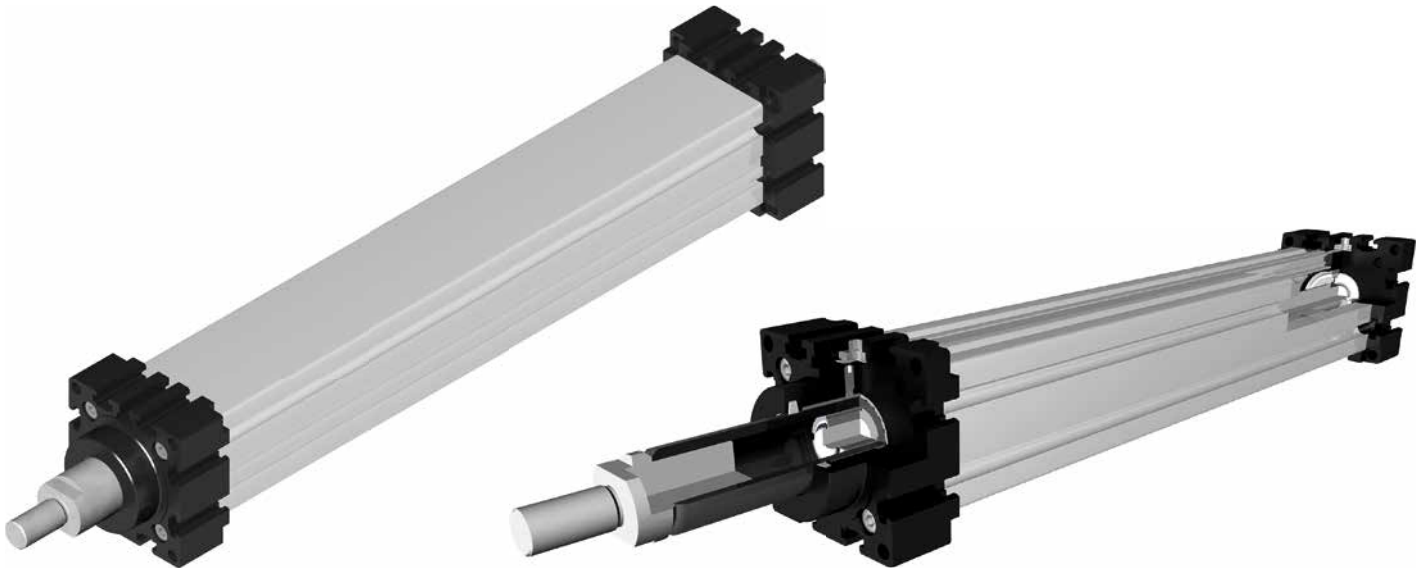


Spindle driven

**Function:**

The rotary motion of the threaded spindle is converted into a linear motion of the pressure tube. Due to the piston rod principle, high axial forces can be realised, e. g. for shelf and dosing applications.

Mounting position: Variable, max. length 1500 mm

Fixation: By T-nuts or mounting sets

Forces and torques	Size	EH 60		EH 80	
	Forces / Torques	static	dynam	static	dynam
	F_x (N)	1800	1200	3000	2500
	F_y (N)	130	80	210	140
	F_z (N)	130	80	210	140
	M_x (Nm)	20	11	27	16
	M_y (Nm)	95	60	190	110
	M_z (Nm)	95	60	190	110
	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 $\frac{F_y}{F_{y_{dyn}}} + \frac{F_z}{F_{z_{dyn}}} + \frac{M_x}{M_{x_{dyn}}} + \frac{M_y}{M_{y_{dyn}}} + \frac{M_z}{M_{z_{dyn}}} \leq 1$					
No-load torque					
Trapezoidal thread		18x4	18x8	24x5	24x10
(Nm)		0,40	0,50	0,60	0,80
Ball screw		16x5	16x10	25x5	25x10
(Nm)		0,20	0,40	0,40	0,60
Geometrical moments of inertia of aluminium profile					
I_x mm ⁴		4,75x10 ⁵		15,41x10 ⁵	
I_y mm ⁴		4,88x10 ⁵		16,02x10 ⁵	
Elastic-modulus N/mm ²		70000		70000	

Driving torque:

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

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

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⁻¹)
 M_a = driving torque (Nm)
 μ = screw efficiency
 P_a = motor power (KW)

Efficiency of lead screws:

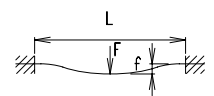
All ballscrew 0,900

Tr 18x4 0,399
 Tr 18x8 0,565
 Tr 24x5 0,384
 Tr 24x10 0,550

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/mm²)
 I = second moment of area (mm⁴)

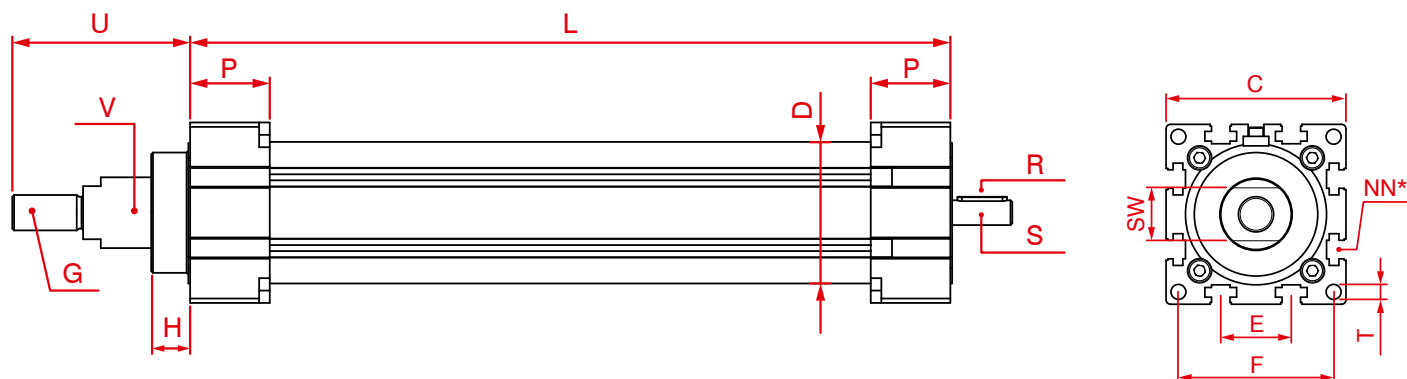


For the diagram for critical speeds of lead screws refer to chapter 4.2

Positioning system EHT/EHK 60, 80

Dimensions (mm)

1.1



*For slide nuts refer to chapter 2.2 page 2

Size □	Pressure pipe Spindle	Basic length L	C	D	E	F	G ∅ x length	H	NN for	P	R	S ∅ x length	SW	T	U	V ∅	Basic weight	Weight per 100 mm
EH 60	∅ 30 KG 16x5	165	82	60	30	69	M16x1,5x32	20	M8	35	3x3x25	10x27	24	8,5	77	30	2,33 kg	0,93 kg
EH 60	∅ 30 KG 16x10-16	175	82	60	30	69	M16x1,5x32	20	M8	35	3x3x25	10x27	24	8,5	77	30	2,42 kg	0,96 kg
EH 60	∅ 30 Tr 18x4-8	165	82	60	30	69	M16x1,5x32	20	M8	35	3x3x25	10x27	24	8,5	77	30	2,37 kg	0,84 kg
EH 80	∅ 40 KG 25x5	183	102	80	40	88	M20x1,5x40	22	M10	45	5x5x28	14x35	30	8,5	100	40	5,01 kg	1,50 kg
EH 80	∅ 40 KG 25x10	202	102	80	40	88	M20x1,5x40	22	M10	45	5x5x28	14x35	30	8,5	100	40	5,07 kg	1,26 kg
EH 80	∅ 40 KG 25x25	233	102	80	40	88	M20x1,5x40	22	M10	45	5x5x28	14x35	30	8,5	100	40	5,07 kg	1,50 kg
EH 80	∅ 40 Tr 24x5-10	183	102	80	40	88	M20x1,5x40	22	M10	45	5x5x28	14x35	30	8,5	100	40	5,07 kg	1,26 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 (2) corrosion-protected screws (4) expanded corrosion-protected version (depending on the availability of components)

Size	Selection of screw:		Kg = ballscrew	
	Standard	Multistart screw	Standard	Multistart screw
60	(0) Tr 18x4	(1) Tr 18x8	(0) Kg 16x5	(1) Kg 16x10 (2) Kg 16x16
80	(0) Tr 24x5	(1) Tr 24x10	(0) Kg 25x5	(1) Kg 25x10 (2) Kg 25x25

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

0 Ballscrew pitch accuracy: (only ballscrew)

(0) 0,05 mm / 300 mm (2) 0,025 mm / 300 mm

0 End play of ball nut: (only ballscrew)

(0) 0,04 mm (Standard), (1)* < 0,02 mm, (2)* 2% apply prestress

EH K 80 1 0 0 0 0 0 1000 — Basic length + stroke = total length
Pos. 1 2 3 4 5 6 7

Sample ordering code: EHK80, ballscrew right hand thread, standard body profile, spindle Kg 25x5, 817 mm stroke

For combination kits and connecting elements refer to chapter 2.2

