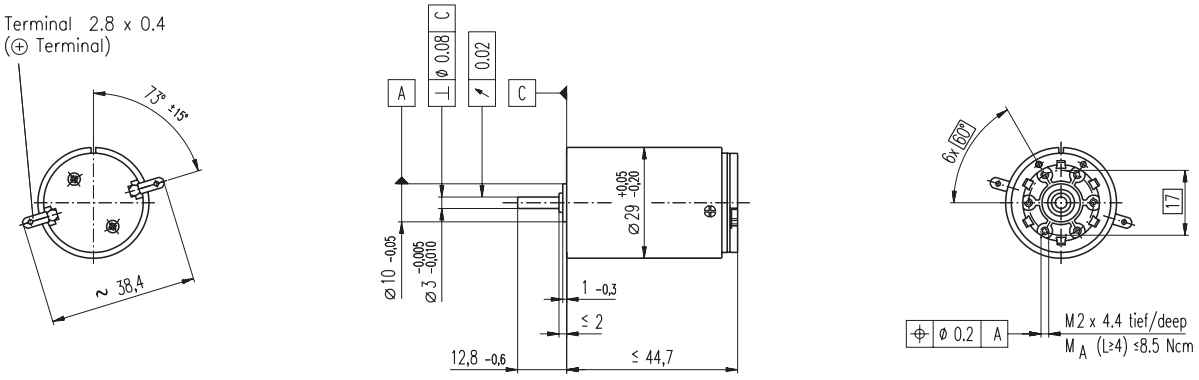
# RE-max 29 ∅29 mm, Precious Metal Brushes CLL, 15 Watt




**M 1:2**

Stock program
Standard program
Special program (on request!)

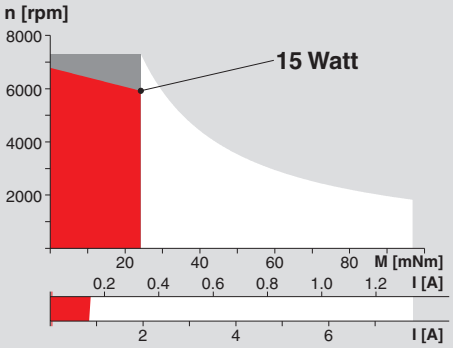
| | | | Order Number | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 226748 | 226749 | 226751 | 226752 | 226753 | 226754 | 226755 | 226756 | 226757 | 226759 | 226760 | 226761 | 226762 | 226763 | 226764 |
| **Motor Data** (provisional) | | | | | | | | | | | | | | | | | |
| 1 | Assigned power rating | W | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| 2 | Nominal voltage | Volt | 7.2 | 9.0 | 12.0 | 18.0 | 18.0 | 24.0 | 30.0 | 36.0 | 42.0 | 48.0 | 48.0 | 48.0 | 48.0 | 48.0 | 48.0 |
| 3 | No load speed | rpm | 6480 | 7190 | 6160 | 6820 | 5630 | 5960 | 6170 | 6640 | 6710 | 6280 | 5400 | 5000 | 4160 | 3350 | 2780 |
| 4 | Stall torque | mNm | 195 | 200 | 152 | 214 | 173 | 185 | 188 | 201 | 183 | 182 | 157 | 146 | 117 | 93.3 | 75.6 |
| 5 | Speed / torque gradient | rpm / mNm | 33.2 | 36.1 | 40.6 | 32.0 | 32.7 | 32.3 | 32.9 | 33.1 | 36.8 | 34.5 | 34.4 | 34.5 | 35.7 | 36.0 | 37.0 |
| 6 | No load current | mA | 45.1 | 43.6 | 24.7 | 19.8 | 14.0 | 11.6 | 9.90 | 9.43 | 8.25 | 6.39 | 4.87 | 4.26 | 3.09 | 2.13 | 1.57 |
| 7 | Starting current | mA | 18400 | 16800 | 8220 | 8490 | 5680 | 4810 | 4050 | 3900 | 3070 | 2510 | 1860 | 1590 | 1060 | 684 | 460 |
| 8 | Terminal resistance | Ohm | 0.390 | 0.536 | 1.46 | 2.12 | 3.17 | 4.99 | 7.41 | 9.24 | 13.7 | 19.2 | 25.8 | 30.1 | 45.1 | 70.2 | 104 |
| 9 | Max. permissible speed | rpm | 7300 | 7300 | 7300 | 7300 | 7300 | 7300 | 7300 | 7300 | 7300 | 7300 | 7300 | 7300 | 7300 | 7300 | 7300 |
| 10 | Max. continuous current | mA | 839 | 839 | 839 | 838 | 838 | 698 | 573 | 513 | 422 | 356 | 307 | 284 | 232 | 186 | 153 |
| 11 | Max. continuous torque | mNm | 8.28 | 9.33 | 14.6 | 19.8 | 24.0 | 25.2 | 25.0 | 24.9 | 23.6 | 24.4 | 24.4 | 24.4 | 24.0 | 23.9 | 23.6 |
| 12 | Max. power output at nominal voltage | mW | 33100 | 37600 | 24600 | 38100 | 25500 | 28800 | 30300 | 35000 | 32200 | 30000 | 22200 | 19100 | 12700 | 8170 | 5500 |
| 13 | Max. efficiency | % | 91 | 90 | 90 | 91 | 91 | 91 | 91 | 91 | 90 | 90 | 90 | 90 | 90 | 89 | 89 |
| 14 | Torque constant | mNm / A | 10.6 | 11.9 | 18.5 | 25.2 | 30.4 | 38.4 | 46.3 | 51.6 | 59.6 | 72.8 | 84.7 | 91.3 | 110 | 136 | 164 |
| 15 | Speed constant | rpm / V | 902 | 802 | 515 | 380 | 314 | 249 | 206 | 185 | 160 | 131 | 113 | 105 | 86.9 | 70.0 | 58.2 |
| 16 | Mechanical time constant | ms | 5 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 17 | Rotor inertia | gcm² | 13.9 | 12.4 | 10.5 | 12.9 | 12.6 | 12.7 | 12.4 | 12.3 | 11.1 | 11.8 | 11.9 | 11.8 | 11.4 | 11.3 | 11.1 |
| 18 | Terminal inductance | mH | 0.035 | 0.045 | 0.108 | 0.199 | 0.292 | 0.464 | 0.676 | 0.839 | 1.12 | 1.67 | 2.26 | 2.63 | 3.80 | 5.85 | 8.49 |
| 19 | Thermal resistance housing-ambient | K / W | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| 20 | Thermal resistance rotor-housing | K / W | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 21 | Thermal time constant winding | s | 17 | 15 | 12 | 15 | 15 | 15 | 15 | 15 | 13 | 14 | 14 | 14 | 14 | 13 | 13 |

## Specifications

- Axial play 0.1 - 0.2 mm
- Max. **sleeve bearing** loads
  axial (dynamic) 1.7 N
  radial (5 mm from flange) 5.5 N
  Force for press fits (static) 80 N
- Max. **ball bearing** loads
  axial (dynamic) 5.0 N
  radial (5 mm from flange) 20.5 N
  Force for press fits (static) 75 N
- Radial play **sleeve bearing** 0.012 mm
- Radial play **ball bearing** 0.025 mm
- Ambient temperature range -30 ... +85°C
- Max. rotor temperature +85°C
- Number of commutator segments 13
- Weight of motor 159 g
- 2 pole permanent magnet
- Values listed in the table are nominal.
  For applicable tolerances see page 43.
  For additional details please use the maxon selection program on the enclosed CD-Rom.
- CLL = Capacitor Long Life
- Options: Ball bearings in place of sleeve bearings, pigtails in place of terminals, without CLL.

## Operating Range

Comments Details on page 49




**Recommended operating range**

**Continuous operation**
In observation of above listed thermal resistances (lines 19 and 20) the maximum permissible rotor temperature will be reached during continuous operation at 25°C ambient.
= Thermal limit.

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

226764 Motor with high resistance winding
226748 Motor with low resistance winding

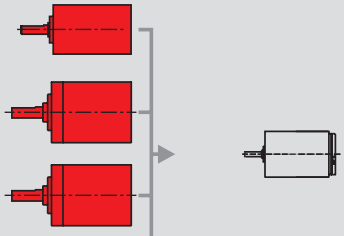
## maxon Modular System

Overview on page 17 - 21

**Planetary Gearhead**
∅26 mm
0.5 - 2.0 Nm
Details page 210

**Planetary Gearhead**
∅32 mm
0.75 - 4.5 Nm
Details page 212

**Planetary Gearhead**
∅32 mm
1.0 - 6.0 Nm
Details page 215



**Recommended Electronics:**

| | |
|---|---|
| LSC 30/2 | page 251 |
| ADS 50/5 | 253 |
| ADS_E 50/5 | 254 |
| **Notes** | **17** |