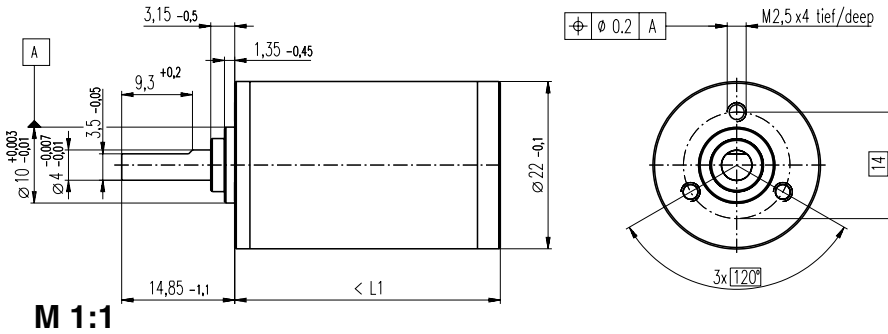


Planetary Gearhead GP 22 C $\varnothing 22$ mm, 0.5 - 2.0 Nm

Ceramic Version



Technical Data

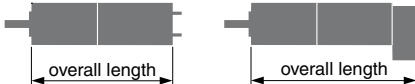
Planetary Gearhead	straight teeth
Output shaft	stainless steel, hardened
Bearing at output	ball bearing
Radial play, 10 mm from flange	max. 0.2 mm
Axial play	max. 0.2 mm
Max. perm. radial load, 10 mm from flange	70 N
Max. permissible axial load	100 N
Max. permissible force for press fits	100 N
Recommended input speed	< 8000 rpm
Recommended temperature range	-15 ... +80°C

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

Order Number

	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 Reduction absolute	15 _{/4}	225 _{/16}	3375 _{/64}	87723 _{/845}	50625 _{/256}	10556001 _{/28561}	59049 _{/100}	759375 _{/1024}	158340015 _{/114244}	285012027 _{/142805}	1594323 _{/500}
Order Number	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 Reduction absolute	57 _{/13}	855 _{/52}	12825 _{/208}	2187 _{/20}	192375 _{/832}	263169 _{/676}	1121931 _{/1625}	2885625 _{/3328}	3947535 _{/2704}	7105563 _{/3380}	30292137 _{/8125}
Order Number	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 Reduction absolute	27 _{/5}	3249 _{/169}	48735 _{/676}	41553 _{/325}	731025 _{/2704}	6561 _{/16}	5314441 _{/625}	10965375 _{/10816}	98415 _{/64}	177147 _{/80}	14348907 _{/3125}
Order Number		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 Reduction absolute		81 _{/4}	1215 _{/16}	19683 _{/125}	18225 _{/64}	5000211 _{/10985}		273375 _{/256}	601692057 _{/371293}	135005697 _{/54925}	
Order Number		143978	143984		143994	144000		144009	144015	144021	
1 Reduction		24 : 1	84 : 1		316 : 1	479 : 1		1185 : 1	1707 : 1	2589 : 1	
2 Reduction absolute		1539 _{/65}	185193 _{/2197}		2777895 _{/8788}	124659 _{/260}		41688425 _{/35152}	15000633 _{/8788}	3365793 _{/1300}	
Order Number		143979	143985		143995	144001		144010	144016	144022	
1 Reduction		29 : 1	89 : 1		333 : 1	561 : 1		1249 : 1	1798 : 1	3027 : 1	
2 Reduction absolute		729 _{/25}	4617 _{/52}		69255 _{/208}	2368521 _{/4225}		1038825 _{/832}	373977 _{/208}	63950067 _{/21125}	
3 Number of stages		1	2	3	3	4	4	4	5	5	5
4 Max. continuous torque at gear output	Nm	0.5	0.6	1.3	1.3	1.8	1.8	1.8	2.0	2.0	2.0
5 Intermittently permissible 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
6 Sense of rotation, drive to output		=	=	=	=	=	=	=	=	=	=
7 Max. efficiency	%	84	70	59	59	49	49	49	42	42	42
8 Weight	g	42	55	68	68	81	81	81	94	94	94
9 Average backlash no load	°	0.5	0.6	0.8	0.8	1.0	1.0	1.0	1.0	1.0	1.0
10 Mass inertia	gcm ²	0.5	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

* for A-max 19, A-max 22, RE-max 21 and RE-max 24 is L1 - 2.8 mm



Combination:

+ Motor	Page	+ Tacho / Encoder / Brake	Page	Overall length [mm] = Motor length + gearhead length + (tacho / encoder / brakes) + assembly parts									
A-max 19	105/106			51.6	58.4	65.2	65.2	72.0	72.0	72.0	78.8	78.8	78.8
A-max 19	105	Digital Magnetic Encoder 13	223	59.1	65.9	72.7	72.7	79.5	79.5	79.5	86.3	86.3	86.3
A-max 19	106	MR Encoder	210/211	56.7	63.5	70.3	70.3	77.1	77.1	77.1	83.9	83.9	83.9
A-max 19	106	Digital Encoder 22	215	66.0	72.8	79.6	79.6	86.4	86.4	86.4	93.2	93.2	93.2
A-max 19	107/108			54.2	61.0	67.8	67.8	74.6	74.6	74.6	81.4	81.4	81.4
A-max 19	107	Digital Magnetic Encoder 13	223	60.9	67.7	74.5	74.5	81.3	81.3	81.3	88.1	88.1	88.1
A-max 19	108	MR Encoder	210/211	58.5	65.3	72.1	72.1	78.9	78.9	78.9	85.7	85.7	85.7
A-max 19	108	Digital Encoder 22	215	68.6	75.4	82.2	82.2	89.0	89.0	89.0	95.8	95.8	95.8
A-max 22	109-112			54.6	61.4	68.2	68.2	75.0	75.0	75.0	81.8	81.8	81.8
A-max 22	109/111	Digital Magnetic Encoder 13	223	61.7	68.5	75.3	75.3	82.1	82.1	82.1	88.9	88.9	88.9
A-max 22	110/112	MR Encoder	210/211	59.6	66.4	73.2	73.2	80.0	80.0	80.0	86.8	86.8	86.8
A-max 22	110/112	Digital Encoder 22	215	69.0	75.8	82.6	82.6	89.4	89.4	89.4	96.2	96.2	96.2
RE-max 21	135/136			51.6	58.4	65.2	65.2	72.0	72.0	72.0	78.8	78.8	78.8
RE-max 21	136	MR Encoder	210/211	56.7	63.5	70.3	70.3	77.1	77.1	77.1	83.9	83.9	83.9
RE-max 21	137/138			54.2	61.0	67.8	67.8	74.6	74.6	74.6	81.4	81.4	81.4
RE-max 21	138	MR Encoder	210/211	58.5	65.3	72.1	72.1	78.9	78.9	78.9	85.7	85.7	85.7
RE-max 24	139-142			54.6	61.4	68.2	68.2	75.0	75.0	75.0	81.8	81.8	81.8
RE-max 24	140/142	MR Encoder	210/211	59.6	66.4	73.2	73.2	80.0	80.0	80.0	86.8	86.8	86.8
EC 16, 40 W	151			81.7	88.5	95.3	95.3	102.1	102.1	102.1	108.9	108.9	108.9
EC 22, 20 W	152			70.0	76.8	83.6	83.6	90.4	90.4	90.4	97.2	97.2	97.2
EC 22, 10 W	153			75.0	81.8	88.6	88.6	95.4	95.4	95.4	102.2	102.2	102.2
EC 22, 50 W	154			88.2	95.0	101.8	101.8	108.6	108.6	108.6	115.4	115.4	115.4
EC 22, 20 W	155			93.2	100.0	106.8	106.8	113.6	113.6	113.6	120.4	120.4	120.4