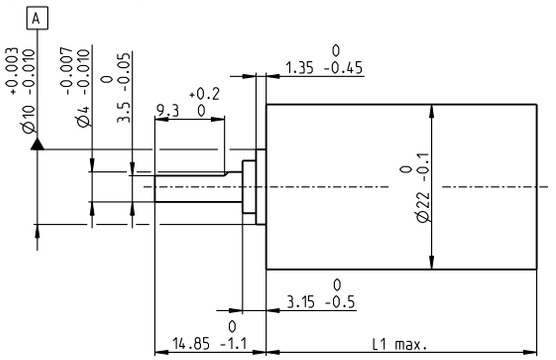
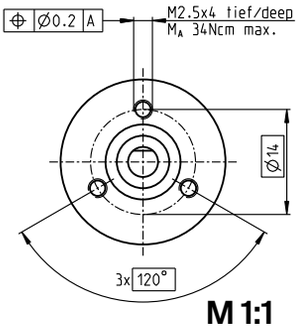
Planetary Gearhead GP 22 C ∅22 mm, 0.5–2.0 Nm

Ceramic Version





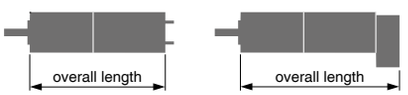
M 1:1

Technical Data						
Planetary Gearhead	straight teeth					
Output shaft	stainless steel, hardened					
Bearing at output	ball bearing					
Radial play, 10 mm from flange	max. 0.2 mm					
Axial play	max. 0.2 mm					
Max. axial load (dynamic)	100 N					
Max. force for press fits	100 N					
Direction of rotation, drive to output	=					
Max. continuous input speed	8000 rpm					
Recommended temperature range	-40...+100°C					
Number of stages	1	2	3	4	5	
Max. radial load, 10 mm from flange	30 N	50 N	55 N	55 N	55 N	

Stock program
Standard program
Special program (on request)

Part Numbers	143971	143974	143980	143986	143990	143996	144002	144004	144011	144017	144023
Gearhead Data											
1 Reduction	3.8:1	14:1	53:1	104:1	198:1	370:1	590:1	742:1	1386:1	1996:1	3189:1
2 Absolute reduction	15/4	225/16	3375/64	87723/845	50625/256	10556001/28561	59049/100	759375/1024	158340015/114244	285012027/142805	1594323/500
3 Max. motor shaft diameter mm	4	4	4	3.2	4	3.2	4	4	3.2	3.2	4
Part Numbers	143972	143975	143981	143987	143991	143997	144003	144006	144012	144018	144024
1 Reduction	4.4:1	16:1	62:1	109:1	231:1	389:1	690:1	867:1	1460:1	2102:1	3728:1
2 Absolute reduction	57/13	855/52	12825/208	2187/20	192375/832	263169/676	1121931/1625	2885625/3328	3947535/2704	7105563/3380	30292137/8125
3 Max. motor shaft diameter mm	3.2	3.2	3.2	4	3.2	3.2	3.2	3.2	3.2	3.2	3.2
Part Numbers	143973	143976	143982	**143988**	143992	143998	144005	144007	144013	144019	144025
1 Reduction	5.4:1	19:1	72:1	128:1	270:1	410:1	850:1	1014:1	1538:1	2214:1	4592:1
2 Absolute reduction	27/5	3249/169	48735/676	41553/325	731025/2704	6561/16	531441/625	10965375/10816	98415/64	177147/80	14348907/3125
3 Max. motor shaft diameter mm	2.5	3.2	3.2	3.2	3.2	4	2.5	3.2	4	4	2.5
Part Numbers		143977	143983	143989	143993	143999		144008	144014	144020	
1 Reduction		20:1	76:1	157:1	285:1	455:1		1068:1	1621:1	2458:1	
2 Absolute reduction		81/4	1215/16	19683/125	18225/64	5000211/10985		273375/256	60169205/371293	135005697/54925	
3 Max. motor shaft diameter mm		4	4	2.5	4	3.2		4	3.2	3.2	
Part Numbers		143978	**143984**		143994	144000		144009	144015	144021	
1 Reduction		24:1	84:1		316:1	479:1		1185:1	1707:1	2589:1	
2 Absolute reduction		1539/65	185193/2197		2777895/8788	124659/260		41668425/35152	15000633/8788	3365793/1300	
3 Max. motor shaft diameter mm		3.2	3.2		3.2	3.2		3.2	3.2	3.2	
Part Numbers		143979	143985		143995	144001		144010	144016	144022	
1 Reduction		29:1	89:1		333:1	561:1		1249:1	1798:1	3027:1	
2 Absolute reduction		729/25	4617/52		69255/208	2368521/4225		1038825/832	373977/208	63950067/21125	
3 Max. motor shaft diameter mm		2.5	3.2		3.2	3.2		3.2	3.2	3.2	
4 Number of stages	1	2	3	3	4	4	4	5	5	5	5
5 Max. continuous torque Nm	0.5	0.6	1.2	1.2	1.8	1.8	1.8	2.0	2.0	2.0	2.0
6 Max. intermittent torque at gear output Nm	0.8	0.9	1.9	1.9	2.7	2.7	2.7	3.0	3.0	3.0	3.0
7 Max. efficiency %	84	70	59	59	49	49	49	42	42	42	42
8 Weight g	42	55	68	68	81	81	81	94	94	94	94
9 Average backlash no load °	1.0	1.2	1.6	1.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0
10 Mass inertia gcm²	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
11 Gearhead length L1* mm	25.4	32.2	39.0	39.0	45.8	45.8	45.8	52.6	52.6	52.6	52.6

*for EC-max 16 L1 is~2.8 mm



maxon Modular System

+ Motor	Page	+ Sensor/Brake	Page	Overall length [mm] = Motor length + gearhead length + (sensor/brake) + assembly parts										
EC-max 16, 8 W	247			58.7	65.5	72.3	72.3	79.1	79.1	79.1	85.9	85.9	85.9	85.9
EC-max 16, 8 W	247	MR	477	66.0	72.8	79.6	79.6	86.4	86.4	86.4	93.2	93.2	93.2	93.2
EC-max 22, 12 W	248			57.5	64.3	71.1	71.1	77.9	77.9	77.9	84.7	84.7	84.7	84.7
EC-max 22, 12 W	248	MR	477	67.1	73.9	80.7	80.7	87.5	87.5	87.5	94.3	94.3	94.3	94.3
EC-max 22, 12 W	248	AB 20	532	93.1	99.9	106.7	106.7	113.5	113.5	113.5	120.3	120.3	120.3	120.3
EC-max 22, 25 W	249			74.0	80.8	87.6	87.6	94.4	94.4	94.4	101.2	101.2	101.2	101.2
EC-max 22, 25 W	249	MR	477	83.6	90.4	97.2	97.2	104.0	104.0	104.0	110.8	110.8	110.8	110.8
EC-max 22, 25 W	249	AB 20	532	109.6	116.4	123.2	123.2	130.0	130.0	130.0	136.8	136.8	136.8	136.8
EC 20 flat, 3 W, A	287			33.1	39.9	46.7	46.7	53.5	53.5	53.5	60.3	60.3	60.3	60.3
EC 20 flat, 3 W, B	287			32.5	39.3	46.1	46.1	52.9	52.9	52.9	59.7	59.7	59.7	59.7
EC 20 flat, 5 W	288			36.7	43.5	50.3	50.3	57.1	57.1	57.1	63.9	63.9	63.9	63.9
EC 20 flat, IE, IP 00	289			39.7	46.5	53.3	53.3	60.1	60.1	60.1	66.9	66.9	66.9	66.9
EC 20 flat, IE, IP 40	289			40.8	47.6	54.4	54.4	61.2	61.2	61.2	68.0	68.0	68.0	68.0
EC 20 flat, IE, IP 00	290			43.7	50.5	57.3	57.3	64.1	64.1	64.1	70.9	70.9	70.9	70.9
EC 20 flat, IE, IP 40	290			44.8	51.6	58.4	58.4	65.2	65.2	65.2	72.0	72.0	72.0	72.0
EC 32 flat, 6 W	291			39.8	46.6	53.4	53.4	60.2	60.2	60.2	67.0	67.0	67.0	67.0