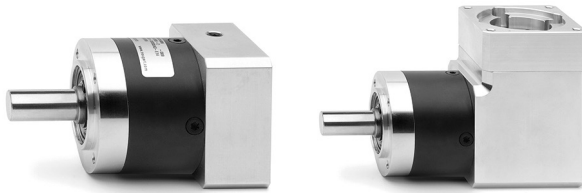


# Series GB planetary gearboxes

Available sizes: 40, 60, 80, 120

SERIES GB PLANETARY GEARBOXES



- » Reduced play
- » Prepared to be connected with Series MTB and Series MTS motors
- » High performance
- » 4 Reduction ratios available (i=3,5,7,10)
- » Silent operation
- » Any mounting position
- » Lifetime lubrication
- » Available in in-line and orthogonal configurations

The Series GB planetary gearboxes, by means of a planetary gear system, enable the reduction of the angular speed and the increase of transmittable torque. These gearboxes can be used with the Series 5E and 5V electromechanical axes and with the Series 6E electromechanical cylinders.

Available in 4 sizes with 4 different reduction ratios, the Series GB planetary gearboxes can be supplied in two different configurations, in-line or orthogonal.

All gearboxes are equipped with interface flanges for the connection to the Camozzi Series MTB and Series MTS motors.

## CODING EXAMPLE

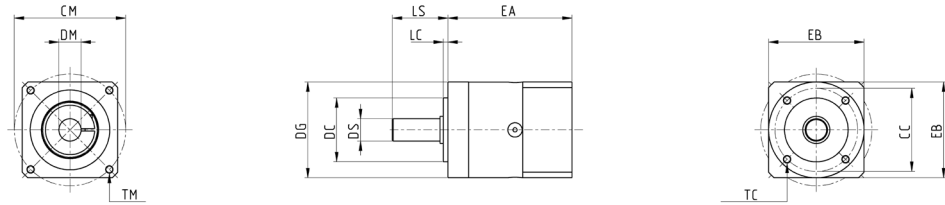
<b>GB</b>	-	<b>040</b>	-	<b>03</b>	-	<b>D</b>	-	<b>0100</b>
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<b>GB</b>	SERIES
<b>040</b>	SIZE: 040 = Ø40 060 = Ø60 080 = Ø80 120 = Ø120
<b>03</b>	REDUCTION RATIO: 03 i = 3 05 i = 5 07 i = 7 10 i = 10
<b>D</b>	TYPE: D = straight A = angular
<b>0100</b>	PREPARATION OF THE MOTOR: 0100 = Brushless 100W (size 040 only) 0400 = Brushless 400W (size 060 only) 0750 = Brushless 750W (size 080 only) 1000 = Brushless 1000W (size 120 only) 0024 = Nema 24

**IN-LINE PLANETARY GEARBOX**



SERIES GB PLANETARY GEARBOXES



Mod.	BACKLASH	$\varnothing_{DS}^{(h7)}$	LS	$\varnothing_{DC}^{(h7)}$	LC	$\varnothing_{CC}$	TC	EA	EB	$\varnothing_{DG}$	$\varnothing_{DM}$	$\varnothing_{CM}$	TM	Weight (Kg)
GB-040-D-0100	<15'	10	26	26	2	34	M4 x 6	67.5	40	40	8	45	M3 x 8	0.35
GB-040-D-0024	<15'	10	26	26	2	34	M4 x 6	67.5	60	40	8	66.7	M4 x 10	0.35
GB-060-D-0400	<10'	14	35	40	3	52	M5 x 8	78	60	60	14	70	M5 x 12	0.9
GB-060-D-0024	<10'	14	35	40	3	52	M5 x 8	71	60	60	8	66.7	M4 x 10	0.9
GB-080-D-0750	<7'	20	40	60	3	70	M6 x 10	103.5	80	80	19	90	M6 x 15	2.1
GB-080-D-0024	<7'	20	40	60	3	70	M6 x 10	93.5	80	80	8	66.7	M4 x 10	2.1
GB-120-D-1000	<7'	25	55	80	4	100	M10 x 16	136.5	130	130	24	145	M8 x 18	6

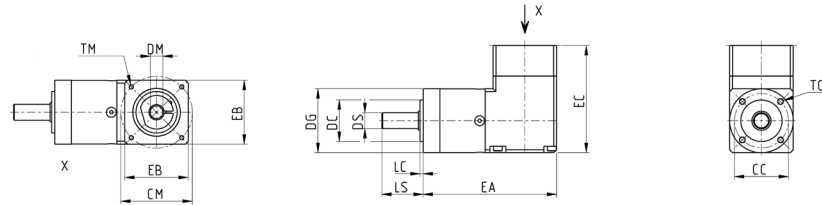
	Nominal output torque (Nm) <sup>(A)</sup>	Max output torque (Nm) <sup>(B)</sup>	Emergency output torque (Nm) <sup>(C)</sup>	Max input speed (RPM)	J (Kgc <sup>2</sup> )
GB-040-03-D-0100	11	17.5	22.5	18000	0.027
GB-040-05-D-0100	14	22	36	18000	0.019
GB-040-07-D-0100	8.5	13.5	26	18000	0.015
GB-040-10-D-0100	5	8	27	18000	0.014
GB-040-03-D-0024	11	17.5	22.5	18000	0.027
GB-040-05-D-0024	14	22	36	18000	0.019
GB-040-07-D-0024	8.5	13.5	26	18000	0.015
GB-040-10-D-0024	5	8	27	18000	0.014
GB-060-03-D-0400	28	45	66	13000	0.128
GB-060-05-D-0400	40	64	80	13000	0.08
GB-060-07-D-0400	25	40	80	13000	0.069
GB-060-10-D-0400	15	24	80	13000	0.065
GB-060-03-D-0024	28	45	66	13000	0.128
GB-060-05-D-0024	40	64	80	13000	0.08
GB-060-07-D-0024	25	40	80	13000	0.069
GB-060-10-D-0024	15	24	80	13000	0.065
GB-080-03-D-0750	85	136	180	7000	0.654
GB-080-05-D-0750	110	176	220	7000	1.633
GB-080-07-D-0750	65	104	178	7000	0.423
GB-080-10-D-0750	38	61	200	7000	0.359
GB-080-03-D-0024	85	136	180	7000	0.654
GB-080-05-D-0024	110	176	220	7000	0.423
GB-080-07-D-0024	65	104	178	7000	0.379
GB-080-10-D-0024	38	61	200	7000	0.359
GB-120-03-D-1000	115	184	390	6500	2.361
GB-120-05-D-1000	195	312	500	6500	1.633
GB-120-07-D-1000	135	216	340	6500	1.463
GB-120-10-D-1000	95	152	480	6500	1.378

<sup>(A)</sup> Values refer to intermittent load, without rotation inversion, under ideal mounting and operating conditions. For further details, please contact [service@camozzi.com](mailto:service@camozzi.com)

<sup>(B)</sup> Referred to 30,000 revolutions of the output shaft, under ideal mounting and operating conditions; see paragraph "How to calculate the life of the gearbox according to applied torque". For further details, please contact [service@camozzi.com](mailto:service@camozzi.com).

<sup>(C)</sup> Allowed for maximum 1000 times, under ideal mounting and operating conditions. For further details, please contact [service@camozzi.com](mailto:service@camozzi.com).

## ORTHOGONAL PLANETARY GEARBOX



Mod.	BACKLASH	$\beta_{DS}^{(B7)}$	LS	$\beta_{DC}^{(B7)}$	LC	$\beta_{CC}$	TC	EA	EB	EC	$\beta_{DG}$	$\beta_{DM}$	$\beta_{CM}$	TM	Weight (Kg)
GB-040-03-A-0100	<21'	10	26	26	2	34	M4 x 6	84	40	67	40	8	45	M3 x 7	0.51
GB-040-03-A-0024	<21'	10	26	26	2	34	M4 x 6	84	60	63	40	8	66.7	M4 x 7	0.51
GB-060-03-A-0400	<16'	14	35	40	3	52	M5 x 8	112	60	92.5	60	14	70	M5 x 12	1.7
GB-060-03-A-0024	<16'	14	35	40	3	52	M5 x 8	71	60	85.5	60	8	66.7	M4 x 10	1.7
GB-080-03-A-0750	<13'	20	40	60	3	70	M6 x 10	144	80	119.5	80	19	90	M6 x 15	4.4
GB-080-03-A-0024	<13'	20	40	60	3	70	M6 x 10	144	80	109.5	80	8	66.7	M4 x 10	4.4
GB-120-03-A-1000	<11'	25	55	80	4	100	M10 x 16	194.5	130	160.5	130	24	145	M8 x 18	12

	Nominal output torque (Nm) <sup>(A)</sup>	Max output torque (Nm) <sup>(A)(B)</sup>	Emergency output torque (Nm) <sup>(C)</sup>	Max input speed (RPM)	J (Kgcm <sup>2</sup> )
GB-040-03-D-0100	4,5	7	22,5	18000	0,049
GB-040-05-D-0100	7,5	12	35	18000	0,035
GB-040-07-A-0100	8,5	13,5	26	18000	0,033
GB-040-10-A-0100	5	8	25	18000	0,032
GB-040-03-A-0024	4,5	7	22,5	18000	0,049
GB-040-05-A-0024	7,5	12	35	18000	0,035
GB-040-07-A-0024	8,5	13,5	26	18000	0,033
GB-040-10-A-0024	5	8	25	18000	0,032
GB-060-03-A-0400	14	22	66	13000	0,357
GB-060-05-A-0400	24	38	80	13000	0,236
GB-060-07-A-0400	25	40	80	13000	0,225
GB-060-10-A-0400	15	24	70	13000	0,221
GB-060-03-A-0024	14	22	66	13000	0,357
GB-060-05-A-0024	24	38	80	13000	0,236
GB-060-07-A-0024	25	40	80	13000	0,225
GB-060-10-A-0024	15	24	70	13000	0,221
GB-080-03-A-0750	40	64	180	7000	1,273
GB-080-05-A-0750	67	107	220	7000	0,973
GB-080-07-A-0750	65	104	178	7000	0,929
GB-080-10-A-0750	38	61	170	7000	0,91
GB-080-03-A-0024	40	64	180	7000	1,273
GB-080-05-A-0024	67	107	220	7000	0,973
GB-080-07-A-0024	65	104	178	7000	0,929
GB-080-10-A-0024	38	61	170	7000	0,91
GB-120-03-A-1000	80	128	360	6500	2,846
GB-120-05-A-1000	130	208	500	6500	2,074
GB-120-07-A-1000	120	216	340	6500	1,905
GB-120-10-A-1000	95	152	430	6500	1,82

<sup>(A)</sup> Values refer to intermittent load, without rotation inversion, under ideal mounting and operating conditions. For further details, please contact service@camozzi.com

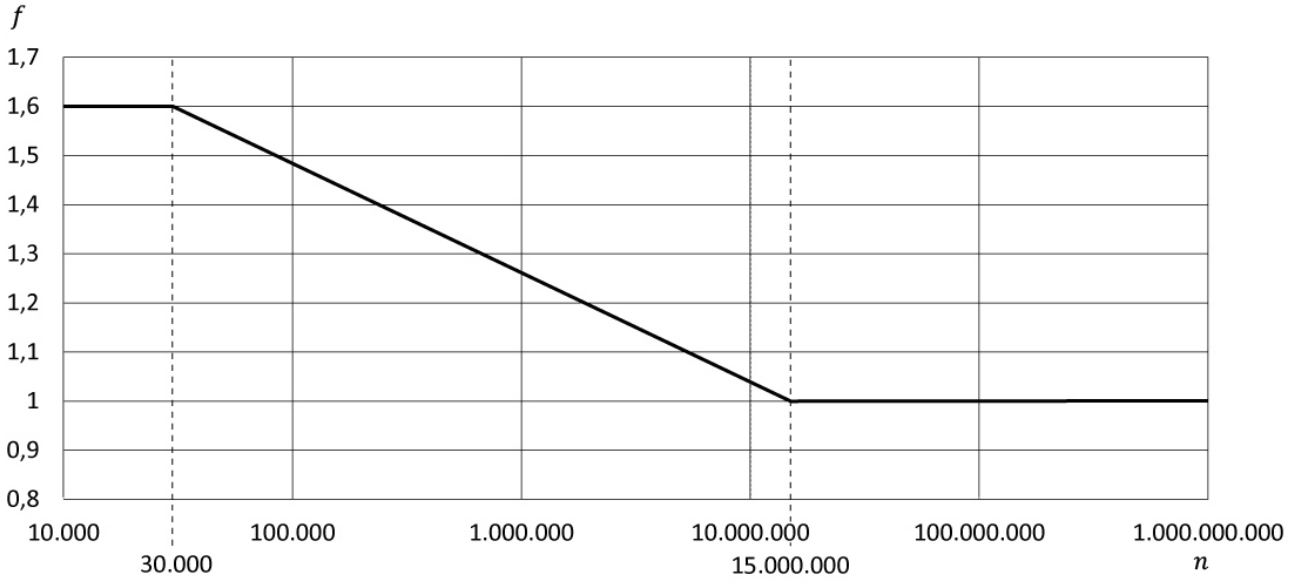
<sup>(B)</sup> Referred to 30,000 revolutions of the output shaft, under ideal mounting and operating conditions; see paragraph "How to calculate the life of the gearbox according to applied torque". For further details, please contact service@camozzi.com.

<sup>(C)</sup> Allowed for maximum 1000 times, under ideal mounting and operating conditions. For further details, please contact service@camozzi.com.

**How to calculate the life of the gearbox according to applied torque**

Ca = Effective torque application [Nm]  
 Cn = Nominal output torque [Nm]  
 f = increasing factor  
 n = number of revolutions output shaft

$$f = \frac{Ca}{Cn}$$



SERIES GB PLANETARY GEARBOXES

# Series CO motion transmission devices

- Mod. COE: elastomer coupling with clamps
- Mod. COS: elastomer coupling with expansion shaft
- Mod. COT: self-centering locking-set



**The motion transmission devices are necessary for a proper connection of electromechanical axes and cylinders with motors or gearboxes.**

Mod. COE couplings are composed of two hubs with a high concentricity clamp and an elastomeric element.

Mod. COS couplings are composed of one hub with a high concentricity clamp, a hub with expansion shaft and an elastomeric element.

The torque transmission is performed without angular play or vibrations. Both couplings are without angular play thanks to the pretensioning of the elastomer between the two semi-couplings.

Mod. COT locking-sets are composed by an internal and an external conical ring connected with each other by means of several screws. Through the tightening of the screws, an axial force is generated that enables the torque transmission from the shaft to the hub.

**AVAILABLE STANDARD DIAMETERS**

Size	6.35	8	10	11	12	12.7	14	15	16	19	20	22	24	25	32
5	x	x	x	x											
10	x	x	x		x	x	x	x	x						
20					x		x	x	x	x	x	x	x		
60							x		x	x	x		x	x	x

**MOD. COE CODING EXAMPLE**

<b>COE</b>	-	<b>10</b>	-	<b>1200</b>	-	<b>1400</b>	-	<b>A</b>
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<b>COE</b>	SERIES MODEL
<b>10</b>	SIZE: 05 10 20 60
<b>1200</b>	<p><b>HOLE DIAMETER 1:</b>          0635 = 6,35 mm (for sizes 5 and 10 only)          0800 = 8,00 mm (for sizes 5 and 10 only)          1000 = 10,00 mm (for sizes 5 and 10 only)          1100 = 11,00 mm (for size 5 only)          1200 = 12,00 mm (for sizes 10 and 20 only)          1400 = 14,00 mm (for sizes 10, 20 and 60 only)          1500 = 15,00 mm (for sizes 10 and 20 only)</p> <p>1600 = 16,00 mm (for sizes 10, 20 and 60 only)          1900 = 19,00 mm (for sizes 20 and 60 only)          2000 = 20,00 mm (for sizes 20 and 60 only)          2400 = 24,00 mm (for sizes 20 and 60 only)          2500 = 25,00 mm (for size 60 only)          3200 = 32,00 mm (for size 60 only)</p>
<b>1400</b>	<p><b>HOLE DIAMETER 2:</b>          0635 = 6.35mm (for sizes 5 and 10 only)          0800 = 8.00mm (for sizes 5 and 10 only)          1000 = 10.00mm (for sizes 5 and 10 only)          1100 = 11.00mm (for size 5 only)          1200 = 12.00mm (for sizes 10 and 20 only)          1270 = 12.70mm (for size 10 only)          1400 = 14.00mm (for sizes 10, 20 and 60 only)          1500 = 15.00mm (for sizes 10 and 20 only)</p> <p>1600 = 16.00mm (for sizes 10, 20 and 60 only)          1900 = 19.00mm (for sizes 20 and 60 only)          2000 = 20.00mm (for sizes 20 and 60 only)          2200 = 22.00mm (for size 20 only)          2400 = 24.00mm (for sizes 20 and 60 only)          2500 = 25.00mm (for size 60 only)          3200 = 32.00mm (for size 60 only)</p>
<b>A</b>	<p><b>ELASTOMER HARDNESS:</b>          A = 98 Sh A          B = 64 Sh D (for sizes 10 and 20 only)</p>

**Elastomer coupling with clamps Mod. COE**



DC: hole 1 diameter  
 DM: hole 2 diameter  
 See the CODING EXAMPLE

Size	DE	DB	DI	A	C	F	G	B1 [ ISO 4762 ]	Tightening torque (Nm)	Nominal torque with elastomer A (Nm) <sup>(A)</sup>	Nominal torque with elastomer B (Nm) <sup>(A)</sup>	Max torque with elastomer A (Nm) <sup>(B)</sup>	Max torque with elastomer B (Nm) <sup>(B)</sup>
05	25	25	10.2	26	8	8	4	M3 (CH2.5)	2	9	-	18	-
10	32	32	14.2	32	10.3	10.5	5	M4 (CH3)	4	12.5	16	25	32
20	42	44.5	19.2	50	17	15.5	8.5	M5 (CH4)	8	17	21	34	42
60	56	57	26.2	58	20	21	10	M6 (CH5)	15	60	-	120	-

<sup>(A)</sup> Continuously applicable torque, under ideal mounting and operating conditions. For further details, please contact [service@camozzi.com](mailto:service@camozzi.com)  
<sup>(B)</sup> Torque applicable for short intervals, under ideal mounting and operating conditions. For further details, please contact [service@camozzi.com](mailto:service@camozzi.com)

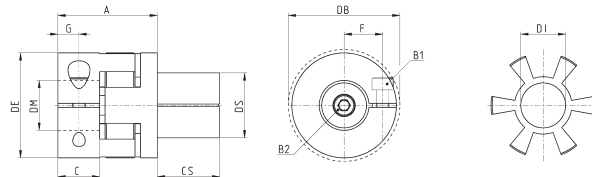
## MOD. COS CODING EXAMPLE

<b>COS</b>	-	<b>10</b>	-	<b>2000</b>	-	<b>1400</b>	-	<b>A</b>
<b>COS</b>	SERIES MODEL							
<b>10</b>	SIZE: 10 20 60							
<b>2000</b>	SHAFT DIAMETER: 2000 = 20.00mm (for size 10 only) 2600 = 26.00mm (for size 20 only) 3800 = 38.00mm (for size 60 only)							
<b>1400</b>	HOLE DIAMETER: 0635 = 6.35mm (for size 10 only) 0800 = 8.00mm (for size 10 only) 1000 = 10.00mm (for size 10 only) 1200 = 12.00mm (for sizes 10 and 20 only) 1270 = 12.70mm (for size 10 only) 1400 = 14.00mm (for sizes 10, 20 and 60 only) 1500 = 15.00mm (for sizes 10 and 20 only) 1600 = 16.00mm (for sizes 10, 20 and 60 only) 1900 = 19.00mm (for sizes 20 and 60 only) 2000 = 20.00mm (for sizes 20 and 60 only) 2200 = 22.00mm (for size 20 only) 2400 = 24.00mm (for sizes 20 and 60 only) 2500 = 25.00mm (for size 60 only) 3200 = 32.00mm (for size 60 only)							
<b>A</b>	ELASTOMER HARDNESS: A = 98 Sh A B = 64 Sh D (for sizes 10 and 20 only)							

## Elastomer coupling with expansion shaft Mod. COS



DS: shaft diameter  
DM: hole diameter  
See the CODING EXAMPLE



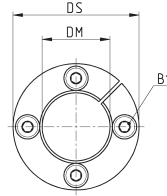
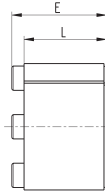
Size	$\rho_{DE}$	$\rho_{DB}$	$\rho_{DI}$	A	C	CS	F	G	B1 [ISO4762]	Tightening torque (Nm)	B2 [ISO4762]	Tightening torque (Nm)	Nominal torque with elastomer A (Nm) <sup>(A)</sup>	Nominal torque with elastomer B (Nm) <sup>(A)</sup>	Max torque with elastomer A (Nm) <sup>(B)</sup>	Max torque with elastomer B (Nm) <sup>(B)</sup>
10	32	32	14.2	28	10.3	20	10.5	5	M4 (CH3)	4	M5 (CH4)	9	12.5	16	25	32
20	42	44.5	19.2	40	17	25	15.5	8.5	M5 (CH4)	8	M6 (CH5)	12	17	21	34	42
60	56	57	26.2	46	20	27	21	10	M6 (CH5)	15	M8 (CH6)	32	60	-	120	-

<sup>(A)</sup> Continuously applicable torque, under ideal mounting and operating conditions. For further details, please contact [service@camozzi.com](mailto:service@camozzi.com)

<sup>(B)</sup> Torque applicable for short intervals, under ideal mounting and operating conditions. For further details, please contact [service@camozzi.com](mailto:service@camozzi.com)



**Self-centering locking-set Mod. COT**



SERIES CO MOTION TRANSMISSION DEVICES

Mod.	$\varnothing_{DS}$	$\varnothing_{DM}$	L	E	B1	Torque force (Nm)	Max torque (Nm) <sup>(A)</sup>	Weight (g)
<b>COT-1800-0800</b>	18	8	11	13,5	M2.5 (CH2.5)	1,2	8	16
<b>COT-2000-1000</b>	20	10	13	15,5	M2.5 (CH2.5)	1,2	14	25
<b>COT-2200-1200</b>	22	12	13	15,5	M2.5 (CH2.5)	1,2	15	27
<b>COT-2600-1400</b>	26	14	17	20	M3 (CH2.5)	2,1	30	50
<b>COT-2800-1500</b>	28	15	17	20	M3 (CH2.5)	2,1	32	58
<b>COT-3500-1900</b>	35	19	21	25	M4 (CH3)	4,9	70	113
<b>COT-3800-2000</b>	38	20	21	26	M5 (CH4)	4,9	125	140
<b>COT-4700-2400</b>	47	24	26	32	M6 (CH5)	17	210	200
<b>COT-4700-2500</b>	47	25	26	32	M6 (CH5)	17	215	200

<sup>(A)</sup> value refers to ideal mounting and operating conditions.  
For further details, please contact [service@camozzi.com](mailto:service@camozzi.com)