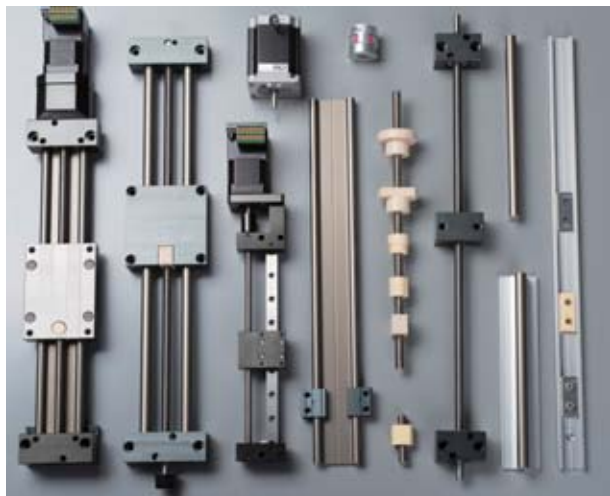




产品特性 Product features

- CSB-LMS[®] 直线驱动系统均是采用免维护的滑动结构设计，所有滑动单元均采用经过耐磨优化的CSB-EPB[®]材料制成，而所有的轴或导轨均采用表面硬化处理的铝合金或不锈钢制成。合理的材料和结构设计实现了CSB-LMS[®] 直线驱动系统永久性免维护、耐灰尘、抗腐蚀和低噪音。
- CSB-LMS[®] linear motion system is designed with a maintenance-free sliding structure. All sliding units are made of wear-resistant material CSB-EPB[®]. All shafts or rails are Made of anodized aluminum alloy or stainless steel. Duo to the reasonable design of the material and structure, CSBLMS[®] linear motion system is maintenance-free, resistant to dust, anti-corrosion and low noise.

精密轴 Precision shafts



- AS表面硬化铝轴-LIN直线轴承最佳配合材料
- CS硬铬钢轴-性价比最高
- ES不锈钢304轴-适合化学液体
- 可提供轴端加工和打孔服务
- AS: Hard anodized aluminum shaft, the best shaft for LIN linear bearings
- CS: Hard-chromed steel shaft, the effective-cost shaft
- ES: 304 Stainless steel shaft, the best for chemical liquid
- Shaft end processing service is available

微型窄支撑轴 Small supported shafts



- 窄矮型设计铝支撑
- 标准型设计铝支撑
- 可选配3种轴材料：AS表面硬化铝轴，CS硬铬钢轴，ES不锈钢304轴
- 10种不同尺寸常备库存
- Compact and low high design support
- Standard design support
- 3 materials shaft: Hard anodized aluminum shaft, Hardchromed steel shaft, 304 Stainless steel shaft
- 10 sizes stocks

WR直线导轨 Linear guides



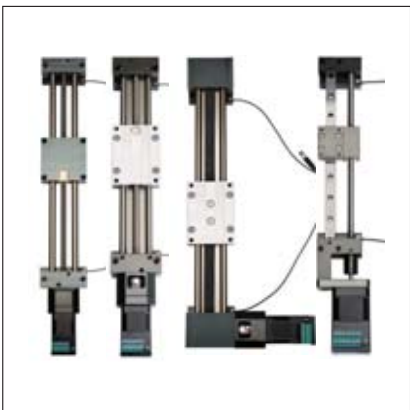
- 铝合金制成的导轨，硬质氧化滑动表面
- 免维护的线性滑动导轨提供几乎无限的设计自由度
- 免润滑、抗污
- 重量轻和静音
- 安装简单，免维护
- 通过干摩擦消除对污物的敏感性
- 自由设计安装宽度
- Aluminum alloy material, Hard anodized surface of sliding
- Maintenance-free linear slide guides providing virtually limitless design freedom
- Lubrication-free and dirt-resistant
- Weight saving and silent
- Simple installation, maintenance-free
- Insensitivity to dirt through dry operation
- Variable width can be fitted

NR01微型直线导轨 Small linear guides



- 很小安装高度6-12mm
- 轻量级
- 较多的滑块选项 - 也有预张力
- 免维护，自润滑
- 耐腐蚀
- 低磨损，摩擦系数低
- 银色阳极氧化处理
- Small installation height between 6 and 12 mm
- Lightweight
- Numerous carriage options – also with pretension
- Maintenance-free, self lubricating
- Corrosion-resistant
- Low wear with low coefficient of friction
- Rails in silver anodized

直线模组 Linear modules



- 标准设计模组
- 可选不同轴材料和丝杆
- 免维护，耐腐蚀
- 可选丝杆TR10x2, TR18x4, TR24x5
- 可在+60 °C 环境中长期使用
- Standard design
- Various materials for shaft and lead screw
- Maintenance-free and optionally corrosion resistant
- TR10x2, TR18x4, TR24x5
- Temperature resistant up to +60 °C

系统附件 Accessories



设计规则 Design rules

直线驱动系统中的浮动式轴承

在有两根轴或导轨平行使用的直线运动系统里，我们建议其中一边安装浮动直线轴承。无论是水平安装，垂直安装还是侧向安装，这种固定轴承加浮动轴承的合理结构适合每个方向。这种安装方式可以避免由于两根轴或导轨的平行度偏差导致的卡死现象。这是由浮动轴承通过对可能产生平行度偏差的方向做一定范围的游动来实现的。

在安装时，必须保证浮动轴承在同两个方向上有相似的角度。轴或导轨和轴承之间的接触面必须充分平整以避免应力集中。安装不顺畅的小区域可以由浮动轴承自动调整。

Floating bearings for linear slide guides

In the case of a linear motion system with two shafts or rails, We recommend that the floating linear bearing must be fitted in one of sides. A suitable solution comprising fixed and floating bearings is available for every installation position, whether horizontal, vertical or lateral. This type of assembly prevents jamming and blockage on the guides resulting from discrepancies in parallelism.

Floating bearings are created through a controlled extension of play in the direction of the expected parallelism error. During installation, take care that the floating bearing has approximately the same clearance on both sides. The mounting surfaces of the Shafts, rails and linear bearings should possess a good evenness to prevent twisting in the system. Smaller areas of mounting surface unevenness can be compensated to a certain extent by the floating bearing.

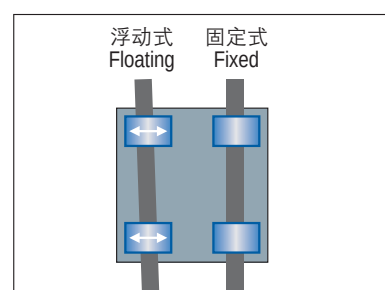


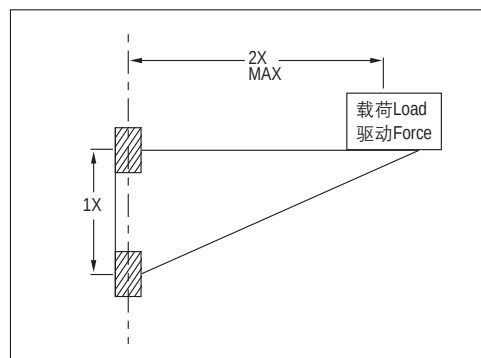
图 02: 自动补偿平衡度误差
Figure 02: Automatic compensation of parallelism errors

偏心力 Eccentric forces

- 最大比例为2:1
- 1x = 同轴轴承距离
- 2x = 从轴到负载或驱动力的距离
- Maximum 2:1 ratio
- 1x = bearing separation on same shaft
- 2x = distance from shaft to load or force

小心：超过2:1比例时会发生爬行甚至卡死的现象！

CAUTION: uneven motion or even system blockage will occur if the 2:1 ratio is exceeded !



这个原则与负载无关！这不是由于边缘加载。它也不依赖于使用的驱动力！驱动力与轴承的距离越远，所需驱动力越大，磨损也越大。

可能还有其他因素会增加制动效果，但摩擦系数是主要原因。

注意：2:1法则是基于理论静摩擦系数0.25，然而，额外的润滑有助于降低摩擦并延长2:1的比例。

如果您有任何设计或安装方面的疑惑，请与我们的工程师联系。

This principle is NOT load dependent! It is NOT due to edge loading. It is also NOT dependent on the driving force used! The greater the distance between the drive and guide bearings, the higher the degree of wear and required drive force.

There may be other factors that add to the braking effect, but the coefficient of friction is the main cause.

NOTE: The Rule(2:1) is based on the static friction value of 0.25 theoretically, However, Additional lubrication can help to drop friction and extend the 2:1 ratio.

If you have any questions on design and/or assembly, please contact our application engineers.

CSB-LMS®连接的拧紧力矩

Tightening torque for CSB-LMS® connections between metal parts

公制螺纹 Metric thread	扭矩 Torque	推荐扭矩 Recommended torque [Nm]
M4	1.0 - 2.8	1.5
M5	2.0 - 5.5	3.0
M6	4.0 - 10.0	6.0
M8	8.0 - 23.0	15.0
M10	22.0 - 46.0	30.0

注意：铝合金最小螺栓深度：1.5 × Da

Please be aware of the minimal screw in depth for aluminum parts: 1.5 × Da

精密轴 Precision shafts



AS精密铝轴 Precision aluminum shafts

- EPB13材料制成的直线轴承最佳配合轴材料
- 材料: EN AW 6061/6060
- 直线度: EN 754-3
- 硬度: 75 HB
- 表面: 硬质氧化
- 表面硬度: 450-550 HV
- The recommended shaft material for all linear plain bearings made of EPB13
- Material: EN AW 6061/6060
- Straightness: EN 754-3
- Hardness: 75 HB
- Surface: hard anodized
- Surface hardness: 450-550 HV

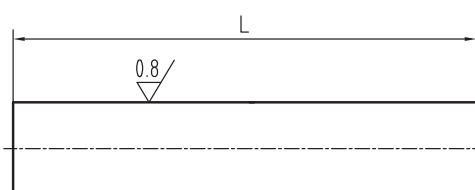
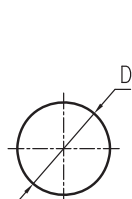
CS精密钢轴 Precision steel shafts

- 高性价比轴材料
- 可配合铝支撑底座
- 45钢, 表面镀铬
- 硬度: 60 HRC
- Cost-effective steel shafts
- Also completely supported and assembled with standard aluminium support
- C45 steel, hard-chromed
- Hardness: 60 HRC

ES精密不锈钢轴 Precision stainless steel shafts

- 高耐腐蚀
- 可配合铝支撑底座
- 适用于潮湿场合
- 304不锈钢, 硬化
- High corrosion-resistance
- Also completely supported and assembled with standard aluminium support
- Ideal solution for the wet area
- 304 Stainless steel, hardened

标准规格 Standard specifications



产品编码 Part No.:

AS-06-L

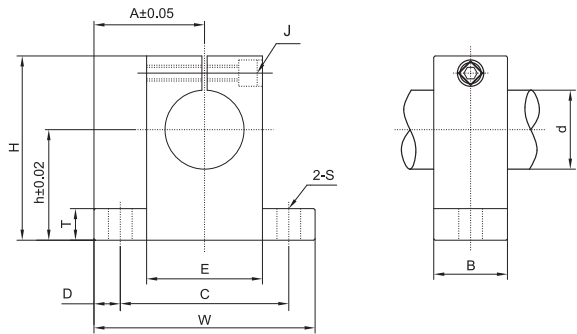
长度 Length

直径 Diameter

材料 Material: AS CS ES

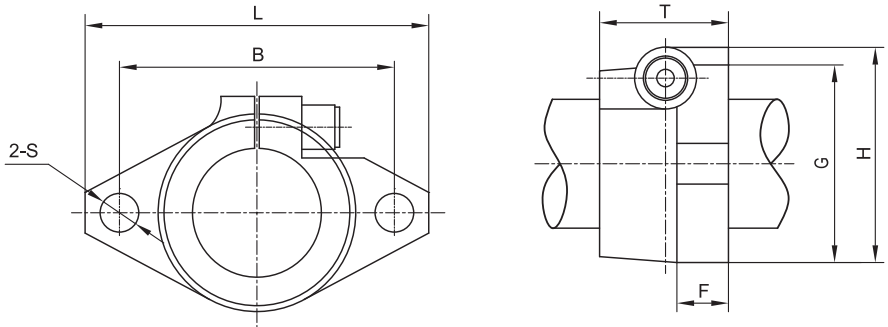
D [mm]	AS铝轴 Aluminum shaft			CS硬轴 Hard carbon steel shaft			ES不锈钢轴 Stainless steel shaft			L max.
	产品编码 Part No.	公差 Tolerance h8 [mm]	重量 Weight [kg/m]	产品编码 Part No.	公差 Tolerance h6 [mm]	重量 Weight [kg/m]	产品编码 Part No.	公差 Tolerance h9 [mm]	重量 Weight [kg/m]	
6	AS-06-L	0/-0.018	0.08	CS-06-L	-0.004/-0.012	0.23	ES-06-L	0/-0.030	0.23	1000
8	AS-08-L	0/-0.022	0.14	CS-08-L	-0.005/-0.014	0.4	ES-08-L	0/-0.036	0.4	1000
10	AS-10-L	0/-0.022	0.22	CS-10-L	-0.005/-0.014	0.6	ES-10-L	0/-0.036	0.6	3000
12	AS-12-L	0/-0.027	0.32	CS-12-L	-0.006/-0.017	0.9	ES-12-L	0/-0.043	0.9	3000
16	AS-16-L	0/-0.027	0.56	CS-16-L	-0.006/-0.017	1.58	ES-16-L	0/-0.043	1.58	3000
20	AS-20-L	0/-0.033	0.88	CS-20-L	-0.006/-0.020	2.5	ES-20-L	0/-0.052	2.5	3000
25	AS-25-L	0/-0.033	1.37	CS-25-L	-0.006/-0.020	3.9	ES-25-L	0/-0.052	3.9	3000
30	AS-30-L	0/-0.033	1.48	CS-30-L	-0.006/-0.020	5.55	ES-30-L	0/-0.052	5.55	3000

SH 轴端标准支撑块 Shaft end standard blocks



产品编码 Part No.	轴径 Shaft d ₁	尺寸 Size [mm]											重量 Weight [g]
		h	A	W	H	T	E	D	C	B	S	J	
SH-10	10	20	21	42	32.8	6	18	5	32	14	5.5	M4	24
SH-12	12	23	21	42	37.5	6	20	5	32	14	5.5	M4	30
SH-16	16	27	24	48	44	8	25	5	38	16	5.5	M4	40
SH-20	20	31	30	60	51	10	30	7.5	45	20	6.6	M5	70
SH-25	25	35	35	70	60	12	38	7	56	24	6.6	M6	130
SH-30	30	42	42	84	70	12	44	10	64	28	9	M6	180
SH-40	40	60	57	114	96	15	60	12	90	36	11	M8	420
SH-50	50	70	63	126	120	18	74	13	100	40	14	M12	750

SHF 轴端法兰支撑块 Shaft end flange blocks



产品编码 Part No.	轴径 Shaft [mm]	尺寸 Size [mm]							安装螺栓 Fitting screws	安全螺栓 Safety screws	重量 Weight [g]
		L	T	F	B	G	H	S			
SHF-10	10	43	10	5	32	20	24	5.5	M5	M4	13
SHF-12	12	47	13	7	36	25	28	5.5	M5	M4	20
SHF-16	16	50	16	8	40	28	31	5.5	M5	M4	27
SHF-20	20	60	20	8	48	34	37	7	M6	M5	40
SHF-25	25	70	25	10	56	40	42	7	M6	M5	60
SHF-30	30	80	30	12	64	46	50	9	M8	M6	110
SHF-40	40	102	40	16	80	56	67	12	M10	M10	510
SHF-50	50	122	50	19	96	70	83	14	M12	M12	890

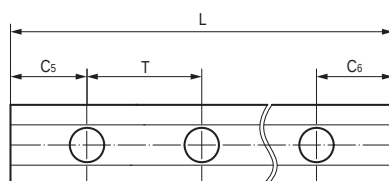
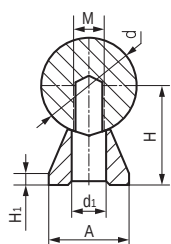
微型窄支撑轴 Small supported shafts



产品特性 Product features

- 窄矮型设计铝支撑
- 交货范围不包括安装螺丝
- 可用轴材料：AS精密铝轴，CS精密硬铬钢轴，ES精密304不锈钢轴
- 轴和支撑件未组装
- 最大许可长度2000mm
- Completely supported with aluminum low support
- Scope of delivery doesn't include mounting screws
- Available shaft materials: Aluminum, hard anodized C45, hard-chromed Stainless steel (304), hardened
- Shafts and supports are supplied unassembled
- The long of supports max. 2000 mm

标准规格 Standard specifications



产品编码 Part No.:

ASS01-12-L
 长度 Length
 直径 Diameter
 支撑类型 Type: S01
 装配轴 Shaft: AS CS ES

产品编码 Part No.	装配轴 Shaft	d [mm]	d ₁ [mm]	H [mm]	H ₁ [mm]	M [mm]	A [mm]	T [mm]	C ₅ =C ₆ [mm]		L max. [mm]	重量 Weight [kg/m]
ASS01-12-L	AS-12	12	4.5	14.5	3	M4	11	75	min.	max.	2000	0.53
ASS01-16-L	AS-16	16	5.5	18	3	M5	14	75	20	57	2000	0.87
ASS01-20-L	AS-20	20	6.6	22	3	M6	17	75	20	57	2000	1.32
ASS01-25-L	AS-25	25	9	26	3	M8	21	75	20	57	2000	1.98
ASS01-30-L	AS-30	30	11	30	3	M10	23	100	20	69.5	2000	2.24

产品编码 Part No.	装配轴 Shaft	d [mm]	d ₁ [mm]	H [mm]	H ₁ [mm]	M [mm]	A [mm]	T [mm]	C ₅ =C ₆ [mm]		L max. [mm]	重量 Weight [kg/m]
CSS01-12-L	CS-12	12	4.5	14.5	3	M4	11	75	min.	max.	2000	1.1
CSS01-16-L	CS-16	16	5.5	18	3	M5	14	75	20	57	2000	1.9
CSS01-20-L	CS-20	20	6.6	22	3	M6	17	75	20	57	2000	2.91
CSS01-25-L	CS-25	25	9	26	3	M8	21	75	20	57	2000	4.46
CSS01-30-L	CS-30	30	11	30	3	M10	23	100	20	69.5	2000	6.31

产品编码 Part No.	装配轴 Shaft	d [mm]	d ₁ [mm]	H [mm]	H ₁ [mm]	M [mm]	A [mm]	T [mm]	C ₅ =C ₆ [mm]		L max. [mm]	重量 Weight [kg/m]
ESS01-12-L	ES-12	12	4.5	14.5	3	M4	11	75	min.	max.	2000	1.1
ESS01-16-L	ES-16	16	5.5	18	3	M5	14	75	20	57	2000	1.9
ESS01-20-L	ES-20	20	6.6	22	3	M6	17	75	20	57	2000	2.91
ESS01-25-L	ES-25	25	9	26	3	M8	21	75	20	57	2000	4.46
ESS01-30-L	ES-30	30	11	30	3	M10	23	100	20	69.5	2000	6.31

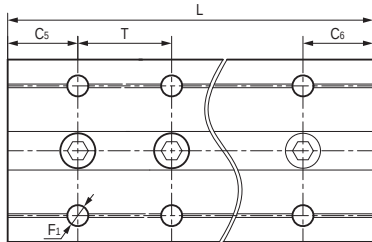
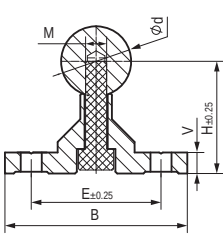
标准支撑轴 Standard supported shafts



产品特性 Product features

- 标准设计支撑轴
- 可用轴材料：AS精密铝轴，CS精密硬铬钢轴，ES精密304不锈钢轴
- 轴和支撑件组装
- 最大许可长度2500mm
- Standard support shafts
- Available shaft materials: Aluminum, hard annozied C45, hard-chromed Stainless steel (304), hardened
- Shafts and supports are supplied assembled
- The long of supports max. 2500 mm

标准规格 Standard specifications



产品编码 Part No.:
ASS02-12-L
长度 Length
直径 Diameter
支撑类型 Type: S02
装配轴 Shaft: AS CS ES

产品编码 Part No.	装配轴 Shaft	d [mm]	F ₁ [mm]	H [mm]	V [mm]	B [mm]	E [mm]	M [mm]	C ₅ =C ₆ [mm]		T [mm]	L max. [mm]	重量 Weight [kg/m]
									min.	max.			
ASS02-12-L	AS-12	12	4.5	22	5	40	29	M4	20	57	75	2500	1.07
ASS02-16-L	AS-16	16	5.5	26	5	45	33	M5	20	69	100	2500	1.47
ASS02-20-L	AS-20	20	6.6	32	6	52	37	M6	20	69	100	2500	2.16
ASS02-25-L	AS-25	25	6.6	36	6	57	42	M6	20	79	120	2500	2.94
ASS02-30-L	AS-30	30	9	42	7	69	51	M8	20	94	150	2500	3.56

产品编码 Part No.	装配轴 Shaft	d [mm]	F ₁ [mm]	H [mm]	V [mm]	B [mm]	E [mm]	M [mm]	C ₅ =C ₆ [mm]		T [mm]	L max. [mm]	重量 Weight [kg/m]
									min.	max.			
CSS02-12-L	CS-12	12	4.5	22	5	40	29	M4	20	57	75	2500	1.64
CSS02-16-L	CS-16	16	5.5	26	5	45	33	M5	20	69	100	2500	2.49
CSS02-20-L	CS-20	20	6.6	32	6	52	37	M6	20	69	100	2500	3.75
CSS02-25-L	CS-25	25	6.6	36	6	57	42	M6	20	79	120	2500	5.42
CSS02-30-L	CS-30	30	9	42	7	69	51	M8	20	94	150	2500	7.63

产品编码 Part No.	装配轴 Shaft	d [mm]	F ₁ [mm]	H [mm]	V [mm]	B [mm]	E [mm]	M [mm]	C ₅ =C ₆ [mm]		T [mm]	L max. [mm]	重量 Weight [kg/m]
									min.	max.			
ESS02-12-L	ES-12	12	4.5	22	5	40	29	M4	20	57	75	2500	1.64
ESS02-16-L	ES-16	16	5.5	26	5	45	33	M5	20	69	100	2500	2.49
ESS02-20-L	ES-20	20	6.6	32	6	52	37	M6	20	69	100	2500	3.75
ESS02-25-L	ES-25	25	6.6	36	6	57	42	M6	20	79	120	2500	5.42
ESS02-30-L	ES-30	30	9	42	7	69	51	M8	20	94	150	2500	7.63

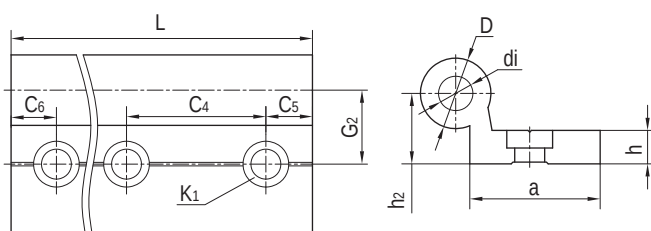
WR01单圆直线导轨 Linear guides, single round rail



产品特性 Product features

- 铝合金制成的导轨，硬质氧化滑动表面
- 免维护的线性滑动导轨提供几乎无限的设计自由度
- 免润滑、抗污
- 重量轻和静音
- 安装简单，免维护
- 通过干摩擦消除对污物的敏感性
- 自由设计安装宽度
- Aluminum alloy material, Hard anodized surface of sliding
- Maintenance-free linear slide guides providing virtually limitless design freedom
- Lubrication-free and dirt-resistant
- Weight saving and silent
- Simple installation, maintenance-free
- Insensitivity to dirt through dry operation
- Variable width can be fitted

标准规格 Standard specifications



产品编码 Part No.:

WR01-10-L-NH

空白Blank: 带安装孔 With mounting holes
NH: 无安装孔 No mounting holes

长度 Length

直径 Diameter

产品编码 Part No.	D [mm]	di [mm]	h [mm]	a [mm]	h ₂ [mm]	C ₄ [mm]	C ₅ =C ₆ [mm]		K ₁ [mm]	G ₂ [mm]	L max. [mm]	重量 Weight [kg/m]
							min.	max.				
WR01-10-L	10	-	5.5	27	9	120	20	79.5	*M6	17	3000	0.62
WR01-16-L	16	8	7.5	27	14	120	20	79.5	M8	19	3000	0.98
WR01-20-L	20	10.2	9.5	27	20	120	20	79.5	M8	21	3000	1.32

*M6: 通孔 Plain holes

产品编码 Part No.	D [mm]	di [mm]	h [mm]	a [mm]	h ₂ [mm]	C ₄ [mm]	C ₅ =C ₆ [mm]		K ₁ [mm]	G ₂ [mm]	L max. [mm]	重量 Weight [kg/m]
							min.	max.				
WR01-10-L-NH	10	-	5.5	27	9	-	-	-	-	-	3000	0.62
WR01-16-L-NH	16	8	7.5	27	14	-	-	-	-	-	3000	0.98
WR01-20-L-NH	20	10.2	9.5	27	20	-	-	-	-	-	3000	1.32

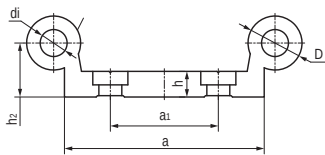
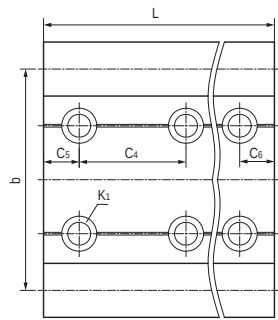
WR02双圆直线导轨 Linear guides, double round rail



产品特性 Product features

- 铝合金制成的导轨，硬质氧化滑动表面
- 免维护的线性滑动导轨提供几乎无限的设计自由度
- 免润滑、抗污
- 重量轻和静音
- 安装简单，免维护
- 通过干摩擦消除对污物的敏感性
- 标准安装宽度
- Aluminum alloy material, Hard anodized surface of sliding
- Maintenance-free linear slide guides providing virtually limitless design freedom
- Lubrication-free and dirt-resistant
- Weight saving and silent
- Simple installation, maintenance-free
- Insensitivity to dirt through dry operation
- Standard fitting width

标准规格 Standard specifications



产品编码 Part No.:

WR02-10-40-L-NH

- 空白Blank: 带安装孔 With mounting holes
- NH: 无安装孔 No mounting holes
- 长度 Length
- 宽度 Width
- 直径 Diameter

产品编码 Part No.	D [mm]	di [mm]	h [mm]	h ₂ [mm]	b [mm]	a _{0.5} [mm]	a ₁ [mm]	C ₄ [mm]	C ₅ =C ₆ [mm]		K ₁ [mm]	L max. [mm]	重量 Weight [kg/m]
									min.	max.			
WR02-10-40-L	10	-	5.5	9	40	40	-	120	20	79.5	*M6	3000	1
WR02-10-80-L	10	-	5.5	9	74	74	40	120	20	79.5	*M6	3000	1.5
WR02-16-60-L	16	8	7.5	14	58	54	-	120	20	79.5	M8	3000	1.9
WR02-20-80-L	20	10.2	9.5	20	82	74	40	120	20	79.5	M8	3000	3.3

*M6: 通孔 Plain holes

**WR02-10-40/WR02-16-60为单排安装孔 a single row of mounting holes

产品编码 Part No.	D [mm]	di [mm]	h [mm]	h ₂ [mm]	b [mm]	a _{0.5} [mm]	a ₁ [mm]	C ₄ [mm]	C ₅ =C ₆ [mm]		K ₁ [mm]	L max. [mm]	重量 Weight [kg/m]
									min.	max.			
WR02-10-40-L-NH	10	-	5.5	9	40	40	-	-	-	-	-	3000	1
WR02-10-80-L-NH	10	-	5.5	9	74	74	-	-	-	-	-	3000	1.5
WR02-16-60-L-NH	16	8	7.5	14	58	54	-	-	-	-	-	3000	1.9
WR02-20-80-L-NH	20	10.2	9.5	20	82	74	-	-	-	-	-	3000	3.3

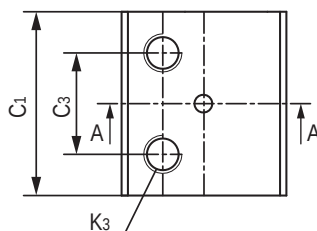
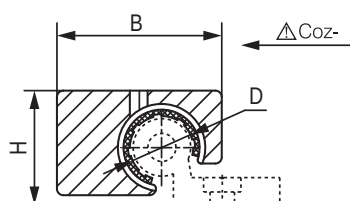
WRU01圆导轨滑块 Round rail sliding blocks



产品特性 Product features

- 安装标准滑动膜EPB13, 可选铝轴滑动膜MN2
- 自润滑、免维护
- 重量轻、快速装配
- 可用于WR系列单轨和双轨
- 抵抗灰尘
- 无噪音运行
- Fitted standard liners EPB13, MN2 liners for aluminum shafts
- Maintenance-free, dry-running
- Fast assembly and light weight
- For WR single and dual guide rails
- Resistant Dust and silent
- Silent operation

标准规格 Standard specifications



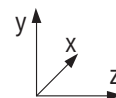
产品编码 Part No.:

WRU01-10MN2

材料 Material: MN2

空白 Blank: EPB13

直径 Diameter



产品编码 Part No.	D [mm]	公差 Tolerance [mm]	B [mm]	C ₃ [mm]	C ₁ [mm]	H [mm]	K ₃ [mm]	重量 Weight [g]	静态载荷 Static load		
									Coy- [N]	Coz+ [N]	Coz- [N]
WRU01-10	10	+0.083/+0.020	26	16	29	18	M6	20	1200	1200	250
WRU01-16	16	+0.102/+0.032	34.5	18	36	27	M8	48	2100	2100	400
WRU01-20	20	+0.124/+0.040	42.5	27	45	36	M8	99	3200	3200	500
WRU01-10MN2	10	+0.083/+0.020	26	16	29	18	M6	20	1200	1200	250
WRU01-16MN2	16	+0.102/+0.032	34.5	18	36	27	M8	48	2100	2100	400
WRU01-20MN2	20	+0.124/+0.040	42.5	27	45	36	M8	99	3200	3200	500

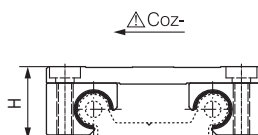
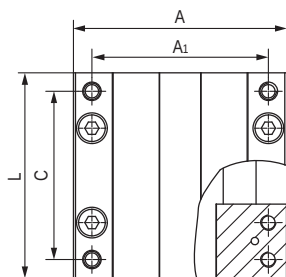
WRC01圆导轨滑台 Assembled guide carriages



产品特性 Product features

- 安装标准滑动膜EPB13, 可选铝轴滑动膜MN2
- 自润滑、免维护
- 重量轻、快速装配
- 用于WR系列双轨
- 抵抗灰尘
- 无噪音运行
- Fitted standard liners EPB13, MN2 liners for aluminum shafts
- Maintenance-free, dry-running
- Fast assembly and light weight
- For WR dual guide rails
- Resistant dust and silent
- Silent operation
- Variable length can be fitted

标准规格 Standard specifications



产品编码 Part No.:

WRC01-10-40-100MN2

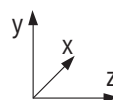
材料 Material: MN2

空白 Blank: EPB13

长度 Length

宽度 Width

直径 Diameter



产品编码 Part No.	A [mm]	A ₁ [mm]	L [mm]	C [mm]	H [mm]	重量 Weight [kg]	静态载荷 Static load				
							Coy- [N]	Coz [N]	Mox [Nm]	Moy [Nm]	Moz [Nm]
WRC01-10-40-100	73	60	100	87	24	0.29	4800	2400	96	170	170
WRC01-10-40-150	73	60	150	137	24	0.34	4800	2400	96	290	290
WRC01-10-40-200	73	60	200	187	24	0.4	4800	2400	96	290	290
WRC01-10-80-100	107	94	100	87	24	0.34	2400	2400	178	170	170
WRC01-10-80-150	107	94	150	137	24	0.42	2400	2400	178	290	290
WRC01-10-80-200	107	94	200	187	24	0.5	2400	2400	178	410	290
WRC01-16-60-100	104	86	100	82	35	0.71	4200	4200	240	270	270
WRC01-16-60-150	104	86	150	132	35	0.84	4200	4200	240	480	480
WRC01-16-60-200	104	86	200	182	35	0.97	4200	4200	240	690	690
WRC01-20-80-150	134	116	150	132	44	1.2	6400	6400	525	670	670
WRC01-20-80-200	134	116	200	182	44	1.2	6400	6400	525	990	990
WRC01-20-80-250	134	116	250	232	44	1.5	6400	6400	525	1250	1250

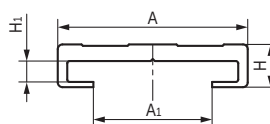
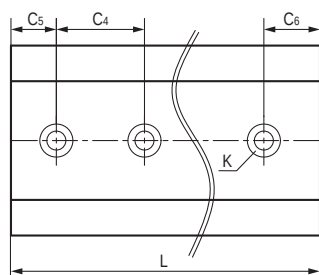
NR01微型直线导轨 Small linear guides



产品特性 Product features

- 很小安装高度6-12mm
 - 轻量级
 - 较多的滑块选项 - 有带预张力设计
 - 免维护，自润滑
 - 耐腐蚀
 - 低磨损，摩擦系数低
 - 银色阳极氧化处理
- Small installation height from 6 to 12 mm
 - Lightweight
 - Numerous carriage options – also with preload design
 - Maintenance-free, self lubricating
 - Corrosion-resistant
 - Low wear with low coefficient of friction
 - Rails in silver anodized

标准规格 Standard specifications



产品编码 Part No.:

NR01-17-L-NH

空白Blank: 带安装孔 With mounting holes
NH: 无安装孔 No mounting holes

长度 Length
宽度 Width

产品编码 Part No.	A [mm]	A ₁ [mm]	C ₄ [mm]	C ₅ =C ₆ [mm]		H [mm]	H ₁ [mm]	K [mm]	L max. [mm]	重量 Weight [g/m]
				min.	max.					
NR01-17-L-NH	17	10.6	-	-	-	5.5	1.5	-	3000	150
NR01-27-L-NH	27	17	-	-	-	9	4.4	-	3000	290
NR01-40-L-NH	40	25	-	-	-	9	4.4	-	3000	450

产品编码 Part No.	A [mm]	A ₁ [mm]	C ₄ [mm]	C ₅ =C ₆ [mm]		H [mm]	H ₁ [mm]	K [mm]	L max. [mm]	重量 Weight [g/m]
				min.	max.					
NR01-17-L	17	10.6	60	20	49.5	5.5	1.5	M3	3000	150
NR01-27-L	27	17	60	20	49.5	9	4.4	M4	3000	290
NR01-40-L	40	25	60	20	49.5	9	4.4	M4	3000	450

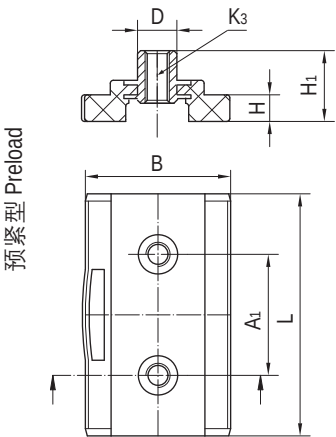
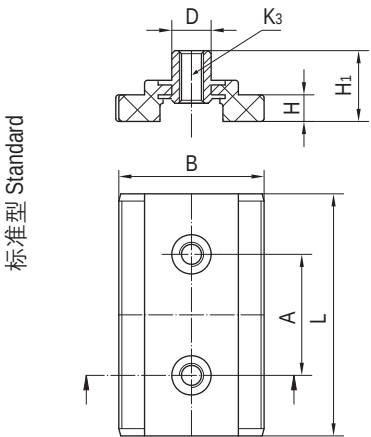
NRU01导轨滑块 Guide rail sliders



产品特性 Product features

- 标准耐磨材料EPB13制成
- 多种选择：标准和带预紧设计
- 极小重量和无噪音运行
- 自润滑、免维护
- 配合导轨NR01-17和NR01-27
- 最大载荷为50N和500N
- Made of high anti-wear material EPB13
- Variants: Standard, Preload (P)
- extrem low weight quiet running
- Maintenance-free, self lubricating
- Installation for NR01-17 and NR01-27
- Max. load 50N and 500N

标准规格 Standard specifications



产品编码 Part No.:
NRU01-17-20-P
带预紧 Preload
长度 Length
宽度 Width

产品编码 Part No.	A ₁ [mm]	B [mm]	L [mm]	H [mm]	H ₁ [mm]	K ₃ [mm]	重量 Weight [g]
NRU01-17-20-P	14	14.6	20	1.5	5.3	M4	1.7
NRU01-27-40-P	20	24	40	4.4	11.8	M4	8
NRU01-17-20	14	14.6	20	1.5	5.3	M4	1.7
NRU01-27-40	20	24	40	4.4	11.8	M4	8

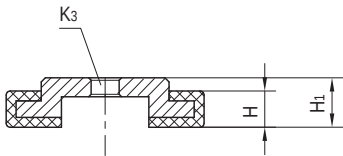
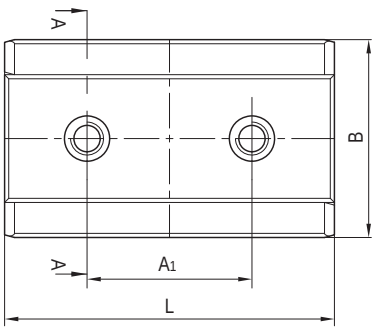
NRU02导轨滑块 Guide rail sliders



产品特性 Product features

- 标准耐磨材料EPB13制成
- 极小重量和无噪音运行
- 自润滑、免维护
- 配合导轨NR01-27和NR01-40
- 最大载荷为500N和700N
- Made of high anti-wear material EPB13
- extrem low weight quiet running
- Maintenance-free, self lubricating
- Installation for NR01-27 and NR01-40
- Max. load 500N and 700N

标准规格 Standard specifications



产品编码 Part No.:

NRU02-27-40

长度 Length
宽度 Width

产品编码 Part No.	A ₁ [mm]	B [mm]	L [mm]	H [mm]	H ₁ [mm]	K ₃ [mm]	重量 Weight [g]
NRU02-27-40	20	24	40	4.4	6.8	4.5	8.5
NRU02-40-50	20	36	50	4.4	6.8	4.5	17

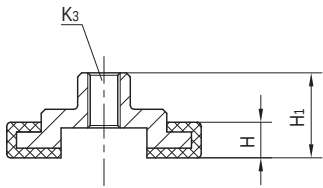
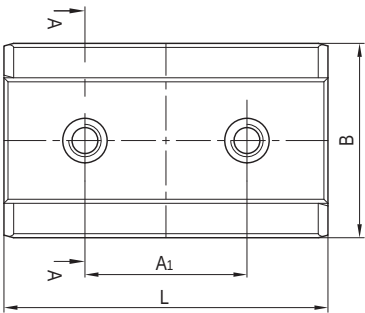
NRU03导轨滑块 Guide rail sliders



产品特性 Product features

- 标准耐磨材料EPB13制成
- 多种选择：标准和带预紧设计
- 极小重量和无噪音运行
- 自润滑、免维护
- 配合导轨NR01-27和NR01-40
- 最大载荷为500N和700N
- Made of high anti-wear material EPB13
- Variants: Standard, Preload (P)
- extrem low weight quiet running
- Maintenance-free, self lubricating
- Installation for NR01-27 and NR01-40
- Max. load 500N and 700N

标准规格 Standard specifications



产品编码 Part No.:
NRU03-27-40
长度 Length
宽度 Width

产品编码 Part No.	A ₁ [mm]	B [mm]	L [mm]	H [mm]	H ₁ [mm]	K ₃ [mm]	重量 Weight [g]
NRU03-27-40	20	24	40	4.4	11.8	M4	9
NRU03-27-80	60	24	80	4.4	11.8	M4	18
NRU03-40-50	20	36	50	4.4	11.8	M4	19

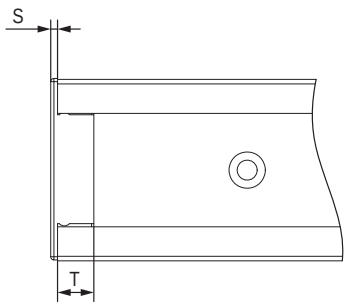
NCAP导轨端盖 Guide rail end caps



产品特性 Product features

- 易安装
- 低成本
- 可拆卸
- 高压紧力
- Easy installation
- Low-priced
- Dismantling possible
- High retention force

标准规格 Standard specifications



产品编码 Part No.:

NCAP-17

宽度 Width

产品编码 Part No.	S [mm]	T [mm]	导轨 Guide rail
NCAP-17	1.5	7	NR01-17
NCAP-27	2	8	NR01-27
NCAP-40	1.5	8	NR01-40

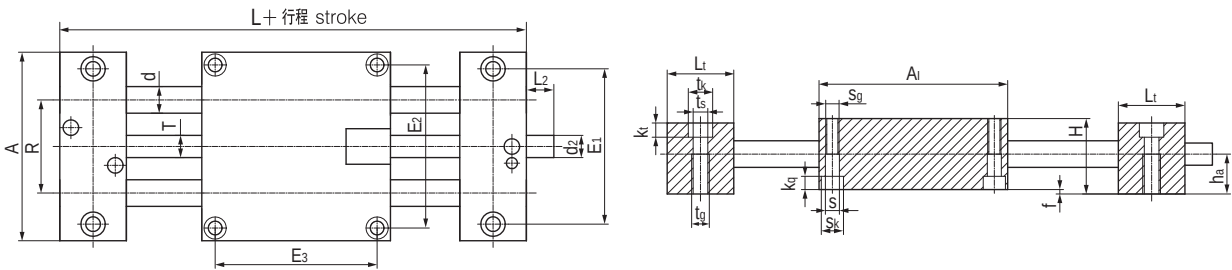
LMS01直线模组 Linear modules



产品特性 Product features

- 标准设计模组
- 可选不同轴材料和丝杆
- 免维护，耐腐蚀
- 可选丝杆TR10x2, TR18x4, TR24x5
- 可在+60 ℃环境中长期使用
- 配合丝杆螺母可单独供货P271
- 配合电机参考P277
- 可选附件参考P278
- Standard design
- Various materials for shaft and lead screw
- Maintenance-free and optionally corrosion resistant
- TR10x2, TR18x4, TR24x5
- Temperature resistant up to +60 ℃
- Lead screw nuts are available separately Page 271
- Available with motor Page 277
- Available accessories Page 278

标准规格 Standard specifications



产品编码 Part No.	产品编码 Part No.	最大行程S Max.stroke length [mm]	铝合金轴 Aluminium shaft [kg]			钢轴 Steel shaft [kg]			最大静态载荷 Max. stat. load capacity [N]			
			重量 Weight	增加重量 Additional (每Per 100mm)		重量 Weight	增加重量 Additional (每Per 100mm)		轴向 Axial	径向 Radial		
LMS01-12-AS-S*	LMS01BB-12-AS	750	1.1	0.1		1.3	0.2		700	2800		
LMS01-20-AS-S*	LMS01BB-20-AS	1000	3.2	0.3		3.9	0.6		1600	6400		
LMS01-30-AS-S*	LMS01BB-30-AS	1250	8.6	0.6		10.9	1.4		2500	10000		

产品编码 Part No.	产品编码 Part No.	A-0.3	A ₁ -0.3	H	E ₁ ± 0.15	E ₂ ± 0.15	E ₃ ± 0.15	L	R	f	L ₁ ± 0.1	t _k	t _s
LMS01-12-AS-S*	LMS01BB-12-AS	85	85	34	70	73	73	145	42	2	30	11	6.6
LMS01-20-AS-S*	LMS01BB-20-AS	130	130	48	108	115	115	202	72	2	36	15	9
LMS01-30-AS-S*	LMS01BB-30-AS	180	180	68	150	158	158	280	96	4	50	20	13.5

产品编码 Part No.	产品编码 Part No.	t _g	k ₁ ± 0.1	s	S _k	S _g	k _q	d	T	L ₂	d ₂	h _a
LMS01-12-AS-S*	LMS01BB-12-AS	M8	6.4	6.3	10	M6	6	12	Tr10 × 2	17	8 h9	18
LMS01-20-AS-S*	LMS01BB-20-AS	M10	8.6	6.4	11	M8	7	20	Tr18 × 4	26	12 h9	23
LMS01-30-AS-S*	LMS01BB-30-AS	M16	12.6	11	18	M12	10.6	30	Tr24 × 5	38	14 h9	36

BB: 滚珠轴承设计Ball bearing design S: 行程 Stroke

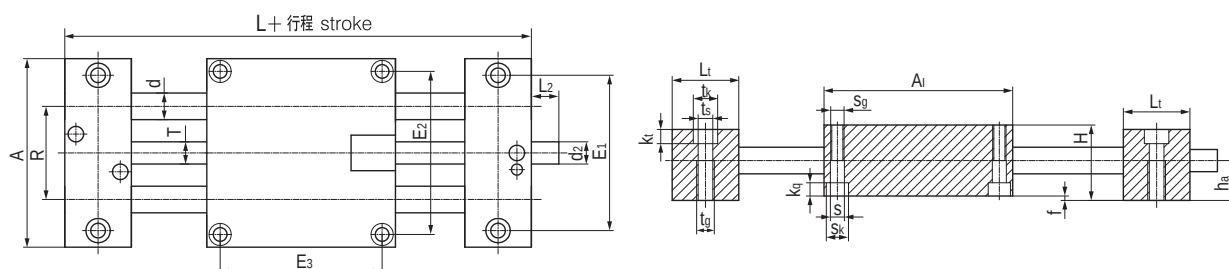
LMS01PL直线模组 Linear modules



产品特性 Product features

- 预紧梯形丝杠螺母，预紧力：50N
- 手动和连续可调的径向游隙
- 免维护且重量轻
- 耐高温达+60℃
- 配合丝杆螺母可单独供货P271
- 配合电机参考P277
- 可选附件参考P278
- Preloaded trapezoidal lead screw nuts, preload force: 50 N
- Manually and continuously adjustable radial clearance
- Lubrication-free and lightweight
- Temperature resistant up to +60 °C
- Lead screw nuts are available separately Page 271
- Available with motor Page 277
- Available accessories Page 278

标准规格 Standard specifications



产品编码 Part No.	产品编码 Part No.	最大行程S Max.stroke length [mm]	铝合金轴 Aluminium shaft [kg]		钢轴 Steel shaft [kg]		最大静态载荷 Max. stat. load capacity [N]	
			重量 Weight	增加重量 Additional (每Per 100mm)	重量 Weight	增加重量 Additional (每Per 100mm)	轴向 Axial	径向 Radial
LMS01-12PL-AS-S*	LMS01BB-12PL-AS-S*	750	1.1	0.1	1.3	0.2	700	2800
LMS01-20PL-AS-S*	LMS01BB-20PL-AS-S*	1000	3.2	0.3	3.9	0.6	1600	6400
LMS01-30PL-AS-S*	LMS01BB-30PL-AS-S*	1250	8.6	0.6	10.9	1.4	2500	10000

产品编码 Part No.	产品编码 Part No.	A -0.3	A ₁ -0.3	H	E ₁ ± 0.15	E ₂ ± 0.15	E ₃ ± 0.15	L	R	f	L ₁ ± 0.1	t _k	t _s
LMS01-12PL-AS-S*	LMS01BB-12PL-AS-S*	85	85	34	70	73	73	145	42	2	30	11	6.6
LMS01-20PL-AS-S*	LMS01BB-20PL-AS-S*	130	130	48	108	115	115	202	72	2	36	15	9
LMS01-30PL-AS-S*	LMS01BB-30PL-AS-S*	180	180	68	150	158	158	280	96	4	50	20	13.5

产品编码 Part No.	产品编码 Part No.	t _g	k _i ± 0.1	s	s _k	s _g	k _g	d	T	L ₂	d ₂	h _a
LMS01-12PL-AS-S*	LMS01BB-12PL-AS-S*	M8	6.4	6.3	10	M6	6	12	Tr10 × 2	17	8 h9	18
LMS01-20PL-AS-S*	LMS01BB-20PL-AS-S*	M10	8.6	6.4	11	M8	7	20	Tr18 × 4	26	12 h9	23
LMS01-30PL-AS-S*	LMS01BB-30PL-AS-S*	M16	12.6	11	18	M12	10.6	30	Tr24 × 5	38	15 h9	36

*BB: 滚珠轴承设计 Ball bearing design

PL: 带预紧 Preload

S*: 行程 Stroke

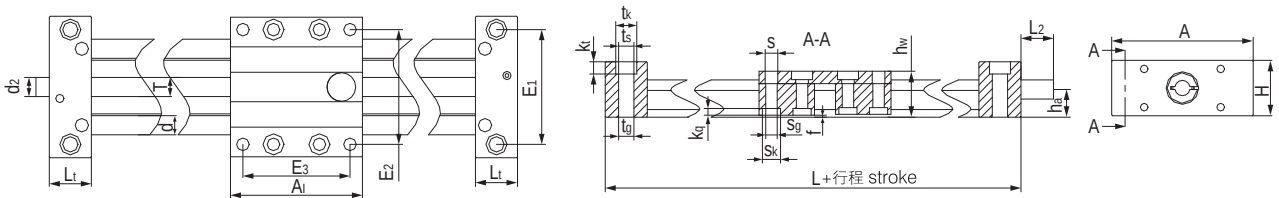
LMS02直线模组 Linear modules



产品特性 Product features

- 经凑型设计
- 稳定传动
- 表面硬化处理铝制WR导轨
- 配合丝杆螺母可单独供货P271
- 配合电机参考P277
- 可选附件参考P278
- Flat and compact
- High torsional stability
- Aluminium WR guide rails, hard anodized
- Lead screw nuts are available separately Page 271
- Available with motor Page 277
- Available accessories Page 278

标准规格 Standard specifications



产品编码 Part No.	最大行程S Max.stroke length [mm]	WR重量 Weight [kg]	增加重量 Additional (每Per 100mm)	最大静态载荷 Max. stat. load capacity [N]		轴端支撑座材料 End block material
				轴向 Axial	径向 Radial	
LMS02-1040-S*	750	0.7	0.10	700	2800	铝
LMS02-1080-S*	750	0.9	0.20	700	2800	铝
LMS02-1660-S*	750	1.5	0.30	1200	4600	铝
LMS02-2080-S*	1000	3.0	0.40	1600	6400	铝

产品编码 Part No.	A-0.3	A ₁ -0.3	H	E ₁ ± 0.15	E ₂ ± 0.15	E ₃ ± 0.15	L	h _w	f	L ₁ ± 0.1	t _k	t _s	t _g
LMS02-1040-S*	74	69	29	60	60	56	113	24	1.5	22	11	6.8	M8
LMS02-1080-S*	108	100	29	94	94	87	144	24	1.5	22	11	6.8	M8
LMS02-1660-S*	104	100	37	84	86	82	150	35	1.5	25	15	9	M10
LMS02-2080-S*	134	150	46	116	116	132	206	44	1.5	28	15	8.6	M10

产品编码 Part No.	k ₁ ± 0.1	s	s _k	s _g	k _q	d	T	L ₂	d ₂	h _a
LMS02-1040-S*	6.4	6.6	9.5	M6	4.4	10	Tr10 × 2	17	6 h9	14.5
LMS02-1080-S*	6.4	6.6	9.5	M6	4.4	10	Tr10 × 2	17	6 h9	14.5
LMS02-1660-S*	8.6	9.0	11.0	M8	5.5	16	Tr14 × 4	20	8 h9	18.5
LMS02-2080-S*	8.6	9.0	14.0	M8	5.5	20	Tr18 × 4	26	12 h9	23.0

S*: 行程 Stroke

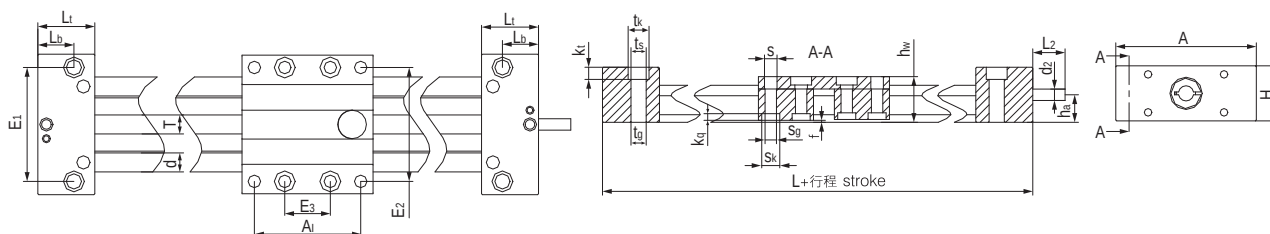
LMS02BB直线模组 Linear modules



产品特性 Product features

- 较低的驱动力
- 表面硬化处理铝制WR导轨
- 降低了系统振动，噪音低
- 丝杆两端采用滚珠轴承支撑
- 配合丝杆螺母可单独供货P271
- 配合电机参考P277
- 可选附件参考P278
- Lower drive force
- Aluminum WR guide rails, hard anodized
- Quiet operation – reduced vibration of the overall system
- Ball bearings in both lead screw end supports
- Lead screw nuts are available separately Page 271
- Available with motor Page 277
- Available accessories Page 278

标准规格 Standard specifications



产品编码 Part No.	最大行程S Max. stroke length [mm]	重量 Weight [kg]	增加重量 Additional (每Per 100mm)	最大静态载荷 Max. stat. load capacity [N]		极限转速 [1/min]	最大进给率 [m/min]
				轴向 Axial	径向 Radial		
LMS02BB-1040-S*	500	0.90	0.10	500	2000	1500	3.0
LMS02BB-1080-S*	500	1.10	0.20	500	2000	1500	3.0
LMS02BB-1660-S*	750	1.80	0.30	700	2800	1500	6.0
LMS02BB-2080-S*	900	3.30	0.40	1250	5000	1500	6.0

产品编码 Part No.	A-0.3	A ₁ -0.3	H	E ₁ ± 0.15	E ₂ ± 0.15	E ₃ ± 0.15	L	h _w	f	L ₁ ± 0.1	L _b	t _k	t _s	t _g
LMS02BB-1040-S*	74	69	29	60	60	56	129	24	1.5	30	19	11	6.8	M8
LMS02BB-1080-S*	108	100	29	94	94	87	144	24	1.5	30	19	11	6.8	M8
LMS02BB-1660-S*	104	100	37	84	86	82	170	35	1.5	35	22.5	15	9.0	M10
LMS02BB-2080-S*	134	150	46	116	116	132	230	44	1.5	40	26	15	9.0	M10

产品编码 Part No.	k _i ± 0.1	s	s _i	s _g	k _g	d	T	L ₂	d ₂	h _a
LMS02BB-1040-S*	6.4	6.6	9.5	M6	4.4	10	Tr10 × 2	17	6 h9	14.5
LMS02BB-1080-S*	6.4	6.6	9.5	M6	4.4	10	Tr10 × 2	17	6 h9	14.5
LMS02BB-1660-S*	8.6	9.0	11.0	M8	5.5	16	Tr14 × 4	20	8 h9	18.5
LMS02BB-2080-S*	8.6	9.0	14.0	M8	5.5	20	Tr18 × 4	26	12 h9	23.0

*BB: 滚珠轴承设计 Ball bearing design

S*: 行程 Stroke

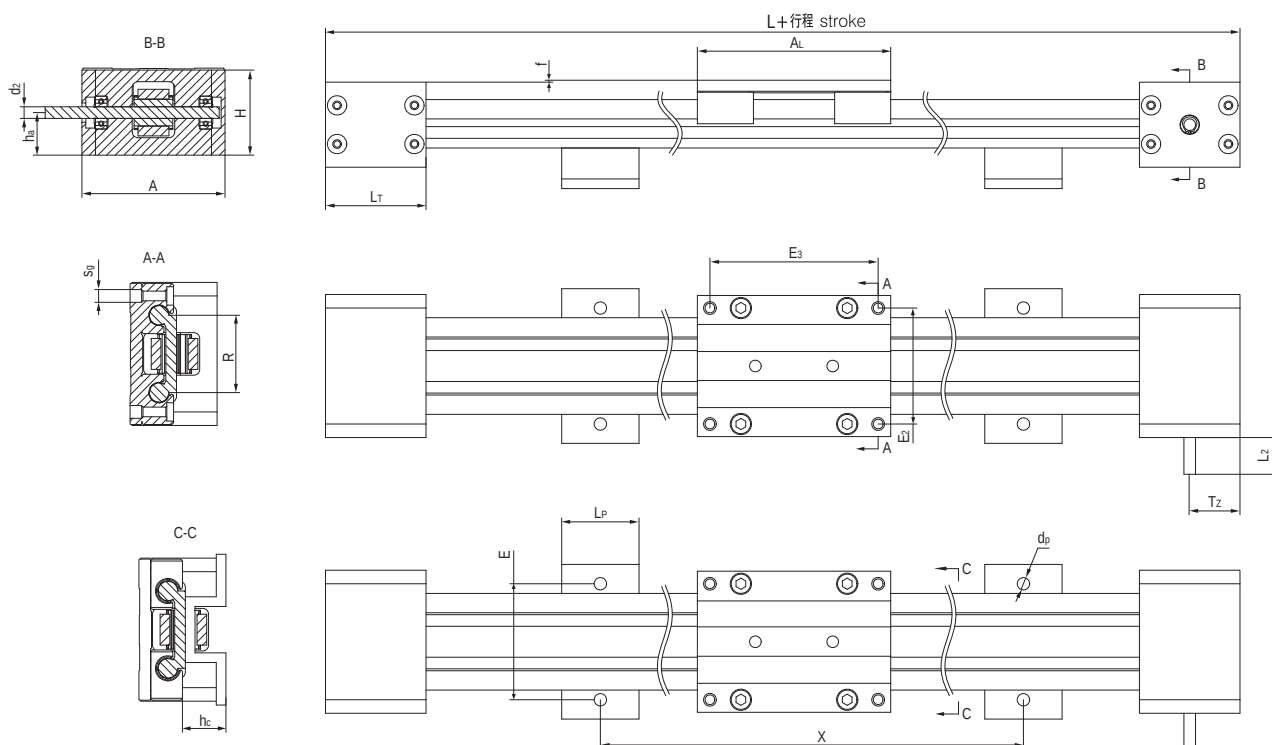
LMS03直线模组 Linear modules



产品特性 Product features

- 轻载快速定位
- 紧凑型无噪音设计
- 驱动轴单边或双边设计
- 多种滑块长度可选
- 配合电机参考P277
- 可选附件参考P278
- Fast positioning of small loads
- Quiet operation and flat design
- Drive shaft on one or both sides
- Linear carriages available in different lengths
- Available with motor Page 277
- Available accessories Page 278

标准规格 Standard specifications



产品编码 Part No.	A 0/-0.3	AL	H	E2 ± 0.15	E3 ± 0.15	L	R ± 0.15	f	L _T ± 0.30	sg	ha	hc	l2	d2 (h9)	X	E ± 0.2	L _p	dP
LMS03-1040-S*	74	100	44	60	87	204	40	1	52	M6	22	22.5	20	10	可调 Variable	60	40	6.4
LMS03-1080-S*	90	100	44	94	87	204	74	1	52	M6	22	22.5	12	10	可调 Variable	94	40	6.4
LMS03-1660-S*	104	100	72	86	82	252	60	2	76	M8	43	22.5	20	14	可调 Variable	100	40	9.0

产品编码 Part No.	重量 Weight [kg]		最大行程S Max. stroke length [mm]	导程 Transmission [mm/rev]	齿形 Tooth profile	宽度 Toothed belt width [mm]	张力 Toothed belt tension [N]	最大径向力 Max. radial load [N]	导向轴承 Guide bearing	最大速度 Max. speed [m/s]	最大定位精度 Max. position variation [mm]
	无行程 Without stroke	100mm行程 Stroke									
LMS03-1040-S*	1	0.14	2000	70	5M	16	300	200	滚珠轴承 Ball bearing	5	± 0.2
LMS03-1080-S*	1.3	0.2	2000	70	5M	16	300	300	滚珠轴承 Ball bearing	5	± 0.2
LMS03-1660-S*	4	0.5	3000	120	5M	32	500	2000	滚珠轴承 Ball bearing	5	± 0.2

S*: 行程 Stroke

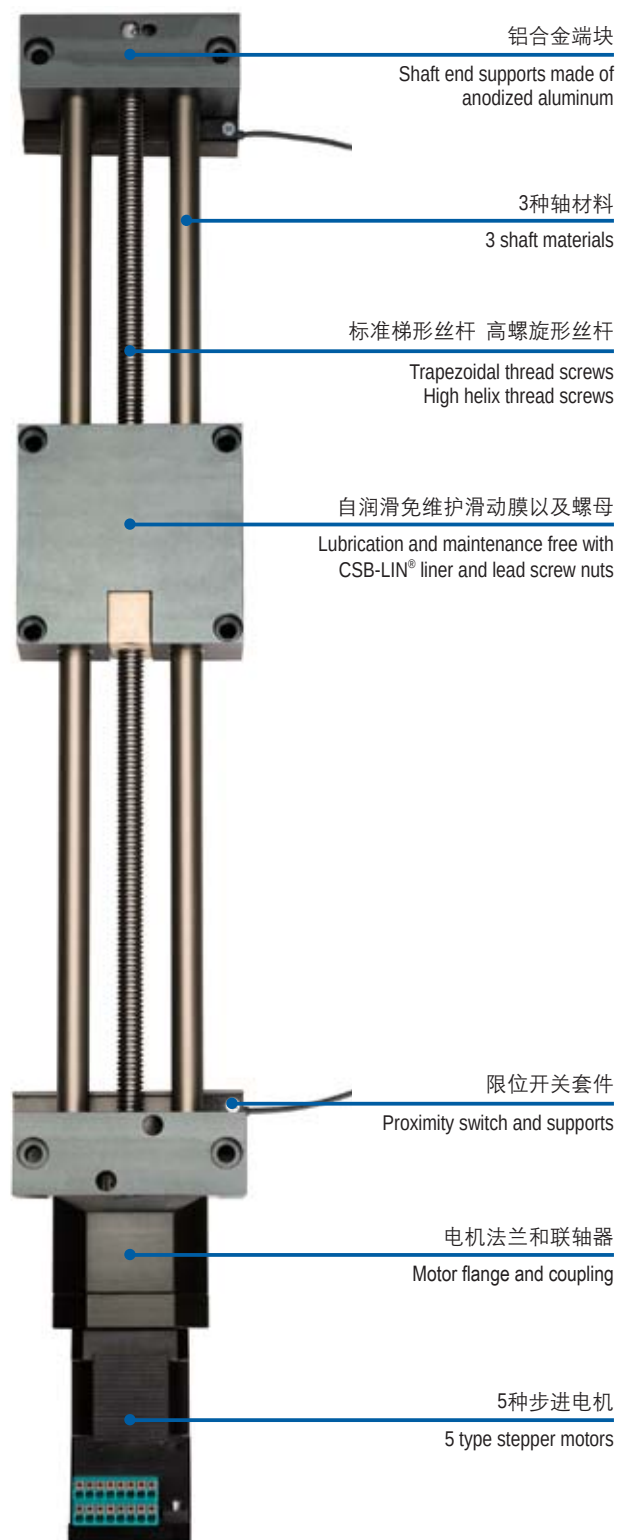
LMS04直线模组 Linear modules



产品特性 Product features

- 薄型设计，采用梯形丝杆和导轨平行安装
- 自润滑，高效能，重量轻
- 可自由设计间距和长度
- 可选右旋或左旋丝杆
- 配合丝杆螺母可单独供货P260
- 配合电机参考P277
- 可选附件参考P278
- Low profile structure through lateral lead screw arrangement
- Lubrication-free, high efficiency, lightweight
- Variable pitch and length
- Lead screw arrangement can be selected either left or right
- Lead screw nuts are available separately Page 260
- Available with motor Page 277
- Available accessories Page 278

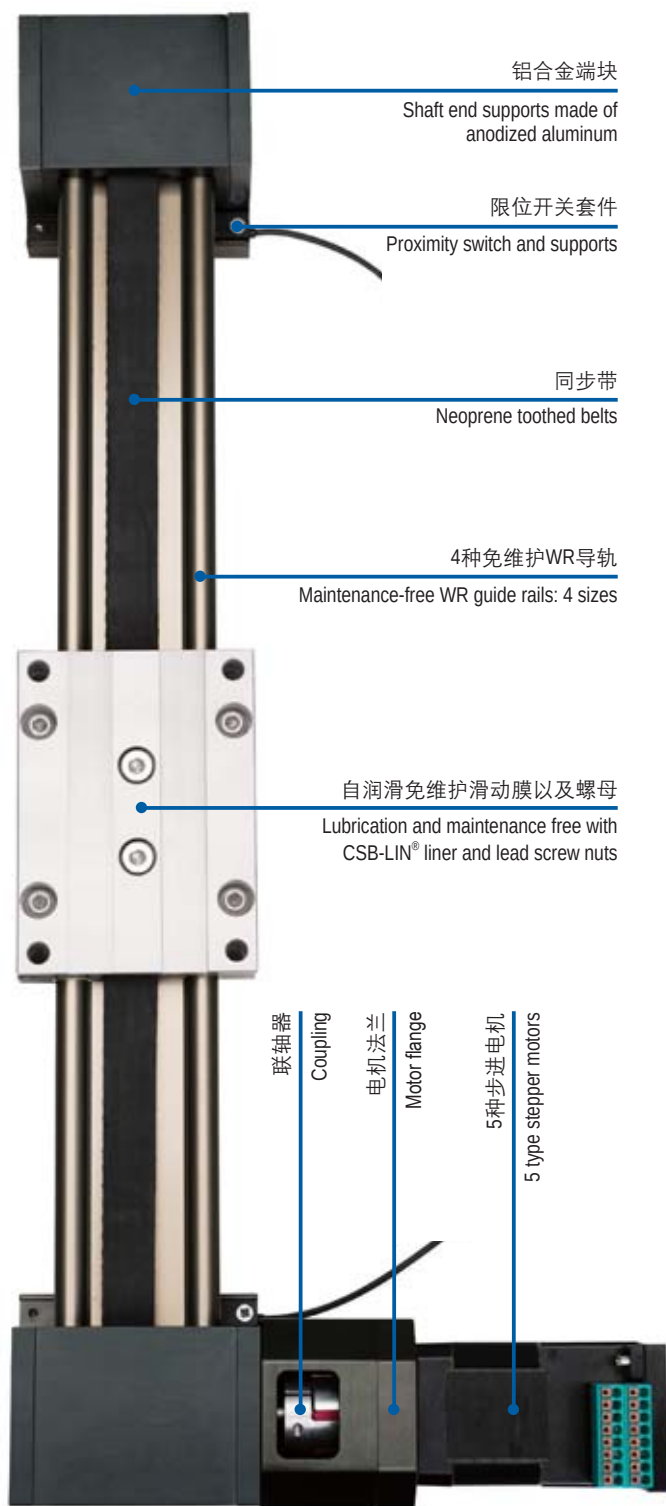
LMS01-E直线模组 Linear modules



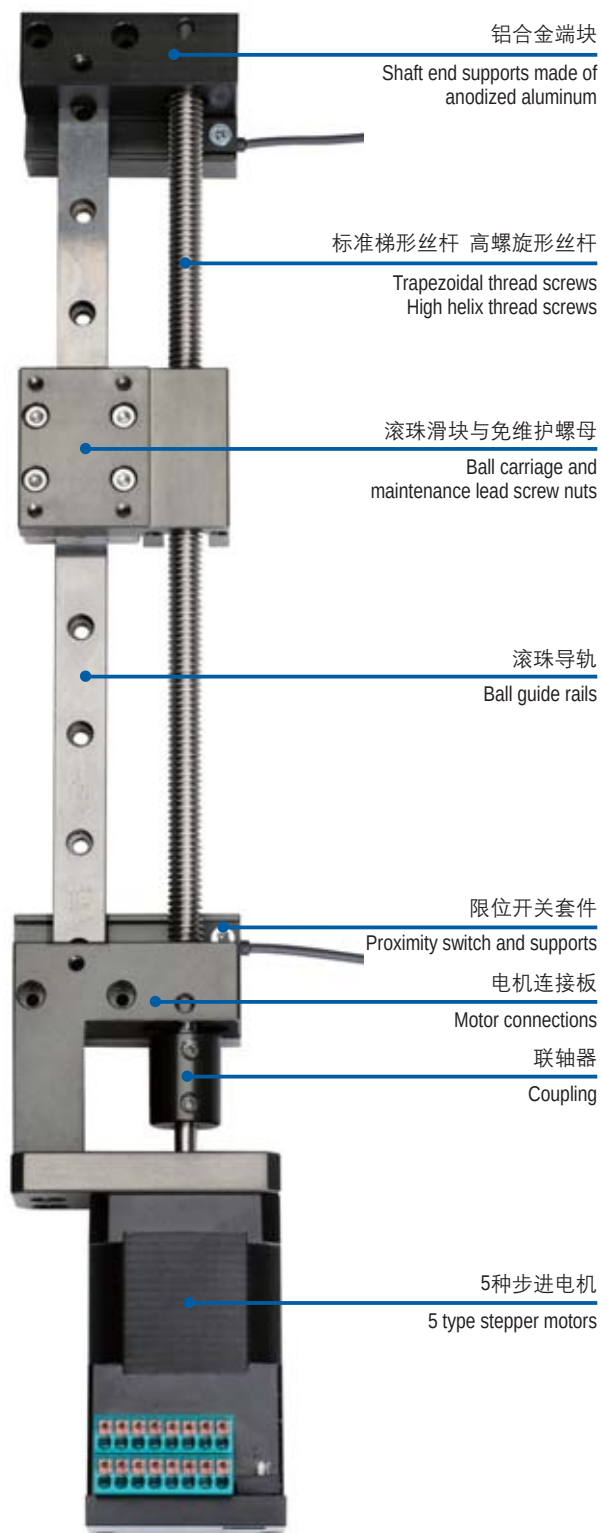
LMS02-E直线模组 Linear modules



LMS03-E直线模组 Linear modules



LMS04-E直线模组 Linear modules





产品特性 Product features

- 丝杆传动组件是将旋转运动转换成直线运动的机器元件。CSB-LMS®丝杆传动组件采用CSB-EPB®材料制成的自润滑的塑料螺母，因此无需外部润滑就可实现长期运转。
- 高效耐用快速螺纹
- 标准梯形自锁螺纹
- 免维护，干运行
- 耐腐蚀、耐脏污、低噪音
- Screw drives are machine elements that convert rotary motion into linear motion. CSB-LMS® screw drives are always based on CSB-EPB® self-lubricating plastic nuts, thus enabling long-lasting operation without external lubrication.
- Efficient and durable CSB-LMS® high helix threads
- Self-locking trapezoidal standard threads
- Maintenance-free, dry operation
- Corrosion resistant、Resistant to dirt and Low-noise

丝杆与螺母设计 Lead screws and nuts design

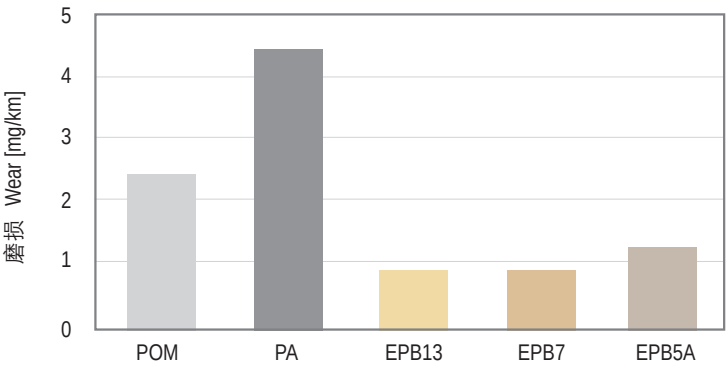
CSB-LMS® 标准梯形丝杆是根据 DIN 103 标准制造，高螺旋线丝杆采用了特殊螺纹角度设计在低转速下可获得高移动速度。CSB-LMS® 丝杆由不锈钢制成，并通过冷轧工艺形成。它们配有高耐磨材料CSB-EPB13螺母设计。对于较高的负载或特殊应用，CSB-EPB5A可用于螺母。

CSB-LMS® lead screw drives are manufactured in accordance with DIN 103. CSB-LMS® high-helix lead screws have high moving speeds been obtained at low rotational speeds. CSB-LMS® high-helix lead screws has made this possible by using a high-helix pitch. CSB-LMS® lead screws are made of stainless steel and are formed by the cold-rolling process. They are coupled with high wear-resistant material CSB-EPB13 nuts designs. For higher loads or special applications, CSB-EPB5A may be used for the nuts.

丝杆材料Screw material: 不锈钢Stainless steel

螺母材料Nut material: CSB-EPB13
CSB-EPB5A
CSB-EPB7

材料 Material	耐温 Temperature
CSB-EPB13	-50/+90 °C
CSB-EPB5A	-100/+250 °C
CSB-EPB7	-40/+90 °C



Wear test on a rolled EPB13/EPB7/EPB5A
EPB13, EPB7和EPB5A螺母旋转磨损测试

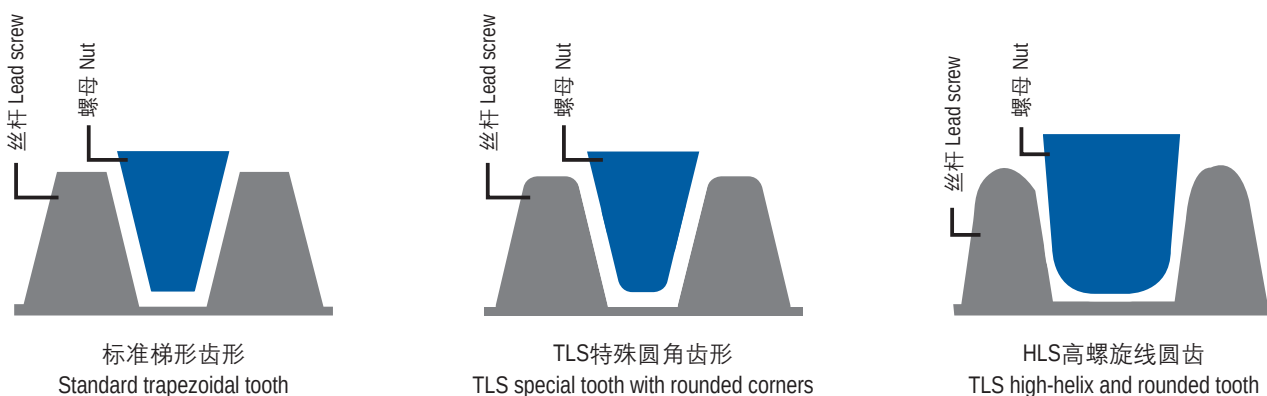
请注意：除了在达到最大额定载荷时会发生变化外，在运行中的热膨胀也会引起变化。我们建议通过具体实验来测试丝杆螺母在低温或高温应用中的可行性。

Please note that the temperature also has an effect on the clearance of the nut, as well as the maximum load capacity. When the application is exposed to particularly low or high temperatures, we recommend testing the suitability of the lead screw nuts in this specific case by a practical test.

高效螺纹设计 Higher efficiency thread design

CSB-LMS[®] 高螺旋线丝杆和螺母采用了较平坦的螺纹角度，驱动力有效地转换为平移运动，与标准梯形螺纹角度相比具有较低的功率损耗。由于圆齿几何形状，在无润滑运动过程中噪音和振动均减轻。

Due to a flatter thread angle in CSB-LMS[®] high-helix lead screws and nuts, the drive force is efficiently converted into a translational motion. Compared with standard trapezoidal thread angle, this means a lower power loss. Due to the radius tooth design, the thread moving without lubrication, low noise and vibration dampening.



多种螺母结构设计 Multiple structure nuts design



径向载荷和扭矩 Radial loads and torque

在螺母上承受的径向载荷或扭矩导致单个接触表面过载，从而严重影响导螺杆组件的使用寿命。因此，正确安装螺丝并符合所有相关形式和位置公差是很重要的。

Radial loads or torque brought to bear upon the nut result in overload of individual contact surfaces, thus seriously affecting the service life of the lead screw assembly. Therefore it is important to properly mount the screw and to comply with all relevant form and positional tolerances.

所需驱动扭矩 Required drive torque

丝杆螺母所需的驱动扭矩取决于轴向载荷，丝杆螺距，丝杆螺纹表面与螺母之间的摩擦系数。在高速时，必须考虑加速扭矩，这可能导致安装精度引起的扭矩增加。污垢，灰尘和表面不良可导致驱动扭矩增加的导螺杆可以增加驱动扭矩。然而，润滑可以暂时减少所需的驱动力。

The required drive torque of the threaded nut is obtained from the axial load, the lead screw pitch, the coefficient of surface friction of lead screw unit and the lead screw bearing. At high speeds, the acceleration torque must be taken into account, which may cause increased start torque depending on the installation. Dirt, dust and the surface or the condition of the lead screw can increase the drive torque. However, lubrication can temporarily reduce the required drive forces.

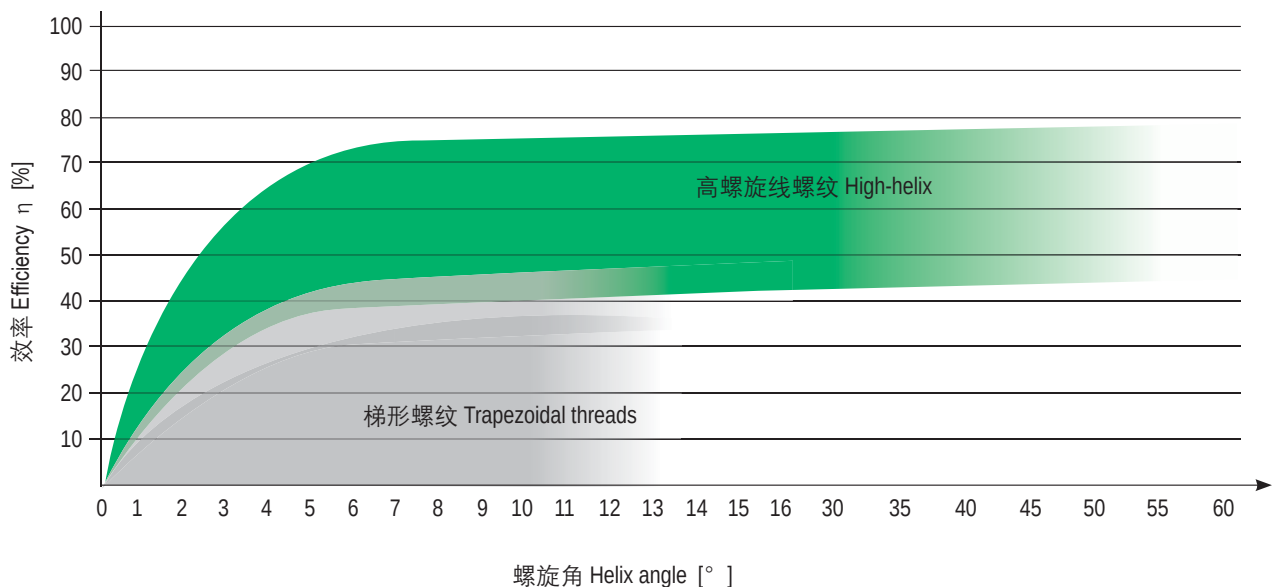
效率 Levels of efficiency

效率是输出功率与输入功率的比值。CSB-LMS®导向螺母具有低摩擦系数，因此有很高的效率。

在干运行条件下，单头梯形导向螺母效率在 20% 到 48%之间。快速螺纹的导向螺母效率在 50% 到 80%之间。虽然 CSB-LMS®导向螺母是专为完全干运行开发的，但添加润滑油能增加效率。

Efficiency is the ratio between the output and input power rating. CSB-LMS® lead screw nuts are characterised by low friction values, resulting in high efficiencies.

Single start trapezoidal lead screw nuts achieve efficiencies between 20 and 48% under dry running conditions. High helix lead screw nuts achieve efficiencies between 50 and 80% under dry running conditions. Even though CSB-LMS® lead screw nuts were developed for completely dry running conditions, lubrication can help to additionally increase efficiency.



以下是高螺旋线丝杆设计和安全操作的相关计算。

The following are the relevant calculations which underlie high-helix screw design and safe operation.

许可转速计算 Critical rotational speed n_{per}

允许的转速与丝杆本身效率有很大关系。

Permissible rotational speeds depends on the frequency of the screw.

$$n_{per} = K_D \cdot 10_6 \cdot \frac{d_2}{l_a^2} \cdot S_n \text{ [min}^{-1}\text{]}$$

n_{per} = 许可旋转速度
permissible rotational speed [min⁻¹]

K_D = 轴承的特征参数
characteristic constant as a function
of bearing configuration

d_2 = 底径 core diameter [mm]

l_a = 轴承间距 bearing distances [mm]

计算中包含最大许可的 l_a
(always include maximum allow-
able l_a in calculation)

S_n = 安全系数 safety factor
一般 usually $S_n = 0.5 \dots 0.8$ [-]

图 Configuration 1:

A: 限位支撑 fixed

B: 限位支撑 fixed

$K_D = 276$

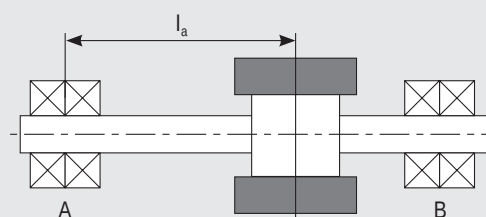


图 Configuration 2:

A: 限位支撑 fixed

B: 支撑 simple

$K_D = 190$

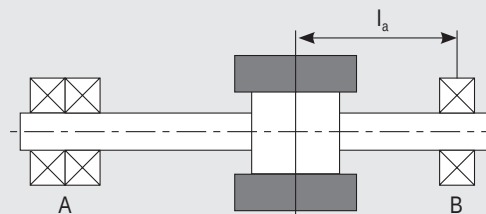


图 Configuration 3:

A: 支撑 simple

B: 支撑 simple

$K_D = 122$

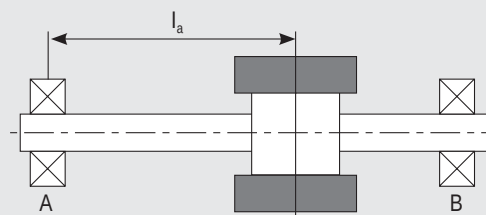
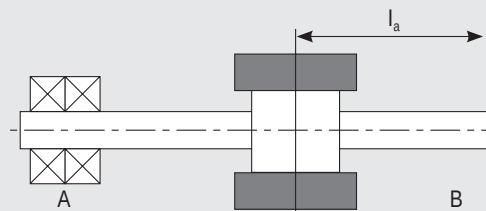


图 Configuration 4:

A: 限位支撑 fixed

B: 自由 free

$K_D = 43$



最大许可载荷与速度关系 Maximum authorized load depending on speed

$$F_{per} = C_0 \cdot f_L \text{ [N]}$$

C_0 = 静载荷 static load rate [N]

f_L = 载荷因子 load factor [-] for EPB13 螺母 nuts

转速 circumferential speed V_c [m/min]	载荷因子 load factor f_L [-]
5	0.95
10	0.75
20	0.45
30	0.37
40	0.12
50	0.08

驱动力矩 Driving torque M

依赖于动力传输系统类型 Depends upon the type of power transmission

例 Case 1: 扭矩 torque → 直线运动 linear movement

$$M_a = \frac{F_a \cdot P}{2000 \cdot \pi \cdot \eta} \quad [\text{Nm}]$$

M_a = 输入扭矩 input torque [Nm]

η = 效率 efficiency [%]

M_e = 输出扭矩 output torque [Nm]

η' = 纠正效率 corrected efficiency [%]

例 Case 2: 轴向力 axial force → 扭矩 torque

$$M_a = \frac{F_a \cdot P \cdot \eta'}{2000 \cdot \pi} \quad [\text{Nm}]$$

F_e = 轴向力 axial force [N]

P = 螺距 pitch [mm]

输入功率 Input performance P

$$P = \frac{M_a \cdot n}{9550} \quad [\text{kW}]$$

P = 输入功率 input performance [kW]

n = 旋转速度 rotational speed [min^{-1}]

选择驱动时推荐保留20%安全余量 A safety margin of 20% is recommended when selecting drives.

潮湿环境 Wet environments

CSB-EPB13材料制成的梯形螺母非常适合潮湿的环境应用。这些材料的特性之一就是吸水率低。

Trapezoidal lead screw nuts from CSB-EPB13 must be used for applications in humid environments, especially for wet applications. These material are characterised by very low moisture absorption.

脏污 Dirt

通过用免维护的 CSB-EPB® 材料来制造导向螺母，CSB-LMS® 丝杠驱动就能实现完全干运行。

通过避免使用润滑油，可显著减少软质颗粒如灰尘和纤维的附着。相比传统的需要润滑的材料，免润滑的导向螺母显著提高了在脏污环境中的使用寿命。但是，在污染很严重并且有硬质颗粒如金属碎片或花岗岩粉尘的环境中，导向螺母需要使用防护罩。

Dirt with the use of the maintenance-free CSB-EPB® materials for lead screw nut production, CSB-LMS® lead screw drives feature completely dry-running operation. Due to the deliberate avoidance of lubricants, the adhesion of soft particles such as dust and fibres is reduced. When compared to conventional, lubricated materials, it is common to see significant improvements in the service life in contaminated environments. However, in environments with significant contamination and hard particles, such as metal chips or granite dust, the lead screw should be covered.

噪音 Noise

滑动丝杠驱动经常会伴随有噪音，特别是长丝杠和长行程会导致运动系统的自激振动。CSB-LMS® 导向螺母由经过摩擦优化的CSB-EPB®材料制成，具有良好的滑动特性，导向螺母比传统塑料或金属材料如青铜或黄铜噪音更低。

Noise can generally occur with the use of lead screw drives. In particular, long lead screws and long travel distances can cause self-induced vibrations in the systems. Due to their good sliding characteristics, lead screw nuts from the tribologically optimised CSB-EPB® materials tend to develop less noise than conventional plastics or metallic materials, such as bronze or brass.

法兰型导向螺母 Lead screw nuts with flange

装配法兰型导向螺母的最大拧紧力矩为 2.5Nm。我们建议通过第三方介质（如放脱落螺丝胶）来固定安装螺钉。更高拧紧力矩时应使用防松垫圈。

The maximum tightening torque for the assembly of flanged lead screw nuts is 2.5 Nm. We recommend that assembly screws are secured with a semi permanent thread locking glue. Metallic ferrules should be used for even higher tightening torques.



圆柱型导向螺母 Cylindrical lead screw nuts

圆柱型导向螺母的外径面设计有螺纹。我们建议通过第三方介质（如放脱落螺丝胶）来固定安装。

The outer diameter of cylindrical lead screw nuts is designed for screw connection. We recommend that assembly screws are secured with a semi permanent thread locking glue.



梯形螺纹丝杆 Lead screws with trapezoidal thread



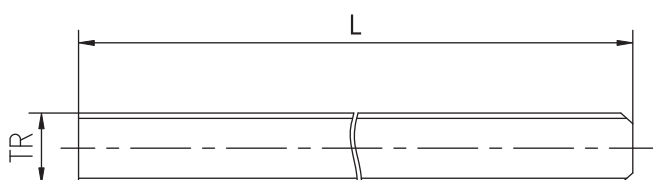
产品特性 Product features

- 左旋和右旋螺纹可选
- 可选材料：C45钢和不锈钢
- 可以根据客户图纸加工
- Thread: right- or left-hand
- Available materials: C45 steel /304 stainless steel
- Length and machining according to customer drawing

TLS

CSB-LMS®

标准规格 Standard specifications



产品编码 Part No.:

TLS-8 × 1.5R-N1-ES-L

长度 Length
 不锈钢 Stainless steel
 螺纹数 Thread numble
 R-右旋Right L-左旋Left
 螺纹 Thread

产品编码 Part No.	直径 Outer diameter [mm]	齿根直径 Core diameter [mm]	导程 Lead S[mm]	螺距 Pitch P[mm]	螺纹角 Pitch angle α [°]	头数 Numbre of threads N [pcs]	重量 Weight [kg/m]
TLS-8 × 1.5R-N1-ES-L	8	6.2	1.5	1.5	3.42	1	0.40
TLS-10 × 2R-N1-ES-L	10	7.5	2	2	3.64	1	0.62
TLS-10 × 3R-N1-ES-L	10	6.5	3	3	5.45	1	0.89
TLS-10 × 4R-N2-ES-L	10	7.5	4	2	7.26	2	0.62
TLS-12 × 3R-N1-ES-L	12	8.5	3	3	4.55	1	0.89
TLS-12 × 6R-N2-ES-L	12	8.5	6	3	9.04	2	0.89
TLS-14 × 3R-N1-ES-L	14	10.5	3	3	3.9	1	1.22
TLS-14 × 4R-N1-ES-L	14	9.5	4	4	5.2	1	1.22
TLS-16 × 2R-N1-ES-L	16	12.8	2	2	2.28	1	1.59
TLS-16 × 4R-N1-ES-L	16	11.5	4	4	4.55	1	1.59
TLS-16 × 8R-N2-ES-L	16	11.5	8	4	9.04	2	1.59
TLS-18 × 4R-N1-ES-L	18	13.5	4	4	4.05	1	2.01
TLS-18 × 8R-N2-ES-L	18	13.5	8	4	8.05	2	2.01
TLS-20 × 4R-N1-ES-L	20	15.5	4	4	3.64	1	2.48
TLS-24 × 5R-N1-ES-L	24	18.5	5	5	3.79	1	3.57
TLS-26 × 5R-N1-ES-L	26	20.5	5	5	3.5	1	4.19
TLS-28 × 5R-N1-ES-L	28	22.5	5	5	3.25	1	4.86
TLS-30 × 6R-N1-ES-L	30	23	6	6	3.64	1	5.58

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sales@csb-ep.com

Tel: 0086 573 84186133/84185527
Fax: 0086 573 84185517

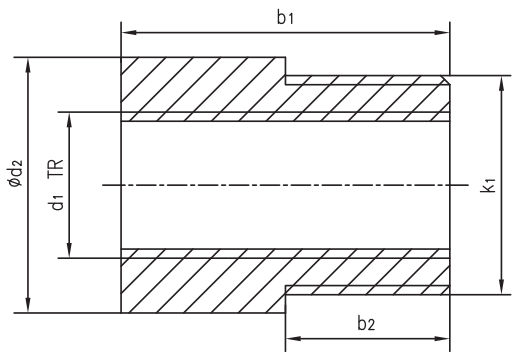
圆柱螺母 Lead screw nuts, round



产品特性 Product features

- 自润滑、低磨损
 - 极低的摩擦系数
 - 耐腐蚀，可用于液体介质环境
 - 抵抗灰尘和无噪音运行
 - 可选材料：EPB13, EPB7, EPB5A
- Self lubricating and lower wear
 - Best coefficient of friction
 - Chemical resistant
 - Dust resistant and quit running
 - Available materials: EPB13, EPB7 and EPB5A

标准规格 Standard specifications



产品编码 Part No.:

SNR-1812TR8 × 1.5R-N1

- 螺纹数 Thread numble
- R-右旋 Right L-左旋 Left
- 内螺纹 Inner Thread $d_1 \times s$
- 长度 Length
- 外径 Outer diameter

产品编码 Part No.	d_2 [mm]	b_1 [mm]	$d_1 \times s$ [mm]	头数 Numbel of threads N [pcs]	$k_1 \times p$ [mm]	b_2 [mm]
SNR-1812TR8 × 1.5R-N1	18	12	TR8 × 1.5	1	M16 × 1.5	6
SNR-2220TR10 × 2R-N1	22	20	TR10 × 2	1	M20 × 1.5	10
SNR-2220TR10 × 3R-N1	22	20	TR10 × 3	1	M20 × 1.5	10
SNR-2220TR10 × 4R-N2	22	20	TR10 × 4	2	M20 × 1.5	10
SNR-2624TR12 × 3R-N1	26	24	TR12 × 3	1	M24 × 2	12
SNR-2624TR12 × 6R-N2	26	24	TR12 × 6	2	M24 × 2	12
SNR-3028TR14 × 3R-N1	30	28	TR14 × 3	1	M27 × 2	14
SNR-3028TR14 × 4R-N1	30	28	TR14 × 4	1	M27 × 2	14
SNR-3632TR16 × 2R-N1	36	32	TR16 × 2	1	M33 × 2	16
SNR-3632TR16 × 4R-N1	36	32	TR16 × 4	1	M33 × 2	16
SNR-3632TR16 × 8R-N2	36	32	TR16 × 8	2	M33 × 2	16
SNR-4036TR18 × 4R-N1	40	36	TR18 × 4	1	M36 × 3	18
SNR-4036TR18 × 8R-N2	40	36	TR18 × 8	2	M36 × 3	18
SNR-4540TR20 × 4R-N1	45	40	TR20 × 4	1	M42 × 3	20
SNR-5048TR24 × 5R-N1	50	48	TR24 × 5	1	M48 × 3	24
SNR-5052TR26 × 5R-N1	50	52	TR26 × 5	1	M48 × 3	26
SNR-6056TR28 × 5R-N1	60	56	TR28 × 5	1	M56 × 4	28
SNR-6060TR30 × 6R-N1	60	60	TR30 × 6	1	M56 × 4	30

产品编码 Part No.	有效接触面积 Effective supporting surface [mm²]	最大轴向静载荷 Max. stat. axial F [N]	效率 Efficiency η	摩擦系数 Coefficient of friction μ	重量 Weight [g]
SNR-1812TR8 × 1.5R-N1	137	547	19-27	0.1-0.25	3.7
SNR-2220TR10 × 2R-N1	283	1131	20-39	0.1-0.25	9.0
SNR-2220TR10 × 3R-N1	267	1068	27-48	0.1-0.25	9.0
SNR-2220TR10 × 4R-N2	282	1127	33-55	0.1-0.25	9.0
SNR-2624TR12 × 3R-N1	396	1583	24-44	0.1-0.25	14.9
SNR-2624TR12 × 6R-N2	396	1583	37-60	0.1-0.25	14.9
SNR-3028TR14 × 3R-N1	550	2199	24-40	0.1-0.25	23.1
SNR-3028TR14 × 4R-N1	528	2111	26-47	0.1-0.25	23.1
SNR-3632TR16 × 2R-N1	754	3016	14-28	0.1-0.25	38.9
SNR-3632TR16 × 4R-N1	704	2815	24-44	0.1-0.25	38.9
SNR-3632TR16 × 8R-N2	704	2815	37-60	0.1-0.25	38.9
SNR-4036TR18 × 4R-N1	905	3619	22-41	0.1-0.25	53.8
SNR-4036TR18 × 8R-N2	905	3619	35-58	0.1-0.25	53.8
SNR-4540TR20 × 4R-N1	1131	4524	20-39	0.1-0.25	76.1
SNR-5048TR24 × 5R-N1	1621	6484	21-40	0.1-0.25	108.1
SNR-5052TR26 × 5R-N1	1920	7678	19-38	0.1-0.25	111.0
SNR-6056TR28 × 5R-N1	2243	8972	18-36	0.1-0.25	184.5
SNR-6060TR30 × 6R-N1	2545	10179	20-39	0.1-0.25	189.6

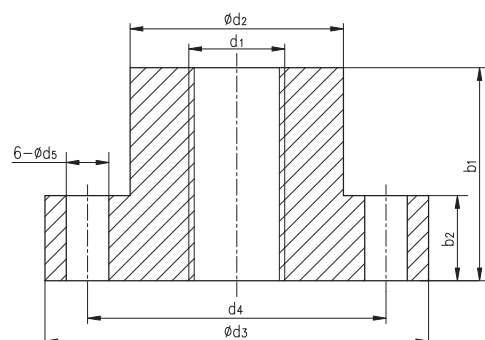
圆柱法兰螺母 Lead screw nuts, round flange



产品特性 Product features

- 自润滑、低磨损
- 螺丝固定，易安装
- 极低的摩擦系数
- 耐腐蚀，可用于液体介质环境
- 抵抗灰尘和无噪音运行
- 可选材料：EPB13, EPB7, EPB5A
- Self lubricating and lower wear
- Easy installation with bolts
- Best coefficient of friction
- Chemical resistant
- Dust resistant and quit running
- Available materials: EPB13, EPB7 and EPB5A

标准规格 Standard specifications



产品编码 Part No.:

SNRF-2020TR8 × 1.5R-N1

- 螺纹数 Thread numble
- R-右旋Right L-左旋Left
- 内螺纹 Inner thread $d_1 \times s$
- 长度 Length
- 外径 Outer diameter

产品编码 Part No.	d ₂ [mm]	b ₁ [mm]	d ₃ [mm]	b ₂ [mm]	d ₄ [mm]	d ₅ [mm]	d ₁ × s [mm]	头数 Numbel of threads N [pcs]
SNRF-2020TR8 × 1.5R-N1	20	20	36	8	28	4	TR8 × 1.5	1
SNRF-2525TR10 × 2R-N1	25	25	42	10	34	5	TR10 × 2	1
SNRF-2525TR10 × 3R-N1	25	25	42	10	34	5	TR10 × 3	1
SNRF-2525TR10 × 4R-N2	25	25	42	10	34	5	TR10 × 4	2
SNRF-2835TR12 × 3R-N1	28	35	48	12	38	6	TR12 × 3	1
SNRF-2835TR12 × 6R-N2	28	35	48	12	38	6	TR12 × 6	2
SNRF-2835TR14 × 3R-N1	28	35	48	12	38	6	TR14 × 3	1
SNRF-2835TR14 × 4R-N1	28	35	48	12	38	6	TR14 × 4	1
SNRF-2835TR16 × 2R-N1	28	35	48	12	38	6	TR16 × 2	1
SNRF-2835TR16 × 4R-N1	28	35	48	12	38	6	TR16 × 4	1
SNRF-2835TR16 × 8R-N2	28	35	48	12	38	6	TR16 × 8	2
SNRF-2835TR18 × 4R-N1	28	35	48	12	38	6	TR18 × 4	1
SNRF-2835TR18 × 8R-N2	28	35	48	12	38	6	TR18 × 8	2
SNRF-3244TR20 × 4R-N1	32	44	55	12	45	7	TR20 × 4	1
SNRF-3244TR24 × 5R-N1	32	44	55	12	45	7	TR24 × 5	1
SNRF-3846TR26 × 5R-N1	38	46	62	14	50	7	TR26 × 5	1
SNRF-3846TR28 × 5R-N1	38	46	62	14	50	7	TR28 × 5	1
SNRF-3846TR30 × 6R-N1	38	46	62	14	50	7	TR30 × 6	1

产品编码 Part No.	有效接触面积 Effective supporting surface [mm ²]	最大轴向静载荷 Max. stat. axial F [N]	效率 Efficiency η	摩擦系数 Coefficient of friction μ	重量 Weight [g]
SNRF-2020TR8 × 1.5R-N1	228	911	19-27	0.1-0.25	16.3
SNRF-2525TR10 × 2R-N1	353	1414	20-39	0.1-0.25	28.7
SNRF-2525TR10 × 3R-N1	334	1335	27-48	0.1-0.25	28.7
SNRF-2525TR10 × 4R-N2	353	1412	33-55	0.1-0.25	28.7
SNRF-2835TR12 × 3R-N1	577	2309	24-44	0.1-0.25	47.6
SNRF-2835TR12 × 6R-N2	577	2309	37-60	0.1-0.25	47.6
SNRF-2835TR14 × 3R-N1	687	2749	24-40	0.1-0.25	45.4
SNRF-2835TR14 × 4R-N1	660	2639	26-47	0.1-0.25	45.4
SNRF-2835TR16 × 2R-N1	825	3299	14-28	0.1-0.25	43.0
SNRF-2835TR16 × 4R-N1	770	3079	24-44	0.1-0.25	43.0
SNRF-2835TR16 × 8R-N2	770	3079	37-60	0.1-0.25	43.0
SNRF-2835TR18 × 4R-N1	880	3519	22-41	0.1-0.25	40.2
SNRF-2835TR18 × 8R-N2	880	3519	35-58	0.1-0.25	40.2
SNRF-3244TR20 × 4R-N1	1244	4976	20-39	0.1-0.25	60.2
SNRF-3244TR24 × 5R-N1	1486	5944	21-40	0.1-0.25	51.2
SNRF-3846TR26 × 5R-N1	1698	6320	19-38	0.1-0.25	80.7
SNRF-3846TR28 × 5R-N1	1843	4560	18-36	0.1-0.25	74.8
SNRF-3846TR30 × 6R-N1	1951	3576	20-39	0.1-0.25	68.6

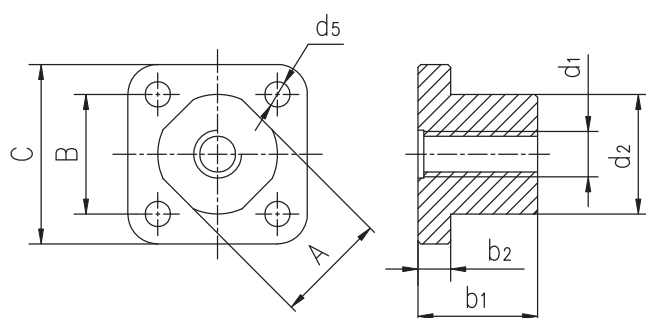
方法兰螺母 Lead screw nuts, square flange



产品特性 Product features

- 自润滑、低磨损
- 高效率传动
- 螺丝固定易安装
- 极低的摩擦系数
- 耐腐蚀，可用于液体介质环境
- 抵抗灰尘和无噪音运行
- 可选材料：EPB13, EPB7, EPB5A
- Self lubricating and lower wear
- High efficiency drive
- Easy installation with bolts
- Best coefficient of friction
- Chemical resistant
- Dust resistant and quit running
- Available materials: EPB13, EPB7 and EPB5A

标准规格 Standard specifications



产品编码 Part No.:

SNSF-202030TR8 × 1.5R-N1

螺纹数 Thread numble
R-右旋Right L-左旋Left
内螺纹 Inner thread $d_1 \times s$
法兰边长 Flange width
长度 Length
外径 Outer diameter

产品编码 Part No.	d_2 [mm]	b_1 [mm]	A [mm]	B [mm]	C [mm]	b_2 [mm]	d_5 [mm]	$d_1 \times s$ [mm]	头数 Numbre of threads N [pcs]
SNSF-202030TR8 × 1.5R-N1	20	20	19	20	30	5.5	4.2	TR8 × 1.5	1
SNSF-202030TR10 × 2R-N1	20	20	19	20	30	5.5	4.2	TR10 × 2	1
SNSF-202030TR10 × 3R-N1	20	20	19	20	30	5.5	4.2	TR10 × 3	1
SNSF-202030TR10 × 4R-N2	20	20	19	20	30	5.5	4.2	TR10 × 4	2
SNSF-242534TR12 × 3R-N1	24	25	22.6	24	34	6	5	TR12 × 3	1
SNSF-242534TR12 × 6R-N2	24	25	22.6	24	34	6	5	TR12 × 6	2
SNSF-242534TR14 × 3R-N1	24	25	22.6	24	34	6	5	TR14 × 3	1
SNSF-242534TR14 × 4R-N1	24	25	22.6	24	34	6	5	TR14 × 4	1
SNSF-282538TR16 × 2R-N1	28	25	25.5	27	38	6.5	6	TR16 × 2	1
SNSF-282538TR16 × 4R-N1	28	25	25.5	27	38	6.5	6	TR16 × 4	1
SNSF-282538TR16 × 8R-N2	28	25	25.5	27	38	6.5	6	TR16 × 8	2
SNSF-282538TR18 × 4R-N1	28	25	25.5	27	38	6.5	6	TR18 × 4	1
SNSF-282538TR18 × 8R-N2	28	25	25.5	27	38	6.5	6	TR18 × 8	2

产品编码 Part No.	有效接触面积 Effective supporting surface [mm ²]	最大轴向静载荷 Max. stat. axial F [N]	效率 Efficiency η	摩擦系数 Coefficient of friction μ	重量 Weight [g]
SNSF-202030TR8 × 1.5R-N1	228	911	19-27	0.1-0.25	12.66
SNSF-202030TR10 × 2R-N1	283	1131	20-39	0.1-0.25	11.82
SNSF-202030TR10 × 3R-N1	267	1068	27-48	0.1-0.25	11.82
SNSF-202030TR10 × 4R-N2	282	1127	33-55	0.1-0.25	11.82
SNSF-242534TR12 × 3R-N1	412	1649	24-44	0.1-0.25	18.93
SNSF-242534TR12 × 6R-N2	412	1649	37-60	0.1-0.25	18.93
SNSF-242534TR14 × 3R-N1	491	1963	24-40	0.1-0.25	17.41
SNSF-242534TR14 × 4R-N1	471	1885	26-47	0.1-0.25	17.41
SNSF-282538TR16 × 2R-N1	589	2356	14-28	0.1-0.25	22.85
SNSF-282538TR16 × 4R-N1	550	2199	24-44	0.1-0.25	22.85
SNSF-282538TR16 × 8R-N2	550	2199	37-60	0.1-0.25	22.85
SNSF-282538TR18 × 4R-N1	628	2513	22-41	0.1-0.25	21.48
SNSF-282538TR18 × 8R-N2	628	2513	35-58	0.1-0.25	21.48

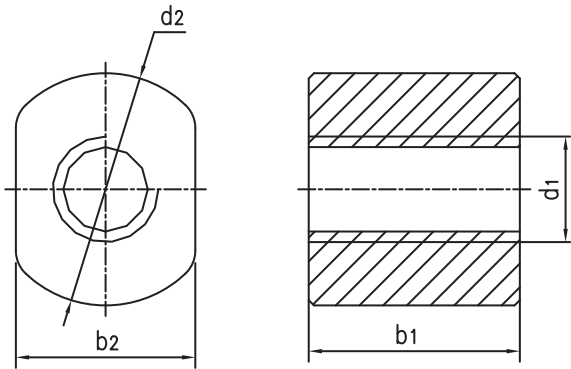
扁螺母 Lead screw nuts with spanner flat



产品特性 Product features

- 自润滑、低磨损
- 极低的摩擦系数
- 耐腐蚀，可用于液体介质环境
- 抵抗灰尘和无噪音运行
- 节约空间，安装简易
- 可选材料：EPB13, EPB7, EPB5A
- Self lubricating and lower wear
- Best coefficient of friction
- Chemical resistant
- Dust resistant and quit running
- Save space and Easy installation
- Available materials: EPB13, EPB7 and EPB5A

标准规格 Standard specifications



产品编码 Part No.:

SNF-192020TR8 × 1.5R-N1

- 螺纹数 Thread numble
- R-右旋Right L-左旋Left
- 内螺纹 Inner thread d₁ × s
- 法兰边长 Flange width
- 长度 Length
- 外径 Outer diameter

产品编码 Part No.	d ₂ [mm]	b ₂ [mm]	b ₁ [mm]	d ₁ × s [mm]	头数 Numbel of threads N [pcs]
SNF-192020TR8 × 1.5R-N1	20	19	20	TR8 × 1.5	1
SNF-192020TR10 × 2R-N1	20	19	20	TR10 × 2	1
SNF-192020TR10 × 3R-N1	20	19	20	TR10 × 3	1
SNF-192020TR10 × 4R-N2	20	19	20	TR10 × 4	2
SNF-222425TR12 × 3R-N1	24	22.6	25	TR12 × 3	1
SNF-222425TR12 × 6R-N2	24	22.6	25	TR12 × 6	2
SNF-222425TR14 × 3R-N1	24	22.6	25	TR14 × 3	1
SNF-222425TR14 × 4R-N1	24	22.6	25	TR14 × 4	1
SNF-252825TR16 × 2R-N1	28	25.5	25	TR16 × 2	1
SNF-252825TR16 × 4R-N1	28	25.5	25	TR16 × 4	1
SNF-252825TR16 × 8R-N2	28	25.5	25	TR16 × 8	2
SNF-252825TR18 × 4R-N1	28	25.5	25	TR18 × 4	1
SNF-252825TR18 × 8R-N2	28	25.5	25	TR18 × 8	2

产品编码 Part No.	有效接触面积 Effective supporting surface [mm ²]	最大轴向静载荷 Max. stat. axial F [N]	效率 Efficiency η	摩擦系数 Coefficient of friction μ	重量 Weight [g]
SNF-192020TR8 × 1.5R-N1	228	500	19-27	0.1-0.25	7.86
SNF-192020TR10 × 2R-N1	283	1131	20-39	0.1-0.25	7.02
SNF-192020TR10 × 3R-N1	267	1068	27-48	0.1-0.25	7.02
SNF-192020TR10 × 4R-N2	282	1127	33-55	0.1-0.25	7.02
SNF-222425TR12 × 3R-N1	412	1649	24-44	0.1-0.25	12.64
SNF-222425TR12 × 6R-N2	412	1649	37-60	0.1-0.25	12.64
SNF-222425TR14 × 3R-N1	491	1963	24-40	0.1-0.25	11.12
SNF-222425TR14 × 4R-N1	471	1885	26-47	0.1-0.25	11.12
SNF-252825TR16 × 2R-N1	589	2356	14-28	0.1-0.25	15.45
SNF-252825TR16 × 4R-N1	550	2199	24-44	0.1-0.25	15.45
SNF-252825TR16 × 8R-N2	550	2199	37-60	0.1-0.25	15.45
SNF-252825TR18 × 4R-N1	628	2362	22-41	0.1-0.25	13.46
SNF-252825TR18 × 8R-N2	628	2362	35-58	0.1-0.25	13.46

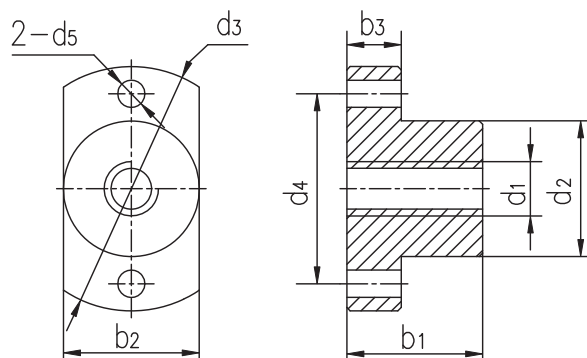
扁法兰螺母 Lead screw nuts with flat flange



产品特性 Product features

- 自润滑、低磨损
- 节约空间，螺丝固定易装配
- 极低的摩擦系数
- 耐腐蚀，可用于液体介质环境
- 抵抗灰尘和无噪音运行
- 可选材料：EPB13, EPB7, EPB5A
- Self lubricating and lower wear
- Save space and Easy installation with bolts
- Best coefficient of friction
- Chemical resistant
- Dust resistant and quit running
- Available materials: EPB13, EPB7 and EPB5A

标准规格 Standard specifications



产品编码 Part No.:

SNFF-2020TR8 × 1.5R-N1

螺纹数 Thread number
R-右旋Right L-左旋Left
内螺纹 Inner thread $d_1 \times s$
长度 Length
外径 Outer diameter

产品编码 Part No.	d_2 [mm]	b_1 [mm]	d_3 [mm]	b_3 [mm]	b_2 [mm]	d_1 [mm]	d_5 [mm]	$d_1 \times s$ [mm]	头数 N [pcs]
SNFF-2020TR8 × 1.5R-N1	20	20	36	8	20	28	4	TR8 × 1.5	1
SNFF-2525TR10 × 2R-N1	25	25	42	10	25	34	5	TR10 × 2	1
SNFF-2525TR10 × 3R-N1	25	25	42	10	25	34	5	TR10 × 3	1
SNFF-2525TR10 × 4R-N2	25	25	42	10	25	34	5	TR10 × 4	2
SNFF-2835TR12 × 3R-N1	28	35	48	12	28	38	6	TR12 × 3	1
SNFF-2835TR12 × 6R-N2	28	35	48	12	28	38	6	TR12 × 6	2
SNFF-2835TR14 × 3R-N1	28	35	48	12	28	38	6	TR14 × 3	1
SNFF-2835TR14 × 4R-N1	28	35	48	12	28	38	6	TR14 × 4	1
SNFF-2835TR16 × 2R-N1	28	35	48	12	28	38	6	TR16 × 2	1
SNFF-2835TR16 × 4R-N1	28	35	48	12	28	38	6	TR16 × 4	1
SNFF-2835TR16 × 8R-N2	28	35	48	12	28	38	6	TR16 × 8	2
SNFF-2835TR18 × 4R-N1	28	35	48	12	28	38	6	TR18 × 4	1
SNFF-2835TR18 × 8R-N2	28	35	48	12	28	38	6	TR18 × 8	2

产品编码 Part No.	有效接触面积 Effective supporting surface [mm ²]	最大轴向静载荷 Max. stat. axial F [N]	效率 Efficiency η	摩擦系数 Coefficient of friction μ	重量Weight [g]
SNFF-2020TR8 × 1.5R-N1	228	911	19-27	0.1-0.25	12.7
SNFF-2525TR10 × 2R-N1	353	1414	20-39	0.1-0.25	23.7
SNFF-2525TR10 × 3R-N1	334	1335	27-48	0.1-0.25	23.7
SNFF-2525TR10 × 4R-N2	353	1412	33-55	0.1-0.25	23.7
SNFF-2835TR12 × 3R-N1	577	2309	24-44	0.1-0.25	39.2
SNFF-2835TR12 × 6R-N2	577	2309	37-60	0.1-0.25	39.2
SNFF-2835TR14 × 3R-N1	660	2639	24-40	0.1-0.25	37.1
SNFF-2835TR14 × 4R-N1	660	2639	26-47	0.1-0.25	37.1
SNFF-2835TR16 × 2R-N1	825	3299	14-28	0.1-0.25	34.6
SNFF-2835TR16 × 4R-N1	770	3079	24-44	0.1-0.25	34.6
SNFF-2835TR16 × 8R-N2	770	3079	37-60	0.1-0.25	34.6
SNFF-2835TR18 × 4R-N1	880	3519	22-41	0.1-0.25	31.9
SNFF-2835TR18 × 8R-N2	880	3519	35-58	0.1-0.25	31.9

高螺旋线丝杆 Lead screws with high helix



产品特性 Product features

- 左旋和右旋螺纹可选
- 可选材料：304不锈钢
- 可以根据客户图纸加工
- Thread: right- or left-hand
- Available materials: 304 stainless steel
- Length and machining according to customer drawing

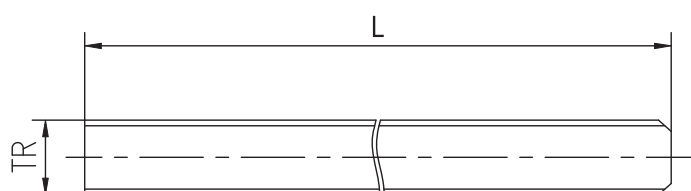
HLS

CSB-LMS®

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Tel: 0086 573 84186133/84185527
Fax: 0086 573 84185517

标准规格 Standard specifications



产品编码 Part No.:

HLS-6.35 × 12.7R-N6-ES-L

长度 Length
不锈钢 Stainless steel
螺纹数 Thread numble
R-右旋Right L-左旋Left
螺纹 Thread

产品编码 Part No.	直径 Outer diameter [mm]	齿根直径 Core diameter [mm]	导程 Lead S [mm]	螺距 Pitch P [mm]	Pitch angle α [°]	头数 Numbler of threads N [pcs]	重量 Weight [kg/m]
HLS-6.35 × 12.7R-N6-ES-L	6.35	4.35	12.7	2.12	32.48	6	0.25
HLS-6.35 × 25.4R-N8-ES-L	6.35	4.15	25.4	3.175	51.85	8	0.25
HLS-8 × 10R-N4-ES-L	8	5.63	10	2.5	21.70	4	0.40
HLS-8 × 15R-N10-ES-L	8	5.63	15	1.5	30.83	10	0.40
HLS-10 × 12R-N4-ES-L	10	6.95	12	3	21.54	4	0.62
HLS-10 × 25R-N10-ES-L	10	7.10	25	2.5	38.51	10	0.62
HLS-12 × 25R-N10-ES-L	12	8.95	25	3.175	33.55	10	0.89
HLS-14 × 30R-N6-ES-L	14	9.60	30	5	34.30	6	1.22
HLS-18 × 24R-N8-ES-L	18	14.40	24	3	22.99	8	2.01
HLS-18 × 40R-N8-ES-L	18	13.60	40	5	35.55	8	2.01
HLS-20 × 20R-N5-ES-L	20	15.60	20	4	17.66	5	2.48

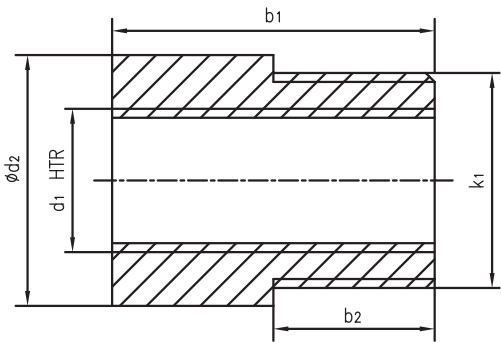
高螺旋线圆柱螺母 High helix nuts, round



产品特性 Product features

- 自润滑、低磨损
- 高效率传动
- 极低的摩擦系数
- 耐腐蚀，可用于液体介质环境
- 抵抗灰尘和无噪音运行
- 可选材料：EPB13, EPB7, EPB5A
- Self lubricating and lower wear
- High efficiency drive
- Best coefficient of friction
- Chemical resistant
- Dust resistant and quit running
- Available materials: EPB13, EPB7 and EPB5A

标准规格 Standard specifications



产品编码 Part No.:

SNR-1413HTR6.35 × 12.7R-N6

- 螺纹数 Thread numble
- R-右旋Right L-左旋Left
- 螺纹 Thread
- 长度 Length
- 直径 Diameter

产品编码 Part No.	d ₂ [mm]	b ₁ [mm]	d ₁ × s [mm]	头数 Numbel of threads N [pcs]	k ₁ × p [mm]	b ₂ [mm]
SNR-1413HTR6.35 × 12.7R-N6	14	13	HTR6.35 × 12.7	6	M12 × 1.5	6
SNR-1413HTR6.35 × 25.4R-N8	14	13	HTR6.35 × 25.4	8	M12 × 1.5	6
SNR-1812HTR8 × 10R-N4	18	12	HTR8 × 10	4	M16 × 1.5	6
SNR-1812HTR8 × 15R-N10	18	12	HTR8 × 15	10	M16 × 1.5	6
SNR-2220HTR10 × 12R-N4	22	20	HTR10 × 12	4	M20 × 1.5	10
SNR-2220HTR10 × 25R-N10	22	20	HTR10 × 25	10	M20 × 1.5	10
SNR-2624HTR12 × 25R-N10	26	24	HTR12 × 25	10	M24 × 2	12
SNR-3027HTR14 × 30R-N6	30	27	HTR14 × 30	6	M27 × 2	14
SNR-4036HTR18 × 24R-N8	40	36	HTR18 × 24	8	M36 × 3	18
SNR-4036HTR18 × 40R-N8	40	36	HTR18 × 40	8	M36 × 3	18
SNR-4540HTR20 × 20R-N5	45	40	HTR20 × 20	5	M42 × 3	20

产品编码 Part No.	有效接触面积 Effective supporting surface [mm ²]	最大轴向静载荷 Max. stat. axial F [N]	效率 Efficiency η	摩擦系数 Coefficient of friction μ	重量 Weight [g]
SNR-1413HTR6.35 × 12.7R-N6	67	152	60-81	0.1-0.25	2.40
SNR-1413HTR6.35 × 25.4R-N8	74	152	57-81	0.1-0.25	2.40
SNR-1812HTR8 × 10R-N4	127	275	55-77	0.1-0.25	3.65
SNR-1812HTR8 × 15R-N10	110	275	60-81	0.1-0.25	3.65
SNR-2220HTR10 × 12R-N4	195	487	55-76	0.1-0.25	6.74
SNR-2220HTR10 × 25R-N10	249	623	61-82	0.1-0.25	8.70
SNR-2624HTR12 × 25R-N10	302	754	61-81	0.1-0.25	14.94
SNR-3027HTR14 × 30R-N6	440	1101	61-81	0.1-0.25	21.50
SNR-4036HTR18 × 24R-N8	844	2110	55-77	0.1-0.25	52.00
SNR-4036HTR18 × 40R-N8	786	1966	61-81	0.1-0.25	52.00
SNR-4540HTR20 × 20R-N5	984	2460	52-74	0.1-0.25	73.50

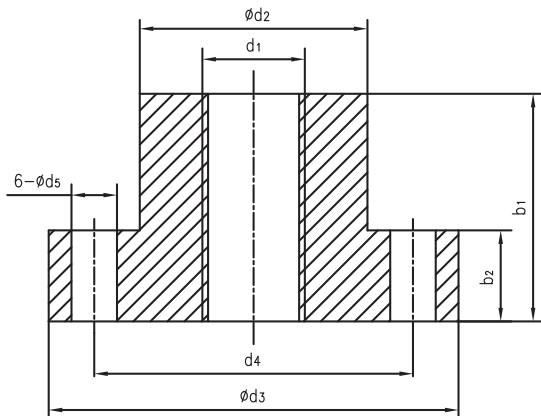
高螺旋线圆柱法兰螺母 High helix nuts, round flange



产品特性 Product features

- 自润滑、低磨损
- 高效率传动
- 螺丝固定易安装
- 极低的摩擦系数
- 耐腐蚀，可用于液体介质环境
- 抵抗灰尘和无噪音运行
- 可选材料：EPB13, EPB7, EPB5A
- Self lubricating and lower wear
- High efficiency drive
- Easy installation with bolts
- Best coefficient of friction
- Chemical resistant
- Dust resistant and quit running
- Available materials: EPB13, EPB7 and EPB5A

标准规格 Standard specifications



产品编码 Part No.:

SNRF-1315HTR6.35 × 12.7R-N6

螺纹数 Thread numble
R-右旋Right L-左旋Left
螺纹 Thread
长度 Length
直径 Diameter

产品编码 Part No.	d ₂ [mm]	b ₁ [mm]	d ₃ [mm]	b ₂ [mm]	d ₄ [mm]	d ₅ [mm]	d ₁ × s [mm]	头数 Number of threads N [pcs]
SNRF-1315HTR6.35 × 12.7R-N6	13	15	25	5	19	3.2	HTR6.35 × 12.7	6
SNRF-1315HTR6.35 × 25.4R-N8	13	15	25	5	19	3.2	HTR6.35 × 25.4	8
SNRF-2020HTR8 × 10R-N4	20	20	34	5	28	4	HTR8 × 10	4
SNRF-2020HTR8 × 15R-N10	20	20	34	5	28	4	HTR8 × 15	10
SNRF-2525HTR10 × 12R-N4	25	25	42	10	34	5	HTR10 × 12	4
SNRF-2525HTR10 × 25R-N10	25	25	42	10	34	5	HTR10 × 25	10
SNRF-2835HTR12 × 25R-N10	28	35	48	12	38	6	HTR12 × 25	10
SNRF-2835HTR14 × 30R-N6	28	35	48	12	38	6	HTR14 × 30	6
SNRF-2835HTR18 × 24R-N8	28	35	48	12	38	6	HTR18 × 24	8
SNRF-2835HTR18 × 40R-N8	28	35	48	12	38	6	HTR18 × 40	8
SNRF-3244HTR20 × 20R-N5	32	44	55	12	45	7	HTR20 × 20	5

产品编码 Part No.	有效接触面积 Effective supporting surface [mm ²]	最大轴向静载荷 Max. stat. axial F [N]	效率 Efficiency η	摩擦系数 Coefficient of friction μ	重量 Weight [g]
SNRF-1315HTR6.35 × 12.7R-N6	78	125	60-81	0.1-0.25	4.90
SNRF-1315HTR6.35 × 25.4R-N8	86	125	57-81	0.1-0.25	4.90
SNRF-2020HTR8 × 10R-N4	212	458	55-77	0.1-0.25	12.29
SNRF-2020HTR8 × 15R-N10	183	459	60-81	0.1-0.25	12.29
SNRF-2525HTR10 × 12R-N4	325	811	55-76	0.1-0.25	28.70
SNRF-2525HTR10 × 25R-N10	312	780	61-82	0.1-0.25	28.70
SNRF-2835HTR12 × 25R-N10	440	1100	61-81	0.1-0.25	45.40
SNRF-2835HTR14 × 30R-N6	571	1428	61-81	0.1-0.25	45.40
SNRF-2835HTR18 × 24R-N8	710	1776	55-77	0.1-0.25	40.19
SNRF-2835HTR18 × 40R-N8	764	1910	61-81	0.1-0.25	50.90
SNRF-3244HTR20 × 20R-N5	1083	2708	52-74	0.1-0.25	60.20

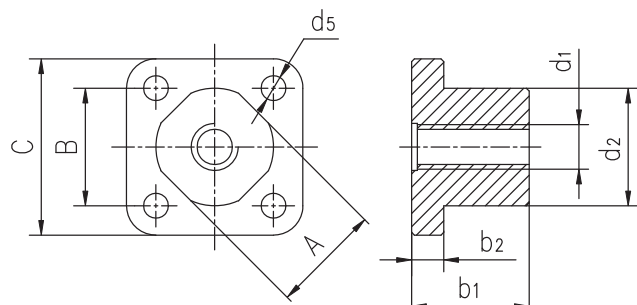
高螺旋线方法兰螺母 High helix nuts, square flange



产品特性 Product features

- 自润滑、低磨损
- 高效率传动
- 螺丝固定易安装
- 极低的摩擦系数
- 耐腐蚀，可用于液体介质环境
- 抵抗灰尘和无噪音运行
- 可选材料：EPB13, EPB7, EPB5A
- Self lubricating and lower wear
- High efficiency drive
- Easy installation with bolts
- Best coefficient of friction
- Chemical resistant
- Dust resistant and quit running
- Available materials: EPB13, EPB7 and EPB5A

标准规格 Standard specifications



产品编码 Part No.:

SNSF-111212HTR6.35 × 12.7R-N6

螺纹数 Thread numble
R-右旋Right L-左旋Left
螺纹 Thread
长度 Length
直径 Diameter
宽度 Width

产品编码 Part No.	d ₂ [mm]	b ₁ [mm]	A [mm]	B [mm]	C [mm]	b ₂ [mm]	d ₅ [mm]	d ₁ × s [mm]	头数 Number of threads N [pcs]
SNSF-111212HTR6.35 × 12.7R-N6	12	12	11	12	18	4	3.2	HTR6.35 × 12.7	6
SNSF-111212HTR6.35 × 25.4R-N8	12	12	11	12	18	4	3.2	HTR6.35 × 25.4	8
SNSF-192020HTR8 × 10R-N4	20	20	19	20	30	5.5	4.2	HTR8 × 10	4
SNSF-192020HTR8 × 15R-N10	20	20	19	20	30	5.5	4.2	HTR8 × 15	10
SNSF-192020HTR10 × 12R-N4	20	20	19	20	30	5.5	4.2	HTR10 × 12	4
SNSF-192020HTR10 × 25R-N10	20	20	19	20	30	5.5	4.2	HTR10 × 25	10
SNSF-222425HTR12 × 25R-N10	24	25	22.6	24	34	6	5	HTR12 × 25	10
SNSF-222425HTR14 × 30R-N6	24	25	22.6	24	34	6	5	HTR14 × 30	6
SNSF-252825HTR18 × 24R-N8	28	25	25.5	27	38	6.5	6	HTR18 × 24	8
SNSF-252825HTR18 × 40R-N8	28	25	25.5	27	38	6.5	6	HTR18 × 40	8

产品编码 Part No.	有效接触面积 Effective supporting surface [mm ²]	最大轴向静载荷 Max. stat. axial F [N]	效率 Efficiency η	摩擦系数 Coefficient of friction μ	重量 Weight [g]
SNSF-111212HTR6.35 × 12.7R-N6	78	125	60-81	0.1-0.25	2.71
SNSF-111212HTR6.35 × 25.4R-N8	86	125	57-81	0.1-0.25	2.71
SNSF-192020HTR8 × 10R-N4	203	507	55-77	0.1-0.25	12.66
SNSF-192020HTR8 × 15R-N10	254	634	60-81	0.1-0.25	12.66
SNSF-192020HTR10 × 12R-N4	338	846	55-76	0.1-0.25	11.82
SNSF-192020HTR10 × 25R-N10	312	779	61-82	0.1-0.25	11.82
SNSF-222425HTR12 × 25R-N10	433	1083	61-81	0.1-0.25	18.93
SNSF-222425HTR14 × 30R-N6	571	1427	61-81	0.1-0.25	17.41
SNSF-252825HTR18 × 24R-N8	802	2004	55-77	0.1-0.25	21.48
SNSF-252825HTR18 × 40R-N8	764	1911	61-81	0.1-0.25	21.48

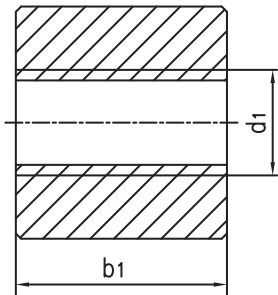
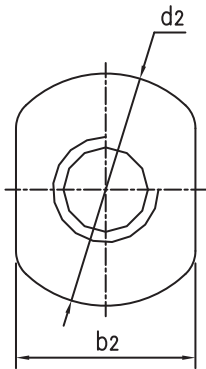
高螺旋线扁螺母 High helix nuts with spanner flat



产品特性 Product features

- 自润滑、低磨损
- 高效率传动
- 极低的摩擦系数
- 耐腐蚀，可用于液体介质环境
- 抵抗灰尘和无噪音运行
- 节约安装空间，易装配
- 可选材料：EPB13, EPB7, EPB5A
- Self lubricating and lower wear
- High efficiency drive
- Best coefficient of friction
- Chemical resistant
- Dust resistant and quit running
- Save space and Easy installation
- Available materials: EPB13, EPB7 and EPB5A

标准规格 Standard specifications



产品编码 Part No.:

SNF-111212HTR6.35 × 12.7R-N6

- 螺纹数 Thread numble
- R-右旋Right L-左旋Left
- 螺纹 Thread
- 长度 Length
- 直径 Diameter
- 宽度 Width

产品编码 Part No.	d ₂ [mm]	b ₂ [mm]	b ₁ [mm]	d ₁ × s [mm]	头数 N [pcs]
SNF-111212HTR6.35 × 12.7R-N6	12	11	12	HTR6.35 × 12.7	6
SNF-111212HTR6.35 × 25.4R-N8	12	11	12	HTR6.35 × 25.4	8
SNF-192020HTR8 × 10R-N4	20	19	20	HTR8 × 10	4
SNF-192020HTR8 × 15R-N10	20	19	20	HTR8 × 15	10
SNF-192020HTR10 × 12R-N4	20	19	20	HTR10 × 12	4
SNF-192020HTR10 × 25R-N10	20	19	20	HTR10 × 25	10
SNF-222425HTR12 × 25R-N10	24	22.6	25	HTR12 × 25	10
SNF-222425HTR14 × 30R-N6	24	22.6	25	HTR14 × 30	6
SNF-252825HTR18 × 24R-N8	28	22.6	25	HTR18 × 24	8
SNF-252825HTR18 × 40R-N8	28	22.6	25	HTR18 × 40	8

产品编码 Part No.	有效接触面积 Effective supporting surface [mm ²]	最大轴向静载荷 Max. stat. axial F [N]	效率 Efficiency η	摩擦系数 Coefficient of friction μ	重量 Weight [g]
SNF-111212HTR6.35 × 12.7R-N6	62	152	60-81	0.1-0.25	1.46
SNF-111212HTR6.35 × 25.4R-N8	69	152	57-81	0.1-0.25	1.46
SNF-192020HTR8 × 10R-N4	203	507	55-77	0.1-0.25	7.86
SNF-192020HTR8 × 15R-N10	203	507	60-81	0.1-0.25	7.86
SNF-192020HTR10 × 12R-N4	271	677	55-76	0.1-0.25	7.02
SNF-192020HTR10 × 25R-N10	249	623	61-82	0.1-0.25	7.02
SNF-222425HTR12 × 25R-N10	433	1083	61-81	0.1-0.25	7.02
SNF-222425HTR14 × 30R-N6	408	1019	61-81	0.1-0.25	11.12
SNF-252825HTR18 × 24R-N8	573	1431	55-77	0.1-0.25	13.46
SNF-252825HTR18 × 40R-N8	546	1365	61-81	0.1-0.25	13.46

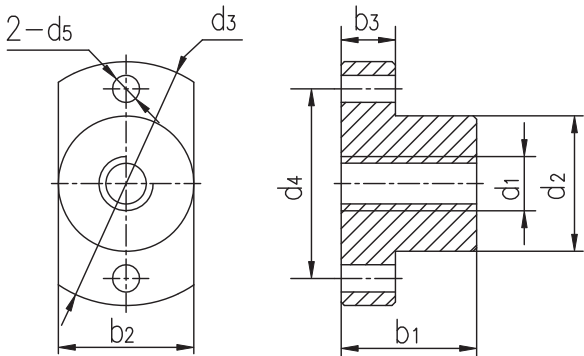
高螺旋线扁法兰螺母 High helix nuts with flat flange



产品特性 Product features

- 自润滑、低磨损
- 高效率传动
- 极低的摩擦系数
- 耐腐蚀，可用于液体介质环境
- 抵抗灰尘和无噪音运行
- 节约安装空间，易用螺丝固定
- 可选材料：EPB13, EPB7, EPB5A
- Self lubricating and lower wear
- High efficiency drive
- Best coefficient of friction
- Chemical resistant
- Dust resistant and quit running
- Save space and Easy installation with bolts
- Available materials: EPB13, EPB7 and EPB5A

标准规格 Standard specifications



产品编码 Part No.:

SNFF-1315HTR6.35 × 12.7R-N6

- 螺纹数 Thread numble
- R-右旋Right L-左旋Left
- 螺纹 Thread
- 长度 Length
- 直径 Diameter

产品编码 Part No.	d ₂ [mm]	b ₁ [mm]	d ₃ [mm]	b ₃ [mm]	b ₂ [mm]	d ₄ [mm]	d ₅ [mm]	d ₁ × s [mm]	头数 Numbler of threads N [pcs]
SNFF-1315HTR6.35 × 12.7R-N6	13	15	25	5	13	19	3.2	HTR6.35 × 12.7	6
SNFF-1315HTR6.35 × 25.4R-N8	13	15	25	5	13	19	3.2	HTR6.35 × 25.4	8
SNFF-2020HTR8 × 10R-N4	20	20	36	8	20	28	4	HTR8 × 10	4
SNFF-2020HTR8 × 15R-N10	20	20	36	8	20	28	4	HTR8 × 15	10
SNFF-2525HTR10 × 12R-N4	25	25	42	10	25	34	5	HTR10 × 12	4
SNFF-2525HTR10 × 25R-N10	25	25	42	10	25	34	5	HTR10 × 25	10
SNFF-2835HTR12 × 25R-N10	28	35	48	12	28	38	6	HTR12 × 25	10
SNFF-2835HTR14 × 30R-N6	28	35	48	12	28	38	6	HTR14 × 30	6
SNFF-2835HTR18 × 24R-N8	28	35	48	12	28	38	6	HTR18 × 24	8
SNFF-2835HTR18 × 40R-N8	28	35	48	12	28	38	6	HTR18 × 40	8

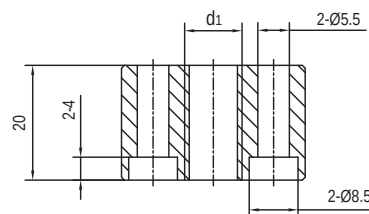
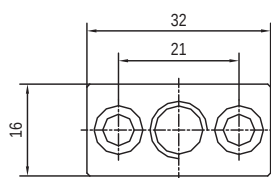
产品编码 Part No.	有效接触面积 Effective supporting surface [mm ²]	最大轴向静载荷 Max. stat. axial F [N]	效率 Efficiency η	摩擦系数 Coefficient of friction μ	重量 Weight [g]
SNFF-1315HTR6.35 × 12.7R-N6	78	125	60-81	0.1-0.25	3.7
SNFF-1315HTR6.35 × 25.4R-N8	114	125	57-81	0.1-0.25	3.7
SNFF-2020HTR8 × 10R-N4	203	507	55-77	0.1-0.25	12.7
SNFF-2020HTR8 × 15R-N10	205	513	60-81	0.1-0.25	12.7
SNFF-2525HTR10 × 12R-N4	343	858	55-76	0.1-0.25	23.7
SNFF-2525HTR10 × 25R-N10	312	779	61-82	0.1-0.25	23.7
SNFF-2835HTR12 × 25R-N10	562	1405	61-81	0.1-0.25	39.2
SNFF-2835HTR14 × 30R-N6	571	1427	61-81	0.1-0.25	37.1
SNFF-2835HTR18 × 24R-N8	821	2053	55-77	0.1-0.25	31.9
SNFF-2835HTR18 × 40R-N8	764	1911	61-81	0.1-0.25	31.9

特殊螺母 Special nuts

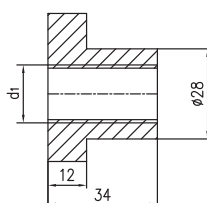
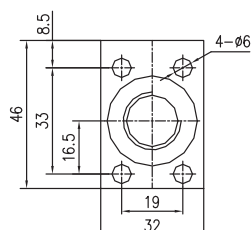


产品特性 Product features

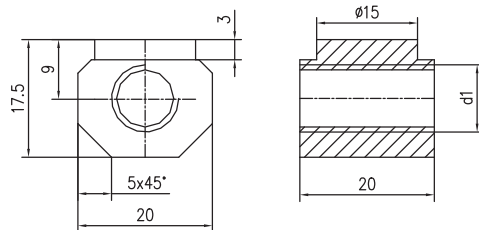
- 为LMS直线运动系统而特殊设计的丝杆螺母
- 自润滑、低磨损
- 极低的摩擦系数
- 耐腐蚀，可用于液体介质环境
- 抵抗灰尘和无噪音运行
- 节约安装空间，易装配
- 可选材料：EPB13, EPB7, EPB5A
- Special design nuts for LMS linear motion system
- Self lubricating and lower wear
- Best coefficient of friction
- Chemical resistant
- Dust resistant and quit running
- Save space and Easy installation
- Available materials: EPB13, EPB7 and EPB5A



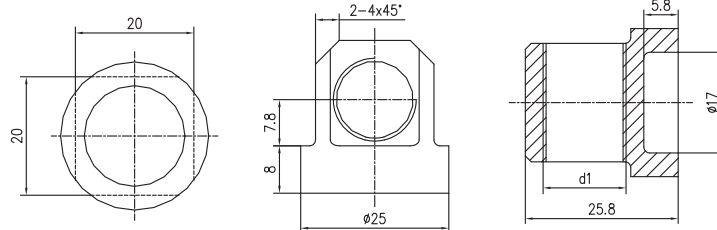
产品编码 Part No.	$d_1 \times s$ [mm]	头数 Number of threads N [pcs]	平台页码 LMS Page
LMS01-1210-TR10 × 2R-N1	TR10 × 2	1	P242-243
LMS01-1210-TR10 × 3R-N1	TR10 × 3	1	P242-243
LMS01-1210-HTR10 × 12R-N4	HTR10 × 12	4	P242-243
LMS01-1210-HTR10 × 25R-N10	HTR10 × 25	10	P242-243



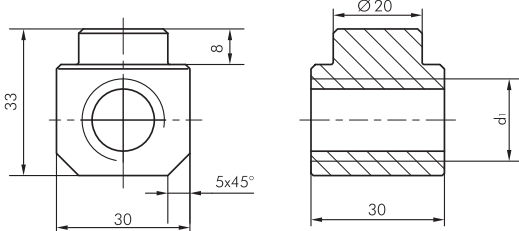
产品编码 Part No.	螺纹 Thread [mm]	头数 Number of threads N [pcs]	平台页码 LMS Page
LMS01-2018-TR18 × 4R-N1	TR18 × 4	1	P242-243
LMS01-2018-TR18 × 8R-N2	TR18 × 8	2	P242-243



产品编码 Part No.	$d_1 \times s$ [mm]	头数 Number of threads N [pcs]	平台页码 LMS Page
LMS02-1040-TR10 $\times$ 2R-N1	TR10 $\times$ 2	1	P244-245
LMS02-1040-TR10 $\times$ 3R-N1	TR10 $\times$ 3	1	P244-245
LMS02-1040-HTR10 $\times$ 12R-N4	HTR10 $\times$ 12	4	P244-245
LMS02-1040-HTR10 $\times$ 25R-N4	HTR10 $\times$ 25	10	P244-245



产品编码 Part No.	$d_1 \times s$ [mm]	头数 Number of threads N [pcs]	平台页码 LMS Page
LMS02-1660-TR14 $\times$ 3R-N1	TR14 $\times$ 3	1	P244-245
LMS02-1660-TR14 $\times$ 4R-N1	TR14 $\times$ 4	1	P244-245
LMS02-1660-HTR14 $\times$ 30R-N6	HTR14 $\times$ 30	6	P244-245



产品编码 Part No.	$d_1 \times s$ [mm]	头数 Number of threads N [pcs]	平台页码 LMS Page
LMS02-2080-TR18 $\times$ 4R-N1	TR18 $\times$ 4	1	P244-245
LMS02-2080-TR18 $\times$ 8R-N2	TR18 $\times$ 8	2	P244-245
LMS02-2080-HTR18 $\times$ 24R-N8	HTR18 $\times$ 24	8	P244-245

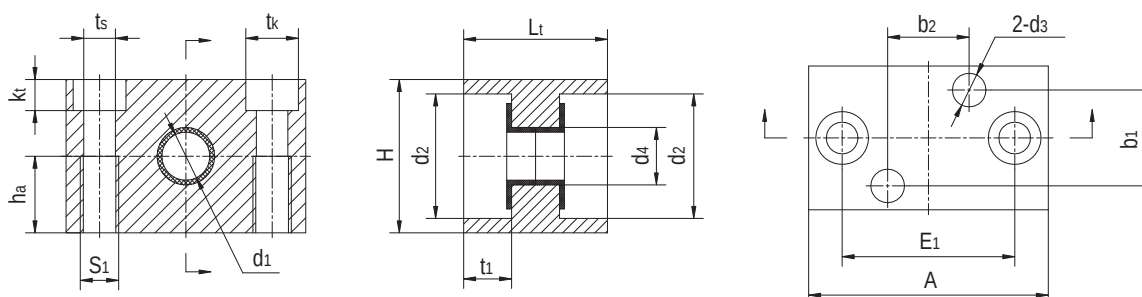
丝杆支撑，固定式 Lead screw supports, fixed bearing side



产品特性 Product features

- 阳极氧化铝轴承座
- 灵活安装丝杠
- 丝杠直径：10, 18和24 mm
- 通过内置塑料轴承实现自润滑
- Anodized aluminum bearing blocks
- Flexible mounting of the leadscrew
- Leadscrew diameter: 10, 18 and 24 mm
- Lubricant-free through built-in plastic bearing

标准规格 Standard specifications



产品编码 Part No.	d_1 [mm]	A [mm]	H [mm]	E_1 [mm]	L_t [mm]	k_t [mm]	t_k [mm]	t_s [mm]	S_1 [mm]	h_a [mm]	d_2 [mm]	d_4 [mm]	t_1 [mm]	d_3 [mm]	b_1 [mm]	b_2 [mm]	最大轴向载荷 Max. axial static load [N]	重量 Weight [g]
LSS-10-FI	10	50	32	36	30	6.5	11	6.6	M8	16	26	12	10	7	20	17	700	88
LSS-18-FI	18	72	46	54	36	8.6	15	9	M10	23	38	20	15	10	21	27	1600	205
LSS-24-FI	24	94	64	70	50	13	20	13.5	M16	32	47	26	17	12	34	34	2500	525

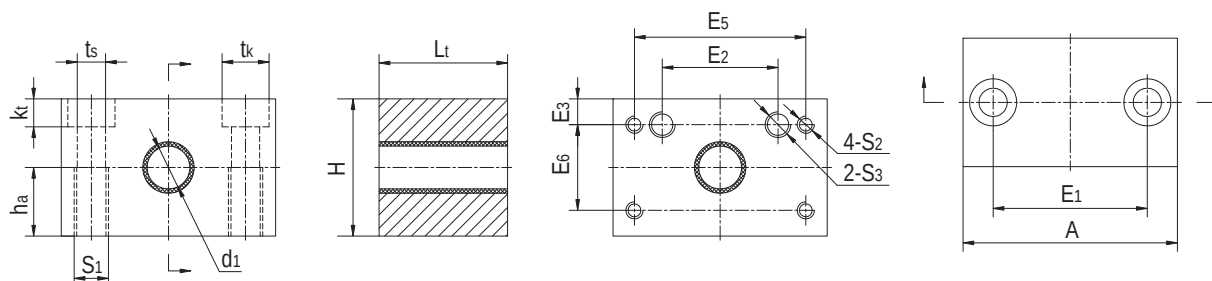
丝杆支撑，浮动式 Lead screw supports, floating bearing side



产品特性 Product features

- 阳极氧化铝轴承座
- 灵活安装丝杠
- 丝杠直径：10,18和24 mm
- 通过内置塑料轴承实现自润滑
- Anodized aluminum bearing blocks
- Flexible mounting of the leadscrew
- Leadscrew diameter: 10, 18 and 24 mm
- Lubricant-free through built-in plastic bearing

标准规格 Standard specifications



产品编码 Part No.	d ₁ [mm]	A [mm]	H [mm]	E ₁ [mm]	L _t [mm]	k _t [mm]	t _k [mm]	t _s [mm]	S ₁ [mm]	h _a [mm]	E ₂ [mm]	E ₅ [mm]	E ₃ [mm]	E ₆ [mm]	S ₂ [mm]	S ₃ [mm]	重量 Weight [g]
LSS-10-FL	10	50	32	36	30	6.5	11	6.6	M8	16	27	40	6.5	20	M4	M6	115
LSS-18-FL	18	72	46	54	36	8.6	15	9	M10	23	27	40	13.5	20	M4	M6	295
LSS-24-FL	24	94	64	70	50	13	20	13.5	M16	32	27	40	22.5	20	M4	M6	725

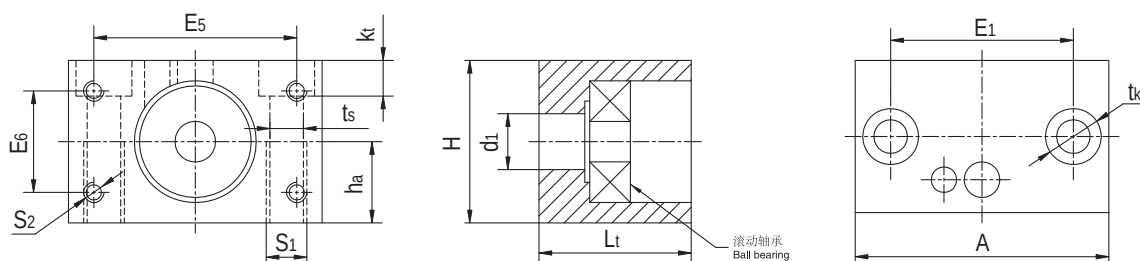
丝杆支撑，滚动轴承 Lead screw supports, ball bearing-faster



产品特性 Product features

- 自润滑、免维护
- 快速连接安装
- 传输高转速
- 低摩擦
- 精准无间隙配合
- Lubricant- and maintenance-free
- Quick connection
- Transmission of high rotation speed
- Low friction
- Accurate and clearance-free

标准规格 Standard specifications



产品编码 Part No.	S ₁ [mm]	S ₂ [mm]	A [mm]	H [mm]	E ₁ [mm]	E ₅ [mm]	E ₆ [mm]	L _t [mm]	k _t [mm]	t _k [mm]	t _s [mm]	d ₁ [mm]	h _a [mm]	最大轴向载荷 Max. axial static load [N]	重量 Weight [g]
LSS-10-BB	M8	M4	50	32	36	40	20	30	6.5	11	6.6	10	16	350	110
LSS-18-BB	M10	M4	72	46	54	48	36	36	8.6	15	9	18	23	1000	265
LSS-24-BB	M16	M4	94	64	70	48	36	50	13	20	13.5	24	32	1500	350

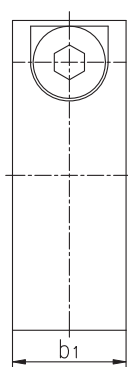
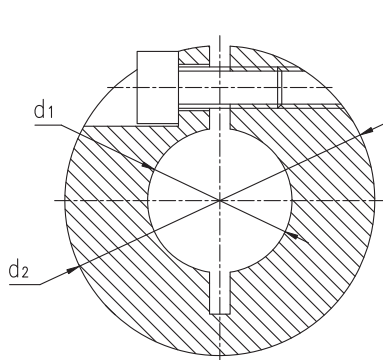
CR01丝杆夹环，带螺纹 Lead screw clamping rings with thread



产品特性 Product features

- 直接与丝杆螺纹配合安装
- 配合梯形丝杆支撑客户解决方案
- 承受较高的轴向力
- 采用表面硬质氧化铝合金制成
- 带锁紧螺丝
- Ready to install in the screw
- Custom solutions for lead screw support
- Can absorb even high axial forces
- Clamping rings made from coated aluminum
- Screw included in delivery

标准规格 Standard specifications



产品编码 Part No.:

CR01-TR8 × 1.5R

R-右旋 Right

L-左旋 Left

螺纹 Thread

产品编码 Part No.	螺纹 Thread $d_1 \times P$	d_2 h9 [mm]	b_1 [mm]	最大轴向载荷 Max. axial static load [N]
CR01-TR8 × 1.5R	TR08 × 1.5	16	9	1530
CR01-TR10 × 2R	TR10 × 2	24	8	1800
CR01-TR12 × 3R	TR12 × 3	28	8	2096
CR01-TR14 × 4R	TR14 × 4	30	11	3312
CR01-TR16 × 4R	TR16 × 4	34	11	3840
CR01-TR18 × 4R	TR18 × 4	36	13	5216
CR01-TR20 × 4R	TR20 × 4	45	15	6784
CR01-TR24 × 5R	TR24 × 5	45	15	8096

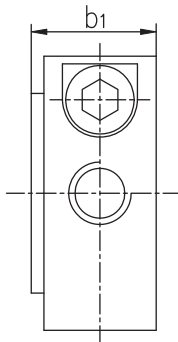
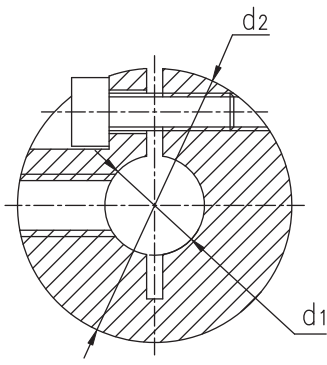
CR02丝杆夹环，无螺纹 Lead screw clamping rings without thread



产品特性 Product features

- 直接与丝杆端安装
- 承受较高的轴向力
- 采用表面硬质氧化铝合金制成
- 带锁紧螺丝
- Ready to install in the end of screw
- Can absorb even high axial forces
- Clamping rings made from coated aluminum
- Screw included in delivery

标准规格 Standard specifications



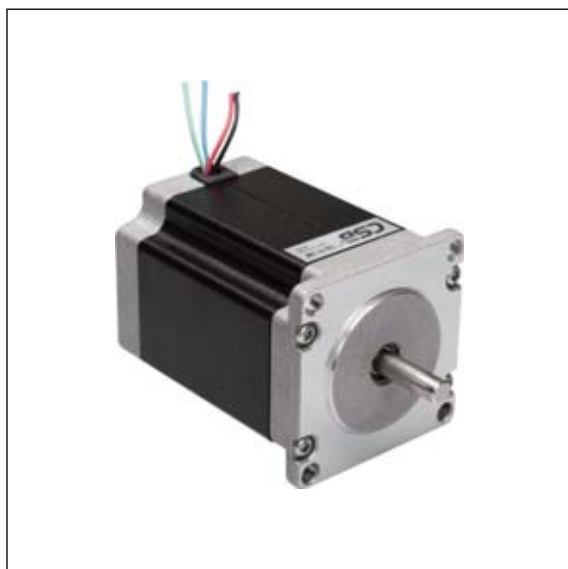
产品编码 Part No.:

CR02-10

内径 Inner diameter

产品编码 Part No.	d ₁ [mm]	d ₂ h9 [mm]	b ₁ [mm]
CR02-10	10	24	8
CR02-12	12	28	11
CR02-14	14	30	11
CR02-16	16	34	11
CR02-18	18	36	13
CR02-24	24	45	15

步进电机 Stepper motors, SM01



产品特性 Product features

- SM01电机是性价比最高的步进电机，这款电机的连接线直接从外壳接出，适合安装在有额外外壳或用于清洁环境中的机器设备
- SM01 motor is the most cost-effective stepper motor, this motor cable directly exit from the housing, They are suitable for installation in an extra housing or for the machine equipment in cleaning the environment

LMS

CSB-LMS®

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Fax: 0086 573 84185517

标准规格 Standard specifications

产品编码 Part No.	最大电压 Max. voltage [VDC]	额定电压 Nominal voltage [VDC]	额定电流 Nominal current [A]	步距角 Step angle [°]	机座尺寸 Flange dimension [mm]	长度 Length [mm]	保持扭矩 Holding torque [N*m]	转动惯量 Moment of inertia / rotor [kg*cm ²]	载荷Load [N]		重量 Weight [kg]
									轴向 Axial	径向 Radial	
SM01-11-060-001	60	24-48	1.6	1.8	28	51.0	0.12	0.02	7	20	0.20
SM01-17-060-005	60	24-48	1.8	1.8	42	48.3	0.50	0.08	7	20	0.36
SM01-23-060-020	60	24-48	2.2	1.8	56	76.0	1.80	0.46	15	52	1.00
SM01-24-060-035	60	24-48	4.5	1.8	60	85.0	2.50	0.90	15	63	1.40
SM01-34-060-059	60	24-48	7.0	1.8	86	96.0	5.00	1.85	65	200	2.70

运行数据 Operating data

环境温度 Ambient temperature	℃	-10至+50
最大运行上升温度 Max temperature rise	℃	80
绝缘等级 Insulation class		B
空气湿度（无压缩） Humidity (not condensing)	%	85
IP等级-电机外壳 Protection class engine case		IP65（轴密封 Shaft seal IO52, 电机带绞线 Motor with stranded wires IP40）
CE认证 Standard		EVM标准 EMV guideline

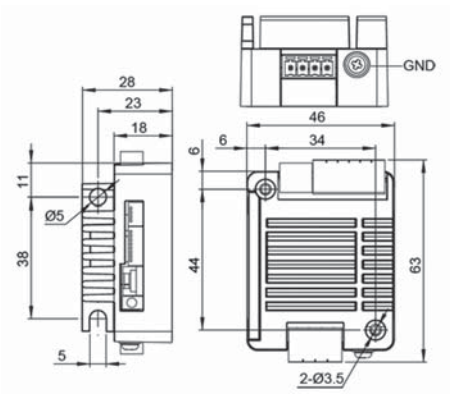
步进电机控制器 Stepper motor controllers



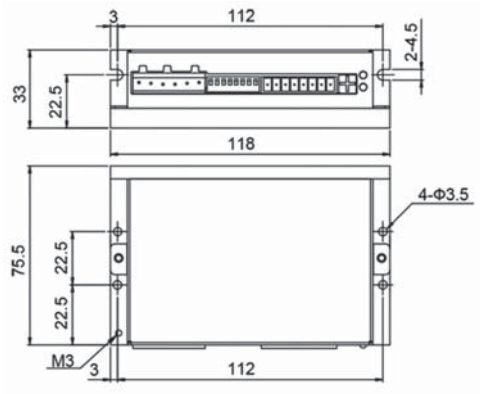
产品特性 Product features

- 步进电机驱动器是基于PID电流控制算法设计的高性价比驱动器，具有优越的性能表现，高速大力矩输出，低噪音，低振动，低发热。驱动器可通过拨码开关选择运行电流和细分，有8种细分，8种电流供选择，具有过压，欠压，相电流过流保护，其输入输出控制信号均采用光电隔离。
- Stepper motor driver is based on PID current control algorithm design, and cost-effective with superior performance, high speed and torque output, low noise and vibration. The running current can be set by DIP switch, there are 8 kinds of subdivision and current options, Protection with overvoltage, undervoltage, phase current overcurrent, The input and output control signals are used optical isolation.

标准规格 Standard specifications



SR3-mini



SR4

产品编码 Part No.	电流 Output Current	电压 Supply Voltage	速度范围 Max.Speed	工作环境温度 Operation temperature	最高环境湿度 Max. ambient humidity	重量 Weight [g]
SR3-mini	0.4-3.0A	12-48VDC	3000	0 - 40℃	90%	120
SR4	1.0-4.5A	24-48VDC	3000	0 - 40℃	90%	310

联轴器 Flexible jaw couplings, COU01



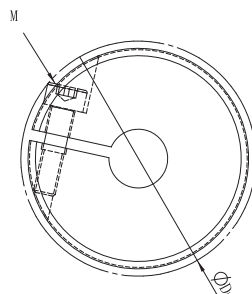
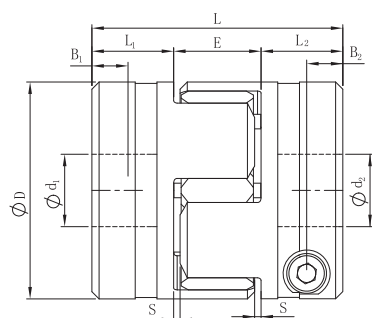
产品特性 Product features

- 联轴器将轴的驱动轴连接到电机，中间弹性聚合物承受电机转动扭矩，该阻尼元件补偿径向和轴向间隙
- 标准品常备库存
- 振动阻尼，易于安装
- The coupling connects the drive shaft of the axis to the Motor, An elastic polymer insert in the centre of the coupling transfers the motor torque, This damping element compensates for radial and axial clearance.
- Standard versions from stock
- Vibration dampening and easy fitting

LMS

CSB-LMS®

标准规格 Standard specifications



产品编码 Part No.:

COU01-1418-d1d2

内径 Inner diameter
内径 Inner diameter
长度 Length
外径 Outer diameter

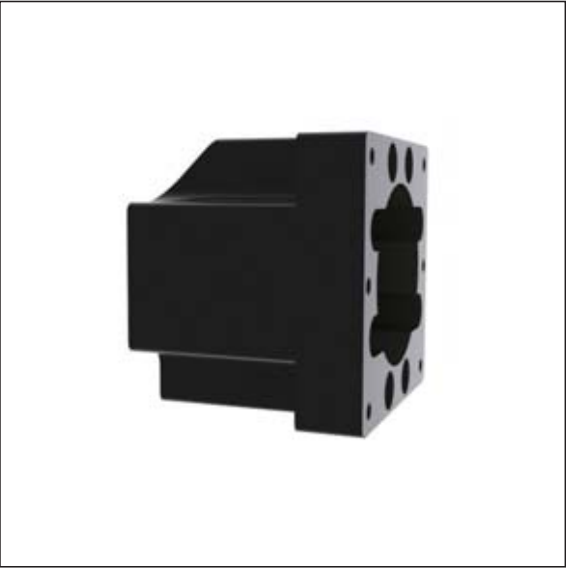
产品编码 Part No.	d ₁ /d ₂ (H7)		D	D ₀	L	L ₁ /L ₂	E	S	B ₁ /B ₂	M (ISO 4762)	扭矩 Tightening torque [Nm]	最高转速 Max. speed [rpm]	重量 Weight [kg]
	Min.	Max.											
COU01-1418-d1d2	3	7	14	16.7	18	7.0	8	1.0	2.5	M2	0.8	20,000	0.006
COU01-2024-d1d2	4	10	20	21.4	24	7.0	10	1.0	3.5	M2.5	1.2	15,000	0.016
COU01-2525-d1d2	4	12	25	26.3	25	7.0	11	1.0	3.5	M3	2.0	15,000	0.027
COU01-3032-d1d2	5	12	30	31.8	32	9.5	13	1.5	4.5	M4	2.9	12,700	0.041
COU01-4050-d1d2	8	20	40	45.8	50	17.0	16	2.0	9.0	M6	10.0	9,500	0.120
COU01-5554-d1d2	10	32	55	57.6	54	18.0	18	2.0	11.0	M6	10.0	6,900	0.240

产品编码 Part No.	标准孔径d ₁ /d ₂ 和最大扭矩值 Standard bore diameter d ₁ /d ₂ [mm] and friction torques for hub [Nm]																			
	3	4	5	6	6.35	7	8	10	11	12	14	15	16	18	19	20	22	24	25	28
COU01-1418-d1d2	0.8	0.9	1.0	1.0	1.0	1.1														
COU01-2024-d1d2		1.9	2.0	2.2	2.2	2.3	2.4	2.5												
COU01-2525-d1d2			3.4	3.6	3.7	3.7	3.9	4.1	4.4	4.6	4.7									
COU01-3032-d1d2				7.1	7.4	7.4	7.7	8.0	8.5	5.4	5.8									
COU01-4050-d1d2								24	25	26	27	28	29	30	31	32	33			
COU01-5554-d1d2									21	25	25	30	32	34	38	40	42	45	51	53

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Fax: 0086 573 84185517

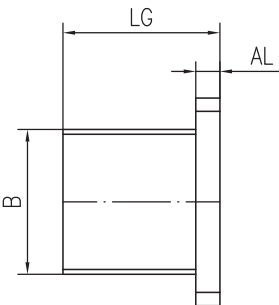
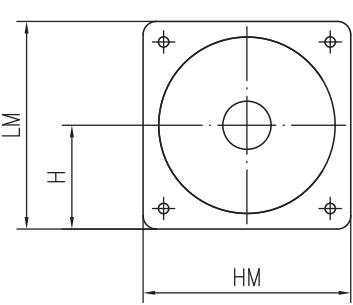
电机法兰 Motor flange



产品特性 Product features

- 电机法兰用于封闭并保护联轴器，并为NEMA电机提供匹配的安装尺寸
- The motor flange encloses and protects the coupling and provides the matching mounting dimensions for your NEMA motor

标准规格 Standard specifications



产品编码 Part No.:
MF-2040-NEMA17
步进电机 Stepper motors
连接尺寸 Connection size
连接尺寸 Connection size

产品编码 Part No.	LG [mm]	AL [mm]	HM [mm]	LM [mm]	B [mm]	HA [mm]
MF-2040-NEMA17	47	12	56	56	56	28
MF-2040-NEMA23-S	48	13	56	56	56	28
MF-3648-NEMA23	56	13	56	56	56	28
MF-3648-NEMA34	65	10	86	86	46	43
MF-3648-NEMA34-XL	76	10	86	86	56	43

限位开关 Proximity switches

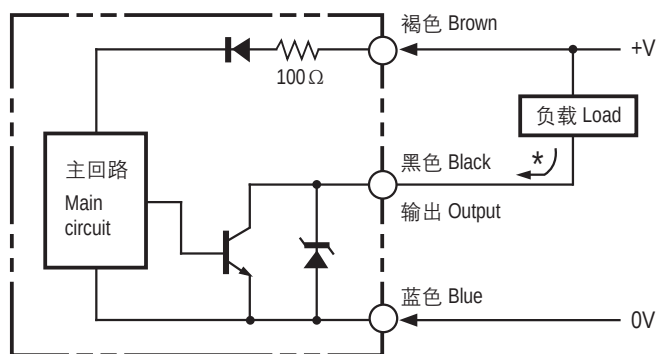


产品特性 Product features

- 限位开关结构紧凑、易安装
- 塑料外壳设计使得限位开关可作为限位、定位或参考点开关使用
- 重量轻，长寿命
- The compact and easy assembly of the proximity switches
- The plastic housing design makes the proximity switches, which can be used as limit, position or reference switches
- Light and longer life

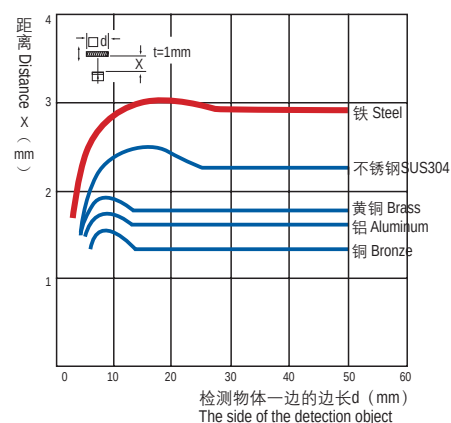
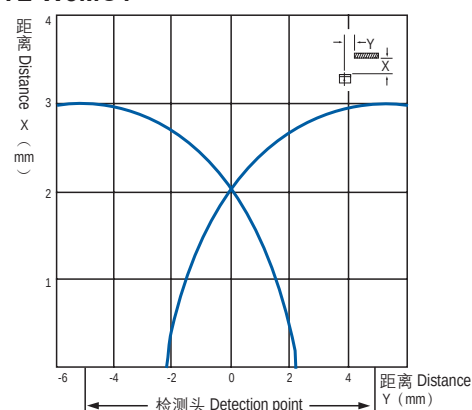
限位开关参数 Proximity switches data

限位开关 Proximity switches	单位 Unit	TL-W3MC1
工作电压 Operating voltage	[VDC]	10...30
最大促发电流 Max. trigger current	[mA]	100
环境温度 Ambient temperature	[°C]	-25...+70
触发距离 Trigger distance	[mm]	3.0
防护级别 Protection class		IP67
连接器 Connectors		M3



* 最大电流负载100mA
Max. current load 100mA

TL-W3MC1



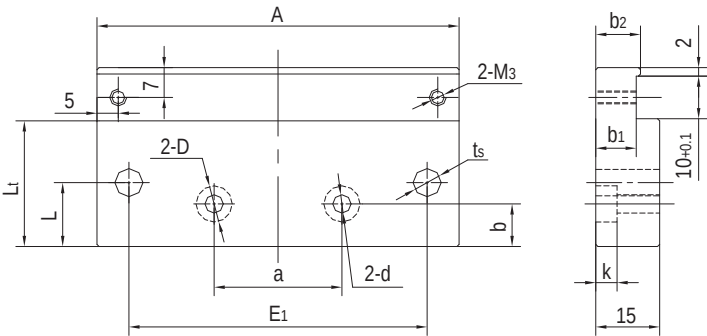
模组支架 Space supports



产品特性 Product features

- 模组支架用于E系列模组提升安装高度，并为限位开关提供匹配的安装尺寸。
- The Space support be used to increase the fitting high of E modules and provides the matching mounting dimensions for the proximity switches.

标准规格 Standard specifications



产品编码 Part No.:
LMS01-12-AS-SUP
支架 Support
模组型号 LMS type

产品编码 Part No.	A-0.3 [mm]	L-0.3 [mm]	E ₁ ± 0.1 [mm]	L [mm]	t _s [mm]	a ± 0.1 [mm]	D [mm]	d [mm]	b [mm]	k [mm]	b ₁ [mm]	b ₂ [mm]
LMS01-12-SUP	85	30	70	15.0	6.6	30	11	6.6	10	6.4	10.0	11.0
LMS01-20-SUP	130	36	108	18.0	9.0	50	11	6.6	15	6.4	10.0	11.0
LMS01-30-SUP	180	50	150	25.0	13.5	70	11	6.6	20	6.4	12.0	13.0
LMS02-1040-SUP	74	22	60	11.0	6.8	30	11	6.6	8	6.4	9.5	10.5
LMS02-1080-SUP	108	22	94	11.0	6.8	50	11	6.6	8	6.4	9.5	10.5
LMS02-1660-SUP	104	25	84	12.5	9.0	50	11	6.6	8	6.4	9.5	10.5
LMS02-2080-SUP	134	28	116	14.0	8.6	70	11	6.6	8	6.4	9.5	10.5
LMS02BB-1040-SUP	74	30	60	19.0	6.8	30	11	6.6	8	6.4	9.5	10.5
LMS02BB-1080-SUP	108	30	94	19.0	6.8	50	11	6.6	8	6.4	9.5	10.5
LMS02BB-1660-SUP	104	35	84	22.5	9.0	50	11	6.6	8	6.4	9.5	10.5
LMS02BB-2080-SUP	134	40	116	26.0	8.6	70	11	6.6	8	6.4	9.5	10.5