

## SPINDLE DRIVEN

- ▷◁ SLIDE UNIT
- 🛡️ PRECISION
- ➡️ TELESCOPIC SYSTEM

**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:**

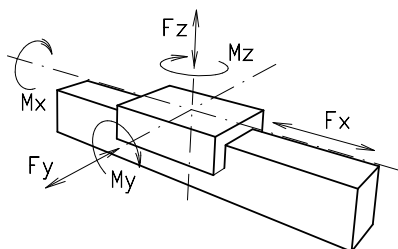
As required. Max. length 3.000 mm

**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
<b>All forces and torques relate to the following:</b>							
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 $\frac{F_y}{F_{y_{dyn}}} + \frac{F_z}{F_{z_{dyn}}} + \frac{M_x}{M_{x_{dyn}}} + \frac{M_y}{M_{y_{dyn}}} + \frac{M_z}{M_{z_{dyn}}} \leq 1$							
<b>No-load torque</b>							
Trapezoidal thread		18x4	18x8	24x5	24x10	28x5	28x10
(Nm)		0,70	0,70	0,50	0,80	0,80	1,0
<b>Geometrical moments of inertia of aluminium profile</b>							
$I_x$ mm <sup>4</sup>		1,35x10 <sup>5</sup>		5,65x10 <sup>5</sup>		19,14x10 <sup>5</sup>	
$I_y$ mm <sup>4</sup>		1,48x10 <sup>5</sup>		6,12x10 <sup>5</sup>		20,12x10 <sup>5</sup>	
E-modulus N/mm <sup>2</sup>		70000		70000		70000	

Driving torque:

$$M_a = \frac{F \cdot P \cdot S_i \cdot w}{2000 \cdot \pi \cdot \mu} + M_n$$

$$P_a = \frac{M_a \cdot n}{9550}$$

$F$  = force (N)  
 $P$  = thread pitch (mm)  
 $S_i$  = safety factor 1,2 ... 2  
 $M_n$  = no-load torque (Nm)  
 $n$  = rpm of screw (min<sup>-1</sup>)  
 $M_a$  = driving torque (Nm)  
 $\mu$  = screw efficiency  
 $w$  = friction coefficient ~1,22  
 $P_a$  = motor power (KW)

Efficiency of lead screws:

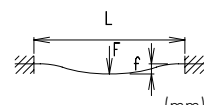
All ballscrew 0,900

Tr 10x3	0,375
Tr 18x4	0,399
Tr 18x8	0,565
Tr 24x5	0,384
Tr 24x10	0,550
Tr 28x5	0,349
Tr 28x10	0,513

Deflection:

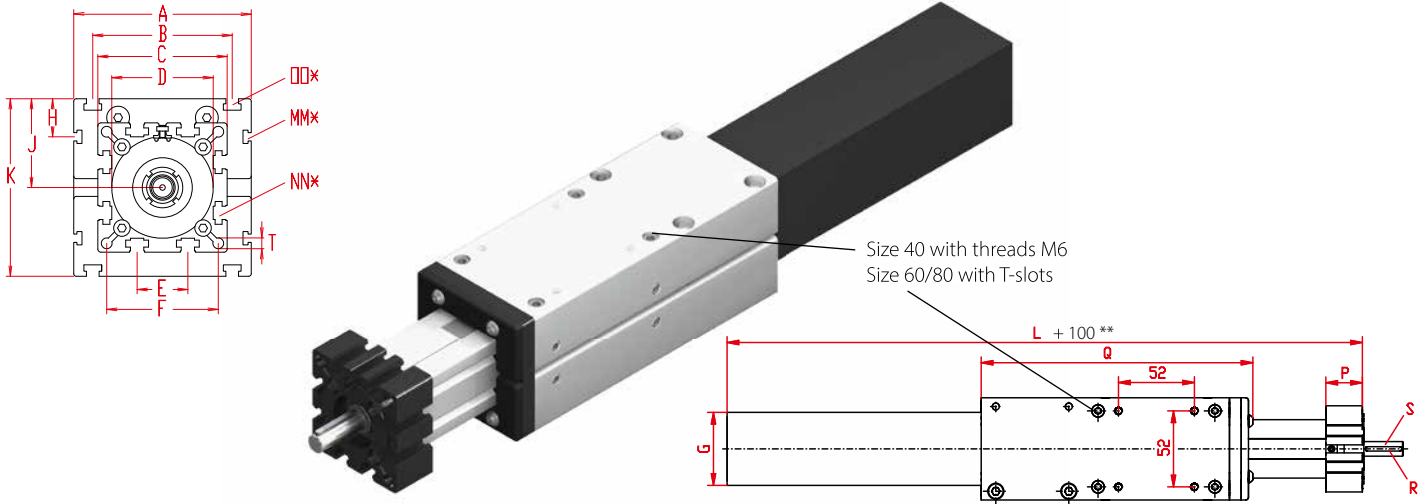
$$f = \frac{F \cdot L^3}{E \cdot I \cdot 192}$$

$f$  = deflection (mm)  
 $F$  = load (N)  
 $L$  = free length (mm)  
 $E$  = elastic modulus 70000 (N/mm<sup>2</sup>)  
 $I$  = second moment of area (mm<sup>4</sup>)



# Linear system EGTH/EGKH 40, 60, 80

Dimensions (mm)



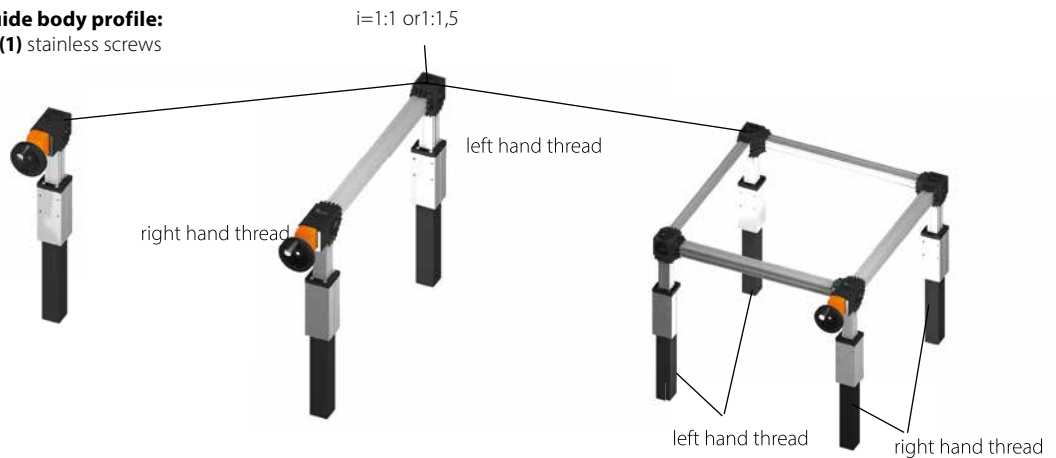
\*\* The basic length (minimum length) of the unit (L+100) includes a stroke of 100mm

Size □	Basic length L+**	A	B	C	D ±0,05	E	F	G	H	J	K	MM for	NN for	OO for	P	Q	R	S Ø h6 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:** Tr = trapezoidal thread / Kg = ballscrew

Size	Standard	Multistart screw	Standard
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) 0,05 mm / 300 mm (Standard) (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

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

EG T H 40 1 0 0 0 0 0 0 755

Basic length + stroke = total length

Pos. 1 2 3 4 5 6 7

Sample ordering code:  
EGTH40, trapezoidal right hand thread, standard body profile, 500 mm stroke