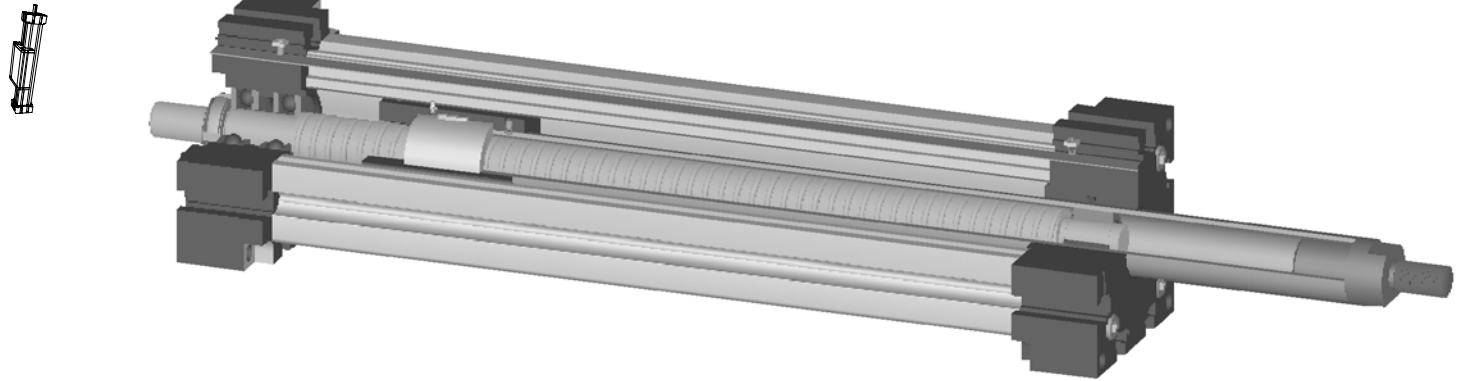


Positioning system EHT/EHK 40, 60, 80, 100, 125

Specifications

1.1 Spindle driven with trapezoidal- or ballscrew spindle



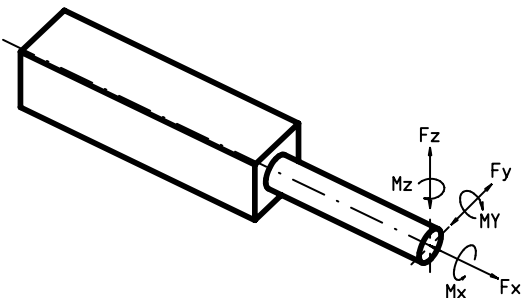
Function:

The rotary movement of the spindle is translated into a linear movement. The result is a telescopic movement.

Fitting position: As required. Max. length size 40 = 500 mm, size 60 = 1000 mm, size 80 and 100 = 1500 mm

Unit mounting: By T-slots.

Forces and torques	Size	EH 40		EH 60		EH 80		EH 100	
	Forces / Torques	static	dynamic	static	dynamic	static	dynamic	static	dynamic
F_x (N)		800	550	1800	1200	2600	1500	3100	1900
F_y (N)		50	27	130	80	210	140	300	175
F_z (N)		50	27	130	80	210	140	300	175
M_x (Nm)		12	8	20	11	27	16	34	20
M_y (Nm)		25	13	95	60	190	110	290	180
M_z (Nm)		25	13	95	60	190	110	290	180
All forces and torques relate to the following: existing values $\frac{F_y}{F_{y_{dyn}}} + \frac{F_z}{F_{z_{dyn}}} + \frac{M_x}{M_{x_{dyn}}} + \frac{M_y}{M_{y_{dyn}}} + \frac{M_z}{M_{z_{dyn}}} \leq 1$ values of table									
No-load torque									
Trapezoidal thread		10 x 3	18 x 4	18 x 8	24x5	24x10	32x6	32x12	
(Nm)		0,30	0,40	0,50	0,60	0,80	0,80	1,00	
Ballscrew		12 x 5	12x10	16 x 5	16 x 10	20 x 5	32x5	32x10	
(Nm)		0,20	0,40	0,20	0,40	0,40	0,60	0,80	
Geometrical moments of inertia of aluminium profile									
I_x mm ⁴		1,32x10 ⁵	6,79x10 ⁵	18,99x10 ⁵	44,4x10 ⁵				
I_y mm ⁴		1,34x10 ⁵	6,97x10 ⁵	18,97x10 ⁵	44,8x10 ⁵				
E-modulus N/mm ²		70000	70000	70000	70000	70000	70000	70000	



Formula: EHT/K

Driving torque:

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

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

- F = force (N)
- P = thread pitch (mm)
- 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

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

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

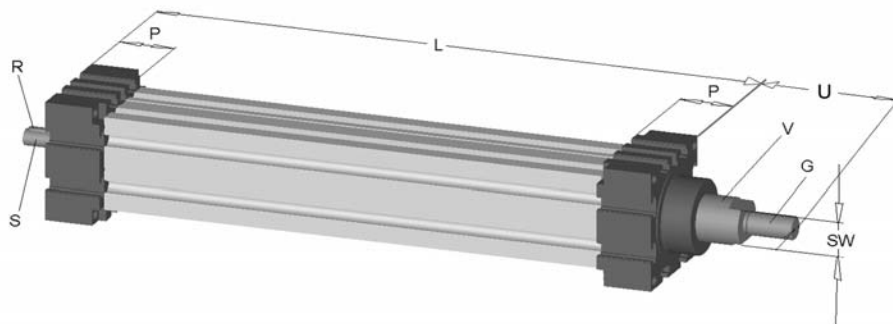
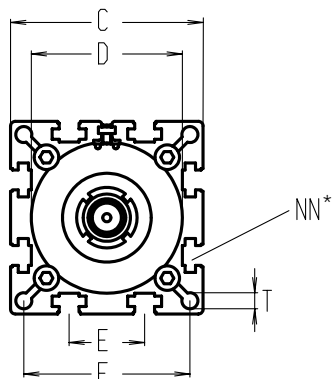
The diagram for critical speeds of lead screws refer to chapter 5.2 page 3



Positioning system EHT/EHK 40, 60, 80, 100

Dimensions (mm)

1.1



*For slide-nuts refer to chapter 2.2 page 2

Size □	Basic length L	C	D	E	F	G ∅ x length	NN for	P	R	S ∅ x length	SW	T	U	V ∅	Basic weight	Weight per 100 mm
EH 40	125	58	48x1	18	47	M 12 x 1,25 x 24	M 6	25	2x2x22	6x27	17	6,5	54	20		
EH 60	170	82	62x1	30	69	M 16 x 1,5 x 32	M 8	35	3x3x25	10x27	27	8,5	77	30		
EH 80	180	102	80x1	40	88	M 20 x 1,5 x 40	M 10	45	5x5x28	14x35	30	8,5	100	40		
EH 100	250	130	110x1	50	112	M 30 x 2 x 45	M 10	55	6x6x40	22x45	46	10,5	105	50	6,5 kg	2,10 kg

K 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

Size	Standard		Multistart-screw	
	trapezoidal thread	ballscrew	trapezoidal thread	ballscrew
40	(0) Tr 10x3	(0) Kg 12x5	(1) Tr 18x8	(1) Kg 12x10
60	(0) Tr 18x4	(0) Kg 16x5	(1) Tr 24x10	(1) Kg 16x10
80	(0) Tr 24x5	(0) Kg 20x5	(1) Tr 28x10	(1) Kg 20x5
100	(0) Tr 28x5	(0) Kg 32x5	(1) Tr 32x10	(1) Kg 32x10

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)

680 Basic length + stroke = total length

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

EH	K	100	1	0	0	0	0	0	0	00680
Pos.	1	2	3	4	5	6	7			

Sample ordering code:
EHT100, ballscrew right hand thread, standard body profile, spindle 32x5, 430 mm stroke

For combination kits and connecting elements refer to chapter 2.2

