

10.1. Friction Torque Due to an External Load

Of the turning forces required for the Ball Screw, the rotation torque needed for an external load (guide surface resistance or external force) is obtained using the equation (43) below

$$T_1 = \frac{F_a \cdot \ell}{2\pi \cdot \eta} \cdot A \dots\dots\dots(43)$$

where

T_1 : Friction torque due to an external load (N-mm)

F_a : Axial load (N)

ℓ : Ball Screw lead (mm)

η : Ball Screw efficiency (0.9 to 0.95)

A : Reduction ratio