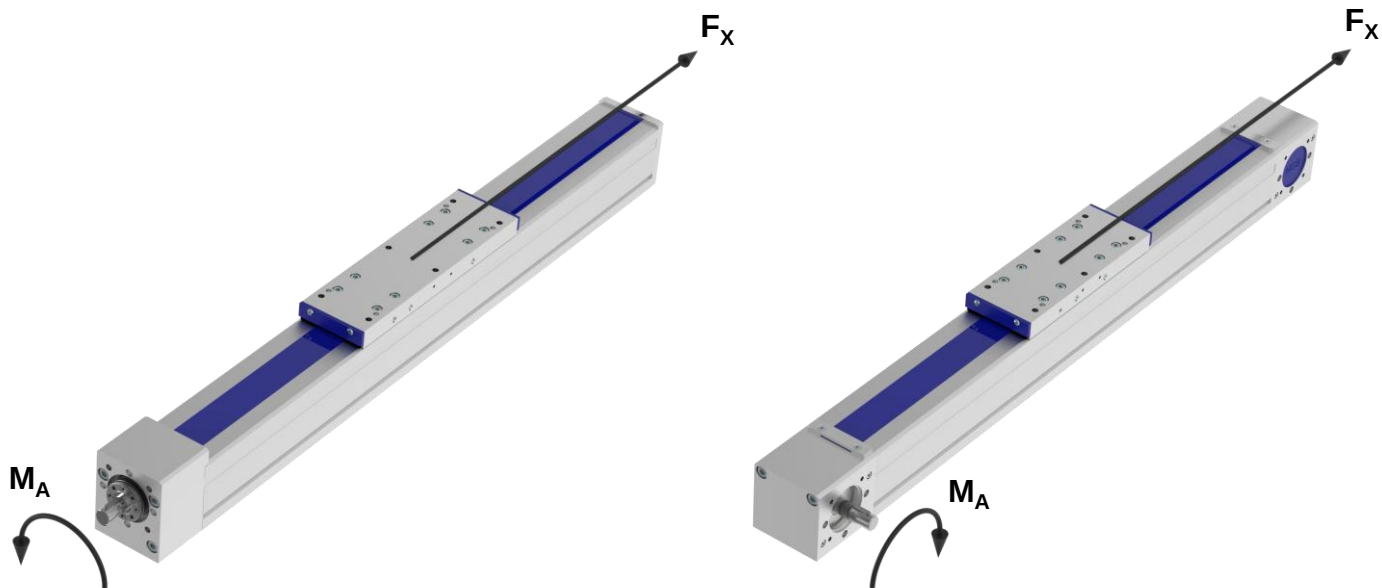


Drive Dimensions for Mechanical Linear Units

with screw drive or toothed belt drive



Required drive torque* M_A [Nm]:

$$M_A = M_{\text{load}} + M_{\text{idle}}$$

Definitions:

M_A : required drive torque

M_{load} : load moment [Nm]

M_{idle} : see data sheets [Nm]

F_{x_h} : feed force in horizontal application [N]

F_{x_v} : feed force in vertical application [N]

$$M_{\text{Last}} = \frac{F_x \cdot p}{2 \cdot \pi \cdot 1000}$$

$$F_{x_h} = m \cdot g \cdot \mu + m \cdot a$$

$$F_{x_v} = m \cdot (g + a)$$

μ : friction coefficient for linear guide
friction coefficient for roller guide
friction coefficient for sliding guide

$\mu = 0.006$
 $\mu = 0.002$
 $\mu = 0.1$

g : gravitational acceleration [m/s²]
 a : acceleration [m/s²]

$g = 9.81$

m : transport weight [kg]

p : spindle pitch [mm]
: stroke per revolution [mm]

(screw drive)
(toothed belt drive)

* (rough estimate)