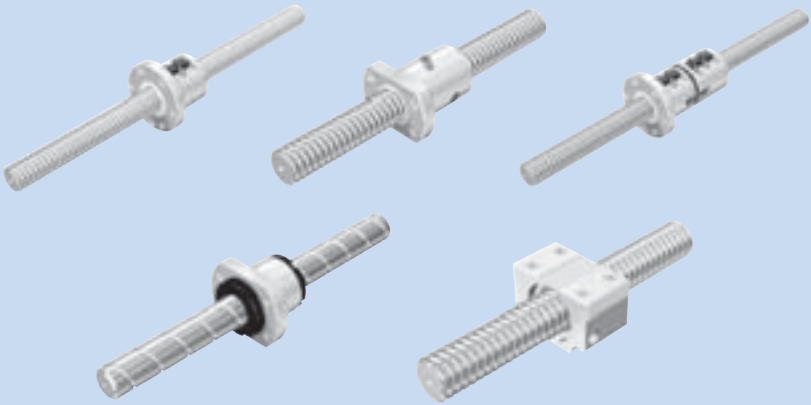
Precision Ball Screw

Models BIF, DIK, BNFN, DKN, BLW, BNF, DK, MDK, BLK/WGF and BNT



For THK Precision Ball Screws, a wide array of precision-ground screw shafts and ball screw nuts are available as standard to meet diversified applications.

Structure and Features

[Combinations of Various shaft Diameters and Leads]
You can select the combination of a shaft diameter and a lead that meet the intended use from the various nut types and the screw shaft leads. Those nut types include the return-pipe nuts, which represent the most extensive variations among the series, the compact simple nuts and the large-lead end-cap nuts.

[Standard-stock Types (with Unfinished Shaft Ends/Finished Shaft Ends) are Available]
The unfinished shaft end types, which are mass manufactured by cutting the standardized screw shafts to the standard lengths, and those with finished shaft ends, for which the screw shaft ends are machined to match the corresponding the support units, are available as the standard.

[Accuracy Standards Compliant with JIS (ISO)]
The accuracy of the Ball Screw is controlled in accordance with the JIS standards (JIS B1192-1997).

	Precision Ball Screw						Rolled Ball Screw	
Accuracy grades	C0	C1	C2	C3	C5	C7	C8	C10

Type	Series symbol	Grade	Remarks
For positioning	C	0, 1, 3, 5	JIS series
	Cp	1, 3, 5	ISO compliant
For conveyance	Ct	1, 3, 5, 7, 10	

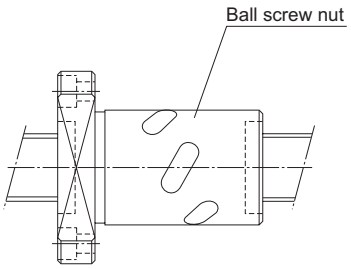
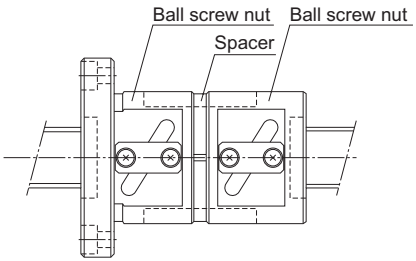
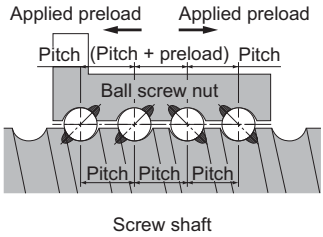
[Options that Meet the Environment are Available]
Options are available consisting of a lubricator (QZ), which enables the maintenance interval to be significantly extended, and a wiper ring (W), which improves the ability to remove foreign materials in adverse environments.

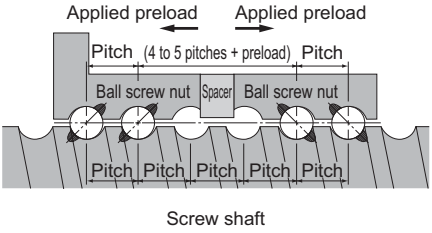
[Structure and Features of Offset Preload Type Simple-Nut Ball Screw Model DIK]

The Simple-Nut Ball Screw model DIK is an offset preload type in which a phase is provided in the middle of a single ball screw nut, and an axial clearance is set at a below-zero value (under a preload).

Model DIK has a more compact structure and allows smoother motion than the conventional double-nut type (spacer inserted between two nuts).

[Comparison between the Simple Nut and the Double-Nuts]

<table>
<tr><th>Simple-Nut Ball Screw Model DIK</th><th>Conventional Double-Nut Type Ball Screw Model BNFN</th></tr>
<tr><td> 
</td><td> 
</td></tr>
<tr><td colspan="2">Preloading Structure</td></tr>
<tr><td> 

Screw shaft</td><td> 

Screw shaft</td></tr>
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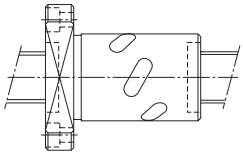
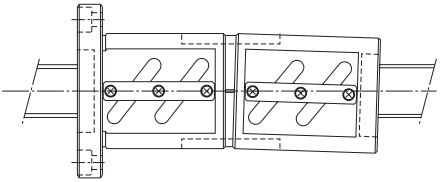
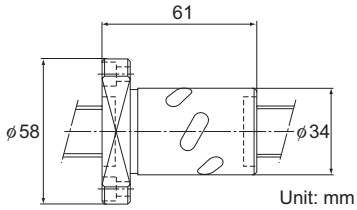
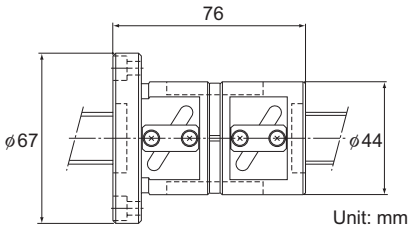
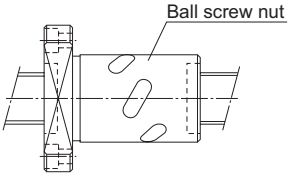
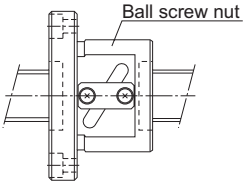
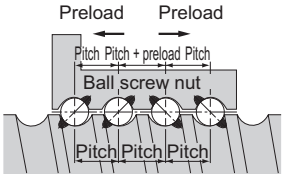
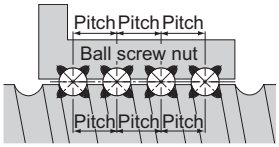
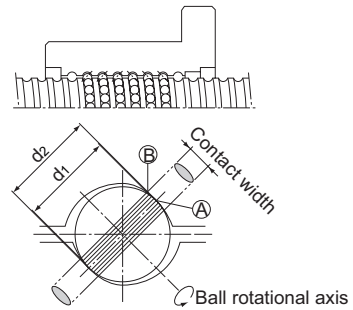
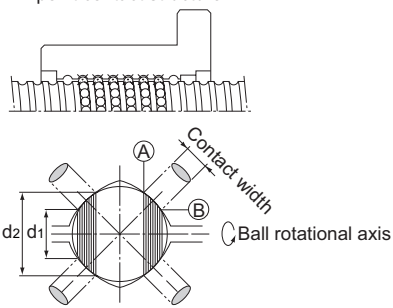
Simple-Nut Ball Screw Model DIK	Conventional Double-Nut Type Ball Screw Model BNFN
Rotational Performance	
The preload adjustment with Simple Nut Ball Screw model DIK is performed according to the ball diameter. This eliminates the inconsistency in the contact angle, which is the most important factor of the Ball Screw performance. It also ensures the high rigidity, the smooth motion and the high wobbling accuracy.	The use of a spacer in the double-nuts tends to cause inconsistency in the contact angle due to inaccurate flatness of the spacer surface and an inaccurate perpendicularity of the nut. This results in a non-uniform ball contact, an inferior rotational performance and a low wobbling accuracy.
	
Dimensions	
Since Simple-Nut Ball Screw model DIK is based on a preloading mechanism that does not require a spacer, the overall nut length can be kept short. As a result, the whole nut can be lightly and compactly designed.	
	
Model DIK 2005-6	Model BNFN 2005-2.5

[Comparison between the Offset Preload Type of Simple-Nut Ball Screw and the Oversize Preload Nut Ball Screw]

Simple-Nut Ball Screw Model DIK	Conventional Oversize Preload Nut Ball Screw Model BNF
	
Preloading Structure	
 Screw shaft	 Screw shaft
Accuracy Life	
Simple-Nut Ball Screw model DIK has a similar preloading structure to that of the double-nut type although the former only has one ball screw shaft. As a result, no differential slip or spin occurs, thus to minimize the increase in the rotational torque and the generation of heat. Accordingly, a high level of accuracy can be maintained over a long period.	With the oversize preload nut Ball Screw, a preload is provided through the balls each in contact with the raceway at four points. This causes differential slip and spin to increase the rotational torque, resulting in an accelerated wear and a heat generation. Therefore, the accuracy deteriorates in a short period.
2 point contact structure 	4 point contact structure 

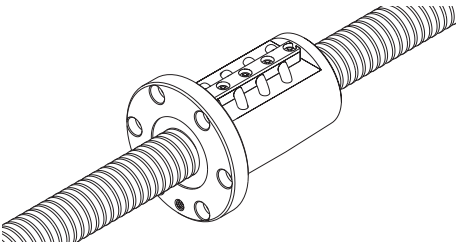
Types and Features

[Preload Type]

Model BIF

Specification Table⇒B-652

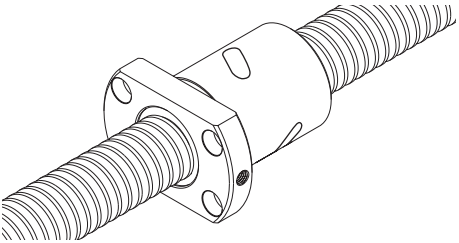
The right and the left screws are provided with a phase in the middle of the ball screw nut, and an axial clearance is set at a below-zero value (under a preload). This compact model is capable of a smooth motion.



Model DIK

Specification Table⇒B-652

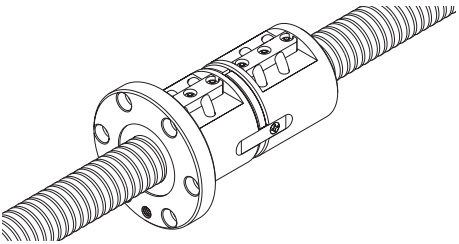
The right and the left screws are provided with a phase in the middle of the ball screw nut, and an axial clearance is set at a below-zero value (under a preload). This compact model is capable of a smooth motion.



Model BNFN

Specification Table⇒B-652

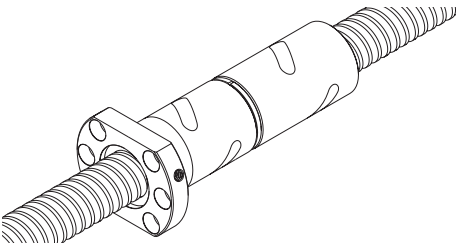
The most common type with a preload provided via a spacer between the two combined ball screw nuts to eliminate the backlash. It can be mounted using the bolt holes drilled on the flange.



Model DKN

Specification Table⇒B-672

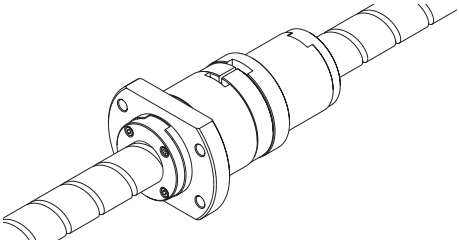
A preload is provided via a spacer between the two combined ball screw nuts to achieve a below-zero axial clearance (under a preload).



Model BLW

Specification Table⇒B-652

Since a preload is provided through a spacer between two large lead nuts, high-speed feed without by backlash is ensured.

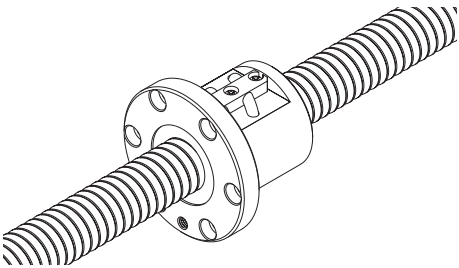


[No Preload Type]

Model BNF

Specification Table⇒B-686

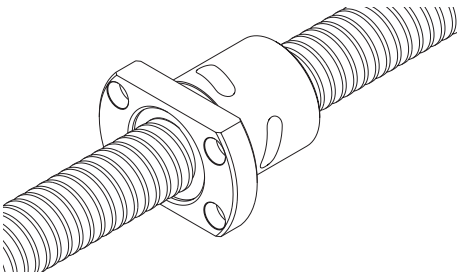
The simplest type with a single ball screw nut. It is designed to be mounted using the bolt holes drilled on the flange.



Model DK

Specification Table⇒B-686

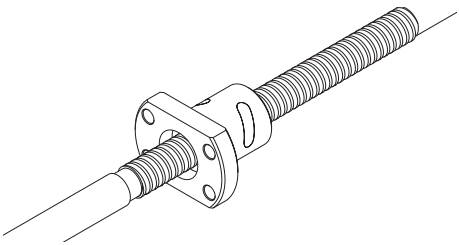
The most compact type, with a ball screw nut diameter 70 to 80% of that of the return-pipe nut.



Model MDK

Specification Table⇒B-686

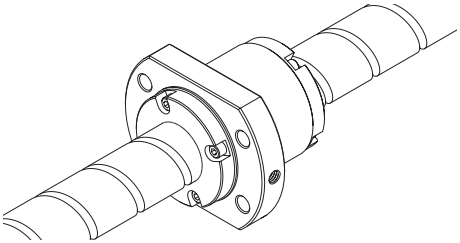
This model is a miniature nut with a screw shaft diameter of ϕ4 to 14 mm and a lead of 1 to 5 mm.



Models BLK/WGF

Specification Table⇒B-686

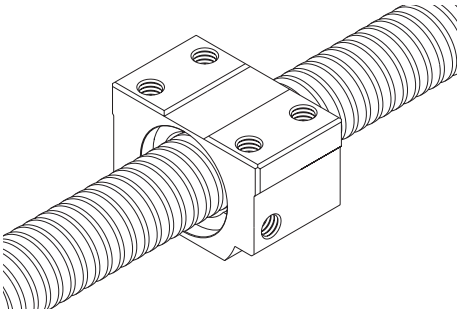
With model BLK, the shaft diameter is equal to the lead dimension. Model WGF has a lead dimension 1.5 to 3 times longer than the shaft diameter.



Square Ball Screw Nut Model BNT

Specification Table⇒B-716

Since mounting screw holes are machined on the square ball screw nut, this model can compactly be mounted on the machine without a housing.



Service Life

For details,see A-704.

Axial Clearance

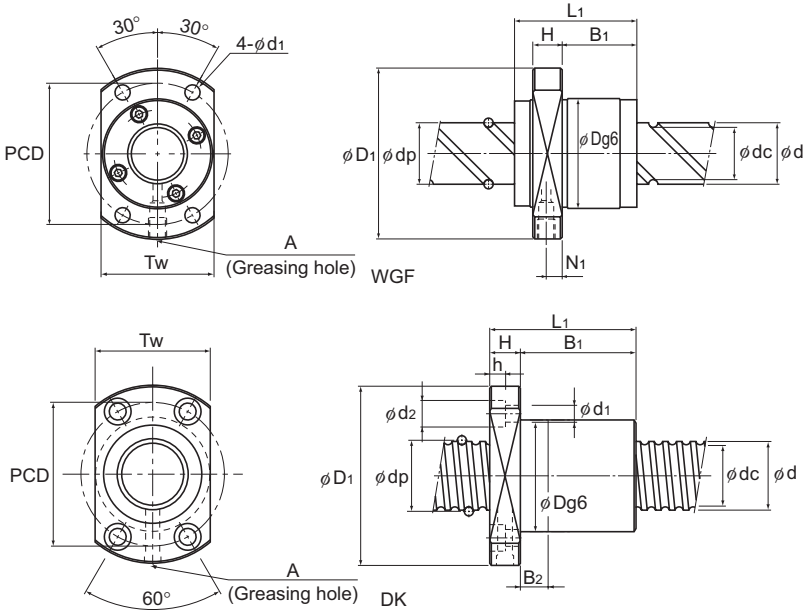
For details,see A-685.

Accuracy Standards

For details,see A-678.

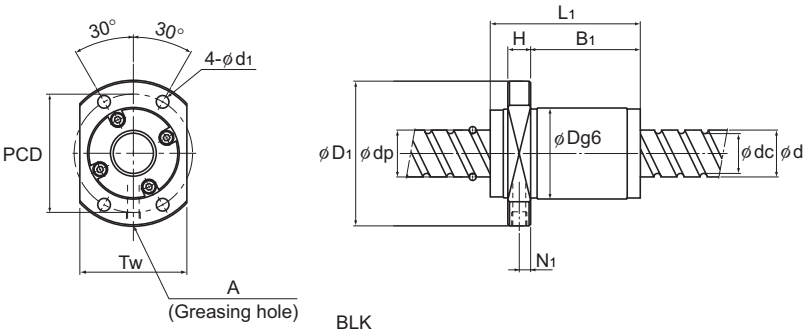
No Preload Type of Precision Ball Screw

Screw shaft outer diameter	4 to 15
Lead	1 to 40

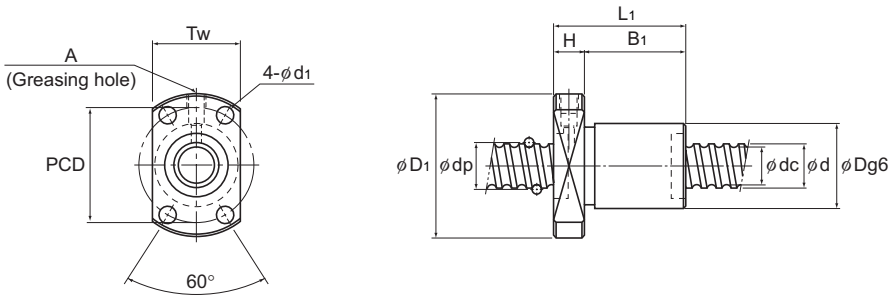


Screw shaft outer diameter d	Lead Ph	Model No.	Ball center-to-center diameter dp	Thread minor diameter dc	No. of loaded circuits Rows x turns	Basic load rating Ca kN	Basic load rating C0a kN	Rigidity K N/μm	Outer diameter D	Flange diameter D1
4	1	MDK 0401-3	4.15	3.4	3×1	0.29	0.42	35	9	19
6	1	MDK 0601-3	6.2	5.3	3×1	0.54	0.94	60	11	23
8	1	MDK 0801-3	8.2	7.3	3×1	0.64	1.4	80	13	26
	2	MDK 0802-3	8.3	7	3×1	1.4	2.3	80	15	28
	12	WGF 0812-3	8.4	6.6	2×1.65	2.2	3.9	110	18	31
10	2	MDK 1002-3	10.3	9	3×1	1.5	2.9	100	17	34
	15	WGF 1015-3	10.5	8.3	2×1.65	3.3	6.2	140	23	40
12	2	MDK 1202-3	12.3	11	3×1	1.7	3.6	120	19	36
13	20	WGF 1320-3	13.5	10.8	2×1.65	4.7	9.6	180	28	45
14	2	MDK 1402-3	14.3	13	3×1	1.8	4.3	190	21	40
	4	MDK 1404-3	14.65	11.9	3×1	4.2	7.6	190	26	45
		DK 1404-4	14.5	11.8	4×1	5.4	10.2	180	26	45
		DK 1404-6	14.5	11.8	6×1	7.7	15.4	270	26	45
	5	MDK 1405-3	14.75	11.2	3×1	7	11.6	140	26	45
15	10	BLK 1510-5.6	15.75	12.5	2×2.8	14.3	27.8	340	34	57
	20	WGF 1520-1.5	15.75	12.5	1×1.5	4.4	7.9	100	32	53
		WGF 1520-3	15.75	12.5	2×1.5	8.1	15.8	190	32	53
	30	WGF 1530-1	15.75	12.5	2×0.6	3.5	5.4	90	32	53
		WGF 1530-3	15.75	12.5	2×1.6	8.1	14.6	220	32	53
	40	WGF 1540-1.5	15.75	12.5	2×0.75	3.9	7.4	110	32	53

Note) Models MDK0401, 0601 and 0801 is not provided with a labyrinth seal.
Models MDK0401, 0601, 0801, model WGF and Large Lead Precision Ball Screw model BLK cannot be attached with seal.



BLK



MDK

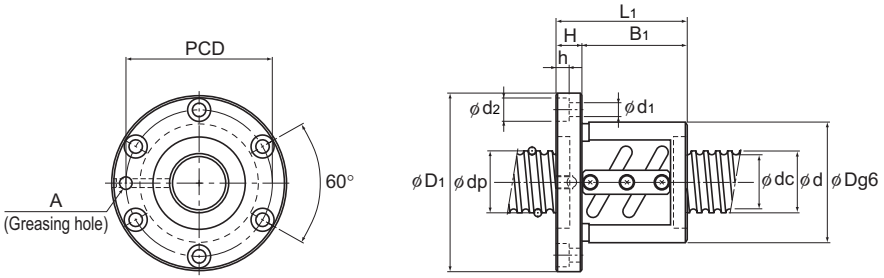
Unit: mm

Nut dimensions											Screw shaft inertial moment/mm	Nut mass	Shaft mass
	Overall length									Greasing hole			
	L_1	H	B_1	B_2	PCD	d_1	d_2	h	Tw	N_1	A	kg·cm²/mm	kg	kg/m
	13	3	10	—	14	2.9	—	—	13	—	—	1.97×10^{-6}	0.01	0.07
	14.5	3.5	11	—	17	3.4	—	—	15	—	—	9.99×10^{-6}	0.017	0.14
	15	4	11	—	20	3.4	—	—	17	—	—	3.16×10^{-5}	0.024	0.29
	22	5	17	—	22	3.4	—	—	19	—	—	3.16×10^{-5}	0.034	0.27
	27	4	17	—	25	3.4	—	—	20	—	—	3.16×10^{-5}	0.054	0.35
	22	5	17	—	26	4.5	—	—	21	—	—	7.71×10^{-5}	0.045	0.47
	33	5	22	—	32	4.5	—	—	25	—	—	7.71×10^{-5}	0.11	0.55
	22	5	17	—	28	4.5	—	—	23	—	—	1.6×10^{-4}	0.05	0.71
	43	5	29	—	37	4.5	—	—	30	—	—	2.2×10^{-4}	0.18	0.96
	23	6	17	—	31	5.5	—	—	26	—	—	2.96×10^{-4}	0.15	1.0
	33	6	27	—	36	5.5	—	—	28	—	—	2.96×10^{-4}	0.13	0.8
	48	10	38	10	35	4.5	8	4.5	29	—	M6	2.96×10^{-4}	0.2	1
	60	10	50	10	35	4.5	8	4.5	29	—	M6	2.96×10^{-4}	0.23	1
	42	10	32	—	36	5.5	—	—	28	—	M6	2.96×10^{-4}	0.18	0.91
	44	10	24	—	45	5.5	—	—	40	5	M6	3.9×10^{-4}	0.34	0.31
	45	10	28	—	43	5.5	—	—	33	5	M6	3.9×10^{-4}	0.29	1.22
	45	10	28	—	43	5.5	—	—	33	5	M6	3.9×10^{-4}	0.29	1.22
	33	10	17	—	43	5.5	—	—	33	5	M6	3.9×10^{-4}	0.23	1.26
	63	10	47	—	43	5.5	—	—	33	5	M6	3.9×10^{-4}	0.38	1.26
	42	10	26.3	—	43	5.5	—	—	33	5	M6	3.9×10^{-4}	0.28	1.28

For model number coding, see B-718.

No Preload Type of Precision Ball Screw

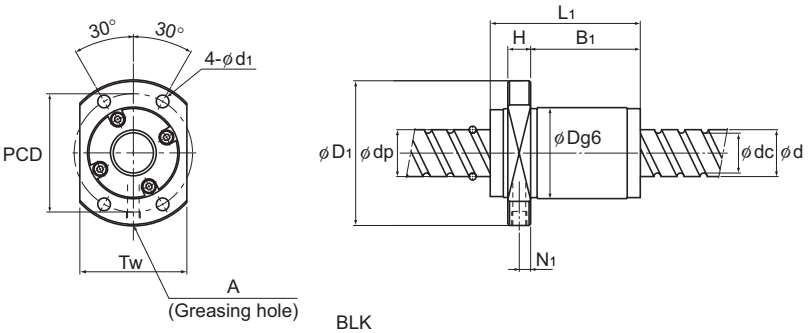
Screw shaft outer diameter	16 to 18
Lead	4 to 16

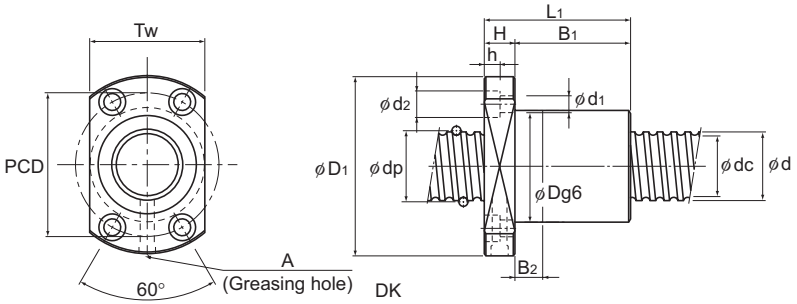


BNF

Screw shaft outer diameter d	Lead Ph	Model No.	Ball center-to-center diameter dp	Thread minor diameter dc	No. of loaded circuits Rows x turns	Basic load rating Ca kN	Basic load rating C0a kN	Rigidity K N/μm	Outer diameter D	Flange diameter D1
16	4	BNF 1604-3	16.5	13.8	2×1.5	5.1	10.5	180	36	59
	5	BNF 1605-2.5	16.75	13.2	1×2.5	7.4	13.9	170	40	60
		BNF 1605-3	16.75	13.2	2×1.5	8.7	16.8	200	40	60
		BNF 1605-5	16.75	13.2	2×2.5	13.5	27.8	320	40	60
		DK 1605-3	16.75	13.1	3×1	7.4	13	160	30	49
		DK 1605-4	16.75	13.1	4×1	9.5	17.4	210	30	49
	6	BNF 1606-2.5	16.8	13.2	1×2.5	7.5	14	170	40	60
		BNF 1606-5	16.8	13.2	2×2.5	13.5	28	320	40	60
	10	BNF 1610-1.5	16.8	13.5	1×1.5	4.8	8.5	100	40	63
	16	BLK 1616-2.8	16.65	13.7	1×2.8	5.2	9.9	180	32	53
		BLK 1616-3.6	16.65	13.7	2×1.8	7.1	14.3	220	32	53
18	10	BNF 1810-2.5	18.8	15.5	1×2.5	7.8	15.9	190	42	65
		BNF 1810-3	18.8	15.5	2×1.5	9.2	19.1	220	42	65

Note) The model numbers in dimmed type indicate semi-standard types.
If desiring them, contact THK.
Large Lead Precision Ball Screw model BLK cannot be attached with seal.





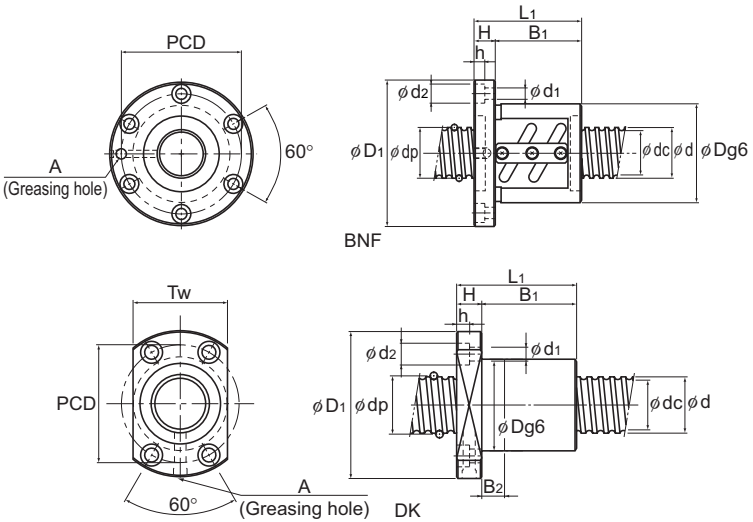
Unit: mm

Nut dimensions												Screw shaft inertial moment/mm	Nut mass	Shaft mass
	Overall length L_1	H	B_1	B_2	PCD	d_1	d_2	h	Tw	N_1	Greasing hole A	kg·cm²/mm	kg	kg/m
	45	11	34	—	47	5.5	9.5	5.5	—	—	M6	5.05×10^{-4}	0.32	1.35
	41	10	31	—	50	4.5	8	4.5	—	—	M6	5.05×10^{-4}	0.37	1.24
	51	10	41	—	50	4.5	8	4.5	—	—	M6	5.05×10^{-4}	0.47	1.24
	56	10	46	—	50	4.5	8	4.5	—	—	M6	5.05×10^{-4}	0.49	1.24
	45	10	35	10	39	4.5	8	4.5	31	—	M6	5.05×10^{-4}	0.24	1.25
	50	10	40	10	39	4.5	8	4.5	31	—	M6	5.05×10^{-4}	0.26	1.25
	44	10	34	—	50	4.5	8	4.5	—	—	M6	5.05×10^{-4}	0.41	1.3
	62	10	52	—	50	4.5	8	4.5	—	—	M6	5.05×10^{-4}	0.49	1.3
	42	11	31	—	51	5.5	9.5	5.5	—	—	M6	5.05×10^{-4}	0.32	1.41
	54	10	37.5	—	42	4.5	—	—	38	5	M6	5.05×10^{-4}	0.32	1.41
	38	10	21.5	—	42	4.5	—	—	38	5	M6	5.05×10^{-4}	0.21	1.41
	69	12	57	—	53	5.5	9.5	5.5	—	—	M6	8.09×10^{-4}	0.67	1.81
	75	12	63	—	53	5.5	9.5	5.5	—	—	M6	8.09×10^{-4}	0.63	1.81

For model number coding, see B-718.

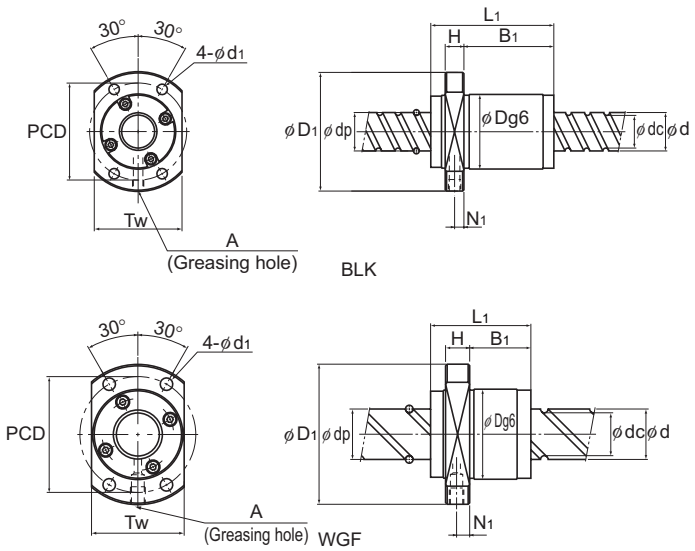
No Preload Type of Precision Ball Screw

Screw shaft outer diameter	20
Lead	4 to 60



Screw shaft outer diameter d	Lead Ph	Model No.	Ball center-to-center diameter dp	Thread minor diameter dc	No. of loaded circuits Rows x turns	Basic load rating Ca kN	Basic load rating C0a kN	Rigidity K N/μm	Outer diameter D	Flange diameter D1
20	4	BNF 2004-2.5	20.5	17.8	1×2.5	4.8	10.9	180	40	63
		BNF 2004-5	20.5	17.8	2×2.5	8.6	21.8	350	40	63
		DK 2004-3	20.5	17.8	3×1	5.2	11.6	190	32	56
		DK 2004-4	20.5	17.8	4×1	6.6	15.5	250	32	56
	5	BNF 2005-2.5	20.75	17.2	1×2.5	8.3	17.4	200	44	67
		BNF 2005-3	20.75	17.2	2×1.5	9.7	21	240	44	67
		BNF 2005-3.5	20.75	17.2	1×3.5	11.1	24.5	270	44	67
		BNF 2005-5	20.75	17.2	2×2.5	15.1	35	380	44	67
		DK 2005-3	20.75	17.1	3×1	8.5	17.3	200	34	58
		DK 2005-4	20.75	17.1	4×1	11	23.1	260	34	58
	6	BNF 2006-2.5	20.75	17.2	1×2.5	8.3	17.5	200	48	71
		BNF 2006-3	20.75	17.2	2×1.5	9.7	21	240	48	71
		BNF 2006-3.5	20.75	17.2	1×3.5	11.1	24.5	270	48	71
		BNF 2006-5	20.75	17.2	2×2.5	15.1	35	380	48	71
		DK 2006-3	21	16.4	3×1	11.4	21.5	410	35	58
		DK 2006-4	21	16.4	4×1	14.6	28.6	540	35	58
	8	BNF 2008-2.5	21	16.4	1×2.5	11.1	21.9	210	46	74
		DK 2008-4	21	16.4	4×1	14.6	28.8	270	35	58
	10	BNF 2010A-1.5	21	16.4	1×1.5	7.2	13.2	130	46	74
	12	BNF 2012-1.5	21	16.4	1×1.5	7.1	13.2	130	48	71
	20	BLK 2020-2.8	20.75	17.5	1×2.8	8.1	17.2	230	39	62
		BLK 2020-3.6	20.75	17.5	2×1.8	11.1	24.7	290	39	62
	40	WGF 2040-1	20.75	17.5	2×0.65	4.3	8	110	37	57
		WGF 2040-3	20.75	17.5	2×1.65	9.5	20.2	280	37	57
	60	WGF 2060-1.5	20.75	17.5	2×0.75	4.5	11	140	37	57

Note) The model numbers in dimmed type indicate semi-standard types. If desiring them, contact THK.
Model WGF and Large Lead Precision Ball Screw model BLK cannot be attached with seal.



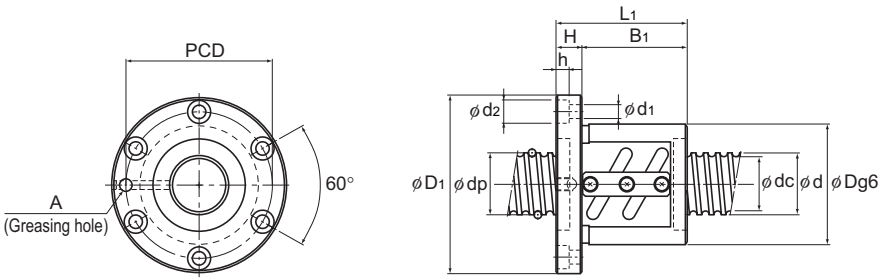
Unit: mm

Nut dimensions												Screw shaft inertial moment/mm	Nut mass	Shaft mass
	Overall length										Greasing hole			
	L_1	H	B_1	B_2	PCD	d_1	d_2	h	Tw	N_1	A	kg·cm²/mm	kg	kg/m
	37	11	26	—	51	5.5	9.5	5.5	—	—	M6	1.23×10^{-3}	0.3	2.18
	49	11	38	—	51	5.5	9.5	5.5	—	—	M6	1.23×10^{-3}	0.49	2.18
	42	11	31	10	44	5.5	9.5	5.5	35	—	M6	1.23×10^{-3}	0.26	2.18
	46	11	35	10	44	5.5	9.5	5.5	35	—	M6	1.23×10^{-3}	0.27	2.18
	41	11	30	—	55	5.5	9.5	5.5	—	—	M6	1.23×10^{-3}	0.46	2.05
	52	11	41	—	55	5.5	9.5	5.5	—	—	M6	1.23×10^{-3}	0.53	2.05
	45	11	34	—	55	5.5	9.5	5.5	—	—	M6	1.23×10^{-3}	0.53	2.05
	56	11	45	—	55	5.5	9.5	5.5	—	—	M6	1.23×10^{-3}	0.6	2.05
	46	11	35	10	46	5.5	9.5	5.5	36	—	M6	1.23×10^{-3}	0.31	2.06
	51	11	40	10	46	5.5	9.5	5.5	36	—	M6	1.23×10^{-3}	0.34	2.06
	44	11	33	—	59	5.5	9.5	5.5	—	—	M6	1.23×10^{-3}	0.51	2.12
	56	11	45	—	59	5.5	9.5	5.5	—	—	M6	1.23×10^{-3}	0.68	2.12
	50	11	39	—	59	5.5	9.5	5.5	—	—	M6	1.23×10^{-3}	0.62	2.12
	62	11	51	—	59	5.5	9.5	5.5	—	—	M6	1.23×10^{-3}	0.8	2.12
	52	11	41	10	46	5.5	9.5	5.5	36	—	M6	1.23×10^{-3}	0.36	1.93
	59	11	48	10	46	5.5	9.5	5.5	36	—	M6	1.23×10^{-3}	0.39	1.93
	60	15	45	—	59	5.5	9.5	5.5	—	—	M6	1.23×10^{-3}	0.69	2.06
	69	11	58	15	46	5.5	9.5	5.5	36	—	M6	1.23×10^{-3}	0.45	2.06
	58	15	43	—	59	5.5	9.5	5.5	—	—	M6	1.23×10^{-3}	0.77	2.14
	64	18	46	—	59	5.5	9.5	5.5	—	—	M6	1.23×10^{-3}	0.9	2.19
	65	10	47.5	—	50	5.5	—	—	46	5	M6	1.23×10^{-3}	0.49	2.25
	45	10	27.5	—	50	5.5	—	—	46	5	M6	1.23×10^{-3}	0.35	2.25
	41	10	25	—	47	5.5	—	—	38	5.5	M6	1.23×10^{-3}	0.24	2.34
	81	10	65	—	47	5.5	—	—	38	5.5	M6	1.23×10^{-3}	0.48	2.34
	60	10	40.1	—	47	5.5	—	—	38	5	M6	1.23×10^{-3}	0.4	2.37

For model number coding, see B-718.

No Preload Type of Precision Ball Screw

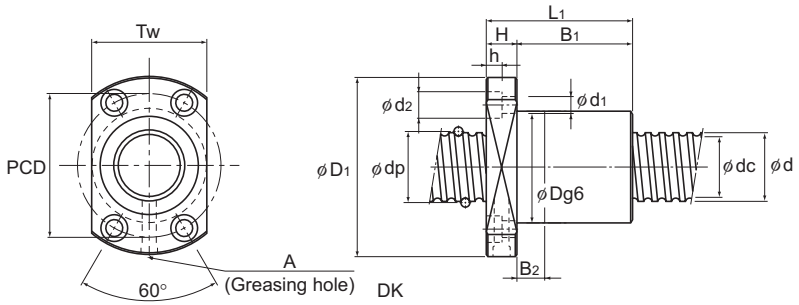
Screw shaft outer diameter	25
Lead	4 to 16



BNF

Screw shaft outer diameter d	Lead Ph	Model No.	Ball center-to-center diameter dp	Thread minor diameter dc	No. of loaded circuits Rows x turns	Basic load rating Ca kN	Basic load rating C0a kN	Rigidity K N/μm	Outer diameter D	Flange diameter D1
25	4	BNF 2504-2.5	25.5	22.8	1×2.5	5.2	13.7	210	46	69
		BNF 2504-5	25.5	22.8	2×2.5	9.5	27.3	410	46	69
		DK 2504-3	25.5	22.8	3×1	5.7	15	230	38	63
		DK 2504-4	25.5	22.8	4×1	7.4	19.9	310	38	63
	5	BNF 2505-2.5	25.75	22.2	1×2.5	9.2	22	240	50	73
		BNF 2505-3	25.75	22.2	2×1.5	10.8	26.4	280	50	73
		BNF 2505-3.5	25.75	22.2	1×3.5	12.3	30.7	320	50	73
		BNF 2505-5	25.75	22.2	2×2.5	16.7	44	460	50	73
		DK 2505-3	25.75	22.1	3×1	9.7	22.6	250	40	63
		DK 2505-4	25.75	22.1	4×1	12.4	30.3	320	40	63
	6	BNF 2506-2.5	26	21.4	1×2.5	12.5	27.3	250	53	76
		BNF 2506-3	26	21.4	2×1.5	14.6	32.8	290	53	76
		BNF 2506-3.5	26	21.4	1×3.5	15.1	35.9	330	53	76
		BNF 2506-5	26	21.4	2×2.5	22.5	54.8	470	53	76
		DK 2506-3	26	21.4	3×1	12.8	27	250	40	63
		DK 2506-4	26	21.4	4×1	16.8	37.4	330	40	63
	8	BNF 2508-2.5	26.25	20.5	1×2.5	15.8	32.8	250	58	85
		BNF 2508-3	26.25	20.5	2×1.5	18.5	39.4	290	58	85
		BNF 2508-3.5	26.25	20.5	1×3.5	21.2	46	340	58	85
		BNF 2508-5	26.25	20.5	2×2.5	28.7	65.8	480	58	85
		DK 2508-3	26	21.4	3×1	13.1	28.1	500	40	63
		DK 2508-4	26	21.4	4×1	16.8	37.5	330	40	63
	10	BNF 2510A-2.5	26.3	21.4	1×2.5	15.8	33	250	58	85
		DK 2510-3	26	21.6	3×1	12.7	27	250	40	63
		DK 2510-4	26	21.6	4×1	16.7	37.6	330	40	63
	12	BNF 2512-2.5	26	21.9	1×2.5	12.3	27.6	250	53	76
	16	BNF 2516-1.5	26	21.4	1×1.5	7.9	16.7	150	53	76

Note) The model numbers in dimmed type indicate semi-standard types. If desiring them, contact THK.
These models can be attached with QZ Lubricator or the wiper ring.
For dimensions of the ball screw nut with either accessory being attached, see B-778.



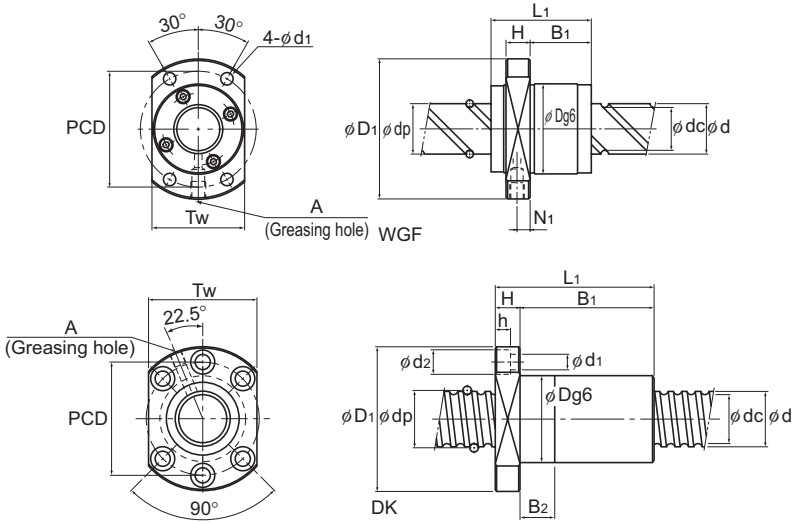
Unit: mm

Nut dimensions											Screw shaft inertial moment/mm	Nut mass	Shaft mass
	Overall length L_1	H	B_1	B_2	PCD	d_1	d_2	h	T_w	Greasing hole A	kg·cm²/mm	kg	kg/m
	36	11	25	—	57	5.5	9.5	5.5	—	M6	3.01×10^{-3}	0.21	3.5
	48	11	37	—	57	5.5	9.5	5.5	—	M6	3.01×10^{-3}	0.55	3.5
	43	11	32	10	51	5.5	9.5	5.5	39	M6	3.01×10^{-3}	0.33	3.5
	47	11	36	10	51	5.5	9.5	5.5	39	M6	3.01×10^{-3}	0.35	3.5
	40	11	29	—	61	5.5	9.5	5.5	—	M6	3.01×10^{-3}	0.52	3.34
	52	11	41	—	61	5.5	9.5	5.5	—	M6	3.01×10^{-3}	0.66	3.34
	45	11	34	—	61	5.5	9.5	5.5	—	M6	3.01×10^{-3}	0.6	3.34
	55	11	44	—	61	5.5	9.5	5.5	—	M6	3.01×10^{-3}	0.68	3.34
	46	11	35	10	51	5.5	9.5	5.5	41	M6	3.01×10^{-3}	0.38	3.35
	51	11	40	10	51	5.5	9.5	5.5	41	M6	3.01×10^{-3}	0.41	3.35
	44	11	33	—	64	5.5	9.5	5.5	—	M6	3.01×10^{-3}	0.61	3.19
	56	11	45	—	64	5.5	9.5	5.5	—	M6	3.01×10^{-3}	0.85	3.19
	50	11	39	—	64	5.5	9.5	5.5	—	M6	3.01×10^{-3}	0.79	3.19
	62	11	51	—	64	5.5	9.5	5.5	—	M6	3.01×10^{-3}	0.91	3.19
	52	11	41	10	51	5.5	9.5	5.5	41	M6	3.01×10^{-3}	0.41	3.19
	60	11	49	10	51	5.5	9.5	5.5	41	M6	3.01×10^{-3}	0.46	3.19
	58	15	43	—	71	6.6	11	6.5	—	M6	3.01×10^{-3}	1.07	3.12
	71	15	56	—	71	6.6	11	6.5	—	M6	3.01×10^{-3}	1.27	3.12
	66	15	51	—	71	6.6	11	6.5	—	M6	3.01×10^{-3}	1.29	3.12
	82	15	67	—	71	6.6	11	6.5	—	M6	3.01×10^{-3}	1.44	3.12
	62	12	50	10	51	5.5	9.5	5.5	41	M6	3.01×10^{-3}	0.48	3.35
	71	12	59	15	51	5.5	9.5	5.5	41	M6	3.01×10^{-3}	0.54	3.35
	70	18	52	—	71	6.6	11	6.5	—	M6	3.01×10^{-3}	1.43	3.27
	80	15	65	15	51	5.5	9.5	5.5	41	M6	3.01×10^{-3}	0.62	3.45
	85	15	70	20	51	5.5	9.5	5.5	41	M6	3.01×10^{-3}	0.65	3.45
	60	11	49	—	64	5.5	9.5	5.5	—	M6	3.01×10^{-3}	0.86	3.51
	60	11	49	—	64	5.5	9.5	5.5	—	M6	3.01×10^{-3}	0.96	3.6

For model number coding, see B-718.

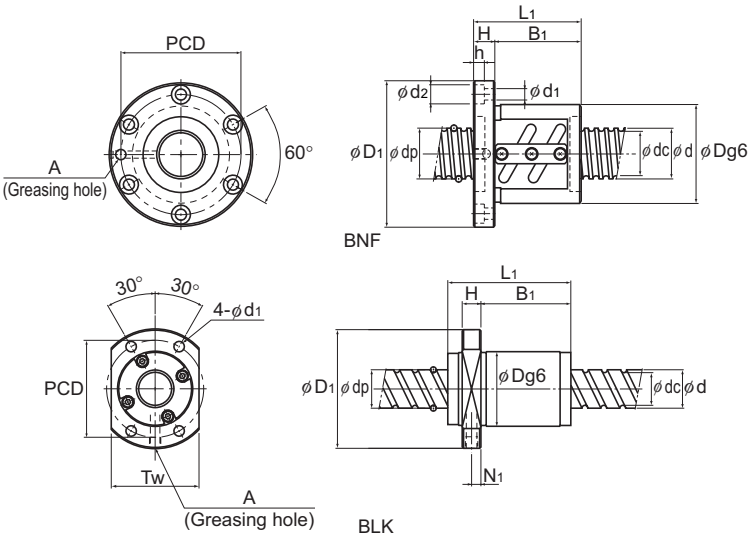
No Preload Type of Precision Ball Screw

Screw shaft outer diameter	25 to 30
Lead	5 to 90



Screw shaft outer diameter d	Lead Ph	Model No.	Ball center-to-center diameter dp	Thread minor diameter dc	No. of loaded circuits Rows x turns	Basic load rating Ca kN	Basic load rating C0a kN	Rigidity K N/μm	Outer diameter D	Flange diameter D1
25	25	BLK 2525-2.8	26	22	1×2.8	12.2	26.9	270	47	74
		BLK 2525-3.6	26	22	2×1.8	16.6	38.7	350	47	74
	50	WGF 2550-1	26	21.9	2×0.65	6.4	12.5	140	45	69
		WGF 2550-3	26	21.9	2×1.65	14.3	31.7	340	45	69
28	5	BNF 2805-2.5	28.75	25.2	1×2.5	9.7	24.6	250	55	85
		BNF 2805-3	28.75	25.2	2×1.5	11.3	29.5	300	55	85
		BNF 2805-3.5	28.75	25.2	1×3.5	12.9	34.4	350	55	85
		BNF 2805-5	28.75	25.2	2×2.5	17.5	49.4	500	55	85
		BNF 2805-7.5	28.75	25.2	3×2.5	24.8	73.8	740	55	85
		DK 2805-3	28.75	25.2	3×1	10.5	26.4	270	43	71
		DK 2805-4	28.75	25.2	4×1	13.4	35.2	360	43	71
	6	BNF 2806-2.5	28.75	25.2	1×2.5	9.6	24.6	250	55	85
		BNF 2806-3.5	28.75	25.2	1×3.5	12.9	34.5	350	55	85
		BNF 2806-5	28.75	25.2	2×2.5	17.5	49.4	500	55	85
		BNF 2806-7.5	28.75	25.2	3×2.5	24.8	73.8	740	55	85
		DK 2806-3	29	24.4	3×1	14	32	280	43	71
		DK 2806-4	29	24.4	4×1	18	42.5	370	43	71
	8	BNF 2808-2.5	29.25	23.6	1×2.5	16.8	36.8	270	60	104
		BNF 2808-3	29.25	23.6	2×1.5	19.6	44.2	320	60	104
		BNF 2808-5	29.25	23.6	2×2.5	30.4	73.7	530	60	104
	10	BNF 2810-2.5	29.75	22.4	1×2.5	24	48.2	280	65	106
		DK 2810-4	29.25	23.6	4×1	22.4	50	370	45	71
30	60	WGF 3060-1	31.25	26.4	2×0.65	8.9	18	170	55	89
		WGF 3060-3	31.25	26.4	2×1.65	19.9	45.7	410	55	89
	90	WGF 3090-1.5	31.25	26.4	2×0.75	9.7	25.8	200	55	89

Note) The model numbers in dimmed type indicate semi-standard types. If desiring them, contact THK.
Model WGF and Large Lead Precision Ball Screw model BLK cannot be attached with seal.



Unit: mm

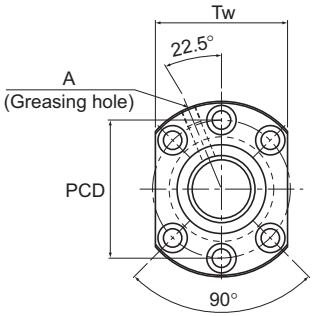
Nut dimensions												Screw shaft inertial moment/mm	Nut mass	Shaft mass
	Overall length										Greasing hole			
	L_1	H	B_1	B_2	PCD	d_1	d_2	h	Tw	N_1	A	kg·cm²/mm	kg	kg/m
	80	12	60	—	60	6.6	—	—	56	6	M6	3.01×10^{-3}	0.89	3.52
	55	12	35	—	60	6.6	—	—	56	6	M6	3.01×10^{-3}	0.64	3.52
	52	12	31.5	—	57	6.6	—	—	46	7	M6	3.01×10^{-3}	0.43	3.66
	102	12	81.5	—	57	6.6	—	—	46	7	M6	3.01×10^{-3}	0.85	3.66
	44	12	32	—	69	6.6	11	6.5	—	—	M6	4.74×10^{-3}	1.02	4.27
	54	12	42	—	69	6.6	11	6.5	—	—	M6	4.74×10^{-3}	0.92	4.27
	49	12	37	—	69	6.6	11	6.5	—	—	M6	4.74×10^{-3}	0.86	4.27
	59	12	47	—	69	6.6	11	6.5	—	—	M6	4.74×10^{-3}	1.06	4.27
	74	12	62	—	69	6.6	11	6.5	—	—	M6	4.74×10^{-3}	1.16	4.27
	49	12	37	10	57	6.6	11	6.5	55	—	M6	4.74×10^{-3}	0.48	4.27
	54	12	42	10	57	6.6	11	6.5	55	—	M6	4.74×10^{-3}	0.51	4.27
	50	12	38	—	69	6.6	11	6.5	—	—	M6	4.74×10^{-3}	0.87	4.36
	56	12	44	—	69	6.6	11	6.5	—	—	M6	4.74×10^{-3}	0.94	4.36
	68	12	56	—	69	6.6	11	6.5	—	—	M6	4.74×10^{-3}	1.09	4.36
	86	12	74	—	69	6.6	11	6.5	—	—	M6	4.74×10^{-3}	1.3	4.36
	53	12	41	10	57	6.6	11	6.5	55	—	M6	4.74×10^{-3}	0.5	4.36
	61	12	49	10	57	6.6	11	6.5	55	—	M6	4.74×10^{-3}	0.56	4.36
	68	18	50	—	82	11	17.5	11	—	—	M6	4.74×10^{-3}	1.75	4.02
	80	18	62	—	82	11	17.5	11	—	—	M6	4.74×10^{-3}	1.93	4.02
	92	18	74	—	82	11	17.5	11	—	—	M6	4.74×10^{-3}	2.11	4.02
	86	18	68	—	85	11	17.5	11	—	—	M6	4.74×10^{-3}	2.3	3.66
	84	15	69	20	57	6.6	11	6.5	55	—	M6	4.74×10^{-3}	0.82	4.18
	62	15	37	—	71	9	—	—	56	9	M6	6.24×10^{-3}	1.11	5.28
	122	15	97	—	71	9	—	—	56	9	M6	6.24×10^{-3}	1.9	5.28
	92	15	61.3	—	71	9	—	—	56	9	M6	6.24×10^{-3}	1.51	5.34

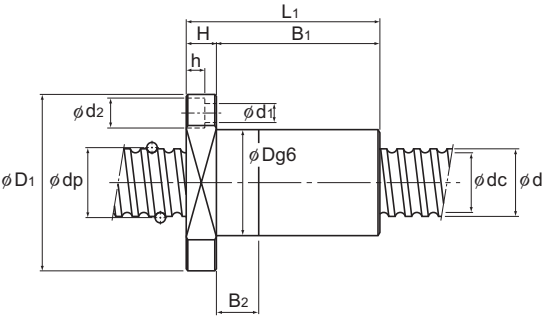
For model number coding, see B-718.

Description of Each Option⇒A-815 Dimensions⇒B-777

No Preload Type of Precision Ball Screw

Screw shaft outer diameter	32
Lead	4 to 12

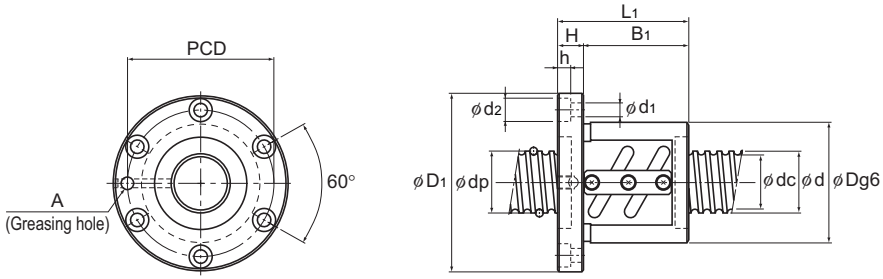




DK

Screw shaft outer diameter d	Lead Ph	Model No.	Ball center-to-center diameter dp	Thread minor diameter dc	No. of loaded circuits Rows x turns	Basic load rating Ca kN	Basic load rating C0a kN	Rigidity K N/μm	Outer diameter D	Flange diameter D1
32	4	BNF 3204-7.5	32.5	30	3×2.5	14.8	52.7	740	54	81
		DK 3204-3	32.5	30.1	3×1	6.4	19.6	290	45	76
		DK 3204-4	32.5	30.1	4×1	8.2	26.1	380	45	76
	5	○ BNF 3205-2.5	32.75	29.2	1×2.5	10.2	28.1	280	58	85
		○ BNF 3205-3	32.75	29.2	2×1.5	12	33.8	340	58	85
		○ BNF 3205-4.5	32.75	29.2	3×1.5	17	50.7	500	58	85
		○ BNF 3205-5	32.75	29.2	2×2.5	18.5	56.4	560	58	85
		○ BNF 3205-7.5	32.75	29.2	3×2.5	26.3	84.5	810	58	85
		DK 3205-3	32.75	29.2	3×1	11.1	30.2	300	46	76
		DK 3205-4	32.75	29.2	4×1	14.2	40.3	400	46	76
		DK 3205-6	32.75	29.2	6×1	20.1	60.4	600	46	76
	6	○ BNF 3206-2.5	33	28.4	1×2.5	13.9	35.2	290	62	89
		○ BNF 3206-3	33	28.4	2×1.5	16.3	42.2	350	62	89
		○ BNF 3206-5	33	28.4	2×2.5	25.2	70.4	580	62	89
		DK 3206-3	33	28.4	3×1	14.9	37.1	310	48	76
		DK 3206-4	33	28.4	4×1	19.1	49.5	410	48	76
	8	○ BNF 3208A-2.5	33.25	27.5	1×2.5	17.8	42.2	300	66	100
		○ BNF 3208A-3	33.25	27.5	2×1.5	20.9	50.7	360	66	100
		○ BNF 3208A-4.5	33.25	27.5	3×1.5	29.5	76	530	66	100
		○ BNF 3208A-5	33.25	27.5	2×2.5	32.3	84.4	590	66	100
	10	○ BNF 3210A-2.5	33.75	26.4	1×2.5	26.1	56.2	310	74	108
		○ BNF 3210A-3	33.75	26.4	2×1.5	30.5	67.4	380	74	108
		○ BNF 3210A-3.5	33.75	26.4	1×3.5	34.8	78.6	440	74	108
		○ BNF 3210A-5	33.75	26.4	2×2.5	47.2	112.7	620	74	108
		DK 3210-3	33.75	26.4	3×1	25.7	52.2	300	54	87
		DK 3210-4	33.75	26.4	4×1	33	69.7	390	54	87
	12	○ BNF 3212-3.5	34	26.1	1×3.5	40.4	88.5	440	76	121
		DK 3212-4	33.75	26.4	4×1	34.2	73.9	420	54	87

Note) The model numbers in dimmed type indicate semi-standard types. If desiring them, contact THK.
Those models marked with ○ can be attached with QZ Lubricator or the wiper ring.
For dimensions of the ball screw nut with either accessory being attached, see B-778.



BNF

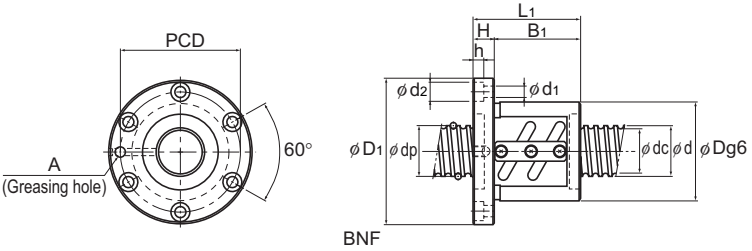
Unit: mm

Nut dimensions											Screw shaft inertial moment/mm	Nut mass	Shaft mass
	Overall length L_1	H	B_1	B_2	PCD	d_1	d_2	h	Tw	Greasing hole A	kg·cm²/mm	kg	kg/m
	60	11	49	—	67	6.6	11	6.5	—	M6	8.08×10^{-3}	0.81	5.86
	44	11	33	10	63	6.6	11	6.5	59	M6	8.08×10^{-3}	0.44	5.86
	48	11	37	10	63	6.6	11	6.5	59	M6	8.08×10^{-3}	0.47	5.86
	41	12	29	—	71	6.6	11	6.5	—	M6	8.08×10^{-3}	0.76	5.67
	53	12	41	—	71	6.6	11	6.5	—	M6	8.08×10^{-3}	0.91	5.67
	63	12	51	—	71	6.6	11	6.5	—	M6	8.08×10^{-3}	1.03	5.67
	56	12	44	—	71	6.6	11	6.5	—	M6	8.08×10^{-3}	0.94	5.67
	71	12	59	—	71	6.6	11	6.5	—	M6	8.08×10^{-3}	1.13	5.67
	47	12	35	10	63	6.6	11	6.5	59	M6	8.08×10^{-3}	0.5	5.67
	52	12	40	10	63	6.6	11	6.5	59	M6	8.08×10^{-3}	0.53	5.67
	62	12	50	10	63	6.6	11	6.5	59	M6	8.08×10^{-3}	0.6	5.67
	45	12	33	—	75	6.6	11	6.5	—	M6	8.08×10^{-3}	0.94	5.47
	57	12	45	—	75	6.6	11	6.5	—	M6	8.08×10^{-3}	1.12	5.47
	63	12	51	—	75	6.6	11	6.5	—	M6	8.08×10^{-3}	1.21	5.47
	53	12	41	10	63	6.6	11	6.5	59	M6	8.08×10^{-3}	0.58	6.31
	61	12	49	10	63	6.6	11	6.5	59	M6	8.08×10^{-3}	0.65	6.31
	58	15	43	—	82	9	14	8.5	—	M6	8.08×10^{-3}	1.5	5.39
	71	15	56	—	82	9	14	8.5	—	M6	8.08×10^{-3}	1.73	5.39
	87	15	72	—	82	9	14	8.5	—	M6	8.08×10^{-3}	2.02	5.39
	82	15	67	—	82	9	14	8.5	—	M6	8.08×10^{-3}	1.93	5.39
	70	15	55	—	90	9	14	8.5	—	M6	8.08×10^{-3}	2.2	4.98
	87	15	72	—	90	9	14	8.5	—	M6	8.08×10^{-3}	2.6	4.98
	80	15	65	—	90	9	14	8.5	—	M6	8.08×10^{-3}	2.44	4.98
	100	15	85	—	90	9	14	8.5	—	M6	8.08×10^{-3}	2.92	4.98
	80	15	65	15	69	9	14	8.5	66	M6	8.08×10^{-3}	1.22	4.98
	90	15	75	20	69	9	14	8.5	66	M6	8.08×10^{-3}	1.34	4.98
	98	18	80	—	98	11	17.5	11	—	M6	8.08×10^{-3}	3.4	4.9
	98	15	83	25	69	9	14	8.5	66	M6	8.08×10^{-3}	1.43	5.2

For model number coding, see B-718.

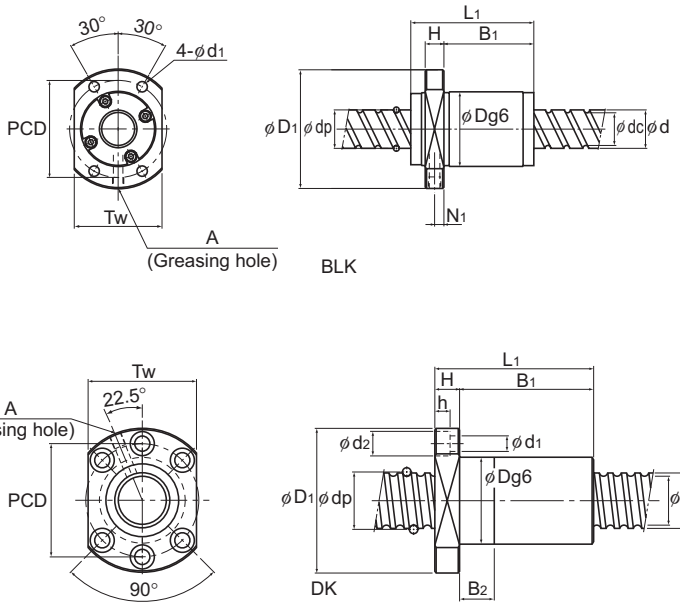
No Preload Type of Precision Ball Screw

Screw shaft outer diameter	32 to 36
Lead	6 to 36



Screw shaft outer diameter d	Lead Ph	Model No.	Ball center-to-center diameter dp	Thread minor diameter dc	No. of loaded circuits Rows x turns	Basic load rating Ca kN	Basic load rating C0a kN	Rigidity K N/μm	Outer diameter D	Flange diameter D1
32	32	BLK 3232-2.8	33.25	28.3	1×2.8	17.3	41.4	340	58	92
		BLK 3232-3.6	33.25	28.3	2×1.8	23.7	59.5	440	58	92
36	6	○ BNF 3606-2.5	36.75	33.2	1×2.5	10.7	31.8	310	65	100
		○ BNF 3606-3	36.75	33.2	2×1.5	12.5	38	370	65	100
		○ BNF 3606-5	36.75	33.2	2×2.5	19.4	63.4	610	65	100
		○ BNF 3606-7.5	36.75	33.2	3×2.5	27.5	95.2	890	65	100
	8	○ BNF 3608-2.5	37.25	31.6	1×2.5	18.8	47.5	330	70	114
		○ BNF 3608-5	37.25	31.6	2×2.5	34.1	95.1	650	70	114
		○ BNF 3608-7.5	37.25	31.6	3×2.5	48.3	142.1	950	70	114
	10	○ BNF 3610-2.5	37.75	30.5	1×2.5	27.6	63.3	350	75	120
		○ BNF 3610-5	37.75	30.5	2×2.5	50.1	126.4	680	75	120
		○ BNF 3610-7.5	37.75	30.5	3×2.5	71.1	190.1	990	75	120
		DK 3610-3	37.75	30.5	3×1	28.8	63.8	350	58	98
		DK 3610-4	37.75	30.5	4×1	36.8	85	470	58	98
	12	○ BNF 3612-2.5	38	30.1	1×2.5	32.1	71.4	350	78	123
		○ BNF 3612-5	38	30.1	2×2.5	58.4	142.1	690	78	123
	16	○ BNF 3616-2.5	38	30.1	1×2.5	32.1	71.4	350	78	123
	20	○ BNF 3620-1.5	37.75	30.5	1×1.5	17.6	38.3	220	70	103
		BLK 3620-5.6	37.75	31.2	2×2.8	54.9	134.3	760	70	110
	24	BLK 3624-5.6	38	30.7	2×2.8	63.8	151.9	770	75	115
	36	BLK 3636-2.8	37.4	31.7	1×2.8	22.4	54.1	390	66	106
		BLK 3636-3.6	37.4	31.7	2×1.8	30.8	78	490	66	106

Note) The model numbers in dimmed type indicate semi-standard types. If desiring them, contact THK.
Those models marked with ○ can be attached with QZ Lubricator or the wiper ring.
For dimensions of the ball screw nut with either accessory being attached, see B-778.
Large Lead Precision Ball Screw model BLK cannot be attached with seal.



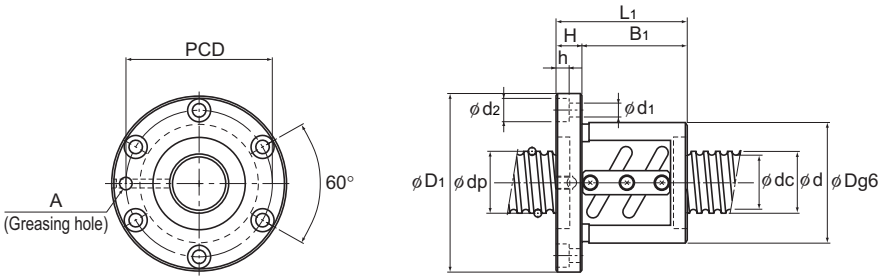
Unit: mm

Nut dimensions												Screw shaft inertial moment/mm	Nut mass	Shaft mass
	Overall length										Greasing hole			
	L_1	H	B_1	B_2	PCD	d_1	d_2	h	Tw	N_1	A	kg·cm²/mm	kg	kg/m
	102	15	77	—	74	9	—	—	68	7.5	M6	8.08×10^{-3}	1.78	5.83
	70	15	45	—	74	9	—	—	68	7.5	M6	8.08×10^{-3}	1.32	5.83
	53	15	38	—	82	9	14	8.5	—	—	M6	1.29×10^{-2}	1.29	7.39
	62	15	47	—	82	9	14	8.5	—	—	M6	1.29×10^{-2}	1.43	7.39
	71	15	56	—	82	9	14	8.5	—	—	M6	1.29×10^{-2}	1.57	7.39
	89	15	74	—	82	9	14	8.5	—	—	M6	1.29×10^{-2}	1.85	7.39
	68	18	50	—	92	11	17.5	11	—	—	M6	1.29×10^{-2}	2.11	6.96
	92	18	74	—	92	11	17.5	11	—	—	M6	1.29×10^{-2}	2.57	6.96
	116	18	98	—	92	11	17.5	11	—	—	M6	1.29×10^{-2}	3.03	6.96
	81	18	63	—	98	11	17.5	11	—	—	M6	1.29×10^{-2}	2.75	6.51
	111	18	93	—	98	11	17.5	11	—	—	M6	1.29×10^{-2}	3.45	6.51
	141	18	123	—	98	11	17.5	11	—	—	M6	1.29×10^{-2}	4.15	6.51
	82	18	64	15	77	11	17.5	11	75	—	M6	1.29×10^{-2}	1.52	6.51
	93	18	75	20	77	11	17.5	11	75	—	M6	1.29×10^{-2}	1.66	6.51
	87	18	69	—	100	11	17.5	11	—	—	M6	1.29×10^{-2}	3.14	6.41
	123	18	105	—	100	11	17.5	11	—	—	M6	1.29×10^{-2}	4.07	6.41
	92	18	74	—	100	11	17.5	11	—	—	M6	1.29×10^{-2}	3.27	6.8
	75	15	60	—	85	9	14	8.5	—	—	M6	1.29×10^{-2}	1.91	7.24
	78	17	45	—	90	11	—	—	80	8.5	M6	1.29×10^{-2}	2.23	6.49
	94	18	59	—	94	11	—	—	86	9	M6	1.29×10^{-2}	3.05	6.39
	113	17	86	—	85	11	—	—	76	8.5	M6	1.29×10^{-2}	2.61	7.34
	77	17	50	—	85	11	—	—	76	8.5	M6	1.29×10^{-2}	1.93	7.34

For model number coding, see B-718.

No Preload Type of Precision Ball Screw

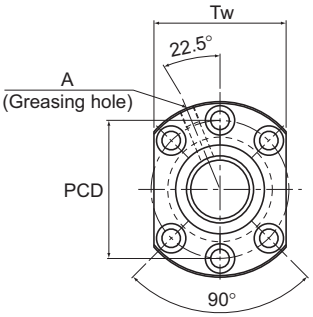
Screw shaft outer diameter	40
Lead	5 to 10

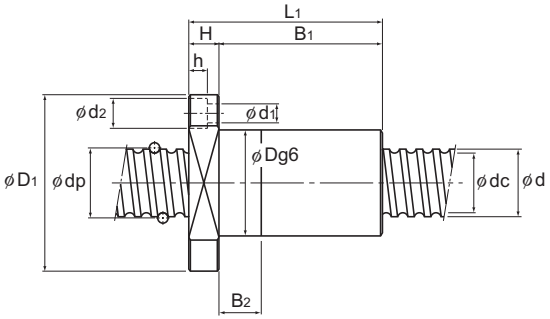


BNF

Screw shaft outer diameter d	Lead Ph	Model No.	Ball center-to-center diameter dp	Thread minor diameter dc	No. of loaded circuits Rows x turns	Basic load rating Ca kN	Basic load rating C0a kN	Rigidity K N/μm	Outer diameter D	Flange diameter D1
40	5	BNF 4005-3	40.75	37.2	2×1.5	13	42.3	400	67	101
		BNF 4005-4.5	40.75	37.2	3×1.5	18.5	63.5	600	67	101
		BNF 4005-6	40.75	37.2	4×1.5	23.7	84.7	780	67	101
	6	BNF 4006-2.5	41	36.4	1×2.5	15.3	44.1	350	70	104
		BNF 4006-5	41	36.4	2×2.5	27.7	88.1	690	70	104
		BNF 4006-7.5	41	36.4	3×2.5	39.2	132.3	1010	70	104
	8	BNF 4008-2.5	41.25	35.5	1×2.5	19.6	52.8	360	74	108
		BNF 4008-3	41.25	35.5	2×1.5	22.9	63.4	430	74	108
		BNF 4008-5	41.25	35.5	2×2.5	35.7	105.8	710	74	108
	10	BNF 4010-2.5	41.75	34.4	1×2.5	29	70.4	380	82	124
		BNF 4010-3	41.75	34.4	2×1.5	33.8	84.5	450	82	124
		BNF 4010-3.5	41.75	34.4	1×3.5	38.8	99	520	82	124
		BNF 4010-5	41.75	34.4	2×2.5	52.7	141.1	740	82	124
		DK 4010-3	41.75	34.4	3×1	29.8	69.3	380	62	104
		DK 4010-4	41.75	34.4	4×1	38.1	92.4	500	62	104

Note) The model numbers in dimmed type indicate semi-standard types. If desiring them, contact THK.
These models can be attached with QZ Lubricator or the wiper ring.
For dimensions of the ball screw nut with either accessory being attached, see B-778.





DK

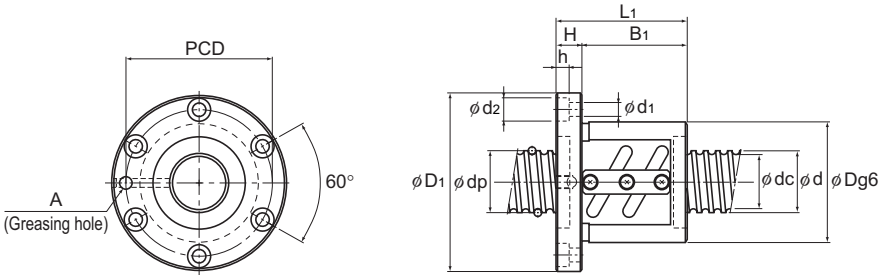
Unit: mm

Nut dimensions											Screw shaft inertial moment/mm	Nut mass	Shaft mass
	Overall length									Greasing hole			
	L_1	H	B_1	B_2	PCD	d_1	d_2	h	Tw	A	kg·cm²/mm	kg	kg/m
	56	15	41	—	83	9	14	8.5	—	M6	1.97×10^{-2}	1.31	9.06
	66	15	51	—	83	9	14	8.5	—	M6	1.97×10^{-2}	1.46	9.06
	81	15	66	—	83	9	14	8.5	—	M6	1.97×10^{-2}	1.69	9.06
	48	15	33	—	86	9	14	8.5	—	M6	1.97×10^{-2}	1.32	8.82
	66	15	51	—	86	9	14	8.5	—	M6	1.97×10^{-2}	1.63	8.82
	84	15	69	—	86	9	14	8.5	—	M6	1.97×10^{-2}	1.94	8.82
	58	15	43	—	90	9	14	8.5	—	M6	1.97×10^{-2}	1.7	8.72
	71	15	56	—	90	9	14	8.5	—	M6	1.97×10^{-2}	1.97	8.72
	82	15	67	—	90	9	14	8.5	—	M6	1.97×10^{-2}	2.19	8.72
	73	18	55	—	102	11	17.5	11	—	M6	1.97×10^{-2}	2.86	8.22
	90	18	72	—	102	11	17.5	11	—	M6	1.97×10^{-2}	3.33	8.22
	83	18	65	—	102	11	17.5	11	—	M6	1.97×10^{-2}	3.14	8.22
	103	18	85	—	102	11	17.5	11	—	M6	1.97×10^{-2}	3.69	8.22
	83	18	65	15	82	11	17.5	11	79	PT 1/8	1.97×10^{-2}	3.14	8.22
	93	18	75	20	82	11	17.5	11	79	PT 1/8	1.97×10^{-2}	3.41	8.22

For model number coding, see B-718.

No Preload Type of Precision Ball Screw

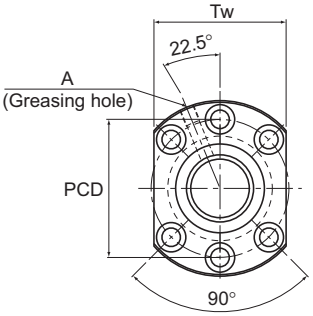
Screw shaft outer diameter	40
Lead	12 to 40

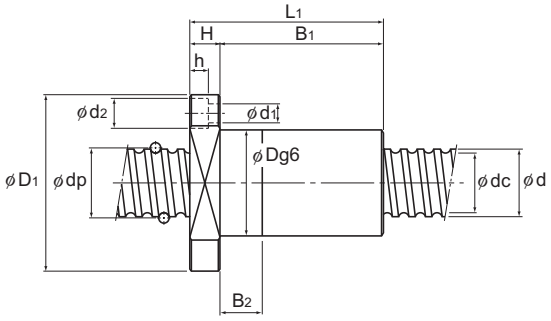


BNF

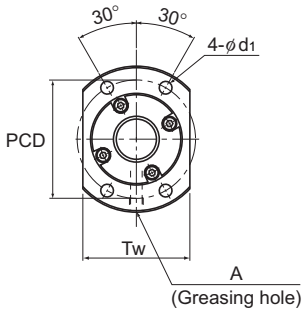
Screw shaft outer diameter d	Lead Ph	Model No.	Ball center-to-center diameter dp	Thread minor diameter dc	No. of loaded circuits Rows x turns	Basic load rating Ca kN	Basic load rating C0a kN	Rigidity K N/μm	Outer diameter D	Flange diameter D1
40	12	○ BNF 4012-2.5	42	34.1	1×2.5	33.9	79.2	390	84	126
		○ BNF 4012-3.5	42	34.1	1×3.5	45.4	110.7	530	84	126
		○ BNF 4012-5	42	34.1	2×2.5	61.6	158.3	750	84	126
		○ DK 4012-3	41.75	34.4	3×1	30.6	72.3	390	62	104
		○ DK 4012-4	41.75	34.4	4×1	39.2	96.4	520	62	104
	16	○ BNF 4016-5	42	34.1	2×2.5	61.4	158.8	740	84	126
		○ DK 4016-4	41.75	34.4	4×1	39.1	96.8	520	62	104
	20	○ DK 4020-3	41.75	34.7	3×1	29.4	69.3	750	62	104
	40	BLK 4040-2.8	41.75	35.2	1×2.8	28.2	68.9	430	73	114
		BLK 4040-3.6	41.75	35.2	2×1.8	38.7	99.2	550	73	114

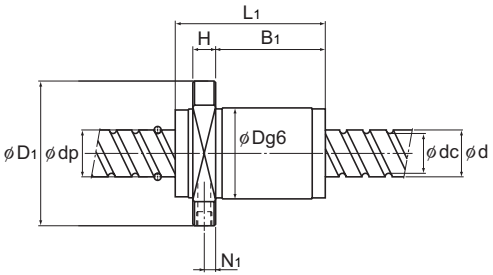
Note) The model numbers in dimmed type indicate semi-standard types. If desiring them, contact THK.
Those models marked with ○ can be attached with QZ Lubricator or the wiper ring.
For dimensions of the ball screw nut with either accessory being attached, see B-778.
Large Lead Precision Ball Screw model BLK cannot be attached with seal.





DK





BLK

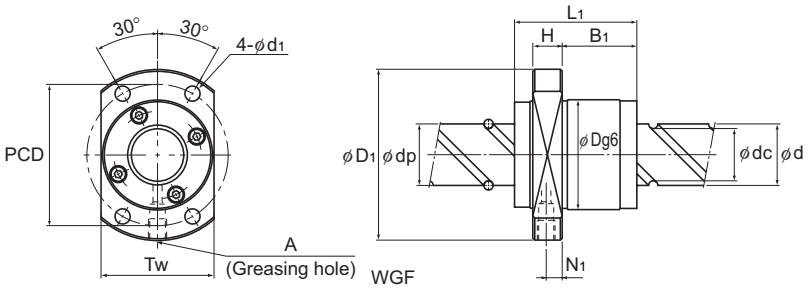
Unit: mm

Nut dimensions												Screw shaft inertial moment/mm	Nut mass	Shaft mass
	Overall length L_1	H	B_1	B_2	PCD	d_1	d_2	h	Tw	N_1	Greasing hole A	kg·cm²/mm	kg	kg/m
	83	18	65	—	104	11	17.5	11	—	—	M6	1.97×10^{-2}	3.31	8.12
	95	18	77	—	104	11	17.5	11	—	—	M6	1.97×10^{-2}	3.66	8.12
	119	18	101	—	104	11	17.5	11	—	—	M6	1.97×10^{-2}	4.36	8.12
	90	18	72	20	82	11	17.5	11	79	—	PT 1/8	1.97×10^{-2}	1.77	8.5
	103	18	85	25	82	11	17.5	11	79	—	PT 1/8	1.97×10^{-2}	1.95	8.5
	152	22	130	—	104	11	17.5	11	—	—	M6	1.97×10^{-2}	5.52	8.55
	120	18	102	30	82	11	17.5	11	79	—	PT 1/8	1.97×10^{-2}	2.19	8.83
	123	18	105	30	82	11	17.5	11	79	—	PT 1/8	1.97×10^{-2}	2.23	9.03
	125	17	96.5	—	93	11	—	—	84	8.5	M6	1.97×10^{-2}	3.4	9.01
	85	17	56.5	—	93	11	—	—	84	8.5	M6	1.97×10^{-2}	2.48	9.01

For model number coding, see B-718.

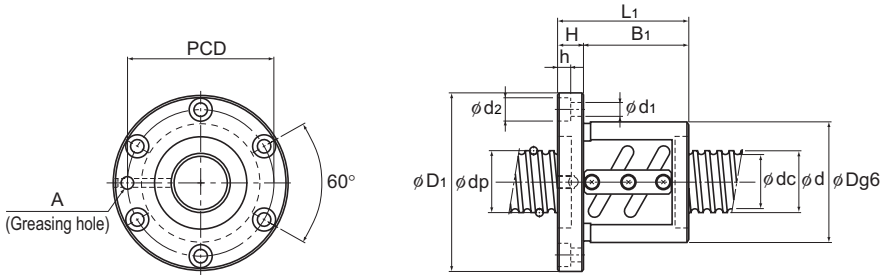
No Preload Type of Precision Ball Screw

Screw shaft outer diameter	40 to 45
Lead	6 to 80



Screw shaft outer diameter d	Lead Ph	Model No.	Ball center-to-center diameter dp	Thread minor diameter dc	No. of loaded circuits Rows x turns	Basic load rating Ca kN	Basic load rating C0a kN	Rigidity K N/μm	Outer diameter D	Flange diameter D1
40	80	WGF 4080-1	41.75	35.2	2×0.65	15	32.1	220	73	114
		WGF 4080-3	41.75	35.2	2×1.65	33.4	81.4	530	73	114
45	6	BNF 4506A-2.5	46	41.4	1×2.5	16	49.6	390	80	114
		BNF 4506A-5	46	41.4	2×2.5	29	99	750	80	114
		BNF 4506A-7.5	46	41.4	3×2.5	41.2	150	1100	80	114
	8	BNF 4508-2.5	46.25	40.6	1×2.5	20.7	59.5	400	85	127
		BNF 4508-5	46.25	40.6	2×2.5	37.4	118.6	770	85	127
		BNF 4508-7.5	46.25	40.6	3×2.5	53.1	178.4	1140	85	127
	10	BNF 4510-2.5	46.75	39.5	1×2.5	30.7	79.3	420	88	132
		BNF 4510-3	46.75	39.5	2×1.5	35.9	95.2	500	88	132
		BNF 4510-5	46.75	39.5	2×2.5	55.6	158.8	800	88	132
		BNF 4510-7.5	46.75	39.5	3×2.5	78.8	238.1	1190	88	132
	12	BNF 4512-5	47	39.2	2×2.5	65.2	178.4	820	90	130
	20	BNF 4520-1.5	47.7	37.9	1×1.5	44.2	99	350	98	142

Note) The model numbers in dimmed type indicate semi-standard types.
If desiring them, contact THK.
Model WGF cannot be attached with seal.



BNF

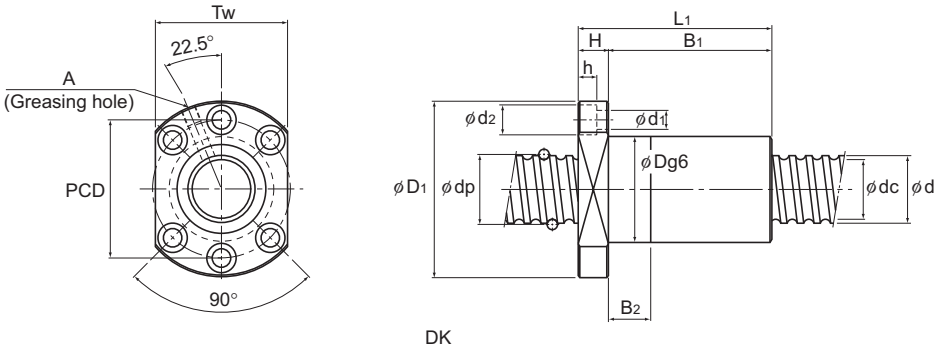
Unit: mm

Nut dimensions											Screw shaft inertia moment/mm	Nut mass	Shaft mass
	Overall length L_1	H	B_1	PCD	d_1	d_2	h	Tw	N_1	Greasing hole A	kg·cm²/mm	kg	kg/m
	79	17	50.5	93	11	—	—	74	8.5	M6	1.97×10^{-2}	2.34	9.38
	159	17	130.5	93	11	—	—	74	8.5	M6	1.97×10^{-2}	4.18	9.38
	53	15	38	96	9	14	8.5	—	—	PT 1/8	3.16×10^{-2}	1.76	11.31
	71	15	56	96	9	14	8.5	—	—	PT 1/8	3.16×10^{-2}	2.18	11.31
	89	15	74	96	9	14	8.5	—	—	PT 1/8	3.16×10^{-2}	2.59	11.31
	68	18	50	105	11	17.5	11	—	—	PT 1/8	3.16×10^{-2}	2.76	11.21
	92	18	74	105	11	17.5	11	—	—	PT 1/8	3.16×10^{-2}	3.42	11.21
	116	18	98	105	11	17.5	11	—	—	PT 1/8	3.16×10^{-2}	4.09	11.21
	81	18	63	110	11	17.5	11	—	—	PT 1/8	3.16×10^{-2}	3.43	10.65
	94	18	76	110	11	17.5	11	—	—	PT 1/8	3.16×10^{-2}	3.83	10.65
	111	18	93	110	11	17.5	11	—	—	PT 1/8	3.16×10^{-2}	4.35	10.65
	141	18	123	110	11	17.5	11	—	—	PT 1/8	3.16×10^{-2}	5.26	10.65
	119	18	101	110	11	17.5	11	—	—	PT 1/8	3.16×10^{-2}	4.74	10.54
	95	20	75	120	11	17.5	11	—	—	PT 1/8	3.16×10^{-2}	5.04	10.37

For model number coding, see B-718.

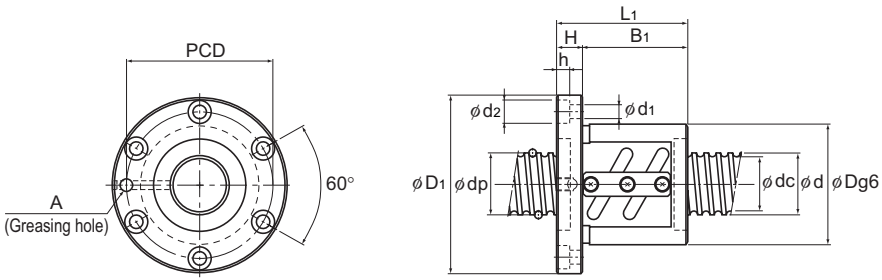
No Preload Type of Precision Ball Screw

Screw shaft outer diameter	50
Lead	5 to 10



Screw shaft outer diameter d	Lead Ph	Model No.	Ball center-to-center diameter dp	Thread minor diameter dc	No. of loaded circuits Rows x turns	Basic load rating Ca kN	Basic load rating C0a kN	Rigidity K N/μm	Outer diameter D	Flange diameter D1
50	5	○ BNF 5005-4.5	50.75	47.2	3×1.5	20.2	79.5	710	80	114
	8	○ BNF 5008-2.5	51.25	45.5	1×2.5	21.6	66.2	430	87	129
		○ BNF 5008-5	51.25	45.5	2×2.5	39.1	132.3	840	87	129
		○ BNF 5008-7.5	51.25	45.5	3×2.5	55.4	198.9	1230	87	129
	10	○ BNF 5010-2.5	51.75	44.4	1×2.5	32	88.2	450	93	135
		○ BNF 5010-3	51.75	44.4	2×1.5	37.5	105.8	540	93	135
		○ BNF 5010-3.5	51.75	44.4	1×3.5	42.8	123.5	620	93	135
		○ BNF 5010-5	51.75	44.4	2×2.5	58.2	176.4	880	93	135
		○ BNF 5010-7.5	51.75	44.4	3×2.5	82.5	264.6	1290	93	135
		DK 5010-3	51.75	44.4	3×1	33.9	90.7	470	72	123
		DK 5010-4	51.75	44.4	4×1	43.4	120.5	610	72	123
		DK 5010-6	51.75	44.4	6×1	62.7	186.8	930	72	123

Note) The model numbers in dimmed type indicate semi-standard types.
If desiring them, contact THK.
Those models marked with ○ can be attached with QZ Lubricator or the wiper ring.
For dimensions of the ball screw nut with either accessory being attached, see B-778.



BNF

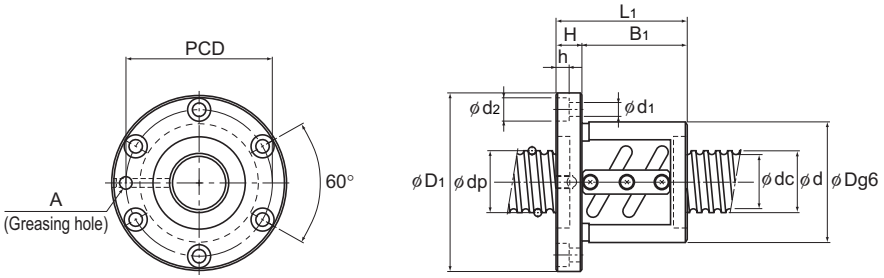
Unit: mm

Nut dimensions											Screw shaft inertial moment/mm	Nut mass	Shaft mass
	Overall length L_1	H	B_1	B_2	PCD	d_1	d_2	h	Tw	Greasing hole A	kg·cm²/mm	kg	kg/m
	68	15	53	—	96	9	14	8.5	—	PT 1/8	4.82×10^{-2}	1.91	14.4
	61	18	43	—	107	11	17.5	11	—	PT 1/8	4.82×10^{-2}	2.52	14.0
	85	18	67	—	107	11	17.5	11	—	PT 1/8	4.82×10^{-2}	3.16	14.0
	109	18	91	—	107	11	17.5	11	—	PT 1/8	4.82×10^{-2}	3.8	14.0
	73	18	55	—	113	11	17.5	11	—	PT 1/8	4.82×10^{-2}	3.33	13.38
	90	18	72	—	113	11	17.5	11	—	PT 1/8	4.82×10^{-2}	3.88	13.38
	83	18	65	—	113	11	17.5	11	—	PT 1/8	4.82×10^{-2}	3.66	13.38
	103	18	85	—	113	11	17.5	11	—	PT 1/8	4.82×10^{-2}	4.31	13.38
	133	18	115	—	113	11	17.5	11	—	PT 1/8	4.82×10^{-2}	5.28	13.38
	83	18	65	15	101	11	17.5	11	92	PT 1/8	4.82×10^{-2}	2.14	13.38
	93	18	75	20	101	11	17.5	11	92	PT 1/8	4.82×10^{-2}	2.3	13.38
	114	18	96	30	101	11	17.5	11	92	PT 1/8	4.82×10^{-2}	2.65	13.38

For model number coding, see B-718.

No Preload Type of Precision Ball Screw

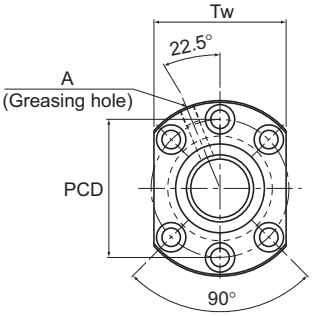
Screw shaft outer diameter	50
Lead	12 to 50

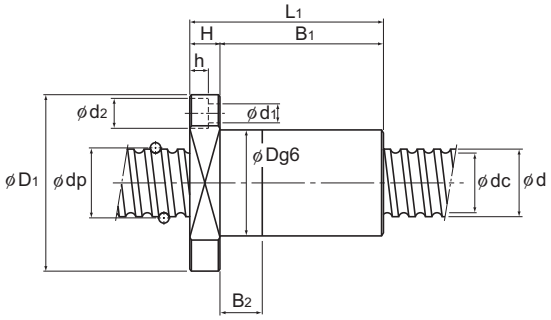


BNF

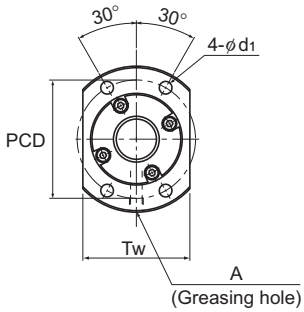
Screw shaft outer diameter d	Lead Ph	Model No.	Ball center-to-center diameter dp	Thread minor diameter dc	No. of loaded circuits Rows x turns	Basic load rating Ca kN	Basic load rating C0a kN	Rigidity K N/μm	Outer diameter D	Flange diameter D1
50	12	DK 5012-3	52.25	43.3	3×1	45.8	113	490	75	129
		DK 5012-4	52.25	43.3	4×1	58.6	150.6	640	75	129
		○ BNF 5012-2.5	52.25	43.3	1×2.5	43.4	109.8	470	100	146
		○ BNF 5012-3.5	52.25	43.3	1×3.5	58	153.9	640	100	146
		○ BNF 5012-5	52.25	43.3	2×2.5	78.8	220.5	910	100	146
	16	DK 5016-3	52.25	43.3	3×1	45.7	113.3	490	75	129
		DK 5016-4	52.25	43.3	4×1	58.5	151	640	75	129
		○ BNF 5016-2.5	52.7	42.9	1×2.5	72.6	183.3	620	105	152
		○ BNF 5016-5	52.7	42.9	2×2.5	132.3	366.5	1180	105	152
	20	DK 5020-3	52.25	43.6	3×1	44.2	108.8	470	75	129
		○ BNF 5020-2.5	52.7	42.9	1×2.5	72.5	183.3	620	105	152
	50	BLK 5050-2.8	52.2	44.1	1×2.8	42.2	107.8	530	90	135
		BLK 5050-3.6	52.2	44.1	2×1.8	57.8	155	670	90	135

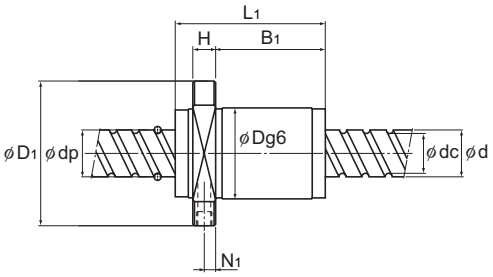
Note) The model numbers in dimmed type indicate semi-standard types. If desiring them, contact THK.
Those models marked with ○ can be attached with QZ Lubricator or the wiper ring.
For dimensions of the ball screw nut with either accessory being attached, see B-778.
Large Lead Precision Ball Screw model BLK cannot be attached with seal.





DK





BLK

Unit: mm

Nut dimensions												Screw shaft inertial moment/mm	Nut mass	Shaft mass
	Overall length										Greasing hole			
	L_1	H	B_1	B_2	PCD	d_1	d_2	h	Tw	N_1	A	kg·cm²/mm	kg	kg/m
	97	22	75	20	105	14	20	13	98	—	PT 1/8	4.82×10^{-2}	2.91	12.74
	110	22	88	25	105	14	20	13	98	—	PT 1/8	4.82×10^{-2}	3.16	12.74
	87	22	65	—	122	14	20	13	—	—	PT 1/8	4.82×10^{-2}	4.57	12.74
	99	22	77	—	122	14	20	13	—	—	PT 1/8	4.82×10^{-2}	5.05	12.74
	123	22	101	—	122	14	20	13	—	—	PT 1/8	4.82×10^{-2}	6.02	12.74
	111	22	89	25	105	14	20	13	98	—	PT 1/8	4.82×10^{-2}	3.18	13.41
	129	22	107	30	105	14	20	13	98	—	PT 1/8	4.82×10^{-2}	3.52	13.41
	116	25	91	—	128	14	20	13	—	—	PT 1/8	4.82×10^{-2}	6.98	12.5
	164	25	139	—	128	14	20	13	—	—	PT 1/8	4.82×10^{-2}	9.18	12.5
	136	28	108	30	105	14	20	13	98	—	PT 1/8	4.82×10^{-2}	3.94	13.8
	141	28	113	—	128	14	20	13	—	—	PT 1/8	4.82×10^{-2}	8.32	13.08
	156	20	122	—	112	14	—	—	104	10	M6	4.82×10^{-2}	6.18	14.08
	106	20	72	—	112	14	—	—	104	10	M6	4.82×10^{-2}	4.45	14.08

For model number coding, see B-718.

Rolled Ball Screw

Models JPF, BTK, MTF, BLK/WTF, CNF and BNT

Structure and Features

THK Rolled Ball Screws are low priced feed screws that use a screw shaft rolled with high accuracy and specially surface-ground, instead of a thread-ground shaft used in the Precision Ball Screws.
The ball raceways of the ball screw nut are all thread-ground, thus to achieve a smaller axial clearance and smoother motion than the conventional rolled ball screw.
In addition, a wide array of types are offered as standard in order to allow optimal products to be selected according to the application.

[Achieves Lead Angle Accuracy of Class C7]
Screw shafts with travel distance error of classes C7 and C8 are also manufactured as the standard in addition to class C10 to meet a broad range of applications.
Travel distance C7: ±0.05/300 (mm)
C8: ±0.10/300 (mm)
C10: ±0.21/300 (mm)
(For maximum length of screw shaft by accuracy grade, see A-691.)

[Achieves Roughness of the Ball Raceways of the Screw Shaft at 0.20 a or Less]
The surface of the screw shaft's ball raceways is specially ground after the shaft is rolled to ensure surface roughness of 0.20 a or less, which is equal to that of the ground thread of the Precision Ball Screw.

[The Ball Raceways of the Ball Screw Nut are All Finished by Grinding]
THK finishes the ball raceways of Rolled Ball Screw nuts by grinding, just as the Precision Ball Screws, to secure the durability and the smooth motion.

[Low Price]
The screw shaft is induction-hardened or carburized after being rolled, and its surface is then specially ground. This allows the rolled Ball Screw to be priced lower than the Precision Ball Screw with a ground thread.

[High Dust-prevention Effect]
The ball screw nut is incorporated with a compact labyrinth seal or a brush seal. This achieves a low friction, a high dust-prevention effect and a longer service life of the Ball Screw.

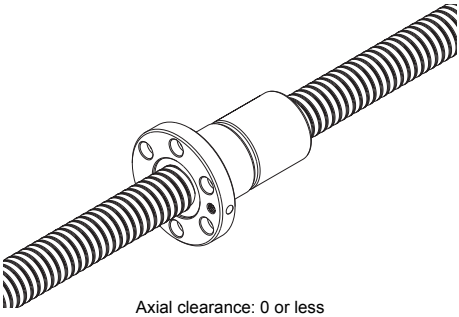
Types and Features

[Preload Type]

Model JPF

Specification Table⇒B-736

This model achieves a zero-backlash through a constant preloading method by shifting the phase with the central part of a simple nut as the spring structure.
The constant preload method allows the ball screw to absorb a pitch error and achieve a smooth motion.



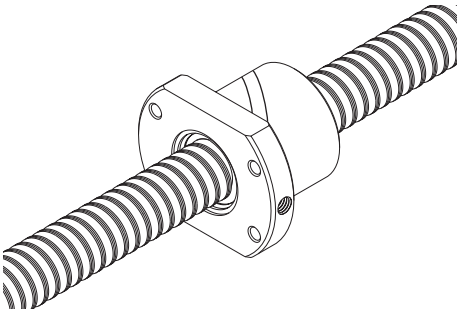
Axial clearance: 0 or less

[No Preload Type]

Model BTK

Specification Table⇒B-738

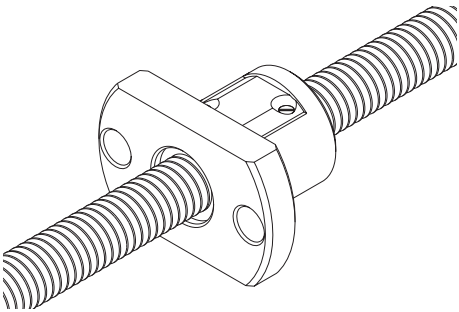
A compact type with a round nut incorporated with a return pipe. The flange circumference is cut flat at the top and bottom, allowing the shaft center to be positioned lower.



Model MTF

Specification Table⇒B-738

A miniature type with a screw shaft diameter of ϕ6 to ϕ12 mm and a lead of 1 to 2 mm.



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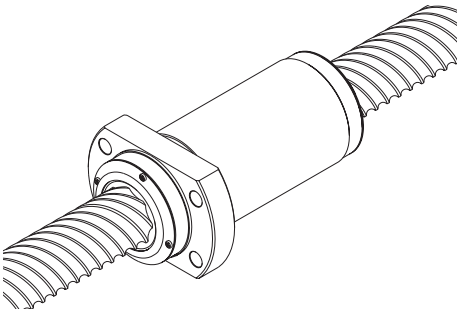
Models BLK/WTF

Specification Table⇒B-738

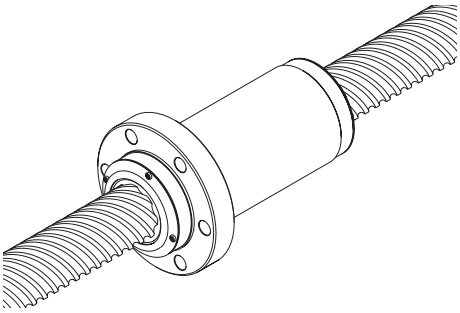
Using an end-cap method, these models achieve stable motion in a high-speed rotation.



Model CNF

Specification Table⇒B-738

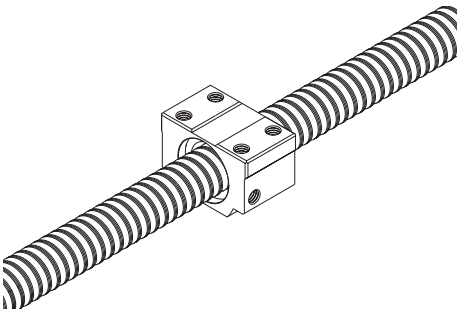
With a combination of 4 rows of large-lead loaded grooves and a long nut, a long service life is achieved.



Square Ball Screw Nut Model BNT

Specification Table⇒B-744

Since the mounting screw holes are machined on the square ball screw nut, this model can compactly be mounted on the machine without a housing.



Service Life

For details,see A-704.

Axial Clearance

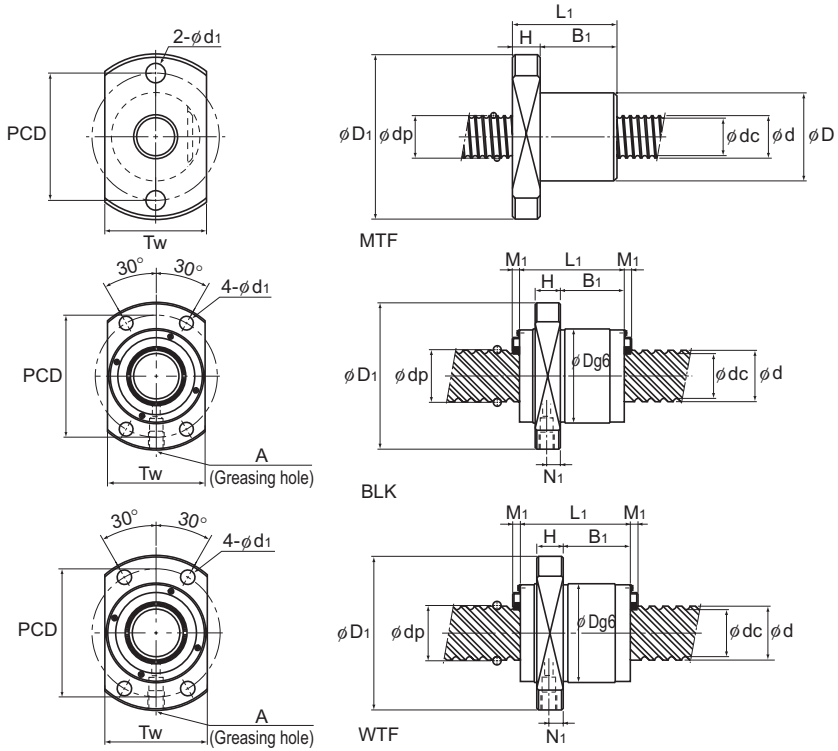
For details,see A-685.

Accuracy Standards

For details,see A-678.

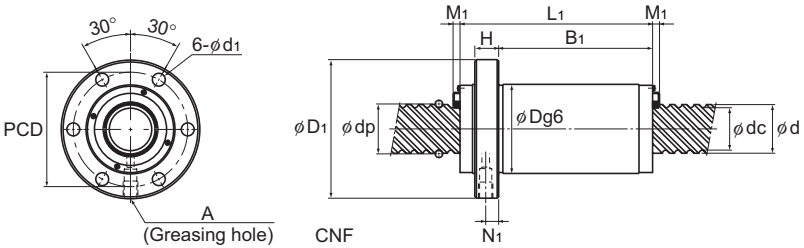
No Preload Type of Rolled Ball Screw

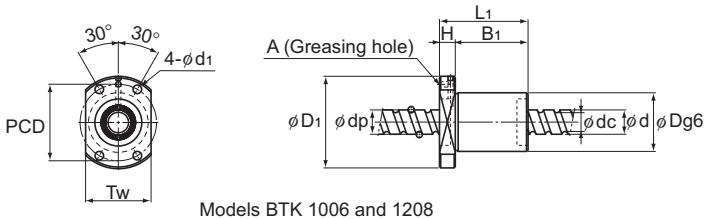
Screw shaft outer diameter	6 to 16
Lead	1 to 30



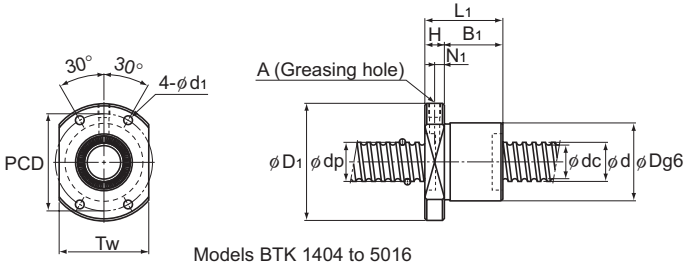
Screw shaft outer diameter d	Lead Ph	Model No.	Ball center-to-center diameter dp	Thread minor diameter dc	No. of loaded circuits Rows x turns	Basic load rating Ca kN	Basic load rating C0a kN	Rigidity K N/µm	Outer diameter D	Flange diameter D1
6	1	MTF 0601-3.7	6.15	5.3	1×3.7	0.7	1.2	70	13	30
8	2	MTF 0802-3.7	8.3	6.6	1×3.7	2.1	3.8	90	20	40
10	2	MTF 1002-3.7	10.3	8.6	1×3.7	2.3	4.8	110	23	43
	6	BTK 1006-2.6	10.5	7.8	1×2.65	2.8	4.9	88	26	42
12	2	MTF 1202-3.7	12.3	10.6	1×3.7	2.5	5.8	130	25	47
	8	BTK 1208-2.6	12.65	9.7	1×2.65	3.8	6.8	108	29	45
14	4	BTK 1404-3.6	14.4	11.5	1×3.65	5.5	11.5	150	31	50
	5	BTK 1405-2.6	14.5	11.2	1×2.65	5	11.4	116	32	50
15	10	BLK 1510-5.6	15.75	12.5	2×2.8	9.8	25.2	260	34	57
	20	WTF 1520-3	15.75	12.5	2×1.5	5.5	14.2	140	32	53
		WTF 1520-6	15.75	12.5	4×1.5	10.1	28.5	280	32	53
	30	WTF 1530-2	15.75	12.5	4×0.6	4.3	9.3	120	32	53
		WTF 1530-3	15.75	12.5	2×1.6	5.6	12.4	160	32	53
		CNF 1530-6	15.75	12.5	4×1.6	10.1	24.7	310	32	53
16	5	BTK 1605-2.6	16.75	13.5	1×2.65	5.4	13.3	130	34	54
	16	BLK 1616-3.6	16.65	13.7	2×1.8	5.8	12.9	170	32	53
		BLK 1616-7.2	16.65	13.7	4×1.8	10.5	25.9	340	32	53

Note) Model MTF cannot be attached with seal.





Models BTK 1006 and 1208



Models BTK 1404 to 5016

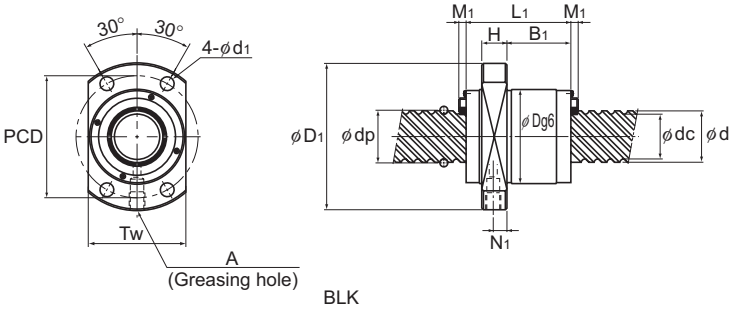
Unit: mm

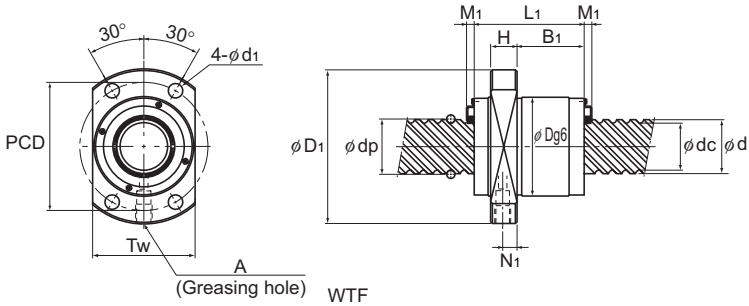
Nut dimensions									Axial clearance	Standard shaft length	Screw shaft inertial moment/mm	Nut mass	Shaft mass
	Overall length						Greasing hole		Seal					
	L_1	H	B_1	PCD	d_1	T_w	N_1	A	M_1			kg•cm²/mm	kg	kg/m
	21	5	16	21.5	3.4	17	—	—	—	0.05	150, 250	9.99×10^{-6}	0.03	0.19
	28	6	22	30	4.5	24	—	—	—	0.05		3.16×10^{-5}	0.08	0.31
	28	6	22	33	4.5	27	—	—	—	0.05	200, 300	7.71×10^{-5}	0.1	0.52
	36	8	28	34	4.5	29	—	3	—	0.05		7.71×10^{-5}	0.19	0.48
	30	8	22	36	5.5	29	—	—	—	0.05		1.6×10^{-4}	0.13	0.77
	44	8	36	37	4.5	32	—	3	—	0.05		1.6×10^{-4}	0.20	0.72
	40	10	30	40	4.5	37	5	M6	—	0.1	500, 1000	2.96×10^{-4}	0.23	1.0
	40	10	30	40	4.5	38	5	M6	—	0.1		2.96×10^{-4}	0.24	0.99
	44	10	24	45	5.5	40	5	M6	3.5	0.1		3.9×10^{-4}	0.26	1.16
	45	10	28	43	5.5	33	5	M6	3.5	0.1		3.9×10^{-4}	0.20	1.17
	45	10	28	43	5.5	33	5	M6	3.5	0.1		3.9×10^{-4}	0.20	1.17
	33	10	17	43	5.5	33	5	M6	3.5	0.1		3.9×10^{-4}	0.22	1.19
	63	10	47	43	5.5	33	5	M6	3.5	0.1		3.9×10^{-4}	0.4	1.19
	63	10	47	43	5.5	—	5	M6	3.5	0.1		3.9×10^{-4}	0.42	1.19
	40	10	30	44	4.5	40	5	M6	—	0.1		5.05×10^{-4}	0.27	1.34
	38	10	21.5	42	4.5	38	5	M6	3.5	0.1		5.05×10^{-4}	0.21	1.35
	38	10	21.5	42	4.5	38	5	M6	3.5	0.1		5.05×10^{-4}	0.25	1.35

Description of Each Option⇒A-815 Dimensions⇒B-777

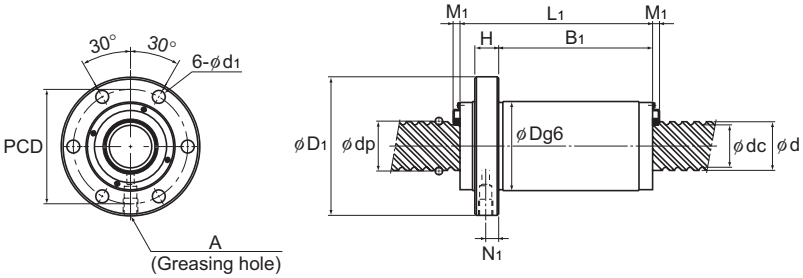
No Preload Type of Rolled Ball Screw

Screw shaft outer diameter	18 to 30
Lead	5 to 60

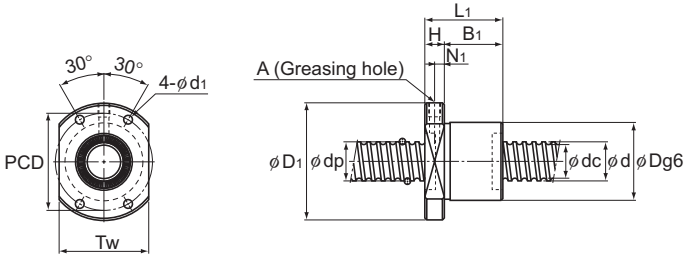




Screw shaft outer diameter d	Lead Ph	Model No.	Ball center-to-center diameter dp	Thread minor diameter dc	No. of loaded circuits Rows x turns	Basic load rating Ca kN	Basic load rating C0a kN	Rigidity K N/μm	Outer diameter D	Flange diameter D1
18	8	BTK 1808-3.6	19.3	14.4	1×3.65	13.1	31	210	50	80
20	5	BTK 2005-2.6	20.5	17.2	1×2.65	6	16.5	150	40	60
	10	BTK 2010-2.6	21.25	16.4	1×2.65	10.6	25.1	160	52	82
	20	BLK 2020-3.6	20.75	17.5	2×1.8	7.7	22.3	210	39	62
		BLK 2020-7.2	20.75	17.5	4×1.8	13.9	44.6	410	39	62
	40	WTF 2040-2	20.75	17.5	4×0.65	5.4	13.6	160	37	57
		WTF 2040-3	20.75	17.5	2×1.65	6.6	17.2	200	37	57
		CNF 2040-6	20.75	17.5	4×1.65	12	34.4	400	37	57
25	5	BTK 2505-2.6	25.5	22.2	1×2.65	6.7	20.8	180	43	67
	10	BTK 2510-5.3	26.8	20.2	2×2.65	31.2	83.7	400	60	96
	25	BLK 2525-3.6	26	22	2×1.8	12.1	35	270	47	74
		BLK 2525-7.2	26	22	4×1.8	21.9	69.9	520	47	74
	50	WTF 2550-2	26	21.9	4×0.65	8.5	21.2	200	45	69
		WTF 2550-3	26	21.9	2×1.65	10.4	26.9	260	45	69
		CNF 2550-6	26	21.9	4×1.65	18.9	53.9	460	45	69
28	6	BTK 2806-2.6	28.5	25.2	1×2.65	7	23.4	200	50	80
		BTK 2806-5.3	28.5	25.2	2×2.65	12.8	46.8	390	50	80
30	60	WTF 3060-2	31.25	26.4	4×0.65	11.8	30.6	240	55	89
		WTF 3060-3	31.25	26.4	2×1.65	14.5	38.9	310	55	89
		CNF 3060-6	31.25	26.4	4×1.65	26.2	77.7	600	55	89



CNF



Models BTK 1404 to 5016

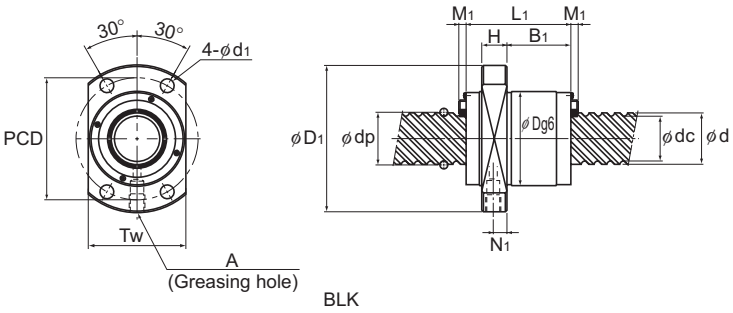
Unit: mm

Nut dimensions									Axial clearance	Standard shaft length	Screw shaft inertial moment/mm	Nut mass	Shaft mass
	Overall length					Greasing hole		Seal					
	L_1	H	B_1	PCD	d_1	T_w	N_1	A	M_1			kg•cm²/mm	kg	kg/m
	61	12	49	65	6.6	60	5	M6	—	0.1	500, 1000	8.09×10^{-4}	0.98	1.71
	40	10	30	50	4.5	46	5	M6	—	0.1	500, 1000, 1500	1.23×10^{-3}	0.35	2.15
	61	12	49	67	6.6	64	5	M6	—	0.1		1.23×10^{-3}	1.08	2.16
	45	10	27.5	50	5.5	46	5	M6	3.5	0.1		1.23×10^{-3}	0.35	2.18
	45	10	27.5	50	5.5	46	5	M6	3.5	0.1		1.23×10^{-3}	0.35	2.18
	41.5	10	25.5	47	5.5	38	5.5	M6	3.5	0.1		1.23×10^{-3}	0.25	2.12
	81.5	10	65.5	47	5.5	38	5.5	M6	3.5	0.1		1.23×10^{-3}	0.5	2.12
	81	10	65	47	5.5	—	5.5	M6	3.5	0.1		1.23×10^{-3}	0.5	2.12
	40	10	30	55	5.5	50	5	M6	—	0.1		3.01×10^{-3}	0.37	3.45
	98	15	83	78	9	72	5	M6	—	0.1		3.01×10^{-3}	2.06	3.26
	55	12	35	60	6.6	56	6	M6	3.5	0.1	1000, 1500, 2000	3.01×10^{-3}	0.64	3.41
	55	12	35	60	6.6	56	6	M6	3.5	0.1		3.01×10^{-3}	0.64	3.41
	52	12	31.5	57	6.6	46	7	M6	3.5	0.1		3.01×10^{-3}	0.45	3.34
	102	12	81.5	57	6.6	46	7	M6	3.5	0.1		3.01×10^{-3}	0.85	3.34
	102	12	81.5	57	6.6	—	7	M6	3.5	0.1		3.01×10^{-3}	0.85	3.34
	47	12	35	65	6.6	60	6	M6	—	0.1	500, 1000, 2000, 2500	4.74×10^{-3}	0.66	4.44
	65	12	53	65	6.6	60	6	M6	—	0.1		4.74×10^{-3}	0.84	4.44
	62.5	15	37.5	71	9	56	9	M6	3.8	0.14	1000, 2000, 3000, 4000	6.24×10^{-3}	0.8	4.84
	122.5	15	97.5	71	9	56	9	M6	3.8	0.14		6.24×10^{-3}	1.7	4.84
	122	15	97	71	9	—	9	M6	3.8	0.14		6.24×10^{-3}	1.7	4.84

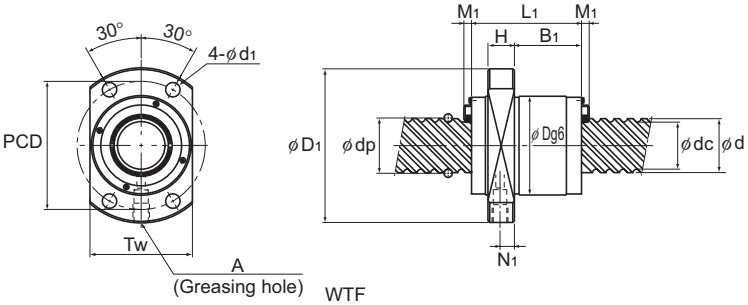
Description of Each Option⇒A-815 Dimensions⇒B-777

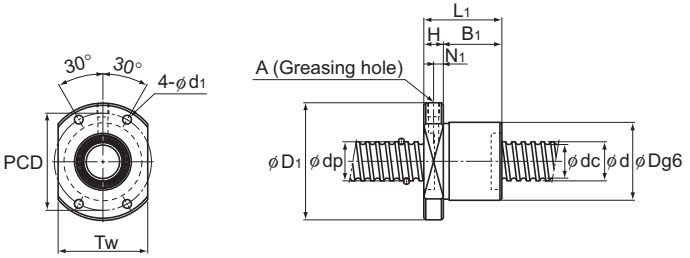
No Preload Type of Rolled Ball Screw

Screw shaft outer diameter	32 to 50
Lead	10 to 100



Screw shaft outer diameter d	Lead Ph	Model No.	Ball center-to-center diameter dp	Thread minor diameter dc	No. of loaded circuits Rows x turns	Basic load rating Ca kN	Basic load rating C0a kN	Rigidity K N/μm	Outer diameter D	Flange diameter D1
32	10	BTK 3210-2.6	33.75	27.2	1×2.65	19.8	53.8	250	67	103
		BTK 3210-5.3	33.75	27.2	2×2.65	36	107.5	490	67	103
	32	BLK 3232-3.6	33.25	28.3	2×1.8	17.3	53.9	330	58	92
		BLK 3232-7.2	33.25	28.3	4×1.8	31.3	107.8	650	58	92
36	10	BTK 3610-2.6	37	30.5	1×2.65	20.8	59.8	270	70	110
		BTK 3610-5.3	37	30.5	2×2.65	37.8	118.7	530	70	110
	20	BLK 3620-5.6	37.75	31.2	2×2.8	39.8	121.7	570	70	110
	24	BLK 3624-5.6	38	30.7	2×2.8	46.2	137.4	590	75	115
	36	BLK 3636-3.6	37.4	31.7	2×1.8	22.4	70.5	370	66	106
		BLK 3636-7.2	37.4	31.7	4×1.8	40.6	141.1	730	66	106
40	10	BTK 4010-5.3	41.75	35.2	2×2.65	40.3	134.9	590	76	116
	40	BLK 4040-3.6	41.75	35.2	2×1.8	28.1	89.8	420	73	114
		BLK 4040-7.2	41.75	35.2	4×1.8	51.1	179.6	810	73	114
	80	WTF 4080-2	41.75	35.2	4×0.65	19.8	54.5	320	73	114
		WTF 4080-3	41.75	35.2	2×1.65	24.3	69.2	400	73	114
45	12	BTK 4512-5.3	46.5	39.2	2×2.65	49.5	169	650	82	128
50	16	BTK 5016-5.3	52.7	42.9	2×2.65	93.8	315.2	930	102	162
	50	BLK 5050-3.6	52.2	44.1	2×1.8	42.1	140.4	510	90	135
		BLK 5050-7.2	52.2	44.1	4×1.8	76.3	280.7	1000	90	135
	100	WTF 50100-2	52.2	44.1	4×0.65	29.6	85.2	390	90	135
		WTF 50100-3	52.2	44.1	2×1.65	36.3	108.1	500	90	135





Models BTK 1404 to 5016

Unit: mm

Nut dimensions									Axial clearance	Standard shaft length	Screw shaft inertial moment/mm	Nut mass	Shaft mass
	Overall length					Greasing hole		Seal					
	L_1	H	B_1	PCD	d_1	T_w	N_1	A	M_1					
	68	15	53	85	9	78	5	M6	—	0.14	500, 1000, 2000, 2500	8.08×10^{-3}	1.77	5.49
	98	15	83	85	9	78	5	M6	—	0.14		8.08×10^{-3}	2.35	5.49
	70	15	45	74	9	68	7.5	M6	3.8	0.14	1000, 1500, 2000, 2500	8.08×10^{-3}	1.14	5.69
	70	15	45	74	9	68	7.5	M6	3.8	0.14		8.08×10^{-3}	1.14	5.69
	70	17	53	90	11	82	7	M6	—	0.17	500, 1000, 2000, 2500, 3000	1.29×10^{-2}	1.94	6.91
	100	17	83	90	11	82	7	M6	—	0.17		1.29×10^{-2}	2.55	6.91
	78	17	45	90	11	80	8.5	M6	5	0.17	1000, 1500, 2000, 3000	1.29×10^{-2}	1.74	7.09
	94	18	59	94	11	86	9	M6	5	0.17		1.29×10^{-2}	2.42	7.02
	77	17	50	85	11	76	8.5	M6	5	0.17		1.29×10^{-2}	1.74	7.12
	77	17	50	85	11	76	8.5	M6	5	0.17		1.29×10^{-2}	1.74	7.12
	100	17	83	96	11	88	7	M6	—	0.17	1000, 1500, 2000, 3000, 3500	1.97×10^{-2}	2.91	8.81
	85	17	56.5	93	11	84	8.5	M6	5.4	0.17	1000, 1500, 2000, 3000	1.97×10^{-2}	2.16	8.76
	85	17	56.5	93	11	84	8.5	M6	5.4	0.17		1.97×10^{-2}	2.16	8.76
	79	17	50.5	93	11	74	8.5	M6	5.4	0.17		1.97×10^{-2}	2.1	8.66
	159	17	130.5	93	11	74	8.5	M6	5.4	0.17		1.97×10^{-2}	3.67	8.66
	118	20	98	104	14	94	8	M6	—	0.17	1000, 1500, 2000, 3000, 3500	3.16×10^{-2}	3.9	11.08
	145	25	120	132	18	104	12.5	PT 1/8	—	0.2		4.82×10^{-2}	7.8	13.66
	106	20	72	112	14	104	10	M6	5.4	0.2	1000, 1500, 2000, 3000	4.82×10^{-2}	3.89	13.79
	106	20	72	112	14	104	10	M6	5.4	0.2		4.82×10^{-2}	3.86	13.79
	98	20	64	112	14	92	10	M6	5.4	0.2		4.82×10^{-2}	3.5	13.86
	198	20	164	112	14	92	10	M6	5.4	0.2		4.82×10^{-2}	6.4	13.86

Description of Each Option⇒A-815 Dimensions⇒B-777