

# Lead Screws

Both Ends Double Stepped

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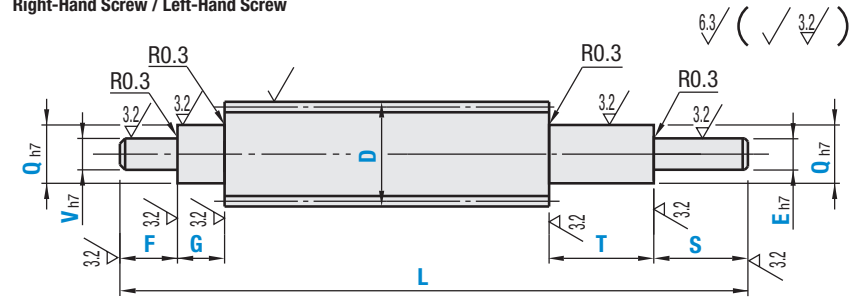


RoHS10

Type		Material	Surface Treatment
Right-Hand Thread	Left-Hand Screw		
MTSRX	MTSLX	1045 Carbon Steel or Equivalent	—
MTSBRX	MTSBLX		

Single Pitch Error  $\pm 0.02$  mm  
Accumulated Pitch Error  $\pm 0.15/300$  mm

Right-Hand Screw / Left-Hand Screw



Part Number	1 mm Increment			V / Q	E 1 mm Increment	D	Pitch P
	Type	D	L				
Right-Hand Screw MTSRX MTSBRX	12	80-1000	100-1200	7 8 9	Q/2 ≤ V ≤ Q-1 Q/2 ≤ E ≤ Q-1	12	2
	14			8 9 10		14	3
	16			9 10 12		16	4
	18			9 10 12		18	4
	20			10 12 14 15		20	4
Left-Hand Screw MTSLX MTSBLX	22	150-1200	200-1200	10 12 14 15	Q/2 ≤ V ≤ Q-1 Q/2 ≤ E ≤ Q-1	22	5
	25			12 14 15 16 17		25	5
	28			14 15 16 17 20		28	6
	32			14 15 16 17 20 25		32	6
	36			17 20 25		36	6
	40	20 25 30	40	8			
	50	25 30 35 40	50	8			

$2 \leq F \leq V \times 7$   
 $2 \leq G \leq Q \times 7$   
 $2 \leq S \leq E \times 7$   
 $2 \leq T \leq Q \times 7$   
 Ⓢ When Q, V, E ≤ 9,  
 F, G, T, and S will be 5x or  
 less of Q, V and E.

Ⓢ When combined with position indicators, the standard Q diameters are 8-20. P.845

# Lead Screws

Both Ends Double Stepped, *continued*

Part Number Example: **Part Number** - **L** - **F** - **V** - **T** - **G** - **Q** - **S** - **E**  
 MTSRX16 - 456 - F37 - V10 - T47 - G60 - Q12 - S49 - E8

Part Number Alterations: **Part Number** - **L** - **F** - **V** - **T** - **G** - **Q** - **S** - **E** - (AC, SV, MV...etc.)  
 MTSBRX20 - 583 - F48 - V12 - T58 - G70 - Q15 - S63 - E10 - AC72.3

Alterations	Flat Machining	Retaining Ring Groove	Wrench Flats	Course Tapping	Threaded	Square Chamfering	Keyway																																																																																																	
Code	FV (V Part) FE (E Part)	AC (V Part) A (E Part)	SV (V Part) SE (E Part)	MV (V Part) ME (E Part)	BC (V Part) BQ (E Part)	ZV (V Part) ZE (E Part)	KQ (Q Part) KV (V Part) KE (E Part)																																																																																																	
Spec.	FV, FE, FW, FY = 0.5 mm Increment FV = Applied on V part FE = Applied on E part Ⓢ Either V or E Ordering Code: FV5-FW10-FY1 Ⓢ When V (E) ≤ 25 FY ≤ 1.0 Ⓢ When V (E) ≥ 26 FY ≤ 2.0 Ⓢ 3 ≤ FW ≤ 20	AC(AE) = 0.1 mm Increment AC(AE) ≤ F(S) + G(T) - m - n Machining Limits AC = Applied on V part AE = Applied on E part Ordering Code: AC13.3 <table border="1"> <thead> <tr> <th>V, E</th> <th>e Tolerance</th> <th>m+0.14 0</th> <th>n</th> <th>Machining Limits</th> </tr> </thead> <tbody> <tr><td>7</td><td>4</td><td>+0.075</td><td>0.7</td><td>ns=1.2</td></tr> <tr><td>8</td><td>5</td><td>0</td><td>0.9</td><td></td></tr> <tr><td>9</td><td>6</td><td>0</td><td></td><td></td></tr> <tr><td>10</td><td>6</td><td>0</td><td></td><td></td></tr> <tr><td>12</td><td>11.5</td><td></td><td></td><td></td></tr> <tr><td>14</td><td>13.4</td><td></td><td>1.15</td><td></td></tr> <tr><td>15</td><td>14.3</td><td></td><td></td><td>ns=1.5</td></tr> <tr><td>16</td><td>15.2</td><td>-0.11</td><td></td><td></td></tr> <tr><td>17</td><td>16.2</td><td></td><td></td><td></td></tr> <tr><td>20</td><td>19</td><td></td><td>1.35</td><td></td></tr> <tr><td>25</td><td>23.9</td><td>0</td><td>1.65</td><td></td></tr> <tr><td>30</td><td>28.6</td><td>-0.21</td><td></td><td></td></tr> <tr><td>35</td><td>33</td><td></td><td></td><td></td></tr> <tr><td>40</td><td>38</td><td>-0.25</td><td>1.9</td><td>ns=2</td></tr> </tbody> </table>	V, E	e Tolerance	m+0.14 0	n	Machining Limits	7	4	+0.075	0.7	ns=1.2	8	5	0	0.9		9	6	0			10	6	0			12	11.5				14	13.4		1.15		15	14.3			ns=1.5	16	15.2	-0.11			17	16.2				20	19		1.35		25	23.9	0	1.65		30	28.6	-0.21			35	33				40	38	-0.25	1.9	ns=2	SV, SE, SW, SY = 1 mm Increment SV = Applied on V part SE = Applied on E part Ⓢ Either V or E Ordering Code: SV3-SW10-SY7 Ⓢ When V(E) < 15 SW ≥ V(E) - 2 Ⓢ When 15 ≤ V(E) ≤ 25 SW ≥ V(E) - 3 Ⓢ When 30 ≤ V(E) SW ≥ V(E) - 5 Ⓢ 3 ≤ SY ≤ 20	MV = Applied on V part ME = Applied on E part Ordering Code: MV24 <table border="1"> <thead> <tr> <th>V, E</th> <th>MV / ME (Selection Range)</th> </tr> </thead> <tbody> <tr><td>5, 6</td><td>3</td></tr> <tr><td>7, 8</td><td>3, 4</td></tr> <tr><td>9, 10</td><td>3, 4, 5</td></tr> <tr><td>11, 12</td><td>3, 4, 5, 6</td></tr> <tr><td>13-15</td><td>3, 4, 5, 6, 8</td></tr> <tr><td>16-18</td><td>3, 4, 5, 6, 8, 10</td></tr> <tr><td>19-24</td><td>3, 4, 5, 6, 8, 10, 12</td></tr> <tr><td>25-30</td><td>3, 4, 5, 6, 8, 10, 12, 16</td></tr> <tr><td>31-39</td><td>3, 4, 5, 6, 8, 10, 12, 16, 20</td></tr> <tr><td>40</td><td>3, 4, 5, 6, 8, 10, 12, 16, 20, 24, 30</td></tr> </tbody> </table> Ⓢ E=4 not applicable	V, E	MV / ME (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	16-18	3, 4, 5, 6, 8, 10	19-24	3, 4, 5, 6, 8, 10, 12	25-30	3, 4, 5, 6, 8, 10, 12, 16	31-39	3, 4, 5, 6, 8, 10, 12, 16, 20	40	3, 4, 5, 6, 8, 10, 12, 16, 20, 24, 30	BC, BQ ≤ Mx3 Ⓢ BC, BQ ≥ Pitchx3 Ⓢ BC, BQ ≤ G, T - Pitchx3 Ordering Code: BQ20 BC = Applied on Q part of V side BQ = Applied on Q part of E side	W, A = 1 mm Increment ZV = Applied on V part ZE = Applied on E part Ⓢ Applies to only one of either V or E Ordering Code: ZV12-W10-A8 Ⓢ Can be combined with Tapped Hole machining only on a same shaft. For machining conditions, see P.819. Ⓢ 5 ≤ A ≤ 20 Ⓢ ZV, ZE > W Ⓢ ZV = V, ZE = E Specified ZV = V / ZE = E W 1 mm Increment	KQ, KV, KE, C = 1 mm Increment KQ = Applied on Q part Ⓢ C ≤ 60 KV = Applied on V part Ⓢ T-C-KQ ≥ 2 KE = Applied on E part Ⓢ S(F)-C-KE(KV) ≥ 2 Ordering Code: KQ8-C10 Ⓢ Applicable to one of Q, V, or E. Ⓢ KQ (KE, KV) ≥ 2 Ⓢ When KQ, KE, KV = 0, keyway R will be eliminated on the shaft end side. Ⓢ For C, specify a value equal to or more than b <sub>1</sub> .
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Ⓢ When wrench flats, square chamfering, and keyway alterations are combined, their orientations will be random.