

# 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。

- 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.

### ●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.

### ●规格 Specifications

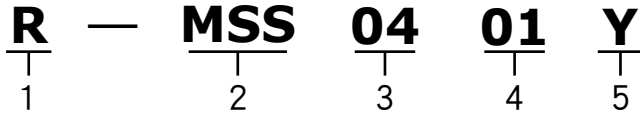
Type / 类型	Single Nut with Flange / 带法兰单螺母
Nut material / 材质	BEAREE AS5000 / BEAREE AS5000
Shaft material / 丝杠轴	SUS304
Axial play / 轴向间隙	50µm or less (lead 1mm, 2mm) / 50µm以下 (导程1mm、2mm) 100µm or less (more than lead 2mm) / 100µm以下 (导程超过2mm)
Accuracy grade / 精度等级	C10 ( JISB1192)
Cumulative lead error / 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	$8.1 \times 10^{-5} / ^\circ\text{C}$
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

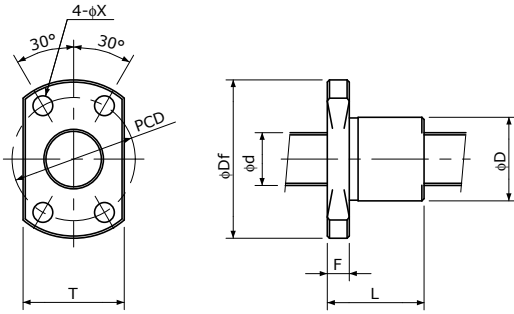
1NTN products

2Miniature Plastic Lead Screws

3Shaft nominal diameter(mm)

4Lead(mm)

5Nut symbol : BEAREE AS5000



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									
R-MSS0609Y		9	4								
R-MSS0618Y		18									
R-MSS0801Y	8	1	1	14	18	29	4	21	18	300	
R-MSS0802Y		2									
R-MSS0812Y		12	4							400	
R-MSS0824Y		24	6								
R-MSS1002Y	10	2	1	16	22	33	5	24	4.5	21	300
R-MSS1015Y		15	4								450
R-MSS1030Y		30	6								
R-MSS1202Y	12	2	1	18	25	35	5	26	4.5	22	300
R-MSS1218Y		18	6								500
R-MSS1236Y		36									

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

2 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.