

# 树脂螺母进给丝杠篇 Lead Screws with Plastic Nuts

## 树脂进给丝杠 Resin Lead Screws

### ●特点

- 由于丝杠轴上使用了SUS304（或SUS303），因此耐腐蚀性强。
- 轴径与导程的组合丰富多彩，选择范围广泛。
- MRH（标准材质）含有润滑剂，不加油也可使用。涂抹润滑剂后使用可使运行更顺畅。
- 采用与滚珠丝杠相同的拱弧槽，传动平滑。
- 以MRH型为标准，但可根据用途变更螺母材质。
- 也可通过选择无齿侧间隙型，将轴向齿隙设置为O。

### ●Features

- The Shaft is manufactured from SUS304(or SUS303), which gives excellent corrosion resistance.
- Wide range of combination of Shaft dia. and Lead are available.
- MRH incorporates a lubricating agent so it can be used without oiling. It is possible to obtain smooth movement with lubricant.
- Uses the same gothic arc grooves as Ball Screws, ensuring smooth transmission.
- MRH is standard in stock, but Nut material can be changed to order, based on the environmental condition.
- Selecting backlash free type, Axial play can be 0.

### ●种类

#### 接单生产

MRH-A、B系列：KSS产品

MRH标准库存品的螺母采用滑动性能良好的聚酰胺类树脂材质。该材质含有润滑剂，即使不加油也可使用。此外，其他材质也可作为选购件提供。



#### 接单生产

MRH-BP2系列：KSS产品

采用滑动性能良好的聚酰胺类树脂，可通过双螺母+中间弹簧组成无齿侧间隙构造。



#### 接单生产

R-MSS(Y)系列：NTN产品

具有耐腐蚀性、耐热性等性能，适用于多种环境，同时还备有高导程型（轴径的3倍）。



### ●Type

#### Customized products

MRH-A,B series：KSS products

A Polyamide type Resin with good sliding properties is employed in the standard MRH Nut material. And because a lubricating agent is incorporated in the material, it can be used without oiling. Additionally, other Nut materials are available as options.

#### Customized products

MRH-BP2 series：KSS products

A Polyamide type Resin with good sliding properties is employed. Backlash free construction made possible with Double Nuts and a Spring in between.

#### Customized products

R-MSS(Y) series：NTN Corp. products

Corresponding to a wide range of environment and having corrosion resistance, heat resistance. High lead types(3 times as dia.) are available.

### ●丝杠轴公称外径与导程的组合 Combination of Shaft nominal dia. & Lead

Unit(单位):mm

Lead 导程	1	2	5	6	8	9	10	12	15	18	20	24	30	36
Shaft dia. 公称外径														
4	D109	D109												
6	D109	D105 D106 D109		D105 D106		D105 D106 D109				D109				
8	D109	D105 D106 D109	D105 D106		D105 D106			D105 D106 D109				D109		
10		D105 D106 D109		D105 D106			D105 D106		D105 D106 D109		D105 D106		D109	
12		D105 D106 D109		D105 D106			D105 D106			D109	D105 D106		D105 D106	D109

注1)表中的数字表示产品刊载页码，D105和D109为齿侧间隙型的刊载页码，D106为无齿侧间隙型的刊载页码。

Note1)The numbers in each cell show pages in the catalogue. D105 and D109 are for backlash type, D106 is for backlash free type.

### ●规格

#### 精度等级和间隙

KSS树脂导程丝杠的精度等级以滚珠丝杠的JIS Ct10为准，代表移动量误差按下式计算。

此外，轴向间隙为0.05~0.10mm（无齿侧间隙型除外）。

### ●Specifications

#### Accuracy grade and Axial play

Accuracy grade of KSS Resin Lead Screws is based on JIS Ct10. Actual mean travel deviation is calculated by following formula.

Axial play is 0.05 to 0.10mm(except Backlash free type).

$$\text{代表移动量误差 / Actual mean travel deviation } ep: ep = \pm \frac{ru}{300} \times 0.21 \text{ (mm)}$$

ru：螺纹部有效长度 / Effective Screw thread length(mm)

### 材 质 Material

Parts / 零件	Material / 材质
Shaft / 丝杠轴	SUS304 or SUS303
Nut / 螺母	MC nylon (MC703HL) Mitsubishi Chemical Advanced Materials MC尼龙 (MC703HL) 三菱化学先进材料

注1)适用于特殊环境的螺母材质请参照D104页。  
注2)需要上述以外的材质时，请垂询本公司。

Note 1)Please refer to page D104 for Nut material suitable for special environment.

Note 2)If material other than the table is requested, please inquire KSS

### 丝杠轴安装精度

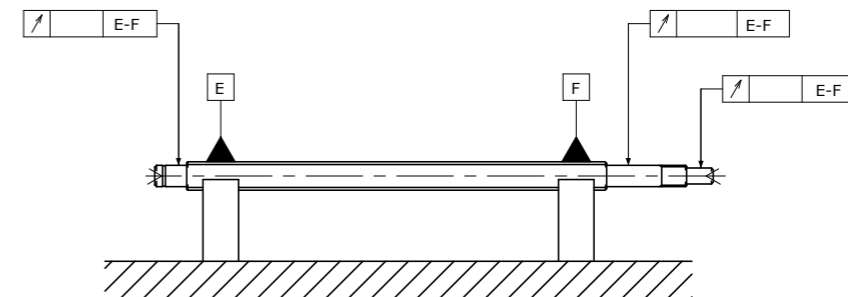
KSS树脂导程丝杠的丝杠轴安装部精度按下图进行标示、管理。

各部位的跳动精度标准以滚珠丝杠JIS Ct10为准。

### Description of Run-out and location tolerance

Description of Run-out and location tolerance for KSS Resin Lead Screws is as follows.

Each part of Run-out tolerance is based on JIS Ct10 of Ball Screws.



●技术数据

螺纹槽形状

螺纹槽采用拱弧形状。与本公司滚珠丝杠所使用的槽形状基本相同。

机械效率

KSS树脂导程丝杠的机械效率η(%)可按下式计算。根据实测值统计得出的机械效率期待值为20~50%。一般情况下,导程越大,机械效率就越大。请以此为参考标准。

$$\eta = \frac{Fa \times r}{T \times 2\pi} \times 100 \quad (\%)$$

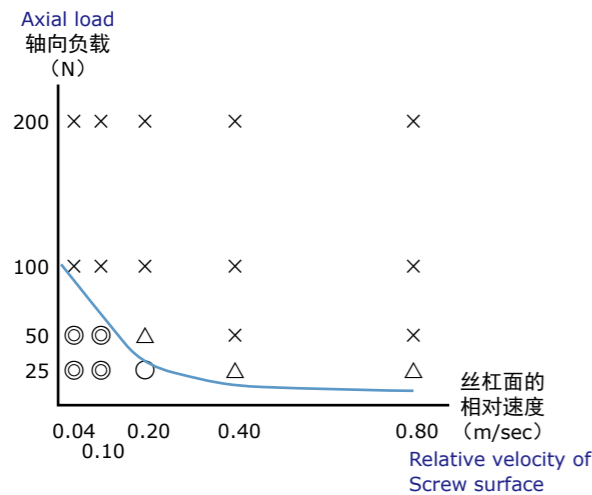
Fa : 轴向负载 / Axial load(N)  
R : 丝杠导程 / Screw Lead(m)  
T : 旋转扭矩 / Rotational torque(Nm)

使用界限FV值和耐久数据

· 使用界限FV值

KSS树脂导程丝杠将轴向负载(F)与丝杠面相对速度(V)的乘积定义为FV值,是判断KSS树脂导程丝杠是否可用的大致标准。图D-11表示以MRH(材质:MC703HL)为螺母材料时,可进行无润滑运转的使用界限FV值。使用时,请用作参考。此外,可通过涂抹润滑剂改善运行条件。

图D-11 : 使用界限FV值  
Fig. D-11 : FV value limits



●Technical Data

Thread groove profile

The thread grooves are of a gothic arc design. This is basically the same as those used in our Ball Screws.

Mechanical efficiency

Mechanical efficiency of KSS Resin Lead Screws η (%) can be calculated by the following formula. The expected "Mechanical efficiency" calculated from measurements is 20%-50%. Generally, as the Lead increases, "Mechanical efficiency" tends to be high. Please use this number as a reference.

FV value limits on use and endurance data

· FV value limits on use

For KSS Resin Lead Screws, the product of Axial Load and relative velocity of Screw surface is defined as FV, and this definition is reference to check if it is usable or not. Fig. D-11 is maximum FV which can be operated without lubricants in case of using Nut material MRH(Material : MC703HL). Please use it as one of the reference. It is expected to improve operational condition by applying lubricants.

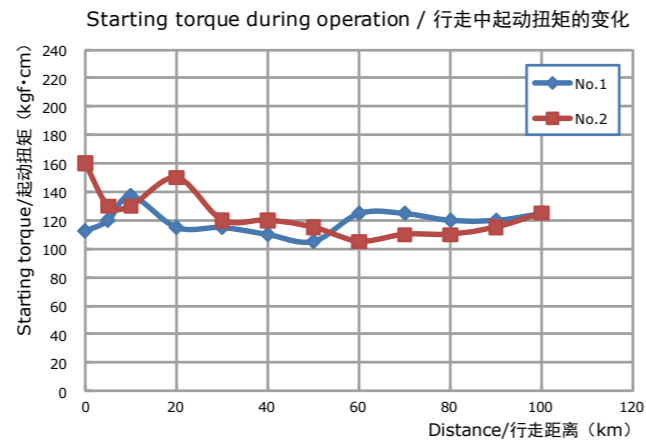
实验型号 / Model : MRH0805 润 滑 / Lubricant : 无 / None  
运行评价 / Evaluation :  
◎可长时间保持稳定的运行状态。  
Stable operational conditions were maintained for the long term.  
○运行状态良好,但螺母处有磨损。  
Operation were good, but some wears were seen on the Nuts.  
△较短时间内即出现运行困难。  
Operations became difficult in a relatively short time.  
×很快出现运行困难。  
Operations became difficult in the short time.

结果显示,FV<5(N·m/s)时运行较为稳定。  
FV>10(N·m/s)时,难以稳定运行。  
轴向负载的上限设定应比相对速度更为严格。  
In case of FV<5(N·m/s), stable operations were maintained.  
Operations under FV>10(N·m/s), maintaining stability was difficult.  
Axial Load should be treated more carefully as to upper limits rather than relative speed.

· 预压品(BP2型)的耐久试验数据

Endurance test data of Preloaded products(BP2 type)

型 号 / Model : φ10mm、导程 / Lead = 6mm  
负 载 / Load : 空载 / None  
速 度 / Speed : 1000rpm  
行 程 / Travel : 400mm(往复 / 2-way)  
润 滑 / Lubricant : 无 / None  
耐久结果 / Result : 行走100km后无异常  
After running 100km,  
operation were good.  
起动扭矩变化 / Starting Torque monitor : 参照右表  
see Diagram  
right



●特殊品

KSS树脂导程丝杠除标准材质MC尼龙(MC703HL)外,也可采用下述螺母材质。螺纹槽也可采用梯形螺纹、ACME螺纹等特殊形状,详情请垂询本公司。大批量订购时,选择以注塑为前提的材料可降低螺母成本。

●Special products

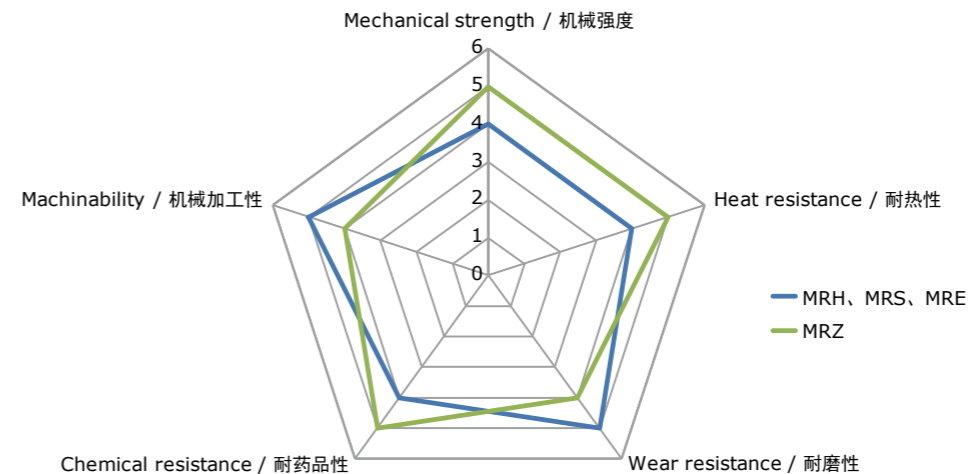
Regarding KSS Resin Lead Screws, the standard material of Nut is MC nylon(MC703HL), but we also provide with the following Nut materials. Please inquire KSS if Trapezoidal thread and ACME thread are needed. In case of bulk order, it is possible to save the price to select material which is manufactured by injection molding.

表D-12 : 各种产品性能比较表 Table D-12 : Product performance comparison

Product 产品名称	MRH	MRS	MRE	MRZ
Classification 产品类别	Standard 标准库存品	Customized 接单生产		
Operating environment 使用环境	Standard environment 常规环境			Special environment 特殊环境
Nut appearance 螺母外观				
Material 材质	Polyamide type 聚酰胺类			Polyether ether ketone type 聚醚醚酮类
Features 特点	Balanced performance 平衡特性			Flame resistance, heat/water resistance 阻燃性 耐热水性
Other 其他	Good sliding properties 滑动特性良好	—	Good electrical conductivity 导电性良好	Food hygiene, chemical resistance 食品卫生性 耐热性
Mechanical strength 机械强度	○	○	○	◎
Heat resistance 耐热性	○	○	○	◎
Wear resistance 耐磨损性	◎	◎	◎	○
Chemical resistance 耐药品性	○	○	○	◎
Machinability 机械加工性	◎	◎	◎	○

◎ 优异 / superior  
○ 可用 / usable  
△ 略差 / relatively inferior  
▲ 较差 / inferior

图D-13 : 各种材料评价 Fig. D-13 : Evaluation each material

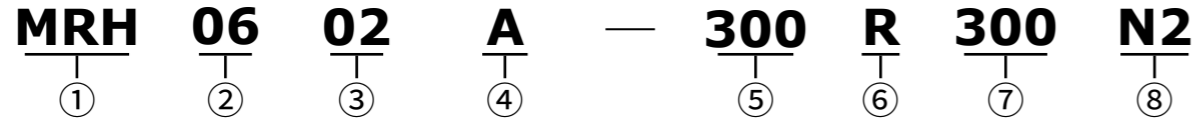


# MRH-A、B系列(接单生产)

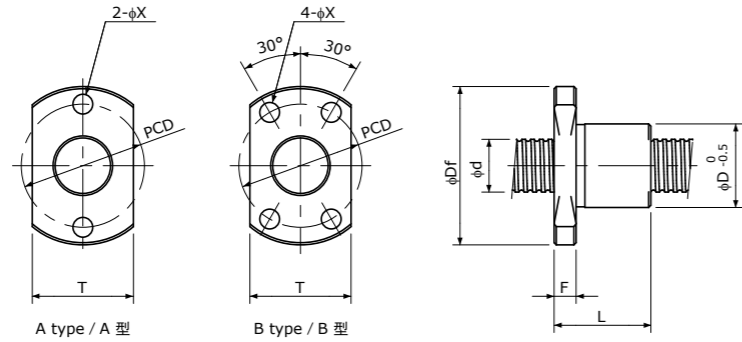
## MRH-A,B series(Customized Products)

### ●尺寸表 Dimension table

公称型号的构成 Model number notation



- ①螺母类型符号
  - ②丝杠轴公称外径(mm)
  - ③导程(mm)
  - ④法兰形状  
A : 2孔 ..... 仅φ6mm产品  
B : 4孔
  - ⑤螺纹部长度(mm)
  - ⑥螺纹旋向(仅右旋)
  - ⑦丝杠轴总长(mm)
  - ⑧螺母个数  
(例 : N2表示带2个螺母 带1个螺母时无符号)
- ①Nut model
  - ②Screw Shaft nominal diameter(mm)
  - ③Lead(mm)
  - ④Flange configuration  
A : 2 holes ..... Only products with φ6mm  
B : 4 holes
  - ⑤Screw thread length(mm)
  - ⑥Thread direction(Right-hand only)
  - ⑦Screw Shaft total length(mm)
  - ⑧Number of Nut  
(Example : N2 means 2 Nuts on a Shaft. There is no notation when 1 Nut.)



Unit(单位):mm

Model 型号	Screw Shaft 丝杠轴				Nut 螺母								Standard Shaft length 标准轴长
	Dia. 公称直径 d	Lead 导程	Root dia. 底径	No. of threads 螺纹条数	D	L	Df	F	P.C.D	X	Nut type 螺母类型	T	
MRH0602A	6	2	5.1	1	10	14	20	3	15	3.1	A	10	300
MRH0606A		6	5.2	2									
MRH0609A		9	5.3	4									
MRH0802B	8	2	6.6	1	13	16	26	4	20	3.6	B	17	400
MRH0805B		5	6.6	2									
MRH0808B		8	6.7	2									
MRH0812B		12	6.7	4									
MRH1002B	10	2	8.6	1	15	20	28	4	22	3.6	B	19	500
MRH1006B		6	8.4	2									
MRH1010B		10	8.4	2									
MRH1015B		15	8.4	4									
MRH1020B		20	8.7	4									
MRH1202B	12	2	10.6	1	18	24	31	5	25	4.8	B	20	600
MRH1206B		6	10.4	2									
MRH1210B		10	10.4	2									
MRH1220B		20	10.4	6									
MRH1230B		30	10.4	8									

- 注1)建议由本公司进行丝杠轴的追加加工。如果由其他公司进行追加加工,本公司将不能保证追加加工后的精度,敬请谅解。
- 注2)如果由其他公司进行追加加工,加工时请将螺母从丝杠轴上拆下,并在加工后用清洁的精制煤油将附着在丝杠轴上的污垢等清洗干净。
- 注3)请将丝杠轴的轴端直径指定为不超过丝杠轴底径,并以1mm为单位指定丝杠长度。
- 注4)螺纹旋向仅为右旋。
- 注5)丝杠轴、螺母不单售。

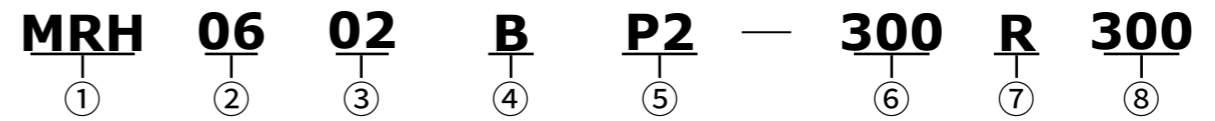
- Note 1)Additional machining of Screw Shafts should be performed by KSS. Note that accuracy cannot be guaranteed if additional machining is performed by someone other than KSS.
- Note 2)When additional end-journal machining is performed by someone other than KSS, always remove the Nut from the Screw Shaft. After machining, wash away any debris on the Screw Shaft with clean refined kerosene or similar material.
- Note 3)The Shaft end diameter should be smaller than the Screw Shaft Root diameter, and the Screw thread length should be specified in 1mm unit.
- Note 4)Only Right-hand thread is available.
- Note 5)Screw Shafts and Nuts are not sold separately.

# MRH-BP2系列(接单生产)

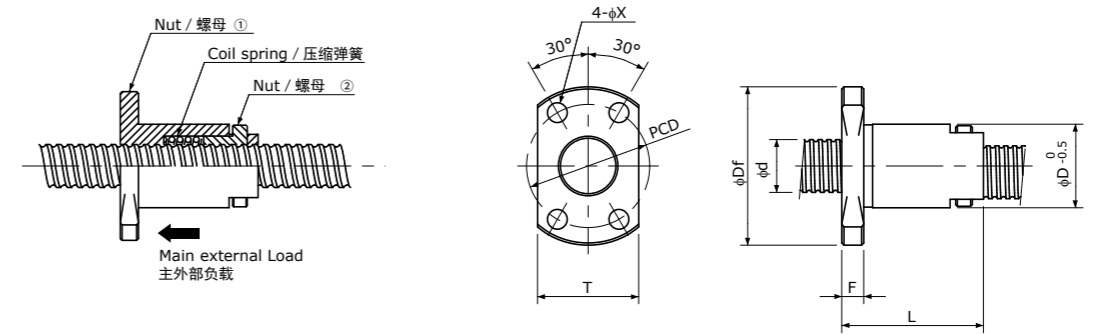
## MRH-BP2 series (Customized Products)

### ●尺寸表 Dimension table

公称型号的构成 Model number notation



- ①螺母类型符号
  - ②丝杠轴公称外径(mm)
  - ③导程(mm)
  - ④法兰形状  
B : 双面切割(4孔)
  - ⑤无齿隙符号  
P2 : 标准设定
  - ⑥螺纹部长度(mm)
  - ⑦螺纹旋向(仅右旋)
  - ⑧丝杠轴总长(mm)
- ①Nut model
  - ②Screw Shaft nominal diameter(mm)
  - ③Lead(mm)
  - ④Flange configuration  
B : 2 flat faces(4 holes)
  - ⑤Backlash free mark  
P2 : Standard Preload
  - ⑥Screw thread length(mm)
  - ⑦Thread direction(Right-hand only)
  - ⑧Screw Shaft total length(mm)



Unit(单位):mm

Model 型号	Screw Shaft 丝杠轴				Nut 螺母								Standard Shaft length 标准轴长
	Dia. 公称直径 d	Lead 导程	Root dia. 底径	No. of threads 螺纹条数	D	L	Df	F	P.C.D	X	T		
MRH0602BP2	6	2	5.1	1	13	20	26	4	20	3.6	B	17	300
MRH0606BP2		6	5.2	2									
MRH0609BP2		9	5.3	4									
MRH0802BP2	8	2	6.6	1	15	23	28	4	22	3.6	B	19	400
MRH0805BP2		5	6.6	2									
MRH0808BP2		8	6.7	2									
MRH0812BP2		12	6.7	4									
MRH1002BP2	10	2	8.6	1	18	30	31	4	25	3.6	B	20	500
MRH1006BP2		6	8.4	2									
MRH1010BP2		10	8.4	2									
MRH1015BP2		15	8.4	4									
MRH1020BP2		20	8.7	4									
MRH1202BP2	12	2	10.6	1	23	38	41	5	33	4.8	B	25	600
MRH1206BP2		6	10.4	2									
MRH1210BP2		10	10.4	2									
MRH1220BP2		20	10.4	6									
MRH1230BP2		30	10.4	8									

- 注1)建议由本公司进行丝杠轴的追加加工。如果由其他公司进行追加加工,本公司将不能保证追加加工后的精度,敬请谅解。
- 注2)请将丝杠轴的轴端直径指定为不超过丝杠轴底径,并以1mm为单位指定丝杠长度。
- 注3)螺纹旋向仅为右旋。
- 注4)丝杠轴、螺母不单售。
- 注5)希望变更弹簧压力(小于或大于标准)时,请另行联系。
- 注6)建议按上图箭头所示方向使用主外部负载。

- Note 1)Additional machining of Screw Shafts should be performed by KSS. Note that accuracy cannot be guaranteed if additional machining is performed by someone other than KSS.
- Note 2)The Shaft end diameter should be smaller than the Screw Shaft Root diameter, and the Screw thread length should be specified in 1mm unit.
- Note 3)Only Right-hand thread is available.
- Note 4)Screw Shafts and Nuts are not sold separately.
- Note 5)Please inquire regarding spring tension(lower or higher than standard is available).
- Note 6)It is recommended that the main external load is in the direction as indicated by the arrow in the Figure above.

● **注意事项**

**1) 润滑**

- MRH系列螺母的标准材质MC尼龙虽然含油,但根据不同的使用条件,可能会产生噪音和早期磨损。可能出现这种情况时,建议同时使用可提高滑动性的表面处理(丝杠轴)和油脂。

**2) 轴端追加加工**

- 建议由本公司进行丝杠轴的追加加工。如果由其他公司进行追加加工,本公司将不能保证追加加工后的精度,敬请谅解。
- 如果由其他公司进行追加加工,加工时请将螺母从丝杠轴上拆下,并在加工后用清洁的精制煤油将附着在丝杠轴上的污垢等清洗干净。此外,如果将无齿侧间隙型螺母从丝杠轴上拆下,将会导致难以恢复预压,因此请联系本公司进行追加加工。

**3) 操作、使用注意事项**

- 本产品为精密零件,请勿对其施加冲击。
- 严禁拆分无齿侧间隙型螺母。
- 存放时,请保持本公司原装包装状态。请勿随意开包或弄破内部包装。否则会因异物进入而导致产品性能下降。
- 产品掉落时,可能会因零件损伤而导致产品性能下降,因此请务必委托本公司进行检查。请将产品送回本公司,我们将为您提供有偿检查。
- 产品的使用极限温度设计在80°C以下。超过该温度使用时,请垂询本公司。
- 树脂导程丝杠是一种产生轴向推力的机械元件,其结构不能承受径向负载。如果承受径向负载,可能会导致早期磨损及损伤,因此请勿在树脂导程丝杠与其它直动设备连用时对其施加径向负载。
- 支撑丝杠轴的轴承部、安装螺母的支架的嵌合、偏心、螺母安装面的垂直度等各安装部位的精度如果不良,将对树脂导程丝杠造成不良影响。因此,请充分注意相关零件的尺寸精度、形状精度及组装精度。

● **Caution**

**1) Lubrication**

- MC Nylon which is standard Nut material of MRH series includes oil, but depending on operating condition, abnormal noise or wearing at early stage might occur. In that case, surface treatment on shaft or grease applying are recommended.

**2) Additional end-journal machining**

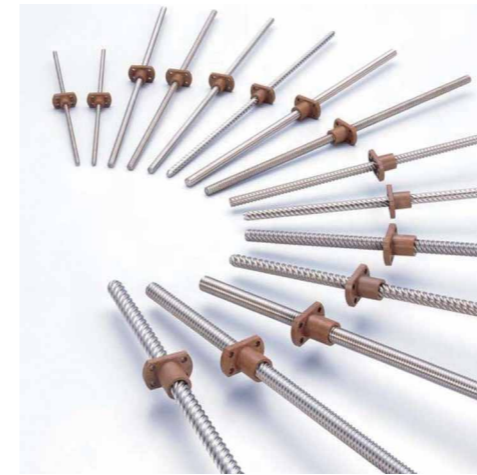
- Additional machining of Screw Shaft should be performed by KSS. Note that accuracy cannot be guaranteed if additional end-journal machining is performed by someone other than KSS.
- When additional machining is performed by other than KSS, always remove the Nut from the Screw Shaft for additional machining.  
After machining, wash away any debris on the Screw Shaft with clean refined kerosene or similar material. For Backlash free type, it is difficult to reproduce Preload if Nut is removed. We will do additional machining when needed.

**3) Handling and use precaution.**

- Do not subject to sudden impact, as this is a precision part.
- Do not disassemble Backlash free type Nut.
- When storing the products, please store in the original wrapping. Do not open the wrapping or tear the inner wrapping until ready to use. Dust may get inside the wrapper and may cause a decline in functionality.
- If the products falls, loss of functionality due to damage to component parts may result. Please send products back to KSS so that we can check the products. There will be a charge for this service.
- This product has been designed for normal use in temperatures under 80°C. In case of exceeding 80°C, please ask KSS.
- Resin Lead Screws are mechanical components that produces thrust toward the axis. It is not constructed to accept Radial Load (Radial direction). This may result in wear and damage at an early stage.  
Therefore, there should be no Radial Load on the Resin Nut parts, take care to set up with other linear equipment for Radial Load.
- Coarse mounting accuracy such as misalignment of Nut bracket and Support Bearing, perpendicularity of Nut mounting face, will affect Resin Lead Screws performance, so be careful with the mounting accuracy.



R-MSS (Y)系列  
R-MSS (Y) Series



● BEAREE为NTN的注册商标。  
BEAREE product is NTN registered trademark.

● **特点**

与BEAREE AS5000(PPS树脂:聚苯硫醚)制螺母和不锈钢(SUS304)制丝杠轴组合相比,是适用环境更广的低噪音滑动丝杠。

● **Features**

BEAREE AS5000 (PPS Resin: Poly Phenylene Sulfide) Nuts and Stainless (SUS304) Shafts are employed. This Lead Screw with low operating noise is able to be used as wide use.

- 适用于多种环境。  
丝杠面平滑且导程较长,易于反向动作。
- 与滚珠丝杠相比,噪音较小。
- 与低磨损的树脂螺母相比,丝杠效率更高。
- Wide use: Because Screw surfaces are smooth and its lead is high, the reversed operation can be easy.
- Low operation noise compared with Ball Screws.
- Due to the Nuts with low friction, the Screw efficiency is high.

● **规格 Specifications**

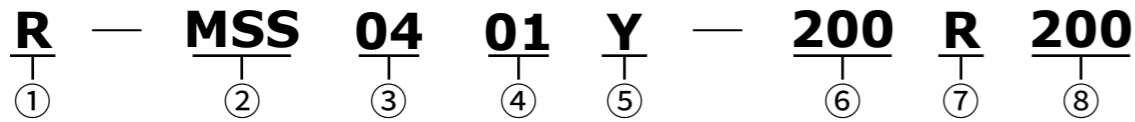
Type / 类型	Single Nut with Flange / 带法兰单螺母
Nut material / 材质	BEAREE AS5000 / BEAREE AS5000
Shaft material / 丝杠轴	SUS304
Axial play / 轴向间隙	50µm or less (lead 1mm, 2mm) / 50µm以下(导程1mm、2mm) 100µm or less (more than lead 2mm) / 100µm以下(导程超过2mm)
Accuracy grade / 精度等级	Ct10 (JISB1192-3)
Cumulative lead error / 累积导程误差	±0.21/300mm

● **材料特性表 Material characteristics**

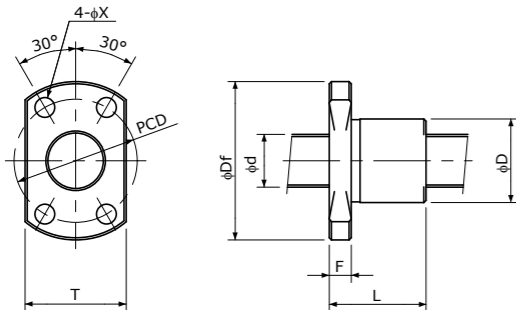
	AS5000
Specific gravity / 比重	1.53
Hardness / 硬度	80 Durometer / Durometer
Tensile strength / 抗拉强度	51Mpa
Elongation / 延伸率	3%
Bending strength / 弯曲强度	61Mpa
Water absorption rate / 吸水率	0.05%
Linear Expansion coefficient / 线膨胀系数	8.1 × 10 <sup>-5</sup> / °C
Maximum temperature / 使用极限温度	230°C

●尺寸表 Dimension table

公称型号的构成 Model number notation



- ①NTN公司产品
  - ②微型树脂滑动丝杠
  - ③丝杠轴公称外径(mm)
  - ④导程(mm)
  - ⑤螺母材质符号: BEAREE AS5000
  - ⑥螺纹部长度(mm)
  - ⑦螺纹旋向(仅右旋)
  - ⑧丝杠轴总长(mm)
- ①NTN products
  - ②Miniature Plastic Lead Screws
  - ③Shaft nominal diameter(mm)
  - ④Lead(mm)
  - ⑤Nut symbol : BEAREE AS5000
  - ⑥Screw thread length(mm)
  - ⑦Thread direction(Right-hand only)
  - ⑧Screw Shaft total length(mm)



Unit(单位):mm

Model 型号	Shaft 丝杠轴			Nut 螺母							Shaft length 标准轴长
	Dia. 公称直径 d	Lead 导程	Number of thread 螺纹条数	D	L	Df	F	P.C.D	X	T	
R-MSS0401Y	4	1	1	10	11.5	23	3.5	15	2.9	15	200
R-MSS0402Y		2	2								
R-MSS0601Y	6	1	1	12	14.5	26	4	18	3.4	17	300
R-MSS0602Y		2	4								
R-MSS0609Y		9	6								
R-MSS0618Y		18	6								
R-MSS0801Y	8	1	1	14	18	29	4	21	4.5	18	300
R-MSS0802Y		2	4								
R-MSS0812Y		12	6								
R-MSS0824Y		24	6								
R-MSS1002Y	10	2	1	16	22	33	5	24	4.5	21	300
R-MSS1015Y		15	4								
R-MSS1030Y		30	6								
R-MSS1202Y	12	2	1	18	25	35	6	26	4.5	22	300
R-MSS1218Y		18	6								
R-MSS1236Y		36	6								

注1)标准丝杠轴的轴端未进行加工。本公司可提供轴端加工,如有需要敬请指示。

Note 1)End-journal is not machined. Please inquire, if end-journal machining is required.

●技术数据 Technical data

Model 型号	Shaft 丝杠轴		Permissible Axial Load 许用轴向负载 N	Permissible Revolution 许用转速 rpm	Tightening Torque(max) 紧固扭矩(最大) N·mm	Efficiency 丝杠效率 %
	Dia. 公称直径 mm	Lead 导程 mm				
R-MSS0401Y	4	1	50	2000	180	45
R-MSS0402Y		2	60			70
R-MSS0601Y	6	1	120	2000	400	40
R-MSS0602Y		2	60			55
R-MSS0609Y		9	90			85
R-MSS0618Y		18	110			85
R-MSS0801Y	8	1	200	2000	500	30
R-MSS0802Y		2	290			45
R-MSS0812Y		12	210			80
R-MSS0824Y		24	210			85
R-MSS1002Y	10	2	460	1500	500	40
R-MSS1015Y		15	410			80
R-MSS1030Y		30	440			85
R-MSS1202Y	12	2	660	1000	500	35
R-MSS1218Y		18	750			75
R-MSS1236Y		36	540			80

许用判断标准: 使用R-MSS0824Y在轴向负载100N、转速2000rpm的条件下进行移动距离200km的试验,确认无任何异常磨损。其他均由计算得出。

①丝杠效率是在测得丝杠轴在承受轴向负载且使树脂螺母旋转时的旋转扭矩后,由下式求出。

$$\eta = \frac{R \cdot Q \cdot \tan\beta}{M} \times 100 (\%) \quad \tan\beta = \frac{\text{Lead}}{2\pi R}$$

η : 丝杠效率  
R : 螺纹有效半径  
Q : 轴向负载  
β : 导程角  
M : 旋转扭矩

②许用轴向负载和许用转速是在下列试验条件下测得的值。

- 1) 试验机: NTN滑动丝杠耐久试验机
- 2) 条件: 室温、无润滑剂、丝杠轴旋转、100mm行程往复(200mm/周期)或200mm往复(400mm/周期)
- 3) 许用值判断标准: 按照上表的许用轴向负载和许用转速的组合条件运行10<sup>3</sup>个周期或6×10<sup>3</sup>个周期,确认丝杠面无变形和异常磨损。

③将树脂螺母固定于配合零件上时的安装螺丝紧固扭矩。

Criteria : MSS0824Y, verification of no remarkable wear after 200km running test under 100N of Axial Load and 2,000rpm of Speed. Other than that are obtained by calculation.

① Efficiency η is calculated by following formula based on measurement results of rotational torque(M) under the Axial Load (Q).

$$\eta = \frac{R \cdot Q \cdot \tan\beta}{M} \times 100 (\%) \quad \tan\beta = \frac{\text{Lead}}{2\pi R}$$

η : Efficiency  
R : Pitch circle radius  
Q : Axial Load  
β : Lead angle  
M : Rotational torque

③ Permissible Axial Load and Permissible Revolution are based on the test results under the following condition.

- 1) Test machine : NTN Lead Screw Durability test machine
- 2) Condition : Room temperature, no lubricant, 100mm travel (200mm/ cycle) or 200mm travel (400mm/cycle)
- 3) Criteria : No remarkable damage or wear on Screw surface under the Permissible Load and Revolution in the table above.

③ This number means when Plastic Nut is fixed onto the Bracket.