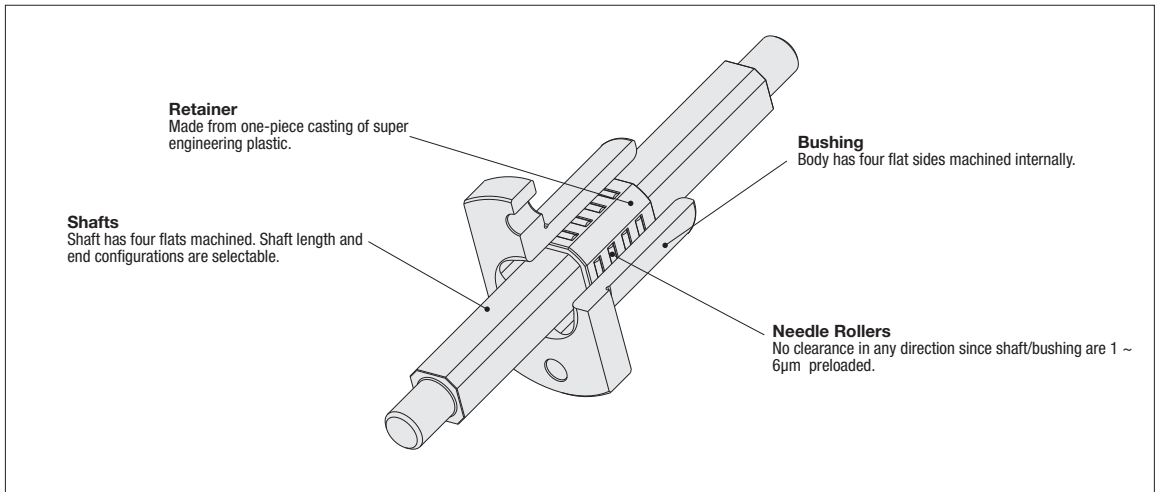


High Rigidity Needle Guide Sets

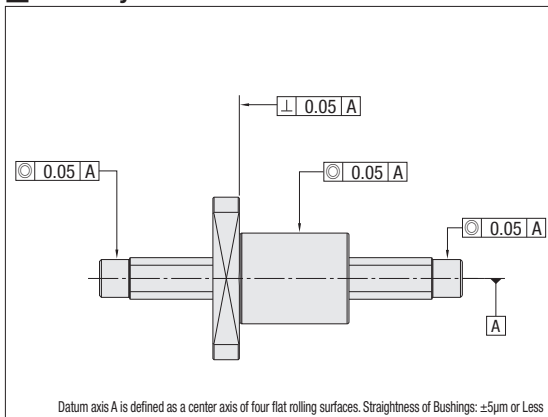
Overview

Features

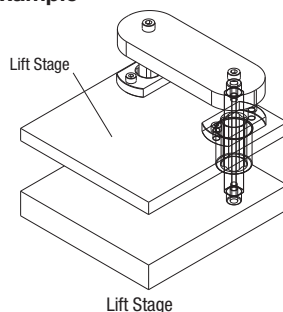
High accuracy needle rollers are arranged in four directions against the square shafts. Shafts/bushings are designed to be 1 ~ 6 μ m preloaded. Widely used in parts of semiconductor, liquid crystal manufacturing equipment and inspection device, lift/slide stages, robotic systems, press machines and transfer mechanism as the guide with high rigidity, straightness and high speed. Capable of torque loading without rotation due to square cross section with low yawing and pitching, maintaining smooth rotation and stable accuracy.



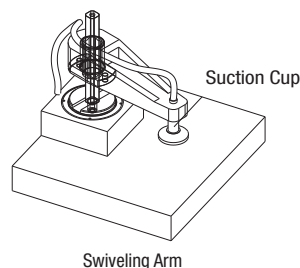
Accuracy Standards



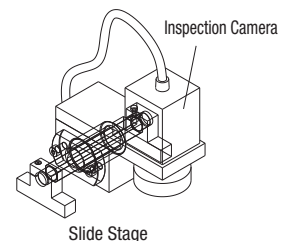
App. Example



Lift Stage



Swiveling Arm



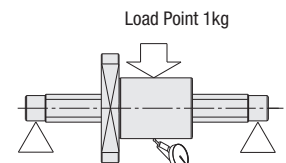
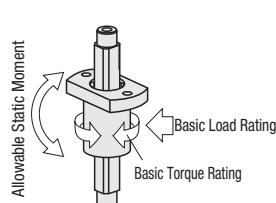
Slide Stage

Notes on handling

- Anti-rust oil is applied to the products when they are shipped. Administer lubrication maintenance with high-pressure grease (AFC Grease by THK), etc. as needed.
- When designing, position the bushing where the retainer does not fall out from the bushing at stroke ends.
- As a preload is applied, assemble slowly without any prying when inserting retainers. (It may cause damages to the retainers as well as damages on the rolling surfaces).
- Use covers, etc. if any foreign objects or dust may fall on the rolling surfaces.
- If the product is used for long periods of time with foreign objects or dust attached, the needle roller may slip and the movement of the retainer may be misaligned.
- Avoid using in high temperature environments, keep below 80°C.
- Do not cold shrink fit the bushings and shafts. Residual austenite will transform into martensite and will expand I.D./O.D. of bushings and shafts, rendering them unusable.

Load Rating Table

D	Basic Rated Torque		Basic Load Rating		Allowable Static Moment
	CT Dynamic (N·m)	CoT Static (N·m)	C Dynamic (kN)	Co Static (kN)	Mo (N·m)
6	12.3	21.0	3.4	5.0	10.6
10	48.7	84.4	6.8	10.0	23.0
12	91.3	162.9	11.9	17.4	76.4
16	115.7	212.0	11.9	17.4	83.6



D	Deflection (L is max.)
6	6 μ m
10	2 μ m
12	2 μ m
16	1 μ m