CHINA

Jingpeng Machinery

Ball Screw YOSO

HIGH QUALITY PRODUCTS FROM GERMANY

JINGPENG MACHINERY & EQUIPMENT(SHANGHAI) CO.,LTD

Order system - **Carry** ballscrews

KGT 16×5 FG RH 1 S 350 G7 A E M

Example for complete Carry ballscrew

Type of thread drive
KGT = **Carry** ballscrew

Nominal size (d_0 × p) [mm]

Nut type:
- **Shape** — for nut only

ZY = cylindrical nut type SCI...
FG = nut with mounting thread type BSH...
FB = flange nut type FK...
FA = flange nut type FA...
MS = special design according to drawing

Right-hand / left-hand thread — for nut only
RH = right-hand thread (standard)
LH = left-hand thread (availability see dimensional charts)

Number of ball circulations (i) — for nut only
1 = 1 ball circulation
2 = 2 ball circulations
3 = 3 ball circulations
4 = 4 ball circulations

Wipers (SA) — for nut only
S = with wipers (technopolymer or brush)
N = without wipers

Ballscrew overall length [mm] — for screw only

Lead accuracy (class) — for screw only
G9 = ≤0.1 mm/300 mm (standard)
G7 = ≤0.052 mm/300 mm (on request)
G5 = ≤0.023 mm/300 mm (on request)
G3 = ≤0.008 mm/300 mm (on request)

Backlash (T_{max}) — for screw only
A = standard backlash (see dimensional charts)
R = reduced backlash upon specification

Screw end machining — for screw only
O = no end machining (cut by grinding, hardened ends)
E = end machining according to drawing

Assembly
G = screw and nut separate
M = screw and nut assembled according to drawing/specified orientation

Example for screw only — KGT 16×5 RH 350 G7 O G

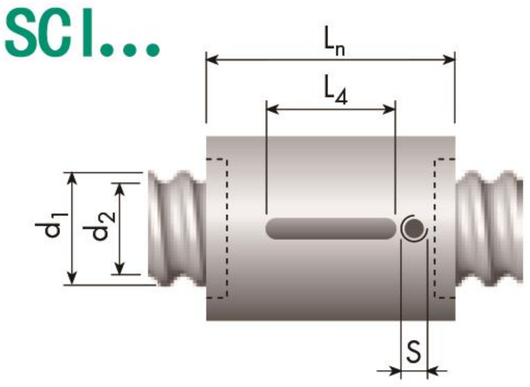
Example for nut only — KGT 16×5 FG R RH 1 S A G

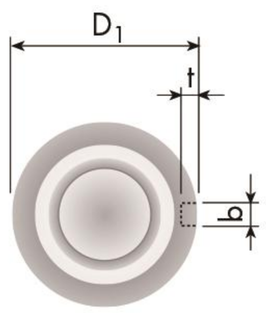
Carry ballscrews

⌀4/5/6

Cylindrical nut

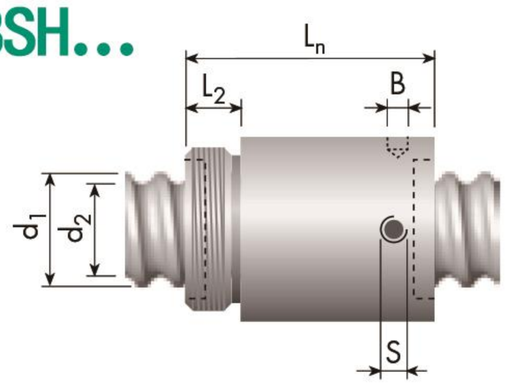
SCI...





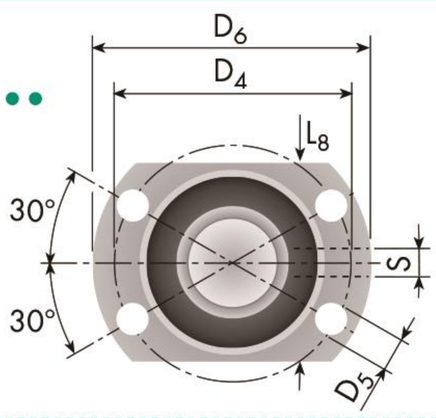
Nut with mounting thread

BSH...

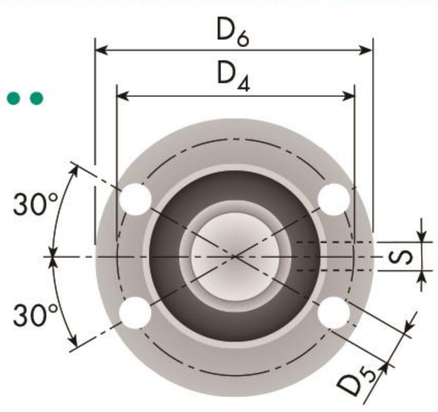


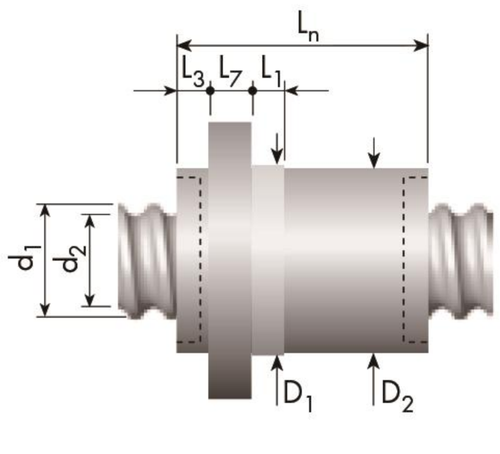
Flange nut

FK...



FA...





Nominal size $d_0 \times p$ [mm]	Ball return Type		Relative cost	Right-/ left-hand thread	Dimensions [mm] Screw d_1	Screw d_2	Nut D_1	Nut D_2
4×1	...I	●●	€€€	RH / —	4.0	3.2	8 g6	—
5×2	...I	●●	€€€	RH / —	5.0	4.0	10 g6	—
6×1	...I	●●	€€€	RH / —	6.0	5.0	12 g6	—
5×2	...I	●●	€€	RH / —	5.0	4.0	10 0/–0.1	—
5×3	...I	●●	€€	RH / —	5.0	4.2	10 0/–0.1	—
5×3	...I	●●	€€	RH / —	5.0	4.2	10 0/–0.1	—
6×2	...R	⟋	€€	RH / LH	5.7	4.6	16 0/–0.1	—
6×2	...F	▭	€	RH / —	5.7	4.6	19 0/–0.1	—
6×6	...F	▭	€	RH / —	5.9	4.6	19 0/–0.1	—
4×1	...I	●●	€€€	RH / —	4.0	3.2	8 g6	7.9
6×1	...I	●●	€€€	RH / —	6.0	5.0	12 g6	11.8
6×2	...F	▭	€€	RH / —	5.7	4.6	18 –0.01/–0.05	17.5
6×6	...F	▭	€€	RH / —	5.9	4.6	18 –0.01/–0.05	17.5

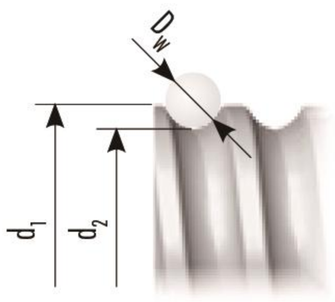
Ball return systems

Legend

d_0 = nominal screw diameter [mm]
d_1 = outer screw diameter [mm]
d_2 = core diameter [mm]
p = pitch [mm]

Carry ballscrews Ø4/5/6

D_4 TK	D_5 H13	D_6 h13	M	L_n	L_1	L_2	L_3	L_4	L_7	L_8 h13	i	D_W	B +0.5/0	b P9	t	S	SA	T_{max}	Load rates [N] C_{dyn}	Load rates [N] C_{stat}	Nominal size $d_0 \times p$ [mm]
—	—	—	—	10	—	—	—	—	—	—	3 × 1	0.80	—	ø2 +0.1/0	1.0	—	—	0.03	430	580	**4 × 1**
—	—	—	—	14	—	—	—	8	—	—	3 × 1	0.80	—	2	1.0	—	—	0.03	500	800	**5 × 2**
—	—	—	—	14	—	—	—	8	—	—	3 × 1	0.80	—	2	1.2	—	—	0.03	600	1 000	**6 × 1**
—	—	—	M8 × 0.75	18	—	6	—	—	—	—	3 × 1	0.80	2.5	—	—	—	—	0.03	500	800	**5 × 2**
—	—	—	M8 × 0.75	19	—	6	—	—	—	—	2 × 1	0.80	2.5	—	—	—	—	0.03	340	490	**5 × 3**
—	—	—	M8 × 0.75	23	—	6	—	—	—	—	3 × 1	0.80	2.5	—	—	—	—	0.03	480	770	**5 × 3**
—	—	—	M12 × 1	22	—	8	—	—	—	—	1 × 3.5	1.59	2.5	—	—	—	—	0.06	1 700	2 300	**6 × 2**
—	—	—	M16 × 1	19	—	8	—	—	—	—	1 × 3.7	1.59	2.5	—	—	ø 2	K	0.05	1 900	2 800	**6 × 2**
—	—	—	M16 × 1	19	—	8	—	—	—	—	2 × 1.6	1.50	2.5	—	—	ø 2	K	0.05	1 700	2 600	**6 × 6**
12	2.7	17	—	14	2	—	—	—	3	11	3 × 1	0.80	—	—	—	—	—	0.03	430	580	**4 × 1**
18	3.4	24	—	18	4	—	—	—	4	16	3 × 1	0.80	—	—	—	ø 2	K	0.03	600	1 000	**6 × 1**
26	3.4	34	—	19	4	—	4	—	4	—	1 × 3.7	1.59	—	—	—	ø 2	K	0.05	1 900	2 800	**6 × 2**
26	3.4	34	—	19	4	—	4	—	4	—	2 × 1.6	1.50	—	—	—	ø 2	K	0.05	1 700	2 600	**6 × 6**



i = number of ball circulations [–]
D_W = ball diameter [mm]
B = pin wrench hole* [mm]
S = lubrication hole* [mm]

SA = wipers (details › page 9)
K = technopolymer wipers
B = brush wipers
F = felt rings (on request)

T_{max} = max. standard backlash [mm]
3) = only on request
* position not defined
Special designs available on request

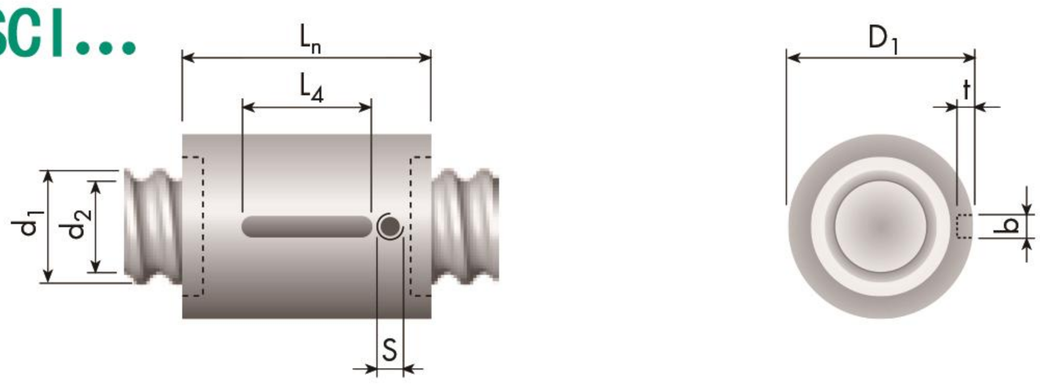
⚠ When selecting a ballscrew, always observe the maximum rotational speed dependent on the system-specific rotational speed characteristics!
Calculation › page 12

Carry ballscrews

⌀8

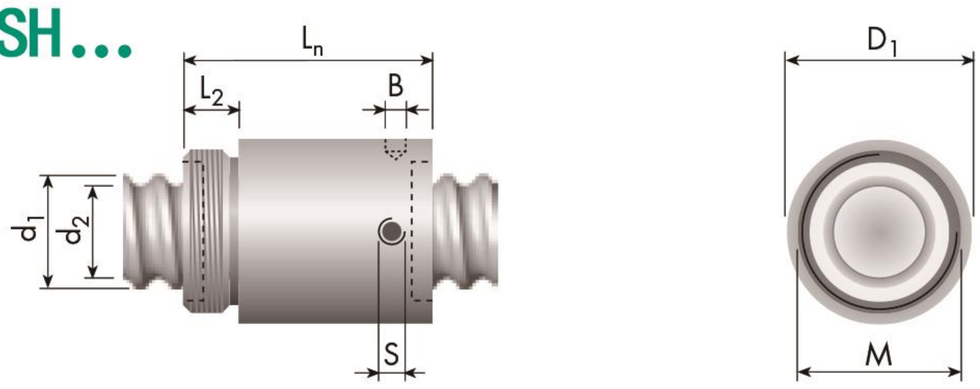
Cylindrical nut

SCI...



Nut with mounting thread

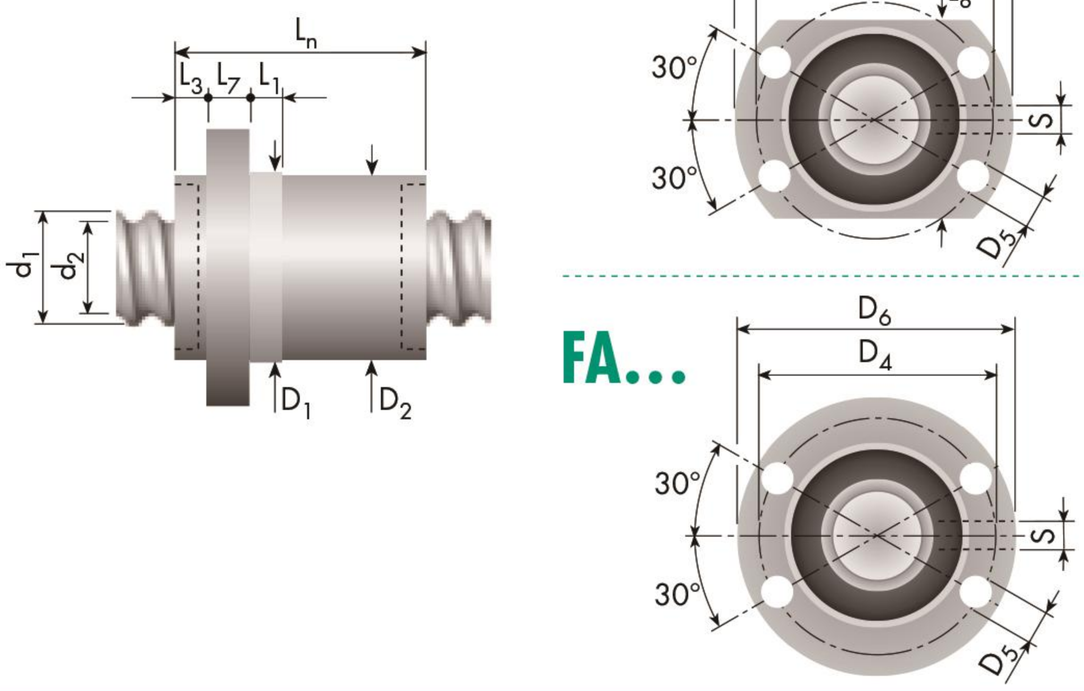
BSH...



Flange nut

FK...

FA...



Nominal size $d_0 \times p$ [mm]	Ball return Type		Relative cost	Right-/ left-hand thread	Dimensions [mm] Screw d_1	d_2	Nut D_1	D_2
8 × 1	...I		€€€	RH / —	8.0	7.0	14 g6	—
8 × 1.5	...I		€€€	RH / —	8.0	6.7	14 g6	—
8 × 2	...I		€€€	RH / —	8.0	6.5	16 g6	—
8 × 2	...R		€€€	RH / —	8.0	6.5	18 g6	—
8 × 2.5	...I		€€€	RH / —	8.0	6.6	16 g6	—
8 × 2.5	...I		€€€	RH / —	8.0	6.6	16 g6	—
8 × 2.5	...R		€€€	RH / —	8.0	6.6	18 g6	—
8 × 3	...I		€€€	RH / —	8.0	6.7	14 g6	—
8 × 3 [3]	...I		€€€	RH / —	8.0	6.7	14 g6	—
8 × 5	...R		€€€	RH / —	8.0	6.7	18 g6	—
8 × 12	...E		€€€	RH / —	8.0	6.7	18 g6	—
8 × 1	...I		€€	RH / —	8.0	7.0	16 0/–0.1	—
8 × 1.5	...I		€€	RH / —	8.0	6.7	16 0/–0.1	—
8 × 2	...I		€€	RH / —	8.0	6.5	16 0/–0.1	—
8 × 2	...R		€€	RH / —	8.0	6.5	18 0/–0.1	—
8 × 2	...R		€€	RH / —	8.0	6.5	18 0/–0.1	—
8 × 2.5	...I		€€	RH / —	8.0	6.6	16 0/–0.1	—
8 × 2.5	...R		€€	RH / —	8.0	6.6	17.5 0/–0.1	—
8 × 2.5	...R		€€	RH / —	8.0	6.6	17.5 0/–0.1	—
8 × 3	...I		€€	RH / —	8.0	6.7	16 0/–0.1	—
8 × 3	...F		€	RH / —	8.0	6.7	23 0/–0.1	—
8 × 5	...R		€€	RH / —	8.0	6.7	18 0/–0.1	—
8 × 8	...R		€€	RH / —	8.0	6.6	18 0/–0.1	—
8 × 8	...F		€	RH / —	8.0	6.6	23 0/–0.1	—
8 × 1	...I		€€€	RH / —	8.0	7.0	14 g6	13.5
8 × 2	...I		€€€	RH / —	8.0	6.5	16 g6	15.5
8 × 2	...R		€€€	RH / —	8.0	6.5	18 g6	17.5
8 × 8 [3]	...R		€€€	RH / —	8.0	6.6	18 g6	17.5
8 × 12	...E		€€	RH / —	8.0	6.7	18 g6	17.8
8 × 3	...F		€€	RH / —	8.0	6.7	20 –0.01/–0.05	19.5
8 × 8	...F		€€	RH / —	8.0	6.6	20 –0.01/–0.05	19.5

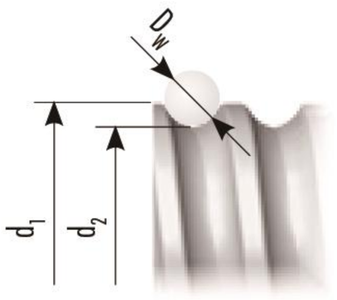
Ball return systems

Legend

d_0 = nominal screw diameter [mm]
d_1 = outer screw diameter [mm]
d_2 = core diameter [mm]
p = pitch [mm]

Carry ballscrews Ø8

D_4 TK	D_5 H13	D_6 h13	M	L_n	L_1	L_2	L_3	L_4	L_7	L_8 h13	i	D_W	B +0.5/0	b P9	t	S	SA	T_{max}	Load rates [N] C_{dyn}	Load rates [N] C_{stat}	Nominal size $d_0 \times p$ [mm]
—	—	—	—	14	—	—	—	8	—	—	3×1	0.80	—	2	1.2	—	—	0.03	700	1 200	**8×1**
—	—	—	—	14	—	—	—	8	—	—	3×1	1.20	—	2	1.2	—	—	0.04	800	1 300	**8×1.5**
—	—	—	—	20	—	—	—	8	—	—	3×1	1.59	—	2	1.2	—	—	0.05	1 400	2 000	**8×2**
—	—	—	—	14	—	—	—	8	—	—	1×3.5	1.59	—	2	1.2	—	—	0.06	2 000	3 200	**8×2**
—	—	—	—	22	—	—	—	10	—	—	3×1	1.59	—	3	2.0	—	—	0.05	1 400	2 100	**8×2.5**
—	—	—	—	22	—	—	—	10	—	—	3×1	1.59	—	3	2.0	ø 2	K	0.05	1 400	2 100	**8×2.5**
—	—	—	—	16	—	—	—	10	—	—	1×3.5	1.59	—	3	2.0	—	—	0.06	2 000	3 200	**8×2.5**
—	—	—	—	12	—	—	—	8	—	—	2×1	1.50	—	2	1.2	—	—	0.05	950	1 500	**8×3**
—	—	—	—	17	—	—	—	8	—	—	3×1	1.50	—	2	1.2	—	—	0.05	1 400	2 100	**8×3** [3]
—	—	—	—	19	—	—	—	10	—	—	2×2.5	1.50	—	3	2.0	—	—	0.06	1 960	3 470	**8×5**
—	—	—	—	28	—	—	—	8	—	—	2×1.5	1.50	—	2	1.2	ø 2	K	0.05	1 400	2 300	**8×12**
—	—	—	M14×1	22	—	8	—	—	—	—	3×1	0.80	2.5	—	—	—	—	0.03	700	1 200	**8×1**
—	—	—	M14×1	22	—	8	—	—	—	—	3×1	1.20	2.5	—	—	—	—	0.04	800	1 300	**8×1.5**
—	—	—	M14×1	28	—	8	—	—	—	—	3×1	1.59	2.5	—	—	—	—	0.05	1 400	2 000	**8×2**
—	—	—	M14×1	24	—	8	—	—	—	—	1×3.5	1.59	2.5	—	—	—	—	0.06	2 000	3 200	**8×2**
—	—	—	M14×1	24	—	8	—	—	—	—	1×3.5	1.59	2.5	—	—	ø 2	K	0.06	2 000	3 200	**8×2**
—	—	—	M14×1	24	—	8	—	—	—	—	3×1	1.59	2.5	—	—	—	—	0.05	1 400	2 100	**8×2.5**
—	—	—	M15×1	24	—	8	—	—	—	—	1×3.5	1.59	2.5	—	—	—	—	0.06	2 000	3 200	**8×2.5**
—	—	—	M15×1	26	—	8	—	—	—	—	1×3.5	1.59	2.5	—	—	ø 2	K	0.06	2 000	3 200	**8×2.5**
—	—	—	M14×1	25	—	8	—	—	—	—	3×1	1.50	2.5	—	—	—	—	0.05	1 400	2 100	**8×3**
—	—	—	M20×1	23	—	10	—	—	—	—	1×3.7	1.50	2.5	—	—	ø 2	K	0.05	1 900	3 300	**8×3**
—	—	—	M14×1	25	—	8	—	—	—	—	2×1.5	1.50	2.5	—	—	—	—	0.06	1 960	3 470	**8×5**
—	—	—	M14×1	25	—	8	—	—	—	—	2×1.5	1.50	2.5	—	—	—	—	0.06	1 500	2 500	**8×8**
—	—	—	M20×1	23	—	10	—	—	—	—	2×1.7	1.50	2.5	—	—	ø 2	K	0.05	2 000	3 700	**8×8**
21	3.4	27	—	18	4	—	—	—	4	18	3×1	0.80	—	—	—	ø 2	K	0.03	700	1 200	**8×1**
22	3.4	28	—	30	4	—	—	—	6	19	3×1	1.59	—	—	—	ø 4	K	0.05	1 400	2 000	**8×2**
22	3.4	28	—	25	4	—	—	—	6	19	1×3.5	1.59	—	—	—	ø 4	K	0.06	2 000	3 200	**8×2**
22	3.4	28	—	30	4	—	—	—	6	19	2×1.5	1.50	—	—	—	—	—	0.06	1 500	2 500	**8×8** [3]
25	3.4	30	—	28	4	—	6	—	4	20	2×1.5	1.50	—	—	—	ø 2	K	0.05	1 400	2 300	**8×12**
28	3.4	36	—	23	4	—	5	—	4	—	1×3.7	1.50	—	—	—	ø 2	K	0.05	1 900	3 300	**8×3**
28	3.4	36	—	23	4	—	5	—	4	—	2×1.7	1.50	—	—	—	ø 2	K	0.05	2 000	3 700	**8×8**



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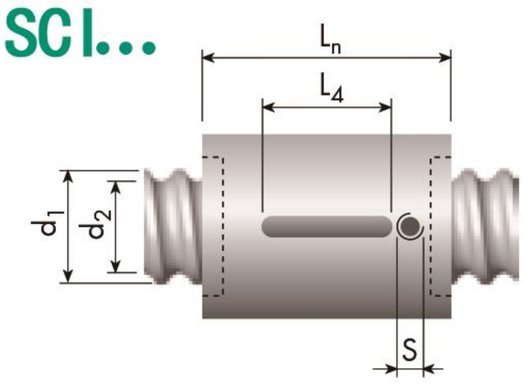
Calculation › page 12

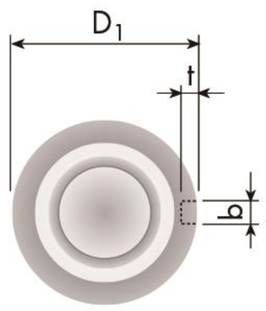
Carry ballscrews

⌀10

Cylindrical nut

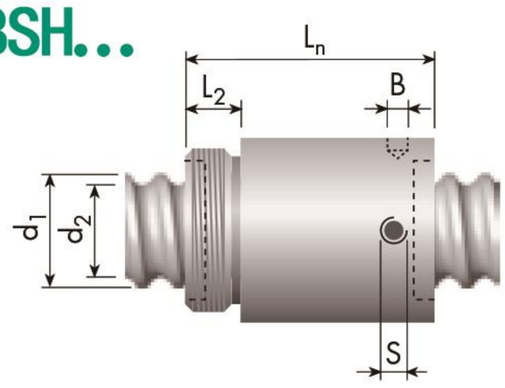
SCI...





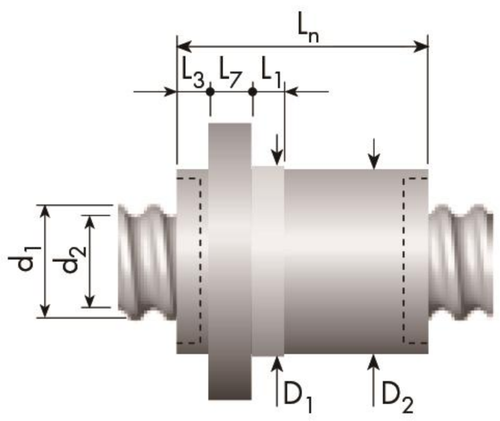
Nut with mounting thread

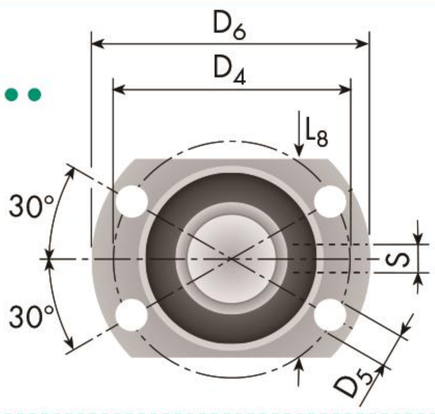
BSH...



Flange nut

FK...





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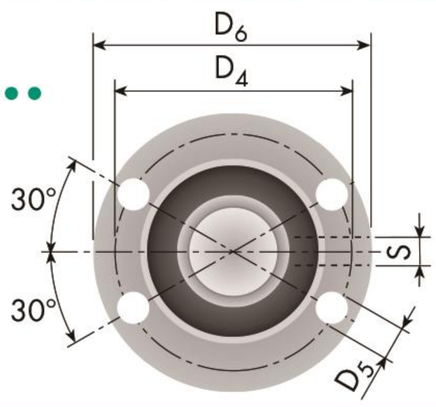

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10 × 2 [3]	...I		€€€	RH / LH	9.7	8.2	18 g6	—
10 × 3	...R		€€€	RH / LH	9.9	7.8	22 g6	—
10 × 3	...R		€€€	RH / LH	9.9	7.8	22 g6	—
10 × 4	...I		€€€	RH / —	10.0	7.5	18 g6	—
10 × 4	...I		€€€	RH / —	10.0	7.5	18 g6	—
10 × 10	...R		€€€	RH / —	9.8	7.9	23 g6	—
10 × 2	...I		€€	RH / LH	9.7	8.2	18 0/–0.1	—
10 × 2 [3]	...I		€€	RH / LH	9.7	8.2	18 0/–0.1	—
10 × 2	...R		€€	RH / LH	9.7	8.2	19.5 0/–0.1	—
10 × 2	...R		€€	RH / —	9.7	8.2	19.5 0/–0.1	—
10 × 3	...I		€€	RH / —	9.9	7.8	20 0/–0.1	—
10 × 3	...I		€€	RH / —	9.9	7.8	20 0/–0.1	—
10 × 3	...R		€€	RH / LH	9.9	7.8	21 0/–0.1	—
10 × 3	...R		€€	RH / LH	9.9	7.8	21 0/–0.1	—
10 × 3	...F		€	RH / —	9.9	7.8	27 0/–0.1	—
10 × 4	...I		€€	RH / —	10.0	7.5	20 0/–0.1	—
10 × 4	...I		€€	RH / —	10.0	7.5	20 0/–0.1	—
10 × 10	...R		€€	RH / —	9.8	7.9	23 0/–0.1	—
10 × 10	...R		€€	RH / —	9.8	7.9	23 0/–0.1	—
10 × 10	...F		€	RH / —	9.9	7.9	27 0/–0.1	—
10 × 4	...I		€€€	RH / —	10.0	7.5	18 g6	17.8
10 × 4	...I		€€€	RH / —	10.0	7.5	18 g6	17.8
10 × 10	...R		€€€	RH / —	9.8	7.9	23 g6	22.5
10 × 3	...F		€€	RH / —	9.9	7.8	24 –0.01/–0.06	23.5
10 × 10	...F		€€	RH / —	9.8	7.9	24 –0.01/–0.06	23.5

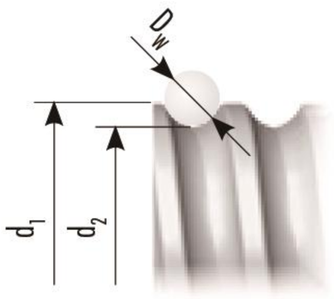
Ball return systems

Legend

d_0 = nominal screw diameter [mm]
d_1 = outer screw diameter [mm]
d_2 = core diameter [mm]
p = pitch [mm]

Carry ballscrews Ø10

D_4 TK	D_5 H13	D_6 h13	M	L_n	L_1	L_2	L_3	L_4	L_7	L_8 h13	i	D_W	B +0.5/0	b P9	t	S	SA	T_{max}	Load rates [N] C_{dyn}	Load rates [N] C_{stat}	Nominal size $d_0 \times p$ [mm]
—	—	—	—	14	—	—	—	10	—	—	2×1	1.59	—	3	1.2	—	—	0.06	1 250	2 100	**10×2**
—	—	—	—	20	—	—	—	10	—	—	3×1	1.59	—	3	1.2	—	—	0.06	1 750	3 200	10×2 [3]
—	—	—	—	24	—	—	—	10	—	—	1×3.5	2.00	—	3	2.0	—	—	0.06	2 800	5 000	**10×3**
—	—	—	—	24	—	—	—	10	—	—	1×3.5	2.00	—	3	2.0	ø 3.5	K	0.06	2 800	5 000	**10×3**
—	—	—	—	35	—	—	—	10	—	—	4×1	2.50	—	3	1.2	—	—	0.07	4 100	6 700	**10×4**
—	—	—	—	35	—	—	—	10	—	—	4×1	2.50	—	3	1.2	ø 2	K	0.07	4 100	6 700	**10×4**
—	—	—	—	26	—	—	—	10	—	—	2×1.5	2.00	—	3	2.0	—	—	0.06	2 500	4 500	**10×10**
—	—	—	M16×1	22	—	8	—	—	—	—	2×1	1.59	2.5	—	—	—	—	0.06	1 250	2 100	**10×2**
—	—	—	M16×1	28	—	8	—	—	—	—	3×1	1.59	2.5	—	—	—	—	0.06	1 750	3 200	10×2 [3]
—	—	—	M17×1	22	—	7	—	—	—	—	1×3.5	1.59	2.5	—	—	—	—	0.06	2 300	4 000	**10×2**
—	—	—	M17×1	22	—	7	—	—	—	—	1×3.5	1.59	2.5	—	—	ø 2	K	0.06	2 300	4 000	**10×2**
—	—	—	M18×1	29	—	8	—	—	—	—	3×1	2.00	2.5	—	—	—	—	0.06	2 400	4 200	**10×3**
—	—	—	M18×1	29	—	8	—	—	—	—	3×1	2.00	2.5	—	—	ø 2	K	0.06	2 400	4 200	**10×3**
—	—	—	M18×1	29	—	9	—	—	—	—	1×3.5	2.00	3.0	—	—	—	—	0.06	2 800	5 000	**10×3**
—	—	—	M18×1	29	—	9	—	—	—	—	1×3.5	2.00	3.0	—	—	ø 2	K	0.06	2 800	5 000	**10×3**
—	—	—	M24×1.5	27	—	10	—	—	—	—	1×3.7	2.00	3.0	—	—	ø 2	K	0.06	3 500	6 300	**10×3**
—	—	—	M18×1	40	—	8	—	—	—	—	4×1	2.50	2.5	—	—	—	—	0.07	4 100	6 700	**10×4**
—	—	—	M18×1	40	—	8	—	—	—	—	4×1	2.50	2.5	—	—	ø 2	K	0.07	4 100	6 700	**10×4**
—	—	—	M18×1	35	—	9	—	—	—	—	2×1.5	2.00	3.0	—	—	—	—	0.06	2 500	4 500	**10×10**
—	—	—	M18×1	35	—	9	—	—	—	—	2×1.5	2.00	3.0	—	—	ø 4	K	0.06	2 500	4 500	**10×10**
—	—	—	M24×1.5	27	—	10	—	—	—	—	2×1.7	2.00	3.0	—	—	ø 2	K	0.06	3 200	5 900	**10×10**
28	4.5	36	—	38	6	—	—	—	6	23	4×1	2.50	—	—	—	—	—	0.07	4 100	6 700	**10×4**
28	4.5	36	—	38	6	—	—	—	6	23	4×1	2.50	—	—	—	ø 2	K	0.07	4 100	6 700	**10×4**
29	4.5	37	—	40	6	—	—	—	8	24	2×1.5	2.00	—	—	—	M5	K	0.06	2 500	4 500	**10×10**
32	4.5	40	—	27	5	—	4	—	7	—	1×3.7	2.00	—	—	—	ø 3	K	0.06	3 500	6 300	**10×3**
32	4.5	40	—	27	5	—	4	—	7	—	2×1.7	2.00	—	—	—	ø 4	K	0.06	3 200	5 900	**10×10**



i = number of ball circulations [–]
D_W = ball diameter [mm]
B = pin wrench hole* [mm]
S = lubrication hole* [mm]

SA = wipers (details › page 9)
K = technopolymer wipers
B = brush wipers
F = felt rings (on request)

T_{max} = max. standard backlash [mm]
[3] = only on request
* position not defined
Special designs available on request

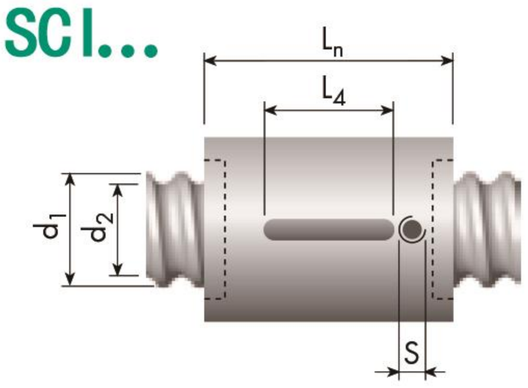
⚠ When selecting a ballscrew, always observe the maximum rotational speed dependent on the system-specific rotational speed characteristics!
Calculation › page 12

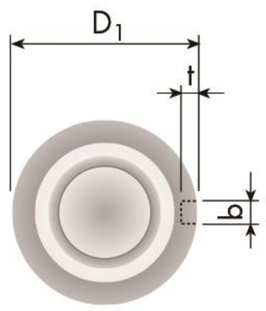
Carry ballscrews

⌀12

Cylindrical nut

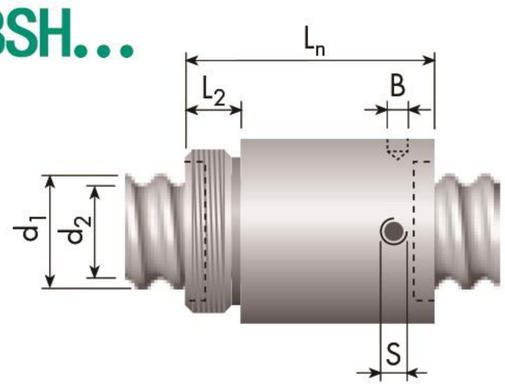
SCI...





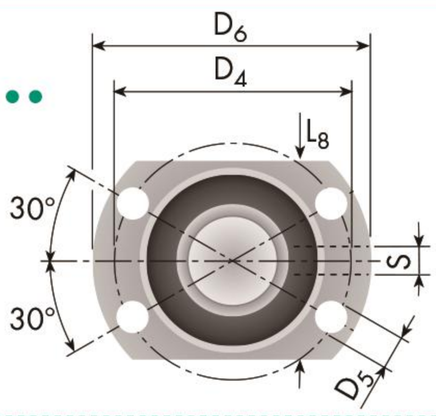
Nut with mounting thread

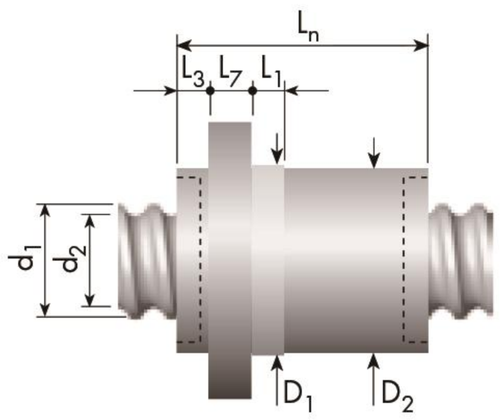
BSH...



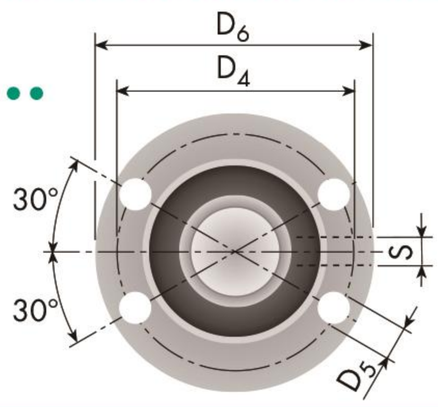
Flange nut

FK...





FA...



Nominal size $d_0 \times p$ [mm]	Ball return Type		Relative cost	Right-/ left-hand thread	Dimensions [mm] Screw d_1	Screw d_2	Nut D_1	Nut D_2
12×2	**...I**		€€€	RH / —	12.0	10.6	20 g6	—
12×2 [3]	...I		€€€	RH / LH	12.0	10.6	20 g6	—
12×4	**...R**		€€€	RH / —	12.0	9.8	26 g6	—
12×4	**...R**		€€€	RH / —	12.0	9.8	26 g6	—
12×2	**...I**		€€	RH / —	12.0	10.6	20 0/–0.1	—
12×2 [3]	...I		€€	RH / LH	12.0	10.6	20 0/–0.1	—
12×4	**...I**		€€	RH / —	12.0	9.8	24 0/–0.1	—
12×4	**...I**		€€	RH / —	12.0	9.8	24 0/–0.1	—
12×4	**...R**		€€	RH / —	12.0	9.8	26 0/–0.1	—
12×4	**...R**		€€	RH / —	12.0	9.8	26 0/–0.1	—
12×5	**...I**		€€	RH / —	12.0	9.5	23 0/–0.1	—
12×5	**...I**		€€	RH / —	12.0	9.5	23 0/–0.1	—
12×5	**...R**		€€	RH / LH	12.0	9.5	26 0/–0.1	—
12×5	**...R**		€€	RH / —	12.0	9.5	26 0/–0.1	—
12×5	**...F**		€	RH / —	12.0	9.5	32 0/–0.1	—
12×10	**...R**		€€	RH / —	11.9	9.7	26 0/–0.1	—
12×10	**...F**		€	RH / —	11.9	9.7	32 0/–0.1	—
12×12	**...F**		€	RH / —	12.0	9.7	32 0/–0.1	—
12×2	**...R**		€€€	RH / —	12.0	10.6	22 g6	21.5
12×3	**...R**		€€€	RH / —	12.3	10.2	24 g6	23.5
12×4	**...R**		€€€	RH / —	12.0	9.8	26 g6	25.5
12×5	**...I**		€€€	RH / —	12.0	9.5	24 g6	23.5
12×5	**...R**		€€€	RH / —	12.0	9.5	26 g6	25.5
12×5	**...F**		€€	RH / —	12.0	9.5	26 –0.01/–0.06	25.5
12×10	**...F**		€€	RH / —	11.9	9.7	26 –0.01/–0.06	25.5
12×12	**...F**		€€	RH / —	12.0	9.7	26 –0.01/–0.06	25.5

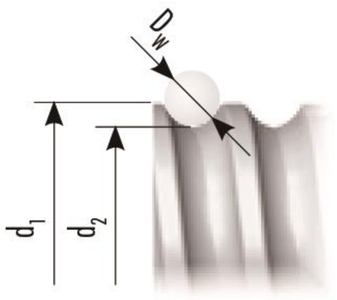
Ball return systems

Legend

d_0 = nominal screw diameter [mm]
d_1 = outer screw diameter [mm]
d_2 = core diameter [mm]
p = pitch [mm]

Carry ballscrews Ø12

D_4 TK	D_5 H13	D_6 h13	M	L_n	L_1	L_2	L_3	L_4	L_7	L_8 h13	i	D_W	B +0.5/0	b P9	t	S	SA	T_{max}	Load rates [N] C_{dyn}	Load rates [N] C_{stat}	Nominal size $d_0 \times p$ [mm]
—	—	—	—	15	—	—	—	10	—	—	2×1	1.59	—	3	1.2	—	—	0.06	1 380	2 500	**12×2**
—	—	—	—	20	—	—	—	10	—	—	3×1	1.59	—	3	1.2	—	—	0.06	2 000	4 000	12×2 [3]
—	—	—	—	24	—	—	—	10	—	—	1×3.5	2.50	—	3	1.8	—	—	0.07	5 500	11 000	**12×4**
—	—	—	—	32	—	—	—	10	—	—	1×3.5	2.50	—	3	1.8	ø 4	K	0.07	5 500	11 000	**12×4**
—	—	—	M18×1	23	—	8	—	—	—	—	2×1	1.59	2.5	—	—	—	—	0.06	1 380	2 500	**12×2**
—	—	—	M18×1	28	—	8	—	—	—	—	3×1	1.59	2.5	—	—	—	—	0.06	2 000	4 000	12×2 [3]
—	—	—	M20×1	39	—	10	—	—	—	—	3×1	2.50	2.5	—	—	—	—	0.07	4 000	6 800	**12×4**
—	—	—	M20×1	39	—	10	—	—	—	—	3×1	2.50	2.5	—	—	ø 4	K	0.07	4 000	6 800	**12×4**
—	—	—	M20×1	32	—	8	—	—	—	—	1×3.5	2.50	2.5	—	—	—	—	0.07	5 500	11 000	**12×4**
—	—	—	M20×1	34	—	10	—	—	—	—	1×3.5	2.50	2.5	—	—	ø 4	K	0.07	5 500	11 000	**12×4**
—	—	—	M20×1	42	—	10	—	—	—	—	3×1	2.78	3.0	—	—	—	—	0.07	5 000	8 600	**12×5**
—	—	—	M20×1	42	—	10	—	—	—	—	3×1	2.78	3.0	—	—	ø 4	K	0.07	5 000	8 600	**12×5**
—	—	—	M20×1	37	—	8	—	—	—	—	1×3.5	2.78	3.0	—	—	—	—	0.07	6 600	12 000	**12×5**
—	—	—	M20×1	37	—	8	—	—	—	—	1×3.5	2.78	3.0	—	—	ø 4	K	0.07	6 600	12 000	**12×5**
—	—	—	M28×1.5	30	—	12	—	—	—	—	1×3.7	2.78	3.5	—	—	ø 4	K	0.06	5 900	10 600	**12×5**
—	—	—	M20×1	37	—	8	—	—	—	—	2×1.5	2.50	3.0	—	—	—	—	0.07	4 400	7 700	**12×10**
—	—	—	M28×1.5	38	—	12	—	—	—	—	2×2.4	2.50	3.5	—	—	ø 4	K	0.06	6 400	12 600	**12×10**
—	—	—	M28×1.5	30	—	12	—	—	—	—	2×1.6	2.50	3.5	—	—	ø 4	K	0.06	4 600	8 500	**12×12**
29	4.5	37	—	30	5	—	—	—	8	24	1×3.5	1.59	—	—	—	ø 4	K	0.06	2 500	5 100	**12×2**
32	4.5	40	—	36	5	—	—	—	8	26	2×2.5	2.00	—	—	—	—	—	0.06	5 000	11 000	**12×3**
32	4.5	39.5	—	36	5	—	—	—	8	28	1×3.5	2.50	—	—	—	M5	K	0.07	5 500	11 000	**12×4**
32	4.5	40	—	40	6	—	—	—	8	26	3×1	2.78	—	—	—	ø 4	K	0.07	5 000	8 600	**12×5**
32	4.5	39.5	—	40	5	—	—	—	7	28	1×3.5	2.78	—	—	—	M5	K	0.07	6 600	12 000	**12×5**
34	4.5	42	—	30	6	—	6	—	8	—	1×3.7	2.78	—	—	—	ø 4	K	0.06	5 900	10 600	**12×5**
34	4.5	42	—	38	6	—	6	—	8	—	2×2.4	2.50	—	—	—	ø 4	K	0.06	6 400	12 600	**12×10**
34	4.5	42	—	30	6	—	6	—	8	—	2×1.6	2.50	—	—	—	ø 4	K	0.06	4 600	8 500	**12×12**



i = number of ball circulations [–]
D_W = ball diameter [mm]
B = pin wrench hole* [mm]
S = lubrication hole* [mm]

SA = wipers (details › page 9)
K = technopolymer wipers
B = brush wipers
F = felt rings (on request)

T_{max} = max. standard backlash [mm]
[3] = only on request
* position not defined
Special designs available on request

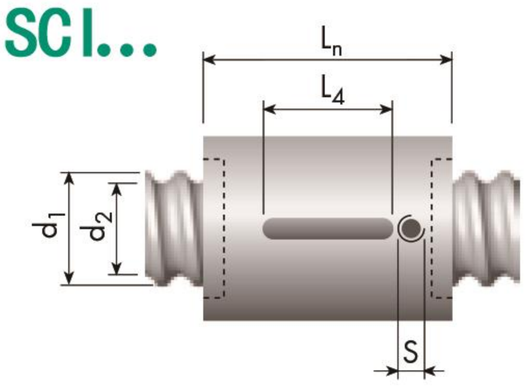
⚠ When selecting a ballscrew, always observe the maximum rotational speed dependent on the system-specific rotational speed characteristics!
Calculation › page 12

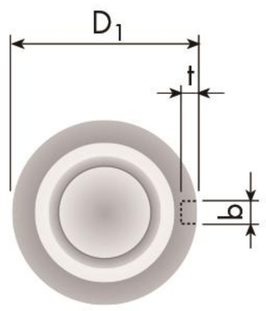
Carry ballscrews

⌀12.7 (½″)

Cylindrical nut

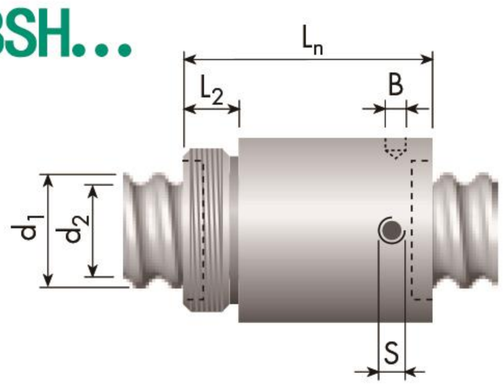
SCI...





Nut with mounting thread

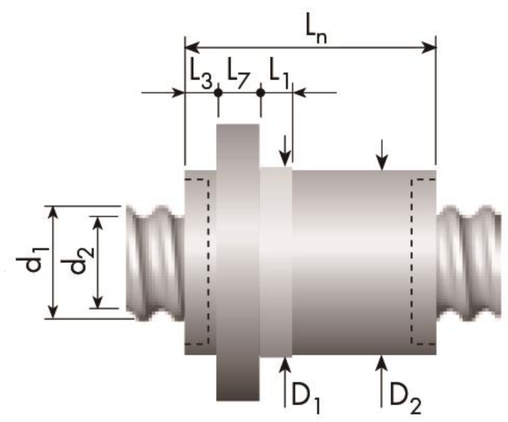
BSH...

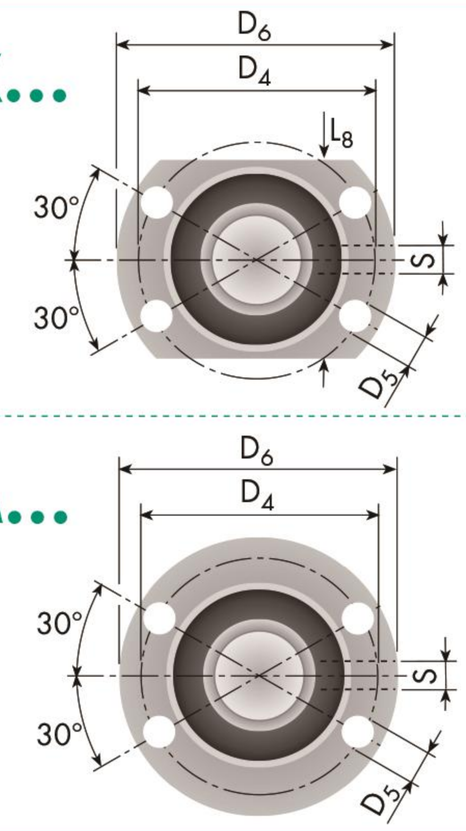


Flange nut

FK...

FA...





Nominal size $d_0 \times p$ [mm] (in)	Ball return Type	Relative cost	Right-/ left-hand thread	Dimensions [mm] Screw d_1	Screw d_2	Nut D_1	Nut D_2
12.7 × 25.4 (½″ × 1″)	**...E**	€€€	RH / —	12.5	10.6	26 g6	—
12.7 × 12.7 (½″ × ½″)	**...R**	€€	RH / —	13.1	10.3	29.5 0/–0.1	—
12.7 × 12.7 (½″ × ½″)	**...R**	€€	RH / —	13.1	10.3	29.5 0/–0.1	—
12.7 × 25.4 (½″ × 1″)	**...E**	€€	RH / —	12.5	10.6	26 g6	25.5

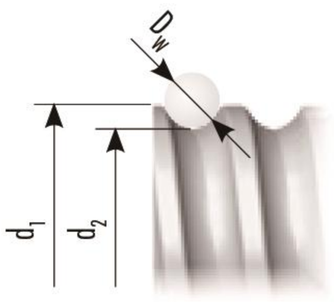
Ball return systems

Legend

d_0 = nominal screw diameter [mm]
d_1 = outer screw diameter [mm]
d_2 = core diameter [mm]
p = pitch [mm]

Carry ballscrews Ø12.7

D_4 TK	D_5 H13	D_6 h13	M	L_n	L_1	L_2	L_3	L_4	L_7	L_8 h13	i	D_W	B +0.5/0	b P9	t	S	SA	T_{max}	Load rates [N] C_{dyn}	Load rates [N] C_{stat}	Nominal size $d_0 \times p$ [mm]
—	—	—	—	32	—	—	—	10	—	—	3 × 0.9	2.00	—	3	1.8	ø 4	K	0.05	2 300	4 500	**12.7 × 25.4**
—	—	—	M25 × 1.5	50	—	12	—	—	—	—	2 × 1.5	3.50	3.0	—	—	—	—	0.07	8 000	15 500	**12.7 × 12.7**
—	—	—	M25 × 1.5	50	—	12	—	—	—	—	2 × 1.5	3.50	3.0	—	—	M5	B	0.07	8 000	15 500	**12.7 × 12.7**
33	4.5	42	—	32	5	—	7	—	8	28	3 × 0.9	2.00	—	—	—	ø 4	K	0.05	2 300	4 500	**12.7 × 25.4**



i = number of ball circulations [–]
D_W = ball diameter [mm]
B = pin wrench hole* [mm]
S = lubrication hole* [mm]

SA = wipers (details › page 9)
K = technopolymer wipers
B = brush wipers
F = felt rings (on request)

T_{max} = max. standard backlash [mm]
3) = only on request
* position not defined
Special designs available on request

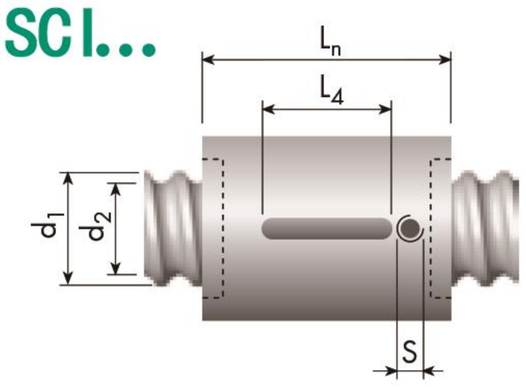
⚠ When selecting a ballscrew, always observe the maximum rotational speed dependent on the system-specific rotational speed characteristics!
Calculation › page 12

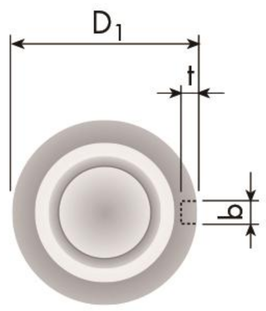
Carry ballscrews

⌀14

Cylindrical nut

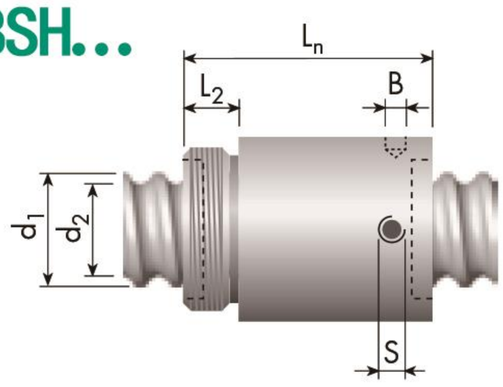
SCI...





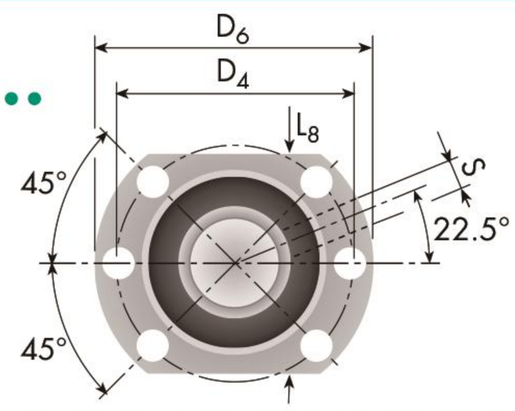
Nut with mounting thread

BSH...

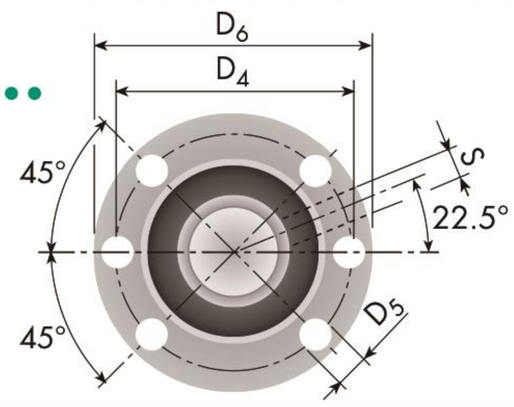


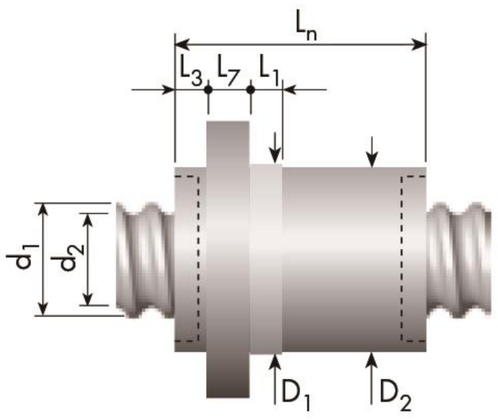
Flange nut

FK...



FA...





Nominal size $d_0 \times p$ [mm]	Ball return Type		Relative cost	Right-/ left-hand thread	Dimensions [mm] Screw d_1	d_2	Nut D_1	D_2
14×4	...I		€€€	RH / —	14.0	11.5	25 g6	—
14×4	...I		€€€	RH / —	14.0	11.5	25 g6	—
14×4	...R		€€€	RH / LH	14.0	11.5	29 g6	—
14×4	...R		€€€	RH / LH	14.0	11.5	29 g6	—
14×2	...R		€€	RH / —	14.0	12.5	26 0/–0.1	—
14×2	...R		€€	RH / —	14.0	12.5	26 0/–0.1	—
14×4	...I		€€	RH / —	14.0	11.5	25 0/–0.1	—
14×4	...I		€€	RH / —	14.0	11.5	25 0/–0.1	—
14×4	...R		€€	RH / LH	14.0	11.5	29 0/–0.1	—
14×4	...R		€€	RH / LH	14.0	11.5	29 0/–0.1	—
14×2	...R		€€€	RH / —	14.0	12.5	26 g6	25.5
14×4	...R		€€€	RH / LH	14.0	11.5	29 g6	28.6

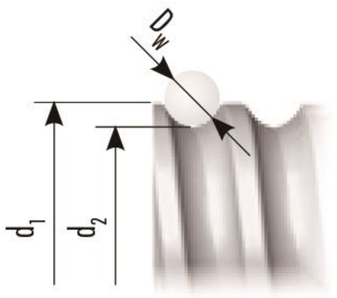
Ball return systems

Legend

d_0 = nominal screw diameter [mm]
d_1 = outer screw diameter [mm]
d_2 = core diameter [mm]
p = pitch [mm]

Carry ballscrews Ø14

D_4 TK	D_5 H13	D_6 h13	M	L_n	L_1	L_2	L_3	L_4	L_7	L_8 h13	i	D_W	B +0.5/0	b P9	t	S	SA	T_{max}	Load rates [N] C_{dyn}	Load rates [N] C_{stat}	Nominal size $d_0 \times p$ [mm]
—	—	—	—	24	—	—	—	10	—	—	3 × 1	2.78	—	4	2.5	—	—	0.07	5 000	8 800	14 × 4
—	—	—	—	32	—	—	—	10	—	—	3 × 1	2.78	—	4	2.5	ø 4	K	0.07	5 000	8 800	14 × 4
—	—	—	—	24	—	—	—	16	—	—	1 × 3.5	2.78	—	4	2.5	—	—	0.07	8 100	16 000	14 × 4
—	—	—	—	32	—	—	—	16	—	—	1 × 3.5	2.78	—	4	2.5	ø 4	K	0.07	8 100	16 000	14 × 4
—	—	—	M22 × 1.5	32	—	10	—	—	—	—	2 × 2.5	1.59	3.0	—	—	—	—	0.06	4 500	10 000	14 × 2
—	—	—	M22 × 1.5	32	—	10	—	—	—	—	2 × 2.5	1.59	3.0	—	—	ø 2	K	0.06	4 500	10 000	14 × 2
—	—	—	M22 × 1.5	34	—	10	—	—	—	—	3 × 1	2.78	2.5	—	—	—	—	0.07	5 000	8 800	14 × 4
—	—	—	M22 × 1.5	38	—	10	—	—	—	—	3 × 1	2.78	2.5	—	—	ø 4	K	0.07	5 000	8 800	14 × 4
—	—	—	M22 × 1.5	32	—	8	—	—	—	—	1 × 3.5	2.78	3.0	—	—	—	—	0.07	8 100	16 000	14 × 4
—	—	—	M22 × 1.5	38	—	10	—	—	—	—	1 × 3.5	2.78	3.0	—	—	ø 4	K	0.07	8 100	16 000	14 × 4
32	4.5	39.5	—	32	5	—	—	—	7	28	2 × 2.5	1.59	—	—	—	ø 4	K	0.06	4 500	10 000	14 × 2
38	5.5	48	—	40	6	—	—	—	8	36	1 × 3.5	2.78	—	—	—	M5	K	0.07	8 100	16 000	14 × 4



i = number of ball circulations [–]
D_W = ball diameter [mm]
B = pin wrench hole* [mm]
S = lubrication hole* [mm]

SA = wipers (details › page 9)
K = technopolymer wipers
B = brush wipers
F = felt rings (on request)

T_{max} = max. standard backlash [mm]
3) = only on request
* position not defined
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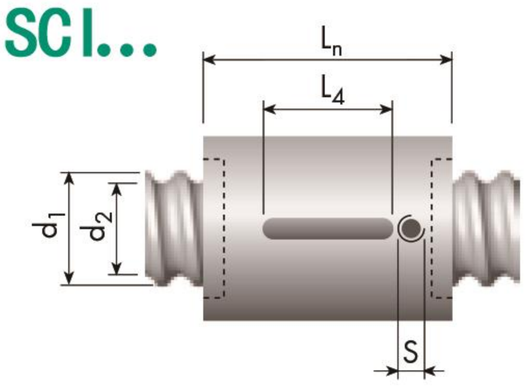
Calculation › page 12

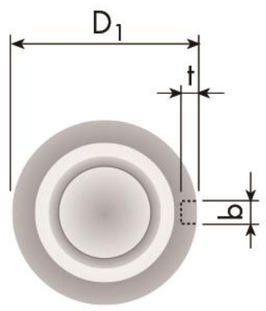
Carry ballscrews

⌀15/16

Cylindrical nut

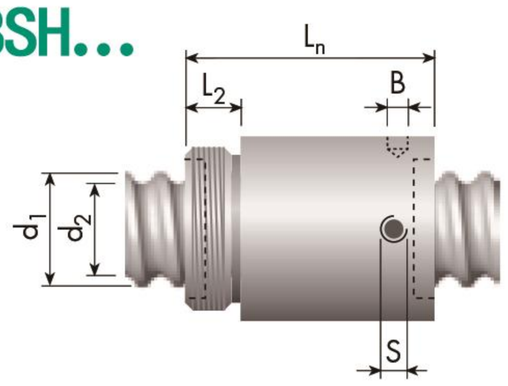
SCI...





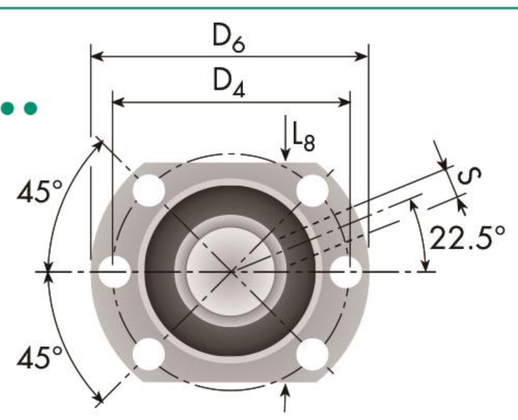
Nut with mounting thread

BSH...

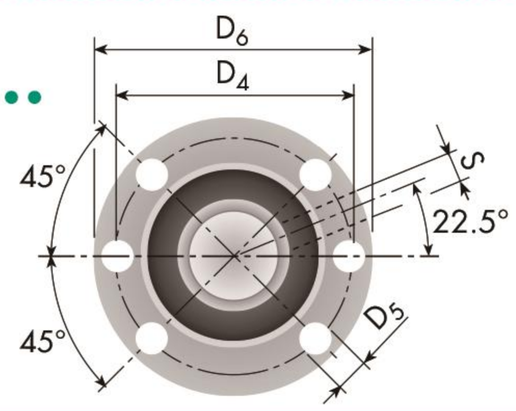


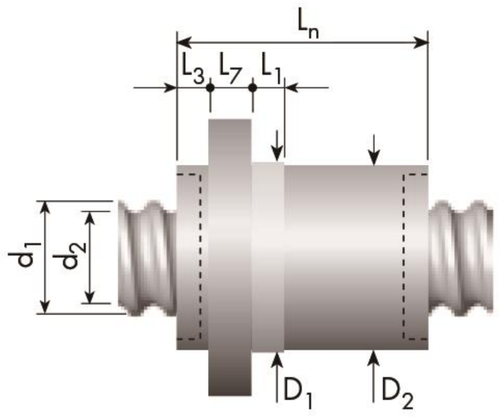
Flange nut

FK...



FA...





Nominal size $d_0 \times p$ [mm]	Ball return Type	Relative cost	Right-/ left-hand thread	Dimensions [mm] Screw d_1	Screw d_2	Nut D_1	Nut D_2
16×5	...I	€€€	RH / LH	15.7	13.0	30 g6	—
16×10	...R	€€€	RH / —	15.7	13.0	32 g6	—
16×10	...R	€€€	RH / —	15.7	13.0	32 g6	—
16×10	...E	€€€	RH / —	16.0	13.4	28 g6	—
16×16	...E	€€€	RH / —	15.5	13.2	28 g6	—
16×50	...E	€€€	RH / —	16.0	13.2	28 g6	—
15×20	...F	€	RH / —	14.9	12.0	36 0/–0.1	—
16×2	...I	€€	— / LH	16.0	14.5	25 0/–0.1	—
16×2	...R	€€	RH / —	16.0	14.5	30 0/–0.1	—
16×2	...R	€€	RH / —	16.0	14.5	30 0/–0.1	—
16×5	...I	€€	RH / —	15.7	13.0	30.2 0/–0.1	—
16×5	...I	€€	RH / LH [3)]	15.7	13.0	30.2 0/–0.1	—
16×5	...R	€€	RH / LH	15.7	13.0	32 0/–0.1	—
16×5	...R	€€	RH / LH	15.7	13.0	32 0/–0.1	—
16×10	...R	€€	RH / —	15.7	13.0	32 0/–0.1	—
16×10	...R	€€	RH / —	15.7	13.0	32 0/–0.1	—
16×10	...R	€€	RH / —	15.7	13.0	32 0/–0.1	—
16×10	...R	€€	RH / —	15.7	13.0	32 0/–0.1	—
16×16	...R	€€	RH / —	15.9	13.2	32 0/–0.1	—
16×16	...F	€	RH / —	15.5	13.2	36 0/–0.1	—
16×2	...R	€€€	RH / —	16.0	14.5	30 g6	29.5
16×2	...R	€€€	RH / —	16.0	14.5	30 g6	29.5
16×5	...I	€€€	RH / LH	15.7	13.0	28 g6	27.8
16×10	...R	€€€	RH / —	15.7	13.0	32 g6	31.5
16×10	...E	€€	RH / —	16.0	13.4	28 g6	27.8
16×16	...E	€€	RH / —	15.5	13.2	28 g6	27.8
16×50	...E	€€	RH / —	16.0	13.2	28 g6	27.8
15×20	...F	€€	RH / —	14.9	12.0	32 –0.01/–0.07	31.5
16×16	...F	€€	RH / —	15.5	13.2	32 –0.01/–0.07	31.5

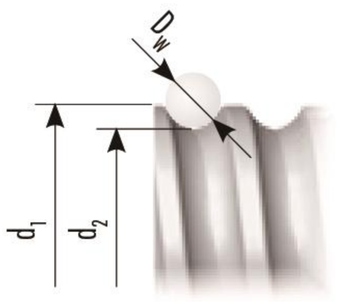
Ball return systems

Legend

d_0 = nominal screw diameter [mm]
d_1 = outer screw diameter [mm]
d_2 = core diameter [mm]
p = pitch [mm]

Carry ballscrews Ø15/16

D_4 TK	D_5 H13	D_6 h13	M	L_n	L_1	L_2	L_3	L_4	L_7	L_8 h13	i	D_W	B +0.5/0	b P9	t	S	SA	T_{max}	Load rates [N] C_{dyn}	Load rates [N] C_{stat}	Nominal size $d_0 \times p$ [mm]
—	—	—	—	43	—	—	—	16	—	—	3×1	3.50	—	4	2.5	M5	K	0.07	9700	22000	**16×5**
—	—	—	—	45	—	—	—	16	—	—	2×2.5	3.50	—	4	2.5	—	—	0.07	17000	25000	**16×10**
—	—	—	—	45	—	—	—	16	—	—	2×2.5	3.50	—	4	2.5	ø 4	K	0.07	17000	25000	**16×10**
—	—	—	—	42	—	—	—	16	—	—	2×2.9	3.00	—	4	2.5	ø 4	K	0.07	12500	26000	**16×10**
—	—	—	—	42	—	—	—	16	—	—	2×1.9	3.00	—	4	2.5	ø 3	K	0.07	7800	15500	**16×16**
—	—	—	—	55	—	—	—	16	—	—	3×0.9	3.00	—	4	2.5	ø 4	K	0.06	4800	11000	**16×50**
—	—	—	M33×1.5	46	—	19	—	—	—	—	2×1.7	3.00	4.0	—	—	ø 4	K	0.07	7100	14700	**15×20**
—	—	—	M22×1.5	34	—	10	—	—	—	—	3×1	1.59	2.5	—	—	—	—	0.05	2400	5200	**16×2**
—	—	—	M26×1.5	28	—	12	—	—	—	—	1×2.5	1.59	3.5	—	—	—	—	0.06	2500	5500	**16×2**
—	—	—	M26×1.5	28	—	12	—	—	—	—	1×2.5	1.59	3.5	—	—	ø 2	K	0.06	2500	5500	**16×2**
—	—	—	M26×1.5	45	—	12	—	—	—	—	3×1	3.50	3.5	—	—	—	—	0.07	9700	22000	**16×5**
—	—	—	M26×1.5	50	—	12	—	—	—	—	3×1	3.50	3.5	—	—	M5	K	0.07	9700	22000	**16×5**
—	—	—	M26×1.5	42	—	12	—	—	—	—	1×3.5	3.50	4.0	—	—	—	—	0.07	12000	25000	**16×5**
—	—	—	M26×1.5	47	—	12	—	—	—	—	1×3.5	3.50	4.0	—	—	M5	K	0.07	12000	25000	**16×5**
—	—	—	M26×1.5	47	—	12	—	—	—	—	1×2.5	3.50	4.0	—	—	—	—	0.07	8500	12500	**16×10**
—	—	—	M26×1.5	52	—	12	—	—	—	—	1×2.5	3.50	4.0	—	—	ø 4	K	0.07	8500	12500	**16×10**
—	—	—	M26×1.5	47	—	12	—	—	—	—	2×2.5	3.50	4.0	—	—	—	—	0.07	17000	25000	**16×10**
—	—	—	M26×1.5	52	—	12	—	—	—	—	2×2.5	3.50	4.0	—	—	ø 4	K	0.07	17000	25000	**16×10**
—	—	—	M26×1.5	47	—	12	—	—	—	—	3×1.5	3.00	4.0	—	—	—	—	0.07	9150	18750	**16×16**
—	—	—	M33×1.5	41	—	19	—	—	—	—	2×1.6	3.00	4.0	—	—	ø 4	K	0.07	6700	13700	**16×16**
38	5.5	48	—	45	6	—	—	—	10	40	2×2.5	1.59	—	—	—	M6	K	0.06	4500	11000	**16×2**
38	5.5	48	—	45	6	—	—	—	10	40	3×2.5	1.59	—	—	—	M6	K	0.06	6000	15000	**16×2**
38	5.5	48	—	45	6	—	—	—	10	40	3×1	3.50	—	—	—	M6	K	0.07	9700	22000	**16×5**
43	6.6	54	—	52	6	—	—	—	12	44	2×2.5	3.50	—	—	—	M6	K	0.07	17000	25000	**16×10**
38	5.5	48	—	42	10	—	10	—	10	40	2×2.9	3.00	—	—	—	ø 4	K	0.07	12500	26000	**16×10**
38	5.5	48	—	42	10	—	10	—	10	40	2×1.9	3.00	—	—	—	ø 4	K	0.07	7800	15500	**16×16**
38	5.5	48	—	55	10	—	10	—	10	40	3×0.9	3.00	—	—	—	ø 4	K	0.06	4800	11000	**16×50**
42	5.5	52	—	46	10	—	10	—	10	—	2×1.7	3.00	—	—	—	ø 4	K	0.07	7100	14700	**15×20**
42	5.5	52	—	41	10	—	10	—	10	—	2×1.6	3.00	—	—	—	ø 4	K	0.07	6700	13700	**16×16**



i = number of ball circulations [–]

D_W = ball diameter [mm]

B = pin wrench hole* [mm]

S = lubrication hole* [mm]

SA = wipers (details › page 9)

K = technopolymer wipers

B = brush wipers

F = felt rings (on request)

T_{max} = max. standard backlash [mm]

3) = only on request

* position not defined

Special designs available on request

⚠ When selecting a ballscrew, always observe the maximum rotational speed dependent on the system-specific rotational speed characteristics!

Calculation › page 12

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