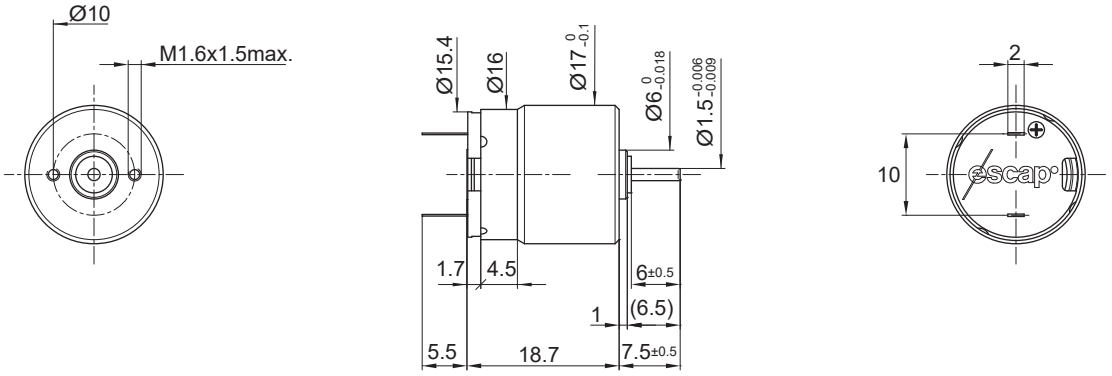
## 17S78

Ø 17 mm • Precious metal commutation • 2.8 mNm




Dimensions in inches [mm]

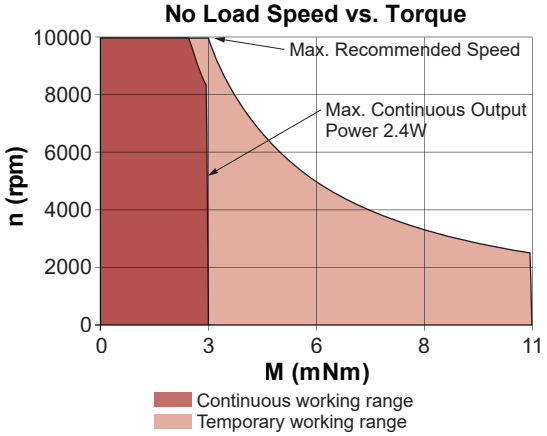
| Electrical Data | Symbol | 17S78 •••• .1 208P | 210E | 209E | Unit |
|---|---|---|---|---|---|
| 1 Nominal Voltage | V | 6 | 7.5 | 12 | Volt |
| 2 No-Load Speed | $n_0$ | 10,280 | 10,865 | 12,430 | rpm |
| 3 No-Load Current | $I_0$ | 25.0 | 18.0 | 8.4 | mA |
| 4 Terminal Resistance | R | 7.5 | 12.2 | 18.6 | Ω |
| 5 Output Power | $P_{2max.}$ | 1.7 | 1.6 | 1.8 | W |
| 6 Stall Torque | mNm | 4.3 (0.61) | 3.9 (0.56) | 5.9 (0.84) | mNm (oz-in) |
| 7 Efficiency | $h_{max.}$ | 68 | 69 | 78 | % |
| 8 Max Continuous Speed | $n_{e\ max.}$ | 10,000 | 10,000 | 10,000 | rpm |
| 9 Max Continuous Torque | $M_{e\ max.}$ | 2.6 (0.34) | 2.4 (0.34) | 2.8 (0.4) | mNm (oz-in) |
| 10 Max Continuous Current | $I_{e\ max.}$ | 0.50 | 0.38 | 0.32 | A |
| 11 Back-EMF Constant | $k_E$ | 0.57 | 0.67 | 0.95 | mV/rpm |
| 12 Torque Constant | $k_M$ | 5.40 | 6.40 | 9.10 | mNm/A |
| 13 Motor Regulation | $R/k^2$ | 255.0 | 300.0 | 225.0 | $10^3$/Nms |
| 14 Friction Torque | $T_F$ | 0.12 (0.02) | 0.12 (0.02) | 0.08 (0.02) | mNm (oz-in) |
| 15 Rotor Inductance | L | 0.15 | 0.23 | 0.35 | mH |
| 16 Mechanical Time Constant | $\tau_m$ | 12.8 | 15.0 | 11.3 | ms |
| 17 Rotor Inertia | J | 0.50 | 0.50 | 0.50 | g-cm² |

| General Data | | | |
|---|---|---|---|
| 18 Thermal Resistance (rotor/body) | $R_{th1}/R_{th2}$ | 13/38 | °C/W |
| 19 Thermal Time Constant (rotor/stator) | $t_{W1}/t_{W2}$ | 7/400 | S |
| 20 Operating Temperature Range: | motor<br>rotor | -30°C to 85°C (-22°F to 185°F)<br>100°C (212°F) | °C (°F)<br>°C (°F) |
| 21 Shaft Load Max.:<br>(5 mm from bearing) | <br>-radial<br>-axial | With sleeve bearings<br>1.5 (5.4)<br>100 (359.6) | <br>N (oz)<br>N (oz) |
| 22 Shaft Play: | -radial<br>-axial | <0.03 (0.0012)<br>0.15 (0.0059) | mm (inch)<br>mm (inch) |
| 23 Weight | g | 19 (0.68) | g (oz) |
| 24 Commutation Segment | - | 9 | segment |

### Execution Table

| Gearbox | Single Shaft | F16 | MR2 |
|---|---|---|---|
| B16 | 5 | 5 | Upon Request |
| BA16 | 5 | 5 | Upon Request |
| R16 | 1 | 1 | 96 |

### No Load Speed vs. Torque




▶ Motor shaft rotates CW when seen from motor front face when +ve and -ve supply is given to respective terminals.