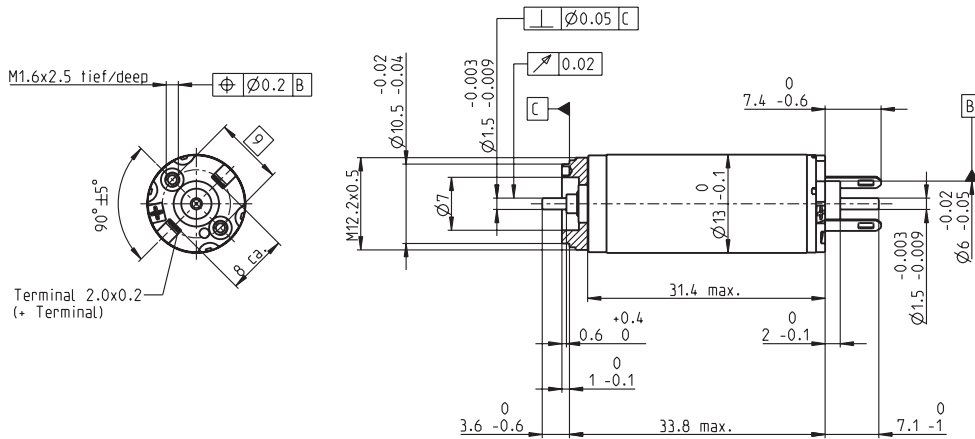


# RE 13 Ø13 mm, Precious Metal Brushes, 2 Watt, CE approved



## M 1:1

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

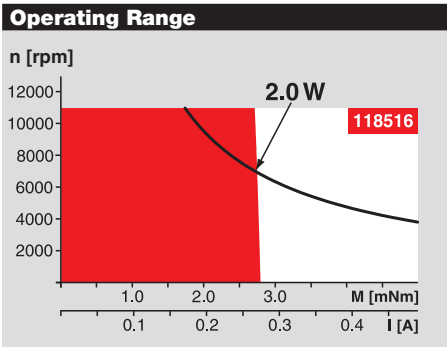
## Order Number

Motor Data	118506	118507	118508	118509	118510	118511	118512	118513	118514	118515	118516	118517	118518	118519	118520
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Values at nominal voltage																
1 Nominal voltage	V	1.5	1.5	1.8	2.4	3.0	3.0	3.6	4.2	4.8	6.0	7.2	9.0	10.0	12.0	15.0
2 No load speed	rpm	6560	6070	6370	7160	7080	6290	6790	6610	6480	6800	6580	6620	6830	7010	7140
3 No load current	mA	43.7	39.7	35.2	30.7	24.2	20.8	19.1	15.8	13.5	11.5	9.17	7.40	6.93	5.97	4.90
4 Nominal speed	rpm	5000	4170	4020	4290	3470	2510	2970	2850	2860	3110	2870	2930	3110	3320	3390
5 Nominal torque (max. continuous torque)	mNm	1.46	1.58	1.82	2.18	2.78	2.88	2.84	2.90	3.01	2.95	2.93	2.94	2.92	2.93	2.88
6 Nominal current (max. continuous current)	A	0.720	0.720	0.720	0.720	0.720	0.663	0.587	0.499	0.445	0.366	0.293	0.237	0.218	0.188	0.150
7 Stall torque	mNm	6.22	5.12	5.01	5.51	5.51	4.87	5.11	5.16	5.47	5.50	5.27	5.34	5.42	5.64	5.55
8 Starting current	A	2.89	2.21	1.89	1.75	1.39	1.09	1.03	0.866	0.786	0.665	0.514	0.419	0.395	0.351	0.282
9 Max. efficiency	%	77	75	75	76	76	75	75	75	76	76	75	76	76	76	76
Characteristics																
10 Terminal resistance	Ω	0.519	0.679	0.951	1.37	2.16	2.75	3.50	4.85	6.11	9.03	14.0	21.5	25.3	34.2	53.2
11 Terminal inductance	mH	0.0213	0.0247	0.0323	0.0456	0.0727	0.092	0.114	0.164	0.223	0.316	0.485	0.749	0.870	1.19	1.79
12 Torque constant	mNm / A	2.15	2.32	2.65	3.15	3.97	4.47	4.97	5.96	6.95	8.28	10.3	12.7	13.7	16.1	19.7
13 Speed constant	rpm / V	4440	4120	3610	3040	2400	2140	1920	1600	1370	1150	930	749	695	595	485
14 Speed / torque gradient	rpm / mNm	1070	1210	1290	1320	1310	1320	1350	1300	1210	1260	1270	1260	1280	1270	1310
15 Mechanical time constant	ms	7.58	7.48	7.39	7.31	7.22	7.20	7.22	7.17	7.10	7.14	7.15	7.15	7.15	7.16	7.21
16 Rotor inertia	gcm <sup>2</sup>	0.677	0.592	0.545	0.527	0.527	0.523	0.509	0.525	0.562	0.541	0.537	0.541	0.533	0.540	0.526

### Specifications

Thermal data	
17 Thermal resistance housing-ambient	33 K / W
18 Thermal resistance winding-housing	7.0 K / W
19 Thermal time constant winding	4.85 s
20 Thermal time constant motor	346 s
21 Ambient temperature	-20 ... +65°C
22 Max. permissible winding temperature	+85°C
Mechanical data (sleeve bearings)	
23 Max. permissible speed	11000 rpm
24 Axial play	0.05 - 0.15 mm
25 Radial play	0.014 mm
26 Max. axial load (dynamic)	0.8 N
27 Max. force for press fits (static) (static, shaft supported)	15 N
28 Max. radial loading, 5 mm from flange	95 N
	1.4 N



### Comments

**Continuous operation**  
In observation of above listed thermal resistance (lines 17 and 18) the maximum permissible winding temperature will be reached during continuous operation at 25°C ambient.  
= Thermal limit.

**Short term operation**  
The motor may be briefly overloaded (recurring).

— **Assigned power rating**

### Other specifications

29 Number of pole pairs	1
30 Number of commutator segments	7
31 Weight of motor	21 g

Values listed in the table are nominal.  
Explanation of the figures on page 49.

### maxon Modular System

**Planetary Gearhead**  
Ø13 mm  
0.05 - 0.15 Nm  
Page 208

**Planetary Gearhead**  
Ø13 mm  
0.2 - 0.35 Nm  
Page 209

Overview on page 16 - 21

**Encoder MR**  
16 Imp.,  
2 channels  
Page 255

**Encoder MR**  
64 - 256 Imp.,  
2 channels  
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**Encoder MEnc**  
Ø13 mm  
16 Imp., 2 channels  
Page 274

**Recommended Electronics:**  
LSC 30/2 Page 282  
EPOS2 Module 36/2 304  
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