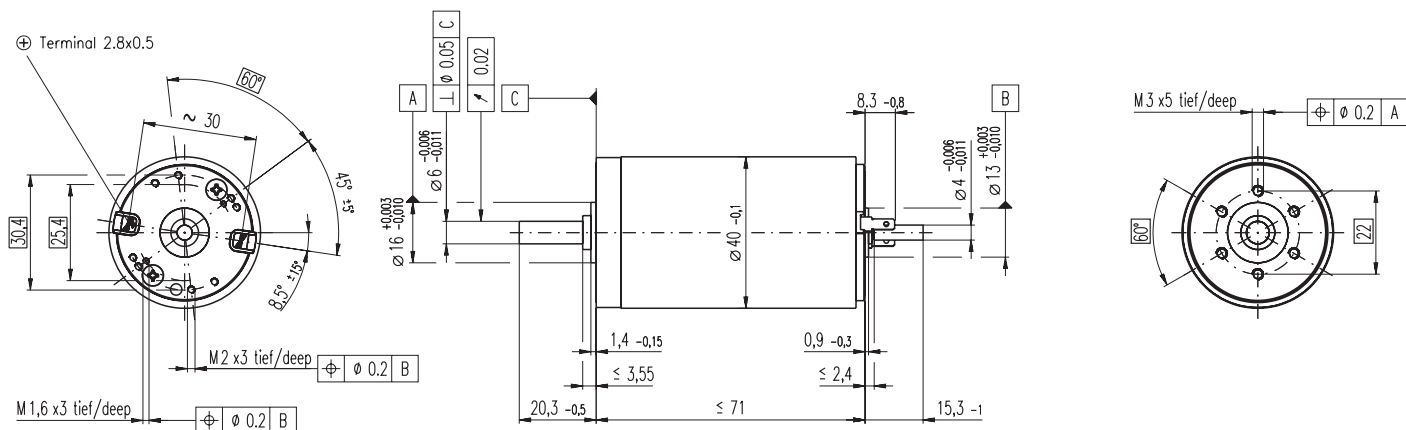




**RE 40** Ø40 mm, Graphite Brushes, 150 Watt



**M 1:2**

-  Stock program  
 Standard program  
 Special program (on request)

**Order Number**

148866	148867	148877	218008	218009	218010	218011	218012	218013	218014	218015
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### Motor Data

Values at nominal voltage																			
1	Nominal voltage	V	12.0	24.0	48.0	48.0	48.0	48.0	48.0	48.0	48.0	48.0	48.0						
2	No load speed	rpm	6920	7580	7580	6420	5560	3330	2690	2130	1710	1420	987						
3	No load current	mA	241	137	68.6	53.7	43.7	21.9	16.7	12.5	9.67	7.77	5.16						
4	Nominal speed	rpm	6370	6930	7000	5810	4920	2700	2050	1500	1080	774	339						
5	Nominal torque (max. continuous torque)	mNm	94.9	170	184	183	177	187	187	189	189	188	188						
6	Nominal current (max. continuous current)	A	6.00	5.77	3.12	2.62	2.20	1.38	1.12	0.898	0.721	0.593	0.413						
7	Stall torque	mNm	1680	2280	2500	1990	1580	995	796	641	512	415	289						
8	Starting current	A	102	75.7	41.4	28.0	19.2	7.26	4.68	3.00	1.92	1.29	0.627						
9	Max. efficiency	%	88	91	92	91	91	89	88	87	86	85	83						
Characteristics																			
10	Terminal resistance	Ω	0.117	0.317	1.16	1.72	2.50	6.61	10.2	16.0	24.9	37.1	76.6						
11	Terminal inductance	mH	0.0245	0.0823	0.329	0.460	0.612	1.70	2.62	4.14	6.40	9.31	19.2						
12	Torque constant	mNm / A	16.4	30.2	60.3	71.3	82.2	137	170	214	266	321	461						
13	Speed constant	rpm / V	581	317	158	134	116	69.7	56.2	44.7	35.9	29.8	20.7						
14	Speed / torque gradient	rpm / mNm	4.15	3.33	3.04	3.23	3.53	3.36	3.39	3.35	3.37	3.44	3.45						
15	Mechanical time constant	ms	6.03	4.81	4.39	4.36	4.35	4.31	4.31	4.31	4.31	4.32	4.33						
16	Rotor inertia	qcm <sup>2</sup>	139	138	138	129	118	123	121	123	122	120	120						

## Specifications

### Thermal data

- |    |                                      |                |
|----|--------------------------------------|----------------|
| 17 | Thermal resistance housing-ambient   | 4.65 K / W     |
| 18 | Thermal resistance winding-housing   | 1.93 K / W     |
| 19 | Thermal time constant winding        | 41.6 s         |
| 20 | Thermal time constant motor          | 1120 s         |
| 21 | Ambient temperature                  | -30 ... +100°C |
| 22 | Max. permissible winding temperature | +155°C         |

### Mechanical data (ball bearings)

- |    |   |                 |
|----|---|-----------------|
| 23 | Max. permissible speed  | 12000 rpm       |
| 24 | Axial play  | 0.05 - 0.15 mm  |
| 25 | Radial play   | 0.025 mm        |
| 26 | Max. axial load (dynamic)                                       | 5.6 N           |
| 27 | Max. force for press fits (static)<br>(static, shaft supported) | 110 N<br>1200 N |
| 28 | Max. radial loading. 5 mm from flange                           | 28 N            |

### Other specifications

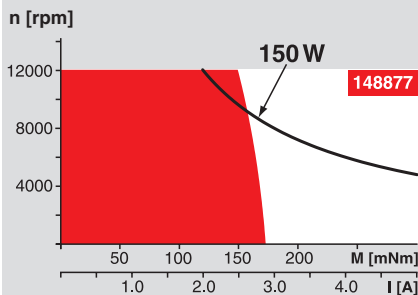
- |    |                               |       |
|----|-------------------------------|-------|
| 29 | Number of pole pairs          | 1     |
| 30 | Number of commutator segments | 13    |
| 31 | Weight of motor               | 480 g |

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

### Option

**Option**  
Preloaded ball bearings

## Operating Range



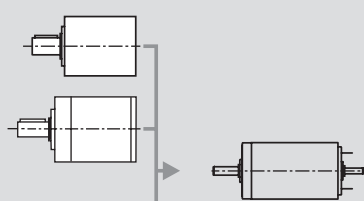
## Comments

- 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

- Planetary Gearhead**  
 Ø42 mm  
 3 - 15 Nm  
 Page 244

- Planetary Gearhead**  
 Ø52 mm  
 4 - 30 Nm  
 Page 247



### Recommended Electronics:

- |              |           |
|--------------|-----------|
| ADS 50/5     | Page 276  |
| ADS 50/10    | 277       |
| ADS_E 50/5   | 277       |
| ADS_E 50/10  | 277       |
| EPOS 24/5    | 294       |
| EPOS2 50/5   | 295       |
| EPOS 70/10   | 295       |
| EPOS P 24/5  | 297       |
| <b>Notes</b> | <b>18</b> |

Overview on page 16 - 21

- Encoder MR**  
256 - 1024 CPT,  
3 channels  
Page 259
- Encoder HED\_ 5540**  
500 CPT,  
3 channels  
Page 262 / 264
- Brake AB 28**  
Ø45 mm  
24 VDC, 0.4 Nm  
Page 308
- Industrial Version**  
**Encoder HEDL 9140**  
Page 267
- Brake AB 28**  
Page 309