HIWIN®
Motion Control and System Technology

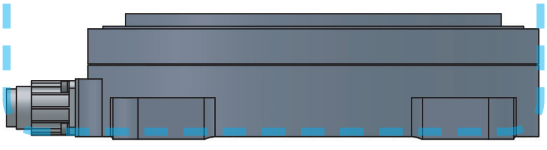
# Torque Motor Rotary Tables
## TMN Series

NEW

- Low profile
- Easy installation
- Hollow shaft
- Resolution 4,320,000 counts/rev

Low profile

62% smaller in height



HIWIN

# Torque Motor Rotary Tables

## TMN Series

## Applications

- LED manufacturing and inspection
- Solar cell manufacturing
- Semi-conductor component manufacturing
- High precision index machines

## Specifications

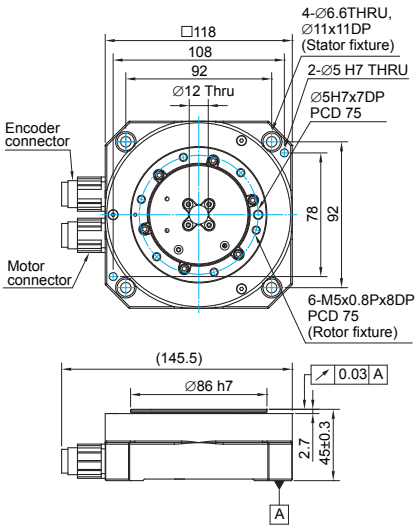
| | Symbol | Unit | TMN42E | TMN71E | TMN93E |
|---|---|---|---|---|---|
| Continuous torque | $T_c$ | Nm | 1.4 | 3.7 | 13.2 |
| Continuous current | $I_c$ | $A_{rms}$ | 1.5 | 3.4 | 3.4 |
| Peak torque (for 1sec.) | $T_p$ | Nm | 4.2 | 11.1 | 39.6 |
| Peak current (for 1sec.) | $I_p$ | $A_{rms}$ | 4.5 | 10.2 | 10.2 |
| Torque constant | $K_t$ | $Nm/A_{rms}$ | 0.97 | 1.09 | 3.9 |
| Electrical time constant | $T_e$ | ms | 1.78 | 4.06 | 5.4 |
| Resistance (line to line at 25°C) | $R_{25}$ | Ω | 4.59 | 2.22 | 4.3 |
| Inductance (line to line) | L | mH | 8.18 | 9.02 | 23.2 |
| Number of poles | 2P | - | 16 | 16 | 22 |
| Back emf constant (line to line) | $K_v$ | $V_{rms}/(rad/s)$ | 0.56 | 0.63 | 2.25 |
| Motor constant (at 25°C) | $K_m$ | N/√W | 0.26 | 0.42 | 1.11 |
| Thermal resistance | $R_{th}$ | °C/W | 2.55 | 1.05 | 1.1 |
| Inertia of rotating parts | J | $kgm^2$ | 0.003 | 0.008 | 0.012 |
| Mass of motor | $M_m$ | kg | 2 | 3.5 | 7.5 |
| Max. axial load | $F_a$ | N | 600 | 1000 | 1000 |
| Max. moment load | M | Nm | 30 | 50 | 50 |
| Max. speed | n | rpm | 700 | 600 | 500 |
| Repeatabilty | | Arc sec | ±2.5 | | |
| Accuracy* | | Arc sec | ±10 | | |
| Motor dimension | WxLxH | mm | 118x118x45 | 180x180x50 | 230x230x55 |

*With error mapping

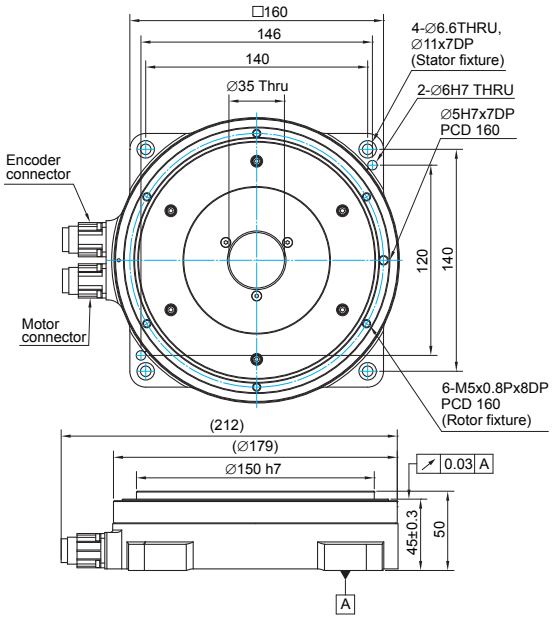
Except dimensions, all the specifications in the table are in ±10% of tolerance

# Dimensions

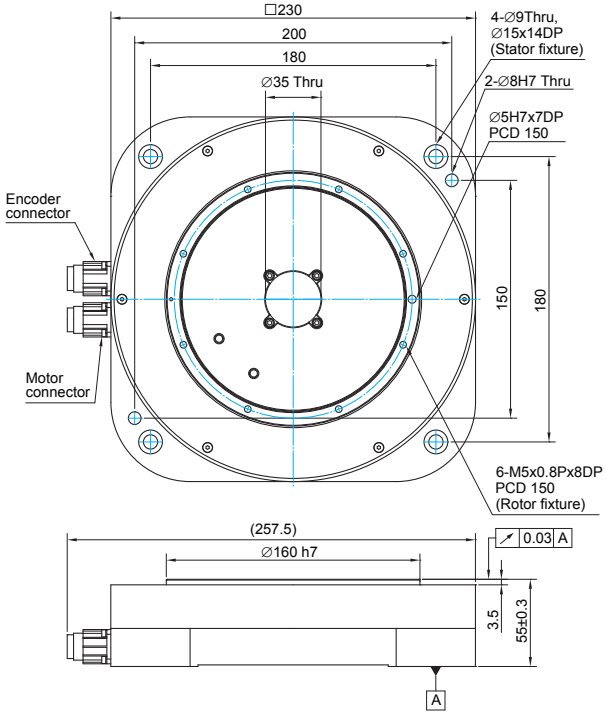
## TMN42E




## TMN71E




## TMN93E



*The specifications in this catalog are subject to change without notification.

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