

Lead Screws

One End Stepped / One End Double Stepped

Lead Screws – One End Stepped / One End Double Stepped



RoHS10

Type				Material	Surface Treatment
Right-Hand Screw	Left-Hand Screw	Right & Left-Hand Screw	Precision Right & Left-Hand Screw		
MTSRK	MTSLK	MTSWKA/B	MTSYKA/B	1045 Carbon Steel Equivalent	Black Oxide
MTSBRK	MTSBLK	MTSBWKA/B	MTSBYKA/B		
RMTSRK	RMTSLK	RMTSWKA/B	—		
MTSTRK	MTSTLK	—	—	303 Stainless Steel	—

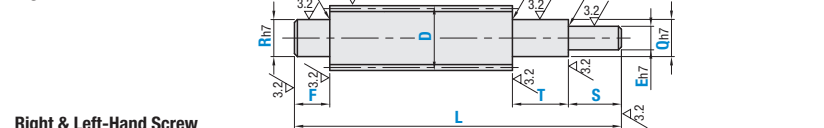
Single Pitch Error ±0.02 mm, Accumulated Pitch Error ±0.15/300 mm
 Ⓞ Type A or B are available for Right and Left-Hand Screw and Precision Right and Left-Hand Screw.

Incomplete Threaded Portion of Right and Left-Hand Thread Type

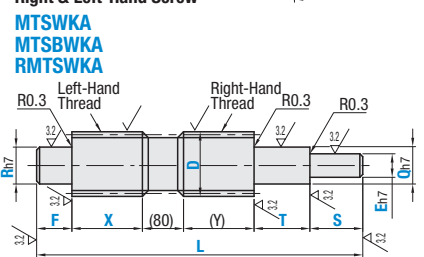


Ⓞ The center between the right-hand thread and the left-hand thread is an incomplete thread portion (approx. 80 mm resulting from rolling machining). This portion, including the shaft part enclosed with Ⓞ, is not usable. When being required to use the center between the right-hand thread and the left-hand thread as the shaft, select the Precision Right and Left-Hand Thread Type.

Right & Left-Hand Screw

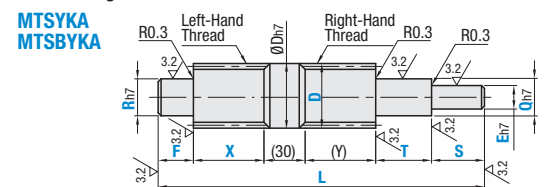


Right & Left-Hand Screw

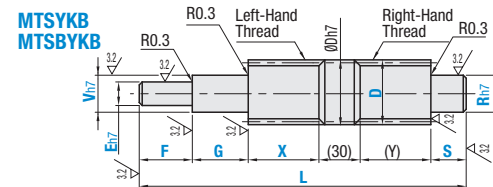
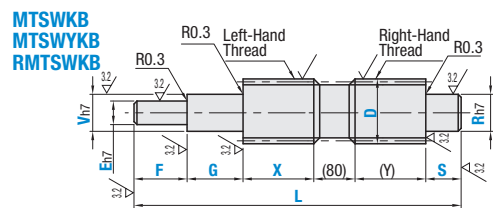


Ⓞ Incomplete threaded portion near the center (80mm) is not usable.

Precision Right & Left Hand Thread



Ⓞ ØDh7-30 mm part includes incomplete-thread portion by about 1.5 pitches at both ends (in total about 3 pitches).



Part Number	D	1 mm Increment		V / Q / R	E	Left & Right Screw / Precision Left & Right Screw	D	Pitch P
		L	F, G, T, S					
Right-Hand Screw MTSWKA/B MTSBWKA/B RMTSWKA/B D _≤ 32, L _≤ 1000	12	80-1000	2 ≤ F ≤ E (R) X5 2 ≤ G ≤ V x5 2 ≤ S ≤ E (R) X5 2 ≤ T ≤ Q x5	7 8 9	1 mm increment	X 1 mm increment	12	2
	14	100-1200		8 9 10			14	3
	16	150-1200		9 10 12			16	4
	18	200-1200		10 12 14 15			18	5
	20	250-1200		10 12 14 15			20	6
Left-Hand Screw MTSYKA/B MTSBYKA/B	22	150-1200	Ⓞ When Q, V, R, and E ≤ 9, F, G, T, S will be 5x or less of Q, V, R, E.	12 14 15 16 17	Q/2 ≤ E ≤ Q-1 V/2 ≤ E ≤ V-1	50 ≤ X ≤ 460 < 485 > -F-G (Y) = L-80 < 30 > -F-G-S-T-X (Y) ≤ 500-S-T-40 < 15 > When D=16-50 50 ≤ X ≤ 560 < 585 > -F-G (Y) = L-80 < 30 > -F-G-S-T-X (Y) ≤ 600-S-T-40 < 15 >	22	2
	25	200-1200		14 15 16 17 20			25	3
	28	250-1200		14 15 16 17 20 25			28	4
	32	300-1200		17 20 25			32	5
	36	350-1200		20 25 30			36	6
40	400-1200	25 30 35 40	40	8				

Ⓞ For Precision Right and Left-Hand Screw, D dimension 14, 16, 20, 25, 28 and 32 are available.
 Ⓞ When combined with the position indicators, Q and V standard dimensions will be 8-20. P.845

Part Number	D	1 mm Increment		Q / R	E	D	Pitch P
		L	F, T, S				
Right-Hand Screw MTSRK MTSBRK RMTSRK D _≤ 32, L _≤ 1000 MTSTRK Stainless Steel	12	80-1000	2 ≤ F ≤ E (R) X7 2 ≤ G ≤ V x7 2 ≤ S ≤ E (R) X7 2 ≤ T ≤ Q x7	7 8 9	1 mm increment	12	2
	14	100-1200		8 9 10		14	3
	16	150-1200		9 10 12		16	4
	18	200-1200		10 12 14 15		18	5
	20	250-1200		10 12 14 15		20	6
Left-Hand Screw MTSLK MTSBLK RMTSLK D _≤ 32, L _≤ 1000 MTSTLK Stainless Steel	22	150-1200	Ⓞ When Q, R and E ≥ 10, F, T and S will be 5x or less of Q, R and E.	12 14 15 16 17	Q/2 ≤ E ≤ Q-1	22	2
	25	200-1200		14 15 16 17 20		25	3
	28	250-1200		14 15 16 17 20 25		28	4
	32	300-1200		17 20 25		32	5
	36	350-1200		20 25 30		36	6
40	400-1200	25 30 35 40	40	8			

Ⓞ When combined with position indicators, the standard Q diameters are 8-20. P.845
 Ⓞ D dimension 22, 36, 40 and 50 are not applicable to Stainless Steel. D dimension 25, 28 and 32 are applicable to Right-Hand Screw only.

Lead Screws

One End Stepped / One End Double Stepped, continued

Right & Left-Hand Screw

Part Number	Type	D	Available Types					
			Min. L-200	L201-400	L401-600	L601-800	L801-1000	L1001-1200
MTSWKA/B	12	•	•	•	•	•	•	
MTSBWKA/B	14	•	•	•	•	•	•	

Part Number Example

Part Number - L - F - R - T - Q - S - E - X
 MTSRK16 - 456 - F37 - R10 - T20 - Q12 - S10 - E9
 MTSWKA16 - 456 - F37 - R10 - T20 - Q12 - S10 - E9 - X150

Part Number - L - F - E - G - V - S - R - X
 MTSBWK820 - 582 - F10 - E10 - G15 - V12 - S25 - R15 - X200

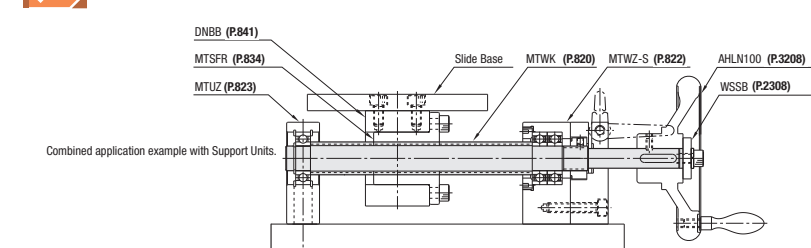
Part Number Alterations

Part Number - L - F - R - T - Q - S - E - (AR - SE - MR...etc.)
 MTSRW16 - 456 - F37 - R10 - T20 - Q20 - S10 - E9 - MR4

Alterations	Flat Machining	Retaining Ring Groove	Width Across Flats	Tapping	Threaded	Square Chamfering	Keyway
	Code	FE (E Part) FR (R Part)	AE (E Part) AR (R Part)	SE (E Part) SR (R Part)	ME (E Part) MR (R Part)	BQ (Q Part) BV (V Part) BR (R Part)	ZE (E Part) ZR (R Part)
Spec.	FE, FR, FW, FY = 0.5 mm Increment FE = Machining on E FR = Machining on R Ordering Code: FR5-FW10-FY1 Ⓞ Applicable to either E or R Ⓞ When E (R) ≤ 25 FY ≤ 1.0 Ⓞ When E (R) ≥ 26 FY ≤ 2.0 Ⓞ 3 ≤ FW ≤ 20 Ⓞ FE(FR) = 0, or FE ≥ 2	AR, AE = 0.1 mm Increment AR(AE) ≤ S(F)+T(G)-m-n For the m, n value, see the table below. (For the m value, consider the tolerance.) Ordering Code: AE13.3 AR = Applied on R part AE = Applied on E part	SE, SW, SY = 1 mm Increment SE = Applied on E part SR = Applied on R part Ordering Code: SE3-SW10-SY7 Ⓞ When E(R) < 15, SW ≥ E(R)-2 Ⓞ When 15 ≤ E(R) ≤ 25, SW ≥ E(R)-3 Ⓞ When E(R) ≥ 26, SW ≥ E(R)-5 Ⓞ 3 ≤ SY ≤ 20 Ⓞ SE(SR) = 0, SE(SR) ≥ 2	MR = Applied on R part ME = Applied on E part Ordering Code: MR24 R / E ME / MR (Selection Range) 5/6 3 7/8 3/4 9/10 3/4/5 11/12 3/4/5/6 13-15 3/4/5/6/8 16-24 3/4/5/6/8/10/12/17 25-30 3/4/5/6/8/10/12/17 31-39 3/4/5/6/8/10/12/17/16/20 40 3/4/5/6/8/10/12/17/16/20/24/30 Ⓞ Not applicable when R, E = 4. Ⓞ When combining with another alteration, do not specify this alteration in such a way that the shaft end thickness becomes less than 1 mm.	Cannot be applied when Q / V / R = 7 / 9 / 16 Ⓞ BQ / BV / BR ≤ M x 3 Ⓞ BQ / BV / BR ≥ Pitch x 3 Ⓞ BQ / BV / BR ≤ F / S / T / G - Pitch x 3 Ordering Code: BR20 BQ = Applied on Q part BV = Applied on V part BR = Applied on R part	W, A = 1 mm Increment ZE = Applied on E part ZR = Applied on R part Ordering Code: ZE12-W10-A8 Ⓞ Applies to only one of either E or R Ⓞ Can be combined with Tapped Hole machining only on a same shaft. (See P.819 for machining conditions.) Ⓞ 5 ≤ A ≤ 20 Ⓞ S(F) ≥ A-2 Ⓞ ZR = R Specified, ZR > W Ⓞ ZE = E Specified, ZE > W	KQ / KV / KE / KR / C = 1 mm Increment KQ = Applied on Q part KV = Applied on V part KE = Applied on E part KR = Applied on R part Ordering Code: KQ8-C10 Ⓞ Applies to only one of Q, V, E, or R Ⓞ Specify the C dimension not to be below b ₁ . Ⓞ When KQ (KV, KE, KR) = 0, keyway R will be eliminated on the shaft end side.
					Q, V, R M x Pitch 8 M8 x 1.0 10 M10 x 1.0 12 M12 x 1.0 14 M14 x 1.0 15 M15 x 1.0 17 M17 x 1.0 20 M20 x 1.0 25 M25 x 1.5 30 M30 x 1.5 35 M35 x 1.5 40 M40 x 1.5	ZE-E ZR-R 6-10 5-8 11-14 8-10 15-19 10-14 20-25 14-20 26-30 19-24 31-35 22-28 36-40 26-30	Keyway Dimension Applicable Shaft Dia. Q, V, E, R Ref. Dim. Tol. (Ref.) b ₁ t ₁ r ₁ 6.7 2 -0.004 1.2 0.08 8-10 3 -0.029 1.8 0 11, 12 4 2.5 0 13-17 5 0 -0.030 3.0 0.16 18-22 6 0 3.5 -0.25 23-30 8 0 4.0 0 31-38 10 0 +0.036 5.0 +0.2 39, 40 12 0 -0.043 5.0 0

Ⓞ Specify an alteration to be 2 mm or more away from the stepped part. P.819
 Ⓞ Do not specify multiple alterations in such a way that they overlap with each other in the rotating direction on the same shaft. P.819
 Ⓞ When flat machining, wrench flats, square chamfering and keyway alterations are combined with each other, their orientations will be random. P.819
 Ⓞ When adding multiple alterations, there must be 2 mm or more clearance between each feature. P.819

Application Example Slide Base Transfer Unit



MTUZ	Lead Screw Support Unit – Support Side
MTSFR	Lead Screw Nut – Flanged
DNBB	Nut Bracket for Lead Screw
MTWK	Lead Screw – For Support Units
MTWZ-S	Lead Screw Support Units
AHLN100	Five Spoked Handwheel
WSSB	Metal Washer

Ⓞ When considering adopting support units in combination either with Right-Hand Thread type or Left-Hand Thread type lead screws, ordering of Lead Screws – For Lead Screw Support Type in P.822-823 is recommended.