

精密进给丝杠篇 Precision Lead Screws

接单生产 MG系列 Customized products MG series



本公司除了生产滚珠丝杠外，还生产精密进给丝杠。
精密进给丝杠具有滚珠丝杠所没有的小节距，可用于精度要求不高的场合。
KSS manufactures not only Ball Screws but also Precision Lead Screws.
It can be used as small Pitch which Ball Screws do not have, and it can be achievable when less precise products are needed.

●特点
可选择小节距
可选择难以用滚珠丝杠设定的小节距。

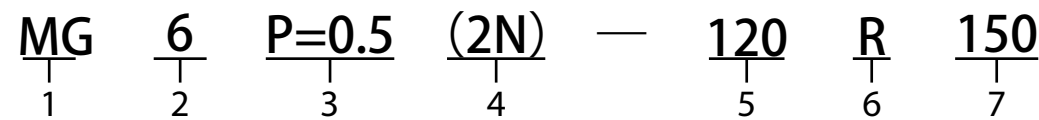
产品种类齐全
本公司以JIS规定的公制细牙螺纹、公制粗牙螺纹为标准，也可以提供梯形螺纹、统一协定螺纹、ACME螺纹、特殊节距、多条螺纹等。

低扭矩
充分发挥螺纹量规生产的技术专长，利用高超的研磨技术和镜面加工技术制造而成的丝杠产品，螺纹加工表面粗糙度低、导程误差小，实现了低扭矩和低磨损。

螺母形状的自由度
螺母无形状限制，可根据客户设计制成各种形状。

●Features
Possible to select small Pitch
It is possible to select small Pitch which Ball Screws do not have.
Wide variety of size
Metric Fine Thread and Metric Coarse Thread based on JIS (Japanese Industrial Standard) are standardized but we also manufacture Trapezoidal Thread, Unified Screw Thread, ACME Screw Thread, special Pitch, and multiple start Thread.
Low torque
With knowhow of screw gauge, we make use of grinding technique, and lapping technique, so fine surface roughness and low wobble become reality, which lead low torque and less wear.
Flexibility of Nut configuration
Nut configuration is not restricted and it is possible to manufacture in accordance with customer's design.

●公称型号的构成 Model number notation



- 1进给丝杠符号
MG：精密进给丝杠
M：普通进给丝杠
**非公制螺纹时符号不同。
- 2丝杠轴外径 (mm)
- 3节距 (mm)
- 4螺纹条数
2N=2条, 1条时省略
- 5螺纹部长度 (mm)
- 6螺纹旋向 R=右旋, L=左旋
- 7丝杠轴总长 (mm)

- 1Lead Screws series No.
MG：Precision Lead Screws
M：General Lead Screws
**Sign differs other than M-thread Screw.
- 2Screw Shaft outside diameter (mm)
- 3Pitch (mm)
- 4Number of Thread
2N=double-start thread, No identified for single-start thread
- 5Screw thread length (mm)
- 6Thread direction R=Right-hand, L=Left-hand
- 7Screw Shaft total length (mm)

注1) 型号列于本公司出示的“规格表”中。
注2) 精度等级、轴向间隙未列入公称型号。
Note 1) Model number is mentioned in specification document that we hand in.
Note 2) Accuracy, Axial play are not mentioned in Model number notation.

●材质和表面硬度 Material & Surface hardness

Components / 零件	Material / 材质	Surface hardness / 表面硬度
Shaft / 丝杠轴	SKS3、SCM415、SUS440C	HRC50 or more (HRC50以上)
	SUS303	N/A (无规定)
Nut / 螺母	BC6、C5191B	N/A (无规定)

注1) 本公司也可承接满足RoHS标准的无铅铜合金(AQ30)产品的生产。
Note1) Leadless Copper alloy (AQ30) which conforms to RoHS regulation is available.

●丝杠轴外径与节距的组合 Combination of Shaft dia. & Pitch

Pitch 节距	Unit (单位) : mm											
	0.25	0.35	0.4	0.45	0.5	0.7	0.75	0.8	1.0	1.25	1.5	2.0
2	○		○									
2.5		○		○								
3		○			○							
4					○	○						
5					○			○				
6					○		○		○			
7					○		○		○			
8					○		○		○	○	□	
9					○		○		○		○	□
10					○		○		○		○	□

○ 含公制细牙螺纹在内的推荐型号
○ 公制粗牙螺纹
□ 公制梯形螺纹
***空栏部分请垂询本公司。
○ Recommended model including Metric Fine Pitch Thread.
○ Metric Coarse Pitch Thread.
□ Metric Trapezoidal Thread.
***Blank : Can be manufactured, but please inquire KSS.

●超小节距 (0.1mm) 进给丝杠 / Ultra Fine Pitch (0.1mm) Lead Screws

虽然上表中没有列出，但本公司通过多年来累积起来的加工技术，生产出了超小节距 (0.1mm) 产品。
如需超小节距产品，请垂询本公司。

0.1mm Pitch is not shown on the table above, but with our machining technique, we have experiences to manufacture 0.1mm Ultra Fine Pitch Lead Screws. If 0.1mm pitch is needed, please inquire KSS.

● 轴向间隙推荐值 Recommended Axial play

Unit(单位):mm

Axial play 轴向间隙	max. 0.005 0.005以下	0.005~0.010	0.010~0.020	0.015~0.030	0.020~0.050
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● 制造极限长度 Maximum Length

Unit(单位):mm

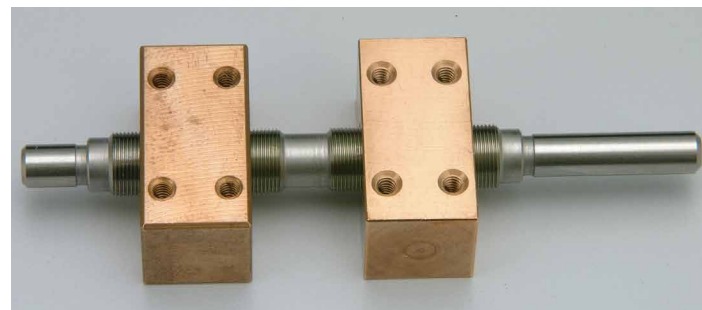
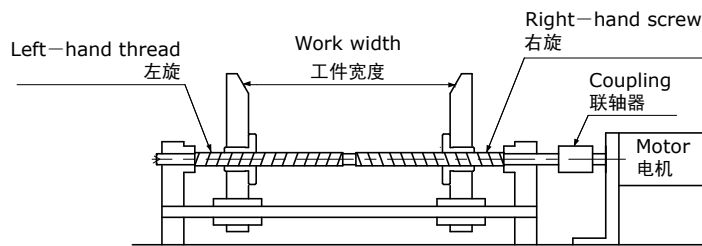
Grade 精度	Shaft dia. 丝杠轴外径	2	2.5	3	4	5	6	7	8	9	10
Precision type 精密级		25	30	80	120	160	200	250	300	350	400
Normal type 普通级		25	40	90	140	180	250	300	350	400	450

● 双向进给丝杠

是在一根轴上同时加工左右旋螺纹，再分别安装螺母的开闭式进给丝杠。
由1台电机控制左右螺母的开闭运动，进行精密定位、确定宽度。
可生产任意形状的螺母。

● Bi-directional Lead Screws

Bi-directional Lead Screws which are machined Left handed and Right handed thread on a Shaft, and Nuts are mounted on each thread. Both Right and Left Nuts move symmetrically, precise positioning, and width adjustment by single motor. Nut configuration is designed freely to suit customer's requirements



● 特种进给丝杠

由于本公司的进给丝杠经过了研磨处理，因此将其称为精密进给丝杠。
如果客户需要，也可提供仅经过切削加工的经济型进给丝杠。大批量生产时，也可通过冷轧加工来生产丝杠轴。本公司还可生产采用树脂螺母的特种进给丝杠。该类产品的批生产也采用模具注塑成型。

● Special Lead Screws

KSS Lead Screws are defined as precision Lead Screws due to making use of grinding technique. According to customer's request, we manufacture Lead Screws which are done only machining process as a low price version. Moreover, when mass-production, it is possible to manufacture Screw Shaft by Rolling process. The Lead Screws which have plastic Nuts are also available as special Lead Screws. In mass-production case, plastic Nuts are produced by injection mold.



● 进给丝杠设计及使用注意事项

- 1) 建议丝杠轴与螺母采用不同材质。
- 2) 请注意避免螺纹面的表面压力和相对速度变高。
- 3) 对于在螺纹面呈滑动接触的进给丝杠，润滑极其重要。请注意避免润滑不足现象。

● Precaution for design and use of Lead Screws

- 1) We recommend Shaft and Nut are made from different materials.
- 2) Make sure not to raise surface pressure and relative velocity on thread surface.
- 3) Lubricating is highly important for Lead Screws due to sliding contact by Flank surface. Make sure not to be lack of lubricant.