










# Lead Screw

## Lead Screws - Overview

### Feed Screw Comparison

Type	Slide Screw	Lead Screw	Rolled Ball Screw	Precision Ball Screw
Shape				
Features	Simple feed and adjust mechanisms, etc. Made of stainless steel shaft and plastic nut. No-grease operation is possible.	Optimal for the case where thrust loads and high loadings exist.	Can be applied at reasonable costs when precision ball screw accuracies are not required.	Optimal for the case where high positioning and velocity accuracy are required.
App. Example	Stoppers In/Out and Transfer pitch changeover	Transfer pitch changeover Jacks, Feed Screw for Lathes	Transfer Line	Measurement Instruments
Allowable Rotational Speed	Low Speed	Medium Speed	High Speed	High Speed
Accuracy	★★	★★	★★★★	★★★★★
Allowable Axial Load ( ) is for Reference.	△ (max540N)	◎ (max30000N)	○ (max9960N)	○ (max9960N)

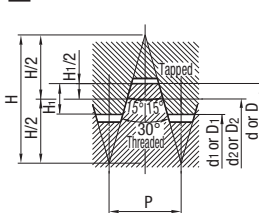
### Lineup : Lead Screws

Lead Screw Type	Shape	Right-Hand Thread	Left-Hand Thread	Fine Pitch Right-Hand Thread	Right and Left-Hand Thread	Precision Right and Left-Hand Thread	Page
Both Ends Stepped		○	○	○	○	○	P:801
One End Stepped / One End Double Stepped		○	○	-	○	○	P:803
One End Stepped / One End Double Stepped		○	-	-	-	-	P:805
Both Ends Double Stepped		○	○	-	-	-	P:807
Straight		○	○	-	○	-	P:808

### Lead Screw Accuracy Standards

Item	Content
Allowable Dimension and Tolerance	JISB0217 0218
Screw Accuracy	7e Grade
Nut Accuracy	7H Grade
Single Pitch Error	±0.02
Accumulated Pitch Error	±0.15/300mm
Shaft Maximum Runout	See table below
Length Tolerance	JIS B 0405 (Medium Class)

### Lead Screw Thread Geometry Standards (JIS Tr)



$$H=1.866P \quad H_1=0.5P \quad d_2=d-0.5P$$

$$d_1=d-P \quad D=d \quad D_2=d_2 \quad D_1=d_1$$

Thread d: O.D. d<sub>1</sub>: Root Dia. d<sub>2</sub>: Effective Dia.  
Tapped D: Root Dia. D<sub>1</sub>: I.D. d<sub>2</sub>: Effective Dia.  
P: Pitch H: Engage Height

⚡ Pitch 3 of D Dimension 16, Pitch 5 of D Dimension 25 and Pitch 6 of D Dimension 40 conform to Tr Standard.

### Lead Screw Specifications

Unit : mm

Shaft Dia.	Pitch	Screw Shaft Effective Dia.	Screw Shaft Minor Dia. (MN)	Screw Shaft Lead Angle	Screw Shaft Runout (Max.)											
					Shaft Overall Length											
					~125	126~200	201~315	315~400	401~500	501~630	631~800	801~1000	1001~1250	1251~1600	1601~2000	
8	1.5	7.25	(5.9)	3°46'	0.1	0.14	0.21	0.27	0.35	-	-	-	-	-	-	-
10	2	9	(7.2)	4°03'	0.09	0.12	0.16	0.21	0.27	0.35	0.46	0.58	-	-	-	-
12	2	11	(9.2)	3°19'	-	-	-	-	-	-	-	-	-	-	-	-
14	3	12.5	(10.1)	4°22'	-	-	-	-	-	-	-	-	-	-	-	-
16	2	15	(13.18)	2°25'	0.09	0.11	0.13	0.16	0.2	0.25	0.32	0.42	0.55	0.73	1	-
	3	14.5	(12.1)	3°46'												
18	4	16	(13.1)	4°33'	-	0.11	0.13	0.16	0.2	0.25	0.32	0.42	0.55	0.73	1	-
	2	19	(17.18)	1°55'												
20	4	18	(15.1)	4°03'	-	0.09	0.11	0.13	0.16	0.19	0.23	0.3	0.38	0.5	0.69	-
22	5	19.5	(16.1)	4°40'	-	0.09	0.11	0.13	0.16	0.19	0.23	0.3	0.38	0.5	0.69	-
25	5	22.5	(19)	4°03'	-	0.09	0.11	0.13	0.16	0.19	0.23	0.3	0.38	0.5	0.69	-
28	5	25.5	(22)	3°34'	-	0.09	0.11	0.13	0.16	0.19	0.23	0.3	0.38	0.5	0.69	-
32	6	29	(24.5)	3°46'	-	0.09	0.11	0.13	0.16	0.19	0.23	0.3	0.38	0.5	0.69	-
36	6	33	(28.5)	3°19'	-	0.09	0.11	0.13	0.16	0.19	0.23	0.3	0.38	0.5	0.69	-
40	6	37	(32.5)	2°57'	-	0.11	0.11	0.11	0.13	0.15	0.17	0.22	0.27	0.34	0.46	-
50	8	46	(40.4)	3°10'	-	0.11	0.11	0.11	0.13	0.15	0.17	0.22	0.27	0.34	0.46	-

• Runout Measurement Method

