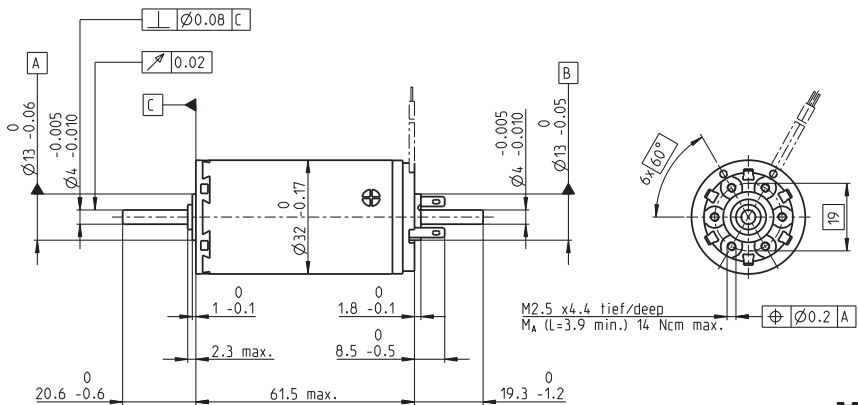
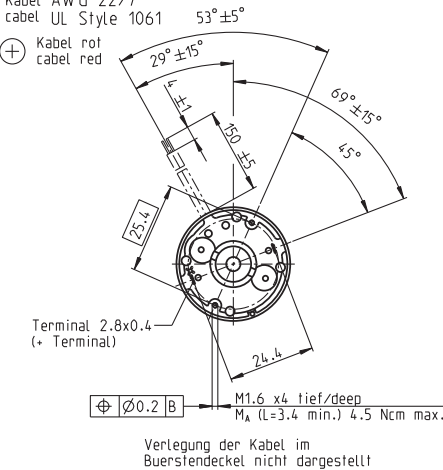


# A-max 32 Ø32 mm, Graphite Brushes, 20 Watt

High Power

Kabel AWG 22/7  
 kabel UL Style 1061

⊕ Kabel rot  
 kabel red



M 1:2

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

## Order Number

with terminals	<b>236666</b>	<b>236667</b>	<b>236668</b>	<b>236669</b>	<b>236670</b>	<b>236671</b>	<b>236672</b>
with cables	353236	353237	301030	353239	353240	353241	353242

## Motor Data

Values at nominal voltage																	
1	Nominal voltage	V	6.0	9.0	12.0	24.0	30.0	36.0	42.0								
2	No load speed	rpm	4850	4980	4660	6460	6160	5850	5650								
3	No load current	mA	122	83.8	58.0	42.7	32.2	25.2	20.7								
4	Nominal speed	rpm	3140	3350	3100	5020	4710	4420	4200								
5	Nominal torque (max. continuous torque)	mNm	38.4	40.0	42.1	44.4	44.4	45.0	44.7								
6	Nominal current (max. continuous current)	A	3.43	2.43	1.79	1.30	0.994	0.796	0.655								
7	Stall torque	mNm	120	129	131	205	193	186	177								
8	Starting current	A	10.4	7.62	5.39	5.81	4.18	3.19	2.51								
9	Max. efficiency	%	77	79	80	83	83	83	83								
Characteristics																	
10	Terminal resistance	Ω	0.577	1.18	2.23	4.13	7.17	11.3	16.7								
11	Terminal inductance	mH	0.0601	0.129	0.264	0.555	0.953	1.52	2.22								
12	Torque constant	mNm / A	11.6	17.0	24.3	35.2	46.1	58.2	70.4								
13	Speed constant	rpm / V	825	562	394	271	207	164	136								
14	Speed / torque gradient	rpm / mNm	41.1	39.1	36.1	31.9	32.2	31.8	32.3								
15	Mechanical time constant	ms	18.9	16.6	15.7	15.0	14.8	14.8	14.7								
16	Rotor inertia	gcm <sup>2</sup>	43.9	40.6	41.4	45.0	44.0	44.4	43.6								

## Specifications

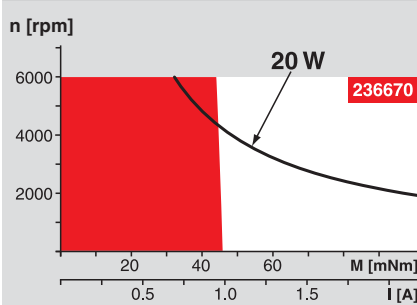
Thermal data		
17	Thermal resistance housing-ambient	7.5 K / W
18	Thermal resistance winding-housing	2.1 K / W
19	Thermal time constant winding	17.7 s
20	Thermal time constant motor	900 s
21	Ambient temperature	-20 ... +85°C
22	Max. permissible winding temperature	+125°C
Mechanical data (ball bearings)		
23	Max. permissible speed	6000 rpm
24	Axial play	0.12 - 0.22 mm
25	Radial play	0.025 mm
26	Max. axial load (dynamic)	7.6 N
27	Max. force for press fits (static)	110 N
	(static, shaft supported)	2000 N
28	Max. radial loading, 5 mm from flange	32 N
Mechanical data (sleeve bearings)		
23	Max. permissible speed	6000 rpm
24	Axial play	0.12 - 0.22 mm
25	Radial play	0.012 mm
26	Max. axial load (dynamic)	5.0 N
27	Max. force for press fits (static)	110 N
	(static, shaft supported)	2000 N
28	Max. radial loading, 5 mm from flange	10.5 N
Other specifications		
29	Number of pole pairs	1
30	Number of commutator segments	13
31	Weight of motor	240 g

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

### Option

Sleeve bearings in place of ball bearings

## Operating Range



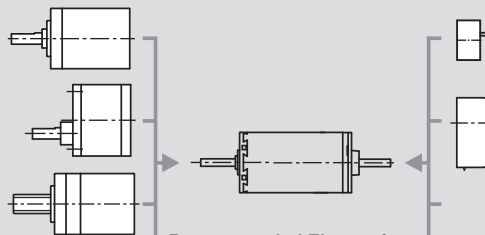
## Comments

- 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**

## maxon Modular System

Overview on page 16 - 21

- Planetary Gearhead**  
 Ø32 mm  
 0.75 - 6.0 Nm  
 Page 229 / 231 / 232
- Spur Gearhead**  
 Ø38 mm  
 0.1 - 0.6 Nm  
 Page 236
- Spindle Drive**  
 Ø32 mm  
 Page 249 / 250 / 251



- Encoder MR**  
 256 - 1024 CPT,  
 3 channels  
 Page 263
- Encoder HED\_5540**  
 500 CPT,  
 3 channels  
 Page 267 / 268

- Recommended Electronics:**
- LSC 30/2 Page 282
  - ADS 50/5 282
  - ADS\_E 50/5 283
  - EPOS2 Module 36/2 304
  - EPOS2 24/5 305
  - EPOS2 50/5 305
  - EPOS2 P 24/5 308
  - Notes** 18