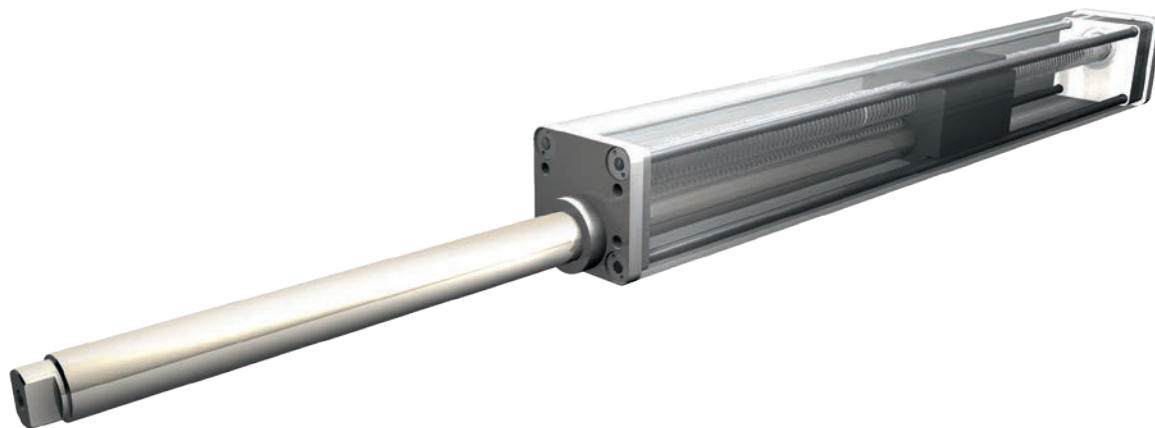


Positioning system RHT/K 80V



Function:

Due to the rotating motion of the threaded spindle and the leading nut integrated into the carriage, the piston rod is moved towards the outside in a linear movement. Spindle and piston rod are arranged parallel to each other within an enclosed system. The use of hardened and ground solid material ensures optimum surface quality and a long lifetime of the sealing.

Fitting position: As required. Max. length size of RH 80 = 1500 mm

Unit mounting: By tapped holes in the bearing blocks, mounting sets.

Forces and torques	Size	RHT/K 80V	
	Forces / Torques	static	dynam.
	F_x (N)	2600	2000
	F_y (N)	210	140
	F_z (N)	210	140
	M_x (Nm)	100	70
	M_y (Nm)	190	110
	M_z (Nm)	190	110
All forces and torques relate to the following: existing values $\frac{F_y}{F_{y_{dyn}}} + \frac{F_z}{F_{z_{dyn}}} + \frac{M_x}{M_{x_{dyn}}} + \frac{M_y}{M_{y_{dyn}}} + \frac{M_z}{M_{z_{dyn}}} \leq 1$ values of table			
No-load torque			
Trapezoidal thread		24 x 5	24 x 10
(Nm)		0,60	0,80
Ballscrew		25 x 5	25 x 10 20 x 20
(Nm)		0,40	0,60 0,70

12.1



Formula: RHT/K

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 (~ 1,22)
- w = friction coefficient (KW)
- P_o = motor power

Efficiency of lead screws:

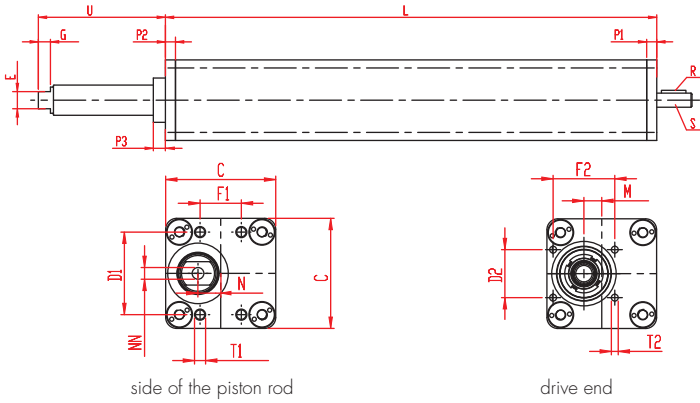
- All ballscrew 0,900
- Tr 24x5 0,384 Tr 24x10 0,550

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

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

Positioning system RHT/K 80V

Dimensions (mm)



Size	Basic length L	C	D1	D2	E	F1	F2	G	M	N	NN	P1	P2	P3	R	S ∅ x length	T1	T2	U	Basic weight	Weight per 100 mm
RH 80V	173	80	60	35	17	30	45	12	13	16,5	M10	10	10	12	5x5x28	14x35	M8	M5	60	4,90 kg	1,38 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) corrosion-protected screws, pushing rod and bearings
(1) version 0 and add. corrosion-protected spindle (only trapezoidal thread screw)
(2) add. to version 0 and 1 with corrosion-protected bearing block

0 Selection of screw:

Size	Standard	Multistart screw	Standard	Multistart screw
80	(0) Tr 24x5 trapezoidal thread	(1) Tr 24x10	(0) Kg 25x5 ballscrew	(1) Kg 25x10 (2) Kg 20x20

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

RHK	80V	1	0	0	0	0	0	0	00680
Pos.	1	2	3	4	5	6	7		

Sample ordering code:
RHK80V, ballscrew right hand thread, standard body profile, spindle 25x5, 507 mm stroke

