

Ball Screw

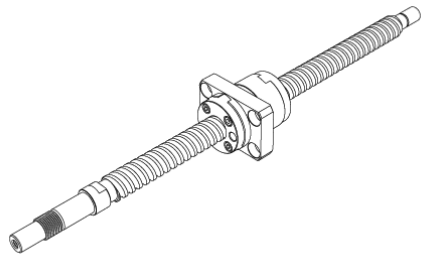
Shipping Date

The shipping date indicates when the product will ship if ordered now.

Contact THK through Omni THK's inquiry form if you need a product sooner or if you need a large quantity.

Set Item/Standalone Items

Set item



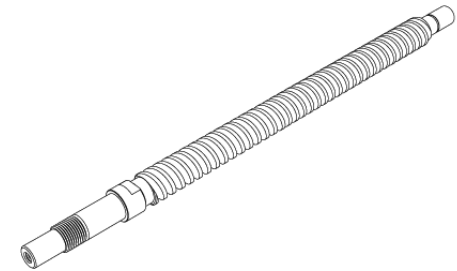
=

Standalone nut



+

Standalone screw shaft

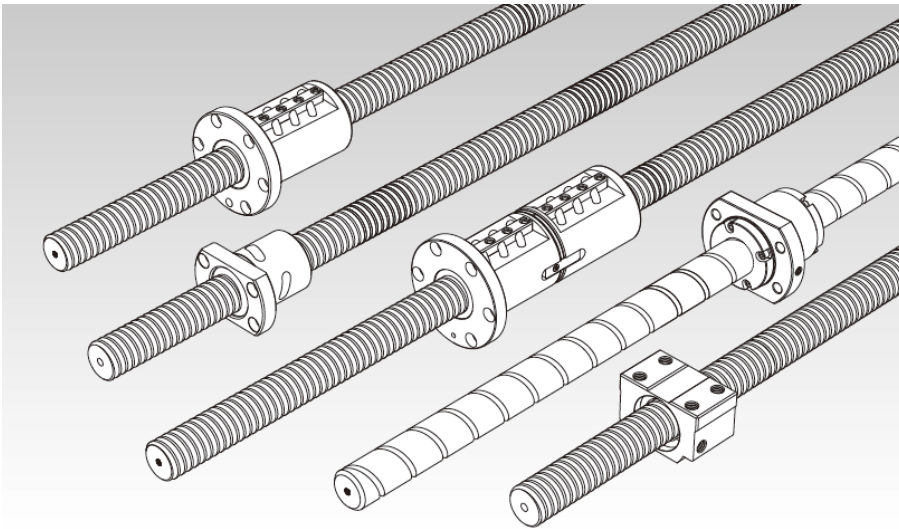


Ball Screw

Series

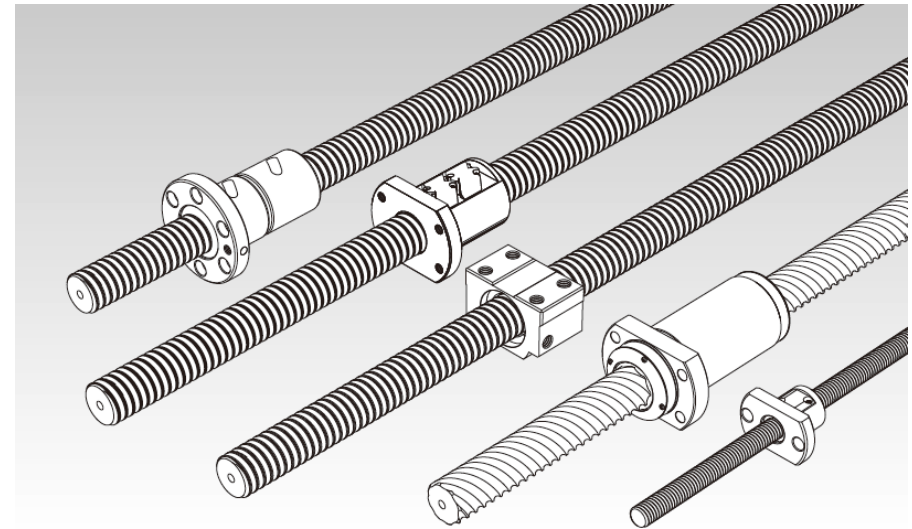
Precision Ball Screw

A wide array of precision-ground screw shafts and ball screw nuts are available as standard THK precision ball screws to allow you to select the optimal product for your application.



Rolled Ball Screw

THK rolled ball screws are low-priced feed screws that use a precision-rolled, surface-ground screw shaft instead of the thread-ground shaft used in the precision ball screws. As the ball raceways of the ball screw nut are all thread-ground, they achieve a smaller axial clearance and smoother motion than conventional rolled ball screws.



Ball Screw

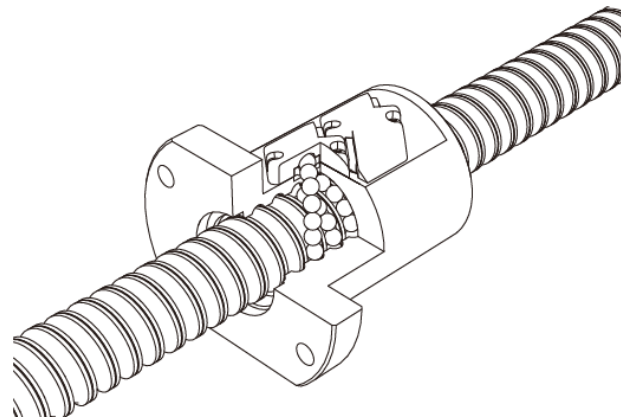
Model Numbers (Rolled Ball Screws)

BTK-V (Ball Screw Set and Standalone Nut)

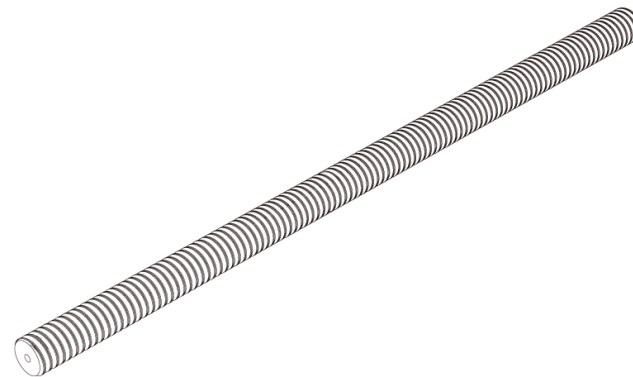
Full-ball/No Preload

This rolled ball screw achieves a DN value of 100,000 by using a new circulation structure.

Since the nut outer diameter and the mounting holes of this model are dimensionally interchangeable with the previous Model BTK, the Model BTK can be replaced with this model.



TS (Standalone Screw Shaft)



Ball Screw

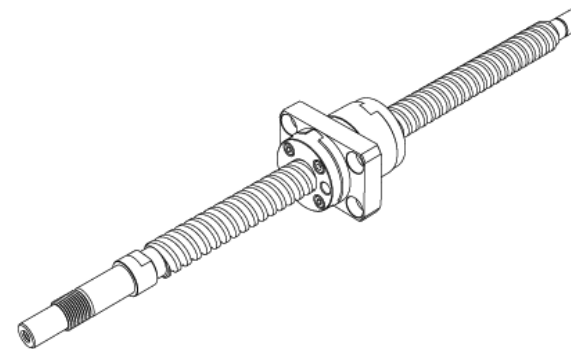
Model Numbers (Precision Ball Screws)

BNK (Finished Shaft Ends)

Full-ball/Preload

This type of ball screw has a standardized, compact screw shaft and ball screw nut.

The ends of the screw shaft are standardized to fit the corresponding support unit. The mounting method with models BNK0401, 0501, and 0601 is “fixed-free,” while other models use the “fixed-supported” method, with the shaft directly coupled with the motor.

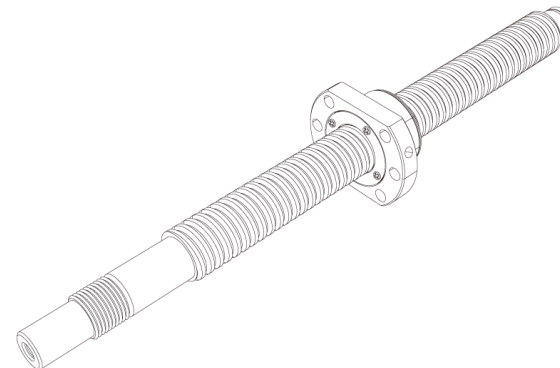


SDA-VZ (Compact and High-Speed)

Full-ball/Preload

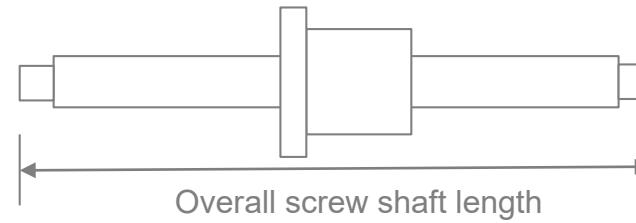
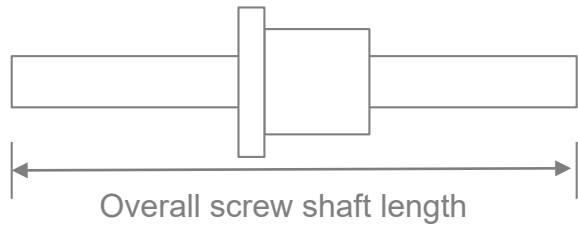
This type of precision ball screw has a compact nut design that is compliant with international ISO, DIN, and JIS standards.

It features high positioning accuracy and smooth rotary motion without clearance, making it ideal for positioning and transporting parts in automatic FA machines.

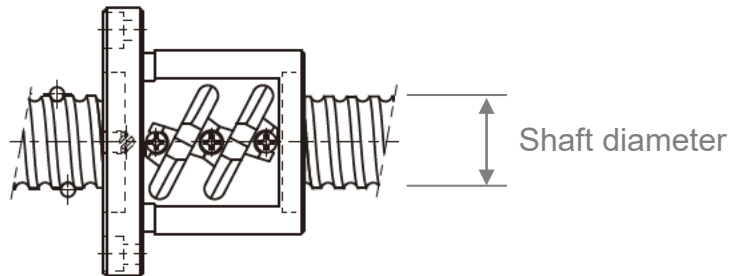


Ball Screw

Overall Screw Shaft Length



Shaft Diameter



Ball Screw Lead

The ball screw lead is the amount the nut moves when the screw shaft is rotated once.

Axial Clearance

The smaller the axial clearance, the higher the positioning accuracy that can be achieved.

Ball Screw

Accuracy

The lead angle accuracy (permissible value) is as follows.

Unit: μm

Accuracy Grades		Precision Ball Screw										Rolled Ball Screw		
		C0		C1		C2		C3		C5		C7	C8	C10
Effective Thread Length		Representative Travel Distance Error	Fluctuation	Representative Travel Distance Error	Fluctuation	Representative Travel Distance Error	Fluctuation	Representative Travel Distance Error	Fluctuation	Representative Travel Distance Error	Fluctuation	Travel Distance Error	Travel Distance Error	Travel Distance Error
Above	Or Less													
-	100	3	3	3.5	5	5	7	8	8	18	18	±50/300 mm	±100/300 mm	±210/300 mm
100	200	3.5	3	4.5	5	7	7	10	8	20	18			
200	315	4	3.5	6	5	8	7	12	8	23	18			
315	400	5	3.5	7	5	9	7	13	10	25	20			
400	500	6	4	8	5	10	7	15	10	27	20			
500	630	6	4	9	6	11	8	16	12	30	23			
630	800	7	5	10	7	13	9	18	13	35	25			
800	1000	8	6	11	8	15	10	21	15	40	27			
1000	1250	9	6	13	9	18	11	24	16	46	30			
1250	1600	11	7	15	10	21	13	29	18	54	35			
1600	2000			18	11	25	15	35	21	65	40			
2000	2500			22	13	30	18	41	24	77	46			
2500	3150			26	15	36	21	50	29	93	54			
3150	4000			30	18	44	25	60	35	115	65			
4000	5000					52	30	72	41	140	77			
5000	6300					65	36	90	50	170	93			
6300	8000							110	60	210	115			
8000	10000									260	140			

Note) Unit of effective thread length: mm

Fluctuation in Thread Length of 300 mm and in One Revolution (Permissible Value)

Unit: μm

Accuracy Grades	C0	C1	C2	C3	C5	C7	C8	C10
Fluctuation/300	3.5	5	7	8	18	-	-	-
Fluctuation/2 π	3	4	5	6	8	-	-	-

Ball Screw

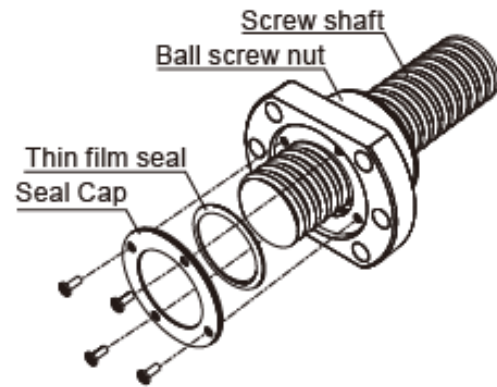
Grease

Model Number	Standard Grease	Features
BTK-V	AFB-LF	AFB-LF is a general-purpose grease using a lithium-based consistency enhancer with refined mineral oil as the base oil. It excels in extreme pressure resistance and mechanical stability.
BNK	AFB-LF	AFB-LF is a general-purpose grease using a lithium-based consistency enhancer with refined mineral oil as the base oil. It excels in extreme pressure resistance and mechanical stability.
BNK (in China)	Multemp PS-2	The BNK (in China) is filled with lithium-based grease No. 2 (Multemp PS-2 grease) as standard.
SDA-VZ Semi-custom series	Multemp PS-2	The SDA-VZ is filled with lithium-based grease No. 2 (Multemp PS-2 grease) as standard.

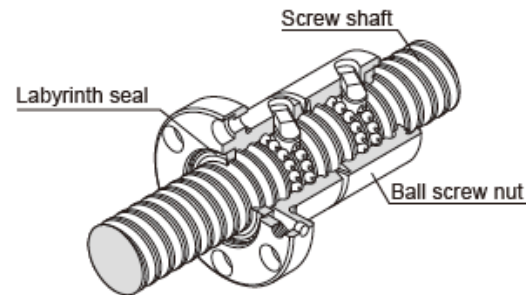
Ball Screw

Contamination Protection Options

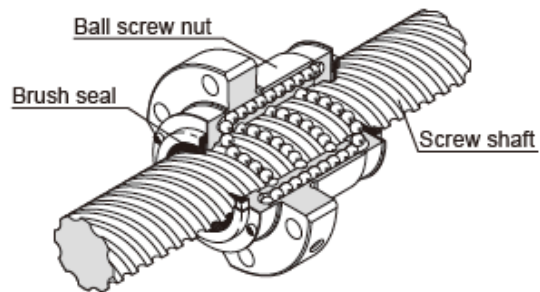
TT: Thin film seal



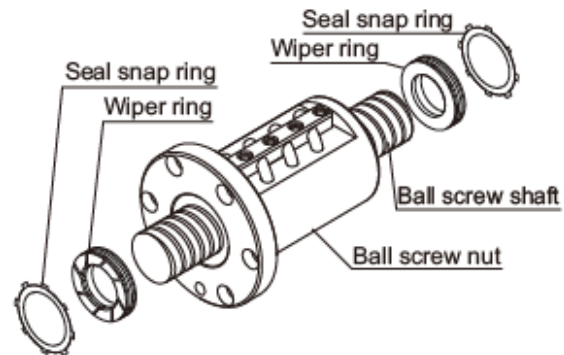
RR: Labyrinth seal



ZZ: Brush seal



WW: Wiper ring



Ball Screw

Shaft End Shape (Fixed Side)

Mounting Method	Symbol for Shaft End Shape	Shape	Compatible Support Unit
Fixed	H1		EK FK
	J1		BK
	H2		EK FK
	J2		BK
	H3		EK FK
	J3		BK

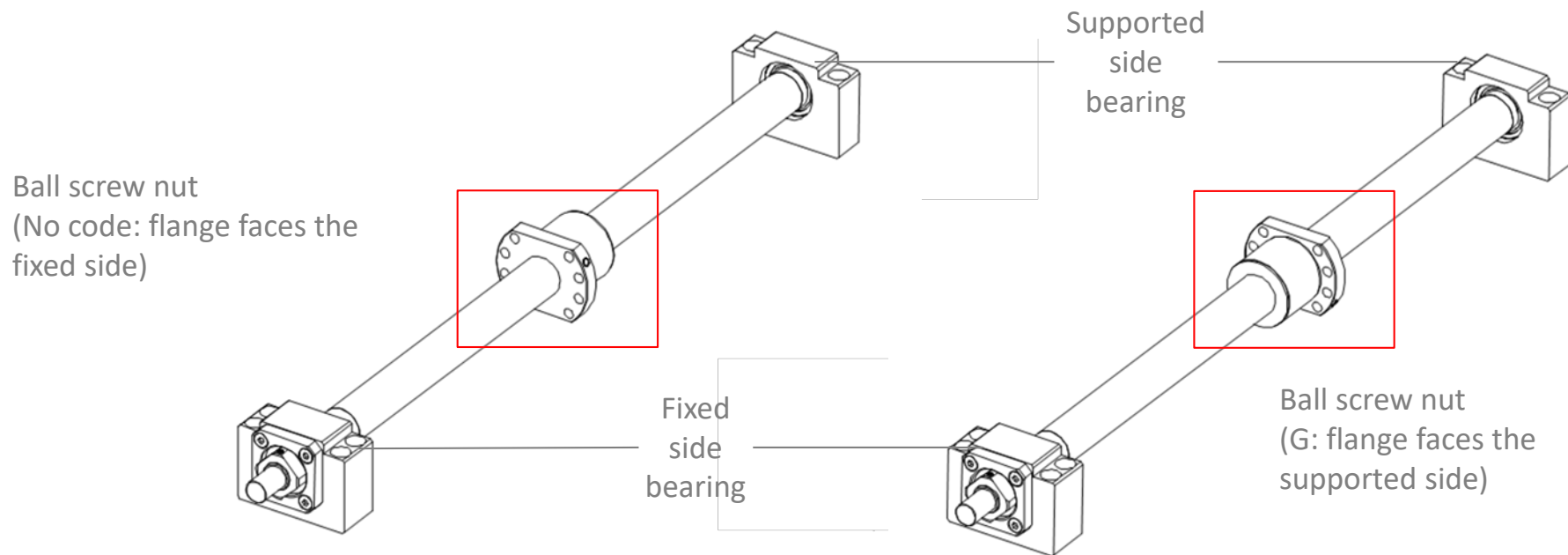
Shaft End Shape (Supported Side)

Mounting Method	Symbol for Shaft End Shape	Shape	Compatible Support Unit
Supported	K		EF BF FF

Ball Screw

Nut Flange Direction

The ball nut flange faces the fixed side unless otherwise specified.



Model Number Coding Example

BNK1405-2.6ZZ+500LC7T-H1K-G

If you want the flange to face the supported side, add symbol G to the end of the ball screw model number when placing the order.

Ball Screw

Model Number Coding Example

