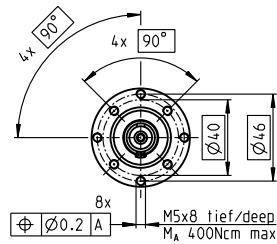
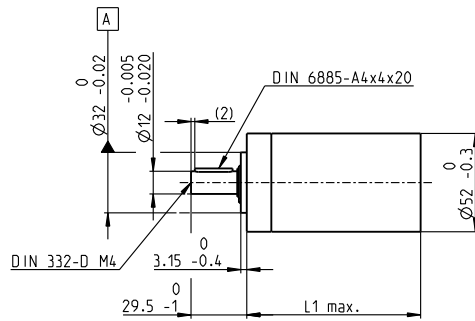


Planetary Gearhead GP 52 C Ø52 mm, 4.0–30.0 Nm

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. axial load (dynamic)	200 N
Max. force for press fits	500 N
Direction of rotation, drive to output	=
Max. continuous 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	420 N 630 N 900 N 900 N

gear

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

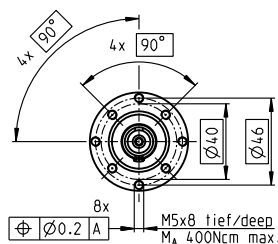
Part numbers

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 Absolute reduction		7/2	49/4	343/8	91	2401/16	637/2	546
10 Mass inertia	gcm ²	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
Part numbers		223081	223084	223090	223095	223099	223105	223110
1 Reduction		4.3:1	15:1	53:1	113:1	186:1	353:1	676:1
2 Absolute reduction		13/3	9/6	637/12	338/3	4459/24	28561/81	676
10 Mass inertia	gcm ²	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
Part numbers		223085	223091	223096	223101	223106	223111	
1 Reduction		19:1	66:1	126:1	230:1	394:1	756:1	
2 Absolute reduction		169/9	1183/18	126	8281/36	1183/3	756	
10 Mass inertia	gcm ²	9.5	16.7	16.4	16.8	16.7	16.4	
3 Max. motor shaft diameter	mm	8	10	10	10	10	10	
Part numbers		223086	223092	223098	223102	223107	223112	
1 Reduction		21:1	74:1	156:1	257:1	441:1	936:1	
2 Absolute reduction		21	147/2	156	1029/4	441	936	
10 Mass inertia	gcm ²	16.5	17.2	9.1	17.3	16.5	9.1	
3 Max. motor shaft diameter	mm	10	10	8	10	10	8	
Part numbers		223087	223093		223103	223108		
1 Reduction		26:1	81:1		285:1	488:1		
2 Absolute reduction		26	2197/27		15379/64	4394/6		
10 Mass inertia	gcm ²	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 Max. intermittent 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



Modular system									
+ Motor	Page	+ Sensor	Page	Brake	Page	Overall length [mm] = Motor length + gearhead length + (sensor/brake) + assembly parts			
RE 40, 150 W	163					120.1	136.1	149.6	149.6
RE 40, 150 W	163	ENX 32 IMR	506			131.5	147.5	161.0	161.0
RE 40, 150 W	163	HEDL 5540	535/538			140.8	156.8	170.3	170.3
RE 40, 150 W	163	HEDL 9140	540			174.1	190.1	203.6	203.6
RE 40, 150 W	163			AB 28	588	156.2	172.2	185.7	185.7
RE 40, 150 W	163			AB 28	588	164.2	180.2	193.7	193.7
RE 40, 150 W	163	HEDL 5540	535/538	AB 28	588	173.4	189.4	202.9	202.9
RE 40, 150 W	163	HEDL 9140	540	AB 28	588	184.6	200.6	214.1	214.1
RE 50, 200 W	164					157.1	173.1	186.6	186.6
RE 50, 200 W	164	HEDL 5540	536/538			177.8	193.8	207.3	207.3
RE 50, 200 W	164	HEDL 9140	541			219.5	235.5	249.0	249.0
RE 50, 200 W	164			AB 44	592	219.5	235.5	249.0	249.0
RE 50, 200 W	164	HEDL 9140	541	AB 44	592	232.5	248.5	262.0	262.0
EC 40, 170 W	272	HEDL 5540	536/538			152.5	168.5	182.0	182.0
EC 40, 170 W	272	Res 26	543			156.3	172.3	185.8	185.8
EC 40, 170 W	272			AB 32	589	171.8	187.8	201.3	201.3
EC 40, 170 W	272	HEDL 5540	536/538	AB 32	589	190.2	206.2	219.7	219.7
EC 45, 150 W	273					160.3	176.3	189.8	189.8
EC 45, 150 W	273	HEDL 9140	540			175.9	191.9	205.4	205.4
EC 45, 150 W	273	Res 26	543			160.3	176.3	189.8	189.8
EC 45, 150 W	273			AB 28	588	167.7	183.7	197.2	197.2
EC 45, 150 W	273	HEDL 9140	540	AB 28	588	184.7	200.7	214.2	214.2
EC 45, 250 W	274					193.1	209.1	222.6	222.6
EC 45, 250 W	274	HEDL 9140	540			208.7	224.7	238.2	238.2
EC 45, 250 W	274	Res 26	543			193.1	209.1	222.6	222.6

gear



M 1:4

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. axial load (dynamic)				200 N
Max. force for press fits				500 N
Direction of rotation, drive to output				=
Max. continuous 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	420 N	630 N	900 N	900 N

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223080	223083	223089	223094	223097	223104	223109
223081	223084	223090	223095	223099	223105	223110
	223085	223091	223096	223101	223106	223111
	223086	223092	223098	223102	223107	223112
	223087	223093		223103	223108	

+ Motor	Page	+ Sensor	Page	Brake	Page	Overall length [mm] = Motor length + gearhead length + (sensor/brake) + assembly parts					
EC 45, 250 W	274			AB 28	588	200.5	216.5	230.0	230.0	243.5	243.5
EC 45, 250 W	274	HEDL 9140	540	AB 28	588	217.5	233.5	247.0	247.0	260.5	260.5
EC-max 40, 120 W	287					137.1	153.1	166.6	166.6	180.1	180.1
EC-max 40, 120 W	287	16 EASY/XT/Abs. 509-511				148.0	164.0	177.5	177.5	191.0	191.0
EC-max 40, 120 W	287	16 EASY Abs. XT 512				148.5	164.5	178.0	178.0	191.5	191.5
EC-max 40, 120 W	287	HEDL 5540	539			160.5	176.5	190.0	190.0	203.5	203.5
EC-max 40, 120 W	287			AB 28	586	171.5	187.5	201.0	201.0	214.5	214.5
EC-max 40, 120 W	287	HEDL 5540	539	AB 28	586	189.8	205.8	219.3	219.3	232.8	232.8
EC-i 52, 180 W	312					129.1	145.1	158.6	158.6	172.1	172.1
EC-i 52, 180 W	312	22 EMT	518			157.1	173.1	186.6	186.6	200.1	200.1
EC-i 52, 180 W	312	TSX 40 MAG/RIO 526-527				140.8	156.8	170.3	170.3	183.8	183.8
EC-i 52, 180 W	312	16 EASY/Abs. 509/511				142.8	158.8	172.3	172.3	185.8	185.8
EC-i 52, 180 W	312	16 RIO	519			142.8	158.8	172.3	172.3	185.8	185.8
EC-i 52, 200 W	313					159.1	175.1	188.6	188.6	202.1	202.1
EC-i 52, 200 W	313	22 EMT	518			187.1	203.1	216.6	216.6	230.1	230.1
EC-i 52, 200 W	313	TSX 40 MAG/RIO 526-527				170.8	186.8	200.3	200.3	213.8	213.8
EC-i 52, 200 W	313	16 EASY/XT/Abs. 509-511				172.8	188.8	202.3	202.3	215.8	215.8
EC-i 52, 200 W	313	16 EASY Abs. XT 512				173.3	189.3	202.8	202.8	216.3	216.3
EC-i 52, 200 W	313	16 RIO	519			172.8	188.8	202.3	202.3	215.8	215.8
EC 60 flat, 100 W	321					89.8	105.8	119.3	119.3	132.8	132.8
EC 60 flat, 100 W	321	MILE	530			90.8	106.8	120.3	120.3	133.8	133.8
EC 60 flat, 150 W	322					89.8	105.8	119.3	119.3	132.8	132.8
EC 60 flat, 150 W	322	MILE	530			90.8	106.8	120.3	120.3	133.8	133.8
EC 60 flat, 200 W	323					97.6	113.6	127.1	127.1	140.6	140.6
EC 60 flat, 200 W	323	MILE	530			98.6	114.6	128.1	128.1	141.6	141.6
EC 90 flat, 160 W	324					74.5	90.5	103.5	103.5	117.0	117.0
EC 90 flat, 160 W	324	MILE	531			75.0	91.0	104.0	104.0	117.5	117.5
EC 90 flat, 220 W	325					74.5	90.5	103.5	103.5	117.0	117.0
EC 90 flat, 220 W	325	MILE	531			75.0	91.0	104.0	104.0	117.5	117.5
EC 90 flat, 360 W	326					87.0	103.0	116.0	116.0	129.5	129.5
EC 90 flat, 360 W	326	MILE	531			87.5	103.5	116.5	116.5	130.0	130.0
EC 90 flat, 260 W	327					87.0	103.0	116.0	116.0	129.5	129.5
EC 90 flat, 260 W	327	MILE	531			87.5	103.5	116.5	116.5	130.0	130.0
EC 90 flat, 400 W	328					87.0	103.0	116.0	116.0	129.5	129.