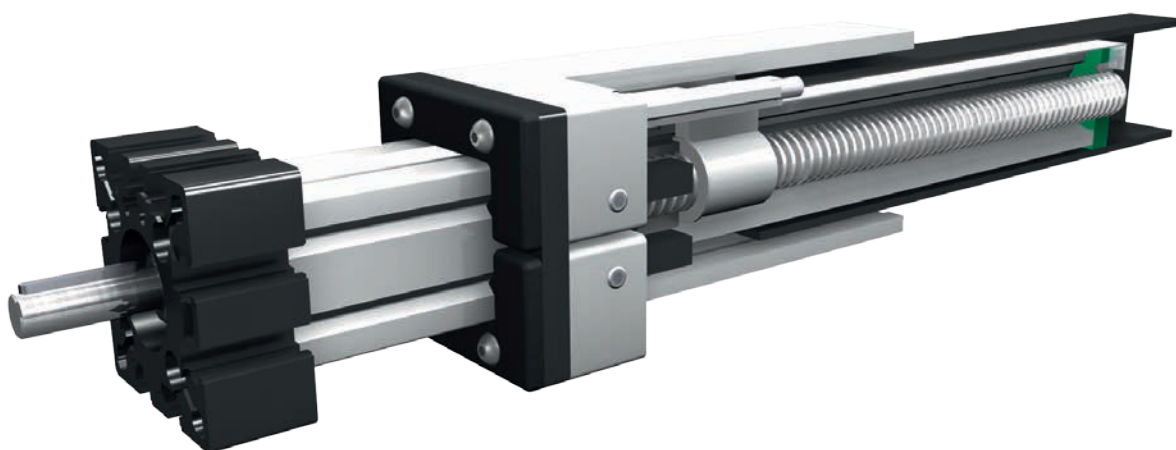


Positioning system EGTH/EGKH 40, 60, 80

Specifications

Spindle driven with trapezoidal or ballscrew spindle



Function:

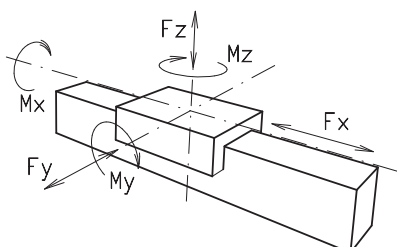
The rotary movement of the spindle is translated into a linear motion. Carriage and square tube are connected by a clamping block. The result is a telescopic movement.

Fitting position: As required. Max. length 3.000 mm

Carriage mounting: By T-slots and tapped holes

Unit mounting: By T-slots and tapped holes in the mounting surface.

Forces and torques	Size	EG(T/K)H 40		EG(T/K)H 60		EG(T/K)H 80	
	Forces / Torques	static	dynamic	static	dynamic	static	dynamic
F_x (N)		1500	1200	2500	2000	4200	3500
F_y (N)		350	315	500	450	1000	900
F_z (N)		500	450	750	675	1125	1000
M_x (Nm)		20	18	33	30	82	75
M_y (Nm)		44	40	77	70	220	200
M_z (Nm)		33	30	55	50	165	150
All forces and torques relate to the following: existing values $\frac{F_y}{F_{y_{dyn}}} + \frac{F_z}{F_{z_{dyn}}} + \frac{M_x}{M_{x_{dyn}}} + \frac{M_y}{M_{y_{dyn}}} + \frac{M_z}{M_{z_{dyn}}} \leq 1$ table values							
No-load torque Trapezoidal thread (Nm)							
		18x4	18x8	24x5	24x10	28x5	28x10
		0,70	0,70	0,50	0,80	0,80	1,0
Geometrical moments of inertia of aluminium profile							
I_x mm ⁴		1,35x10 ⁵		5,65x10 ⁵		19,14x10 ⁵	
I_y mm ⁴		1,48x10 ⁵		6,12x10 ⁵		20,12x10 ⁵	
E-modulus N/mm ²		70000		70000		70000	



Formula: EGTH

Driving torque:

$$M_o = \frac{F \cdot P \cdot S_s \cdot w}{2000 \cdot \pi \cdot \mu} + M_{leer}$$

$$P_o = \frac{M_o \cdot n}{9550}$$

- F = force (N)
- P = thread pitch (mm)
- S_s = safety factor 1,2 ... 2
- M_{leer} = no-load torque (Nm)
- n = rpm of screw (min⁻¹)
- M_o = driving torque (Nm)
- μ = screw efficiency
- w = friction coefficient ~ 1,22
- P_o = motor power (KW)

Efficiency of lead screws:

All ballscrew	0.900		
Tr 18x4	0.399	Tr 18x8	0.565
Tr 24x5	0.384	Tr 24x10	0.550
Tr 28x5	0.349	Tr 28x10	0.513

$$f = \frac{F \cdot L^3}{E \cdot I \cdot 192}$$

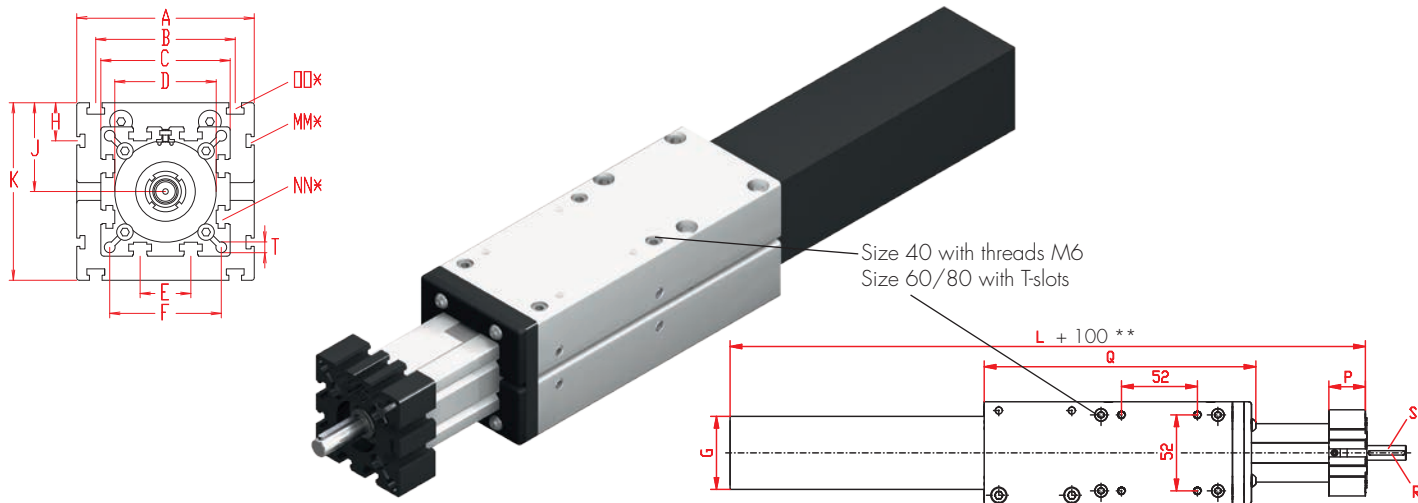
- f = deflection (mm)
- F = load (N)
- L = free length (mm)
- E = elastic modulus 70000 (N/mm²)
- I = second moment of area (mm⁴)

For the diagram for critical speeds of lead screws refer to chapter 4.2 page 3



Positioning system EGT_H /EGK_H 40, 60, 80

Dimensions (mm)



*For slide nuts refer to chapter 2.2 page 2

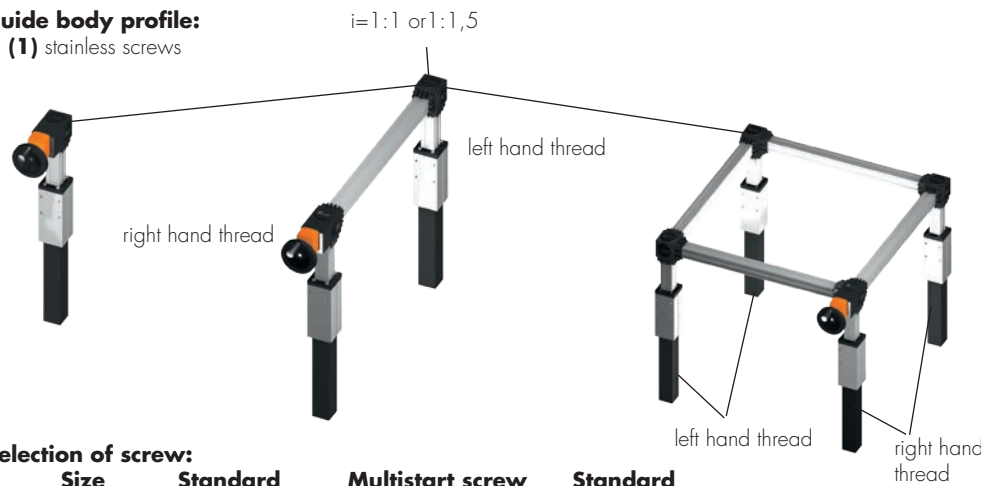
** The basic length (minimum length) of the unit (L+100) includes a stroke of 100mm

Size	Basic length L+**	A	B	C	D	E	F	G	H	J	K	MM for	NN for	OO for	P	Q	R	Ø x length	T	Basic weight	Weight per 100 mm
EG H40	255	70	-	58	48x1	18	47	50	-	35	70	-	M 6	-	25	190	3x3x25	10x27	6,5	3,0 kg	0,44 kg
EG H60	345	100	80	82	62x1	30	69	70	-	49	98	-	M 8	M 8	35	250	5x5x28	14x35	8,5	7,0 kg	0,71 kg
EG H80	390	140	110	102	80x1	40	88	90	30	70	140	M 6	M 10	M 10	45	300	6x6x40	18x45	8,5	12,8 kg	1,35 kg

T Spindle:
(T) Trapezoidal thread (K) Ballscrew

1 Selection of screw:
(1) right hand (2) left hand

0 Choice of guide body profile:
(0) Standard (1) stainless screws



0 Selection of screw:	Standard	Multistart screw	Standard
Size	Standard	trapezoidal thread	ballscrew
40	(0) Tr 18x4	(1) Tr 18x8	(0) Kg 16x5
60	(0) Tr 24x5	(1) Tr 24x10	(0) Kg 25x5
80	(0) Tr 28x5	(1) Tr 28x10	(0) Kg 32x5

0 Ballscrew pitch accuracy:
(0) 0,1 mm / 300 mm (Standard) (1) 0,05 mm / 300 mm (2) 0,025 mm / 300 mm

0 End play of ball nut:
(0) 0,04 mm (Standard), (1)* < 0,02 mm, (2)* 2% apply prestress
* only in combination with pitch accuracy (1) or (2)

755 Basic length + stroke = total length

Repeatability:
± 0,2 mm Trapezoidal
± 0,025 mm Ballscrew

EG T H 40 1 0 0 0 0 0 0 00755

For combination kits and connecting elements refer to chapter 2.2

Sample ordering code:

EGTH40, trapezoidal right hand thread, standard body profile, 500 mm stroke