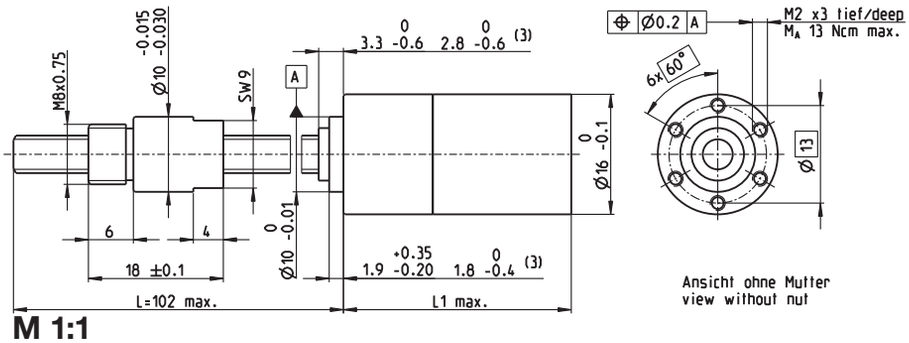
Spindle Drive GP 16 S Ø16 mm, Ball Screw



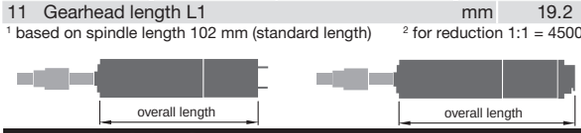
M 1:1

Technical Data					
Spindle					Ø5 x 2, stainless steel
Standard length					102 mm
Special length (5 mm steps)					max. 200 mm
Nut (standard)					thread nut
Material					X46Cr13, hardened
Axial play					< 0.01 mm
Planetary gearhead					straight teeth
Bearing					ball bearing/axial bearing
Radial play, 6 mm from flange					< 0.08 mm
Axial play					preloaded
Max. continuous input speed[2]					12 000 rpm
Recommended temperature range					-15…+80°C
Max. axial load (static)[1]					500 N
Number of stages	0	1	2	3	4
Max. radial load, 6 mm from flange	20 N	40 N	60 N	80 N	80 N

Stock program
Standard program
Special program (on request)

			Part Numbers				
			424221	424222	424223	424219	424224
Spindle Drive Data (provisional)							
1	Reduction		1:1	4.4:1	19:1	84:1	370:1
2	Absolute reduction		1/1	57/13	3249/169	185193/2197	10556001/28561
20	Max. feed velocity[1]	mm/s	150	90.9	21.1	4.8	1.1
21	Max. feed force (continuous)[1]	N	54	64	104	171	280
22	Max. feed force (intermittent)[1]	N	149	176	287	403	403
	Part Numbers			424731	424733	424745	424749
1	Reduction			5.4:1	24:1	104:1	455:1
2	Absolute reduction			27/5	1539/65	87723/845	5000211/10985
20	Max. feed velocity[1]	mm/s		74.1	16.7	3.8	0.9
21	Max. feed force (continuous)[1]	N		69	113	184	300
22	Max. feed force (intermittent)[1]	N		189	311	403	403
	Part Numbers				424744	424747	424750
1	Reduction				29:1	128 :1	561:1
2	Absolute reduction				729/25	41553/325	2368521/4225
20	Max. feed velocity[1]	mm/s			13.8	3.1	0.7
21	Max. feed force (continuous)[1]	N			120	197	322
22	Max. feed force (intermittent)[1]	N			331	403	403
	Part Numbers					424748	424751
1	Reduction					157:1	690:1
2	Absolute reduction					19683/125	1121931/1625
20	Max. feed velocity[1]	mm/s				2.5	0.6
21	Max. feed force (continuous)[1]	N				211	345
22	Max. feed force (intermittent)[1]	N				403	403
	Part Numbers						424752
1	Reduction						850:1
2	Absolute reduction						531441/625
20	Max. feed velocity[1]	mm/s					0.5
21	Max. feed force (continuous)[1]	N					370
22	Max. feed force (intermittent)[1]	N					403
4	Number of stages		0	1	2	3	4
7	Max. efficiency gearhead incl. spindle	%	93	87	79	71	63
8	Weight[1]	g	52	58	61	65	69
9	Average backlash no load	°	1.0	1.4	1.6	2.0	2.4
23	Mechanical positioning accuracy[1]	mm	0.039	0.041	0.042	0.044	0.046
10	Mass inertia gearhead incl. spindle[1]	gcm²	0.23	0.11	0.05	0.05	0.05
11	Gearhead length L1	mm	19.2	22.3	27.4	31.0	34.6

[1] based on spindle length 102 mm (standard length) [2] for reduction 1:1 = 4500 rpm



maxon Modular System

+ Motor	Page	+ Sensor/Brake	Page	**Overall length [mm]** = Motor length + gearhead length + (sensor / brake) + assembly parts				
RE 16, 2 W	174			41.6	44.7	49.8	53.4	57.0
RE 16, 2 W	174	MR	388/390	47.3	50.4	55.5	59.1	62.7
RE 16, 3.2 W	175/176			59.7	62.8	67.9	71.5	75.1
RE 16, 3.2 W	176	MR	388/390	64.7	67.8	72.9	76.5	80.1
RE 16, 3.2 W	176	MEnc 13	409	65.8	68.9	74.0	77.6	81.2
RE 16, 4.5 W	177/178			62.7	65.8	70.9	74.5	78.1
RE 16, 4.5 W	178	MR	388/390	67.7	70.8	75.9	79.5	83.1
RE 16, 4.5 W	178	MEnc 13	409	68.9	72.0	77.1	80.7	84.3

Continuation of the modular system (irrespective of the spindle) on page 366 and 367.