 6387111



## NEW ZEALAND

### Bonfiglioli Transmission (Aust.) Pty Ltd

88 Hastie Avenue, Mangere Bridge,  
2022 Auckland  
PO Box 11795, Ellerslie  
Tel. +64 09 634 6441



## SINGAPORE

### Bonfiglioli South East Asia Pte Ltd

8 Boon Lay Way, #04-09,  
8@Tadehub 21, Singapore 609964  
Tel. +65 6268 9869



## SLOVAKIA

### Bonfiglioli Slovakia s.r.o.

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



## SOUTH AFRICA

### Bonfiglioli South Africa Pty Ltd.

55 Galaxy Avenue, Linbro Business Park,  
Sandton, Johannesburg  
2090 South Africa  
Tel. +27 11 608 2030



## SPAIN

### Tecnotrans Bonfiglioli S.A

Avinguda del Ferrocarril, n° 14,  
Polígono Industrial Can Estapé  
08755 Castellbisbal - Barcelona  
Tel. +34 93 447 84 00



## TURKEY

### Bonfiglioli Turkey Jsc

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



## UNITED KINGDOM

### Bonfiglioli UK Ltd.

Unit 1 Calver Quay, Calver Road, Winwick  
Warrington, Cheshire - WA2 8UD  
Tel. +44 1925 852667



## USA

### Bonfiglioli USA Inc.

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



## VIETNAM

### Bonfiglioli Vietnam Ltd.

Lot C-9D-CN My Phuoc Industrial Park 3  
Ben Cat - Binh Duong Province  
Tel. +84 650 3577411





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

#### HEADQUARTERS

##### **Bonfiglioli S.p.A**

Via Cav. Clementino Bonfiglioli, 1  
40012 Calderara di Reno - Bologna (Italy)  
Tel. +39 051 6473111

