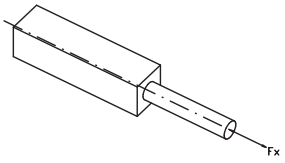
Positioning system RHT/K 60A, 80A, 100A, 120A

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 1500 mm
Unit mounting: By tapped holes in the bearing blocks, mounting sets.

Forces and torques



Size	RHT/K 60A		RHT/K 80A		RHT/K 100A		RHT/K 120A	
Forces / Torques	static	dynam.	static	dynam.	static	dynam.	static	dynam.
F_x (N)	277	213	930	715	2636	2027	9619	7399
All forces and torques relate to the following: existing values / values of table	$\frac{Fy}{Fy_{dyn}} + \frac{Fz}{Fz_{dyn}} + \frac{Mx}{Mx_{dyn}} + \frac{My}{My_{dyn}} + \frac{Mz}{Mz_{dyn}} \leq 1$							
No-load torque								
Trapezoidal thread	18x4	18x8	24 x 5	24 x 10	30x6	30x12	40x7	40x14
(Nm)	0,60	0,70	0,60	0,80	1,00	1,20	1,40	1,60

Ballscrew	16x5	16x10	16x16	25 x 5	25 x 10	20 x 20	32x5	32x10	32x20	40x5	40x10	40x20
(Nm)	0,40	00,60	0,70	0,40	0,60	0,70	0,80	1,00	1,10	1,20	1,40	1,60

Formula: RHT/K

Driving torque:

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

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

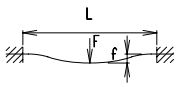
F	= force	(N)
P	= thread pitch	(mm)
S_i	= safety factor 1,2 ... 2	
M_{leer}	= no-load torque	(Nm)
n	= rpm of screw	(min^{-1})
M_a	= driving torque	(Nm)
μ	= screw efficiency	
w	= friction coefficient	~ 1,22
P_a	= motor power	(KW)

Efficiency of lead screws:

All ballscrews: 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
Tr 40x7	0,344	Tr 40x14	0,509

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



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

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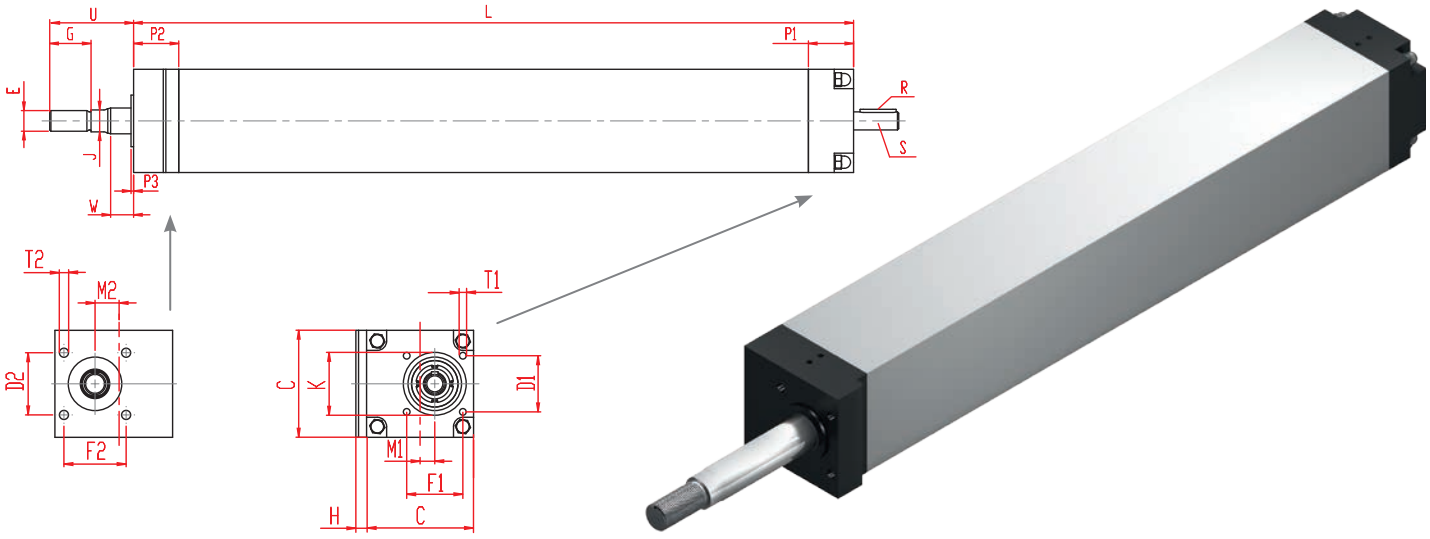
Dimensions (mm)



Size ❐	Basic length L	❐ C	D1	D2	E	F1	F2	G	H	J	K	M1	M2	P1	P2	P3	R	S ∅ x length	T1	T2	U	Basic weight	Weight per 100 mm
RH 60**A**	110	60	25	32,5	M10x1,25	36	32,5	22	6,5	10	35	6,5	14	25	25	18	3x3x25	10x27	M5	M6	116	1,37 kg	0,55 kg
RH 80**A**	173	80	42	46,5	M16x1,5	42	46,5	32	8	17	47	13	14	35	35	12	5x5x28	14x35	M6	M8	60	4,90 kg	1,38 kg
RH 100**A**	194	100	48	80	M20x1,5	58	80	40	23	22	62	23	13	45	45	22,3	6x6x40	18x45	M8	M10	188	7,02 kg	1,54 kg
RH 120**A**	264	120	58	100	M36x2	78	100	72	29	36	72	29	14	65	65	2	8x7x55	25x58	M10	M12	233	17,2 kg	2,70 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 trapezoidal thread	Multistart screw trapezoidal thread	Standard ballscrew	Multistart screw ballscrew	
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 20x20
100	**(0)** Tr 32x6	**(1)** Tr 32x12	**(0)** Kg 32x5	**(1)** Kg 32x10	**(2)** Kg 32x20
120	**(0)** Tr 40x7	**(1)** Tr 40x14	**(0)** Kg 40x5	**(1)** Kg 40x10	**(2)** Kg 40x20

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)**

Repeatability:
± 0,2 mm trapezoidal
± 0,025 mm ballscrew

680 Basic length + stroke = total length

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

Sample ordering code:
RHK80A, ballscrew right hand thread, standard body profile, spindle 25x5, 507 mm stroke