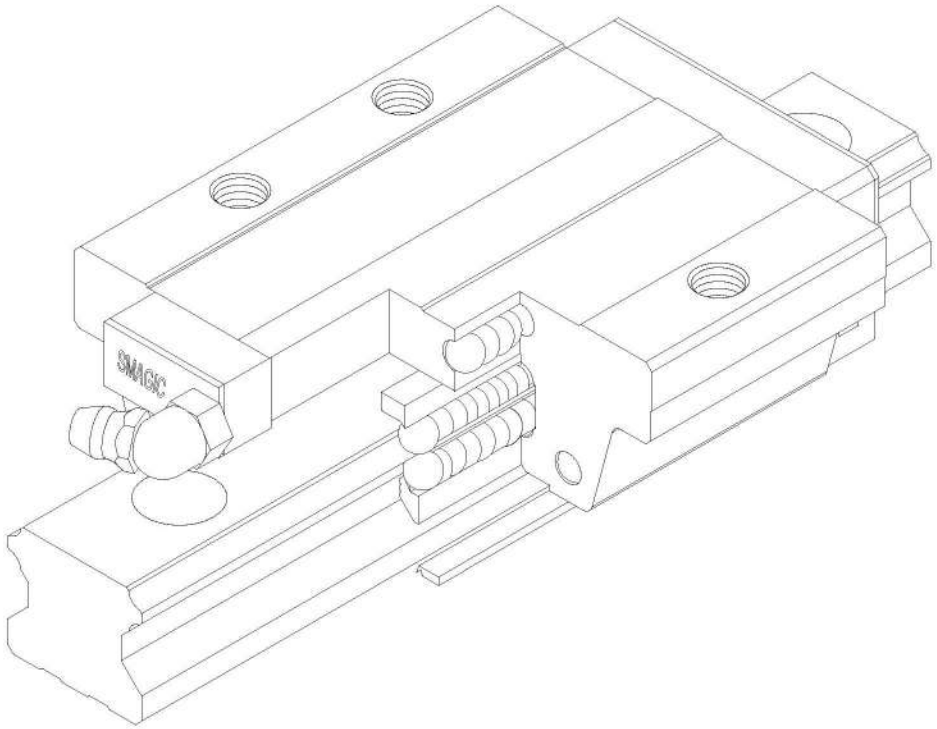


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SMAGIC 产品系列

SMAGIC product line

为服务客户因应其对产品多样性的需求，除了适用一般工具机产业的SH系列外，更研究开发出较适合自动化产业的SL系列，且研究开发出适合高刚性需求产业的SP系列及微小型机械半导体产业适用的SM/SC系列；并针对高科技产业研究开发出具有高速、宁静、低发尘需求的 SR\SP 系列产品。

In order to serve customers in response to their demand for product diversity, in addition to the SH series of the general machine tool industry, we have developed a SL series that is more suitable for the automation industry, and researched and developed the SP series and micro-small for industries with high rigidity demand. The SM / SC series for the mechanical semiconductor industry; and the SR\SP series of products with high speed, quiet and low dust demand for high-tech industry research and development.

系列型式 Series type

表格一 系列型式总表 Series type master

系列	组合高度	负荷型式	四方型	法兰型
			上锁式	上、下锁式
SH	高型	重负荷	SHS-B	-
		超重负荷	SHS-LB	-
	低型	重负荷	-	SHM-B
		超重负荷	-	SHM-LB
SL	低型	中负荷	SLS-X	SLM-X
		重负荷	SLS-B	SLM-B
SR	高型	重负荷	SRU-B	
		超重负荷	SRU-LB	
	低型	重负荷		SRM-B
		超重负荷		SRM-LB
SP	低型	中负荷	SPU-X	SPM-X
		重负荷	SPU-B	SPM-B
SP	高型	重负荷	SPS-B	
		超重负荷	SPS-LB	
	低型	重负荷		SPM-B
		超重负荷		SPM-LB
ST	高型	重负荷	STS-B	
		超重负荷	STS-LB	
	低型	重负荷		STOM-B
		超重负荷		STM-LB
SN	SM	标准型	SM-B	
		加长型	SM-LB	
	SC	标准型	SC-B	
		加长型	SC-LB	

SH 系列—滚珠线性滑轨

SH Series - Ball Linear Slides

SH 系列线性滑轨，为四列式单圆弧牙型接触线性滑轨，同时整合优化结构设计的超重负荷精密线性滑轨， 相较于其他的线性滑轨提升了负荷与刚性能力；具备四方向等负载特色、及自动调心的功能，可吸收安装面的装配误差，得到高精度的要求。高速度、高负荷、高刚性与高精度化概念已成为未来全世界工业产品发展 的趋势，SMAGIC 四列式超重负荷线性滑轨，即为基于此理念开发的产品。

SH series linear slide rails, which are four-row single arc-arc contact linear slides, and integrate the optimized structure design of the heavy-duty precision linear slide rails. Compared with other linear slide rails, the load and rigidity are improved. The load characteristics such as direction and the function of self-aligning can absorb the assembly error of the mounting surface and obtain high precision requirements. The concept of high speed, high load, high rigidity and high precision has become the trend of industrial products development in the world in the future. SMAGIC four-rowsuper-load linear slides are products developed based on this concept.



SH 系列线性滑轨特点

SH Series Linear Slide Features

(1) 自动调心能力 Automatic self-aligning ability

来自圆弧沟槽的 DF(45° -45°) 组合，在安装的时候，藉由钢珠的弹性变形及接触点的转移，即使安装面多少有些偏差，也能被线轨滑块内部吸收，产生自动调心能力的效果而得到高精度稳定的平滑运动。

The DF (45°-45°) combination from the circular groove can be absorbed by the inside of the line slider even if the mounting surface is slightly deviated during the installation by the elastic deformation of the steel ball and the transfer of the contact point. The effect of automatic self-aligning ability is produced to obtain a smooth motion with high precision and stability.

(2) 具有互换性 Interchangeable

由于对生产制造精度严格管控，线性滑轨尺寸能维持在一定的水平内，且滑块有保持器的设计以防止钢珠脱落，因此部份系列精度具可互换性，客户可依需要订购滑轨或滑块，亦可分开储存滑轨及滑块，以减少储存空间。

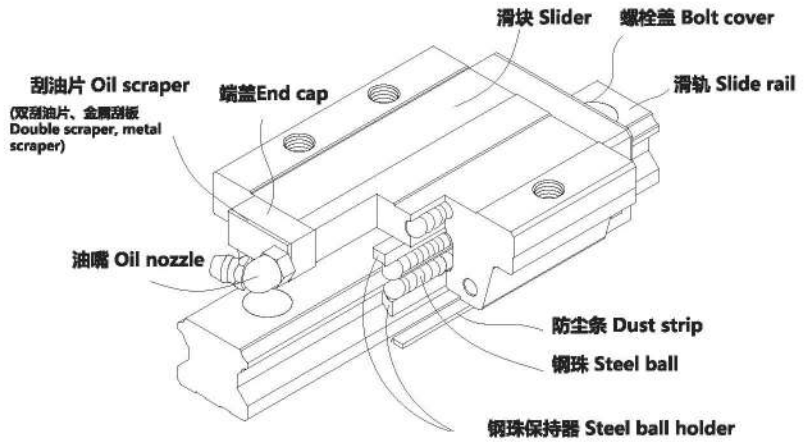
Due to the strict control of production precision, the linear slide size can be maintained within a certain level, and the slider has a retainer design to prevent the steel ball from falling off. Therefore, some series of precisions are interchangeable, and customers can order slips as needed. Rails or sliders can also be used to store slide rails and sliders separately to reduce storage space.

(3) 所有方向皆具有高刚性 High rigidity in all directions

运用四列式圆弧沟槽，配合四列钢珠等 45 度的接触角度，让钢珠达到理想的两点接触构造，能承受来自上下和左右方向的负荷; 在必要时更可施加预压以提高刚性。

The four-row circular groove is matched with the contact angle of 45 degrees such as four rows of steel balls to make the steel ball reach the ideal two-point contact structure, and can withstand the load from the up and down and left and right directions; if necessary, it can apply preload to improve rigidity.

SH 本体结构
SH body structure



●滚动循环系统：滑块、滑轨、端盖、钢珠、钢珠保持器
●润滑系统：油嘴、油管接头
● 防尘系统：刮油片、底片尘封防尘条、滑轨螺栓盖、金属刮板

•Rolling circulation system: slider, slide rail, end cover, steel ball, steel ball retainer
•Lubrication system: nozzle, tubing connector
•Dust-proof system: oil scraper, negative dust seal, dust rail t-rail bolt cover, metal scraper

产品规格说明
Product specification

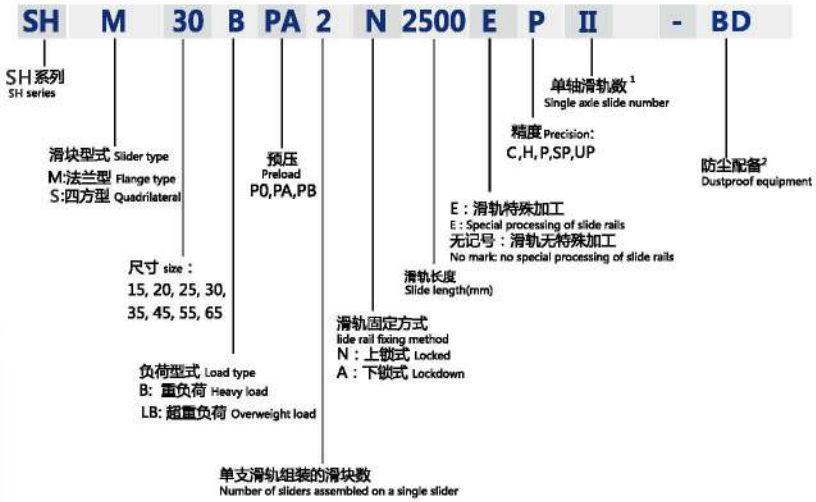
SH 系列分为非互换性及互换性型两种线性滑轨，两者规格尺寸相同，主要差异点在于互换性型的滑块、滑轨可单出互换使用，较便利，但其组合精度无法达到非互换性型的超高精度，不过由于SMAGIC 在制造上有良好的 尺寸控制及严格的质量要求，互换性型的组合精度目前已达到一定的水平，对不需配对安装线性滑轨的客户而言，是一项很好的选择。线性滑轨的产品规格型号主要标明线性滑轨尺寸、型式、精度等级、预压等规格要求，以利订货时双方对产品的确认。

The SH series is divided into two kinds of linear slides, which are non-interchangeable and interchangeable. The two specifications are the same. The main difference is that the interchangeable sliders and slide rails can be used interchangeably, which is convenient, but The combination accuracy cannot achieve the ultra-high precision of non-interchangeable type. However, due to the good dimensional control and strict quality requirements of SMAGIC, the combination accuracy of the interchangeable type has reached a certain level, and no pairing is required. It is a good choice for customers who install linear slides. The product specifications of the linear slides mainly indicate the specifications of the linear slide size, type, accuracy grade, preload, etc., in order to facilitate the confirmation of the products by both parties when ordering.

SH 系列

(1) 非互换性线性滑轨产品型号

Non-interchangeable linear slide product model



注：

1.单轴滑轨数若只使用一支滑轨则不写，两支标记为 II， 三支标记为 III，以此类推。

2.防尘配备中无记号为防尘标准配备刮油片加防尘片。

ZH 为刮油片加防尘片加金属刮板。

KH 为双刮油片加防尘片加金属刮板。

DH为双刮油片加防尘片。

note:

1.If the number of single-axis slides is only one slide, the two marks are II, the three marks are III, and so on.

2.There is no marking in the dustproof equipment. The dustproof standard is equipped with a scraper and a dustproof piece.

ZH is the scraper and dustproof sheet plus metal scraper.

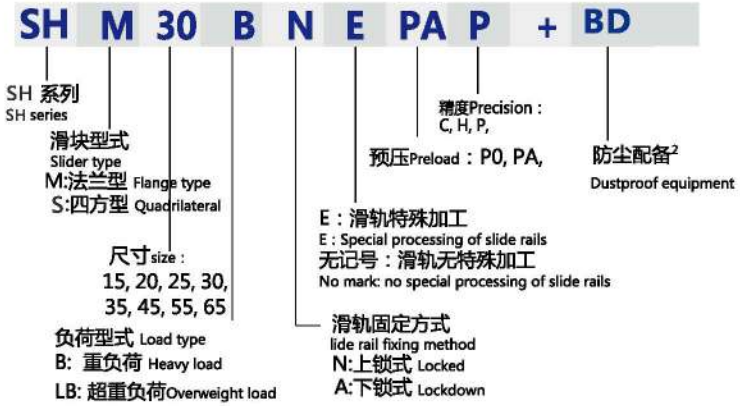
KH is a double scraper with dust and metal scraper.

DH is a double scraper and dustproof sheet.

(2) 互换性线性滑轨产品型号

Interchangeable linear slide product model

●互换型滑块产品型 Interchangeable slider product type



●互换型滑轨产品型号 Interchangeable slide product model



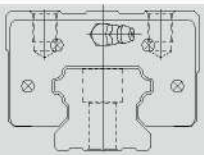
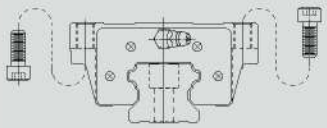
SH 系列型式
SH series type

(1) 滑块型式 Slider type

SMAGIC 提供法兰型及四方型两种线性滑轨，法兰型线性滑轨组合高度低，承靠面积大，适用于承受力距负载的场合。

SMAGI offers two types of linear slides, flanged and square. The flanged linear slide combination has a low height and a large bearing area, which is suitable for applications where the load is close to the load.

表格 2-1-1 滑块型式 Slider type

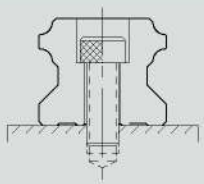
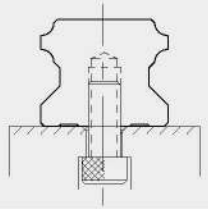
型式 Type	规格 specification	形状 shape	高度尺寸 Height dimension (mm)	滑轨长度 Side length (mm)	应用设备 Application equipment
四方型 Quadrilateral	SHS-B SHS-LB		28 ↓ 90	100 ↓ 4000	○ 机械加工中心 Machining center ○ 工具机 Machine tool ○ 精密加工机 Precision processing machine ○ 重型切削机床 Heavy duty cutting machine ○ 大理石切割机 Marble cutting machine ○ 磨床 Grinder ○ 射出机 Injection machine ○ 冲床 Punch ○ 自动化装置 Automation device ○ 运输设备 Transportation Equipment ○ 量测仪器 Measuring instrument
法兰型 Flange Type	SHM-B SHM-LB		24 ↓ 90	100 ↓ 4000	

(2) 滑轨型式 Slide type

除了一般上锁式螺栓孔滑轨外，SMAGIC亦提供下锁式螺丝孔滑轨，方便客户安装使用。

In addition to the general locking bolt hole slides, SMAGIC also provides a lock-type screw hole slide rail for easy installation and use.

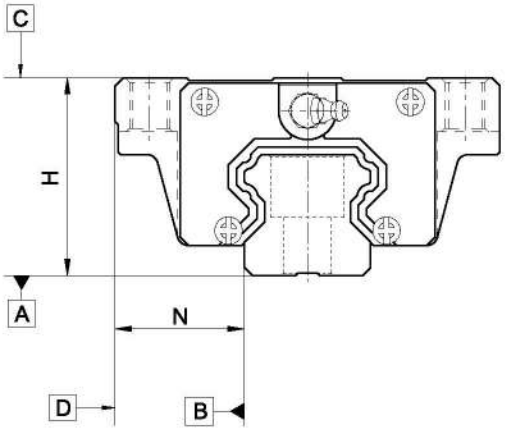
表格 2-1-2 滑轨型式 Slide type

上锁式螺栓孔 Locking bolt hole	下锁式螺丝孔 Locking screw hole
	

精度等级
Accuracy level

SH 系列线性滑轨的精度，分为普通、高、精密、超精密、超高精密级共五级，客户可依设备精度需求选用精度。

The accuracy of SH series linear slides is divided into five levels: general, high, precision, ultra-precision and ultra-high precision. Customers can select the precision according to the precision requirements of the equipment.



(1) 非互换性线性滑轨精度

Non-interchangeable linear slide accuracy

表格 2-1-3 组合件精度表 Assembly accuracy table

单位unit：mm

型号 Model	SH-15,20				
精度等级 Precision Level	普通级 (C)	高级 (H)	精密级 (P)	超精密级 (SP)	超高精密级 (UP)
高度 H 的容许尺寸误差 Allowable size error for height H	± 0.1	± 0.03	0 - 0.03	0 - 0.015	0 - 0.008
宽度 N 的容许尺寸误差 Allowable size error of width N	± 0.1	± 0.03	0 - 0.03	0 - 0.015	0 - 0.008
成对高度 H 的相互误差 Mutual error of Pair Height H	0.02	0.01	0.006	0.004	0.003
成对宽度 N 的相互误差 Mutual error of paired width N	0.02	0.01	0.006	0.004	0.003
滑块 C 面对滑轨 A 面的行走平行度 Walk parallelism of slider C on the A side of slider	行走平行度（见表格 2-1-11) Walking parallelism(see Table2-1-11)				
滑块 D 面对滑轨 B 面的行走平行度 Walk parallelism of slider D on the B side of slider	行走平行度（见表格 2-1-11) Walking parallelism(see Table2-1-11)				

表格 2-1-4 组合件精度表 Assembly accuracy table

单位unit：mm

型号 Model	SH-25,30,35				
精度等级 Precision Level	普通级 (C)	高级 (H)	精密级 (P)	超精密级 (SP)	超高精密级 (UP)
高度 H 的容许尺寸误差 Allowable size error for height H	± 0.1	± 0.04	0 - 0.04	0 - 0.02	0 - 0.01
宽度 N 的容许尺寸误差 Allowable size error of width N	± 0.1	± 0.04	0 - 0.04	0 - 0.02	0 - 0.01
成对高度 H 的相互误差 Mutual error of Pair Height H	0.02	0.015	0.007	0.005	0.003
成对宽度 N 的相互误差 Mutual error of paired width N	0.03	0.015	0.007	0.005	0.003
滑块 C 面对滑轨 A 面的行走平行度 Walk parallelism of slider C on the A side of slider	行走平行度（见表格 2-1-11) Walking parallelism(see Table2-1-11)				
滑块 D 面对滑轨 B 面的行走平行度 Walk parallelism of slider D on the B side of slider	行走平行度（见表格 2-1-11) Walking parallelism(see Table2-1-11)				

表格 2-1-5 组合件精度表 Assembly accuracy table

单位unit：mm

型号 Model	SH-45,55				
精度等级 Precision Level	普通级 (C)	高级 (H)	精密级 (P)	超精密级 (SP)	超高精密级 (UP)
高度 H 的容许尺寸误差 Allowable size error for height H	± 0.1	± 0.05	0 - 0.05	0 - 0.03	0 - 0.02
宽度 N 的容许尺寸误差 Allowable size error of width N	± 0.1	± 0.05	0 - 0.05	0 - 0.03	0 - 0.02
成对高度 H 的相互误差 Mutual error of Pair Height H	0.03	0.015	0.007	0.005	0.003
成对宽度 N 的相互误差 Mutual error of paired width N	0.03	0.02	0.01	0.007	0.005
滑块 C 面对滑轨 A 面的行走平行度 Walk parallelism of slider C on the A side of slider	行走平行度（见表格 2-1-11) Walking parallelism(see Table 2-1-11)				
滑块 D 面对滑轨 B 面的行走平行度 Walk parallelism of slider D on the B side of slider	行走平行度（见表格 2-1-11) Walking parallelism(see Table 2-1-11)				

表格 2-1-6 组合件精度表 Assembly accuracy table

单位unit：mm

型号 Model	SH-65				
精度等级 Precision Level	普通级 (C)	高级 (H)	精密级 (P)	超精密级 (SP)	超高精密级 (UP)
高度 H 的容许尺寸误差 Allowable size error for height H	± 0.1	± 0.07	0 - 0.07	0 - 0.05	0 - 0.03
宽度 N 的容许尺寸误差 Allowable size error of width N	± 0.1	± 0.07	0 - 0.07	0 - 0.05	0 - 0.03
成对高度 H 的相互误差 Mutual error of Pair Height H	0.03	0.02	0.07	0.007	0.005
成对宽度 N 的相互误差 Mutual error of paired width N	0.03	0.025	0.015	0.01	0.007
滑块 C 面对滑轨 A 面的行走平行度 Walk parallelism of slider C on the A side of slider	行走平行度（见表格 2-1-11) Walking parallelism(see Table 2-1-11)				
滑块 D 面对滑轨 B 面的行走平行度 Walk parallelism of slider D on the B side of slider	行走平行度（见表格 2-1-11) Walking parallelism(see Table 2-1-11)				

SH 系列

(2) 互换性线性滑轨精度

Interchangeable linear sliding track accuracy

表格 2-1-7 单出件精度表 Single output accuracy table

单位unit：mm

型号 Model	SH-15,20		
精度等级 Precision Level	普通级 (C)	高级 (H)	精密级 (P)
高度 H 的容许尺寸误差 Allowable size error for height H	± 0.1	± 0.03	± 0.015
宽度 N 的容许尺寸误差 Allowable size error of width N	± 0.1	± 0.03	± 0.015
成对高度 H 的相互误差 Mutual error of Pair Height H	0.02	0.01	0.006
成对宽度 N 的相互误差 Mutual error of paired width N	0.02	0.01	0.006
滑块 C 面对滑轨 A 面的行走平行度 Walk parallelism of slider C on the A side of slider	行走平行度（见表格 2-1-11) Walking parallelism(see Table2-1-11)		
滑块 D 面对滑轨 B 面的行走平行度 Walk parallelism of slider D on the B side of slider	行走平行度（见表格 2-1-11) Walking parallelism(see Table2-1-11)		

表格 2-1-8 单出件精度表 Single output accuracy table

单位unit：mm

型号 Model	SH-25,30,35		
精度等级 Precision Level	普通级 (C)	高级 (H)	精密级 (P)
高度 H 的容许尺寸误差 Allowable size error for height H	± 0.1	± 0.04	± 0.02
宽度 N 的容许尺寸误差 Allowable size error of width N	± 0.1	± 0.04	± 0.02
成对高度 H 的相互误差 Mutual error of Pair Height H	0.02	0.015	0.007
成对宽度 N 的相互误差 Mutual error of paired width N	0.03	0.015	0.007
滑块 C 面对滑轨 A 面的行走平行度 Walk parallelism of slider C on the A side of slider	行走平行度（见表格 2-1-11) Walking parallelism(see Table2-1-11)		
滑块 D 面对滑轨 B 面的行走平行度 Walk parallelism of slider D on the B side of slider	行走平行度（见表格 2-1-11) Walking parallelism(see Table2-1-11)		

SH 系列

表格 2-1-9 单出件精度表 Single output accuracy table

单位unit：mm

型号 Model	SH-45,55		
精度等级 Precision Level	普通级 (C)	高级 (H)	精密级 (P)
高度 H 的容许尺寸误差 Allowable size error for height H	± 0.1	± 0.05	± 0.025
宽度 N 的容许尺寸误差 Allowable size error of width N	± 0.1	± 0.05	± 0.025
成对高度 H 的相互误差 Mutual error of Pair Height H	0.03	0.015	0.007
成对宽度 N 的相互误差 Mutual error of paired width N	0.03	0.02	0.006
滑块 C 面对滑轨 A 面的行走平行度 Walk parallelism of slider C on the A side of slider	行走平行度（见表格 2-1-11) Walking parallelism(see Table2-1-11)		
滑块 D 面对滑轨 B 面的行走平行度 Walk parallelism of slider D on the B side of slider	行走平行度（见表格 2-1-11) Walking parallelism(see Table2-1-11)		

表格 2-1-10 单出件精度表 Single output accuracy table

单位unit：mm

型号 Model	SH-65		
精度等级 Precision Level	普通级 (C)	高级 (H)	精密级 (P)
高度 H 的容许尺寸误差 Allowable size error for height H	± 0.1	± 0.07	± 0.035
宽度 N 的容许尺寸误差 Allowable size error of width N	± 0.1	± 0.07	± 0.035
成对高度 H 的相互误差 Mutual error of Pair Height H	0.03	0.02	0.01
成对宽度 N 的相互误差 Mutual error of paired width N	0.03	0.025	0.015
滑块 C 面对滑轨 A 面的行走平行度 Walk parallelism of slider C on the A side of slider	行走平行度（见表格 2-1-11) Walking parallelism(see Table2-1-11)		
滑块 D 面对滑轨 B 面的行走平行度 Walk parallelism of slider D on the B side of slider	行走平行度（见表格 2-1-11) Walking parallelism(see Table2-1-11)		

表格 2-1-11 行走平行度精度 Walking parallelism accuracy

单位unit：mm

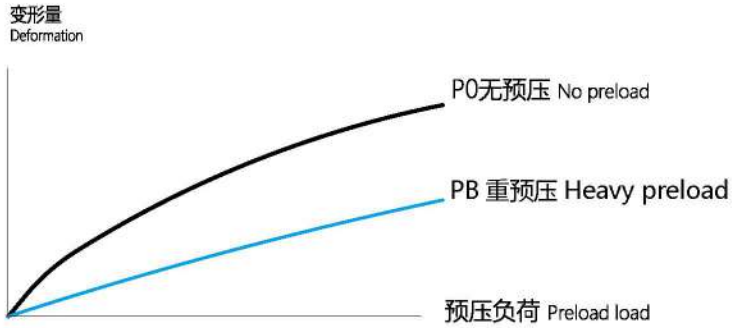
滑轨长度Slide length (mm)	精度等级 Accuracy level (μm)				
	C	H	P	SP	UP
~ 100	12	7	3	2	2
100 ~ 200	14	9	4	2	2
200 ~ 300	15	10	5	3	2
300 ~ 500	17	12	6	3	2
500 ~ 700	20	13	7	4	2
700 ~ 900	22	15	8	5	3
900 ~ 1,100	24	16	9	6	3
1,100 ~ 1,500	26	18	11	7	4
1,500 ~ 1,900	28	20	13	8	4
1,900 ~ 2,500	31	22	15	10	5
2,500 ~ 3,100	33	25	18	11	6
3,100 ~ 3,600	36	27	20	14	7
3,600 ~ 4,000	37	28	21	15	7

预压力
Pre-stress

(1) 预压力定义 Pre-stress definition

预压力是预先给与钢珠负荷力，亦即加大钢珠直径，利用钢珠与珠道之间负向间隙给与预压，此举能提高线性滑轨的刚性及消除间隙；以下图来解释，提高预压力可增加线性滑轨刚性。但小规格建议选用轻预压以下预压，以避免因预压选用过重降低其使用寿命。

The pre-pressure is to pre-apply the load force of the steel ball, that is, increase the diameter of the steel ball, and use the negative gap between the steel ball and the bead to pre-press, which can improve the rigidity of the linear slide and eliminate the gap; the following figure explains Increasing the preload increases the rigidity of the linear slide. However, the small size is recommended to use the preload under the light preload to avoid the excessive use of preload to reduce its service life.



(2) 预压等级 Preload rating

SH 系列线性滑轨提供三种标准预压，可依据用途选择适当预压力。

The SH Series linear slides are available in three standard preloads to select the appropriate preload depending on the application.

表格 2-1-12 预压等级 Preload rating

预压等级 Preload rating	标记 Mark	预压力 Pre-stress	使用条件 Conditions of Use	适用范围 Scope of application
无预压 No preload	P0	0~ 0.02C	负荷方向固定且冲击小，精度要求低 Fixed load direction with low impact and low precision	搬送装置，自动包装机，自动化产业机械，一般工业机械的 XY轴，焊接机，熔断机，工具交换装置 Transfer device, automatic packaging machine, automation industrial machinery, general industrial machinery XY axis, welding machine, fuse machine, tool changer
轻预压 Light preload	PA	0.05~0.07C	轻负荷且要求高精度 Light load and high precision	一般工业机械的Z轴，放电加工机，NC车床，精密XY平台，测定器，机械加工中心，立式加工中心，工业用机器人，自动涂装机，各种高速材料供给装置 General industrial machinery Z-axis, electric discharge machine, NC lathe, precision XY platform, measuring device, machining center, vertical machining center, industrial robot, automatic coating machine, various high-speed material supply devices
重预压 Heavy preload	PB	0.10C~ 0.12C	刚性要求，且有振动，冲击的使用环境 Rigid requirements, vibration and impact environment	机械加工中心，磨床，NC车床，立式或卧式铣床，机床的Z 轴，重切削加工机 Machining center, grinding machine, NC lathe, vertical or horizontal milling machine, machine tool Z axis, heavy cutting machine

注：

1. 预压力 C 为动额定负荷
2. 互换性线（单出件）预压等级：P0, PA。

非互换性线轨（组合件）预压等级：P0, PA, PB

Note:

1. Pre-pressure C is dynamic rated load
2. Interchangeable line (single output) Preload rating: P0, PA.

Non-interchangeable wire rail (assembly) Preload rating: P0, PA, PB

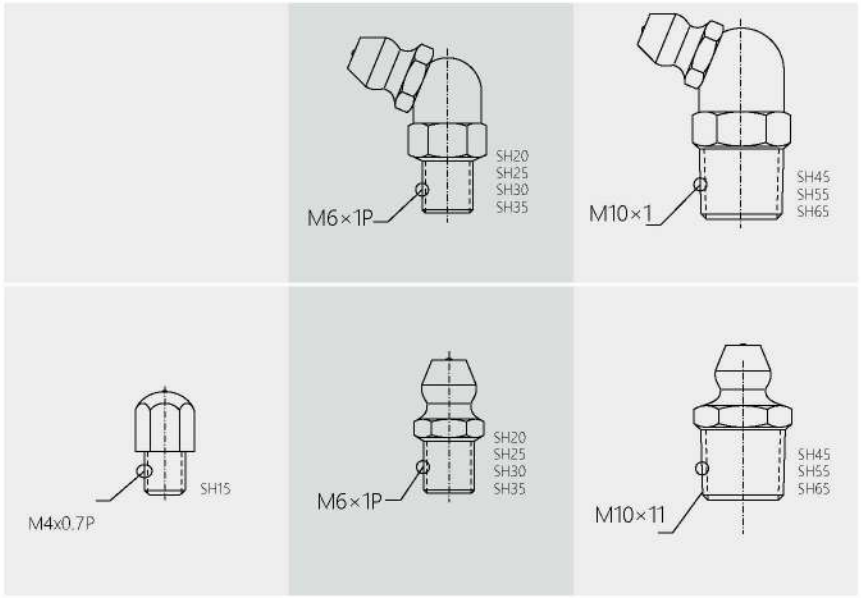
SH 系列

SH 系列

润滑方式
Lubrication method

(1) 润滑油脂 Lubricating grease

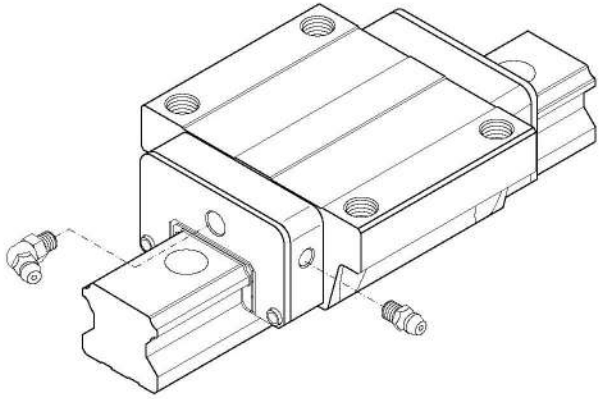
●油嘴型式 Nozzle type



●油嘴位置 Nozzle position

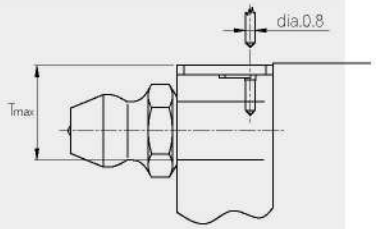
依客户需要在滑块前端或后端装上油嘴以供手动打油，SH 系列特别在端盖侧边预留侧油孔位置安装油嘴（一般为直油嘴），提供侧向打油，侧向打油的位置建议在非侧基准边，但若有特殊需要亦可放在侧基准边。客户如有上述侧向打油需求请与我们联络。使用接管方式自动供润滑油脂的线性滑轨，则可依连接管型式选用安装油管接头。

According to the customer's needs, the front end or the rear end of the slider is equipped with a grease nipple for manual oiling. The SH series is specially equipped with a grease nipple (usually a straight grease nipple) at the side of the side cover to provide side oiling and lateral oiling. The position is recommended on the non-side reference edge, but it can be placed on the side reference edge if you have special needs. If you have any of the above mentioned side oil demand, please contact us. If the linear slide rail of the grease is automatically supplied by the take-up method, the oil pipe joint can be selected according to the connection pipe type.



表格 2-1-13 O-Ring 规格与穿孔最大容许深度
O-Ring specifications and perforation maximum allowable depth

规格 specification	O-Ring规格 O-Ringspecification		穿孔最大容许深度 T_{max} Perforation maximum allowable depth
	do (mm)	W (mm)	(mm)
SH 15	2.5 ± 0.15	1.5 ± 0.15	3.75
SH 20	4.5 ± 0.15	1.5 ± 0.15	5.7
SH 25	4.5 ± 0.15	1.5 ± 0.15	5.8
SH 30	4.5 ± 0.15	1.5 ± 0.15	6.3
SH 35	4.5± 0.15	1.5 ± 0.15	8.8
SH 45	4.5± 0.15	1.5 ± 0.15	8.2
SH 55	4.5± 0.15	1.5 ± 0.15	11.8
SH 65	4.5± 0.15	1.5 ± 0.15	10.8



●单个滑块填满润滑油脂油量
A single slider fills the amount of grease

表格 2-1-14 单个滑块填满润滑油脂油量
A single slider fills the amount of grease

规格 specification	重负荷 Heavy load (cm³)	超重负荷 Overweight load (cm³)	规格 specification	重负荷 Heavy load (cm³)	超重负荷 Overweight load (cm³)
SH 15	1	-	SH 35	10	12
SH 20	2	3	SH 45	17	21
SH 25	5	6	SH 55	26	33
SH 30	7	8	SH 65	50	61

●润滑频率 Lubrication frequency

每运行 100km，或每 3-6 个月确认一次油脂。
Grease is confirmed every 100km, or every 3-6 months.

（2）润滑油 Lubricating oil

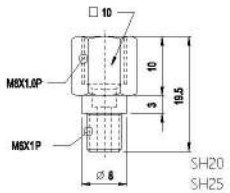
建议使用油黏滞度约为 30~150cSt 的润滑油润滑线性滑轨，客户可先跟我们说明需要使用油润滑，出货的线性滑轨将不会封入润滑油脂。

It is recommended to lubricate the linear slide with a lubricant with an oil viscosity of about 30~150cSt. Customers can first explain to us that oil lubrication is required, and the linear slides will not be sealed with grease.

SH 系列

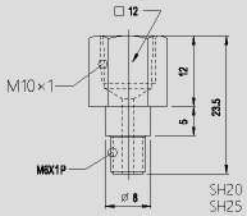
●油管接头型式 Tubing connector type

SF-76



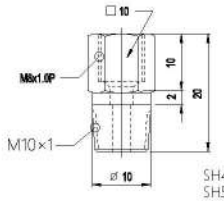
SH20
SH25
SH30
SH35

SF-86



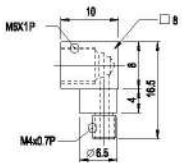
SH20
SH25
SH30
SH35

SF-78



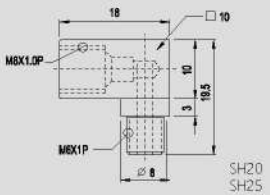
SH45
SH55
SH65

LF-64



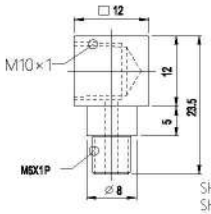
SH15

LF-76



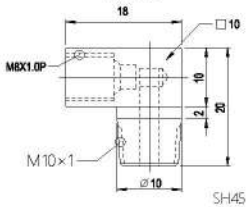
SH20
SH25
SH30
SH35

LF-86



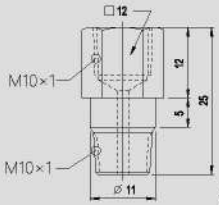
SH20
SH25
SH30
SH35

LF-78



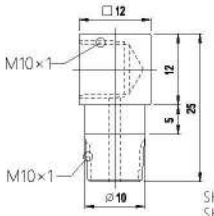
SH45
SH55
SH65

SF-88



SH45
SH55
SH65

LF-88



SH45
SH55
SH65

●供油速率 Fuel supply rate

表格 2-1-15 供油速率 Fuel supply rate

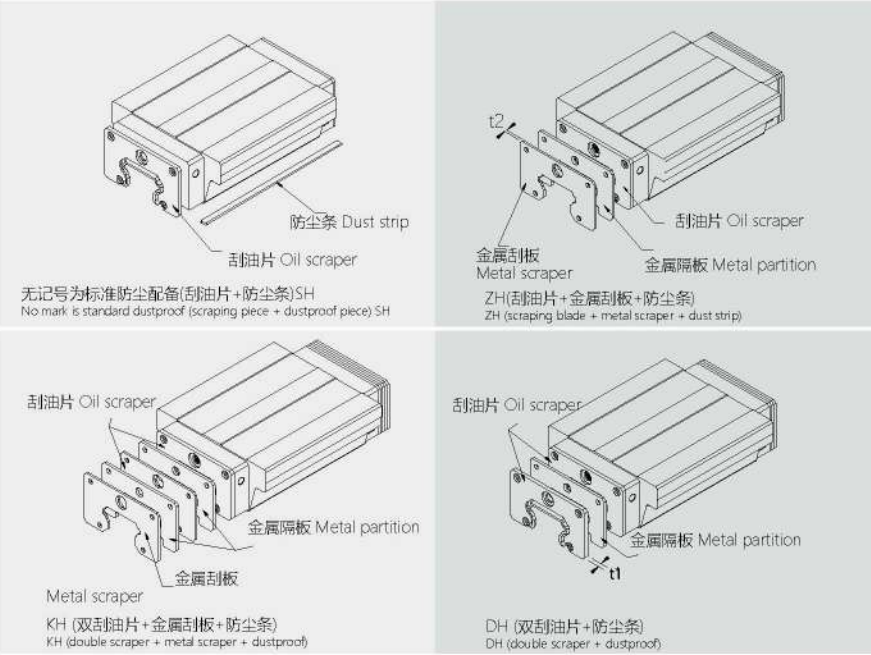
规格 Specification	供油速率 Fuel supply rate (cm³/hr)	规格 Specification	供油速率 Fuel supply rate (cm³/hr)
SH15	0.2	SH35	0.3
SH20	0.2	SH45	0.4
SH25	0.3	SH55	0.5
SH30	0.3	SH65	0.6

防尘配备
Dustproof equipment

(1) 防尘配备代码 Dust-proof code

若有下列防尘配备需求时，请于产品型号后面加注代码

If you have the following dustproof requirements, please add the code after the product model.



(2) 刮油片及底面尘封防尘片 scraper and bottom dust seal

阻止加工铁屑或尘粒进入滑块里面，破坏珠道表面而降低线性滑轨寿命。

Prevents the processing of iron filings or dust particles from entering the slider, destroying the bead surface and reducing the linear slide life.

(3) 双层刮油片 Double-layer scraper

加倍刮屑效果，即使在重切削加工环境中，异物完全被排除于滑块外。

Double the scraping effect, even in the heavy cutting environment, the foreign matter is completely excluded from the slider

表格 2-1-16 刮油片厚度 Oil scraper thickness

规 格 Specification	增加厚度 (t1) Increasing the thickness (mm)	规 格 Specification	增加厚度 (t1) Increasing the thickness (mm)
SH 15	3	SH 35	3.2
SH 20	3.5	SH 45	4.5
SH 25	3.5	SH 55	4.5
SH 30	3.2	SH 65	6

SH 系列

(4) 金属刮板 Metal scraper

可隔离高温铁屑或加工火花，并排除大体积杂质。

It can isolate high temperature iron filings or machining sparks and eliminate large volume impurities.

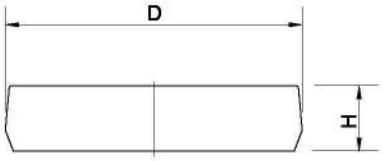
表格 2-1-17 金属刮板厚度 Metal scraper thickness

规格 Specification	增加厚度 (t2) Increasing the thickness (mm)		规格 Specification	增加厚度 (t2) Increasing the thickness (mm)
SH 15	1.5		SH 35	1.5
SH 20	1.5		SH 45	1.5
SH 25	1.5		SH 55	1.5
SH 30	1.5		SH 65	1.5

(5) 螺栓盖 Bolt cover

为防止切削粉末或异物经由螺栓孔侵入滑块内部影响精度，客户必须在安装滑轨时将螺栓盖打入螺栓孔内，每支滑轨出厂时皆配有螺栓盖。

In order to prevent the cutting powder or foreign matter from invading the inside of the slider through the bolt hole, the customer must insert the bolt cover into the bolt hole when installing the slide rail. Each slide rail is equipped with a bolt cover when it is shipped.



表格 2-1-18 滑轨螺栓盖 Slide bolt cover

规格 specification	安装螺丝 Mounting screws	直径 (D) diameter (mm)	厚度 (H) thickness (mm)	规格 specification	安装螺丝 Mounting screws	直径 (D) diameter (mm)	厚度 (H) thickness
SHT15	M4	7.65	1.1	SHT35	M8	14.2	3.3
SHT20	M5	9.65	2.2	SHT45	M12	20.25	4.6
SHT25	M6	11.20	2.5	SHT55	M14	23.5	5.5
SHT30	M8	14.25	3.3	SH	M16	26.6	5.5

(6) 防尘代码之滑块总长度 Total length of the dustproof code slider

滑块总长度 Total length of the slider

单位 unit；mm

规格 specification	滑块总长度 (L) 标准 SH	ZH	DH	KH
SH15B	61.4	69	68	75.6
SH20B	77.5	82.5	82.5	87.5
SH20LB	92.2	97.2	97.5	102.2
SH25B	84	89	89	94
SH25LB	104.6	109.6	109.6	114.6
SH30B	97.4	105.4	104.8	112.8
SH30LB	120.4	128.4	127.8	135.8
SH35B	112.4	120.4	119.8	127.8
SH35LB	138.2	146.2	145.6	153.6
SH45B	139.4	150	149.4	160
SH45LB	171.2	181.8	181.2	191.8
SH55B	166.7	177.1	177.1	187.5
SH55LB	204.8	215.2	215.2	225.5
SH65B	200.2	208.2	209.2	217.2
SH65LB	259.6	267.6	268.6	276.6

摩擦力
Friction

此阻力值为单片刮油片的最大阻力。

This resistance is the maximum resistance of a single piece of oil scraper.

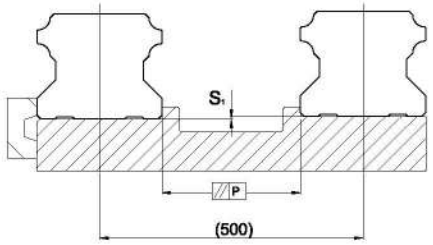
表格 2-1-19 SH 系列刮油片阻力 SH series scraper resistance

规格 specification	刮油片阻力 (kgf) Oil scraper resistance	规格 specification	刮油片阻力 (kgf) Oil scraper resistance
SH15	1.18	SH35	3.04
SH20	1.57	SH45	3.83
SH25	1.96	SH55	4.61
SH30	2.65	SH65	5.79

安装平面误差
Mounting plane error

SH 系列为圆弧两点接触式线性滑轨，其自动调心的特性可以吸收安装面的些许误差而不影响直线运动的顺畅性；下表中注明了安装平面的容许误差值：

The SH series is a circular two-point contact linear slide. Its self-aligning characteristics can absorb some errors of the mounting surface without affecting the smoothness of the linear motion. The tolerance values of the mounting plane are indicated in the following table:



表格 2-1-20 容许平行度误差 Allowable parallelism error (P)　　单位 unit：μm

规格 specification	预压Preload P0 预压Preload	PA 预压Preload	PB 预压Preload
SH15	25	18	-
SH20	25	20	18
SH25	30	22	20
SH30	40	30	27
SH35	50	35	30
SH45	60	40	35
SH55	70	50	45
SH65	80	60	55

表格 2-1-21 容许上下水平度误差 Allow upper and lower horizontal error (S1)　　单位 unit：μm

规格 specifcation	预压Preload P0 预压Preload	PA 预压Preload	PB 预压Preload
SH15	130	85	-
SH20	130	85	50
SH25	130	85	70
SH30	170	110	90
SH35	210	150	120
SH45	250	170	140
SH55	300	210	170
SH65	350	250	200

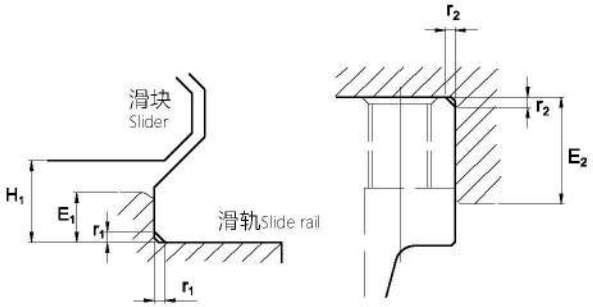
安装注意事项
Installation Precautions

(1) 安装面肩部高度及倒角

Mounting surface shoulder height and chamfer

安装线性滑轨时必须注意安装面肩部的状况是否适当，如倒角过大，凸出的地方易造成线性滑轨精度不良，而高度过高则会干涉滑块。故如果能依照建议要求安装面肩部，安装精度不良即可排除。

When installing the linear slide rails, it is necessary to pay attention to the proper condition of the shoulder of the mounting surface. If the chamfer is too large, the protruding position may cause the linear slide rail to be inferior in accuracy, and the height too high may interfere with the slider. Therefore, if the shoulder can be installed according to the recommended requirements, the installation accuracy can be eliminated.



表格 2-1-22 肩部高度及倒角 Shoulder height and chamfer

规格 specification	滑轨端 最大圆角半径 Maximum corner radius of the rail end r_1 (mm)	滑块端 最大圆角半径 Maximum corner radius of the slider end r_2 (mm)	滑轨端 肩部高度 Rail shoulder height E_1 (mm)	滑块端 肩部高度 Slider shoulder height E_2 (mm)	滑块的 运行净高 The running height of the slider H_1 (mm)
SH15	0.5	0.5	3	4	4.3
SH20	0.5	0.5	3.5	5	4.6
SH25	1.0	1	5	5	5.5
SH30	1.0	1	5	5	6
SH35	1.0	1	6	6	7.5
SH45	1.0	1	8	8	9.5
SH55	1.5	1.5	10	10	13
SH65	1.5	1.5	10	10	15

(2) 滑轨装配螺丝的扭力值

Torque value of the rail assembly screw

安装滑轨时是否锁紧贴平基准面影响线性滑轨精度严重，因此为达到每颗螺丝都能锁紧的目的，建议使用下列扭力值锁装配螺丝。

Whether the locking flat reference surface is installed when the slide rail is installed affects the accuracy of the linear slide rail. Therefore, in order to achieve the purpose of locking each screw, it is recommended to use the following torque value lock assembly screws.

表格 2-1-23 扭力值 Torque value

规格 specification	螺丝规格 Screw specification	扭力值Torque value N-cm (kgf-cm)	规格 specification	螺丝规格 Screw specification	扭力值Torque value N-cm (kgf-cm)
SH15	M4 x 0.7P x 16L	392(40)	SH35	M8 x 1.25P x 25L	3,041(310)
SH20	M5 x 0.8P x 16L	883(90)	SH45	M12 x 1.75P x 35L	11,772(1,200)
SH25	M6 x 1P x 20L	1373(140)	SH55	M14 x 2P x 45L	15,696(1,600)
SH30	M8 x 1.25P x 25L	3041(310)	SH65	M16 x 2P x 50L	19,620(2,000)

注 note：1 kgf = 9.81N

(3) 安装方式

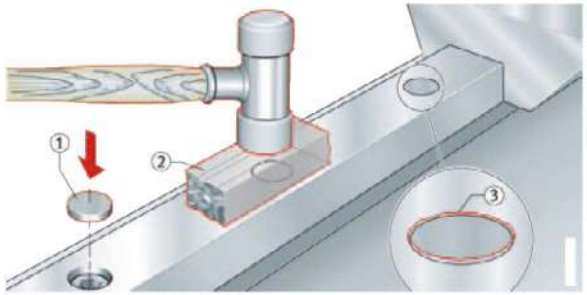
Installation method

在安装前，导轨必须已用尺寸表中的紧固力矩MA 固定。
不要让滑块滑过还没有填塞起来的沉头孔。如果滑块移动，
要保证密封唇得到有效的保护。
根据环境和运行条件，沉头孔使用塑料或者铜填塞片。
使用安装
敲击填塞片，图 6：

- 将填塞片①放入沉头孔内。
- 将一平整的铁块 放在填塞片上。
- 垂直敲击铁块。
- 去除填塞片上被切下来的毛边③。

Before installation, the rails must have been fixed with the tightening torque MA in the dimension table.
Do not let the slider slide over the counterbore that has not been filled. If the slider moves,
Make sure the sealing lip is effectively protected.
The counterbore is filled with plastic or copper depending on the environment and operating conditions. Use installation
Tap the tamper, Figure 6:

- Place the tampon 1 into the counterbore.
- Place a flat piece of iron on the tampon.
- Hit the iron block vertically.
- Remove the cut edges 3 on the tamping sheet.



①填塞片 stuffing piece
②铁块 iron blocks
③毛边 raw edges

图 6 Figure 6 敲入填塞片 Knock in the tampon

不要用油石①去磨塑料填塞片或者相似方法，
图 13。
Do not use oil stone ① to grind plastic tampon or similar methods,
Figure 13.

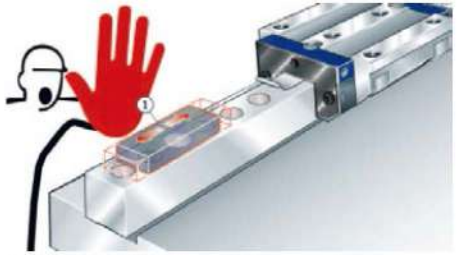


图 13 不要使用油石 Figure 13 Do not use oil stone

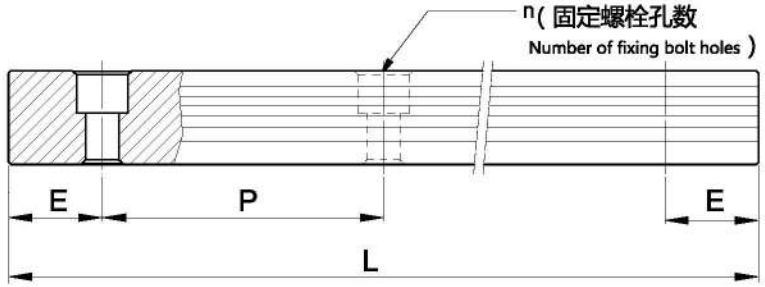
①油石 Oil stone

单支滑轨标准长度及最大长度

Standard length and maximum length of single slide rails

SMAGIC 备有滑轨标准长度库存供应客户需求。若客户订购非标准长度滑轨时，端面距离 E 的尺寸最好不要大于 1/2P，防止因 E 的尺寸过大导致滑轨装配后端部的不稳定，而降低线性滑轨的精度。

SMAGIC is equipped with standard length stocks of slides to supply customer needs. If the customer orders a non-standard length slide rail, the dimension of the end face distance E is preferably not more than 1/2P, which prevents the instability of the rear end portion of the rail assembly due to the excessive size of the E, and reduces the accuracy of the linear slide rail.



$$L = (n-1) \times P + 2 \times E \quad \text{Eq.2.1}$$

L：滑轨总长 Total length of rails (mm)

n：螺栓孔数 Number of bolt holes

P：螺栓孔间距离 Distance between bolt holes (mm)

E：螺栓孔至端面距离 Bolt hole to end distance (mm)

表格 2-1-24 轨道长度 Track length

单位 unit：mm

项 目Project	SH15	SH20	SH25	SH30	SH35	SH45	SH55	SH65
标准长度L(n) Standard length	160(3)	220(4)	220(4)	280(4)	280(4)	570(6)	780(7)	1,270(9)
	220(4)	280(5)	280(5)	440(6)	440(6)	885(9)	1,020(9)	1,570(11)
	280(5)	340(6)	340(6)	600(8)	600(8)	1,200(12)	1,260(11)	2,020(14)
	340(6)	460(8)	460(8)	760(10)	760(10)	1,620(16)	1,500(13)	2,620(18)
	460(8)	640(11)	640(11)	1,000(13)	1,000(13)	2,040(20)	1,980(17)	
	640(11)	820(14)	820(14)	1,640(21)	1,640(21)	2,460(24)	2,580(22)	
	820(14)	1,000(17)	1,000(17)	2,040(26)	2,040(26)	2,985(29)	2,940(25)	
		1,240(21)	1,240(21)	2,520(32)	2,520(32)			
			1,600(27)	3,000(38)	3,000(38)			
间距(P) spacing	60	60	60	80	80	105	120	150
标准端距 (E_s) Standard terminal distance	20	20	20	20	20	22.5	30	35
标准端距最大长度 Standard terminal length	2000	4,000(67)	4,000(67)	3,960(50)	3,960(50)	3,930(38)	3,900(33)	3,970(27)
最大长度 The maximum length	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000

注：

1. 一般滑轨 E 尺寸公差为 0.5 ~ -0.5 mm，滑轨接牙件端距 E 尺寸公差较严格为 0 ~ -0.3 mm。
2. 标准端距最大长度是指左、右端距皆为标准端距的滑轨最大长度。
3. 若客户需要不同的 E 尺寸，请与 SMAGIC 联络。

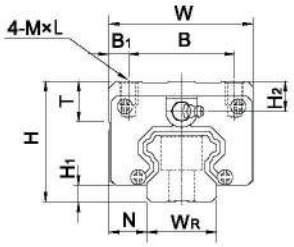
Note:

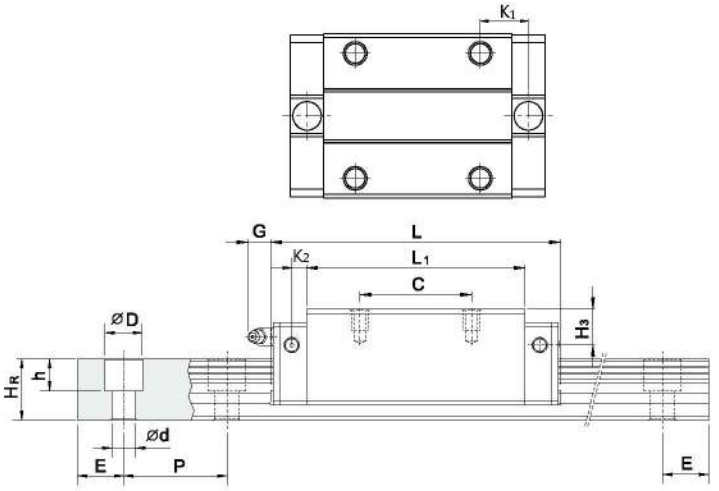
1. The general rail E dimension tolerance is 0.5~-0.5 mm, and the rail joint end distance E dimension tolerance is strictly 0~-0.3 mm.
2. The maximum length of the standard end distance means that the left and right end distances are the maximum length of the standard end distance.
3. If the customer needs a different E size, please contact SMAGIC.

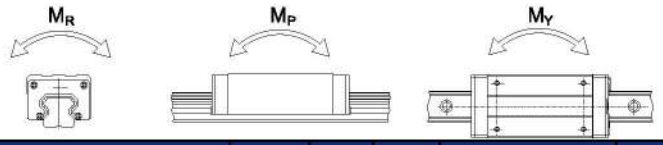
SH 系列线性滑轨尺寸表

SH series linear slide size table

(1) SHS-B / SHS-LB





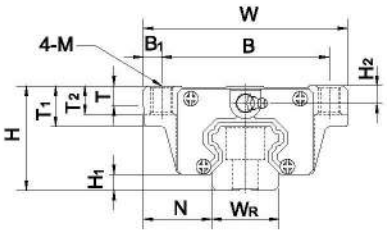


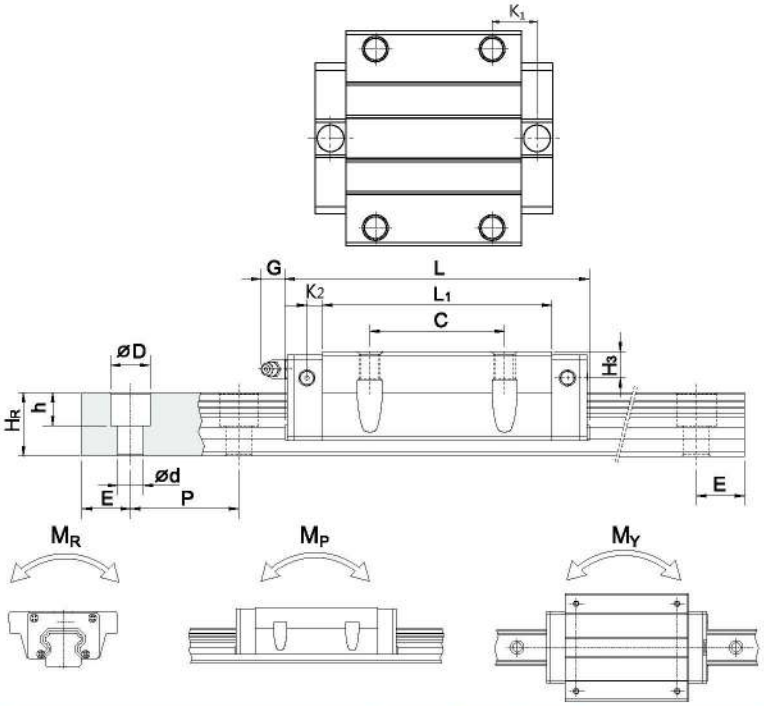
型号 Model	组件尺寸 (mm)			滑块尺寸 Slider size(mm)													滑轨尺寸 Slie size (mm)							滑轨的固定螺栓尺寸	基本动额定负荷	基本静额定负荷	容许静力矩			重量	
	H	H_1	N	W	B	B_1	C	L_1	L	k_1	k_2	G	M×l	T	H_2	H_3	W_R	H_R	D	h	d	P	E	(mm)	C(kN)	Co (kN)	MR kN-m	MP kN-m	MY kN-m	滑块 kg	滑轨 kg/m
SHS15B	28	4.3	9.5	34	26	4	26	39.4	61.4	10	4.85	5.3	M4x5	6	7.95	7.7	15	15	7.5	5.3	4.5	60	20	M4x16	11.38	16.97	0.12	0.10	0.10	0.18	1.45
SHS20B	30	4.6	12	44	32	6	36	50.5	77.5	12.25	6	12	M5x6	8	6	6	20	17.5	9.5	8.5	6	60	20	M5x16	17.75	27.76	0.27	0.20	0.20	0.30	2.21
SHS20LB							50	65.2	92.2	12.6															21.18	35.90	0.35	0.35	0.35	0.39	
SHS25B	40	5.5	12.5	48	35	6.5	35	58	84	16.8	6	12	M6x8	8	10	9	23	22	11	9	7	60	20	M6x20	26.48	36.49	0.42	0.33	0.33	0.51	3.21
SHS25LB							50	78.6	104.6	19.6															32.75	49.44	0.56	0.57	0.57	0.69	
SHS30B	45	6	16	60	40	10	40	70	97.4	20.25	6	12	M8x10	8.5	9.5	13.8	28	26	14	12	9	80	20	M8x25	38.74	52.19	0.66	0.53	0.53	0.88	4.47
SHS30LB							60	93	120.4	21.75															47.27	69.16	0.88	0.92	0.92	1.16	
SHS35B	55	7.5	18	70	50	10	50	80	112.4	20.6	7	12	M8x12	10.2	16	19.6	34	29	14	12	9	80	20	M8x25	49.52	69.16	1.16	0.81	0.81	1.45	6.30
SHS35LB							72	105.8	138.2	22.5															60.21	91.63	1.54	1.40	1.40	1.92	
SHS45B	70	9.5	20.5	86	60	13	60	97	139.4	23	10	12.9	M10x17	16	18.5	30.5	45	38	20	17	14	105	22.5	M12x35	77.57	102.71	1.98	1.55	1.55	2.73	10.41
SHS45LB							80	128.8	171.2	28.9															94.54	136.46	2.63	2.68	2.68	3.61	
SHS55B	80	13	23.5	100	75	12.5	75	117.7	166.7	27.35	11	12.9	M12x18	17.5	22	29	53	44	23	20	16	120	30	M14x45	114.44	148.33	3.69	2.64	2.64	4.17	15.08
SHS55LB							95	155.8	204.8	36.4															139.35	196.20	4.88	4.57	4.57	5.49	
SHS65B	90	15	31.5	126	76	25	70	144.2	200.2	43.1	14	12.9	M16x20	'25	15	15	63	53	26	22	18	150	35	M16x50	163.63	215.33	6.65	4.27	4.27	7.00	21.18
SHS65LB							120	203.6	259.6	47.8															208.36	303.13	9.38	7.38	7.38	9.82	

注 Note : 1 kgf = 9.81 N

SH 系列

(2) SHM-B / SHM-LB





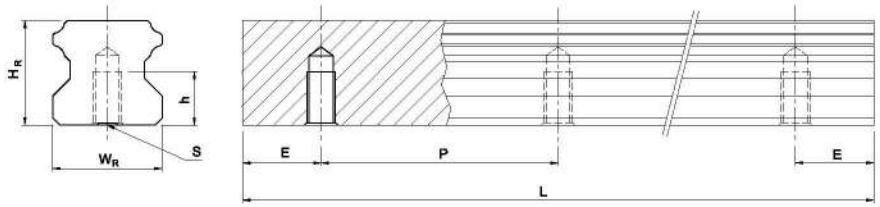
型号 Model	组件尺寸 (mm)			滑块尺寸 Slider size(mm)															滑轨尺寸 Slie size (mm)							滑轨的固定螺栓尺寸	基本动额定负荷	基本静额定负荷	容许静力矩			重量	
	H	H_1	N	W	B	B_1	C	L_1	L	k_1	k_2	G	M	T	T_1	T_2	H_2	H_3	W_R	H_R	D	h	d	P	E	(mm)	C(kN)	Co (kN)	MR kN-m	MP kN-m	MY kN-m	滑块 kg	滑轨 kg/m
SHM 15B	24	4.3	16	47	38	4.5	30	39.4	61.4	8	4.05	5.3	M5	6	8.9	6.95	3.95	3.7	15	15	7.5	5.3	4.5	60	20	M4x16	11.38	16.97	0.12	0.10	0.10	0.17	1.45
SHM 20B	30	4.6	21.5	63	53	5	40	50.5	77.5	10.25	6	12	M6	8	10	9.5	6	6	20	17.5	9.5	8.5	6	60	20	M5x16	17.75	27.76	0.27	0.20	0.20	0.40	2.21
SHM 20LB								65.2	92.2	17.6																	21.18	35.9	0.35	0.35	0.35	0.52	
SHM 25B	36	5.5	23.5	70	57	6.5	45	58	84	10.7	6	12	M8	8	14	10	6	5	23	22	11	9	7	60	20	M6x20	26.48	36.49	0.42	0.33	0.33	0.59	3.21
SHM 25LB								78.6	104.6	21																	32.75	49.44	0.56	0.57	0.57	0.80	
SHM 30B	42	6	31	90	72	9	52	70	97.4	14.25	6	12	M10	8.5	16	10	6.5	10.8	28	26	14	12	9	80	20	M8x25	38.74	52.19	0.66	0.53	0.53	1.09	4.47
SHM 30LB								93	120.4	25.75																	47.27	69.16	0.88	0.92	0.92	1.44	
SHM 35B	48	7.5	33	100	82	9	62	80	112.4	14.6	7	12	M10	10.1	18	13	9	12.6	34	29	14	12	9	80	20	M8x25	49.52	69.16	1.16	0.81	0.81	1.56	6.30
SHM 35LB								105.8	138.2	27.5																	60.21	91.63	1.54	1.40	1.40	2.06	
SHM 45B	60	9.5	37.5	120	100	10	80	97	139.4	13	10	12.9	M12	15.1	22	15	8.5	20.5	45	38	20	17	14	105	22.5	M12x35	77.57	102.71	1.98	1.55	1.55	2.79	10.41
SHM 45LB								128.8	171.2	28.9																	94.54	136.46	2.63	2.68	2.68	3.69	
SHM 55B	70	13	43.5	140	116	12	95	117.7	166.7	17.35	11	12.9	M14	17.5	26.5	17	12	19	53	44	23	20	16	120	30	M14x45	114.44	148.33	3.69	2.64	2.64	4.52	15.08
SHM 55LB								155.8	204.8	36.4																	139.35	196.20	4.88	4.57	4.57	5.96	
SHM 65B	90	15	53.5	170	142	14	110	144.2	200.2	23.1	14	12.9	M16	25	37.5	23	15	15	63	53	26	22	18	150	35	M16x50	163.63	215.33	6.65	4.27	4.27	9.17	21.18
SHM 65LB								203.6	259.6	52.8																	208.36	303.13	9.385	7.38	7.38	12.89	

注 Note : 1 kgf = 9.81 N

SH 系列

(3) SHT-A 下锁式滑轨尺寸表

Locking slide size table



型号 Model	滑轨尺寸 Slide size(mm)						重量 weight
	W_R	H_R	S	h	P	E	(kg/m)
SHT15A	15	15	M5 x 0.8P	8	60	20	1.48
SHT20A	20	17.5	M6 x 1P	10	60	20	2.29
SHT25A	23	22	M6 x 1P	12	60	20	3.35
SHT30A	28	26	M8 x 1.25P	15	80	20	4.67
SHT35A	34	29	M8x1.25P	17	80	20	6.51
SHT45A	45	38	M12 x 1.75P	24	105	22.5	10.87
SHT55A	53	44	M14 x 2P	24	120	30	15.67
SHT65A	63	53	M20 x 2.5P	30	150	35	21.73

SL 系列—低组装式滚珠线性滑轨

SL Series - Low Assembly Ball Linear Slides

SL 系列—低组装式滚珠线性滑轨

SL Series - Low Assembly Ball Linear Slides

SL 系列线性滑轨特点

SL series linear slide features

SL 系列使用四列钢珠承受负荷设计，使其具备高刚性、高负荷的特性，同时具备四方向等负载特色、及自动调心的功能，可吸收安装面的装配误差，得到高精度的要求；加上降低组合高度及缩短滑块长度，非常适合高速自动化产业机械及空间要求的小型设备使用。

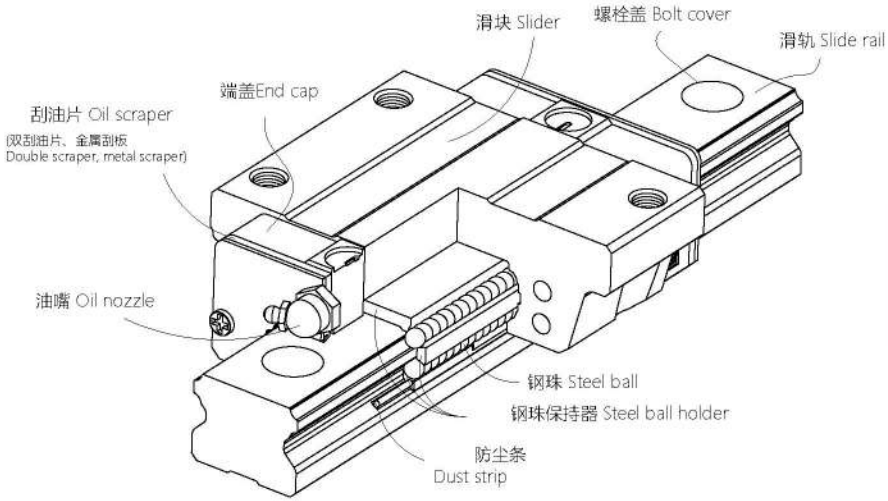
滑块上设有钢珠保持器以防止钢珠脱落，此设计不仅方便客户安装线性滑轨，当取下滑块时亦不会有钢珠脱落的情形发生，且在精度允许下具备互换性。

The SL series uses four rows of steel balls to withstand the load design, so that it has high rigidity and high load characteristics. It also has four-direction load characteristics and self-aligning function, which can absorb the assembly error of the mounting surface and obtain high precision requirements. In addition, the combination height is reduced and the length of the slider is shortened, which is very suitable for use in small equipment for high-speed automation industry machinery and space requirements.

A steel ball retainer is provided on the slider to prevent the steel ball from falling off. This design not only facilitates the installation of the linear slide rail, but also does not cause the steel ball to fall off when the slider is removed, and is interchangeable with precision.

SL 本体结构

Ontology structure



● 滚动循环系统：滑块、滑轨、端盖、钢珠、钢珠保持器。
Rolling circulation system: sliders, slide rails, end caps, steel balls, ball holders.

●润滑系统：油嘴、油管接头
Lubrication system: nozzle, tubing connector

●防尘系统：刮油片、底面尘封防尘片、滑轨螺栓盖、金属刮板
Dust-proof system: oil scraper, dust seal on the bottom, rail bolt cover, metal scraper

产品规格说明
Product Specifications

SL 系列分为非互换性及互换性型两种线性滑轨，两者规格尺寸相同，主要差异点在于互换性型之滑块、滑轨可单独互换使用，较便利，但其组合精度无法达到非互换性型之超精密级以上的精度，不过由于 SMAGIC 互换性型之组合精度目前已达到一定的水平，对不需配对安装线性滑轨的客户而言，是一项便利的选择。线性滑轨的产品规格型号主要标明线性滑轨尺寸、型式、精度等级、预压等规格要求，以利订货时双方对产品的确认。

The SL series is divided into two types of linear slides, which are non-interchangeable and interchangeable. The two specifications are the same. The main difference is that the interchangeable sliders and slide rails can be used interchangeably, which is convenient, but The combination accuracy can not reach the accuracy of the noninterchangeable ultra-precision level, but since the combination accuracy of the SMAGIC interchangeable type has reached a certain level, it is a kind of customer who does not need to pair the linear slide rails. Convenient choice. The product specifications of the linear slides mainly indicate the linear slide size, type, accuracy grade, preload and other specifications, so that both parties can confirm the product when ordering.

(1) 非互换性线性滑轨产品型号

Non-interchangeable linear slide product model



注：

1. 单轴滑轨数若只使用一支滑轨则不写，两支标记为 II， 三支标记为 III，以此类推。

2. 防尘配备中无记号为防尘标准配备刮油片加防尘片。
ZH 为刮油片加防尘片加金属刮板。
KH 为双刮油片加防尘片加金属刮板。
DH 为双刮油片加防尘片。

note：

1.If the number of single-axis slides is only one slide, the two marks are II, the three marks are III, and so on.

2.There is no marking in the dustproof equipment. The dustproof standard is equipped with a scraper and a dustproof piece.

ZH is a scraper blade with a dustproof sheet and a metal scraper.

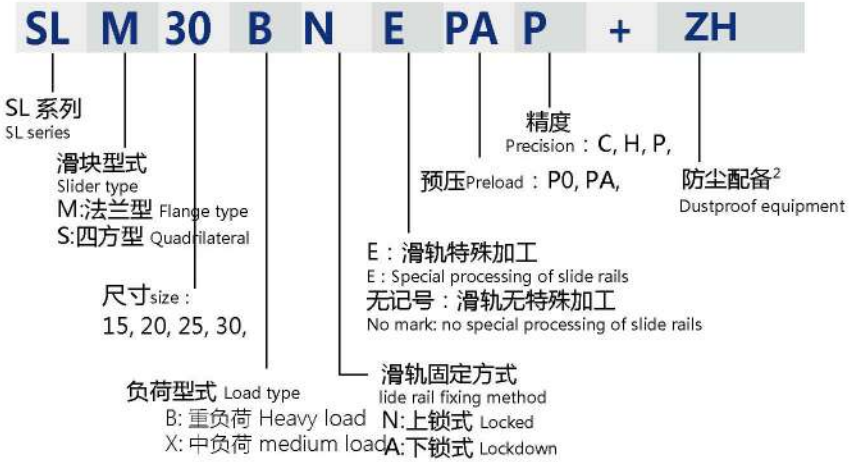
KH is a double scraper with dust and metal scraper.

DH is double scraper and dustproof sheet.

(2) 互换性线性滑轨产品型号

Interchangeable linear slide product model

● 互换型滑块产品型 Interchangeable slider product type



● 互换型滑轨产品型号 Interchangeable slide product model



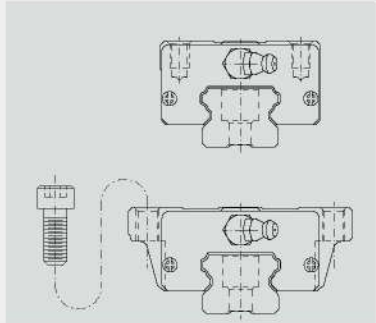
SL 系列型式

SL series type

(1) 滑块型式 Slider type

SMAGIC 提供法兰型及四方型两种线性滑轨。
SMAGIC offers two linear slides, flanged and square.

表格 2-2-1 滑块型式 Slider type

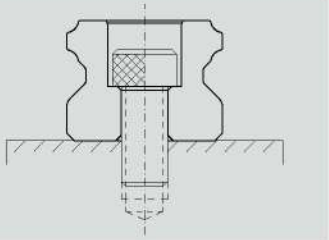
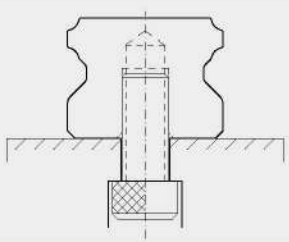
型式 Type	规格 specification	形状 shape	高度尺寸 Height dimension (mm)	滑轨长度 Slide length (mm)	应用设备 Application equipment
四方型 Quadrilateral	SLS-X SLS-B		24 ↓ 42	100 ↓ 4000	○自动化装置 Automation device ○高速运输设备 High speed transportation equipment ○精密量测仪器 Precision measuring instrument ○半导体设备 Semiconductor equipment ○木工机械 Woodworking machinery
法兰型 Flange type	SLM-X SLM-B		24 ↓ 42	100 ↓ 4000	

(2) 滑轨型式 Slide type

除了一般上锁式螺栓孔滑轨外，SMAGIC 亦提供下锁式螺丝孔滑轨，方便客户安装使用。

In addition to the general locking bolt hole slides, SMAGIC also provides a lock-type screw hole slide rail for easy installation and use.

表格 2-2-2

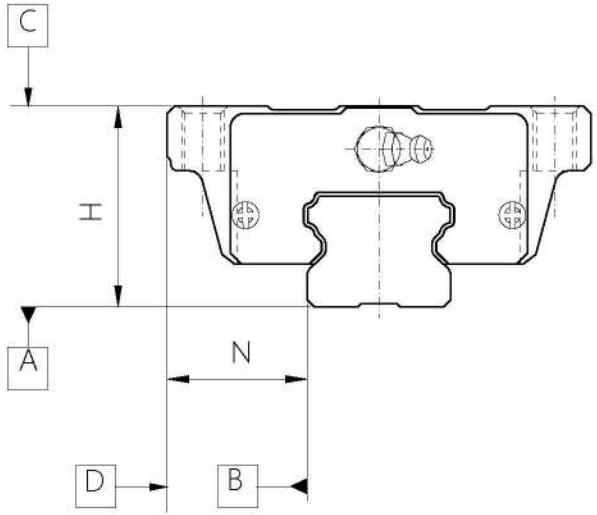
上锁式螺栓孔 Locking bolt hole	下锁式螺丝孔 Locking screw hole
	

精度等级

Accuracy level

SL 系列线性滑轨的精度，分为普通、高、精密、超精密、超高精密级共五级，客户可依设备精度需求选用精度。

The accuracy of SL series linear slides is divided into five levels: ordinary, high, precision, ultra-precision and ultra-high precision. Customers can select the precision according to the precision requirements of the equipment.



SL 系列

(1) 非互换性线性滑轨精度

Non-interchangeable linear slide accuracy

表格 2-2-3 组合件精度表 Assembly accuracy table　　单位 unit；mm

型号 Model	SL-15,20				
精度等级 Precision Level	普通级 (C)	高级 (H)	精密级 (P)	超精密级 (SP)	超高精密级 (UP)
高度 H 的容许尺寸误差 Allowable size error for height H	±0.1	±0.03	0 - 0.03	0 - 0.015	0 - 0.008
宽度 N 的容许尺寸误差 Allowable size error of width N	±0.1	±0.03	0 - 0.03	0 - 0.015	0 - 0.008
成对高度 H 的相互误差 Mutual error of Pair Height H	0.02	0.01	0.006	0.004	0.003
成对宽度 N 的相互误差 Mutual error of paired width N	0.02	0.01	0.006	0.004	0.003
滑块 C 面对滑轨 A 面的行走平行度 Walk parallelism of slider C on the A side of slider	行走平行度（见表格 2-2-7) Walking parallelism(see Table2-2-7)				
滑块 D 面对滑轨 B 面的行走平行度 Walk parallelism of slider D on the B side of slider	行走平行度（见表格 2-2-7) Walking parallelism(see Table2-2-7)				

表格 2-2-4 组合件精度表 Assembly accuracy table　　单位 unit；mm

型号 Model	SL-25,30				
精度等级 Precision Level	普通级 (C)	高级 (H)	精密级 (P)	超精密级 (SP)	超高精密级 (UP)
高度 H 的容许尺寸误差 Allowable size error for height H	± 0.1	± 0.04	0 - 0.04	0 - 0.02	0 - 0.01
宽度 N 的容许尺寸误差 Allowable size error of width N	± 0.1	± 0.04	0 - 0.04	0 - 0.02	0 - 0.01
成对高度 H 的相互误差 Mutual error of Pair Height H	0.02	0.015	0.007	0.005	0.003
成对宽度 N 的相互误差 Mutual error of paired width N	0.03	0.015	0.007	0.005	0.003
滑块 C 面对滑轨 A 面的行走平行度 Walk parallelism of slider C on the A side of slider	行走平行度（见表格 2-2-7) Walking parallelism(see Table2-2-7)				
滑块 D 面对滑轨 B 面的行走平行度 Walk parallelism of slider D on the B side of slider	行走平行度（见表格 2-2-7) Walking parallelism(see Table2-2-7)				

(2) 互换性线性滑轨精度

Interchangeable linear sliding track accuracy

表格 2-2-5 单出件精度表 Single output accuracy table　　单位 unit；mm

型号 Model	SL-15,20		
精度等级 Precision Level	普通级 (C)	高级 (H)	精密级 (P)
高度 H 的容许尺寸误差 Allowable size error for height H	± 0.1	± 0.03	± 0.015
宽度 N 的容许尺寸误差 Allowable size error of width N	± 0.1	± 0.03	± 0.015
成对高度 H 的相互误差 Mutual error of Pair Height H	0.02	0.01	0.006
成对宽度 N 的相互误差 Mutual error of paired width N	0.02	0.01	0.006
滑块 C 面对滑轨 A 面的行走平行度 Walk parallelism of slider C on the A side of slider	行走平行度（见表格 2-2-7) Walking parallelism(see Table 2-2-7)		
滑块 D 面对滑轨 B 面的行走平行度 Walk parallelism of slider D on the B side of slider	行走平行度（见表格 2-2-7) Walking parallelism(see Table 2-2-7)		

表格 2-2-6 单出件精度表 Single output accuracy table　　单位 unit；mm

型号 Model	SL-25,30,		
精度等级 Precision Level	普通级 (C)	高级 (H)	精密级 (P)
高度 H 的容许尺寸误差 Allowable size error for height H	± 0.1	± 0.04	± 0.02
宽度 N 的容许尺寸误差 Allowable size error of width N	± 0.1	± 0.04	± 0.02
成对高度 H 的相互误差 Mutual error of Pair Height H	0.02	0.015	0.007
成对宽度 N 的相互误差 Mutual error of paired width N	0.03	0.015	0.007
滑块 C 面对滑轨 A 面的行走平行度 Walk parallelism of slider C on the A side of slider	行走平行度（见表格 2-2-7) Walking parallelism(see Table 2-2-7)		
滑块 D 面对滑轨 B 面的行走平行度 Walk parallelism of slider D on the B side of slider	行走平行度（见表格 2-2-7) Walking parallelism(see Table 2-2-7)		

(3) 行走平行度精度 Walking parallelism accuracy

表格 2-2-7 行走平行度精度 Walking parallelism accuracy

滑轨长度Slide length (mm)	精度等级Accuracy level (μm) C	H	P	SP	UP
~ 100	12	7	3	2	2
100 ~ 200	14	9	4	2	2
200 ~ 300	15	10	5	3	2
300 ~ 500	17	12	6	3	2
500 ~ 700	20	13	7	4	2
700 ~ 900	22	15	8	5	3
900 ~ 1,100	24	16	9	6	3
1,100 ~ 1,500	26	18	11	7	4
1,500 ~ 1,900	28	20	13	8	4
1,900 ~ 2,500	31	22	15	10	5
2,500 ~ 3,100	33	25	18	11	6
3,100 ~ 3,600	36	27	20	14	7
3,600 ~ 4,000	37	28	21	15	7

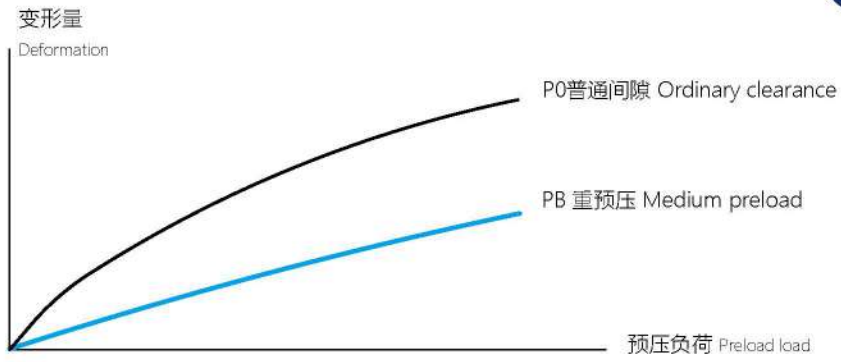
预压力

Pre-stress

(1) 预压力定义 Pre-stress definition

预压力是预先给与钢珠负荷力，亦即加大钢珠直径，利用钢珠与珠道之间负向间隙给与预压，此举能提高线性滑轨的刚性及消除间隙；以下图来解释，提高预压力可增加线性滑轨刚性。但小规格建议选用轻预压以下预压，以避免因预压选用过重降低其使用寿命。

The pre-pressure is to pre-apply the load force of the steel ball, that is, increase the diameter of the steel ball, and use the negative gap between the steel ball and the bead to pre-press, which can improve the rigidity of the linear slide and eliminate the gap; the following figure explains Increasing the preload increases the rigidity of the linear slide. However, the small size is recommended to use the preload under the light preload to avoid the excessive use of preload to reduce its service life.



SL 系列

(2) 预压等级 Preload rating

SL 系列线性滑轨提供三种标准预压，可依据用途选择适当预压力。

The SL Series linear slides are available in three standard preloads to select the appropriate preload depending on the application.

表格 2-2-8 预压等级 Preload rating

预压等级 Preload rating	标记 Mark	预压力 Pre-stress	使用条件 Conditions of Use
普通间隙 Ordinary clearance	P0	0~ 0.02C	负荷方向固定且冲击小，精度要求低 Fixed load direction with low impact and low precision
轻预压 Light preload	PA	0.03~0.05C	轻负荷且要求高精度 Light load and high precision
中预压 preload preload	PB	0.06C~ 0.08C	刚性要求，且有振动，冲击的使用环境 Rigid requirements, vibration and impact environment

等级 Grade	互换性线轨 (单出件) Interchangeable line rail (single piece)	非互换性线轨 (组合件) Non-interchangeable line rail (assembly)
预压等级 Preload rating	P0,PA	P0, PA, PB

注：预压力中 C 为动额定负荷

Note: C is the dynamic rated load in the pre-pressure

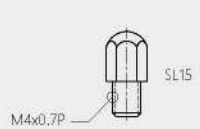
SL 系列

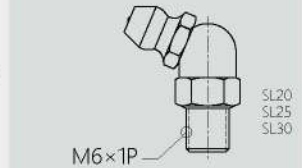
润滑方式

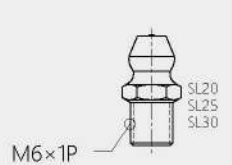
Lubrication method

(1) 润滑油脂 Lubricating grease

● 油嘴型式 Nozzle type





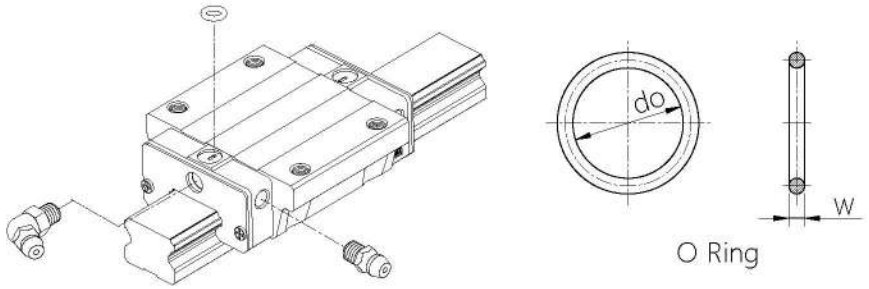


SL 系列

●油嘴位置 Nozzle position

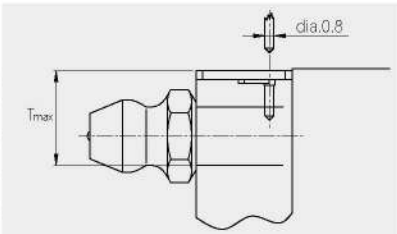
依客户需要在滑块前端或后端装上油嘴以供手动打油，SL 系列特别在端盖侧边预留侧油孔位置安装油嘴（一般 为直油嘴），提供侧向打油，侧向打油的位置建议在非侧基准边，但若有特殊需要亦可放在侧基准边。客户如 有上述侧向打油需求请与我们联络。SL 系列在端盖顶端亦预留上油孔位置，客户若欲从端盖上方供油，须使 用直径 0.8mm 的金属针以预热的方式，在指定位置将上油孔穿通，再将密封环安装于凹处即可，避免使用钻 头穿通上油孔，碎屑有污染油道的危险。使用接管方式自动供润滑油脂之线性滑轨，则可依连接管型式选用安装油管接头。

According to the customer's needs, the front end or the rear end of the slider is equipped with a grease nipple for manual oiling. The SL series is specially equipped with a grease nipple (usually a straight grease nipple) at the side of the end cover to provide a side oiling and lateral oiling. The position is recommended on the non-side reference edge, but it can be placed on the side reference edge if you have special needs. If you have any of the above mentioned side oil demand, please contact us. The SL series also reserves the position of the oil hole at the top of the end cover. If the customer wants to supply oil from the top of the end cover, the metal needle with a diameter of 0.8mm should be used to preheat the oil hole through the specified position, and then the seal will be sealed. The ring can be installed in the recess, avoiding the use of the drill bit to penetrate the oil hole, and the debris has the risk of polluting the oil passage. If the linear slide rail of the grease is automatically supplied by the take-up method, the oil pipe joint can be selected according to the connection pipe type.



表格 2-2-9 O-Ring 规格与穿孔最大容许深度
O-Ring specifications and perforation maximum allowable depth

规格 specification	O-Ring规格 O-Ringspecification do	W	穿孔最大容许深度 T_{max} Perforation maximum allowable depth
	(mm)	(mm)	(mm)
SL 15	2.5 ± 0.15	1.5 ± 0.15	6.9
SL 20	4.5 ± 0.15	1.5 ± 0.15	8.4
SL 25	4.5 ± 0.15	1.5 ± 0.15	10.4
SL 30	4.5 ± 0.15	1.5 ± 0.15	10.4



●单个滑块填满润滑油脂油量 A single slider fills the amount of grease

表格 2-2-10 单个滑块填满润滑油脂油量
A single slider fills the amount of grease

规格 specification	中负荷 Medium load (cm³)	重负荷 Heavy load (cm³)	规格 specification	中负荷 Medium load (cm³)	重负荷 Heavy load (cm³)
SL 15	0.8	1.4	SL 25	2.8	4.6
SL 20	1.5	2.4	SL 30	3.7	6.3

●润滑频率 Lubrication frequency

每运行 100km，或每 3-6 个月确认一次油脂。

Grease is confirmed every 100km, or every 3-6 months.

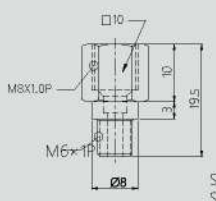
(2) 润滑油 Lubricating oil

建议使用油黏滞度约为 30~150cSt 的润滑油润滑线性滑轨，客户可先跟我们说明需要使用油润滑，出货的线性滑轨将不会封入润滑油脂。

It is recommended to lubricate the linear slide with a lubricant with an oil viscosity of about 30~150cSt. Customers can first explain to us that oil lubrication is required, and the linear slides will not be sealed with grease.

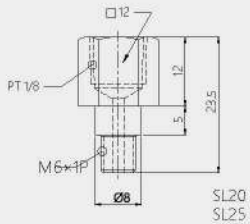
●油管接头型式 Tubing connector type

SF-76



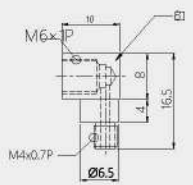
SL20
SL25
SL30

SF-86



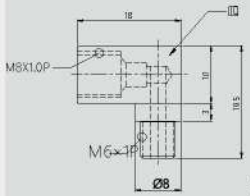
SL20
SL25
SL30

LF-64



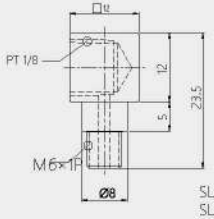
SL15

LF-76



SL20
SL25
SL30

LF-86



SL20
SL25
SL30

●供油速率 Fuel supply rate

供油速率 Fuel supply rate

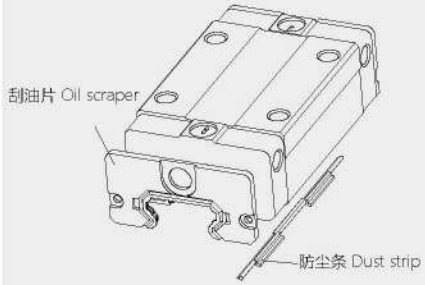
规格 Specification	供油速率 Fuel supply rate (cm³/hr)	规格 Specification	供油速率 Fuel supply rate (cm³/hr)
SL 15	0.1	SL 25	0.167
SL 20	0.133	SL 30	0.2

防尘配备

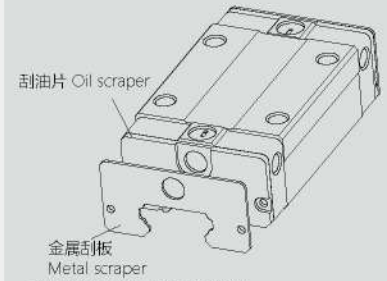
Dustproof equipment

(1) 防尘配备代码 Dust-proof code

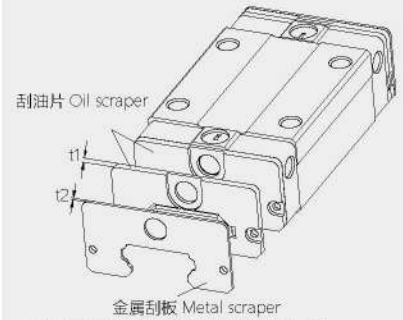
若有下列防尘配备需求时，请于产品型号后面加注代码
If you have the following dustproof requirements, please add the code after the product model.



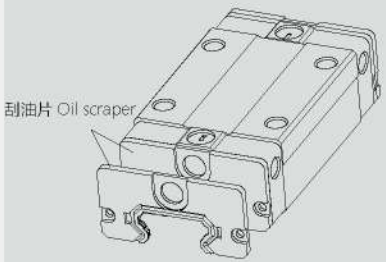
无记号为标准防尘配备(刮油片+防尘条)SH
No mark is standard dustproof (scraping piece + dustproof piece) SH



ZH(刮油片+金属刮板+防尘条)
ZH (scraping blade + metal scraper + dust strip)



KH (双刮油片+金属刮板+防尘条)
KH (double scraper + metal scraper + dustproof)



DH (双刮油片+防尘条)
DH (double scraper + dustproof)

(2) 刮油片及底面尘封防尘片 scraper and bottom dust seal

阻止加工铁屑或尘粒进入滑块里面，破坏珠道表面而降低线性滑轨寿命。

Prevents the processing of iron filings or dust particles from entering the slider, destroying the bead surface and reducing the linear slide life.

(3) 双层刮油片 Double-layer scraper

加倍刮屑效果，即使在重切削加工环境中，异物完全被排除于滑块外。

Double the scraping effect, even in the heavy cutting environment, the foreign matter is completely excluded from the slider

表格 2-2-11 刮油片厚度 Oil scraper thickness

规 格 Specification	厚度 Thickness (t1) (mm)	规 格 Specification	厚度 Thickness (t1) (mm)
SL 15	2	SL 25	2
SL 20	2	SL 30	2

(4) 金属刮板 Metal scraper

可隔离高温铁屑或加工火花，并排除大体积杂质。

It can isolate high temperature iron filings or machining sparks and eliminate large volume impurities.

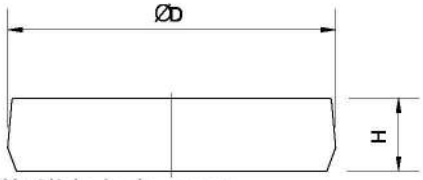
表格 2-2-12 金属刮板厚度 Metal scraper thickness

规 格Specification	厚度Thickness (t2) (mm)	规 格Specification	厚度 Thickness (t2) (mm)
SL 15	0.8	SL 25	0.8
SL 20	0.8	SL 30	0.8

(5) 螺栓盖 Bolt cover

为防止切削粉末或异物经由螺栓孔侵入滑块内部影响精度，客户必须在安装滑轨时将螺栓盖打入螺栓孔内，每支滑轨出厂时皆配有螺栓盖。

In order to prevent the cutting powder or foreign matter from invading the inside of the slider through the bolt hole, the customer must insert the bolt cover into the bolt hole when installing the slide rail. Each slide rail is equipped with a bolt cover when it is shipped.



表格 2-2-13 滑轨螺栓盖 Slide bolt cover

滑轨规格 Slide specification	安装螺丝 Mounting screws	直径 (D) diameter (mm)	厚度(H) thickness (mm)	滑轨规格 Slide specification	安装螺丝 Mounting screws	直径 (D) diameter (mm)	厚度(H) thickness (mm)
SLT15N	M3	6.15	1.2	SLT30N	M6	11.2	2.5
SLT20N	M5	9.65	2.2	SLT15K	M4	7.65	1.1
SLT25N	M6	11.2	2.5	SLT30K	M8	14.25	3.3

(6) 防尘代码之滑块总长度 Total length of the dustproof code slider

滑块总长度 Total length of the slider

单位 unit；mm

规格 specification	滑块总长度 (L) 标准 SH	ZH	DH	KH
SL15X	40.1	41.7	44.1	45.7
SL15B	56.8	58.4	60.8	62.4
SL20X	50	51.6	54	55.6
SL20B	69.1	70.7	73.1	74.7
SL25X	59.1	61.1	63.1	65.1
SL25B	82.6	84.6	86.6	88.6
SL30X	69.5	71.5	73.5	75.5
SL30B	98.1	100.1	102.1	104.1

摩擦力
Friction

此阻力值为单片刮油片的最大阻力。

This resistance is the maximum resistance of a single piece of oil scraper.

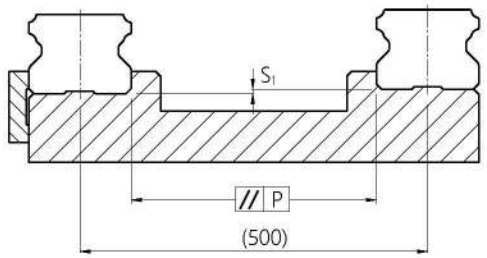
表格 2-2-15 SL 系列刮油片阻力 SL series scraper resistance

规格 specification	刮油片阻力 (kgf) Oil scraper resistance	规格 specification	刮油片阻力 (kgf) Oil scraper resistance
SL15	0.98	SL25	0.98
SL20	0.98	SL30	1.47

安装平面误差
Mounting plane error

SL 系列为圆弧两点接触式线性滑轨，其自动调心的特性可以吸收安装面的些许误差而不影响直线运动的顺畅 性；下表中注明了安装平面的容许误差值：

The SL series is a circular two-point contact linear slide. Its self-aligning characteristics can absorb some errors of the mounting surface without affecting the smoothness of the linear motion. The tolerance values of the mounting plane are indicated in the following table:



表格 2-2-15 容许平行度误差 (P)Allowable parallelism error (P)　　单位 unit：μm

规格 specification	预压等级Preload rating		
	P0	PA	PB
SL15	25	18	-
SL20	25	20	18
SL25	30	22	20
SL30	40	30	27

表格 2-2-16 容许上下水平度误差 (S1)　　单位 unit：μm
Allow upper and lower horizontal error (S1)

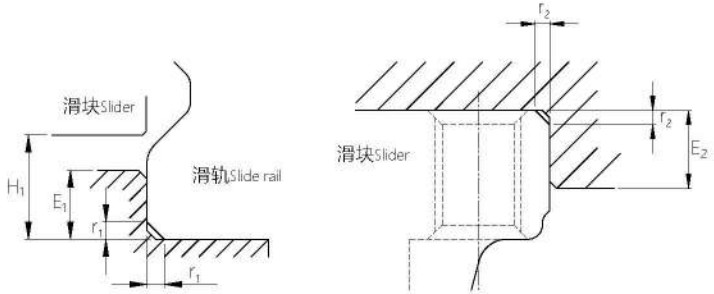
规格 specification	预压等级Preload rating		
	P0	PA	PB
SL15	130	85	-
SL20	130	85	50
SL25	130	85	70
SL30	170	110	90

安装注意事项
Installation Precautions

(1) 安装面肩部高度及倒角
Mounting surface shoulder height and chamfer

安装线性滑轨时必须注意安装面肩部的状况是否适当，如倒角过大，凸出的地方易造成线性滑轨精度不良，而高度过高则会干涉滑块。故如果能依照建议要求安装面肩部，安装精度不良即可排除。

When installing the linear slide rails, it is necessary to pay attention to the proper condition of the shoulder of the mounting surface. If the chamfer is too large, the protruding position may cause the linear slide rail to be inaccurate, and the height is too high to interfere with the slider. Therefore, if the shoulder can be installed according to the recommended requirements, the installation accuracy can be eliminated.



表格 2-2-17 肩部高度及倒角 Shoulder height and chamfer　　单位 unit；mm

规格 specification	最大圆角半径 Maximum corner radius of the rail end	滑块端 最大圆角半径 Maximum corner radius of the slider end	滑轨端 肩部高度 Rail shoulder height	滑块端 肩部高度 Slider shoulder height	运行净高 The running height of the slider
	r_1 (mm)	r_2 (mm)	E_1 (mm)	E_2 (mm)	H_1 (mm)
SL15	0.5	0.5	2.7	5.0	4.5
SL20	0.5	0.5	5.0	7.0	6.0
SL25	1.0	1.0	5.0	7.5	7.0
SL30	1.0	1.0	7.0	7.0	10.0

(2) 滑轨装配螺丝的扭力值 Torque value of the rail assembly screw

安装滑轨时是否锁紧贴平基准面影响线性滑轨精度严重，因此为达到每颗螺丝都能锁紧的目的，建议使用下列扭力值锁装配螺丝。

Whether the locking flat reference surface is installed when the slide rail is installed affects the accuracy of the linear slide rail. Therefore, in order to achieve the purpose of locking each screw, it is recommended to use the following torque value lock assembly screws.

表格 2-2-18 扭力值 Torque value

规格 specification	螺丝规格 Screw specification	扭力值 Torque value N-cm (kgf-cm)	规格 specification	螺丝规格 Screw specification	扭力值 Torque value N-cm (kgf-cm)
SL 15	M3 x 0.5P x 16L	186(19)	SL 25	M6 x 1P x 20L	1,373(140)
SL 20	M5 x 0.8P x 16L	883(90)	SL 30	M6 x 1P x 25L	1,373(140)

注 note: 1 kgf = 9.81 N

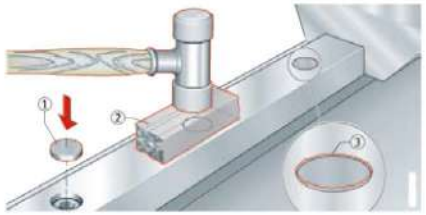
(3) 安装方式
Installation method

在安装前，导轨必须已用尺寸表中的紧固力矩 MA 固定。
不要让滑块滑过还没有填塞起来的沉头孔。如果滑块移动，
要保证密封唇得到有效的保护。
根据环境和运行条件，沉头孔使用塑料或者铜填塞片。
使用安装
敲击填塞片，图 6：

- 将填塞片①放入沉头孔内。
- 将一平整的铁块 放在填塞片上。
- 垂直敲击铁块。
- 去除填塞片上被切下来的毛边③。

Before installation, the rails must have been fixed with the tightening torque MA in the dimension table.
Do not let the slider slide over the counterbore that has not been filled. If the slider moves,
Make sure the sealing lip is effectively protected.
The counterbore is filled with plastic or copper depending on the environment and operating conditions. Use installation
Tap the tamper, Figure 6:

- Place the tampon 1 into the counterbore.
- Place a flat piece of iron on the tampon.
- Hit the iron block vertically.
- Remove the cut edges 3 on the tamping sheet.



①填塞片 stuffing piece
②铁块 iron blocks
③毛边 raw edges

图 6 Figure 6 敲入填塞片 Knock in the tampon

不要用油石①去磨塑料填塞片或者相似方法，图 13。
Do not use oil stone ① to grind plastic tampon or similar methods, Figure 13.

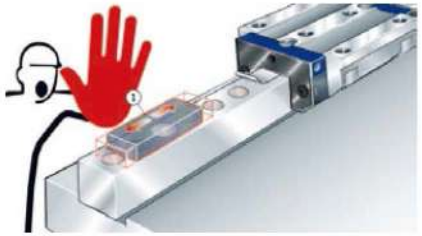


图 13 不要使用油石 Figure 13 Do not use oil stone

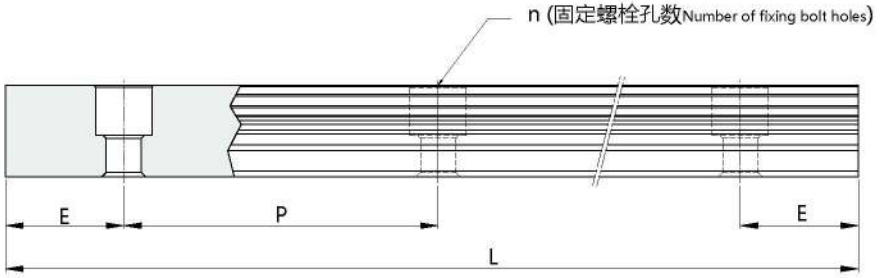
①油石 Oil stone

单支滑轨标准长度及最大长度

Standard length and maximum length of single slide rails

SMAGIC 备有滑轨标准长度库存供应客户需求。若客户订购非标准长度滑轨时，端面距离 E 的尺寸最好不要大于 1/2P，防止因 E 的尺寸过大导致滑轨装配后端部的不稳定，而降低线性滑轨的精度。

SMAGIC is equipped with standard length stocks of slides to supply customer needs. If the customer orders a non-standard length slide rail, the dimension of the end face distance E is preferably not more than 1/2P, which prevents the instability of the rear end portion of the rail assembly due to the excessive size of the E, and reduces the accuracy of the linear slide rail.



$$L = (n-1) \times P + 2 \times E \quad \text{Eq.2.2}$$

L : 滑轨总长 Total length of rails (mm)

n : 螺栓孔数 Number of bolt holes

P : 螺栓孔间距离 Distance between bolt holes (mm)

E : 螺栓孔至端面距离 Bolt hole to end distance (mm)

表格 2-2-19 轨道长度 Track length

单位 unit：mm

项目	SLT15	SLT20	SLT25	SLT30
标准长度L(n) Standard length	160(3)	220(4)	220(4)	280(4)
	220(4)	280(5)	280(5)	440(6)
	280(5)	340(6)	340(6)	600(8)
	340(6)	460(8)	460(8)	760(10)
	460(8)	640(11)	640(11)	1,000(13)
	640(11)	820(14)	820(14)	1,640(21)
	820(14)	1,000(17)	1,000(17)	2,040(26)
		1,240(21)	1,240(21)	2,520(32)
		1,600(27)	1,600(27)	3,000(38)
间距(P) spacing	60	60	60	80
标准端距 (E_0) Standard terminal distance	20	20	20	20
标准端距最大长度 Standard terminal length	1960(33)	4,000(67)	4,000(67)	3,960(50)
最大长度 The maximum length	2000	4,000	4,000	4,000

注：

1. 一般滑轨 E 尺寸公差为 0.5 ~ -0.5 mm，滑轨接牙件端距 E 尺寸公差较严格为 0 ~ -0.3 mm。
2. 标准端距最大长度是指左、右端距皆为标准端距的滑轨最大长度。
3. 若客户需要不同的 E 尺寸，请与 SMAGIC 联络。

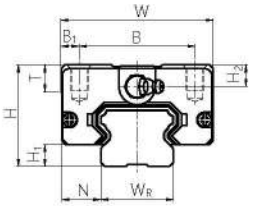
Note:

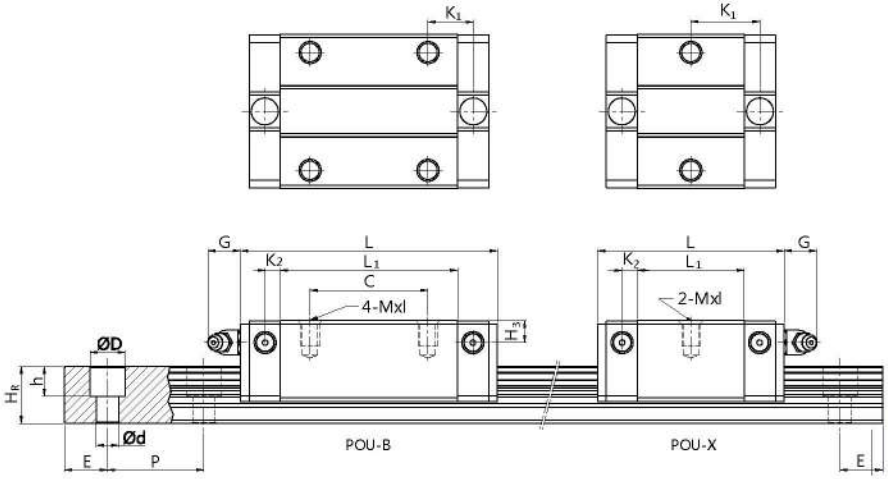
1. The general rail E dimension tolerance is 0.5~-0.5 mm, and the rail joint end distance E dimension tolerance is strictly 0~-0.3 mm.
2. The maximum length of the standard end distance means that the left and right end distances are the maximum length of the standard end distance.
3. If the customer needs a different E size, please contact SMAGIC.

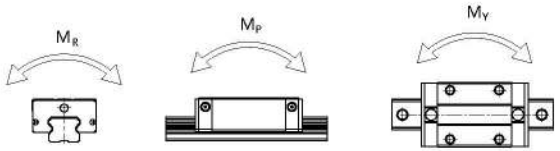
SL 系列线性滑轨尺寸表

SL series linear slide size table

(1) SLS-X / SLS-B





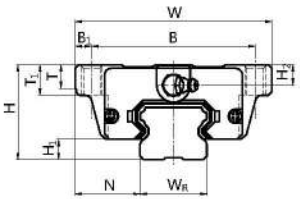


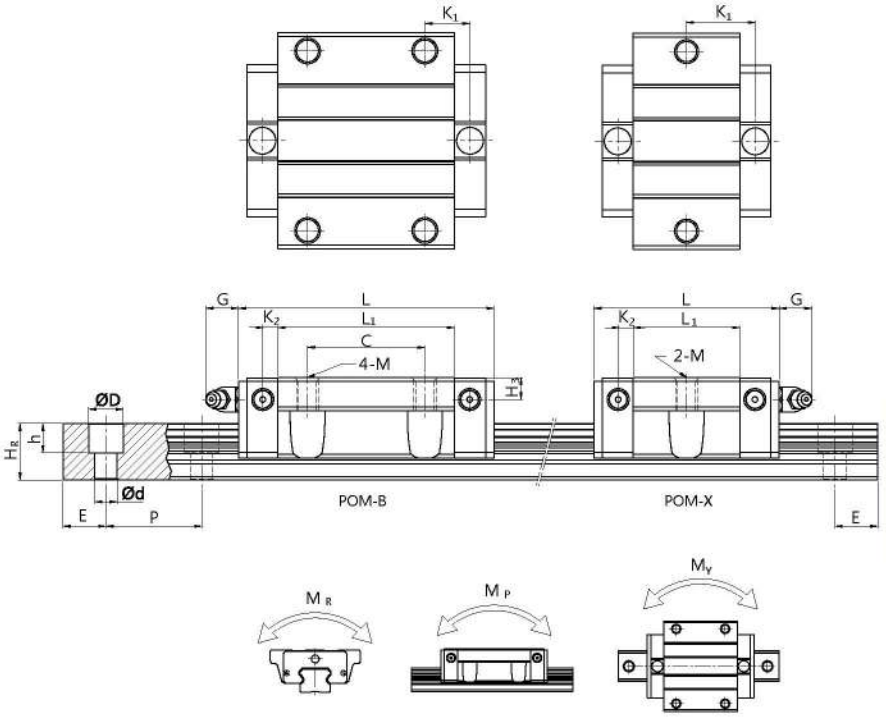
型号 Model	组件尺寸 (mm)			滑块尺寸 Slider size(mm)													滑轨尺寸 Slie size (mm)							滑轨的固定螺栓尺寸	基本动额定负荷	基本静额定负荷	容许静力矩			重量	
	H	H_1	N	W	B	B_1	C	L_1	L	K_1	K_2	G	MxI	T	H_2	H_3	W_R	H_R	D	h	d	P	E	(mm)	C(kN)	Co (kN)	MR kN-m	MP kN-m	MY kN-m	滑块 kg	滑轨 kg/m
SLS15X	24	4.5	9.5	34	26	4	-	23.1	40.1	14.8	3.5	5.7	M4x6	6	5.5	6	15	12.5	6	4.5	3.5	60	20	M3x16	5.35	9.40	0.08	0.04	0.04	0.09	1.25
SLS15B							26	39.8	56.8	10.15															7.83	16.19	0.13	0.10	0.10	0.15	
SLS20X	28	6	11	42	32	5	-	29	50	18.75	4.15	12	M5x7	7.5	6	6	20	15.5	9.5	8.5	6	60	20	M5x16	7.23	12.74	0.13	0.06	0.06	0.15	2.08
SLS20B							32	48.1	69.1	12.3															10.31	21.13	0.22	0.16	0.16	0.24	
SLS25X	33	7	12.5	48	35	6.5	-	35.5	59.1	21.9	4.55	12	M6x9	8	8	8	23	18	11	9	7	60	20	M6x20	11.40	19.50	0.23	0.12	0.12	0.25	2.67
SLS25B							35	59	82.6	16.15															16.27	32.40	0.38	0.32	0.32	0.41	
SLS30X	42	10	16	60	40	10	-	41.5	69.5	26.75	6	12	M8x12	9	8	9	28	23	11	9	7	80	20	M6x25	16.42	28.10	0.40	0.21	0.21	0.45	4.35
SLS30B							40	70.1	98.1	21.05															23.50	47.46	0.68	0.55	0.55	0.76	

注 Note : 1 kgf = 9.81 N

SL 系列

(2) SLM-X / SLM-B



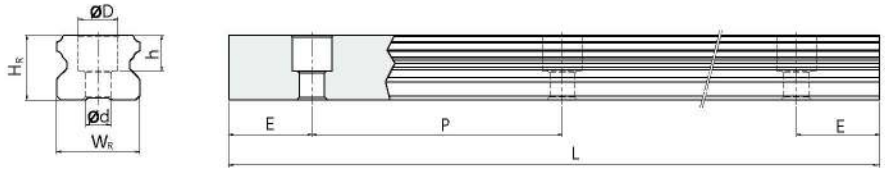


型号 Model	组件尺寸 (mm)			滑块尺寸 Slider size(mm)														滑轨尺寸 Slie size (mm)							滑轨的固定螺栓尺寸	基本动额定负荷	基本静额定负荷	容许静力矩			重量	
	H	H_1	N	W	B	B_1	C	L_1	L	K_1	K_2	G	M	T	T_1	H_2	H_3	W_R	H_R	D	h	d	P	E	(mm)	C(kN)	Co (kN)	MR kN-m	MP kN-m	MY kN-m	滑块 kg	滑轨 kg/m
SLM15X	24	4.5	18.5	52	41	5.5	-	23.1	40.1	14.8	3.5	5.7	M5	5	7	5.5	6	15	12.5	6	4.5	3.5	60	20	M3x16	5.35	9.40	0.08	0.04	0.04	0.12	1.25
SLM15B							26	39.8	56.8	10.15																7.83	16.19	0.13	0.10	0.10	0.21	
SLM 20X	28	6	19.5	59	49	5	-	29	50	18.75	4.15	12	M6	7	9	6	6	20	15.5	9.5	8.5	6	60	20	M5x16	7.23	12.74	0.13	0.06	0.06	0.19	2.08
SLM20B							32	48.1	69.1	12.3																10.31	21.13	0.22	0.16	0.16	0.32	
SLM25X	33	7	25	73	60	6.5	-	35.5	59.1	21.9	4.55	12	M8	7.5	10	8	8	23	18	11	9	7	60	20	M6x20	11.40	19.50	0.23	0.12	0.12	0.35	2.67
SLM25B							35	59	82.6	16.15																16.27	32.40	0.38	0.32	0.32	0.59	
SLM 30X	42	10	31	90	72	9	-	41.5	69.5	26.75	6	12	M10	7	10	8	9	28	23	11	9	7	80	20	M6x25	16.42	28.10	0.40	0.21	0.21	0.62	4.35
SLM30B							40	70.1	98.1	21.05																23.7	47.46	0.68	0.55	0.55	1.04	

注 Note : 1 kgf = 9.81 N

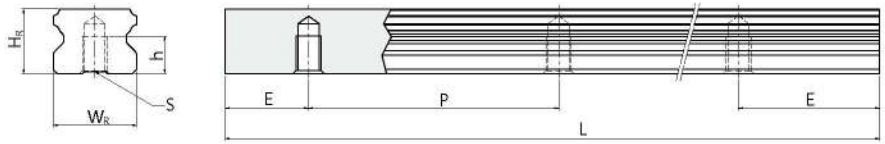
(3) 上锁式（加大螺栓孔径）滑轨尺寸表

Locking type (increase bolt hole) Slide rail size table



型号 Model	滑轨固定螺栓尺寸 (mm)	滑轨尺寸 Slide size(mm)							重量
		W_R	H_R	D	h	d	P	E	(kg/m)
SLT15K	M4x16	15	12.5	7.5	5.3	4.5	60	20	1.23
SLT30K	M8x25	28	23	14	12	9	80	20	4.23

(4) 下锁式滑轨尺寸表 Locking slide size table



型号 Model	滑轨尺寸 Slide size(mm)						重量
	W_R	H_R	S	h	P	E	(kg/m)
SLT15A	15	12.5	M5 x 0.8P	7	60	20	1.26
SLT20A	20	15.5	M6 x 1P	9	60	20	2.15
SLT25A	23	18	M6 x 1P	10	60	20	2.79
SLT30A	28	23	M8 x 1.25P	14	80	20	4.42

SG 系列—滚柱式线性滑轨

SG Series-Roller Linear Slides

SG 系列—滚柱式线性滑轨
SG Series-Roller Linear Slides

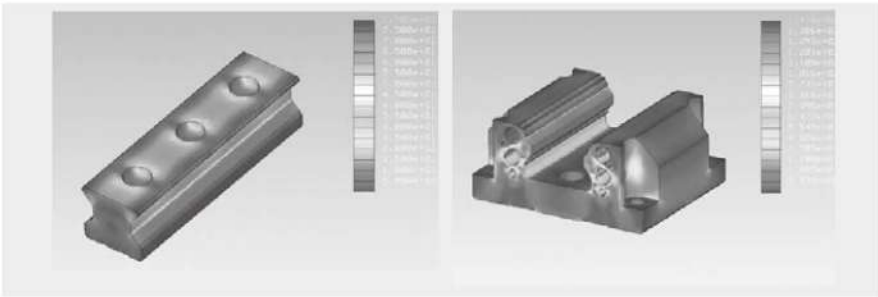
SG 系列线性滑轨以滚柱型滚动体取代了钢珠，为实现超高刚性与超重负荷能力而设计；透过滚动体与滑轨 与滑块的线接触方式，让滚动体在承受高负荷时仅仅形成微量的弹性变形，更藉由 45 度的接触角度的设计， 让整体线性滑轨达到四方向等高刚性、等高负荷能力的特性表现。透过超高刚性的实现，可大幅提升加工精度，达到高精度的要求；由于超重负荷的特性，进而延长线性滑轨的使用寿命。非常适合高速自动化产业机械及高刚性需求的设备使用。

The SG series linear slides replace the steel balls with roller-type rolling elements, designed for ultra-high rigidity and heavy-duty load. The rolling elements are in line contact with the slide rails and the sliders, so that the rolling elements are subjected to high loads. Only a small amount of elastic deformation is formed, and the design of the contact angle of 45 degrees allows the overall linear slide rail to achieve the characteristics of four-direction equal rigidity and high load capacity. Through the realization of ultra-high rigidity, the machining accuracy can be greatly improved and the requirements of high precision can be achieved; and the service life of the linear slide rail can be prolonged due to the characteristics of the super heavy load. Ideal for high speed automation industrial machinery and equipment with high rigidity requirements.

(1) 优化设计 Optimized design

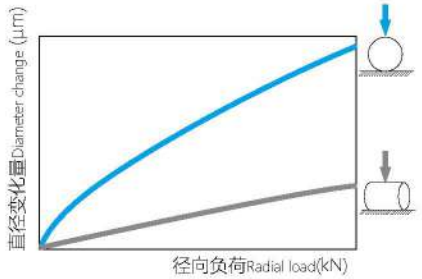
SG系列线性滑轨的回流模块已取得多国专利，确保滚柱型滚动体可顺畅地进行无限循环滚动。并利用先进有限元素法进行结构应力分析，求出滑块与滑轨结构的优化设计。

The reflow module of the SG series linear slides has been patented in many countries, ensuring that the roller-type rolling elements can smoothly roll infinitely. The structural stress analysis is carried out by using the advanced and finite element method to obtain the optimal design of the slider and slide structure.



(2) 四方向皆具有超高刚性
Ultra-high rigidity in all four directions

SG系列线性滑轨以滚柱型滚动体取代了滚珠，藉由滚柱与滑轨与滑块的线接触方式，滚柱在承受高负载时仅仅形成微量的弹性变形，不仅可大幅提升线性滑轨的刚性值，更能维持高精度的加工。右图为等体积的滚珠与滚柱的刚性表现。

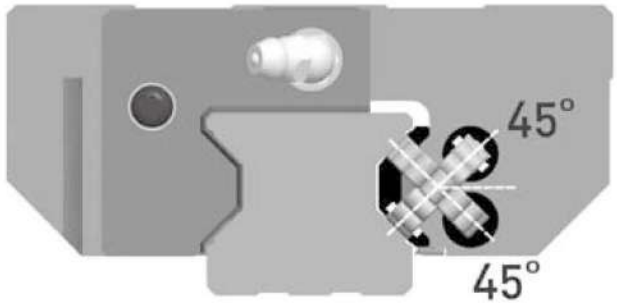


The SG series linear slides replace the balls with roller-type rolling elements. By the line contact between the rollers and the slide rails and the sliders, the rollers only form a small amount of elastic deformation when subjected to high load, which not only greatly enhances the linear slip. The rigidity of the rail can maintain high precision machining. The picture on the right shows the rigid behavior of equal volumes of balls and rollers.

(3) 方向皆具有超重负载能力
Both directions have heavy load capacity

SG系列线性滑轨采用 DB(45° -45°) 组合，能承受上下和左右方向的负荷，让线性滑轨具有超高负载能力。在相同工作负荷的要求下，SP 线轨相较于滚珠型线轨可有较小的体积，即可均匀承受高负载。

The SG series linear slides are available in a DB(45°-45°) combination that can withstand loads inthe up and down and left and right directions,allowing the linear slides to have an extremely high load capacity. Under the same workload requirements, the SP rail can have a smaller volume than the ball type rail, and can even withstand high loads.



(4) 延长寿命 Extend your life

SG 系列线性滑轨是以 ISO 规范 (ISO14728-1) 为基准来制定基本动额定负荷，该基本动额定负荷系以额定寿命 100 公里计算。线性滑轨的寿命会因实际承受工作负荷而不同，滚柱型线性滑轨的寿命计算可依选用线性滑轨的基本动额定负荷及工作负荷推算出使用寿命。

The SG series linear slides are based on the ISO specification (ISO14728-1) to establish the basic dynamic load rating, which is calculated based on the rated life of 100 km. The life of a linear slide will vary depending on the actual load. The life of the roller-type linear slide can be calculated based on the basic dynamic load rating and working load of the linear slide.

●不考虑环境因素影响，寿命计算如下所示。

Regardless of environmental factors, the life calculation is as follows.

$$L=\left(\frac{C}{P}\right)^{3}\cdot 100km=\left(\frac{C}{P}\right)^{\frac{10}{3}}\cdot 62mile \quad \text{Eq. 2.3}$$

●若考虑线性滑轨使用的环境因素，其寿命会随运动的状态、珠道表面硬度及系统温度而有所变化。

If considering the environmental factors used in linear slides, their life will vary with the state of motion, the hardness of the bead surface, and the system temperature.

$$L=\left(\frac{f_h\cdot f_t\cdot C}{f_w\cdot P}\right)^{\frac{10}{3}}\cdot 100km=\left(\frac{f_h\cdot f_t\cdot C}{f_w\cdot P}\right)^{\frac{10}{3}}\cdot 62mile \quad \text{Eq. 2.4}$$

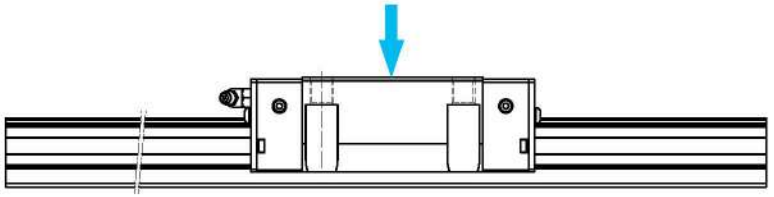
L : 寿 命 Life
P : 工作负荷 Workload
C : 基本动额定负荷 Basic dynamic load rating
f_h : 硬度系数 Hardnesscoefficient
f_t : 温度系数 Temperature Coefficient
f_W : 负荷系数 Load factor

其中，硬度系数、温度系数与负荷系数同滚珠型线性滑轨。相较于滚珠型线轨，SG系列具有超重负荷能力，可大幅延长使用寿命。

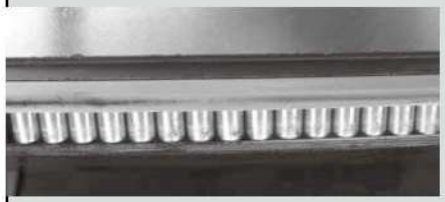
Among them, the hardness coefficient, temperature coefficient and load factor are the same as the ball type linear slide. Compared to ball-type wire rails, the SG series has an extremely heavy load capacity, which can greatly extend the service life.

SG 系列

(5) 耐久测试 Endurance test



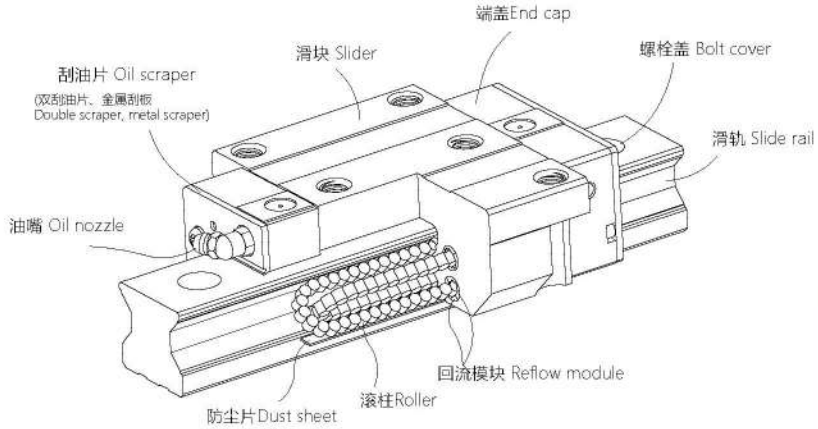
测试示意图 Test schematic

试件一：SPU35B 预压等级：PA 移动速度：60m/min 加速度：1G 行程：0.55m 润滑油脂：每 100 公里补充一次外加负荷：15kN 运行距离：1135 公里 **Test piece 1: TOU35B** **Preload rating: PA** **Movement speed: 60m/min Acceleration: 1G** **Itinerary: 0.55m** **Lubricating grease: once every 100 kilometers** **Additional load: 15kN** **Running distance: 1135 km**	测试结果： 根据 SPU35B 的基本动额定负荷、预压力与工作负荷推算出其寿命值为 1000 公里。本试件运行 1135 公里后，珠道表面与滚柱表面并未发生鱼鳞状薄片的剥落现象。 **Test Results:** **According to the basic dynamic load rating, pre-pressure and working load of SPU35B, the life value is calculated to be 1000 km. After the test piece was run for 1135 km, no peeling of the fish scales occurred on the surface of the bead and the surface of the roller.** 
试件二：SPM35B 预压等级：PA 移动速度：120m/min 加速度：1G 行程：2m 润滑油打油频率：0.3cm3/hr 外加负荷：无负荷 运行距离：15000km **Test piece 2: SPM35B** **Preload rating: PA** **Movement speed: 120m/min Acceleration: 1G** **Itinerary: 2m** **Lubricating oil frequency: 0.3cm3/hr Additional load: no load** **Running distance: 15000km**	测试结果： 本试件运行 15000 公里后，珠道表面与滚柱表面并未发生鱼鳞状薄片的剥落现象。 **Test Results:** **After the test piece was run for 15,000 kilometers, the surface of the bead and the surface of the roller did not peel off.** 

注：以上的测试数据为样品数据。Note: The above test data is sample data.

SG 本体结构

SG body structure



●滚动循环系统：滑块、滑轨、端盖、回流模块、滚柱
Rolling circulation system: slider, slide rail, end cover, reflow module, roller
●润滑系统：油嘴、油管接头
Lubrication system: nozzle, tubing connector
●防尘系统：刮油片、底面尘封防尘片、滑轨螺栓盖、金属刮板 Dust-proof system: oil scraper, dust seal on the bottom, rail bolt cover, metal scraper

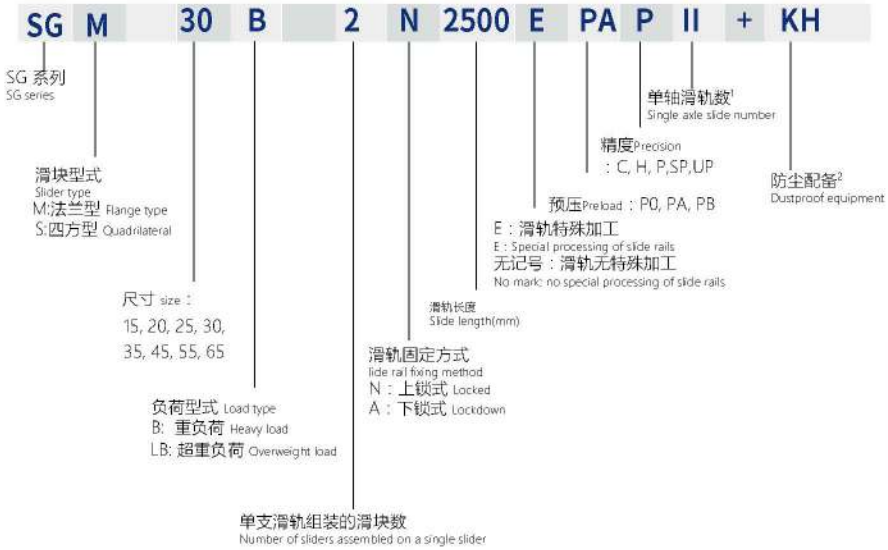
产品规格说明 Product specification

SG 系列分为非互换性及互换性型两种线性滑轨，两者规格尺寸相同，主要差异点在于互换性型之滑块、滑轨可单独互换使用，较便利，但其组合精度无法达到非互换性型之超精密级以上的精度，不过由于 SMAGIC 互换性型之组合精度目前已经达到一定的水准，对不需配装安装线性滑轨的客户而言，是一项便利的选择。线性滑轨的产品规格型号主要标明线性滑轨尺寸、型式、精度等级、预压等规格要求，以利订货时双方对产品的确认。

The SG series is divided into two types of linear slides, which are non-interchangeable and interchangeable. The two specifications are the same. The main difference is that the interchangeable sliders and slide rails can be used interchangeably, which is convenient, but The combination accuracy cannot achieve the accuracy of the non-interchangeable ultra-precision level. However, since the combination accuracy of the SMAGIC interchangeable type has reached a certain level, it is a requirement for customers who do not need to install a linear slide rail. Convenient choice. The product specifications of the linear slides mainly indicate the specifications of the linear slide size, type, accuracy grade, preload, etc., in order to facilitate the confirmation of the products by both parties when ordering.

(1) 非互换性线性滑轨产品型号

Non-interchangeable linear slide product model



注：

1. 单轴滑轨数若只使用一支滑轨则不写，两支标记为 II， 三支标记为 III，以此类推。
2. 防尘配备中无记号为防尘标准配备刮油片加防尘片。

ZH 为刮油片加防尘片加金属刮板。

KH 为双刮油片加防尘片加金属刮板。

DH 为双刮油片加防尘片。

note:

1. If the number of single-axis slides is only one slide, the two marks are II, the three marks are III, and so on.
2. There is no marking in the dustproof equipment. The dustproof standard is equipped with a scraper and a dustproof piece.

ZH is a scraper blade with a dustproof sheet and a metal scraper.

KH is a double scraper with dust and metal scraper.

DH is double scraper and dustproof sheet.

(2) 互换性线性滑轨产品型号

Interchangeable linear slide product model

● 互换型滑块产品型 Interchangeable slider product type

SG M 30 B N E PA P + SH

- SG 系列 SG series
- 滑块型式 Slider type
  - M:法兰型 Flange type
  - S:四方型 Quadrilateral
- 尺寸 size : 15, 20, 25, 30, 35, 45, 55, 65
- 负荷型式 Load type
  - B: 重负荷 Heavy load
  - LB: 超重负荷 Overweight load
- 滑轨固定方式 lide rail fixing method
  - N:上锁式 Locked
  - A:下锁式 Lockdown
- E：滑轨特殊加工 E : Special processing of slide rails
  无记号：滑轨无特殊加工 No mark: no special processing of slide rails
- 预压 Preload：P0, PA,
- 精度 Precision : C, H, P,
- 防尘配备[2] Dustproof equipment
- SH：金属端盖式 Metal end cap

● 互换型滑轨产品型号 Interchangeable slide product model

SG T 30 N 1300 E P

- SG 系列 SG series
- 单出滑轨 Single slide rail
- 尺寸 size：15, 20, 25, 30, 35, 45, 55, 65
- 滑轨固定方式 lide rail fixing method
  - N：上锁式 Locked
  - A：下锁式 Lockdown
- 滑轨长度 Slide length(mm)
- E：滑轨特殊加工 E : Special processing of slide rails
  无记号：滑轨无特殊加工 No mark: no special processing of slide rails
- 精度 Precision：C, H, P,

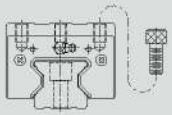
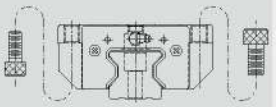
SG 系列型式 SG series type

(1) 滑块型式 Slider type

SG 系列提供法兰型及四方型两种线性滑轨，法兰型滑块在法兰的部位有加工安装螺丝孔可供安装，对于下锁的安装方式也可适用，其线性滑轨组合高度低，承靠面积大，适用于承受力距负载的场所。四方型滑块宽度较小，适合有安装空间限制的设备，滑块上方安装螺丝孔可配合安装。

The SG series is available in two types of flanged and square linear slides. The flange type slider has machining mounting screw holes for mounting at the flange. It is also suitable for the locking installation. The linear slide combination height Low, large bearing area, suitable for places with load and load. The square slider has a small width and is suitable for equipment with installation space limitation. The screw holes on the top of the slider can be installed.

表格 2-3-1 滑块型式 Slider type

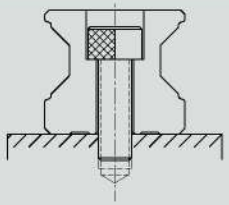
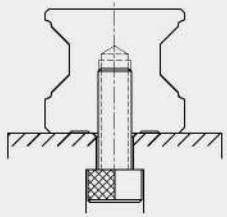
型式 Type	规格 specification	形状 shape	高度尺寸 Height dimension (mm)	滑轨长度 Slide length (mm)	应用设备 Application equipment
四方型 Quadrilateral	SGS-B SGS-LB		28 ↓ 90	100 ↓ 4000	自动化设备 Automation equipment 重型搬运设备 Heavy handling equipment CNC加工机 CNC processing machine 重切削加工机 Heavy cutting machine CNC磨床 CNC grinding machine 射出成型机 Injection molding machine 放电加工机 Electric discharge machine 大型龙门机床 Large gantry machine 高刚性与重负荷需求的工作机械 High rigidity and heavy load demanding work machines
法兰型 Flange type	SGM-B SGM-LB		24 ↓ 90	100 ↓ 4000	

(2) 滑轨型式 Slide type

除了一般上锁式螺栓孔滑轨外，SMAGIC 亦提供下锁式螺丝孔滑轨，方便客户安装使用。

In addition to the general locking bolt hole slides, SMAGIC also provides a lock-type screw hole slide rail for easy installation and use.

表格 2-3-2 滑轨型式 Slide type

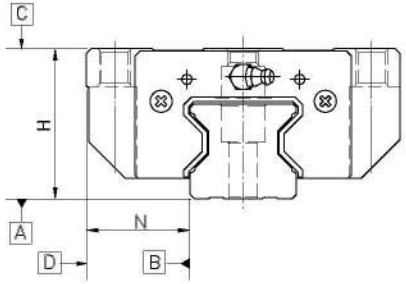
上锁式螺栓孔 Locking bolt hole	下锁式螺丝孔 Locking screw hole
	

精度等级

Accuracy level

SG 系列线性滑轨的精度， 分为高、精密、超精密、超高精密级共四级，客户可依设备精度需求选用精度。

The precision of the SG series linear slides is divided into four levels: high, precision, ultra-precision and ultra-high precision. Customers can select the precision according to the precision requirements of the equipment.



SG 系列

(1) 非互换性线性滑轨精度

Non-interchangeable linear slide accuracy

表格 2-3-3 组合件精度表 Assembly accuracy table　　单位unit：mm

型号 Model	SG-15,20			
精度等级 Precision Level	高级 (H)	精密级 (P)	超精密级 (SP)	超高精密级 (UP)
高度 H 的容许尺寸误差 Allowable size error for height H	± 0.03	0 - 0.03	0 - 0.015	0 - 0.008
宽度 N 的容许尺寸误差 Allowable size error of width N	± 0.03	0 - 0.03	0 - 0.015	0 - 0.008
成对高度 H 的相互误差 Mutual error of Pair Height H	0.01	0.006	0.004	0.003
成对宽度 N 的相互误差 Mutual error of paired width N	0.01	0.006	0.004	0.003
滑块 C 面对滑轨 A 面的行走平行度 Walk parallelism of slider C on the A side of slider	行走平行度 (见表格 2-3-11) Walking parallelism(see Table2-3-11)			
滑块 D 面对滑轨 B 面的行走平行度 Walk parallelism of slider D on the B side of slider	行走平行度 (见表格 2-3-11) Walking parallelism(see Table2-3-11)			

表格 2-3-4 组合件精度表 Assembly accuracy table　　单位unit：mm

型号 Model	SG-25,30,35			
精度等级 Precision Level	高级 (H)	精密级 (P)	超精密级 (SP)	超高精密级 (UP)
高度 H 的容许尺寸误差 Allowable size error for height H	± 0.04	0 - 0.04	0 - 0.02	0 - 0.01
宽度 N 的容许尺寸误差 Allowable size error of width N	± 0.04	0 - 0.04	0 - 0.02	0 - 0.01
成对高度 H 的相互误差 Mutual error of Pair Height H	0.015	0.007	0.005	0.003
成对宽度 N 的相互误差 Mutual error of paired width N	0.015	0.007	0.005	0.003
滑块 C 面对滑轨 A 面的行走平行度 Walk parallelism of slider C on the A side of slider	行走平行度 (见表格 2-3-11) Walking parallelism(see Table2-3-11)			
滑块 D 面对滑轨 B 面的行走平行度 Walk parallelism of slider D on the B side of slider	行走平行度 (见表格 2-3-11) Walking parallelism(see Table2-3-11)			

表格 2-3-5 组合件精度表 Assembly accuracy table　　单位 unit；mm

型号 Model	SG-45,55			
精度等级 Precision Level	高级 (H)	精密级 (P)	超精密级 (SP)	超高精密级 (UP)
高度 H 的容许尺寸误差 Allowable size error for height H	± 0.05	0 - 0.05	0 - 0.03	0 - 0.02
宽度 N 的容许尺寸误差 Allowable size error of width N	± 0.05	0 - 0.05	0 - 0.03	0 - 0.02
成对高度 H 的相互误差 Mutual error of Pair Height H	0.015	0.007	0.005	0.003
成对宽度 N 的相互误差 Mutual error of paired width N	0.02	0.01	0.007	0.005
滑块 C 面对滑轨 A 面的行走平行度 Walk parallelism of slider C on the A side of slider	行走平行度 (见表格 2-3-11) Walking parallelism(see Table2-3-11)			
滑块 D 面对滑轨 B 面的行走平行度 Walk parallelism of slider D on the B side of slider	行走平行度 (见表格 2-3-11) Walking parallelism(see Table2-3-11)			

表格 2-3-6 组合件精度表 Assembly accuracy table　　单位 unit；mm

型号 Model	SG-65			
精度等级 Precision Level	高级 (H)	精密级 (P)	超精密级 (SP)	超高精密级 (UP)
高度 H 的容许尺寸误差 Allowable size error for height H	± 0.07	0 - 0.07	0 - 0.05	0 - 0.03
宽度 N 的容许尺寸误差 Allowable size error of width N	± 0.07	0 - 0.07	0 - 0.05	0 - 0.03
成对高度 H 的相互误差 Mutual error of Pair Height H	0.02	0.01	0.007	0.005
成对宽度 N 的相互误差 Mutual error of paired width N	0.025	0.015	0.01	0.007
滑块 C 面对滑轨 A 面的行走平行度 Walk parallelism of slider C on the A side of slider	行走平行度 (见表格 2-3-11) Walking parallelism(see Table2-3-11)			
滑块 D 面对滑轨 B 面的行走平行度 Walk parallelism of slider D on the B side of slider	行走平行度 (见表格 2-3-11) Walking parallelism(see Table2-3-11)			

(2) 互换性线性滑轨精度

Interchangeable linear sliding track accuracy

表格 2-3-7 单出件精度表 Single output accuracy table

单位unit：mm

型号 Model	SG-15,20	
精度等级 Precision Level	高级 (H)	精密级 (P)
高度 H 的容许尺寸误差 Allowable size error for height H	± 0.03	± 0.015
宽度 N 的容许尺寸误差 Allowable size error of width N	± 0.03	± 0.015
成对高度 H 的相互误差 Mutual error of Pair Height H	0.01	0.006
成对宽度 N 的相互误差 Mutual error of paired width N	0.01	0.006
滑块 C 面对滑轨 A 面的行走平行度 Walk parallelism of slider C on the A side of slider	行走平行度（见表格 2-3-11) Walking parallelism(see Table2-3-11)	
滑块 D 面对滑轨 B 面的行走平行度 Walk parallelism of slider D on the B side of slider	行走平行度（见表格 2-3-11) Walking parallelism(see Table2-3-11)	

表格 2-3-8 单出件精度表 Single output accuracy table

单位unit：mm

型号 Model	SG-25,30,35	
精度等级 Precision Level	高级 (H)	精密级 (P)
高度 H 的容许尺寸误差 Allowable size error for height H	± 0.04	± 0.02
宽度 N 的容许尺寸误差 Allowable size error of width N	± 0.04	± 0.02
成对高度 H 的相互误差 Mutual error of Pair Height H	0.015	0.007
成对宽度 N 的相互误差 Mutual error of paired width N	0.015	0.007
滑块 C 面对滑轨 A 面的行走平行度 Walk parallelism of slider C on the A side of slider	行走平行度（见表格 2-3-11) Walking parallelism(see Table2-3-11)	
滑块 D 面对滑轨 B 面的行走平行度 Walk parallelism of slider D on the B side of slider	行走平行度（见表格 2-3-11) Walking parallelism(see Table2-3-11)	

表格 2-3-9 单出件精度表 Single output accuracy table

单位unit：mm

型号 Model	SG-45,55	
精度等级 Precision Level	高级 (H)	精密级 (P)
高度 H 的容许尺寸误差 Allowable size error for height H	± 0.05	± 0.025
宽度 N 的容许尺寸误差 Allowable size error of width N	± 0.05	± 0.025
成对高度 H 的相互误差 Mutual error of Pair Height H	0.015	0.007
成对宽度 N 的相互误差 Mutual error of paired width N	0.02	0.01
滑块 C 面对滑轨 A 面的行走平行度 Walk parallelism of slider C on the A side of slider	行走平行度（见表格 2-3-11) Walking parallelism(see Table2-3-11)	
滑块 D 面对滑轨 B 面的行走平行度 Walk parallelism of slider D on the B side of slider	行走平行度（见表格 2-3-11) Walking parallelism(see Table2-3-11)	

表格 2-3-10 单出件精度表 Single output accuracy table

单位unit：mm

型号 Model	SG-65	
精度等级 Precision Level	高级 (H)	精密级 (P)
高度 H 的容许尺寸误差 Allowable size error for height H	± 0.07	± 0.035
宽度 N 的容许尺寸误差 Allowable size error of width N	± 0.07	± 0.035
成对高度 H 的相互误差 Mutual error of Pair Height H	0.02	0.01
成对宽度 N 的相互误差 Mutual error of paired width N	0.025	0.015
滑块 C 面对滑轨 A 面的行走平行度 Walk parallelism of slider C on the A side of slider	行走平行度（见表格 2-3-11) Walking parallelism(see Table2-3-11)	
滑块 D 面对滑轨 B 面的行走平行度 Walk parallelism of slider D on the B side of slider	行走平行度（见表格 2-3-11) Walking parallelism(see Table2-3-11)	

表格 2-3-11 行走平行度精度 Walking parallelism accuracy

滑轨长度 Slide length (mm)	精度等级 (μm) Accuracy level H	P	SP	UP
~ 100	7	3	2	2
100 ~ 200	9	4	2	2
200 ~ 300	10	5	3	2
300 ~ 500	12	6	3	2
500 ~ 700	13	7	4	2
700 ~ 900	15	8	5	3
900 ~ 1,100	16	9	6	3
1,100 ~ 1,500	18	11	7	4
1,500 ~ 1,900	20	13	8	4
1,900 ~ 2,500	22	15	10	5
2,500 ~ 3,100	25	18	11	6
3,100 ~ 3,600	27	20	14	7
3,600 ~ 4,000	28	21	15	7

预压力
Pre-stress

预压力是预先给与滚柱负荷力，亦即加大滚柱直径，利用滚柱与珠道之间负向间隙给与预压，此举能提高 线性滑轨刚性及消除间隙。SG 系列线性滑轨提供下列三种标准预压。

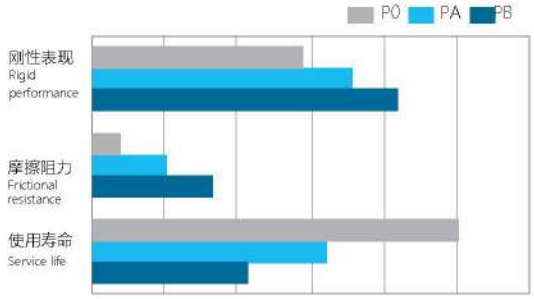
The pre-pressure is pre-applied to the roller load force, that is, the roller diameter is increased, and the pre-pressure is given by the negative gap between the roller and the bead, which can improve the rigidity of the linear slide and eliminate the gap. The SG series linear slides are available in the following three standard preloads.

表格 2-3-11 预压等级 Preload rating

预压等级 Preload rating	标记 Mark	预压力 Pre-stress	使用条件 Conditions of Use
轻预压 Light preload	P0	0.02C~ 0.04C	负荷方向固定且冲击小， 精度要求低 Fixed load direction with low impact and low precision
中预压 Medium preload	PA	0.07C~0.09C	轻负荷且要求高精度 Light load and high precision
重预压 Heavy preload	PB	0.12C~ 0.14C	高刚性要求，且有振动， 冲击的使用环境 Rigid requirements, vibration and impact environment

注： 1. 预压力中 C 为动额定负荷
Note: 1. In the pre-pressure, C is the dynamic rated load.

右图为线性滑轨不同预压条件下之刚性表现、摩擦阻力与使用寿命关系图，客户可依设备刚性与使用寿命需求选用适当的预压等级，但小规格建议选用中预压以下预压，以避免预压选用过重而降低其寿命。



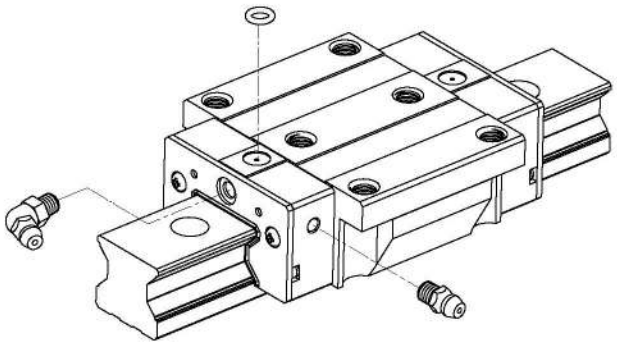
The picture on the right shows the relationship between the stiffness performance, frictional resistance and service life of the linear slide under different preload conditions. The customer can select the appropriate preload rating according to the rigidity and service life of the equipment, but the small preload is recommended for the small preload. In order to avoid over-stressing, the weight is reduced and its life is reduced.

润滑方式

Lubrication method

依客户需要在滑块前端或后端装上油嘴以供手动打油，SG 系列特别在端盖侧面与上面均预留油孔位置以安 装油嘴（一般为直油嘴），提供侧向与上方打油。侧向打油的位置建议在非侧基准边，但若有特殊需要亦可放在侧基准边。客户若有上述侧向打油或上方打油需求请与我们联络。使用接管方式自动供润滑油脂之线性滑 轨，则可依连接管型式选用安装油管接头。

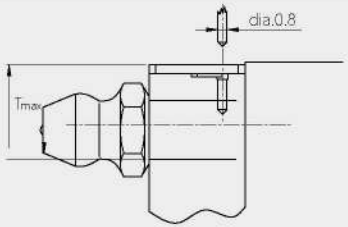
Depending on the customer's needs, the front end or the rear end of the slider is equipped with a grease nipple for manual oiling. The SG series has oil hole positions on the side and upper side of the end cap to install the oil nozzle (usually a straight grease nipple) to provide oil in the lateral and upper directions. The position of the side oil is recommended on the non-side reference side, but it can be placed on the side reference side if there is a special need. If you have any of the above mentioned side oiling or above oiling requirements, please contact us. If the linear slide of the grease is automatically supplied by the take-over method, the oil pipe joint can be selected according to the type of the connecting pipe.



表格 2-3-13 O-Ring 规格与穿孔最大容许深度

O-Ring specifications and perforation maximum allowable depth

规格 specification	O-Ring规格 O-Ringspecification		穿孔最大容许深度 T_{max} Perforation maximum allowable depth
	do (mm)	W (mm)	(mm)
SG15	2.5 ± 0.15	1.5 ± 0.15	3.45
SG20	2.5 ± 0.15	1.5 ± 0.15	4
SG25	7.5 ± 0.15	1.5 ± 0.15	5.8
SG30	7.5 ± 0.15	1.5 ± 0.15	6.2
SG35	7.5 ± 0.15	1.5 ± 0.15	8.65
SG45	7.5 ± 0.15	1.5 ± 0.15	9.5
SG55	7.5 ± 0.15	1.5 ± 0.15	11.6
SG65	7.5 ± 0.15	1.5 ± 0.15	14.5



●单个滑块填满润滑油脂油量

A single slider fills the amount of grease

表格 2-3-14 单个滑块填满润滑油脂油量

A single slider fills the amount of grease

规格 specification	重负荷 Heavy load (cm^3)	超重负荷 Overweight load (cm^3)	规格 specification	重负荷 Heavy load (cm^3)	超重负荷 Overweight load (cm^3)
SG15	3	-	SG35	12	14
SG20	5	6	SG45	19	23
SG25	7	8	SG55	28	35
SG30	9	10	SG65	52	63

●润滑频率 Lubrication frequency

每运行 100km，或每 3-6 个月确认一次油脂。

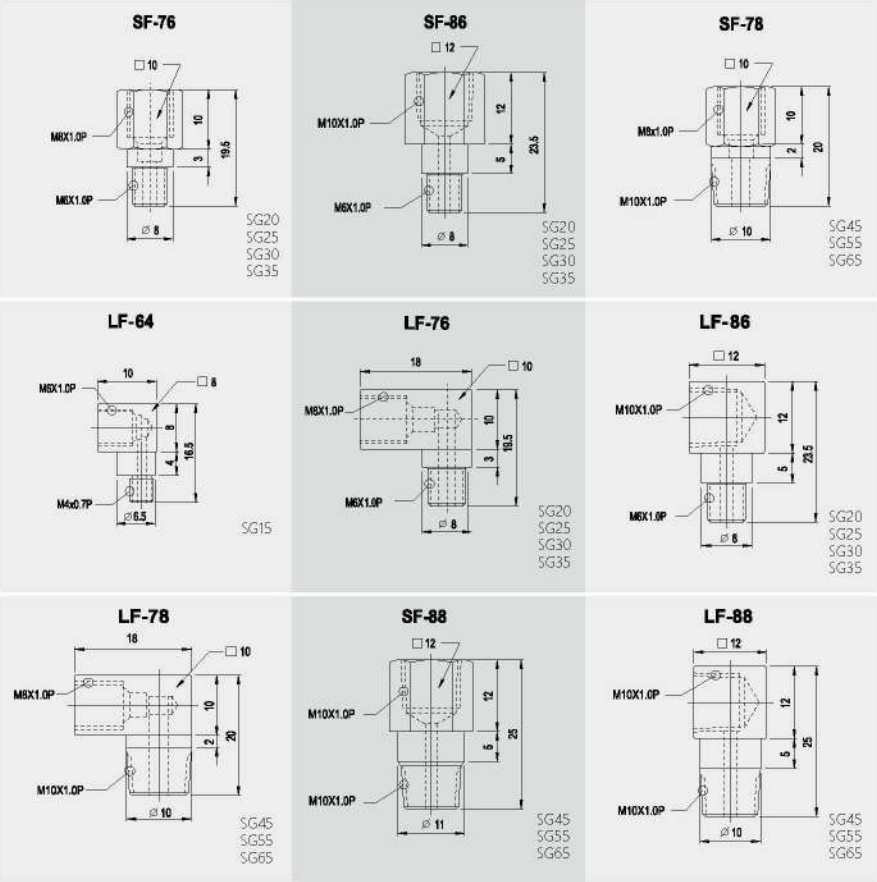
Grease is confirmed every 100km, or every 3-6 months.

（2）润滑油 Lubricating oil

建议使用油黏滞度约为 30~150cSt 的润滑油润滑线性滑轨，客户可先跟我们说明需要使用油润滑，出货的线性滑轨将不会封入润滑油脂。

It is recommended to lubricate the linear slide with a lubricant with an oil viscosity of about 30~150cSt. Customers can first explain to us that oil lubrication is required, and the linear slides will not be sealed with grease.

●油管接头型式 Tubing connector type



●供油速率 Fuel supply rate

表格 2-3-15 供油速率 Fuel supply rate

规格 specification	供油速率 Fuel supply rate (cm^3/hr)	规格 specification	供油速率 Fuel supply rate (cm^3/hr)
SG15	0.14	SG35	0.23
SG20	0.14	SG45	0.3
SG25	0.167	SG55	0.367
SG30	0.2	SG65	0.433

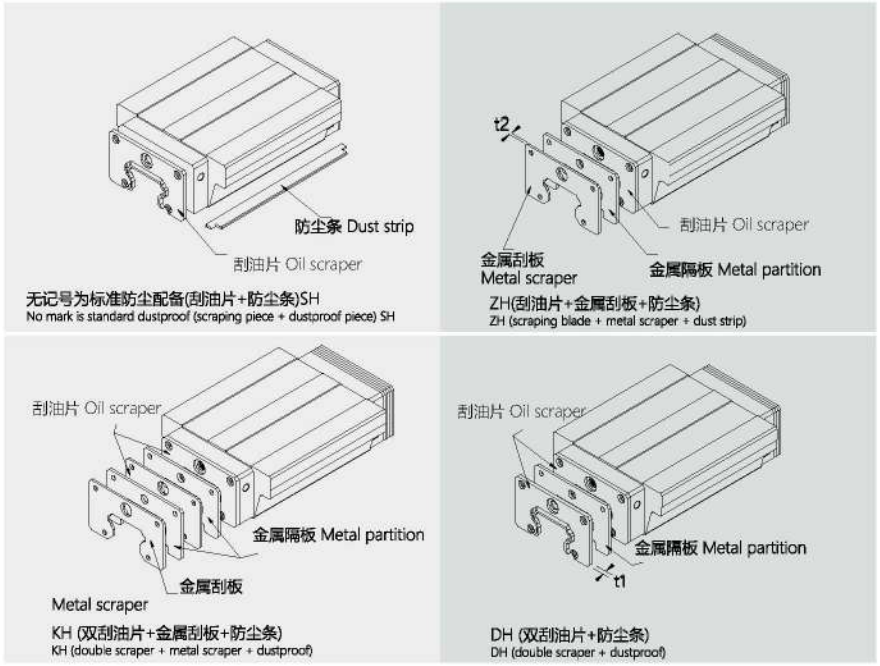
SG 系列

防尘配备
Dustproof equipment

(1) 防尘配备代码 Dust-proof code

若有下列防尘配备需求时，请于产品型号后面加注代码

If you have the following dustproof requirements, please add the code after the product model.



(2) 刮油片及底面尘封防尘片 scraper and bottom dust seal

阻止加工铁屑或尘粒进入滑块里面，破坏珠道表面而降低线性滑轨寿命。

Prevents the processing of iron filings or dust particles from entering the slider, destroying the bead surface and reducing the linear slide life.

(3) 双层刮油片 Double-layer scraper

加倍刮屑效果，即使在重切削加工环境中，异物完全被排除于滑块外。

Double the scraping effect, even in the heavy cutting environment, the foreign matter is completely excluded from the slider.

表格 2-3-16 刮油片 Oil scraper

规格 specification	增加厚度 (t1) Increasing the thickness (mm)	规格 specification	增加厚度 (t1) Increasing the thickness (mm)
SG15	2.2	SG35	2.5
SG20	2.2	SG45	3.6
SG25	2.2	SG55	3.6
SG30	2.4	SG65	4.4

(4) 金属刮板 Metal scraper

可隔离高温铁屑或加工火花，并排除大体积杂质。

It can isolate high temperature iron filings or machining sparks and eliminate large volume impurities.

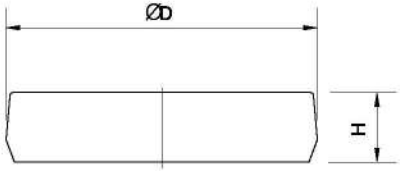
表格 2-3-17 金属刮板厚度 Metal scraper thickness

规格 specification	增加厚度 (t1) Increasing the thickness (mm)	规格 specification	增加厚度 (t1) Increasing the thickness (mm)
SG15	1.0	SG35	1.5
SG20	1.0	SG45	1.5
SG25	1.0	SG55	1.5
SG30	1.5	SG65	1.5

（5）螺栓盖 Bolt cover

为防止切削粉末或异物经由螺栓孔侵入滑块内部影响精度，客户必须在安装滑轨时将螺栓盖打入螺栓孔内，每支滑轨出厂时皆配有螺栓盖。

In order to prevent the cutting powder or foreign matter from invading the inside of the slider through the bolt hole, the customer must insert the bolt cover into the bolt hole when installing the slide rail. Each slide rail is equipped with a bolt cover when it is shipped.



表格 2-3-18 滑轨螺栓盖 Slide bolt cover

规格 specification	安装螺丝 Mounting screws	直径 (D) diameter (mm)	厚度 (H) thickness (mm)	规格 specification	安装螺丝 Mounting screws	直径 (D) diameter (mm)	厚度 (H) thickness
SG15	M4	7.65	1.1	SG35	M8	14.2	3.3
SG20	M5	9.65	2.2	SG45	M12	20.25	4.6
SG25	M6	11.15	2.5	SG55	M14	23.5	5.5
SG30	M8	14.2	3.3	SG65	M16	26.6	5.5

(6) 防尘代码之滑块总长度 Total length of the dustproof code slider

表格 2-3-19 滑块总长度 Total length of the slider

单位unit：mm

规格 specification	滑块总长度 (L) 标准 SH	ZH	DH	KH
SG15B	68	70	72.4	74.4
SG20B	86	88	90.4	92.4
SG20LB	106	108	110.4	112.4
SG25B	97.9	99.9	102.3	104.3
SG25LB	114.4	116.4	118.8	120.8
SG30B	109.8	112.8	114.6	117.6
SG30LB	131.8	134.8	136.6	139.6
SG35B	124	127	129	132
SG35LB	151.5	154.5	156.5	159.5
SG45B	153.2	156.2	160.4	163.4
SG45LB	187	190	194.2	197.2
SG55B	183.7	186.7	190.9	193.9
SG55LB	232	235	239.2	242.2
SG65B	232	235	240.8	243.8
SG65LB	295	298	303.8	306.8

摩擦力
Friction

此阻力值为单片刮油片的最大阻力。

This resistance is the maximum resistance of a single piece of oil scraper.

表格 2-3-20 SG 系列刮油片阻力 SG series scraper resistance

规格 specification	刮油片阻力 (kgf) Oil scraper resistance	规格 specification	刮油片阻力 (kgf) Oil scraper resistance
SG15	1.96 (0.2)	SG35	3.53 (0.36)
SG20	2.45 (0.25)	SG45	4.21 (0.43)
SG25	2.74 (0.28)	SG55	5.09 (0.52)
SG30	3.31 (0.31)	SG65	6.66(0.68)

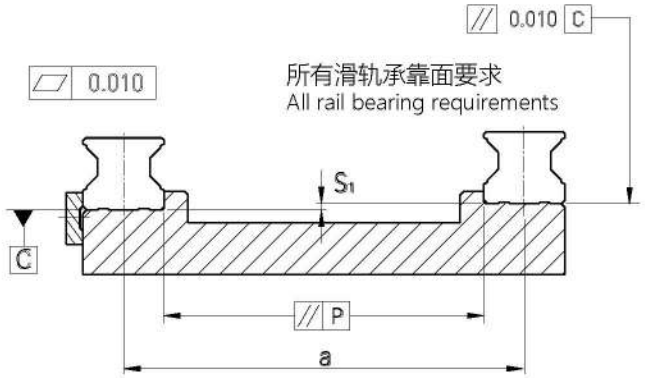
安装平面误差
Mounting plane error

(1) 滑轨安装平面精度 Slide rail mounting plane accuracy

SG系列线性滑轨藉由滚柱型滚动体与滑轨与滑块的线接触方式，大幅提升线性滑轨的刚性值，因此当安装平 面精度误差过大时，将会影响线性滑轨的安装质量，不仅增加摩擦阻力更会降低其使用寿命。客户在安装线性滑轨时若能依照下列要求其安装平面精度，必能显现 SG 系列线性滑轨高刚性、高精度与寿命长的特色。

The SG series linear slide rail greatly improves the rigidity value of the linear slide rail by the roller type rolling element and the line contact mode of the slide rail and the slider. Therefore, when the installation plane precision error is too large, the linear slide rail installation will be affected. Quality, not only increases the frictional resistance but also reduces its service life. When the customer installs the linear slide rails, if they can install the plane accuracy according to the following requirements, the SG series linear slide rails will be characterized by high rigidity, high precision and long life.

●承靠面平行度误差 Bearing surface parallelism error (P)



表格 2-3-21 容许平行度误差 (P)Allowable parallelism error (P)　　单位 unit：μm

规格 specification	预压 Preload		
	P0 预压 Preload	PA 预压 Preload	PB 预压 Preload
SG15	5	3	3
SG20	8	6	4
SG25	9	7	5
SG30	11	8	6
SG35	14	10	7
SG45	17	13	9
SG55	21	14	11
SG65	27	18	14

●承靠面平行度误差 Bearing surface parallelism error

$(S_1)\ S_1 = a \times K$

S_1 : 高度最大容许误差
a : 配对滑轨间距 height maximum tolerance
a : paired rail spacing
K : 高度误差系数 height error coefficient

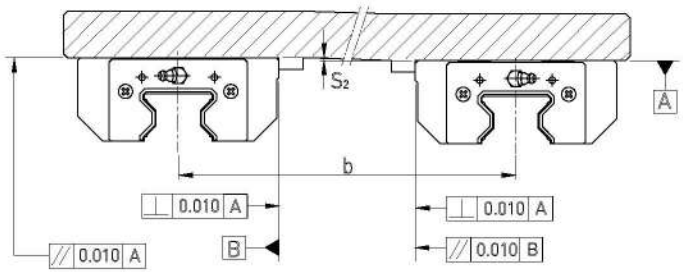
表格 2-3-22 高度误差系数 height error coefficient

规格 specification	预压Preload		
	P0 预压Preload	PA 预压Preload	PB 预压Preload
K	2.2×10^{-4}	1.7×10^{-4}	1.2×10^{-4}

(2) 滑块安装平面精度 Slider mounting plane accuracy

●不同支滑轨滑块配对承靠面高度误差 (S2)
Different bearing rail slider matching bearing surface height error (S2)

0.010 所有滑块承靠面要求 All slider bearing surfaces are required

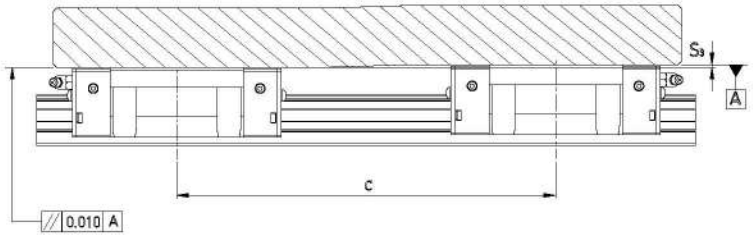


$S_2 = b \times 4.2 \times 10^{-5}$

S_2 : 高度最大容许误差 Maximum allowable error
b : 配对滑块间距 Paired slider spacing

●同支滑轨滑块配对承靠面高度误差 (S3)
Matching surface height error of the same slide rail slider (S3)

0.010 所有滑块承靠面要求 All slider bearing surfaces are required



$S_3 = c \times 4.2 \times 10^{-5}$

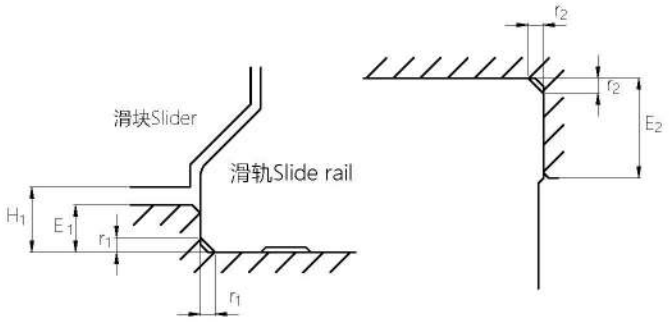
S_3 : 高度最大容许误差 Maximum allowable error
c : 配对滑块间距 Paired slider spacing

安装注意事项
Installation Precautions

(1) 安装面肩部高度及倒角
Mounting surface shoulder height and chamfer

安装线性滑轨时必须注意安装面肩部的状况是否适当，如倒角过大，凸出的地方易造成线性滑轨精度不良，而高度过高则会干涉滑块。故如果能依照建议要求安装面肩部，安装精度不良即可排除。

When installing the linear slide rails, it is necessary to pay attention to the proper condition of the shoulder of the mounting surface. If the chamfer is too large, the protruding position may cause the linear slide rail to be inaccurate, and the height is too high to interfere with the slider. Therefore, if the shoulder can be installed according to the recommended requirements, the installation accuracy can be eliminated.



表格 2-3-23
肩部高度及倒角 Shoulder height and chamfer

单位 unit；mm

规格 specification	滑轨端 最大圆角半径 Maximum corner radius of the rail end r_1 (mm)	滑块端 最大圆角半径 Maximum corner radius of the slider end r_2 (mm)	滑轨端 肩部高度 Rail shoulder height E_1 (mm)	滑块端 肩部高度 Slider shoulder height E_2 (mm)	滑块的 运行净高 The running height of the slider) H_1 (mm)
SG15	0.5	0.5	3	4	4
SG20	0.5	0.5	3.5	5	5
SG25	1.0	1.0	5	5	5.5
SG30	1.0	1.0	5	5	6
SG35	1.0	1.0	6	6	6.5
SG45	1.0	1.0	7	8	8
SG55	1.5	1.5	9	10	10
SG65	1.5	1.5	10	10	12

(2) 滑轨装配螺丝的扭力值 Torque value of the rail assembly screw

安装滑轨时是否锁紧贴平基准面影响线性滑轨精度严重，因此为达到每颗螺丝都能锁紧的目的，建议使用下列扭力值锁装配螺丝。

Whether the locking flat reference surface is installed when the slide rail is installed affects the accuracy of the linear slide rail. Therefore, in order to achieve the purpose of locking each screw, it is recommended to use the following torque value lock assembly screws.

规格 speciPcation	螺丝规格 Screw speciPcation	扭力值 Torque value
		N-cm (kgf-cm)
SG15	M4*0.7P*16L	392(40)
SG20	M5*0.8P*20L	883(90)
SG25	M6×1P×20L	1373 (140)
SG30	M8×1.25P×25L	3041 (310)
SG35	M8×1.25P×25L	3041 (310)
SG45	M12×1.75P×35L	11772 (1200)
SG55	M14×2P×45L	15696 (1600)
SG65	M16×2P×50L	19620 (2000)

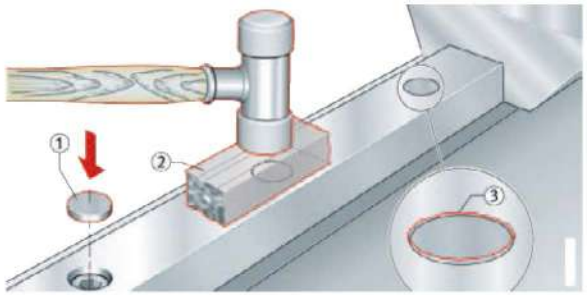
(3) 安装方式
Installation method

在安装前，导轨必须已用尺寸表中的紧固力矩MA 固定。
不要让滑块滑过还没有填塞起来的沉头孔。如果滑块移动，
要保证密封唇得到有效的保护。
根据环境和运行条件，沉头孔使用塑料或者铜填塞片。
使用安装
敲击填塞片，图 6:

- 将填塞片①放入沉头孔内。
- 将一平整的铁块 放在填塞片上。
- 垂直敲击铁块。
- 去除填塞片上被切下来的毛边③。

Before installation, the rails must have been fixed with the tightening torque MA in the dimension table.
Do not let the slider slide over the counterbore that has not been filled. If the slider moves,
Make sure the sealing lip is effectively protected.
The counterbore is filled with plastic or copper depending on the environment and operating conditions. Use installation
Tap the tamper, Figure 6:

- Place the tampon 1 into the counterbore.
- Place a flat piece of iron on the tampon.
- Hit the iron block vertically.
- Remove the cut edges 3 on the tamping sheet.



①填塞片 stuffing piece
②铁块 iron blocks
③毛边 raw edges

图 6 Figure 6 敲入填塞片 Knock in the tampon

不要用油石①去磨塑料填塞片或者相似方法，
图 13。
Do not use oil stone ① to grind plastic tampon or similar methods,
Figure 13.

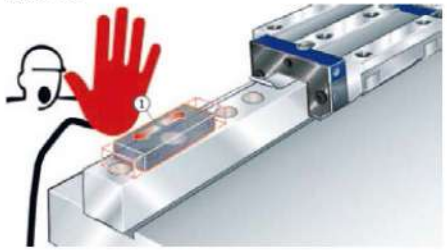


图 13 不要使用油石 Figure 13 Do not use oil stone

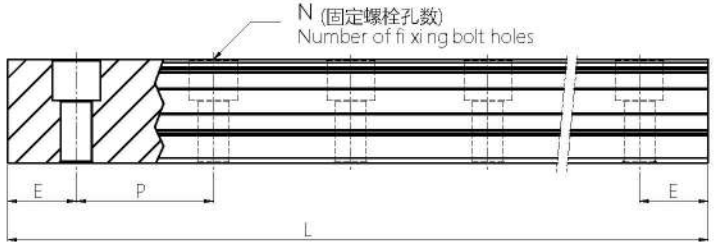
①油石 Oil stone

单支滑轨标准长度及最大长度

Standard length and maximum length of single slide rails

SMAGIC 备有滑轨标准长度库存供应客户需求。若客户订购非标准长度滑轨时，端面距离 E 的尺寸最好不要大于 1/2P，防止因 E 的尺寸过大导致滑轨装配后端部的不稳定，而降低线性滑轨的精度。

SMAGIC is equipped with standard length stocks of slides to supply customer needs. If the customer orders a non-standard length slide rail, the dimension of the end face distance E is preferably not more than 1/2P, which prevents the instability of the rear end portion of the rail assembly due to the excessive size of the E, and reduces the accuracy of the linear slide rail.



表格 2-3-24 轨道长度 Track length

单位 unit；mm

项 目 Project	SPT15	SPT20	SPT25	SPT30	SPT35	SPT45	SPT55	SPT65
标准长度 L(n) Standard length	160(5)	220(7)	220(7)	280(7)	280(7)	570(11)	780(13)	1270(17)
	220(7)	280 (9)	280 (9)	440(11)	440 (11)	885 (17)	1020(17)	1570(21)
	340 (11)	340(11)	340(11)	600(15)	600 (15)	1200 (23)	1260(21)	2020(27)
	460 (15)	460(15)	460(15)	760(19)	760 (19)	1620 (31)	1500(25)	2620(35)
	580 (19)	640(21)	640(21)	1000(25)	1000(25)	2040 (39)	1980(33)	
	700 (23)	820(27)	820(27)	1640(41)	1640(41)	2460 (47)	2580(43)	
	940 (31)	1000(33)	1000(33)	2040(51)	2040(51)	2985 (57)	2940(49)	
	1120 (37)	1180(39)	1240(41)	2520(63)	2520(63)	3090 (59)	3060(51)	
	1360 (45)	1360(45)	1600(53)	3000(75)	3000(75)			
间距 (P) spacing	30	30	30	40	40	52.5	60	75
标准端距 (Es) Standard terminal distance	20	20	20	20	20	22.5	30	35
标准端距最大长度 Standard terminal length	4000	4000	4000	4000	4000	3982.5	3960(66)	3970(53)
最大长度 The maximum length	4000	4000	4000	4000	4000	4000	4000	4000

注：

1. 一般滑轨 E 尺寸公差为 0.5 ~ -0.5 mm，滑轨接牙件端距 E 尺寸公差较严格为 0 ~ -0.3 mm。
2. 标准端距最大长度是指左、右端距皆为标准端距的滑轨最大长度。
3. 若客户需要不同的 E 尺寸，请与SMAGIC 联络。

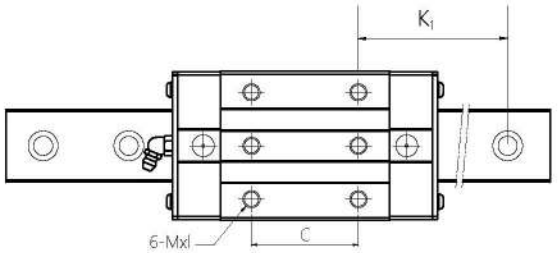
Note:

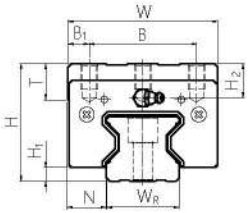
1. The general rail E dimension tolerance is 0.5~-0.5 mm, and the rail joint end distance E dimension tolerance is strictly 0~-0.3 mm.
2. The maximum length of the standard end distance means that the left and right end distances are the maximum length of the standard end distance.
3. If the customer needs a different E size, please contact SMAGIC.

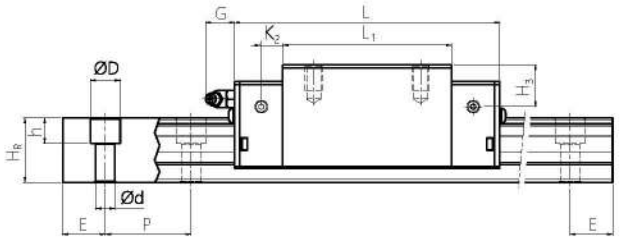
SG 系列线性滑轨尺寸表

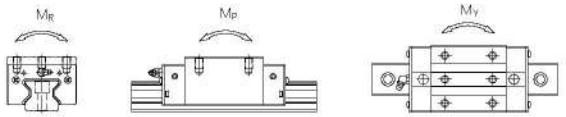
SG series linear slide size table

(1)TPS-B / SGS-LB





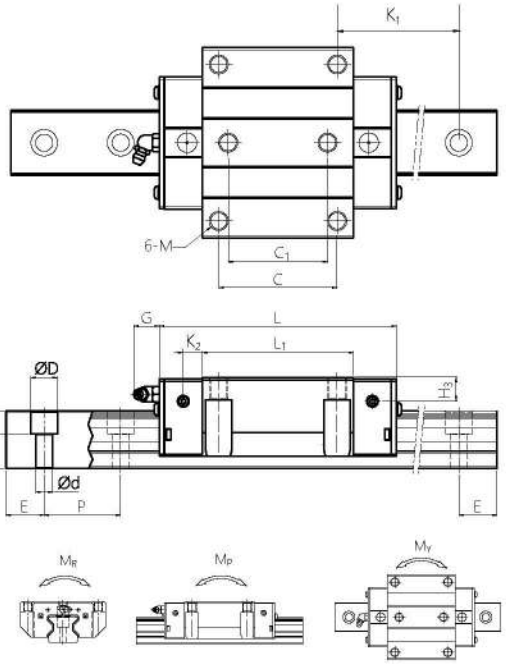


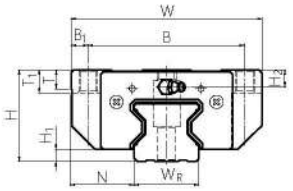


型号 Model	组件尺寸 (mm)			滑块尺寸 Slider size(mm)													滑轨尺寸 Slie size (mm)							滑轨的固定螺栓尺寸	基本动额定负荷	基本静额定负荷	容许静力矩			重量	
	H	H_1	N	W	B	B_1	C	L_1	L	K_1	K_2	G	Mxl	T	H_2	H_3	W_R	H_R	D	h	d	P	E	(mm)	C(kN)	Co (kN)	MR kN-m	MP kN-m	MY kN-m	滑块 kg	滑轨 kg/m
SGS15B	28	4	9.5	34	26	4	26	45	68	13.4	4.7	5.3	M4*8	6	7.6	10.1	15	16.5	7.5	5.7	4.5	30	20	M4*16	11.3	24	0.311	0.173	0.173	0.20	1.8
SGS20B	34	5	12	44	32	6	36	57.5	86	15.8	6	5.3	M5*8	8	8.3	8.3	20	21	9.5	8.5	6	30	20	M5*20	21.3	46.7	0.647	0.46	0.46	0.4	2.76
SGS20LB							50	77.5	106	18.8															26.9	63	0.872	0.837	0.837	0.53	
SGS25B	40	5.5	12.5	48	35	6.5	35	64.5	97.9	20.75	7.25	12	M6x8	9.5	10.2	10	23	23.6	11	9	7	30	20	M6x20	27.7	57.1	0.758	0.605	0.605	0.61	3.08
SGS25LB							50	81	114.4	21.5															33.9	73.4	0.975	0.991	0.991	0.75	
SGS30B	45	6	16	60	40	10	40	71	109.8	23.5	8	12	M8x10	9.5	9.5	10.3	28	28	14	12	9	40	20	M8x25	39.1	82.1	1.445	1.06	1.06	0.90	4.41
SGS30LB							60	93	131.8	24.5															48.1	105	1.846	1.712	1.712	1.16	
SGS35B	55	6.5	18	70	50	10	50	79	124	22.5	10	12	M8x12	12	16	19.6	34	30.2	14	12	9	40	20	M8x25	57.9	105.2	2.17	1.44	1.44	1.57	6.06
SGS35LB							72	106.5	151.5	25.25															73.1	142	2.93	2.6	2.6	2.06	
SGS45B	70	8	20.5	86	60	13	60	106	153.2	31	10	12.9	M10x17	16	20	24	45	38	20	17	14	52.5	22.5	M12x35	92.6	178.8	4.52	3.05	3.05	3.18	9.97
SGS45LB							80	139.8	187	37.9															116	230.9	6.33	5.47	5.47	4.13	
SGS 55B	80	10	23.5	100	75	12.5	75	125.5	183.7	37.75	12.5	12.9	M12x18	17.5	22	27.5	53	44	23	20	16	60	30	M14x45	130.5	252	8.01	5.4	5.4	4.89	13.98
SGS55LB							95	173.8	232	51.9															167.8	348	11.15	10.25	10.25	6.68	
SGS65B	90	12	31.5	126	76	25	70	160	232	60.8	15.8	12.9	M16x20	25	15	15	63	53	26	22	18	75	35	M16x50	213	411.6	16.20	11.59	11.59	8.89	20.22
SGS65LB							120	223	295	67.3															275.3	572.7	22.55	22.17	22.17	12.13	

注 Note : 1 kgf = 9.81 N

(2) SGM-B / SGM-LB



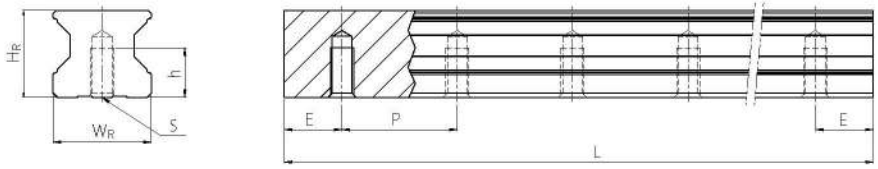


型号 Model	组件尺寸 (mm)			滑块尺寸 Slider size(mm)														滑轨尺寸 Slie size (mm)							滑轨的固定螺栓尺寸	基本动额定负荷	基本静额定负荷	容许静力矩			重量	
	H	H_1	N	W	B	B_1	C	C_1	L_1	L	K_1	K_2	G	M	T	T_1	H_2	H_3	W_R	H_R	D	h	d	P	E	(mm)	C(kN)	Co (kN)	MR kN-m	MP kN-m	MY kN-m	滑块 kg	滑轨 kg/m
SGM15B	24	4	16	47	38	4.5	30	26	45	68	11.4	4.7	5.3	M5	6	6	3.6	6.1	15	16.5	7.5	5.7	4.5	30	20	M4*16	11.3	24	0.311	0.173	0.173	0.22	1.8
SGM20B	30	5	21.5	63	53	5	40	35	57.5	86	13.8	6	5.3	M6	8	8	4.3	4.3	20	21	9.5	8.5	6	30	20	M5*20	21.3	46.7	0.647	0.46	0.46	0.47	2.76
SGM20LB									77.5	106	23.8																26.9	63	0.872	0.837	0.837	0.63	
SGM 25B	36	5.5	23.5	70	57	6.5	45	40	64.5	97.9	15.75	7.25	12	M8	9.5	9.5	6.2	6	23	23.6	11	9	7	30	20	M6x20	27.7	57.1	0.758	0.605	0.605	0.72	3.08
SGM 25LB									81	114.4	24																33.9	73.4	0.975	0.991	0.991	0.91	
SGM 30B	42	6	31	90	72	9	52	44	71	109.8	17.5	8	12	M10	9.5	9.5	6.5	7.3	28	28	14	12	9	40	20	M8x25	39.1	82.1	1.445	1.06	1.06	1.16	4.41
SGM 30LB									93	131.8	28.5																48.1	105	1.846	1.712	1.712	1.52	
SGM 35B	48	6.5	33	100	82	9	62	52	79	124	16.5	10	12	M10	12	12	9	12.6	34	30.2	14	12	9	40	20	M8x25	57.9	105.2	2.17	1.44	1.44	1.75	6.06
SGM 35LB									106.5	151.5	30.25																73.1	142	2.93	2.6	2.6	2.40	
SGM 45B	60	8	37.5	120	100	10	80	60	106	153.2	21	10	12.9	M12	14	14	10	14	45	38	20	17	14	52.5	22.5	M12x35	92.6	178.8	4.52	3.05	3.05	3.34	9.97
SGM 45LB									139.8	187	37.9																116	230.9	6.33	5.47	5.47	4.57	
SGM 55B	70	10	43.5	140	116	12	95	70	125.5	183.7	27.75	12.5	12.9	M14	16	16	12	17.5	53	44	23	20	16	60	30	M14x45	130.5	252	8.01	5.4	5.4	5.43	13.98
SGM 55LB									173.8	232	51.9																167.8	348	11.15	10.25	10.25	7.61	
SGM 65B	90	12	53.5	170	142	14	110	82	160	232	40.8	15.8	12.9	M16	22	22	15	15	63	53	26	22	18	75	35	M16x50	213	411.6	16.20	11.59	11.59	11.63	20.22
SGM 65LB									223	295	72.3																275.3	572.7	22.55	22.17	22.17	16.58	

注 Note : 1 kgf = 9.81 N

(3) SGT-T 下锁式滑轨尺寸表

Locking slide size table



型号 Model	滑轨尺寸 Slide size(mm)						重量 weight
	W_R	H_R	S	h	P	E	(kg/m)
SGT15T	15	16.5	M5*0.8P	8	30	20	1.86
SGT20T	20	21	M6*1P	10	30	20	2.76
SGT25T	23	23.6	M6X1P	12	30	20	3.36
SGT30T	28	28	M8X1.25P	15	40	20	4.82
SGT35T	34	30.2	M8X1.25P	17	40	20	6.48
SGT45T	45	38	M12X1.75P	24	52.5	22.5	10.83
SGT55T	53	44	M14X2P	24	60	30	15.15
SGT65T	63	53	M20X2.5P	30	75	35	21.24

SB 型式—静音式线性滑轨

SB type - silent linear slide

SB 型式—静音式线性滑轨

SB type - silent linear slide

SMAGIC 静音式线性滑轨，是基于四列式单圆弧牙型接触设计，为提升竞争优势，而积极研发之高性能线性滑轨。采用自行研发技术的SB 线性滑轨搭载具储油功能的专利同步联结器，可有效降低运转时噪音、提升运转平顺性、寿命与润滑效率。采用自行研发技术的 SB 线性滑轨具有更广泛的产业应用性，更适用于高速、宁静与低发尘需求的高科技产业。

The ROUST WORLD SO silent linear slide is a high-performance linear slide developed on the basis of a four-row single-arc contact design to enhance competitive advantage. The SO linear slide with self-developed technology is equipped with a patented synchronous coupling with oil storage function, which can effectively reducenoise during operation, improve running smoothness, life and lubrication efficiency. The SO linear slides with self-developed technology have wider industrial applicability and are more suitable for high-tech industries with high speed, quiet and low dust demand.

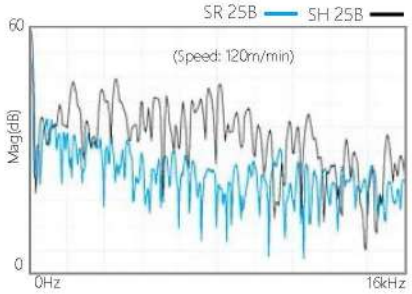
产品特点

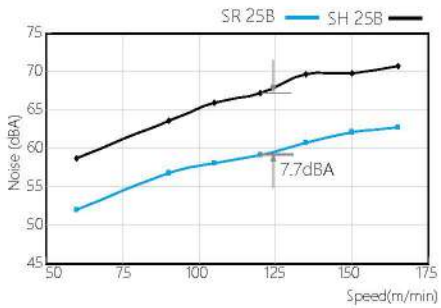
Features

(1) 低噪音设计 Low noise design

利用同步联结器可使滚珠均匀等间隔的排列，滚珠与滚珠间的相互撞击金属声消失，尖锐的高频声音强度有效降低（见左下图）。总和的噪音强度与旧有系列比较在各个速度域有效降低约 7.7 分贝（见右下图）。

With the synchronous coupling, the balls can be evenly spaced, the metal impact between the balls and the balls disappears, and the sharp high-frequency sound intensity is effectively reduced (see the lower left figure). The combined noise intensity is effectively reduced by approximately 7.7 dB in each speed range compared to the old series (see figure below right).

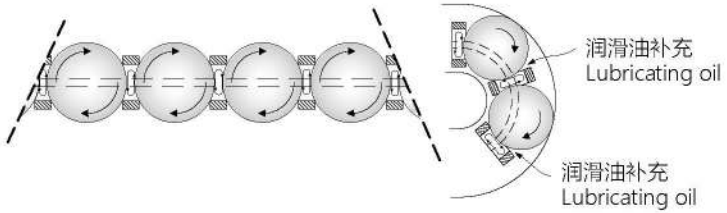




(2) 自润设计无须添油 Self-lubricating design does not require oil

专利的同步联结器在中间的间隔部设计有储油的空间，可供给钢珠在运行时润滑之需要，且在经过方向回转部时，能够将润滑油均匀的补充于储油空间内，继续均匀润滑钢珠，所以补充润滑油的频率可有效的减少。 经过测试，在出厂前添加高性能的锂皂基油脂，在 0.2 倍的动额定负荷下，可持续使用超过 4000 公里而不产生疲劳破坏。所以在出厂时即添加高性能的润滑油脂，在一般正常使用下无需进行维护，即可确保其寿命年限。

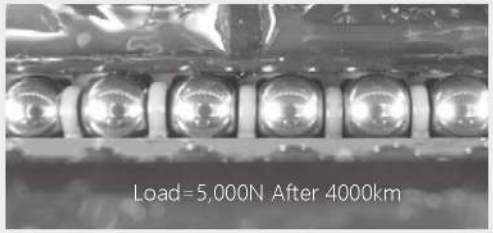
The patented synchronous coupling is designed with an oil storage space in the middle of the partition, which can supply the steel ball for lubrication during operation, and can uniformly replenish the lubricating oil in the oil storage space when passing through the direction turning portion, and continue to be evenly distributed. Lubricate the steel balls, so the frequency of replenishing the lubricant can be effectively reduced. After testing, high-performance lithium soap-based grease was added at the factory, and it could be used for more than 4000 kilometers under the dynamic load rating of 0.2 times without fatigue damage. Therefore, high-performance grease is added at the time of shipment, and maintenance is required under normal normal use to ensure the life of the grease.



试验数据 Test Data

试件 Specimen	SRU25BPAH
速度 speed	24m/min
润滑剂 Lubricant	锂皂基油脂（初期添加） Lithium soap based grease (initial addition)
负荷 load	5kN
行走里程 Walking mileage	4000 公里（持续测试中） 4000 km (continuous testing)

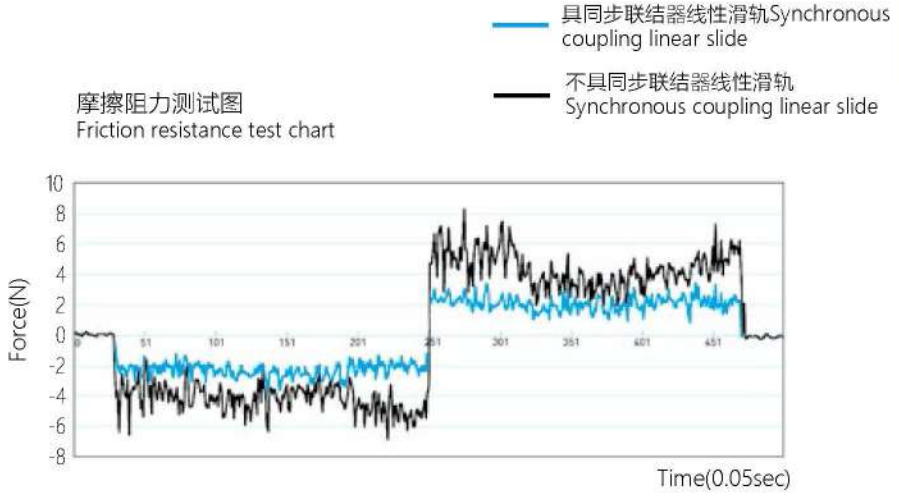
负荷测试 Load test



(3) 提升运动平顺度 Improve the smoothness of the exercise.

传统不具同步联结器之线性滑轨，开始运行时，负荷侧的钢珠会先运动，再推挤方向回转部与无负荷侧内 的钢珠，造成连锁的来回碰撞，使得摩擦阻力变动起伏剧烈。而采用我们技术的SB线性滑轨由于具有同步联结器，将同一循环内的所有钢珠串联在一起，所以当滑块开始运动时，所有钢珠几乎同时启动，且钢珠间并无来回的碰撞，在保持一定的运动惯性下，摩擦阻力的变动幅度能有效的减少。

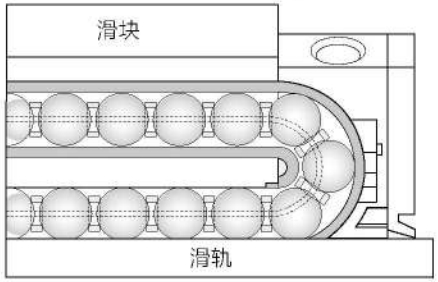
Conventionally, the linear slide without the synchronous coupling starts to move, and the steel ball on the load side moves first, and then pushes the steel ball in the direction of the rotating part and the unloaded side, causing a chain back and forth collision, so that the frictional resistance fluctuates drastically. The SB linear slides using our technology have all the steel balls in the same cycle connected together because of the synchronous coupling. When the slider starts to move, all the steel balls start almost at the same time, and there is no back and forth collision between the steel balls. Under a certain degree of motion inertia, the range of variation of frictional resistance can be effectively reduced.



(4) 高速设计 High speed design

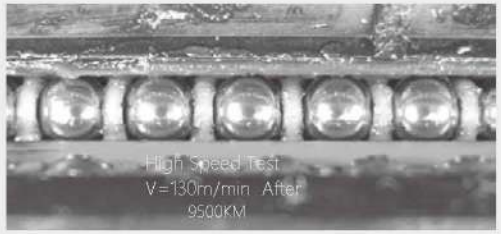
同步联结器的间隔部设计可使滚珠与滚珠之间的相互摩擦消失，且SMAGIC专利设计使得滚珠与同步联结器之间为环形线接触，可减少两者间的接触面积，进而有效降低摩擦阻力，使得静音式线性滑轨具有卓越的高速性能。

The spacer design of the synchronous coupling eliminates the mutual friction between the ball and the ball, and the patented SMAGIC design provides a circular line contact between the ball and the synchronous coupling, which reduces the contact area between the two, thereby effectively reducing friction. The resistance makes the silent linear slides have excellent high speed performance.



试验数据 Test Data

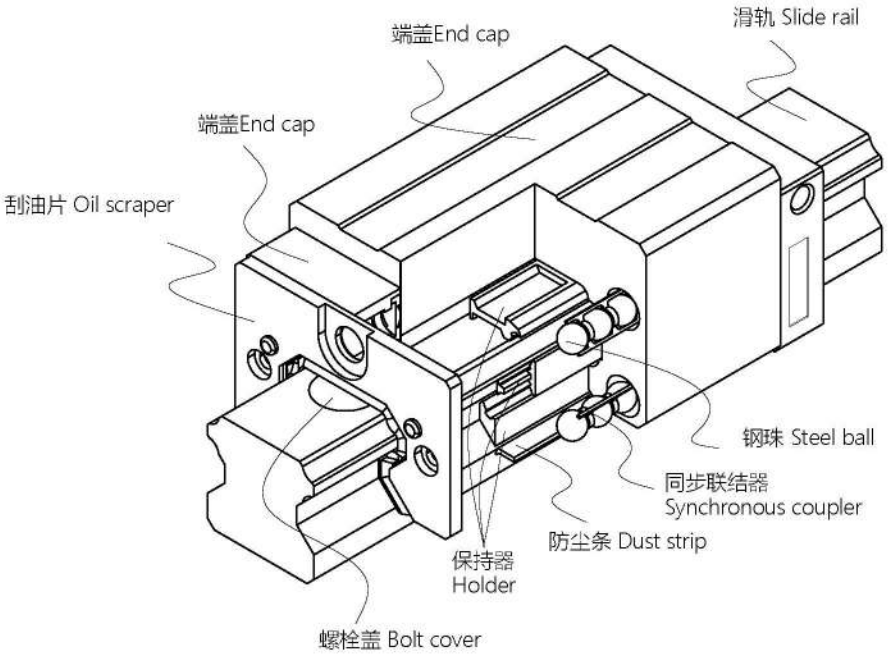
试件 Specimen	SRU25BPAH	高速测试High speed test
速度 speed	130m/min	
润滑剂 Lubricant	锂皂基油脂（初期添加） Lithium soap based grease (initial addition)	
行走里程 Walking mileage	9500 公里（持续测试中） 9500 km (continuous testing)	



SB 系列

SB 系列

SB 本体结构
SB body structure



SR 系列产品规格说明
Product specification

SR 系列分为非互换性及互换性型两种线性滑轨，两者规格尺寸相同，主要差异点在于互换性型之滑块、滑轨 可单出互换使用，较便利，对不需配对安装线性滑轨的客户而言，是一项很好的选择。 SR 系列与 SL 系列滑轨共用，客户无需为了选用静音式产品而重新设计安装尺寸，如此更加提升了 SR 系列的应用性与可互换性。

The SR series is divided into two types of linear slides, which are non-interchangeable and interchangeable. The two specifications are the same. The main difference is that the interchangeable sliders and slide rails can be used interchangeably, which is convenient and convenient. It is a good choice for customers who do not need to pair the linear slides. The SR series is shared with the SL series of slide rails, so customers do not need to redesign the mounting dimensions in order to select a silent product, which further enhances the applicability and interchangeability of the SR series.

SB 系列

(1) 非互换性线性滑轨产品型号

Non-interchangeable linear slide product model



注：

1. 单轴滑轨数若只使用一支滑轨则不写，两支标记为 II， 三支标记为 III，以此类推。
2. 防尘配备中无记号为防尘标准配备刮油片加防尘片。

ZH 为刮油片加防尘片加金属刮板。

KH 为双刮油片加防尘片加金属刮板。

DH 为双刮油片加防尘片。

Note:

1. If the number of single-axis slides is only one slide, the two marks are II, the three marks are III, and so on.
2. There is no marking in the dustproof equipment. The dustproof standard is equipped with a scraper and a dustproofpiece.

ZH is the scraper and dustproof sheet plus metal scraper.

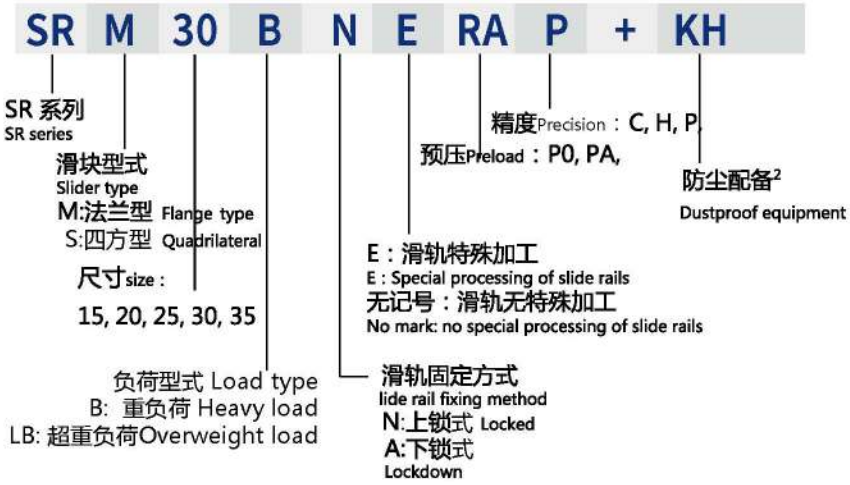
KH is a double scraper with dust and metal scraper.

DH is a double scraper and dustproof sheet.

(2) 互换性线性滑轨产品型号

Interchangeable linear slide product model

●互换型滑块产品型 Interchangeable slider product type



●互换型滑轨产品型号 Interchangeable slide product model
（滑轨与 SH 系列共享）(slides are shared with the SH series)



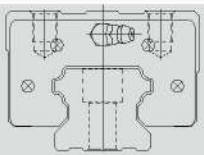
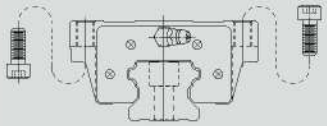
SR 系列型式
SR series type

(1) 滑块型式 Slider type

SMAGIC 提供法兰型及四方型两种线性滑轨，法兰型线性滑轨组合高度低，承靠面积大，适用于承受力距负载的场合。

SMAGIC offers two types of linear slides, flanged and square. The flanged linear slide combination has a low height and a large bearing area, which is suitable for applications where the load is close to the load.

表格 2-4-1 滑块型式 Slider type

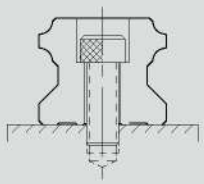
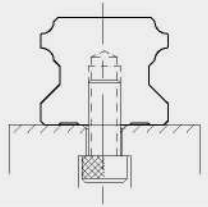
型式 Type	规格 specification	形状 shape	高度尺寸 Height dimension (mm)	滑轨长度 Side length (mm)	应用设备 Application equipment
四方型 Quadrilateral	SRU-B SRU-LB		28 ↓ 70	100 ↓ 4000	○ 机械加工中心 Machining center ○ 工具机 Machine tool ○ 精密加工机 Precision processing machine ○ 重型切削机床 Heavy duty cutting machine ○ 大理石切割机 Marble cutting machine ○ 磨床 Grinder ○ 射出机 Injection machine ○ 冲床 Punch ○ 自动化装置 Automation device ○ 运输设备 Transportation Equipment ○ 量测仪器 Measuring instrument
法兰型 Flange type	SRM-B SRM-LB		24 ↓ 60	100 ↓ 4000	

(2) 滑轨型式 Slide type

除了一般上锁式螺栓孔滑轨外，SMAGIC 亦提供下锁式螺丝孔滑轨，方便客户安装使用。

In addition to the general locking bolt hole slides, SMAGIC also provides a lock-type screw hole slide rail for easy installation and use.

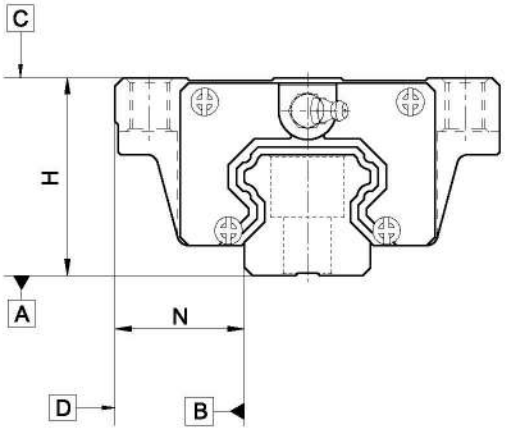
表格 2-4-2 滑轨型式 Slide type

上锁式螺栓孔 Locking bolt hole	下锁式螺丝孔 Locking screw hole
	

精度等级
Accuracy level

SR 系列线性滑轨的精度， 分为普通、高、精密、超精密、超高精密级共五级，客户可依设备精度需求选用精度。

The accuracy of SR series linear slides is divided into five levels: general, high, precision, ultra-precision and ultra-high precision. Customers can select the precision according to the precision requirements of the equipment.



(1) 非互换性线性滑轨精度
Non-interchangeable linear slide accuracy

表格 2-4-3 组合件精度表 Assembly accuracy table　　单位unit：mm

型号 Model	SR-15,20				
精度等级 Precision Level	普通级 (C)	高级 (H)	精密级 (P)	超精密级 (SP)	超高精密级 (UP)
高度 H 的容许尺寸误差 Allowable size error for height H	± 0.1	± 0.03	0 - 0.03	0 - 0.015	0 - 0.008
宽度 N 的容许尺寸误差 Allowable size error of width N	± 0.1	± 0.03	0 - 0.03	0 - 0.015	0 - 0.008
成对高度 H 的相互误差 Mutual error of Pair Height H	0.02	0.01	0.006	0.004	0.003
成对宽度 N 的相互误差 Mutual error of paired width N	0.02	0.01	0.006	0.004	0.003
滑块 C 面对滑轨 A 面的行走平行度 Walk parallelism of slider C on the A side of slider	行走平行度 (见表格 2-4-9) Walking parallelism(see Table2-4-9)				
滑块 D 面对滑轨 B 面的行走平行度 Walk parallelism of slider D on the B side of slider	行走平行度 (见表格 2-4-9) Walking parallelism(see Table2-4-9)				

表格 2-4-4 组合件精度表 Assembly accuracy table　　单位unit：mm

型号 Model	SR-25,30,35				
精度等级 Precision Level	普通级 (C)	高级 (H)	精密级 (P)	超精密级 (SP)	超高精密级 (UP)
高度 H 的容许尺寸误差 Allowable size error for height H	± 0.1	± 0.04	0 - 0.04	0 - 0.02	0 - 0.01
宽度 N 的容许尺寸误差 Allowable size error of width N	± 0.1	± 0.04	0 - 0.04	0 - 0.02	0 - 0.01
成对高度 H 的相互误差 Mutual error of Pair Height H	0.02	0.015	0.007	0.005	0.003
成对宽度 N 的相互误差 Mutual error of paired width N	0.03	0.015	0.007	0.005	0.003
滑块 C 面对滑轨 A 面的行走平行度 Walk parallelism of slider C on the A side of slider	行走平行度 (见表格 2-4-9) Walking parallelism(see Table2-4-9)				
滑块 D 面对滑轨 B 面的行走平行度 Walk parallelism of slider D on the B side of slider	行走平行度 (见表格 2-4-9) Walking parallelism(see Table2-4-9)				

表格 2-4-5 组合件精度表 Assembly accuracy table

单位unit：mm

型号 Model	SR-45				
精度等级 Precision Level	普通级 (C)	高级 (H)	精密级 (P)	超精密级 (SP)	超高精密级 (UP)
高度 H 的容许尺寸误差 Allowable size error for height H	± 0.1	± 0.05	0 - 0.05	0 - 0.03	0 - 0.02
宽度 N 的容许尺寸误差 Allowable size error of width N	± 0.1	± 0.05	0 - 0.05	0 - 0.03	0 - 0.02
成对高度 H 的相互误差 Mutual error of Pair Height H	0.03	0.015	0.007	0.005	0.003
成对宽度 N 的相互误差 Mutual error of paired width N	0.03	0.02	0.01	0.007	0.005
滑块 C 面对滑轨 A 面的行走平行度 Walk parallelism of slider C on the A side of slider	行走平行度（见表格 2-4-9) Walking parallelism(see Table2-4-9)				
滑块 D 面对滑轨 B 面的行走平行度 Walk parallelism of slider D on the B side of slider	行走平行度（见表格 2-4-9) Walking parallelism(see Table2-4-9)				

(2) 互换性线性滑轨精度

Interchangeable linear sliding track accuracy

表格 2-4-6 单出件精度表 Single output accuracy table

单位unit：mm

型号 Model	SR-15,20		
精度等级 Precision Level	普通级 (C)	高级 (H)	精密级 (P)
高度 H 的容许尺寸误差 Allowable size error for height H	± 0.1	± 0.03	± 0.015
宽度 N 的容许尺寸误差 Allowable size error of width N	± 0.1	± 0.03	± 0.015
成对高度 H 的相互误差 Mutual error of Pair Height H	0.02	0.01	0.006
成对宽度 N 的相互误差 Mutual error of paired width N	0.02	0.01	0.006
滑块 C 面对滑轨 A 面的行走平行度 Walk parallelism of slider C on the A side of slider	行走平行度（见表格 2-4-9) Walking parallelism(see Table2-4-9)		
滑块 D 面对滑轨 B 面的行走平行度 Walk parallelism of slider D on the B side of slider	行走平行度（见表格 2-4-9) Walking parallelism(see Table2-4-9)		

表格 2-4-7 单出件精度表 Single output accuracy table

单位unit：mm

型号 Model	SR-25,30,35		
精度等级 Precision Level	普通级 (C)	高级 (H)	精密级 (P)
高度 H 的容许尺寸误差 Allowable size error for height H	± 0.1	± 0.04	± 0.02
宽度 N 的容许尺寸误差 Allowable size error of width N	± 0.1	± 0.04	± 0.02
成对高度 H 的相互误差 Mutual error of Pair Height H	0.02	0.015	0.007
成对宽度 N 的相互误差 Mutual error of paired width N	0.03	0.015	0.007
滑块 C 面对滑轨 A 面的行走平行度 Walk parallelism of slider C on the A side of slider	行走平行度（见表格 2-4-9) Walking parallelism(see Table2-4-9)		
滑块 D 面对滑轨 B 面的行走平行度 Walk parallelism of slider D on the B side of slider	行走平行度（见表格 2-4-9) Walking parallelism(see Table2-4-9)		

表格 2-4-8 单出件精度表 Single output accuracy table

单位unit：mm

型号 Model	SR-45		
精度等级 Precision Level	普通级 (C)	高级 (H)	精密级 (P)
高度 H 的容许尺寸误差 Allowable size error for height H	± 0.1	± 0.05	± 0.025
宽度 N 的容许尺寸误差 Allowable size error of width N	± 0.1	± 0.05	± 0.025
成对高度 H 的相互误差 Mutual error of Pair Height H	0.03	0.015	0.007
成对宽度 N 的相互误差 Mutual error of paired width N	0.03	0.02	0.01
滑块 C 面对滑轨 A 面的行走平行度 Walk parallelism of slider C on the A side of slider	行走平行度 (见表格 2-4-9) Walking parallelism(see Table2-4-9)		
滑块 D 面对滑轨 B 面的行走平行度 Walk parallelism of slider D on the B side of slider	行走平行度 (见表格 2-4-9) Walking parallelism(see Table2-4-9)		

表格 2-4-9 行走平行度精度 Walking parallelism accuracy

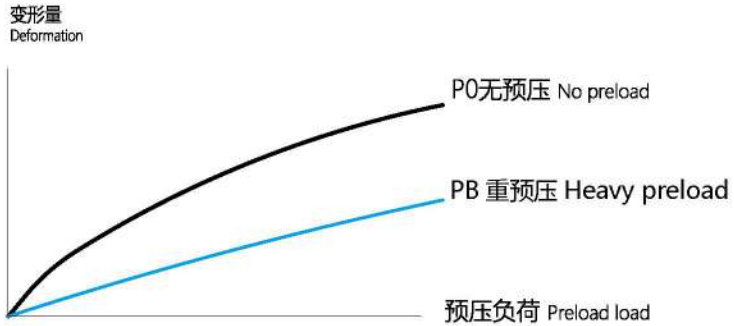
滑轨长度Slide length (mm)	精度等级 Accuracy level (μm) C	H	P	SP	UP
~ 100	12	7	3	2	2
100 ~ 200	14	9	4	2	2
200 ~ 300	15	10	5	3	2
300 ~ 500	17	12	6	3	2
500 ~ 700	20	13	7	4	2
700 ~ 900	22	15	8	5	3
900 ~ 1,100	24	16	9	6	3
1,100 ~ 1,500	26	18	11	7	4
1,500 ~ 1,900	28	20	13	8	4
1,900 ~ 2,500	31	22	15	10	5
2,500 ~ 3,100	33	25	18	11	6
3,100 ~ 3,600	36	27	20	14	7
3,600 ~ 4,000	37	28	21	15	7

预压力
Pre-stress

(1) 预压力定义 Pre-stress definition

预压力是预先给与钢珠负荷力，亦即加大钢珠直径，利用钢珠与珠道之间负向间隙给与预压，此举能提高线性滑轨的刚性及消除间隙；以下图来解释，提高预压力可增加线性滑轨刚性。但小规格建议选用轻预压以下预压，以避免因预压选用过重降低其使用寿命。

The pre-pressure is to pre-apply the load force of the steel ball, that is, increase the diameter of the steel ball, and use the negative gap between the steel ball and the bead to pre-press, which can improve the rigidity of the linear slide and eliminate the gap; the following figure explains Increasing the preload increases the rigidity of the linear slide. However, the small size is recommended to use the preload under the light preload to avoid the excessive use of preload to reduce its service life.



(2) 预压等级 Preload rating

SR 系列线性滑轨提供三种标准预压，可依据用途选择适当预压力。

The SR Series linear slides are available in three standard preloads to select the appropriate preload depending on the application.

表格 2-4-10 预压等级 Preload rating

预压等级 Preload rating	标记 Mark	预压力 Pre-stress	使用条件 Conditions of Use	适用范围 Scope of application
无预压 No preload	P0	0~ 0.02C	负荷方向固定且冲击小，精度要求低 Fixed load direction with low impact and low precision	搬送装置，自动包装机，自动化产业机械，一般工业机械的 XY轴，焊接机，熔断机，工具交换装置 Transfer device, automatic packaging machine, automation industrial machinery, general industrial machinery XY axis, welding machine, fuse machine, tool changer
轻预压 Light preload	PA	0.05~0.07C	轻负荷且要求高精度 Light load and high precision	一般工业机械的Z轴，放电加工机，NC车床，精密XY平台，测定器，机械加工中心，立式加工中心，工业用机器人，自动涂装机，各种高速材料供给装置 General industrial machinery Z-axis, electric discharge machine, NC lathe, precision XY platform, measuring device, machining center, vertical machining center, industrial robot, automatic coating machine, various high-speed material supply devices
重预压 Heavy preload	PB	0.10C~ 0.12C	刚性要求，且有振动，冲击的使用环境 Rigid requirements, vibration and impact environment	机械加工中心，磨床，NC车床，立式或卧式铣床，机床的Z 轴，重切削加工机 Machining center, grinding machine, NC lathe, vertical or horizontal milling machine, machine tool Z axis, heavy cutting machine

注：

1. 预压力 C 为动额定负荷
2. 互换性线（单出件）预压等级：P0, PA。

   非互换性线轨（组合件）预压等级：P0, PA, PB

Note:

1. Pre-pressure C is dynamic rated load
2. Interchangeable line (single output) Preload rating: P0, PA.

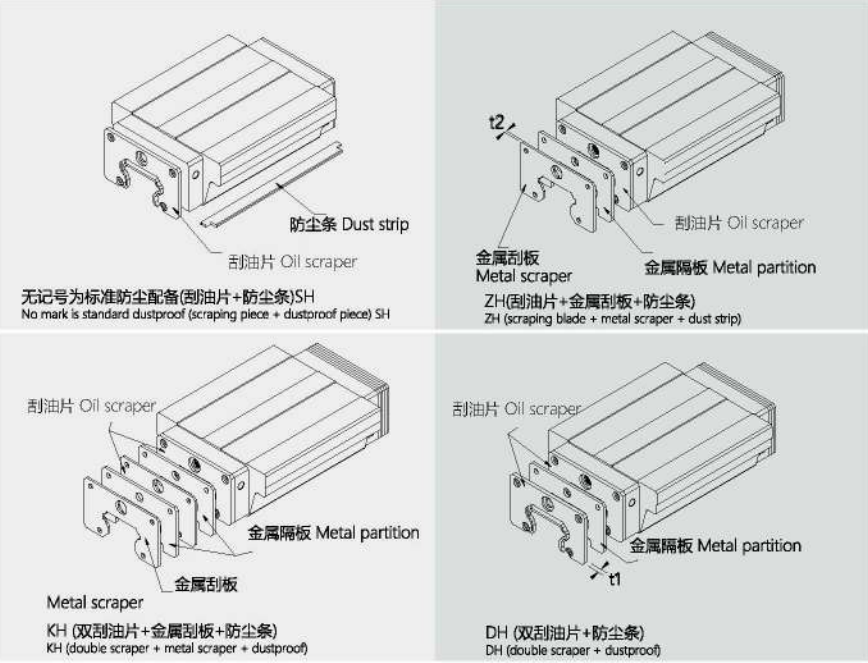
   Non-interchangeable wire rail (assembly) Preload rating: P0, PA, PB

防尘配备
Dustproof equipment

(1) 防尘配备代码 Dust-proof code

若有下列防尘配备需求时，请于产品型号后面加注代码

If you have the following dustproof requirements, please add the code after the product model.



(2) 刮油片及底面尘封防尘片 scraper and bottom dust seal

阻止加工铁屑或尘粒进入滑块里面，破坏珠道表面而降低线性滑轨寿命。

Prevents the processing of iron filings or dust particles from entering the slider, destroying the bead surface and reducing the linear slide life.

(3) 双层刮油片 Double-layer scraper

加倍刮屑效果，即使在重切削加工环境中，异物完全被排除于滑块外。

Double the scraping effect, even in the heavy cutting environment, the foreign matter is completely excluded from the slider

表格 2-4-11 刮油片厚度 Oil scraper thickness

规格 specification	增加厚度 (t1) Increasing the thickness (mm)	规格 specification	增加厚度 (t1) Increasing the thickness (mm)
SR15	3	SR30	3.2
SR20	2.5	SR35	2.5
SR25	2.5	SR45	3.6

(4) 金属刮板 Metal scraper

可隔离高温铁屑或加工火花，并排除大体积杂质。

It can isolate high temperature iron filings or machining sparks and eliminate large volume impurities.

表格 2-4-12 金属刮板厚度 Metal scraper thickness

规格 specification	增加厚度 (t1) Increasing the thickness (mm)	规格 specification	增加厚度 (t1) Increasing the thickness (mm)
SR15	1.5	SR30	1.5
SR20	1.5	SR35	1.5
SR25	1.5	SR45	1.5

(5) 防尘代码之滑块总长度 Total length of the dustproof code slider

表格 2-4-13 滑块总长度 Total length of the slider

单位 unit：mm

规格 specification	滑块总长度 (L) 标准 SH	ZH	DH	KH
SR15B	61.4	68.4	68	75
SR20B	76.7	81.9	81.7	86.9
SR20LB	91.4	96.6	96.4	101.6
SR25B	83.4	89.4	88.4	94.4
SR25LB	104	110	109	115
SR30B	97.4	104.8	104.8	112.2
SR30LB	120.4	127.8	127.8	135.2
SR35B	113.6	119	118.6	124
SR35LB	139.4	144.8	144.4	149.8
SR45B	139.4	147.2	146.6	154.4
SR45LB	171.2	179	178.4	186.2

摩擦力
Friction

此阻力值为单片刮油片的最大阻力。

This resistance is the maximum resistance of a single piece of oil scraper.

表格 2-4-14 SR 系列刮油片阻力 SR series scraper resistance

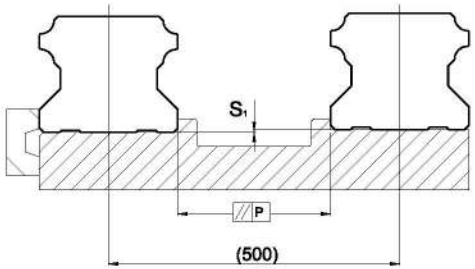
规格 specification	刮油片阻力 (kgf) Oil scraper resistance	规格 specification	刮油片阻力 (kgf) Oil scraper resistance
SR15	1.2	SR30	2.7
SR20	1.6	SR35	3.1
SR25	2.0	SR45	5.3

SB 系列

安装平面误差
Mounting plane error

SR 系列为圆弧两点接触式线性滑轨，其自动调心的特性可以吸收安装面的些许误差而不影响直线运动的顺畅性；下表中注明了安装平面的容许误差值：

The SR series is a circular two-point contact linear slide. Its self-aligning characteristics can absorb some errors of the mounting surface without affecting the smoothness of the linear motion. The tolerance values of the mounting plane are indicated in the following table:



表格 2-4-15 容许平行度误差 Allowable parallelism error (P)　　单位 unit：μm

规格 specification	预压 Preload		
	P0 预压 Preload	PA 预压 Preload	PB 预压 Preload
SR15	25	18	-
SR20	25	20	18
SR25	30	22	20
SR30	40	30	27
SR35	50	35	30
SR45	60	40	35

表格 2-4-16 容许上下水平度误差
Allow upper and lower horizontal error (S1)　　单位 unit：μm

规格 specification	预压 Preload		
	P0 预压 Preload	PA 预压 Preload	PB 预压 Preload
SR15	130	85	-
SR20	130	85	50
SR25	130	85	70
SR30	170	110	90
SR35	210	150	120
SR45	250	170	140

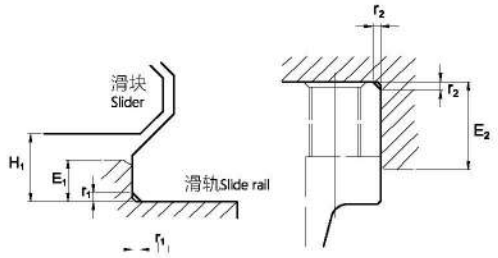
安装注意事项
Installation Precautions

(1) 安装面肩部高度及倒角

Mounting surface shoulder height and chamfer

安装线性滑轨时必须注意安装面肩部的状况是否适当，如倒角过大，凸出的地方易造成线性滑轨精度不良，而高度过高则会干涉滑块。故如果能依照建议要求安装面肩部，安装精度不良即可排除。

When installing the linear slide rails, it is necessary to pay attention to the proper condition of the shoulder of the mounting surface. If the chamfer is too large, the protruding position may cause the linear slide rail to be inferior in accuracy, and the height too high may interfere with the slider. Therefore, if the shoulder can be installed according to the recommended requirements, the installation accuracy can be eliminated.



表格 2-4-17 肩部高度及倒角 Shoulder height and chamfer

规格 specification	滑轨端 最大圆角半径 Maximum corner radius of the rail end r_1 (mm)	滑块端 最大圆角半径 Maximum corner radius of the slider end r_2 (mm)	滑轨端 肩部高度 Rail shoulder height E_1 (mm)	滑块端 肩部高度 Slider shoulder height E_2 (mm)	滑块的 运行净高 The running height of the slider) H_1 (mm)
SR15	0.5	0.5	3.0	4.0	4.0
SR20	0.5	0.5	3.5	5.0	4.6
SR25	1.0	1.0	5.0	5.0	5.5
SR30	1.0	1.0	5.0	5.0	6.0
SR35	1.0	1.0	6.0	6.0	7.5
SR45	1.0	1.0	8.0	8.0	9.2

(2) 滑轨装配螺丝的扭力值

Torque value of the rail assembly screw

安装滑轨时是否锁紧贴平基准面影响线性滑轨精度严重，因此为达到每颗螺丝都能锁紧的目的，建议使用下列扭力值锁装配螺丝。

Whether the locking flat reference surface is installed when the slide rail is installed affects the accuracy of the linear slide rail. Therefore, in order to achieve the purpose of locking each screw, it is recommended to use the following torque value lock assembly screws.

表格 2-4-18 扭力值 Torque value

规格 speciPcation	螺丝规格 Screw speciPcation	扭力值 Torque value N-cm (kgf-cm)	规格 speciPcation	螺丝规格 Screw speciPcation	扭力值 Torque valued N-cm (kgf-cm)
SR15	MA*0.7P*16L	392(40)	SR30	M8*1.25P*25L	3041(310)
SR20	M5*0.8*16L	883(90)	SR35	M8*1.25P*25L	3041(310)
SR25	M6*1P*20L	1373(140)	SR45	M12*1.75P*35L	11772(1200)

注 note：1 kgf = 9.81N

(3) 安装方式

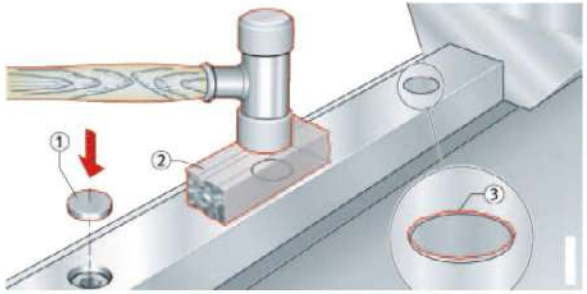
Installation method

在安装前，导轨必须已用尺寸表中的紧固力矩MA 固定。
不要让滑块滑过还没有填塞起来的沉头孔。如果滑块移动，
要保证密封唇得到有效的保护。
根据环境和运行条件，沉头孔使用塑料或者铜填塞片。
使用安装
敲击填塞片，图 6：

- 将填塞片①放入沉头孔内。
- 将一平整的铁块 放在填塞片上。
- 垂直敲击铁块。
- 去除填塞片上被切下来的毛边③。

Before installation, the rails must have been fixed with the tightening torque MA in the dimension table.
Do not let the slider slide over the counterbore that has not been filled. If the slider moves,
Make sure the sealing lip is effectively protected.
The counterbore is filled with plastic or copper depending on the environment and operating conditions. Use installation
Tap the tamper, Figure 6:

- Place the tampon 1 into the counterbore.
- Place a flat piece of iron on the tampon.
- Hit the iron block vertically.
- Remove the cut edges 3 on the tamping sheet.



①填塞片 stuffing piece
②铁块 iron blocks
③毛边 raw edges

图 6 Figure 6 敲入填塞片 Knock in the tampon

不要用油石①去磨塑料填塞片或者相似方法，
图 13。
Do not use oil stone ① to grind plastic tampon or similar methods,
Figure 13.

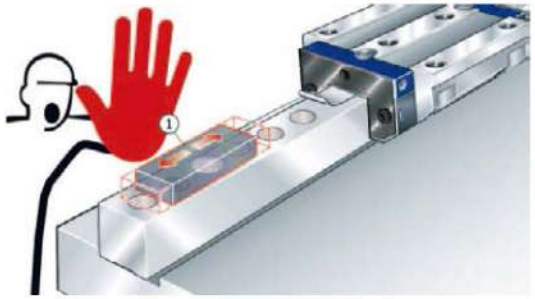


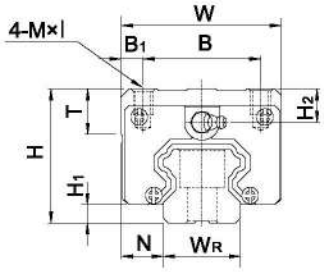
图 13 不要使用油石 Figure 13 Do not use oil stone

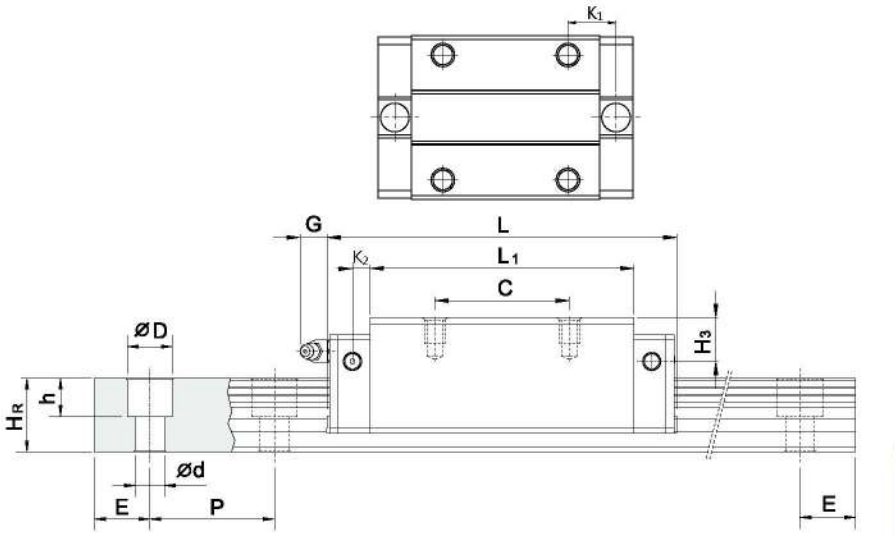
①油石 Oil stone

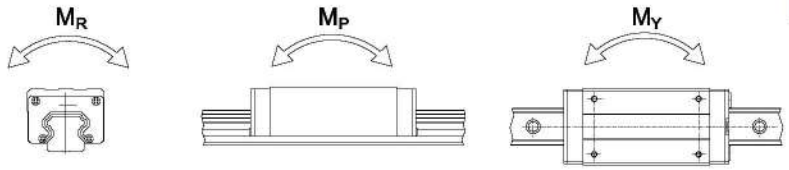
SR 系列线性滑轨尺寸表

SR series linear slide size table

(1) SRS-B / SRS-LB





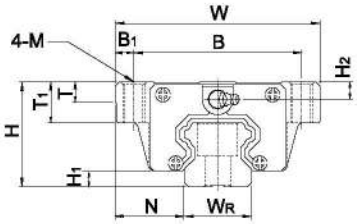


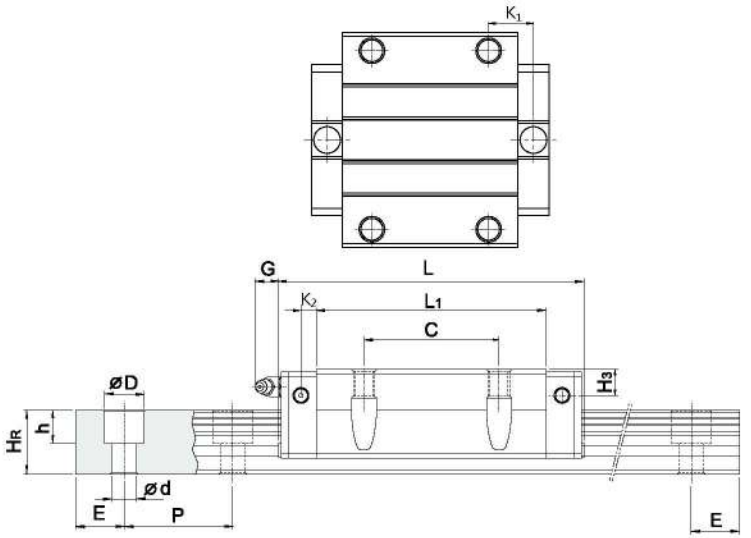
型号 Model	组件尺寸 (mm)			滑块尺寸 Slider size(mm)													滑轨尺寸 Slie size (mm)							滑轨的固定螺栓尺寸	基本动额定负荷	基本静额定负荷	容许静力矩			重量	
	H	H_1	N	W	B	B_1	C	L_1	L	K_1	K_2	G	MxI	T	H_2	H_3	W_R	H_R	D	h	d	P	E	(mm)	C(kN)	Co (kN)	MR kN-m	MP kN-m	MY kN-m	滑块 kg	滑轨 kg/m
SRS15B	28	4	9.5	34	26	4	26	39.4	61.4	10	5	5.3	M4 x 5	6	7.95	8.2	15	15	7.5	5.3	4.5	60	20	M4x16	13.88	14.36	0.1	0.08	0.08	0.18	1.45
SRS 20B	30	4.6	12	44	32	6	36	50.5	76.7	11.75	6	12	M5 x 6	8	6	6	20	17.5	9.5	8.5	6	60	20	M5x16	23.08	25.63	0.26	0.19	0.19	0.29	2.21
SRS20LB							50	65.2	91.4	12.1															27.53	31.67	0.31	0.27	0.27	0.38	
SRS25B	40	5.5	12.5	48	35	6.5	35	58	83.4	15.7	6	12	M6 x8	8	10	8.5	23	22	11	9	7	60	20	M6x20	31.78	33.68	0.45	0.31	0.31	0.50	3.21
SRS25LB							50	78.6	104	18.5															39.30	43.62	0.5	0.45	0.45	0.68	
SRS 30B	45	6	16	60	40	10	40	70	97.4	19.5	6.25	12	M8x10	8.5	9.5	9	28	26	14	12	9	80	20	M8x25	46.49	48.17	0.6	0.5	0.5	0.87	4.47
SRS30LB							60	93	120.4	21.75															56.72	65.09	0.83	0.89	0.89	1.15	
SRS35B	55	7.5	18	70	50	10	50	80	113.6	19	7.5	12	M8x12	10.2	15.5	13.5	34	29	14	12	9	80	20	M8x25	60.52	63.84	1.07	0.76	0.76	1.44	6.30
SRS35LB							72	105.8	139.4	20.9															73.59	86.24	1.45	1.33	1.33	1.90	
SRS45B	70	9.2	20.5	86	60	13	60	97	139.4	23	10	12.9	M10*17	16	18.5	20	45	38	20	17	14	105	22.5	M12*35	89.21	94.81	1.83	1.38	1.38	2.72	10.41
SRS45LB							80	128.8	171.2	29.09															108.72	128.43	2.47	2.41	2.41	3.59	

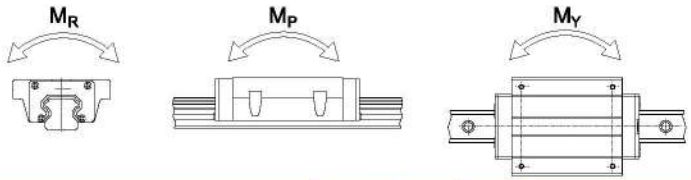
注 Note : 1 kgf = 9.81 N

SB 系列

(2) SRM-B / SRM-LB



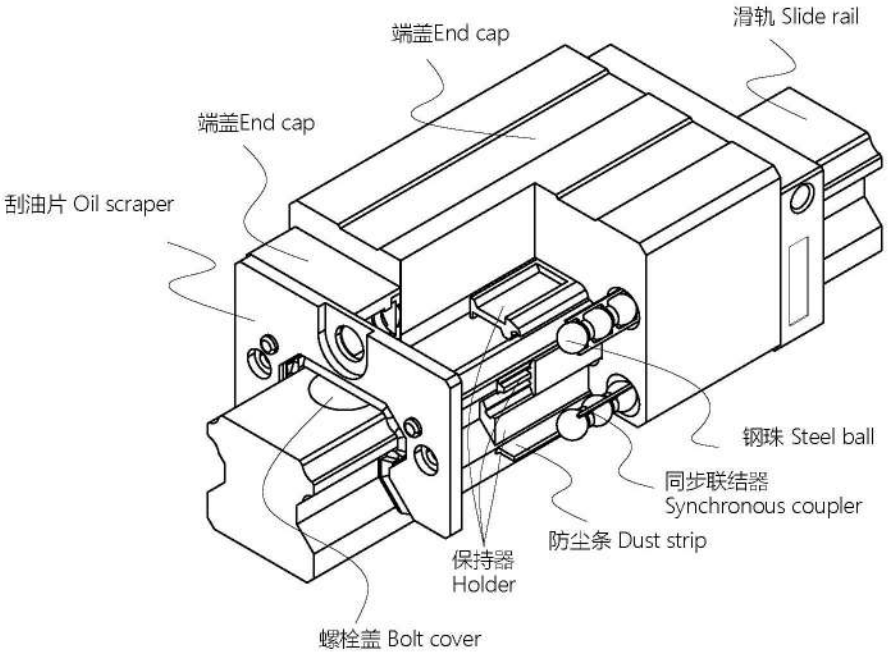




型号 Model	组件尺寸 (mm)			滑块尺寸 Slider size(mm)														滑轨尺寸 Slie size (mm)							滑轨的固定螺栓尺寸	基本动额定负荷	基本静额定负荷	容许静力矩			重量	
	H	H_1	N	W	B	B_1	C	L_1	L	K_1	K_2	G	M	T	T_1	H_2	H_3	W_R	H_R	D	h	d	P	E	(mm)	C(kN)	Co (kN)	MR kN-m	MP kN-m	MY kN-m	滑块 kg	滑轨 kg/m
SRM 15B	24	4	16	47	38	4.5	30	39.4	61.4	8	5	5.3	M5	6	8.9	3.95	4.2	15	15	7.5	5.3	4.5	60	20	M4x16	13.88	14.36	0.1	0.08	0.08	0.17	1.45
SRM 20B	30	4.6	21.5	63	53	5	40	50.5	76.7	9.75	6	12	M6	8	10	6	6	20	18	9.5	8.5	6	60	20	M5x16	23.08	25.63	0.26	0.19	0.19	0.40	2.21
SRM 20LB								65.2	91.4	17.1																27.53	31.67	0.31	0.27	0.27	0.52	
SRM 25B	36	5.5	23.5	70	57	6.5	45	58	83.4	10.7	6	12	M8	8	14	6	4.5	23	22	11	9	7	60	20	M6x20	31.78	33.68	0.45	0.31	0.31	0.59	3.21
SRM 25LB								78.6	104	21																39.30	43.62	0.5	0.45	0.45	0.80	
SRM 30B	42	6	31	90	72	9	52	70	97.4	13.5	6.25	12	M10	8.5	16	6.5	6	28	26	14	12	9	80	20	M8x25	46.49	48.17	0.6	0.5	0.5	1.09	4.47
SRM 30LB								93	120.4	25.75																56.72	65.09	0.83	0.89	0.89	1.44	
SRM 35B	48	7.5	33	100	82	9	62	80	113.6	13	7.5	12	M10	10.1	18	8.5	6.5	34	29	14	12	9	80	20	M8x25	60.52	63.84	1.07	0.76	0.76	1.56	6.30
SRM 35LB								105.8	139.4	25.9																73.59	86.24	1.45	1.33	1.33	2.06	
SRM45B	60	9.2	37.5	120	100	10	80	97	139.4	13	10	12.9	M12	15.1	22	8.5	10	45	38	20	17	14	105	22.5	M12*35	89.21	94.81	1.83	1.38	1.38	2.79	10.41
SRM45LB								128.8	171.2	28.9																108.72	128.43	2.47	2.41	2.41	3.69	

注 Note : 1 kgf = 9.81 N

SP 本体结构
SP body structure



产品规格说明
Product Specifications

sp 系列分为非互换性及互换性型两种线性滑轨，两者规格尺寸相同，主要差异点在于互换性型之滑块、滑轨可单独互换使用，较便利，但其组合精度无法达到非互换性型之超精密级以上的精度，不过由于 SMAGIC 互换性型之组合精度目前已达到一定的水平，对不需配对安装线性滑轨的客户而言，是一项便利的选择。线性滑轨的产品规格型号主要标明线性滑轨尺寸、型式、精度等级、预压等规格要求，以利订货时双方对产品的确认。

The SP series is divided into two types of linear slides, which are non-interchangeable and interchangeable. The two specifications are the same. The main difference is that the interchangeable sliders and slide rails can be used interchangeably, which is convenient, but The combination accuracy can not reach the accuracy of the noninterchangeable ultra-precision level, but since the combination accuracy of the SMAGIC interchangeable type has reached a certain level, it is a kind of customer who does not need to pair the linear slide rails. Convenient choice. The product specifications of the linear slides mainly indicate the linear slide size, type, accuracy grade, preload and other specifications, so that both parties can confirm the product when ordering.

SB 系列

(1) 非互换性线性滑轨产品型号

Non-interchangeable linear slide product model



注：

1. 单轴滑轨数若只使用一支滑轨则不写，两支标记为 II， 三支标记为 III，以此类推。

2. 防尘配备中无记号为防尘标准配备刮油片加防尘片。
ZH 为刮油片加防尘片加金属刮板。
KH 为双刮油片加防尘片加金属刮板。
DH 为双刮油片加防尘片。

note：

1.If the number of single-axis slides is only one slide, the two marks are II, the three marks are III, and so on.

2.There is no marking in the dustproof equipment. The dustproof standard is equipped with a scraper and a dustproof piece.

ZH is a scraper blade with a dustproof sheet and a metal scraper.

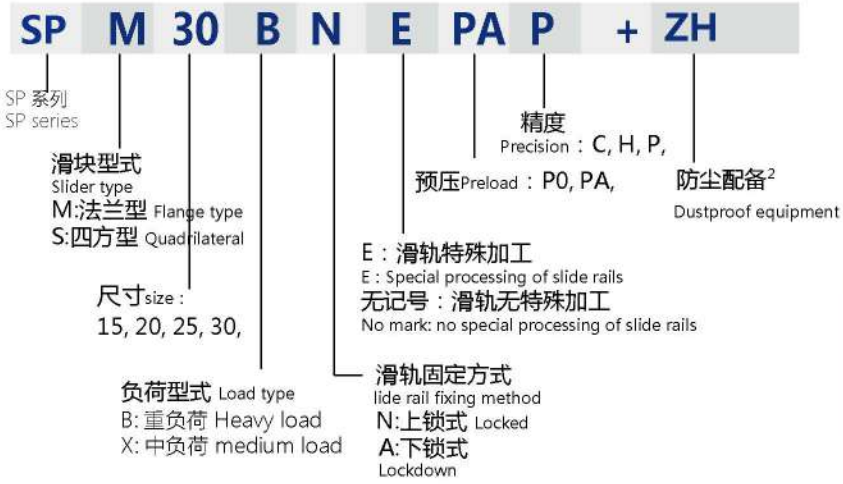
KH is a double scraper with dust and metal scraper.

DH is double scraper and dustproof sheet.

(2) 互换性线性滑轨产品型号

Interchangeable linear slide product model

●互换型滑块产品型 Interchangeable slider product type



●互换型滑轨产品型号 Interchangeable slide product model

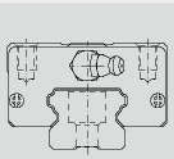
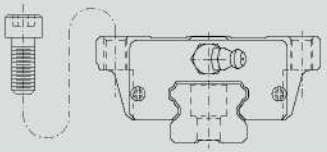


SP 系列型式
SP series type

(1) 滑块型式 Slider type

SMAGIC 提供法兰型及四方型两种线性滑轨。
SMAGIC offers two linear slides, flanged and square.

表格 2-5-1 滑块型式 Slider type

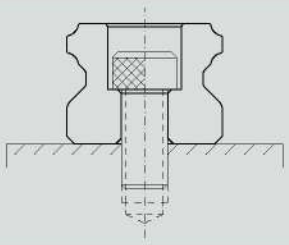
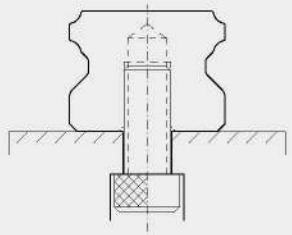
型式 Type	规格 specification	形状 shape	高度尺寸 Height dimension (mm)	滑轨长度 Slide length (mm)	应用设备 Application equipment
四方型 Quadrilateral	SPU-X SPU-B		24 ↓ 42	100 ↓ 4000	○自动化装置 Automation device ○高速运输设备 High speed transportation equipment ○精密量测仪器 Precision measuring instrument
法兰型 Flange type	SPM-X SPM-B		24 ↓ 42	100 ↓ 4000	○半导体设备 Semiconductor equipment ○木工机械 Woodworking machinery

(2) 滑轨型式 Slide type

除了一般上锁式螺栓孔滑轨外，SMAGIC 亦提供下锁式螺丝孔滑轨，方便客户安装使用。

In addition to the general locking bolt hole slides, SMAGIC also provides a lock-type screw hole slide rail for easy installation and use.

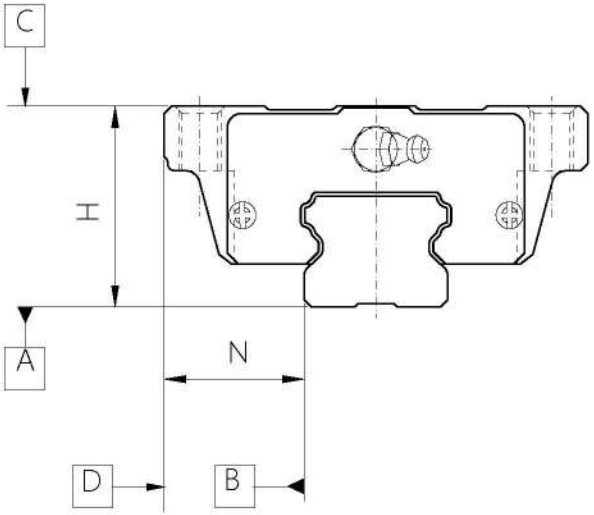
表格 2-5-2

上锁式螺栓孔 Locking bolt hole	下锁式螺丝孔 Locking screw hole
	

精度等级
Accuracy level

SP 系列线性滑轨的精度，分为普通、高、精密、超精密、超高精密级共五级，客户可依设备精度需求选用精度。

The accuracy of SP series linear slides is divided into five levels: ordinary, high, precision, ultra-precision and ultra-high precision. Customers can select the precision according to the precision requirements of the equipment.



(1) 非互换性线性滑轨精度

Non-interchangeable linear slide accuracy

表格 2-5-3 组合件精度表 Assembly accuracy table

单位unit：mm

型号 Model	SP-15,20				
精度等级 Precision Level	普通级 (C)	高级 (H)	精密级 (P)	超精密级 (SP)	超高精密级 (UP)
高度 H 的容许尺寸误差 Allowable size error for height H	±0.1	±0.03	0 - 0.03	0 - 0.015	0 - 0.008
宽度 N 的容许尺寸误差 Allowable size error of width N	±0.1	±0.03	0 - 0.03	0 - 0.015	0 - 0.008
成对高度 H 的相互误差 Mutual error of Pair Height H	0.02	0.01	0.006	0.004	0.003
成对宽度 N 的相互误差 Mutual error of paired width N	0.02	0.01	0.006	0.004	0.003
滑块 C 面对滑轨 A 面的行走平行度 Walk parallelism of slider C on the A side of slider	行走平行度（见表格 2-4-9) Walking parallelism(see Table2-4-9)				
滑块 D 面对滑轨 B 面的行走平行度 Walk parallelism of slider D on the B side of slider	行走平行度（见表格 2-4-9) Walking parallelism(see Table2-4-9)				

表格 2-5-4 组合件精度表 Assembly accuracy table

单位unit：mm

型号 Model	SP-25,30				
精度等级 Precision Level	普通级 (C)	高级 (H)	精密级 (P)	超精密级 (SP)	超高精密级 (UP)
高度 H 的容许尺寸误差 Allowable size error for height H	± 0.1	± 0.04	0 - 0.04	0 - 0.02	0 - 0.01
宽度 N 的容许尺寸误差 Allowable size error of width N	± 0.1	± 0.04	0 - 0.04	0 - 0.02	0 - 0.01
成对高度 H 的相互误差 Mutual error of Pair Height H	0.02	0.015	0.007	0.005	0.003
成对宽度 N 的相互误差 Mutual error of paired width N	0.03	0.015	0.007	0.005	0.003
滑块 C 面对滑轨 A 面的行走平行度 Walk parallelism of slider C on the A side of slider	行走平行度（见表格 2-4-9) Walking parallelism(see Table2-4-9)				
滑块 D 面对滑轨 B 面的行走平行度 Walk parallelism of slider D on the B side of slider	行走平行度（见表格 2-4-9) Walking parallelism(see Table2-4-9)				

(2) 互换性线性滑轨精度

Interchangeable linear sliding track accuracy

表格 2-5-5 单出件精度表 Single output accuracy table　　单位unit：mm

型号 Model	SP-15,20		
精度等级 Precision Level	普通级 (C)	高级 (H)	精密级 (P)
高度 H 的容许尺寸误差 Allowable size error for height H	± 0.1	± 0.03	± 0.015
宽度 N 的容许尺寸误差 Allowable size error of width N	± 0.1	± 0.03	± 0.015
成对高度 H 的相互误差 Mutual error of Pair Height H	0.02	0.01	0.006
成对宽度 N 的相互误差 Mutual error of paired width N	0.02	0.01	0.006
滑块 C 面对滑轨 A 面的行走平行度 Walk parallelism of slider C on the A side of slider	行走平行度（见表格 2-4-9) Walking parallelism(see Table2-4-9)		
滑块 D 面对滑轨 B 面的行走平行度 Walk parallelism of slider D on the B side of slider	行走平行度（见表格 2-4-9) Walking parallelism(see Table2-4-9)		

表格 2-5-6 单出件精度表 Single output accuracy table　　单位unit：mm

型号 Model	SP-25,30		
精度等级 Precision Level	普通级 (C)	高级 (H)	精密级 (P)
高度 H 的容许尺寸误差 Allowable size error for height H	± 0.1	± 0.04	± 0.02
宽度 N 的容许尺寸误差 Allowable size error of width N	± 0.1	± 0.04	± 0.02
成对高度 H 的相互误差 Mutual error of Pair Height H	0.02	0.015	0.007
成对宽度 N 的相互误差 Mutual error of paired width N	0.03	0.015	0.007
滑块 C 面对滑轨 A 面的行走平行度 Walk parallelism of slider C on the A side of slider	行走平行度（见表格 2-4-9) Walking parallelism(see Table2-4-9)		
滑块 D 面对滑轨 B 面的行走平行度 Walk parallelism of slider D on the B side of slider	行走平行度（见表格 2-4-9) Walking parallelism(see Table2-4-9)		

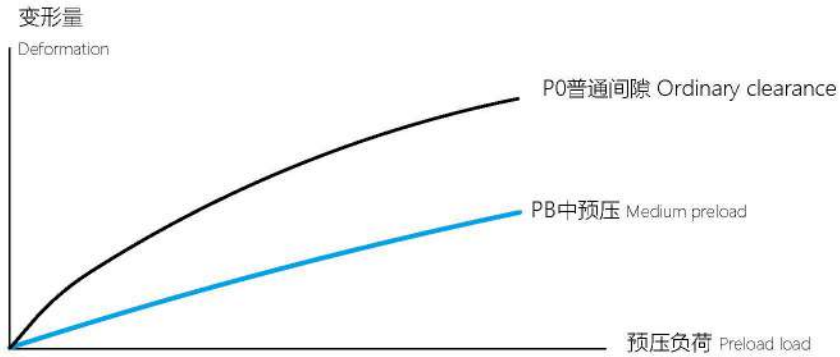
预压力

Pre-stress

(1) 预压力定义 Pre-stress definition

预压力是预先给与钢珠负荷力，亦即加大钢珠直径，利用钢珠与珠道之间负向间隙给与预压，此举能提高线性滑轨的刚性及消除间隙；以下图来解释，提高预压力可增加线性滑轨刚性。但小规格建议选用轻预压以下预压，以避免因预压选用过重降低其使用寿命。

The pre-pressure is to pre-apply the load force of the steel ball, that is, increase the diameter of the steel ball, and use the negative gap between the steel ball and the bead to pre-press, which can improve the rigidity of the linear slide and eliminate the gap; the following figure explains Increasing the preload increases the rigidity of the linear slide. However, the small size is recommended to use the preload under the light preload to avoid the excessive use of preload to reduce its service life.



SB 系列

(2) 预压等级 Preload rating

SP 系列线性滑轨提供三种标准预压，可依据用途选择适当预压力。

The SP Series linear slides are available in three standard preloads to select the appropriate preload depending on the application.

表格 2-5-7 预压等级 Preload rating

预压等级 Preload rating	标记 Mark	预压力 Pre-stress	使用条件 Conditions of Use
普通间隙 Ordinary clearance	P0	0~ 0.02C	负荷方向固定且冲击小，精度要求低 Fixed load direction with low impact and low precision
轻预压 Light preload	PA	0.03~0.05C	轻负荷且要求高精度 Light load and high precision
中预压 preload preload	PB	0.06C~ 0.08C	刚性要求，且有振动，冲击的使用环境 Rigid requirements, vibration and impact environment

等级 Grade	互换性线轨 (单出件) Interchangeable line rail (single piece)	非互换性线轨 (组合件) Non-interchangeable line rail (assembly)
预压等级 Preload rating	P0,PA	P0, PA, PB

注：预压力中 C 为动额定负荷

Note: C is the dynamic rated load in the pre-pressure

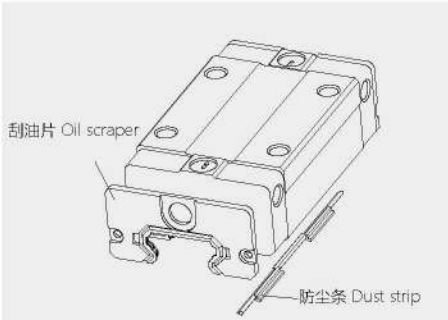
防尘配备

Dustproof equipment

(1) 防尘配备代码 Dust-proof code

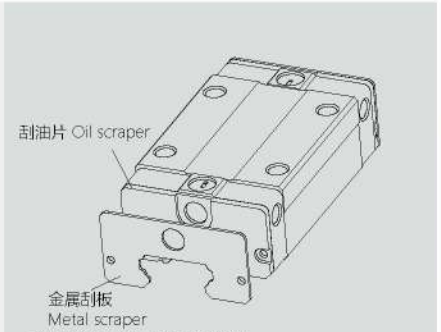
若有下列防尘配备需求时，请于产品型号后面加注代码

If you have the following dustproof requirements, please add the code after the product model.



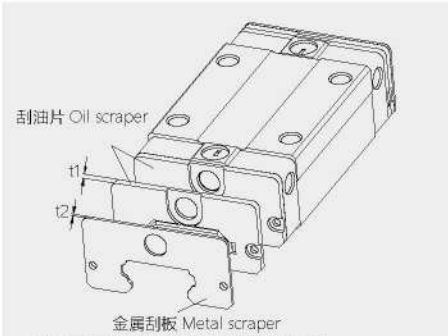
无记号为标准防尘配备(刮油片+防尘条)SH

No mark is standard dustproof (scraping piece + dustproof piece) SH



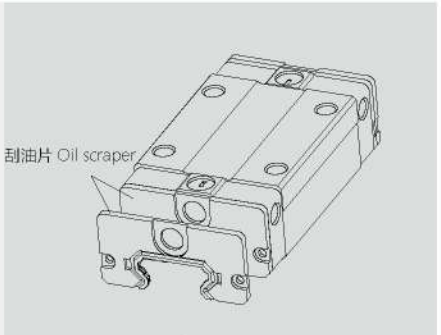
ZH(刮油片+金属刮板+防尘条)

ZH (scraping blade + metal scraper + dust strip)



KH (双刮油片+金属刮板+防尘条)

KH (double scraper + metal scraper + dustproof)



DH (双刮油片+防尘条)

DH (double scraper + dustproof)

SB 系列

SB 系列

(2) 刮油片及底面尘封防尘片 scraper and bottom dust seal

阻止加工铁屑或尘粒进入滑块里面，破坏珠道表面而降低线性滑轨寿命。

Prevents the processing of iron filings or dust particles from entering the slider, destroying the bead surface and reducing the linear slide life.

(3) 双层刮油片 Double-layer scraper

加倍刮屑效果，即使在重切削加工环境中，异物完全被排除于滑块外。

Double the scraping effect, even in the heavy cutting environment, the foreign matter is completely excluded from the slider

表格 2-5-8 刮油片厚度 Oil scraper thickness

规格 specification	增加厚度 (t2) Increasing the thickness (mm)	规格 specification	增加厚度 (t2) Increasing the thickness (mm)
SP15	2	SP25	2.5
SP20	2	SP30	2.5

(4) 金属刮板 Metal scraper

可隔离高温铁屑或加工火花，并排除大体积杂质。

It can isolate high temperature iron filings or machining sparks and eliminate large volume impurities.

表格 2-5-9 金属刮板厚度 Metal scraper thickness

规格 specification	增加厚度 (t2) Increasing the thickness (mm)	规格 specification	增加厚度 (t2) Increasing the thickness (mm)
SP15	1	SP25	1
SP20	1	SP30	1

(6) 防尘代码之滑块总长度 Total length of the dustproof code slider

表格 2-5-10 滑块总长度 Total length of the slider

单位unit：mm

规格 specification	滑块总长度 (L) 标准 SH	ZH	DH	KH
SP15X	40.1	42.1	44.1	46.1
SP15B	56.8	58.8	60.8	62.8
SP20X	50	52	54	56
SP20B	69.1	71.1	73.1	75.1
SP25X	60.1	62.1	65.1	67.1
SP25B	83.6	85.6	88.6	90.6
SP30X	67.5	69.5	72.5	74.5
SP30B	96.1	98.1	101.1	103.1

SB 系列

摩擦力
Friction

此阻力值为单片刮油片的最大阻力。

This resistance is the maximum resistance of a single piece of oil scraper.

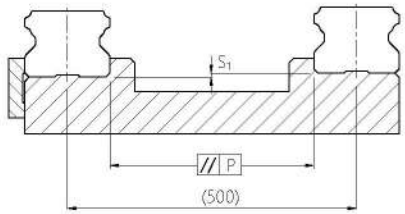
表格 2-5-11 SP 系列刮油片阻力 SP series scraper resistance

规格 speciÞcation	刮油片阻力 (kgf) Oil scraper resistance	规格 speciÞcation	刮油片阻力 (kgf) Oil scraper resistance
SP15	1.08 (0.11)	SP25	1.67 (0.17)
SP20	1.37 (0.14)	SP30	2.06 (0.21)

安装平面误差
Mounting plane error

SP 系列为圆弧两点接触式线性滑轨，其自动调心的特性可以吸收安装面的些许误差而不影响直线运动的顺畅 性；下表中注明了安装平面的容许误差值：

The SP series is a circular two-point contact linear slide. Its self-aligning characteristics can absorb some errors of the mounting surface without affecting the smoothness of the linear motion. The tolerance values of the mounting plane are indicated in the following table:



表格 2-5-12 容许平行度误差 (P)Allowable parallelism error (P) 单位 unit：μm

规格 speciÞcation	预压 Preload		
	P0 预压 Preload	PA 预压 Preload	PB 预压 Preload
SP15	25	18	-
SP20	25	20	18
SP25	30	22	20
SP30	40	30	27

表格 2-5-13 容许上下水平度误差 (S1)
Allow upper and lower horizontal error (S1)

单位 unit：μm

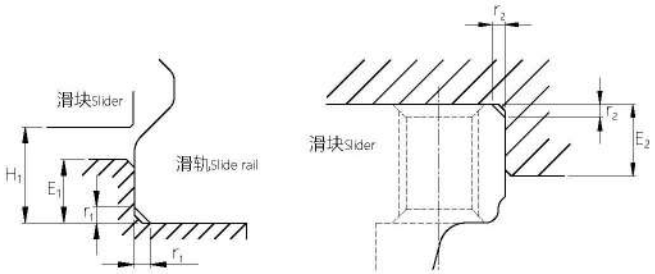
规格 speciÞcation	预压 Preload		
	P0 预压 Preload	PA 预压 Preload	PB 预压 Preload
SP15	130	85	-
SP20	130	85	50
SP25	130	85	70
SP30	170	110	90

安装注意事项
Installation Precautions

(1) 安装面肩部高度及倒角
Mounting surface shoulder height and chamfer

安装线性滑轨时必须注意安装面肩部的状况是否适当，如倒角过大，凸出的地方易造成线性滑轨精度不良，而高度过高则会干涉滑块。故如果能依照建议要求安装面肩部，安装精度不良即可排除。

When installing the linear slide rails, it is necessary to pay attention to the proper condition of the shoulder of the mounting surface. If the chamfer is too large, the protruding position may cause the linear slide rail to be inaccurate, and the height is too high to interfere with the slider. Therefore, if the shoulder can be installed according to the recommended requirements, the installation accuracy can be eliminated.



表格 2-5-14 肩部高度及倒角 Shoulder height and chamfer　　单位 unit；mm

规格 specification	滑轨端 最大圆角半径 Maximum corner radius of the rail end r_1 (mm)	滑块端 最大圆角半径 Maximum corner radius of the slider end r_2 (mm)	滑轨端 肩部高度 Rail shoulder height E_1 (mm)	滑块端 肩部高度 Slider shoulder height E_2 (mm)	滑块的 运行净高 The running height of the slider) H_1 (mm)
SP15	0.5	0.5	2.7	5.0	4.0
SP20	0.5	0.5	5.0	7.0	6.0
SP25	1.0	1.0	5.0	7.5	6.2
SP30	1.0	1.0	7.0	7.0	10.0

(2) 滑轨装配螺丝的扭力值 Torque value of the rail assembly screw

安装滑轨时是否锁紧贴平基准面影响线性滑轨精度严重，因此为达到每颗螺丝都能锁紧的目的，建议使用下列扭力值锁装配螺丝。

Whether the locking flat reference surface is installed when the slide rail is installed affects the accuracy of the linear slide rail. Therefore, in order to achieve the purpose of locking each screw, it is recommended to use the following torque value lock assembly screws.

表格 2-5-15 扭力值 Torque value

规格 specification	螺丝规格 Screw specification	扭力值 Torque value N-cm (kgf-cm)	规格 specification	螺丝规格 Screw specification	扭力值 Torque valued N-cm (kgf-cm)
SP15	M3*0.5P*16L	186(19)	SP25	M6*1P*20L	1373(140)
SP20	M5*0.8P*16L	883(90)	SP30	M6*1P*25L	1373(140)

注 note: 1 kgf = 9.81 N

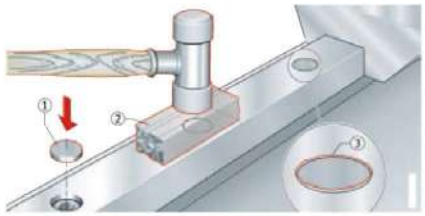
(3) 安装方式
Installation method

在安装前，导轨必须已用尺寸表中的紧固力矩MA 固定。
不要让滑块滑过还没有填塞起来的沉头孔。如果滑块移动，
要保证密封唇得到有效的保护。
根据环境和运行条件，沉头孔使用塑料或者铜填塞片。
使用安装
敲击填塞片，图 6：

- 将填塞片①放入沉头孔内。
- 将一平整的铁块 放在填塞片上。
- 垂直敲击铁块。
- 去除填塞片上被切下来的毛边③。

Before installation, the rails must have been fixed with the tightening torque MA in the dimension table.
Do not let the slider slide over the counterbore that has not been filled. If the slider moves,
Make sure the sealing lip is effectively protected.
The counterbore is filled with plastic or copper depending on the environment and operating conditions. Use installation
Tap the tamper, Figure 6:

- Place the tampon 1 into the counterbore.
- Place a flat piece of iron on the tampon.
- Hit the iron block vertically.
- Remove the cut edges 3 on the tamping sheet.



①填塞片 stuffing piece
②铁块 iron blocks
③毛边 raw edges

图 6 Figure 6 敲入填塞片 Knock in the tampon

不要用油石①去磨塑料填塞片或者相似方法，图 13。
Do not use oil stone ① to grind plastic tampon or similar methods, Figure 13.

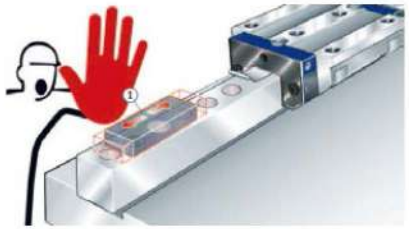


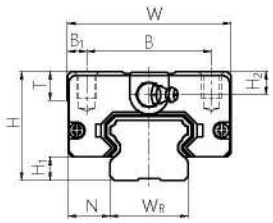
图 13 不要使用油石 Figure 13 Do not use oil stone

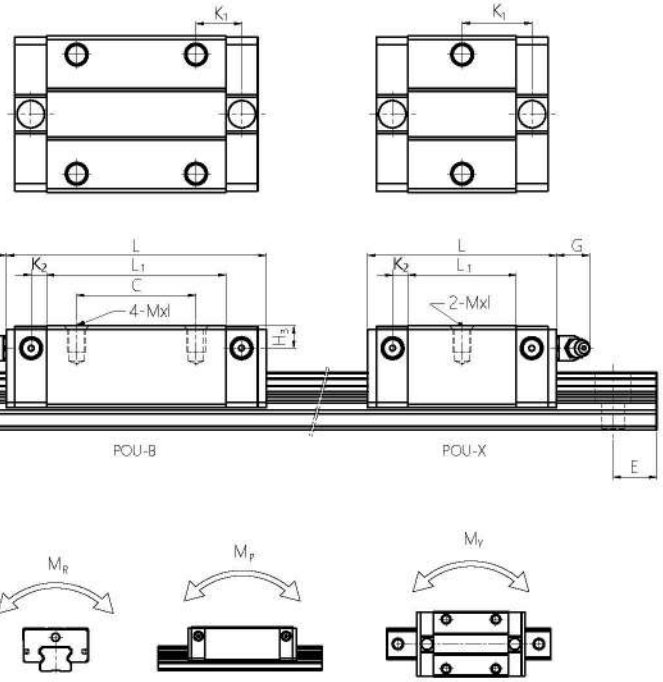
①油石 Oil stone

SP 系列线性滑轨尺寸表

SP series linear slide size table

(3) SPS-X / SPS-B



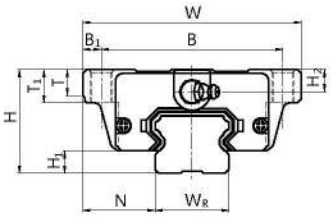


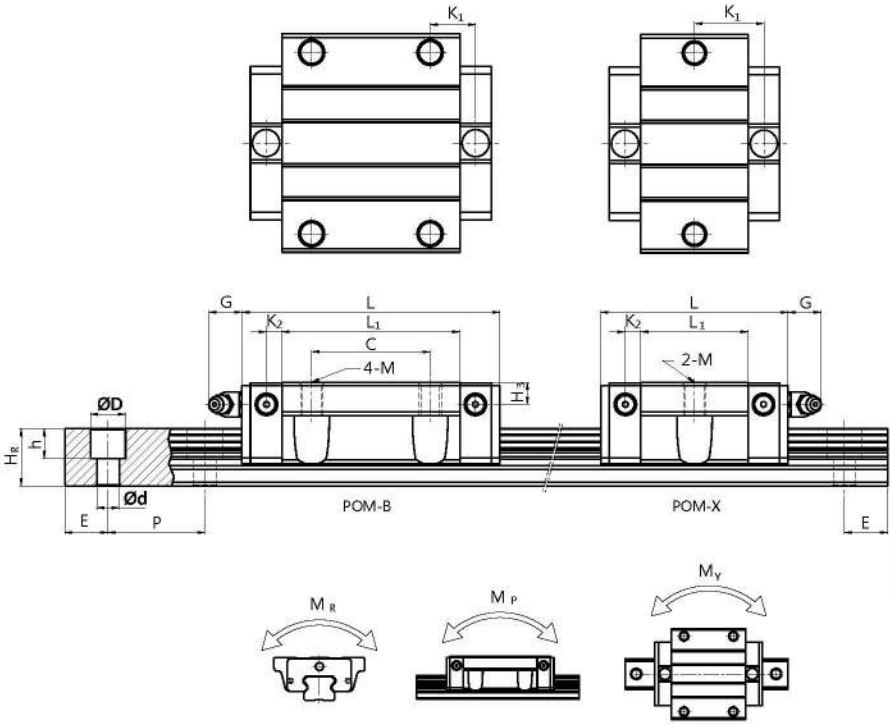
型号 Model	组件尺寸 (mm)			滑块尺寸 Slider size(mm)												滑轨尺寸 Slie size (mm)							滑轨的固定螺栓尺寸	基本动额定负荷	基本静额定负荷	容许静力矩			重量	
	H	H_1	N	W	B	B_1	C	L_1	L	K_1	K_2	G	MxI	T	H_2	H_3	W_R	H_R	D	h	d	P	E	(mm)	C(kN)	Co(kN)	MR kN-m	MP kN-m	MY kN-m	滑块 kg	滑轨 kg/m
SPS15X	24	4	9.5	34	26	4	-	23.1	40.1	14.8	3.5	5.7	M4 x 6	6	5.5	6	15	12.5	6	4.5	3.5	60	20	M3x16	8.56	8.79	0.07	0.03	0.03	0.09	1.25
SPS15B							26	39.8	56.8	10.15															12.53	15.28	0.12	0.09	0.09	0.15	
SPS20X	28	6	11	42	32	5	-	29	50	18.75	4.15	12	M5 x 7	7.5	6	6.5	20	15.5	9.5	8.5	6	60	20	M5x16	11.57	12.18	0.13	0.05	0.05	0.15	2.08
SPS20B							32	48.1	69.1	12.3															16.50	20.21	0.21	0.15	0.15	0.23	
SPS25X	33	6.2	12.5	48	35	6.5	-	35.5	60.1	21.9	5	12	M6 x9	8	8	9	23	18	11	9	7	60	20	M6x20	18.24	18.90	0.22	0.10	0.10	0.24	2.67
SPS25B							35	59	83.6	16.15															26.03	31.49	0.37	0.29	0.29	0.40	
SPS 30X	42	10	16	60	40	10	-	41.5	67.5	25.75	6	12	M8x12	9	8	8.5	28	23	11	9	7	80	20	M6x25	26.27	27.82	0.40	0.18	0.18	0.44	4.35
SPS30B							40	70.1	96.1	20.05															37.92	46.32	0.67	0.51	0.51	0.75	

注 Note : 1 kgf = 9.81 N

SB 系列

(4) SPM-X /SPM-B





SB 系列

型号 Model	组件尺寸 (mm)			滑块尺寸 Slider size(mm)														滑轨尺寸 Slie size (mm)							滑轨的固定螺栓尺寸	基本动额定负荷	基本静额定负荷	容许静力矩			重量	
	H	H_1	N	W	B	B_1	C	L_1	L	K_1	K_2	G	M	T	T_1	H_2	H_3	W_R	H_R	D	h	d	P	E	(mm)	C(kN)	Co (kN)	MR kN-m	MP kN-m	MY kN-m	滑块 kg	滑轨 kg/m
SPM 15X	24	4	18.5	52	41	5.5	-	23.1	40.1	14.8	3.5	5.7	M5	5	7	5.5	6	15	12.5	6	4.5	3.5	60	20	M3x16	8.56	8.79	0.07	0.03	0.03	0.12	1.25
SPM 15B							26	39.8	56.8	10.15																12.53	15.28	0.12	0.09	0.09	0.21	
SPM 20X	28	6	19.5	59	49	5	-	29	50	18.75	4.15	12	M6	7	9	7	6.5	20	15.5	9.5	8.5	6	60	20	M5x16	11.57	12.18	0.13	0.05	0.05	0.19	2.08
SPM 20B							32	48.1	69.1	12.3																16.50	20.21	0.21	0.15	0.15	0.31	
SPM 25X	33	6.2	25	73	60	6.5	-	35.5	60.1	21.9	5	12	M8	7.5	10	8	8	23	18	11	9	7	80	20	M6x20	18.24	18.90	0.22	0.10	0.10	0.34	2.67
SPM 25B							35	59	83.6	16.15																26.03	31.49	0.37	0.29	0.29	0.58	
SPM 30X	42	10	31	90	72	9	-	41.5	67.5	25.75	6	12	M10	7	10	8	9	28	23	11	9	9	80	20	M6x25	26.27	27.82	0.40	0.18	0.18	0.61	4.35
SPM 30B							40	70.1	96.1	20.05																37.92	46.63	0.67	0.51	0.51	1.03	

注 Note : 1 kgf = 9.81 N

ST 系列—滚珠线性滑轨
ST Series - Ball Linear Slides

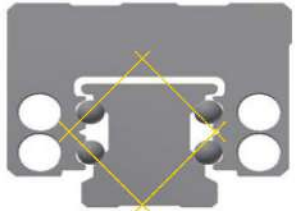
ST 系列线性滑轨，为四列式单圆弧牙型接触线性滑轨，同时整合优化结构设计的超重负荷精密线性滑轨， 相较于其他的线性滑轨提升了负荷与刚性能力；具备四方向等负载特色、及自动调心的功能，可吸收安装面的装配误差，得到高精度的要求。高速度、高负荷、高刚性与高精度化概念已成为未来全世界工业产品发展 的趋势，SMAGIC 四列式超重负荷线性滑轨，即为基于此理念开发的产品。

ST series linear slide rails, which are four-row single arc-arc contact linear slides, and integrate the optimized structure design of the heavy-duty precision linear slide rails. Compared with other linear slide rails, the load and rigidity are improved. The load characteristics such as direction and the function of self-aligning can absorb the assembly error of the mounting surface and obtain high precision requirements. The concept of high speed, high load, high rigidity and high precision has become the trend of industrial products development in the world in the future. SMAGIC four-rowsuper-load linear slides are products developed based on this concept.

ST 系列线性滑轨特点
ST Series Linear Slide Features

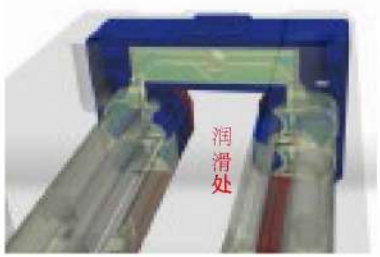
O 型结构设计
O-shaped structural design

– 高抗扭矩
- High resistance to torque



全新油路设计
New oil circuit design

– 滑块可充分润滑
- The slider is fully lubricated

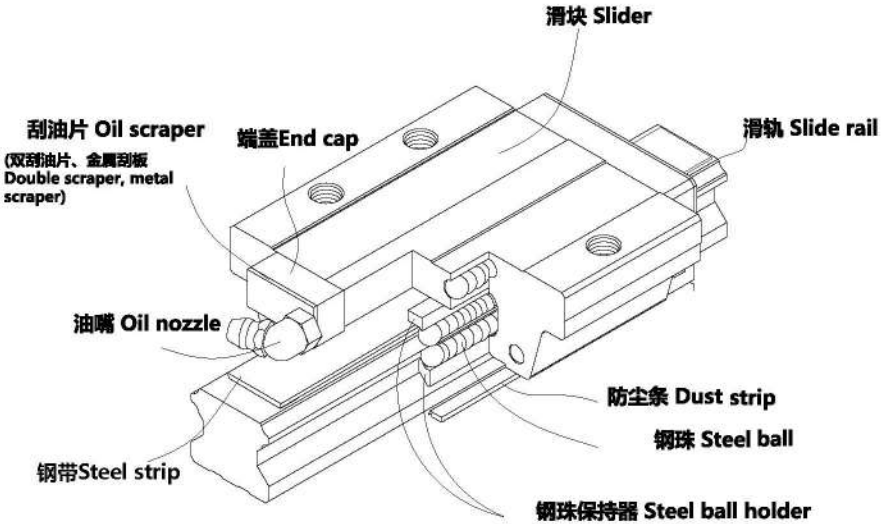


滑轨搭配防尘覆盖带
Slide rail with dust cover

– 不锈钢材质
– 快速安装
– 避免刮油片密封部被螺栓孔破坏
– 预防外部粉尘从螺栓孔进入滑块内
- Stainless steel
- Quick installation
- Avoid scraping the oil blade seal by bolt holes
- Prevent external dust from entering the slider from the bolt hole



ST 本体结构
ST body structure



●滚动循环系统：滑块、滑轨、端盖、钢珠、钢珠保持器

●润滑系统：油嘴、油管接头

● 防尘系统：刮油片、底片尘封防尘条、滑轨螺栓盖、金属刮板、钢带

•Rolling circulation system: slider, slide rail, end cover, steel ball, steel ball retainer

•Lubrication system: nozzle, tubing connector

•Dust-proof system: oil scraper, negative dust seal, dust rail t-rail bolt cover, metal scraper、

产品规格说明
Product specification

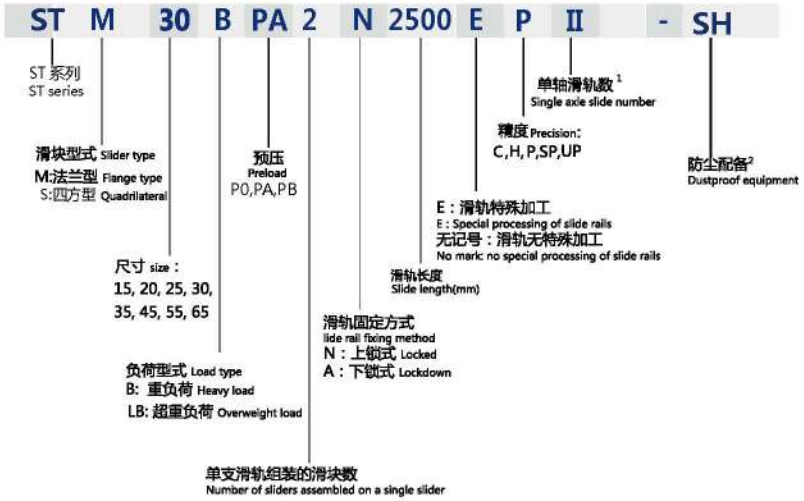
ST 系列分为非互换性及互换性型两种线性滑轨，两者规格尺寸相同，主要差异点在于互换性型的滑块、滑轨可单出互换使用，较便利，但其组合精度无法达到非互换性型的超高精度，不过由于 SMAGIC 在制造上有良好的 尺寸控制及严格的质量要求，互换性型的组合精度目前已达到一定的水平，对不需配对安装线性滑轨的客户而言，是一项很好的选择。线性滑轨的产品规格型号主要标明线性滑轨尺寸、型式、精度等级、预压等规格要求，以利订货时双方对产品的确认。

The ST series is divided into two kinds of linear slides, which are non-interchangeable and interchangeable. The two specifications are the same. The main difference is that the interchangeable sliders and slide rails can be used interchangeably, which is convenient, but The combination accuracy cannot achieve the ultra-high precision of non-interchangeable type. However, due to the good dimensional control and strict quality requirements of SMAGIC, the combination accuracy of the interchangeable type has reached a certain level, and no pairing is required. It is a good choice for customers who install linear slides. The product specifications of the linear slides mainly indicate the specifications of the linear slide size, type, accuracy grade, preload, etc., in order to facilitate the confirmation of the products by both parties when ordering.

ST 系列

(1) 非互换性线性滑轨产品型号

Non-interchangeable linear slide product model



注：

1. 单轴滑轨数若只使用一支滑轨则不写，两支标记为 II， 三支标记为 III，以此类推。
2. 防尘配备中无记号为防尘标准配备刮油片加防尘片。

ZH 为刮油片加防尘片加金属刮板。

KH 为双刮油片加防尘片加金属刮板。

DH 为双刮油片加防尘片。

note:

1.If the number of single-axis slides is only one slide, the two marks are II, the three marks are III, and so on.

2.There is no marking in the dustproof equipment. The dustproof standard is equipped with a scraper and a dustproof piece.

ZH is the scraper and dustproof sheet plus metal scraper.

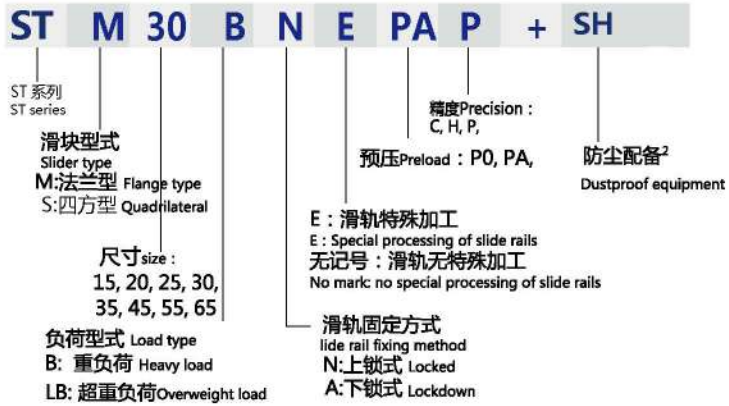
KH is a double scraper with dust and metal scraper.

DH is a double scraper and dustproof sheet.

(2) 互换性线性滑轨产品型号

Interchangeable linear slide product model

● 互换型滑块产品型 Interchangeable slider product type



● 互换型滑轨产品型号 Interchangeable slide product model



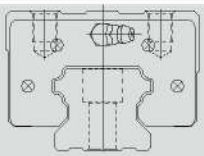
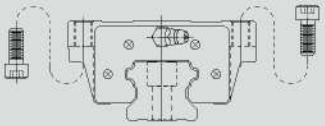
ST 系列型式
ST series type

(1) 滑块型式 Slider type

SMAGIC 提供法兰型及四方型两种线性滑轨，法兰型线性滑轨组合高度低，承靠面积大，适用于承受力距负载的场合。

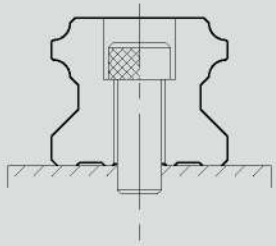
SMAGIC offers two types of linear slides, flanged and square. The flanged linear slide combination has a low height and a large bearing area, which is suitable for applications where the load is close to the load.

表格 2-6-1 滑块型式 Slider type

型式 Type	规格 specification	形状 shape	高度尺寸 Height dimension (mm)	滑轨长度 Slide length (mm)	应用设备 Application equipment
四方型 Quadrilateral	STS-B STS-LB		28 ↓ 90	100 ↓ 4000	○ 机械加工中心 Machining center ○ 工具机 Machine tool ○ 精密加工机 Precision processing machine ○ 重型切削机床 Heavy duty cutting machine ○ 大理石切割机 Marble cutting machine ○ 磨床 Grinder ○ 射出机 Injection machine ○ 冲床 Punch ○ 自动化装置 Automation device ○ 运输设备 Transportation Equipment ○ 量测仪器 Measuring instrument
法兰型 Flange Type	STM-B STM-LB		24 ↓ 90	100 ↓ 4000	

滑轨型式 Slide type

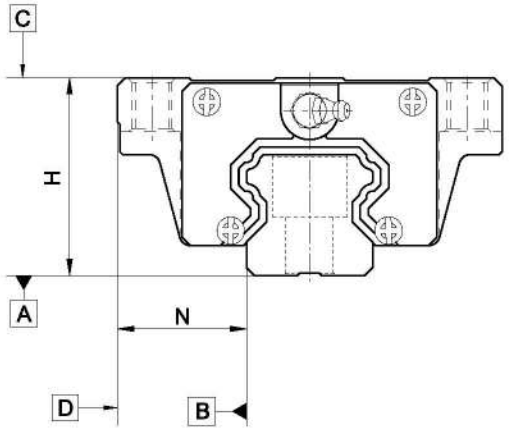
上锁式螺栓孔 Locking bolt hole



精度等级
Accuracy level

ST 系列线性滑轨的精度， 分为普通、高、精密、超精密、超高精密级共五级，客户可依设备精度需求选用精度。

The accuracy of ST series linear slides is divided into five levels: general, high, precision, ultra-precision and ultra-high precision. Customers can select the precision according to the precision requirements of the equipment.



(1) 非互换性线性滑轨精度

Non-interchangeable linear slide accuracy

表格 2-6-2 组合件精度表 Assembly accuracy table

单位unit：mm

型号 Model	ST-15,20				
精度等级 Precision Level	普通级 (C)	高级 (H)	精密级 (P)	超精密级 (SP)	超高精密级 (UP)
高度 H 的容许尺寸误差 Allowable size error for height H	± 0.1	± 0.03	0 - 0.03	0 - 0.015	0 - 0.008
宽度 N 的容许尺寸误差 Allowable size error of width N	± 0.1	± 0.03	0 - 0.03	0 - 0.015	0 - 0.008
成对高度 H 的相互误差 Mutual error of Pair Height H	0.02	0.01	0.006	0.004	0.003
成对宽度 N 的相互误差 Mutual error of paired width N	0.02	0.01	0.006	0.004	0.003
滑块 C 面对滑轨 A 面的行走平行度 Walk parallelism of slider C on the A side of slider	行走平行度（见表格 2-6-10) Walking parallelism(see Table2-6-10)				
滑块 D 面对滑轨 B 面的行走平行度 Walk parallelism of slider D on the B side of slider	行走平行度（见表格 2-6-10) Walking parallelism(see Table2-6-10)				

表格 2-6-3 组合件精度表 Assembly accuracy table

单位unit：mm

型号 Model	ST-25,30,35				
精度等级 Precision Level	普通级 (C)	高级 (H)	精密级 (P)	超精密级 (SP)	超高精密级 (UP)
高度 H 的容许尺寸误差 Allowable size error for height H	± 0.1	± 0.04	0 - 0.04	0 - 0.02	0 - 0.01
宽度 N 的容许尺寸误差 Allowable size error of width N	± 0.1	± 0.04	0 - 0.04	0 - 0.02	0 - 0.01
成对高度 H 的相互误差 Mutual error of Pair Height H	0.02	0.015	0.007	0.005	0.003
成对宽度 N 的相互误差 Mutual error of paired width N	0.03	0.015	0.007	0.005	0.003
滑块 C 面对滑轨 A 面的行走平行度 Walk parallelism of slider C on the A side of slider	行走平行度（见表格 2-6-10) Walking parallelism(see Table2-6-10)				
滑块 D 面对滑轨 B 面的行走平行度 Walk parallelism of slider D on the B side of slider	行走平行度（见表格 2-6-10) Walking parallelism(see Table2-6-10)				

表格 2-6-4 组合件精度表 Assembly accuracy table

单位unit：mm

型号 Model	ST-45,55				
精度等级 Precision Level	普通级 (C)	高级 (H)	精密级 (P)	超精密级 (SP)	超高精密级 (UP)
高度 H 的容许尺寸误差 Allowable size error for height H	± 0.1	± 0.05	0 - 0.05	0 - 0.03	0 - 0.02
宽度 N 的容许尺寸误差 Allowable size error of width N	± 0.1	± 0.05	0 - 0.05	0 - 0.03	0 - 0.02
成对高度 H 的相互误差 Mutual error of Pair Height H	0.03	0.015	0.01	0.005	0.003
成对宽度 N 的相互误差 Mutual error of paired width N	0.03	0.02	0.01	0.007	0.005
滑块 C 面对滑轨 A 面的行走平行度 Walk parallelism of slider C on the A side of slider	行走平行度（见表格 2-6-10) Walking parallelism(see Table 2-6-10)				
滑块 D 面对滑轨 B 面的行走平行度 Walk parallelism of slider D on the B side of slider	行走平行度（见表格 2-6-10) Walking parallelism(see Table 2-6-10)				

表格 2-6-5 组合件精度表 Assembly accuracy table

单位unit：mm

型号 Model	ST-65				
精度等级 Precision Level	普通级 (C)	高级 (H)	精密级 (P)	超精密级 (SP)	超高精密级 (UP)
高度 H 的容许尺寸误差 Allowable size error for height H	± 0.1	± 0.07	0 - 0.07	0 - 0.05	0 - 0.03
宽度 N 的容许尺寸误差 Allowable size error of width N	± 0.1	± 0.07	0 - 0.07	0 - 0.05	0 - 0.03
成对高度 H 的相互误差 Mutual error of Pair Height H	0.03	0.02	0.07	0.007	0.005
成对宽度 N 的相互误差 Mutual error of paired width N	0.03	0.025	0.015	0.01	0.007
滑块 C 面对滑轨 A 面的行走平行度 Walk parallelism of slider C on the A side of slider	行走平行度（见表格 2-6-10) Walking parallelism(see Table 2-6-10)				
滑块 D 面对滑轨 B 面的行走平行度 Walk parallelism of slider D on the B side of slider	行走平行度（见表格 2-6-10) Walking parallelism(see Table 2-6-10)				

(2) 互换性线性滑轨精度

Interchangeable linear sliding track accuracy

表格 2-6-6 单出件精度表 Single output accuracy table

单位unit：mm

型号 Model	ST-15,20		
精度等级 Precision Level	普通级 (C)	高级 (H)	精密级 (P)
高度 H 的容许尺寸误差 Allowable size error for height H	± 0.1	± 0.03	± 0.015
宽度 N 的容许尺寸误差 Allowable size error of width N	± 0.1	± 0.03	± 0.015
成对高度 H 的相互误差 Mutual error of Pair Height H	0.02	0.01	0.006
成对宽度 N 的相互误差 Mutual error of paired width N	0.02	0.01	0.006
滑块 C 面对滑轨 A 面的行走平行度 Walk parallelism of slider C on the A side of slider	行走平行度 (见表格 2-6-10) Walking parallelism(see Table2-6-10)		
滑块 D 面对滑轨 B 面的行走平行度 Walk parallelism of slider D on the B side of slider	行走平行度 (见表格 2-6-10) Walking parallelism(see Table2-6-10)		

表格 2-6-7 单出件精度表 Single output accuracy table

单位unit：mm

型号 Model	ST-25,30,35		
精度等级 Precision Level	普通级 (C)	高级 (H)	精密级 (P)
高度 H 的容许尺寸误差 Allowable size error for height H	± 0.1	± 0.04	± 0.02
宽度 N 的容许尺寸误差 Allowable size error of width N	± 0.1	± 0.04	± 0.02
成对高度 H 的相互误差 Mutual error of Pair Height H	0.02	0.015	0.007
成对宽度 N 的相互误差 Mutual error of paired width N	0.03	0.015	0.007
滑块 C 面对滑轨 A 面的行走平行度 Walk parallelism of slider C on the A side of slider	行走平行度 (见表格 2-6-10) Walking parallelism(see Table2-6-10)		
滑块 D 面对滑轨 B 面的行走平行度 Walk parallelism of slider D on the B side of slider	行走平行度 (见表格 2-6-10) Walking parallelism(see Table2-6-10)		

表格 2-6-8 单出件精度表 Single output accuracy table

单位unit：mm

型号 Model	ST-45,55		
精度等级 Precision Level	普通级 (C)	高级 (H)	精密级 (P)
高度 H 的容许尺寸误差 Allowable size error for height H	± 0.1	± 0.05	± 0.025
宽度 N 的容许尺寸误差 Allowable size error of width N	± 0.1	± 0.05	± 0.025
成对高度 H 的相互误差 Mutual error of Pair Height H	0.03	0.015	0.007
成对宽度 N 的相互误差 Mutual error of paired width N	0.03	0.02	0.006
滑块 C 面对滑轨 A 面的行走平行度 Walk parallelism of slider C on the A side of slider	行走平行度 (见表格 2-6-10) Walking parallelism(see Table2-6-10		
滑块 D 面对滑轨 B 面的行走平行度 Walk parallelism of slider D on the B side of slider	行走平行度 (见表格 2-6-10) Walking parallelism(see Table2-6-10)		

表格 2-6-9 单出件精度表 Single output accuracy table

单位unit：mm

型号 Model	ST-65		
精度等级 Precision Level	普通级 (C)	高级 (H)	精密级 (P)
高度 H 的容许尺寸误差 Allowable size error for height H	± 0.1	± 0.07	± 0.035
宽度 N 的容许尺寸误差 Allowable size error of width N	± 0.1	± 0.07	± 0.035
成对高度 H 的相互误差 Mutual error of Pair Height H	0.03	0.02	0.01
成对宽度 N 的相互误差 Mutual error of paired width N	0.03	0.025	0.015
滑块 C 面对滑轨 A 面的行走平行度 Walk parallelism of slider C on the A side of slider	行走平行度 (见表格 2-6-10) Walking parallelism(see Table2-6-10)		
滑块 D 面对滑轨 B 面的行走平行度 Walk parallelism of slider D on the B side of slider	行走平行度 (见表格 2-6-10) Walking parallelism(see Table2-6-10)		

表格 2-6-10　行走平行度精度 Walking parallelism accuracy 单位unit：mm

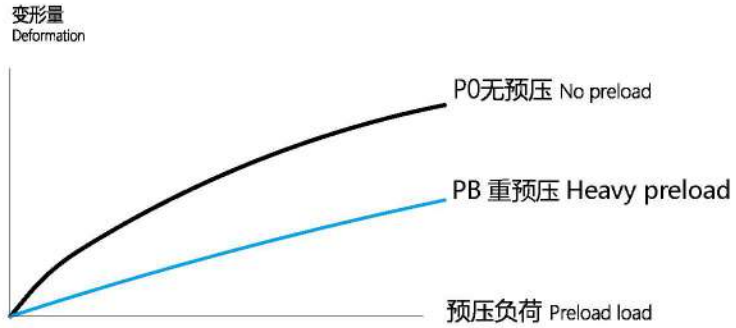
滑轨长度Slide length (mm)	精度等级 Accuracy level (μm)				
	C	H	P	SP	UP
~ 100	12	7	3	2	2
100 ~ 200	14	9	4	2	2
200 ~ 300	15	10	5	3	2
300 ~ 500	17	12	6	3	2
500 ~ 700	20	13	7	4	2
700 ~ 900	22	15	8	5	3
900 ~ 1,100	24	16	9	6	3
1,100 ~ 1,500	26	18	11	7	4
1,500 ~ 1,900	28	20	13	8	4
1,900 ~ 2,500	31	22	15	10	5
2,500 ~ 3,100	33	25	18	11	6
3,100 ~ 3,600	36	27	20	14	7
3,600 ~ 4,000	37	28	21	15	7

预压力
Pre-stress

(1) 预压力定义 Pre-stress definition

预压力是预先给与钢珠负荷力，亦即加大钢珠直径，利用钢珠与珠道的间负向间隙给与预压，此举能提高线性滑轨的刚性及消除间隙；以下图来解释，提高预压力可增加线性滑轨刚性。但小规格建议选用轻预压以下预压，以避免因预压选用过重降低其使用寿命。

The pre-pressure is to pre-apply the load force of the steel ball, that is, increase the diameter of the steel ball, and use the negative gap between the steel ball and the bead to pre-press, which can improve the rigidity of the linear slide and eliminate the gap; the following figure explains Increasing the preload increases the rigidity of the linear slide. However, the small size is recommended to use the preload under the light preload to avoid the excessive use of preload to reduce its service life.



ST 系列

(2) 预压等级 Preload rating

ST 系列线性滑轨提供三种标准预压，可依据用途选择适当预压力。

The ST Series linear slides are available in three standard preloads to select the appropriate preload depending on the application.

预表格 2-6-11 压等级 Preload rating

预压等级 Preload rating	标记 Mark	预压力 Pre-stress	使用条件 Conditions of Use	适用范围 Scope of application
无预压 No preload	P0	0~ 0.02C	负荷方向固定且冲击小，精度要求低 Fixed load direction with low impact and low precision	搬送装置，自动包装机，自动化产业机械，一般工业机械的 XY轴，焊接机，熔断机，工具交换装置 Transfer device, automatic packaging machine, automation industrial machinery, general industrial machinery XY axis, welding machine, fuse machine, tool changer
轻预压 Light preload	PA	0.05~0.07C	轻负荷且要求高精度 Light load and high precision	一般工业机械的Z轴，放电加工机，NC车床，精密XY平台，测定器，机械加工中心，立式加工中心，工业用机器人，自动涂装机，各种高速材料供给装置 General industrial machinery Z-axis, electric discharge machine, NC lathe, precision XY platform, measuring device, machining center, vertical machining center, industrial robot, automatic coating machine, various high-speed material supply devices
重预压 Heavy preload	PB	0.10C~ 0.12C	刚性要求，且有振动，冲击的使用环境 Rigid requirements, vibration and impact environment	机械加工中心，磨床，NC车床，立式或卧式铣床，机床的Z 轴，重切削加工机 Machining center, grinding machine, NC lathe, vertical or horizontal milling machine, machine tool Z axis, heavy cutting machine

注：

1. 预压力 C 为动额定负荷
2. 互换性线（单出件）预压等级：P0, PA。

   非互换性线轨（组合件）预压等级：P0, PA, PB

Note:

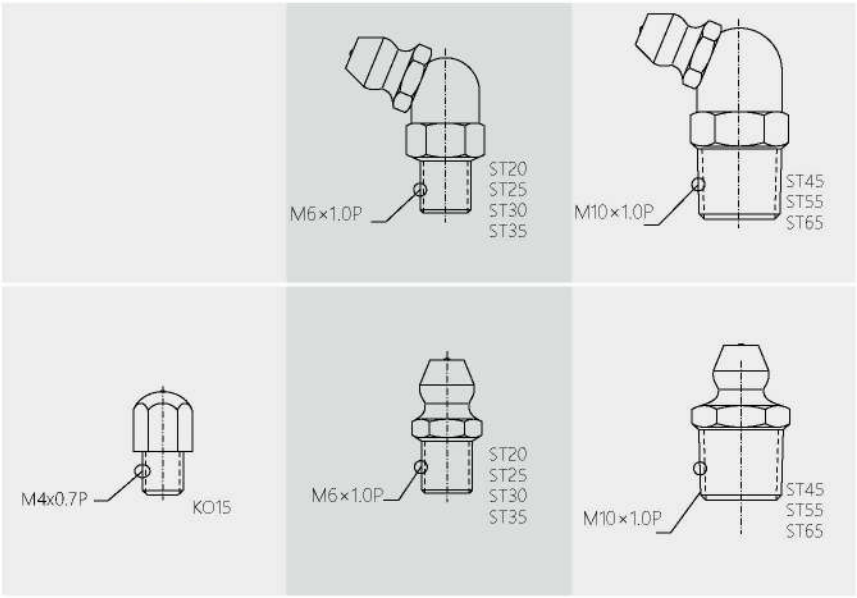
1. Pre-pressure C is dynamic rated load
2. Interchangeable line (single output) Preload rating: P0, PA.

   Non-interchangeable wire rail (assembly) Preload rating: P0, PA, PB

润滑方式
Lubrication method

(1) 润滑油脂 Lubricating grease

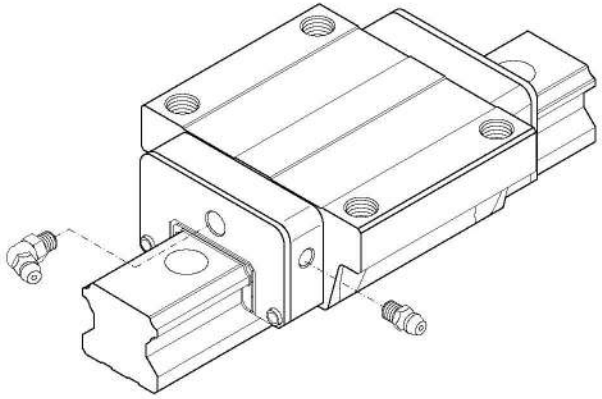
●油嘴型式 Nozzle type



●油嘴位置 Nozzle position

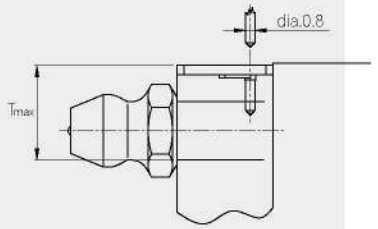
依客户需要在滑块前端或后端装上油嘴以供手动打油，ST 系列特别在端盖侧边预留侧油孔位置安装油嘴（一般为直油嘴），提供侧向打油，侧向打油的位置建议在非侧基准边，但若有特殊需要亦可放在侧基准边。客户如有上述侧向打油需求请与我们联络。使用接管方式自动供润滑油脂的线性滑轨，则可依连接管型式选用安装油管接头。

According to the customer's needs, the front end or the rear end of the slider is equipped with a grease nipple for manual oiling. The ST series is specially equipped with a grease nipple (usually a straight grease nipple) at the side of the side cover to provide side oiling and lateral oiling. The position is recommended on the non-side reference edge, but it can be placed on the side reference edge if you have special needs. If you have any of the above mentioned side oil demand, please contact us. If the linear slide rail of the grease is automatically supplied by the take-up method, the oil pipe joint can be selected according to the connection pipe type.



表格 2-6-12 O-Ring 规格与穿孔最大容许深度
O-Ring specifications and perforation maximum allowable depth

规格 specification	O-Ring规格 O-Ringspecification		穿孔最大容许深度 T_{max} Perforation maximum allowable depth
	do (mm)	W(mm)	(mm)
ST 15	2.5 ± 0.15	1.5 ± 0.15	3.75
ST 20	4.5 ± 0.15	1.5 ± 0.15	5.7
ST 25	4.5 ± 0.15	1.5 ± 0.15	5.8
ST 30	4.5 ± 0.15	1.5 ± 0.15	6.3
ST 35	4.5± 0.15	1.5 ± 0.15	8.8
ST 45	4.5± 0.15	1.5 ± 0.15	8.2
ST 55	4.5± 0.15	1.5 ± 0.15	11.8
ST 65	4.5± 0.15	1.5 ± 0.15	10.8



●单个滑块填满润滑油脂油量
A single slider fills the amount of grease

表格 2-6-13 单个滑块填满润滑油脂油量
A single slider fills the amount of grease

规格 specification	重负荷 Heavy load (cm³)	超重负荷 Overweight load (cm³)	规格 specification	重负荷 Heavy load (cm³)	超重负荷 Overweight load (cm³)
ST15	1	-	ST35	10	12
ST20	2	3	ST45	17	21
ST25	5	6	ST55	26	33
ST30	7	6	ST65	50	61

●润滑频率 Lubrication frequency

每运行 100km，或每 3-6 个月确认一次油脂。

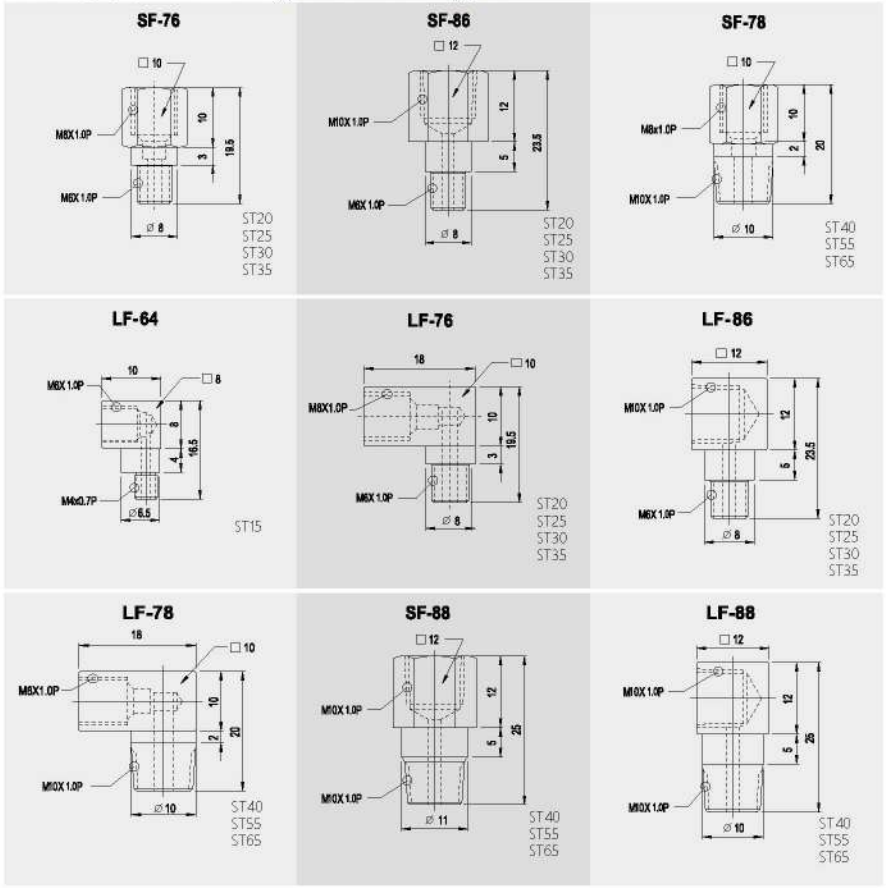
Grease is confirmed every 100km, or every 3-6 months.

（2）润滑油 Lubricating oil

建议使用油黏滞度约为 30~150cSt 的润滑油润滑线性滑轨，客户可先跟我们说明需要使用油润滑，出货的线性滑轨将不会封入润滑油脂。

It is recommended to lubricate the linear slide with a lubricant with an oil viscosity of about 30~150cSt. Customers can first explain to us that oil lubrication is required, and the linear slides will not be sealed with grease.

●油管接头型式 Tubing connector type



●供油速率 Fuel supply rate

表格 2-6-14 供油速率 Fuel supply rate

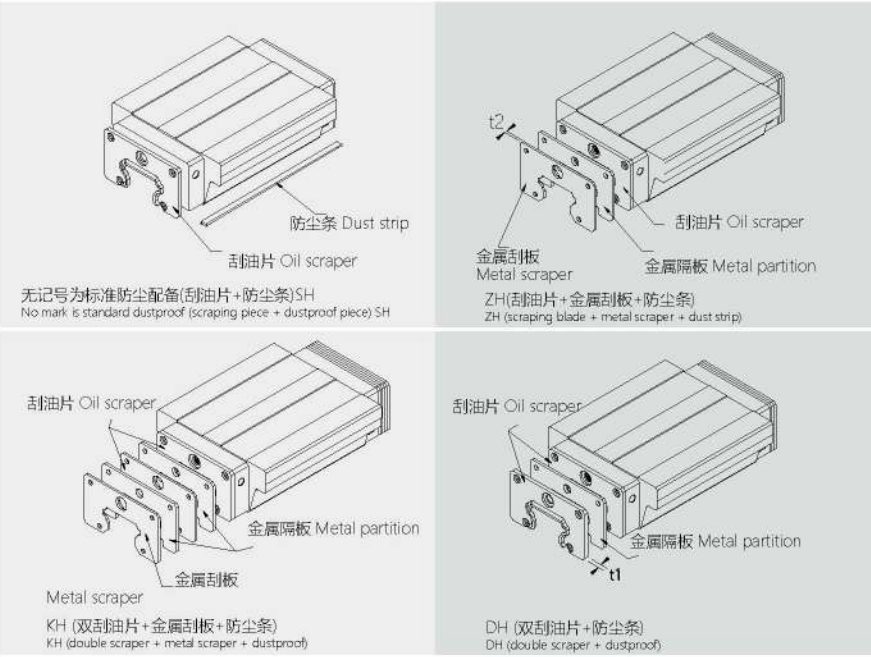
规格 specification	供油速率 Fuel supply rate (cm³/hr)	规格 specification	供油速率 Fuel supply rate (cm³/hr)
ST15	0.2	ST35	0.4
ST20	0.2	ST45	0.4
ST25	0.3	ST55	0.5
ST30	0.3	ST65	0.6

防尘配备
Dustproof equipment

(1) 防尘配备代码 Dust-proof code

若有下列防尘配备需求时，请于产品型号后面加注代码

If you have the following dustproof requirements, please add the code after the product model.



(2) 刮油片及底面尘封防尘片 scraper and bottom dust seal

阻止加工铁屑或尘粒进入滑块里面，破坏珠道表面而降低线性滑轨寿命。

Prevents the processing of iron filings or dust particles from entering the slider, destroying the bead surface and reducing the linear slide life.

(3) 双层刮油片 Double-layer scraper

加倍刮屑效果，即使在重切削加工环境中，异物完全被排除于滑块外。

Double the scraping effect, even in the heavy cutting environment, the foreign matter is completely excluded from the slider

表格 2-6-15 刮油片厚度 Oil scraper thickness

规格 specipcation	增加厚度 (t1) Increasing the thickness (mm)	规格 specipcation	增加厚度 (t1) Increasing the thickness (mm)
ST15	3	ST35	3.2
ST20	3.5	ST45	4.5
ST25	3.5	ST55	4.5
ST30	3.2	ST65	6

(4) 金属刮板 Metal scraper

可隔离高温铁屑或加工火花，并排除大体积杂质。

It can isolate high temperature iron filings or machining sparks and eliminate large volume impurities.

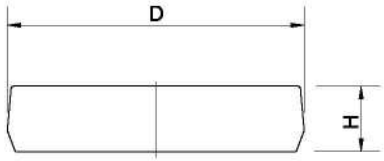
表格 2-1-17 金属刮板厚度 Metal scraper thickness

规格 speciPcation	增加厚度 (t2) Increasing the thickness (mm)	规格 speciPcation	增加厚度 (t2) Increasing the thickness (mm)
ST15	1.5	ST35	1.5
ST20	1.5	ST45	1.5
ST25	1.5	ST55	1.5
ST30	1.5	ST65	1.5

(5) 螺栓盖 Bolt cover

为防止切削粉末或异物经由螺栓孔侵入滑块内部影响精度，客户必须在安装滑轨时将螺栓盖打入螺栓孔内，每支滑轨出厂时皆配有螺栓盖。

In order to prevent the cutting powder or foreign matter from invading the inside of the slider through the bolt hole, the customer must insert the bolt cover into the bolt hole when installing the slide rail. Each slide rail is equipped with a bolt cover when it is shipped.



表格 2-6-16 滑轨螺栓盖 Slide bolt cover

规格 speciPcation	安装螺丝 Mounting screws	直径 (D) diameter (mm)	厚度 (H) thickness (mm)	规格 speciPcation	安装螺丝 Mounting screws	直径 (D) diameter (mm)	厚度 (H) thickness
STT15	M4	7.65	1.1	STT35	M8	14.2	3.3
STT20	M5	9.65	2.2	STT45	M12	20.25	4.6
STT25	M6	11.20	2.5	STT55	M14	23.5	5.5
STT30	M8	14.25	3.3	STT65	M16	26.6	5.5

(6) 防尘代码之滑块总长度 Total length of the dustproof code slider

2-6-17 滑块总长度 Total length of the slider

规格 specification	滑块总长度 (L)			
	标准 SH	ZH	DH	KH
ST15B	61.4	69	68	75.6
ST20B	77.5	82.5	82.5	87.5
ST20LB	92.2	97.2	97.5	102.2
ST25B	84	89	89	94
ST25LB	104.6	109.6	109.6	114.6
ST30B	97.4	105.4	104.8	112.8
ST30LB	120.4	128.4	127.8	135.8
ST35B	112.4	120.4	119.8	127.8
ST35LB	138.2	146.2	145.6	153.6
ST45B	139.4	150	149.4	160
ST45LB	171.2	181.8	181.2	191.8
ST55B	166.7	177.1	177.1	187.5
ST55LB	204.8	215.2	215.2	225.5
ST65B	200.2	208.2	209.2	217.2
ST65LB	259.6	267.6	268.6	276.6

摩擦力

Friction

此阻力值为单片刮油片的最大阻力。

This resistance is the maximum resistance of a single piece of oil scraper.表

格 2-6-18 ST 系列刮油片阻力 ST series scraper resistance

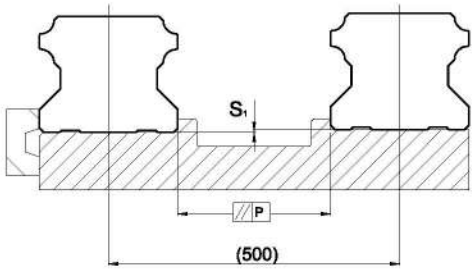
规格 speciÞcation	刮油片阻力 (kgf) Oil scraper resistance	规格 speciÞcation	刮油片阻力 (kgf) Oil scraper resistance
ST15	1.18	ST35	3.04
ST20	1.57	ST45	3.83
ST25	1.96	ST55	4.61
ST30	2.65	ST65	5.79

ST 系列

安装平面误差
Mounting plane error

ST 系列为圆弧两点接触式线性滑轨，其自动调心的特性可以吸收安装面的些许误差而不影响直线运动的顺畅性；下表中注明了安装平面的容许误差值：

The ST series is a circular two-point contact linear slide. Its self-aligning characteristics can absorb some errors of the mounting surface without affecting the smoothness of the linear motion. The tolerance values of the mounting plane are indicated in the following table:



表格 2-6-19 容许平行度误差 Allowable parallelism error (P)　　单位 unit：μm

规格 specification	预压Preload		
	P0 预压Preload	PA 预压Preload	PB 预压Preload
ST15	25	18	-
ST20	25	20	18
ST25	30	22	20
ST30	40	30	27
ST35	50	35	30
ST45	60	40	35
ST55	70	50	45
ST65	80	60	55

表格 2-6-20
容许上下水平度误差 Allow upper and lower horizontal error (S1)　　单位 unit：μm

规格 specification	预压Preload		
	P0 预压Preload	PA 预压Preload	PB 预压Preload
ST15	130	85	-
ST20	130	85	50
ST25	130	85	70
ST30	170	110	90
ST35	210	150	120
ST45	250	170	140
ST55	300	210	170
ST65	350	250	200

ST 系列

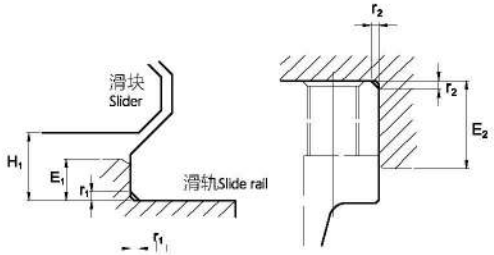
安装注意事项
Installation Precautions

(1) 安装面肩部高度及倒角

Mounting surface shoulder height and chamfer

安装线性滑轨时必须注意安装面肩部的状况是否适当，如倒角过大，凸出的地方易造成线性滑轨精度不良，而高度过高则会干涉滑块。故如果能依照建议要求安装面肩部，安装精度不良即可排除。

When installing the linear slide rails, it is necessary to pay attention to the proper condition of the shoulder of the mounting surface. If the chamfer is too large, the protruding position may cause the linear slide rail to be inferior in accuracy, and the height too high may interfere with the slider. Therefore, if the shoulder can be installed according to the recommended requirements, the installation accuracy can be eliminated.



表格 2-6-21 肩部高度及倒角 Shoulder height and chamfer

规格 specification	滑轨端 最大圆角半径 Maximum corner radius of the rail end r_1 (mm)	滑块端 最大圆角半径 Maximum corner radius of the slider end r_2 (mm)	滑轨端 肩部高度 Rail shoulder height E_1 (mm)	滑块端 肩部高度 Slider shoulder height E_2 (mm)	滑块的 运行净高 The running height of the slider H_1 (mm)
ST15	0.5	0.5	3	4	4.3
ST20	0.5	0.5	3.5	5	4.6
ST25	1.0	1	5	5	5.5
ST30	1.0	1	5	5	6
ST35	1.0	1	6	6	7.5
ST45	1.0	1	8	8	9.5
ST55	1.5	1.5	10	10	13
ST65	1.5	1.5	10	10	15

(2) 滑轨装配螺丝的扭力值

Torque value of the rail assembly screw

安装滑轨时是否锁紧贴平基准面影响线性滑轨精度严重，因此为达到每颗螺丝都能锁紧的目的，建议使用下列扭力值锁装配螺丝。

Whether the locking flat reference surface is installed when the slide rail is installed affects the accuracy of the linear slide rail. Therefore, in order to achieve the purpose of locking each screw, it is recommended to use the following torque value lock assembly screws.

扭表格 2-6-22 力值 Torque value

规格 specification	螺丝规格 Screw specification	扭力值 Torque value N-cm (kgf-cm)	规格 specification	螺丝规格 Screw specification	扭力值 Torque value N-cm (kgf-cm)
ST15	M4 x 0.7P x 16L	392(40)	ST35	M8 x 1.25P x 25L	3,041(310)
ST20	M5 x 0.8P x 16L	883(90)	ST45	M12 x 1.75P x 35L	11,772(1,200)
ST25	M6 x 1P x 20L	1373(140)	ST55	M14 x 2P x 45L	15,696(1,600)
ST30	M8 x 1.25P x 25L	3041(310)	ST65	M16 x 2P x 50L	19,620(2,000)

注 note：1 kgf = 9.81N

ST 系列

(3) 安装方式
Installation method

嵌入式封盖条安装

封盖条 ADB-K 为精密产品，须仔细安装。
在安装前，须检查凸耳无损伤并无褶皱。
将封盖条放入槽内，图 16：
■ 用干净的布清洁封盖条 ADB-K 和导轨槽。
■ 将半径大的一侧放入槽内，注意图中的弧线方向 – 马刀形以及箭头方向，封盖条的另外一侧会在导轨面上。

①封盖条



图 16 压入方向

Embedded cover strip installation

The cover strip ADB-K is a precision product and must be carefully installed.

Before installation, the lugs should be inspected without damage and wrinkles.

Place the cover strip in the slot, Figure 16:

■ Clean the cover strip ADB-K and rail groove with a clean cloth.

■ Place the side with the larger radius into the groove, paying attention to the direction of the arc in the figure – the shape of the saber and the direction of the arrow, and the other side of the cover strip will be on the rail.



① cover strip

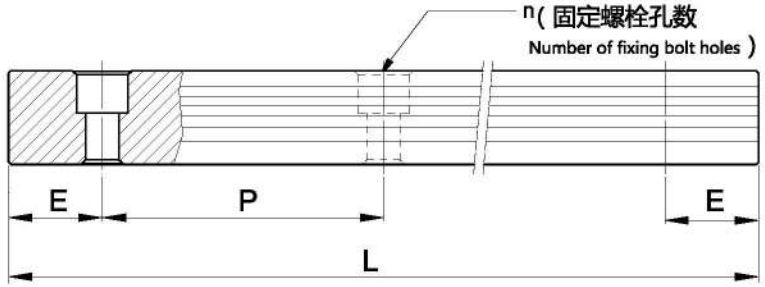
Figure 16 Pressing direction

单支滑轨标准长度及最大长度

Standard length and maximum length of single slide rails

SMAGIC 备有滑轨标准长度库存供应客户需求。若客户订购非标准长度滑轨时，端面距离 E 的尺寸最好不要大于 1/2P，防止因 E 的尺寸过大导致滑轨装配后端部的不稳定，而降低线性滑轨的精度。

SMAGIC is equipped with standard length stocks of slides to supply customer needs. If the customer orders a non-standard length slide rail, the dimension of the end face distance E is preferably not more than 1/2P, which prevents the instability of the rear end portion of the rail assembly due to the excessive size of the E, and reduces the accuracy of the linear slide rail.



$$L = (n-1) \times P + 2 \times E \quad \text{Eq.2.6}$$

L：滑轨总长 Total length of rails (mm)

n：螺栓孔数 Number of bolt holes

P：螺栓孔间距离 Distance between bolt holes (mm)

E：螺栓孔至端面距离 Bolt hole to end distance (mm)

表格 2-6-23 轨道长度 Track length

单位 unit：mm

项 目Project	ST15	ST20	ST25	ST30	ST35	ST45	ST55	ST65
标准长度L(n) Standard length	160(3)	220(4)	220(4)	280(4)	280(4)	570(6)	780(7)	1,270(9)
	220(4)	280(5)	280(5)	440(6)	440(6)	885(9)	1,020(9)	1,570(11)
	280(5)	340(6)	340(6)	600(8)	600(8)	1,200(12)	1,260(11)	2,020(14)
	340(6)	460(8)	460(8)	760(10)	760(10)	1,620(16)	1,500(13)	2,620(18)
	460(8)	640(11)	640(11)	1,000(13)	1,000(13)	2,040(20)	1,980(17)	
	640(11)	820(14)	820(14)	1,640(21)	1,640(21)	2,460(24)	2,580(22)	
	820(14)	1,000(17)	1,000(17)	2,040(26)	2,040(26)	2,985(29)	2,940(25)	
		1,240(21)	1,240(21)	2,520(32)	2,520(32)			
			1,600(27)	3,000(38)	3,000(38)			
间距(P) spacing	60	60	60	80	80	105	120	150
标准端距 (E_s) Standard terminal distance	20	20	20	20	20	22.5	30	35
标准端距最大长度 Standard terminal length	1,960(33)	4,000(67)	4,000(67)	3,960(50)	3,960(50)	3,930(38)	3,900(33)	3,970(27)
最大长度 The maximum length	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000

注：

1. 一般滑轨 E 尺寸公差为 0.5 ~ -0.5 mm，滑轨接牙件端距 E 尺寸公差较严格为 0 ~ -0.3 mm。
2. 标准端距最大长度是指左、右端距皆为标准端距的滑轨最大长度。
3. 若客户需要不同的 E 尺寸，请与 SMAGIC 联络。

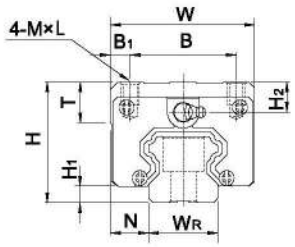
Note:

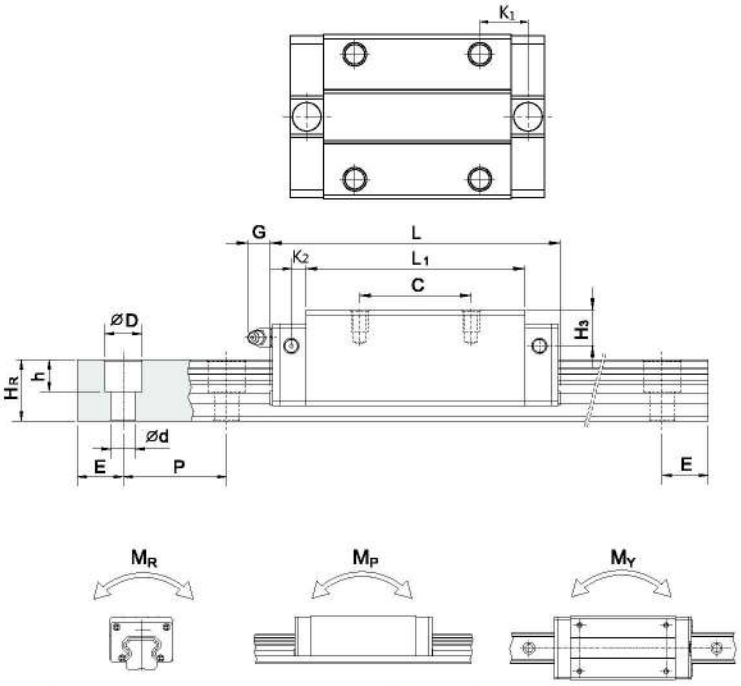
1. The general rail E dimension tolerance is 0.5~-0.5 mm, and the rail joint end distance E dimension tolerance is strictly 0~-0.3 mm.
2. The maximum length of the standard end distance means that the left and right end distances are the maximum length of the standard end distance.
3. If the customer needs a different E size, please contact SMAGIC.

ST 系列线性滑轨尺寸表

ST series linear slide size table

(1) STS-B / STS-LB

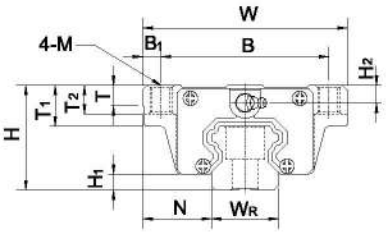


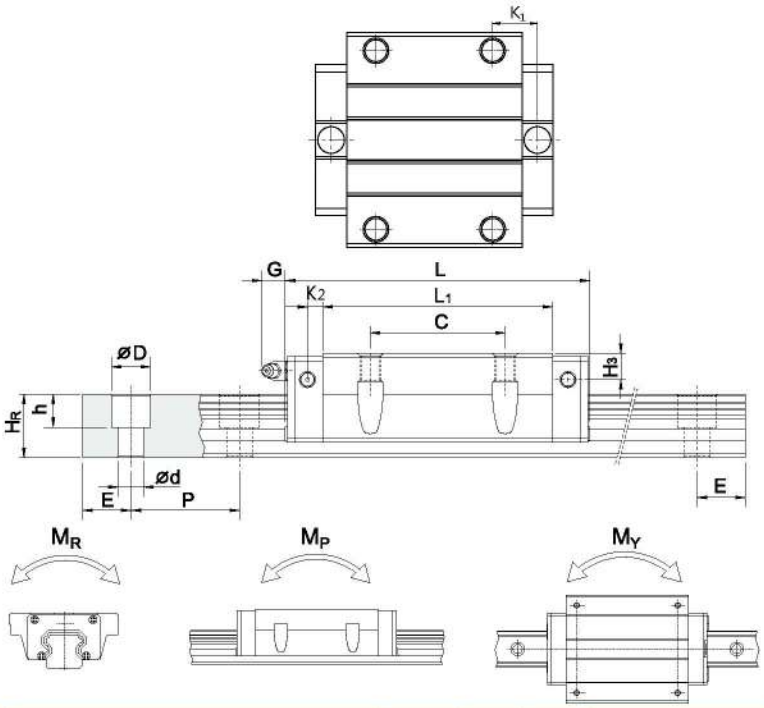


型号 Model	组件尺寸 (mm)			滑块尺寸 Slider size(mm)													滑轨尺寸 Slie size (mm)							滑轨的固定螺栓尺寸	基本动额定负荷	基本静额定负荷	容许静力矩			重量	
	H	H_1	N	W	B	B_1	C	L_1	L	k_1	k_2	G	Mxl	T	H_2	H_3	W_R	H_R	D	h	d	P	E	(mm)	C(kN)	Co (kN)	MR kN-m	MP kN-m	MY kN-m	滑块 kg	滑轨 kg/m
STS15B	28	4.3	9.5	34	26	4	26	39.4	61.4	10	4.85	5.3	M4x5	6	8.5	9.5	15	16.3	7.5	5.3	4.5	60	20	M4x16	11.38	16.97	0.12	0.10	0.10	0.18	1.45
STS 20B	30	4.6	12	44	32	6	36	50.5	77.5	12.25	6	12	M5x6	8	6	7	20	18.8	9.5	8.5	6	60	20	M5x16	17.75	27.76	0.27	0.20	0.20	0.30	2.21
STS20LB							50	65.2	92.2	12.6															21.18	35.90	0.35	0.35	0.35	0.39	
STS25B	40	5.5	12.5	48	35	6.5	35	58	84	16.8	6	12	M6x8	8	10	13	23	23.55	11	9	7	60	20	M6x20	26.48	36.49	0.42	0.33	0.33	0.51	3.21
STS25LB							50	78.6	104.6	19.6															32.75	49.44	0.56	0.57	0.57	0.69	
STS 30B	45	6	16	60	40	10	40	70	97.4	20.25	6	12	M8x10	8.5	9.5	13.8	28	27.4	14	12	9	80	20	M8x25	38.74	52.19	0.66	0.53	0.53	0.88	4.47
STS30LB							60	93	120.4	21.75															47.27	69.16	0.88	0.92	0.92	1.16	
STS35B	55	7.5	18	70	50	10	50	80	112.4	20.6	7	12	M8x12	10.2	16	19.6	34	30.4	14	12	9	80	20	M8x25	49.52	69.16	1.16	0.81	0.81	1.45	6.30
STS35LB							72	105.8	138.2	22.5															60.21	91.63	1.54	1.40	1.40	1.92	
STS45B	70	9.5	20.5	86	60	13	60	97	139.4	23	10	12.9	M10x17	16	18.5	30.5	45	39.3	20	17	14	105	22.5	M12x35	77.57	102.71	1.98	1.55	1.55	2.73	10.41
STS45LB							80	128.8	171.2	28.9															94.54	136.46	2.63	2.68	2.68	3.61	
STS 55B	80	13	23.5	100	75	12.5	75	117.7	166.7	27.35	11	12.9	M12x18	17.5	22	29	53	45.3	23	20	16	120	30	M14x45	114.44	148.33	3.69	2.64	2.64	4.17	15.08
STS55LB							95	155.8	204.8	36.4															139.35	196.20	4.88	4.57	4.57	5.49	
STS 65B	90	15	31.5	126	76	25	70	144.2	200.2	43.1	14	12.9	M16x20	25	15	15	63	54.3	26	22	18	150	35	M16x50	163.63	215.33	6.65	4.27	4.27	7.00	21.18
STS 65LB							120	203.6	259.6	47.8															208.36	303.13	9.38	7.38	7.38	9.82	

注 Note : 1 kgf = 9.81 N

(2) STM-B / STM-LB





型号 Model	组件尺寸 (mm)			滑块尺寸 Slider size(mm)															滑轨尺寸 Slie size (mm)							滑轨的固定螺栓尺寸	基本动额定负荷	基本静额定负荷	容许静力矩			重量	
	H	H_1	N	W	B	B_1	C	L_1	L	k_1	k_2	G	M	T	T_1	T_2	H_2	H_3	W_R	H_R	D	h	d	P	E	(mm)	C(kN)	Co (kN)	MR kN-m	MP kN-m	MY kN-m	滑块 kg	滑轨 kg/m
STM 15B	24	4.3	16	47	38	4.5	30	39.4	61.4	8	4.85	5.3	M5	6	8.9	6.95	4.5	5.5	15	16.3	7.5	5.3	4.5	60	20	M4x16	11.38	16.97	0.12	0.10	0.10	0.17	1.45
STM 20B	30	4.6	21.5	63	53	5	40	50.5	77.5	10.25	6	12	M6	8	10	9.5	6	7	20	18.8	9.5	8.5	6	60	20	M5x16	17.75	27.76	0.27	0.20	0.20	0.40	2.21
STM 20LB								65.2	92.2	17.6																	21.18	35.90	0.35	0.35	0.35	0.52	
STM 25B	36	5.5	23.5	70	57	6.5	45	58	84	10.7	6	12	M8	8	14	10	6	9	23	23.55	11	9	7	60	20	M6x20	26.48	36.49	0.42	0.33	0.33	0.59	3.21
STM 25LB								78.6	104.6	21																	32.75	49.44	0.56	0.57	0.57	0.80	
STM 30B	42	6	31	90	72	9	52	70	97.4	14.25	6	12	M10	8.5	16	10	6.5	10.8	28	27.4	14	12	9	80	20	M8x25	38.74	52.19	0.66	0.53	0.53	1.09	4.47
STM 30LB								93	120.4	25.75																	47.27	69.16	0.88	0.92	0.92	1.44	
STM 35B	48	7.5	33	100	82	9	62	80	112.4	14.6	7	12	M10	10.1	18	13	9	12.6	34	30.4	14	12	9	80	20	M8x25	49.52	69.16	1.16	0.81	0.81	1.56	6.30
STM 35LB								105.8	138.2	27.5																	60.21	91.63	1.54	1.40	1.40	2.06	
STM 45B	60	9.5	37.5	120	100	10	80	97	139.4	13	10	12.9	M12	15.1	22	15	8.5	20.5	44	39.3	20	17	14	105	22.5	M12x35	77.57	102.71	1.98	1.55	1.55	2.79	10.41
STM 45LB								128.8	171.2	28.9																	94.54	136.46	2.63	2.68	2.68	3.69	
STM 55B	70	13	43.5	140	116	12	95	117.7	166.7	17.35	11	12.9	M14	17.5	26.5	17	12	19	45	45.3	23	20	16	120	30	M14x45	114.44	148.33	3.69	2.64	2.64	4.52	15.08
STM 55LB								155.8	204.8	36.4																	139.35	196.20	4.88	4.57	4.57	5.96	
STM 65B	90	15	53.5	170	142	14	110	144.2	200.2	23.1	14	12.9	M16	25	37.5	23	15	15	63	54.3	26	22	18	150	35	M16x50	163.63	215.33	6.65	4.27	4.27	9.17	21.18
STM 65LB								203.6	259.6	52.8																	208.36	303.13	9.38	7.38	7.38	12.89	

注 Note : 1 kgf = 9.81 N

ST 系列

SM/SC 系列—微小型线性滑轨
SM/SC Series - Miniature Linear Slides

SM 系列小型线性滑轨的特点
Features of the SM series of small linear slides

1. 体积小、轻量化，特别适合小型化设备使用。
2. 不锈钢材质之线性滑轨，包含滑块、滑轨及其它金属配件如钢 珠、保持器等，皆使用不锈钢材质，具备防锈的特性。
3. 采用哥德型四点接触设计，可承受各方向负荷，具备刚性强，精度高等特性。
4. 有钢珠保持器设计，在精度允许下具备互换性。

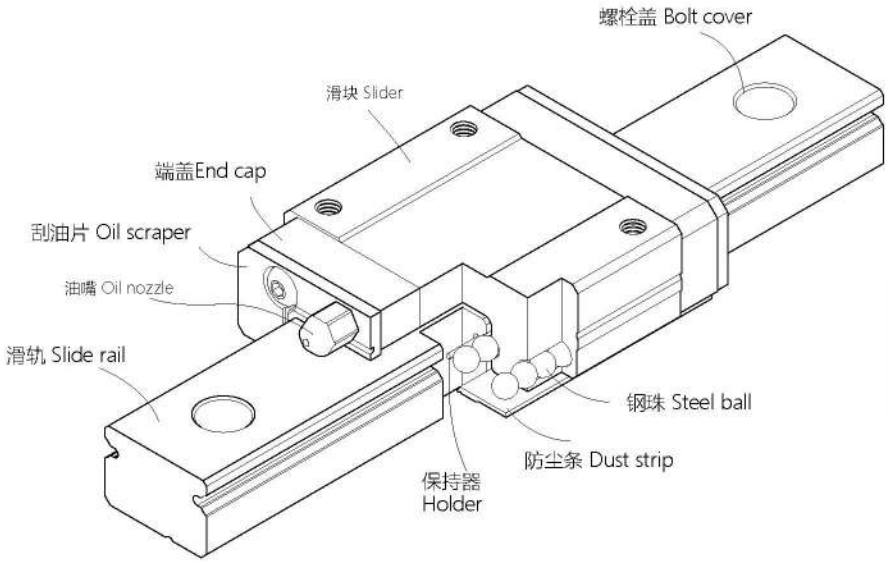
1. Small size and light weight, especially suitable for use in miniaturized equipment.

2. Stainless steel linear slides, including sliders, slides and other metal fittings such as steel balls, retainers, etc., all made of stainless steel and have rust-proof properties.

3. Adopting Gothic four-point contact design, it can withstand loads in all directions, with strong rigidity and high precision.

4. There is a steel ball cage design, which is interchangeable with precision.

SM 本体结构
SM body structure



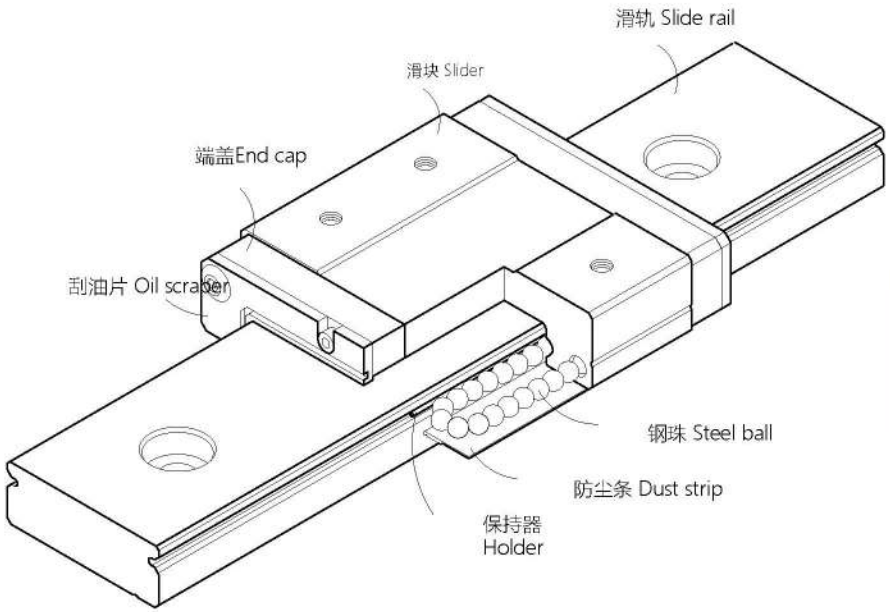
●滚动循环系统：滑块、滑轨、端盖、钢珠、保持器
●润滑系统：SM15 端盖侧附有油嘴，提供客户注油，而 SM7、9 、12 则于端盖侧预留注油孔，可将油或油脂打入滑块内部以润滑。
●防尘系统：刮油片、防尘片 (9,12,15 规格选配)、螺栓盖 (12,15 规格)。
● Rolling circulation system: slider, slide rail, end cover, steel ball, retainer
● Lubrication system: SM15 has a nozzle on the end cover side to provide customers with oil filling, while SM7, 9 and 12 reserve oil filling holes on the end cover side, which can be used to lubricate oil or grease into the inside of the slider.
● Dustproof system: oil scraper, dustproof piece (9, 12, 15 size optional), bolt cover (12, 15 size).

SC 小型宽幅线性滑轨的特点
SC small wide linear slide features

1. 加宽滑轨的设计大幅提升力矩负荷能力，可单轴使用。
2. 哥德型四点接触设计，可承受各种方向的负荷并具有高刚性的特点。
3. 滑块装有微小型保持钢丝，取下滑块钢珠也不会脱落。
4. 滑轨、滑块及所有金属配件均采用不锈钢材质，具抗腐蚀的特性。

1. The design of the widened slide rail greatly improves the torque load capacity and can be used for single shaft.
2. Gothic four-point contact design, can withstand loads in all directions and has high rigidity.
3. The slider is equipped with a micro-small retaining wire, and the slider steel ball will not fall off.
4. The slide rails, sliders and all metal fittings are made of stainless steel and are corrosion resistant.

SC 本体结构
SC body structure



●滚动循环系统：滑块、滑轨、端盖、钢珠、保持器
●润滑系统：SC15 端盖侧附有油嘴，提供客户注油，而 SC7、9 、12 则于端盖侧预留注油孔，可将油或油脂打入滑块内部以润滑。
●防尘系统：刮油片、防尘片 (9,12,15 规格选配)、螺栓盖 (12,15 规格)。
● Rolling circulation system: slider, slide rail, end cover, steel ball, retainer
● Lubrication system: SC15 has a nozzle on the end cover side to provide customers with oil filling, while SC7, 9 and 12 reserve oil filling holes on the end cover side, which can be used to lubricate oil or grease into the inside of the slider.
● Dustproof system: oil scraper, dustproof piece (9, 12, 15 size optional), bolt cover (12, 15 size).

SN 系列

应用范围
Application range

SM/SC 系列应用范围包括：半导体制造设备、印刷电路板 IC 组装设备、医疗设备、机器手臂、精密量测仪 器、办公室自动化设备、其它小型直线滑动装置。

The SM/SC range of applications includes: semiconductor manufacturing equipment, printed circuit board IC assembly equipment, medical equipment, robotic arms, precision measuring instruments, office automation equipment, and other small linear slides.

产品规格型号
Product number

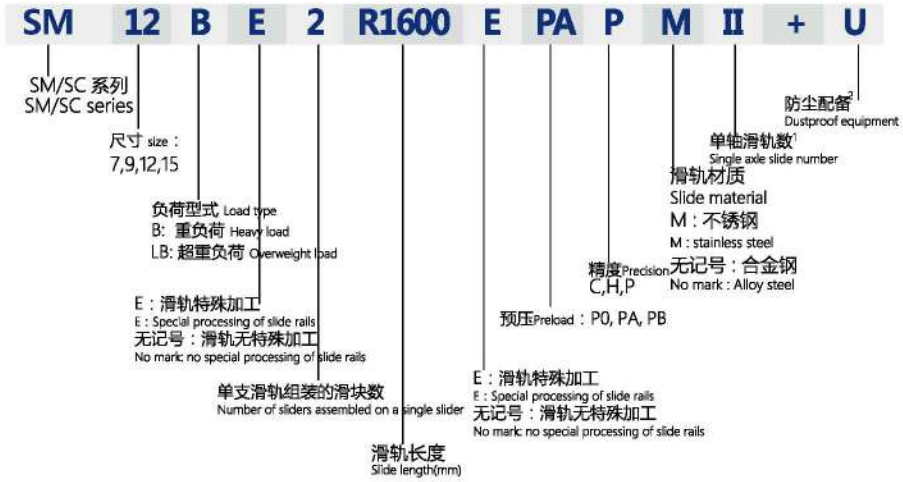
非互换性型及互换性型两种线性滑轨，两者规格尺寸相同，主要差异点在于互换性型之滑块、滑轨可单出互 换使用，较便利，但其组合精度无法达到非互换性型之超高精度，不过由于 SMAGIC 在制造上有良好的尺寸控 制及严格的质量要求，互换性型之组合精度目前已达到一定的水平，对不需配对安装线性滑轨的客户而言， 是一项很好的选择。产品型号主要标明系列、尺寸、型式、精度等级、预压等规格要求，以利订货时双方对产品的确认。

Non-interchangeable and interchangeable linear slides, the same size and size, the main difference is that the interchangeable sliders and slides can be used interchangeably, which is convenient, but the combination accuracy It is impossible to achieve ultra-high precision of non-interchangeable type. However, due to the good dimensional control and strict quality requirements of SMAGIC, the combination accuracy of interchangeable type has reached a certain level, and it is not necessary to install linear sliding. For rail customers, it is a good choice. The product model mainly indicates the series, size, type, accuracy grade, preloading and other specifications to facilitate the confirmation of the product by both parties when ordering.

SN 系列

(1) 非互换性线性滑轨产品型号

Non-interchangeable linear slide product model



注：

1. 单轴滑轨数若只使用一支滑轨则不写，两支标记为 II， 三支标记为 III，以此类推。
2.SM 及 SC 规格 9,12,15 可选用防尘片。

Note:

1. The number of single-axis slides is not written if only one slide is used, two are labeled II, three are labeled III, and so on.

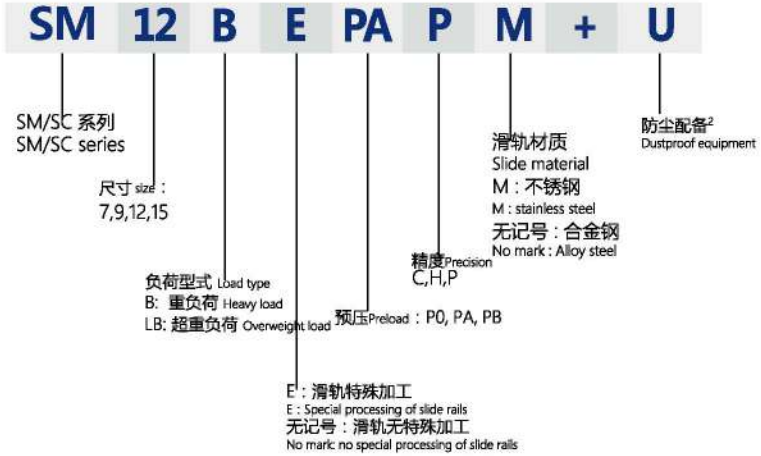
2.SM and SC specifications 9, 12, 15 can be selected with dustproof sheets.

SN 系列

(2) 互换性线性滑轨产品型号

Interchangeable linear slide product model

●单出滑块产品型号 Single slider product model



●单出滑轨产品型号 Single slide rail product model

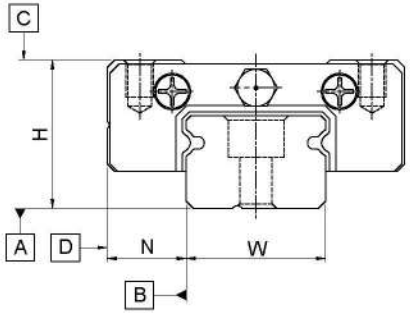


SN 系列

精度等级
Accuracy level

SM 及 SC 系列小型滑轨的精度，分为普通、高、精密级共三级，客户可依设备精度需求选用适合精度。

The accuracy of SM and SC series small slide rails is divided into three levels: ordinary, high and precision. Customers can choose the appropriate precision according to the precision requirements of the equipment.



(1) 非互换性线性滑轨精度

Non-interchangeable linear slide accuracy

组合高度 H 量测是以滑块上部基准面中心位置为准，组合宽度 N 量测是以滑块侧边基准面中心位置为准。

The combined height H measurement is based on the center position of the upper reference plane of the slider, and the combined width N is measured based on the center position of the reference side of the slider.

表格 2-7-1 精度表 Precision table

精度等级 Precision Level	普通级 (C)	高级 (H)	精密级 (P)
高度 H 的容许尺寸误差 Allowable size error for height H	± 0.04	± 0.02	± 0.01
宽度 N 的容许尺寸误差 Allowable size error of width N	± 0.04	± 0.025	± 0.015
成对高度 H 的相互误差 Mutual error of Pair Height H	0.03	0.015	0.007
成对宽度 N 的相互误差 Mutual error of paired width N	0.03	0.02	0.01
滑块 C 面对滑轨 A 面的行走平行度 Walk parallelism of slider C on the A side of slider	行走平行度 (见表格 2-7-3) Walking parallelism(see Table2-7-3)		
滑块 D 面对滑轨 B 面的行走平行度 Walk parallelism of slider D on the B side of slider	行走平行度 (见表格 2-7-3) Walking parallelism(see Table2-7-3)		

(2) 互换性线性滑轨精度

Interchangeable linear slide accuracy

互换性线性滑轨精度在滑块组装于单支滑轨之成对高及宽度精度，同非互换性线性滑轨精度，但若组装于不 同支滑轨上，因滑轨高度误差，其成对高及宽度精度，比非互换性线性滑轨精度稍微逊色，而行走平行度精 度则同非互换性线性滑轨之精度。

Interchangeable linear slide accuracy is the accuracy of paired height and width of the slider assembled on a single slide rail, and the accuracy of the non-interchangeable linear slide rail. However, if it is assembled on different support rails, due to the height error of the slide rail, Its paired height and width accuracy is slightly inferior to non-interchangeable linear slides, while the parallelism accuracy of walking is the same as that of non-interchangeable linear slides.

表格 2-7-2
互换性线性滑轨精度表 Interchangeable linear slide accuracy table

精度等级 Precision Level		普通级 (C)	高级 (H)	精密级 (P)
高度 H 的容许尺寸误差 Allowable size error for height H		± 0.04	± 0.02	± 0.01
宽度 N 的容许尺寸误差 Allowable size error of width N		± 0.04	± 0.025	± 0.015
单支成对 Single pair	成对高度 H 的相互误差 Mutual error of Pair Height H	0.03	0.015	0.007
	成对宽度 N 的相互误差 Mutual error of paired width N	0.03	0.02	0.01
复数支成对高度 H 的相互误差 Mutual error of complex branch height H		0.07	0.04	0.02
滑块 C 面对滑轨 A 面的行走平行度 Walk parallelism of slider C on the A side of slider		行走平行度 (见表格 2-7-3) Walking parallelism(see Table2-7-3)		
滑块 D 面对滑轨 B 面的行走平行度 Walk parallelism of slider D on the B side of slider		行走平行度 (见表格 2-7-3) Walking parallelism(see Table2-7-3)		

SN 系列

(3) 行走平行度精度

Walking parallelism accuracy

滑轨 C 对 A、D 对 B 之行走平行度与滑轨精度、长度有关，其值列于下表。

The parallelism of the sliding track C to A, D and B is related to the accuracy and length of the sliding rail, and the values are listed in the following table.

表格 2-7-3 行走平行度精度 Walking parallelism accuracy

滑轨长度 Slide length (mm)	精度等级 (μm) Accuracy level			滑轨长度 Slide length (mm	精度等级 (μm) Accuracy level		
	(C)	(H)	(P)		(C)	(H)	(P)
50 以下	12	6	2	315 ~ 400	18	11	6
50 ~ 80	13	7	3	400 ~ 500	19	12	6
80 ~ 125	14	8	3.5	500 ~ 630	20	13	7
125 ~ 200	15	9	4	630 ~ 800	22	14	8
200 ~ 250	16	10	5	800 ~ 1,000	23	16	9
250 ~ 315	17	11	5	1,000 ~ 1,200	25	18	11

预压力

Pre-stress

SM/SC 系列提供普通间隙、无预压、轻预压三种预压力。

The SM/SC series offers three pre-pressures: normal clearance, no preload, and light preload.

表格 2-7-4 预压等级 Preload rating

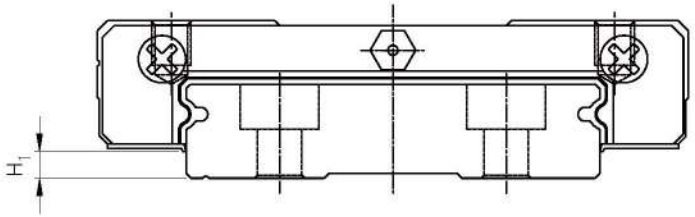
预压等级 Preload rating	标记 Mark	预压力 Pre-stress	适用精度 Applicable accuracy
普通间隙 Ordinary clearance	PF	精密间隙 Precision clearance 4~10μm	C
无预压 No preloading	P0	0	C~P
轻预压 Light preloading	P1	0.02C	C~P

防尘配备

Dustproof equipment

标准防尘配备滑块两端装有刮油片，以阻隔粉尘或杂质进入滑块内部，而影响线性滑轨寿命及精度。防尘片 是装在滑块底部，以防止粉尘或杂质从滑块底部间隙进入滑块内部，客户若欲选用防尘片，可于型号后面加 +U 代码。规格 7 滑块至底部承靠面间隙 (H1) 很小，并不提供加装防尘片，然规格 9、12 与 15 有提供防尘片选用。客户在选用防尘片时，需注意滑块间隙 (H1) 变小，当有侧边承靠面使用时，侧边承靠面之高度，不可大于间隙值 (H1)，以避免滑块在运行时干涉到侧边承靠面。

The standard dustproof device is equipped with scraper blades at both ends of the slider to block dust or impurities from entering the inside of the slider, which affects the life and accuracy of the linear slide. The dust-proof piece is installed at the bottom of the slider to prevent dust or impurities from entering the inside of the slider from the bottom of the slider. If the customer wants to use the dust-proof piece, add +U code to the back of the model. Specifications 7 The gap between the slider and the bottom bearing surface (H1) is very small, and no dust-proof piece is provided. However, specifications 9, 12 and 15 are available for dust-proof sheets. When selecting the dust-proof piece, the customer should pay attention to the smaller slider clearance (H1). When using the side bearing surface, the height of the side bearing surface should not be greater than the clearance value (H1) to avoid the slider. Interference with the side bearing surface during operation.



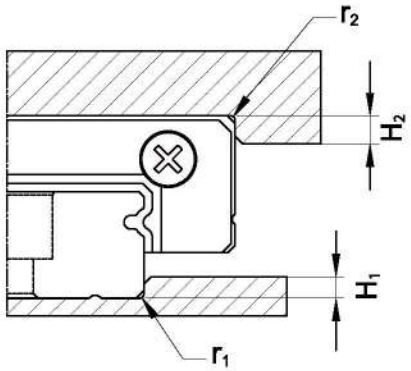
表格 2-7-5 附防尘片滑块之安装面间隙 H1
Mounting surface clearance H1 with dust guard slider

型号 Model	防尘片 Dust sheet	H1 mm
SM 7	-	-
SM 9	•	1
SM 12	•	2
SM 15	•	3
SC 7	-	-
SC 9	•	1.9
SC 12	•	2.4
SC 15	•	2.4

安装注意事项
Installation Precautions

(1) 安装面肩部高度及倒角

Mounting surface shoulder height and chamfer



表格 2-7-6 肩部高度及倒角 Shoulder height and chamfer

规格 specification	滑轨端 最大圆角半径 Maximum corner radius of the rail end r_1 (mm)	滑块端 最大圆角半径 Maximum corner radius of the slider end r_2 (mm)	滑轨端 肩部高度 Rail shoulder height H_1 (mm)	滑块端 肩部高度 Slider shoulder height H_2 (mm)
SM 7	0.2	0.2	1.2	3
SM 9	0.2	0.3	1.7	3
SM 12	0.3	0.4	1.7	4
SM 15	0.5	0.5	2.5	5
SC 7	0.2	0.2	1.7	3
SC 9	0.3	0.3	2.5	3
SC 12	0.4	0.4	3	4
SC 15	0.4	0.8	3	5

(2) 滑轨装配螺丝的扭力值

Torque value of the rail assembly screw

安装滑轨时是否锁紧贴平基准面影响线性滑轨精度严重，因此为达到每颗螺丝都能锁紧的目的，建议使用下列扭力值锁装配螺丝。

Whether the locking flat reference surface is installed when the slide rail is installed affects the accuracy of the linear slide rail. Therefore, in order to achieve the purpose of locking each screw, it is recommended to use the following torque value lock assembly screws.

表格 2-7-7 扭力值 Torque value

型号 Model	螺丝规格 Screw specification	扭力值 Torque value (kgf-cm)
SM 7	M2	5.9
SM 9	M3	19
SM 12	M3	19
SM 15	M3	19
SC 7	M3	19
SC 9	M3	19
SC 12	M4	40
SC 15	M4	40

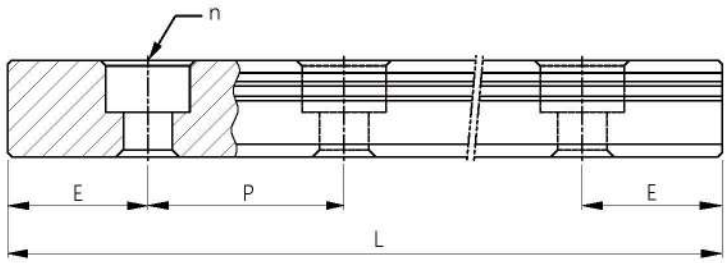
注 note：1 kgf = 9.81N

单支滑轨标准长度及最大长度

Standard length and maximum length of single slide rails

备有滑轨标准长度库存，以供应客户需求。若客户订购非标准长度滑轨时，端面距离 E 的尺寸，最好不要大于 1/2P，防止因 E 的尺寸过大，导致滑轨装配后端部的不稳定，而降低线性滑轨的精度，亦不可取用过小的 E 值 (小于 Emin) 以避免螺栓孔破孔。

Slide rail standard length stock is available to supply customer demand. If the customer orders a non-standard length slide rail, the dimension of the end face distance E is preferably not more than 1/2P, which prevents the instability of the rear end of the rail assembly due to the excessive size of the E, and reduces the accuracy of the linear slide rail. It is also not possible to use a small E value (less than Emin) to avoid bolt holes.



$$L = (n-1) \times P + 2 \times E \quad \text{Eq.2.1}$$

L : 滑轨总长 Total length of rails (mm)

n : 螺栓孔数 Number of bolt holes

P : 螺栓孔间距离 Distance between bolt holes (mm)

E : 螺栓孔至端面距离 Bolt hole to end distance (mm)

表格 2-7-8 轨道长度 Track length

单位unit：mm

项 目 Project	SMT 7M	SMT 9M	SMT 12M	SMT 15M	SCT 7M	SCT 9M	SCT 12M	SCT 15M
标准长度 L(n) Standard length	40(3)	55(3)	70(3)	70(2)	80(3)	80(3)	110(3)	110(3)
	55(4)	75(4)	95(4)	110(3)	110(4)	110(4)	150(4)	150(4)
	70(5)	95(5)	120(5)	150(4)	140(5)	140(5)	190(5)	190(5)
	85(6)	115(6)	145(6)	190(5)	170(6)	170(6)	230(6)	230(6)
	100(7)	135(7)	170(7)	230(6)	200(7)	200(7)	270(7)	270(7)
	130(9)	155(8)	195(8)	270(7)	260(9)	230(8)	310(8)	310(8)
		175(9)	220(9)	310(8)		260(9)	350(9)	350(9)
		195(10)	245(10)	350(9)		290(10)	390(10)	390(10)
		275(14)	270(11)	390(10)		350(14)	430(11)	430(11)
		375(19)	320(13)	430(11)		500(19)	510(13)	510(13)
			370(15)	470(12)		710(24)	590(15)	590(15)
			470(19)	550(14)		860(29)	750(19)	750(19)
			570(23)	670(17)			910(23)	910(23)
			695(28)	870(22)			1070(27)	1070(27)
间距 (P) spacing	15	20	25	40	30	30	40	40
标准端距 (Es) Standard terminal distance	5	7.5	10	15	10	10	15	15
标准端距最大长度 Standard terminal length	595(40)	1195(60)	1195(80)	1990(50)	590(20)	1970(66)	1990(50)	1990(50)
最大长度 The maximum length	600	1000	1000	2000	600	2000	2000	2000

注：

1. 一般滑轨 E 尺寸公差为 0.5 ~ -0.5mm，滑轨接牙件端距 E 尺寸公差较严格为 0 ~ -0.3mm。
2. 标准端距最大长度是指左、右端距皆为标准端距之滑轨最大长度。
3. 规格中“M”表材质为不锈钢材质 (SUS), 无“M”标记表合金钢材质。
4. 表格中最大长度一列为规范内之长度，客户若有特殊需求请与 SMAGIC 连络。
5. 若客户需要不同 E 值，请与 SMAGIC 连络。

Note:

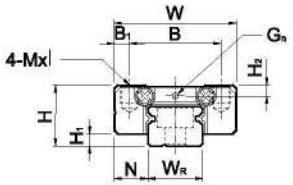
1. The general rail E dimension tolerance is 0.5 ~ -0.5mm, and the rail joint end distance E dimension tolerance is strictly 0 ~ -0.3mm.
2. The maximum length of the standard end distance means that the left and right end distances are the maximum length of the standard end distance.
3. The “M” meter in the specification is made of stainless steel (SUS), and there is no “M” marked alloy steel.
4. The maximum length in the table is the length within the specification. If customers have special needs, please contact SMAGIC.
5. If the customer needs a different E value, please contact SMAGIC.

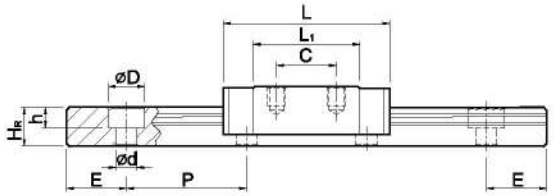
SN 系列线性滑轨尺寸表

SN series linear slide size table

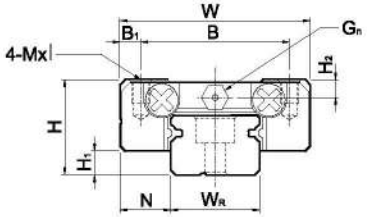
(1) SM-B / SC-LB

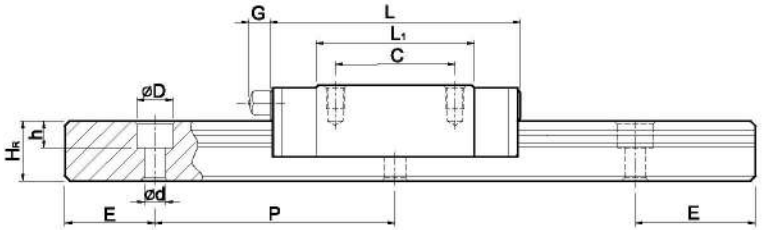
SM7, SM9,SM12

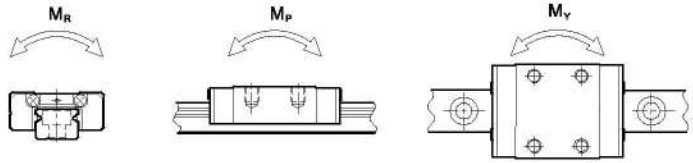




SM15







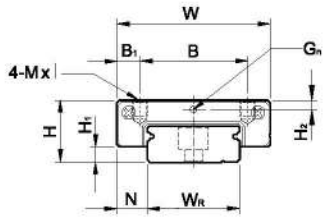
型号 Model	组件尺寸 (mm)			滑块尺寸 Slider size(mm)										滑轨尺寸 Slie size (mm)							滑轨的固定螺栓尺寸	基本动额定负荷	基本静额定负荷	容许静力矩			重量	
	H	H_1	N	W	B	B_1	C	L_1	L	G	G_R	Mxl	H_2	W_R	H_R	D	h	d	P	E	(mm)	C(kN)	Co(kN)	MR kN-m	MP kN-m	MY kN-m	滑块 kg	滑轨 kg/m
SM7B	8	1.5	5	17	12	2.5	8	13.5	22.5	-	Ø1.2	M2x2.5	1.5	7	4.8	4.2	2.3	2.4	15	5	M2x6	0.98	1.24	4.70	2.84	2.84	0.010	0.22
SM 7LB							13	21.8	30.8													1.37	1.96	7.64	4.80	4.80	0.015	
SM 9B	10	2	5.5	20	15	2.5	10	18.9	28.9	-	Ø1.4	M3x3	1.8	9	6.5	6	3.5	3.5	20	7.5	M3x8	1.86	2.55	11.76	7.35	7.35	0.016	0.38
SM 9LB							16	29.9	39.9													2.55	4.02	19.60	18.62	18.62	0.026	
SM 12B	13	3	7.5	27	20	3.5	15	21.7	34.7	-	Ø2	M3x3.5	2.5	12	8	6	4.5	3.5	25	10	M3x8	2.84	3.92	25.48	13.72	13.37	0.034	0.65
SM 12LB							20	32.4	45.4													3.72	5.88	38.22	36.26	36.26	0.054	
SM 15B	16	4	8.5	32	25	3.5	20	26.7	42.1	4.5	M3	M3x4	3	15	10	6	4.5	3.5	40	15	M3x10	4.61	5.89	45.08	21.56	21.56	0.059	1.06
SM 15LB							25	43.4	58.8													6.37	9.11	73.50	57.82	57.82	0.092	

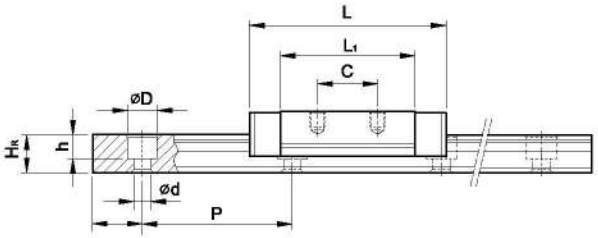
注 Note : 1 kgf = 9.81 N

SN 系列

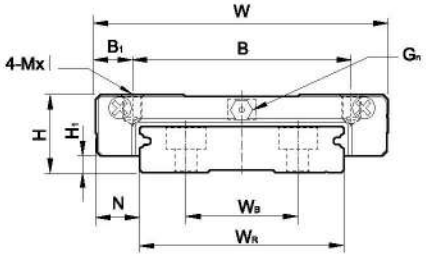
(2) SC-B / SC-LB

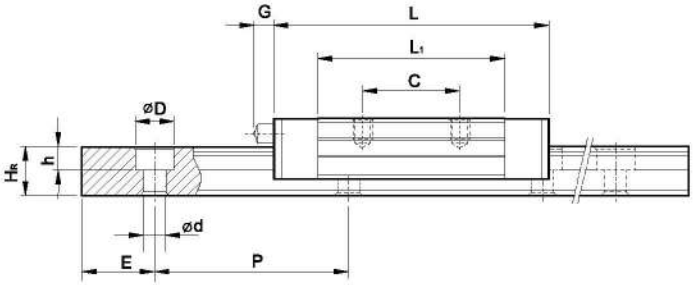
SC7, SC9, SC12

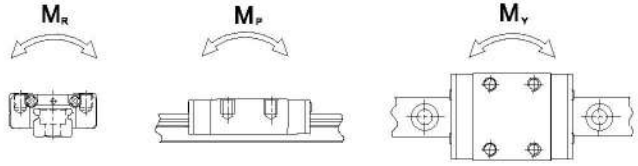




SC15







型号 Model	组件尺寸 (mm)			滑块尺寸 Slider size(mm)											滑轨尺寸 Slie size (mm)							滑轨的固定螺栓尺寸	基本动额定负荷	基本静额定负荷	容许静力矩			重量	
	H	H_1	N	W	B	B_1	C	L_1	L	G	MxI	T	H_2	H_3	W_R	H_R	D	h	d	P	E	(mm)	C(kN)	Co (kN)	MR kN-m	MP kN-m	MY kN-m	滑块 kg	滑轨 kg/m
SC7B	9	1.9	5.5	25	19	3	10	21	31.2	-	M3x3	1.2	1.85	14	-	5.2	6	3.2	3.5	30	10	M3x6	1.37	2.06	15.70	7.14	7.14	0.020	0.51
SC7LB							19	30.8	41														1.77	3.14	23.45	15.53	15.53	0.029	
SC 9B	12	2.9	6	30	21	4.5	12	27.5	39.3	-	M3x3	1.2	2.4	18	-	7	6	4.5	3.5	30	10	M3x8	2.75	4.12	40.12	18.96	19.96	0.040	0.91
SC 9LB					23	3.5	24	38.5	50.7														3.43	5.89	54.54	34.00	34.00	0.057	
SC12B	14	3.4	8	40	28	6	15	31.3	46.1	-	M3x3.6	1.2	2.8	24	-	8.5	8	4.5	4.5	40	15	M4x8	3.92	5.59	70.34	27.80	27.80	0.071	1.49
SC12LB							28	45.6	60.4														5.10	8.24	102.70	57.37	57.34	0.103	
SC15B	16	3.4	9	60	45	7.5	20	38	54.8	5.2	M4x4.2	M3	3.2	42	23	9.5	8	4.5	4.5	40	15	M4x10	6.77	9.22	199.34	56.66	56.66	0.143	2.86
SC 15LB							35	57	73.8														8.93	13.38	299.01	122.60	122.60	0.215	

注 Note : 1 kgf = 9.81 N

SN 系列

产品目录索取表

SMAGIC

公司名称		地址	
部门名称		您的要求	1. 希望寄送产品目录 2. 希望与营业人员洽谈
职务名称			
姓名			
TEL		您的意见	
FAX			
E-mail			

请在您希望的产品目录□的打“√”（可复选）。

□ SH 系列重负荷型滚珠线性滑轨	□ SG 滚柱型线性滑轨
□ SL 系列低组装型滚珠线性滑轨	□ ST 钢带型线性滑轨
□ SB 系列静音式重负荷型线性滑轨	□ SN 系列微小型滚珠线性滑轨

SMAGiC
SMG直線スポーツ株式会社製



齒條 RACKS
齒輪 PINIONS

公司簡介

河北斯迈科自动化科技有限公司，主要经营日系精密直线传动系统。其中主要经营的日本SMG直线导轨，在世界各地均享有崇高的声誉，以其特殊的内部构造实现机械设计的小型、轻量化。以所赋予的高品质为基础，以独特的机械设备做精密加工，产品保持着高性能及高品质的水准。

公司创业以来，一直本着准确把握时代变化，满足多元化需求的经营姿态，与大家共同携手走过。在这个企业方针指引下，在国内外都赢得了很高的信誉，日本SMG品牌已成长为国际上不可或缺的机械要素之一。 欢迎社会各界朋友前来洽谈合作！

COMPANY PROFILE

Hebei SMAGIC Automation Technology Co., LTD., mainly engaged in Japanese precision linear transmission system. Among them, the main business of Japan SMG linear guide, enjoy a high reputation around the world, with its special internal structure to achieve small mechanical design, light weight. Based on the high quality given by the unique machinery and equipment to do precision processing, products to maintain high performance and high quality standards.

Since the establishment of the company, has been in line with the accurate grasp of the change of The Times, to meet the diversified needs of the business posture, and we work together through. Under the guidance of this enterprise policy, the Japanese SMG brand has won a high reputation both at home and abroad, and has grown into one of the indispensable mechanical elements in the world. Welcome friends from all walks of life to negotiate cooperation!

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世界主要齒條與齒輪標準規範

World Major Standard Specification of Racks and Pinions

簡稱 Specification	中文名稱	Full Name
AGMA	美國齒輪製造協會	American Gear Manufacturers Association
DIN	德國標準化學會	Deutsches Institut für Normung
ISO	國際標準化組織	International Organization for Standardization
JIS	日本工業標準	Japanese Industrial Standards

精度等級對照表

Quality Grade Comparison Table

規格 Standard	精度等級 / Quality Grade											
ISO	1	2	3	4	5	6	7	8	9	10	11	12
DIN		2	3	4	5	6	7	8	9	10	11	12
AGMA		15	14	13	12	11	10	9	8	7	6	5
JIS				0	1	2	3	4	5	6	7	8
JIS N				N4	N5	N6	N7	N8	N9	N10		

以節距誤差比較：F_p f_p
Compared with Pitch Error: F_p f_p

SOTPH

齒條目錄 Contents of Racks

型號 Code	精度等級 DIN 3962	材　料 Material	齒型 Type	齒面處理 Teeth Treatment	硬度處理 Hardness	鑽　孔 Mounted Holes	模　數 Module	頁碼 Page
SOTPH	JIS 1	S45C	斜齒右斜 Helical Right Hand 19°31'42"	齒面研磨 Teeth Ground	熱處理 Hardened HRC 48°-52°	鑽孔 Holes	1.5, 2, 2.5, 3, 4, 5, 6, 8	P.6
SOTPH	JIS 2	S45C					1.5, 2, 2.5, 3, 4, 5, 6, 8, 10	P.7
MOTP	JIS 3	SCM440			*		1.5, 2, 2.5, 3, 4, 5, 6, 8	P.8
SOTM	JIS 4	S45C		精銑 Milled	*		1.5, 2, 3, 4, 5, 6, 8, 10	P.9
SOTMQ	JIS 4	S45C			調質 HRC18°-22° Quenched & Tempered		1.5, 2, 3, 4, 5, 6, 8, 10	P.10
SOTMH	JIS 5	S45C			熱處理 Hardened HRC 48°-52°		1.5, 2, 3, 4, 5, 6, 8, 10	P.11
SSTPH	JIS 1	S45C	直齒 Straight	齒面研磨 Teeth Ground	熱處理 /Hardened HRC 48°-52°		2, 3, 4, 5	P.12
SSTPH	JIS 2	S45C					1.5, 2, 2.5, 3, 4, 5, 6, 8	P.13
SSTM	JIS 4	S45C		精銑 Milled	*		1.5, 2, 3, 4, 5, 6, 8, 10	P.14
SSTMQ	JIS 4	S45C			調質 Quenched&Tempered HRC 18°-22°		1.5, 2, 3, 4, 5, 6, 8, 10	P.15
SSTMH	JIS 5	S45C			熱處理 Hardened HRC 48°-52°		1.5, 2, 3, 4, 5, 6, 8, 10	P.16

型號 Code	精度等級 JIS	材　料 Material	齒型 Type	齒面處理 Teeth Treatment	硬度處理 Hardness	鑽　孔 Mounted Holes	模　數 Module	頁碼 Page
MOTPQ	JIS 1	SCM440	斜齒右斜 Helical 20°30'	齒面研磨 Teeth Ground	調質 HRC18°-22° Quenched & Tempered	鑽孔 Holes	1, 1.5, 2, 2.5, 3	P.17
SOTM	JIS 4	S45C	斜齒右斜 Helical 15°	精銑 Milled	*	有 / 無鑽孔 with/out Holes	2, 3	P.18
SSTPH	JIS 2	S45C	直齒 Straight	齒面研磨 Teeth Ground	熱處理 Hardened HRC 50°-55°	有 / 無鑽孔 with/out Holes	1, 1.5, 2, 2.5, 3, 4, 5, 6	P.19
MSTMQ	JIS 4	SCM440		精銑 Milled	調質 HRC18°-22° Quenched & Tempered	有 / 無鑽孔 with/out Holes	1.5, 2, 2.5, 3, 4, 5, 6	P.20
SSTM	JIS 4	S45C			*	有 / 無鑽孔 with/out Holes	1, 1.5, 2, 2.5, 3, 4, 5, 6	P.21
SSTMH	JIS 5	S45C			熱處理 Hardened HRC 50°-55°	有 / 無鑽孔 with/out Holes	1.5, 2, 2.5, 3, 4, 5, 6	P.22

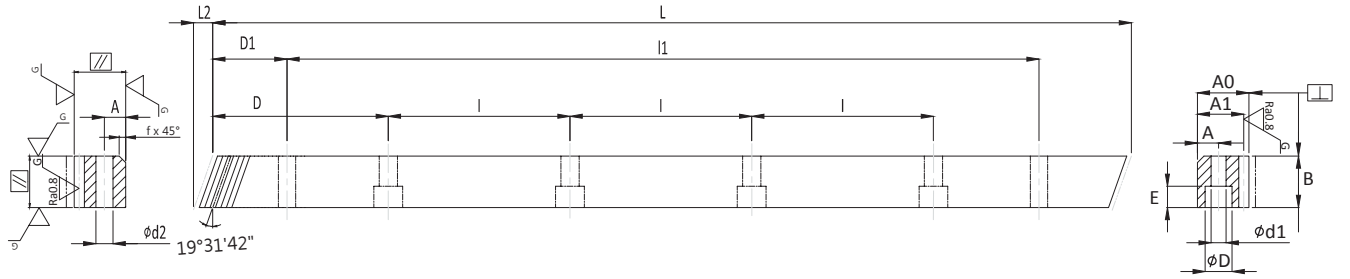
型號 Code	精度等級 JIS	材　料 Material	齒型 Type	齒面處理 Teeth Treatment	硬度處理 Hardness	鑽　孔 Mounted Holes	周節 CP	頁碼 Page
MSTPQ-CP	JIS 1	SCM440	直齒 Straight	齒面研磨 Teeth Ground	調質 HRC18°-22° Quenched & Tempered	有 / 無鑽孔 with/out Holes	5, 10	P.23
MSTPH-CP	JIS 1	SCM440			熱處理 Hardened HRC 55°-58°	有 / 無鑽孔 with/out Holes	5, 10	P.24
SSTM-CP	JIS 4	S45C		精銑 Milled	*	有 / 無鑽孔 with/out Holes	5, 10, 15, 20	P.25

齒條型號說明 Rack Code Instruction

1st	2nd	3rd	4th	5th	6th	7th	8th
材料 Material	齒型 Type	棒型 Shape	齒面處理 Teeth Treatment	硬度處理 Hardness	模數 Module	長度 Length	等級 Grade
S	S	T	P	H	M020	10	JIS
S= 中碳鋼 M= 合金鋼	S= 直齒 O= 斜齒	T= 四角棒	M= 精铣 P= 齒研	Q= 調質 H= 硬化處理	M1.5~M10	05=500mm 10=1000mm 15=1500mm 20=2000mm	JIS -1-8
S= Carbon Steel =S45C M=Alloy Steel =SCM440	S=Straight O=Oblique	T=Tetragon	M=Milled P=Grinding Process	H=Hardened Q=Quenched & Tempered			

備註：長度、鑽孔、材質、表面處理 (噴砂、磷酸鹽、染黑、研磨) 等特殊需求，皆可客製。
Remarks: Lengths, holes,materials,surface treaments (sandblasted, phosphated,Black-coated, sides ground) and other requirements all could be customized.

SOTPH-JIS1



單位 / Dimension : mm

系列 SOTPH-JIS1 斜齒齒研齒條
品質等級 JIS 1

材料 S45C
右旋角 19°31'42"
硬度 HRC 48~52°
硬化處理後四面研磨與齒研
總齒距誤差 :Fp /1000 ≦ 0.026 mm
室溫在攝氏 25° 為準

Series SOTPH-JIS1 Helical Teeth Ground Racks
Quality Grade JIS 1

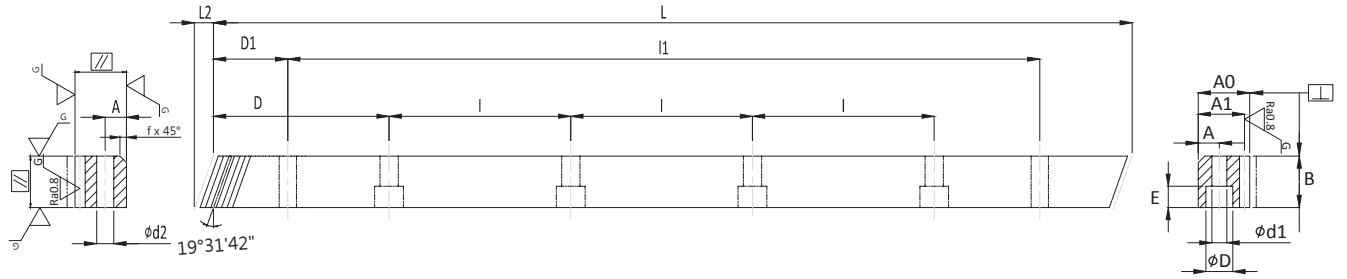
Material S45C
Right Hand Angle 19°31'42"
Hardness HRC 48~52°
Ground on all sides after hardening.
Total Pitch Error: Fp /1000 ≦ 0.026 mm
Room Temperature is 25°C

型號 Code	模數 Module	L	L2	齒數 No. of Teeth	B	A0	A1	D	I	孔數 No. of Holes	A	ød1	øD	E	D1	l1	ød2	f	F_{ta} kN	KG
STOPHM01505-JIS1	1.5	500.00	6.70	100	19	19	17.5	62.5	125	4	8	7	11	7	31.7	436.60	5.7	1.5	4.84	1.3
STOPHM01510-JIS1	1.5	1000.00	6.70	200	19	19	17.5	62.5	125	8	8	7	11	7	31.7	936.60	5.7	1.5	4.84	2.6
STOPHM02005-JIS1	2	500.00	8.50	75	24	24	22.0	62.5	125	4	8	7	11	7	31.7	436.60	5.7	2	8.15	2.1
STOPHM02010-JIS1	2	1000.00	8.50	150	24	24	22.0	62.5	125	8	8	7	11	7	31.7	936.60	5.7	2	8.15	4.1
STOPHM02505-JIS1	2.5	500.00	8.50	60	24	24	21.5	62.5	125	4	9	7	11	7	31.7	436.60	5.7	2	10.19	2.1
STOPHM02510-JIS1	2.5	1000.00	8.50	120	24	24	21.5	62.5	125	8	9	7	11	7	31.7	936.60	5.7	2	10.19	4.1
STOPHM03005-JIS1	3	500.00	10.30	50	29	29	26.0	62.5	125	4	9	10	15	9	35	430.00	7.7	2	14.77	3.0
STOPHM03010-JIS1	3	1000.00	10.30	100	29	29	26.0	62.5	125	8	9	10	15	9	35	930.00	7.7	2	14.77	6.0
STOPHM04005-JIS1	4	506.67	13.80	38	39	39	35.0	62.5	125	4	12	10	15	9	33.3	433.00	7.7	2	26.49	5.5
STOPHM04010-JIS1	4	1000.00	13.80	75	39	39	35.0	62.5	125	8	12	10	15	9	33.3	933.40	7.7	2	26.49	10.8
STOPHM05005-JIS1	5	500.00	17.40	30	49	39	34.0	62.5	125	4	12	14	20	13	37.5	425.00	11.7	3	41.60	6.8
STOPHM05010-JIS1	5	1000.00	17.40	60	49	39	34.0	62.5	125	8	12	14	20	13	37.5	925.00	11.7	3	41.60	13.6
STOPHM06005-JIS1	6	500.00	20.90	25	59	49	43.0	62.5	125	4	16	18	26	17	37.5	425.00	15.7	3	60.11	10.3
STOPHM06010-JIS1	6	1000.00	20.90	50	59	49	43.0	62.5	125	8	16	18	26	17	37.5	925.00	15.7	3	60.11	20.5
STOPHM08005-JIS1	8	480.00	28.00	18	79	79	71.0	60.0	120	4	25	22	33	21	120	240.00	19.7	4	107.31	21.3
STOPHM08010-JIS1	8	960.00	28.00	36	79	79	71.0	60.0	120	8	25	22	33	21	120	720.00	19.7	4	107.31	42.6

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

SOTPH-JIS2



單位 / Dimension : mm

系列 SOTPH-JIS2 斜齒齒研齒
條品質等級 JIS 2

材料 S45C
右旋角 19°31'42"
硬度 HRC 48~52°
硬化處理後四面研磨與齒研
總齒距誤差 : Fp /1000 ≦ 0.036 mm
Fp /2000 ≦ 0.047 mm (≦ 0.024/1000 mm)

Series SOTPH-JIS2 Helical Teeth Ground Racks
Quality Grade JIS 2

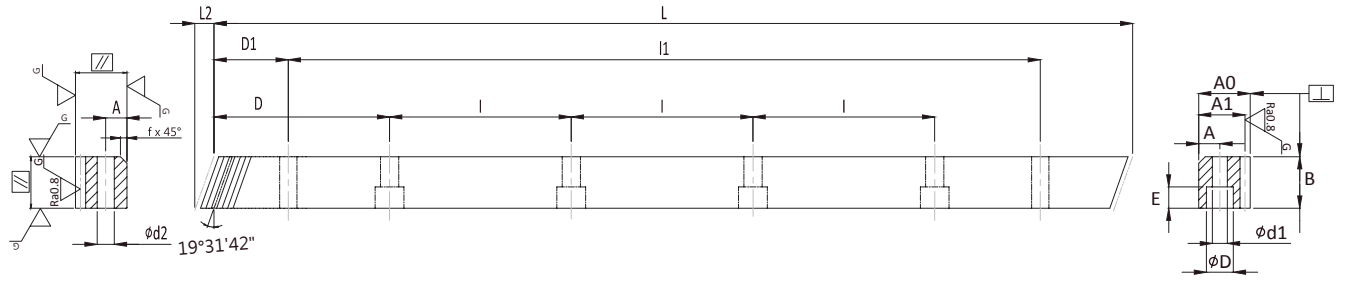
Material S45C
Right Hand Angle 19°31'42"
Hardness HRC 48~52°
Ground on all sides after hardening.
Total Pitch Error: Fp /1000 ≦ 0.036 mm
Fp /2000 ≦ 0.047 mm (≦ 0.024/1000 mm)

型號 Code	模數 Module	L	L2	齒數 No. of Teeth	B	A0	A1	D	l	孔數 No. of Holes	A	ød1	øD	E	D1	l1	ød2	f	F_{ta} kN	KG
SOTPHM01505-JIS2	1.5	500.00	6.70	100	19	19	17.5	62.5	125	4	8	7	11	7	31.7	436.60	5.7	1.5	4.84	1.3
SOTPHM01510-JIS2	1.5	1000.00	6.70	200	19	19	17.5	62.5	125	8	8	7	11	7	31.7	936.60	5.7	1.5	4.84	2.6
SOTPHM02005-JIS2	2	500.00	8.50	75	24	24	22.0	62.5	125	4	8	7	11	7	31.7	436.60	5.7	2	8.15	2.1
SOTPHM02010-JIS2	2	1000.00	8.50	150	24	24	22.0	62.5	125	8	8	7	11	7	31.7	936.60	5.7	2	8.15	4.1
SOTPHM02020-JIS2	2	2000.00	8.50	300	24	24	22.0	62.5	125	16	8	7	11	7	31.7	1936.60	5.7	2	8.15	8.2
SOTPHM02505-JIS2	2.5	500.00	8.50	60	24	24	21.5	62.5	125	4	9	7	11	7	31.7	436.60	5.7	2	10.19	2.1
SOTPHM02510-JIS2	2.5	1000.00	8.50	120	24	24	21.5	62.5	125	8	9	7	11	7	31.7	936.60	5.7	2	10.19	4.1
SOTPHM02520-JIS2	2.5	2000.00	8.50	240	24	24	21.5	62.5	125	16	9	7	11	7	31.7	1936.60	5.7	2	10.19	8.2
SOTPHM03005-JIS2	3	500.00	10.30	50	29	29	26.0	62.5	125	4	9	10	15	9	35.0	430.00	7.7	2	14.77	3.0
SOTPHM03010-JIS2	3	1000.00	10.30	100	29	29	26.0	62.5	125	8	9	10	15	9	35.0	930.00	7.7	2	14.77	6.0
SOTPHM03020-JIS2	3	2000.00	10.30	200	29	29	26.0	62.5	125	16	9	10	15	9	35.0	1930.00	7.7	2	14.77	12.0
SOTPHM04005-JIS2	4	506.67	13.80	38	39	39	35.0	62.5	125	4	12	10	15	9	33.3	433.00	7.7	2	26.49	5.5
SOTPHM04010-JIS2	4	1000.00	13.80	75	39	39	35.0	62.5	125	8	12	10	15	9	33.3	933.40	7.7	2	26.49	10.8
SOTPHM04020-JIS2	4	2000.00	13.80	150	39	39	35.0	62.5	125	16	12	10	15	9	33.3	1933.40	7.7	2	26.49	21.6
SOTPHM05005-JIS2	5	500.00	17.40	30	49	39	34.0	62.5	125	4	12	14	20	13	37.5	425.00	11.7	3	41.60	6.8
SOTPHM05010-JIS2	5	1000.00	17.40	60	49	39	34.0	62.5	125	8	12	14	20	13	37.5	925.00	11.7	3	41.60	13.6
SOTPHM05020-JIS2	5	2000.00	17.40	120	49	39	34.0	62.5	125	16	12	14	20	13	37.5	1925.00	11.7	3	41.60	27.2
SOTPHM06005-JIS2	6	500.00	20.90	25	59	49	43.0	62.5	125	4	16	18	26	17	37.5	425.00	15.7	3	60.11	10.3
SOTPHM06010-JIS2	6	1000.00	20.90	50	59	49	43.0	62.5	125	8	16	18	26	17	37.5	925.00	15.7	3	60.11	20.5
SOTPHM06020-JIS2	6	2000.00	20.90	100	59	49	43.0	62.5	125	16	16	18	26	17	37.5	1925.00	15.7	3	60.11	41.1
SOTPHM08005-JIS2	8	480.00	28.00	18	79	79	71.0	60.0	120	4	25	22	33	21	120.0	240.00	19.7	4	107.31	21.3
SOTPHM08010-JIS2	8	960.00	28.00	36	79	79	71.0	60.0	120	8	25	22	33	21	120.0	720.00	19.7	4	107.31	42.6
SOTPHM08020-JIS2	8	1920.00	28.00	72	79	79	71.0	60.0	120	16	25	22	33	21	120.0	1680.00	19.7	4	107.31	85.1
SOTPHM10005-JIS2	10	500.00	35.11	15	99	99	89.0	62.5	125	4	32	33	48	32	125.0	250.00	19.7	5	168.10	34.8
SOTPHM10010-JIS2	10	1000.00	35.11	30	99	99	89.0	62.5	125	8	32	33	48	32	125.0	750.00	19.7	5	168.10	69.6

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

MOTP-JIS3



單位 / Dimension : mm

系列 MOTP-JIS3 斜齒齒研齒條
品質等級 JIS 3

材料 SCM440
右旋角 19°31'42"
硬度 HRC 10~12°
四面研磨與齒研
總齒距誤差 : Fp /1000 ≦ 0.036 mm
Fp /2000 ≦ 0.047 mm (≦ 0.024/1000 mm)

Series MOTP-JIS3 Helical Teeth Ground Racks
Quality Grade JIS 3

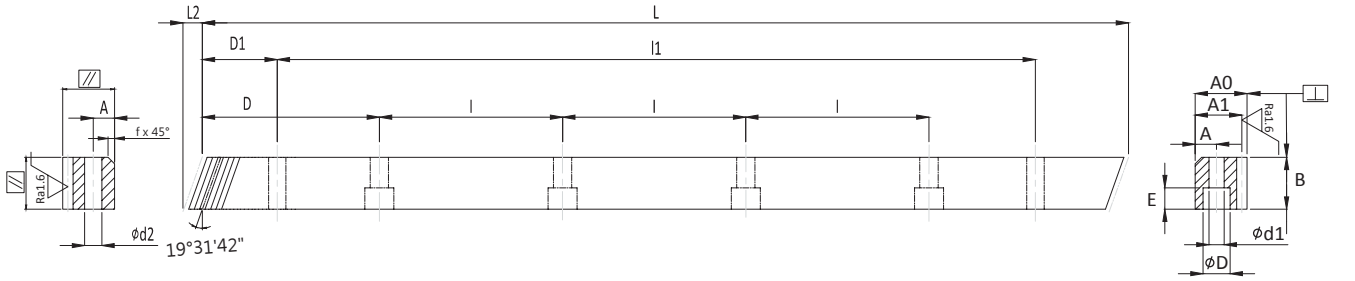
Material SCM440
Right Hand Angle 19°31'42"
Hardness HRC 10~12°
Ground on all sides.
Total Pitch Error: Fp /1000 ≦ 0.036 mm
Fp /2000 ≦ 0.047 mm (≦ 0.024/1000 mm)

型號 Code	模數 Module	L	L2	齒數 No. of Teeth	B	A0	A1	D	I	孔數 No. of Holes	A	ød1	øD	E	D1	I1	ød2	f	F_{ta} kN	KG
MOTPM01505-JIS3	1.5	500.00	6.70	100	19	19	17.5	62.5	125	4	8	7	11	7	31.7	436.60	5.7	1.5	0.94	1.3
MOTPM01505-JIS3	1.5	1000.00	6.70	200	19	19	17.5	62.5	125	8	8	7	11	7	31.7	936.60	5.7	1.5	0.94	2.6
MOTPM02005-JIS3	2	500.00	8.50	75	24	24	22.0	62.5	125	4	8	7	11	7	31.7	436.60	5.7	2	1.58	2.1
MOTPM02010-JIS3	2	1000.00	8.50	150	24	24	22.0	62.5	125	8	8	7	11	7	31.7	936.60	5.7	2	1.58	4.1
MOTPM02020-JIS3	2	2000.00	8.50	300	24	24	22.0	62.5	125	16	8	7	11	7	31.7	1936.60	5.7	2	1.58	8.2
MOTPM02505-JIS3	2.5	500.00	8.50	60	24	24	21.5	62.5	125	4	9	7	11	7	31.7	436.60	5.7	2	1.98	2.1
MOTPM02510-JIS3	2.5	1000.00	8.50	120	24	24	21.5	62.5	125	8	9	7	11	7	31.7	936.60	5.7	2	1.98	4.1
MOTPM02520-JIS3	2.5	2000.00	8.50	240	24	24	21.5	62.5	125	16	9	7	11	7	31.7	1936.60	5.7	2	1.98	8.2
MOTPM03005-JIS3	3	500.00	10.30	50	29	29	26.0	62.5	125	4	9	10	15	9	35.0	430.00	7.7	2	2.87	3.0
MOTPM03010-JIS3	3	1000.00	10.30	100	29	29	26.0	62.5	125	8	9	10	15	9	35.0	930.00	7.7	2	2.87	6.0
MOTPM03020-JIS3	3	2000.00	10.30	200	29	29	26.0	62.5	125	16	9	10	15	9	35.0	1930.00	7.7	2	2.87	12.0
MOTPM04005-JIS3	4	506.67	13.80	38	39	39	35.0	62.5	125	4	12	10	15	9	33.3	433.00	7.7	2	5.15	5.5
MOTPM04010-JIS3	4	1000.00	13.80	75	39	39	35.0	62.5	125	8	12	10	15	9	33.3	933.40	7.7	2	5.15	10.8
MOTPM04020-JIS3	4	2000.00	13.80	150	39	39	35.0	62.5	125	16	12	10	15	9	33.3	1933.40	7.7	2	5.15	21.6
MOTPM05005-JIS3	5	500.00	17.40	30	49	39	34.0	62.5	125	4	12	14	20	13	37.5	425.00	11.7	3	8.08	6.8
MOTPM05010-JIS3	5	1000.00	17.40	60	49	39	34.0	62.5	125	8	12	14	20	13	37.5	925.00	11.7	3	8.08	13.6
MOTPM05020-JIS3	5	2000.00	17.40	120	49	39	34.0	62.5	125	16	12	14	20	13	37.5	1925.00	11.7	3	8.08	27.2
MOTPM06005-JIS3	6	500.00	20.90	25	59	49	43.0	62.5	125	4	16	18	26	17	37.5	425.00	15.7	3	11.68	10.3
MOTPM06010-JIS3	6	1000.00	20.90	50	59	49	43.0	62.5	125	8	16	18	26	17	37.5	925.00	15.7	3	11.68	20.5
MOTPM06020-JIS3	6	2000.00	20.90	100	59	49	43.0	62.5	125	16	16	18	26	17	37.5	1925.00	15.7	3	11.68	41.1
MOTPM08005-JIS3	8	480.00	28.00	18	79	79	71.0	60.0	120	4	25	22	33	21	120.0	240.00	19.7	4	20.85	21.3
MOTPM08010-JIS3	8	960.00	28.00	36	79	79	71.0	60.0	120	8	25	22	33	21	120.0	720.00	19.7	4	20.85	42.6
MOTPM08020-JIS3	8	1920.00	28.00	72	79	79	71.0	60.0	120	16	25	22	33	21	120.0	1680.00	19.7	4	20.85	85.1

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

SOTM-JIS4



單位 / Dimension : mm

系列 SOTM-JIS4 斜齒精銑齒條
品質等級 JIS 4

材料 S45C
右旋角 19°31'42"
硬度 HRC 10~12°
總齒距誤差：Fp /1000 ≦ 0.060 mm
Fp /2000 ≦ 0.080 mm

Series SOTM-JIS4 Helical Milled Racks
Quality Grade JIS 4

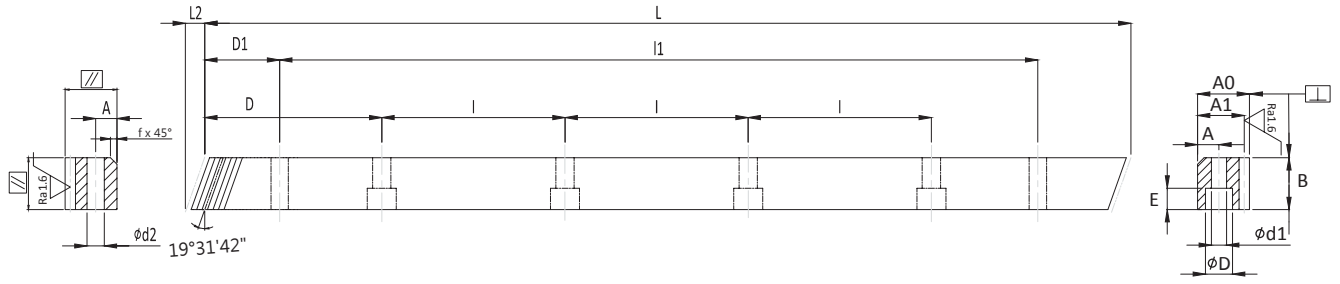
Material S45C
Right Hand Angle 19°31'42"
Hardness: HRC 10~12°
Total Pitch Error: Fp /1000 ≦ 0.060 mm
Fp /2000 ≦ 0.080 mm

型號 Code	模數 Module	L	L2	齒數 No. of Teeth	B	A0	A1	D	l	孔數 No. of Holes	A	ød1	øD	E	D1	l1	ød2	f	F_{ta} kN	KG
SOTMM01510-JIS4	1.5	1000	6.00	200	17	17	15.5	62.5	125	8	7	6	9.5	6	31.7	936.6	5.70	1.5	0.64	2.1
SOTMM02010-JIS4	2	1000	8.90	150	25	24	22	62.5	125	8	8	7	11	7	31.7	936.6	5.70	2	1.25	4.3
SOTMM02020-JIS4	2	2000	8.90	300	25	24	22	62.5	125	16	8	7	11	7	31.7	1936.6	5.70	2	1.25	8.5
SOTMM03010-JIS4	3	1000	10.60	100	30	29	26	62.5	125	8	9	10	15	9	35.0	930.0	7.70	2	2.24	6.2
SOTMM03020-JIS4	3	2000	10.60	200	30	29	26	62.5	125	16	9	10	15	9	35.0	1930.0	7.70	2	2.24	12.4
SOTMM04010-JIS4	4	1000	14.20	75	40	39	35	62.5	125	8	12	10	15	9	33.3	933.4	7.70	2	3.99	11.1
SOTMM04020-JIS4	4	2000	14.20	150	40	39	35	62.5	125	16	12	10	15	9	33.3	1933.4	7.70	2	3.99	22.2
SOTMM05010-JIS4	5	1000	17.40	60	49	39	34	62.5	125	8	12	14	20	13	37.5	925.0	11.70	3	6.11	13.6
SOTMM05020-JIS4	5	2000	17.40	120	49	39	34	62.5	125	16	12	14	20	13	37.5	1925.0	11.70	3	6.11	27.2
SOTMM06010-JIS4	6	1000	20.90	50	59	49	43	62.5	125	8	16	18	26	17	37.5	925.0	15.70	3	8.83	20.5
SOTMM06020-JIS4	6	2000	20.90	100	59	49	43	62.5	125	16	16	18	26	17	37.5	1925.0	15.70	3	8.83	41.1
SOTMM08010-JIS4	8	960	28.00	36	79	79	71	60	120	8	25	22	33	21	120.0	720.0	19.70	4	15.76	42.6
SOTMM08020-JIS4	8	1920	28.00	72	79	79	71	60	120	16	25	22	33	21	120.0	1680.0	19.70	4	15.76	85.1
SOTMM10010-JIS4	10	1000	35.11	30	99	99	89	62.5	125	8	32	33	48	32	125.0	750.0	19.70	5	24.69	69.6

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

SOTMQ-JIS4



單位 / Dimension : mm

系列 SOTMQ-JIS4 斜齒精銑調質齒條
品質等級 JIS 4

材料 S45C
右旋角 19°31'42"
硬度 HRC 18~20°
總齒距誤差：Fp /1000 ≦ 0.060 mm
Fp /2000 ≦ 0.080 mm

Series SOTMQ-JIS4 Helical Milled Quenched & Tempered Racks
Quality Grade JIS 4

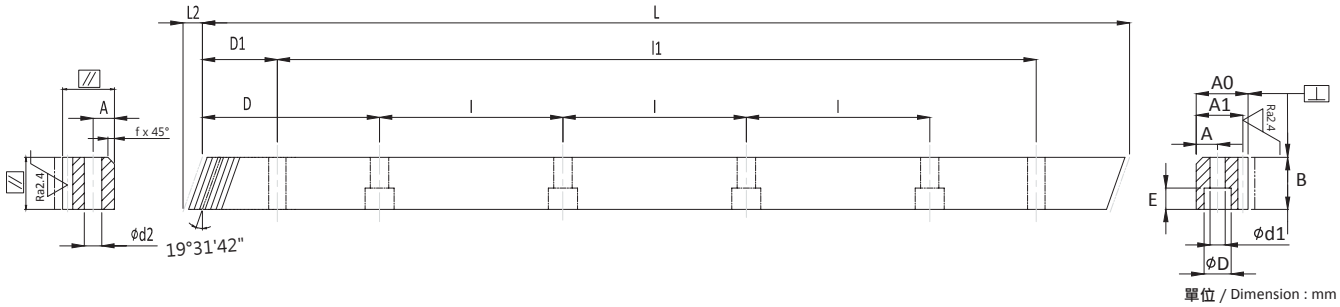
Material S45C
Right Hand Angle 19°31'42"
Hardness: HRC 18~20°
Total Pitch Error: Fp /1000 ≦ 0.060 mm
Fp /2000 ≦ 0.080 mm

型號 Code	模數 Module	L	L2	齒數 No. of Teeth	B	A0	A1	D	l	孔數 No. of Holes	A	ød1	øD	E	D1	l1	ød2	f	F_{ta} kN	KG
SOTMQM01510-JIS4	1.5	1000	6.00	200	17	17	15.5	62.5	125	8	7	6	9.5	7	31.7	936.6	5.7	1.5	0.88	2.1
SOTMQM02010-JIS4	2	1000	8.90	150	25	24	22	62.5	125	8	8	7	11	7	31.7	936.6	5.7	2	1.73	4.3
SOTMQM02020-JIS4	2	2000	8.90	300	25	24	22	62.5	125	16	8	7	11	7	31.7	1936.6	5.7	2	1.73	8.5
SOTMQM03010-JIS4	3	1000	10.60	100	30	29	26	62.5	125	8	9	10	15	9	35.0	930.0	7.7	2	3.11	6.2
SOTMQM03020-JIS4	3	2000	10.60	200	30	29	26	62.5	125	16	9	10	15	9	35.0	1930.0	7.7	2	3.11	12.4
SOTMQM04010-JIS4	4	1000	14.20	75	40	39	35	62.5	125	8	12	10	15	9	33.3	933.4	7.7	2	5.52	11.1
SOTMQM04020-JIS4	4	2000	14.20	150	40	39	35	62.5	125	16	12	10	15	9	33.3	1933.4	7.7	2	5.52	22.2
SOTMQM05010-JIS4	5	1000	17.40	60	49	39	34	62.5	125	8	12	14	20	13	37.5	925.0	11.7	3	8.46	13.6
SOTMQM05020-JIS4	5	2000	17.40	120	49	39	34	62.5	125	16	12	14	20	13	37.5	1925.0	11.7	3	8.46	27.2
SOTMQM06010-JIS4	6	1000	20.90	50	59	49	43	62.5	125	8	16	18	26	17	37.5	925.0	15.7	3	12.22	20.5
SOTMQM06020-JIS4	6	2000	20.90	100	59	49	43	62.5	125	16	16	18	26	17	37.5	1925.0	15.7	3	12.22	41.1
SOTMQM08010-JIS4	8	960	28.00	36	79	79	71	60	120	8	25	22	33	21	120.0	720.0	19.7	4	21.81	42.6
SOTMQM08020-JIS4	8	1920	28.00	18	79	79	71	60	120	16	25	22	33	21	120.0	1680.0	19.7	4	21.81	85.1
SOTMQM10010-JIS4	10	1000	35.11	30	99	99	89	62.5	125	8	32	33	48	32	125.0	750.0	19.7	5	34.17	69.6

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

SOTMH-JIS5



單位 / Dimension : mm

系列 SOTMH-JIS5 斜齒熱處理齒條
品質等級 JIS 5

材料 S45C
右旋角 19°31'42"
硬度 HRC 48~52°
表面 噴砂處理
總齒距誤差 : Fp /1000 ≦ 0.15 mm

Series SOTMH-JIS5 Helical Hardened Racks
Quality Grade JIS 5

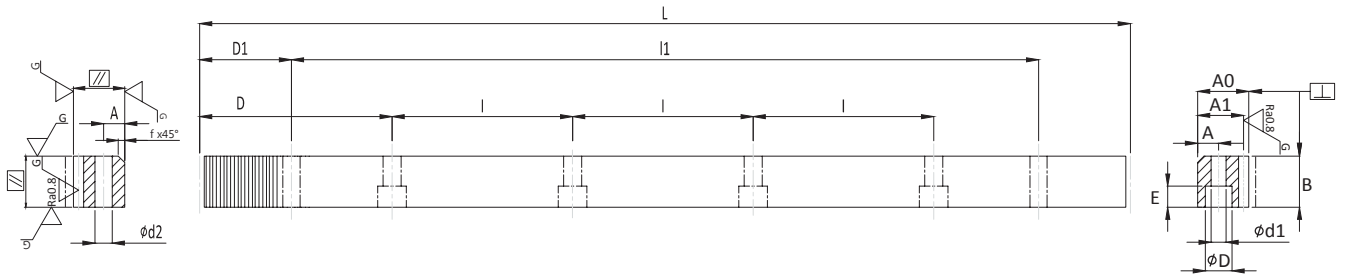
Material S45C
Right Hand Angle 19°31'42"
Hardness: HRC 48~52°
Surfaces: Sand-blasted.
Total Pitch Error: Fp /1000 ≦ 0.15 mm

型號 Code	模數 Module	L	L2	齒數 No. of Teeth	B	A0	A1	D	l	孔數 No. of Holes	A	ød1	øD	E	D1	l1	ød2	f	F_{ta} kN	KG
SOTMHM01510-JIS5	1.5	1000	6.00	200	17	17	15.5	62.5	125	8	7	6	9.5	7	31.7	936.6	5.7	1.5	3.18	2.1
SOTMHM02010-JIS5	2	1000	8.50	150	24	24	22	62.5	125	8	8	7	11	7	31.7	936.6	5.7	2	5.98	4.1
SOTMHM02020-JIS5	2	2000	8.50	300	24	24	22	62.5	125	16	8	7	11	7	31.7	1936.6	5.7	2	5.98	8.2
SOTMHM03010-JIS5	3	1000	10.30	100	29	29	26	62.5	125	8	9	10	15	9	35.0	930.0	7.7	2	10.83	6.0
SOTMHM03020-JIS5	3	2000	10.30	200	29	29	26	62.5	125	16	9	10	15	9	35.0	1930.0	7.7	2	10.83	12.0
SOTMHM04010-JIS5	4	1000	13.80	75	39	39	35	62.5	125	8	12	10	15	9	33.3	933.4	7.7	2	19.42	10.8
SOTMHM04020-JIS5	4	2000	13.80	150	39	39	35	62.5	125	16	12	10	15	9	33.3	1933.4	7.7	2	19.42	21.6
SOTMHM05010-JIS5	5	1000	17.40	60	49	39	34	62.5	125	8	12	14	20	13	37.5	925.0	11.7	3	30.51	13.6
SOTMHM05020-JIS5	5	2000	17.40	120	49	39	34	62.5	125	16	12	14	20	13	37.5	1925.0	11.7	3	30.51	27.2
SOTMHM06010-JIS5	6	1000	20.90	50	59	49	43	62.5	125	8	16	18	26	17	37.5	925.0	15.7	3	44.08	20.5
SOTMHM06020-JIS5	6	2000	20.90	100	59	49	43	62.5	125	16	16	18	26	17	37.5	1925.0	15.7	3	44.08	41.1
SOTMHM08010-JIS5	8	960	28.00	36	79	79	71	60	120	8	25	22	33	21	120.0	720.0	19.7	4	78.69	42.6
SOTMHM08020-JIS5	8	1920	28.00	72	79	79	71	60	120	16	25	22	33	21	120.0	1680.0	19.7	4	78.69	85.1
SOTMHM10010-JIS5	10	1000	35.11	30	99	99	89	62.5	125	8	32	33	48	32	125.0	750.0	19.7	5	123.27	69.6

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

SSTPH-JIS1



單位 / Dimension : mm

系列 SSTPH-JIS1 直齒齒研齒條
品質等級 JIS 1

材料 S45C
硬度 HRC 48~52°
硬化處理後四面研磨與齒研
總齒距誤差 :Fp /1000 ≦ 0.026 mm
室溫在攝氏 25° 為準

Series SSTPH-JIS1 Straight Teeth Ground Racks
Quality Grade JIS 1

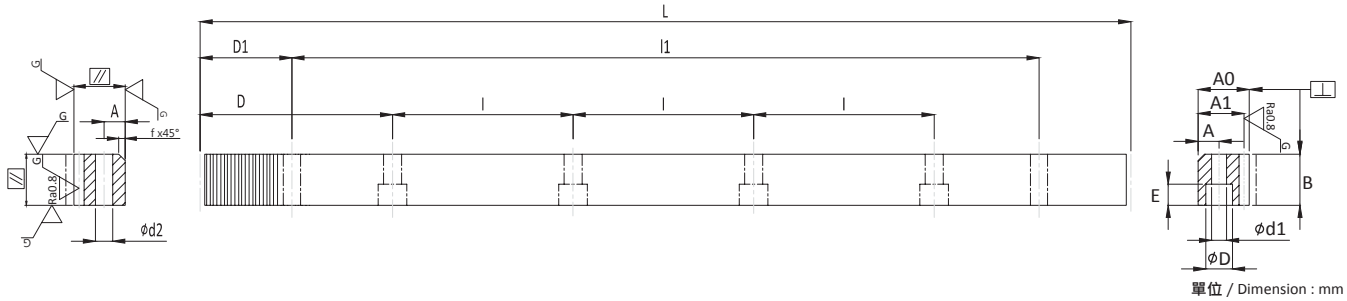
Material S45C
Hardness: HRC 48~52°
Ground on all sides after hardening.
Total Pitch Error: Fp /1000 ≦ 0.026 mm
Room Temperature is 25°C

型號 Code	模數 Module	L	齒數 No. of Teeth	B	A0	A1	D	I	孔數 No. of Holes	A	ød1	øD	E	D1	I1	ød2	f	F_{ta} kN	KG
SSTPHM02010-JIS1	2	1005.31	160	24	24	22	62.83	125.66	8	8	7	11	7	31.3	942.70	5.7	2	5.69	4.1
SSTPHM03010-JIS1	3	1017.88	108	29	29	26	63.61	127.23	8	9	10	11	9	34.4	949.10	7.7	2	10.32	6.1
SSTPHM04010-JIS1	4	1005.31	80	39	39	35	62.83	125.66	8	12	10	15	9	37.5	930.30	7.7	2	18.50	10.9
SSTPHM05010-JIS1	5	1005.31	64	49	39	34	62.83	125.66	8	12	14	17	13	37.5	945.00	11.7	3	29.06	17.2

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

SSTPH-JIS2



單位 / Dimension : mm

系列 SSTPH-JIS2　直齒齒研齒條
品質等級 JIS 2

材料 S45C
硬度 HRC 48~52°
硬化處理後四面研磨與齒研
總齒距誤差 : Fp /1000 ≦ 0.036 mm
Fp /2000 ≦ 0.047 mm (≦ 0.024/1000 mm)

Series SSTPH-JIS2　Straight Teeth Ground Racks
Quality Grade JIS 2

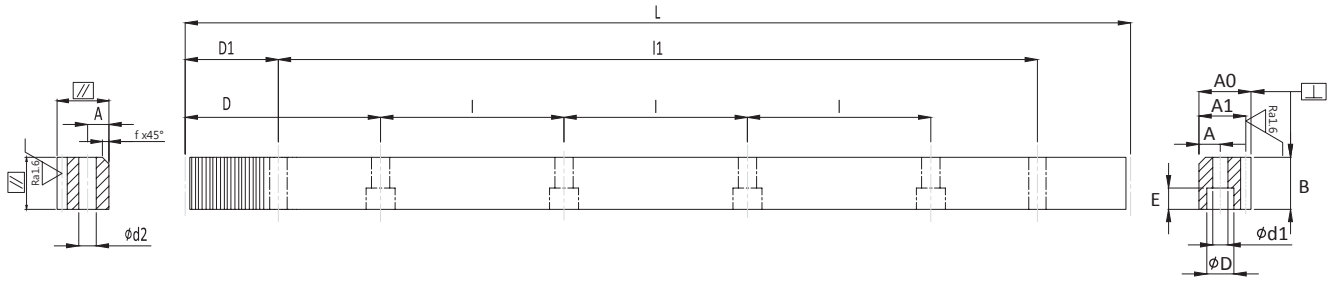
Material S45C
Hardness: HRC 48~52°
Ground on all sides after hardening.
Total Pitch Error: Fp /1000 ≦ 0.036 mm
Fp /2000 ≦ 0.047 mm (≦ 0.024/1000 mm)

型號 Code	模數 Module	L	齒數 No. of Teeth	B	A0	A1	D	l	孔數 No. of Holes	A	ød1	øD	E	D1	l1	ød2	f	F_{ta} kN	KG
SSTPHM01505-JIS2	1.5	499.51	106	19	19	17.5	62.44	124.88	4	8	6	9.5	7	29.0	441.50	5.7	1.5	3.38	1.3
SSTPHM01510-JIS2	1.5	999.03	212	19	19	17.5	62.44	124.88	8	8	6	9.5	7	29.0	941.00	5.7	1.5	3.38	2.6
SSTPHM02005-JIS2	2	502.65	80	24	24	22	62.83	125.66	4	8	7	11	7	31.3	440.10	5.7	2	5.69	2.1
SSTPHM02010-JIS2	2	1005.31	160	24	24	22	62.83	125.66	8	8	7	11	7	31.3	942.70	5.7	2	5.69	4.1
SSTPHM02020-JIS2	2	2010.62	320	24	24	22	62.83	125.66	16	8	7	11	7	31.3	1948.00	5.7	2	5.69	8.2
SSTPHM02505-JIS2	2.5	502.65	64	24	24	21.5	62.83	125.66	4	9	7	11	7	31.3	440.10	5.7	2	7.12	2.1
SSTPHM02510-JIS2	2.5	1005.31	128	24	24	21.5	62.83	125.66	8	9	7	11	7	31.3	942.70	5.7	2	7.12	4.1
SSTPHM02520-JIS2	2.5	2010.62	256	24	24	21.5	62.83	125.66	16	9	7	11	7	31.3	1948.00	5.7	2	7.12	8.2
SSTPHM03005-JIS2	3	508.94	54	29	29	26	63.62	127.23	4	9	10	15	9	34.4	440.10	7.7	2	10.32	3.0
SSTPHM03010-JIS2	3	1017.88	108	29	29	26	63.62	127.23	8	9	10	15	9	34.4	949.10	7.7	2	10.32	6.1
SSTPHM03020-JIS2	3	2035.75	216	29	29	26	63.62	127.23	16	9	10	15	9	34.4	1967.00	7.7	2	10.32	12.2
SSTPHM04005-JIS2	4	502.65	40	39	39	35	62.83	125.66	4	12	10	15	9	37.5	427.70	7.7	2	18.50	5.4
SSTPHM04010-JIS2	4	1005.31	80	39	39	35	62.83	125.66	8	12	10	15	9	37.5	930.30	7.7	2	18.50	10.9
SSTPHM04020-JIS2	4	2010.62	160	39	39	35	62.83	125.66	16	12	10	15	9	37.5	1935.60	7.7	2	18.50	21.7
SSTPHM05005-JIS2	5	502.65	32	49	39	34	62.83	125.66	4	12	14	20	13	30.1	442.30	11.7	3	29.06	6.8
SSTPHM05010-JIS2	5	1005.31	64	49	39	34	62.83	125.66	8	12	14	20	13	30.1	945.00	11.7	3	29.06	13.7
SSTPHM05020-JIS2	5	2010.62	128	49	39	34	62.83	125.66	16	12	14	20	13	30.1	1950.40	11.7	3	29.06	27.3
SSTPHM06005-JIS2	6	508.94	27	59	49	43	63.62	127.23	4	16	18	26	17	31.4	446.10	15.7	3	41.99	10.5
SSTPHM06010-JIS2	6	1017.88	54	59	49	43	63.62	127.23	8	16	18	26	17	31.4	955.00	15.7	3	41.99	20.9
SSTPHM06020-JIS2	6	2035.75	108	59	49	43	63.62	127.23	16	16	18	26	17	31.4	1973.00	15.7	3	41.99	41.8
SSTPHM08005-JIS4	8	502.65	20	79	79	71	62.83	125.66	4	25	22	33	21	26.6	449.45	19.7	4	74.96	22.3
SSTPHM08005-JIS4	8	1005.31	40	79	79	71	62.83	125.66	8	25	22	33	21	26.6	952.00	19.7	4	74.96	44.6
SSTPHM08020-JIS4	8	2010.61	80	79	79	71	62.83	125.66	16	25	22	33	21	26.6	1957.40	19.7	4	74.96	89.1

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

SSTM-JIS4



單位 / Dimension : mm

系列 SSTM-JIS4　直齒精铣齒條
品質等級 JIS 4

材料 S45C
硬度 HRC 10~12°
總齒距誤差：Fp /1000 ≦ 0.060 mm
Fp /2000 ≦ 0.080 mm

Series SSTM-JIS4　Straight Milled Racks
Quality Grade JIS 4

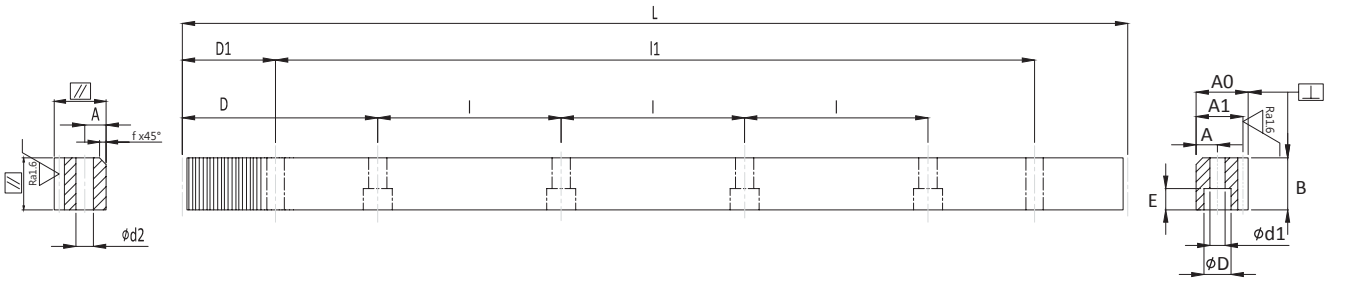
Material S45C
Hardness: HRC 10~12°
Total Pitch Error: Fp /1000 ≦ 0.060 mm
Fp /2000 ≦ 0.080 mm

型號 Code	模數 Module	L	齒數 No. of Teeth	B	A0	A1	D	l	孔數 No .of Holes	A	ød1	øD	E	D1	l1	ød2	f	F_{ta} kN	KG
SSTMM01510-JIS4	1.5	999.03	212	17	17	15.5	62.44	124.88	8	7	6	9.5	7	29	941.00	5.7	1.5	0.35	1.9
SSTMM02010-JIS4	2	1005.31	160	25	24	22	62.83	125.66	8	8	7	11	7	31.3	942.70	5.7	2	0.68	4.1
SSTMM02020-JIS4	2	2010.62	320	25	24	22	62.83	125.66	16	8	7	11	7	31.3	1948.00	5.7	2	0.68	8.1
SSTMM03010-JIS4	3	1017.88	108	30	29	26	63.62	127.23	8	9	10	15	9	34.4	949.10	7.7	2	1.22	5.9
SSTMM03020-JIS4	3	2035.75	216	30	29	26	63.62	127.23	16	9	10	15	9	34.4	1967.00	7.7	2	1.22	11.9
SSTMM04010-JIS4	4	1005.31	80	40	39	35	62.83	125.66	8	12	10	15	9	37.5	930.30	7.7	2	2.18	10.5
SSTMM04020-JIS4	4	2010.62	160	40	39	35	62.83	125.66	16	12	10	15	9	37.5	1935.60	7.7	2	2.18	21.0
SSTMM05010-JIS4	5	1005.31	64	49	39	34	62.83	125.66	8	12	14	20	13	30.1	945.00	11.7	3	3.33	12.9
SSTMM05020-JIS4	5	2010.62	128	49	39	34	62.83	125.66	16	12	14	20	13	30.1	1950.40	11.7	3	3.33	25.8
SSTMM06010-JIS4	6	1017.88	54	59	49	43	63.62	127.23	8	16	18	26	17	31.4	955.00	15.7	3	4.82	19.7
SSTMM06020-JIS4	6	2035.75	108	59	49	43	63.62	127.23	16	16	18	26	17	31.4	1973.00	15.7	3	4.82	39.5
SSTMM08010-JIS4	8	1005.31	40	79	79	71	62.83	125.66	8	25	22	33	21	26.6	952.00	19.7	4	8.60	42.1
SSTMM08020-JIS4	8	2010.61	80	79	79	71	62.83	125.66	16	25	22	33	21	26.6	1957.40	19.7	4	8.60	84.2
SSTMM10010-JIS4	10	1005.31	32	99	99	89	62.83	125.66	8	32	33	48	32	125.67	754.00	19.7	5	13.47	66.1

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

SSTMQ-JIS4



單位 / Dimension : mm

系列 SSTMQ-JIS4 直齒精銑調質齒條
品質等級 JIS 4

材料 S45C
硬度 HRC 18~20°
總齒距誤差：Fp /1000 ≦ 0.060 mm
Fp /2000 ≦ 0.080 mm

Series SSTMQ-JIS4 Straight Milled Quenched & Tempered Racks
Quality Grade JIS 4

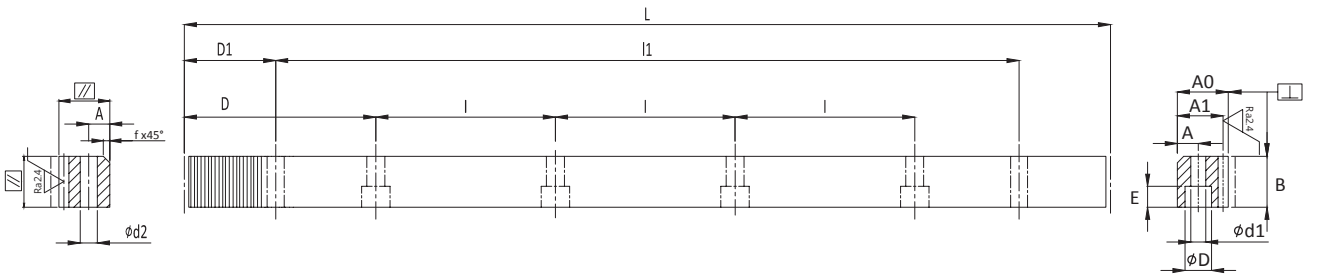
Material S45C
Hardness: HRC 18~20°
Total Pitch Error: Fp /1000 ≦ 0.060 mm
Fp /2000 ≦ 0.080 mm

型號 Code	模數 Module	L	齒數 No. of Teeth	B	A0	A1	D	l	孔數 No. of Holes	A	ød1	øD	E	D1	l1	ød2	f	F_{ta} kN	KG
SSTMQM01510-JIS4	1.5	999.03	212	17	17	15.5	62.44	124.88	8	7	6	9.5	7	29	941.00	5.7	1.5	0.48	1.9
SSTMQM02010-JIS4	2	1005.31	160	25	24	22	62.83	125.66	8	8	7	11	7	31.3	942.70	5.7	2	0.94	4.1
SSTMQM02020-JIS4	2	2010.62	320	25	24	22	62.83	125.66	16	8	7	11	7	31.3	1948.00	5.7	2	0.94	8.1
SSTMQM03010-JIS4	3	1017.88	108	30	29	26	63.62	127.23	8	9	10	15	9	34.4	949.10	7.7	2	1.70	5.9
SSTMQM03020-JIS4	3	2035.75	216	30	29	26	63.62	127.23	16	9	10	15	9	34.4	1967.00	7.7	2	1.70	11.9
SSTMQM04010-JIS4	4	1005.31	80	40	39	35	62.83	125.66	8	12	10	15	9	37.5	930.30	7.7	2	3.01	10.5
SSTMQM04020-JIS4	4	2010.62	160	40	39	35	62.83	125.66	16	12	10	15	9	37.5	1935.60	7.7	2	3.01	21.0
SSTMQM05010-JIS4	5	1005.31	64	49	39	34	62.83	125.66	8	12	14	20	13	30.1	945.00	11.7	3	4.61	12.9
SSTMQM05020-JIS4	5	2010.62	128	49	39	34	62.83	125.66	16	12	14	20	13	30.1	1950.40	11.7	3	4.61	25.8
SSTMQM06010-JIS4	6	1017.88	54	59	49	43	63.62	127.23	8	16	18	26	17	31.4	955.00	15.7	3	6.67	19.7
SSTMQM06020-JIS4	6	2035.75	108	59	49	43	63.62	127.23	16	16	18	26	17	31.4	1973.00	15.7	3	6.67	39.5
SSTMQM08010-JIS4	8	1005.31	40	79	79	71	62.83	125.66	8	25	22	33	21	26.6	952.00	19.7	4	11.90	42.1
SSTMQM08020-JIS4	8	2010.61	80	79	79	71	62.83	125.66	16	25	22	33	21	26.6	1957.30	19.7	4	11.90	84.2
SSTMQM10010-JIS4	10	1005.31	32	99	99	89	62.83	125.66	8	32	33	48	32	125.67	753.96	19.7	5	18.65	66.1

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

SSTMH-JIS5



單位 / Dimension : mm

系列 SSTMH-JIS5　直齒硬化齒條
品質等級 JIS 5

材料 S45C
硬度 HRC 48~52°
表面 噴砂或磷酸鹽處理
總齒距誤差 : Fp /1000 ≦ 0.1 mm

Series SSTMH-JIS5 Straight Hardened Racks
Quality Grade JIS 5

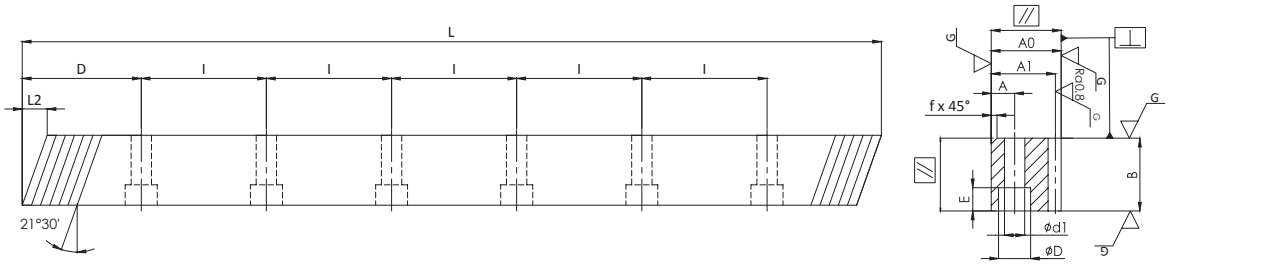
Material S45C
Hardness: HRC 48~52°
Surfaces: Sand-blasted or phosphated.
Total Pitch Error: Fp /1000 ≦ 0.1 mm

型號 Code	模數 Module	L	齒數 No. of Teeth	B	A0	A1	D	l	孔數 No. of Holes	A	ød1	øD	E	D1	l1	ød2	f	F_{ta} kN	KG
SSTMHM01510-JIS5	1.5	999.03	212	17	17	15.5	62.44	124.88	8	7	6	9.5	7	29	941.00	5.7	1.5	1.98	1.9
SSTMHM02010-JIS5	2	1005.31	160	24	24	22	62.83	125.66	8	8	7	11	7	31.3	942.70	5.7	2	3.73	3.9
SSTMHM02020-JIS5	2	2010.62	320	24	24	22	62.83	125.66	16	8	7	11	7	31.3	1948.00	5.7	2	3.73	7.8
SSTMHM03010-JIS5	3	1017.88	108	29	29	26	63.62	127.23	8	9	10	15	9	34.4	949.10	7.7	2	6.76	5.8
SSTMHM03020-JIS5	3	2035.75	216	29	29	26	63.62	127.23	16	9	10	15	9	34.4	1967.00	7.7	2	6.76	11.5
SSTMHM04010-JIS5	4	1005.31	80	39	39	35	62.83	125.66	8	12	10	15	9	37.5	930.30	7.7	2	12.12	10.3
SSTMHM04020-JIS5	4	2010.62	160	39	39	35	62.83	125.66	16	12	10	15	9	37.5	1935.60	7.7	2	12.12	20.5
SSTMHM05010-JIS5	5	1005.31	64	49	39	34	62.83	125.66	8	12	14	20	13	30.1	945.00	11.7	3	19.04	12.9
SSTMHM05020-JIS5	5	2010.62	128	49	39	34	62.83	125.66	16	12	14	20	13	30.1	1950.30	11.7	3	19.04	25.8
SSTMHM06010-JIS5	6	1017.88	54	59	49	43	63.62	127.23	8	16	18	26	17	31.4	955.00	15.7	3	27.51	19.7
SSTMHM06020-JIS5	6	2035.75	108	59	49	43	63.62	127.23	16	16	18	26	17	31.4	1973.00	15.7	3	27.51	39.5
SSTMHM08010-JIS5	8	1005.31	40	79	79	71	62.83	125.66	8	25	22	33	21	26.6	952.00	19.7	4	49.11	42.1
SSTMHM10010-JIS5	10	1005.31	32	99	99	89	62.83	125.66	8	32	33	48	32	125.7	753.96	19.7	4	76.93	66.1

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

MOTPQ-JIS1



單位 / Dimension : mm

系列 MOTPQ-JIS1 斜齒調質齒研齒條
品質等級 JIS 1

材料 SCM440
右旋角 21°30'
硬度 HRC 18~22°
總齒距誤差 : Fp/1000 ≦ 0.033mm
調質處理後四面研磨與齒研
無鑽孔處理，品號為 -N

Series MOTPQ-JIS1 Helical Quenched & Tempered Ground Racks
Quality Grade JIS 1

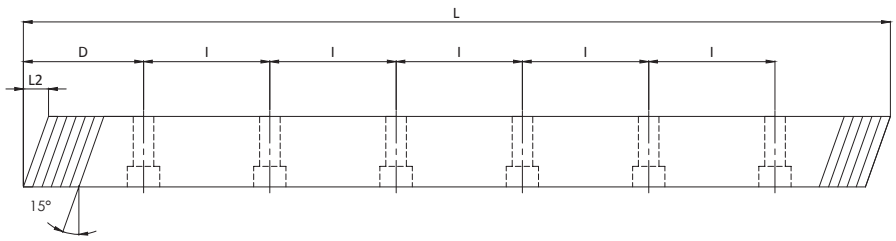
Material SCM440
Right Hand Angle 21°30'
Hardness: HRC 18~22°
Total Pitch Error: Fp/1000 ≦ 0.033mm
Ground on all sides after quenching.
No Mounted Holes , Code with-N

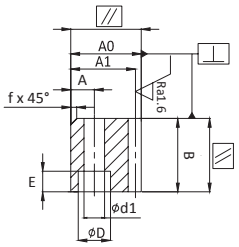
型號 Code	模數 Module	L	L2	齒數 No. of Teeth	B	A0	A1	D	I	孔數 No. of Holes	螺絲 Screw	A	ød1	øD	E	f	F_{ta} kN	KG
MOTPQM01010-JIS1	1	1002.75	3.38	296	8	15	14	52.95	180	4	M4	6	4.5	8	4.4	1.5	0.36	0.4
MOTPQM01010-JIS1-N	1	1002.75	3.38	296	8	15	14	*	*	*	*	*	*	*	*	1.5	0.36	0.4
MOTPQM01510-JIS1	1.5	1002.53	5.07	197	12	20	18.5	53.63	180	4	M5	8	6	10	6.0	1.5	0.80	0.9
MOTPQM01510-JIS1-N	1.5	1002.53	5.07	197	12	20	18.5	*	*	*	*	*	*	*	*	1.5	0.80	0.9
MOTPQM02010-JIS1	2	1005.74	6.30	148	16	25	23	56.47	180	6	M6	10	7	11	7.0	2	1.43	2.9
MOTPQM02010-JIS1-N	2	1005.74	6.30	148	16	25	23	*	*	*	*	*	*	*	*	2	1.43	2.9
MOTPQM02510-JIS1	2.5	1013.92	7.88	118	20	30	27.5	56.46	180	6	M8	12	9	14	8.6	2	2.23	4.3
MOTPQM02510-JIS1-N	2.5	1013.92	7.88	118	20	30	27.5	*	*	*	*	*	*	*	*	2	2.23	4.3
MOTPQM03010-JIS1	3	1002.48	9.85	99	25	35	32	56.7	180	6	M10	14	11	18	10.8	2	3.41	6.2
MOTPQM03010-JIS1-N	3	1002.48	9.85	99	25	35	32	*	*	*	*	*	*	*	*	2	3.41	6.2

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

SOTM-JIS4





單位 / Dimension : mm

系列 SOTM-JIS4 斜齒齒條
品質等級 JIS 4

材料 S45C
右旋角 15°
硬度 HRC 10~12°
表面 染黑處理
總齒距誤差 : Fp/1000 ≦ 0.075mm
無鑽孔處理，品號為 -N

Series SOTM-JIS4 Helical Racks
Quality Grade JIS 4

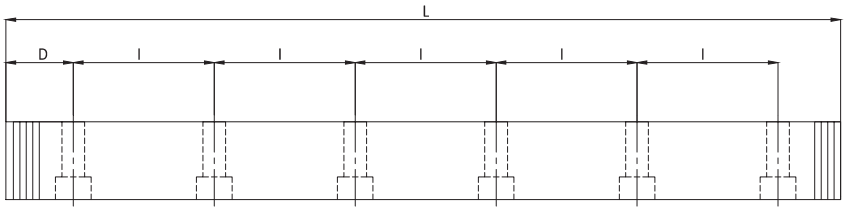
Material S45C
Right Hand Angle 15°
Hardness: HRC 10~12°
Surfaces: Black-coated
Total Pitch Error: Fp/1000 ≦ 0.075mm
No Mounted Holes , Code with-N

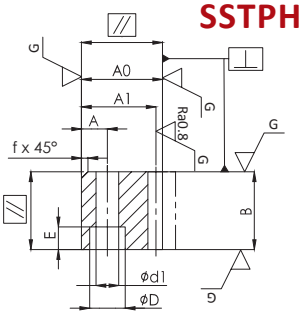
型號 Code	模數 Module	L	L2	齒數 No. of Teeth	B	A0	A1	D	I	孔數 No. of Holes	螺絲 Screw	A	ød1	øD	E	f	F_{ta} kN	KG
SOTMM02010-JIS4	2	1001.94	6.7	153	25	25	23	57	180	6	M6	10	7	11	7	2	1.22	4.5
SOTMM02010-JIS4-N	2	1001.94	6.7	153	25	25	23	*	*	*	*	*	*	*	*	2	1.22	4.6
SOTMM03010-JIS4	3	1004.62	9.38	102	35	35	32	57	180	6	M10	14	11	17.5	10.8	2	2.50	8.7
SOTMM03010-JIS4-N	3	1004.62	9.38	102	35	35	32	*	*	*	*	*	*	*	*	2	2.50	8.8

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

SSTPH-JIS2





單位 / Dimension : mm

系列 SSTPH-JIS2 直齒齒研齒條
品質等級 JIS 2

材料 S45C
硬度 HRC 50~55°
硬化處理後四面研磨與齒研
總齒距誤差：Fp/1000 ≦ 0.036
mm無鑽孔處理，品號為 -N

Series SSTPH-JIS2 Straight Teeth Ground Racks
Quality Grade JIS 2

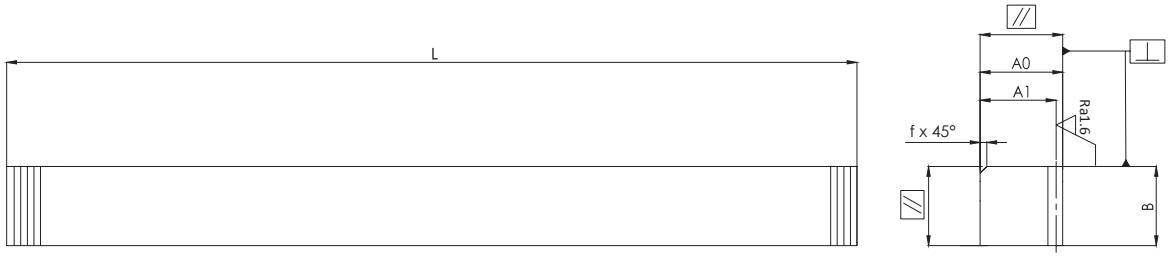
Material S45C
Hardness: HRC 50~55°
Ground on all sides after hardening.
Total Pitch Error: Fp/1000 ≦ 0.036 mm
No Mounted Holes , Code with-N

型號 Code	模數 Module	L	齒數 No. of Teeth	B	A0	A1	D	I	孔數 No. of Holes	螺絲 Screw	A	ød1	øD	E	f	F_{ta} kN	KG
SSTPHM01005-JIS2	1	499.51	159	10	12	11	24.76	150	4	M4	5	4.5	*	*	1.5	1.19	0.4
SSTPHM01005-JIS2-N	1	499.51	159	10	12	11	*	*	*	*	*	*	*	*	1.5	1.19	0.4
SSTPHM01505-JIS2	1.5	499.51	106	15	20	18.5	24.76	150	4	M5	8	6	10	6	1.5	2.67	1.1
SSTPHM01505-JIS2-N	1.5	499.51	106	15	20	18.5	*	*	*	*	*	*	*	*	1.5	2.67	1.1
SSTPHM01510-JIS2	1.5	999.03	212	15	20	18.5	49.51	180	6	M5	8	6	10	6	1.5	2.67	2.1
SSTPHM01510-JIS2-N	1.5	999.03	212	15	20	18.5	*	*	*	*	*	*	*	*	1.5	2.67	2.1
SSTPHM02005-JIS2	2	502.65	80	20	25	23	26.33	150	4	M6	10	7	11	7	2	4.74	1.8
SSTPHM02005-JIS2-N	2	502.65	80	20	25	23	*	*	*	*	*	*	*	*	2	4.74	1.8
SSTPHM02010-JIS2	2	1005.31	160	20	25	23	52.65	180	6	M6	10	7	11	7	2	4.74	3.6
SSTPHM02010-JIS2-N	2	1005.31	160	20	25	23	*	*	*	*	*	*	*	*	2	4.74	3.6
SSTPHM02505-JIS2	2.5	502.65	64	25	30	27.5	26.33	150	4	M8	12	9	14	8.6	2	7.41	2.7
SSTPHM02505-JIS2-N	2.5	502.65	64	25	30	27.5	*	*	*	*	*	*	*	*	2	7.41	2.7
SSTPHM02510-JIS2	2.5	1005.31	128	25	30	27.5	52.65	180	6	M8	12	9	14	8.6	2	7.41	5.4
SSTPHM02510-JIS2-N	2.5	1005.31	128	25	30	27.5	*	*	*	*	*	*	*	*	2	7.41	5.4
SSTPHM03005-JIS2	3	499.51	53	30	35	32	24.76	150	4	M10	14	11	17.5	10.8	2	10.67	3.7
SSTPHM03005-JIS2-N	3	499.51	53	30	35	32	*	*	*	*	*	*	*	*	2	10.67	3.7
SSTPHM03010-JIS2	3	999.03	106	30	35	32	49.51	180	6	M10	14	11	17.5	10.8	2	10.67	7.5
SSTPHM03010-JIS2-N	3	999.03	106	30	35	32	*	*	*	*	*	*	*	*	2	10.67	7.5
SSTPHM04005-JIS2	4	502.65	40	40	45	41	26.33	150	4	M12	18	14	20	13	2	18.98	6.4
SSTPHM04005-JIS2-N	4	502.65	40	40	45	41	*	*	*	*	*	*	*	*	2	18.98	7.2
SSTPHM04010-JIS2	4	1005.31	80	40	45	41	52.65	180	6	M12	18	14	20	13	2	18.98	12.9
SSTPHM04010-JIS2-N	4	1005.31	80	40	45	41	*	*	*	*	*	*	*	*	2	18.98	14.5
SSTPHM05005-JIS2	5	502.65	32	50	50	45	31.33	220	3	M14	20	16	23	15.2	3	29.65	8.9
SSTPHM05005-JIS2-N	5	502.65	32	50	50	45	*	*	*	*	*	*	*	*	3	29.65	8.9
SSTPHM05010-JIS2	5	1005.31	64	50	50	45	62.65	220	5	M14	20	16	23	15.2	3	29.65	17.9
SSTPHM05010-JIS2-N	5	1005.31	64	50	50	45	*	*	*	*	*	*	*	*	3	29.65	17.9
SSTPHM06005-JIS2	6	490.09	26	60	60	54	25.04	220	3	M16	23	18	26	17.5	3	42.70	12.5
SSTPHM06005-JIS2-N	6	490.09	26	60	60	54	*	*	*	*	*	*	*	*	3	42.70	12.5
SSTPHM06010-JIS2	6	999.03	53	60	60	54	59.51	220	5	M16	23	18	26	17.5	3	42.70	25.5
SSTPHM06010-JIS2-N	6	999.03	53	60	60	54	*	*	*	*	*	*	*	*	3	42.70	25.5

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

MSTMQ-JIS4-N



單位 / Dimension : mm

系列 MSTMQ-JIS4-N 直齒調質齒條
品質等級 JIS 4

材料 SCM440
硬度 HRC 18~22°
總齒距誤差：Fp/1000 ≦ 0.075mm
無鑽孔處理，品號為 -N

Series MSTMQ-JIS4-N Straight Quenched & Tempered Racks
Quality Grade JIS 4

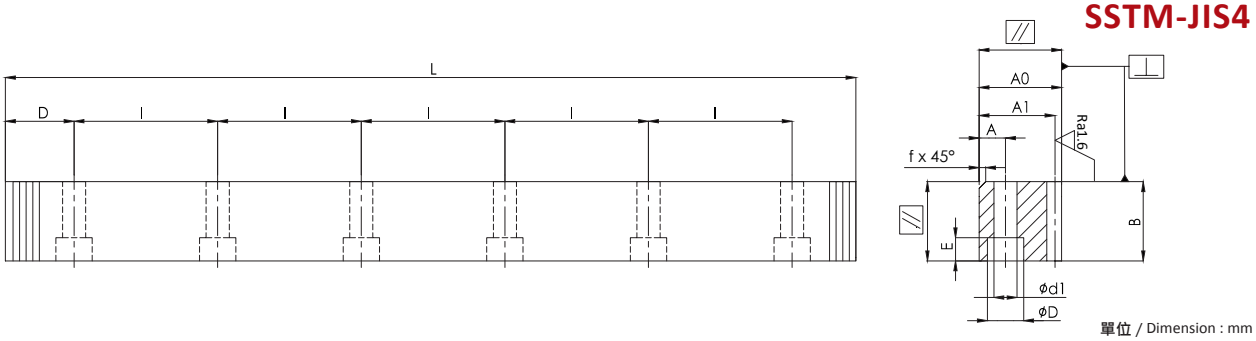
Material SCM440
Hardness: HRC 18~22°
Total Pitch Error: Fp/1000 ≦ 0.075mm
No Mounted Holes , Code with-N

型號 Code	模數 Module	L	齒數 No. of Teeth	B	A0	A1	f	F_{ta} kN	KG
MSTMQM01510-JIS4-N	1.5	999.03	212	15	20	18.5	1.5	0.42	2.1
MSTMQM02010-JIS4-N	2	1005.31	160	20	25	23	2	0.75	3.6
MSTMQM02510-JIS4-N	2.5	1005.31	128	25	30	27.5	2	1.18	5.4
MSTMQM03010-JIS4-N	3	999.03	106	30	35	32	2	1.70	7.5
MSTMQM04010-JIS4-N	4	1005.31	80	45	40	41	2	3.39	14.5
MSTMQM05010-JIS4-N	5	1005.31	64	50	50	45	3	4.71	17.9
MSTMQM06010-JIS4-N	6	999.03	53	60	60	54	3	6.78	25.5

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

SSTM-JIS4



單位 / Dimension : mm

系列 STM-JIS4 直齒齒條
品質等級 JIS 4

材料 S45C
硬度 HRC 10~12°
總齒距誤差 :Fp/1000 ≦ 0.075mm
無鑽孔處理，品號為 -N

SeriesSSTM-JIS4 Straight Milled Racks
Quality Grade JIS 4

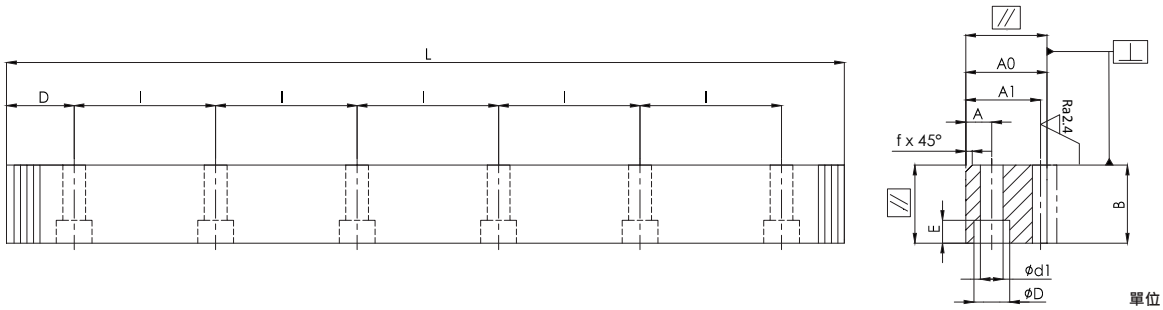
Material S45C
Hardness: HRC 10~12°
Total Pitch Error: Fp/1000 ≦ 0.075mm
No Mounted Holes , Code with-N

型號 Code	模數 Module	L	齒數 No. of Teeth	B	A0	A1	D	I	孔數 No. of Holes	螺絲 Screw	A	ød1	øD	E	f	F_{ta} kN	KG
SSTMM01510-JIS4	1.5	999.03	212	15	20	18.5	49.51	180	6	M5	8	6	10	6	1.5	0.31	2.1
SSTMM01510-JIS4-N	1.5	999.03	212	15	20	18.5	*	*	*	*	*	*	*	*	1.5	0.31	2.1
SSTMM01511-JIS4	1.5	999.03	212	15	15	13.5	49.51	180	6	M5	5	6	10	5	1.5	0.31	1.6
SSTMM01511-JIS4-N	1.5	999.03	212	15	15	13.5	*	*	*	*	*	*	*	*	1.5	0.31	1.6
SSTMM01520-JIS4	1.5	2049.88	435	15	20	18.5	34.94	180	12	M5	8	6	10	6	1.5	0.31	4.4
SSTMM01520-JIS4-N	1.5	2049.88	435	15	20	18.5	*	*	*	*	*	*	*	*	1.5	0.31	4.4
SSTMM01521-JIS4	1.5	2049.88	435	15	15	13.5	34.94	180	12	M5	5	6	10	5	1.5	0.31	3.3
SSTMM01521-JIS4-N	1.5	2049.88	435	15	15	13.5	*	*	*	*	*	*	*	*	1.5	0.31	3.3
SSTMM02010-JIS4	2	1005.31	160	20	25	23	52.65	180	6	M6	10	7	11	7	2	0.54	3.6
SSTMM02010-JIS4-N	2	1005.31	160	20	25	23	*	*	*	*	*	*	*	*	2	0.54	3.6
SSTMM02011-JIS4	2	1005.31	160	20	20	18	52.65	180	6	M6	7	7	11	7	2	0.54	2.9
SSTMM02011-JIS4-N	2	1005.31	160	20	20	18	*	*	*	*	*	*	*	*	2	0.54	2.9
SSTMM02020-JIS4	2	2048.31	326	20	25	23	34.15	180	12	M6	10	7	11	7	2	0.54	7.3
SSTMM02020-JIS4-N	2	2048.31	326	20	25	23	*	*	*	*	*	*	*	*	2	0.54	7.3
SSTMM02021-JIS4	2	2048.31	326	20	20	18	34.15	180	12	M6	7	7	11	7	2	0.54	5.8
SSTMM02021-JIS4-N	2	2048.31	326	20	20	18	*	*	*	*	*	*	*	*	2	0.54	5.8
SSTMM02510-JIS4	2.5	1005.31	128	25	30	27.5	52.65	180	6	M8	12	9	14	8.6	2	0.85	5.4
SSTMM02510-JIS4-N	2.5	1005.31	128	25	30	27.5	*	*	*	*	*	*	*	*	2	0.85	5.4
SSTMM02511-JIS4	2.5	1005.31	128	25	25	22.5	52.65	180	6	M8	9	9	14	8.6	2	0.85	4.5
SSTMM02511-JIS4-N	2.5	1005.31	128	25	25	22.5	*	*	*	*	*	*	*	*	2	0.85	4.5
SSTMM02520-JIS4	2.5	2049.88	261	25	30	27.5	34.94	180	12	M8	12	9	14	8.6	2	0.85	10.9
SSTMM02520-JIS4-N	2.5	2049.88	261	25	30	27.5	*	*	*	*	*	*	*	*	2	0.85	10.9
SSTMM02521-JIS4	2.5	2049.88	261	25	25	22.5	34.94	180	12	M8	9	9	14	8.6	2	0.85	9.1
SSTMM02521-JIS4-N	2.5	2049.88	261	25	25	22.5	*	*	*	*	*	*	*	*	2	0.85	9.1
SSTMM03010-JIS4	3	999.03	106	30	35	32	49.51	180	6	M10	14	11	17.5	10.8	2	1.22	7.5
SSTMM03010-JIS4-N	3	999.03	106	30	35	32	*	*	*	*	*	*	*	*	2	1.22	7.5
SSTMM03011-JIS4	3	999.03	106	30	30	27	49.51	180	6	M10	11	11	17.5	10.8	2	1.22	6.4
SSTMM03011-JIS4-N	3	999.03	106	30	30	27	*	*	*	*	*	*	*	*	2	1.22	6.4
SSTMM03020-JIS4	3	2045.17	217	30	35	32	32.58	180	12	M10	14	11	17.5	10.8	2	1.22	15.3
SSTMM03020-JIS4-N	3	2045.17	217	30	35	32	*	*	*	*	*	*	*	*	2	1.22	15.3
SSTMM03021-JIS4	3	2045.17	217	30	30	27	32.58	180	12	M10	11	11	17.5	10.8	2	1.22	13.1
SSTMM03021-JIS4-N	3	2045.17	217	30	30	27	*	*	*	*	*	*	*	*	2	1.22	13.1
SSTMM04010-JIS4	4	1005.31	80	40	45	41	52.65	180	6	M12	18	14	20	13	2	2.18	12.9
SSTMM04010-JIS4-N	4	1005.31	80	40	45	41	*	*	*	*	*	*	*	*	2	2.18	12.9
SSTMM04011-JIS4	4	1005.31	80	40	40	36	52.65	180	6	M12	15	14	20	13	2	2.18	11.4
SSTMM04011-JIS4-N	4	1005.31	80	40	40	36	*	*	*	*	*	*	*	*	2	2.18	11.4
SSTMM04020-JIS4	4	2048.31	163	40	45	41	34.15	180	12	M12	15	14	20	13	2	2.18	26.2
SSTMM04020-JIS4-N	4	2048.31	163	40	45	41	*	*	*	*	*	*	*	*	2	2.18	26.2
SSTMM04021-JIS4	4	2048.31	163	40	40	41	34.15	180	12	M12	18	14	20	13	2	2.18	23.3
SSTMM04021-JIS4-N	4	2048.31	163	40	40	41	*	*	*	*	*	*	*	*	2	2.18	23.3
SSTMM05010-JIS4	5	1005.31	64	50	50	45	62.65	220	5	M14	20	16	23	15.2	3	3.40	17.9
SSTMM05010-JIS4-N	5	1005.31	64	50	50	45	*	*	*	*	*	*	*	*	3	3.40	17.9
SSTMM05020-JIS4	5	2042.04	130	50	50	45	31.02	220	10	M14	20	16	23	15.2	3	3.40	36.3
SSTMM05020-JIS4-N	5	2042.04	130	50	50	45	*	*	*	*	*	*	*	*	3	3.40	36.3
SSTMM06010-JIS4	6	999.03	53	60	60	54	59.51	220	5	M16	23	18	26	17.5	3	4.90	25.5
SSTMM06010-JIS4-N	6	999.03	53	60	60	54	*	*	*	*	*	*	*	*	3	4.90	25.5
SSTMM06020-JIS4	6	2035.75	108	60	60	54	27.88	220	10	M16	23	18	26	17.5	3	4.90	52.1
SSTMM06020-JIS4-N	6	2035.75	108	60	60	54	*	*	*	*	*	*	*	*	3	4.90	52.1

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

SSTMH-JIS5



單位 / Dimension : mm

系列 SSTMH-JIS5 直齒高週波齒條
品質等級 JIS 5

材料 S45C
硬度 HRC 50~55°
總齒距誤差 Fp/1000 ≦ 0.15mm無
鑽孔處理，品號為 -N

SeriesSSTMH-JIS5 Straight Hardened Racks
Quality Grade JIS 5

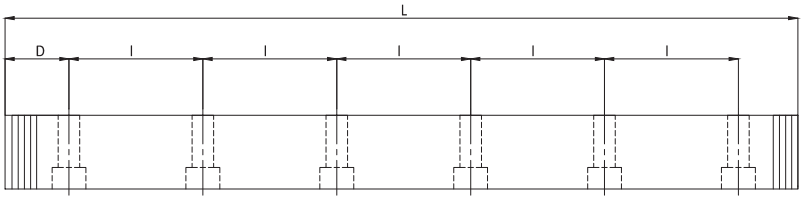
Material S45C
Hardness: HRC 50~55°
Total Pitch Error: Fp/1000 ≦ 0.15mm
No Mounted Holes , Code with-N

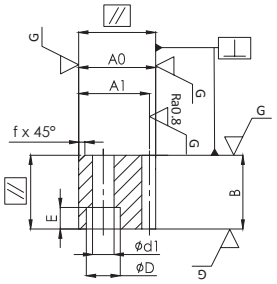
型號 Code	模數 Module	L	齒數 No. of Teeth	B	A0	A1	D	I	孔數 No. of Holes	螺絲 Screw	A	ød1	øD	E	f	F_{ta} kN	KG
SSTMHM01510-JIS5	1.5	999.03	212	15	20	18.5	49.51	180	6	M5	8	6	10	6	1.5	1.87	2.1
SSTMHM01510-JIS5-N	1.5	999.03	212	15	20	18.5	*	*	*	*	*	*	*	*	1.5	1.87	2.1
SSTMHM01511-JIS5	1.5	999.03	212	15	15	13.5	49.51	180	6	M5	5	6	10	5	1.5	1.87	1.6
SSTMHM01511-JIS5-N	1.5	999.03	212	15	15	13.5	*	*	*	*	*	*	*	*	1.5	1.87	1.6
SSTMHM01520-JIS5	1.5	2049.88	435	15	20	18.5	34.94	180	12	M5	8	6	10	6	1.5	1.87	4.4
SSTMHM01520-JIS5-N	1.5	2049.88	435	15	20	18.5	*	*	*	*	*	*	*	*	1.5	1.87	4.4
SSTMHM01521-JIS5	1.5	2049.88	435	15	15	13.5	34.94	180	12	M5	5	6	10	5	1.5	1.87	3.3
SSTMHM01521-JIS5-N	1.5	2049.88	435	15	15	13.5	*	*	*	*	*	*	*	*	1.5	1.87	3.3
SSTMHM02010-JIS5	2	1005.31	160	20	25	23	52.65	180	6	M6	10	7	11	7	2	3.33	3.6
SSTMHM02010-JIS5-N	2	1005.31	160	20	25	23	*	*	*	*	*	*	*	*	2	3.33	3.6
SSTMHM02011-JIS5	2	1005.31	160	20	20	18	52.65	180	6	M6	7	7	11	7	2	3.33	2.9
SSTMHM02011-JIS5-N	2	1005.31	160	20	20	18	*	*	*	*	*	*	*	*	2	3.33	2.9
SSTMHM02020-JIS5	2	2048.31	326	20	25	23	34.15	180	12	M6	10	7	11	7	2	3.33	7.3
SSTMHM02020-JIS5-N	2	2048.31	326	20	25	23	*	*	*	*	*	*	*	*	2	3.33	7.3
SSTMHM02021-JIS5	2	2048.31	326	20	20	18	34.15	180	12	M6	7	7	11	7	2	3.33	5.8
SSTMHM02021-JIS5-N	2	2048.31	326	20	20	18	*	*	*	*	*	*	*	*	2	3.33	5.8
SSTMHM02510-JIS5	2.5	1005.31	128	25	30	27.5	52.65	180	6	M8	12	9	14	8.6	2	5.20	5.4
SSTMHM02510-JIS5-N	2.5	1005.31	128	25	30	27.5	*	*	*	*	*	*	*	*	2	5.20	5.4
SSTMHM02511-JIS5	2.5	1005.31	128	25	25	22.5	52.65	180	6	M8	9	9	14	8.6	2	5.20	4.5
SSTMHM02511-JIS5-N	2.5	1005.31	128	25	25	22.5	*	*	*	*	*	*	*	*	2	5.20	4.5
SSTMHM02520-JIS5	2.5	2049.88	261	25	30	27.5	34.94	180	12	M8	12	9	14	8.6	2	5.20	10.9
SSTMHM02520-JIS5-N	2.5	2049.88	261	25	30	27.5	*	*	*	*	*	*	*	*	2	5.20	10.9
SSTMHM02521-JIS5	2.5	2049.88	261	25	25	22.5	34.94	180	12	M8	9	9	14	8.6	2	5.20	9.1
SSTMHM02521-JIS5-N	2.5	2049.88	261	25	25	22.5	*	*	*	*	*	*	*	*	2	5.20	9.1
SSTMHM03010-JIS4	3	999.03	106	30	35	32	49.51	180	6	M10	14	11	17.5	10.8	2	7.49	7.5
SSTMHM03010-JIS5-N	3	999.03	106	30	35	32	*	*	*	*	*	*	*	*	2	7.49	7.5
SSTMHM03011-JIS5	3	999.03	106	30	30	27	49.51	180	6	M10	11	11	17.5	10.8	2	7.49	6.4
SSTMHM03011-JIS5-N	3	999.03	106	30	30	27	*	*	*	*	*	*	*	*	2	7.49	6.4
SSTMHM03020-JIS5	3	2045.17	217	30	35	32	32.58	180	12	M10	14	11	17.5	10.8	2	7.49	15.3
SSTMHM03020-JIS5-N	3	2045.17	217	30	35	32	*	*	*	*	*	*	*	*	2	7.49	15.3
SSTMHM03021-JIS5	3	2045.17	217	30	30	27	32.58	180	12	M10	11	11	17.5	10.8	2	7.49	13.1
SSTMHM03021-JIS5-N	3	2045.17	217	30	30	27	*	*	*	*	*	*	*	*	2	7.49	13.1
SSTMHM04010-JIS5	4	1005.31	80	40	45	41	52.65	180	6	M12	18	14	20	13	2	13.32	12.9
SSTMHM04010-JIS5-N	4	1005.31	80	40	45	41	*	*	*	*	*	*	*	*	2	13.32	12.9
SSTMHM04011-JIS5	4	1005.31	80	40	40	36	52.65	180	6	M12	15	14	20	13	2	13.32	11.4
SSTMHM04011-JIS5-N	4	1005.31	80	40	40	36	*	*	*	*	*	*	*	*	2	13.32	11.4
SSTMHM04020-JIS5	4	2048.31	163	40	45	41	34.15	180	12	M12	15	14	20	13	2	13.32	26.2
SSTMHM04020-JIS5-N	4	2048.31	163	40	45	41	*	*	*	*	*	*	*	*	2	13.32	26.2
SSTMHM04021-JIS5	4	2048.31	163	40	40	41	34.15	180	12	M12	18	14	20	13	2	13.32	23.3
SSTMHM04021-JIS5-N	4	2048.31	163	40	40	41	*	*	*	*	*	*	*	*	2	13.32	23.3
SSTMHM05010-JIS5	5	1005.31	64	50	50	45	62.65	220	5	M14	20	16	23	15.2	3	20.81	17.9
SSTMHM05010-JIS5-N	5	1005.31	64	50	50	45	*	*	*	*	*	*	*	*	3	20.81	17.9
SSTMHM05020-JIS5	5	2042.04	130	50	50	45	31.02	220	10	M14	20	16	23	15.2	3	20.81	36.3
SSTMHM05020-JIS5-N	5	2042.04	130	50	50	45	*	*	*	*	*	*	*	*	3	20.81	36.3
SSTMHM06010-JIS5	6	999.03	53	60	60	54	59.51	220	5	M16	23	18	26	17.5	3	29.97	25.5
SSTMHM06010-JIS5-N	6	999.03	53	60	60	54	*	*	*	*	*	*	*	*	3	29.97	25.5
SSTMHM06020-JIS5	6	2035.75	108	60	60	54	27.88	220	10	M16	23	18	26	17.5	3	29.97	52.1
SSTMHM06020-JIS5-N	6	2035.75	108	60	60	54	*	*	*	*	*	*	*	*	3	29.97	52.1

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

MSTPQ-CP-JIS1





單位 / Dimension : mm

系列 MSTPQ-CP-JIS1 直齒調質齒研齒條
品質等級 JIS 1

材料 SCM440
硬度 HRC 18~22°
總齒距誤差 : Fp/1000 ≦ 0.033mm
調質處理後四面研磨與齒研
無鑽孔處理，品號為 -N
室溫在攝氏 25° 為準

Series MSTPQ-CP-JIS1 Straight Quenched & Tempered Ground Racks
Quality Grade JIS 1

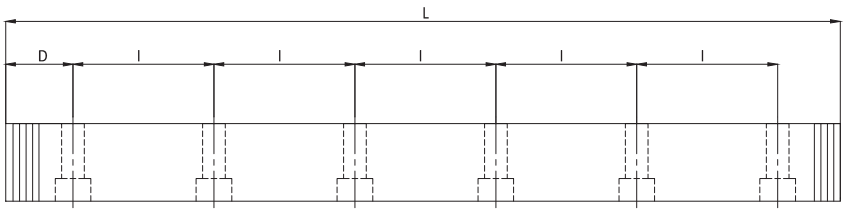
Material SCM440
Hardness: HRC 18~22°
Total Pitch Error: Fp/1000 ≦ 0.033mm
Ground on all sides after quenching.
No Mounted Holes , Code with-N
Room Temperature is 25°C

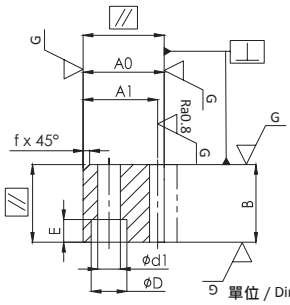
型號 Code	周節 CP	模數 Module	L	齒數 No. of Teeth	B	A0	A1	D	I	孔數 No. of Holes	螺絲 Screw	A	ød1	øD	E	f	F_{ta} kN	KG
MSTPQ-CP-05005-JIS1	5	1.5915	500	100	15	20	18.41	40	140	4	M5	8	6	10	6	1.5	0.59	1.1
MSTPQ-CP-05005-JIS1-N	5	1.5915	500	100	15	20	18.41	*	*	*	*	*	*	*	*	1.5	0.59	1.1
MSTPQ-CP-05010-JIS1-N	5	1.5915	1000	200	15	20	18.41	*	*	*	*	*	*	*	*	1.5	0.59	2.1
MSTPQ-CP-10005-JIS1	10	3.1831	500	50	30	35	31.82	40	140	4	M10	14	11	17.5	10.8	1.5	2.38	3.7
MSTPQ-CP-10005-JIS1-N	10	3.1831	500	50	30	35	31.82	*	*	*	*	*	*	*	*	1.5	2.38	3.7
MSTPQ-CP-10010-JIS1-N	10	3.1831	1000	100	30	35	31.82	*	*	*	*	*	*	*	*	1.5	2.38	7.5

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

MSTPH-CP-JIS1





單位 / Dimension : mm

系列 MSTPH-CP-JIS1 直齒齒研齒條
品質等級 JIS 1

材料 SCM440
硬度 HRC 55~58°
硬化處理後四面研磨與齒研
總齒距誤差 : Fp/1000 ≦ 0.033mm
無鑽孔處理，品號為 -N
室溫在攝氏 25° 為準

Series MSTPH-CP-JIS1 Straight Teeth Ground Racks
Quality Grade JIS 1

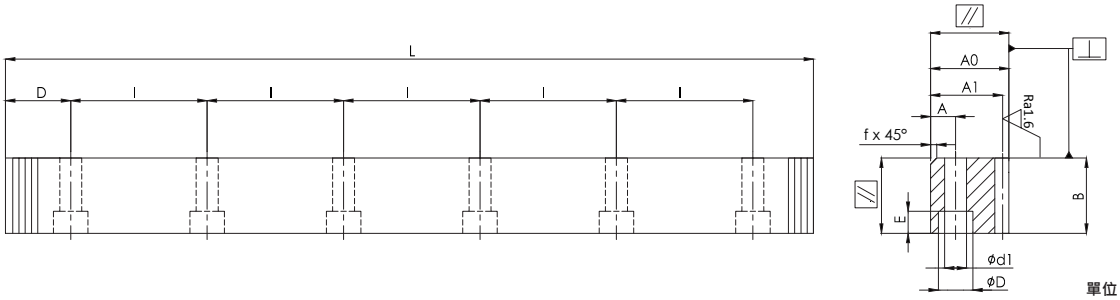
Material SCM440
Hardness: HRC 55~58°
Ground on all sides after hardening.
Total Pitch Error: Fp/1000 ≦ 0.033mm
No Mounted Holes , Code with-N
Room Temperature is 25°

型號 Code	周節 CP	模數 Module	L	齒數 No. of Teeth	B	A0	A1	D	I	孔數 No. of Holes	螺絲 Screw	A	ød1	øD	E	f	F_{ta} kN	KG
MSTPH-CP-05005-JIS1	5	1.5915	500	100	15	20	18.41	25	150	4	M5	8	6	10	6	1.5	2.83	1.1
MSTPH-CP-05005-JIS1-N	5	1.5915	500	100	15	20	18.41	*	*	*	*	*	*	*	*	1.5	2.83	1.1
MSTPH-CP-05010-JIS1	5	1.5915	1000	200	15	20	18.41	50	180	6	M5	8	6	10	6	1.5	2.83	2.1
MSTPH-CP-05010-JIS1-N	5	1.5915	1000	200	15	20	18.41	*	*	*	*	*	*	*	*	1.5	2.83	2.1
MSTPH-CP-10005-JIS1	10	3.1831	500	50	30	35	31.82	25	150	4	M10	14	11	17.5	10.8	1.5	11.33	3.7
MSTPH-CP-10005-JIS1-N	10	3.1831	500	50	30	35	31.82	*	*	*	*	*	*	*	*	1.5	11.33	3.7
MSTPH-CP-10010-JIS1	10	3.1831	1000	100	30	35	31.82	50	180	6	M10	14	11	17.5	10.8	1.5	11.33	7.5
MSTPH-CP-10010-JIS1-N	10	3.1831	1000	100	30	35	31.82	*	*	*	*	*	*	*	*	1.5	11.33	7.5

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

SSTM-CP-JIS4



單位 / Dimension : mm

系列 SSTM-CP-JIS4 直齒精铣齒條
品質等級 JIS 4

材料 S45C
硬度 HRC 10~12°
總齒距誤差 : Fp /1000 ≦
0.075mm無鑽孔處理，品號為 -N

Series SSTM-CP-JIS4 Straight Milled Racks
Quality Grade JIS 4

Material S45C
Hardness: HRC 10~12°
Total Pitch Error: Fp /1000 ≦ 0.075mm
No Mounted Holes , Code with-N

型號 Code	周節 CP	模數 Module	L	齒數 No. of Teeth	B	A0	A1	D	I	孔數 No. of Holes	螺絲 Screw	A	ød1	øD	E	f	F_{ta} kN	KG
SSTM-CP-05005-JIS4-N	5	1.5915	500	100	15	20	18.41	*	*	*	*	*	*	*	*	1	0.32	1.1
SSTM-CP-05010-JIS4	5	1.5915	1000	200	15	20	18.41	50	180	6	M5	8	6	10	6	1	0.32	2.0
SSTM-CP-05010-JIS4-N	5	1.5915	1000	200	15	20	18.41	*	*	*	*	*	*	*	*	1	0.32	2.1
SSTM-CP-05015-JIS4	5	1.5915	1500	300	15	20	18.41	30	180	9	M5	8	6	10	6	1	0.32	3.0
SSTM-CP-05015-JIS4-N	5	1.5915	1500	300	15	20	18.41	*	*	*	*	*	*	*	*	1	0.32	3.2
SSTM-CP-05020-JIS4	5	1.5915	2050	410	15	20	18.41	35	180	12	M5	8	6	10	6	1	0.32	4.1
SSTM-CP-05020-JIS4-N	5	1.5915	2050	410	15	20	18.41	*	*	*	*	*	*	*	*	1	0.32	4.4
SSTM-CP-10005-JIS4-N	10	3.1831	500	50	30	35	31.82	*	*	*	*	*	*	*	*	2	1.30	3.7
SSTM-CP-10010-JIS4	10	3.1831	1000	100	30	35	31.82	50	180	6	M10	14	11	17.5	10.8	2	1.30	7.1
SSTM-CP-10010-JIS4-N	10	3.1831	1000	100	30	35	31.82	*	*	*	*	*	*	*	*	2	1.30	7.5
SSTM-CP-10015-JIS4	10	3.1831	1500	150	30	35	31.82	30	180	9	M10	14	11	17.5	10.8	2	1.30	10.6
SSTM-CP-10015-JIS4-N	10	3.1831	1500	150	30	35	31.82	*	*	*	*	*	*	*	*	2	1.30	11.2
SSTM-CP-10020-JIS4	10	3.1831	2050	205	30	35	31.82	35	180	12	M10	14	11	17.5	10.8	2	1.30	14.4
SSTM-CP-10020-JIS4-N	10	3.1831	2050	205	30	35	31.82	*	*	*	*	*	*	*	*	2	1.30	15.3
SSTM-CP-15005-JIS4-N	15	4.7746	495	33	50	50	45.23	*	*	*	*	*	*	*	*	2	3.25	8.8
SSTM-CP-15010-JIS4	15	4.7746	1005	67	50	50	45.23	62.5	220	5	M14	20	16	23	15.2	2	3.25	16.9
SSTM-CP-15010-JIS4-N	15	4.7746	1005	67	50	50	45.23	*	*	*	*	*	*	*	*	2	3.25	17.9
SSTM-CP-15015-JIS4	15	4.7746	1500	100	50	50	45.23	90	220	7	M14	20	16	23	15.2	2	3.25	25.2
SSTM-CP-15015-JIS4-N	15	4.7746	1500	100	50	50	45.23	*	*	*	*	*	*	*	*	2	3.25	26.6
SSTM-CP-15020-JIS4	15	4.7746	2040	136	50	50	45.23	30	220	10	M14	20	16	23	15.2	2	3.25	34.2
SSTM-CP-15020-JIS4-N	15	4.7746	2040	136	50	50	45.23	*	*	*	*	*	*	*	*	2	3.25	36.2
SSTM-CP-20005-JIS4-N	20	6.3662	500	25	60	60	53.63	*	*	*	*	*	*	*	*	3	5.20	12.8
SSTM-CP-20010-JIS4	20	6.3662	1000	50	60	60	53.63	60	220	5	M16	23	18	26	17.5	3	5.20	24.2
SSTM-CP-20010-JIS4-N	20	6.3662	1000	50	60	60	53.63	*	*	*	*	*	*	*	*	3	5.20	25.6
SSTM-CP-20015-JIS4	20	6.3662	1500	75	60	60	53.63	90	220	7	M16	23	18	26	17.5	3	5.20	36.2
SSTM-CP-20015-JIS4-N	20	6.3662	1500	75	60	60	53.63	*	*	*	*	*	*	*	*	3	5.20	38.4
SSTM-CP-20020-JIS4	20	6.3662	2040	102	60	60	53.63	30	220	10	M16	233	18	26	17.5	3	5.20	49.3
SSTM-CP-20020-JIS4-N	20	6.3662	2040	102	60	60	53.63	*	*	*	*	*	*	*	*	3	5.20	52.2

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

齒輪目錄 Contents of Pinions

型號 Code	精度等級 DIN 3962	材料 Material	齒輪齒型 Type	齒面處理 Teeth Treatment	硬度處理 Hardness	模數 Module	頁碼 Page
MOPH	JIS 2	SCM415 SCM440	斜齒左斜 Helical Left Hand 19°31'42"	齒研 Teeth Ground	HRC 50-55°	1.5, 2, 3, 4, 5, 6, 8, 10	P.33
MOSH	JIS 3	SCM415 SCM440		磨削 Skiving	HRC 50-55°	1.5, 2, 3, 4, 5, 6, 8, 10	P.37
SOM	JIS 4	S45C S50C		精銑 Milled	*	1.5, 2, 3, 4, 5, 6, 8, 10	P.40
MOMH	JIS 5	SCM415 SCM440			HRC 50-55°	1.5, 2, 3, 4, 5, 6, 8, 10	P.43
MSPH	JIS 2	SCM415 SCM440	直齒 Straight	齒研 Teeth Ground	HRC 50-55°	2, 3, 4, 5, 6, 8	P.46
MSSH	JIS 3	SCM415 SCM440		磨削 Skiving	HRC 50-55°	2, 3, 4, 5, 6, 8	P.51
SSM	JIS 4	S45C S50C		精銑 Milled	*	1, 1.5, 2, 2.5, 3, 4, 5, 6, 8, 10	P.56
MSMH	JIS 5	SCM415 SCM440			HRC 50-55°	1, 1.5, 2, 2.5, 3, 4, 5, 6, 8, 10	P.65
MOFPH	JIS 2	SCM415 SCM440	法蘭斜齒齒輪 Flange Helical	齒研 Teeth Ground	HRC 50-55°	2, 3, 4, 5	P.74

型號 Code	精度等級 JIS	材料 Material	齒輪齒型 Type	齒面處理 Teeth Treatment	硬度處理 Hardness	模數 Module	頁碼 Page
MOPH	JIS 2 (N6)	SCM415 SCM440	斜齒左斜 Helical Left Hand 21°30'	齒研 Teeth Ground	HRC 50-55°	1, 1.5, 2, 2.5, 3	P.75
SOM	JIS 4 (N8)	S45C S50C	斜齒左斜 Helical Left Hand 15°	精銑 Milled	*	2, 3	P.80
MSPH	JIS 2 (N6)	SCM415 SCM440	直齒 Straight	齒研 Teeth Ground	HRC 50-55°	1, 1.5, 2, 2.5, 3, 4	P.81
SSSH	JIS 3 (N7)	S45C S50C		磨削 Skiving	HRC 50-55°	1, 1.5, 2, 2.5, 3, 4, 5, 6	P.87
SSM	JIS 4 (N8)	S45C S50C		精銑 Milled	*	1, 1.5, 2, 2.5, 3, 4, 5, 6, 8, 10	P.93

型號 Code	精度等級 JIS	材料 Material	齒輪齒型 Type	齒面處理 Teeth Treatment	硬度處理 Hardness	周節 CP	頁碼 Page
MSPH-CP	JIS 2	SCM415 SCM440	直齒 Straight	齒研 Teeth Ground	HRC 50-55°	5, 7.5, 10, 15, 20	P.104
MSSH-CP	JIS 3 (N7)	SCM415 SCM440		磨削 Skiving	HRC 50-55°	5, 10, 15, 20	P.105
SSM-CP	JIS 4 (N8)	S45C S50C		精銑 Milled	*	5, 10, 15, 20	P.106

齒輪型號說明 Pinion Code Instruction

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
材料 Material	齒型 Type	系列 Series	齒面處理 Teeth Treatment	硬度處理 Hardness	模數 Module 周節 Circular Pitch	齒　　數 No. of Teeth	序號 Series	圖號 Fig	等級 Grade
S	S	(F)	P	H	M020	030	1	1	JIS
S= 中碳鋼 M= 合金鋼	S= 直齒 O= 斜齒	F= 法蘭式	P= 齒研 S= 磨削 M= 精銑	H= 硬化處理	M1.5~M10 CP5-CP20	12~120	1~11	1, 2	JIS 2-5
S= Carbon Steel =S45C =S50C M=Alloy Steel =SCM440 =SCM415	S=Straight H=Helical	F=Flange	P=Grinding Process S=Skiving M=Milled	H=Hardened High Frequency Carburized.					

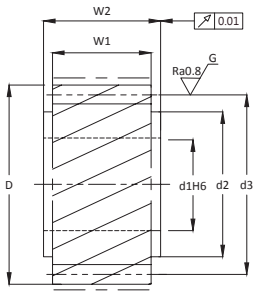


圖1 /Fig . 1

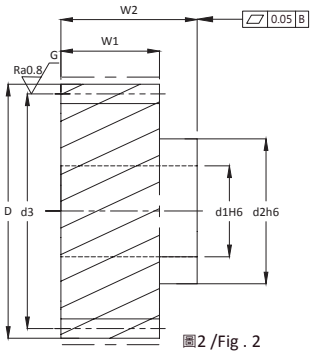
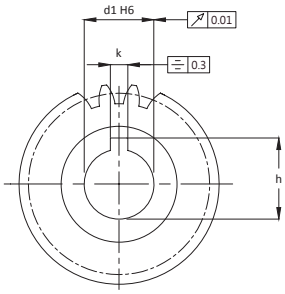


圖2 /Fig . 2



MOPH-JIS2

單位 / Dimension : mm

系列 MOPH-JIS2 斜齒齒研齒輪
品質等級 JIS 2

材料 SCM415/SCM440
左旋角 19°31'42"
硬度 HRC 50~55°
硬化處理後齒面研磨

Series MOPH-JIS2 Helical Teeth Ground Pinions
Quality Grade JIS 2

Material SCM415/SCM440
Left Hand Angle 19°31'42"
Hardness: HRC 50~55°
Teeth Ground after Hardening

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 1.5 / Module 1.5													
MOPHM0150201	1	-JIS2	20	11	25	31.83	34.83	20	22	4	12.8	4.48	0.1
MOPHM0150202	1	-JIS2	20	13	25	31.83	34.83	20	22	5	15.3	4.48	0.1
MOPHM0150203	1	-JIS2	20	14	25	31.83	34.83	20	22	5	16.3	4.48	0.1
MOPHM0150204	1	-JIS2	20	16	25	31.83	34.83	20	22	5	18.3	4.48	0.1
MOPHM0150211	2	-JIS2	21	16	30	33.42	36.42	20	46	5	18.3	5.29	0.3

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

MOPH-JIS2

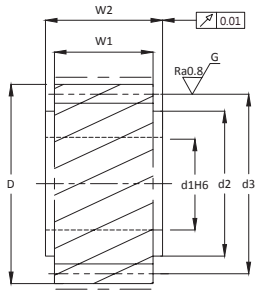


圖1 /Fig . 1

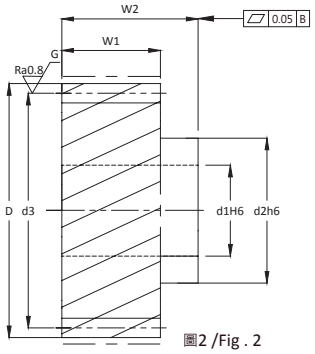
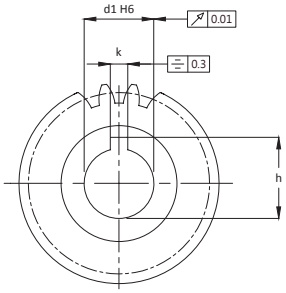


圖2 /Fig . 2



單位 / Dimension : mm

系列 MOPH-JIS2 斜齒齒研齒輪
品質等級 JIS 2

材料 SCM415/SCM440
左旋角 19°31'42"
硬度 HRC 50~55°
硬化處理後齒面研磨

Series MOPH-JIS2 Helical Teeth Ground Pinions
Quality Grade JIS 2

Material SCM415/SCM440
Left Hand Angle 19°31'42"
Hardness: HRC 50~55°
Teeth Ground after Hardening

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 2 / Module 2													
MOPHM0200181	1	-JIS2	18	16	25	38.197	42.20	28	30	5	18.3	7.47	0.2
MOPHM0200201	1	-JIS2	20	19	30	42.44	46.40	28	30	6	21.8	8.36	0.2
MOPHM0200202	2	-JIS2	20	19	30	42.44	46.40	28	56	6	21.8	8.36	0.2
MOPHM0200203	1	-JIS2	20	20	30	42.44	46.40	28	30	6	22.8	8.36	0.2
MOPHM0200204	2	-JIS2	20	22	36	42.44	46.40	28	56	6	24.8	8.36	0.2
MOPHM0200205	1	-JIS2	20	22	30	42.44	46.40	28	30	6	24.8	8.36	0.2
MOPHM0200211	1	-JIS2	21	16	25	44.56	48.60	28	30	5	18.3	8.81	0.3
MOPHM0200212	2	-JIS2	21	22	36	44.56	48.60	28	30	6	24.8	8.81	0.3
MOPHM0200221	1	-JIS2	22	19	30	46.69	50.70	28	30	6	21.8	10.38	0.3
MOPHM0200222	2	-JIS2	22	19	30	46.69	50.70	28	56	6	21.8	10.38	0.3
MOPHM0200223	1	-JIS2	22	22	30	46.69	50.70	28	30	6	24.8	10.38	0.3
MOPHM0200224	2	-JIS2	22	22	36	46.69	50.70	28	56	6	24.8	10.38	0.3
MOPHM0200251	1	-JIS2	25	19	30	53.05	57.10	28	30	6	21.8	11.90	0.4
MOPHM0200252	2	-JIS2	25	19	30	53.05	57.10	28	56	6	21.8	11.90	0.4
MOPHM0200253	1	-JIS2	25	20	30	53.05	57.10	28	30	6	22.8	11.90	0.4
MOPHM0200254	1	-JIS2	25	22	30	53.05	57.10	28	30	6	24.8	11.90	0.4
MOPHM0200255	2	-JIS2	25	22	36	53.05	57.10	28	56	6	24.8	11.90	0.4
MOPHM0200256	1	-JIS2	25	25	36	53.05	57.10	28	30	6	27.8	11.90	0.4
MOPHM0200281	1	-JIS2	28	19	30	59.42	63.40	28	30	6	21.8	13.06	0.4
MOPHM0200282	2	-JIS2	28	19	30	59.42	63.40	28	56	6	21.8	13.06	0.4
MOPHM0200283	1	-JIS2	28	22	30	59.42	63.40	28	30	6	24.8	13.06	0.4
MOPHM0200284	2	-JIS2	28	22	36	59.42	63.40	28	56	6	24.8	13.06	0.4
MOPHM0200285	1	-JIS2	28	35	48	59.42	63.40	28	30	10	38.3	13.06	0.4
MOPHM0200301	1	-JIS2	30	16	25	63.66	67.70	28	30	5	18.3	13.30	0.7
MOPHM0200302	1	-JIS2	30	20	30	63.66	67.70	28	30	6	22.8	13.30	0.7
MOPHM0200303	2	-JIS2	30	22	36	63.66	67.70	28	56	6	24.8	13.30	0.7
MOPHM0200304	1	-JIS2	30	25	36	63.66	67.70	28	30	8	28.3	13.30	0.7
MOPHM0200305	1	-JIS2	30	30	45	63.66	67.70	28	30	8	33.3	13.30	0.7
MOPHM0200306	2	-JIS2	30	30	50	63.66	67.70	28	60	8	33.3	13.30	0.7
MOPHM0200307	2	-JIS2	30	32	55	63.66	67.70	28	65	10	35.3	13.30	0.7
MOPHM0200321	1	-JIS2	32	20	30	67.91	71.90	28	30	6	22.8	13.49	0.7
MOPHM0200322	1	-JIS2	32	22	30	67.91	71.90	28	30	6	24.8	13.49	0.7
MOPHM0200323	2	-JIS2	32	22	36	67.91	71.90	28	56	6	27.8	13.49	0.7
MOPHM0200324	1	-JIS2	32	25	36	67.91	71.90	28	30	8	28.3	13.49	0.7
MOPHM0200325	1	-JIS2	32	35	48	67.91	71.90	28	30	10	38.3	13.49	0.7
MOPHM0200361	1	-JIS2	36	35	48	76.39	80.40	28	30	10	38.3	13.84	0.8
MOPHM0200391	2	-JIS2	39	32	55	82.76	86.80	28	65	10	35.3	14.06	1.4
MOPHM0200401	1	-JIS2	40	35	48	84.88	88.90	28	30	10	38.3	14.13	1.2

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

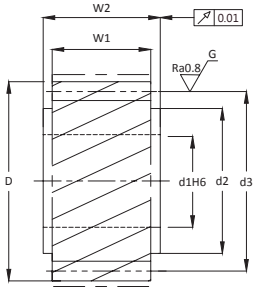


圖1 /Fig . 1

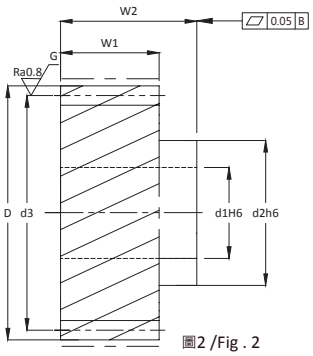
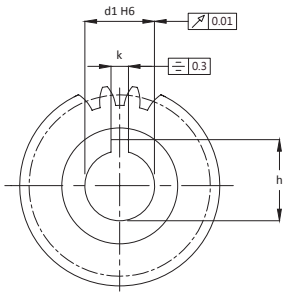


圖2 /Fig . 2



MOPH-JIS2

單位 / Dimension : mm

系列 MOPH-JIS2 斜齒齒研齒輪
品質等級 JIS 2

材料 SCM415/SCM440
左旋角 19°31'42"
硬度 HRC 55~60°
硬化處理後齒面研磨

Series MOPH-JIS2 Helical Teeth Ground Pinions
Quality Grade JIS 2

Material SCM415/SCM440 Left
Hand Angle 19°31'42"
Hardness: HRC 55~60°
Teeth Ground after Hardening

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 3 / Module 3													
MOPHM0300181	1	-JIS2	18	25	36	54.00	60.00	28	30	8	28.3	12.51	0.4
MOPHM0300201	1	-JIS2	20	25	36	60.00	66.00	28	30	8	28.3	14.00	0.5
MOPHM0300202	2	-JIS2	20	25	44	63.66	69.70	28	60	8	28.3	14.00	1.1
MOPHM0300203	1	-JIS2	20	30	45	63.66	69.70	28	30	8	33.3	14.00	0.5
MOPHM0300204	2	-JIS2	20	30	50	63.66	69.70	28	60	8	33.3	14.00	1.1
MOPHM0300205	2	-JIS2	20	32	55	63.66	69.70	28	65	10	35.3	14.00	1.2
MOPHM0300206	1	-JIS2	20	35	48	63.66	69.70	28	30	10	38.3	14.00	0.5
MOPHM0300221	1	-JIS2	22	25	36	70.03	76.00	28	30	8	28.3	17.65	0.6
MOPHM0300222	1	-JIS2	22	30	45	70.03	76.00	28	30	8	33.3	17.65	0.6
MOPHM0300223	2	-JIS2	22	32	55	70.03	76.00	28	65	10	35.3	17.65	1.4
MOPHM0300224	1	-JIS2	22	35	48	70.03	76.00	28	30	10	38.3	17.65	0.6
MOPHM0300225	2	-JIS2	22	40	62	70.03	76.00	28	65	12	43.3	17.65	1.4
MOPHM0300251	2	-JIS2	25	22	36	79.58	85.60	28	56	6	24.8	19.01	1.5
MOPHM0300252	1	-JIS2	25	25	36	79.58	85.60	28	30	8	28.3	19.01	0.8
MOPHM0300253	2	-JIS2	25	25	44	79.58	85.60	28	60	8	28.3	19.01	1.6
MOPHM0300254	1	-JIS2	25	30	45	79.58	85.60	28	30	8	33.3	19.01	0.8
MOPHM0300255	2	-JIS2	25	30	50	79.58	85.60	28	60	8	33.3	19.01	1.6
MOPHM0300256	2	-JIS2	25	32	55	79.58	85.60	28	65	10	35.3	19.01	1.8
MOPHM0300257	1	-JIS2	25	35	48	79.58	85.60	28	30	10	38.3	19.01	0.8
MOPHM0300258	2	-JIS2	25	35	55	79.58	85.60	28	65	10	38.3	19.01	1.8
MOPHM0300259	1	-JIS2	25	40	70	79.58	85.60	28	50	12	43.3	19.01	1.4
MOPHM03002510	2	-JIS2	25	40	62	79.58	85.60	28	65	12	43.3	19.01	1.8
MOPHM0300281	2	-JIS2	28	32	55	89.13	95.10	28	65	10	35.3	19.59	2.2
MOPHM0300282	2	-JIS2	28	40	62	89.13	95.10	28	65	12	43.3	19.59	2.2
MOPHM0300321	2	-JIS2	32	32	55	101.86	107.85	28	65	10	35.3	20.24	2.8
MOPHM0300322	2	-JIS2	32	40	62	101.86	107.85	28	65	12	43.3	20.24	2.8

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

MOPH-JIS2

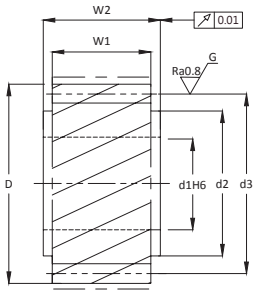


圖1 /Fig . 1

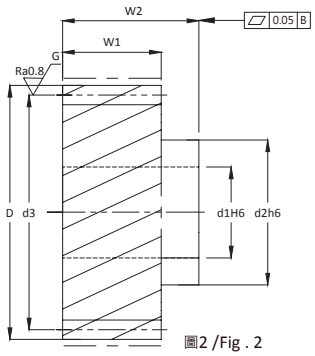
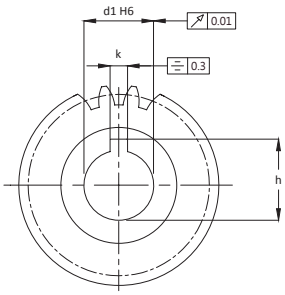


圖2 /Fig . 2



單位 / Dimension : mm

系列 MOPH-JIS2 斜齒齒研齒輪
品質等級 JIS 2

材料 SCM415/SCM440
左旋角 19°31'42"
硬度 HRC 55~60°
硬化處理後齒面研磨

Series MOPH-JIS2 Helical Teeth Ground Pinions
Quality Grade JIS 2

Material SCM415/SCM440
Left Hand Angle 19°31'42"
Hardness: HRC 55~60°
Teeth Ground after Hardening

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 4 / Module 4													
MOPHM0400151	1	-JIS2	15	35	52	63.66	71.70	40	50	10	38.3	17.53	0.8
MOPHM0400181	2	-JIS2	18	32	55	76.39	84.40	40	75	10	35.3	23.92	1.6
MOPHM0400201	1	-JIS2	20	35	52	84.88	92.90	40	50	10	38.3	26.78	1.3
MOPHM0400202	1	-JIS2	20	45	65	84.88	92.90	40	50	14	48.8	26.78	1.3
MOPHM0400211	2	-JIS2	21	32	55	89.13	97.10	40	75	10	35.3	28.23	2.2
MOPHM0400212	2	-JIS2	21	35	55	89.13	97.10	40	75	10	38.3	28.23	2.2
MOPHM0400213	2	-JIS2	21	40	62	89.13	97.10	40	75	12	43.3	28.23	2.2
MOPHM0400214	2	-JIS2	21	45	68	89.13	97.10	40	75	14	48.8	28.23	2.2
MOPHM0400221	1	-JIS2	22	35	52	93.37	101.40	40	50	10	38.3	29.66	1.6
MOPHM0400222	1	-JIS2	22	45	65	93.37	101.40	40	50	14	48.8	29.66	1.6
MOPHM0400241	2	-JIS2	24	32	55	101.86	109.90	40	75	10	35.3	35.79	2.8
MOPHM0400242	2	-JIS2	24	35	55	101.86	109.90	40	75	10	38.3	35.79	2.8
MOPHM0400243	2	-JIS2	24	40	62	101.86	109.90	40	75	12	43.3	35.79	2.8
MOPHM0400244	2	-JIS2	24	45	68	101.86	109.90	40	75	14	48.8	35.79	2.8
MOPHM0400245	2	-JIS2	24	55	80	101.86	109.90	40	80	16	59.3	35.79	3.0
MOPHM0400251	1	-JIS2	25	35	52	106.10	114.10	40	50	10	38.3	36.22	2.0
MOPHM0400252	1	-JIS2	25	45	65	106.10	114.10	40	50	14	48.8	36.22	2.0
MOPHM0400253	2	-JIS2	25	55	80	106.10	114.10	40	80	16	59.3	36.22	3.2
模數 5 / Module 5													
MOPHM0500181	2	-JIS2	18	45	68	95.49	105.50	50	85	14	48.8	37.38	2.9
MOPHM0500241	2	-JIS2	24	45	68	127.32	137.30	50	85	14	48.8	55.93	4.9
MOPHM0500242	2	-JIS2	24	55	80	127.32	137.30	50	90	16	59.3	55.93	5.2
MOPHM0500243	2	-JIS2	24	75	110	127.32	137.30	50	110	20	79.9	55.93	6.4
模數 6 / Module 6													
MOPHM0600201	2	-JIS2	20	55	80	127.32	139.30	60	100	16	59.3	60.26	6.0
MOPHM0600202	2	-JIS2	20	75	110	127.32	139.30	60	120	20	79.9	60.26	7.2
MOPHM0600251	2	-JIS2	25	55	80	159.16	171.20	60	100	16	59.3	81.49	9.0
MOPHM0600252	2	-JIS2	25	75	110	159.16	171.20	60	120	20	79.9	81.49	10.8
模數 8 / Module 8													
MOPHM0800181	2	-JIS2	18	75	110	152.79	168.80	80	140	20	79.9	95.68	12.3
MOPHM0800201	2	-JIS2	20	85	125	169.80	185.80	80	145	22	90.4	107.12	15.4
模數 10 / Module 10													
MOPHM1000201	2	-JIS2	20	85	125	212.21	232.20	100	165	22	90.4	167.38	27.4

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

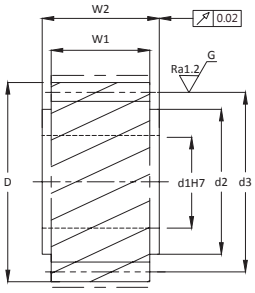


圖1 /Fig . 1

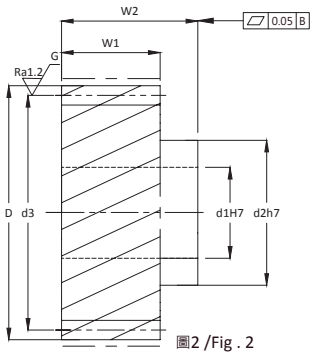
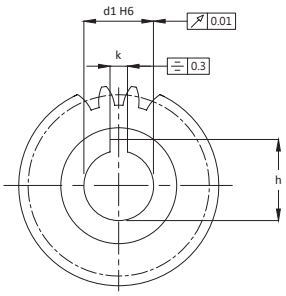


圖2 /Fig . 2



MOSH-JIS3

單位 / Dimension : mm

系列 MOSH-JIS3 斜齒磨削齒輪
品質等級 JIS 3

材料 SCM415/SCM440
左旋角 19°31'42"
硬度 HRC 55~60°
硬化處理後齒面磨削

Series MOSH-JIS3 Helical Skiving Pinions
Quality Grade JIS 3

Material SCM415/SCM440
Left Hand Angle 19°31'42"
Hardness: HRC 55~60°
Skiving after Hardening

斜齒 Helical
JIS

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 1.5 / Module 1.5													
MOSHM0150201	1	-JIS3	20	11	25	31.83	34.83	20	22	4	12.8	3.67	0.1
MOSHM0150202	1	-JIS3	20	13	25	31.83	34.83	20	22	5	15.3	3.67	0.1
MOSHM0150203	1	-JIS3	20	14	25	31.83	34.83	20	22	5	16.3	3.67	0.1
MOSHM0150204	1	-JIS3	20	16	25	31.83	34.83	20	22	5	18.3	3.67	0.1
MOSHM0150211	2	-JIS3	21	16	30	33.42	36.42	20	46	5	18.3	4.33	0.3
模數 2 / Module 2													
MOSHM0200181	1	-JIS3	18	16	25	38.197	42.20	28	30	5	18.3	6.12	0.2
MOSHM0200201	1	-JIS3	20	19	30	42.44	46.40	28	30	6	21.8	6.85	0.3
MOSHM0200202	2	-JIS3	20	19	30	42.44	46.40	28	56	6	21.8	6.85	0.6
MOSHM0200203	1	-JIS3	20	20	30	42.44	46.40	28	30	6	22.8	6.85	0.3
MOSHM0200204	2	-JIS3	20	22	36	42.44	46.40	28	56	6	24.8	6.85	0.6
MOSHM0200205	1	-JIS3	20	22	30	42.44	46.40	28	30	6	24.8	6.85	0.3
MOSHM0200211	1	-JIS3	21	16	25	44.56	48.60	28	30	5	18.3	7.22	0.3
MOSHM0200212	2	-JIS3	21	22	36	44.56	48.60	28	30	6	24.8	7.22	0.3
MOSHM0200221	1	-JIS3	22	19	30	46.69	50.70	28	30	6	21.8	8.50	0.4
MOSHM0200222	2	-JIS3	22	19	30	46.69	50.70	28	56	6	21.8	8.50	0.7
MOSHM0200223	1	-JIS3	22	22	30	46.69	50.70	28	30	6	24.8	8.50	0.4
MOSHM0200224	2	-JIS3	22	22	36	46.69	50.70	28	56	6	24.8	8.50	0.7
MOSHM0200251	1	-JIS3	25	19	30	53.05	57.10	28	30	6	21.8	9.75	0.5
MOSHM0200252	2	-JIS3	25	19	30	53.05	57.10	28	56	6	21.8	9.75	0.8
MOSHM0200253	1	-JIS3	25	20	30	53.05	57.10	28	30	6	22.8	9.75	0.5
MOSHM0200254	1	-JIS3	25	22	30	53.05	57.10	28	30	6	24.8	9.75	0.5
MOSHM0200255	2	-JIS3	25	22	36	53.05	57.10	28	56	6	24.8	9.75	0.8
MOSHM0200256	1	-JIS3	25	25	36	53.05	57.10	28	30	6	24.8	9.75	0.5
MOSHM0200281	1	-JIS3	28	19	30	59.42	63.40	28	30	6	21.8	11.00	0.6
MOSHM0200282	2	-JIS3	28	19	30	59.42	63.40	28	56	6	21.8	10.99	1.0
MOSHM0200283	1	-JIS3	28	22	30	59.42	63.40	28	30	6	24.8	10.99	0.6
MOSHM0200284	2	-JIS3	28	22	36	59.42	63.40	28	56	6	24.8	10.99	1.0
MOSHM0200285	1	-JIS3	28	35	48	59.42	63.40	28	30	10	38.3	10.99	0.6
MOSHM0200301	1	-JIS3	30	16	25	63.66	67.70	28	30	5	18.3	11.83	0.6
MOSHM0200302	1	-JIS3	30	20	30	63.66	67.70	28	30	6	22.8	11.83	0.6
MOSHM0200303	2	-JIS3	30	22	36	63.66	67.70	28	56	6	24.8	11.83	1.2
MOSHM0200304	1	-JIS3	30	25	36	63.66	67.70	28	30	8	28.3	11.83	0.6
MOSHM0200305	1	-JIS3	30	30	45	63.66	67.70	28	30	8	33.3	11.83	0.6
MOSHM0200306	2	-JIS3	30	30	50	63.66	67.70	28	60	8	33.3	11.83	1.3
MOSHM0200307	2	-JIS3	30	32	55	63.66	67.70	28	65	10	35.3	11.83	1.4
MOSHM0200321	1	-JIS3	32	20	30	67.91	71.90	28	30	6	22.8	12.37	0.7
MOSHM0200322	1	-JIS3	32	22	30	67.91	71.90	28	30	6	24.8	12.37	0.7
MOSHM0200323	2	-JIS3	32	22	36	67.91	71.90	28	56	6	27.8	12.37	1.3
MOSHM0200324	1	-JIS3	32	25	36	67.91	71.90	28	30	8	28.3	12.37	0.7
MOSHM0200325	1	-JIS3	32	35	48	67.91	71.90	28	30	10	38.3	12.37	0.7
MOSHM0200361	1	-JIS3	36	35	48	76.39	80.40	28	30	10	38.3	12.69	0.9
MOSHM0200391	2	-JIS3	39	32	55	82.76	86.80	28	65	10	35.3	12.89	2.3
MOSHM0200401	1	-JIS3	40	35	48	84.88	88.90	28	30	10	38.3	12.95	1.1

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

MOSH-JIS3

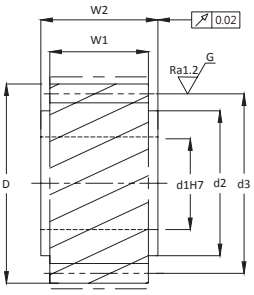


圖1 /Fig . 1

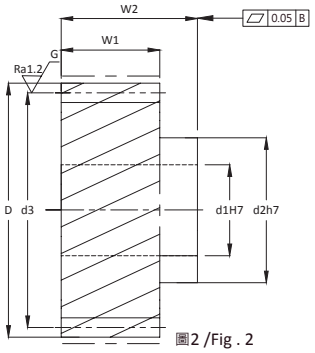
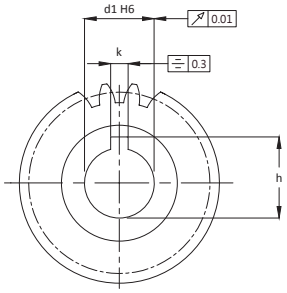


圖2 /Fig . 2



單位 / Dimension : mm

系列 MOSH-JIS3　斜齒磨削齒輪
品質等級 JIS 3

材料 SCM415/SCM440
左旋角 19°31'42"
硬度 HRC 55~60°
硬化處理後齒面磨削

Series MOSH-JIS3　Helical Skiving Pinions
Quality Grade JIS 3

Material SCM415/SCM440
Left Hand Angle 19°31'42"
Hardness: HRC 55~60°
Skiving after Hardening

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 3 / Module 3													
MOSHM0300201	2	-JIS3	20	22	36	63.66	69.70	28	56	6	24.8	11.47	1.0
MOSHM0300202	2	-JIS3	20	25	44	63.66	69.70	28	60	8	28.3	11.47	1.1
MOSHM0300203	1	-JIS3	20	30	45	63.66	69.70	28	30	8	33.3	11.47	0.5
MOSHM0300204	2	-JIS3	20	30	50	63.66	69.70	28	60	8	33.3	11.47	1.1
MOSHM0300205	2	-JIS3	20	32	55	63.66	69.70	28	65	10	35.3	11.47	1.2
MOSHM0300206	1	-JIS3	20	35	48	63.66	69.70	28	30	10	38.3	11.47	0.5
MOSHM0300221	1	-JIS3	22	25	36	70.03	76.00	28	30	8	28.3	14.45	0.6
MOSHM0300222	1	-JIS3	22	30	45	70.03	76.00	28	30	8	33.3	14.45	0.6
MOSHM0300223	2	-JIS3	22	32	55	70.03	76.00	28	65	10	35.3	14.45	1.4
MOSHM0300224	1	-JIS3	22	35	48	70.03	76.00	28	30	10	38.3	14.45	0.6
MOSHM0300225	2	-JIS3	22	40	62	70.03	76.00	28	65	12	43.3	14.45	1.4
MOSHM0300251	2	-JIS3	25	22	36	79.58	85.60	28	56	6	24.8	16.56	1.5
MOSHM0300252	1	-JIS3	25	25	36	79.58	85.60	28	30	8	28.3	16.56	0.8
MOSHM0300253	2	-JIS3	25	25	44	79.58	85.60	28	60	8	28.3	16.56	1.6
MOSHM0300254	1	-JIS3	25	30	45	79.58	85.60	28	30	8	33.3	16.56	0.8
MOSHM0300255	2	-JIS3	25	30	50	79.58	85.60	28	60	8	33.3	16.56	1.6
MOSHM0300256	2	-JIS3	25	32	55	79.58	85.60	28	65	10	35.3	16.56	1.8
MOSHM0300257	1	-JIS3	25	35	48	79.58	85.60	28	30	10	38.3	16.56	0.8
MOSHM0300258	2	-JIS3	25	35	55	79.58	85.60	28	65	10	38.3	16.56	1.8
MOSHM0300259	1	-JIS3	25	40	70	79.58	85.60	28	50	12	43.3	16.56	1.4
MOSHM03002510	2	-JIS3	25	40	62	79.58	85.60	28	65	12	43.3	16.56	1.8
MOSHM0300281	2	-JIS3	28	32	55	89.13	95.10	28	65	10	35.3	17.96	2.2
MOSHM0300282	2	-JIS3	28	40	62	89.13	95.10	28	65	12	43.3	17.96	2.2
MOSHM0300321	2	-JIS3	32	32	55	101.86	107.85	28	65	10	35.3	18.55	2.8
MOSHM0300322	2	-JIS3	32	40	62	101.86	107.85	28	65	12	43.3	18.55	2.8

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

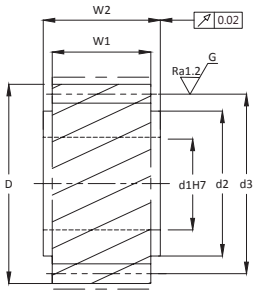


圖1 /Fig . 1

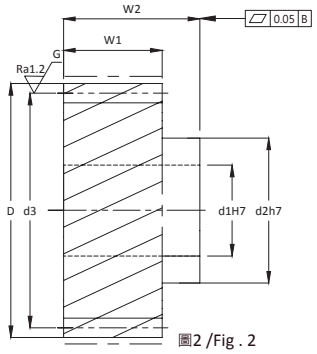
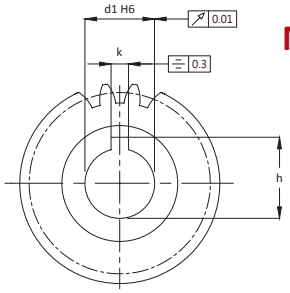


圖2 /Fig . 2



MOSH-JIS3

單位 / Dimension : mm

系列 MOSH-JIS3 斜齒磨削齒輪
品質等級 JIS 3

材料 SCM415/SCM440
左旋角 19°31'42"
硬度 HRC 55~60°
硬化處理後齒面磨削

Series MOSH-JIS3 Helical Skiving Pinions
Quality Grade JIS 3

Material SCM415/SCM440
Left Hand Angle 19°31'42"
Hardness: HRC 55~60°
Skiving after Hardening

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 4 / Module 4													
MOSHM0400151	1	-JIS3	15	35	52	63.66	71.70	40	50	10	38.3	14.36	0.8
MOSHM0400181	2	-JIS3	18	32	55	76.39	84.40	40	75	10	35.3	19.59	1.6
MOSHM0400201	1	-JIS3	20	35	52	84.88	92.90	40	50	10	38.3	21.93	1.3
MOSHM0400202	1	-JIS3	20	45	65	84.88	92.90	40	50	14	48.8	21.93	1.3
MOSHM0400211	2	-JIS3	21	32	55	89.13	97.10	40	75	10	35.3	23.11	2.2
MOSHM0400212	2	-JIS3	21	35	55	89.13	97.10	40	75	10	38.3	23.11	2.2
MOSHM0400213	2	-JIS3	21	40	62	89.13	97.10	40	75	12	43.3	23.11	2.2
MOSHM0400214	2	-JIS3	21	45	68	89.13	97.10	40	75	14	48.8	23.11	2.2
MOSHM0400221	1	-JIS3	22	35	52	93.37	101.40	40	50	10	38.3	24.29	1.6
MOSHM0400222	1	-JIS3	22	45	65	93.37	101.40	40	50	14	48.8	24.29	1.6
MOSHM0400241	2	-JIS3	24	32	55	101.86	109.90	40	75	10	35.3	30.34	2.8
MOSHM0400242	2	-JIS3	24	35	55	101.86	109.90	40	75	10	38.3	30.34	2.8
MOSHM0400243	2	-JIS3	24	40	62	101.86	109.90	40	75	12	43.3	30.34	2.8
MOSHM0400244	2	-JIS3	24	45	68	101.86	109.90	40	75	14	48.8	30.34	2.8
MOSHM0400245	2	-JIS3	24	55	80	101.86	109.90	40	80	16	59.3	30.34	3.0
MOSHM0400251	1	-JIS3	25	35	52	106.10	114.10	40	50	10	38.3	31.68	2.0
MOSHM0400252	1	-JIS3	25	45	65	106.10	114.10	40	50	14	48.8	31.68	2.0
MOSHM0400253	2	-JIS3	25	55	80	106.10	114.10	40	80	16	59.3	31.68	3.2
模數 5 / Module 5													
MOSHM0500181	2	-JIS3	18	45	68	95.49	105.50	50	85	14	48.8	30.61	2.9
MOSHM0500241	2	-JIS3	24	45	68	127.32	137.30	50	85	14	48.8	47.41	4.9
MOSHM0500242	2	-JIS3	24	55	80	127.32	137.30	50	90	16	59.3	47.41	5.2
MOSHM0500243	2	-JIS3	24	75	110	127.32	137.30	50	110	20	79.9	47.41	6.4
模數 6 / Module 6													
MOSHM0600201	2	-JIS3	20	55	80	127.32	139.30	60	100	16	59.3	49.35	6.0
MOSHM0600202	2	-JIS3	20	75	110	127.32	139.30	60	120	20	79.9	49.35	7.2
MOSHM0600251	2	-JIS3	25	55	80	159.16	171.20	60	100	16	59.3	71.29	9.0
MOSHM0600252	2	-JIS3	25	75	110	159.16	171.20	60	120	20	79.9	71.29	10.8
模數 8 / Module 8													
MOSHM0800181	2	-JIS3	18	75	110	152.79	168.80	80	140	20	79.9	78.36	12.3
MOSHM0800202	2	-JIS3	20	85	125	169.80	185.80	80	145	22	90.4	87.72	15.4
模數 10 / Module 10													
MOSHM1000201	2	-JIS3	20	85	125	212.21	232.20	100	165	22	90.4	137.07	27.4

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

SOM-JIS4

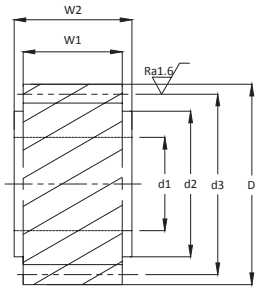
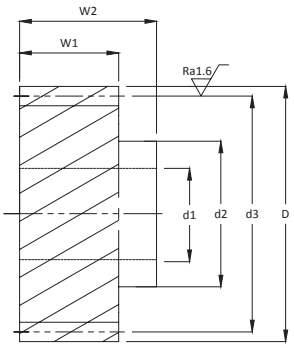


圖1 /Fig . 1



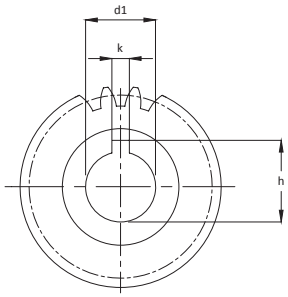


圖2 /Fig . 2

單位 / Dimension : mm

系列 SOM-JIS4　斜齒齒輪
品質等級 JIS 4

材料 S45C / S50C
左旋角 19°31'42"

Series SOM-JIS4 Helical Soft Pinions
Quality Grade JIS 4

Material S45C / S50C
Left Hand Angle 19°31'42"

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 1.5 / Module 1.5													
SOMM0150201	1	-JIS4	20	11	25	31.83	34.83	20	22	4	12.8	0.51	0.1
SOMM0150202	1	-JIS4	20	13	25	31.83	34.83	20	22	5	15.3	0.51	0.1
SOMM0150203	1	-JIS4	20	14	25	31.83	34.83	20	22	5	16.3	0.51	0.1
SOMM0150204	1	-JIS4	20	16	25	31.83	34.83	20	22	5	18.3	0.51	0.1
SOMM0150211	2	-JIS4	21	16	30	33.42	36.42	20	46	5	18.3	0.61	0.3
模數 2 / Module 2													
SOMM0200181	1	-JIS4	18	16	25	38.197	42.2	28	30	5	18.3	0.86	0.2
SOMM0200201	1	-JIS4	20	19	30	42.44	46.4	28	30	6	21.8	0.96	0.3
SOMM0200202	2	-JIS4	20	19	30	42.44	46.4	28	56	6	21.8	0.96	0.6
SOMM0200203	1	-JIS4	20	20	30	42.44	46.4	28	30	6	22.8	0.96	0.3
SOMM0200204	2	-JIS4	20	22	36	42.44	46.4	28	56	6	24.8	0.96	0.6
SOMM0200205	1	-JIS4	20	22	30	42.44	46.4	28	30	6	24.8	0.96	0.3
SOMM0200211	1	-JIS4	21	16	25	44.56	48.6	28	30	5	18.3	1.01	0.3
SOMM0200212	2	-JIS4	21	22	36	44.56	48.6	28	30	6	24.8	1.01	0.3
SOMM0200221	1	-JIS4	22	19	30	46.69	50.7	28	30	6	21.8	1.19	0.4
SOMM0200222	2	-JIS4	22	19	30	46.69	50.7	28	56	6	21.8	1.19	0.7
SOMM0200223	1	-JIS4	22	22	30	46.69	50.7	28	30	6	24.8	1.19	0.4
SOMM0200224	2	-JIS4	22	22	36	46.69	50.7	28	56	6	24.8	1.19	0.7
SOMM0200251	1	-JIS4	25	19	30	53.05	57.1	28	30	6	21.8	1.37	0.5
SOMM0200252	2	-JIS4	25	19	30	53.05	57.1	28	56	6	21.8	1.37	0.8
SOMM0200253	1	-JIS4	25	20	30	53.05	57.1	28	30	6	22.8	1.37	0.5
SOMM0200254	1	-JIS4	25	22	30	53.05	57.1	28	30	6	24.8	1.37	0.5
SOMM0200255	2	-JIS4	25	22	36	53.05	57.1	28	56	6	24.8	1.37	0.8
SOMM0200256	1	-JIS4	25	25	36	53.05	57.1	28	30	6	27.8	1.37	0.5
SOMM0200281	1	-JIS4	28	19	30	59.42	63.4	28	30	6	21.8	1.54	0.6
SOMM0200282	2	-JIS4	28	19	30	59.42	63.4	28	56	6	21.8	1.54	1.0
SOMM0200283	1	-JIS4	28	22	30	59.42	63.4	28	30	6	24.8	1.54	0.6
SOMM0200284	2	-JIS4	28	22	36	59.42	63.4	28	56	6	24.8	1.54	1.0
SOMM0200285	1	-JIS4	28	35	48	59.42	63.4	28	30	10	38.3	1.54	0.6
SOMM0200301	1	-JIS4	30	16	25	63.66	67.7	28	30	5	18.3	1.66	0.6
SOMM0200302	1	-JIS4	30	20	30	63.66	67.7	28	30	6	22.8	1.66	0.6
SOMM0200303	2	-JIS4	30	22	36	63.66	67.7	28	56	6	24.8	1.66	1.2
SOMM0200304	1	-JIS4	30	25	36	63.66	67.7	28	30	8	28.3	1.66	0.6
SOMM0200305	1	-JIS4	30	30	45	63.66	67.7	28	30	8	33.3	1.66	0.6
SOMM0200306	2	-JIS4	30	30	50	63.66	67.7	28	60	8	33.3	1.66	1.3
SOMM0200307	2	-JIS4	30	32	55	63.66	67.7	28	65	10	35.3	1.66	1.4
SOMM0200321	1	-JIS4	32	20	30	67.91	71.9	28	30	6	22.8	1.78	0.7
SOMM0200322	1	-JIS4	32	22	30	67.91	71.9	28	30	6	24.8	1.78	0.7
SOMM0200323	2	-JIS4	32	22	36	67.91	71.9	28	56	6	27.8	1.78	1.3
SOMM0200324	1	-JIS4	32	25	36	67.91	71.9	28	30	8	28.3	1.78	0.7
SOMM0200325	1	-JIS4	32	35	48	67.91	71.9	28	30	10	38.3	1.78	0.7
SOMM0200361	1	-JIS4	36	35	48	76.39	80.4	28	30	10	38.3	2.29	0.9
SOMM0200391	2	-JIS4	39	32	55	82.76	86.8	28	65	10	35.3	2.49	2.3
SOMM0200401	1	-JIS4	40	35	48	84.88	88.9	28	30	10	38.3	2.56	1.1

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

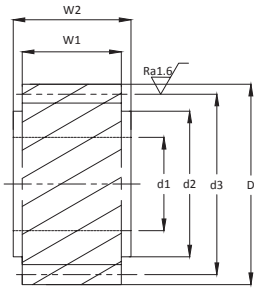
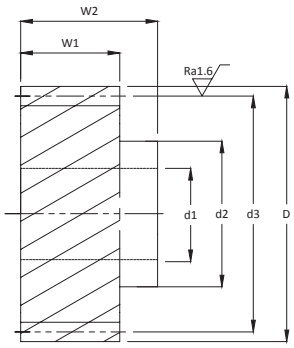


圖1 /Fig . 1



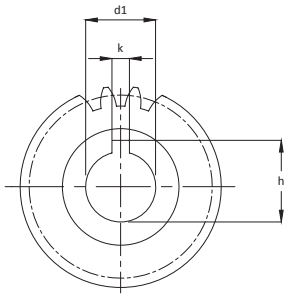


圖2 /Fig . 2

SOM-JIS4

單位 / Dimension : mm

系列 SOM-JIS4　斜齒齒輪
品質等級 JIS 4

材料 S45C / S50C
左旋角 19°31'42"

Series SOM-JIS4 Helical Soft Pinions
Quality Grade JIS 4

Material S45C / S50C
Left Hand Angle 19°31'42"

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 3 / Module 3													
SOMM0300201	2	-JIS4	20	22	36	63.66	69.7	28	56	6	24.8	1.61	1.0
SOMM0300202	2	-JIS4	20	25	44	63.66	69.7	28	60	8	28.3	1.61	1.1
SOMM0300203	1	-JIS4	20	30	45	63.66	69.7	28	30	8	33.3	1.61	0.5
SOMM0300204	2	-JIS4	20	30	50	63.66	69.7	28	60	8	33.3	1.61	1.1
SOMM0300205	2	-JIS4	20	32	55	63.66	69.7	28	65	10	35.3	1.61	1.2
SOMM0300206	1	-JIS4	20	35	48	63.66	69.7	28	30	10	38.3	1.61	0.5
SOMM0300221	1	-JIS4	22	25	36	70.03	76.0	28	30	8	28.3	2.03	0.6
SOMM0300222	1	-JIS4	22	30	45	70.03	76.0	28	30	8	33.3	2.03	0.6
SOMM0300223	2	-JIS4	22	32	55	70.03	76.0	28	65	10	35.3	2.03	1.4
SOMM0300224	1	-JIS4	22	35	48	70.03	76.0	28	30	10	38.3	2.03	0.6
SOMM0300225	2	-JIS4	22	40	62	70.03	76.0	28	65	12	43.3	2.03	1.4
SOMM0300251	2	-JIS4	25	22	36	79.58	85.6	28	56	6	24.8	2.32	1.5
SOMM0300252	1	-JIS4	25	25	36	79.58	85.6	28	30	8	28.3	2.32	0.8
SOMM0300253	2	-JIS4	25	25	44	79.58	85.6	28	60	8	28.3	2.32	1.6
SOMM0300254	1	-JIS4	25	30	45	79.58	85.6	28	30	8	33.3	2.32	0.8
SOMM0300255	2	-JIS4	25	30	50	79.58	85.6	28	60	8	33.3	2.32	1.6
SOMM0300256	2	-JIS4	25	32	55	79.58	85.6	28	65	10	35.3	2.32	1.8
SOMM0300257	1	-JIS4	25	35	48	79.58	85.6	28	30	10	38.3	2.32	0.8
SOMM0300258	2	-JIS4	25	35	55	79.58	85.6	28	65	10	38.3	2.32	1.8
SOMM0300259	1	-JIS4	25	40	70	79.58	85.6	28	50	12	43.3	2.32	1.4
SOMM03002510	2	-JIS4	25	40	62	79.58	85.6	28	65	12	43.3	2.32	1.8
SOMM0300281	2	-JIS4	28	32	55	89.13	95.1	28	65	10	35.3	2.62	2.2
SOMM0300282	2	-JIS4	28	40	62	89.13	95.1	28	65	12	43.3	2.62	2.2
SOMM0300321	2	-JIS4	32	32	55	101.86	107.85	28	65	10	35.3	3.02	2.8
SOMM0300322	2	-JIS4	32	40	62	101.86	107.85	28	65	12	43.3	3.02	2.8

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

SOM-JIS4

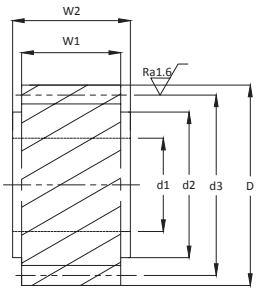
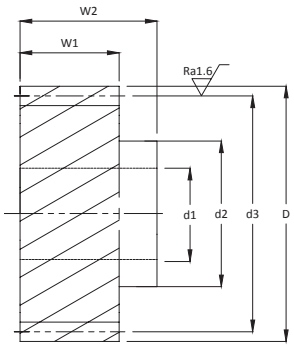


圖1 /Fig . 1



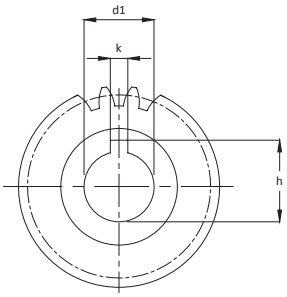


圖2 /Fig . 2

單位 / Dimension : mm

系列 SOM-JIS4 斜齒齒輪
品質等級 JIS 4

材料 S45C / S50C
左旋角 19°31'42"

Series SOM-JIS4 Helical Soft Pinions
Quality Grade JIS 4

Material S45C / S50C
Left Hand Angle 19°31'42"

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 4 / Module 4													
SOMM0400151	1	-JIS4	15	35	52	63.66	71.7	40	50	10	38.3	2.01	0.8
SOMM0400181	2	-JIS4	18	32	55	76.39	84.4	40	75	10	35.3	2.74	1.6
SOMM0400201	1	-JIS4	20	35	52	84.88	92.9	40	50	10	38.3	3.07	1.3
SOMM0400202	1	-JIS4	20	45	65	84.88	92.9	40	50	14	48.8	3.07	1.3
SOMM0400211	2	-JIS4	21	32	55	89.13	97.1	40	75	10	35.3	3.24	2.2
SOMM0400212	2	-JIS4	21	35	55	89.13	97.1	40	75	10	38.3	3.24	2.2
SOMM0400213	2	-JIS4	21	40	62	89.13	97.1	40	75	12	43.3	3.24	2.2
SOMM0400214	2	-JIS4	21	45	68	89.13	97.1	40	75	14	48.8	3.24	2.2
SOMM0400221	1	-JIS4	22	35	52	93.37	101.4	40	50	10	38.3	3.40	1.6
SOMM0400222	1	-JIS4	22	45	65	93.37	101.4	40	50	14	48.8	3.40	1.6
SOMM0400241	2	-JIS4	24	32	55	101.86	109.9	40	75	10	35.3	4.25	2.8
SOMM0400242	2	-JIS4	24	35	55	101.86	109.9	40	75	10	38.3	4.25	2.8
SOMM0400243	2	-JIS4	24	40	62	101.86	109.9	40	75	12	43.3	4.25	2.8
SOMM0400244	2	-JIS4	24	45	68	101.86	109.9	40	75	14	48.8	4.25	2.8
SOMM0400245	2	-JIS4	24	55	80	101.86	109.9	40	80	16	59.3	4.25	3.0
SOMM0400251	1	-JIS4	25	35	52	106.1	114.1	40	50	10	38.3	4.44	2.0
SOMM0400252	1	-JIS4	25	45	65	106.1	114.1	40	50	14	48.8	4.44	2.0
SOMM0400253	2	-JIS4	25	55	80	106.1	114.1	40	80	16	59.3	4.44	3.2
模數 5 / Module 5													
SOMM0500181	2	-JIS4	18	45	68	95.49	105.5	50	85	14	48.8	4.29	2.9
SOMM0500241	2	-JIS4	24	45	68	127.32	137.3	50	85	14	48.8	6.64	4.9
SOMM0500242	2	-JIS4	24	55	80	127.32	137.3	50	90	16	59.3	6.64	5.2
SOMM0500243	2	-JIS4	24	75	110	127.32	137.3	50	110	20	79.9	6.64	6.4
模數 6 / Module 6													
SOMM0600201	2	-JIS4	20	55	80	127.32	139.3	60	100	16	59.3	6.91	6.0
SOMM0600202	2	-JIS4	20	75	110	127.32	139.3	60	120	20	79.9	6.91	7.2
SOMM0600251	2	-JIS4	25	55	80	159.16	171.2	60	100	16	59.3	9.99	9.0
SOMM0600252	2	-JIS4	25	75	110	159.16	171.2	60	120	20	79.9	9.99	10.8
模數 8 / Module 8													
SOMM0800181	2	-JIS4	18	75	110	152.79	168.8	80	140	20	79.9	10.98	12.3
SOMM0800202	2	-JIS4	20	85	125	169.8	185.8	80	145	22	90.4	12.29	15.4
模數 10 / Module 10													
SOMM1000201	2	-JIS4	20	85	125	212.21	232.2	100	165	22	90.4	19.20	27.4

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

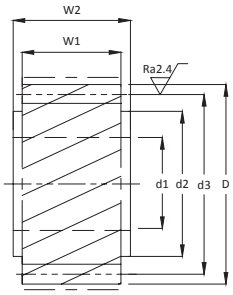


圖1 /Fig . 1

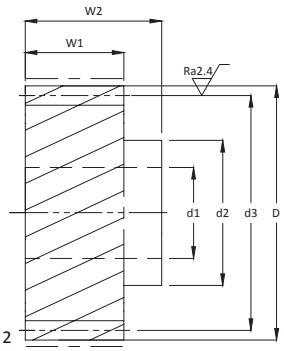
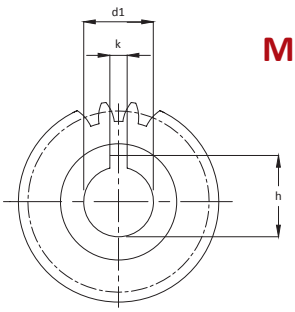


圖2 /Fig . 2



MOMH-JIS5

單位 / Dimension : mm

系列 MOMH-JIS5 斜齒硬化齒輪
品質等級 JIS 5

材料 SCM415/SCM440
左旋角 19°31'42"
硬度 HRC 55~60°
表面 噴砂處理

Series MOMH-JIS5 Helical Hardened Pinions
Quality Grade JIS 5

Material SCM415/SCM440
Left Hand Angle 19°31'42"
Hardness: HRC 55~60°
Surfaces: Sand-blasted

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 1.5 / Module 1.5													
MOMHM0150201	1	-JIS5	20	11	25	31.83	34.83	20	22	4	12.8	2.93	0.1
MOMHM0150202	1	-JIS5	20	13	25	31.83	34.83	20	22	5	15.3	2.93	0.1
MOMHM0150203	1	-JIS5	20	14	25	31.83	34.83	20	22	5	16.3	2.93	0.1
MOMHM0150204	1	-JIS5	20	16	25	31.83	34.83	20	22	5	18.3	2.93	0.1
MOMHM0150211	2	-JIS5	21	16	30	33.42	36.42	20	46	5	18.3	3.47	0.3
模數 2 / Module 2													
MOMHM0200181	1	-JIS5	18	16	25	38.197	42.2	28	30	5	18.3	4.89	0.2
MOMHM0200201	1	-JIS5	20	19	30	42.44	46.4	28	30	6	21.8	5.48	0.3
MOMHM0200202	2	-JIS5	20	19	30	42.44	46.4	28	56	6	21.8	5.48	0.6
MOMHM0200203	1	-JIS5	20	20	30	42.44	46.4	28	30	6	22.8	5.48	0.3
MOMHM0200204	2	-JIS5	20	22	36	42.44	46.4	28	56	6	24.8	5.48	0.6
MOMHM0200205	1	-JIS5	20	22	30	42.44	46.4	28	30	6	24.8	5.48	0.3
MOMHM0200211	1	-JIS5	21	16	25	44.56	48.6	28	30	5	18.3	5.77	0.3
MOMHM0200212	2	-JIS5	21	22	36	44.56	48.6	28	30	6	24.8	5.77	0.3
MOMHM0200221	1	-JIS5	22	19	30	46.69	50.7	28	30	6	21.8	6.80	0.4
MOMHM0200222	2	-JIS5	22	19	30	46.69	50.7	28	56	6	21.8	6.80	0.7
MOMHM0200223	1	-JIS5	22	22	30	46.69	50.7	28	30	6	24.8	6.80	0.4
MOMHM0200224	2	-JIS5	22	22	36	46.69	50.7	28	56	6	24.8	6.80	0.7
MOMHM0200251	1	-JIS5	25	19	30	53.05	57.1	28	30	6	21.8	7.80	0.5
MOMHM0200252	2	-JIS5	25	19	30	53.05	57.1	28	56	6	21.8	7.80	0.8
MOMHM0200253	1	-JIS5	25	20	30	53.05	57.1	28	30	6	22.8	7.80	0.5
MOMHM0200254	1	-JIS5	25	22	30	53.05	57.1	28	30	6	24.8	7.80	0.5
MOMHM0200255	2	-JIS5	25	22	36	53.05	57.1	28	56	6	24.8	7.80	0.8
MOMHM0200256	1	-JIS5	25	25	36	53.05	57.1	28	30	6	27.8	7.80	0.5
MOMHM0200281	1	-JIS5	28	19	30	59.42	63.4	28	30	6	21.8	8.80	0.6
MOMHM0200282	2	-JIS5	28	19	30	59.42	63.4	28	56	6	21.8	8.80	1.0
MOMHM0200283	1	-JIS5	28	22	30	59.42	63.4	28	30	6	24.8	8.80	0.6
MOMHM0200284	2	-JIS5	28	22	36	59.42	63.4	28	56	6	24.8	8.80	1.0
MOMHM0200285	1	-JIS5	28	35	48	59.42	63.4	28	30	10	38.3	8.80	0.6
MOMHM0200301	1	-JIS5	30	16	25	63.66	67.7	28	30	5	18.3	9.47	0.6
MOMHM0200302	1	-JIS5	30	20	30	63.66	67.7	28	30	6	22.8	9.47	0.6
MOMHM0200303	2	-JIS5	30	22	36	63.66	67.7	28	56	6	24.8	9.47	1.2
MOMHM0200304	1	-JIS5	30	25	36	63.66	67.7	28	30	8	28.3	9.47	0.6
MOMHM0200305	1	-JIS5	30	30	45	63.66	67.7	28	30	8	33.3	9.47	0.6
MOMHM0200306	2	-JIS5	30	30	50	63.66	67.7	28	60	8	33.3	9.47	1.3
MOMHM0200307	2	-JIS5	30	32	55	63.66	67.7	28	65	10	35.3	9.47	1.4
MOMHM0200321	1	-JIS5	32	20	30	67.91	71.9	28	30	6	22.8	9.90	0.7
MOMHM0200322	1	-JIS5	32	22	30	67.91	71.9	28	30	6	24.8	9.90	0.7
MOMHM0200323	2	-JIS5	32	22	36	67.91	71.9	28	56	6	27.8	9.90	1.3
MOMHM0200324	1	-JIS5	32	25	36	67.91	71.9	28	30	8	28.3	9.90	0.7
MOMHM0200325	1	-JIS5	32	35	48	67.91	71.9	28	30	10	38.3	9.90	0.7
MOMHM0200361	1	-JIS5	36	35	48	76.39	80.4	28	30	10	38.3	10.15	0.9
MOMHM0200391	2	-JIS5	39	32	55	82.76	86.8	28	65	10	35.3	10.31	2.3
MOMHM0200401	1	-JIS5	40	35	48	84.88	88.9	28	30	10	38.3	10.36	1.1

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

MOMH-JIS5

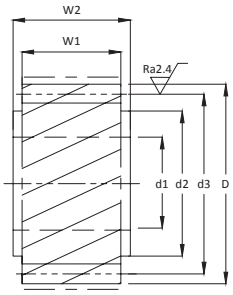


圖1 /Fig . 1

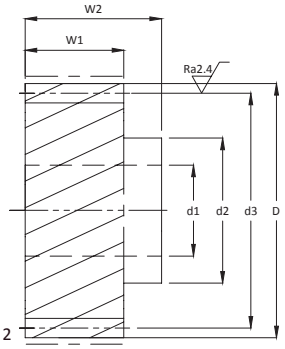
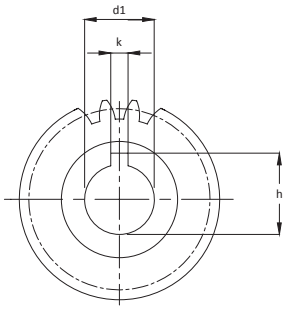


圖2 /Fig . 2



單位 / Dimension : mm

系列 MOMH-JIS5 斜齒硬化齒輪
品質等級 JIS 5

材料 SCM415/SCM440
左旋角 19°31'42"
硬度 HRC 55~60°
表面 噴砂處理

Series MOMH-JIS5 Helical Hardened Pinions
Quality Grade JIS 5

Material SCM415/SCM440
Left Hand Angle 19°31'42"
Hardness: HRC 55~60°
Surfaces: Sand-blasted

型號 Code	圖 Fig.	DIN	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 3 / Module 3													
MOMHM0300201	2	-JIS5	20	22	36	63.66	69.7	28	56	6	24.8	9.17	1.0
MOMHM0300202	2	-JIS5	20	25	44	63.66	69.7	28	60	8	28.3	9.17	1.1
MOMHM0300203	1	-JIS5	20	30	45	63.66	69.7	28	30	8	33.3	9.17	0.5
MOMHM0300204	2	-JIS5	20	30	50	63.66	69.7	28	60	8	33.3	9.17	1.1
MOMHM0300205	2	-JIS5	20	32	55	63.66	69.7	28	65	10	35.3	9.17	1.2
MOMHM0300206	1	-JIS5	20	35	48	63.66	69.7	28	30	10	38.3	9.17	0.5
MOMHM0300221	1	-JIS5	22	25	36	70.03	76	28	30	8	28.3	11.56	0.6
MOMHM0300222	1	-JIS5	22	30	45	70.03	76	28	30	8	33.3	11.56	0.6
MOMHM0300223	2	-JIS5	22	32	55	70.03	76	28	65	10	35.3	11.56	1.4
MOMHM0300224	1	-JIS5	22	35	48	70.03	76	28	30	10	38.3	11.56	0.6
MOMHM0300225	2	-JIS5	22	40	62	70.03	76	28	65	12	43.3	11.56	1.4
MOMHM0300251	2	-JIS5	25	22	36	79.58	85.6	28	56	6	24.8	13.25	1.5
MOMHM0300252	1	-JIS5	25	25	36	79.58	85.6	28	30	8	28.3	13.25	0.8
MOMHM0300253	2	-JIS5	25	25	44	79.58	85.6	28	60	8	28.3	13.25	1.6
MOMHM0300254	1	-JIS5	25	30	45	79.58	85.6	28	30	8	33.3	13.25	0.8
MOMHM0300255	2	-JIS5	25	30	50	79.58	85.6	28	60	8	33.3	13.25	1.6
MOMHM0300256	2	-JIS5	25	32	55	79.58	85.6	28	65	10	35.3	13.25	1.8
MOMHM0300257	1	-JIS5	25	35	48	79.58	85.6	28	30	10	38.3	13.25	0.8
MOMHM0300258	2	-JIS5	25	35	55	79.58	85.6	28	65	10	38.3	13.25	1.8
MOMHM0300259	1	-JIS5	25	40	70	79.58	85.6	28	50	12	43.3	13.25	1.4
MOMHM03002510	2	-JIS5	25	40	62	79.58	85.6	28	65	12	43.3	13.25	1.8
MOMHM0300281	2	-JIS5	28	32	55	89.13	95.1	28	65	10	35.3	14.37	2.2
MOMHM0300282	2	-JIS5	28	40	62	89.13	95.1	28	65	12	43.3	14.37	2.2
MOMHM0300321	2	-JIS5	32	32	55	101.86	107.85	28	65	10	35.3	14.84	2.8
MOMHM0300322	2	-JIS5	32	40	62	101.86	107.85	28	65	12	43.3	14.84	2.8

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

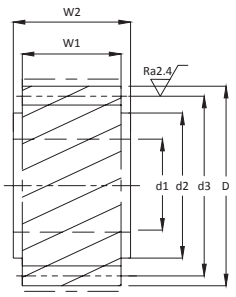


圖1 /Fig . 1

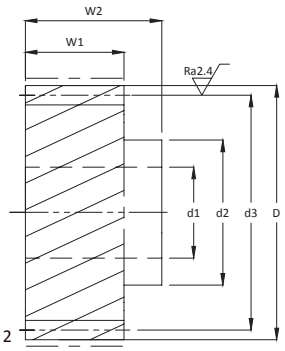
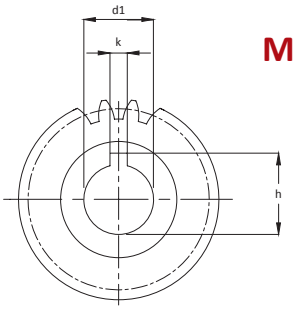


圖2 /Fig . 2



MOMH-JIS5

單位 / Dimension : mm

系列 MOMH-JIS5 斜齒硬化齒輪
品質等級 JIS 5

材料 SCM415/SCM440
左旋角 19°31'42"
硬度 HRC 50~55°
表面 噴砂處理

Series MOMH-JIS5 Helical Hardened Pinions
Quality Grade JIS 5

Material SCM415/SCM440
Left Hand Angle 19°31'42"
Hardness: HRC 50~55°
Surfaces: Sand-blasted

型號 Code	圖 Fig.	DIN	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 4 / Module 4													
MOMHM0400151	1	-JIS5	15	35	52	63.66	71.7	40	50	10	38.3	11.49	0.8
MOMHM0400181	2	-JIS5	18	32	55	76.39	84.4	40	75	10	35.3	15.67	1.6
MOMHM0400201	1	-JIS5	20	35	52	84.88	92.9	40	50	10	38.3	17.55	1.3
MOMHM0400202	1	-JIS5	20	45	65	84.88	92.9	40	50	14	48.8	17.55	1.3
MOMHM0400211	2	-JIS5	21	32	55	89.13	97.1	40	75	10	35.3	18.49	2.2
MOMHM0400212	2	-JIS5	21	35	55	89.13	97.1	40	75	10	38.3	18.49	2.2
MOMHM0400213	2	-JIS5	21	40	62	89.13	97.1	40	75	12	43.3	18.49	2.2
MOMHM0400214	2	-JIS5	21	45	68	89.13	97.1	40	75	14	48.8	18.49	2.2
MOMHM0400221	1	-JIS5	22	35	52	93.37	101.4	40	50	10	38.3	19.43	1.6
MOMHM0400222	1	-JIS5	22	45	65	93.37	101.4	40	50	14	48.8	19.43	1.6
MOMHM0400241	2	-JIS5	24	32	55	101.86	109.9	40	75	10	35.3	24.27	2.8
MOMHM0400242	2	-JIS5	24	35	55	101.86	109.9	40	75	10	38.3	24.27	2.8
MOMHM0400243	2	-JIS5	24	40	62	101.86	109.9	40	75	12	43.3	24.27	2.8
MOMHM0400244	2	-JIS5	24	45	68	101.86	109.9	40	75	14	48.8	24.27	2.8
MOMHM0400245	2	-JIS5	24	55	80	101.86	109.9	40	80	16	59.3	24.27	3.0
MOMHM0400251	1	-JIS5	25	35	52	106.1	114.1	40	50	10	38.3	25.35	2.0
MOMHM0400252	1	-JIS5	25	45	65	106.1	114.1	40	50	14	48.8	25.35	2.0
MOMHM0400253	2	-JIS5	25	55	80	106.1	114.1	40	80	16	59.3	25.35	3.2
模數 5 / Module 5													
MOMHM0500181	2	-JIS5	18	45	68	95.49	105.5	50	85	14	48.8	24.49	2.9
MOMHM0500241	2	-JIS5	24	45	68	127.32	137.3	50	85	14	48.8	37.93	4.9
MOMHM0500242	2	-JIS5	24	55	80	127.32	137.3	50	90	16	59.3	37.93	5.2
MOMHM0500243	2	-JIS5	24	75	110	127.32	137.3	50	110	20	79.9	37.93	6.4
模數 6 / Module 6													
MOMHM0600201	2	-JIS5	20	55	80	127.32	139.3	60	100	16	59.3	39.48	6.0
MOMHM0600202	2	-JIS5	20	75	110	127.32	139.3	60	120	20	79.9	39.48	7.2
MOMHM0600251	2	-JIS5	25	55	80	159.16	171.2	60	100	16	59.3	57.03	9.0
MOMHM0600252	2	-JIS5	25	75	110	159.16	171.2	60	120	20	79.9	57.03	10.8
模數 8 / Module 8													
MOMHM0800181	2	-JIS5	18	75	110	152.79	168.8	80	140	20	79.9	62.69	12.3
MOMHM0800201	2	-JIS5	20	85	125	169.8	185.8	80	145	22	90.4	70.18	15.4
模數 10 / Module 10													
MOMHM1000201	2	-JIS5	20	85	125	212.21	232.2	100	165	22	90.4	109.66	27.4

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

MSPH-JIS2

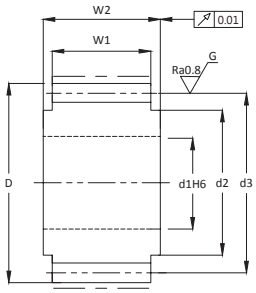


圖1 /Fig . 1

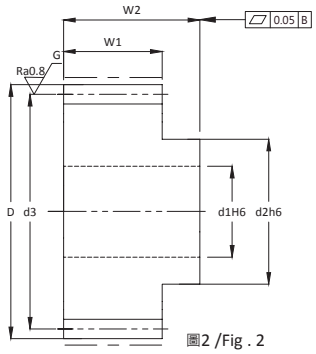
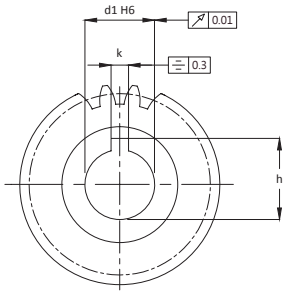


圖2 /Fig . 2



單位 / Dimension : mm

系列 MSPH-JIS2 直齒齒研齒輪
品質等級 JIS 2

材料 SCM415/SCM440
硬度 HRC 55~60°
硬化處理後齒面研磨

Series MSPH-JIS2 Straight Teeth Ground Pinions
Quality Grade JIS 2

Material SCM415/SCM440
Hardness: HRC 55~60°
Teeth Ground after Hardening

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 2 / Module 2													
MSPHM0200161	1	-JIS2	16	15	25	32	36	28	30	5	17.3	3.32	0.2
MSPHM0200181	1	-JIS2	18	15	30	36	40	28	30	5	17.3	4.04	0.2
MSPHM0200182	1	-JIS2	18	20	25	36	40	28	30	6	22.8	4.04	0.2
MSPHM0200201	1	-JIS2	20	15	25	40	44	28	30	6	17.8	4.49	0.3
MSPHM0200202	1	-JIS2	20	19	30	40	44	28	30	6	21.8	4.49	0.3
MSPHM0200203	2	-JIS2	20	19	30	40	44	28	56	6	21.8	4.49	0.5
MSPHM0200204	1	-JIS2	20	20	30	40	44	28	30	6	22.8	4.49	0.3
MSPHM0200205	1	-JIS2	20	22	30	40	44	28	30	6	24.8	4.49	0.3
MSPHM0200206	2	-JIS2	20	22	36	40	44	28	56	6	24.8	4.49	0.5
MSPHM0200221	1	-JIS2	22	15	25	44	48	28	30	5	17.3	4.94	0.3
MSPHM0200222	1	-JIS2	22	19	30	44	48	28	30	6	21.8	4.94	0.3
MSPHM0200223	2	-JIS2	22	19	30	44	48	28	56	6	21.8	4.94	0.6
MSPHM0200224	1	-JIS2	22	20	30	44	48	28	30	6	22.8	4.94	0.3
MSPHM0200225	2	-JIS2	22	22	36	44	48	28	56	6	24.8	4.94	0.6
MSPHM0200226	1	-JIS2	22	22	30	44	48	28	30	6	24.8	4.94	0.3
MSPHM0200227	1	-JIS2	22	25	36	44	48	28	30	8	28.3	4.94	0.3
MSPHM0200251	2	-JIS2	25	16	30	50	54	28	54	5	18.3	6.29	0.7
MSPHM0200252	1	-JIS2	25	19	30	50	54	28	30	6	21.8	6.29	0.4
MSPHM0200253	2	-JIS2	25	19	30	50	54	28	56	6	21.8	6.29	0.8
MSPHM0200254	1	-JIS2	25	20	30	50	54	28	30	6	22.8	6.29	0.4
MSPHM0200255	1	-JIS2	25	22	30	50	54	28	30	6	24.8	6.29	0.4
MSPHM0200256	2	-JIS2	25	22	36	50	54	28	56	6	24.8	6.29	0.8
MSPHM0200257	1	-JIS2	25	25	36	50	54	28	30	8	28.3	6.29	0.4
MSPHM0200258	1	-JIS2	25	30	45	50	54	28	30	8	33.3	6.29	0.4
MSPHM0200281	1	-JIS2	28	19	30	56	60	28	30	6	21.8	7.05	0.5
MSPHM0200282	2	-JIS2	28	19	30	56	60	28	56	6	21.8	7.05	0.9
MSPHM0200283	1	-JIS2	28	20	30	56	60	28	30	6	22.8	7.05	0.5
MSPHM0200284	1	-JIS2	28	22	30	56	60	28	30	6	24.8	7.05	0.5
MSPHM0200285	2	-JIS2	28	22	36	56	60	28	56	6	24.8	7.05	0.9
MSPHM0200286	1	-JIS2	28	25	36	56	60	28	30	8	28.3	7.05	0.5
MSPHM0200287	1	-JIS2	28	30	45	56	60	28	30	8	33.3	7.05	0.5
MSPHM0200288	2	-JIS2	28	30	50	56	60	28	60	8	33.3	7.05	1.0
MSPHM0200289	1	-JIS2	28	35	48	56	60	28	30	10	38.3	7.05	0.5
MSPHM0200321	2	-JIS2	32	16	30	64	68	28	54	5	18.3	8.05	1.2
MSPHM0200322	1	-JIS2	32	20	30	64	68	28	30	6	22.8	8.05	0.6
MSPHM0200323	1	-JIS2	32	22	30	64	68	28	30	6	24.8	8.05	0.6
MSPHM0200324	2	-JIS2	32	22	36	64	68	28	56	6	24.8	8.05	1.2
MSPHM0200325	1	-JIS2	32	25	36	64	68	28	30	8	28.3	8.05	0.6
MSPHM0200326	1	-JIS2	32	30	45	64	68	28	30	8	33.3	8.05	0.6
MSPHM0200327	2	-JIS2	32	30	50	64	68	28	60	8	33.3	8.05	1.3
MSPHM0200328	2	-JIS2	32	32	55	64	68	28	65	10	35.3	8.05	1.4
MSPHM0200329	1	-JIS2	32	35	48	64	68	28	30	10	38.3	8.05	0.6
MSPHM0200361	1	-JIS2	36	20	30	72	76	28	30	6	22.8	10.31	0.8

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

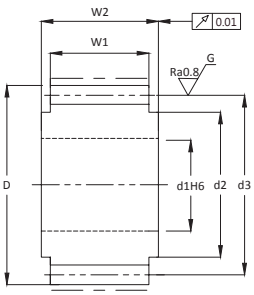


圖1 /Fig . 1

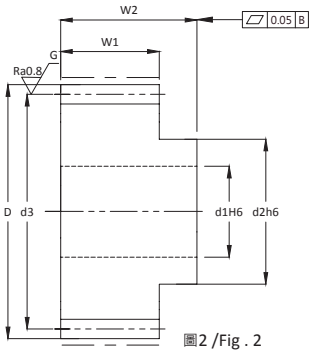
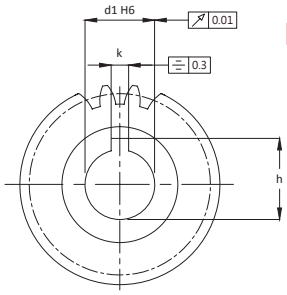


圖2 /Fig . 2



MSPH-JIS2

單位 / Dimension : mm

系列 MSPH-JIS2 直齒齒研齒輪
品質等級 JIS 2

材料 SCM415/SCM440
硬度 HRC 50~55°
硬化處理後齒面研磨

Series MSPH-JIS2 Straight Teeth Ground Pinions
Quality Grade JIS 2

Material SCM415/SCM440
Hardness: HRC 50~55°
Teeth Ground after Hardening



直齒 Straight
JIS

型號 Code	圖 Fig.	DIN	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 2 / Module 2													
MSPHM0200362	1	-JIS2	36	25	36	72	76	28	30	8	28.3	10.31	0.8
MSPHM0200363	1	-JIS2	36	30	45	72	76	28	30	8	33.3	10.31	0.8
MSPHM0200364	1	-JIS2	36	35	48	72	76	28	30	10	38.3	10.31	0.8
MSPHM0200365	2	-JIS2	36	40	62	72	76	28	65	12	43.3	10.31	1.7
MSPHM0200366	1	-JIS2	36	45	58	72	76	28	30	14	48.8	10.31	0.8
MSPHM0200401	1	-JIS2	40	15	36	80	84	28	30	5	17.3	11.45	1.0
MSPHM0200402	1	-JIS2	40	20	30	80	84	28	30	6	22.8	11.45	1.0
MSPHM0200403	1	-JIS2	40	25	36	80	84	28	30	8	28.3	11.45	1.0
MSPHM0200404	1	-JIS2	40	30	45	80	84	28	30	8	33.3	11.45	1.0
MSPHM0200405	2	-JIS2	40	32	55	80	84	28	65	10	35.3	11.45	2.1
MSPHM0200406	1	-JIS2	40	35	48	80	84	28	30	10	38.3	11.45	1.0
MSPHM0200407	2	-JIS2	40	40	62	80	84	28	65	12	43.3	11.45	2.1
MSPHM0200408	1	-JIS2	40	45	58	80	84	28	30	14	48.8	11.45	1.0
MSPHM0200409	2	-JIS2	40	45	68	80	84	28	65	14	48.8	11.45	2.1
MSPHM0200451	1	-JIS2	45	20	30	90	94	28	30	6	22.8	11.73	1.2
MSPHM0200452	1	-JIS2	45	25	36	90	94	28	30	8	28.3	11.73	1.2
MSPHM0200453	1	-JIS2	45	35	48	90	94	28	30	10	38.3	11.73	1.2
MSPHM0200454	1	-JIS2	45	45	58	90	94	28	30	14	48.8	11.73	1.2
MSPHM0200501	1	-JIS2	50	20	30	100	104	28	30	6	22.8	11.96	1.5
MSPHM0200502	1	-JIS2	50	25	36	100	104	28	30	8	28.3	11.96	1.5
MSPHM0200503	1	-JIS2	50	35	48	100	104	28	30	10	38.3	11.96	1.5
MSPHM0200504	1	-JIS2	50	45	58	100	104	28	30	14	48.8	11.96	1.5
MSPHM0200505	2	-JIS2	50	45	68	100	104	28	65	14	48.8	11.96	3.3
MSPHM0200561	1	-JIS2	56	25	36	112	116	28	30	8	28.3	12.17	1.9
MSPHM0200562	1	-JIS2	56	35	48	112	116	28	30	10	38.3	12.17	1.9

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

MSPH-JIS2

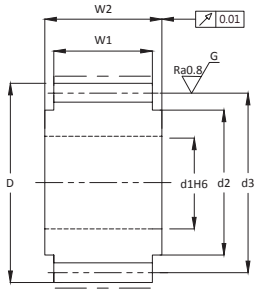


圖1 /Fig . 1

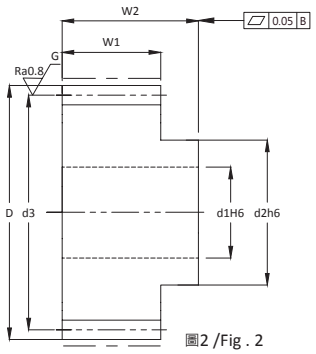
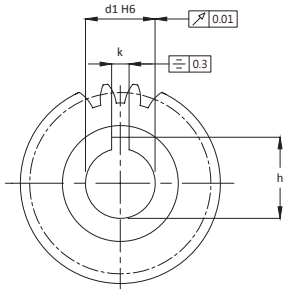


圖2 /Fig . 2



單位 / Dimension : mm

系列 MSPH-JIS2　直齒齒研齒輪
品質等級 JIS 2

材料 SCM415/SCM440
硬度 HRC 55~60°
硬化處理後齒面研磨

Series MSPH-JIS2 Straight Teeth Ground Pinions
Quality Grade JIS 2

Material SCM415/SCM440
Hardness: HRC 55~60°
Teeth Ground after Hardening

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 3 / Module 3													
MSPHM0300181	1	-JIS2	18	25	36	54	60	28	30	8	28.3	6.79	0.4
MSPHM0300201	1	-JIS2	20	25	36	60	66	28	30	8	28.3	7.55	0.5
MSPHM0300202	1	-JIS2	20	30	45	60	66	28	30	8	33.3	7.55	0.5
MSPHM0300203	1	-JIS2	20	35	48	60	66	28	30	10	38.3	7.55	0.5
MSPHM0300221	2	-JIS2	22	22	36	66	72	28	56	6	24.8	8.30	1.1
MSPHM0300222	1	-JIS2	22	25	36	66	72	28	30	8	28.3	8.30	0.6
MSPHM0300223	2	-JIS2	22	25	44	66	72	28	60	8	28.3	8.30	1.2
MSPHM0300224	1	-JIS2	22	30	45	66	72	28	30	8	33.3	8.30	0.6
MSPHM0300225	2	-JIS2	22	32	55	66	72	28	65	10	35.3	8.30	1.2
MSPHM0300226	2	-JIS2	22	30	50	66	72	28	60	8	33.3	8.30	1.2
MSPHM0300227	1	-JIS2	22	35	48	66	72	28	30	10	38.3	8.30	0.6
MSPHM0300228	2	-JIS2	22	35	55	66	72	28	65	10	38.3	8.30	1.2
MSPHM0300229	2	-JIS2	22	40	62	66	72	28	65	12	43.3	8.30	1.2
MSPHM0300251	1	-JIS2	25	25	36	75	81	28	30	8	28.3	10.74	0.7
MSPHM0300252	1	-JIS2	25	30	45	75	81	28	30	8	33.3	10.74	0.7
MSPHM0300253	2	-JIS2	25	32	55	75	81	28	65	10	35.3	10.74	1.6
MSPHM0300254	1	-JIS2	25	35	48	75	81	28	30	10	38.3	10.74	0.7
MSPHM0300255	2	-JIS2	25	40	62	75	81	28	65	12	43.3	10.74	1.6
MSPHM0300256	1	-JIS2	25	45	58	75	81	28	30	14	48.8	10.74	0.7
MSPHM0300281	2	-JIS2	28	22	36	84	90	28	56	6	24.8	12.02	1.7
MSPHM0300282	1	-JIS2	28	25	36	84	90	28	30	8	28.3	12.02	0.9
MSPHM0300283	2	-JIS2	28	25	44	84	90	28	60	8	28.3	12.02	1.8
MSPHM0300284	1	-JIS2	28	30	45	84	90	28	30	8	33.3	12.02	0.9
MSPHM0300285	2	-JIS2	28	30	50	84	90	28	60	8	33.3	12.02	1.8
MSPHM0300286	2	-JIS2	28	32	55	84	90	28	65	10	35.3	12.02	1.9
MSPHM0300287	1	-JIS2	28	35	48	84	90	28	30	10	38.3	12.02	0.9
MSPHM0300288	2	-JIS2	28	35	55	84	90	28	65	10	38.3	12.02	1.9
MSPHM0300289	2	-JIS2	28	40	62	84	90	28	65	12	43.3	12.02	1.9
MSPHM03002810	1	-JIS2	28	45	58	84	90	28	30	14	48.8	12.02	0.9
MSPHM03002811	2	-JIS2	28	45	68	84	90	28	65	14	48.8	12.02	1.9
MSPHM0300321	1	-JIS2	32	25	36	96	102	28	30	8	28.3	13.74	1.2
MSPHM0300322	1	-JIS2	32	30	45	96	102	28	30	8	33.3	13.74	1.2
MSPHM0300323	2	-JIS2	32	32	55	96	102	28	65	10	35.3	13.74	2.5
MSPHM0300324	1	-JIS2	32	35	48	96	102	28	30	10	38.3	13.74	1.2
MSPHM0300325	2	-JIS2	32	40	62	96	102	28	65	12	43.3	13.74	2.5
MSPHM0300326	1	-JIS2	32	45	58	96	102	28	30	14	48.8	13.74	1.2
MSPHM0300327	1	-JIS2	32	60	80	96	102	28	30	18	64.4	13.74	1.2
MSPHM0300361	1	-JIS2	36	25	36	108	114	28	30	8	28.3	15.46	1.4
MSPHM0300362	1	-JIS2	36	35	48	108	114	28	30	10	38.3	15.46	1.4
MSPHM0300363	1	-JIS2	36	45	58	108	114	28	30	14	48.8	15.46	1.4
MSPHM0300364	2	-JIS2	36	45	68	108	114	28	65	14	48.8	15.46	1.3
MSPHM0300365	1	-JIS2	36	60	80	108	114	28	30	18	64.4	15.46	1.4
MSPHM0300401	1	-JIS2	40	25	36	120	126	28	30	8	28.3	17.18	1.8

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

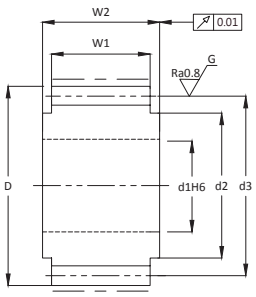


圖1 /Fig . 1

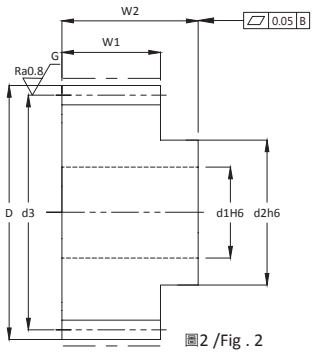
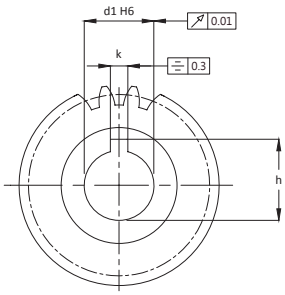


圖2 /Fig . 2



MSPH-JIS2

單位 / Dimension : mm

系列 MSPH-JIS2　直齒齒研齒輪
品質等級 JIS 2

材料 SCM415/SCM440
硬度 HRC 55~60°
硬化處理後齒面研磨

Series MSPH-JIS2 Straight Teeth Ground Pinions
Quality Grade JIS 2

Material SCM415/SCM440
Hardness: HRC 55~60°
Teeth Ground after Hardening

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 3 / Module 3													
MSPHM0300402	1	-JIS2	40	35	48	120	126	28	30	10	38.3	17.18	1.8
MSPHM0300403	1	-JIS2	40	45	58	120	126	28	30	14	48.8	17.18	1.8
MSPHM0300404	1	-JIS2	40	60	80	120	126	28	30	18	64.4	17.18	1.8
MSPHM0300451	1	-JIS2	45	25	36	135	141	28	30	8	28.3	17.60	2.2
MSPHM0300452	1	-JIS2	45	35	48	135	141	28	30	10	38.3	17.60	2.2
MSPHM0300453	1	-JIS2	45	45	58	135	141	28	30	14	48.8	17.60	2.2
MSPHM0300454	1	-JIS2	45	60	80	135	141	28	30	18	64.4	17.60	2.2
MSPHM0300501	1	-JIS2	50	35	48	150	156	28	30	10	38.3	17.94	2.7
MSPHM0300502	1	-JIS2	50	45	58	150	156	28	30	14	48.8	17.94	2.7
MSPHM0300561	1	-JIS2	56	45	58	168	174	28	30	14	48.8	18.25	3.4
MSPHM0300631	1	-JIS2	63	45	58	189	195	28	30	14	48.8	18.57	4.2
MSPHM0300632	1	-JIS2	63	60	80	189	195	28	30	18	64.4	18.57	4.2

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

MSPH-JIS2

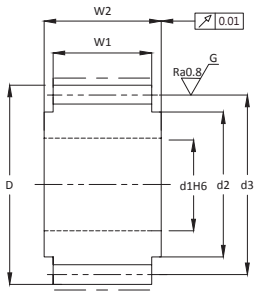


圖1 /Fig . 1

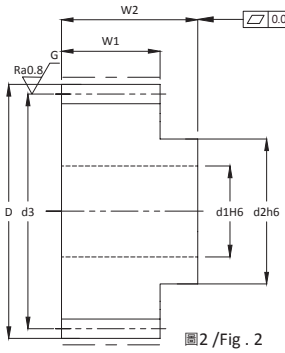
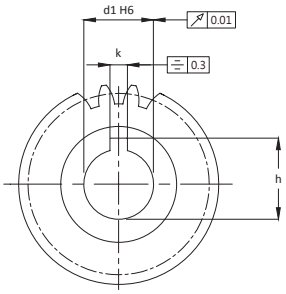


圖2 /Fig . 2



單位 / Dimension : mm

系列 MSPH-JIS2 直齒齒研齒輪
品質等級 JIS 2

材料 SCM415/SCM440
硬度 HRC 55~60°
硬化處理後齒面研磨

Series MSPH-JIS2 Straight Teeth Ground Pinions
Quality Grade JIS 2

Material SCM415/SCM440
Hardness: HRC 55~60°
Teeth Ground after Hardening

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 4 / Module 4													
MSPHM0400181	1	-JIS2	18	32	55	72	80	40	75	10	35.3	12.93	1.2
MSPHM0400201	2	-JIS2	20	32	55	80	88	40	75	10	35.3	14.37	1.8
MSPHM0400202	1	-JIS2	20	35	52	80	88	40	50	10	38.3	14.37	1.2
MSPHM0400203	2	-JIS2	20	35	55	80	88	40	75	10	38.3	14.37	1.8
MSPHM0400204	1	-JIS2	20	45	65	80	88	40	50	14	48.8	14.37	1.2
MSPHM0400205	2	-JIS2	20	40	62	80	88	40	75	12	43.3	14.37	1.8
MSPHM0400221	1	-JIS2	22	35	52	88	96	40	50	10	38.3	15.81	1.4
MSPHM0400222	1	-JIS2	22	45	65	88	96	40	50	14	48.8	15.81	1.4
MSPHM0400223	2	-JIS2	22	45	68	88	96	40	75	14	48.8	15.81	2.1
MSPHM0400251	2	-JIS2	25	32	55	100	108	40	75	10	35.3	20.45	2.7
MSPHM0400252	1	-JIS2	25	35	52	100	108	40	50	10	38.3	20.45	1.8
MSPHM0400253	2	-JIS2	25	35	55	100	108	40	75	10	38.3	20.45	2.7
MSPHM0400254	2	-JIS2	25	40	62	100	108	40	75	12	43.3	20.45	2.7
MSPHM0400255	1	-JIS2	25	45	65	100	108	40	50	14	48.8	20.45	1.8
MSPHM0400256	2	-JIS2	25	55	80	100	108	40	80	16	59.3	20.45	2.9
MSPHM0400281	1	-JIS2	28	35	52	112	120	40	50	10	38.3	22.90	2.2
MSPHM0400282	1	-JIS2	28	45	65	112	120	40	50	14	48.8	22.90	2.2
MSPHM0400283	2	-JIS2	28	45	68	112	120	40	75	14	48.8	22.90	3.3
MSPHM0400321	1	-JIS2	32	35	52	128	136	40	50	10	38.3	26.18	2.9
MSPHM0400322	1	-JIS2	32	45	65	128	136	40	50	14	48.8	26.18	2.9
MSPHM0400323	2	-JIS2	32	55	80	128	136	40	80	16	59.3	26.18	4.6
MSPHM0400324	2	-JIS2	32	75	110	128	136	40	100	20	79.9	26.18	5.7
MSPHM0400401	1	-JIS2	40	45	65	160	168	40	50	14	48.8	32.72	4.4
MSPHM0400402	1	-JIS2	40	60	80	160	168	40	50	18	64.4	32.72	4.4
MSPHM0400403	2	-JIS2	40	75	110	160	168	40	100	20	79.9	32.72	8.7
模數 5 / Module 5													
MSPHM0500211	2	-JIS2	21	45	68	105	115	50	85	14	48.8	23.59	3.5
MSPHM0500212	2	-JIS2	21	55	80	105	115	50	90	16	59.3	23.59	3.7
MSPHM0500251	2	-JIS2	25	45	68	125	135	50	85	14	48.8	31.95	4.8
MSPHM0500252	2	-JIS2	25	55	80	125	135	50	90	16	59.3	31.95	5.1
MSPHM0500253	2	-JIS2	25	75	110	125	135	50	110	20	79.9	31.95	6.2
模數 6 / Module 6													
MSPHM0600211	2	-JIS2	21	55	80	126	138	60	100	16	59.3	33.97	5.9
MSPHM0600212	2	-JIS2	21	75	110	126	138	60	120	20	79.9	33.97	7.0
MSPHM0600251	2	-JIS2	25	55	80	150	162	60	100	16	59.3	46.01	8.1
MSPHM0600252	2	-JIS2	25	75	110	150	162	60	120	20	79.9	46.01	9.7
模數 8 / Module 8													
MSPHM0800201	2	-JIS2	20	75	110	160	176	80	140	20	79.9	57.51	13.4
MSPHM0800202	2	-JIS2	20	85	125	160	176	80	145	22	90.4	57.51	13.8

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

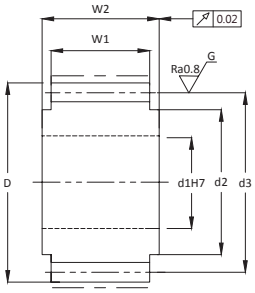


圖1 /Fig . 1

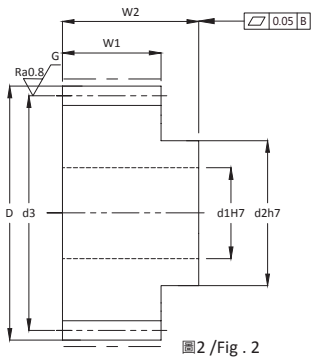
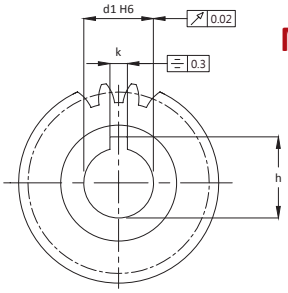


圖2 /Fig . 2



MSSH-JIS3

單位 / Dimension : mm

系列 MSSH-JIS3 直齒磨削齒輪
品質等級 JIS 3

材料 SCM415/SCM440
硬度 HRC 55~60°
硬化處理後齒面磨削

Series MSSH-JIS3 Straight Skiving Pinions
Quality Grade JIS 3

Material SCM415/SCM440
Hardness: HRC 55~60°
Skiving after Hardening

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 2 / Module 2													
MSSHM0200161	1	-JIS3	16	15	25	32	36	28	30	5	17.3	2.72	0.2
MSSHM0200181	1	-JIS3	18	15	30	36	40	28	30	5	17.3	3.31	0.2
MSSHM0200182	1	-JIS3	18	20	25	36	40	28	30	6	22.8	3.31	0.2
MSSHM0200201	1	-JIS3	20	15	25	40	44	28	30	6	17.8	3.68	0.3
MSSHM0200202	1	-JIS3	20	19	30	40	44	28	30	6	21.8	3.68	0.3
MSSHM0200203	2	-JIS3	20	19	30	40	44	28	56	6	21.8	3.68	0.5
MSSHM0200204	1	-JIS3	20	20	30	40	44	28	30	6	22.8	3.68	0.3
MSSHM0200205	1	-JIS3	20	22	30	40	44	28	30	6	24.8	3.68	0.3
MSSHM0200206	2	-JIS3	20	22	36	40	44	28	56	6	24.8	3.68	0.5
MSSHM0200221	1	-JIS3	22	15	25	44	48	28	30	5	17.3	4.04	0.3
MSSHM0200222	1	-JIS3	22	19	30	44	48	28	30	6	21.8	4.04	0.3
MSSHM0200223	2	-JIS3	22	19	30	44	48	28	56	6	21.8	4.04	0.6
MSSHM0200224	1	-JIS3	22	20	30	44	48	28	30	6	22.8	4.04	0.3
MSSHM0200225	2	-JIS3	22	22	36	44	48	28	56	6	24.8	4.04	0.6
MSSHM0200226	1	-JIS3	22	22	30	44	48	28	30	6	24.8	4.04	0.3
MSSHM0200227	1	-JIS3	22	25	36	44	48	28	30	8	28.3	4.04	0.3
MSSHM0200251	2	-JIS3	25	16	30	50	54	28	54	5	18.3	5.15	0.7
MSSHM0200252	1	-JIS3	25	19	30	50	54	28	30	6	21.8	5.15	0.4
MSSHM0200253	2	-JIS3	25	19	30	50	54	28	56	6	21.8	5.15	0.8
MSSHM0200254	1	-JIS3	25	20	30	50	54	28	30	6	22.8	5.15	0.4
MSSHM0200255	1	-JIS3	25	22	30	50	54	28	30	6	24.8	5.15	0.4
MSSHM0200256	2	-JIS3	25	22	36	50	54	28	56	6	24.8	5.15	0.8
MSSHM0200257	1	-JIS3	25	25	36	50	54	28	30	8	28.3	5.15	0.4
MSSHM0200258	1	-JIS3	25	30	45	50	54	28	30	8	33.3	5.15	0.4
MSSHM0200281	1	-JIS3	28	19	30	56	60	28	30	6	21.8	5.77	0.5
MSSHM0200282	2	-JIS3	28	19	30	56	60	28	56	6	21.8	5.77	0.9
MSSHM0200283	1	-JIS3	28	20	30	56	60	28	30	6	22.8	5.77	0.5
MSSHM0200284	1	-JIS3	28	22	30	56	60	28	30	6	24.8	5.77	0.5
MSSHM0200285	2	-JIS3	28	22	36	56	60	28	56	6	24.8	5.77	0.9
MSSHM0200286	1	-JIS3	28	25	36	56	60	28	30	8	28.3	5.77	0.5
MSSHM0200287	1	-JIS3	28	30	45	56	60	28	30	8	33.3	5.77	0.5
MSSHM0200288	2	-JIS3	28	30	50	56	60	28	60	8	33.3	5.77	1.0
MSSHM0200289	1	-JIS3	28	35	48	56	60	28	30	10	38.3	5.77	0.5
MSSHM0200321	2	-JIS3	32	16	30	64	68	28	54	5	18.3	6.59	1.2
MSSHM0200322	1	-JIS3	32	20	30	64	68	28	30	6	22.8	6.59	0.6
MSSHM0200323	1	-JIS3	32	22	30	64	68	28	30	6	24.8	6.59	0.6
MSSHM0200324	2	-JIS3	32	22	36	64	68	28	56	6	24.8	6.59	1.2
MSSHM0200325	1	-JIS3	32	25	36	64	68	28	30	8	28.3	6.59	0.6
MSSHM0200326	1	-JIS3	32	30	45	64	68	28	30	8	33.3	6.59	0.6
MSSHM0200327	2	-JIS3	32	30	50	64	68	28	60	8	33.3	6.59	1.3
MSSHM0200328	2	-JIS3	32	32	55	64	68	28	65	10	35.3	6.59	1.4
MSSHM0200329	1	-JIS3	32	35	48	64	68	28	30	10	38.3	6.59	0.6
MSSHM0200361	1	-JIS3	36	20	30	72	76	28	30	6	22.8	8.44	0.8

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

MSSH-JIS3

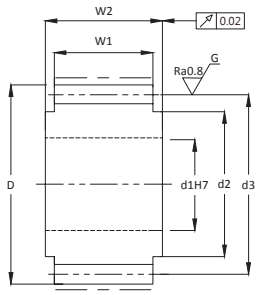


圖1 /Fig . 1

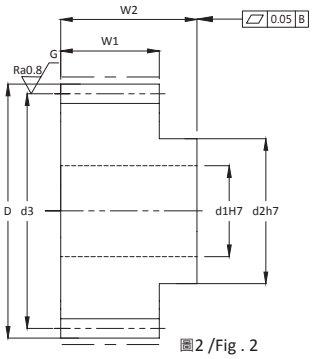
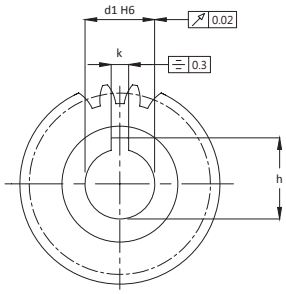


圖2 /Fig . 2



單位 / Dimension : mm

系列 MSSH-JIS3 直齒磨削齒輪
品質等級 JIS 3

材料 SCM415/SCM440
硬度 HRC 55~60°
硬化處理後齒面磨削

Series MSSH-JIS3 Straight Skiving Pinions
Quality GradeJIS 3

Material SCM415/SCM440
Hardness: HRC 55~60°
Skiving after Hardening

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 2 / Module 2													
MSSHM0200362	1	-JIS3	36	25	36	72	76	28	30	8	28.3	8.44	0.8
MSSHM0200363	1	-JIS3	36	30	45	72	76	28	30	8	33.3	8.44	0.8
MSSHM0200364	1	-JIS3	36	35	48	72	76	28	30	10	38.3	8.44	0.8
MSSHM0200365	2	-JIS3	36	40	62	72	76	28	65	12	43.3	8.44	1.7
MSSHM0200366	1	-JIS3	36	45	58	72	76	28	30	14	48.8	8.44	0.8
MSSHM0200401	1	-JIS3	40	15	36	80	84	28	30	5	17.3	9.38	1.0
MSSHM0200402	1	-JIS3	40	20	30	80	84	28	30	6	22.8	9.38	1.0
MSSHM0200403	1	-JIS3	40	25	36	80	84	28	30	8	28.3	9.38	1.0
MSSHM0200404	1	-JIS3	40	30	45	80	84	28	30	8	33.3	9.38	1.0
MSSHM0200405	2	-JIS3	40	32	55	80	84	28	65	10	35.3	9.38	2.1
MSSHM0200406	1	-JIS3	40	35	48	80	84	28	30	10	38.3	9.38	1.0
MSSHM0200407	2	-JIS3	40	40	62	80	84	28	65	12	43.3	9.38	2.1
MSSHM0200408	1	-JIS3	40	45	58	80	84	28	30	14	48.8	9.38	1.0
MSSHM0200409	2	-JIS3	40	45	68	80	84	28	65	14	48.8	9.38	2.1
MSSHM0200451	1	-JIS3	45	20	30	90	94	28	30	6	22.8	10.55	1.2
MSSHM0200452	1	-JIS3	45	25	36	90	94	28	30	8	28.3	10.55	1.2
MSSHM0200453	1	-JIS3	45	35	48	90	94	28	30	10	38.3	10.55	1.2
MSSHM0200454	1	-JIS3	45	45	58	90	94	28	30	14	48.8	10.55	1.2
MSSHM0200501	1	-JIS3	50	20	30	100	104	28	30	6	22.8	10.96	1.5
MSSHM0200502	1	-JIS3	50	25	36	100	104	28	30	8	28.3	10.96	1.5
MSSHM0200503	1	-JIS3	50	35	48	100	104	28	30	10	38.3	10.96	1.5
MSSHM0200504	1	-JIS3	50	45	58	100	104	28	30	14	48.8	10.96	1.5
MSSHM0200505	2	-JIS3	50	45	68	100	104	28	65	14	48.8	10.96	3.3
MSSHM0200561	1	-JIS3	56	25	36	112	116	28	30	8	28.3	11.15	1.9
MSSHM0200562	1	-JIS3	56	35	48	112	116	28	30	10	38.3	11.15	1.9

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

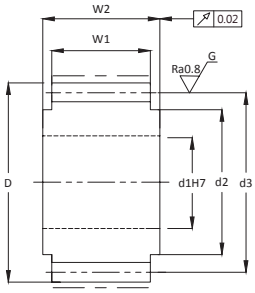


圖1 /Fig . 1

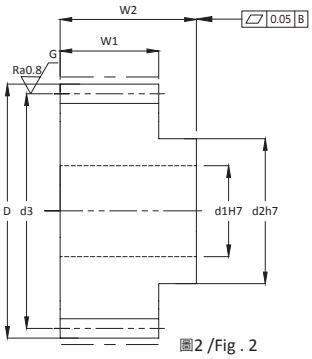
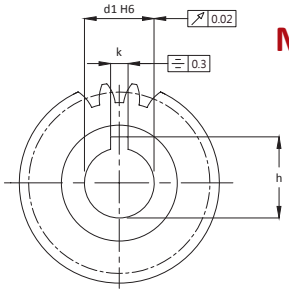


圖2 /Fig . 2



MSSH-JIS3

單位 / Dimension : mm

系列 MSSH-JIS3 直齒磨削齒輪
品質等級 JIS 3

材料 SCM415/SCM440
硬度 HRC 55~60°
硬化處理後齒面磨削

Series MSSH-JIS3 Straight Skiving Pinions
Quality Grade JIS 3

Material SCM415/SCM440
Hardness: HRC 55~60°
Skiving after Hardening

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 3 / Module 3													
MSSHM0300181	1	-JIS3	18	25	36	54	60	28	30	8	28.3	5.56	0.4
MSSHM0300201	1	-JIS3	20	25	36	60	66	28	30	8	28.3	6.18	0.5
MSSHM0300202	1	-JIS3	20	30	45	60	66	28	30	8	33.3	6.18	0.5
MSSHM0300203	1	-JIS3	20	35	48	60	66	28	30	10	38.3	6.18	0.5
MSSHM0300221	2	-JIS3	22	22	36	66	72	28	56	6	24.8	6.80	1.1
MSSHM0300222	1	-JIS3	22	25	36	66	72	28	30	8	28.3	6.80	0.6
MSSHM0300223	2	-JIS3	22	25	44	66	72	28	60	8	28.3	6.80	1.2
MSSHM0300224	1	-JIS3	22	30	45	66	72	28	30	8	33.3	6.80	0.6
MSSHM0300225	2	-JIS3	22	32	55	66	72	28	65	10	35.3	6.80	1.2
MSSHM0300226	2	-JIS3	22	30	50	66	72	28	60	8	33.3	6.80	1.2
MSSHM0300227	1	-JIS3	22	35	48	66	72	28	30	10	38.3	6.80	0.6
MSSHM0300228	2	-JIS3	22	35	55	66	72	28	65	10	38.3	6.80	1.2
MSSHM0300229	2	-JIS3	22	40	62	66	72	28	65	12	43.3	6.80	1.2
MSSHM0300251	1	-JIS3	25	25	36	75	81	28	30	8	28.3	8.79	0.7
MSSHM0300252	1	-JIS3	25	30	45	75	81	28	30	8	33.3	8.79	0.7
MSSHM0300253	2	-JIS3	25	32	55	75	81	28	65	10	35.3	8.79	1.6
MSSHM0300254	1	-JIS3	25	35	48	75	81	28	30	10	38.3	8.79	0.7
MSSHM0300255	2	-JIS3	25	40	62	75	81	28	65	12	43.3	8.79	1.6
MSSHM0300256	1	-JIS3	25	45	58	75	81	28	30	14	48.8	8.79	0.7
MSSHM0300281	2	-JIS3	28	22	36	84	90	28	56	6	24.8	9.85	1.7
MSSHM0300282	1	-JIS3	28	25	36	84	90	28	30	8	28.3	9.85	0.9
MSSHM0300283	2	-JIS3	28	25	44	84	90	28	60	8	28.3	9.85	1.8
MSSHM0300284	1	-JIS3	28	30	45	84	90	28	30	8	33.3	9.85	0.9
MSSHM0300285	2	-JIS3	28	30	50	84	90	28	60	8	33.3	9.85	1.8
MSSHM0300286	2	-JIS3	28	32	55	84	90	28	65	10	35.3	9.85	1.9
MSSHM0300287	1	-JIS3	28	35	48	84	90	28	30	10	38.3	9.85	0.9
MSSHM0300288	2	-JIS3	28	35	55	84	90	28	65	10	38.3	9.85	1.9
MSSHM0300289	2	-JIS3	28	40	62	84	90	28	65	12	43.3	9.85	1.9
MSSHM03002810	1	-JIS3	28	45	58	84	90	28	30	14	48.8	9.85	0.9
MSSHM03002811	2	-JIS3	28	45	68	84	90	28	65	14	48.8	9.85	1.9
MSSHM0300321	1	-JIS3	32	25	36	96	102	28	30	8	28.3	11.25	1.2
MSSHM0300323	1	-JIS3	32	30	45	96	102	28	30	8	33.3	11.25	1.2
MSSHM0300323	2	-JIS3	32	32	55	96	102	28	65	10	35.3	11.25	2.5
MSSHM0300324	1	-JIS3	32	35	48	96	102	28	30	10	38.3	11.25	1.2
MSSHM0300325	2	-JIS3	32	40	62	96	102	28	65	12	43.3	11.25	2.5
MSSHM0300326	1	-JIS3	32	45	58	96	102	28	30	14	48.8	11.25	1.2
MSSHM0300327	1	-JIS3	32	60	80	96	102	28	30	18	64.4	11.25	1.2
MSSHM0300361	1	-JIS3	36	25	36	108	114	28	30	8	28.3	12.66	1.4
MSSHM0300362	1	-JIS3	36	35	48	108	114	28	30	10	38.3	12.66	1.4
MSSHM0300363	1	-JIS3	36	45	58	108	114	28	30	14	48.8	12.66	1.4
MSSHM0300364	2	-JIS3	36	45	68	108	114	28	65	14	48.8	12.66	3.1
MSSHM0300365	1	-JIS3	36	60	80	108	114	28	30	18	64.4	12.66	1.4
MSSHM0300401	1	-JIS3	40	25	36	120	126	28	30	8	28.3	14.07	1.8

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

MSSH-JIS3

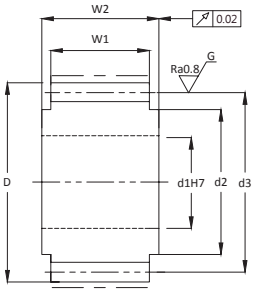


圖1 /Fig . 1

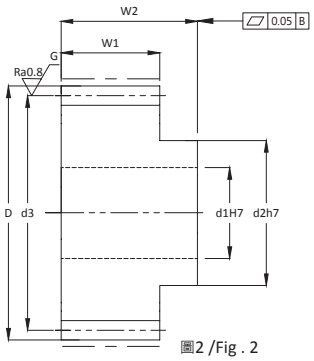
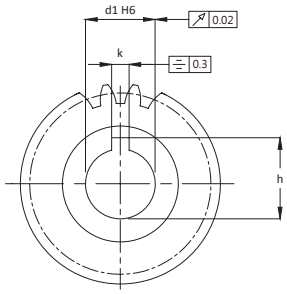


圖2 /Fig . 2



單位 / Dimension : mm

系列 MSSH-JIS3 直齒磨削齒輪
品質等級 JIS 3

材料 SCM415/SCM440
硬度 HRC 55~60°
硬化處理後齒面磨削

Series MSSH-JIS3 Straight Skiving Pinions
Quality Grade JIS 3

Material SCM415/SCM440
Hardness: HRC 55~60°
Skiving after Hardening

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 3 / Module 3													
MSSHM0300402	1	-JIS3	40	35	48	120	126	28	30	10	38.3	14.07	1.8
MSSHM0300403	1	-JIS3	40	45	58	120	126	28	30	14	48.8	14.07	1.8
MSSHM0300404	1	-JIS3	40	60	80	120	126	28	30	18	64.4	14.07	1.8
MSSHM0300451	1	-JIS3	45	25	36	135	141	28	30	8	28.3	15.83	2.2
MSSHM0300452	1	-JIS3	45	35	48	135	141	28	30	10	38.3	15.83	2.2
MSSHM0300453	1	-JIS3	45	45	58	135	141	28	30	14	48.8	15.83	2.2
MSSHM0300454	1	-JIS3	45	60	80	135	141	28	30	18	64.4	15.83	2.2
MSSHM0300501	1	-JIS3	50	35	48	150	156	28	30	10	38.3	16.45	2.7
MSSHM0300502	1	-JIS3	50	45	58	150	156	28	30	14	48.8	16.45	2.7
MSSHM0300561	1	-JIS3	56	45	58	168	174	28	30	14	48.8	16.73	3.4
MSSHM0300631	1	-JIS3	63	45	58	189	195	28	30	14	48.8	17.02	4.2
MSSHM0300632	1	-JIS3	63	60	80	189	195	28	30	18	64.4	17.02	4.2

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

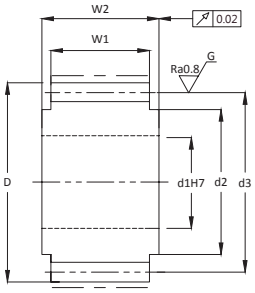


圖1 /Fig . 1

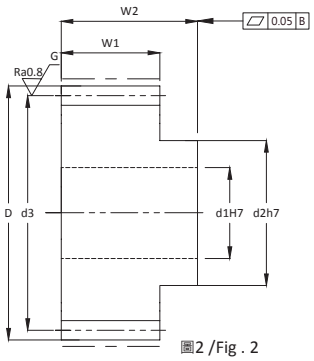
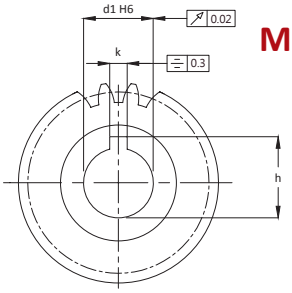


圖2 /Fig . 2



MSSH-JIS3

單位 / Dimension : mm

系列 MSSH-JIS3 直齒磨削齒輪
品質等級 JIS 3

材料 SCM415/SCM440
硬度 HRC 55~60°
硬化處理後齒面磨削

Series MSSH-JIS3Straight Skiving Pinions
Quality Grade JIS 3

Material SCM415/SCM440
Hardness: HRC 55~60°
Skiving after Hardening

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 4 / Module 4													
MSSHM0400201	2	-JIS3	20	32	55	80	88	40	75	10	35.3	11.77	1.8
MSSHM0400202	1	-JIS3	20	35	52	80	88	40	50	10	38.3	11.77	1.2
MSSHM0400203	2	-JIS3	20	35	55	80	88	40	75	10	38.3	11.77	1.8
MSSHM0400204	1	-JIS3	20	45	65	80	88	40	50	14	48.8	11.77	1.2
MSSHM0400205	2	-JIS3	20	40	62	80	88	40	75	12	43.3	11.77	1.8
MSSHM0400221	1	-JIS3	22	35	52	88	96	40	50	10	38.3	12.95	1.4
MSSHM0400222	1	-JIS3	22	45	65	88	96	40	50	14	48.8	12.95	1.4
MSSHM0400223	2	-JIS3	22	45	68	88	96	40	75	14	48.8	12.95	2.1
MSSHM0400251	2	-JIS3	25	32	55	100	108	40	75	10	35.3	16.75	2.7
MSSHM0400252	1	-JIS3	25	35	52	100	108	40	50	10	38.3	16.75	1.8
MSSHM0400253	2	-JIS3	25	35	55	100	108	40	75	10	38.3	16.75	2.7
MSSHM0400254	2	-JIS3	25	40	62	100	108	40	75	12	43.3	16.75	2.7
MSSHM0400255	1	-JIS3	25	45	65	100	108	40	50	14	48.8	16.75	1.8
MSSHM0400256	2	-JIS3	25	55	80	100	108	40	80	16	59.3	16.75	2.9
MSSHM0400281	1	-JIS3	28	35	52	112	120	40	50	10	38.3	18.76	2.2
MSSHM0400282	1	-JIS3	28	45	65	112	120	40	50	14	48.8	18.76	2.2
MSSHM0400283	2	-JIS3	28	45	68	112	120	40	75	14	48.8	18.76	3.3
MSSHM0400321	1	-JIS3	32	35	52	128	136	40	50	10	38.3	21.44	2.9
MSSHM0400322	1	-JIS3	32	45	65	128	136	40	50	14	48.8	21.44	2.9
MSSHM0400323	2	-JIS3	32	55	80	128	136	40	80	16	59.3	21.44	4.6
MSSHM0400324	2	-JIS3	32	75	110	128	136	40	100	20	79.9	21.44	5.7
MSSHM0400401	1	-JIS3	40	45	65	160	168	40	50	14	48.8	26.80	4.4
MSSHM0400402	1	-JIS3	40	60	80	160	168	40	50	18	64.4	26.80	4.4
MSSHM0400403	2	-JIS3	40	75	110	160	168	40	100	20	79.9	26.80	8.7
模數 5 / Module 5													
MSSHM0500211	2	-JIS3	21	45	68	105	115	50	85	14	48.8	19.32	3.5
MSSHM0500212	2	-JIS3	21	55	80	105	115	50	90	16	59.3	19.32	3.7
MSSHM0500251	2	-JIS3	25	45	68	125	135	50	85	14	48.8	26.17	4.8
MSSHM0500252	2	-JIS3	25	55	80	125	135	50	90	16	59.3	26.17	5.1
MSSHM0500253	2	-JIS3	25	75	110	125	135	50	110	20	79.9	26.17	6.2
模數 6 / Module 6													
MSSHM0600211	2	-JIS3	21	55	80	126	138	60	100	16	59.3	27.82	5.9
MSSHM0600212	2	-JIS3	21	75	110	126	138	60	120	20	79.9	27.82	7.0
MSSHM0600251	2	-JIS3	25	55	80	150	162	60	100	16	59.3	37.68	8.1
MSSHM0600252	2	-JIS3	25	75	110	150	162	60	120	20	79.9	37.68	9.7
模數 8 / Module 8													
MSSHM0800201	2	-JIS3	20	75	110	160	176	80	140	20	79.9	47.09	13.4
MSSHM0800202	2	-JIS3	20	85	125	160	176	80	145	22	90.4	47.09	13.8

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

SSM-JIS4

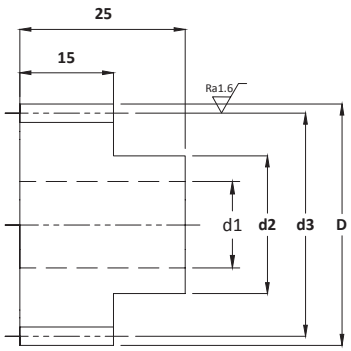


圖1 /Fig . 1

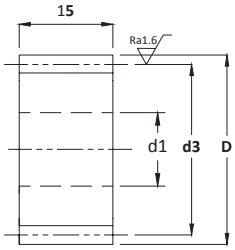


圖2 /Fig . 2

單位 / Dimension : mm

系列 SSM-JIS4 直齒齒輪
品質等級 JIS 4
材料 S50C

Series SSM-JIS4 Straight Soft Pinions
Quality Grade JIS 4
Material S50C

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 1 / Module 1													
SSMM0100121	1	-JIS4	12	6	9	12.0	14.0	*	*	*	*	*	0.1
SSMM0100131	1	-JIS4	13	6	9	13.0	15.0	*	*	*	*	*	0.1
SSMM0100141	1	-JIS4	14	6	11	14.0	16.0	*	*	*	*	*	0.1
SSMM0100151	1	-JIS4	15	6	12	15.0	17.0	*	*	*	*	*	0.1
SSMM0100161	1	-JIS4	16	6	12	16.0	18.0	*	*	*	*	0.10	0.1
SSMM0100171	1	-JIS4	17	6	14	17.0	19.0	*	*	*	*	0.11	0.1
SSMM0100181	1	-JIS4	18	6	15	18.0	20.0	*	*	*	*	0.12	0.1
SSMM0100191	1	-JIS4	19	6	15	19.0	21.0	*	*	*	*	0.13	0.1
SSMM0100201	1	-JIS4	20	6	16	20.0	22.0	*	*	*	*	0.14	0.1
SSMM0100211	1	-JIS4	21	6	16	21.0	23.0	*	*	*	*	0.15	0.1
SSMM0100221	1	-JIS4	22	6	18	22.0	24.0	*	*	*	*	0.15	0.1
SSMM0100231	1	-JIS4	23	6	18	23.0	25.0	*	*	*	*	0.16	0.1
SSMM0100241	1	-JIS4	24	9	20	24.0	26.0	*	*	*	*	0.17	0.1
SSMM0100251	1	-JIS4	25	9	20	25.0	27.0	*	*	*	*	0.19	0.1
SSMM0100301	1	-JIS4	30	9	20	30.0	32.0	*	*	*	*	0.23	0.1
SSMM0100351	1	-JIS4	35	9	25	35.0	37.0	*	*	*	*	0.27	0.2
SSMM0100381	1	-JIS4	38	9	25	38.0	40.0	*	*	*	*	0.33	0.2
SSMM0100401	1	-JIS4	40	9	25	40.0	42.0	*	*	*	*	0.35	0.2
SSMM0100451	1	-JIS4	45	9	30	45.0	47.0	*	*	*	*	0.40	0.3
SSMM0100481	1	-JIS4	48	9	30	48.0	50.0	*	*	*	*	0.42	0.3
SSMM0100501	1	-JIS4	50	9	30	50.0	52.0	*	*	*	*	0.44	0.3
SSMM0100571	1	-JIS4	57	9	40	57.0	59.0	*	*	*	*	0.50	0.4
SSMM0100601	1	-JIS4	60	9	40	60.0	62.0	*	*	*	*	0.53	0.4
SSMM0100761	2	-JIS4	76	10	*	76.0	78.0	*	*	*	*	0.81	0.7
SSMM0100801	2	-JIS4	80	10	*	80.0	82.0	*	*	*	*	0.85	0.8
SSMM0100951	2	-JIS4	95	10	*	95.0	97.0	*	*	*	*	1.01	1.1
SSMM0101001	2	-JIS4	100	10	*	100.0	102.0	*	*	*	*	1.06	1.2
SSMM0101141	2	-JIS4	114	10	*	114.0	116.0	*	*	*	*	1.16	1.6

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

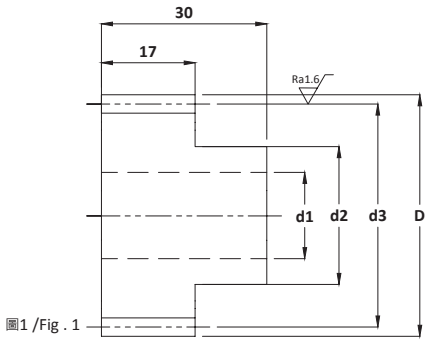


圖1 /Fig . 1

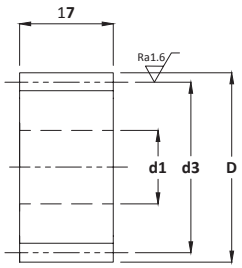


圖2 /Fig . 2

SSM-JIS4

單位 / Dimension : mm

系列 SSM-JIS4 直齒齒輪
品質等級 JIS 4
材料 S50C

Series SSM-JIS4 Straight Soft Pinions
Quality Grade JIS 4
Material S50C

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 1.5 / Module 1.5													
SSMM0150121	1	-JIS4	12	6	14	18.0	21.0	*	*	*	*	*	0.1
SSMM0150131	1	-JIS4	13	6	14	19.5	22.5	*	*	*	*	*	0.1
SSMM0150141	1	-JIS4	14	6	16	21.0	24.0	*	*	*	*	*	0.1
SMM0150151	1	-JIS4	15	6	18	22.5	25.5	*	*	*	*	*	0.1
SSMM0150161	1	-JIS4	16	6	18	24.0	27.0	*	*	*	*	0.19	0.1
SSMM0150171	1	-JIS4	17	9	20	25.5	28.5	*	*	*	*	0.20	0.1
SSMM0150181	1	-JIS4	18	9	20	27.0	30.0	*	*	*	*	0.21	0.1
SSMM0150191	1	-JIS4	19	9	20	28.5	31.5	*	*	*	*	0.25	0.1
SSMM0150201	1	-JIS4	20	9	25	30.0	33.0	*	*	*	*	0.26	0.2
SSMM0150211	1	-JIS4	21	9	25	31.5	34.5	*	*	*	*	0.28	0.2
SSMM0150221	1	-JIS4	22	9	25	33.0	36.0	*	*	*	*	0.29	0.2
SSMM0150231	1	-JIS4	23	9	25	34.5	37.5	*	*	*	*	0.30	0.2
SSMM0150241	1	-JIS4	24	9	25	36.0	39.0	*	*	*	*	0.32	0.2
SSMM0150251	1	-JIS4	25	9	25	37.5	40.5	*	*	*	*	0.33	0.2
SSMM0150301	1	-JIS4	30	9	25	45.0	48.0	*	*	*	*	0.45	0.3
SSMM0150351	1	-JIS4	35	9	40	52.5	55.5	*	*	*	*	0.52	0.4
SSMM0150381	1	-JIS4	38	9	40	57.0	60.0	*	*	*	*	0.57	0.5
SSMM0150401	1	-JIS4	40	9	40	60.0	63.0	*	*	*	*	0.60	0.6
SSMM0150451	1	-JIS4	45	12	50	67.5	70.5	*	*	*	*	0.67	0.7
SSMM0150481	1	-JIS4	48	12	50	72.0	75.0	*	*	*	*	0.72	0.8
SSMM0150501	1	-JIS4	50	12	50	75.0	78.0	*	*	*	*	0.75	0.8
SSMM0150571	1	-JIS4	57	12	60	85.5	88.5	*	*	*	*	1.03	1.1
SSMM0150601	1	-JIS4	60	12	60	90.0	93.0	*	*	*	*	1.08	1.2
SSMM0150761	2	-JIS4	76	16	*	114.0	117.0	*	*	*	*	1.37	1.9
SSMM0150801	2	-JIS4	80	16	*	120.0	123.0	*	*	*	*	1.45	2.1
SSMM0150951	2	-JIS4	95	20	*	142.5	145.5	*	*	*	*	1.72	2.9

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

SSM-JIS4

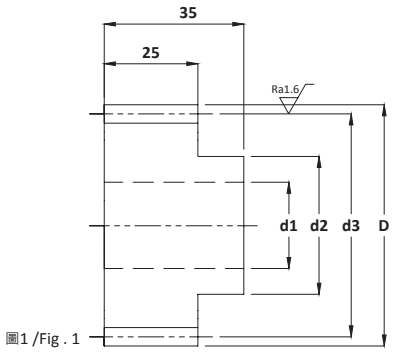


圖1 /Fig . 1

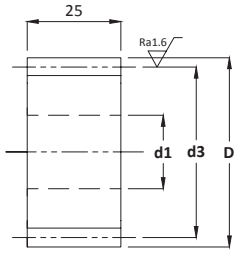


圖2 /Fig . 2

單位 / Dimension : mm

系列 SSM-JIS4 直齒齒輪
品質等級 JIS 4
材料 S50C

Series SSM-JIS4 Straight Soft Pinions
Quality Grade JIS 4
Material S50C

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 2 / Module 2													
SSMM0200121	1	-JIS4	12	9	18	24.0	28.0	*	*	*	*	*	0.1
SSMM0200131	1	-JIS4	13	9	19	26.0	30.0	*	*	*	*	*	0.1
SSMM0200141	1	-JIS4	14	9	19	28.0	32.0	*	*	*	*	*	0.2
SSMM0200151	1	-JIS4	15	9	24.5	30.0	34.0	*	*	*	*	*	0.2
SSMM0200161	1	-JIS4	16	9	25	32.0	36.0	*	*	*	*	0.37	0.2
SSMM0200171	1	-JIS4	17	9	25	34.0	38.0	*	*	*	*	0.39	0.2
SSMM0200181	1	-JIS4	18	9	25	36.0	40.0	*	*	*	*	0.41	0.3
SSMM0200191	1	-JIS4	19	9	25	38.0	42.0	*	*	*	*	0.44	0.3
SSMM0200201	1	-JIS4	20	9	30	40.0	44.0	*	*	*	*	0.46	0.3
SSMM0200211	1	-JIS4	21	9	30	42.0	46.0	*	*	*	*	0.54	0.3
SSMM0200221	1	-JIS4	22	9	30	44.0	48.0	*	*	*	*	0.57	0.4
SSMM0200231	1	-JIS4	23	9	30	46.0	50.0	*	*	*	*	0.59	0.4
SSMM0200241	1	-JIS4	24	12	35	48.0	52.0	*	*	*	*	0.62	0.4
SSMM0200251	1	-JIS4	25	12	35	50.0	54.0	*	*	*	*	0.64	0.5
SSMM0200281	1	-JIS4	28	12	40	56.0	60.0	*	*	*	*	0.72	0.6
SSMM0200301	1	-JIS4	30	12	40	60.0	64.0	*	*	*	*	0.77	0.7
SSMM0200321	1	-JIS4	32	12	40	64.0	68.0	*	*	*	*	0.94	0.7
SSMM0200351	1	-JIS4	35	12	50	70.0	74.0	*	*	*	*	1.03	0.9
SSMM0200361	1	-JIS4	36	12	50	72.0	76.0	*	*	*	*	1.06	0.9
SSMM0200381	1	-JIS4	38	12	50	76.0	80.0	*	*	*	*	1.11	1.0
SSMM0200401	1	-JIS4	40	12	50	80.0	84.0	*	*	*	*	1.17	1.1
SSMM0200451	1	-JIS4	45	12	60	90.0	94.0	*	*	*	*	1.32	1.4
SSMM0200481	1	-JIS4	48	15	70	96.0	100.0	*	*	*	*	1.41	1.6
SSMM0200501	1	-JIS4	50	15	70	100.0	104.0	*	*	*	*	1.47	1.8
SSMM0200561	1	-JIS4	56	15	70	112.0	116.0	*	*	*	*	1.64	2.2
SSMM0200571	1	-JIS4	57	15	70	114.0	118.0	*	*	*	*	1.67	2.3
SSMM0200601	1	-JIS4	60	15	70	120.0	124.0	*	*	*	*	1.76	2.5
SSMM0200761	2	-JIS4	76	20	*	152.0	156.0	*	*	*	*	2.69	3.9
SSMM0200801	2	-JIS4	80	20	*	160.0	164.0	*	*	*	*	2.84	4.4
SSMM0200951	2	-JIS4	95	20	*	190.0	194.0	*	*	*	*	3.37	6.1

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

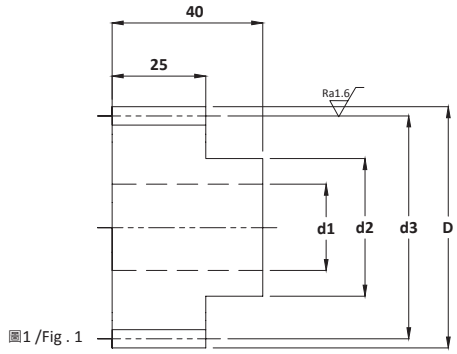


圖1 /Fig . 1

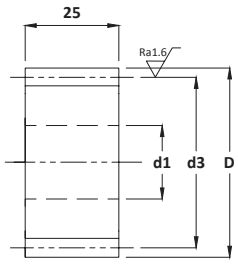


圖2 /Fig . 2

SSM-JIS4

單位 / Dimension : mm

系列 SSM-JIS4 直齒齒輪
品質等級 JIS 4
材料 S50C

Series SSM-JIS4 Straight Soft Pinions
Quality Grade JIS 4
Material S50C

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 2.5 / Module 2.5													
SSMM0250121	1	-JIS4	12	9	20	30.0	35.0	*	*	*	*	*	0.2
SSMM0250131	1	-JIS4	13	9	20	32.5	37.5	*	*	*	*	*	0.3
SSMM0250141	1	-JIS4	14	9	25	35.0	40.0	*	*	*	*	*	0.3
SSMM0250151	1	-JIS4	15	9	25	37.5	42.5	*	*	*	*	*	0.3
SSMM0250161	1	-JIS4	16	9	30	40.0	45.0	*	*	*	*	0.46	0.4
SSMM0250171	1	-JIS4	17	9	30	42.5	47.5	*	*	*	*	0.55	0.4
SSMM0250181	1	-JIS4	18	9	35	45.0	50.0	*	*	*	*	0.58	0.5
SSMM0250191	1	-JIS4	19	12	35	47.5	52.5	*	*	*	*	0.61	0.5
SSMM0250201	1	-JIS4	20	12	35	50.0	55.0	*	*	*	*	0.64	0.6
SSMM0250211	1	-JIS4	21	12	35	52.5	57.5	*	*	*	*	0.68	0.6
SSMM0250221	1	-JIS4	22	12	40	55.0	60.0	*	*	*	*	0.71	0.7
SSMM0250231	1	-JIS4	23	12	40	57.5	62.5	*	*	*	*	0.74	0.7
SSMM0250241	1	-JIS4	24	12	40	60.0	65.0	*	*	*	*	0.77	0.8
SSMM0250251	1	-JIS4	25	12	45	62.5	67.5	*	*	*	*	0.92	0.8
SSMM0250301	1	-JIS4	30	12	50	75.0	80.0	*	*	*	*	1.10	1.2
SSMM0250351	1	-JIS4	35	12	60	87.5	92.5	*	*	*	*	1.28	1.6
SSMM0250381	1	-JIS4	38	12	60	95.0	100.0	*	*	*	*	1.39	1.8
SSMM0250401	1	-JIS4	40	12	70	100.0	105.0	*	*	*	*	1.47	2.0
SSMM0250451	1	-JIS4	45	15	70	112.5	117.5	*	*	*	*	1.65	2.6
SSMM0250481	1	-JIS4	48	15	80	120.0	125.0	*	*	*	*	1.76	2.9
SSMM0250501	1	-JIS4	50	15	80	125.0	130.0	*	*	*	*	2.22	3.1
SSMM0250571	1	-JIS4	57	15	90	142.5	147.5	*	*	*	*	2.53	4.0
SSMM0250601	1	-JIS4	60	15	90	150.0	155.0	*	*	*	*	2.66	4.4
SSMM0250761	1	-JIS4	76	20	*	190.0	195.0	*	*	*	*	3.37	7.0
SSMM0250801	1	-JIS4	80	25	*	200.0	205.0	*	*	*	*	3.54	7.8
SSMM0250951	1	-JIS4	95	25	*	237.5	242.5	*	*	*	*	4.21	10.9

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

SSM-JIS4

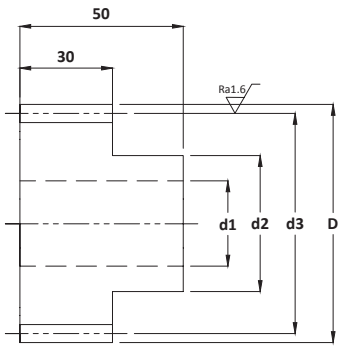


圖1 /Fig . 1

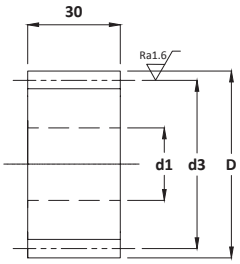


圖2 /Fig . 2

單位 / Dimension : mm

系列 SSM-JIS4 直齒齒輪
品質等級JIS 4
材料 S50C

Series SSM-JIS4 Straight Soft Pinions
Quality Grade JIS 4
Material S50C

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 3 / Module 3													
SSMM0300121	1	-JIS4	12	14	25	36	42	*	*	*	*	*	0.3
SSMM0300131	1	-JIS4	13	14	25	39	45	*	*	*	*	*	0.4
SSMM0300141	1	-JIS4	14	14	25	42	48	*	*	*	*	*	0.4
SSMM0300151	1	-JIS4	15	14	35	45	51	*	*	*	*	*	0.5
SSMM0300161	1	-JIS4	16	14	35	48	54	*	*	*	*	0.66	0.5
SSMM0300171	1	-JIS4	17	14	42	51	57	*	*	*	*	0.79	0.6
SSMM0300181	1	-JIS4	18	14	45	54	60	*	*	*	*	0.84	0.7
SSMM0300191	1	-JIS4	19	14	45	57	63	*	*	*	*	0.88	0.7
SSMM0300201	1	-JIS4	20	14	45	60	66	*	*	*	*	0.93	0.8
SSMM0300211	1	-JIS4	21	14	45	63	69	*	*	*	*	0.97	0.9
SSMM0300221	1	-JIS4	22	14	50	66	72	*	*	*	*	1.02	1.0
SSMM0300231	1	-JIS4	23	14	50	69	75	*	*	*	*	1.07	1.0
SSMM0300241	1	-JIS4	24	14	50	72	78	*	*	*	*	1.11	1.1
SSMM0300251	1	-JIS4	25	14	60	75	81	*	*	*	*	1.32	1.2
SSMM0300271	1	-JIS4	27	14	60	81	87	*	*	*	*	1.43	1.4
SSMM0300281	1	-JIS4	28	14	60	84	90	*	*	*	*	1.48	1.5
SSMM0300301	1	-JIS4	30	14	60	90	96	*	*	*	*	1.58	1.7
SSMM0300321	1	-JIS4	32	14	60	96	102	*	*	*	*	1.69	1.9
SSMM0300351	1	-JIS4	35	14	80	105	111	*	*	*	*	1.85	2.3
SSMM0300361	1	-JIS4	36	14	80	108	114	*	*	*	*	1.90	2.4
SSMM0300381	1	-JIS4	38	14	80	114	120	*	*	*	*	2.01	2.7
SSMM0300401	1	-JIS4	40	14	80	120	126	*	*	*	*	2.11	2.9
SSMM0300451	2	-JIS4	45	20	*	135	141	*	*	*	*	2.38	3.7
SSMM0300481	2	-JIS4	48	20	*	144	150	*	*	*	*	2.53	4.2
SSMM0300501	2	-JIS4	50	25	*	150	156	*	*	*	*	3.19	4.5
SSMM0300521	2	-JIS4	52	25	*	156	162	*	*	*	*	3.32	5.0
SSMM0300561	2	-JIS4	56	25	*	168	174	*	*	*	*	3.57	5.6
SSMM0300601	2	-JIS4	60	25	*	180	186	*	*	*	*	3.83	6.4
SSMM0300761	2	-JIS4	76	25	*	228	234	*	*	*	*	4.85	10.1
SSMM0300801	2	-JIS4	80	25	*	240	246	*	*	*	*	5.10	11.2
SSMM0300951	2	-JIS4	95	25	*	285	291	*	*	*	*	6.06	15.7

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

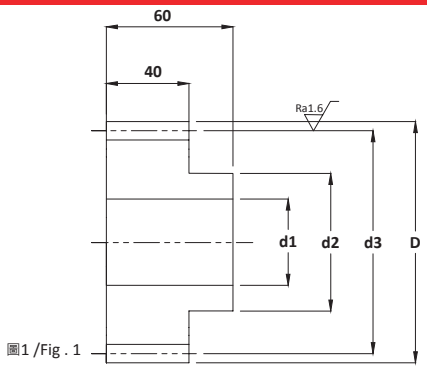


圖1 /Fig . 1

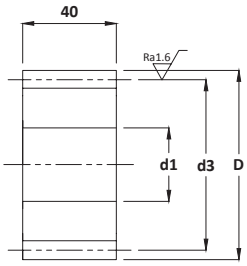


圖2 /Fig . 2

SSM-JIS4

單位 / Dimension : mm

系列 SSM-JIS4 直齒齒輪
品質等級 JIS 4
材料 S50C

Series SSM-JIS4 Straight Soft Pinions
Quality Grade JIS 4
Material S50C

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 4 / Module 4													
SSMM0400121	1	-JIS4	12	16	35	48	56	*	*	*	*	*	0.6
SSMM0400131	1	-JIS4	13	16	35	52	60	*	*	*	*	*	0.7
SSMM0400141	1	-JIS4	14	16	45	56	64	*	*	*	*	*	0.8
SSMM0400151	1	-JIS4	15	16	45	60	68	*	*	*	*	*	0.9
SSMM0400161	1	-JIS4	16	16	45	64	72	*	*	*	*	1.18	1.0
SSMM0400171	1	-JIS4	17	16	50	68	76	*	*	*	*	1.40	1.1
SSMM0400181	1	-JIS4	18	16	50	72	80	*	*	*	*	1.49	1.2
SSMM0400191	1	-JIS4	19	16	60	76	84	*	*	*	*	1.57	1.3
SSMM0400201	1	-JIS4	20	16	60	80	88	*	*	*	*	1.65	1.4
SSMM0400211	1	-JIS4	21	16	70	84	92	*	*	*	*	1.73	1.6
SSMM0400221	1	-JIS4	22	16	70	88	96	*	*	*	*	1.81	1.7
SSMM0400231	1	-JIS4	23	16	75	92	100	*	*	*	*	1.90	1.8
SSMM0400241	1	-JIS4	24	16	75	96	104	*	*	*	*	1.98	2.0
SSMM0400251	1	-JIS4	25	16	75	100	108	*	*	*	*	2.35	2.2
SSMM0400301	1	-JIS4	30	16	75	120	128	*	*	*	*	2.82	3.0
SSMM0400381	2	-JIS4	38	25	*	152	160	*	*	*	*	3.57	4.7
SSMM0400401	2	-JIS4	40	25	*	160	168	*	*	*	*	3.75	5.2
SSMM0400451	2	-JIS4	45	25	*	180	188	*	*	*	*	4.22	6.5
SSMM0400481	2	-JIS4	48	25	*	192	200	*	*	*	*	4.51	7.4
SSMM0400501	2	-JIS4	50	25	*	200	208	*	*	*	*	5.67	8.0
SSMM0400521	2	-JIS4	52	25		208	216	*	*	*	*	5.90	8.6
SSMM0400561	2	-JIS4	56	25	*	224	232	*	*	*	*	6.35	10.0
SSMM0400601	2	-JIS4	60	25	*	240	248	*	*	*	*	6.80	11.4
SSMM0400761	2	-JIS4	76	25		304	312	*	*	*	*	8.62	18.0
SSMM0400801	2	-JIS4	80	25	*	320	328	*	*	*	*	9.07	19.9
SSMM0400951	2	-JIS4	95	25	*	380	388	*	*	*	*	10.77	27.8

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

SSM-JIS4

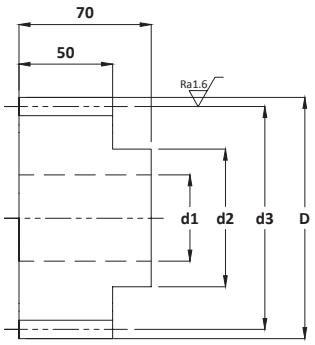


圖1 /Fig . 1

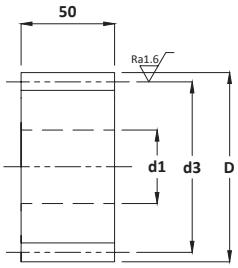


圖2 /Fig . 2

單位 / Dimension : mm

系列 SSM-JIS4 直齒齒輪
品質等級 JIS 4
材料 S50C

Series SSM-JIS4 Straight Soft Pinions
Quality Grade JIS 4
Material S50C

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 5 / Module 5													
SSMM0500121	1	-JIS4	12	20	45	60	70	*	*	*	*	*	1.1
SSMM0500131	1	-JIS4	13	20	45	65	75	*	*	*	*	*	1.2
SSMM0500141	1	-JIS4	14	20	55	70	80	*	*	*	*	*	1.4
SSMM0500151	1	-JIS4	15	20	60	75	85	*	*	*	*	*	1.6
SSMM0500161	1	-JIS4	16	20	60	80	90	*	*	*	*	1.84	1.7
SSMM0500171	1	-JIS4	17	20	70	85	95	*	*	*	*	2.19	1.9
SSMM0500181	1	-JIS4	18	20	70	90	100	*	*	*	*	2.32	2.2
SSMM0500191	1	-JIS4	19	20	70	95	105	*	*	*	*	2.45	2.4
SSMM0500201	1	-JIS4	20	20	70	100	110	*	*	*	*	2.58	2.6
SSMM0500211	1	-JIS4	21	20	70	105	115	*	*	*	*	2.71	2.9
SSMM0500221	1	-JIS4	22	20	80	110	120	*	*	*	*	2.84	3.1
SSMM0500231	1	-JIS4	23	20	80	115	125	*	*	*	*	2.96	3.4
SSMM0500241	1	-JIS4	24	20	80	120	130	*	*	*	*	3.09	3.6
SSMM0500251	1	-JIS4	25	20	80	125	135	*	*	*	*	3.67	3.9
SSMM0500301	1	-JIS4	30	20	90	150	160	*	*	*	*	4.40	5.5
SSMM0500361	2	-JIS4	36	30	*	180	190	*	*	*	*	5.28	7.8
SSMM0500381	2	-JIS4	38	30	*	190	200	*	*	*	*	5.57	8.6
SSMM0500401	2	-JIS4	40	30	*	200	210	*	*	*	*	5.87	9.5
SSMM0500451	2	-JIS4	45	30	*	225	235	*	*	*	*	6.60	11.9
SSMM0500481	2	-JIS4	48	30	*	240	250	*	*	*	*	7.04	13.5
SSMM0500501	2	-JIS4	50	30	*	250	260	*	*	*	*	8.86	14.6
SSMM0500521	2	-JIS4	52	30	*	260	270	*	*	*	*	9.21	15.7
SSMM0500561	2	-JIS4	56	30	*	280	290	*	*	*	*	9.92	18.1
SSMM0500601	2	-JIS4	60	30	*	300	310	*	*	*	*	10.63	20.7
SSMM0500761	2	-JIS4	76	30	*	380	390	*	*	*	*	13.47	32.8
SSMM0500801	2	-JIS4	80	30	*	400	410	*	*	*	*	14.18	36.3
SSMM0500951	2	-JIS4	95	30	*	475	485	*	*	*	*	16.83	50.8

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

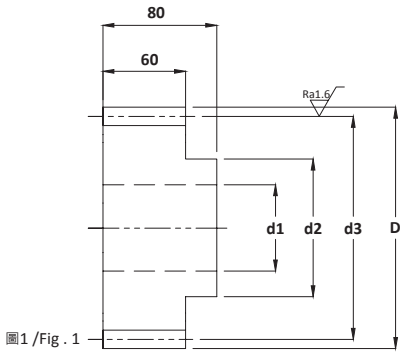


圖1 /Fig . 1

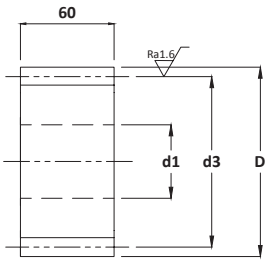


圖2 /Fig . 2

SSM-JIS4

單位 / Dimension : mm

系列 SSM-JIS4 直齒齒輪
品質等級 JIS 4
材料 S50C

Series SSM-JIS4 Straight Soft Pinions
Quality Grade JIS 4
Material S50C

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 6 / Module 6													
SSMM0600151	1	-JIS4	15	20	60	90	102	*	*	*	*	*	2.6
SSMM0600191	1	-JIS4	19	20	80	114	126	*	*	*	*	3.53	3.9
SSMM0600201	1	-JIS4	20	20	90	120	132	*	*	*	*	3.71	4.3
SSMM0600211	1	-JIS4	21	20	90	126	138	*	*	*	*	3.90	4.7
SSMM0600221	1	-JIS4	22	20	100	132	144	*	*	*	*	4.08	5.1
SSMM0600251	1	-JIS4	25	20	110	150	162	*	*	*	*	5.28	6.5
SSMM0600301	2	-JIS4	30	30	*	180	192	*	*	*	*	6.34	9.1
SSMM0600361	2	-JIS4	36	30	*	216	228	*	*	*	*	7.60	12.8

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

SSM-JIS4

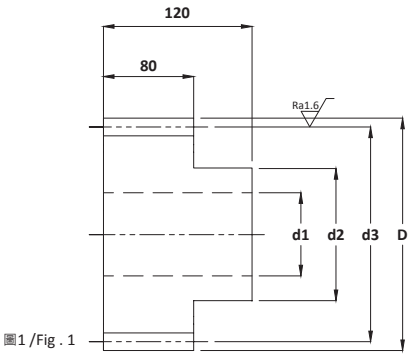


圖1 /Fig . 1

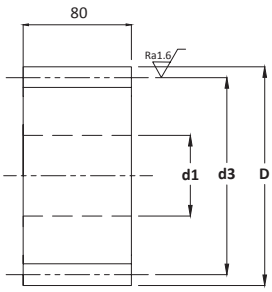


圖2 /Fig . 2

單位 / Dimension : mm

系列 SSM-JIS4 直齒齒輪
品質等級 JIS 4
材料 S50C

Series SSM-JIS4 Straight Soft Pinions
Quality Grade JIS 4
Material S50C

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 8 / Module 8													
SSMM0800151	1	-JIS4	15	40	90	120	136	*	*	*	*	*	6.8
SSMM0800181	1	-JIS4	18	40	100	144	160	*	*	*	*	5.94	9.5
SSMM0800201	1	-JIS4	20	40	120	160	176	*	*	*	*	6.60	11.5
SSMM0800241	1	-JIS4	24	40	150	192	208	*	*	*	*	7.92	16.0
SSMM0800251	1	-JIS4	25	40	150	200	216	*	*	*	*	9.39	17.3
SSMM0800301	1	-JIS4	30	40	190	240	256	*	*	*	*	11.26	24.2

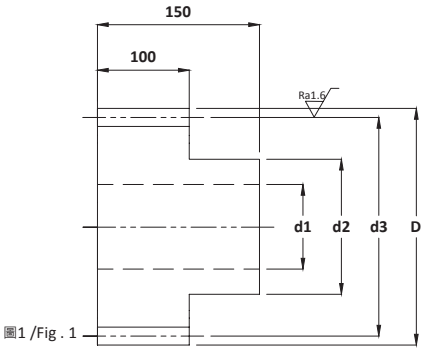


圖1 /Fig . 1

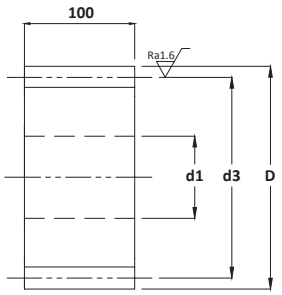


圖2 /Fig . 2

單位 / Dimension : mm

型號 Code	圖 Fig.	DIN	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 10 / Module 10													
SSMM1000201	2	-JIS4	20	40	150	200	220	*	*	*	*	10.31	22.4

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

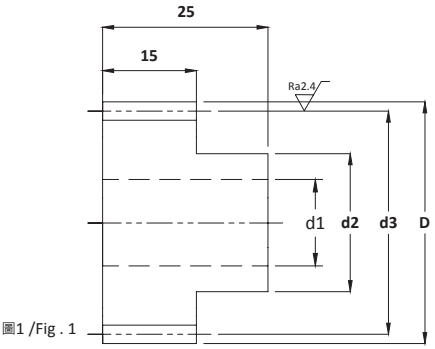


圖1 /Fig . 1

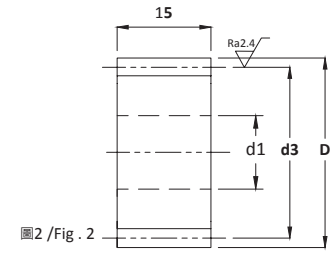


圖2 /Fig . 2

MSMH-JIS5

單位 / Dimension : mm

系列 MSMH-JIS5 直齒硬化齒輪
品質等級 JIS 5

材料 SCM415/SCM440
硬度 HRC 55~60°
表面 噴砂處理
可依要求提供不同表面處理方式

Series MSMH-JIS5 Straight Hardened Pinions
Quality Grade JIS 5

Material SCM415/SCM440
Hardness: HRC 55~60°
Surfaces: Sand-blasted
Other surface treatments are available upon request.

型號 Code	圖 Fig.	JIN	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 1 / Module 1													
MSMHM0100121	1	-JIS5	12	6	9	12.0	14.0	*	*	*	*	*	0.1
MSMHM0100131	1	-JIS5	13	6	9	13.0	15.0	*	*	*	*	*	0.1
MSMHM0100141	1	-JIS5	14	6	11	14.0	16.0	*	*	*	*	*	0.1
MSMHM0100151	1	-JIS5	15	6	12	15.0	17.0	*	*	*	*	*	0.1
MSMHM0100161	1	-JIS5	16	6	12	16.0	18.0	*	*	*	*	0.58	0.1
MSMHM0100171	1	-JIS5	17	6	14	17.0	19.0	*	*	*	*	0.62	0.1
MSMHM0100181	1	-JIS5	18	6	15	18.0	20.0	*	*	*	*	0.66	0.1
MSMHM0100191	1	-JIS5	19	6	15	19.0	21.0	*	*	*	*	0.75	0.1
MSMHM0100201	1	-JIS5	20	6	16	20.0	22.0	*	*	*	*	0.79	0.1
MSMHM0100211	1	-JIS5	21	6	16	21.0	23.0	*	*	*	*	0.83	0.1
MSMHM0100221	1	-JIS5	22	6	18	22.0	24.0	*	*	*	*	0.87	0.1
MSMHM0100231	1	-JIS5	23	6	18	23.0	25.0	*	*	*	*	0.91	0.1
MSMHM0100241	1	-JIS5	24	9	20	24.0	26.0	*	*	*	*	0.95	0.1
MSMHM0100251	1	-JIS5	25	9	20	25.0	27.0	*	*	*	*	1.10	0.1
MSMHM0100301	1	-JIS5	30	9	20	30.0	32.0	*	*	*	*	1.33	0.1
MSMHM0100351	1	-JIS5	35	9	25	35.0	37.0	*	*	*	*	1.55	0.2
MSMHM0100381	1	-JIS5	38	9	25	38.0	40.0	*	*	*	*	1.91	0.2
MSMHM0100401	1	-JIS5	40	9	25	40.0	42.0	*	*	*	*	2.01	0.2
MSMHM0100451	1	-JIS5	45	9	30	45.0	47.0	*	*	*	*	2.26	0.3
MSMHM0100481	1	-JIS5	48	9	30	48.0	50.0	*	*	*	*	2.33	0.3
MSMHM0100501	1	-JIS5	50	9	30	50.0	52.0	*	*	*	*	2.35	0.3
MSMHM0100571	1	-JIS5	57	9	40	57.0	59.0	*	*	*	*	2.40	0.4
MSMHM0100601	1	-JIS5	60	9	40	60.0	62.0	*	*	*	*	2.42	0.4
MSMHM0100761	2	-JIS5	76	10	*	76.0	78.0	*	*	*	*	2.49	0.7
MSMHM0100801	2	-JIS5	80	10	*	80.0	82.0	*	*	*	*	2.50	0.8
MSMHM0100951	2	-JIS5	95	10	*	95.0	97.0	*	*	*	*	2.55	1.1
MSMHM0101001	2	-JIS5	100	10	*	100.0	102.0	*	*	*	*	2.56	1.2
MSMHM0101141	2	-JIS5	114	10	*	114.0	116.0	*	*	*	*	2.59	1.6

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

MSMH-JIS5

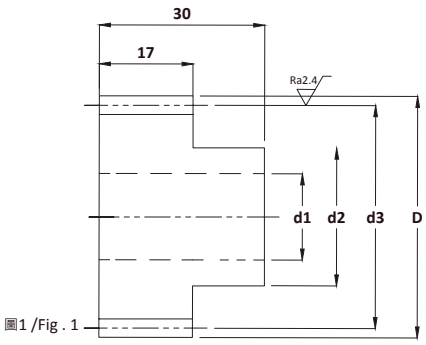


圖1 /Fig . 1

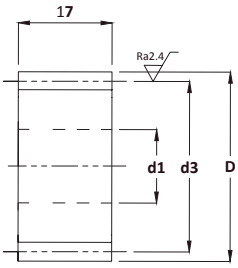


圖2 /Fig . 2

單位 / Dimension : mm

系列 MSMH-JIS5 直齒硬化齒輪
品質等級 JIS 5

材料 SCM415/SCM440
硬度 HRC 55~60°
表面 噴砂處理
可依要求提供不同表面處理方式

Series MSMH-JIS5 Straight Hardened Pinions
Quality Grade JIS 5

Material SCM415/SCM440
Hardness: HRC 55~60°
Surfaces: Sand-blasted
Other surface treatments are available upon request.

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 1.5 / Module 1.5													
MSMHM0150121	1	-JIS5	12	6	14	18.0	21.0	*	*	*	*	*	0.1
MSMHM0150131	1	-JIS5	13	6	14	19.5	22.5	*	*	*	*	*	0.1
MSMHM0150141	1	-JIS5	14	6	16	21.0	24.0	*	*	*	*	*	0.1
MSMHM0150151	1	-JIS5	15	6	18	22.5	25.5	*	*	*	*	*	0.1
MSMHM0150161	1	-JIS5	16	6	18	24.0	27.0	*	*	*	*	1.07	0.1
MSMHM0150171	1	-JIS5	17	9	20	25.5	28.5	*	*	*	*	1.14	0.1
MSMHM0150181	1	-JIS5	18	9	20	27.0	30.0	*	*	*	*	1.21	0.1
MSMHM0150191	1	-JIS5	19	9	20	28.5	31.5	*	*	*	*	1.43	0.1
MSMHM0150201	1	-JIS5	20	9	25	30.0	33.0	*	*	*	*	1.50	0.2
MSMHM0150211	1	-JIS5	21	9	25	31.5	34.5	*	*	*	*	1.58	0.2
MSMHM0150221	1	-JIS5	22	9	25	33.0	36.0	*	*	*	*	1.65	0.2
MSMHM0150231	1	-JIS5	23	9	25	34.5	37.5	*	*	*	*	1.73	0.2
MSMHM0150241	1	-JIS5	24	9	25	36.0	39.0	*	*	*	*	1.80	0.2
MSMHM0150251	1	-JIS5	25	9	25	37.5	40.5	*	*	*	*	1.88	0.2
MSMHM0150301	1	-JIS5	30	9	30	45.0	48.0	*	*	*	*	2.56	0.3
MSMHM0150351	1	-JIS5	35	9	30	52.5	55.5	*	*	*	*	2.99	0.4
MSMHM0150381	1	-JIS5	38	9	40	57.0	60.0	*	*	*	*	3.25	0.5
MSMHM0150401	1	-JIS5	40	9	40	60.0	63.0	*	*	*	*	3.42	0.6
MSMHM0150451	1	-JIS5	45	12	50	67.5	70.5	*	*	*	*	3.84	0.7
MSMHM0150481	1	-JIS5	48	12	50	72.0	75.0	*	*	*	*	3.96	0.8
MSMHM0150501	1	-JIS5	50	12	50	75.0	78.0	*	*	*	*	3.99	0.8
MSMHM0150571	1	-JIS5	57	12	60	85.5	88.5	*	*	*	*	4.08	1.1
MSMHM0150601	1	-JIS5	60	12	60	90.0	93.0	*	*	*	*	4.11	1.2
MSMHM0150761	2	-JIS5	76	16	*	114.0	117.0	*	*	*	*	4.23	1.9
MSMHM0150801	2	-JIS5	80	16	*	120.0	123.0	*	*	*	*	4.26	2.1
MSMHM0150951	2	-JIS5	95	20	*	142.5	145.5	*	*	*	*	4.34	2.9

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

MSMH-JIS5

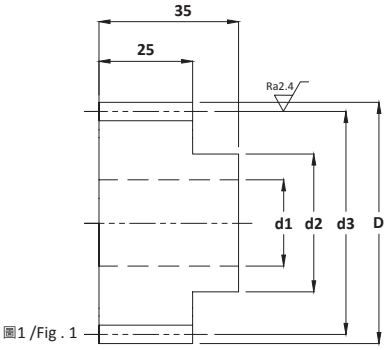


圖1 /Fig . 1

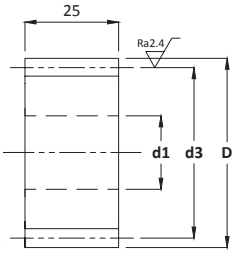


圖2 /Fig . 2

單位 / Dimension : mm

系列 MSMH-JIS5 直齒硬化齒輪
品質等級 DIN 10

材料 SCM415/SCM440
硬度 HRC 55~60°
表面 噴砂處理
可依要求提供不同表面處理方式

Series MSMH-JIS5 Straight Hardened Pinions
Quality Grade DIN 10

Material SCM415/SCM440
Hardness: HRC 55~60°
Surfaces: Sand-blasted
Other surface treatments are available upon request.

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 2 / Module 2													
MSMHM0200121	1	-JIS5	12	9	18	24.0	28.0	*	*	*	*	*	0.1
MSMHM0200131	1	-JIS5	13	9	19	26.0	30.0	*	*	*	*	*	0.1
MSMHM0200141	1	-JIS5	14	9	19	28.0	32.0	*	*	*	*	*	0.2
MSMHM0200151	1	-JIS5	15	9	24.5	30.0	34.0	*	*	*	*	*	0.2
MSMHM0200161	1	-JIS5	16	9	25	32.0	36.0	*	*	*	*	2.10	0.2
MSMHM0200171	1	-JIS5	17	9	25	34.0	38.0	*	*	*	*	2.23	0.2
MSMHM0200181	1	-JIS5	18	9	25	36.0	40.0	*	*	*	*	2.36	0.3
MSMHM0200191	1	-JIS5	19	9	25	38.0	42.0	*	*	*	*	2.49	0.3
MSMHM0200201	1	-JIS5	20	9	30	40.0	44.0	*	*	*	*	2.63	0.3
MSMHM0200211	1	-JIS5	21	9	30	42.0	46.0	*	*	*	*	3.09	0.3
MSMHM0200221	1	-JIS5	22	9	30	44.0	48.0	*	*	*	*	3.24	0.4
MSMHM0200231	1	-JIS5	23	9	30	46.0	50.0	*	*	*	*	3.39	0.4
MSMHM0200241	1	-JIS5	24	12	35	48.0	52.0	*	*	*	*	3.53	0.4
MSMHM0200251	1	-JIS5	25	12	35	50.0	54.0	*	*	*	*	3.68	0.5
MSMHM0200281	1	-JIS5	28	12	40	56.0	60.0	*	*	*	*	4.12	0.6
MSMHM0200301	1	-JIS5	30	12	40	60.0	64.0	*	*	*	*	4.42	0.7
MSMHM0200321	1	-JIS5	32	12	40	64.0	68.0	*	*	*	*	5.36	0.7
MSMHM0200351	1	-JIS5	35	12	50	70.0	74.0	*	*	*	*	5.86	0.9
MSMHM0200361	1	-JIS5	36	12	50	72.0	76.0	*	*	*	*	6.03	0.9
MSMHM0200381	1	-JIS5	38	12	50	76.0	80.0	*	*	*	*	6.36	1.0
MSMHM0200401	1	-JIS5	40	12	50	80.0	84.0	*	*	*	*	6.70	1.1
MSMHM0200451	1	-JIS5	45	12	60	90.0	94.0	*	*	*	*	7.54	1.4
MSMHM0200481	1	-JIS5	48	15	70	96.0	100.0	*	*	*	*	7.77	1.6
MSMHM0200501	1	-JIS5	50	15	70	100.0	104.0	*	*	*	*	7.83	1.8
MSMHM0200561	1	-JIS5	56	15	70	112.0	116.0	*	*	*	*	7.97	2.2
MSMHM0200571	1	-JIS5	57	15	70	114.0	118.0	*	*	*	*	7.99	2.3
MSMHM0200601	1	-JIS5	60	15	70	120.0	124.0	*	*	*	*	8.06	2.5
MSMHM0200761	2	-JIS5	76	20	*	152.0	156.0	*	*	*	*	8.30	3.9
MSMHM0200801	2	-JIS5	80	20	*	160.0	164.0	*	*	*	*	8.35	4.4
MSMHM0200951	2	-JIS5	95	20	*	190.0	194.0	*	*	*	*	8.50	6.1

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

MSMH-JIS5

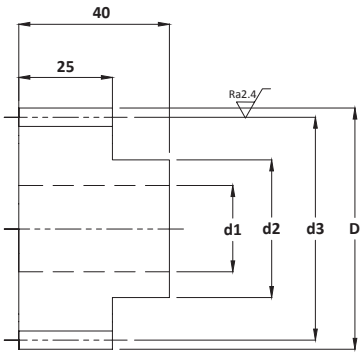


圖1 /Fig . 1

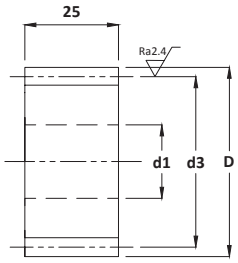


圖2 /Fig . 2

單位 / Dimension : mm

系列 MSMH-JIS5 直齒硬化齒輪
品質等級 JIS 5

材料 SCM415/SCM440
硬度 HRC 55~60°
表面 噴砂處理
可依要求提供不同表面處理方式

Series MSMH-JIS5 Straight Hardened Pinions
Quality Grade JIS 5

Material SCM415/SCM440
Hardness: HRC 55~60°
Surfaces: Sand-blasted
Other surface treatments are available upon request.

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 2.5 / Module 2.5													
MSMHM0250121	1	-JIS5	12	9	20	30.0	35.0	*	*	*	*	*	0.3
MSMHM0250131	1	-JIS5	13	9	20	32.5	37.5	*	*	*	*	*	0.3
MSMHM0250141	1	-JIS5	14	9	25	35.0	40.0	*	*	*	*	*	0.3
MSMHM0250151	1	-JIS5	15	9	25	37.5	42.5	*	*	*	*	*	0.4
MSMHM0250161	1	-JIS5	16	9	30	40.0	45.0	*	*	*	*	2.63	0.4
MSMHM0250171	1	-JIS5	17	9	30	42.5	47.5	*	*	*	*	3.13	0.5
MSMHM0250181	1	-JIS5	18	9	35	45.0	50.0	*	*	*	*	3.31	0.5
MSMHM0250191	1	-JIS5	19	12	35	47.5	52.5	*	*	*	*	3.50	0.6
MSMHM0250201	1	-JIS5	20	12	35	50.0	55.0	*	*	*	*	3.68	0.6
MSMHM0250211	1	-JIS5	21	12	35	52.5	57.5	*	*	*	*	3.86	0.7
MSMHM0250221	1	-JIS5	22	12	40	55.0	60.0	*	*	*	*	4.05	0.7
MSMHM0250231	1	-JIS5	23	12	40	57.5	62.5	*	*	*	*	4.23	0.8
MSMHM0250241	1	-JIS5	24	12	40	60.0	65.0	*	*	*	*	4.42	0.9
MSMHM0250251	1	-JIS5	25	12	45	62.5	67.5	*	*	*	*	5.23	0.9
MSMHM0250301	1	-JIS5	30	12	50	75.0	80.0	*	*	*	*	6.28	1.3
MSMHM0250351	1	-JIS5	35	12	60	87.5	92.5	*	*	*	*	7.33	1.8
MSMHM0250381	1	-JIS5	38	12	60	95.0	100.0	*	*	*	*	7.96	2.1
MSMHM0250401	1	-JIS5	40	12	70	100.0	105.0	*	*	*	*	8.37	2.3
MSMHM0250451	1	-JIS5	45	15	70	112.5	117.5	*	*	*	*	9.42	2.9
MSMHM0250481	1	-JIS5	48	15	80	120.0	125.0	*	*	*	*	9.71	3.3
MSMHM0250501	1	-JIS5	50	15	80	125.0	130.0	*	*	*	*	9.79	3.5
MSMHM0250571	1	-JIS5	57	15	90	142.5	147.5	*	*	*	*	9.99	4.5
MSMHM0250601	1	-JIS5	60	15	90	150.0	155.0	*	*	*	*	10.07	5.0
MSMHM0250761	1	-JIS5	76	20	*	190.0	195.0	*	*	*	*	10.37	7.9
MSMHM0250801	1	-JIS5	80	25	*	200.0	205.0	*	*	*	*	10.43	8.7
MSMHM0250951	1	-JIS5	95	25	*	237.5	242.5	*	*	*	*	10.63	12.2

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

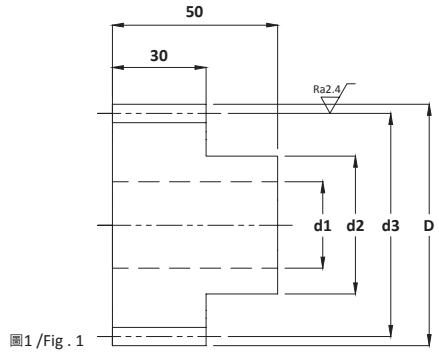


圖1 /Fig . 1

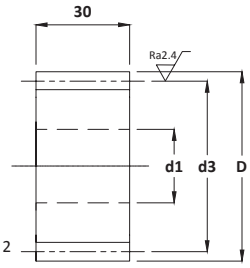


圖2 /Fig . 2

MSMH-JIS5

單位 / Dimension : mm

系列 MSMH-JIS5 直齒硬化齒輪
品質等級 JIS 5

材料 SCM415/SCM440
硬度 HRC 55~60°
表面 噴砂處理
可依要求提供不同表面處理方式

Series MSMH-JIS5 Straight Hardened Pinions
Quality Grade JIS 5

Material SCM415/SCM440
Hardness: HRC 55~60°
Surfaces: Sand-blasted
Other surface treatments are available upon request.

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 3 / Module3													
MSMHM0300121	1	-JIS5	12	14	25	36	42	*	*	*	*	*	0.4
MSMHM0300131	1	-JIS5	13	14	25	39	45	*	*	*	*	*	0.5
MSMHM0300141	1	-JIS5	14	14	25	42	48	*	*	*	*	*	0.5
MSMHM0300151	1	-JIS5	15	14	35	45	51	*	*	*	*	*	0.6
MSMHM0300161	1	-JIS5	16	14	35	48	54	*	*	*	*	3.78	0.7
MSMHM0300171	1	-JIS5	17	14	42	51	57	*	*	*	*	4.50	0.8
MSMHM0300181	1	-JIS5	18	14	45	54	60	*	*	*	*	4.77	0.8
MSMHM0300191	1	-JIS5	19	14	45	57	63	*	*	*	*	5.03	0.9
MSMHM0300201	1	-JIS5	20	14	45	60	66	*	*	*	*	5.30	1.0
MSMHM0300211	1	-JIS5	21	14	45	63	69	*	*	*	*	5.56	1.1
MSMHM0300221	1	-JIS5	22	14	50	66	72	*	*	*	*	5.83	1.2
MSMHM0300231	1	-JIS5	23	14	50	69	75	*	*	*	*	6.09	1.3
MSMHM0300241	1	-JIS5	24	14	50	72	78	*	*	*	*	6.36	1.4
MSMHM0300251	1	-JIS5	25	14	60	75	81	*	*	*	*	7.54	1.5
MSMHM0300271	1	-JIS5	27	14	60	81	87	*	*	*	*	8.14	1.7
MSMHM0300281	1	-JIS5	28	14	60	84	90	*	*	*	*	8.44	1.9
MSMHM0300301	1	-JIS5	30	14	60	90	96	*	*	*	*	9.04	2.1
MSMHM0300321	1	-JIS5	32	14	60	96	102	*	*	*	*	9.65	2.4
MSMHM0300351	1	-JIS5	35	14	80	105	111	*	*	*	*	10.55	2.8
MSMHM0300361	1	-JIS5	36	14	80	108	114	*	*	*	*	10.85	3.0
MSMHM0300381	1	-JIS5	38	14	80	114	120	*	*	*	*	11.46	3.3
MSMHM0300401	1	-JIS5	40	14	80	120	126	*	*	*	*	12.06	3.7
MSMHM0300451	2	-JIS5	45	20	*	135	141	*	*	*	*	13.57	4.6
MSMHM0300481	2	-JIS5	48	20	*	144	150	*	*	*	*	13.99	5.2
MSMHM0300501	2	-JIS5	50	25	*	150	156	*	*	*	*	14.10	5.6
MSMHM0300521	2	-JIS5	52	25	*	156	165	*	*	*	*	14.18	6.3
MSMHM0300561	2	-JIS5	56	25	*	168	174	*	*	*	*	14.34	7.0
MSMHM0300601	2	-JIS5	60	25	*	180	186	*	*	*	*	14.50	8.0
MSMHM0300761	2	-JIS5	76	25	*	228	234	*	*	*	*	14.93	12.7
MSMHM0300801	2	-JIS5	80	25	*	240	246	*	*	*	*	15.02	14.0
MSMHM0300951	2	-JIS5	95	25	*	285	291	*	*	*	*	15.30	19.6

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

MSMH-JIS5

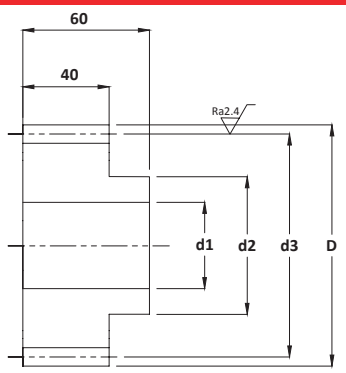


圖1 /Fig . 1

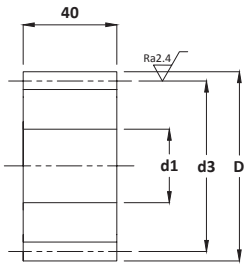


圖2 /Fig . 2

單位 / Dimension : mm

系列 MSMH-JIS5　直齒硬化齒輪
品質等級 JIS 5

材料 SCM415/SCM440
硬度 HRC 55~60°
表面 噴砂處理
可依要求提供不同表面處理方式

Series MSMH-JIS5 Straight Hardened Pinions
Quality Grade JIS 5

Material SCM415/SCM440
Hardness: HRC 55~60°
Surfaces: Sand-blasted
Other surface treatments are available upon request.

型號 Code	圖 Fig.	DIN	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 4 / Module 4													
MSMHM0400121	1	-JIS5	12	16	35	48	56	*	*	*	*	*	0.9
MSMHM0400131	1	-JIS5	13	16	35	52	60	*	*	*	*	*	1.0
MSMHM0400141	1	-JIS5	14	16	45	56	64	*	*	*	*	*	1.1
MSMHM0400151	1	-JIS5	15	16	45	60	68	*	*	*	*	*	1.3
MSMHM0400161	1	-JIS5	16	16	45	64	72	*	*	*	*	6.72	1.4
MSMHM0400171	1	-JIS5	17	16	50	68	76	*	*	*	*	8.01	1.6
MSMHM0400181	1	-JIS5	18	16	50	72	80	*	*	*	*	8.48	1.8
MSMHM0400191	1	-JIS5	19	16	60	76	84	*	*	*	*	8.95	2.0
MSMHM0400201	1	-JIS5	20	16	60	80	88	*	*	*	*	9.42	2.1
MSMHM0400211	1	-JIS5	21	16	70	84	92	*	*	*	*	9.89	2.3
MSMHM0400221	1	-JIS5	22	16	70	88	96	*	*	*	*	10.36	2.6
MSMHM0400231	1	-JIS5	23	16	75	92	100	*	*	*	*	10.83	2.8
MSMHM0400241	1	-JIS5	24	16	75	96	104	*	*	*	*	11.30	3.0
MSMHM0400251	1	-JIS5	25	16	75	100	108	*	*	*	*	13.40	3.2
MSMHM0400301	1	-JIS5	30	16	*	120	128	*	*	*	*	16.08	4.5
MSMHM0400381	2	-JIS5	38	25	*	152	160	*	*	*	*	20.36	7.1
MSMHM0400401	2	-JIS5	40	25	*	160	168	*	*	*	*	21.44	7.8
MSMHM0400451	2	-JIS5	45	25	*	180	188	*	*	*	*	24.12	9.8
MSMHM0400481	2	-JIS5	48	25	*	192	200	*	*	*	*	24.87	11.1
MSMHM0400501	2	-JIS5	50	25	*	200	208	*	*	*	*	25.06	12.0
MSMHM0400521	2	-JIS5	52	25		208	216	*	*	*	*	25.20	12.9
MSMHM0400561	2	-JIS5	56	25	*	224	232	*	*	*	*	25.49	14.9
MSMHM0400601	2	-JIS5	60	25	*	240	248	*	*	*	*	25.78	17.1
MSMHM0400761	2	-JIS5	76	25		304	312	*	*	*	*	26.55	27.0
MSMHM0400801	2	-JIS5	80	25	*	320	328	*	*	*	*	26.71	29.8
MSMHM0400951	2	-JIS5	95	25	*	380	388	*	*	*	*	27.20	41.8

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

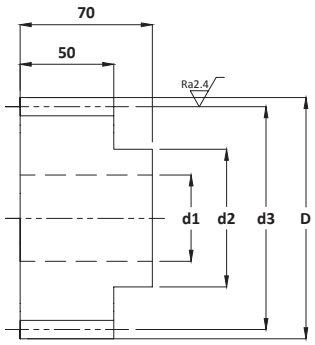


圖1 /Fig . 1

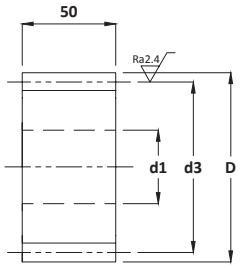


圖2 /Fig . 2

MSMH-JIS5

單位 / Dimension : mm

系列 MSMH-JIS5 直齒硬化齒輪
品質等級 JIS 5

材料 SCM415/SCM440
硬度 HRC 55~60°
表面 噴砂處理
可依要求提供不同表面處理方式

Series MSMH-JIS5 Straight Hardened Pinions
Quality Grade JIS 5

Material SCM415/SCM440
Hardness: HRC 55~60°
Surfaces: Sand-blasted
Other surface treatments are available upon request.

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 5 / Module 5													
MSMHM0500121	1	-JIS5	12	20	45	60	70	*	*	*	*	*	1.6
MSMHM0500131	1	-JIS5	13	20	45	65	75	*	*	*	*	*	1.8
MSMHM0500141	1	-JIS5	14	20	55	70	80	*	*	*	*	*	2.1
MSMHM0500151	1	-JIS5	15	20	60	75	85	*	*	*	*	*	2.3
MSMHM0500161	1	-JIS5	16	20	60	80	90	*	*	*	*	10.50	2.6
MSMHM0500171	1	-JIS5	17	20	70	85	95	*	*	*	*	12.51	2.9
MSMHM0500181	1	-JIS5	18	20	70	90	100	*	*	*	*	13.25	3.2
MSMHM0500191	1	-JIS5	19	20	70	95	105	*	*	*	*	13.98	3.6
MSMHM0500201	1	-JIS5	20	20	70	100	110	*	*	*	*	14.72	3.9
MSMHM0500211	1	-JIS5	21	20	70	105	115	*	*	*	*	15.45	4.3
MSMHM0500221	1	-JIS5	22	20	80	110	120	*	*	*	*	16.19	4.7
MSMHM0500231	1	-JIS5	23	20	80	115	125	*	*	*	*	16.92	5.1
MSMHM0500241	1	-JIS5	24	20	80	120	130	*	*	*	*	17.66	5.5
MSMHM0500251	1	-JIS5	25	20	80	125	135	*	*	*	*	20.93	5.9
MSMHM0500301	1	-JIS5	30	20	90	150	160	*	*	*	*	25.12	8.3
MSMHM0500361	2	-JIS5	36	30	*	180	190	*	*	*	*	30.14	11.7
MSMHM0500381	2	-JIS5	38	30	*	190	200	*	*	*	*	31.82	12.9
MSMHM0500401	2	-JIS5	40	30	*	200	210	*	*	*	*	33.49	14.3
MSMHM0500451	2	-JIS5	45	30	*	225	235	*	*	*	*	37.68	17.9
MSMHM0500481	2	-JIS5	48	30	*	240	250	*	*	*	*	38.86	20.2
MSMHM0500501	2	-JIS5	50	30	*	250	260	*	*	*	*	39.15	21.9
MSMHM0500521	2	-JIS5	52	30	*	260	270	*	*	*	*	39.38	23.6
MSMHM0500561	2	-JIS5	56	30	*	280	290	*	*	*	*	39.89	27.2
MSMHM0500601	2	-JIS5	60	30	*	300	310	*	*	*	*	40.29	31.1
MSMHM0500761	2	-JIS5	76	30	*	380	390	*	*	*	*	41.48	49.2
MSMHM0500801	2	-JIS5	80	30	*	400	410	*	*	*	*	41.73	54.4
MSMHM0500951	2	-JIS5	95	30	*	475	485	*	*	*	*	42.50	76.1

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

MSMH-JIS5

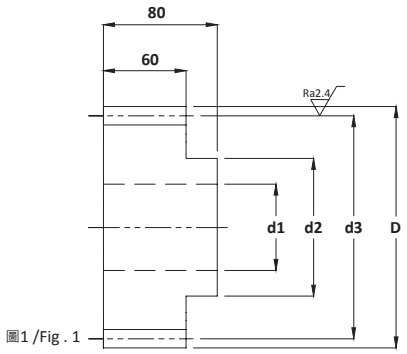


圖1 /Fig . 1

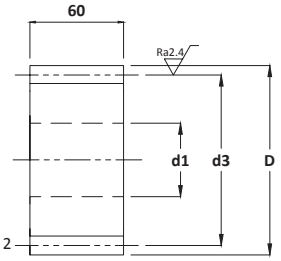


圖2 /Fig . 2

單位 / Dimension : mm

系列 MSMH-JIS5 直齒硬化齒輪
品質等級 JIS 5

材料 SCM415/SCM440
硬度 HRC 55~60°
表面 噴砂處理
可依要求提供不同表面處理方式

Series MSMH-JIS5 Straight Hardened Pinions
Quality Grade JIS 5

Material SCM415/SCM440
Hardness: HRC 55~60°
Surfaces: Sand-blasted
Other surface treatments are available upon request.

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 6 / Module 6													
MSMHM0600151	1	-JIS5	15	20	60	90	102	*	*	*	*	*	3.8
MSMHM0600191	1	-JIS5	19	20	80	114	126	*	*	*	*	20.13	5.9
MSMHM0600201	1	-JIS5	20	20	90	120	132	*	*	*	*	21.19	6.4
MSMHM0600211	1	-JIS5	21	20	90	126	138	*	*	*	*	22.25	7.0
MSMHM0600221	1	-JIS5	22	20	100	132	144	*	*	*	*	23.31	7.7
MSMHM0600251	1	-JIS5	25	20	110	150	162	*	*	*	*	30.14	9.7
MSMHM0600301	2	-JIS5	30	30	*	180	192	*	*	*	*	36.17	13.6
MSMHM0600361	2	-JIS5	36	30	*	216	228	*	*	*	*	43.41	19.2

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

MSMH-JIS5

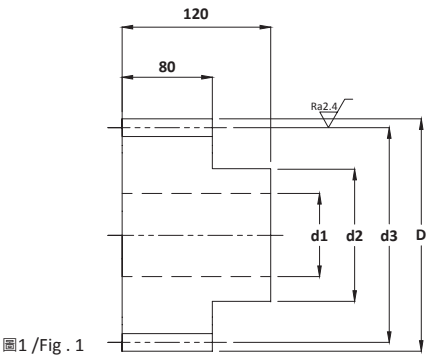


圖1 /Fig . 1

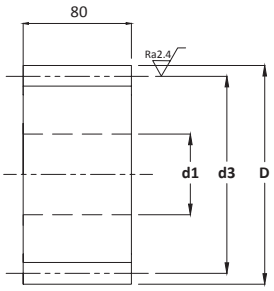


圖2 /Fig . 2

單位 / Dimension : mm

系列 MSMH-JIS5 直齒硬化齒輪
品質等級 JIS 5

材料 SCM415/SCM440
硬度 HRC 55~60°
表面 噴砂處理
可依要求提供不同表面處理方式

Series MSMH-JIS5 Straight Hardened Pinions
Quality Grade JIS 5

Material SCM415/SCM440
Hardness: HRC 55~60°
Surfaces: Sand-blasted
Other surface treatments are available upon request.

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 8 / Module 8													
MSMHM0800151	1	-JIS5	15	40	90	120	136	*	*	*	*	*	10.3
MSMHM0800181	1	-JIS5	18	40	100	144	160	*	*	*	*	33.91	14.2
MSMHM0800201	1	-JIS5	20	40	120	160	176	*	*	*	*	37.68	17.2
MSMHM0800241	1	-JIS5	24	40	150	192	208	*	*	*	*	45.21	24.0
MSMHM0800251	1	-JIS5	25	40	150	200	216	*	*	*	*	53.59	25.9
MSMHM0800301	1	-JIS5	30	40	190	240	256	*	*	*	*	64.31	36.4

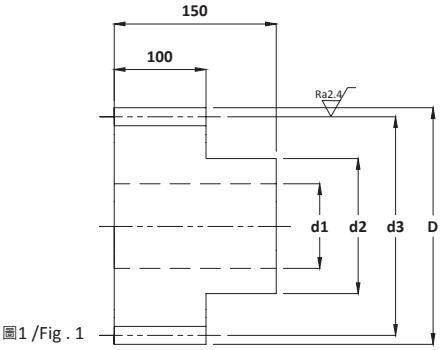


圖1 /Fig . 1

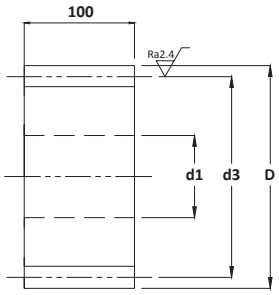


圖2 /Fig . 2

單位 / Dimension : mm

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 10 / Module 10													
MSMHM1000201	2	-JIS5	20	40	150	200	220	*	*	*	*	58.87	33.6

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

MOFPH-JIS2

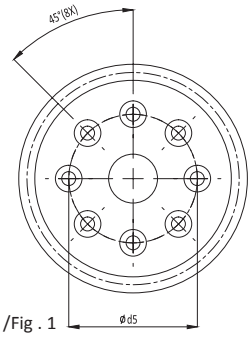


圖1 /Fig . 1

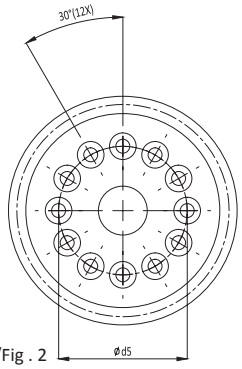
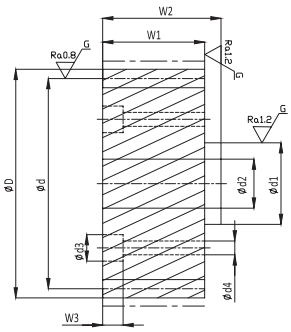


圖2 /Fig . 2



單位 / Dimension : mm

系列 MOFPH-JIS2　斜齒法蘭齒研齒輪
品質等級 JIS 2

材料 SCM415 / SCM440
硬度 HRC 55~60°
硬化處理後齒面研磨

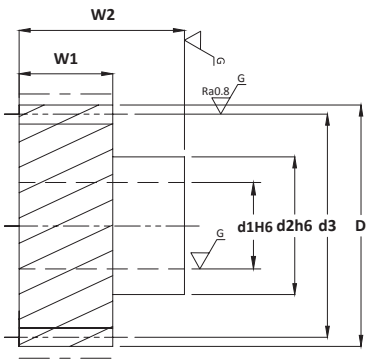
Series MOFPH-JIS2 Helical Flange Teeth Ground Pinions
Quality Grade JIS 2

Material SCM415/ SCM440
Hardness: HRC 55~60°
Teeth Gound after Hardening

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	轉位係數 Shift Coefficient	D	節圓直徑 Pitch Dia.	結合節圓直徑 Working Pitch Dia.	d1	d5	W1	W2	d4	d3	W3	d2	F_{ta} kN
模數 2 / Module 2																
MOFPHM0200261	1	-JIS2	26	0.407	60.800	55.174	56.800	20.0	31.5	26	29	5.5	9.5	12.0	16.2	11.52
MOFPHM0200271	1	-JIS2	27	0.000	61.296	57.296	57.296	20.0	31.5	30	33	5.5	9.5	11.0	16.2	13.84
MOFPHM0200291	1	-JIS2	29	0.415	67.200	61.540	63.200	20.0	31.5	26	29	5.5	9.5	12.0	16.2	12.25
MOFPHM0200292	1	-JIS2	29	0.415	67.200	61.540	63.200	25.0	40	26	29	6.6	11.0	10.5	20.3	12.25
MOFPHM0200331	1	-JIS2	33	0.393	75.599	70.028	71.599	31.5	50	26	29	6.6	11.0	14.0	23.7	12.62
MOFPHM0200351	1	-JIS2	35	0.382	79.800	74.272	75.800	20.0	31.5	26	29	5.5	9.5	12.0	16.2	12.78
MOFPHM0200361	1	-JIS2	36	0.000	80.394	76.394	76.394	31.5	50	30	33	6.6	11.0	8.0	23.7	14.83
MOFPHM0200371	1	-JIS2	37	0.421	84.200	78.517	80.200	31.5	50	26	29	6.6	11.0	14.0	23.7	12.93
MOFPHM0200372	2	-JIS2	37	0.421	84.200	78.517	80.200	31.5	50	26	29	6.6	11.0	14.0	23.7	12.93
模數 3 / Module 3																
MOFPHM0300311	2	-JIS2	31	0.354	106.800	98.676	100.800	31.5	50	31	35	6.6	11.0	14.0	23.7	22.25
MOFPHM0300351	2	-JIS2	35	0.365	119.600	111.409	113.600	50.0	80	31	35	9.0	14.0	10.5	32.2	22.86
MOFPHM0300401	2	-JIS2	40	0.379	135.599	127.324	129.599	50.0	80	31	35	9.0	14.0	10.5	32.2	23.46
模數 4 / Module 4																
MOFPHM0400301	2	-JIS2	30	0.000	135.324	127.324	127.324	50.0	80	45	49	9.0	14.0	9.5	32.2	42.75
MOFPHM0400381	2	-JIS2	38	0.240	171.200	161.277	163.200	80.0	125	41	45	11.0	17.5	10.5	56.1	40.98
模數 5 / Module 5																
MOFPHM0500211	2	-JIS2	21	0.000	121.109	111.409	111.409	50.0	80	59	64	9.0	14.0	11.5	32.2	52.04
MOFPHM0500361	2	-JIS2	36	0.000	200.986	190.986	190.986	80.0	125	55	60	11.0	17.5	12.5	56.1	67.96

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.



MOPH-JIS2

單位 / Dimension : mm

系列 MOPH-JIS2 斜齒齒研齒輪
品質等級 JIS 2
材料 SCM415 / SCM440
左旋角 21°30'
硬度 HRC 55~60°
硬化處理後齒面研磨
可根據要求提供鍵槽和螺孔。

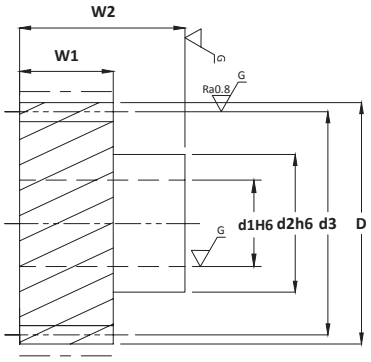
Series MOPH-JIS2 Helical Teeth Ground Pinions
Quality Grade JIS 2
Material SCM415 / SCM440
Left Hand Angle 21°30'
Hardness: HRC 55~60°
Teeth Ground after Hardening
Keyway and screw holes are available upon request.

型號 Code	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 1 / Module 1												
MOPHM010020	-JIS2	20	6	17	20	22	8	18	*	*	1.49	0.1
MOPHM010022	-JIS2	22	8	18	22	24	8	18	*	*	1.65	0.1
MOPHM010024	-JIS2	24	8	20	24	26	8	18	*	*	1.77	0.1
MOPHM010025	-JIS2	25	8	20	25	27	8	18	*	*	1.78	0.1
MOPHM010028	-JIS2	28	8	20	28	30	8	18	*	*	1.84	0.1
MOPHM010030	-JIS2	30	10	25	30	32	8	18	*	*	1.87	0.1
MOPHM010032	-JIS2	32	10	25	32	34	8	18	*	*	1.90	0.1
MOPHM010035	-JIS2	35	10	25	35	37	8	18	*	*	1.93	0.1
MOPHM010036	-JIS2	36	10	25	36	38	8	18	*	*	1.95	0.1
MOPHM010040	-JIS2	40	10	30	40	42	8	18	*	*	1.98	0.1
MOPHM010044	-JIS2	44	10	30	44	46	8	18	*	*	2.01	0.2
MOPHM010045	-JIS2	45	10	30	45	47	8	18	*	*	2.02	0.2
MOPHM010048	-JIS2	48	10	30	48	50	8	18	*	*	2.04	0.2
MOPHM010050	-JIS2	50	12	35	50	52	8	18	*	*	2.06	0.2
MOPHM010060	-JIS2	60	12	40	60	62	8	18	*	*	2.10	0.3
MOPHM010070	-JIS2	70	12	40	70	72	8	18	*	*	2.14	0.4
MOPHM010080	-JIS2	80	15	50	80	82	8	18	*	*	2.18	0.6
MOPHM010090	-JIS2	90	15	50	90	92	8	18	*	*	2.20	0.7
MOPHM010100	-JIS2	100	15	50	100	102	8	18	*	*	2.22	0.9

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

MOPH-JIS2



單位 / Dimension : mm

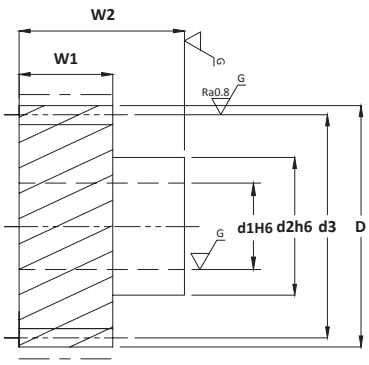
系列 MOPH-JIS2 斜齒齒研齒輪
品質等級 JIS 2
材料 SCM415 / SCM440
左旋角 21°30'
硬度 HRC 55~60°
硬化處理後齒面研磨
可根據要求提供鍵槽和螺孔。

Series MOPH-JIS2 Helical Teeth Ground Pinions
Quality Grade JIS 2
Material SCM415 / SCM440
Left Hand Angle 21°30'
Hardness: HRC 55~60°
Teeth Ground after Hardening
Keyway and screw holes are available upon request.

型號 Code	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 1.5 / Module 1.5												
MOPHM015020	-JIS2	20	12	24	30	33	12	24	*	*	3.34	0.1
MOPHM015022	-JIS2	22	12	26	33	36	12	24	*	*	3.70	0.1
MOPHM015024	-JIS2	24	12	28	36	39	12	24	*	*	3.97	0.2
MOPHM015025	-JIS2	25	12	30	37.5	40.5	12	24	*	*	4.01	0.2
MOPHM015026	-JIS2	26	12	32	39	42	12	24	*	*	4.06	0.2
MOPHM015028	-JIS2	28	15	36	42	45	12	24	*	*	4.14	0.2
MOPHM015030	-JIS2	30	15	38	45	48	12	24	*	*	4.21	0.3
MOPHM015032	-JIS2	32	15	40	48	51	12	24	*	*	4.27	0.3
MOPHM015035	-JIS2	35	15	42	52.5	55.5	12	24	*	*	4.35	0.3
MOPHM015036	-JIS2	36	15	45	54	57	12	24	*	*	4.38	0.4
MOPHM015040	-JIS2	40	15	50	60	63	12	24	*	*	4.46	0.4
MOPHM015044	-JIS2	44	15	50	66	69	12	24	*	*	4.53	0.5
MOPHM015045	-JIS2	45	18	50	67.5	70.5	12	24	*	*	4.55	0.6
MOPHM015048	-JIS2	48	18	50	72	75	12	24	*	*	4.60	0.6
MOPHM015050	-JIS2	50	18	60	75	78	12	24	*	*	4.62	0.7
MOPHM015052	-JIS2	52	18	60	78	81	12	24	*	*	4.65	0.7
MOPHM015060	-JIS2	60	20	60	90	93	12	24	*	*	4.73	1.0
MOPHM015070	-JIS2	70	20	60	105	108	12	24	*	*	4.82	1.3
MOPHM015080	-JIS2	80	20	70	120	123	12	24	*	*	4.89	1.7
MOPHM015090	-JIS2	90	20	70	135	138	12	24	*	*	4.95	2.1
MOPHM015100	-JIS2	100	20	70	150	153	12	24	*	*	5.00	2.6

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.



MOPH-JIS2

單位 / Dimension : mm

系列 MOPH-JIS2 斜齒齒研齒輪
品質等級 JIS 2
材料 SCM415 / SCM440
左旋角 21°30'
硬度 HRC 55~60°
硬化處理後齒面研磨
可根據要求提供鍵槽和螺孔。

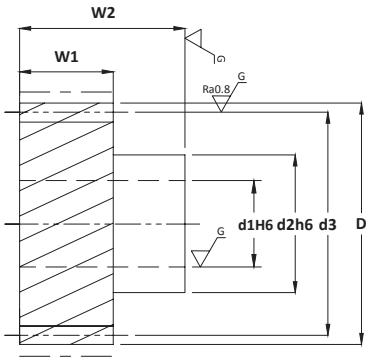
Series MOPH-JIS2 Helical Teeth Ground Pinions
Quality Grade JIS 2
Material SCM415 / SCM440
Left Hand Angle 21°30'
Hardness: HRC 50~55°
Teeth Ground after Hardening
Keyway and screw holes are available upon request.

型號 Code	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 2 / Module 2												
MOPHM020015	-JIS2	15	12	24	30	34	16	29	*	*	3.84	0.2
MOPHM020016	-JIS2	16	12	26	32	36	16	29	*	*	4.12	0.2
MOPHM020018	-JIS2	18	12	30	36	40	16	29	*	*	4.67	0.2
MOPHM020020	-JIS2	20	15	32	40	44	16	29	*	*	5.94	0.3
MOPHM020022	-JIS2	22	15	36	44	48	16	29	*	*	6.58	0.3
MOPHM020024	-JIS2	24	15	38	48	52	16	29	*	*	7.06	0.4
MOPHM020025	-JIS2	25	15	40	50	54	16	29	*	*	7.14	0.4
MOPHM020026	-JIS2	26	15	42	52	56	16	29	*	*	7.21	0.4
MOPHM020028	-JIS2	28	15	45	56	60	16	29	*	*	7.36	0.5
MOPHM020030	-JIS2	30	18	50	60	64	16	29	*	*	7.48	0.5
MOPHM020032	-JIS2	32	18	50	64	68	16	29	*	*	7.59	0.6
MOPHM020035	-JIS2	35	18	50	70	74	16	29	*	*	7.73	0.7
MOPHM020036	-JIS2	36	18	50	72	76	16	29	*	*	7.78	0.8
MOPHM020040	-JIS2	40	20	60	80	84	16	29	*	*	7.93	0.9
MOPHM020044	-JIS2	44	20	60	88	92	16	29	*	*	8.06	1.1
MOPHM020045	-JIS2	45	20	60	90	94	16	29	*	*	8.09	1.2
MOPHM020048	-JIS2	48	20	60	96	100	16	29	*	*	8.17	1.3
MOPHM020050	-JIS2	50	25	60	100	104	16	29	*	*	8.22	1.5
MOPHM020052	-JIS2	52	25	65	104	108	16	29	*	*	8.26	1.6
MOPHM020060	-JIS2	60	25	65	120	124	16	29	*	*	8.42	2.1
MOPHM020070	-JIS2	70	25	70	140	144	16	29	*	*	8.57	2.8
MOPHM020080	-JIS2	80	25	80	160	164	16	29	*	*	8.70	3.6
MOPHM020090	-JIS2	90	25	90	180	184	16	29	*	*	8.79	4.5
MOPHM020100	-JIS2	100	25	100	200	204	16	29	*	*	8.88	5.6

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

MOPH-JIS2



單位 / Dimension : mm

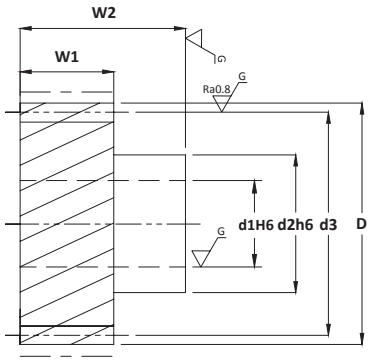
系列 MOPH-JIS2 斜齒齒研齒輪
品質等級 JIS 2
材料 SCM415 / SCM440
左旋角 21°30'
硬度 HRC 55~60°
硬化處理後齒面研磨
可根據要求提供鍵槽和螺孔。

Series MOPH-JIS2 Helical Teeth Ground Pinions
Quality Grade JIS 2
Material SCM415 / SCM440
Left Hand Angle 21°30'
Hardness: HRC 55~60°
Teeth Ground after Hardening
Keyway and screw holes are available upon request.

型號 Code	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 2.5 / Module 2.5												
MOPHM025015	-JIS2	15	15	30	37.5	42.5	20	34	*	*	6.00	0.3
MOPHM025016	-JIS2	16	15	32	40	45	20	34	*	*	6.43	0.3
MOPHM025018	-JIS2	18	15	38	45	50	20	34	*	*	7.29	0.4
MOPHM025020	-JIS2	20	18	40	50	55	20	34	*	*	9.29	0.5
MOPHM025022	-JIS2	22	18	44	55	60	20	34	*	*	10.28	0.6
MOPHM025024	-JIS2	24	18	48	60	65	20	34	*	*	11.03	0.7
MOPHM025025	-JIS2	25	20	50	62.5	67.5	20	34	*	*	11.15	0.7
MOPHM025026	-JIS2	26	20	50	65	70	20	34	*	*	11.27	0.8
MOPHM025028	-JIS2	28	20	60	70	75	20	34	*	*	11.50	0.9
MOPHM025030	-JIS2	30	20	65	75	80	20	34	*	*	11.69	1.0
MOPHM025032	-JIS2	32	20	70	80	85	20	34	*	*	11.87	1.1
MOPHM025035	-JIS2	35	20	70	87.5	92.5	20	34	*	*	12.08	1.3
MOPHM025036	-JIS2	36	20	70	90	95	20	34	*	*	12.16	1.4
MOPHM025040	-JIS2	40	25	70	100	105	20	34	*	*	12.40	1.7
MOPHM025044	-JIS2	44	25	75	110	115	20	34	*	*	12.59	2.1
MOPHM025045	-JIS2	45	25	75	112.5	117.5	20	34	*	*	12.64	2.2
MOPHM025048	-JIS2	48	25	75	120	125	20	34	*	*	12.77	2.5
MOPHM025050	-JIS2	50	25	80	125	130	20	34	*	*	12.84	2.7
MOPHM025052	-JIS2	52	25	80	130	135	20	34	*	*	12.91	2.9
MOPHM025060	-JIS2	60	25	80	150	155	20	34	*	*	13.15	3.8

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.



MOPH-JIS2

單位 / Dimension : mm

系列 MOPH-JIS2 斜齒齒研齒輪
品質等級 JIS 2
材料 SCM415 / SCM440
左旋角 21°30'
硬度 HRC 55~60°
硬化處理後齒面研磨
可根據要求提供鍵槽和螺孔。

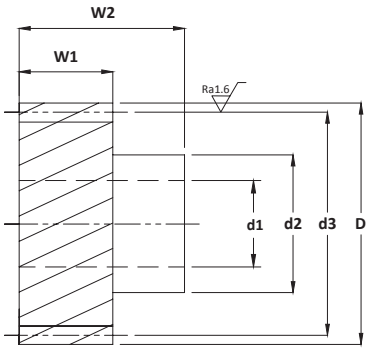
Series MOPH-JIS2 Helical Teeth Ground Pinions
Quality Grade JIS 2
Material SCM415 / SCM440
Left Hand Angle 21°30'
Hardness: HRC 55~60°
Teeth Ground after Hardening
Keyway and screw holes are available upon request.

型號 Code	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 3 / Module 3												
MOPHM030015	-JIS2	15	18	36	45	51	25	41	*	*	9.19	0.4
MOPHM030016	-JIS2	16	18	38	48	54	25	41	*	*	9.84	0.4
MOPHM030018	-JIS2	18	18	40	54	60	25	41	*	*	11.17	0.5
MOPHM030020	-JIS2	20	20	50	60	66	25	41	*	*	14.23	0.7
MOPHM030022	-JIS2	22	20	54	66	72	25	41	*	*	15.76	0.8
MOPHM030024	-JIS2	24	20	58	72	78	25	41	*	*	16.55	0.9
MOPHM030025	-JIS2	25	20	60	75	81	25	41	*	*	16.73	1.0
MOPHM030026	-JIS2	26	20	60	78	84	25	41	*	*	16.90	1.1
MOPHM030028	-JIS2	28	20	70	84	90	25	41	*	*	17.25	1.2
MOPHM030030	-JIS2	30	25	75	90	96	25	41	*	*	17.53	1.4
MOPHM030032	-JIS2	32	25	75	96	102	25	41	*	*	17.80	1.6
MOPHM030035	-JIS2	35	25	80	105	111	25	41	*	*	18.13	1.9
MOPHM030036	-JIS2	36	25	80	108	114	25	41	*	*	18.24	2.0
MOPHM030040	-JIS2	40	25	80	120	126	25	41	*	*	18.60	2.4
MOPHM030044	-JIS2	44	25	80	132	138	25	41	*	*	18.88	2.9
MOPHM030045	-JIS2	45	25	80	135	141	25	41	*	*	18.95	3.0
MOPHM030048	-JIS2	48	25	85	144	150	25	41	*	*	19.16	3.4
MOPHM030050	-JIS2	50	30	85	150	156	25	41	*	*	19.26	3.7
MOPHM030052	-JIS2	52	30	85	156	162	25	41	*	*	19.37	4.0
MOPHM030060	-JIS2	60	30	90	180	186	25	41	*	*	19.73	5.2

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

SOM-JIS4



單位 / Dimension : mm

系列 SOM-JIS4 斜齒齒輪
品質等級 JIS 4

材料 S45C / S50C
左旋角 15°
可根據要求提供鍵槽和螺孔。

Series SOM-JIS4 Helical Pinions
Quality Grade JIS 4

Material S45C / S50C
Left Hand Angle 15°
Keyway and screw holes are available upon request.

型號 Code	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 2 / Module 2												
SOMM020015	-JIS4	15	12	24	31.05	35.06	25	35	*	*	0.57	0.2
SOMM020020	-JIS4	20	12	32	41.41	45.41	25	35	*	*	0.84	0.3
SOMM020030	-JIS4	30	12	50	62.11	66.12	25	35	*	*	1.45	0.7
SOMM020040	-JIS4	40	18	60	82.82	86.82	25	35	*	*	2.23	1.2
SOMM020060	-JIS4	60	18	70	124.23	128.23	25	35	*	*	3.42	2.7
SOMM020090	-JIS4	90	18	120	186.35	190.35	25	35	*	*	4.77	5.9
模數 3 / Module 3												
SOMM030015	-JIS4	15	15	36	46.58	52.59	35	50	*	*	1.26	0.5
SOMM030020	-JIS4	20	15	50	62.11	68.12	35	50	*	*	1.92	0.9
SOMM030030	-JIS4	30	20	70	93.17	99.17	35	50	*	*	3.37	1.8
SOMM030040	-JIS4	40	20	80	124.23	130.23	35	50	*	*	4.56	3.1
SOMM030060	-JIS4	60	20	140	186.35	192.35	35	50	*	*	8.41	6.8

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

MSPH-JIS2

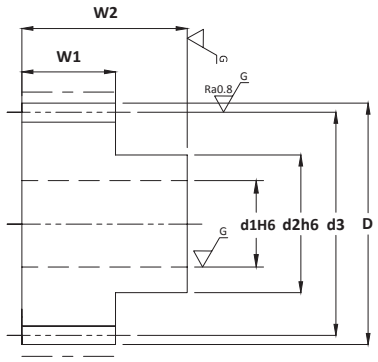


圖1 /Fig . 1

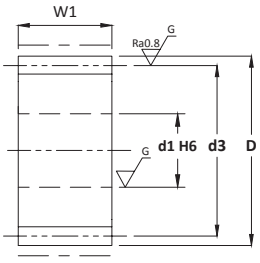


圖2 /Fig . 2

單位 / Dimension : mm

系列 MSPH-JIS2 直齒齒研齒輪
品質等級 JIS 2

材料 SCM415 / SCM440
硬度 HRC 55~60°
硬化處理後齒面研磨
可根據要求提供鍵槽和螺孔

Series MSPH-JIS2 Straight Teeth Ground Pinions
Quality Grade JIS 2

Material SCM415 / SCM440
Hardness: HRC 55~60°
Teeth Ground after Hardening
Keyway and screw holes are available upon request.

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 1 / Module 1													
MSPHM010018	1	-JIS2	18	8	15	18	20	10	15	3	1.4	0.81	0.1
MSPHM010020	1	-JIS2	20	8	17	20	22	10	15	3	1.4	0.90	0.1
MSPHM010020	2	-JIS2	20	10	17	20	22	10	15	4	1.8	0.90	0.1
MSPHM010024	1	-JIS2	24	10	20	24	26	10	15	4	1.8	1.08	0.1
MSPHM010024	2	-JIS2	24	12	20	24	26	10	15	4	1.8	1.08	0.1
MSPHM010025	1	-JIS2	25	10	20	25	27	10	15	4	1.8	1.28	0.1
MSPHM010025	2	-JIS2	25	12	20	25	27	10	15	4	1.8	1.28	0.1
MSPHM010030	1	-JIS2	30	10	25	30	32	10	15	4	1.8	1.53	0.1
MSPHM010030	2	-JIS2	30	12	25	30	32	10	15	4	1.8	1.53	0.1
MSPHM010035	1	-JIS2	35	10	25	35	37	10	15	4	1.8	1.79	0.1
MSPHM010035	2	-JIS2	35	15	25	35	37	10	15	5	2.3	1.79	0.1
MSPHM010036	1	-JIS2	36	12	25	36	38	10	15	4	1.8	1.84	0.1
MSPHM010036	2	-JIS2	36	15	25	36	38	10	15	5	2.3	1.84	0.1
MSPHM010040	1	-JIS2	40	12	30	40	42	10	15	4	1.8	2.05	0.1
MSPHM010040	2	-JIS2	40	15	30	40	42	10	15	5	2.3	2.05	0.1
MSPHM010045	1	-JIS2	45	12	30	45	47	10	15	4	1.8	2.10	0.2
MSPHM010045	2	-JIS2	45	15	30	45	47	10	15	5	2.3	2.10	0.2
MSPHM010048	1	-JIS2	48	12	30	48	50	10	15	4	1.8	2.12	0.2
MSPHM010048	2	-JIS2	48	15	30	48	50	10	15	5	2.3	2.12	0.2
MSPHM010050	1	-JIS2	50	12	35	50	52	10	15	4	1.8	2.14	0.2
MSPHM010050	2	-JIS2	50	15	35	50	52	10	15	5	2.3	2.14	0.2

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

MSPH-JIS2

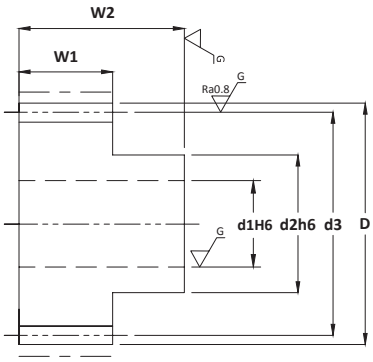


圖1 /Fig . 1

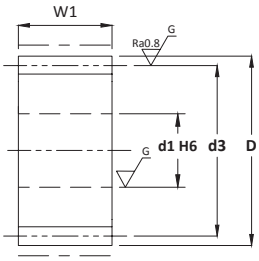


圖2 /Fig . 2

單位 / Dimension : mm

系列 MSPH-JIS2 直齒齒研齒輪
品質等級 JIS 2

材料 SCM415 / SCM440
硬度 HRC 55~60°
表面 染黑處理，不含齒部
硬化處理後齒面研磨
可根據要求提供鍵槽和螺孔

Series MSPH-JIS2 Straight Teeth Ground Pinions
Quality Grade JIS 2

Material SCM415 / SCM440
Hardness: HRC 55~60°
Surfaces: Black-coated (Exclude Teeth)
Teeth Ground after Hardening
Keyway and screw holes are available upon request.

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 1.5 / Module 1.5													
MSPHM015015	1	-JIS2	15	10	18	22.5	22.5	15	25	4	1.8	*	0.1
MSPHM015018	1	-JIS2	18	10	22	27	30	15	25	4	1.8	1.82	0.1
MSPHM015018	2	-JIS2	18	12	22	27	30	15	25	4	1.8	1.82	0.1
MSPHM015020	1	-JIS2	20	12	25	30	33	15	25	4	1.8	2.02	0.1
MSPHM015020	2	-JIS2	20	15	25	30	33	15	25	5	2.3	2.02	0.1
MSPHM015024	1	-JIS2	24	12	28	36	39	15	25	4	1.8	2.43	0.2
MSPHM015024	2	-JIS2	24	15	28	36	39	15	25	5	2.3	2.43	0.2
MSPHM015025	1	-JIS2	25	14	30	37.5	40.5	15	25	5	2.3	2.88	0.2
MSPHM015025	2	-JIS2	25	16	30	37.5	40.5	15	25	5	2.3	2.88	0.2
MSPHM015030	1	-JIS2	30	15	30	45	48	15	25	5	2.3	3.45	0.3
MSPHM015030	2	-JIS2	30	18	30	45	48	15	25	6	2.8	3.45	0.3
MSPHM015035	1	-JIS2	35	15	32	52.5	55.5	15	25	5	2.3	4.03	0.4
MSPHM015035	2	-JIS2	35	18	32	52.5	55.5	15	25	6	2.8	4.03	0.4
MSPHM015036	1	-JIS2	36	15	32	54	57	15	25	5	2.3	4.14	0.4
MSPHM015036	2	-JIS2	36	18	32	54	57	15	25	6	2.8	4.14	0.4
MSPHM015040	1	-JIS2	40	16	35	60	63	15	25	5	2.3	4.60	0.5
MSPHM015040	2	-JIS2	40	20	35	60	63	15	25	6	2.8	4.60	0.5
MSPHM015045	1	-JIS2	45	16	40	67.5	70.5	15	25	5	2.3	4.71	0.6
MSPHM015045	2	-JIS2	45	20	40	67.5	70.5	15	25	6	2.8	4.71	0.6
MSPHM015048	1	-JIS2	48	16	40	72	75	15	25	5	2.3	4.77	0.7
MSPHM015048	2	-JIS2	48	20	40	72	75	15	25	6	2.8	4.77	0.7
MSPHM015050	1	-JIS2	50	18	40	75	78	15	25	6	2.8	4.81	0.7
MSPHM015050	2	-JIS2	50	22	40	75	78	15	25	6	2.8	4.81	0.7
MSPHM015055	1	-JIS2	55	20	45	82.5	85.5	15	25	6	2.8	4.88	0.8
MSPHM015055	2	-JIS2	55	25	45	82.5	85.5	15	25	8	3.3	4.88	0.8
MSPHM015060	1	-JIS2	60	20	45	90	93	15	25	6	2.8	4.94	1.0
MSPHM015060	2	-JIS2	60	25	45	90	93	15	25	8	3.3	4.94	1.0
MSPHM015070	1	-JIS2	70	20	45	105	108	15	25	6	2.8	5.04	1.3
MSPHM015070	2	-JIS2	70	25	45	105	108	15	25	8	3.3	5.04	1.3
MSPHM015080	1	-JIS2	80	20	45	120	123	15	25	6	2.8	5.12	1.7
MSPHM015080	2	-JIS2	80	25	45	120	123	15	25	8	3.3	5.12	1.7

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

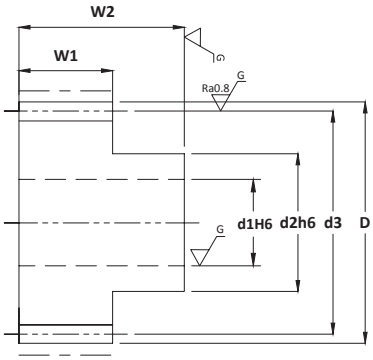


圖1 /Fig . 1

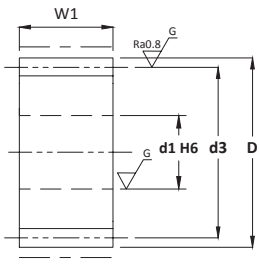


圖2 /Fig . 2

MSPH-JIS2

單位 / Dimension : mm

系列 MSPH-JIS2 直齒齒研齒輪
品質等級 JIS 2

材料 SCM415 / SCM440
硬度 HRC 55~60°
硬化處理後齒面研磨
可根據要求提供鍵槽和螺孔

Series MSPH-JIS2 Straight Teeth Ground Pinions
Quality Grade JIS 2

Material SCM415 / SCM440
Hardness: HRC 55~60°
Teeth Ground after Hardening
Keyway and screw holes are available upon request.

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 2 / Module 2													
MSPHM020015	1	-JIS2	15	12	24	30	34	20	30	4	1.8	*	0.2
MSPHM020015	2	-JIS2	15	15	24	30	34	20	30	5	2.3	*	0.2
MSPHM020018	1	-JIS2	18	12	30	36	40	20	30	4	1.8	3.24	0.2
MSPHM020018	2	-JIS2	18	15	30	36	40	20	30	5	2.3	3.24	0.2
MSPHM020020	1	-JIS2	20	15	32	40	44	20	30	5	2.3	3.59	0.3
MSPHM020020	2	-JIS2	20	18	32	40	44	20	30	6	2.8	3.59	0.3
MSPHM020024	1	-JIS2	24	15	35	48	52	20	30	5	2.3	4.31	0.4
MSPHM020024	2	-JIS2	24	18	35	48	52	20	30	6	2.8	4.31	0.4
MSPHM020025	1	-JIS2	25	16	35	50	54	20	30	5	2.3	5.11	0.4
MSPHM020025	2	-JIS2	25	20	35	50	54	20	30	6	2.8	5.11	0.4
MSPHM020030	1	-JIS2	30	18	40	60	64	20	30	6	2.8	6.14	0.6
MSPHM020030	2	-JIS2	30	22	40	60	64	20	30	6	2.8	6.14	0.6
MSPHM020035	1	-JIS2	35	18	40	70	74	20	30	6	2.8	7.16	0.8
MSPHM020035	2	-JIS2	35	22	40	70	74	20	30	6	2.8	7.16	0.8
MSPHM020036	1	-JIS2	36	18	40	72	76	20	30	6	2.8	7.36	0.8
MSPHM020036	2	-JIS2	36	22	40	72	76	20	30	6	2.8	7.36	0.8
MSPHM020040	1	-JIS2	40	20	45	80	84	20	30	6	2.8	8.18	1.0
MSPHM020040	2	-JIS2	40	25	45	80	84	20	30	8	3.3	8.18	1.0
MSPHM020045	1	-JIS2	45	20	45	90	94	20	30	6	2.8	8.38	1.2
MSPHM020045	2	-JIS2	45	25	45	90	94	20	30	8	3.3	8.38	1.2
MSPHM020048	1	-JIS2	48	22	50	96	100	20	30	6	2.8	8.48	1.4
MSPHM020048	2	-JIS2	48	28	50	96	100	20	30	8	3.3	8.48	1.4
MSPHM020050	1	-JIS2	50	22	50	100	104	20	30	6	2.8	8.54	1.5
MSPHM020050	2	-JIS2	50	28	50	100	104	20	30	8	3.3	8.54	1.5
MSPHM020055	1	-JIS2	55	25	55	110	114	20	30	8	3.3	8.67	1.8
MSPHM020055	2	-JIS2	55	30	55	110	114	20	30	8	3.3	8.67	1.8
MSPHM020060	1	-JIS2	60	25	55	120	124	20	30	8	3.3	8.79	2.1
MSPHM020060	2	-JIS2	60	30	55	120	124	20	30	8	3.3	8.79	2.1
MSPHM020070	1	-JIS2	70	25	55	140	144	20	30	8	3.3	8.96	2.9
MSPHM020070	2	-JIS2	70	30	55	140	144	20	30	8	3.3	8.96	2.9
MSPHM020080	1	-JIS2	80	30	60	160	164	20	30	8	3.3	9.11	3.7
MSPHM020080	2	-JIS2	80	35	60	160	164	20	30	10	3.3	9.11	3.7

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

MSPH-JIS2

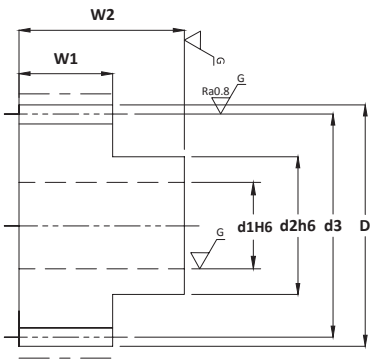


圖1 /Fig . 1

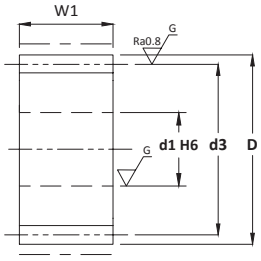


圖2 /Fig . 2

單位 / Dimension : mm

系列 MSPH-JIS2 直齒齒研齒輪
品質等級 JIS 2

材料 SCM415 / SCM440
硬度 HRC 55~60°
硬化處理後齒面研磨
可根據要求提供鍵槽和螺孔

Series MSPH-JIS2 Straight Teeth Ground Pinions
Quality Grade JIS 2

Material SCM415 / SCM440
Hardness: HRC 55~60°
Surfaces: Black-coated (Exclude Teeth)
Teeth Ground after Hardening
Keyway and screw holes are available upon request.

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 2.5 / Module 2.5													
MSPHM025015	1	-JIS2	15	15	30	37.5	42.5	25	37	5	2.3	*	0.3
MSPHM025015	2	-JIS2	15	18	30	37.5	42.5	25	37	6	2.8	*	0.3
MSPHM025018	1	-JIS2	18	18	38	45	50	25	37	6	2.8	5.05	0.4
MSPHM025018	2	-JIS2	18	20	38	45	50	25	37	6	2.8	5.05	0.4
MSPHM025020	1	-JIS2	20	18	40	50	55	25	37	6	2.8	5.62	0.5
MSPHM025020	2	-JIS2	20	22	40	50	55	25	37	6	2.8	5.62	0.5
MSPHM025024	1	-JIS2	24	18	40	60	65	25	37	6	2.8	6.74	0.7
MSPHM025024	2	-JIS2	24	22	40	60	65	25	37	6	2.8	6.74	0.7
MSPHM025025	1	-JIS2	25	20	45	62.5	67.5	25	37	6	2.8	7.99	0.8
MSPHM025025	2	-JIS2	25	25	45	62.5	67.5	25	37	8	3.3	7.99	0.8
MSPHM025030	1	-JIS2	30	22	50	75	80	25	37	6	2.8	9.59	1.1
MSPHM025030	2	-JIS2	30	28	50	75	80	25	37	8	3.3	9.59	1.1
MSPHM025035	1	-JIS2	35	25	55	87.5	92.5	25	37	8	3.3	11.18	1.5
MSPHM025035	2	-JIS2	35	30	55	87.5	92.5	25	37	8	3.3	11.18	1.5
MSPHM025036	1	-JIS2	36	25	55	90	95	25	37	8	3.3	11.50	1.5
MSPHM025036	2	-JIS2	36	30	55	90	95	25	37	8	3.3	11.50	1.5
MSPHM025040	1	-JIS2	40	25	55	100	105	25	37	8	3.3	12.78	1.9
MSPHM025040	2	-JIS2	40	32	55	100	105	25	37	10	3.3	12.78	1.9
MSPHM025045	1	-JIS2	45	30	60	112.5	117.5	25	37	8	3.3	13.10	2.4
MSPHM025045	2	-JIS2	45	35	60	112.5	117.5	25	37	10	3.3	13.10	2.4
MSPHM025048	1	-JIS2	48	30	60	120	125	25	37	8	3.3	13.25	2.7
MSPHM025048	2	-JIS2	48	35	60	120	125	25	37	10	3.3	13.25	2.7
MSPHM025050	1	-JIS2	50	30	60	125	130	25	37	8	3.3	13.35	2.9
MSPHM025050	2	-JIS2	50	35	60	125	130	25	37	10	3.3	13.35	2.9
MSPHM025055	1	-JIS2	55	30	70	137.5	142.5	25	37	8	3.3	13.54	3.5
MSPHM025055	2	-JIS2	55	40	70	137.5	142.5	25	37	12	3.3	13.54	3.5
MSPHM025060	1	-JIS2	60	30	70	150	155	25	37	8	3.3	13.74	4.1
MSPHM025060	2	-JIS2	60	40	70	150	155	25	37	12	3.3	13.74	4.1
MSPHM025070	1	-JIS2	70	40	85	175	180	25	37	12	3.3	14.01	5.5
MSPHM025070	2	-JIS2	70	50	85	175	180	25	37	14	3.8	14.01	5.5

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

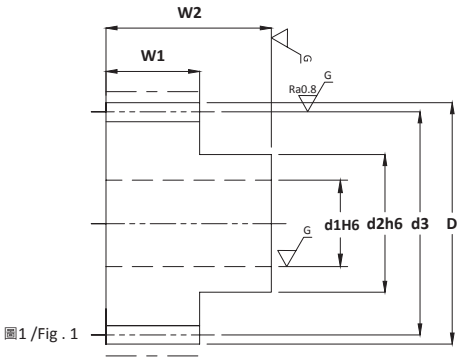


圖1 /Fig . 1

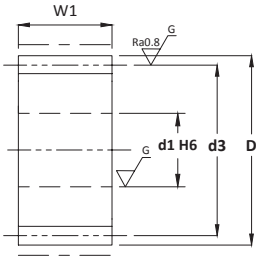


圖2 /Fig . 2

MSPH-JIS2

單位 / Dimension : mm

系列 MSPH-JIS2 直齒齒研齒輪
品質等級 JIS 2

材料 SCM415 / SCM440
硬度 HRC 55~60°
可根據要求提供鍵槽和螺孔

Series MSPH-JIS2 Straight Teeth Ground Pinions
Quality Grade JIS 2

Material SCM415 / SCM440
Hardness: HRC 55~60°
Keyway and screw holes are available upon request.

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 3 / Module 3													
MSPHM030015	1	-JIS2	15	18	36	45	51	30	45	6	2.8	*	0.4
MSPHM030015	2	-JIS2	15	22	36	45	51	30	45	6	2.8	*	0.4
MSPHM030018	1	-JIS2	18	20	45	54	60	30	45	6	2.8	7.28	0.6
MSPHM030018	2	-JIS2	18	25	45	54	60	30	45	8	3.3	7.28	0.6
MSPHM030020	1	-JIS2	20	20	45	60	66	30	45	6	2.8	8.09	0.7
MSPHM030020	2	-JIS2	20	25	45	60	66	30	45	8	3.3	8.09	0.7
MSPHM030024	1	-JIS2	24	20	45	72	78	30	45	6	3.3	9.70	1.0
MSPHM030024	2	-JIS2	24	25	45	72	78	30	45	8	3.3	9.70	1.0
MSPHM030025	1	-JIS2	25	25	55	75	81	30	45	8	3.3	11.50	1.1
MSPHM030025	2	-JIS2	25	30	55	75	81	30	45	10	3.3	11.50	1.1
MSPHM030030	1	-JIS2	30	28	60	90	96	30	45	8	3.3	13.80	1.5
MSPHM030030	2	-JIS2	30	35	60	90	96	30	45	10	3.3	13.80	1.5
MSPHM030035	1	-JIS2	35	30	60	105	111	30	45	8	3.3	16.10	2.1
MSPHM030035	2	-JIS2	35	35	60	105	111	30	45	10	3.3	16.10	2.1
MSPHM030036	1	-JIS2	36	30	60	108	114	30	45	8	3.3	16.56	2.2
MSPHM030036	2	-JIS2	36	35	60	108	114	30	45	10	3.3	16.56	2.2
MSPHM030040	1	-JIS2	40	30	70	120	126	30	45	8	3.3	18.40	2.6
MSPHM030040	2	-JIS2	40	40	70	120	126	30	45	12	3.3	18.40	2.6
MSPHM030045	1	-JIS2	45	30	70	135	141	30	45	8	3.3	18.86	3.3
MSPHM030045	2	-JIS2	45	40	70	135	141	30	45	12	3.3	18.86	3.3
MSPHM030048	1	-JIS2	48	35	70	144	150	30	45	10	3.3	19.07	3.7
MSPHM030048	2	-JIS2	48	40	70	144	150	30	45	12	3.3	19.07	3.7
MSPHM030050	1	-JIS2	50	32	70	150	156	30	45	10	3.3	19.22	4.1
MSPHM030050	2	-JIS2	50	40	70	150	156	30	45	12	3.3	19.22	4.1
MSPHM030055	1	-JIS2	55	35	70	165	171	30	45	10	3.3	19.50	4.9
MSPHM030055	2	-JIS2	55	40	70	165	171	30	45	12	3.3	19.50	4.9
MSPHM030060	1	-JIS2	60	35	80	180	186	30	45	10	3.3	19.78	5.8
MSPHM030060	2	-JIS2	60	45	80	180	186	30	45	14	3.8	19.78	5.8

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

MSPH-JIS2

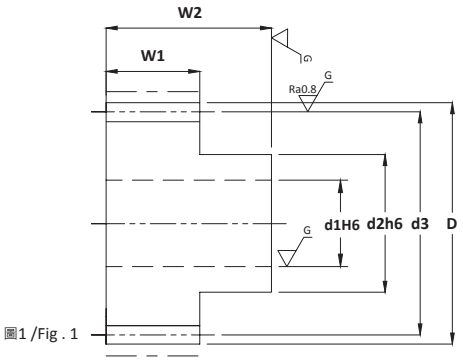


圖1 /Fig . 1

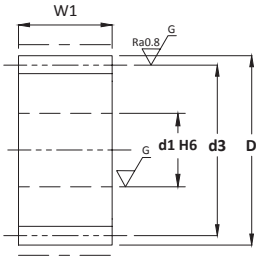


圖2 /Fig . 2

單位 / Dimension : mm

系列 MSPH-JIS2 直齒齒研齒輪
品質等級 JIS 2

材料 SCM415 / SCM440
硬度 HRC 55~60°
硬化處理後齒面研磨
可根據要求提供鍵槽和螺孔

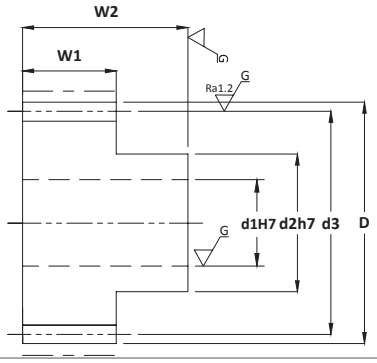
Series MSPH-JIS2 Straight Teeth Ground Pinions
Quality Grade JIS 2

Material SCM415 / SCM440
Hardness: HRC 55~60°
Teeth Ground after Hardening
Keyway and screw holes are available upon request.

型號 Code	圖 Fig.	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 4 / Module 4													
MSPHM040015	1	-JIS2	15	25	48	60	68	40	60	8	3.3	*	0.9
MSPHM040015	2	-JIS2	15	30	48	60	68	40	60	8	3.3	*	0.9
MSPHM040018	1	-JIS2	18	25	50	72	80	40	60	8	3.3	12.94	1.2
MSPHM040018	2	-JIS2	18	30	50	72	80	40	60	8	3.3	12.94	1.2
MSPHM040020	1	-JIS2	20	28	60	80	88	40	60	8	3.3	14.38	1.4
MSPHM040020	2	-JIS2	20	32	60	80	88	40	60	10	3.3	14.38	1.4
MSPHM040024	1	-JIS2	24	28	60	96	104	40	60	8	3.3	17.25	2.0
MSPHM040024	2	-JIS2	24	32	60	96	104	40	60	10	3.3	17.25	2.0
MSPHM040025	1	-JIS2	25	30	60	100	108	40	60	8	3.3	20.45	2.2
MSPHM040025	2	-JIS2	25	35	60	100	108	40	60	10	3.3	20.45	2.2
MSPHM040030	1	-JIS2	30	35	70	120	128	40	60	10	3.3	24.54	3.0
MSPHM040030	2	-JIS2	30	40	70	120	128	40	60	12	3.3	24.54	3.0
MSPHM040035	1	-JIS2	35	35	70	140	148	40	60	10	3.3	28.63	4.1
MSPHM040035	2	-JIS2	35	40	70	140	148	40	60	12	3.3	28.63	4.1
MSPHM040036	1	-JIS2	36	35	70	144	152	40	60	10	3.3	29.45	4.3
MSPHM040036	2	-JIS2	36	40	70	144	152	40	60	12	3.3	29.45	4.3
MSPHM040040	1	-JIS2	40	40	80	160	168	40	60	12	3.3	32.72	5.2
MSPHM040040	2	-JIS2	40	45	80	160	168	40	60	14	3.8	32.72	5.2
MSPHM040045	1	-JIS2	45	40	80	180	188	40	60	12	3.3	33.52	6.5
MSPHM040045	2	-JIS2	45	45	80	180	188	40	60	14	3.8	33.52	6.5
MSPHM040048	1	-JIS2	48	40	80	192	200	40	60	12	3.3	33.91	7.4
MSPHM040048	2	-JIS2	48	45	80	192	200	40	60	14	3.8	33.91	7.4
MSPHM040050	1	-JIS2	50	40	85	200	208	40	60	12	3.3	34.17	8.0
MSPHM040050	2	-JIS2	50	45	85	200	208	40	60	14	3.8	34.17	8.0

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.



SSSH-JIS3

單位 / Dimension : mm

系列 SSSH-JIS3 直齒磨削齒輪
品質等級 JIS 3

材料 S45C / S50C
硬度 HRC 55~60°
可根據要求提供鍵槽和螺孔。

Series SSSH-JIS3 Straight Skiving Pinions
Quality Grade JIS 3

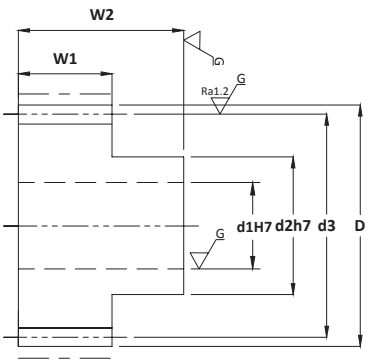
Material S45C / S50C
Hardness: HRC 55~60°
Keyway and screw holes are available upon request.

型號 Code	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 1 / Module 1												
SSSHM010015	-JIS3	15	6	12	15	17	8	18	*	*	*	0.0
SSSHM010016	-JIS3	16	6	13	16	18	8	18	*	*	0.47	0.0
SSSHM010017	-JIS3	17	6	14	17	19	8	18	*	*	0.50	0.0
SSSHM010018	-JIS3	18	6	15	18	20	8	18	*	*	0.53	0.0
SSSHM010019	-JIS3	19	6	16	19	21	8	18	*	*	0.55	0.0
SSSHM010020	-JIS3	20	6	17	20	22	8	18	*	*	0.67	0.0
SSSHM010021	-JIS3	21	8	18	21	23	8	18	*	*	0.70	0.0
SSSHM010022	-JIS3	22	8	18	22	24	8	18	*	*	0.73	0.0
SSSHM010023	-JIS3	23	8	20	23	25	8	18	*	*	0.77	0.1
SSSHM010024	-JIS3	24	8	20	24	26	8	18	*	*	0.80	0.1
SSSHM010025	-JIS3	25	8	20	25	27	8	18	*	*	0.83	0.1
SSSHM010026	-JIS3	26	8	20	26	28	8	18	*	*	0.85	0.1
SSSHM010027	-JIS3	27	8	20	27	29	8	18	*	*	0.86	0.1
SSSHM010028	-JIS3	28	8	20	28	30	8	18	*	*	0.87	0.1
SSSHM010029	-JIS3	29	8	25	29	31	8	18	*	*	0.88	0.1
SSSHM010030	-JIS3	30	10	25	30	32	8	18	*	*	0.88	0.1
SSSHM010032	-JIS3	32	10	25	32	34	8	18	*	*	0.90	0.1
SSSHM010034	-JIS3	34	10	25	34	36	8	18	*	*	0.91	0.1
SSSHM010035	-JIS3	35	10	25	35	37	8	18	*	*	0.92	0.1
SSSHM010036	-JIS3	36	10	25	36	38	8	18	*	*	0.93	0.1
SSSHM010038	-JIS3	38	10	30	38	40	8	18	*	*	0.94	0.1
SSSHM010040	-JIS3	40	10	30	40	42	8	18	*	*	0.95	0.1
SSSHM010042	-JIS3	42	10	30	42	44	8	18	*	*	0.96	0.2
SSSHM010044	-JIS3	44	10	30	44	46	8	18	*	*	0.97	0.2
SSSHM010045	-JIS3	45	10	30	45	47	8	18	*	*	0.97	0.2
SSSHM010048	-JIS3	48	10	30	48	50	8	18	*	*	0.98	0.2
SSSHM010050	-JIS3	50	12	35	50	52	8	18	*	*	0.99	0.2
SSSHM010055	-JIS3	55	12	35	55	57	8	18	*	*	1.00	0.3
SSSHM010056	-JIS3	56	12	35	56	58	8	18	*	*	1.01	0.3
SSSHM010060	-JIS3	60	12	40	60	62	8	18	*	*	1.02	0.3
SSSHM010064	-JIS3	64	12	40	64	66	8	18	*	*	1.03	0.4
SSSHM010070	-JIS3	70	12	40	70	72	8	18	*	*	1.04	0.4
SSSHM010075	-JIS3	75	12	40	75	77	8	18	*	*	1.05	0.5
SSSHM010080	-JIS3	80	15	50	80	82	8	18	*	*	1.06	0.6
SSSHM010090	-JIS3	90	15	50	90	92	8	18	*	*	1.07	0.7
SSSHM010100	-JIS3	100	15	50	100	102	8	18	*	*	1.08	0.9
SSSHM010120	-JIS3	120	15	50	120	122	8	18	*	*	1.10	1.2

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

SSSH-JIS3



單位 / Dimension : mm

系列 SSSH-JIS3 直齒磨削齒輪
品質等級 JIS 3

材料 S45C / S50C
硬度 HRC 55~60°
硬化處理後齒面磨削
可根據要求提供鍵槽和螺孔。

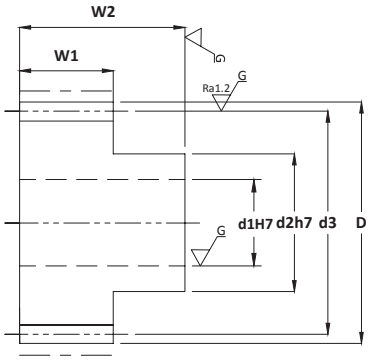
Series SSSH-JIS3 Straight Skiving Pinions
Quality Grade JIS 3

Material S45C / S50C
Hardness: HRC 55~60°
Skiving after Hardening
Keyway and screw holes are available upon request.

型號 Code	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 1.5 / Module 1 .5												
SSSHM015014	-JIS3	14	10	17	21	24	15	29	*	*	*	0.1
SSSHM015015	-JIS3	15	10	18	22.5	25.5	15	29	*	*	*	0.1
SSSHM015016	-JIS3	16	10	20	24	27	15	29	*	*	1.18	0.1
SSSHM015017	-JIS3	17	10	21	25.5	28.5	15	29	*	*	1.40	0.1
SSSHM015018	-JIS3	18	10	225	27	30	15	29	*	*	1.49	0.1
SSSHM015019	-JIS3	19	10	23	28.5	31.5	15	29	*	*	1.57	0.1
SSSHM015020	-JIS3	20	10	24	30	33	15	29	*	*	1.65	0.1
SSSHM015021	-JIS3	21	10	25	31.5	34.5	15	29	*	*	1.73	0.2
SSSHM015022	-JIS3	22	12	26	33	36	15	29	*	*	1.82	0.2
SSSHM015023	-JIS3	23	12	27	34.5	37.5	15	29	*	*	1.90	0.2
SSSHM015024	-JIS3	24	12	28	36	39	15	29	*	*	1.98	0.2
SSSHM015025	-JIS3	25	12	30	37.5	40.5	15	29	*	*	2.35	0.2
SSSHM015026	-JIS3	26	12	32	39	42	15	29	*	*	2.39	0.2
SSSHM015027	-JIS3	27	15	34	40.5	43.5	15	29	*	*	2.42	0.3
SSSHM015028	-JIS3	28	15	36	42	45	15	29	*	*	2.45	0.3
SSSHM015029	-JIS3	29	15	37	43.5	46.5	15	29	*	*	2.47	0.3
SSSHM015030	-JIS3	30	15	38	45	48	15	29	*	*	2.49	0.3
SSSHM015032	-JIS3	32	15	40	48	51	15	29	*	*	2.54	0.3
SSSHM015034	-JIS3	34	15	42	51	54	15	29	*	*	2.58	0.4
SSSHM015035	-JIS3	35	15	42	52.5	55.5	15	29	*	*	2.60	0.4
SSSHM015036	-JIS3	36	15	45	54	57	15	29	*	*	2.61	0.4
SSSHM015038	-JIS3	38	15	45	57	60	15	29	*	*	2.65	0.5
SSSHM015040	-JIS3	40	15	50	60	63	15	29	*	*	2.68	0.5
SSSHM015042	-JIS3	42	15	50	63	66	15	29	*	*	2.70	0.6
SSSHM015044	-JIS3	44	15	50	66	69	15	29	*	*	2.73	0.6
SSSHM015045	-JIS3	45	18	50	67.5	70.5	15	29	*	*	2.74	0.7
SSSHM015048	-JIS3	48	18	50	72	75	15	29	*	*	2.77	0.8
SSSHM015050	-JIS3	50	18	60	75	78	15	29	*	*	2.79	0.8
SSSHM015055	-JIS3	55	18	60	82.5	85.5	15	29	*	*	2.83	1.0
SSSHM015056	-JIS3	56	18	60	84	87	15	29	*	*	2.84	1.0
SSSHM015060	-JIS3	60	20	60	90	93	15	29	*	*	2.87	1.2
SSSHM015064	-JIS3	64	20	60	96	99	15	29	*	*	2.90	1.3
SSSHM015070	-JIS3	70	20	60	105	108	15	29	*	*	2.93	1.6
SSSHM015075	-JIS3	75	20	60	112.5	115.5	15	29	*	*	2.96	1.8
SSSHM015080	-JIS3	80	20	70	120	123	15	29	*	*	2.98	2.0
SSSHM015090	-JIS3	90	20	70	135	138	15	29	*	*	3.02	2.6
SSSHM015100	-JIS3	100	20	70	150	153	15	29	*	*	3.05	3.1

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.



SSSH-JIS3

單位 / Dimension : mm

系列 SSSH-JIS3 直齒磨削齒輪
品質等級 JIS 3

材料 S45C / S50C
硬度 HRC 50~55°
硬化處理後齒面磨削
可根據要求提供鍵槽和螺孔。

Series SSSH-JIS3 Straight Skiving Pinions
Quality Grade JIS 3

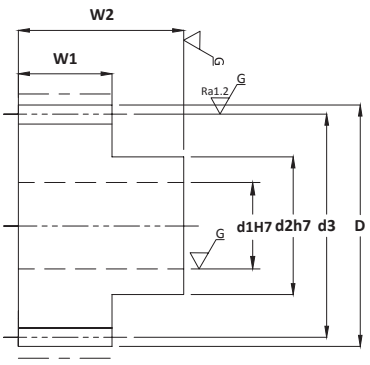
Material S45C / S50C
Hardness: HRC 50~55°
Skiving after Hardening
Keyway and screw holes are available upon request.

型號 Code	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 2 / Module 2												
SSSHM020014	-JIS3	14	12	22	28	32	20	36	*	*	*	0.2
SSSHM020015	-JIS3	15	12	24	30	34	20	36	*	*	*	0.2
SSSHM020016	-JIS3	16	12	26	32	36	20	36	*	*	2.10	0.2
SSSHM020017	-JIS3	17	12	28	34	38	20	36	*	*	2.50	0.2
SSSHM020018	-JIS3	18	12	30	36	40	20	36	*	*	2.64	0.3
SSSHM020019	-JIS3	19	12	31	38	42	20	36	*	*	2.79	0.3
SSSHM020020	-JIS3	20	15	32	40	44	20	36	*	*	2.94	0.3
SSSHM020021	-JIS3	21	15	34	42	46	20	36	*	*	3.09	0.4
SSSHM020022	-JIS3	22	15	36	44	48	20	36	*	*	3.23	0.4
SSSHM020023	-JIS3	23	15	37	46	50	20	36	*	*	3.38	0.4
SSSHM020024	-JIS3	24	15	38	48	52	20	36	*	*	3.53	0.5
SSSHM020025	-JIS3	25	15	40	50	54	20	36	*	*	4.18	0.5
SSSHM020026	-JIS3	26	15	42	52	56	20	36	*	*	4.25	0.5
SSSHM020027	-JIS3	27	15	44	54	58	20	36	*	*	4.30	0.6
SSSHM020028	-JIS3	28	15	45	56	60	20	36	*	*	4.35	0.6
SSSHM020029	-JIS3	29	15	48	58	62	20	36	*	*	4.39	0.6
SSSHM020030	-JIS3	30	18	50	60	64	20	36	*	*	4.44	0.7
SSSHM020032	-JIS3	32	18	50	64	68	20	36	*	*	4.51	0.8
SSSHM020034	-JIS3	34	18	50	68	72	20	36	*	*	4.59	0.9
SSSHM020035	-JIS3	35	18	50	70	74	20	36	*	*	4.62	0.9
SSSHM020036	-JIS3	36	18	50	72	76	20	36	*	*	4.65	1.0
SSSHM020038	-JIS3	38	18	50	76	80	20	36	*	*	4.71	1.1
SSSHM020040	-JIS3	40	20	60	80	84	20	36	*	*	4.76	1.2
SSSHM020042	-JIS3	42	20	60	84	88	20	36	*	*	4.81	1.3
SSSHM020044	-JIS3	44	20	60	88	92	20	36	*	*	4.85	1.4
SSSHM020045	-JIS3	45	20	60	90	94	20	36	*	*	4.88	1.5
SSSHM020048	-JIS3	48	20	60	96	100	20	36	*	*	4.93	1.7
SSSHM020050	-JIS3	50	25	60	100	104	20	36	*	*	4.97	1.8
SSSHM020055	-JIS3	55	25	60	110	114	20	36	*	*	5.04	2.2
SSSHM020056	-JIS3	56	25	60	112	116	20	36	*	*	5.06	2.2
SSSHM020060	-JIS3	60	25	65	120	124	20	36	*	*	5.11	2.6
SSSHM020064	-JIS3	64	25	65	128	132	20	36	*	*	5.16	2.9
SSSHM020070	-JIS3	70	25	70	140	144	20	36	*	*	5.22	3.5
SSSHM020075	-JIS3	75	25	70	150	154	20	36	*	*	5.26	3.9
SSSHM020080	-JIS3	80	25	80	160	164	20	36	*	*	5.30	4.5
SSSHM020090	-JIS3	90	25	80	180	184	20	36	*	*	5.37	5.6
SSSHM020100	-JIS3	100	25	80	200	204	20	36	*	*	5.42	6.9

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

SSSH-JIS3



單位 / Dimension : mm

系列 SSSH-JIS3 直齒磨削齒輪
品質等級 JIS 3

材料 S45C / S50C
硬度 HRC 55~60°
硬化處理後齒面磨削
可根據要求提供鍵槽和螺孔。

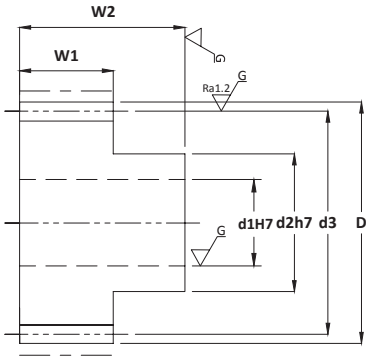
Series SSSH-JIS3 Straight Skiving Pinions
Quality Grade JIS 3

Material S45C / S50C
Hardness: HRC 55~60°
Skiving after Hardening
Keyway and screw holes are available upon request.

型號 Code	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 2.5 / Module 2.5												
SSSHM025014	-JIS3	14	15	28	35	40	25	43	*	*	*	0.3
SSSHM025015	-JIS3	15	15	30	37.5	42.5	25	43	*	*	*	0.4
SSSHM025016	-JIS3	16	15	32	40	45	25	43	*	*	3.28	0.4
SSSHM025017	-JIS3	17	15	35	42.5	47.5	25	43	*	*	3.90	0.4
SSSHM025018	-JIS3	18	15	38	45	50	25	43	*	*	4.13	0.5
SSSHM025019	-JIS3	19	15	39	47.5	52.5	25	43	*	*	4.36	0.5
SSSHM025020	-JIS3	20	18	40	50	55	25	43	*	*	4.59	0.6
SSSHM025021	-JIS3	21	18	42	52.5	57.5	25	43	*	*	4.82	0.7
SSSHM025022	-JIS3	22	18	44	55	60	25	43	*	*	5.05	0.7
SSSHM025023	-JIS3	23	18	46	57.5	62.5	25	43	*	*	5.28	0.8
SSSHM025024	-JIS3	24	18	48	60	65	25	43	*	*	5.51	0.8
SSSHM025025	-JIS3	25	20	50	62.5	67.5	25	43	*	*	6.53	0.9
SSSHM025026	-JIS3	26	20	54	65	70	25	43	*	*	6.65	1.0
SSSHM025027	-JIS3	27	20	56	67.5	72.5	25	43	*	*	6.73	1.0
SSSHM025028	-JIS3	28	20	60	70	75	25	43	*	*	6.80	1.1
SSSHM025029	-JIS3	29	20	60	72.5	77.5	25	43	*	*	6.87	1.2
SSSHM025030	-JIS3	30	20	65	75	80	25	43	*	*	6.94	1.3
SSSHM025032	-JIS3	32	20	70	80	85	25	43	*	*	7.05	1.4
SSSHM025034	-JIS3	34	20	70	85	90	25	43	*	*	7.17	1.6
SSSHM025035	-JIS3	35	20	70	87.5	92.5	25	43	*	*	7.23	1.7
SSSHM025036	-JIS3	36	20	70	90	95	25	43	*	*	7.27	1.8
SSSHM025038	-JIS3	38	20	70	95	100	25	43	*	*	7.36	2.0
SSSHM025040	-JIS3	40	25	70	100	105	25	43	*	*	7.45	2.2
SSSHM025042	-JIS3	42	25	75	105	110	25	43	*	*	7.52	2.4
SSSHM025044	-JIS3	44	25	75	110	115	25	43	*	*	7.59	2.6
SSSHM025045	-JIS3	45	25	75	112.5	117.5	25	43	*	*	7.62	2.7
SSSHM025048	-JIS3	48	25	75	120	125	25	43	*	*	7.71	3.1
SSSHM025050	-JIS3	50	25	80	125	130	25	43	*	*	7.77	3.4
SSSHM025055	-JIS3	55	25	80	137.5	142.5	25	43	*	*	7.88	4.0
SSSHM025056	-JIS3	56	25	80	140	145	25	43	*	*	7.90	4.2
SSSHM025060	-JIS3	60	25	80	150	155	25	43	*	*	7.99	4.8
SSSHM025070	-JIS3	70	25	80	170	180	25	43	*	*	8.15	6.4
SSSHM025075	-JIS3	75	25	90	187.5	192.5	25	43	*	*	8.22	7.4
SSSHM025080	-JIS3	80	25	90	200	205	25	43	*	*	8.28	8.4

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.



SSSH-JIS3

單位 / Dimension : mm

系列 SSSH-JIS3 直齒磨削齒輪
品質等級 JIS 3

材料 S45C / S50C
硬度 HRC 55~60°
硬化處理後齒面磨削
可根據要求提供鍵槽和螺孔。

Series SSSH-JIS3 Straight Skiving Pinions
Quality Grade JIS 3

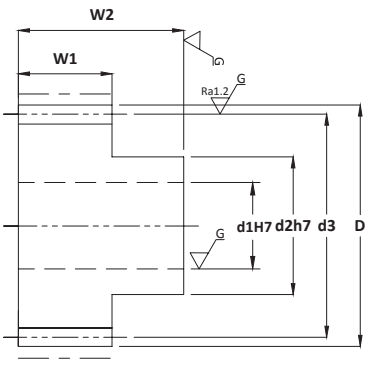
Material S45C / S50C
Hardness: HRC 55~60°
Skiving after Hardening
Keyway and screw holes are available upon request.

型號 Code	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 3 / Module 3												
SSSHM030014	-JIS3	14	16	34	42	48	30	50	*	*	*	0.4
SSSHM030015	-JIS3	15	16	36	45	51	30	50	*	*	*	0.5
SSSHM030016	-JIS3	16	16	38	48	54	30	50	*	*	4.72	0.5
SSSHM030017	-JIS3	17	16	37	51	57	30	50	*	*	5.62	0.6
SSSHM030018	-JIS3	18	16	40	54	60	30	50	*	*	5.96	0.7
SSSHM030019	-JIS3	19	16	45	57	63	30	50	*	*	6.29	0.7
SSSHM030020	-JIS3	20	20	50	60	66	30	50	*	*	6.62	0.8
SSSHM030021	-JIS3	21	20	52	63	69	30	50	*	*	6.95	0.9
SSSHM030022	-JIS3	22	20	54	66	72	30	50	*	*	7.28	1.0
SSSHM030023	-JIS3	23	20	56	69	75	30	50	*	*	7.61	1.0
SSSHM030024	-JIS3	24	20	58	72	78	30	50	*	*	7.94	1.1
SSSHM030025	-JIS3	25	20	60	75	81	30	50	*	*	9.41	1.2
SSSHM030026	-JIS3	26	20	62	78	84	30	50	*	*	9.58	1.3
SSSHM030027	-JIS3	27	20	65	81	87	30	50	*	*	9.69	1.4
SSSHM030028	-JIS3	28	20	70	84	90	30	50	*	*	9.80	1.5
SSSHM030029	-JIS3	29	20	70	87	93	30	50	*	*	9.89	1.6
SSSHM030030	-JIS3	30	25	75	90	96	30	50	*	*	9.99	1.7
SSSHM030032	-JIS3	32	25	75	96	102	30	50	*	*	10.16	1.9
SSSHM030034	-JIS3	34	25	75	102	108	30	50	*	*	10.32	2.2
SSSHM030035	-JIS3	35	25	80	105	111	30	50	*	*	10.47	2.3
SSSHM030036	-JIS3	36	25	80	108	114	30	50	*	*	10.60	2.4
SSSHM030038	-JIS3	38	25	80	114	120	30	50	*	*	10.72	2.7
SSSHM030040	-JIS3	40	25	80	120	126	30	50	*	*	10.83	2.9
SSSHM030042	-JIS3	42	25	80	126	132	30	50	*	*	10.93	3.2
SSSHM030044	-JIS3	44	25	80	132	138	30	50	*	*	10.98	3.5
SSSHM030045	-JIS3	45	25	80	135	141	30	50	*	*	11.10	3.7
SSSHM030048	-JIS3	48	25	80	144	150	30	50	*	*	11.19	4.2
SSSHM030050	-JIS3	50	30	85	150	156	30	50	*	*	11.19	4.5
SSSHM030055	-JIS3	55	30	90	165	171	30	50	*	*	11.35	5.4
SSSHM030056	-JIS3	56	30	90	168	174	30	50	*	*	11.38	5.6
SSSHM030060	-JIS3	60	30	100	180	186	30	50	*	*	11.51	6.4
SSSHM030070	-JIS3	70	30	100	210	216	30	50	*	*	11.74	8.6
SSSHM030075	-JIS3	75	30	100	225	231	30	50	*	*	11.83	9.9
SSSHM030080	-JIS3	80	30	100	240	246	30	50	*	*	11.92	11.2

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

SSSH-JIS3



單位 / Dimension : mm

系列 SSSH-JIS3 直齒磨削齒輪
品質等級 JIS 3

材料 S45C / S50C
硬度 HRC 55~60°
硬化處理後齒面磨削
可根據要求提供鍵槽和螺孔。

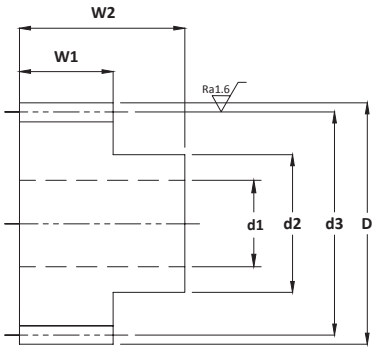
Series SSSH-JIS3 Straight Skiving Pinions
Quality Grade JIS 3

Material S45C / S50C
Hardness: HRC 55~60°
Skiving after Hardening
Keyway and screw holes are available upon request.

型號 Code	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 4 / Module 4												
SSSHM040014	-JIS3	14	20	40	56	64	40	65	*	*	*	0.8
SSSHM040015	-JIS3	15	20	45	60	68	40	65	*	*	*	0.9
SSSHM040016	-JIS3	16	20	50	64	72	40	65	*	*	8.40	1.0
SSSHM040018	-JIS3	18	20	60	72	80	40	65	*	*	10.59	1.3
SSSHM040020	-JIS3	20	20	65	80	88	40	65	*	*	11.77	1.6
SSSHM040022	-JIS3	22	20	70	88	96	40	65	*	*	12.95	1.8
SSSHM040024	-JIS3	24	20	75	96	104	40	65	*	*	14.12	2.2
SSSHM040025	-JIS3	25	20	80	100	108	40	65	*	*	16.73	2.3
SSSHM040028	-JIS3	28	20	85	112	120	40	65	*	*	17.42	2.9
SSSHM040030	-JIS3	30	20	90	120	128	40	65	*	*	17.77	3.3
SSSHM040032	-JIS3	32	25	90	128	136	40	65	*	*	18.06	3.7
SSSHM040035	-JIS3	35	25	90	140	148	40	65	*	*	18.51	4.4
SSSHM040036	-JIS3	36	25	90	144	152	40	65	*	*	18.62	4.6
SSSHM040040	-JIS3	40	25	90	160	168	40	65	*	*	19.07	5.7
SSSHM040042	-JIS3	42	25	90	168	176	40	65	*	*	19.25	6.2
SSSHM040044	-JIS3	44	30	90	176	184	40	65	*	*	19.43	6.8
SSSHM040045	-JIS3	45	30	90	180	188	40	65	*	*	19.52	7.1
SSSHM040048	-JIS3	48	30	100	192	200	40	65	*	*	19.74	8.0
SSSHM040050	-JIS3	50	30	100	200	108	40	65	*	*	19.89	2.3
SSSHM040055	-JIS3	55	30	100	220	228	40	65	*	*	20.18	10.4
SSSHM040056	-JIS3	56	30	110	224	232	40	65	*	*	20.24	10.8
SSSHM040060	-JIS3	60	30	110	240	248	40	65	*	*	20.47	12.3
模數 5 / Module 5												
SSSHM050020	-JIS3	20	25	82	100	110	50	75	*	*	18.39	3.3
SSSHM050025	-JIS3	25	25	105	125	135	50	75	*	*	26.14	4.9
SSSHM050030	-JIS3	30	25	120	150	160	50	75	*	*	27.76	6.9
模數 6 / Module 6												
SSSHM060020	-JIS3	20	25	100	120	132	60	88	*	*	26.49	4.7
SSSHM060025	-JIS3	25	30	125	150	162	60	88	*	*	36.65	7.1
SSSHM060030	-JIS3	30	30	150	180	192	60	88	*	*	39.98	10.0

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.



SSM-JIS4

單位 / Dimension : mm

系列 SSM-JIS4 直齒齒輪
品質等級 JIS 4

材料 S50C
可根據要求提供鍵槽和螺孔

Series SSM-JIS4 Straight Soft Pinions
Quality Grade JIS 4

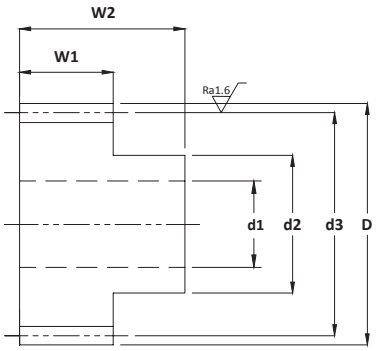
Material S50C
Keyway and screw holes are available upon request.

型號 Code	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 1 / Module 1												
SSMM010015	-JIS4	15	8	17	15	17	10	20	*	*	*	0.1
SSMM010016	-JIS4	16	8	18	16	18	10	20	*	*	0.07	0.1
SSMM010017	-JIS4	17	8	19	17	19	10	20	*	*	0.09	0.1
SSMM010018	-JIS4	18	8	20	18	20	10	20	*	*	0.09	0.1
SSMM010019	-JIS4	19	8	21	19	21	10	20	*	*	0.10	0.1
SSMM010020	-JIS4	20	8	16	20	22	10	20	*	*	0.10	0.1
SSMM010021	-JIS4	21	8	17	21	23	10	20	*	*	0.11	0.1
SSMM010022	-JIS4	22	8	18	22	24	10	20	*	*	0.11	0.1
SSMM010023	-JIS4	23	8	18	23	25	10	20	*	*	0.12	0.1
SSMM010024	-JIS4	24	8	20	24	26	10	20	*	*	0.12	0.1
SSMM010025	-JIS4	25	8	20	25	27	10	20	*	*	0.15	0.1
SSMM010026	-JIS4	26	8	22	26	28	10	20	*	*	0.15	0.1
SSMM010027	-JIS4	27	8	22	27	29	10	20	*	*	0.16	4.8
SSMM010028	-JIS4	28	8	22	28	30	10	20	*	*	0.16	0.1
SSMM010029	-JIS4	29	8	24	29	31	10	20	*	*	0.17	0.1
SSMM010030	-JIS4	30	10	25	30	32	10	20	*	*	0.18	0.1
SSMM010032	-JIS4	32	10	26	32	34	10	20	*	*	0.19	0.1
SSMM010034	-JIS4	34	10	26	34	36	10	20	*	*	0.20	0.1
SSMM010035	-JIS4	35	10	26	35	37	10	20	*	*	0.21	0.1
SSMM010036	-JIS4	36	10	28	36	38	10	20	*	*	0.21	0.1
SSMM010038	-JIS4	38	10	32	38	40	10	20	*	*	0.22	0.1
SSMM010040	-JIS4	40	10	35	40	42	10	20	*	*	0.24	0.2
SSMM010042	-JIS4	42	10	35	42	44	10	20	*	*	0.25	0.2
SSMM010044	-JIS4	44	10	35	44	46	10	20	*	*	0.26	0.2
SSMM010045	-JIS4	45	10	35	45	47	10	20	*	*	0.26	0.2
SSMM010046	-JIS4	46	10	35	46	48	10	20	*	*	0.27	0.2
SSMM010048	-JIS4	48	10	35	48	50	10	20	*	*	0.28	0.2
SSMM010050	-JIS4	50	10	35	50	52	10	20	*	*	0.35	0.3
SSMM010052	-JIS4	52	10	35	52	54	10	20	*	*	0.37	0.3
SSMM010054	-JIS4	54	10	35	54	56	10	20	*	*	0.38	0.3
SSMM010055	-JIS4	55	10	35	55	57	10	20	*	*	0.39	0.3
SSMM010056	-JIS4	56	10	35	56	58	10	20	*	*	0.40	0.3
SSMM010058	-JIS4	58	10	35	58	60	10	20	*	*	0.41	0.3
SSMM010060	-JIS4	60	10	35	60	62	10	20	*	*	0.43	0.4
SSMM010062	-JIS4	62	10	40	62	64	10	20	*	*	0.44	0.4
SSMM010064	-JIS4	64	10	40	64	66	10	20	*	*	0.45	0.4
SSMM010065	-JIS4	65	10	40	65	67	10	20	*	*	0.46	0.4
SSMM010066	-JIS4	66	10	40	66	68	10	20	*	*	0.47	0.4
SSMM010068	-JIS4	68	10	40	68	70	10	20	*	*	0.48	0.5
SSMM010070	-JIS4	70	10	40	70	72	10	20	*	*	0.50	0.5
SSMM010072	-JIS4	72	10	40	72	74	10	20	*	*	0.51	0.5
SSMM010075	-JIS4	75	10	40	75	77	10	20	*	*	0.53	0.5
SSMM010076	-JIS4	76	10	40	76	78	10	20	*	*	0.54	0.6
SSMM010080	-JIS4	80	10	40	80	82	10	20	*	*	1.29	0.6

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

SSM-JIS4



單位 / Dimension : mm

系列 SSM-JIS4 直齒齒輪
品質等級 JIS 4

材料 S50C
可根據要求提供鍵槽和螺孔

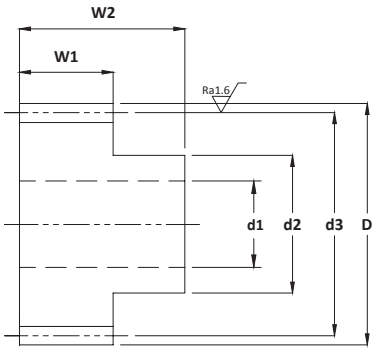
Series SSM-JIS4 Straight Soft Pinions
Quality Grade JIS 4

Material S50C
Keyway and screw holes are available upon request.

型號 Code	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 1 / Module 1												
SSMM010084	-JIS4	84	10	40	84	86	10	20	*	*	0.60	0.7
SSMM010085	-JIS4	85	10	40	85	87	10	20	*	*	0.60	0.7
SSMM010088	-JIS4	88	10	40	88	90	10	20	*	*	0.62	0.7
SSMM010090	-JIS4	90	10	40	90	92	10	20	*	*	0.64	0.8
SSMM010100	-JIS4	100	10	40	100	102	10	20	*	*	0.71	1.0
SSMM010120	-JIS4	120	15	50	120	122	10	20	*	*	0.78	1.4
模數 1.5 / Module 1.5												
SSMM015012	-JIS4	12	8	21	18	21	15	30	*	*	*	0.1
SSMM015013	-JIS4	13	8	22.5	19.5	22.5	15	30	*	*	*	0.1
SSMM015014	-JIS4	14	8	16	21	24	15	25	*	*	*	0.1
SSMM015015	-JIS4	15	8	18	22.5	25.5	15	25	*	*	*	0.1
SSMM015016	-JIS4	16	8	20	24	27	15	25	*	*	0.17	0.1
SSMM015017	-JIS4	17	8	21	25.5	28.5	15	25	*	*	0.20	0.1
SSMM015018	-JIS4	18	8	22	27	30	15	25	*	*	0.21	0.1
SSMM015019	-JIS4	19	8	23	28.5	31.5	15	25	*	*	0.22	0.1
SSMM015020	-JIS4	20	8	24	30	33	15	25	*	*	0.23	0.1
SSMM015021	-JIS4	21	8	25	31.5	34.5	15	25	*	*	0.24	0.1
SSMM015022	-JIS4	22	8	26	33	36	15	25	*	*	0.26	0.1
SSMM015023	-JIS4	23	8	27	34.5	37.5	15	25	*	*	0.27	0.2
SSMM015024	-JIS4	24	8	28	36	39	15	25	*	*	0.28	0.2
SSMM015025	-JIS4	25	8	30	37.5	40.5	15	25	*	*	0.33	0.2
SSMM015026	-JIS4	26	10	32	39	42	15	25	*	*	0.34	0.2
SSMM015027	-JIS4	27	10	34	40.5	43.5	15	25	*	*	0.36	0.2
SSMM015028	-JIS4	28	10	36	42	45	15	25	*	*	0.37	0.2
SSMM015029	-JIS4	29	10	37	43.5	46.5	15	25	*	*	0.38	0.2
SSMM015030	-JIS4	30	10	38	45	48	15	25	*	*	0.40	0.3
SSMM015032	-JIS4	32	10	40	48	51	15	25	*	*	0.42	0.3
SSMM015034	-JIS4	34	10	40	51	54	15	25	*	*	0.45	0.3
SSMM015035	-JIS4	35	10	42	52.5	55.5	15	25	*	*	0.46	0.4
SSMM015036	-JIS4	36	10	45	54	57	15	25	*	*	0.48	0.4
SSMM015038	-JIS4	38	12	45	57	60	15	25	*	*	0.50	0.4
SSMM015040	-JIS4	40	12	45	60	63	15	25	*	*	0.53	0.5
SSMM015042	-JIS4	42	12	45	63	66	15	25	*	*	0.55	0.5
SSMM015044	-JIS4	44	12	45	66	69	15	25	*	*	0.58	0.6
SSMM015045	-JIS4	45	12	45	67.5	70.5	15	25	*	*	0.59	0.6
SSMM015046	-JIS4	46	12	45	69	72	15	25	*	*	0.61	0.6
SSMM015048	-JIS4	48	12	45	72	75	15	25	*	*	0.63	0.7
SSMM015050	-JIS4	50	12	45	75	78	15	25	*	*	0.80	0.7
SSMM015052	-JIS4	52	15	50	78	81	15	25	*	*	0.83	0.8
SSMM015054	-JIS4	54	15	50	81	84	15	25	*	*	0.86	0.8
SSMM015055	-JIS4	55	15	50	82.5	85.5	15	25	*	*	0.88	0.8
SSMM015056	-JIS4	56	15	50	84	87	15	25	*	*	0.89	0.9
SSMM015058	-JIS4	58	15	50	87	90	15	25	*	*	0.93	0.9

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.



SSM-JIS4

單位 / Dimension : mm

系列 SSM-JIS4 直齒齒輪
品質等級 JIS 4

Series SSM-JIS4 Straight Soft Pinions
Quality Grade JIS 4

材料 S50C
可根據要求提供鍵槽和螺孔

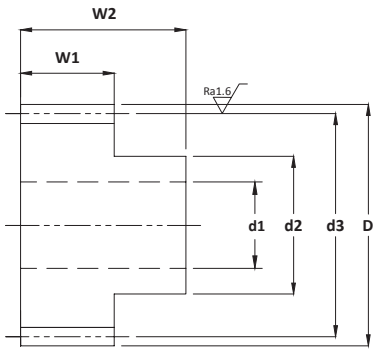
Material S50C
Keyway and screw holes are available upon request.

型號 Code	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 1.5 / Module 1.5												
SSMM015060	-JIS4	60	15	50	90	93	15	25	*	*	0.96	1.0
SSMM015062	-JIS4	62	15	55	93	96	15	25	*	*	0.99	1.1
SSMM015064	-JIS4	64	15	55	96	99	15	25	*	*	1.02	1.1
SSMM015065	-JIS4	65	15	55	97.5	100.5	15	25	*	*	1.04	1.2
SSMM015066	-JIS4	66	15	55	99	102	15	25	*	*	1.05	1.2
SSMM015068	-JIS4	68	15	55	102	105	15	25	*	*	1.08	1.3
SSMM015070	-JIS4	70	15	55	105	108	15	25	*	*	1.12	1.3
SSMM015072	-JIS4	72	15	55	108	111	15	25	*	*	1.15	1.4
SSMM015075	-JIS4	75	15	60	112.5	115.5	15	25	*	*	1.20	1.5
SSMM015076	-JIS4	76	15	60	114	117	15	25	*	*	1.21	1.6
SSMM015080	-JIS4	80	15	60	120	123	15	25	*	*	1.28	1.7
SSMM015090	-JIS4	90	15	60	135	138	15	25	*	*	1.44	2.2
SSMM015100	-JIS4	100	15	60	150	153	15	25	*	*	1.60	2.7
模數 2 / Module 2												
SSMM020012	-JIS4	12	10	18	24	28	20	30	*	*	*	0.1
SSMM020013	-JIS4	13	10	20	26	30	20	30	*	*	*	0.1
SSMM020014	-JIS4	14	10	20	28	32	20	30	*	*	*	0.1
SSMM020020	-JIS4	15	12	24	30	34	20	30	*	*	*	0.2
SSMM020016	-JIS4	16	12	26	32	36	20	30	*	*	0.29	0.2
SSMM020017	-JIS4	17	12	28	34	38	20	30	*	*	0.35	0.2
SSMM020018	-JIS4	18	12	30	36	40	20	30	*	*	0.37	0.2
SSMM020019	-JIS4	19	12	31	38	42	20	30	*	*	0.39	0.2
SSMM020020	-JIS4	20	12	32	40	44	20	30	*	*	0.41	0.3
SSMM020021	-JIS4	21	12	34	42	46	20	30	*	*	0.43	0.3
SSMM020022	-JIS4	22	12	36	44	48	20	30	*	*	0.45	0.3
SSMM020023	-JIS4	23	12	37	46	50	20	30	*	*	0.47	0.3
SSMM020024	-JIS4	24	12	38	48	52	20	30	*	*	0.50	0.4
SSMM020025	-JIS4	25	12	40	50	54	20	30	*	*	0.59	0.4
SSMM020026	-JIS4	26	12	42	52	56	20	30	*	*	0.61	0.4
SSMM020027	-JIS4	27	12	45	54	58	20	30	*	*	0.63	0.5
SSMM020028	-JIS4	28	12	45	56	60	20	30	*	*	0.66	0.5
SSMM020029	-JIS4	29	12	47	58	62	20	30	*	*	0.68	0.5
SSMM020030	-JIS4	30	12	50	60	64	20	30	*	*	0.70	0.6
SSMM020032	-JIS4	32	12	50	64	68	20	30	*	*	0.75	0.6
SSMM020034	-JIS4	34	12	50	68	72	20	30	*	*	0.80	0.7
SSMM020035	-JIS4	35	12	52	70	74	20	30	*	*	0.82	0.8
SSMM020036	-JIS4	36	12	55	72	76	20	30	*	*	0.85	0.8
SSMM020038	-JIS4	38	12	55	76	80	20	30	*	*	0.89	0.9
SSMM020040	-JIS4	40	15	55	80	84	20	30	*	*	0.94	1.0
SSMM020042	-JIS4	42	15	55	84	88	20	30	*	*	0.99	1.1
SSMM020044	-JIS4	44	15	55	88	92	20	30	*	*	1.03	1.2
SSMM020045	-JIS4	45	15	55	90	94	20	30	*	*	1.06	1.2

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

SSM-JIS4



單位 / Dimension : mm

系列 SSM-JIS4 直齒齒輪
品質等級 JIS 4

材料 S50C
可根據要求提供鍵槽和螺孔

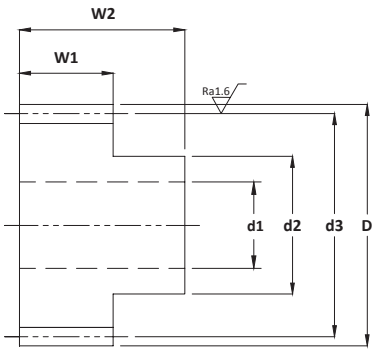
Series SSM-JIS4 Straight Soft Pinions
Quality Grade JIS 4

Material S50C
Keyway and screw holes are available upon request.

型號 Code	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 2 / Module 2												
SSMM020046	-JIS4	46	15	55	92	96	20	30	*	*	1.08	1.3
SSMM020048	-JIS4	48	15	55	96	100	20	30	*	*	1.13	1.4
SSMM020050	-JIS4	50	15	55	100	104	20	30	*	*	1.42	1.5
SSMM020052	-JIS4	52	15	55	104	108	20	30	*	*	1.47	1.6
SSMM020054	-JIS4	54	15	55	108	112	20	30	*	*	1.53	1.7
SSMM020055	-JIS4	55	15	55	110	114	20	30	*	*	1.56	1.8
SSMM020056	-JIS4	56	15	55	112	116	20	30	*	*	1.59	1.9
SSMM020058	-JIS4	58	15	60	116	120	20	30	*	*	1.64	2.0
SSMM020060	-JIS4	60	15	60	120	124	20	30	*	*	1.70	2.1
SSMM020062	-JIS4	62	15	60	124	128	20	30	*	*	1.76	2.3
SSMM020064	-JIS4	64	15	60	128	132	20	30	*	*	1.81	2.4
SSMM020065	-JIS4	65	15	60	130	134	20	30	*	*	1.84	2.5
SSMM020066	-JIS4	66	15	60	132	136	20	30	*	*	1.87	2.6
SSMM020068	-JIS4	68	15	60	136	140	20	30	*	*	1.93	2.7
SSMM020070	-JIS4	70	15	60	140	144	20	30	*	*	1.98	2.9
SSMM020072	-JIS4	72	15	60	144	148	20	30	*	*	2.04	3.0
SSMM020075	-JIS4	75	20	60	150	154	20	30	*	*	2.13	3.3
SSMM020076	-JIS4	76	20	60	152	156	20	30	*	*	2.16	3.4
SSMM020080	-JIS4	80	20	60	160	164	20	30	*	*	2.27	3.7
SSMM020090	-JIS4	90	20	70	180	184	20	30	*	*	2.55	4.7
SSMM020100	-JIS4	100	20	70	200	204	20	30	*	*	2.84	5.8

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.



SSM-JIS4

單位 / Dimension : mm

系列 SSM-JIS4 直齒齒輪
品質等級 JIS 4

材料 S50C
可根據要求提供鍵槽和螺孔

Series SSM-JIS4 Straight Soft Pinions
Quality Grade JIS 4

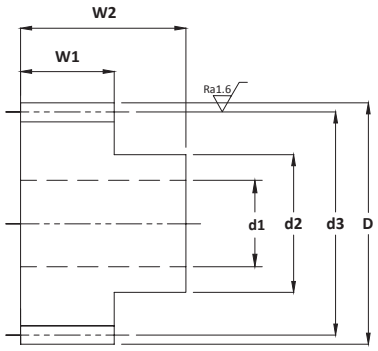
Material S50C
Keyway and screw holes are available upon request.

型號 Code	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 2.5 / Module 2.5												
SSMM025012	-JIS4	12	12	23	30	35	25	37	*	*	*	0.2
SSMM025013	-JIS4	13	12	25	32.5	37.5	25	37	*	*	*	0.2
SSMM025014	-JIS4	14	12	25	35	40	25	37	*	*	*	0.3
SSMM025015	-JIS4	15	15	30	37.5	42.5	25	37	*	*	*	0.3
SSMM025016	-JIS4	16	15	32	40	45	25	37	*	*	0.46	0.3
SSMM025017	-JIS4	17	15	35	42.5	47.5	25	37	*	*	0.55	0.4
SSMM025018	-JIS4	18	15	38	45	50	25	37	*	*	0.58	0.4
SSMM025019	-JIS4	19	15	39	47.5	52.5	25	37	*	*	0.61	0.5
SSMM025020	-JIS4	20	15	40	50	55	25	37	*	*	0.64	0.5
SSMM025021	-JIS4	21	15	42	52.5	57.5	25	37	*	*	0.68	0.6
SSMM025022	-JIS4	22	15	44	55	60	25	37	*	*	0.71	0.6
SSMM025023	-JIS4	23	15	46	57.5	62.5	25	37	*	*	0.74	0.7
SSMM025024	-JIS4	24	15	48	60	65	25	37	*	*	0.77	0.7
SSMM025025	-JIS4	25	15	50	62.5	67.5	25	37	*	*	0.92	0.8
SSMM025026	-JIS4	26	15	55	65	70	25	37	*	*	0.95	0.8
SSMM025027	-JIS4	27	15	60	67.5	72.5	25	37	*	*	0.99	0.9
SSMM025028	-JIS4	28	15	60	70	75	25	37	*	*	1.03	1.0
SSMM025029	-JIS4	29	15	62	72.5	77.5	25	37	*	*	1.06	1.0
SSMM025030	-JIS4	30	15	65	75	80	25	37	*	*	1.10	1.1
SSMM025032	-JIS4	32	15	70	80	85	25	37	*	*	1.17	1.2
SSMM025034	-JIS4	34	15	70	85	90	25	37	*	*	1.25	1.4
SSMM025035	-JIS4	35	15	70	87.5	92.5	25	37	*	*	1.28	1.5
SSMM025036	-JIS4	36	15	70	90	95	25	37	*	*	1.32	1.5
SSMM025038	-JIS4	38	20	70	95	100	25	37	*	*	1.39	1.7
SSMM025040	-JIS4	40	20	70	100	105	25	37	*	*	1.47	1.9
SSMM025042	-JIS4	42	20	70	105	110	25	37	*	*	1.54	2.1
SSMM025044	-JIS4	44	20	70	110	115	25	37	*	*	1.61	2.3
SSMM025045	-JIS4	45	20	70	112.5	117.5	25	37	*	*	1.65	2.4
SSMM025046	-JIS4	46	20	70	115	120	25	37	*	*	1.69	2.5
SSMM025048	-JIS4	48	20	70	120	125	25	37	*	*	1.76	2.7
SSMM025050	-JIS4	50	20	70	125	130	25	37	*	*	2.22	2.9
SSMM025052	-JIS4	52	20	70	130	135	25	37	*	*	2.30	3.1
SSMM025054	-JIS4	54	20	70	135	140	25	37	*	*	2.39	3.4
SSMM025055	-JIS4	55	20	70	137.5	142.5	25	37	*	*	2.44	3.5
SSMM025056	-JIS4	56	20	70	140	145	25	37	*	*	2.48	3.6
SSMM025058	-JIS4	58	20	70	145	150	25	37	*	*	2.57	3.8
SSMM025060	-JIS4	60	25	70	150	155	25	37	*	*	2.66	4.1
SSMM025062	-JIS4	62	25	80	155	160	25	37	*	*	2.75	4.4
SSMM025064	-JIS4	64	25	80	160	165	25	37	*	*	2.84	4.7
SSMM025065	-JIS4	65	25	80	162.5	167.5	25	37	*	*	2.88	4.8
SSMM025066	-JIS4	66	25	80	165	170	25	37	*	*	2.92	4.9
SSMM025068	-JIS4	68	25	80	170	175	25	37	*	*	3.01	5.2
SSMM025070	-JIS4	70	25	80	175	180	25	37	*	*	3.10	5.5
SSMM025072	-JIS4	72	25	80	180	185	25	37	*	*	3.19	5.9

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

SSM-JIS4



單位 / Dimension : mm

系列 SSM-JIS4 直齒齒輪
輪品質等級 JIS 4

材料 S50C
可根據要求提供鍵槽和螺孔

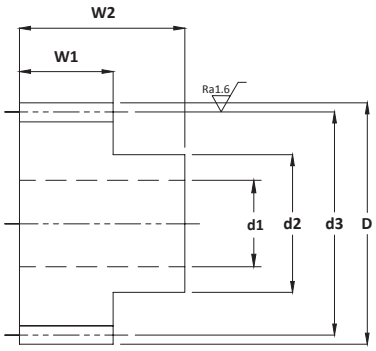
Series SSM-JIS4 Straight Soft Pinions
Quality Grade JIS 4

Material S50C
Keyway and screw holes are available upon request.

型號 Code	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 2.5 / Module 2.5												
SSMM025075	-JIS4	75	25	80	187.5	192.5	25	37	*	*	3.32	6.3
SSMM025076	-JIS4	76	25	80	190	195	25	37	*	*	3.37	6.5
SSMM025080	-JIS4	80	25	80	200	205	25	37	*	*	3.54	7.2
SSMM025090	-JIS4	90	30	90	225	230	25	37	*	*	3.99	9.1
SSMM025100	-JIS4	100	30	90	250	255	25	37	*	*	4.43	11.1
模數 3 / Module 3												
SSMM030012	-JIS4	12	15	28	36	42	30	45	*	*	*	0.3
SSMM030013	-JIS4	13	15	30	39	45	30	45	*	*	*	0.3
SSMM030014	-JIS4	14	15	32	42	48	30	45	*	*	*	0.4
SSMM030015	-JIS4	15	15	36	45	51	30	45	*	*	*	0.4
SSMM030016	-JIS4	16	15	38	48	54	30	45	*	*	0.66	0.5
SSMM030017	-JIS4	17	15	39	51	57	30	45	*	*	0.79	0.5
SSMM030018	-JIS4	18	15	40	54	60	30	45	*	*	0.84	0.6
SSMM030019	-JIS4	19	15	45	57	63	30	45	*	*	0.88	0.7
SSMM030020	-JIS4	20	15	50	60	66	30	45	*	*	0.93	0.7
SSMM030021	-JIS4	21	15	52	63	69	30	45	*	*	0.97	0.8
SSMM030022	-JIS4	22	15	54	66	72	30	45	*	*	1.02	0.9
SSMM030023	-JIS4	23	15	56	69	75	30	45	*	*	1.07	0.9
SSMM030024	-JIS4	24	15	58	72	78	30	45	*	*	1.11	1.0
SSMM030025	-JIS4	25	20	60	75	81	30	45	*	*	1.32	1.1
SSMM030026	-JIS4	26	20	65	78	84	30	45	*	*	1.37	1.2
SSMM030027	-JIS4	27	20	65	81	87	30	45	*	*	1.43	1.3
SSMM030028	-JIS4	28	20	70	84	90	30	45	*	*	1.48	1.3
SSMM030029	-JIS4	29	20	70	87	93	30	45	*	*	1.53	1.4
SSMM030030	-JIS4	30	20	75	90	96	30	45	*	*	1.58	1.5
SSMM030032	-JIS4	32	20	75	96	102	30	45	*	*	1.69	1.7
SSMM030034	-JIS4	34	20	80	102	108	30	45	*	*	1.80	1.9
SSMM030035	-JIS4	35	20	80	105	111	30	45	*	*	1.85	2.1
SSMM030036	-JIS4	36	20	80	108	114	30	45	*	*	1.90	2.2
SSMM030038	-JIS4	38	25	80	114	120	30	45	*	*	2.01	2.4
SSMM030040	-JIS4	40	25	80	120	126	30	45	*	*	2.11	2.6
SSMM030042	-JIS4	42	25	80	126	132	30	45	*	*	2.22	2.9
SSMM030044	-JIS4	44	25	80	132	138	30	45	*	*	2.32	3.2
SSMM030045	-JIS4	45	25	80	135	141	30	45	*	*	2.38	3.3
SSMM030046	-JIS4	46	25	80	138	144	30	45	*	*	2.43	3.5
SSMM030048	-JIS4	48	25	80	144	150	30	45	*	*	2.53	3.7
SSMM030050	-JIS4	50	25	80	150	156	30	45	*	*	3.19	4.1
SSMM030052	-JIS4	52	25	80	156	162	30	45	*	*	3.32	4.4
SSMM030054	-JIS4	54	25	80	162	168	30	45	*	*	3.45	4.7
SSMM030055	-JIS4	55	25	80	165	171	30	45	*	*	3.51	4.9
SSMM030056	-JIS4	56	25	80	168	174	30	45	*	*	3.57	5.0
SSMM030058	-JIS4	58	25	80	174	180	30	45	*	*	3.70	5.4

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.



SSM-JIS4

單位 / Dimension : mm

系列 SSM-JIS4 直齒齒輪
品質等級 JIS 4

材料 S50C
可根據要求提供鍵槽和螺孔

Series SSM-JIS4 Straight Soft Pinions
Quality Grade JIS 4

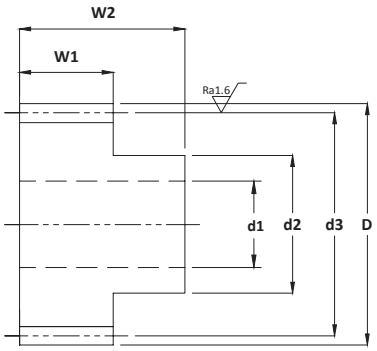
Material S50C
Keyway and screw holes are available upon request.

型號 Code	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 3 / Module 3												
SSMM030060	-JIS4	60	25	80	180	186	30	45	*	*	3.83	5.8
SSMM030062	-JIS4	62	25	80	186	192	30	45	*	*	3.96	6.1
SSMM030064	-JIS4	64	25	80	192	198	30	45	*	*	4.08	6.5
SSMM030065	-JIS4	65	25	80	195	201	30	45	*	*	4.15	6.7
SSMM030066	-JIS4	66	25	90	198	204	30	45	*	*	4.21	6.9
SSMM030068	-JIS4	68	25	90	204	210	30	45	*	*	4.34	7.3
SSMM030070	-JIS4	70	25	90	210	216	30	45	*	*	4.47	7.8
SSMM030072	-JIS4	72	25	90	216	222	30	45	*	*	4.59	8.2
SSMM030075	-JIS4	75	25	90	225	231	30	45	*	*	4.78	8.9
SSMM030076	-JIS4	76	25	90	228	234	30	45	*	*	4.85	9.1
SSMM030080	-JIS4	80	30	90	240	246	30	45	*	*	5.10	10.1
SSMM030090	-JIS4	90	30	100	270	276	30	45	*	*	5.74	12.7
SSMM030100	-JIS4	100	30	100	300	306	30	45	*	*	6.38	15.6

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

SSM-JIS4



單位 / Dimension : mm

系列 SSM-JIS4 直齒齒輪
品質等級 JIS 4

材料 S50C
可根據要求提供鍵槽和螺孔

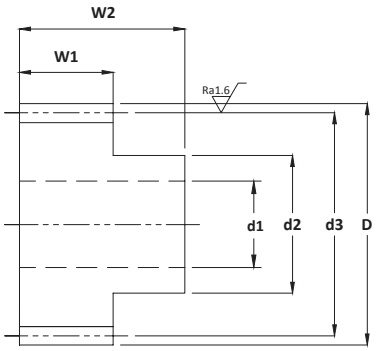
Series SSM-JIS4 Straight Soft Pinions
Quality Grade JIS 4

Material S50C
Keyway and screw holes are available upon request.

型號 Code	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 4 / Module 4												
SSMM040012	-JIS4	12	20	35	48	56	40	60	*	*	*	0.6
SSMM040013	-JIS4	13	20	38	52	60	40	60	*	*	*	0.7
SSMM040014	-JIS4	14	20	40	56	64	40	60	*	*	*	0.8
SSMM040015	-JIS4	15	20	45	60	68	40	60	*	*	*	0.9
SSMM040016	-JIS4	16	20	50	64	72	40	60	*	*	1.18	1.0
SSMM040017	-JIS4	17	20	53	68	76	40	60	*	*	1.40	1.1
SSMM040018	-JIS4	18	20	55	72	80	40	60	*	*	1.49	1.2
SSMM040019	-JIS4	19	20	60	76	84	40	60	*	*	1.57	1.3
SSMM040020	-JIS4	20	20	65	80	88	40	60	*	*	1.65	1.4
SSMM040021	-JIS4	21	20	69	84	92	40	60	*	*	1.73	1.6
SSMM040022	-JIS4	22	20	73	88	96	40	60	*	*	1.81	1.7
SSMM040023	-JIS4	23	20	77	92	100	40	60	*	*	1.90	1.8
SSMM040024	-JIS4	24	20	80	96	104	40	60	*	*	1.98	2.0
SSMM040025	-JIS4	25	20	84	100	108	40	60	*	*	2.35	2.2
SSMM040026	-JIS4	26	20	87	104	112	40	60	*	*	2.44	2.3
SSMM040027	-JIS4	27	20	90	108	116	40	60	*	*	2.53	2.5
SSMM040028	-JIS4	28	20	95	112	120	40	60	*	*	2.63	2.7
SSMM040029	-JIS4	29	20	95	116	124	40	60	*	*	2.72	2.8
SSMM040030	-JIS4	30	20	100	120	128	40	60	*	*	2.82	3.0
SSMM040032	-JIS4	32	22	100	128	136	40	56	*	*	3.00	3.4
SSMM040034	-JIS4	34	22	100	136	144	40	56	*	*	3.19	3.8
SSMM040035	-JIS4	35	22	100	140	148	40	56	*	*	3.29	4.1
SSMM040036	-JIS4	36	22	100	144	152	40	56	*	*	3.38	4.3
SSMM040038	-JIS4	38	22	100	152	160	40	56	*	*	3.57	4.7
SSMM040040	-JIS4	40	25	100	160	168	40	56	*	*	3.75	5.2
SSMM040042	-JIS4	42	25	100	168	176	40	56	*	*	3.94	5.7
SSMM040044	-JIS4	44	25	100	176	184	40	56	*	*	4.13	6.3
SSMM040045	-JIS4	45	25	100	180	188	40	56	*	*	4.22	6.5
SSMM040046	-JIS4	46	25	100	184	192	40	56	*	*	4.32	6.8
SSMM040048	-JIS4	48	25	100	192	200	40	56	*	*	4.51	7.4
SSMM040050	-JIS4	50	30	100	200	208	40	56	*	*	5.67	8.0
SSMM040052	-JIS4	52	30	100	208	216	40	56	*	*	5.90	8.6
SSMM040054	-JIS4	54	30	100	216	224	40	56	*	*	6.12	9.3
SSMM040055	-JIS4	55	30	100	220	228	40	56	*	*	6.24	9.6
SSMM040056	-JIS4	56	30	100	224	232	40	56	*	*	6.35	10.0
SSMM040058	-JIS4	58	30	110	232	240	40	56	*	*	6.58	10.7
SSMM040060	-JIS4	60	30	110	240	248	40	56	*	*	6.80	11.4
SSMM040062	-JIS4	62	30	110	248	256	40	56	*	*	7.03	12.1
SSMM040064	-JIS4	64	30	110	256	264	40	56	*	*	7.26	12.9
SSMM040065	-JIS4	65	30	110	260	268	40	56	*	*	7.37	13.3
SSMM040066	-JIS4	66	30	120	264	272	40	56	*	*	7.48	13.7
SSMM040068	-JIS4	68	30	120	272	280	40	56	*	*	7.71	14.5
SSMM040070	-JIS4	70	30	120	280	288	40	56	*	*	7.94	15.3
SSMM040080	-JIS4	80	30	120	320	328	40	56	*	*	9.07	19.9

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.



SSM-JIS4

單位 / Dimension : mm

系列 SSM-JIS4 直齒齒輪
品質等級 JIS 4

材料 S50C
可根據要求提供鍵槽和螺孔

Series SSM-JIS4 Straight Soft Pinions
Quality Grade JIS 4

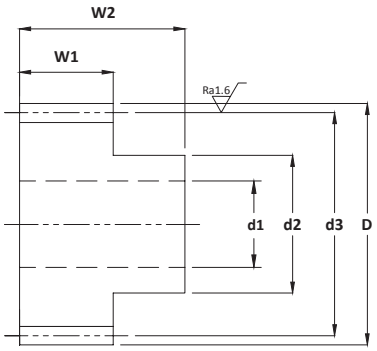
Material S50C
Keyway and screw holes are available upon request.

型號 Code	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 5 / Module 5												
SSMM050012	-JIS4	12	22	46	60	70	50	75	*	*	*	1.1
SSMM050013	-JIS4	13	22	50	65	75	50	75	*	*	*	1.3
SSMM050014	-JIS4	14	22	52	70	80	50	75	*	*	*	1.5
SSMM050015	-JIS4	15	22	60	75	85	50	75	*	*	*	1.7
SSMM050016	-JIS4	16	22	65	80	90	50	75	*	*	1.84	1.9
SSMM050017	-JIS4	17	22	68	85	95	50	75	*	*	2.19	2.1
SSMM050018	-JIS4	18	22	70	90	100	50	75	*	*	2.32	2.3
SSMM050019	-JIS4	19	22	76	95	105	50	75	*	*	2.45	2.5
SSMM050020	-JIS4	20	22	82	100	110	50	75	*	*	2.58	2.8
SSMM050021	-JIS4	21	25	90	105	115	50	75	*	*	2.71	3.1
SSMM050022	-JIS4	22	25	95	110	120	50	75	*	*	2.84	3.3
SSMM050023	-JIS4	23	25	100	115	125	50	75	*	*	2.96	3.6
SSMM050024	-JIS4	24	25	100	120	130	50	75	*	*	3.09	3.9
SSMM050025	-JIS4	25	25	105	125	135	50	75	*	*	3.67	4.2
SSMM050026	-JIS4	26	25	110	130	140	50	75	*	*	3.81	4.5
SSMM050027	-JIS4	27	25	110	135	145	50	75	*	*	3.96	4.9
SSMM050028	-JIS4	28	25	110	140	150	50	75	*	*	4.11	5.2
SSMM050029	-JIS4	29	25	115	145	155	50	75	*	*	4.25	5.6
SSMM050030	-JIS4	30	25	120	150	160	50	75	*	*	4.40	5.9
SSMM050032	-JIS4	32	30	120	160	170	50	71	*	*	4.69	6.7
SSMM050034	-JIS4	34	30	120	170	180	50	71	*	*	4.99	7.5
SSMM050035	-JIS4	35	30	120	175	185	50	71	*	*	5.13	7.9
SSMM050036	-JIS4	36	30	120	180	190	50	71	*	*	5.28	8.3
SSMM050038	-JIS4	38	30	120	190	200	50	71	*	*	5.57	9.2
SSMM050040	-JIS4	40	30	120	200	210	50	71	*	*	5.87	10.2
SSMM050042	-JIS4	42	30	120	210	220	50	71	*	*	6.16	11.2
SSMM050044	-JIS4	44	30	120	220	230	50	71	*	*	6.45	12.2
SSMM050045	-JIS4	45	30	120	225	235	50	71	*	*	6.60	12.8
SSMM050046	-JIS4	46	30	120	230	240	50	71	*	*	6.75	13.3
SSMM050048	-JIS4	48	30	120	240	250	50	71	*	*	7.04	14.5
SSMM050050	-JIS4	50	30	120	250	260	50	71	*	*	8.86	15.6
SSMM050052	-JIS4	52	30	130	260	270	50	71	*	*	9.21	16.9
SSMM050054	-JIS4	54	30	130	270	280	50	71	*	*	9.57	18.1
SSMM050055	-JIS4	55	30	130	275	285	50	71	*	*	9.75	18.8
SSMM050056	-JIS4	56	30	130	280	290	50	71	*	*	9.92	19.4
SSMM050058	-JIS4	58	30	130	290	300	50	71	*	*	10.28	20.8
SSMM050060	-JIS4	60	30	130	300	310	50	71	*	*	10.63	22.2

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

SSM-JIS4



單位 / Dimension : mm

系列 SSM-JIS4 直齒齒輪
品質等級 JIS 4

材料 S50C
可根據要求提供鍵槽和螺孔

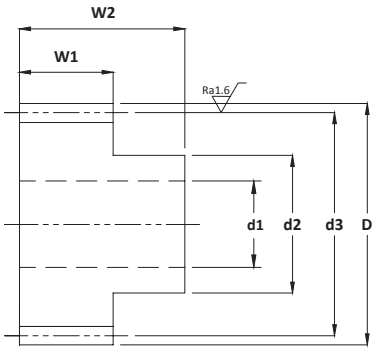
Series SSM-JIS4 Straight Soft Pinions
Quality Grade JIS 4

Material S50C
Keyway and screw holes are available upon request.

型號 Code	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 6 / Module 6												
SSMM060012	-JIS4	12	25	55	72	84	60	88	*	*	*	1.9
SSMM060013	-JIS4	13	25	58	78	90	60	88	*	*	*	2.2
SSMM060014	-JIS4	14	25	60	84	96	60	88	*	*	*	2.5
SSMM060015	-JIS4	15	25	70	90	102	60	88	*	*	*	2.8
SSMM060016	-JIS4	16	25	75	96	108	60	88	*	*	2.65	3.2
SSMM060017	-JIS4	17	25	78	102	114	60	88	*	*	3.16	3.5
SSMM060018	-JIS4	18	25	80	108	120	60	88	*	*	3.34	3.9
SSMM060019	-JIS4	19	25	90	114	126	60	88	*	*	3.53	4.3
SSMM060020	-JIS4	20	25	100	120	132	60	88	*	*	3.71	4.7
SSMM060021	-JIS4	21	28	105	126	138	60	88	*	*	3.90	5.2
SSMM060022	-JIS4	22	28	110	132	144	60	88	*	*	4.08	5.6
SSMM060023	-JIS4	23	28	115	138	150	60	88	*	*	4.27	6.1
SSMM060024	-JIS4	24	28	120	144	156	60	88	*	*	4.45	6.6
SSMM060025	-JIS4	25	28	125	150	162	60	88	*	*	5.28	7.1
SSMM060026	-JIS4	26	28	130	156	168	60	88	*	*	5.49	7.7
SSMM060027	-JIS4	27	28	135	162	174	60	88	*	*	5.70	8.2
SSMM060028	-JIS4	28	28	140	168	180	60	88	*	*	5.91	8.8
SSMM060030	-JIS4	30	30	150	180	192	60	88	*	*	6.34	10.0
SSMM060032	-JIS4	32	30	150	192	204	60	83	*	*	6.76	11.3
SSMM060034	-JIS4	34	30	150	204	216	60	83	*	*	7.18	12.7
SSMM060035	-JIS4	35	30	150	210	222	60	83	*	*	7.39	13.4
SSMM060036	-JIS4	36	30	150	216	228	60	83	*	*	7.60	14.1
SSMM060038	-JIS4	38	30	150	228	240	60	83	*	*	8.02	15.6
SSMM060040	-JIS4	40	30	150	240	252	60	83	*	*	8.45	17.2
SSMM060042	-JIS4	42	40	150	252	264	60	83	*	*	8.87	18.9
SSMM060044	-JIS4	44	40	150	264	276	60	83	*	*	9.29	20.7
SSMM060045	-JIS4	45	40	180	270	282	60	83	*	*	9.50	21.6
SSMM060046	-JIS4	46	40	180	276	288	60	83	*	*	9.71	22.5
SSMM060048	-JIS4	48	40	180	288	300	60	83	*	*	10.14	24.4
SSMM060050	-JIS4	50	40	180	300	312	60	83	*	*	12.76	26.4

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.



SSM-JIS4

單位 / Dimension : mm

系列 SSM-JIS4 直齒齒輪
品質等級 JIS 4

材料 S50C
可根據要求提供鍵槽和螺孔

Series SOM-JIS4 Straight Soft Pinions
Quality Grade JIS 4

Material S50C
Keyway and screw holes are available upon request.

型號 Code	JIS	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
模數 8 / Module 8												
SSMM080012	-JIS4	12	28	75	96	112	75	110	*	*	*	4.3
SSMM080013	-JIS4	13	28	80	104	120	75	110	*	*	*	4.9
SSMM080014	-JIS4	14	28	85	112	128	75	110	*	*	*	5.6
SSMM080015	-JIS4	15	28	90	120	136	75	110	*	*	*	6.3
SSMM080016	-JIS4	16	28	100	128	144	75	110	*	*	4.95	7.0
SSMM080017	-JIS4	17	28	105	136	152	75	110	*	*	5.26	7.8
SSMM080018	-JIS4	18	28	110	144	160	75	110	*	*	5.57	8.7
SSMM080019	-JIS4	19	28	120	152	168	75	110	*	*	5.88	9.6
SSMM080020	-JIS4	20	28	130	160	176	75	110	*	*	6.19	10.5
SSMM080021	-JIS4	21	30	140	168	184	75	110	*	*	6.50	11.5
SSMM080022	-JIS4	22	30	150	176	192	75	110	*	*	6.80	12.5
SSMM080023	-JIS4	23	30	155	184	200	75	110	*	*	7.11	13.6
SSMM080024	-JIS4	24	30	160	192	208	75	110	*	*	8.45	14.7
SSMM080025	-JIS4	25	30	170	200	216	75	110	*	*	8.80	15.8
SSMM080026	-JIS4	26	30	170	208	224	75	110	*	*	9.15	17.0
SSMM080027	-JIS4	27	30	170	216	232	75	110	*	*	9.50	18.3
SSMM080028	-JIS4	28	30	180	224	240	75	110	*	*	9.85	19.5
SSMM080030	-JIS4	30	30	180	240	256	75	110	*	*	10.56	22.2
模數 10 / Module 10												
SSMM100015	-JIS4	15	30	115	150	170	90	130	*	*	*	11.6
SSMM100020	-JIS4	20	30	165	200	220	90	130	*	*	9.28	19.4
SSMM100025	-JIS4	25	40	200	250	270	90	130	*	*	13.20	29.2

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

MSPH-CP-JIS2

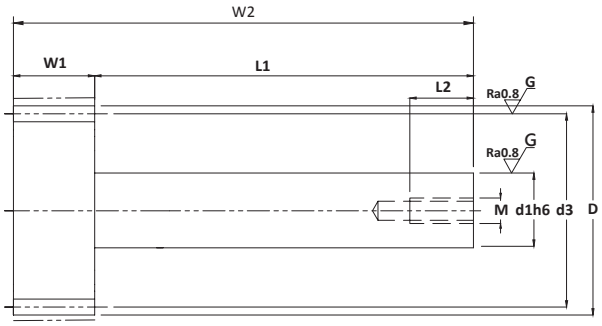


圖1 /Fig . 1

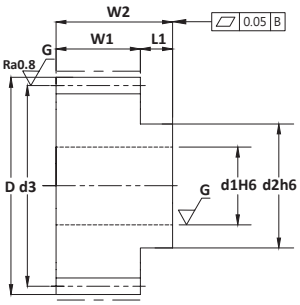


圖2 /Fig . 2

單位 / Dimension : mm

系列 MSPH-CP-JIS2 直齒研磨齒輪
品質等級 JIS2

材料 SCM415 / SCM440
硬度 HRC 50~58°
硬化處理後齒面研磨

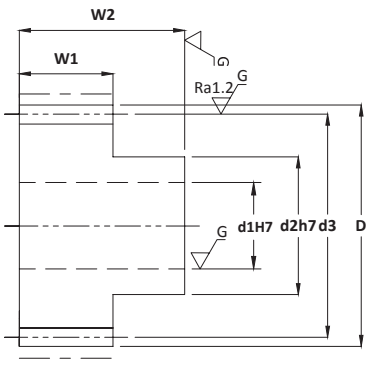
Series MSPH-CP-JIS2 Straight Teeth Ground Pinions
Quality Grade JIS2

Material SCM415 / SCM440
Hardness: HRC 50~58°
Teeth Gound after Hardening

型號 Code	圖 Fig.	JIS	模數 Module	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	L1	L2	Hole	F_{ta} kN	KG
周節 5 / CP 5															
MSPH-CP0500201	1	-JIS2	1.5915	20	20h6	*	31.831	35.014	11.5	90	78.5	19	M8	1.87	1.4
MSPH-CP0500202	1	-JIS2	1.5915	20	20h6	*	31.831	35.014	14.5	90	75.5	19	M8	2.07	1.4
MSPH-CP0500203	2	-JIS2	1.5915	20	10h6	25	31.831	35.014	14.5	23	8.5	*	*	2.07	0.5
周節 7.5 / CP 7.5															
MSPH-CP0750201	1	-JIS2	2.3873	20	25h6	*	47.746	52.520	19.5	108	88.5	22	M10	4.18	3.7
MSPH-CP0750202	2	-JIS2	2.3873	20	15h7	40	47.746	52.520	19.5	30	10.5	*	*	4.18	1.4
周節 10 / CP 10															
MSPH-CP1000201	1	-JIS2	3.1831	20	40h6	*	63.662	70.028	29.5	162	132.5	28	M12	8.44	9.8
MSPH-CP1000202	2	-JIS2	3.1831	20	15h7	50	63.662	70.028	29.5	43	13.5	*	*	8.44	3.7

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.



MSSH-CP-JIS3

單位 / Dimension : mm

系列 MSSH-CP-JIS3 直齒磨削齒輪
品質等級 JIS 3

材料 SCM415 / SCM440
硬度 HRC 50~58°
硬化處理後齒面磨削

可根據要求提供鍵槽和螺孔

Series MSSH-CP-JIS3 Straight Skiving Pinions
Quality Grade JIS 3

Material SCM415 / SCM440
Hardness: HRC 50~58°
Skiving after Hardening

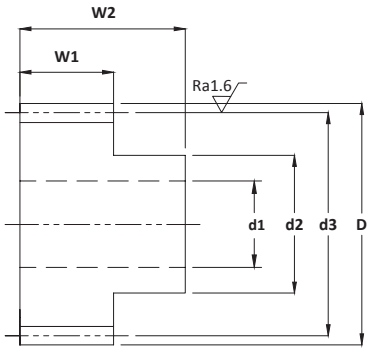
Keyway and screw holes are available upon request.

型號 Code	JIS	模數 Module	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
周節 5 / CP 5													
MSSH-CP050020	-JIS3	1.5915	20	8	25	31.83	35.01	15	30	*	*	1.76	0.2
MSSH-CP050025	-JIS3	1.5915	25	10	32	39.79	42.97	15	30	*	*	2.50	0.3
MSSH-CP050030	-JIS3	1.5915	30	10	38	47.74	50.93	15	30	*	*	3.00	0.4
MSSH-CP050040	-JIS3	1.5915	40	12	50	63.66	66.84	15	30	*	*	4.00	0.6
周節 10 / CP 10													
MSSH-CP100020	-JIS3	3.1831	20	15	50	63.66	70.03	30	50	*	*	7.03	0.9
MSSH-CP100025	-JIS3	3.1831	25	20	60	79.57	85.94	30	50	*	*	10.00	1.4
MSSH-CP100030	-JIS3	3.1831	30	20	75	95.49	101.86	30	50	*	*	11.99	1.9
MSSH-CP100040	-JIS3	3.1831	40	25	80	127.32	133.69	30	50	*	*	15.99	3.3
周節 15 / CP 15													
MSSH-CP150020	-JIS3	4.7746	20	25	75	95.49	105.04	50	77	*	*	17.57	2.6
MSSH-CP150025	-JIS3	4.7746	25	25	100	119.37	128.92	50	77	*	*	21.96	3.9
MSSH-CP150030	-JIS3	4.7746	30	25	110	143.24	152.79	50	77	*	*	29.98	5.5
周節 20 / CP 20													
MSSH-CP200020	-JIS3	6.3662	20	25	100	127.32	140.06	60	90	*	*	28.11	5.4
MSSH-CP200025	-JIS3	6.3662	25	30	130	159.16	171.89	60	90	*	*	39.98	8.2
MSSH-CP200030	-JIS3	6.3662	30	30	150	190.99	203.72	60	90	*	*	47.98	11.5

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

SSM-CP-JIS4



單位 / Dimension : mm

系列 SSM-CP-JIS4 直齒輪
品質等級 JIS 4

材料 S50C
可根據要求提供鍵槽和螺孔

Series SSM-CP-JIS4 Straight Soft Pinion
Quality Grade JIS 4

Material S50C
Keyway and screw holes are available upon request.

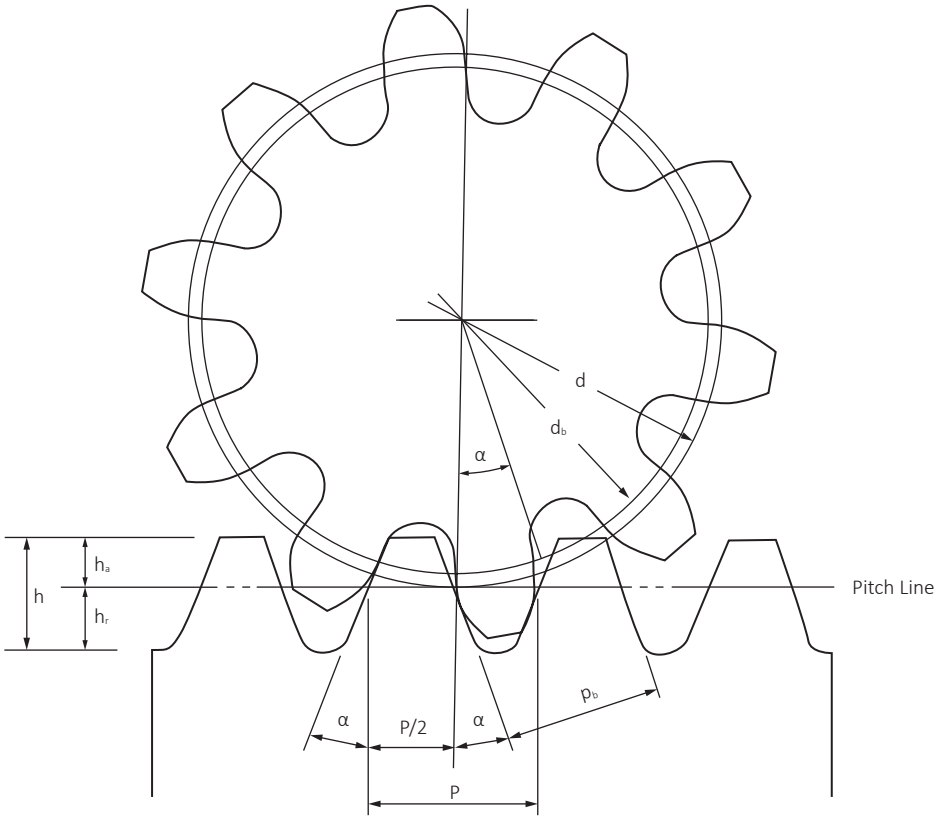
型號 Code	JIS	模數 Module	齒數 No. of Teeth	d1	d2	d3	D	W1	W2	k	h	F_{ta} kN	KG
周節 5 / CP 5													
SSM-CP050020	-JIS4	1.5915	20	8	25	31.83	35.01	15	30	*	*	0.25	0.2
SSM-CP050025	-JIS4	1.5915	25	10	32	39.79	42.97	15	30	*	*	0.35	0.3
SSM-CP050030	-JIS4	1.5915	30	10	38	47.74	50.93	15	30	*	*	0.42	0.4
SSM-CP050040	-JIS4	1.5915	40	12	45	63.66	66.84	15	30	*	*	0.56	0.6
周節 10 / CP 10													
SSM-CP100020	-JIS4	3.1831	20	15	50	63.66	70.03	30	50	*	*	0.98	0.9
SSM-CP100025	-JIS4	3.1831	25	20	60	79.57	85.94	30	50	*	*	1.40	1.4
SSM-CP100030	-JIS4	3.1831	30	20	75	95.49	101.86	30	50	*	*	1.68	1.9
SSM-CP100040	-JIS4	3.1831	40	20	80	127.32	133.69	30	50	*	*	2.24	3.3
周節 15 / CP 15													
SSM-CP150020	-JIS4	4.7746	20	22	75	95.49	105.04	50	77	*	*	2.46	2.6
SSM-CP150025	-JIS4	4.7746	25	25	100	119.36	128.92	50	77	*	*	3.08	3.9
SSM-CP150030	-JIS4	4.7746	30	25	110	143.24	152.79	50	77	*	*	4.20	5.5
周節 20 / CP 20													
SSM-CP200020	-JIS4	6.3662	20	25	100	127.32	140.06	60	90	*	*	3.94	5.4
SSM-CP200025	-JIS4	6.3662	25	30	130	159.15	171.89	60	90	*	*	5.60	8.2
SSM-CP200030	-JIS4	6.3662	30	30	150	190.98	203.72	60	90	*	*	6.72	11.5

※ 重量僅供參考，實重須經實秤為準。

※Weight only for reference. Actual scale should be Weighing.

標準直齒條和齒輪定義

Definition of Standard Straight Gear



標準直齒輪

模數	m	Module	m
壓力角	$\alpha = 20°$	Pressure Angle	$\alpha = 20°$
齒冠高	$h_a = m$	Addendum	$h_a = m$
齒根高	$h_r \geqq 1.25m$	Dedendum	$h_r \geqq 1.25m$
齒全深	$h \geqq 2.25m$	Whole Depth	$h \geqq 2.25m$
有效齒深	$h_w = 2.00m$	Working Tooth Depth	$h_w = 2.00m$
齒頂隙	$c = 0.25m$	Clearance	$c = 0.25m$
標準節距	$p = \pi m$	Circular Pitch	$p = \pi m$
基圓節距	$p_b = p \cos \alpha$	Base Circle Pitch	$p_b = p \cos \alpha$
標準圓直徑	$d = mz$	Standard Circle Dia	$d = mz$
基圓直徑	$d_b = d \cos \alpha$	Base Circle Diameter	$d_b = d \cos \alpha$
r_f = R 角		r_f = Root Radius	
S= 齒厚		S= Circular Tooth Thickness	

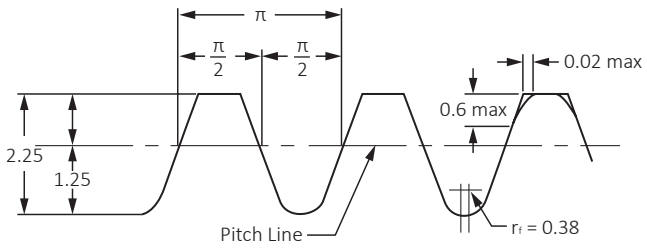


圖 1-1 ISO 53 針對基本公制齒條的模數 1 進行標準化
Fig. 1-1 The Basic Metric Rack From ISO 53 Normalized for Module 1

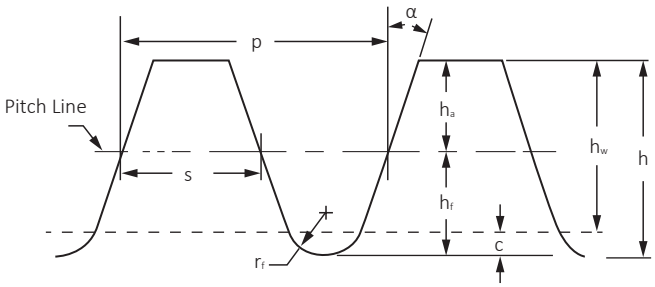


圖 1-2 基本英制徑節齒條的 DP1 進行標準化
Fig. 1-2 The Basic Inch Diametral Pitch Rack Normalized for 1 Diametral Pitch

標準正齒輪計算
Straight Gear Calculation

序號 No.	計算項目	Description	記號 Symbol	計算公式 Formula	計算例 Example	
					小齒輪 Small	大齒輪 Big
1	模數	Module	m		2.25	
2	標準壓力角	Pressure Angle	α		20	
3	齒數	No. of Teeth	z		16	20
4	中心距離	Center Distance	a	$\frac{(Z_1+Z_2)m}{2}$	40.5	
5	標準圓直徑	Standard Circle Diameter	d	zm	36	45
6	基圓直徑	Base Circle Diameter	d_b	$d\cos\alpha$	33.8289	42.2862
7	齒冠高	Addendum	h_a	$1.00m$	2.25	2.25
8	全齒深	Whole Depth	h	$2.55m$	5.0625	5.0625
9	齒頂圓直徑	Addendum Circle Diameter	d_a	$d\text{-}2.5m$	40.5	49.5
10	齒底圓直徑	Diameter of Root Circle	d_f	$d - 2.5m$	30.375	39.375

標準正齒輪計算
Straight Gear Calculation

序號 No.	計算項目	Description	記號 Symbol	計算公式 Formula	計算例 Example	
1	模數	Module	m		2.25	
2	中心距離	Center Distance	a		45	
3	轉速比	Speed Ratio	i		1.5	
4	齒數的和	Sum of Teeth No.	Z_1+Z_2	$\frac{2\alpha}{m}$	40	
5	齒數	Teeth No.	Z	$\frac{Z_1+Z_2}{i+1}$ $\frac{i(Z_1+Z_2)}{i+1}$	16	24

斜齒輪計算
Helical Gear Calculation

序號 No.	計算項目	Description	記號 Symbol	計算公式 Formula	計算例 Example	
					小齒輪 Small	小齒輪 Big
1	齒直角模數	Module	m_n		2.5	
2	齒直角壓力角	Pressure Angle	α_n		20°	
3	標準圓筒螺旋角	Standard Cylinder Helical Angle	β		15°	
4	齒數 (螺旋方向)	No. of Teeth (Direction)	Z		15 (L)	24 (R)
5	軸直角壓力角	Axis Right Angle Pressure Angle	α_t	$\tan^{-1}\left(\frac{\tan\alpha_n}{\cos\beta}\right)$	20.6469°	
6	齒直角轉位係數	Teeth Right Angle Profile Shift Factor	X_n		0.12012	0
7	α'_t 的漸開線函數	Involute Function of a' Angle	inv α'_t	$2\tan\alpha_n\left(\frac{X_{n1}+X_{n2}}{Z_1+Z_2}\right)+\text{inv}\,\alpha_t$	0.018695	
8	軸直角咬合壓力角	Axis Right Angle Contact of Pressure Angle	α'_t	查閱漸開線函數表 Involute Function Chart	21.511	
9	中心距離修正係數	Center Distance Correction Factor	y	$\frac{Z_1+Z_2}{2\cos\beta}\left(\frac{\cos\alpha_t}{\cos\alpha'_t}-1\right)$	0.084598	
10	中心距離	Center Distance	α	$\left(\frac{Z_1+Z_2}{2\cos\beta}+y\right)m_n$	50.764	
11	標準圓直徑	Standard Circle Diameter	d	$\frac{zm_n}{\cos\beta}$	38.822	62.117
12	基圓直徑	Base Circle Diameter	d_b	$d\cos\alpha_t$	36.329	58.127
13	咬合標準圓直徑	Contact Standard Circle Diameter	d'	$\frac{d_b}{\cos\alpha'_t}$	39.049	62.478
14	齒冠高	Addendum	$h_{\alpha 1}$ $h_{\alpha 1}$	$(1+X_1)\,m_n$ $(1+X_2)\,m_n$	5.895	5.625
15	全齒深	Whole Depth	h	$2.25\,m_n$	6.748	
16	齒頂圓直徑	Addendum Circle Diameter	d_a	$d+2h_a$	44.423	67.116
17	齒底圓直徑	Diameter of Root Circle	d_f	d_a-2h	33.173	55.867

斜齒輪計算
Helical Gear Calculation

序號 No.	計算項目	Description	記號 Symbol	計算公式 Formula	計算例 Example	
1	中心距離	Center Distance	α		125	
2	中心距離修正係數	Center Distance Correction Factor	y	$\frac{a}{m_n}-\frac{Z_1+Z_1}{2\cos\beta}$	0.0.97447	
3	軸直角咬合壓力角	Axis Right Angle Contact of Pressure Angle	α'_t	$\cos^{-1}\left(\frac{2\cos\alpha_t}{\frac{2y\cos\beta}{Z_1+Z_2}+1}\right)$	23.1126°	
4	轉位係數和	Sum of Profile Shift Factor	$X_{n1}+X_{n2}$	$\frac{(Z_1+Z_2)(\text{inv}\,\alpha'_t-\text{inv}\,\alpha_t)}{2\tan\alpha_n}$	0.09809	
5	齒直角轉位係數	Teeth Right Angle Profile Shift Factor	X_n		0.09809	0

負荷係數

Overload Factor Ka

輸入機器 Impact from Prime Mover	輸出機器 Impact From Load Side Machine		
	均力 Uniform Load	中度衝擊 Mediem Impac t Load	劇烈衝擊 Heavy Impact Load
均勻負載 (馬達、渦輪機、油壓馬達) Uniform Load (Motor, Turbine, hydraulic Motor)	1	1.25	1.75
輕度衝擊 (多缸引擎) Light Impact Load (Multicylinder Engine)	1.25	1.5	2
中衝擊 (單缸引擎) Medium Impact Load (Single Cyliner Engine)	1.5	1.75	2.25

負荷係數用於修正機械動力輸出所造成的衝擊，對於齒部應力的影響參考值。
The overload factor is used to correct the impact caused by the mechanical power output and the reference value for the influence of the tooth stress.

壽命係數

Life Factor KL

重複循環次數 Number of Cyclic Repetitions	硬度 Hardness HRC		
	≦ 20°	≧ 20°	≧ 45°
Under 10,000	1.4	1.5	1.5
Approx. 10^5	1.2	1.4	1.5
Approx. 10^6	1.1	1.1	1.1
Approx. 10^7	1.0	1.0	1.0

標準直齒齒輪徑向咬合率

Radial Contact Ratio of Standard Spur Gear

	12	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	110	120
12	1.420																				
15	1.451	1.481																			
20	1.489	1.519	1.557																		
25	1.516	1.547	1.584	1.612																	
30	1.537	1.567	1.605	1.633	1.654																
35	1.553	1.584	1.622	1.649	1.670	1.687															
40	1.567	1.597	1.635	1.663	1.684	1.700	1.714														
45	1.578	1.609	1.646	1.674	1.695	1.711	1.725	1.736													
50	1.588	1.618	1.656	1.683	1.704	1.721	1.734	1.745	1.755												
55	1.596	1.626	1.664	1.691	1.712	1.729	1.742	1.753	1.763	1.771											
60	1.603	1.633	1.671	1.698	1.719	1.736	1.749	1.760	1.770	1.778	1.785										
65	1.609	1.639	1.677	1.704	1.725	1.742	1.755	1.766	1.776	1.784	1.791	1.797									
70	1.614	1.645	1.682	1.710	1.731	1.747	1.761	1.772	1.781	1.789	1.796	1.802	1.808								
75	1.619	1.649	1.687	1.714	1.735	1.752	1.765	1.777	1.786	1.794	1.801	1.807	1.812	1.817							
80	1.623	1.654	1.691	1.719	1.740	1.756	1.770	1.781	1.790	1.798	1.805	1.811	1.817	1.821	1.826						
85	1.627	1.657	1.695	1.723	1.743	1.760	1.773	1.785	1.794	1.802	1.809	1.815	1.821	1.825	1.830	1.833					
90	1.630	1.661	1.699	1.726	1.747	1.764	1.777	1.788	1.798	1.806	1.813	1.819	1.824	1.829	1.833	1.837	1.840				
95	1.634	1.664	1.702	1.729	1.750	1.767	1.780	1.791	1.801	1.809	1.816	1.822	1.827	1.832	1.836	1.840	1.844	1.847			
100	1.636	1.667	1.705	1.732	1.753	1.770	1.783	1.794	1.804	1.812	1.819	1.825	1.830	1.835	1.839	1.843	1.846	1.850	1.853		
110	1.642	1.672	1.710	1.737	1.758	1.775	1.788	1.799	1.809	1.817	1.824	1.830	1.835	1.840	1.844	1.848	1.852	1.855	1.858	1.863	
120	1.646	1.676	1.714	1.742	1.762	1.779	1.792	1.804	1.813	1.821	1.828	1.834	1.840	1.844	1.849	1.852	1.856	1.859	1.862	1.867	1.871
RACK	1.701	1.731	1.769	1.797	1.817	1.834	1.847	1.859	1.868	1.876	1.883	1.889	1.894	1.899	1.903	1.907	1.911	1.914	1.917	1.992	1.926

ISO Table 17-1 (α = 20°)

齒輪與齒條的強度計算公式

齒輪和齒輪的強度通常用彎曲強度和表面耐久性來說明。兩者在應用上都很重要。特別是，當應用環境嚴格時，每個參數都需要進一步討論。

以下公式基於 JGMA（日本齒輪製造商協會）的標準。 以下規格僅供參考。

JGMA 401-01 直齒與斜齒彎曲強度計算公式
JGMA 402-01 直齒與斜齒表面耐久性計算公式

彎曲強度和耐久性規格通常用於製造業中的直齒和斜齒（包括齒條和齒輪），範圍如下：

模數： m 1.5 to 25 mm
節圓直徑： d 25 to 3200 mm
切向速度： v ≦25 m/ 秒
迴轉速度： n ≦3600 rpm

轉換公式：功率，扭矩和力
齒輪強度和耐用性與功率和力的傳輸有關。 切向力的計算基於節圓，F_t（kgf），功率 P（kw）和扭矩 T（kgf•m）。

參考公式如下：

$$F_t = \frac{102P}{V} = \frac{19.5 \times 10^6 P}{d_w n} = \frac{2000T}{d_w}$$

$$P = \frac{F_t}{102} = \frac{10^{-6}}{1.95} F_t d_w n$$

$$T = \frac{F_t d_w}{2000} = \frac{947P}{n}$$

其中，咬合節圓直徑的水平切向速度

$$V = \frac{d_w n}{19100} \text{ (m/sec)}$$

dw: 咬合的節圓直徑 (mm)
n: 迴轉速度 (rpm)

產品選用計算：
1. 上述切向力 F_t 的計算方法，可依據不同輸入條件計算出 F_t 值的大小；
2. 型錄中各項產品提供最大允許切向力 F_{ta} 給使用者作設計上的比對；
3. 使用 F_{ta} 時，依據使用條件不同，需配合目錄上所提供的負荷係數 K_a 和壽命係數 K_L 進行修正；

$$F'_{ta} = \frac{F_{ta}}{K_a \times K_L}$$

4. F_t 值須小於 F'_{ta}；
5. 留意產品型錄上的 F_{ta} 單位為 kN，而切向力 F_t 的計算單位為 kgf，比對時須進行單位轉換。

備註：
1 公斤力 = 9.807 牛頓 = 0.0098 千牛頓
1 千牛頓 = 101.972 公斤力

Strength and Durability of Gears

The strength of gears is commonly illustrated with bending strength and surface durability. Both are important on application. In particularly, when applications are severe, each parameter requires further discussion.
The following formulas are based on standards of JGMA (Japanese Gear Manufacturer Association). The specifications below are for reference only.

JGMA 401-01 Bending Strength Formula of Spur Gears and Helical Gears
JGMA 402-01 Surface Durability Formula of Spur Gears and Helical Gears

Bending strength and durability specifications are usually used with straight and helical gears (including racks and pinions) in manufacturing industry within the ranges below:

Module: m 1.5 to 25 mm
Pitch Diameter: d 25 to 3200 mm
Tangential Speed: v ≦25 m/sec
Rotating Speed: n ≦3600 rpm

Conversion Formulas: Power, Torque and Force
Gear strength and durability relate to the power and forces to be transmitted. The calculation of tangential force are based on pitch circle, F_t(kgf), power, P(kw), and torque, T(kgf•m).

Formula Below:

$$F_t = \frac{102P}{V} = \frac{19.5 \times 10^6 P}{d_w n} = \frac{2000T}{d_w}$$

$$P = \frac{F_t}{102} = \frac{10^{-6}}{1.95} F_t d_w n$$

$$T = \frac{F_t d_w}{2000} = \frac{947P}{n}$$

Where v: Tangential Speed of Working Pitch Circle

$$V = \frac{d_w n}{19100} \text{ (m/sec)}$$

dw: Working Pitch Diameter (mm)
n: Rotating Speed (rpm)

Product Selection Calculation:
1. The calculation method of the above tangential force F_t can be calculated according to different input conditions;
2. Each item in the catalogue provides the maximum allowable tangential force F_{ta} for the design comparison for users;
3. When using F_{ta}, depending on the conditions of use, it is necessary to correct the load factor K_a and the life factor K_L provided in the catalog;

$$F'_{ta} = \frac{F_{ta}}{K_a \times K_L}$$

4.F_t value must be less than F'_{ta}
5.Note that the F_{ta} unit on the product catalog is kN, and the tangential force F_t is calculated in kgf, and the unit conversion is required when comparing.

Remark:
1kgf= 9.807 N= 0.0098 kN
1kN= 101.972 kgf

硬度對照表
Steel Hardness Conversion Chart

布氏 Brinell HB	洛氏 Rockwell HRC	洛氏 Rockwell HRB	維氏 Vickers HV
760	70		
752	69		
745	68		
746	67		
735	66		
711	65		
695	64		
681	63		
658	62		
642	61		
627	60		
613	59		
601	58	746	
592	57	727	
572	56	694	
552	55	649	
534	54	120	589
513	53	119	567
504	52	118	549
486	51	118	531
469	50	117	505
468	49	117	497
456	48	116	490
445	47	115	474
430	46	115	458
419	45	114	448
415	44	114	438
402	43	114	424
388	42	113	406
375	41	112	393
373	40	111	388
360	39	111	376
348	38	110	361
341	37	109	351
331	36	109	342
322	35	108	332
314	34	108	320
308	33	107	311
300	32	107	303
290	31	106	292
277	30	105	285
271	29	104	277
264	28	103	271
262	27	103	262
255	26	102	258
250	25	101	255
245	24	100	252
240	23	100	247
233	22	99	241
229	21	98	235
223	20	97	227
216	19	96	222
212	18	95	218
208	17	95	210

硬度對照表
Steel Hardness Conversion Chart

布氏 Brinell HB	洛氏 Rockwell HRC	洛氏 Rockwell HRB	維氏 Vickers HV
199	15	93	199
191	14	92	197
190	13	92	186
186	12	91	184
183	11	90	183
180	10	89	180
175	9	88	178
170	7	87	175
167	6	86	172
166	5	86	168
163	4	85	162
160	3	84	160
156	2	83	158
154	1	82	152

由於各家材料與檢測儀器不同，所有數值僅供參考。
Since all materials and testing instruments are different, all values are for reference only.

齒距和模數轉換表

Conversion Table for Gear Pitch and Module

Diametral Pitch	Circular Pitch (CP)		Module
DP	in	mm	M
1	3.1416	79.796	25.4
1.0053	3.1250	79.375	25.2658
1.0160	3.0921	78.540	25
1.0472	3	76.200	24.2552
1.0583	2.9684	75.398	24
1.0640	2.9528	75	23.8732
1.0927	2.8750	73.025	23.2446
1.1399	2.7559	70	22.2817
1.1424	2.7500	69.850	22.2339
1.1545	2.7211	69.115	22
1.1968	2.6250	66.675	21.2233
1.2276	2.5591	65	20.6901
1.2500	2.5133	63.837	20.3200
1.2566	2.5	63.5	20.2127
1.2700	2.4737	62.832	20
1.3228	2.3750	60.325	19.2020
1.3299	2.3622	60	19.0986
1.3963	2.2500	57.150	18.1914
1.4111	2.2263	56.549	18
1.4508	2.1654	55	17.5070
1.4784	2.1250	53.975	17.1808
1.5	2.0944	53.198	16.9333
1.5708	2	50.800	16.1701
1.5875	1.9790	50.265	16
1.5959	1.9685	50	15.9155
1.6755	1.8750	47.625	15.1595
1.6933	1.8553	47.124	15
1.7500	1.7952	45.598	14.5143
1.7733	1.7717	45	14.3239
1.7952	1.7500	44.450	14.1489
1.8143	1.7316	43.982	14
1.9333	1.6250	41.275	13.1382
1.9538	1.6079	40.841	13
1.9949	1.5748	40	12.7324
2	1.5708	39.898	12.7
2.0944	1.5	38.1	12.1276
2.0999	1.4961	38	12.0958
2.1167	1.4842	37.699	12
2.1855	1.4375	36.513	11.6223
2.2166	1.4173	36	11.4592
2.2500	1.3963	35.465	11.2889
2.2848	1.3750	34.925	11.1170
2.3091	1.3605	34.558	11
2.3470	1.3386	34	10.8225
2.3936	1.3125	33.338	10.6117
2.4936	1.2598	32	10.1859
2.5	1.2566	31.919	10.1600
2.5133	1.2500	31.750	10.1063
2.5400	1.2368	31.416	10
2.6456	1.1875	30.163	9.6010
2.6599	1.1811	30	9.5493
2.7500	1.1424	29.017	9.2364
2.7925	1.1250	28.575	9.0957
2.8222	1.1132	28.274	9
2.8499	1.1024	28	8.9127
2.9568	1.0625	26.988	8.5904

Diametral Pitch	Circular Pitch (CP)		Module
DP	in	mm	M
3	1.0472	26.599	8.4667
3.0691	1.0236	26	8.2761
3.1416	1	25.4	8.0851
3.1750	0.9895	25.133	8
3.1919	0.9843	25	7.9577
3.2500	0.9666	24.553	7.8154
3.3249	0.9449	24	7.6394
3.3510	0.9375	23.813	7.5798
3.5	0.8976	22.799	7.2571
3.5904	0.8750	22.225	7.0744
3.6271	0.8661	22	7.0028
3.6286	0.8658	21.991	7
3.7500	0.8378	21.279	6.7733
3.8666	0.8125	20.638	6.5691
3.9898	0.7874	20	6.3662
4	0.7854	19.949	6.3500
4.1888	0.7500	19.050	6.0638
4.1998	0.7480	19	6.0479
4.2333	0.7421	18.850	6
4.4331	0.7087	18	5.7296
4.5	0.6981	17.733	5.6444
4.5696	0.6875	17.463	5.5585
4.6182	0.6803	17.279	5.5
4.6939	0.6693	17	5.4113
4.9873	0.6299	16	5.0930
5	0.6283	15.959	5.0800
5.0265	0.6250	15.875	5.0532
5.0800	0.6184	15.708	5
5.3198	0.5906	15	4.7746
5.5	0.5712	14.508	4.6182
5.5851	0.5625	14.288	4.5479
5.6444	0.5566	14.137	4.5
5.6997	0.5512	14	4.4563
6	0.5236	13.299	4.2333
6.1382	0.5118	13	4.1380
6.2832	0.5	12.7	4.0425
6.3500	0.4947	12.566	4
6.5	0.4833	12.276	3.9077
6.6497	0.4724	12	3.8197
7	0.4488	11.399	3.6286
7.1808	0.4375	11.113	3.5372
7.2542	0.4331	11	3.5014
7.2571	0.4329	10.996	3.5
7.9796	0.3937	10	3.1831
8	0.3927	9.975	3.1750
8.3776	0.3750	9.525	3.0319
8.3996	0.3740	9.5	3.0239
8.4667	0.3711	9.425	3
8.8663	0.3543	9	2.8648
9	0.3491	8.866	2.8222
9.2364	0.3401	8.639	2.7500
9.3878	0.3346	8.5	2.7056
9.9746	0.3150	8	2.5465
10	0.3142	7.980	2.5400
10.0531	0.3125	7.938	2.5266
10.1600	0.3092	7.854	2.5

Diametral Pitch	Circular Pitch (CP)		Module
DP	in	mm	M
10.6395	0.2953	7.5	2.3873
11	0.2856	7.2540	2.3091
11.2889	0.2783	7.0690	2.2500
11.3995	0.2756	7	2.2282
12	0.2618	6.6500	2.1167
12.2764	0.2559	6.5	2.0690
12.5664	0.2500	6.3500	2.0213
12.7	0.2474	6.2830	2
13	0.2417	6.1380	1.9538
13.2994	0.2362	6	1.9099
14	0.2244	5.7	1.8143
14.5084	0.2165	5.5	1.7507
14.5143	0.2164	5.4980	1.7500
15	0.2094	5.3200	1.6933
15.9593	0.1969	5	1.5915
16	0.1963	4.9870	1.5875
16.7552	0.1875	4.7630	1.5160
16.9333	0.1855	4.7120	1.5
17.7325	0.1772	4.5	1.4324
18	0.1745	4.4330	1.4111
19.9491	0.1575	4	1.2732
20	0.1571	3.9900	1.2700
20.3200	0.1546	3.9270	1.25
22.7990	0.1378	3.5	1.1141
24	0.1309	3.3250	1.0583
25	0.1257	3.1920	1.0160
25.1327	0.1250	3.1750	1.0106
25.4	0.1237	3.1420	1
26.5988	0.1181	3	0.9549
28	0.1122	2.8500	0.9071
30	0.1047	2.6600	0.8467
31.4159	0.1	2.5400	0.8085
31.7500	0.0989	2.5130	0.8
31.9186	0.0984	2.5	0.7958
32	0.0982	2.4940	0.7938
33.8667	0.0928	2.3560	0.7500
36	0.0873	2.2170	0.7056
36.2857	0.0866	2.1990	0.7
38	0.0827	2.1	0.6684
39.8982	0.0787	2	0.6366
40	0.0785	1.9950	0.6350
42.3333	0.0742	1.8850	0.6
48	0.0654	1.6620	0.5292
50	0.0628	1.5960	0.5080
50.2655	0.0625	1.5880	0.5053
50.8	0.0618	1.5710	0.5
53.1976	0.0591	1.5	0.4775
63.5	0.0495	1.2570	0.4
64	0.0491	1.2470	0.3969
72	0.0436	1.1080	0.3528
79.7965	0.0394	1	0.3183
80	0.0393	0.9970	0.3175
84.6667	0.0371	0.9420	0.3
96	0.0327	0.8310	0.2646
120	0.0262	0.6650	0.2117
127	0.0247	0.6280	0.2

斜齒齒規安裝規格表

Helical Rack Gauge for Assembling

模數 Module	型號 Code	規格 Dimension	角度 Angle	適用齒條系列 Rack Code Matched
	斜齒齒規左斜 / Helical Gauge Left Hand			
M1	MHTGQ010-JIS-Gauge	8*A15*199.42L*M1	21°30'	MHTGQ010-JIS1
M1.5	CHTGH015-Gauge	17*17*200L*M1.5	19°31'42"	CHTGH015-DIN5 CHTGH015-DIN6 MHTG015-DIN6
	MHTGQ015-JIS-Gauge	12*A20*197.34L*M1.5	21°30'	MHTGQ015-JIS1
	CHTM015-Gauge	17*17*200L*M1.5	19°31'42"	CHTM015-DIN8 CHTMQ015-DIN8 CHTMH015-DIN10
M2	CHTGH020-Gauge	24*24*200L*M2	19°31'42"	CHTGH020-DIN5 CHTGH020-DIN6 MHTG020-DIN6
	MHTGQ020-JIS-Gauge	16*A25*195.75L*M2	21°30'	MHTGQ02010-JIS1
	CHTM020-Gauge	24*24*200L*M2	19°31'42"	CHTM020-DIN8 CHTMQ020-DIN8 CHTMH020-DIN10
	CHTM020-JIS-Gauge	25*25*195L*M2	15°	CHTM020-JIS4
M2.5	CHTGH025-Gauge	24*24*200L*M2	19°31'42"	CHTGH025-DIN5 CHTGH025-DIN6 MHTG025-DIN6
	MHTGQ025-JIS-Gauge	20*A30*194.12L*M2.5	21°30'	MHTGQ025-JIS1
M3	CHTGH030-Gauge	29*29*200L*M3	19°31'42"	CHTGH030-DIN5 CHTGH030-DIN6 MHTG030-DIN6
	MHTGQ030-JIS-Gauge	25*A35*192.47L*M3	21°30'	MHTGQ030-JIS1
	CHTM030-Gauge	30*A29*200L*M3	19°31'42"	CHTM030-DIN8 CHTMQ030-DIN8 CHTMH030-DIN10
	CHTM030-JIS-Gauge	35*35*195.2L*M3	15°	CHTM030-JIS4
M4	CHTGH040-Gauge	39*39*200L*M4	19°31'42"	CHTGH040-DIN5 CHTGH040-DIN6 MHTG040-DIN6
	CHTM040-Gauge	40*A39*200L*M4	19°31'42"	CHTM040-DIN8 CHTMQ040-DIN8 CHTMH040-DIN10
M5	CHTGH050-Gauge	49*A39*200L*M5	19°31'42"	CHTGH050-DIN5 CHTGH050-DIN6 MHTG050-DIN6
	CHTM050-Gauge	49*A39*200L*M5	19°31'42"	CHTM050-DIN8 CHTMQ050-DIN8 CHTMH050-DIN10
M6	CHTGH060-Gauge	59*A49*200L*M6	19°31'42"	CHTGH060-DIN5 CHTGH060-DIN6 MHTG060-DIN6
	CHTM060-Gauge	59*A49*200L*M6	19°31'42"	CHTM060-DIN8 CHTMQ060-DIN8 CHTMH060-DIN10
M8	CHTGH080-Gauge	79*79*186.66L*M8	19°31'42"	CHTGH080-DIN5 CHTGH080-DIN6 MHTG080-DIN6
	CHTM080-Gauge	79*79*186.66L*M8	19°31'42"	CHTM080-DIN8 CHTMQ080-DIN8 CHTMH080-DIN10
M10	CHTGH100-Gauge	99*99*200L*M10	19°31'42"	CHTGH100-DIN6
	CHTM100-Gauge	99*99*200L*M10	19°31'42"	CHTM100-DIN8 CHTMQ100-DIN8 CHTMH100-DIN10

JIS 系列以灰底做區隔，以便讀取。
JIS Series noted in gray for easy identification.

直齒齒規安裝規格表
Straight Rack Gauge for Assembling

模數 Module	型號 Code	規格 Dimension	適用齒條系列 Rack Code Matched
	直齒齒規 / Straight Gauge		
M1	CSTGH010-JIS2-Gauge	10*A12*197.92L*M1	CSTGH010-JIS2
M1.5	CSTGH015-Gauge	17*17*197.92L*M1.5	CSTGH015-DIN 6
	CSTGH015-JIS2-Gauge	15*A20*197.92L*M1.5	CSTGH015-JIS2
	CSTM015-Gauge	17*17*197.92L*M1.5	CSTM015-DIN8 CSTMQ015-DIN8 CSTMH015-DIN10
	CSTM015-JIS4-Gauge	15*A20*197.92L*M1.5	CSTM015-JIS4 CSTMH015-JIS5
M2	CSTGH020-Gauge	24*24*194.78L*M2	CSTGH020-DIN5 CSTGH020-DIN6
	CSTGH020-JIS2-Gauge	20*A25*194.78L*M2	CSTGH020-JIS2
	CSTM020-Gauge	25*A24*194.78L*M2	CSTM020-DIN8 CSTMQ020-DIN8 CSTMH020-DIN10
	CSTM020-JIS4-Gauge	20*A25*194.78L*M2	CSTM020-JIS4 CSTMH020-JIS5
M2.5	CSTGH025-Gauge	25*24*196.35L*M2.5	CSTGH025-DIN6
	CSTGH025-JIS2-Gauge	25*A30*196.35L*M2.5	CSTGH025-JIS2
	CSTM025-JIS4-Gauge	25*A30*196.35L*M2.5	CSTM025-JIS4 CSTMH025-JIS5
M3	CSTGH030-Gauge	29*29*197.92L*M3	CSTGH030-DIN5 CSTGH-030-DIN6
	CSTGH030-JIS3-Gauge	30*A35*197.92L*M3	CSTGH030-JIS2
	CSTM030-JIS4-Gauge	30*A35*197.92L*M3	CSTM030-JIS4 CSTMH030-JIS5
M4	CSTGH040-Gauge	39*39*188.49L*M4	CSTGH040-DIN5 CSTGH040-DIN6
	CSTGH040-JIS2-Gauge	40*A45*188.49L*M4	CSTGH040-JIS2
	CSTM040-Gauge	40*A39*188.49L*M4	CSTM040-DIN8 CSTMQ040-DIN8 CSTMH040-DIN10
	CSTM040-JIS4-Gauge	40*A45*188.49L*M4	CSTM040-JIS4 CSTMH040-JIS5
M5	CSTGH050-Gauge	49*A39*188.49L*M5	CSTGH050-DIN5 CSTGH060-DIN6
	CSTGH050-JIS2-Gauge	50*A50*188.49L*M4	CSTGH050-JIS2
	CSTM050-Gauge	49*A39*188.49L*M5	CSTM050-DIN8 CSTMQ050-DIN8 CSTMH050-DIN10
	CSTM050-JIS4-Gauge	50*A50*188.49L*M4	CSTM050-JIS4 CSTMH040-JIS5
M6	CSTGH060-Gauge	59*A49*188.49L*M6	CSTGH060-DIN6
	CSTGH060-JIS-Gauge	60*A60*188.49L*M4	CSTGH060-JIS2
	CSTM060-Gauge	59*A49*188.49L*M6	CSTM060-DIN8 CSTMQ060-DIN8 CSTMH060-DIN10
	CSTM060-JIS4-Gauge	60*A60*188.49L*M4	CSTM060-JIS4 CSTMH060-JIS5

直齒齒規安裝規格表
Straight Rack Gauge for Assembling

模數 Module	型號 Code	規格 Dimension	適用齒條系列 Rack Code Matched
	直齒齒規 Straight Gauge		
M8	CSTGH080-Gauge	79*79*175.92L*M8	CSTGH080-DIN6
	CSTM080-Gauge	79*79*175.92L*M8	CSTM080-DIN8 CSTMQ080-DIN8 CSTMH080-DIN10
M10	CSTM100-Gauge	99*99*188.496L*M10	CSTM100-DIN8 CSTMQ100-DIN8 CSTMH100-DIN10

周節 CP	型號 Code	規格 Dimension	適用齒條系列 Rack Code Matched
	直齒齒規 Straight Gauge		
CP 5	MSTGQ-CP050-GAUGE	15*20*200L*CP5	MSTGQ-CP050-JIS1 MSTGH-CP050-JIS1
	CSTM-CP050-GAUGE	15*20*200L*CP5	CSTM-CP050-JIS4
CP 10	MSTGQ-CP100-GAUGE	30*35*200L*CP10	MSTGQ-CP100-JIS1 MSTGH-CP100-JIS1
	CSTM-CP100-GAUGE	30*35*200L*CP10	CSTM-CO100-JIS4
CP 15	CSTM-CP150-GAUGE	50*50*195L*CP15	CSTM-CP150-JIS4
CP 20	CSTM-CP200-GAUGE	60*60*200L*CP20	CSTM-CP200-JIS4

JIS 系列以灰底做區隔，以便讀取。
JIS Series noted in gray for easy identification.

前言

本裝配說明指南適用於齒條的運輸、儲存、裝配、及保養，在所有相關專業人員從事並進行上述動作時，請先仔細並確實詳讀本說明書內容，若相關專業人員未仔細詳讀或不按相關操作規範進行齒條的運輸、儲存、裝配及保養而產生任何財產損失及人員受傷，本公司不負責任何賠償。

The instruction of installation is adapted for transportation, storage, assembly and maintenance of racks. All the relevant professionals should study carefully the content of the instruction before doing the actions as above. If any professionals don't study thoroughly nor follow up the regulations to do the actions of transportation, storage, assembly and maintenance of racks, any property damage or personal injury, we are irresponsible for any compensations.

齒條安裝說明大綱

(一) 運輸

運輸過程勿不正確堆疊、大力摔放或不正常的吊掛造成齒條扭變或損傷。

(二) 儲存

齒條應儲存於乾燥環境中，且溫度應於 25℃，相對濕度 60% 最為適宜。並確實檢查齒條的包裝需完整，放置時應保持水平放置，避免傾斜、側放或直立放置。

(三) 裝配

齒條裝配請由經過合格訓練之專業人員來操作裝配，並確實準備相關裝配所需使用的器具。

(四) 保養事項

請依造齒輪齒條運行的方式來制定保養計畫。

※ 若有任何問題，請與我司聯繫。

OUTLINE OF RACK INSTALLATION INSTRUCTIONS

1. TRANSPORTATION

During transportation process, please do not stack incorrectly, vigorously put or hang racks to make it twisted or damaged.

2. STORAGE

Racks should be stored in dry environment with temperature 25 ℃ , and relative humidity should be 60% which is the best. To check the rack package should be completed and stored horizontally to avoid being sloping, leaning on one side or upright side.

3. ASSEMBLY

Rack assembly should be operated by well-trained and qualified professionals. Meanwhile, please prepare all the relevant tools accurately while assembling.

4. MAINTENANCES

Please set up maintenance plans based on the running methods of rack and pinions.

**If there are any questions, please kindly contact us.*

齒條安裝操作說明

(一) 運輸

齒條於出廠時均經過整直，防鏽以及良好的包裝，使用熱縮膜來隔離空氣並保護齒條以避免碰撞。

本公司出產的齒條如果長度超過 1 米 (100cm) 或重量超過 10 公斤時，應由兩位或兩位以上的操作員協同搬運，可避免碰撞或不慎掉落。

若同時需搬運多支數量之齒條，請使用吊掛棧板，以避免工件滑落；並於吊掛工件時，隨時注意周邊環境避免工件掉落，或是碰撞周邊物品，而砸傷人員。

(二) 儲存

齒條應儲存於溫度適宜並且乾燥的環境中，溫度 25°C、相對濕度 60% 最為適宜，齒條要進行倉庫存放前，應確實檢查齒條外部包裝的完整性。

由於齒條出廠前均經過良好的防鏽處理，在齒條上均塗抹防鏽油，並經過熱縮膜的包裝，以隔絕空氣接觸，並防止碰撞；在儲存齒條的過程中，應避免傾斜或是直立的放置齒條。

放置齒條的場所，需維持適宜的溫度及濕度的穩定，並且放置時應保持場所的穩定避免震動。另外齒條平放時需避免任何不正常的堆疊，或是壓迫在齒條的上方，以避免齒條因外力壓迫而變形。

RACK INSTALLATION INSTRUCTIONS

1. TRANSPORTATION

All racks are straightened before delivering, and packed by thermal shrinkage film to isolate the air and to protect racks from collision.

If the rack length is over 1,000mm (100cm) or 10 kgs, is should be carried by 2 or more people to avoid collision or dropping.

If carrying plenty of racks, it should be hanged on a pallet to avoid racks dropping. During hanging, please pay attention to the surroundings to avoid dropping or colliding with somethings to injure people.

2. STORAGE

Racks should be stored in a suitable temperate and dry environment. The room temperature should be 25°C, and relative humidity should be 60% which is the best.

Before storage, the rack outside package should be inspected if completed.

Before delivering, all the racks are smeared anti-rust lubricant and packed by thermal shrinkage film to isolate air and prevent from collision. During the rack storage process, it should not be sloping, leaning on one side or upright side.

The rack storage place should be maintained in a suitable and stable temperature and humidity. Meanwhile, the place should be stable to avoid vibration.

Racks should be put on horizontally; prevent from any abnormally stacking, or oppress on the top of racks. So, the racks will not be twisted due to outside oppression.

To check the rack package should be completed and stored horizontally to avoid being sloping, leaning on one side or upright side.

(三) 裝配

3.1. 裝配操作前，檢查與準備

3.1.1 安裝齒條前請先確實檢查齒條外包裝的完整性，並在拆封齒條包裝時，請小心拆封，以避免齒條損傷。

3.1.2 安裝齒條前請先確認齒條的規格，並詳細檢查安裝時所需的安裝器具。

3. ASSEMBLY

3.1 Before assembly, check and prepare.

3.1.1 Before assembling racks, please do check the rack outside package and open the cartons carefully in case racks are damaged accidently.

3.1.2. Before assembling racks, please check racks' specifications and all the necessary assembly tools carefully.

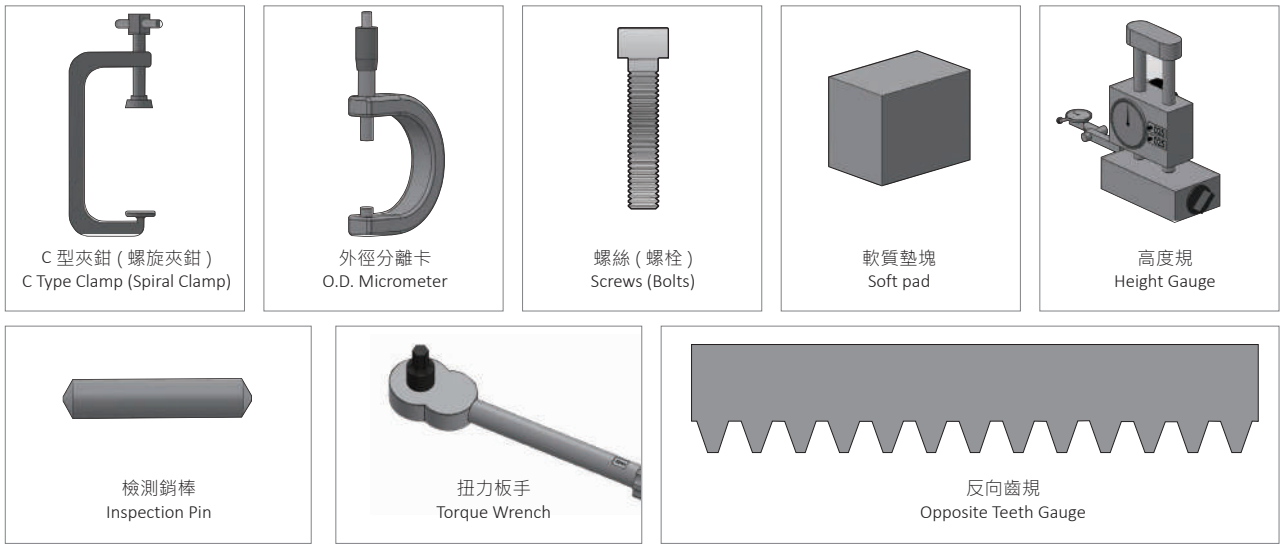


圖 1 / Fig.1

3.1.3 安裝齒條前，須確保基座安裝承靠面的垂直度及平行度需在要求內，一般要求平行度為≦ 0.02mm，垂直度為≦ 0.02mm，如圖 2. 所示。

3.1.3 Before assembling, please assure the verticality and parallel of bearing surface of installation basement should be within the tolerance. The verticality is ≦ 0.02mm and parallel is ≦ 0.02mm as the Fig. 2 below.

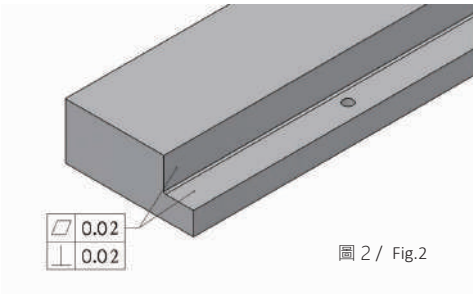


圖 2 / Fig.2

3.1.4 確實檢查齒條及基座安裝的承靠面的清潔及完整性，避免齒條及基座的接觸面有任何損傷或有殘餘毛屑。

3.1.5 安裝承靠面底部的倒角面，需注意干涉問題如圖 3. 箭頭所示。

注意

齒條倒角尺寸須符合本公司要求的規範 (請參考表 1.)
基座安裝承靠面的倒角量建議值最大不得超過 0.3mm。

3.1.4 Please do check the bearing surface of rack and installation base clean and complete to avoid any damage or chippings.

3.1.5 The chamfering surface of installation bearing surface bottom have to be aware of the question as Fig 3 noted.

Attention

The rack chamfer angle shouldbe apply with our standards (as chart 1).
The recommended chamfer value of bearing surface of installation base should not exceed 0.3 mm at maximum.

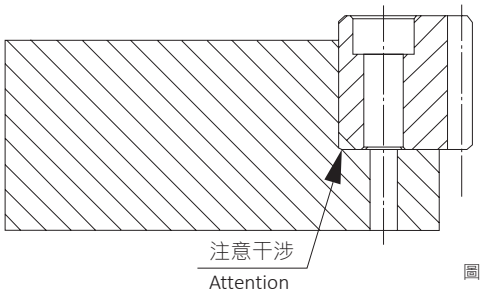
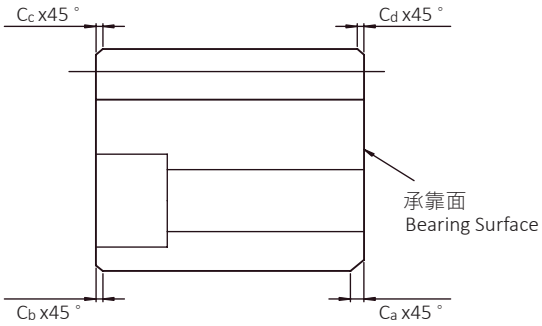


圖 3 / Fig.3



單位 / Unit : mm

Rack	C_a	C_b	C_c	C_d
M1	1.5mm	0.5mm	0.5mm	0.5mm
M1.5	1.5mm	0.5mm	0.5mm	0.5mm
M2	2.0mm	1.0mm	1.0mm	1.0mm
M3	2.0mm	1.0mm	1.0mm	1.0mm
M4	2.0mm	1.5mm	1.5mm	1.5mm
M5	3.0mm	1.5mm	1.5mm	1.5mm
M6	3.0mm	2.0mm	2.0mm	2.0mm
M8	4.0mm	2.0mm	2.0mm	2.0mm
M10	5.0mm	3.0mm	3.0mm	3.0mm
M12	5.0mm	3.0mm	3.0mm	3.0mm

表 1 / Table 1

3.1.6 齒條的定位銷孔是專門提供齒條的重覆安裝時的快速定位使用，若非重覆安裝，則不需要安裝定位銷孔。

3.1.6 Rack positioning pin hole is specially for quick positioning purpose when racks are assembled repeatedly. If no repeated demands, it is not necessary to assemble positioning pin hole.

3.2. 裝配步驟 A- 單支齒條裝配

3.2.1 將齒條放於枕木上，將檢測銷棒放置齒條的齒谷內，使用外徑分離卡檢測跨銷值，如圖 4.。

3.2. Assembly Process A- Single Rack Assembly

3.2.1 Put the rack on the blocks; put the inspection pin in the rack valley of the teeth and use O.D. micrometer to check the over pin value as Fig 4.

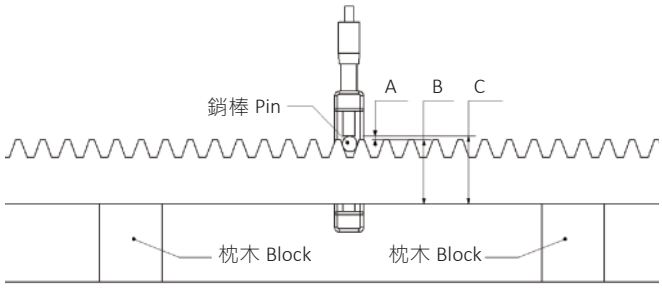


圖 4 / Fig.4

★齒條安裝前，請參考圖 4 的量測方式，確定齒條的跨銷值在精度等級內。

跨銷值計算公式：
跨銷值 C= 數值 A+ 齒條總高度 B
※ 檢測銷棒數值請參考表 2.。

注意 檢測銷棒建議直徑公差於 0 ≧ -0.001mm 的檢測為最佳精準度。

★ Before assembling racks, please refer to the inspection method on Fig. 4 and assure the over-pin values of rack are within the quality grade tolerance.

Over-Pin Value Formula:
Over-Pin Value C= Value A + Total Rack Height B
※ Please refer to Chart 2 for inspection over-pin value.

Attention The best tolerance of inspection pin diameter is ≧ -0.001mm.

單位 / Unit : mm

模數 Module	數值 Value	檢測銷棒 Inspection Pin	齒距 Pitch	
			斜齒 Helical (19°31'42")	直齒 Straight
M1.0	0.766	ψ2	3.333	3.142
M1.5	1.149	ψ3	5.000	4.712
M2.0	1.532	ψ4	6.667	6.283
M3.0	2.298	ψ6	10.000	9.425
M4.0	3.064	ψ8	13.333	12.566
M5.0	3.830	ψ10	16.667	15.708
M6.0	4.596	ψ12	20.000	18.850
M8.0	6.128	ψ16	26.667	25.133
M10.0	7.659	ψ20	33.333	31.416

表 2 / Table 2

3.2.2 齒條置放於基座承靠面上，對齊螺絲孔距，微擰螺絲至沉頭螺絲孔接觸面，如圖 5 所示。

3.2.2 The rack is put on the top of the base of the bearing surface. Align the screw holes pitches. Slightly tighten the screws to the contact surface of countersunk head screw hole as the Fig. 5 as below.

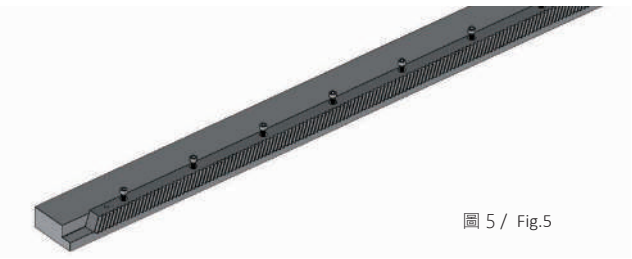


圖 5 / Fig.5

3.2.3 將 C 型夾鉗墊上軟質墊塊，再將齒條頭尾兩端使用 C 型夾鉗固定，中間平均固定全部齒條與基座，讓齒條與基座承靠面完全貼合。(如圖 6. 示)

3.2.3 Place the C-type clamp on the soft pad, then fix the two ends of the racks by the C-type clamp. Fix the middle of the rack averagely on the base to assure the whole rack is attached to the bearing surface of the base completed as Fig. 6 below.



圖 6 / Fig.6

3.2.4 將檢測銷棒平均放置於齒條前中後五個檢測點，使用高度規測量檢測銷棒的最高點，檢測數值須與步驟 2.1 所得之數值一致，如檢測出的數值不同，則將 C 型夾鉗夾緊，調整至與步驟 2.1 量測量出的數值一致即可，如圖 7。

3.2.4 Place inspection pins averagely on the 5 inspection points of the rack. Use height gauge to measure the highest point of the inspection pins. The inspected values should be the same as step 3.2.1. If the values are different, please tighten the C-type clamp and fix the values to the same as step 3.2.1. as Fig. 7 below.

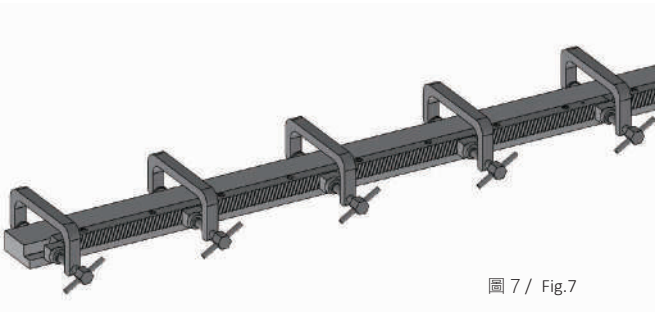


圖 7 / Fig.7

3.2.5 將螺絲 (螺栓) 由中間端開始固定再往兩側擰緊。

3.2.5 Fix the screws (bolts) from the middle; then onward to the two ends of the racks.

3.2.6 將 C 型夾鉗與軟性墊塊移除。

3.2.6 Remove the C-type clamp and soft pads.

3.3. 裝配步驟 B- 多支齒條裝配步驟

3.3.1 兩支或兩支以上齒條的裝配，裝配步驟依照裝配步驟 A- 單支齒條裝配的方式裝配，相接處需增加相接輔助器具反向齒規，作為銜接咬合之標準，以防止齒距誤差過大 (如圖 8)。

3.3. Assembly Process B- Multiple Racks Assembly

3.3.1 Two or more racks assembly, please follow up the assembly process A-single rack assembly. Between racks joint point, it's necessary to increase an assistive device, opposite teeth gauge as the standard of joining racks up, to avoid pitch error too large. (Fig. 8)

微擰螺絲後撤掉齒規 (如圖 9)，將檢測銷棒放置於左右相接處的齒谷內 (如圖 10)，微調相接的兩支齒條，使用高度規量測檢測銷棒最高點的數值 (如圖 10；ABC 三點)，使其三點數值與前面步驟 2.1 用外徑分離卡檢測之數值相同 (圖 12)。

使用 C 型夾鉗墊上軟質墊塊將齒條固定於基座，再使用扭力板手依序將固定螺絲鎖緊 (圖 13) ，螺絲 (螺栓) 扭力值可參考表 3，待鎖緊後，撤掉測量銷棒、C 型夾鉗及軟質墊塊，即完成裝配步驟 (圖 14)。

Slightly tighten screws and remove opposite teeth gauge as Fig 9, and place the inspection pin on the teeth valley of the joint point (Fig.10). Slightly adjust the jointing two racks and use height gauge to measure the highest point values of the inspection pin(Fig 10/A,B,C points). The values of the three points should be the same as step 3.2.1, using O.D. micrometer to measure. (Fig. 12)

Use C-type clamp and place the soft pads on the rack base. Then, use torque wrench in sequence to fix and tighten screws(bolts). The screw torque values could be referred to Table 3. (Fig. 13) After tightening, remove the inspection pins, C-type clamp and soft pads. The assembly step is completed. (Fig. 14)

注意 三根齒條以上裝配，需由基座中央開始向兩側銜接裝配。

Attention Three racks above assembly, it starts from the middle base, and onwards to the ends.

3.3.1 高度規量測檢測銷棒最高點的數值，量測的數值須與前面步驟 3.2.1 用外徑分離卡檢測之數值相同。

3.3.1 Measure the highest point of the inspection pin by height gauge. The measured values should be the same as the values by OD micrometer as step3.2.1.

3.3.2 相接處需使用相接輔助器具反向齒規，作為銜接咬合之標準，以 防止齒距誤差過大，如圖 8。

3.3.2 The two joint sides should be placed on the assistive device, opposite teeth gauge as the standard of joining racks up. to avoid pitch error too large. (Fig. 8)



圖 8 / Fig.8

3.3.3 微擰螺絲後撤掉齒規，如圖 9

3.3.3 Slightly loose screws and remove the opposite teeth gauge. Fig 9.

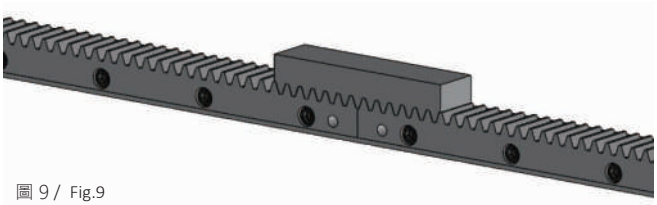


圖 9 / Fig.9

3.3.4 檢測銷棒放置於 A、B、C 三點做檢測，如圖 10。

3.3.4 Place the inspection pins on A, B, C three points. As Fig 10.

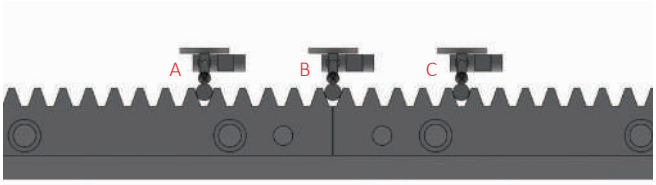


圖 10 / Fig.10

3.3.5 使用高度規量測檢測銷棒最高點的數值，使其三點檢測銷棒最高點數值與前面步驟 1 之數值相同，若中間檢測銷棒的最高點數值與左右兩支檢測銷棒最高點數值不同，可左右微調相接處齒條，得到三點檢測銷棒最高點之相同數值，如圖 11。

3.3.5 Measure the values of the 3 highest points of the inspection pins by height gauge to assure the 3 values are the same as on Step 1. If values are different, slightlyadjust the two jointed racks, to make the value of the highest point of inspection pin is the same as step 1. Fig11.

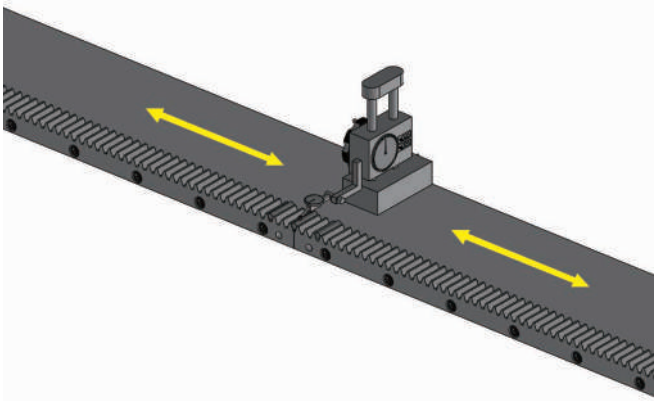


圖 11 / Fig.11

3.3.6 量測正確的檢測銷棒最高點數值後，使用 C 型夾鉗墊上軟質墊塊，將齒條固定於基座，再使用扭力板手依序將固定螺絲鎖緊，如圖 12。

3.3.6 Measure the correct value of the highest inspection pin; use C-type clamp and place soft pads to fix the rack on the base. Then, use torque wrench in sequence to fix and tighten screws as Fig. 12.

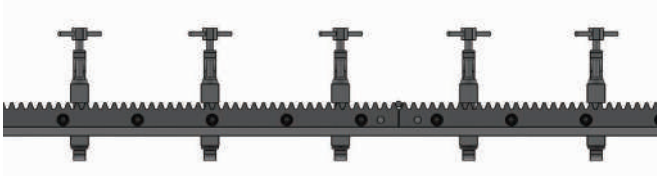


圖 12 / Fig.12

3.3.7 螺絲鎖緊後移除 C 型夾鉗、軟質墊塊，完成裝配，如圖 13。

3.3.7 Tighten screws and remove C-type clamp, soft pads. The assembly is completed. As Fig 13.



圖 13 / Fig.13

螺絲規格 Screw Spec.	六角扳手 Hex Wrench (mm)	強度 12.9 Torque Value (N.m)
M4*0.7P	3	4.3
M5*0.8P	4	7.5
M6*1.0P	5	13.4
M8*1.25P	6	30.5
M10*1.5P	8	61
M12*1.75P	10	102
M14*2.0P	12	162
M16*2.0P	14	249
M20*2.5P	17	481
M24*3.0P	19	836
M30*3.5P	22	1670

表 3 螺絲扭力值 / Table 3. Screw Torque

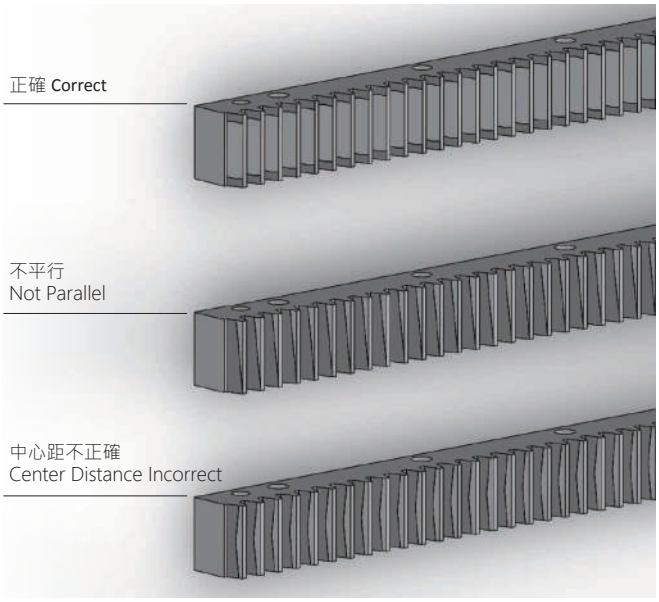


圖 14 / Fig.14

3.4. 裝配完成檢查

3.4.1 清潔附著於齒面上防鏽油。

3.4.2 於齒面上塗抹有色塗料如 : 黃丹、紅丹或藍丹亦可 (請勿塗抹無法清除之漆料)。

3.4.3 於齒條運作範圍內，齒輪反覆來回移動嚙合。

3.4.4 觀看齒面塗抹有色顏料的脫落情況，如圖 14 所示。

3.4.5 齒面嚙合狀況正確，則清除附著於齒面的有色塗料，裸露部分請塗抹防鏽油脂，若非正確請調整至正確狀況。

3.4. Inspection After Assembly.

3.4.1 Clean the lubricant oil on the racks.

3.4.2 Smear colored paint on racks such as lead oxide ellow powder, red powder and blue powder. (Please use clearable paints).

3.4.3 Inside the rack movement, the pinion runs back and forth to clench.

3.4.4 Observe the peeling situation on the painted teeth of the racks as Fig.14.

3.4.5 If teeth clenches correctly, please clean the colored paint on the racks. Bare parts should be smeared anti-rust lubricant. If not correctly, please adjust it to correct.

3.5. 運行前注意事項

3.5.1 齒條裝配無誤，齒面嚙合情況正確。

3.5.2 齒條與齒輪嚙合面須有適合之潤滑油脂。

3.5.3 運行範圍裡確定無人員，避免造成傷害。

3.5. Attentions by Operation

3.5.1 Racks Assembly correct. Teeth clench correct.

3.5.2 The clenching surface of rack and pinion needslubricant oil.

3.5.3 Assure no people inside the operation area to avoid any injure.

(四) 保養

4.1 依照設備運作情況制定保養計畫表。

4.2 潤滑油脂請選用適當之油脂，依照選用之油脂決定潤滑之設備。

4.3 保養周期視磨耗情形增長或縮短計畫。

4.4 齒條若磨損嚴重或崩裂，請更換齒條，避免影響運行精度效能。

※ 齒條拆卸與保養請由經過訓練的人員進行處理。

4. Maintenances

4.1 Formulate a maintenance schedule according to theequipment operation situation.

4.2 Please select suitable lubricant oil and decide lubricant system according to the lubricant oil.

4.3 Maintenance cycle should be increased or decreased, based on operation worn situation.

4.4 If racks are worn or damaged seriously, please replace new racks to avoid any impact on operation accuracy and efficiency.

※Rack replacement and maintenance should be operated by trained and qualified professionals.