

7. Selecting a Nut

7.1. Types of Nuts

Nuts of Ball Screws are categorized by ball circulation method into return-pipe type, deflector type and end cap type. These three nut types are described as follows.

In addition to circulation methods, Ball Screws are categorized also by preloading method.

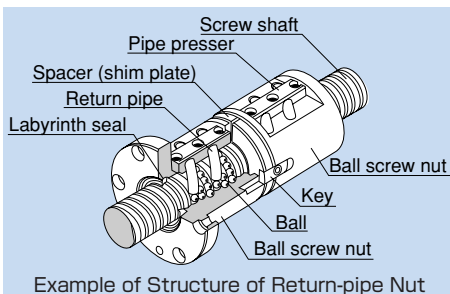
7.1.1. Types by Ball Circulation Method

Return-pipe Type

(Models SBN, BNF, BNT, BNFN, BIF and BTK)

Return-piece Type (Model HBN)

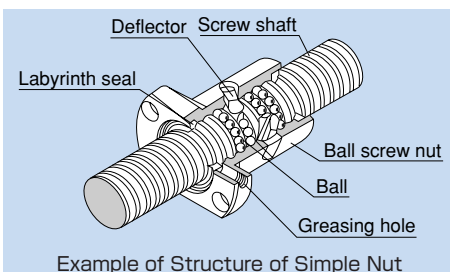
These are most common types of nuts that use a return pipe for ball circulation. The return pipe allows balls to be picked up, pass through the pipe, and return to their original positions to complete infinite motion.



Deflector Type: Simple Nut

(Models DK, DKN, DIK, JPF and DIR)

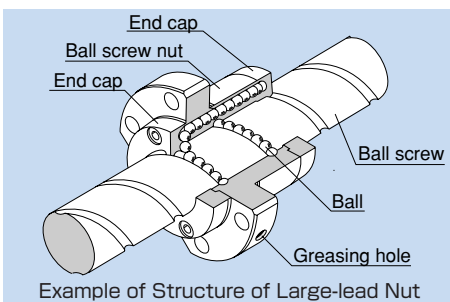
These are the most compact type of nut. Balls change their traveling direction with a deflector, pass over the circumference of the screw shaft, and return to their original positions to complete infinite motion.



End-cap Type: Large-lead Nut

(Models SBK, BLK, WGF, BLW, WTF, CNF and BLR)

These nuts are most suitable for fast feed. Balls are picked up with an end cap, pass through the through hole of the nut, and return to their original positions to complete infinite motion.

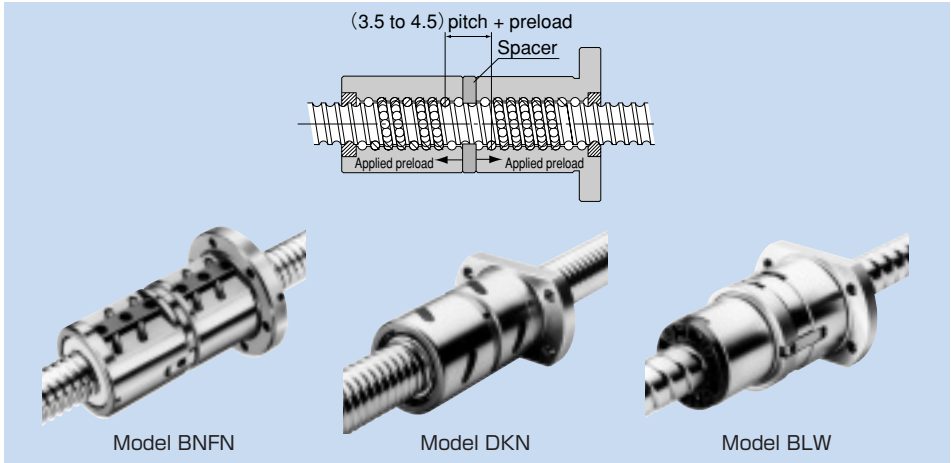


7.1.2. Types by Preloading Method

Fixed-point Preloading

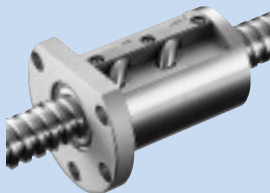
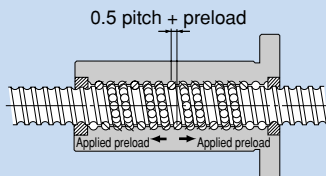
Double-nut Method (Models BNFN, DKN and BLW)

A spacer is inserted between two nuts to provide a preload.



● Offset Preloading (Models SBN, BIF, DIK, SBK and DIR)

It allows more compact design than the double-nut method. This method provides a preload by changing the groove pitch in the middle of the nut without using a spacer.



Model SBN



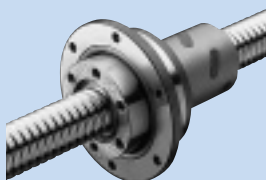
Model BIF



Model DIK



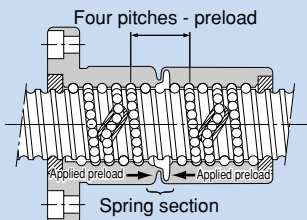
Model SBK



Model DIR

Constant-pressure Preloading (Model JPF)

With this method, a spring structure is installed almost in the middle of the nut, and it provides a preload by changing the groove pitch in the middle of the nut.



Model JPF