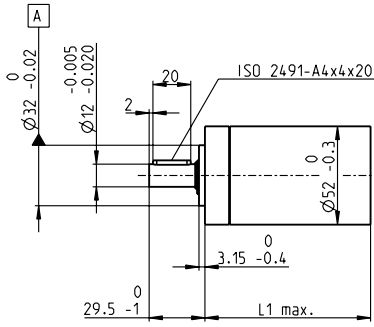


# Planetary Gearhead GP 52 C Ø52 mm, 4 - 30 Nm

Ceramic Version



M 1:4

## Technical Data

Planetary Gearhead	straight teeth
Output shaft	stainless steel
Bearing at output	preloaded ball bearings
Radial play, 12 mm from flange	max. 0.06 mm
Axial play at axial load	< 5 N 0 mm > 5 N max. 0.3 mm
Max. permissible axial load	200 N
Max. permissible force for press fits	500 N
Sense of rotation, drive to output	=
Recommended input speed	< 6000 rpm
Recommended temperature range	-15 ... +80°C
Extended range as option	-40 ... +100°C
Number of stages	1 2 3 4
Max. radial load, 12 mm from flange	500 N 700 N 900 N 900 N

- Stock program
- Standard program
- Special program (on request)

## Order Number

Gearhead Data	223080	223083	223089	223094	223097	223104	223109
1 Reduction	3.5 : 1	12 : 1	43 : 1	91 : 1	150 : 1	319 : 1	546 : 1
2 Reduction absolute	7/2	49/4	343/8	91	2401/16	637/2	546
10 Mass inertia gcm <sup>2</sup>	20.7	17.6	17.3	16.7	17.3	16.8	16.4
3 Max. motor shaft diameter mm	10	10	10	10	10	10	10
<b>Order Number</b>	<b>223081</b>	223084	223090	223095	223099	<b>223105</b>	223110
1 Reduction	4.3 : 1	15 : 1	53 : 1	113 : 1	186 : 1	353 : 1	676 : 1
2 Reduction absolute	13/3	91/6	637/12	338/3	4489/24	28561/81	676
10 Mass inertia gcm <sup>2</sup>	12	16.8	17.2	9.3	17.3	9.4	9.1
3 Max. motor shaft diameter mm	8	10	10	8	10	8	8
<b>Order Number</b>		<b>223085</b>	223091	223096	223101	223106	223111
1 Reduction		19 : 1	66 : 1	126 : 1	230 : 1	394 : 1	756 : 1
2 Reduction absolute		169/9	1183/18	126	8281/36	1183/3	756
10 Mass inertia gcm <sup>2</sup>		9.5	16.7	16.4	16.8	16.7	16.4
3 Max. motor shaft diameter mm		8	10	10	10	10	10
<b>Order Number</b>		223086	223092	223098	223102	223107	223112
1 Reduction		21 : 1	74 : 1	156 : 1	257 : 1	441 : 1	936 : 1
2 Reduction absolute		21	147/2	156	1029/4	441	936
10 Mass inertia gcm <sup>2</sup>		16.5	17.2	9.1	17.3	16.5	9.1
3 Max. motor shaft diameter mm		10	10	8	10	10	8
<b>Order Number</b>		223087	<b>223093</b>		223103	223108	
1 Reduction		26 : 1	81 : 1		285 : 1	488 : 1	
2 Reduction absolute		26	2197/27		15379/54	4394/9	
10 Mass inertia gcm <sup>2</sup>		9.1	9.4		16.7	9.4	
3 Max. motor shaft diameter mm		8	8		10	8	
4 Number of stages	1	2	3	3	4	4	4
5 Max. continuous torque Nm	4	15	30	30	30	30	30
6 Intermittently permissible torque at gear output Nm	6	22.5	45	45	45	45	45
7 Max. efficiency %	91	83	75	75	68	68	68
8 Weight g	460	620	770	770	920	920	920
9 Average backlash no load °	0.6	0.8	1.0	1.0	1.0	1.0	1.0
11 Gearhead length L1 mm	49.0	65.0	78.5	78.5	92.0	92.0	92.0

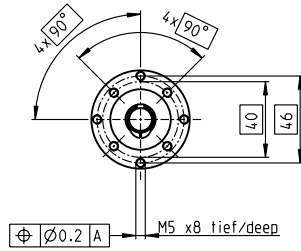
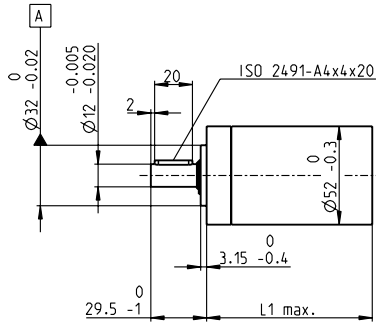


## maxon Modular System

+ Motor	Page	+ Sensor	Page	Brake	Page	Overall length [mm] = Motor length + gearhead length + (sensor / brake) + assembly parts						
RE 40, 150 W	82					120.1	136.1	149.6	149.6	163.1	163.1	163.1
RE 40, 150 W	82	MR	263			131.5	147.5	161.0	161.0	174.5	174.5	174.5
RE 40, 150 W	82	HED_ 5540	266/268			140.8	156.8	170.3	170.3	183.8	183.8	183.8
RE 40, 150 W	82	HEDL 9140	271			174.1	190.1	203.6	203.6	217.1	217.1	217.1
RE 40, 150 W	82			AB 28	318	156.2	172.2	185.7	185.7	199.2	199.2	199.2
RE 40, 150 W	82			AB 28	319	164.2	180.2	193.7	193.7	207.2	207.2	207.2
RE 40, 150 W	82	HED_ 5540	266/268	AB 28	318	173.3	189.3	202.8	202.8	216.3	216.3	216.3
RE 40, 150 W	82	HEDL 9140	271	AB 28	319	184.6	200.6	214.1	214.1	227.6	227.6	227.6
RE 50, 200 W	83					157.1	173.1	186.6	186.6	200.1	200.1	200.1
RE 50, 200 W	83	HED_ 5540	267/269			177.8	193.8	207.3	207.3	220.8	220.8	220.8
RE 50, 200 W	83	HEDL 9140	272			219.5	235.5	249.0	249.0	262.5	262.5	262.5
RE 50, 200 W	83			AB 44	322	219.5	235.5	249.0	249.0	262.5	262.5	262.5
RE 50, 200 W	83	HEDL 9140	272	AB 44	322	232.5	248.5	262.0	262.0	275.5	275.5	275.5
EC 40, 170 W	155					132.4	148.4	161.9	161.9	175.4	175.4	175.4
EC 40, 170 W	155	HED_ 5540	267/269			155.8	171.8	185.3	185.3	198.8	198.8	198.8
EC 40, 170 W	155	Res 26	277			159.8	175.8	189.3	189.3	202.8	202.8	202.8
EC 40, 170 W	155			AB 32	320	175.1	191.1	204.6	204.6	218.1	218.1	218.1
EC 40, 170 W	155	HED_ 5540	267/269	AB 32	320	198.5	214.5	228.0	228.0	241.5	241.5	241.5

# Planetary Gearhead GP 52 C Ø52 mm, 4 - 30 Nm

Ceramic Version



M 1:4

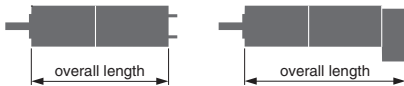
## Technical Data

Planetary Gearhead	straight teeth
Output shaft	stainless steel
Bearing at output	preloaded ball bearings
Radial play, 12 mm from flange	max. 0.06 mm
Axial play at axial load	< 5 N 0 mm > 5 N max. 0.3 mm
Max. permissible axial load	200 N
Max. permissible force for press fits	500 N
Sense of rotation, drive to output	=
Recommended input speed	< 6000 rpm
Recommended temperature range	-15 ... +80°C
Extended range as option	-40 ... +100°C
Number of stages	1 2 3 4
Max. radial load, 12 mm from flange	500 N 700 N 900 N 900 N

- Stock program
- Standard program
- Special program (on request)

## Order Number

Gearhead Data	223080	223083	223089	223094	223097	223104	223109
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10 Mass inertia	gcm <sup>2</sup> 20.7	17.6	17.3	16.7	17.3		16.8
3 Max. motor shaft diameter	mm 10	10	10	10	10	10	10
<b>Order Number</b>	<b>223081</b>	223084	223090	223095	223099	<b>223105</b>	223110
1 Reduction	4.3 : 1	15 : 1	53 : 1	113 : 1	186 : 1		353 : 1
2 Reduction absolute	19/3	91/6	637/12	338/3	4459/24	28561/81	676
10 Mass inertia	gcm <sup>2</sup> 12	16.8	17.2	9.3	17.3	9.4	
3 Max. motor shaft diameter	mm 8	10	10	8	10	8	8
<b>Order Number</b>		<b>223085</b>	223091	223096	223101	223106	223111
1 Reduction	19 : 1	66 : 1	126 : 1	230 : 1	394 : 1	756 : 1	
2 Reduction absolute		169/9	1183/18	126	8281/36	1183/3	756
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3 Max. motor shaft diameter	mm 8	10	10	10	10	10	10
<b>Order Number</b>		223086	223092	223098	223102	223107	223112
1 Reduction	21 : 1	74 : 1	156 : 1	257 : 1	441 : 1	936 : 1	
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10 Mass inertia	gcm <sup>2</sup> 16.5	17.2	9.1	17.3	16.5	9.1	
3 Max. motor shaft diameter	mm 10	10	8	10	10	8	
<b>Order Number</b>	223087	<b>223093</b>		223103	223108		
1 Reduction	26 : 1	81 : 1		285 : 1	488 : 1		
2 Reduction absolute		26	2197/27	15379/54	4394/9		
10 Mass inertia	gcm <sup>2</sup> 9.1	9.4		16.7	9.4		
3 Max. motor shaft diameter	mm 8	8		10	8		
4 Number of stages	1	2	3	3	4	4	4
5 Max. continuous torque	Nm 4	15	30	30	30	30	30
6 Intermittently permissible torque at gear output	Nm 6	22.5	45	45	45	45	45
7 Max. efficiency	% 91	83	75	75	68	68	68
8 Weight	g 460	620	770	770	920	920	920
9 Average backlash no load	° 0.6	0.8	1.0	1.0	1.0	1.0	1.0
11 Gearhead length L1	mm 49.0	65.0	78.5	78.5	92.0	92.0	92.0



## maxon Modular System

+ Motor	Page	+ Sensor	Page	Brake	Page	Overall length [mm] = Motor length + gearhead length + (sensor / brake) + assembly parts						
EC 45, 150 W	156					160.3	176.3	189.8	189.8	203.3	203.3	203.3
EC 45, 150 W	156	HEDL 9140	271			175.9	191.9	205.4	205.4	218.9	218.9	218.9
EC 45, 150 W	156	Res 26	277			160.3	176.3	189.8	189.8	203.3	203.3	203.3
EC 45, 150 W	156			AB 28	319	167.7	183.7	197.2	197.2	210.7	210.7	210.7
EC 45, 150 W	156	HEDL 9140	271	AB 28	319	184.7	200.7	214.2	214.2	227.7	227.7	227.7
EC 45, 250 W	157					193.1	209.1	222.6	222.6	236.1	236.1	236.1
EC 45, 250 W	157	HEDL 9140	271			208.7	224.7	238.2	238.2	251.7	251.7	251.7
EC 45, 250 W	157	Res 26	277			193.1	209.1	222.6	222.6	236.1	236.1	236.1
EC 45, 250 W	157			AB 28	319	200.5	216.5	230.0	230.0	243.5	243.5	243.5
EC 45, 250 W	157	HEDL 9140	271	AB 28	319	217.5	233.5	247.0	247.0	260.5	260.5	260.5
EC-max 40, 120 W	169					137.1	153.1	166.6	166.6	180.1	180.1	180.1
EC-max 40, 120 W	169	MR	263			153.0	169.0	182.5	182.5	196.0	196.0	196.0
EC-max 40, 120 W	169	HEDL 9140	271			160.5	176.5	190.0	190.0	203.5	203.5	203.5
EC-max 40, 120 W	169			AB 28	317	177.1	193.1	206.6	206.6	220.1	220.1	220.1
EC-max 40, 120 W	169	HEDL 9140	271	AB 28	317	200.5	216.5	230.0	230.0	243.5	243.5	243.5
EC 90 flat, 90 W	197					81.4	97.4	110.9	110.9	124.4	124.4	124.4