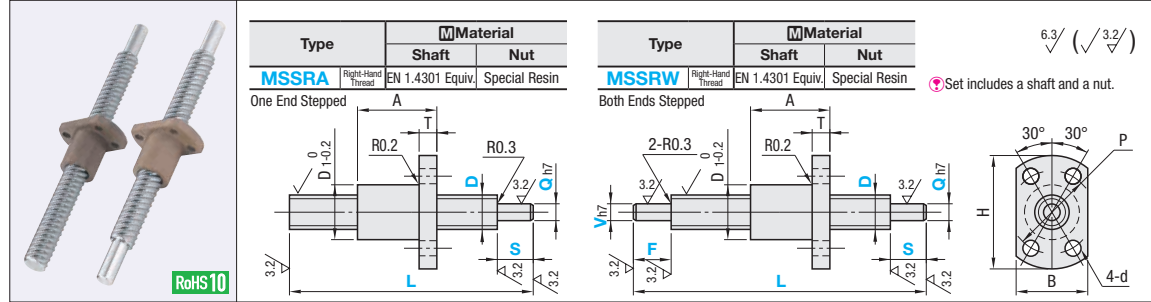


# Miniature Slide Screws

## One End Stepped / Both Ends Stepped

Stainless steel screw shaft and tribological resin nut combination can be used without grease, and are corrosion resistant and quiet.



Part Number	Type	1mm Increment		V / Q Selection	Number of Starts	Plastic Nut Dimension						Allowable Axial Load N (Reference)	Allowable Rotational Speed rpm (Reference)	Tightening Torque N·mm	
		D	Lead			D1	H	A	T	B	P				d
MSSRA MSSRW	4	01	30~150	2.5	1	10	23	11.5	3.5	15	15	2.9	50	2500	180
		02													
	6	01	30~250	3 4	1	12	26	14.5	3.5	17	18	3.4	60	2000	400
		02													
		09													
		18													
	8	01	40~250	4 5	1	14	29	18	4	18	21	3.4	110	2000	400
		02													
		12													
		24													
	10	02	50~250	5 6 7	1	16	33	22	5	21	24	4.5	210	1500	500
		15													
30															
02															
12	02	50~250	6 7 8 9	1	18	35	25	5	22	26	4.5	210	1000	500	
	18														
	36														
	02														

There may be a centering hole on machined shaft end. \*When V and Q=4, F and S will be less than 3x of V and Q.  
The tightening torque applies to the screw for mounting the plastic nut. Note that positioning repeatability changes when nut is exchanged for maintenance.

Ordering Example: MSSRA812 - L - S - Q - Part Number - L - F - V - S - Q  
MSSRW1202 - 250 - F20 - V6 - S8 - Q6

Part Number	Type	D	Lead	Unit Price			
				Min.L-100	L101-200	L201-300	L301-400
MSSRA	4	01	30~150	-	-	-	-
		02					
	6	01	30~250	-	-	-	-
		02					
		09					
		18					
	8	01	40~250	-	-	-	-
		02					
		12					
		24					
	10	02	50~250	-	-	-	-
		15					
30							
02							
12	02	50~250	-	-	-	-	
	18						
	36						
	02						

Part Number	Type	D	Lead	Unit Price			
				Min.L-100	L101-200	L201-300	L301-400
MSSRW	4	01	30~150	-	-	-	-
		02					
	6	01	30~250	-	-	-	-
		02					
		09					
		18					
	8	01	40~250	-	-	-	-
		02					
		12					
		24					
	10	02	50~250	-	-	-	-
		15					
30							
02							
12	02	50~250	-	-	-	-	
	18						
	36						
	02						

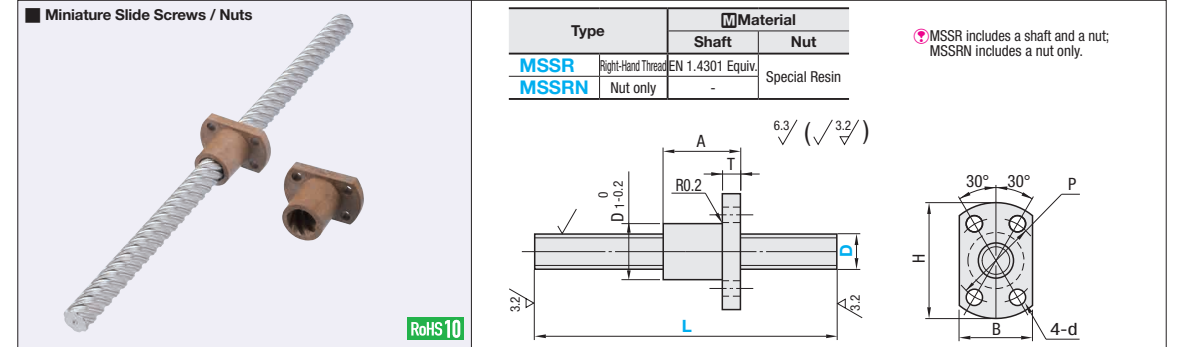
Alterations: MSSRA812 - L - S - Q - (AC, SC...etc.)  
MSSRW1202 - 250 - F20 - V6 - S8 - Q6 - AQ13.3

Alterations	Retaining Ring Groove		Wrench Flats		Coarse Tapping		Threaded		Square Chamfering		Keyway																															
	V(Q)	AQ(Q part)	SW(S)	SY(S)	MC(M)	MQ(M)	BC(BV)	MC(M)	ZC(ZQ)	KV(KV)	KC(KC)																															
<b>Code</b>	AC (V part)	AQ (Q part)	SC (V part)	SQ (Q part)	MC (V part)	MQ (Q part)	BV (V part)	BC (Q part)	ZC (V part)	ZQ (Q part)	KV (V part)	KC (Q part)																														
<b>Spec.</b>	AC, AQ=0.1mm Increment AC, AQ=F(S)-m-n For the m,n value, see the table below. (For the m value, consider the tolerance.) Ordering Code: AC13.3 AC=Applied on V part AQ=Applied on Q part	SC, SQ, SW, SY=1mm Increment Applied on SC=V part Applied on SQ=Q part Applicable to either V or Q. Ordering Code: SC5-SW5-SY5 SC5=SW5-SY5	MC=Applied on V part MQ=Applied on Q part Ordering Code: MC5	V, Q: MC, MQ (Selection Range) 6 3 7, 8 3, 4 9 3, 4, 5	BV=Applied on V part BC=Applied on Q part Ordering Code: BC10 BV=Applied on V part BC=Applied on Q part	A=1mm Increment ZC=Applied on V part ZQ=Applied on Q part Applicable to either V or Q. Ordering Code: ZC5-W5-A8 Other alteration can not be combined on the same screw shaft.	KC, KV, C=1mm Increment KV=Applied on V part KC=Applied on Q part Applicable to either V or Q. Ordering Code: KV2 C=KV/2 C+KC(KV)-S(F) KC(KV)≥2 When KC(KV)=0																																			
<b>Keyway Dimension</b>	<table border="1"> <thead> <tr> <th>Applicable</th> <th>Reference Dimension</th> <th>Tolerance (μm)</th> <th>Reference Dimension</th> <th>Tolerance (μm)</th> </tr> </thead> <tbody> <tr> <td>ZC(ZQ)</td> <td>b1</td> <td>t1</td> <td>r1</td> <td></td> </tr> <tr> <td>Shaft End Dia. V, Q</td> <td>6, 7</td> <td>8</td> <td>9</td> <td></td> </tr> <tr> <td></td> <td>2</td> <td>3</td> <td>3</td> <td></td> </tr> <tr> <td></td> <td>-0.004</td> <td>1.2</td> <td>+0.1</td> <td>0.08</td> </tr> <tr> <td></td> <td>-0.023</td> <td>1.8</td> <td>0</td> <td>-0.16</td> </tr> </tbody> </table>												Applicable	Reference Dimension	Tolerance (μm)	Reference Dimension	Tolerance (μm)	ZC(ZQ)	b1	t1	r1		Shaft End Dia. V, Q	6, 7	8	9			2	3	3			-0.004	1.2	+0.1	0.08		-0.023	1.8	0	-0.16
Applicable	Reference Dimension	Tolerance (μm)	Reference Dimension	Tolerance (μm)																																						
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	-0.023	1.8	0	-0.16																																						

Specify an alteration position to be 2mm or more away from the stepped part. For details, see P.787.  
Do not specify multiple alterations in such a way that they overlap with each other in the rotating direction on the same shaft. For details, see P.787.  
When adding multiple alterations, there must be 2mm or more clearance between each feature. Furthermore, orientations of those alterations will be random. For details, see P.787.

# Miniature Slide Screws / Nuts

## Straight



Part Number	Type	D	Lead	L	Number of Starts	Plastic Nut Dimension						Allowable Axial Load N (Reference)	Allowable Rotational Speed rpm (Reference)	Tightening Torque N·mm	Mass (Reference) g/100mm	Unit Price MSSR				
						D1	H	A	T	B	P					d	Min.L-100	L101-200	L201-300	L301-400
MSSR	4	01	30~150	2.5	1	10	23	11.5	3.5	15	15	2.9	50	2500	180	11(3)	-	-	-	-
		02																		
	6	01	30~250	3 4	1	12	26	14.5	3.5	17	18	3.4	60	2000	400	23(3)	-	-	-	-
		02																		
		09																		
		18																		
	8	01	40~250	4 5	1	14	29	18	4	18	21	3.4	120	2000	400	25(3)	-	-	-	-
		02																		
		12																		
		24																		
	10	02	50~250	5 6 7	1	16	33	22	5	21	24	4.5	210	1500	500	25(3)	-	-	-	-
		15																		
30																				
02																				
12	02	50~250	6 7 8 9	1	18	35	25	5	22	26	4.5	210	1000	500	25(3)	-	-	-	-	
	18																			
	36																			
	02																			

The tightening torque applies to the screw for mounting the plastic nut. Note that positioning repeatability changes when nut is exchanged for maintenance. The dimension in ( ) of mass table is nut mass.

Ordering Example: MSSR812 - L - S - Q - Part Number - L - F - V - S - Q  
MSSRN1002 (Nut)

### Features

Slide screw's nut is made of special resin composed of PPS as base material and solid lubricant (fluorine, for example) filled to increase sliding properties. The material is superior to polypropylene, nylon, and polyacetal in tribological properties, heat resistance and moisture absorbing characteristics. Quieter in comparison to ball screws, and lighter in motion with lower torque compared to lead screws.

### Material Properties of Nuts

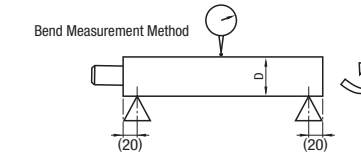
Item	Testing Method	Unit	Value
Base Material	-	-	PPS
Specific Gravity	ASTM D792	-	1.53
Tensile Strength	ASTM D638	MPa	51
Hardness	-	Rockwell R	110
Elongation	ASTM D638	%	3
Water Absorption Ratio	ASTM D570	%	0.05
Critical Temperature	-	°C	140

### Caution

- Positioning repeatability is changed by wear due to usage and exchange of parts during maintenance.
- Do not use molybdenum and silicone based greases due to its negative impact to the nuts.  
Do not use it due to its negative impact to the nuts.
- Sliding properties are based on 25°C. It may vary depending on temperature.
- The nuts are made of PPS base material; they may be "cracked" or "deformed" due to shocks or excessive tightening.

### Screw Accuracy

- Initial Accumulative Lead Error ±0.21/300mm (Reference Temperature 25°C)
- Bending Accuracy: 0.16 or less

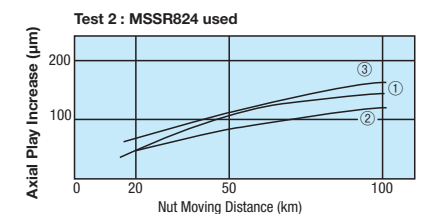
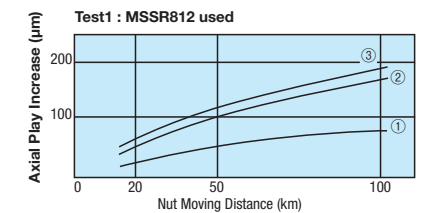


The screw shaft is supported on both ends with V-blocks and the measurements are taken with a dial indicator at arbitrary points while the shaft is rotated.

### Leads

- Lead is the travel distance of one revolution.
- Lead 01→Travel Distance/Rev.: 1mm
- Lead 24→Travel Distance/Rev.: 24mm

### Wear Data (Reference Values)



1: Dry and Axial Load 200N, Speed 500rpm  
2: Dry and Axial Load 200N, Speed 1000rpm  
3: Dry and Axial Load 200N, Speed 2000rpm