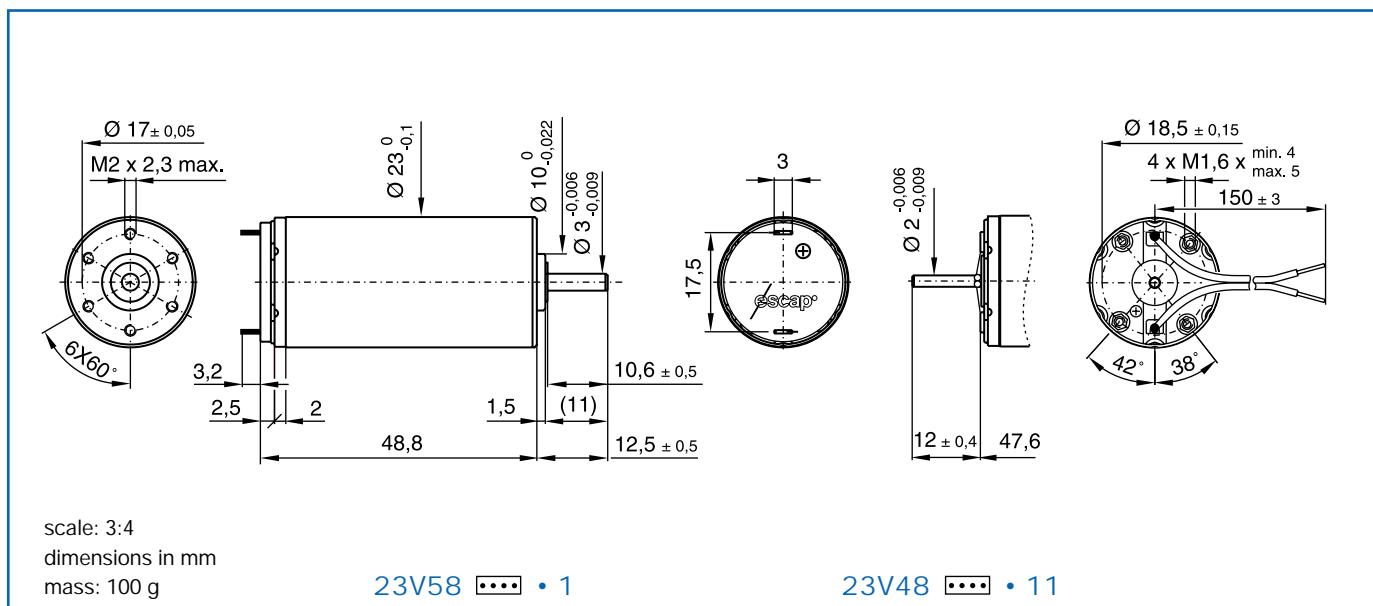


escap 23V58 & 23V48

Precious metal commutation system - 9 segments

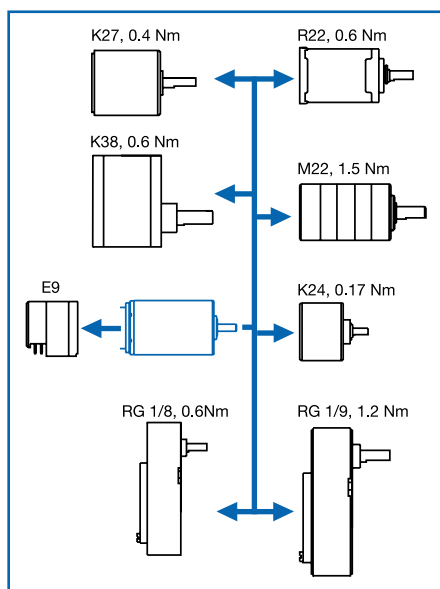
D.C. Motor
6.5 Watt



Winding types

| | ... | -216P | -213P | -216E | -213E | -210E |
|--------------------------------------|---|------------|------------|-------------|------------|------------|
| Measured values | | | | | | |
| 1 Measuring voltage | V | 6.0 | 7.5 | 12.0 | 15.0 | 24.0 |
| 2 No-load speed | rpm | 4500 | 4800 | 4800 | 5200 | 6500 |
| 3 Stall torque | mNm (oz-in) | 31 (4.4) | 27 (3.8) | 29 (4.1) | 24 (3.4) | 23.3 (3.3) |
| 4 Average no-load current | mA | 30.8 | 27.5 | 18.7 | 16.5 | 13 |
| 5 Typical starting voltage | V | 0.05 | 0.10 | 0.13 | 0.15 | 0.20 |
| Max. recommended values | | | | | | |
| 6 Max. continuous current | A | 1.49 | 1.15 | 0.75 | 0.57 | 0.39 |
| 7 Max. continuous torque | mNm (oz-in) | 18.2 (2.6) | 16.4 (2.3) | 17.2 (2.4) | 14.9 (2.1) | 13 (1.8) |
| 8 Max. angular acceleration | 10 ³ rad/s ² | 77 | 87 | 73 | 79 | 88 |
| Intrinsic parameters | | | | | | |
| 9 Back-EMF constant | V/1000 rpm | 1.31 | 1.53 | 2.47 | 2.82 | 3.64 |
| 10 Torque constant | mNm/A (oz-in/A) | 12.5 (1.7) | 14.6 (2.0) | 23.5 (3.33) | 26.9 (3.8) | 34.8 (4.9) |
| 11 Terminal resistance | ohm | 2.45 | 4.1 | 9.7 | 16.6 | 35.8 |
| 12 Motor regulation R/k ² | 10 ³ /Nms | 16 | 19 | 17 | 23 | 30 |
| 13 Rotor inductance | mH | 0.20 | 0.30 | 0.80 | 1.10 | 1.70 |
| 14 Rotor inertia | kgm ² · 10 ⁻⁷ | 5.90 | 4.70 | 5.90 | 4.70 | 3.70 |
| 15 Mechanical time constant | ms | 9 | 9 | 10 | 11 | 11 |

Availability: see enclosed document at the end of the catalogue



- Thermal resistance:
 - rotor-body 5°C/W
 - body-ambient 12°C/W
- Thermal time constant - rotor / stator: 10 s / 580 s
- Max. rated coil temperature: 100°C
- Recom. ambient temperature range: -30°C to +65°C
- Viscous damping constant: 0.45 x 10⁻⁶ Nms
- Max. axial static force for press-fit: 250 N
- End play:
 - ≤ 150 μm
- Radial play:
 - ≤ 30 μm
- Shaft runout:
 - ≤ 10 μm
- Max. side load at 5 mm from mounting face:
 - sleeve bearing 6 N
 - ball bearings 8 N
- Motor fitted with sleeve bearings (ball bearings optional)
- With rear output shaft, the no-load current is 50% higher

