

Rolled Ball Screws / Precision Ball Screws

Lineup

Mounting Interface Accuracies

Ball Screw Lineup

List of Type, Accuracy Grade, Shaft Dia., Lead, Axial Play and Shaft Length of MISUMI Ball Screws
Provisionally select the ball screw suitable for the purpose of use from the list and select the product following the selection procedure on P.681.

Rolled Ball Screw Lineup

Type	Standard Type	Shaft Dia.	Lead	Axial Play (mm)	Shaft Length (mm)	
					MIN	MAX
Existing Product Compact Nut Accuracy Grade C10	BSSC	8	2	0.05 or Less	100	400
		10	4		150	600
		12	4		150	800
		15	5	0.10 or Less	150	1200
		10	10		200	1200
		5	5		200	2000
Existing Product Standard Nut Accuracy Grade C10	BSSZ BSSR	20	10	0.15 or Less	250	2000
		25	5		200	2000
		8	2	0.05 or Less	100	400
		4	4		100	380
		2	2		150	585
		10	4		150	600
		4	4		150	585
		12	4		150	800
		10	10		150	800
		14	5		150	800
		5	5	0.10 or Less	150	1200
		10	10		200	1200
		20	20		200	1200
		20	5	0.15 or Less	200	2000
		10	10		250	2000
		20	20		250	2000
		25	5	0.20 or Less	300	2000
		10	10		300	2000
		25	25		300	2000
C-VALUE Products Standard Nut Accuracy Grade C10	C-BSSC	8	2	0.05 or Less	100	400
		10	2		150	585
		4	4		150	600
		12	5		150	800
		10	10		150	800
		5	5		150	1200
		15	10	0.10 or Less	200	1200
		20	20		200	1200
		5	5		200	2000
		20	10	0.15 or Less	250	2000
		10	10		250	2000
		20	20		250	2000
		25	5	0.10 or Less	200	2000
		10	10		300	2000
		25	25		300	2000
		32	10	0.15 or Less	300	2000
		32	32		300	2000

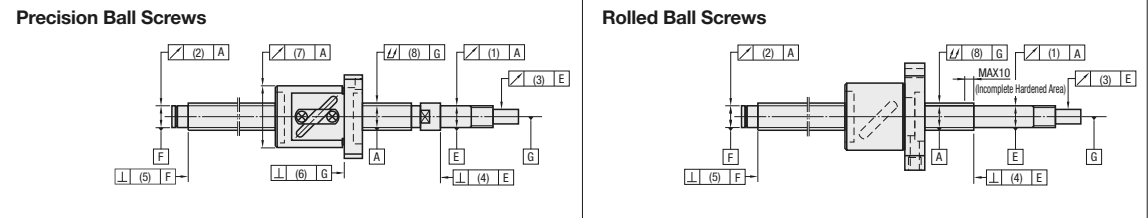
Precision Ball Screw Lineup

Type	Standard Type	Shaft Dia.	Lead	Axial Play (mm)	Shaft Length (mm)	
					MIN	MAX
Existing Product Standard Nut Accuracy Grade C5	BSS	8	2	0.005 or Less	100	210
		2	2		100	315
		4	4		150	380
		10	10		150	450
		2	2		150	445
		4	4		150	400
		5	5	0.008 or Less	150	450
		10	10		200	600
		2	2		150	1095
		4	4		150	1095
		15	15		200	1095
		20	20		230	1095
		5	5	0.015 or Less	200	1000
		10	10		250	1500
		20	20		250	1500
		5	5		300	995
		25	10		300	1500
		20	20		300	1500
C-VALUE Standard Nut Accuracy Grade C5	C-BSS	8	2	0.008 or Less	100	210
		2	2		100	315
		4	4		150	380
		10	10		150	445
		2	2		150	450
		5	5		200	600
		15	10	0.015 or Less	150	1095
		10	10		200	1095
		20	20		230	1095
		5	5		200	1000
		20	10		250	1500
		20	20		250	1500
Existing Product Standard Nut Accuracy Grade C3	BSX	6	1	0 (Preloaded)	80	205
		8	1		80	255
		2	2		100	240
		10	2		100	310
		2	2		150	390
		12	5		150	440
Existing Product Standard Nut Accuracy Grade C7	BSSE	15	5	0.030 or Less	150	590
		8	2		100	210
		2	2		100	315
		10	4		150	380
		2	2		150	445
		12	5		150	450
		10	10	0.05 or Less	200	600
		5	5		150	1095
		15	10		200	1095
		20	20		230	1095
		5	5		200	1000
		20	10		250	1500
		20	20	0.07 or Less	250	1500
		25	10		300	1500
		10	10		300	1500
		20	20		300	1500

Meaning of Terms

- Accuracy Grade Lead Accuracy of Ball Screws defined by JIS Standards. Smaller numbers mean higher lead precision.
- Shaft Dia. Screw O.D.
- Lead Refers to the distance a nut moves when the screw shaft makes a full rotation.
- Axial Play Axial play between the screw shaft and nuts.

Mounting Interface Accuracies



Part Number		(1) (2) Run-out Tolerance (Max.)	(3) Run-out Tolerance (Max.)	(4) (5) Perpendicularity Tolerance (Max.)	(6) Perpendicularity Tolerance (Max.)	(7) Run-out Tolerance (Max.)
Type	Screw Shaft O.D.					
BSX	6	0.008	0.008	0.004	0.008	0.008
	8					0.010
	10					
	12					
	15	0.009	0.009			0.012
BSS C-BSS	8	0.011	0.011	0.005	0.010	0.012
	10					
	12					
	15					
	20	0.012	0.012		0.011	0.015
BSSE BSST	25	0.013	0.013		0.013	0.019
	8	0.014	0.014	0.007	0.014	0.020
	10					
	12					
	15					
BSSR BSSZ BSSC C-BSSC	20	0.040	0.040	0.010	-	-
	25					
	28					
	32					
	15	0.060	0.060	0.010	-	-
	20					
	25					
	28					
	32					
	15	0.040	0.040	0.010	-	-
BSBR	20					
	25					

- Unit: mm
- (1), (2) Radial Run-out of the thread surface against the shaft support axis. These parameters are affected by "(8) Shaft's total radial run-outs" and may be subject to compensation.
- (3) Radial run-out of drive component interface surface in relation to screw shaft support axis.
- (4), (5) Perpendicularity of shaft's bearing shoulders in relation to screw shaft support axis.
- (6) Perpendicularity of ball nut mounting flange surface (datum) in relation to screw shaft axis.
- (7) Radial run-out of ball nut body outer circumference in relation to screw shaft axis.
- (8) Shaft's total radial run-outs.

Keyway Dimension Details Located at P on Fixed Side Shaft End		Shaft Dia.		b		t	
Reference Dim.	Tolerance (N9)	Reference Dim.	Tolerance	Reference Dim.	Tolerance	Reference Dim.	Tolerance
6~7	2	-0.004	1.2	8~10	3	-0.029	1.8
11~12	4	0	2.5	13~17	5	-0.03	3.0
18~20	6	-0.03	3.5				

Unit: mm												
Part Number		(8) Run-out Tolerance (Max.)										
Type	Screw Shaft O.D.	Screw Shaft Length										
		~125	126~200	201~315	316~400	401~500	501~630	631~800	801~1000	1001~1250	1251~1600	1601~2000
BSX	6	0.025	0.035	0.050	-	-	-	-	-	-	-	-
	8			0.040	0.050	0.065	-	-	-	-	-	-
	10				0.050	0.065	0.080	0.090	-	-	-	-
	12				0.045	0.055	0.060	0.075	0.090	0.120	0.150	0.190
	15	-	0.025	0.030	0.040	0.050	0.055	-	-	-	-	-
BSS C-BSS	8	0.035	0.050	0.065	-	-	-	-	-	-	-	-
	10		0.040	0.055	0.065	0.080	0.090	-	-	-	-	-
	12			0.045	0.055	0.060	0.075	0.090	0.120	0.150	0.190	-
	15			0.045	0.055	0.060	0.075	0.090	0.120	0.150	0.190	-
	20	-	-	0.040	0.045	0.050	0.060	0.070	0.085	0.100	0.130	-
	25	-	-	0.040	0.045	0.050	0.060	0.070	0.085	0.100	0.130	-
BSSE BSST	8	0.060	0.075	0.100	-	-	-	-	-	-	-	-
	10	0.055	0.065	0.080	0.100	0.120	0.150	-	-	-	-	-
	12	-	0.060	0.070	0.080	0.095	0.110	0.140	0.170	0.210	0.270	-
	15	-	-	0.060	0.070	0.080	0.090	0.100	0.130	0.150	0.190	-
	20	-	-	0.060	0.070	0.080	0.090	0.100	0.130	0.150	0.190	-
	25	-	-	0.060	0.070	0.080	0.090	0.100	0.130	0.150	0.190	-
BSSR ☐ BSSZ ☐ BSSC ☐ FBS ☐ BSBR ☐ C-BSSC ☐	8	0.100	0.140	0.210	(0.270)	-	-	-	-	-	-	-
	10	-	0.120	0.160	0.210	0.270	0.350	-	-	-	-	-
	12	-	0.120	0.160	0.210	0.270	0.350	-	-	-	-	-
	14	-	0.110	0.130	0.160	0.200	0.250	-	-	-	-	-
	15	-	-	0.110	0.130	0.160	0.200	0.250	0.320	0.420	0.550	0.730
	20	-	0.110	0.130	0.160	0.200	0.250	0.320	0.420	0.550	0.730	0.730
	25	-	-	0.110	0.130	0.160	0.190	0.230	0.300	0.380	0.500	0.690
	28	-	-	0.110	0.130	0.160	0.190	0.230	0.300	0.380	0.500	0.690
	32	-	-	0.110	0.130	0.160	0.190	0.230	0.300	0.380	0.500	0.690