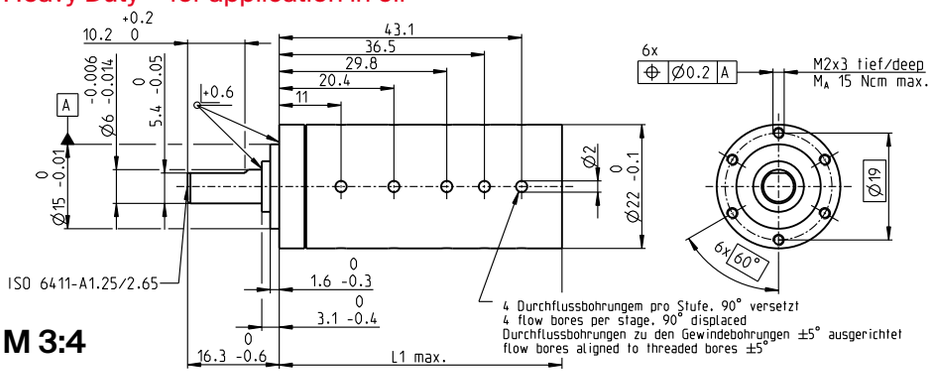
Planetary Gearhead GP 22 HD ∅22 mm, 2.0–4.0 Nm

Heavy Duty – for application in oil



M 3:4

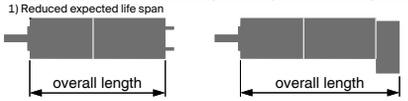
Technical Data	
Planetary Gearhead	straight teeth
Output shaft	stainless steel, hardened
Bearing at output	ball bearing
Radial play, 10 mm from flange	max. 0.2 mm
Axial play	max. 0.1 mm
Max. axial load (dynamic)	100 N
Max. force for press fits	100 N
Direction of rotation, drive to output	=
Max. continuous input speed	11'000 rpm
Recommended temperature range	-55...+200°C
Extended range as option	-55...+260°C

Number of stages	1	2	3	4	5
Max. radial load, 10 mm from flange	55 N	85 N	100 N	110 N	110 N

Stock program
Standard program
Special program (on request)

Part Numbers	410657	410637	410558	416698	409667	416709	416738	416211	416747	416753	416760
Gearhead Data (provisional)											
1 Reduction	3.8:1	14:1	53:1	104:1	198:1	370:1	561:1	742:1	1386:1	1798:1	3027:1
2 Absolute reduction	15/4	225/16	3375/64	87723/845	50625/256	10556001/28561	2368521/4225	759375/1024	158340015/114244	373977/208	63950067/21125
3 Max. motor shaft diameter mm	4	4	4	3.2	4	3.2	3.2	4	3.2	3.2	3.2
Part Numbers	416684	416686	416693	416699	416703	416710	416739	416742	416748	416754	416762
1 Reduction	4.4:1	16:1	62:1	109:1	231:1	389:1	590:1	867:1	1460:1	1996:1	3189:1
2 Absolute reduction	57/13	855/52	12825/208	2187/20	192375/832	263169/676	59049/100	2885625/3328	3947535/2704	285012027/142805	1594323/500
3 Max. motor shaft diameter mm	3.2	3.2	3.2	4	3.2	3.2	4	3.2	3.2	3.2	4
Part Numbers		416687	416694	416701	416704	416711	416740	416743	416749	416756	416763
1 Reduction		19:1	72:1	128:1	270:1	410:1	690:1	1014:1	1538:1	2102:1	3728:1
2 Absolute reduction		3249/169	48735/676	41553/325	731025/2704	6561/16	1121931/1625	10965375/10816	98415/64	7105563/3380	30292137/8125
3 Max. motor shaft diameter mm		3.2	3.2	3.2	3.2	4	3.2	3.2	4.0	3.2	3.2
Part Numbers		416688	416695		416706	416736		416744	416751	416757	
1 Reduction		20:1	76:1		285:1	455:1		1068:1	1621:1	2214:1	
2 Absolute reduction		81/4	1215/16		18225/64	5000211/10985		273375/256	601692057/371293	177147/80	
3 Max. motor shaft diameter mm		4	4		4	3.2		4	3.2	4	
Part Numbers		416689	416696		416707	416737		416745	416752	416758	
1 Reduction		24:1	84:1		316:1	479:1		1185:1	1707:1	2458:1	
2 Absolute reduction		1539/65	185193/2197		2777895/8788	124659/260		41668425/35152	15000633/8788	135005697/54925	
3 Max. motor shaft diameter mm		3.2	3.2		3.2	3.2		3.2	3.2	3.2	
Part Numbers			416697		416708			416746		416759	
1 Reduction			89:1		333:1			1249:1		2589:1	
2 Absolute reduction			4617/52		69255/208			1038825/832		3365793/1300	
3 Max. motor shaft diameter mm			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	2	2.4	3	3	3.4	3.4	3.4	4	4	4	4
6 Max. intermittent torque at gear output Nm	2.5	3	3.5	3.5	3.8	3.8	3.8	4.4	4.4	4.4	4.4
15 Max. overload torque[1] Nm	6	9	12	12	12	12	12	12	12	12	12
7 Max. efficiency %	95	87	78	78	65	65	65	52	52	52	52
8 Weight g	46	65	82	82	96	96	96	110	110	110	110
9 Average backlash no load °	1.0	1.2	1.6	1.6	2.0	2.0	2.0	2.5	2.5	2.5	2.5
10 Mass inertia gcm²	0.6	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	20.6	29.7	38.2	38.2	45.0	45.0	45.0	51.8	51.8	51.8	51.8
13 Max. transmittable power (continuous) W	160	100	40	40	20	20	20	6	6	6	6
14 Max. transmittable power (intermittent) W	240	150	60	60	30	30	30	9	9	9	9

1) Reduced expected life span



maxon Modular System

+ Motor	Page	+ Sensor/Brake	Page	Overall length [mm] = Motor length + gearhead length + (sensor/brake) + assembly parts										
EC 22, 240 W, A	237			110.5	119.5	128.0	128.0	135.0	135.0	135.0	141.5	141.5	141.5	141.5
EC 22, 240 W, B	237			98.1	107.5	116.0	116.0	122.4	122.4	122.4	129.5	129.5	129.5	129.5

Application	Important Notice
General	This gearhead has been designed for applications in oil and is only equipped with minimum lubrication. Therefore it is not permitted to use it under normal air conditions.
– extreme temperature applications	
– vibration tested according to MIL-STD810F/ Jan2000 Fig. 514.5C-10	
– operation in oil and high pressure	
Oil & Gas Industry	
– oil, gas and geothermal wells	