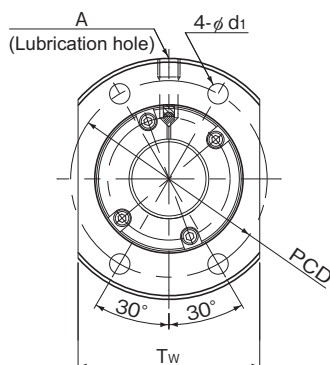


SBK With Preload

Smaller than SBK3232	
DN value	*The permissible rotational speed (N_2) of the miniature SBK (smaller than SBK3232) is the highest rotational speed listed in the specification table.



Model No.	Screw shaft outer diameter d	Lead Ph	Ball center-to-center diameter dp	Thread minor diameter dc	No. of loaded circuits Rows X turns	Basic load rating		Rigidity K N/μm
						Ca kN	C _{0a} kN	
SBK 1520-3.6	15	20	15.75	12.2	1×1.8	5.8	7.8	178
SBK 1616-3.6	16	16	16.65	13.5	1×1.8	4.6	6.4	182
SBK 2010-5.6	20	10	20.75	17.2	1×2.8	10.7	17.3	353
SBK 2020-3.6	20	20	20.75	17.2	1×1.8	7	10.5	229
SBK 2030-3.6	20	30	20.75	17.2	1×1.8	6.9	11.2	236
SBK 2520-3.6	25	20	26	21.5	1×1.8	11	16.9	292
SBK 2525-3.6	25	25	26	21.5	1×1.8	10.8	16.9	290
SBK 3220-5.6	32	20	33.25	27.9	1×2.8	23.6	41.1	565
SBK 3232-5.6	32	32	33.25	27.9	1×2.8	23.1	41.8	567

Axial Clearance

Unit: mm

Clearance symbol	G0
Axial Clearance	0 or less

Model number coding

SBK2525-3.6 QZ G0 +1200L C5

Model Number

Overall screw shaft
length (in mm)

Accuracy symbol (*1)

Symbol for clearance in the axial direction
(G0 for all SBK variations)With QZ Lubricator
(no symbol if the model is without a QZ Lubricator)(*1) See **A15-12**.

A15-110 THK

Download data by searching for the corresponding
model number on the Technical Support site.
<https://tech.thk.com>


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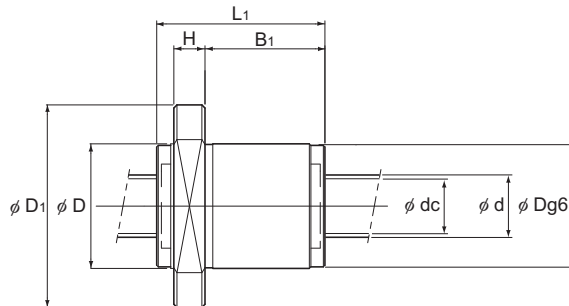
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Tel.: 0940 644 565

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Positioning Ball Screw



Unit: mm

	Nut dimensions									Screw shaft inertial moment/mm kg·m ² /mm	Nut mass kg	Shaft mass kg/m	Maximum permissible rotation speed min ⁻¹
	Outer diameter D	Flange diameter D ₁	Overall length L ₁	H	B ₁	PCD	d ₁	T _w	Lubrication hole A				
	38	62	54	10	38.5	49	5.5	39	M6	3.90×10^{-8}	0.41	1.27	5000
	33	54	45	10	29.5	43	4.5	38	M6	5.05×10^{-8}	0.25	1.46	
	40	65	45	10	29.5	53	5.5	49	M6	1.23×10^{-7}	0.37	2.18	
	40	65	54	10	38.5	53	5.5	49	M6	1.23×10^{-7}	0.43	2.32	
	40	65	71	10	55.5	53	5.5	49	M6	1.23×10^{-7}	0.55	2.36	
	47	74	57	12	38	60	6.6	56	M6	3.01×10^{-7}	0.59	3.58	
	47	74	68	12	49	60	6.6	56	M6	3.01×10^{-7}	0.69	3.63	3900
	58	92	82	15	58	74	9	68	M6	8.08×10^{-7}	1.23	5.82	
	58	92	118	15	94	74	9	68	M6	8.08×10^{-7}	1.70	5.99	

Note) The rigidity values in the table represent spring constants, each obtained from the load and the elastic deformation when providing a preload equal to 10% of the basic axial dynamic load rating (Ca) and applying an axial load three times greater than the pre-load.

These values do not include the rigidity of the components related to mounting the ball screw nut. Therefore, it is normally appropriate to regard roughly 80% of the value in the table as the actual value.

If the applied preload (Fa₀) is not 0.1 Ca, the rigidity value (K_v) is obtained from the following equation.

$$K_v = K \left(\frac{Fa_0}{0.1Ca} \right)^{\frac{1}{3}}$$

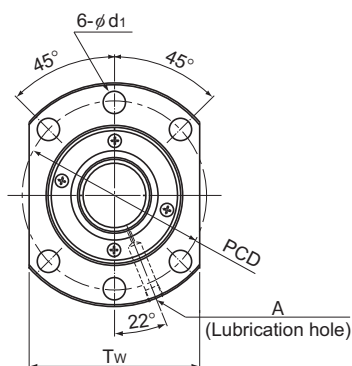
K: Rigidity value in the dimensional table

Options⇒ A15-325

THK A15-111

SBK With Preload

DN value	SBK3636,4040,5050	210000
	All other Model SBK units	160000



Model No.	Screw shaft outer diameter d	Lead Ph	Ball center- to-center diameter dp	Thread minor diameter dc	No. of loaded circuits Rows X turns	Basic load rating		Rigidity K N/μm
						Ca kN	C _{0a} kN	
SBK 3620-7.6	36	20	37.75	30.4	1×3.8	48.5	85	870
SBK 3636-5.6	36	36	37.75	31.4	1×2.8	36.6	64.7	460
SBK 4020-7.6	40	20	42	34.1	1×3.8	59.7	112.7	970
SBK 4030-7.6	40	30	42	34.1	1×3.8	59.2	107.5	970
SBK 4040-5.6	40	40	42	34.9	1×2.8	44.8	80.3	520
SBK 5020-7.6	50	20	52	44.1	1×3.8	66.8	141.9	1170
SBK 5030-7.6	50	30	52	44.1	1×3.8	66.5	135	1170
SBK 5036-7.6	50	36	52	44.1	1×3.8	65.9	135	1170
SBK 5050-5.6	50	50	52	44.9	1×2.8	50.3	102.4	630
SBK 5520-7.6	55	20	57	49.1	1×3.8	69.8	156.4	1250
SBK 5530-7.6	55	30	57	49.1	1×3.8	69.2	147	1250
SBK 5536-7.6	55	36	57	49.1	1×3.8	69.1	148.7	1260

Note) With model SBK, the raising of both ends of the thread groove is not available. When designing your system this way, contact THK.

Axial Clearance

Unit: mm

Clearance symbol	G0
Axial Clearance	0 or less

Model number coding

SBK3620-7.6 RR G0 +1500L C5

Model number

Seal symbol (*1)

Overall screw shaft
length (in mm)

Accuracy symbol (*2)

Symbol for clearance
in the axial direction (G0 for all SBK variations)

(*1) See **A15-326**. (*2) See **A15-12**.

A15-112 THK

Download data by searching for the corresponding
model number on the Technical Support site.

<https://tech.thk.com>



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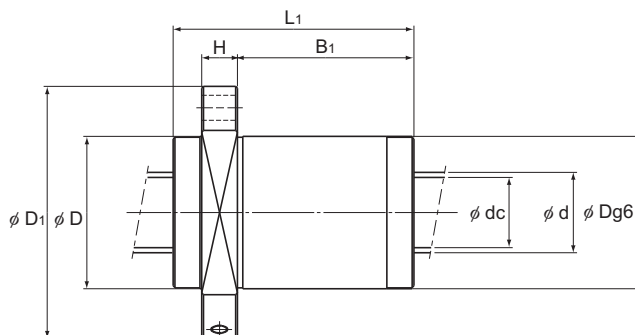
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Positioning Ball Screw



Unit: mm

	Nut dimensions								Screw shaft inertial moment/mm	Nut mass	Shaft mass	Permissible rotation speed	
	Outer diameter	Flange diameter	Overall length										Lubrication hole
	D	D ₁	L ₁	H	B ₁	PCD	d ₁	T _w					A
	73	114	110	18	81	93	11	86	Rc1/8 (PT1/8)	1.29×10^{-6}	3.4	5.0	4230
	73	114	134	18	105	93	11	86		1.29×10^{-6}	3.37	7.43	5000
	80	136	110	20	79	112	14	103		1.97×10^{-6}	4.5	5.7	3800
	80	136	148	20	117	112	14	103		1.97×10^{-6}	5.6	7.0	3800
	80	136	146	20	115	112	14	103		1.97×10^{-6}	4.74	9.16	5000
	90	146	110	22	77	122	14	110		4.82×10^{-6}	5.3	10.2	3070
	90	146	149	22	116	122	14	110		4.82×10^{-6}	6.6	11.9	3070
	90	146	172	22	139	122	14	110		4.82×10^{-6}	7.4	12.5	3070
	90	146	175	22	142	122	14	110		4.82×10^{-6}	6.46	14.72	4030
	96	152	110	22	77	128	14	114		7.05×10^{-6}	5.7	13.0	2800
	96	152	149	22	116	128	14	114		7.05×10^{-6}	7.2	14.8	2800
	96	152	172	22	139	128	14	114		7.05×10^{-6}	8.1	15.5	2800

Note) The rigidity values in the table represent spring constants, each obtained from the load and the elastic deformation when providing a preload equal to 10% of the basic axial dynamic load rating (Ca) and applying an axial load three times greater than the pre-load.

These values do not include the rigidity of the components related to mounting the ball screw nut. Therefore, it is normally appropriate to regard roughly 80% of the value in the table as the actual value.

If the applied preload (Fa₀) is not 0.1 Ca, the rigidity value (K_a) is obtained from the following equation.

$$K_N = K \left(\frac{F_{a0}}{0.1 C_a} \right)^{\frac{1}{3}}$$

K: Rigidity value in the dimensional table

Options⇒ **A15-325****THK A15-113**