

# **Bonfiglioli** Riduttori

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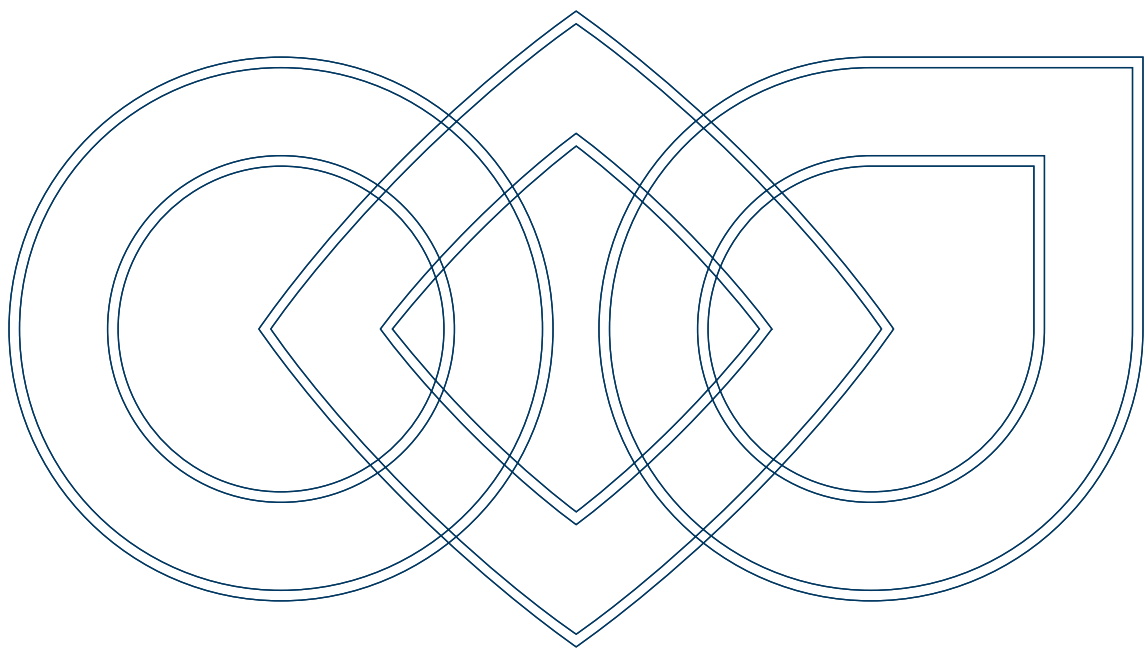
## **300S**

Slewing drives for industrial applications



PRODUCT

 **Bonfiglioli**  
*Forever Forward*



## 300S: gearboxes for industrial slewing applications

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Bonfiglioli's 300S planetary gearboxes are specially designed for industrial slewing applications.

These innovative gearboxes, based on the acclaimed 300 Series, embody all of Bonfiglioli's vast experience in industrial slewing applications. The highly versatile 300S Series is therefore perfect for typical slewing applications in production and processing plant and machinery.

Its superb characteristics and high performance make it the ideal solution for single drive and multi drive systems in various branches of industry.

Contact your nearest Bonfiglioli Drive Service Centre to assess the needs of your own particular application and to obtain an offer for the best possible drive solution for your requirements.

## 300S: the range

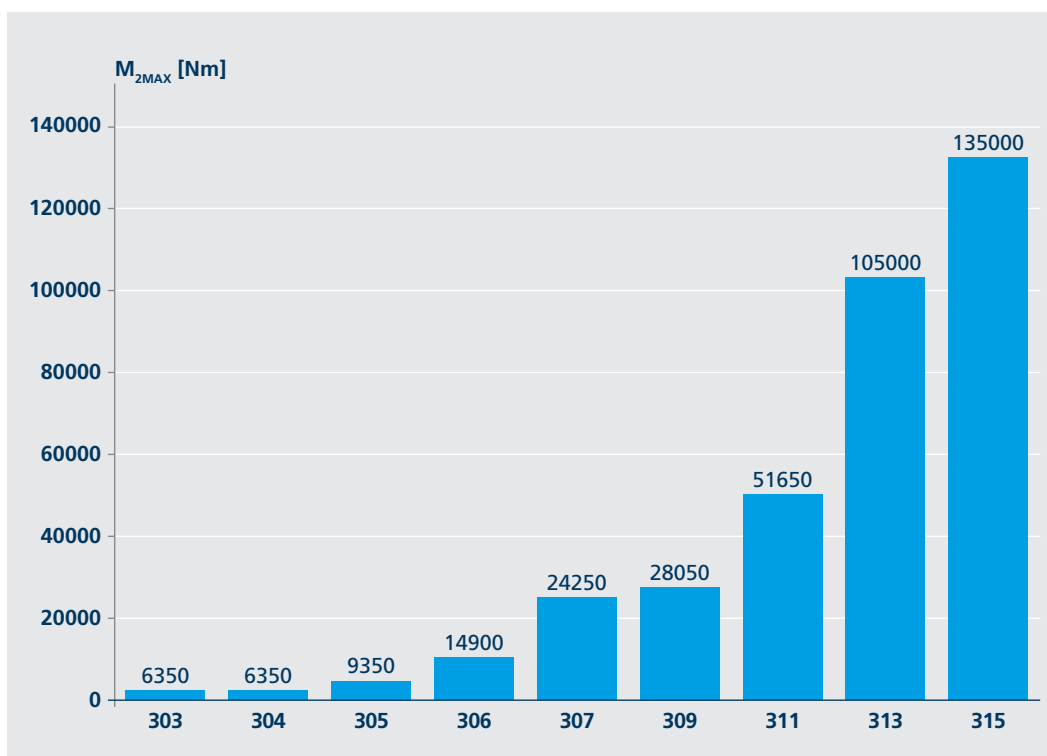
Bonfiglioli's industrial slewing drives cover a maximum torque range of 5 kNm to over 135 kNm, and come in 9 sizes and 2, 3 and 4 stage versions.

300S gearboxes are designed for vertical installation and feature a reinforced output stage to absorb the high overhung loads developed between the pinion and the application's ring gear.

The input stage incorporates provisions for both electric and hydraulic motors. Gearboxes can also be supplied as compact garmotors, complete with one of the asynchronous motors from Bonfiglioli's extensive range.

300S gearboxes are available with a conventional self-centring flange and with a special flange with eccentric mounting holes to permit backlash adjustment between pinion and ring gear at the installation stage.

Finally, N and F versions of the output stage, (compact and extended respectively), allow drive length to be adapted to suit the space available in the driven system.



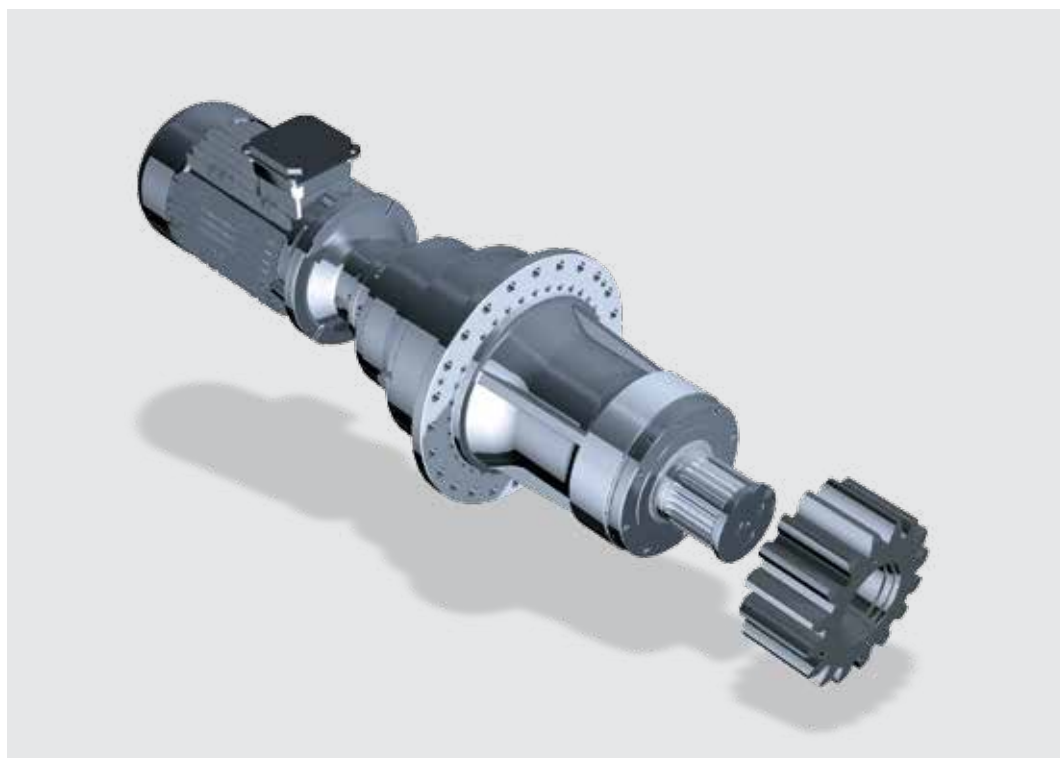
## Solutions

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### **INSERTED PINION**

The output stage features a splined shaft that can mount whatever pinion is best suited to the needs of the application in terms of dimensions and tooth profile. The gearbox can therefore be supplied with a standard pinion from the Bonfiglioli range or a custom pinion made to the customer's specifications.

This gives customers tremendous flexibility in system design, minimises stock requirements and ensures rapid and simple product availability.

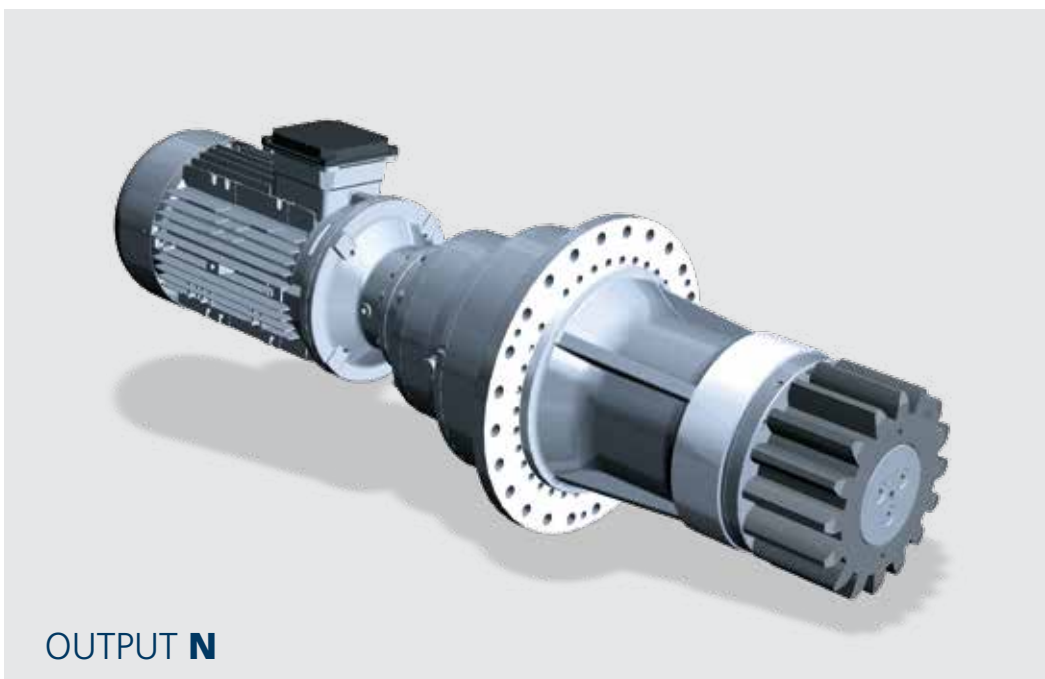
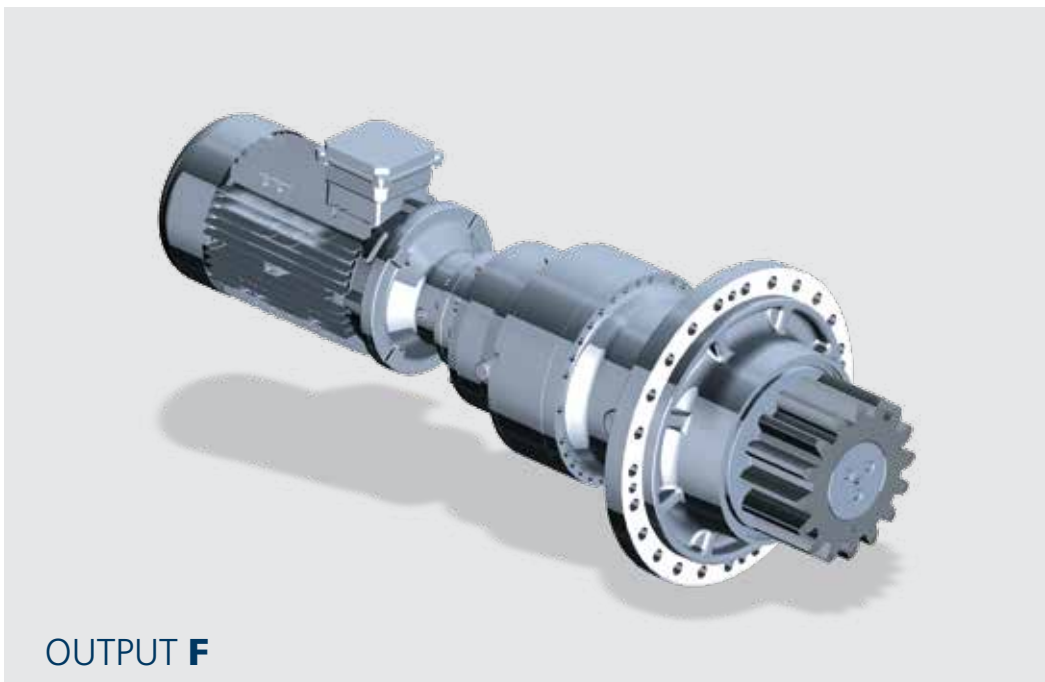


## Solutions

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### OUTPUT VERSIONS

Version "F" output stages reduce the overall length of the drive while "N" output stages extend it using a longer, double bearing casing. "N" versions are therefore ideal for coupling to ring gears located some distance from the mounting flange. The two configurations respond to different needs in typical slewing applications.



## Solutions

### FLANGE WITH ECCENTRIC MOUNTING HOLES

Output flanges with eccentric mounting holes are also available.

These allow installers to adjust the backlash between the pinion and ring gear simply by turning the flange clockwise or anti-clockwise.

### MODULARITY

Bonfiglioli's planetary slewing drives deliver all the benefits of the standard 300 Series gearboxes from which they are derived. Progressive performance steps is one such benefit, and ensures flexible coverage in terms of torque, size and reduction ratios. This flexibility is made possible by the highly modular design of Bonfiglioli's planetary gearboxes.

Modularity also guarantees compactness, quality and product availability.

### INPUT STAGES

IEC motor flanges allow 300S gearboxes to be coupled to all the asynchronous motors in Bonfiglioli's BN, BE and BX (IE3) ranges, as well as other IEC standard motors. Compact versions incorporating Bonfiglioli M, ME or MX motors are available to reduce overall drive size in dimension-critical applications while optimising overall performance.

Flanges are available for various brands of hydraulic motor, so 300S gearboxes can also be used in hydraulically powered applications, offering greater compactness and power density.

### INTEGRATED LOAD CELL (BONFIGLIOLI PATENT)

Benefits of this solution:

- Real time torque monitoring
- Automatic motor switching
- Anti-seize function
- Easier maintenance



## Fields of application



*Stacker reclaimers*



*Quayside cranes*



*Tower cranes*



*Sludge thickeners*



*Derricks*



*Jib cranes*



## Product overview

A large number of versions are available to cover a wide range of applications:

- Reduction ratios from 1:50 to 1:2900, higher ratios on demand
- Maximum torque up to 135 kNm
- “N” and “F” output stages
- Output flanges with eccentric mounting holes

### $M_2 \text{ max}$

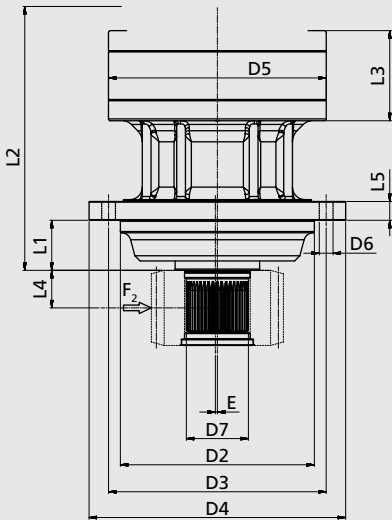
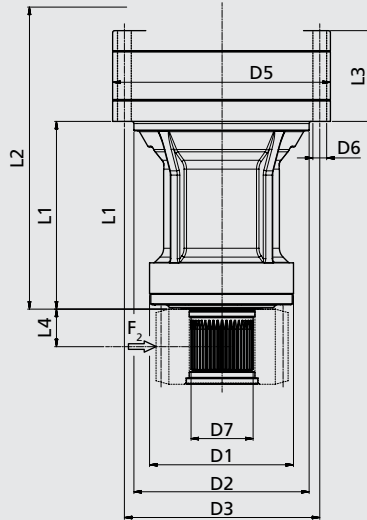
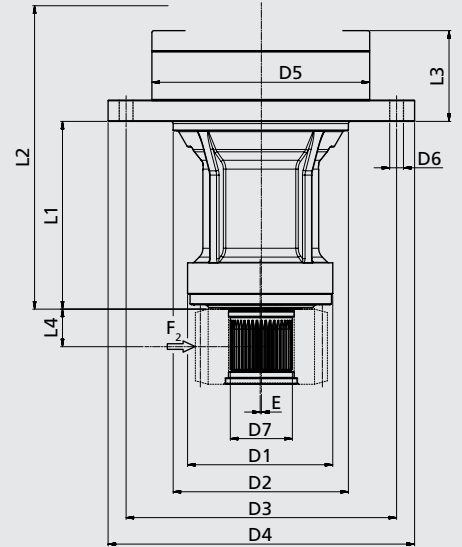
This is the output torque that the gearbox can withstand under static or almost static conditions. It can be understood as instantaneous load or breakaway torque under load. The values given in the following tables are valid for class 12.9 bolts in the gearbox mounting flange.

### $F_2 \text{ max}$

This is the maximum overhung load the output shaft can support while still guaranteeing a static safety coefficient of  $CoI$   $Po \geq 1$  for the bearings at an application distance of  $L_4$  (see the Dimensions section).

Size	$M_2 \text{ max}$	$F_2 \text{ max}$
	[Nm]	[N]
303 SCF	5650	143950
303 SEF		
303 SCN		
303 SEN	6350	176750
304 SCF	5650	143950
304 SEF		
304 SCN		
304 SEN	6350	176750
305 SCF	8500	143900
305 SEF		
305 SCN		
305 SEN	9350	176700
306 SCF	14900	232050
306 SEF		
306 SCN		211450
306 SEN		
307 SCF	24450	347100
307 SEF	22150	314950
307 SCN	24250	344150
307 SEN		
309 SCF	29300	347000
309 SEF	29000	314900
309 SCN	28050	398300
309 SEN		
311 SCN	51650	530800
311 SEN		
313 SCF	105000	1083600
313 SEF		1137250
313 SCN	98150	928650
313 SEN		
315 SCN	135000	1084700
315 SEN		

# Dimensions


**SCF / SEF**

**SCN**

**SEN**

Size	Output version	D1	D2	D3	D4	D5	D6	D7	L1	L2		L3	L4	E	Dp min	Dp max	
										3 stages	4 stages						
		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
303	SCF	-	175 f7	245	272	244	Ø18 n°10	58X53 Z27 DIN 5482 (h9)	41	294	347	66	47	-	84	138	
	SEF	-	170 f7	245	272		Ø18 n°10		41			66	47	2			
	SCN	160 f7	180 f7	265	290		Ø13 n°12		129	294	347	102	47	-			
	SEN	160 f7	180 f7	265	290		Ø13 n°12		129	306	359	102	46	1,5			
304	SCF	-	175 f7	245	272	244	Ø18 n°10	58X53 Z27 DIN 5482 (h9)	41	306	359	66	47	-	84	138	
	SEF	-	170 f7	245	272		Ø18 n°10		41			66	47	2			
	SCN	160 f7	180 f7	265	290		Ø13 n°12		129	306	359	102	47	-			
	SEN	160 f7	180 f7	265	290		Ø13 n°12		129	318	371	102	46	1,5			
305	SCF	-	175 f7	245	272	244	Ø18 n°10	58X53 Z27 DIN 5482 (h9)	41	324	377	66	47	-	126	135	
	SEF	-	170 f7	245	272		Ø18 n°10		41			66	47	2			126
	SCN	160 f7	180 f7	265	290		Ø13 n°12		129	324	377	102	47	-			
	SEN	160 f7	180 f7	265	290		Ø13 n°12		129	336	389	102	46	1,5			
306	SCF	-	200 f7	250	280	292	Ø17 n°12	80X74 Z36 DIN 5482 (e9)	38	421	474	84	60	-	138	165	
	SEF	-	200 f7	250	280		Ø18 n°12		38			84	60	2			138
	SCN	200 f7	250 f7	325	360		Ø17 n°10		228	91	60	-	138				
	SEN	200 f8	250 f8	325	360		Ø18 n°10		250	543	496	91	60	1			152
307	SCF	-	310 f8	360	410	348	Ø22 n°12	100X94 Z44 DIN 5482 (e9)	80	338	391	100	65	-	150	190	
	SEF	-	310 f8	360	400		Ø22 n°12		80			474	527	100			65
	SCN	230 f8	280 f8	314	348		Ø17 n°12		300	535	588	100	65	-			
	SEN	230 f7	280 f7	314	348		Ø17 n°12		300			100	65	1,5			
309	SCF	-	310 f8	360	410	348	Ø22 n°12	100X94 Z44 DIN 5482 (e9)	80	359	412	100	65	-	180	210	
	SEF	-	310 f8	360	400		Ø22 n°12		80			495	548	100			65
	SCN	250 f8	280 f8	380	420		Ø17 n°12		300	556	609	100	65	-			150
	SEN	250 f8	280 f8	380	415		Ø17 n°12		300			100	65	2			150
311	SCN	300 h8	425 h8	460	500	420	Ø22 n°12	120x3 Z38 DIN5480 (9g)	350	701	766	148	80	-	207	250	
	SEN	300 h8	425 h8	460	500		Ø22 n°12		350			148	80	2			
313	SCF	-	550 h7	600	660	445	Ø26 n°24	150x5 Z28 DIN 5480 (8e)	160	843	908	178	84	-	225	285	
	SEF	-	550 h7	600	660		Ø26 n°24		160			178	84	2,5			
	SCN	340 h8	400 h8	510	560		Ø22 n°24		425	822	887	173	84	-			
	SEN	340 h8	400 h8	510	560		Ø22 n°24		425			173	84	2			
315	SCN	370 h8	470 h8	600	640	542	Ø22 n°24	170x5 Z32 DIN 5480 (8e)	470	989	1078	192	125	-	280	310	
	SEN	370 r7	470 h8	600	640		Ø22 n°24		470			192	125	3			

## Table of available reduction ratios

Size	Number of stages	Reduction ratio	Size	Number of stages	Reduction ratio	Size	Number of stages	Reduction ratio
<b>303</b>	L3	53,4	<b>304</b>	L3	43,6	<b>305</b>	L3	53,4
	L3	63,1		L3	53,4		L3	63,1
	L3	72,3		L3	63,1		L3	72,3
	L3	77,2		L3	72,3		L3	77,2
	L3	90,2		L3	77,2		L3	90,2
	L3	104,5		L3	90,2		L3	104,5
	L3	112,7		L3	104,5		L3	112,7
	L3	124,5		L3	110,5		L3	124,5
	L3	141,5		L3	130,5		L3	141,5
	L3	152,5		L3	141,5		L3	152,5
	L3	163,7		L3	149,5		L3	163,7
	L3	177,5		L3	164,7		L3	177,5
	L3	190,3		L3	177,5		L3	190,3
	L3	220,3		L3	201,7		L3	220,3
	L3	257,5		L3	220,3		L3	257,5
	L3	276,5		L3	273,0		L3	276,5
	L3	321,4		L3	341,2		L3	321,4
	L3	388,8		L3	425,8		L3	388,8
	L3	401,8		L4	413,2		L3	401,8
	L4	413,2		L4	445,6		L4	413,2
	L4	445,6		L4	492,3		L4	445,6
	L4	492,3		L4	556,1		L4	492,3
	L4	556,1		L4	649,5		L4	556,1
	L4	649,5		L4	701,9		L4	649,5
	L4	718,1		L4	816,1		L4	718,1
	L4	816,1		L4	1018,5		L4	816,1
	L4	896,2		L4	1163,7		L4	896,2
	L4	1018,5		L4	1271,1		L4	1018,5
	L4	1097,9		L4	1343,7		L4	1097,9
	L4	1278,1		L4	1586,3		L4	1278,1
L4	1370,2	L4	1815,4	L4	1370,2			
L4	1586,3	L4	1990,7	L4	1586,3			
L4	1854,3	L4	2269,2	L4	1854,3			
L4	1990,7	L4	2452,8	L4	1990,7			
L4	2243,1			L4	2243,1			
L4	2799,4			L4	2799,4			

## Table of available reduction ratios

Size	Number of stages	Reduction ratio	Size	Number of stages	Reduction ratio	Size	Number of stages	Reduction ratio
<b>306</b>	L3	53,2	<b>307</b>	L3	51,3	<b>309</b>	L3	51,3
	L3	65,2		L3	60,5		L3	60,5
	L3	77,0		L3	74,1		L3	74,1
	L3	81,9		L3	80,6		L3	80,6
	L3	88,3		L3	93,0		L3	93,0
	L3	104,2		L3	100,3		L3	100,3
	L3	112,3		L3	113,3		L3	113,3
	L3	121,3		L3	125,9		L3	125,9
	L3	141,0		L3	138,8		L3	138,8
	L3	152,0		L3	146,3		L3	161,5
	L3	189,7		L3	161,5		L3	182,6
	L3	204,8		L3	177,0		L3	201,6
	L3	221,8		L3	201,6		L3	222,9
	L3	238,1		L3	220,9		L3	239,3
	L3	268,3		L3	239,3		L3	283,5
	L3	288,0		L3	283,5		L3	336,5
	L3	324,5		L3	336,5		L4	349,1
	L3	405,0		L4	349,1		L4	405,5
	L4	390,9		L4	405,5		L4	464,8
	L4	444,2		L4	464,8		L4	509,2
	L4	509,2		L4	509,2		L4	578,7
	L4	589,3		L4	578,7		L4	653,5
	L4	635,5		L4	653,5		L4	722,2
	L4	699,6		L4	722,2		L4	800,6
L4	808,8	L4	800,6	L4	906,3			
L4	877,0	L4	906,3	L4	999,1			
L4	1015,0	L4	999,1	L4	1149,3			
L4	1094,5	L4	1156,7	L4	1285,8			
L4	1279,4	L4	1274,5	L4	1380,4			
L4	1474,6	L4	1408,3	L4	1604,7			
L4	1596,7	L4	1590,5	L4	1722,7			
L4	1843,2	L4	1767,3	L4	2002,6			
L4	2073,6	L4	2041,2	L4	2422,5			
L4	2336,5	L4	2422,5					
L4	2916,0							

## Table of available reduction ratios

Size	Number of stages	Reduction ratio	Size	Number of stages	Reduction ratio	Size	Number of stages	Reduction ratio
<b>311</b>	L3	50,5	<b>313</b>	L3	51,1	<b>315</b>	L3	59,6
	L3	60,2		L3	61,0		L3	71,1
	L3	71,1		L3	72,0		L3	91,3
	L3	77,3		L3	78,3		L3	108,3
	L3	89,3		L3	92,4		L3	139,0
	L3	103,8		L3	109,7		L3	165,0
	L3	114,5		L3	120,5		L3	174,5
	L3	125,5		L3	134,9		L3	207,1
	L3	133,2		L3	143,0		L3	240,7
	L3	147,0		L3	151,2		L4	302,3
	L3	161,1		L3	163,1		L4	369,6
	L3	170,9		L3	175,8		L4	441,0
	L3	191,2		L3	182,0		L4	486,8
	L3	202,8		L3	193,6		L4	533,4
	L3	245,3		L3	208,6		L4	590,9
	L3	291,2		L3	252,3		L4	671,6
	L4	347,6		L3	303,8		L4	741,5
	L4	410,3		L4	352,0		L4	861,9
	L4	512,1		L4	394,1		L4	930,5
	L4	567,7		L4	451,7		L4	1042,7
	L4	626,7		L4	513,7		L4	1104,3
	L4	724,1		L4	563,8		L4	1283,7
	L4	824,7		L4	632,9		L4	1492,3
	L4	903,7		L4	695,1		L4	1805,2
L4	985,9	L4	789,9					
L4	1058,4	L4	889,3					
L4	1230,4	L4	1014,1					
L4	1415,4	L4	1116,9					
L4	1679,8	L4	1265,5					
L4	1766,4	L4	1393,9					
L4	2096,4	L4	1502,0					
		L4	1816,9					
		L4	2187,0					

## Reference applications

### SLUDGE THICKENERS

In-line hydraulic planetary gearmotor.



## Reference applications

### **STACKER RECLAIMERS**

Electric planetary gearmotor combined with bevel helical gearbox.



## Reference applications

### QUAYSIDE CRANES

Hydraulic planetary gearmotor combined with worm gear.





## Reference applications

### **CRANES**

In-line electric planetary gearmotor.



# Bonfiglioli Worldwide Presence

Bonfiglioli is located in regions and countries around the world that enable us to provide faster sales and service to customers.  
**We are around the world, and around the corner.**



## LOCAL SUPPORT



SALES, CUSTOMER SERVICE, WARRANTY, TECH SUPPORT, SPARE PARTS

21 BRANCH OFFICES IN 16 COUNTRIES



WORLDWIDE DISTRIBUTION NETWORK



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



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