

Technical information on square linear actuators

Square linear actuators are efficient, cost-effective and universally applicable. They perfectly combine high rigidity, low deflection, high loads and easy handling. Three sizes (guide profile 30x30 mm, 40x40 mm and 50x50 mm) are available to suit different applications and loads.

Technical description

A spindle converts a rotational movement into a linear positioning movement. The groove of the guide profile is covered with a steel strip, which protects the spindle and the guide nut from dirt. Linear actuators can be operated either manually via a handwheel or by a motor.

General details/operating conditions

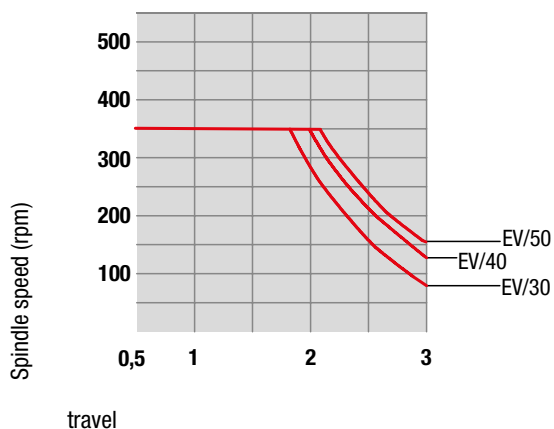
Structural design	Linear axis with extruded guide profile, guide carriage design optional
guidance	Adjustable slide guide
Assembly position	unlimited
Pitch accuracy	± 0.15 mm / 300 mm travel
Self-locking	Yes
Duty cycle	S3 30% basic 1h
Ambient temperature	0°C to +60°C

Spindel pitch

Type	Spindel pitch
EV 30	3
EV 40	4
EV 50	4

$$\text{Required spindle speed } n \text{ [rpm]} = \frac{\text{Speed [m/min]} \times 1000}{\text{Spindle pitch [mm]}}$$

Spindle speed control (critical speed)



No-load torques (Nm)

Type	„open“ guide carriage	„closed“ guide carriage
EV 30	0,30	0,45
EV 40	0,45	0,55
EV 50	0,50	0,60

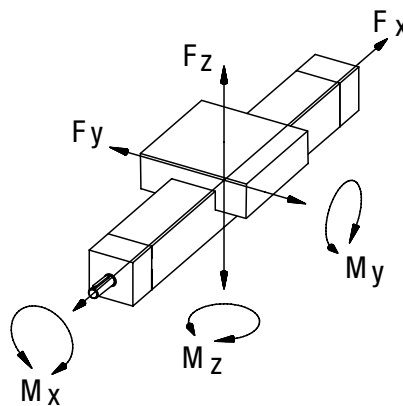
Load data

F Force [N]

M Torque (Nm)

I Area moment of inertia [cm⁴]

* Based on „closed“ guide carriages (deflection of the guide body $f = 0.5$ mm, static, end elements in contact)



Total length [mm]	Fx	Fy			Fz			MX	My	Mz
		500	1000	1500	500	1000	1500			
Type										
EV 30	800	600	70	-	600	70	-	6	11	8
EV 40	1200	1500	110	35	1480	110	33	25	45	30
EV 50	1800	2220	550	140	2300	550	135	55	74	50

Area moment of inertia [cm⁴]

Type	ly	lz
EV 30	4,13	4,71
EV 40	13,33	13,79
EV 50	33,72	34,31

