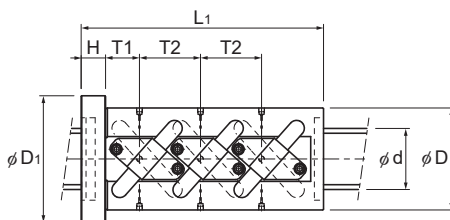
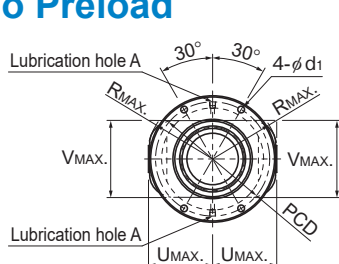


HBN-K and HBN-KA No Preload

DN value	120,000
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Models HBN6335K to HBN8050K (two rows)

Model No.	Screw shaft outer diameter	Lead	Ball center-to-center diameter	Thread minor diameter	No. of loaded circuits	Threads	Basic load rating		Permissible load ¹	Rigidity
							Ca	C _{0a}		
	d	Ph	dp	dc	Rows X turns		kN	kN	F _P kN	K N/μm
HBN6335K-10	63	35	66	52.6	4×2.5	2	548	1,376	169	3,935
HBN6335K-15	63	35	66	52.6	6×2.5	2	776	2,064	240	5,791
HBN6342K-3	63	42	66.5	49.6	2×1.5	2	259	526	80	1,289
HBN6350K-10	63	50	66.5	49.6	4×2.5	2	719	1,723	222	4,011
HBN8040K-5	80	40	83.5	66.6	2×2.5	2	451	1,105	154	2,503
HBN8040KA-5	80	40	83.5	66.6	2×2.5	2	451	1,105	154	2,503
HBN8050K-15	80	50	83.5	66.6	6×2.5	2	1,171	3,376	472	7,270
HBN8050KA-15	80	50	83.5	66.6	6×2.5	2	1,171	3,376	472	7,270

¹ The permissible load F_P indicates the maximum axial load that the ball screw can receive.

Notes: This model is capable of achieving a longer service life than the conventional ball screw under a high load.

Certain precautions are necessary regarding the assembly method. (See **A15-244**.)

For high-load ball screws, the standard maximum length of the screw shaft is 3,000 mm. For lengths greater than this, please contact THK.

Axial Clearance

Unit: mm

Clearance symbol	G2
Axial clearance	0 to 0.02

Model number coding

HBN6335K-10 RR G2 +1200L C7

Model number

Seal symbol¹

Accuracy symbol²

Overall screw shaft length (in mm)

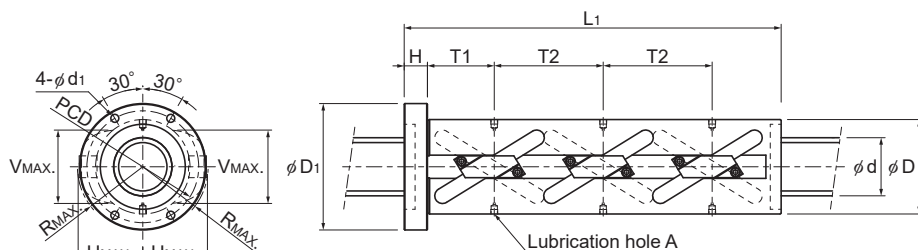
Symbol for clearance in the axial direction

(For the axial clearance, this model has clearance G2 as standard.)

Other clearance is also available at your request. Contact THK for details.)

¹ See **A15-356**. ² See **A15-12**.

High-Thrust Ball Screw



Models HBN8040KA and HBN8050KA (two rows)

Unit: mm

	Nut dimensions											Screw shaft inertial moment/mm	Nut mass	Shaft mass	Permissible rotational speed
	Outer diameter D	Flange diameter D ₁	Overall length L ₁	H	PCD	d ₁	T1	T2	U _{MAX}	V _{MAX}	R _{MAX}				
	105	139	271	28	122	9	72.5	105	70.5	82	73	1.21 × 10 ⁻⁵	10.5	24	1,810
	105	139	376	28	122	9	72.5	105	70.5	82	73	1.21 × 10 ⁻⁵	14.5	24	1,810
	117	157	156	32	137	11	39.5	—	79	84	80	1.21 × 10 ⁻⁵	8.3	24	1,800
	117	157	358	32	137	11	94	150	78.5	84	80	1.21 × 10 ⁻⁵	19.2	24	1,800
	134	174	185	32	154	11	81	—	88	102	93	3.16 × 10 ⁻⁵	11	39	1,430
	130	174	185	32	154	11	81	—	88	102	93	3.16 × 10 ⁻⁵	10.2	39	1,430
	134	174	519	32	154	11	92	150	89	101	90	3.16 × 10 ⁻⁵	31.9	39	1,430
	130	174	519	32	154	11	92	150	89	102	90	3.16 × 10 ⁻⁵	29.2	39	1,430

Ball Screw

The rigidity values in the table represent spring constants, each obtained from the load and the elastic deformation under an axial load equal to 30% of the basic axial dynamic load rating (Ca).

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.

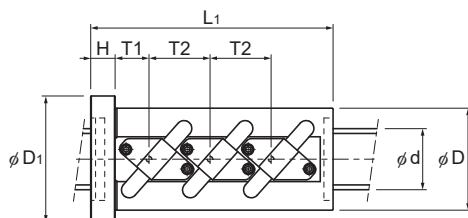
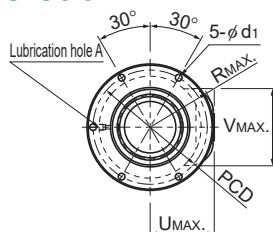
If the axial load (Fa) is not 30% of Ca, the rigidity value (K_N) is obtained from the following equation.

$$K_N = K \left(\frac{F_a}{0.3C_a} \right)^{\frac{1}{3}}$$

K: Rigidity value in the dimensional table

HBN-K and HBN-KA No Preload

DN value	120,000
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Models HBN10016K to 10025K

Model No.	Screw shaft outer diameter d	Lead Ph	Ball center-to-center diameter dp	Thread minor diameter dc	No. of loaded circuits Rows × turns	Threads	Basic load rating		Permissible load ¹ F _P kN	Rigidity K N/μm
							Ca kN	C _{0a} kN		
HBN10016K-10	100	16	103	89.6	4×2.5	1	673	2,244	314	5,619
HBN10016KA-10	100	16	103	89.6	4×2.5	1	673	2,244	314	5,619
HBN10020K-7.5	100	20	103.5	86.6	3×2.5	1	717	2,107	295	4,432
HBN10020KA-7.5	100	20	103.5	86.6	3×2.5	1	717	2,107	295	4,432
HBN10020K-10	100	20	103.5	86.6	4×2.5	1	919	2,810	393	5,830
HBN10020KA-10	100	20	103.5	86.6	4×2.5	1	919	2,810	393	5,830
HBN10020K-12.5	100	20	103.5	86.6	5×2.5	1	1,114	3,512	491	7,212
HBN10020KA-12.5	100	20	103.5	86.6	5×2.5	1	1,114	3,512	491	7,212
HBN10020K-7	100	20	103.5	86.6	2×3.5	1	674	1,956	273	4,129
HBN10020KA-7	100	20	103.5	86.6	2×3.5	1	674	1,956	273	4,129
HBN10020K-10.5	100	20	103.5	86.6	3×3.5	1	955	2,934	410	6,077
HBN10020KA-10.5	100	20	103.5	86.6	3×3.5	1	955	2,934	410	6,077
HBN10025K-7.5	100	25	104	83.6	3×2.5	1	921	2,532	354	4,565
HBN10025KA-7.5	100	25	104	83.6	3×2.5	1	921	2,532	354	4,565
HBN10025K-10	100	25	104	83.6	4×2.5	1	1,180	3,376	472	6,005
HBN10025KA-10	100	25	104	83.6	4×2.5	1	1,180	3,376	472	6,005
HBN10025K-12.5	100	25	104	83.6	5×2.5	1	1,429	4,220	590	7,429
HBN10025KA-12.5	100	25	104	83.6	5×2.5	1	1,429	4,220	590	7,429
HBN10025K-7	100	25	104	83.6	2×3.5	1	866	2,355	329	4,261
HBN10025KA-7	100	25	104	83.6	2×3.5	1	866	2,355	329	4,261
HBN10025K-10.5	100	25	104	83.6	3×3.5	1	1,227	3,533	494	6,273
HBN10025KA-10.5	100	25	104	83.6	3×3.5	1	1,227	3,533	494	6,273
HBN10025K-14	100	25	104	83.6	4×3.5	1	1,572	4,711	659	8,252
HBN10025KA-14	100	25	104	83.6	4×3.5	1	1,572	4,711	659	8,252

¹ The permissible load F_P indicates the maximum axial load that the ball screw can receive.

Notes: This model is capable of achieving a longer service life than the conventional ball screw under a high load.

Certain precautions are necessary regarding the assembly method. (See **A15-244**.)

For high-load ball screws, the standard maximum length of the screw shaft is 3,000 mm. For lengths greater than this, please contact THK.

Axial Clearance

Unit: mm

Clearance symbol	G2
Axial clearance	0 to 0.02

Model number coding

HBN10016K-10 RR G2 +1200L C7

Model number

Seal symbol¹Accuracy symbol²

Symbol for clearance in the axial direction

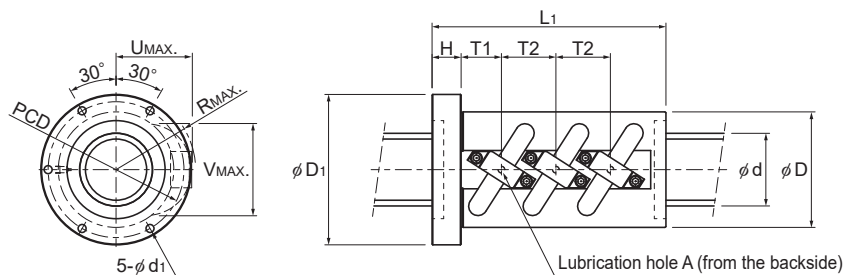
(For the axial clearance, this model has clearance G2 as standard.

Other clearance is also available at your request. Contact THK for details.)

Overall screw shaft length (in mm)

¹ See **A15-356**. ² See **A15-12**.

High-Thrust Ball Screw



Models HBN10016KA to 10025KA

Unit: mm

Nut dimensions												Screw shaft inertial moment/mm	Nut mass	Shaft mass	Permissible rotational speed
Outer diameter D	Flange diameter D ₁	Overall length L ₁	H	PCD	d ₁	T ₁	T ₂	U _{MAX}	V _{MAX}	R _{MAX}	Lubrication hole A	kg·m ² /mm	kg	kg/m	min ⁻¹
150	190	263	32	170	11	37.5	48	92	119	98.5	Rc1/8 (PT1/8)	7.71×10^{-5}	18.1	61	1,160
145	190	263	32	170	11	37.5	48	92	119	98.5		7.71×10^{-5}	16.3	61	1,160
154	194	252	32	174	11	44	60	96	123	101		7.71×10^{-5}	18.9	61	1,150
145	194	252	32	174	11	44	60	96	123	101		7.71×10^{-5}	15.6	61	1,150
154	194	312	32	174	11	44	60	96	123	101		7.71×10^{-5}	23.4	61	1,150
145	194	312	32	174	11	44	60	96	123	101		7.71×10^{-5}	19.2	61	1,150
154	194	372	32	174	11	44	60	96	123	101		7.71×10^{-5}	27.9	61	1,150
145	194	372	32	174	11	44	60	96	123	101		7.71×10^{-5}	22.8	61	1,150
154	194	232	32	174	11	44	80	97	128	105		7.71×10^{-5}	23.4	61	1,150
145	194	232	32	174	11	44	80	97	128	105		7.71×10^{-5}	20.5	61	1,150
154	194	312	32	174	11	44	80	97	128	105		7.71×10^{-5}	29.4	61	1,150
145	194	312	32	174	11	44	80	97	128	105		7.71×10^{-5}	25.3	61	1,150
167	207	322	40	187	11	55.5	75	105	127	109.5		7.71×10^{-5}	32	61	1,150
159	207	322	40	187	11	55.5	75	105	127	109.5		7.71×10^{-5}	28.2	61	1,150
167	207	397	40	187	11	55.5	75	105	127	109.5		7.71×10^{-5}	39.4	61	1,150
159	207	397	40	187	11	55.5	75	105	127	109.5		7.71×10^{-5}	34.5	61	1,150
167	207	472	40	187	11	55.5	75	105	127	109.5		7.71×10^{-5}	46.9	61	1,150
159	207	472	40	187	11	55.5	75	105	127	109.5		7.71×10^{-5}	41	61	1,150
167	207	297	40	187	11	55.5	100	105	127	109.5		7.71×10^{-5}	29.5	61	1,150
159	207	297	40	187	11	55.5	100	105	127	109.5		7.71×10^{-5}	26.3	61	1,150
167	207	397	40	187	11	55.5	100	105	127	109.5		7.71×10^{-5}	39.4	61	1,150
159	207	397	40	187	11	55.5	100	105	127	109.5		7.71×10^{-5}	34.8	61	1,150
167	207	497	40	187	11	55.5	100	105	127	109.5		7.71×10^{-5}	49.3	61	1,150
159	207	497	40	187	11	55.5	100	105	127	109.5		7.71×10^{-5}	43.3	61	1,150

Ball Screw

The rigidity values in the table represent spring constants, each obtained from the load and the elastic deformation under an axial load equal to 30% of the basic axial dynamic load rating (Ca).

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.

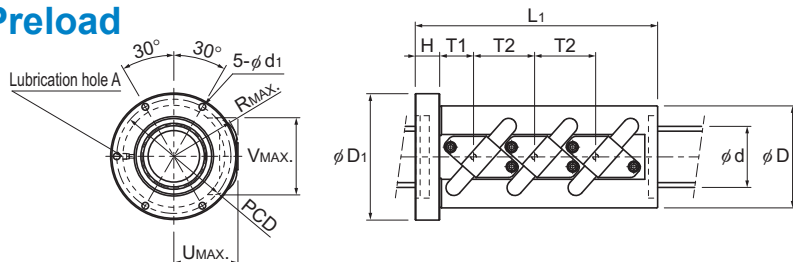
If the axial load (Fa) is not 30% of Ca, the rigidity value (K_N) is obtained from the following equation.

$$K_N = K \left(\frac{F_a}{0.3C_a} \right)^{\frac{1}{3}}$$

K: Rigidity value in the dimensional table

HBN-K and HBN-KA No Preload

DN value	120,000
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Models HBN12020K to 14040K

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	Threads	Basic load rating		Permissible load ¹ F _P kN	Rigidity K N/μm
							Ca kN	C _{0a} kN		
HBN12020K-10	120	20	123.5	106.6	4×2.5	1	995	3,389	474	6,746
HBN12020KA-10	120	20	123.5	106.6	4×2.5	1	995	3,389	474	6,746
HBN12025K-7.5	120	25	124	103.6	3×2.5	1	996	3,034	424	5,254
HBN12025KA-7.5	120	25	124	103.6	3×2.5	1	996	3,034	424	5,254
HBN12025K-10	120	25	124	103.6	4×2.5	1	1,276	4,045	566	6,912
HBN12025KA-10	120	25	124	103.6	4×2.5	1	1,276	4,045	566	6,912
HBN12025K-12.5	120	25	124	103.6	5×2.5	1	1,546	5,057	708	8,550
HBN12025KA-12.5	120	25	124	103.6	5×2.5	1	1,546	5,057	708	8,550
HBN12025K-14	120	25	124	103.6	4×3.5	1	1,698	5,632	788	9,479
HBN12025KA-14	120	25	124	103.6	4×3.5	1	1,698	5,632	788	9,479
HBN14025K-10	140	25	144	123.6	4×2.5	1	1,360	4,714	660	7,781
HBN14025KA-10	140	25	144	123.6	4×2.5	1	1,360	4,714	660	7,781
HBN14032K-10.5	140	32	145	119.6	3×3.5	1	2,089	6,510	911	7,997
HBN14032KA-10.5	140	32	145	119.6	3×3.5	1	2,089	6,510	911	7,997
HBN14040K-7.5	140	40	144	123.6	3×2.5	1	1,058	3,527	493	5,909
HBN14040KA-7.5	140	40	144	123.6	3×2.5	1	1,058	3,527	493	5,909

¹ The permissible load F_P indicates the maximum axial load that the ball screw can receive.

Notes: This model is capable of achieving a longer service life than the conventional ball screw under a high load.

Certain precautions are necessary regarding the assembly method. (See **A15-244**.)

For high-load ball screws, the standard maximum length of the screw shaft is 3,000 mm. For lengths greater than this, please contact THK.

Axial Clearance

Unit: mm

Clearance symbol	G2
Axial clearance	0 to 0.02

Model number coding

HBN12025K-10 RR G2 +1200L C7

Model number

Seal symbol¹Accuracy symbol²

Overall screw shaft length (in mm)

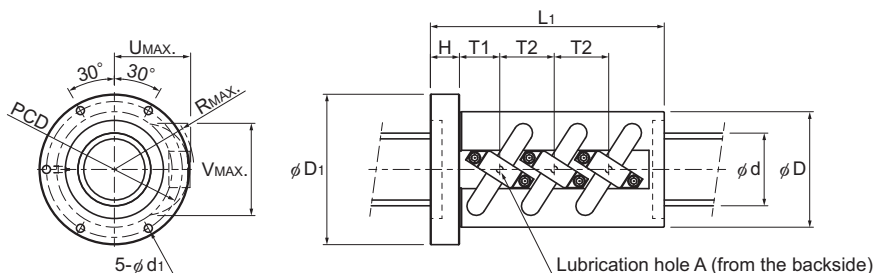
Symbol for clearance in the axial direction

(For the axial clearance, this model has clearance G2 as standard.)

Other clearance is also available at your request. Contact THK for details.)

¹ See **A15-356**. ² See **A15-12**.

High-Thrust Ball Screw



Models HBN12020KA to 14040KA

Unit: mm

	Nut dimensions											Screw shaft inertial moment/mm	Nut mass	Shaft mass	Permissible rotational speed	
	Outer diameter D	Flange diameter D ₁	Overall length L ₁	H	PCD	d _i	T1	T2	U _{MAX}	V _{MAX}	R _{MAX}					Lubrication hole A
	190	230	322	40	210	11	46	60	110	142	117	Rc1/8 (PT1/8)	1.59×10 ⁻⁴	38.1	88	970
	173	230	322	40	210	11	46	60	110	143	117		1.59×10 ⁻⁴	28.7	88	970
	195	235	322	40	215	11	54.5	75	115	147	122		1.59×10 ⁻⁴	42.6	88	960
	173	235	322	40	215	11	54.5	75	115	147	122		1.59×10 ⁻⁴	30.2	88	960
	195	235	397	40	215	11	54.5	75	115	147	122		1.59×10 ⁻⁴	52.6	88	960
	173	235	397	40	215	11	54.5	75	115	147	122		1.59×10 ⁻⁴	36.9	88	960
	195	235	472	40	215	11	54.5	75	115	147	122		1.59×10 ⁻⁴	62.5	88	960
	173	235	472	40	215	11	54.5	75	115	147	122		1.59×10 ⁻⁴	43.5	88	960
	195	235	497	40	215	11	54.5	100	115	147	122		1.59×10 ⁻⁴	65.8	88	960
	173	235	497	40	215	11	54.5	100	115	147	122		1.59×10 ⁻⁴	45.8	88	960
	230	290	397	40	260	18	54.5	75	140	175	148		2.96×10 ⁻⁴	77.6	120	830
	204	290	397	40	260	18	54.5	75	140	175	148		2.96×10 ⁻⁴	54.1	120	830
	230	290	480	40	260	18	67	128	147	175	154		2.96×10 ⁻⁴	96.8	120	820
	222	290	480	40	260	18	67	128	147	175	154		2.96×10 ⁻⁴	89.2	120	820
	230	290	470	40	260	18	95	120	140	170	140		2.96×10 ⁻⁴	88.2	120	830
	204	290	470	40	260	18	95	120	140	170	140		2.96×10 ⁻⁴	59.9	120	830

Ball Screw

The rigidity values in the table represent spring constants, each obtained from the load and the elastic deformation under an axial load equal to 30% of the basic axial dynamic load rating (Ca).

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 axial load (Fa) is not 30% of Ca, the rigidity value (K_N) is obtained from the following equation.

$$K_N = K \left(\frac{F_a}{0.3C_a} \right)^{\frac{1}{3}}$$

K: Rigidity value in the dimensional table