

High-Performance Precision Ball Screw

Reduced variation of motion error helps improve quality of machined surface of machine tools and productivity of semiconductor manufacturing devices.

New!

Patent Pending



■ Features

Torque variation of ball screw reduced 30%

NSK's unique ball screw shaft machining technology achieves tabilization of torque regardless of nut position.

■ Application

Machine tools, semiconductor manufacturing devices, medical equipment, precision measuring instruments, and more.

Improve quality of machined surface of machine tools by reducing variation of motion error.

NSK's unique screw shaft machining technology improves torque stability of high-performance precision ball screws. Therefore, variation of motion error (for example, delay of motion reversal known as quadrant glitch) can be significantly reduced regardless of nut position. As for machine tools, minimization of variation of motion error, such as the one above, and appropriate setting of compensation parameters of control system can improve both motion error compensation and quality of machined surface.

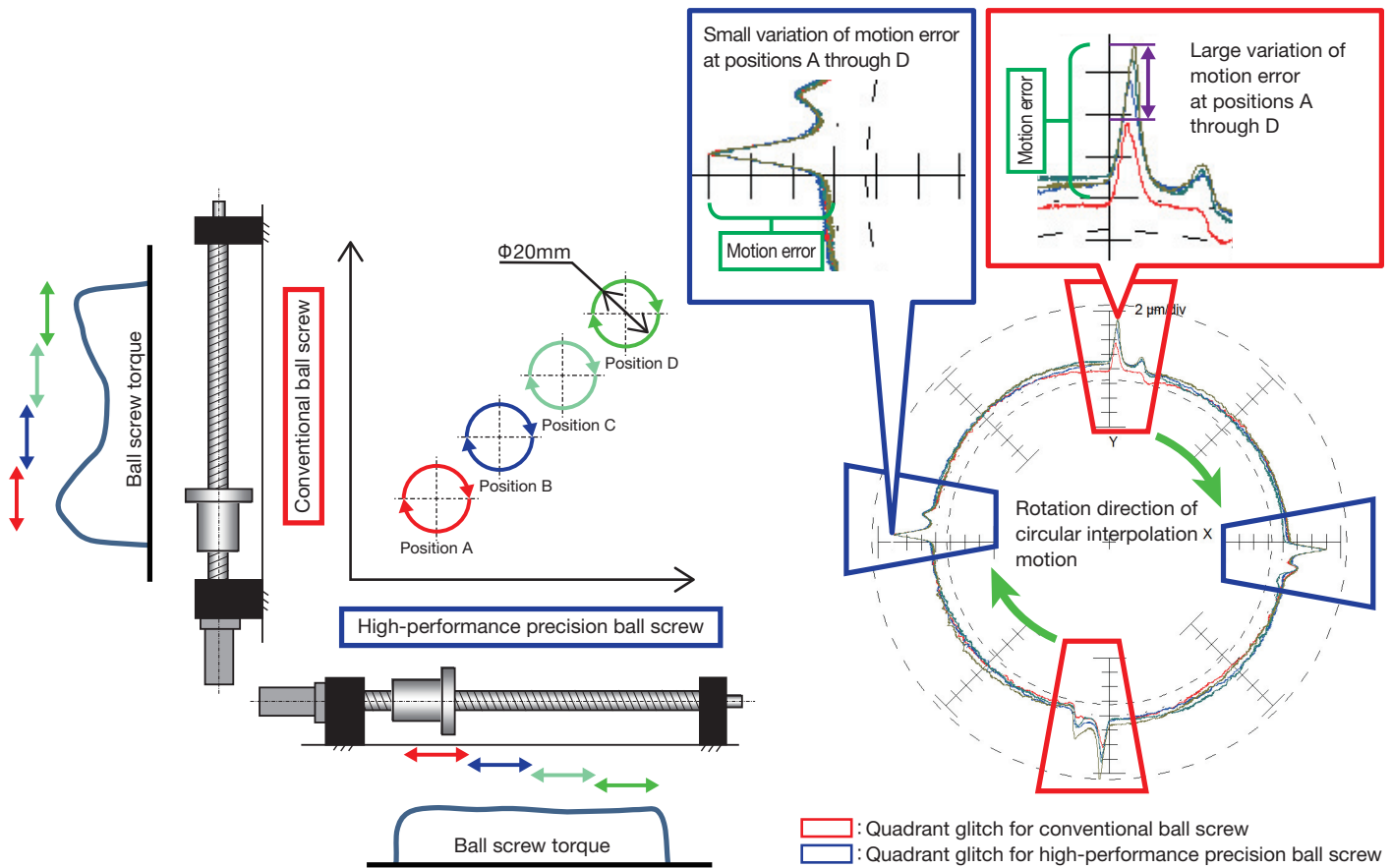


Figure 1 Position setting for orthogonal two-axis circular interpolation motion evaluation

Figure 2 Motion error evaluation results of circular interpolation motion

Improve productivity of semiconductor manufacturing device when it is operated at high acceleration/deceleration.

Torque stability of high-performance precision ball screw contributes to both improved productivity and control of semiconductor manufacturing device at high acceleration/deceleration.

Specifications

Recirculation system	End deflector type, Tube type, Deflector (bridge) type, End cap type
Shaft diameter	Dia.15 to 50 mm

Overall length of screw shaft	Up to 1850 mm
Accuracy grade	JIS C5 to C3

Optional specifications

A wide variety of options are available for even higher performance.

- (1) High-speed, low-noise ball screw II : Reduced noise when rolling balls.
- (2) Nut cooling ball screw and shaft core cooling ball screw : Provide additional high accuracy through the use of forced cooling.
- (3) Ball screws with X1 and L1 seal, "NSK K1™" lubrication unit: Enhanced dust-proofing, cleanliness, and lubricating properties.

For more information about NSK products, please contact: www.nsk.com

NSK Ltd. has a basic policy not to export any products or technology designated as controlled items by export-related laws. When exporting the products in this brochure, the laws of the exporting country must be observed. Specifications are subject to change without notice and without any obligation on the part of the manufacturer. Every care has been taken to ensure the accuracy of the data contained in this brochure, but no liability can be accepted for any loss or damage suffered through errors or omissions. We will gratefully acknowledge any additions or corrections.



NSK used environmentally friendly paper and printing methods for this publication.

CAT. No.ESP-151005 2016 X-3 Printed in Japan©NSK Ltd. 2015