SCREWTECH®

LINEAR MOTION SYSTEMS & SOLUTIONS

PRECISION SMALL AND MINIATURE BALL SCREW



PRODUCT MANUAL

SCREW TECHNOLOGY CO.,LTD.

Transmission parts and supporting mechanical parts.
Linear transmission components, such as single-axis and multi-axis components.
Motors, controllers, sensors, encoders, etc.
Design, assembly and debugging of non-standard automation equipment, etc.

- Professional Customization
- Precision Machining
- High Quality Assurance



ABOUT US

We SCREW TECHNOLOGY CO., LIMITED is established in 2011, is a manufacturer of linear motion systems. We committed to providing customers with linear motion solutions. Adhering to the business philosophy of "professional, integrity, and efficiency", we look forward to contributing to the world's automated manufacturing.

Our products include:

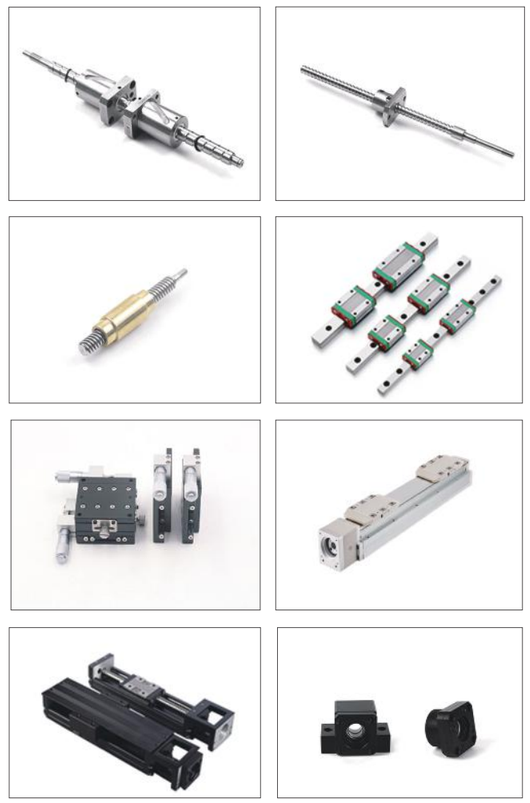
▶ Transmission parts and supporting mechanical parts, such as: ball screw and lead screw, guide rail, ball spline, coupling, support unit, nut seat, motor house, adapter plate, bearing, etc.;

▶ Linear transmission components, such as: single axis robot, multi-axis linear modules, electric cylinders, and linear platforms;

▶ Motors, controllers, sensors, encoders, etc., such as: stepper motors, servo motors, drivers, etc.;

▶ Design, assembly and debugging of non-standard automation equipment.

MAIN PRODUCTS



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Ball screw model selection steps

- Determine conditions of use
  - According to the weight of the moving object, feed speed, operation mode, screw shaft speed, travel,installation direction (horizontal or vertical), life time, positioning accuracy
- ▼ Determine the type of ball screw
  - Please choose ball screw with different accuracy grade according to the required positioning accuracy.
- ▼ Preselect the specifications of the ball screw
  - Preselect the diameter, lead, and length of the screw shaft according to the conditions of use.
- ▼ NG ◀ Verify basic security
  - The axial load
    Verify that the axial load is within the allowable range of the selected screw
  - speed
    Verify that the speed is within the allowable range of the selected screw
  - life
    Verify that the required life is within the allowable range of the selected screw
- ▼ NG ◀ Consult on performance requirements
  - To improve positioning accuracy and control response time, the following validation is required
    The rigidity of the screw shaft
    Changes in life due to temperature

Precision requirements for ball screw for different purposes

Purposes		Axis	Accuracy Grade							
			C0	C1	C2	C3	C5	C7	C8	C10
CNC Machine tool	Lathe	X		●	●	●	●			
		Z				●	●			
	Processing center machine	XY			●	●	●			
		Z			●	●	●			
	Drilling machine	XY				●	●			
		Z					●	●		
	Coordinate boring machine	XY	●	●						
		Z	●	●						
	Surface grinding machine	X				●	●			
		Y		●	●	●	●			
		Z		●	●	●	●			
	Cylindrical grinding machine	X	●	●	●					
		Z		●	●	●				
	Electric discharge machine	XY	●	●	●					
		Z		●	●	●	●			
	Wire cutting machine	XY	●	●	●					
		Z	●	●	●	●				
		UV		●	●	●				
	Die-cutting machine	XY				●	●	●		
	Laser processing machine	X				●	●	●		
		Z				●	●	●		
	Woodworking machine						●	●	●	●
General machinery, special machinery						●	●	●	●	●
Industrial robot	Rectangular coordinate machine	Assembly				●	●	●	●	
		Other					●	●	●	●
	Vertical multi-joint type	Assembly					●	●	●	
		Other						●	●	
	Cylindrical coordinates					●	●	●		
Semiconductor related equipment	Exposure device		●	●						
	Chemical processing machinery				●	●	●	●	●	●
	Lead welding machine			●	●					
	Probe		●	●	●	●				
	Printed circuit board drilling machine			●	●	●	●	●		
	Electronic component insertion machine				●	●	●	●		
Three coordinate measuring equipment			●	●	●					
Image processing equipment			●	●	●					
Injection molding machine								●	●	●
Office equipment							●	●	●	●

Ball Screw Run-out and location tolerances

Japan Industrial Standard of Ball Screw（JIS B1192）was revised in 1997, 2013 and 2018 in order to correspond to ISO. Regarding accuracy grade, C series (current JIS C0, 1, 3, 5）and Cp, Ct series (standard corresponding to ISO） are established. There are some differences between C series and Cp, Ct series in notation and tolerances for accuracy of Ball Screw mounting section. KSS uses notation in Fig. A-1 below and standard tolerance value, which conforms to C series standard, and KSS refers to Cp, Ct series standard in case of 7 and 10 grade.Moreover, in the revision of 2018, the notation of perpendicularity changed to “run-out of the mounting surface or end face”, and geometric tolerance symbols changed from ⊥ to ↗.

Fig. A-1： Description of Run-out and location tolerances for Ball Screws

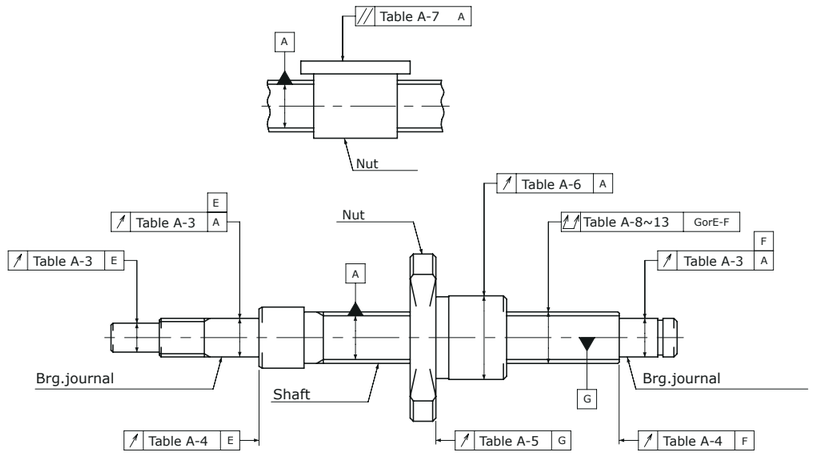


Table A-3： Radial Run-out of Bearing seat related to the centerline of screw groove and Radial Run-out of journal diameter related to the Bearing seat

Unit：μm

Shaft nominal diameter（mm）		Permissible deviation of Radial Run-out				
Over	Up to	C1	C3	C5	C7	C10
-	8	5	8	10	14	40
8	12	5	8	11	14	40
12	20	6	9	12	14	40

This measurement item is affected by Total Run-out of the Screw Shaft, and so it must be corrected as follows. Find the corrected value from the Total Run-out tolerances given in Tables A-8 ～ 12 on page 7 ～ 8 using the ratio of the total Shaft length to the distance between the supporting point and the measuring point（L1,L2）（see Fig. A-2）, and add the values obtained to the tolerance given in Table A-3.

$$\text{Compensation Value of Run-out} = \frac{\text{Tolerance of total Run-out（Table（A-8 ～ 13）}}{\text{Total shaft length}} \times \text{L1 or L2}$$

L1 ,L2： Distance btw supporting pt & measuring pt（mm）

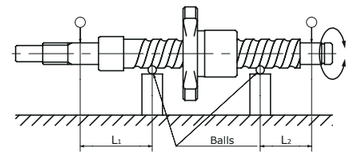


Fig. A-2： Compensation of Radial Run-out

Table A-4： Axial Run-out（Perpendicularity） of Shaft（Bearing） face related to the centerline of the Bearing seat

Unit：μm

Shaft nominal diameter（mm）		Permissible deviations of Axial Run-out（Perpendicularity）				
Over	Up to	C1	C3	C5	C7	C10
-	8	3	4	5	7	10
8	12	3	4	5	7	10
12	20	3	4	5	7	10

Table A-5： Axial Run-out（Perpendicularity） of Ball Nut location face related to the centerline of Screw Shaft

Unit：μm

Shaft nominal diameter（mm）		Permissible deviations of Axial Run-out（Perpendicularity）				
Over	Up to	C1	C3	C5	C7	C10
-	20	6	8	10	14	20
20	32	6	8	10	14	20
32	50	7	8	11	18	30

Table A-6： Radial Run-out of Ball Nut location diameter related to the centerline of Screw Shaft

Unit：μm

Nut outside diameter（mm）		Permissible deviations of Radial Run-out				
Over	Up to	C1	C3	C5	C7	C10
-	20	6	9	12	20	40
20	32	7	10	12	20	40
32	50	8	12	15	30	60

Table A-7： Parallelism of rectangular Ball Nut related to the centerline of Screw Shaft

Unit：μm

Mounting length（mm）		Permissible deviations of Parallelism				
Over	Up to	C1	C3	C5	C7	C10
-	50	6	8	10	17	30
50	100	8	10	13	17	30

Table A-8： Total Run-out in radial direction of Screw Shaft related to the centerline of Screw Shaft（C1）

Unit：μm

Shaft total length	Over	Shaft nominal diameter		
		-	8	12
	Up to	8	12	20
Over	Up to	Permissible deviations of total Run-out in radial direction		
-	125	0.020	0.020	0.015
125	200	0.030	0.025	0.020
200	315	0.040	0.030	0.025
315	400	0.045	0.040	0.030
400	500	-	0.050	0.040
500	630	-	0.060	0.045
630	800	-	-	0.060
800	1000	-	-	0.075

Table A-9： Total Run-out in radial direction of Screw Shaft related to the centerline of Screw Shaft（C3）

Unit：μm

Shaft total length	Over	Shaft nominal diameter		
		-	8	12
	Up to	8	12	20
Over	Up to	Permissible deviations of total Run-out in radial direction		
-	125	0.025	0.025	0.020
125	200	0.035	0.035	0.025
200	315	0.050	0.040	0.030
315	400	0.060	0.050	0.040
400	500	-	0.065	0.050
500	630	-	0.070	0.055
630	800	-	-	0.070
800	1000	-	-	0.095

Table A-10： Total Run-out in radial direction of Screw Shaft related to the centerline of Screw Shaft（C5）

Unit：μm

Shaft total length	Over	Shaft nominal diameter		
		-	8	12
	Up to	8	12	20
Over	Up to	Permissible deviations of total Run-out in radial direction		
-	125	0.035	0.035	0.035
125	200	0.050	0.040	0.040
200	315	0.060	0.055	0.045
315	400	0.075	0.065	0.055
400	500	-	0.080	0.060
500	630	-	0.090	0.075
630	800	-	-	0.090
800	1000	-	-	0.120

Table A-11： Total Run-out in radial direction of Screw Shaft related to the centerline of Screw Shaft（C7）

Unit：μm

Shaft total length	Over	Shaft nominal diameter		
		-	8	12
	Up to	8	12	20
Over	Up to	Permissible deviations of total Run-out in radial direction		
-	125	0.060	0.055	0.055
125	200	0.075	0.065	0.060
200	315	0.100	0.080	0.070
315	400	-	0.100	0.080
400	500	-	0.120	0.095
500	630	-	0.150	0.110
630	800	-	-	0.140
800	1000	-	-	0.170

Table A-12： Total Run-out in radial direction of Screw Shaft related to the centerline of Screw Shaft（C10） Unit：μm

Shaft total length		Shaft nominal diameter		
	Over	-	8	12
	Up to	8	12	20
Over	Up to	Permissible deviations of total Run-out in radial direction		
-	125	0.100	0.095	0.090
125	200	0.140	0.120	0.110
200	315	0.210	0.160	0.130
315	400	-	0.210	0.160
400	500	-	0.270	0.200
500	630	-	0.350	0.250
630	800	-	0.460	0.320
800	1000	-	-	0.420

Note） In case of Ct7, Ct10 grade, KSS may use the standard of Total Run-out based on slenderness ratio, which conforms to JIS B1192-2013.

Slenderness ratio		Total Run-out	
Over	Up to	Ct7	Ct10
-	40	0.080	0.160
40	60	0.120	0.240
60	80	0.200	0.400
80	100	0.320	0.640

Slenderness ratio = lu/do

lu： Useful travel（mm）
do: Nominal diametor of Ball Screw（mm）

Table A-13: Allowable value for variation (e300) and swing (e2π) of screw thread length 300mm. Unit: μm

Accuracy grade	C0	C1	C2	C3	C5	C7	C10
e300	3.5	5	7	8	18	50	210
e2π	2.5	4	5	6	8		

Table A-14: Axial preload grade of miniature ball screw，as follows.

WKT miniature ball screw pair axial backlash and preload combination table

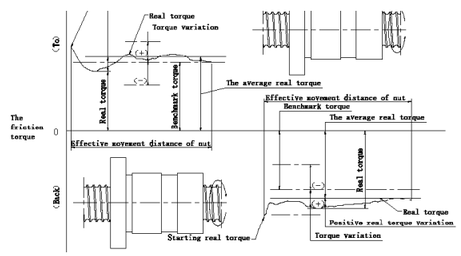
Backlash and preload level	X		Y		Z	
Backlash value and preload level	Backlash value ＝ 0mm	With preload	Backlash value ＜ 0.005mm	0 preload	Backlash value ＜ 0.01mm	0 preload
C1	C1X		C1Y		-	
C3	C3X		C3Y		C3Z	
C5	C5X		C5Y		C5Z	

Rolled miniature ball screw pair axial backlash and preload combination table

Backlash and preload level	Z		W		V		U	
Backlash value and preload level	Backlash value ＜ 0.01mm	With preload	Backlash value ＜ 0.02mm	0 preload	Backlash value ＜ 0.03mm	0 preload	Backlash value ＜ 0.05mm	0 preload
C7	C7Z		C7W		C7V		C7U	

Appropriate amount of preloading

The amount of preloading should be determined by the required rigidity or by the tooth side clearance.However, preloading may have the following effects:
1. Dynamic torque increases
2. The positioning accuracy is reduced due to heating and temperature rise
3. Shorten service life
Therefore, a low preload should be set as far as possible.

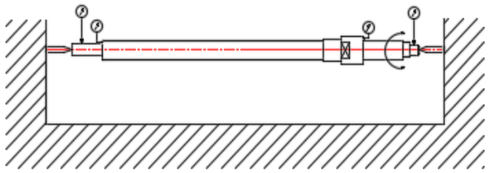


Method for measuring precision of ball screw assembling part

WKT ball screw measuring Geometric Tolerance based on screw shaft central axis, below is measuring process:

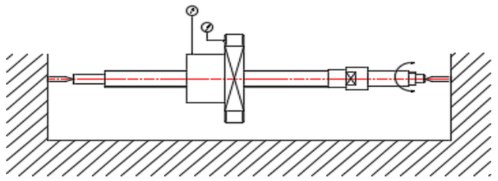
Using a qualified deflection instrument (or machine tool with a center). Withstanding two ends of the screw by center, so that the screw is supported on the deflection instrument or machine tool smoothly. The magnetic dial seat of the dial indicator is attracted On the surface of the deflection instrument or the machine tool guide rail. At the same time, the probe of the meter head should be at the angle of <30 ° with the surface to be measured, and touch the measurement part; rotating dial makes the pointer to 0, while rotating the screw, Reading the dial indication. During a rotation period, the scale within the range of the dial pointer's left-right deflection is the measured data.

This method can measure the runout of any outside surface of the screw and the central. As shown below:



The perpendicularity of the central axis and the end surface of the nut (or flange assembling surface)

Using a qualified instrument (or machine tool with a center), Withstanding two ends by center, so that the screw is supported on the deflection instrument or machine tool smoothly. See the below drawings:



Measuring nut's external diameter runout, attaching the magnetic dial base of the dial indicator to the surface of the deflection instrument or the machine tool guide rail, at the same time, the probe of the meter head is lightly touched on the measurement position in an attitude with the angle of <30; Rotating the dial makes pointer to 0, while rotating the screw (there is no relative movement between the screw and nut), reading dial indication. Within one rotation period, the scale left and right deflection of the dial pointer is the measured value; if measuring nut's end face runout, the dial indicator must be installed on the base of the height ruler which can be adjusted manually. The base of the height ruler is installed on the surface of the guide rail. Put meter head vertically on screw nut end surface, rotating hand to make dial indicator a vertical motion. The the scale within the range of the dial pointer deflection is the measured data.

Precautions for the use of ball screw

○ Precautions for handling and installation

1. If the nut is removed from the screw shaft, the steel balls will fall out of the nut and make it unusable. Do not disassemble. Otherwise,impurities will enter the interior and damage the assembly precision of each part. When need to remove the nut, please use the special false axis.

2. Do not impact the nut External shock will damage the outer circle of the screw shaft, spiral groove and circulation parts , resulting in poor circulation and loss of function. Please avoid it.

3. Pay attention to the nut falling off due to free fall Tilting ball screws and nuts may fall due to dead weight, please pay attention. Especially when used as the vertical axis, the possibility of nut falling due to dead weight is greater, please set the fall prevention mechanism.

4. Check screw smoothness before use Test the flexibility by turning the screw shaft with the fixing nut, or by turning the nut with the fixing shaft.

○ Precautions for use

1. Please use the ball screw in a clean environment If garbage, chips and other foreign bodies enter the ball screw, it will lead to damage to the ball circulation parts and loss of function, so please set a cover to prevent foreign bodies.

2. Do not make the ball screw nut overrun during use. Otherwise it will lead to ball drop and ball circulation parts damage and other faults.

3. Please avoid using in an environment over 80°C . Failure to do so may result in damage to circulation parts and seals.

4. When the support part of the ball screw shaft and the nut produce axial deviation or tilt, the nut will bear off-load, which will lead to shortened service life in serious cases, so please pay attention to the assembly precision.

○ Remove nut from screw to false shaft

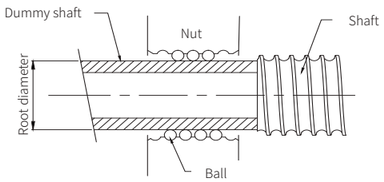
- remove nut from screw shaft -

·Make the lead screw shaft into a vertical state, and align the axis of the auxiliary shaft with the lead screw shaft at the end face of the supporting side of the lead screw shaft.

·Gently turn the nut and slowly move it to the auxiliary shaft .

·After confirming that both ends of the nut have been completely moved to the auxiliary shaft, remove the auxiliary shaft from the lead screw shaft.

·Please take good care of it. Do not let the nut fall off the auxiliary shaft.



○ Install the nut from the false shaft to the screw rod

- Remove the nut from the auxiliary shaft to the screw shaft -

·Make the lead screw shaft into a vertical state, and align the axis of the auxiliary shaft with the lead screw shaft at the end face of the supporting side of the lead screw shaft.

·Gently press the nut in the direction of the screw shaft and rotate it slowly to the screw shaft.

·When moving the nut to the lead screw axis, if there is a tight or stuck feeling, do not force the nut to move, carefully check the situation and then re-work.

Part Number / Ordering information

M I F 06 02B-3 LH - 74 - 99B - DY - S1 (WS) - C5X

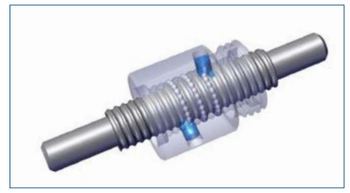
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭ ⑮ ⑯

Name Phrase	Number	Representative name	Marking mode			Meaning
Nut	①	Thread type code	M			standard nut
			G			custom ballnut
	②	Cycle mode	I			Floating deflector
			U			waist shaped floating deflector
			K			Cutting-type deflector
			P			Cover plate deflector
			W			Intubated deflector
			E			End cover deflector
	③	Nut shape	F	Round nut with flange	O	Round nut with flange without milling flat
					D	Round nut with flange single milling flat
					H	Round nut with flange double milled flat
					Y	Round nut with flange milling tripartite
					X	Round nut with flange milled square
					L	Round nut with flange milling hexagon
					Q	Other round nut with flange
			S			Square nut
			A			Round nut with triangular thread
			B			With trunnion
			C			Cylindrical with keyway
			T			Irregular shape
	④	Nominal diameter	Value			Unit mm
	⑤	Lead	Value			Unit mm
	⑥	Extra code letters	Letter			Same specification with multiple standard nut, distinguished by letters B\C\D\E\F\G
	⑦	Number of circuit	Numerical value			Number of turns
	⑧	Rotation direction	LH\RL			LH = left-hand, RL = left hand + right hand,right hand is not marked
Screw Shaft	⑨	Total length of thread	Value			Length of thread
	⑩	Length of shaft	Value			Length of ball screw shaft
	⑪	Extra code letters	Letter			Drawings have the same name but different version, distinguished by the letters B/C/D/E/F/G
	⑫	Extra code letters	Letter			Screw shaft end machining feature codes, such as threaded holes LW, inner hexagon NL, outer hexagon LF, with large steps DY and DJ (D = large steps, Y = large steps and screw body production, J = Non-integrated production of large steps and screw body, with large steps for insert processing or the shaft end with large steps and the screw body to be made by butting. The name of the large step is placed at the back of the total length and in front of the material. For example, MIF0601-48- 77.5-DY-S1-C5X), the large step code must be written into the model now.
Material and surface treatment	⑬	Material	G (not marked by default)			GCr15
			S1			SS304
			S2			SS316
			S3			SS316L
			S4			SS440C（9Cr18）
	⑭	Surface treatment	(Letter)	(CR)	Chrome coating	(BR) Low temperature black chrome coating
				(WS)	Tungsten Disulfide coating	(ZN) Zinc coating
				(MS)	Molybdenum disulfide coating	(BL) Black coating
Accuracy and preload level	⑮	Accuracy grade	C3/C5			Accuracy grade of ball screw
	⑯	Backlash value and preload level	X		Backlash value = 0mm	With preload
			Y		Backlash value < 0.005mm	0 preload
			Z		Backlash value < 0.01mm	0 preload
			W		Backlash value < 0.02mm	0 preload
			V		Backlash value < 0.03mm	0 preload
			U		Backlash value < 0.05mm	0 preload

Steel ball circulation mode

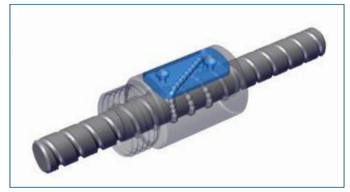
Internal Deflector

Internal Deflector return is the most basic and widely used, with the help of path on the role of the bead groove, forcing the ball rolling along the raceway, over the screw thread raceway after the tooth tip, back to the initial raceway, formed a circular ball chain, suitable for all kinds of diameter and nut style. In all circulation systems, the nut diameter Internal Deflector return can be minimized, suitable for all kinds of precision micro equipment.



Return Plate

Nut with return plate, suitable for large lead ball screw, large load, and low in cost.



End-cap

Refers to the way in which the steel ball rolls along the groove between the screw shaft and the nut, passes through the through hole on the nut through the path installed on the end cover backer at both ends of the nut, and returns to the original position. It has stronger scraping effect, and the strengthening of the circulating backflow structure increases the function of high rigidity and high speed. It is suitable for the design of high speed light load and low noise.



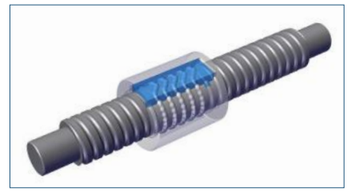
Return Tube

The return tube recirculation type is an evolution from the internal deflector. To guide the balls into and out of the elbow tube by means of a tongue bevel at the end of the elbow tube inserted into the hole or other form of bead stopper.



Liner Return

Liner Return type has the advantages of small space and high load capacity, while with higher difficulty. So this type is proper for some special situations.



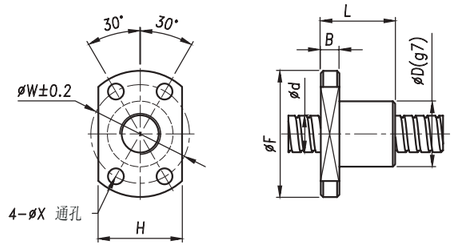
Professional supplier of transmission components

Screwtech has a full range products including ball screw, lead screw, support units, coupling, linear guideways, linear module, positioning slides, linear actuator, etc.

The abilities of providing technical support,solutions and customized services make SCREWTECH your best choice for partners.

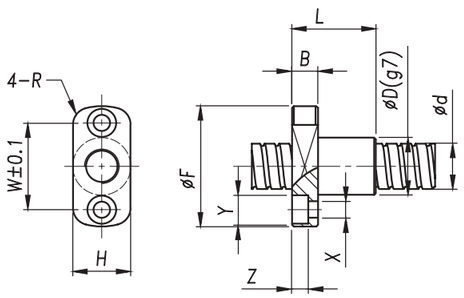
Automation industry · Robot industry · Semiconductor industry · Industries and machinery · Medical grade industry · Environmental protection industry · Machine tools · The car · Aeronautics and astronautics · The defence

MIF



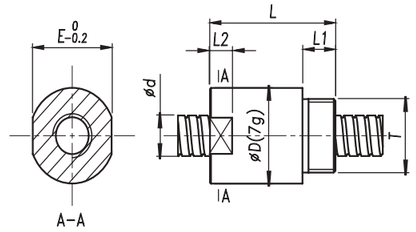
Model	d	D	F	L	B	W	H	X
MIF0401	4	10	20	12	3	15	14	2.9
MIF0501	5	10	20	12	3	15	14	2.9
MIF0601	6	12	24	15	3.5	18	16	3.4
MIF0601B	6	13	26	17	4	20	16	3.4
MIF0601C	6	11	23	14.5	3.5	17	15	3.4
MIF0602	6	12	24	15	3.5	18	16	3.4
MIF0602B	6	15	28	17	4	22	19	3.4

MIF



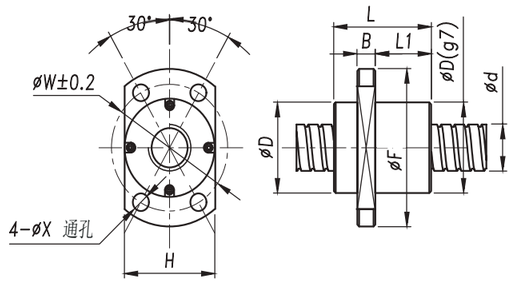
Model	d	D	F	L	B	W	H	X	Y	Z	R
MIF0601D	6	10	21	14.5	3.5	15	10	2.9	5	2.1	3

MIA



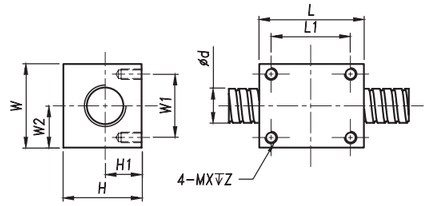
Model	d	D	L	L1	L2	E	T
MIA0401	6	10	15	5	-	-	M8x0.75
MIA0401B	6	12	15	5	-	-	M12x1.5
MIA0601	6	12	16	5	2	10	M10x1
MIA0602	6	12	20	6	-	-	M10x1
MIA0602B	6	12	16	5	-	-	M10x1
MIA0602C	6	12	20	6	8	11	M10x1

MEF



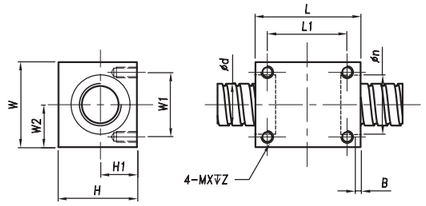
Model	d	D	F	L	L1	B	W	H	X
MEF0606	6	14	27	17	9.5	4	21	16	3.4

MIS



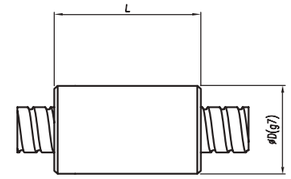
Model	d	L	L1	W	W1	W2	H	H1	X	Z
MIS0601	6	16	12	14	10	7	12	6	2.5	5
MIS0601B	6	20	15	13	8	6.5	11	5.5	2.5	5
MIS0601C	6	15	10	15	10	7.5	12.5	6	2.5	5.5
MIS0601G	6	15	10	13	8	6.5	11	5.5	2.5	4
MIS0602	6	20	15	13	8	6.5	11	5.5	2.5	5

MIS



Model	d	L	L1	W	W1	W2	H	H1	B	n	X	Z
MIS0601E	6	20	15	13	8	6.5	11	5.5	4	8.5	3	6
MIS0602B	6	20	15	13	8	6.5	11	5.5	4	8.5	3	5

MIC



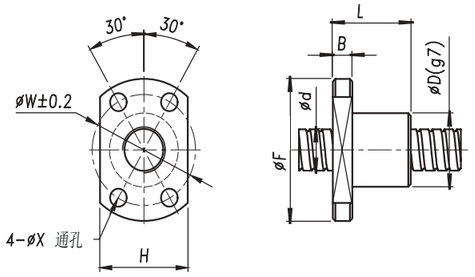
Model	D	L
MIC0602	12	15

Model	Nominal diameter (mm)	Lead (mm)	Accuracy grade	Ball Diameter	Circuts	Basic rated load(N)	
						Dynamic load	Static load
MIF	4	1	C3, C5,	0.8	3	490	700
	5	1		0.8	3	530	810
	6	1		0.8	3	580	1000
		2		1.2	3	750	1200
MIA	4	1		0.8	3	400	150
	6	1		0.8	3	580	1000
		2		1.2	3	750	1200
MEF	6	6		1.0	3.2	870	1450
MIS	6	1		0.8	3	660	1110
		2		1.2	3	750	1200
MIC	6	2		1.2	3	730	1210
The above models can be made as left hand thread, right hand thread or Bi-directinal(left hand+right hand) thread， special sizes can be customized.							

Free service	Performance testing
	Seletion consultance
	Design Assistance
Please contact the salesman for details	

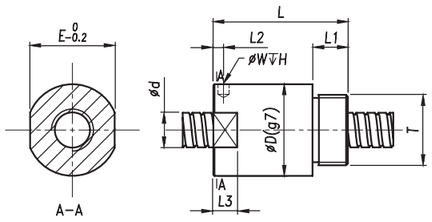
Services beyond standard sizes	Stainless steel and other customized materials
	Surface treatment
	Customized Ballscrew Nut and end journal
	Grease Replacing
	Maintenance and assembling
Please contact the salesman for details	

MIF(MUF)



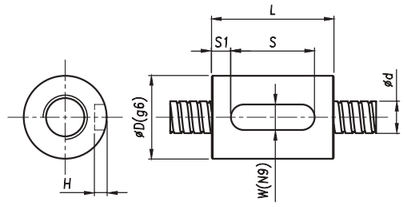
Model	d	D	F	L	B	W	H	X
MIF0801	8	14	27	16	4	21	18	3.4
MIF0801B	8	16	29	17	4	23	18	3.4
MIF0801C	8	13	26	15	4	20	17	3.4
MIF0801D	8	12	25	15	4	19	16	3.4
MIF0802	8	14	27	16	4	21	18	3.4
MIF0802B	8	16	29	26	4	23	20	3.4
MIF0802C	8	15	28	18	4	22	19	3.4
MIF0802D	8	14	27	17	6	21	19	3.4
MIF0802E	8	15	28	22	5	22	19	3.4
MIF0802.5	8	16	29	26	4	23	20	3.4
MIF0802.5B	8	16	28	30	6	22	19	3.4
MUF0804	8	16	29	26	4	23	20	3.4

MIA



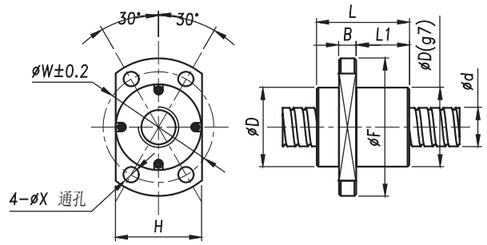
Model	d	D	L	L1	L2	L3	W	H	E	T
MIA0801	8	16	22	8	-	-	-	-	-	M14x1
MIA0802	8	16	27	8	-	-	-	-	-	M14x1
MIA0802B	8	18	27	8	-	5	-	-	17	M14x1
MIA0802.5B	8	17.5	23.5	7.5	3	-	3.2	2	-	M15x1

MIC



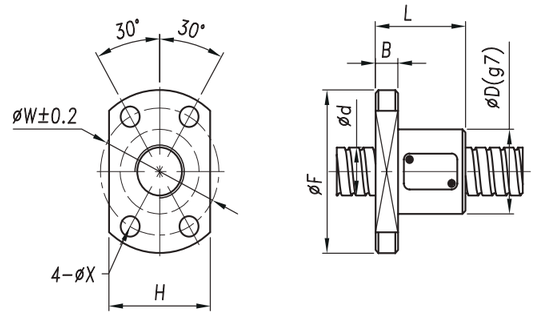
Model	d	D	L	S	S1	W	H
MIC0801	8	14	16	10	3	3	1.8

MEF



Model	d	D	F	L	L1	B	W	H	X
MEF0808	8	18	31	21.5	13	4	25	20	3.4
MEF0810	8	18	31	24	13	4	25	20	3.4

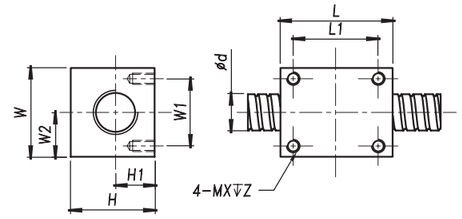
MPF



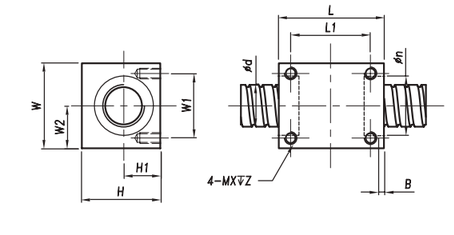
Model	d	D	F	L	B	W	H	X
MPF0804C	8	21	39	28	5	31	23	4.5
MPF0805	8	18	31	28	4	25	20	3.4

Free service	Performance testing
	Seletion consultance
	Design Assistance
Please contact the salesman for details	

MIS



Model	d	L	L1	W	W1	W2	H	H1	X	Z
MIS0801B	8	20	15	14	8	7	13	6.5	2.5	5



Model	d	L	L1	W	W1	W2	H	H1	B	n	X	Z
MIS0801C	8	20	15	16	12	8	14	7	4	10.5	3	6
MIS0801D	8	20	15	14	8	7	13	6.5	4	10.5	3	6
MIS0802B	8	20	15	16	12	8	14	7	4	10.5	3	6

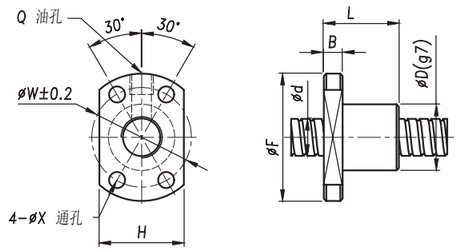
Services beyond standard sizes	Stainless steel and other customized materials
	Surface treatment
	Customized Ballscrew Nut and end journal
	Grease Replacing
	Maintenance and assembling
Please contact the salesman for details	

Model	Nominal diameter (mm)	Lead (mm)	Accuracy grade	Ball Diameter	Circuts	Basic rated load(N)	
						Dynamic load	Static load
MIF	8	1	C3, C5,	0.8	3	780	1650
		2		1.2	3	1500	2600
		2.5		1.2	3	1850	3000
		4		1.588	3	2350	3300
MIA	8	1		0.8	4	780	1650
		2		1.2	4	1500	2600
		2.5		1.588	4	1850	3000
MIC	8	1		0.8	3	1350	2250
MEF	8	8		1.588	3.2	2200	3800
		10		1.588	3.2	2200	3900
MPF	8	4		2.0	3.5	2600	4200
		5		1.588	2.5	1800	3000
		8		1.588	2.5	1700	3400
MIS	8	1		0.8	3	780	1650
		2		1.2	3	850	1600
The above models can be made as left hand thread, right hand thread or Bi-directinal(left hand+right hand) thread， special sizes can be customized.							



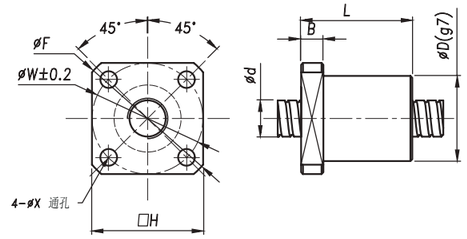


MIF



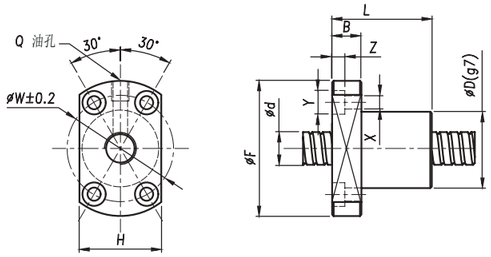
Model	d	D	F	L	B	W	H	X	Q
MIF1002	10	18	35	28	5	27	22	4.5	-
MIF1003	10	20	37	32	6	29	24	4.5	-
MIF1004	10	20	37	38	8	29	24	4.5	M5

MIF



Model	d	D	F	L	B	W	H	X
MIF1003B	10	23	39	30	6	29.7	30	4.5
MIF1004B	10	23	41	30	6	30	30	4.5

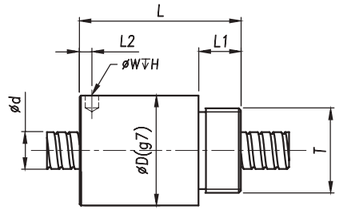
MIF



Model	d	D	F	L	B	W	H	X	Y	Z	Q
MIF1004C	10	26	46	34	10	36	28	4.5	8	4.5	M6

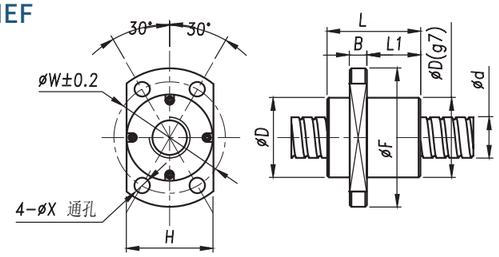
Free service	Performance testing
	Seletion consultance
	Design Assistance
Please contact the salesman for details	

MIA



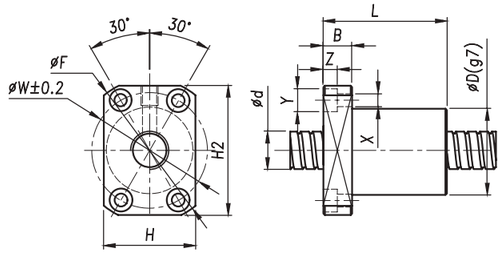
Model	d	D	L	L1	L2	W	H	T
MIA1002	10	19.5	22	7.5	3	3.2	2.5	M17x1
MIA1002B	10	18	28	7	-	-	-	M16x1
MIA1004	10	21	30	8	3	3.2	3	M18x1

MEF



Model	d	D	F	L	L1	B	W	H	X
MEF1010	10	23	40	27	15.5	5	32	25	4.5

MWF



Model	d	D	F	L	B	W	H	H2	X	Y	Z
MWF1004	10	26	46	34	10	36	28	42	4.5	8	4.4

Services beyond standard sizes	Stainless steel and other customized materials
	Surface treatment
	Customized Ballscrew Nut and end journal
	Grease Replacing
	Maintenance and assembling
Please contact the salesman for details	

Model	Nominal diameter (mm)	Lead (mm)	Accuracy grade	Ball Diameter	Circuts	Basic rated load(N)	
						Dynamic load	Static load
MIF	10	2	C3, C5,	1.2/1.588	3	1500	2600
		3		2.0	3	2600	5200
		4		2.381	3	3000	5200
MIA	10	2		1.2/1.588	4	1950	3800
		4		2.381	3	3000	5200
MEF	10	10		2.0	3.2	3300	5900
MWF	10	4		2.0	2.5	3350	5900

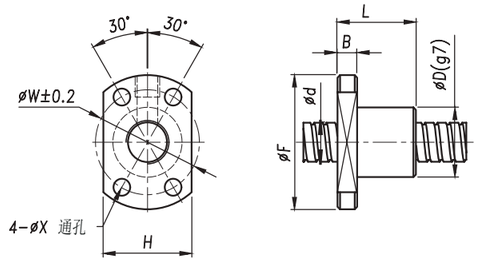
The above models can be made as left hand thread, right hand thread or Bi-directinal(left hand+right hand) thread， special sizes can be customized.





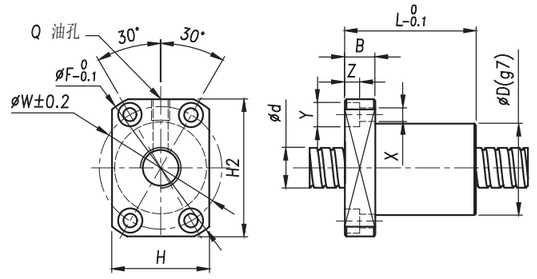


MIF



Model	d	D	F	L	B	W	H	X
MIF1201	12	20	37	28	5	29	24	4.5
MIF1202	12	20	37	28	5	29	24	4.5
MIF1203	12	22	39	32	6	31	26	4.5
MIF1204C	12	24	40	28	6	32	25	3.5
MIF1205	12	22	43	38	8	31	26	4.5

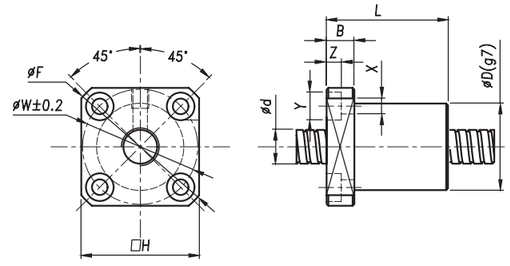
MIF



Model	d	D	F	L	B	W	H	H2	X	Y	Z	Q
MIF1202B	12	20	40	33	8	29	25	36	4.5	8	5	–
MIF1204B	12	26	46	34	8	36	28	42	4.5	8	4.5	M6
MIF1205B	12	30	50	40	10	40	32	45	4.5	8	4	M6

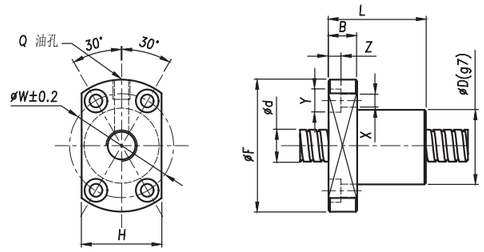
Free service	Performance testing
	Seletion consultance
	Design Assistance
Please contact the salesman for details	

MIF



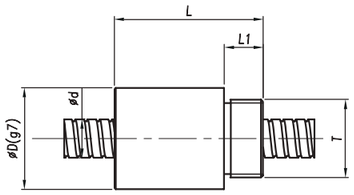
Model	d	D	F	L	B	W	H	X	Y	Z
MIF1202C	12	25	44	35	8	33	34	4.5	8	4.4

MIF



Model	d	D	F	L	B	W	H	X	Y	Z	Q
MIF1204D	12	24	44	40	10	34	34	4.5	8	4.5	M6

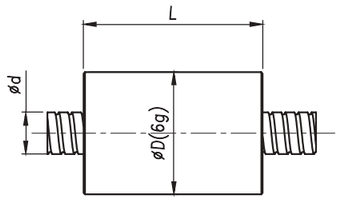
MIA



Model	d	D	L	L1	T
MIA1204	12	25.5	34	10	M20x1
MIA1205	12	24	38	10	M20x1
MIA1202	12	20	28	10	M18x1

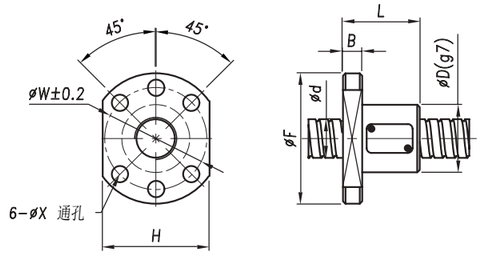
Services beyond standard sizes	Stainless steel and other customized materials
	Surface treatment
	Customized Ballscrew Nut and end journal
	Grease Replacing
	Maintenance and assembling
Please contact the salesman for details	

MIC



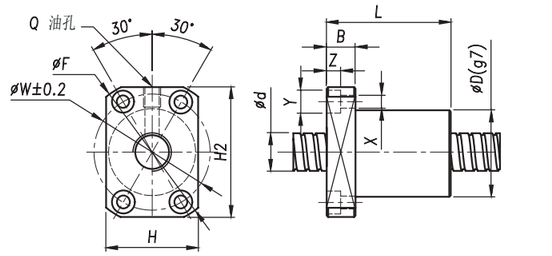
Model	d	D	L
MIC1205	12	22	30

MPF



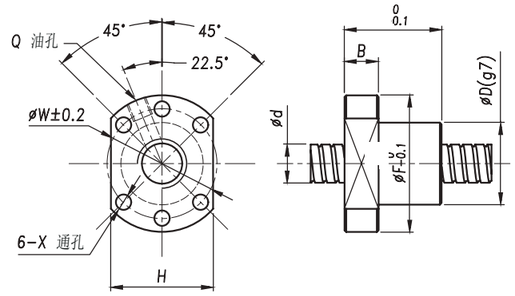
Model	d	D	F	L	B	W	H	X
MPF1208	12	24	40	42	10	32	30	4.5

MWF



Model	d	D	F	L	B	W	H	H2	X	Y	Z	Q
MWF1210	12	30	50	50	10	40	32	45	4.5	8	4.4	M6

MEF

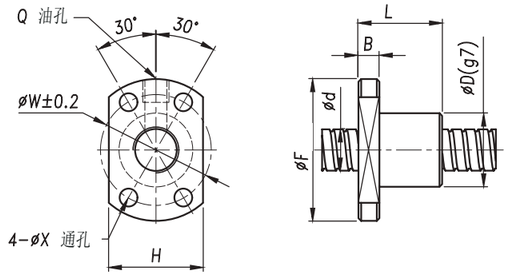


Model	d	D	F	L	B	W	H	X	Q
MEF1205	12	24	40	28	10	32	30	4.5	M6
MEF1210	12	24	40	28	10	32	30	4.5	M6

Model	Nominal diameter (mm)	Lead (mm)	Accuracy grade	Ball Diameter	Circuts	Basic rated load(N)	
						Dynamic load	Static load
MIF	12	1	C3, C5,	0.8/1.588	3	780	1600
		2		1.2/1.588	3	3000	6000
		3		1.588	3	3650	9900
		4		2.0	3	4100	9900
		5		2.0	3	6190	8830
MIA	12	2		1.2/1.588	3	1730	3170
		4		2.5	3.5	4100	9900
		5		2.0	3	2500-4100	3700-7400
MIC	12	5		2.0	3	6190	8820
MPF	12	8		2.381	2.5	2840	5190
		10		2.5	2.8	6420	12870
MWF	12	10		2.381	2.5	5000	9800
MEF	12	5		2.381	3.7	4100	7400
		10		2.381	3.4	5100	9800

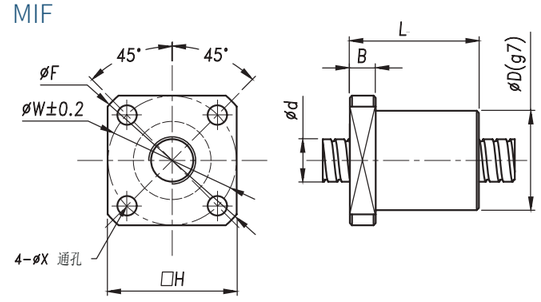
The above models can be made as left hand thread, right hand thread or Bi-directinal(left hand+right hand) thread， special sizes can be customized.

MIF



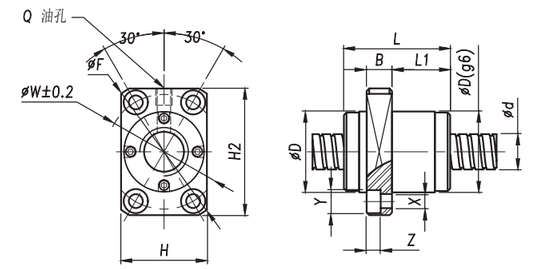
Model	d	D	F	L	B	W	H	X	Q
MIF1402	14	21	40	23	6	31	26	5.5	-
MIF1403	14	24	41	32	6	33	28	5.5	-
MIF1404	14	26	45	33	6	36	28	5.5	-
MIF1404B	14	26	45	36	8	35	28	5.5	-
MIF1405	14	26	46	40	8	36	30	5.5	-
MIF1602	16	25	43	40	10	35	29	5.5	M6
MIF2002	20	30	50	40	10	40	35	5.5	M6

MIF



Model	d	D	F	L	B	W	H	X
MIF1405B	14	25	45.5	38	6	34	34	5

MEF



Model	d	D	F	L	L1	B	W	H	H2	X	Y	Z	Q
MEF1616	16	32	57	40	23	10	45	34	50	5.5	9.5	5.5	M6

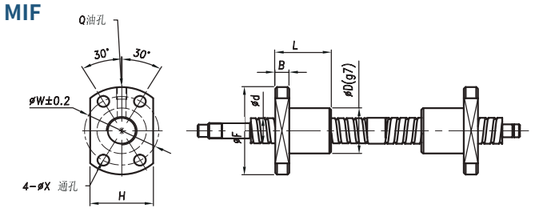
Model	Nominal diameter (mm)	Lead (mm)	Accuracy grade	Ball Diameter	Circuts	Basic rated load(N)	
						Dynamic load	Static load
MIF	14	2	C3, C5,	1.2/1.588	3	2890	6330
		3		1.588	3	2900	4600
		4		2.381	3	4500	8600
		5		3.175	3	5700	11600
	16	2		1.2/1.588	3	3730	12000
	20	2		1.2/1.588	4	5810	22840
MEF	16	16		3.175	3.2	8080	17690

The above models can be made as left hand thread, right hand thread or Bi-directinal(left hand+right hand) thread， special sizes can be customized.

Free service	Performance testing
	Seletion consultance
	Design Assistance
Please contact the salesman for details	

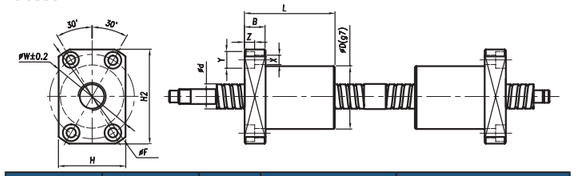
Services beyond standard sizes	Stainless steel and other customized materials
	Surface treatment
	Customized Ballscrew Nut and end journal
	Grease Replacing
	Maintenance and assembling
Please contact the salesman for details	

MIF



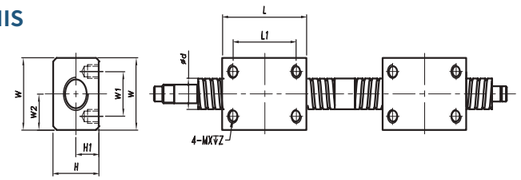
Model	d	L	Ball Diameter	Other Parameters
MIF0501	5	1	0.8	Pls contact salesman for more information
MIF0601	6	1	0.8	
MIF0801	8	1	0.8	
MIF0801.5		1.5	1.0	
MIF0802		2	1.2	
MIF1001	10	1	0.8	
MIF1001.5		1.5	1.0	
MIF1002		2	1.2	
MIF1002.5		2.5	1.5875	
MIF1003		3	2.0	
MIF1004		4	2.0	
MIF1005		5	2.0	
MIF1201	12	1	0.8	
MIF1202		2	1.2	
MIF1202.5		2.5	1.5875	
MIF1203		3	2.0	
MIF1204		4	2.381	
MIF1401	14	1	0.8	
MIF1402		2	1.2	
MIF1402.5		2.5	1.5875	
MIF1403		3	2.0	
MIF1404		4	2.381	
MIF1405		5	2.381	
MIF1601	16	1	0.8	
MIF1602		2	1.2	
MIF1603		3	2.0	

MWF



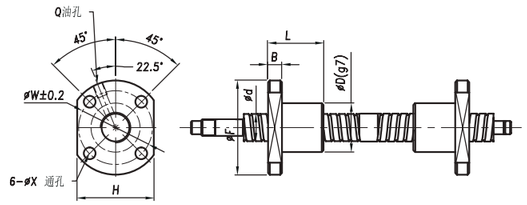
Model	d	L	Ball Diameter	Other Parameters
MWF1210	12	10	2.381	Refer to P14

MIS



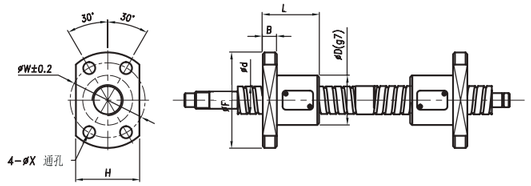
Model	d	L	Ball Diameter	Other Parameters
MIS0602	6	2	1.2	Refer to P8

SFU



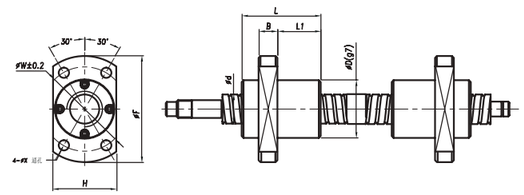
Model	d	L	Ball Diameter	Other Parameters
SFU1604-4	16	4	2.381	Pls contact salesman for more information
SFU1605-4		5	3.175	
SFU1610-3		10	3.175	
SFU2004-4	20	4	2.381	
SFU2005-4		5	3.175	
SFU2010-4	20	10	4.762	
SFU2504-4	25	4	2.381	
SFU2505-4		5	3.175	
SFU2506-4		6	3.969	
SFU2508-4		8	4.762	
SFU2510-4		10	4.762	

MPF



Model	d	L	Ball Diameter	Other Parameters
MPF0805	8	5	1.5	Refer to P9

MEF

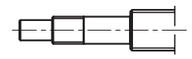
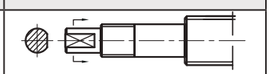
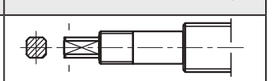
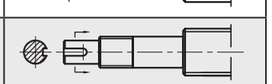


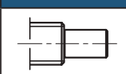
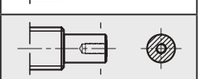
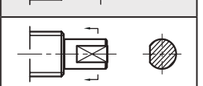
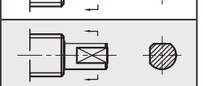
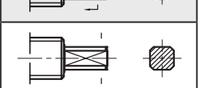
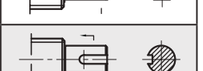
Model	d	L	Ball Diameter	Other Parameters
MEF0606	6	6	1.2	Pls contact salesman for more information
MEF0808	8	8	1.588	
MEF1010	10	10	2.0	
MEF1210	12	10	2.381	
MEF1616	16	16	3.175	

Notes:

1. For the above standard bi-directional nut,you can refer to the technical parameters of right hand thread or left hand thread.
2. Nut size and shape can be customized as per your specific requirement or a detailed drawing.
3. Various material is available for both screw and nut.Kinds of surface coating is doable according to your requirement.
4. Standard ballnut in stock,fast delivery.For customized screw and ballnut,pls contact salesman for exact lead time.

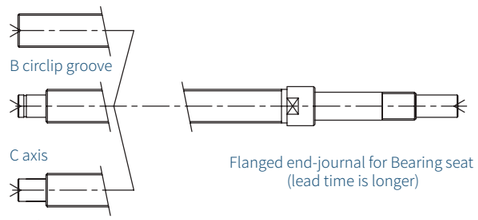
End-journal machining

Typical Journal Ends	Journal ends machining Symbol and Feature		Diagram
	Symbol	Features	
Fixed end(F)	F	coupling end+thread lock+bearing block	
	FM	coupling end(axial threaded hole)+thread lock+bearing block	
	FD	coupling end(milling with one cut face)+thread lock+bearing block	
	FH	coupling end(milling with two cut faces)+thread lock+bearing block	
	FX	coupling end(milling square)+thread lock+bearing block	
	FU	coupling end(key way)+thread lock+bearing block	

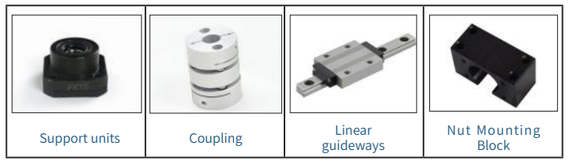
Screw Typical Journal Ends	Screw Journal ends machining Symbol and Feature		Diagram
	Symbol	Features	
Support end(S)	S	bearing block	
	SM	bearing block+axial threaded hole	
	SH	bearing block+milling with one cut face	
	SX	bearing block+milling with two cut faces	
	SU	bearing block+milling square	
	SC	bearing block+keyway	
	SD	bearing block+circlip	

Flanged end-journal for Bearing seat

A. no processing

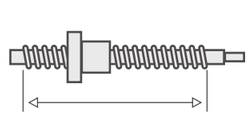


Related accessories

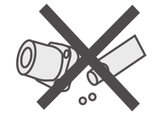


Precautions for use

Do not rotate the nut beyond the effective travel of the ball screw or unscrew the screw.
Otherwise, the ball will fall off and return to the damage of the results.
Tilting the ball screw may cause the nut to fall off due to dead weight, please note.



Run the nut within the effective stroke



Do not remove the nut by yourself

Note

Lithium base genernal greasee No.2（Chinese Brand Great Wall）
Grease can be changed as required.

If you have any other requirements,
please contact the sales staff
Telephone: +86-0512-66903936
Website: www.screw-tech.com

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